



## **BISHOP HELLMUTH**

**HERITAGE CONSERVATION DISTRICT PLAN**

**CITY OF LONDON**

**June 2001**

# **CONSERVATION GUIDELINES**

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## **CONSERVATION GUIDELINES**

**The Conservation Guidelines are not part of the legal document that constitutes the Bishop Hellmuth Heritage Conservation District Plan, but are provided to assist property owners in the conservation of their buildings.**

# INDEX

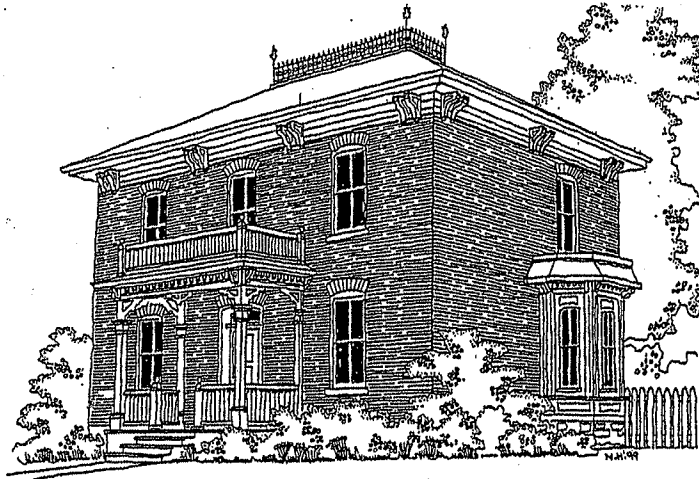
	Page
1. ARCHITECTURAL STYLES	
ITALIANATE	1
QUEEN ANNE REVIVAL	2
FOUR SQUARE	3
ONTARIO GOTHIC	4
TUDOR REVIVAL	5
GEORGIAN REVIVAL	6
CRAFTSMAN	7
2. BUILDING CONSERVATION GUIDELINES	
BRICK & STONE	8
STUCCO	12
WOOD SIDING	13
ROOFS & FLASHINGS	17
GUTTERS, DOWNSPOUTS & CRESTING	21
CHIMNEYS	23
BARGEBOARDS & EAVES	26
WINDOWS	29
DOORS	33
SHUTTERS & BLINDS	37
PAINT & COLOUR	39
PORCHES	43
SIGNS	48
AWNINGS	51
STOREFRONTS	52

# **ARCHITECTURAL STYLES**

# ITALIANATE HOUSES

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



Shown above is a handsome Italianate house. Houses in this style are typically substantial, square or rectangular, two storeys and with a low-pitched hipped roof and wide overhang supported by decorative brackets. Windows tend to be tall and narrow, often arched or curved at the top with decorative crowns. Openings are usually symmetrically placed, but the plan may be L-shaped and include a tower. Iron cresting or a square belvedere often crowned the roof to give visual drama to the profile. The conservation approach is to retain the elegant and decorative architectural character. Alterations and additions should complement the original.

The Guidelines are voluntary but provide assistance for historic conservation.

Aim to • Retain the elegant and decorative architectural character.

- Conserve the original finishes, particularly painted wood roof soffits and fascias and decorative details.
- Resist applying vinyl or metal siding over wood roof soffits and fascias.
- If replacing old doors and windows with new, ensure they are proportioned with the original.
- Conserve original painted wood window frames, sash and storms.
- Resist vinyl or metal window replacements. They lack historic character.
- If replacing details, such as handrails, match the original.
- When re-shingling the roof, consider the original finish - cedar shingle or asphalt shingle that looks like cedar. Conserve or rebuild the belvedere.
- Conserve the front verandah, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
- Conserve old chimneys, even when no longer in use. Cap and seal.
- Use original or period paint colours.

# QUEEN ANNE REVIVAL HOUSES

BUILDING CONSERVATION GUIDELINE

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Shown at right is a handsome Queen Anne Revival house. This is a style that was popular in the late 1800s. It is picturesque, usually two storeys high with a variety of gables, towers, dormers, balconies, tall chimneys and verandahs of different materials and details. Such decorative features were made possible at the time by new machinery and pattern books from which to choose. Queen Anne houses have a dramatic and eye-catching appearance and it is one of the more difficult styles to conserve as there is so much detail to maintain, but the results can provide much pride and delight. The conservation approach is to enhance the flamboyant architectural character with its many different materials and decorative details. Alterations and additions complement the original.



The Guidelines are voluntary but provide assistance for historic conservation.

Aim to • Retain the decorative and colourful architectural character.

- Conserve the original finishes, particularly painted wood roof soffits and fascias and decorative details.
- Resist applying vinyl or metal siding over wood roof soffits and fascias. They lack historic character.
- If replacing old doors and windows with new, ensure they are proportioned with the original.
- Conserve original painted wood window frames, sash and storms.
- Resist vinyl or metal window replacements. They lack historic character.
- If replacing details, such as handrails, match the original.
- When re-shingling the roof, consider the original finish - cedar shingle or asphalt shingle that looks like cedar.
- Conserve the front verandah, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
- Conserve old chimneys, even when no longer in use. Cap and seal.
- Use original or period paint colours.

# FOURSQUARE HOUSES

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The Foursquare house style was popular between 1900 and 1930. The Foursquare is generally a substantial residence of red brick, two storeys high, square or rectangular in plan with a low-pitched hipped roof and overhanging eaves. The style is quite plain with little decoration. Frequently there is a single storey porch with heavy, square or round wood columns and brick piers. Roof dormers are also common. The main entrance may be centred or off-centre. The conservation approach is to retain the architectural simplicity and conserve the front verandah, where it exists. Alterations and additions should complement the original.

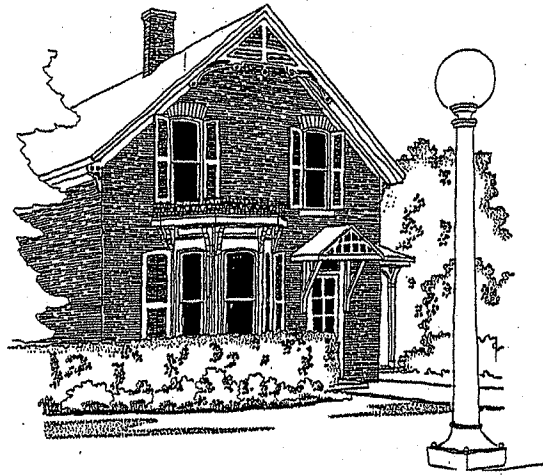
The Guidelines are voluntary but provide assistance for historic conservation.

- Aim to
- Conserve the original finishes, particularly painted wood roof soffits and fascias and decorative details.
  - Resist applying vinyl or metal siding over wood roof soffits and fascias. They lack historic character.
  - If replacing old doors and windows with new, ensure they are proportioned with the original.
  - Conserve original painted wood window frames, sash and storms.
  - Resist vinyl or metal window replacements. They lack historic character.
  - If replacing details, such as handrails, match the original.
  - When re-shingling the roof, consider the original finish - cedar shingle or asphalt shingle that looks like cedar.
  - Conserve the front verandah, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
  - Conserve old chimneys, even when no longer in use. Cap and seal.
  - Use original or period paint colours.

# ONTARIO GOTHIC HOUSES

BUILDING CONSERVATION GUIDELINE

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Shown above is an Ontario Gothic house, a popular style in the latter half of the 1800s. A distinguishing feature is the pointed front gable. The proportions were usually vertical, side-gabled with a centre door and windows evenly distributed on the principle elevations. Windows were double-hung sash with small panes before 1870 and larger panes after. Decorative features were few but important - elaborate gingerbread trim in the front roof gable and brackets under the soffits. The conservation approach is to retain their original wall finish, vertical proportions, symmetrical placement of windows and doors and decorative features, which provide visual delight on an otherwise fairly plain facade. Additions and alterations should complement the original.

The Guidelines are voluntary but provide assistance for historic conservation.

Aim to • Retain the vertical proportions and decorative gables.

- Conserve the original finishes, particularly painted wood roof soffits and fascias and decorative details.
- Resist applying vinyl or metal siding over wood roof soffits and fascias.
- If replacing old doors and windows with new, ensure they are proportioned with the original.
- Conserve original painted wood window frames, sash and storms.
- Resist vinyl or metal window replacements. They lack historic character.
- If replacing details, such as handrails, match the original.
- When re-shingling the roof, consider the original finish - for example, cedar shingle or asphalt shingle that looks like cedar.
- Conserve the front verandah, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
- Conserve old chimneys, even when no longer in use. Cap and seal.
- Use original or period paint colours.



# TUDOR REVIVAL HOUSES

BUILDING CONSERVATION GUIDELINE

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Tudor Revival or "Old English" was a popular house style in the 1920s and 1930s. The style is characterized by decorative half-timbering, steeply pitched roofs with gables and dormers, large chimneys and groups of windows with multi-pane glazing. Exterior finishes were commonly brick, stone and stucco. Tudor features were sometimes grafted onto existing houses. The conservation approach is to retain the essential architectural style features with appropriate paint colours.

The Guidelines are voluntary but provide assistance for historic conservation.

- Aim to • Conserve the original finishes, particularly painted wood roof soffits and fascias, stucco and decorative details.
- Resist applying vinyl or metal siding over wood roof soffits and fascias. They lack historic character.
  - If replacing old doors and windows with new, ensure they are proportioned with the original.
  - Conserve original painted wood window frames, sash and storms.
  - Resist vinyl or metal window replacements. They lack historic character.
  - If replacing details, such as handrails, match the original.
  - When re-shingling the roof, consider the original finish - either cedar or asphalt shingle.
  - Conserve the front verandah, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
  - Conserve old chimneys, even when no longer in use. Cap and seal.
  - Use original or period paint colours.

# GEORGIAN REVIVAL HOUSES

BUILDING CONSERVATION GUIDELINE

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The Georgian Revival house style, illustrated above, was between 1920 and 1940. The house is typically of brick, two storeys high with a side gabled roof. The front facade is symmetrical, with centre front door and decorative crown or projecting portico with columns. Double-hung sash windows are evenly spaced on the principal facades. Originally, chimneys were large and prominent on the gable sides. With the exception of the front entrance, decorative features are minimal.

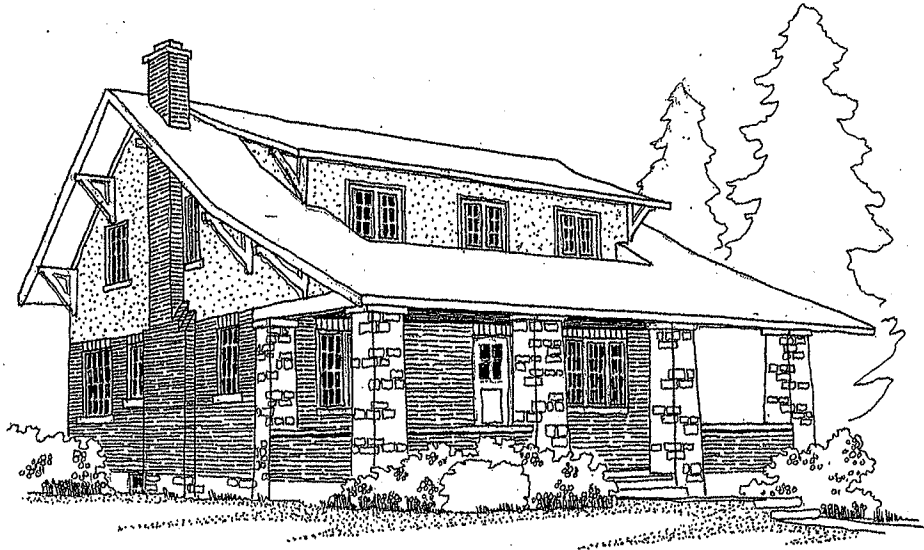
The Guidelines are voluntary but they provide assistance for historic conservation.

- Aim to
- Conserve the original finishes, particularly painted wood roof soffits and fascias, decorative details and shutters.
  - Resist applying vinyl or metal siding over wood roof soffits and fascias. They lack historic character.
  - If replacing old doors and windows with new, ensure they are proportioned with the original.
  - Conserve original painted wood window frames, sash and storms.
  - Resist vinyl or metal window replacements. They lack historic character.
  - If replacing details, such as columns, match the original.
  - When re-shingling the roof, consider the original finish - cedar shingle or slate. Replace with the original or a close facsimile of asphalt shingle.
  - Conserve the front portico, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
  - Conserve old chimneys, even when no longer in use. Cap and seal.
  - Use original or period paint colours.

# CRAFTSMAN HOUSES

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



The Craftsman house style became very popular in the early 1900s. The style is decorative and artistic with a low-pitched gabled roof and a wide unenclosed eave overhang with brackets. Roof dormers are centred and either of the shed or gable type. A verandah contained under the main roof often extends across the full width of the house, supported by tapered square stone or brick columns. Wall cladding is commonly brick with stucco on the gable and dormers. The conservation approach is to maintain the crafted character of the style with an emphasis on natural materials and earth tone colours.

The Guidelines are voluntary but provide assistance for historic conservation.

- Aim to
- Conserve the original finishes, particularly painted wood roof soffits and fascias, decorative details and stone or brick verandah columns.
  - Resist applying vinyl or metal siding over wood roof soffits and fascias.
  - If replacing old doors and windows with new, ensure they are proportioned with the original.
  - Conserve original painted wood window frames, sash and storms.
  - Resist vinyl or metal window replacements. They lack historic character.
  - If replacing details, such as handrails, match the original.
  - When re-shingling the roof, consider the original finish - cedar shingle or asphalt shingle that looks like cedar.
  - Conserve the front verandah, where present, particularly the painted wood floor, ceiling and fascias, columns and handrails.
  - Conserve old chimneys, even when no longer in use. Cap and seal.
  - Use original or period paint colours.

# **BUILDING CONSERVATION GUIDELINES**

# BRICK & STONE

BUILDING CONSERVATION GUIDELINE

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Recessed panels can deteriorate at the lower sill. Ensure mortar is firm and slopes away to the face.

Periodically check that the arch bricks are not slipping. If required, remove weak area and re-lay using the original bricks and a matching mortar.



Dirt does not generally harm masonry. In fact, it provides character and age to a historic building. Only clean when absolutely necessary, and use the gentlest method. Never sandblast!

Brick banding can trap moisture which loosens the mortar. Check periodically and repoint.

## CONSERVATION PRINCIPLES

- Conserve original brick and stone with periodic check-ups and maintenance.
- When repointing, use an appropriate lime-based mortar.
- Avoid cleaning. Conserve the patina of age that gives the building character.
- If cleaning is necessary, carry out with great care. Do a test patch first to ensure there is no damage to the masonry surface.
- Never sandblast.

## INTRODUCTION

Masonry consists of stone, brick or concrete blocks bonded with mortar. Mortar is a mixture of lime, sand, water and, more recently, cement. Masonry, when properly constructed and well maintained, will last for centuries. Mortar joints will normally require repointing every 50 years. Brick is the most common masonry wall, usually with limestone or granite for foundations. Stone is also common in areas where there is a tradition of stone masonry and availability of the material, such as Kingston, Guelph or Cambridge. The performance of a masonry wall depends on proper design, materials, workmanship and maintenance. Key requirements are that a wall be strong, keep moisture out and allow the mortar to flex. Most masonry work involves repointing and occasional replacement of deteriorated brick or stone.

## PROBLEMS

Brick and stone can deteriorate for many reasons, the key ones being

- excessive moisture in the masonry freezing and thawing in winter
- water in the walls rusting out masonry ties
- improper cleaning, such as sandblasting
- differential expansion, leading to cracking
- air-borne pollutants

Some indications of masonry problems are

Bulging	- indicates the wall has moved.
Cracking	- indicates movement within the wall.
Staining	- indicates excessive dampness.
Crumbling	- indicates moisture penetration due to poor brick or to sand-blasting.
Paint Blistering	- indicates moisture trapped behind paint.
Mortar Cracking	- indicates cement mortar is too hard and is popping out in freeze-thaw cycles.

## REPOINTING

Mortar bonds masonry together. As well as compressive strength, workability and flexural (bending) capacity are important. Mortar should be weaker than the masonry to accommodate movement in walls, or else cracks will occur. The earliest mortars were lime-based, being water resistant and flexible, but often weak and susceptible to frost action. Later cement mortars, with little or no lime, are strong and fast-setting, but with poor and uncertain bonding. Masonry cement is a pre-blended mixture of lime, Portland cement and other ingredients that can vary to suit conditions. When repointing

- remove deteriorated mortar using chisel and maul, to 1" to 2" depth
- duplicate the original mortar mix
- match the original mortar joint

In applying the mortar, ensure the adjacent bricks are wet and that the mortar dries slowly under the shade of a tarpaulin if it is sunny. Allow it to cure properly.

## MORTAR MIXES

The right mortar mix for a masonry wall is very important, so that it moves with the wall. If the original mortar has fared well, the intent is to duplicate its mix. The following is a rough guide of mortars for different types of brick and stone.

Soft Brick	1 part white Portland cement 3 parts hydrated lime 12 parts sand
Machine-Made Brick	1 part white Portland cement 2 parts hydrated lime 9 parts sand
Sandstone Weak Limestone	1 part white Portland cement 2 parts hydrated lime 9 parts sand
Granite Good Limestone	1 part white Portland cement 1 part hydrated lime 6 parts sand

## CLEANING

Cleaning masonry is one of the most difficult jobs there is, particularly when trying to remove paint. In general, there is no way to remove paint that will not also damage the surface of the masonry. The only solutions are to let the paint wear off over many years or repaint. Cleaning dirt off masonry is a simpler and safer procedure, although dirt does not, generally, harm masonry and, in fact, can provide attractive qualities of character and age. Cleaning methods include the following:

### Water

Cleaning masonry with water is the simplest, safest and least expensive method. It softens the dirt and rinses deposits from the surface. When water-cleaning, ensure the wall is watertight and mortar and caulking joints are sound, the least amount of water is used, and there are two to five weeks of dry weather before frost. The different techniques are as follows:

Hand-scrubbing	using a mild detergent and hosing down when complete. This is simple and effective.
Spraying	using regular water pressure to create a fine mist applied periodically over several hours and hosing down when complete.
Pressure Washing	using mechanized pressure. Great care should be taken on soft masonry and mortar, which can be destroyed if the pressure is too high and spray duration too long.

### Chemical

Chemicals are usually used to remove paint. It can, and usually does, destroy the surface of masonry. If contemplated, a test patch should be done to determine the extent of the

damage. The general approach to chemical cleaning involves wetting down the masonry, applying the chemical and rinsing off. The different cleaners are as follows:

- |                |  |
|----------------|--|
| Acid           | usually hydrofluoric (HF), is mixed in a maximum concentration of 5%, preferably 1%-3%. Acid should not be used to clean limestone, marble or sandstone.   |
| Alkali         | can be used on acid-sensitive masonry such as limestone, marble and glazed brick. It has a potassium hydroxide, ammonia or caustic soda base. Alkali should not be used on stone with a high iron content. |
| Paint Removers | are often the only means of removing paint. Reaction with the masonry can vary, therefore a test patch should be conducted first.  |

### Sandblasting

Abrasive cleaning, usually sandblasting, is not acceptable for old and historic masonry. It removes the hard exterior surface of brick in particular, which then takes on moisture and rapidly deteriorates. Many older brick houses in Toronto that were sandblasted in the 1960s have subsequently been re-plastered as the brick became porous and crumbled. On stone, it can destroy details and texture.



# STUCCO

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Stucco is an ancient material going back many centuries. One source suggests the word might be derived from an old German work "stucchi" which means crust. Initially, stucco was applied directly over masonry and later applied onto a wood or metal lath. When applied correctly, it will last indefinitely. Architecturally, over the past two hundred years stucco has had an uneven history. In the early to mid-1800s, it was used in a number of ways. One was to cover over rough fieldstone on a building elevation. The stucco was incised with lines to make the elevation appear as cut stone. This same technique was used also with lath and stucco on wood frame buildings. Our c1870 cottage in Guelph originally had this finish, giving the appearance of a small stone cottage. It was very neat and impressive. Unfortunately, it was later re-stuccoed with Portland cement in a uniform finish.

In the late 1800s and early 1900s, stucco went out of favour, until technological advancements in the manufacture of Portland cement, a key ingredient of stucco, renewed interest in the 1920s. Many homes in the Arts & Crafts, Prairie and Tudor Revival styles used stucco extensively in combination with wood.

## TRADITIONAL COMPOSITION

Stucco was originally a lime and sand mix and applied in three coats to the wood lath. The first "scratch" coat bound the mix to the lath, the second coat built up the strength and the finish coat provided texture and colour. Animal hair and straw can sometimes be found in old stucco and were used as binders. In the early 1900's, Portland cement was added to the mix for additional strength. In conserving and restoring traditional stucco, the traditional composition and application should be revived.

## REPAIR

The most common damage to traditional stucco is cracking or falling away at the sides or edges. These can be repaired by removing to the lath base, wetting the area and applying new coats of a mix as close as possible to the original. This should be left to dry slowly. Bulging is a more serious problem and usually denotes the stucco has come away from the lath. The stucco in the area of the bulge, or the entire wall, should be removed and redone. A very difficult task is to have the new repair patch stucco match the old, particularly the colour. Two alternatives are available. Either re-plaster the entire elevation, which can be costly, or paint. A latex paint is recommended as it breathes and is less susceptible to peeling. Only latex paint formulated for stucco should be used.

## CONSERVATION PRINCIPLES

- Conserve traditional stucco walls. It is a rare and little used finish.
- When repairing, use the traditional ingredients and techniques, particularly the lime and sand mix.
- When repairing post 1920s stucco walls, analyze the stucco ingredients which may be Portland cement.
- Retain skilled craftsmen to restore stucco walls or build anew.

# WOOD SIDING

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## CONSERVATION PRINCIPLES

- Conserve original wood siding. It is usually high quality and knot-free wood from Ontario's abundant old growth forests of the early 1800s.
- If replacing, match the original profile.
- For new additions, select a wood siding that complements the style of the original historic building.
- Paint in period heritage colours.

## INTRODUCTION

Wood siding was one of the most common sidings for historic buildings. With the huge forests that covered Ontario at the time of early European settlement, there was an abundance of fine first growth soft and hardwood timbers. This enabled builders and cabinet makers to select only the best, knot-free wood. Every effort should be made, therefore, to preserve original wood siding, not only because it is authentic to the building but also because it's quality cannot now be found.

Wood is vulnerable to decay through moisture and damp and requires a finish of paint or stain. It is the deterioration of the finish that has frequently caused wood siding to be covered by insulbrick in the early 1900's and, more recently, by vinyl or aluminum siding. The main challenges of wood siding are, therefore, maintenance or choosing the right replacement

## DIFFERENT TYPES OF WOOD SIDING

Wood is a traditional siding widely used in historic buildings and most appropriate for new additions. Wood siding includes tongue and groove, bevel, board and batten and shingle. Some of their characteristics are as follows:

- |                   |  |
|-------------------|--|
| Tongue and Groove | This is a horizontal pine board with a 6" to 8" face locked together by a tongue and groove joint. The joints may be flush or, more commonly, V-grooved. Nailing is through the tongue, thereby eliminating surface nail heads. Finish is with paint or stain. |
| Bevel             | This is a horizontal pine or cedar board with a 4" to 8" face, overlapped at the top. Nailing is surface. Finish is paint or stain.  |
| Board and Batten  | This consists of vertical 10" or 12"-wide rough sawn or planed pine boards with 1/4" spaces between and 1"x2" battens over. Traditionally, the batten edges were mitered. Paint is the traditional finish.   |
| Shingle           | Shingle siding comes in various profiles, including straight, scalloped and angled. It is often used selectively and decoratively at roof gables and as verandah handrails, with a paint finish.   |

## MAINTENANCE

Original wood siding should be conserved whenever possible. With periodic maintenance and painting, it will last indefinitely. Many humble board and batten Ontario Cottage style houses of the mid-1800s are in as good condition today as they were when built. Some maintenance guidelines are as follows:

- |          |  |
|----------|--|
| Painting | Painting is the most important maintenance item with wood siding. Ensure the paint work is in sound condition. For further information, refer to the Paint & Colour Guideline. |
|----------|--|

Split Boards	Pry split boards apart and coat the interior faces with an epoxy resin glue. When tacky, push the split together, sand and spot paint.
Replacing Boards	Cut out deteriorated section only between the nearest studs, with a circular saw and chisel. Using the removed section as a template, insert a new piece, nail and caulk end joints.
Repairing Shingles	If a shingle has bowed, split with a wood chisel and remove a 1/8" to 1/4" sliver. Nail down the shingle to either side with one nail, and cover the split and nail heads with roofing cement.
Replacing Shingles	If a shingle is badly cracked or rotted, split and pull out. Slide a hacksaw blade up and cut nails. Trim new shingle to fit, leaving 1/8" to 1/4" side clearance. Angle nail into the bottom end so heads are covered, and spot top with roofing cement.

### CHOOSING THE RIGHT SIDING FOR AN ADDITION

The choice of siding for a new addition will be governed by many factors including quality, cost, and ease of application. A key consideration is to ensure the siding complements the architectural style of the main building. If the main building is wood, it is best to match the original siding. If it is masonry, the wood siding should be complementary. Wood sidings vary in scale and character and traditionally suit different situations.

Tongue and groove has the most refined appearance and is suitable for most building additions.

Bevel edge is also a refined style but best suited for additions to humbler house types such as the Ontario Cottage.

While board and batten may be found on some delightful early buildings, it is utilitarian in scale and should be chosen with care. It best suits additions to early stone and log houses that have a similar hand-crafted texture and scale. If it is selected, the batten edges should be mitered to provide a more finished appearance.

### METAL & VINYL SIDING - MISTAKEN ALTERNATIVES

Over the past twenty-five years, many historic wood-sided buildings have been covered with metal and vinyl siding. The main reason was to eliminate the maintenance and painting required of wood siding. However, there are numerous hidden drawbacks to metal and vinyl which makes them a poor alternative for some of the following reasons:

Fading	The colour finish fades.
Limited Colours	The range of colours is limited compared with paint.
Cracking	Vinyl can crack, especially in cold weather

Looks Dated	Like asbestos tile and insulbrick before them, they quickly look dated.
Lost Details	Frequently, original wood details have to be removed for installation.
Non-repairable	Repairs are difficult and new pieces do not match in colour.

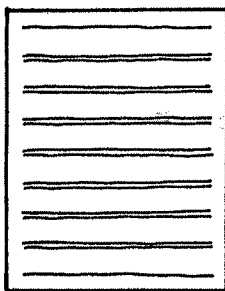
Wood siding, however, is a traditional and distinctive material that never goes out of style. It is easily repairable and re-painting every ten years or when required, rejuvenates its appearance and value.

### SHINGLE GABLES

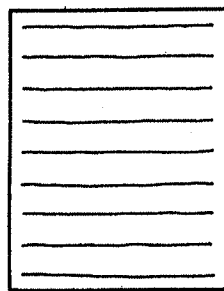
From the mid to late 1800s, particularly in Queen Anne Revival style buildings, wood shingles were used on the gable ends. The decorative patterns were many. They provided individuality and visual delight to small and humble houses. Many still survive to this day and in excellent condition. They should be conserved and maintained. For replacement, some guidelines are as follows:

- Raise the butt of the shingle above.
- Split the damaged shingle below into pieces.
- Slide a flat pry up to break the nails that hold the damaged shingle.
- If the nails do not break, slide a metal saw blade up and cut them.
- Push the replacement shingle up under the shingle above to line up with the adjacent shingles.
- Drive two nails in at a high point of the replacement shingle.

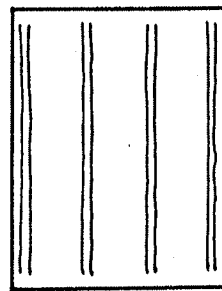
If replacing the entire shingled gable, photograph and measure so as to duplicate exactly or in a compatible alternative pattern. The shingles may have to be cut individually from regular stock or may be available custom cut.



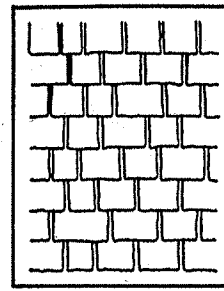
V-Match  
Tongue & Groove  
Wood



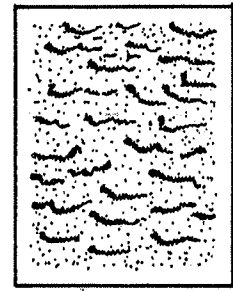
Bevel Edge  
Wood



Board & Batten  
Wood



Wood Shingle  
Random Widths



Stucco  
Old English Pattern

#### SOME TRADITIONAL SIDINGS

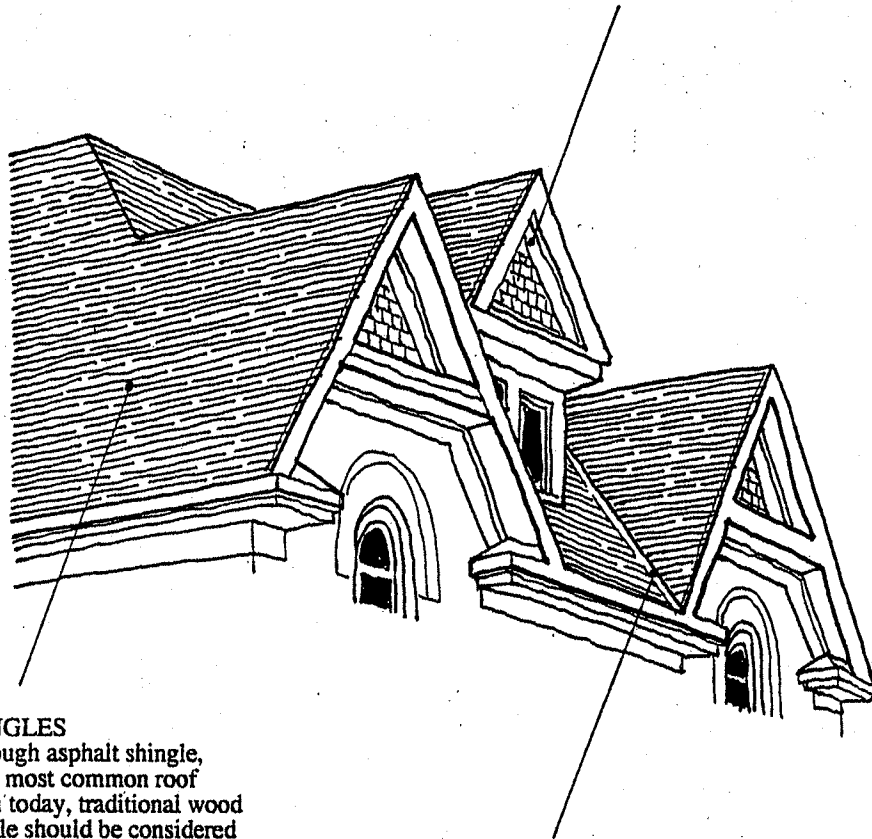
# ROOFS & FLASHINGS

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner

## VENTING

Roofs need to be vented for longevity. The best place to vent is at the gable peaks, where they are inconspicuous. Avoid modern roof top vents - they look "stuck on."



## SHINGLES

Although asphalt shingle, is the most common roof finish today, traditional wood shingle should be considered also because of its durability and historic appearance. With its longer life, wood shingle is price competitive and more environmentally friendly.

## FLASHINGS

Roofs are most vulnerable at their joints. Keep flashings clean and paint regularly.

## CONSERVATION PRINCIPLES

- Through examination, determine what the original roof finish and colour were.
- When renewing a roof, replace with the original historic finish if possible.
- If the original historic roof finish is too expensive (e.g. slate or cedar shingle), consider using an asphalt shingle that closely resembles it .

## INTRODUCTION

Roofs and their finish are important features of an historic building. The roof size, shape and slope create the building silhouette. The finish contributes colour, texture and pattern. Decorative touches such as iron cresting enrich the appearance. The roof is a building's primary protection against sun, rain, snow and wind. The finish naturally deteriorates and must be maintained and eventually renewed. As such, choices of what to replace with must be made. On an historic building, the approach should be to renew using the original finish or an alternative that closely matches the original character and enhances the architectural style of the building.

## DIFFERENT STYLES OF ROOFS

There are many different styles of roof corresponding to the historical style of the building. Queen Anne Revival style roofs, for example, are highly decorative with steep gables, dormers, turrets and towers, iron cresting, finials and patterned shingle. Conversely, Gothic Revival style roofs are steeply pitched, but simply massed and sometimes enlivened by finials and decorative edge bargeboard. The Ontario Cottage style roof was often the very simple hipped roof that pitched on all four sides.

The most common roof shapes include the following:

Gable - 2 inclined planes meeting at the ridge with triangular end walls.

Hip - pitched, all 4 sides meeting at a point or a flat top.

Gambrel - 4 inclined planes with shallow upper and steep lower. This shape derived from the Dutch Colonial style.

Flat - a roof with no pitch; prone to leakage.

## CHOOSING THE RIGHT ROOF FINISH

Choosing the right roof finish will depend on two factors - function and architectural style. Functionally, the pitch of the roof is the most important factor. Shingle and slate can only be used on a roof with sufficient pitch. Metal, however, can be used on a shallow pitch or flat roof.

Secondly, the choice of roof finish should complement the architectural style of the building. For most buildings up to the late 1800s, wood shingle was used. Slate was also used for more prestigious residences and civic buildings. Towards the late 1800s, asphalt shingle became popular and by the 1920s, over 90% of buildings were covered with asphalt shingles. Since then, alternatives such as clay, rubber and synthetics have been introduced. Metal has been used since the early 1800s in various ways, particularly a standing-seam sheet, for historic commercial buildings where sparks from chimneys are a hazard for cedar shingle.

All the shingles - cedar, slate and asphalt, have the additional quality of colour to highlight the architectural style. Stains used to preserve cedar were historically dark brown, dark red, dark green and medium green. Slate colour is restricted to blue, green and combinations thereof. Asphalt shingle colours are many.

### Wood Shingle

Wood shingles are a traditional roof finish and are sawn mostly from western red cedar. In the mid 1800s, wood shingles were cut from virgin forests, providing a high quality wood. They were expected to last 50 to 75 years. The decline in the quality of wood today has reduced wood shingle's resistance to water and ultraviolet light. Their expected life span is less than 50 years. A proven remedy is to stain the shingles, either by dipping before installation or by brushing on after. An important requirement for wood shingles is their ability to breathe and dry. It is invariably found in old buildings that the roof planks were spaced a little apart. This allowed air within the roof space to dry the wood shingles above. This old technique should be continued. Never install wood shingles over a sheet material such as plywood or chipboard. They will soon gather mildew, moss and rot.

### Asphalt Shingle

Asphalt shingles were introduced in the 1890s and have a core of cellulose fibre that is coated with asphalt and topped with a protective mineral aggregate. They are relatively inexpensive, fire resistant, easy to apply, have a range of styles, textures and colours and last up to 35 years. The 3-tab asphalt shingle is the most widely used as it installs quickly and appears as three individual shingles. Recent architectural shingles are textured and coloured to look like cedar or slate. Asphalt shingle are a very acceptable shingle for historic buildings when chosen carefully, in their own right or as a substitute of cedar or slate .

**Metal** Metal comes in various widths, lengths, thicknesses and colour. It is relatively inexpensive, light and designed to last up to 35 years. It is prone to rust and the colours to fade. Metal roofs originated in the 1840s, and its advantage over cedar shingle was in being non-inflammable from chimney sparks. It was used in many early building styles, but did not have the prestige of other finishes. It was used, however, whenever a flat roof was specified. Sheet metal roofs consist of flat sheets of metal

### Clay Tile

Used widely in Europe, clay tiles are used more today, being lighter, cheaper and easier to install than the earlier, heavier models. Designed to last up to 35 years, they are fire resistant and coloured. Existing roofs may have to be strengthened to take the extra weight. They are one of the oldest roof finishes, though not traditional on the early buildings of Ontario.

**Slate** Slate is the premier roof finish - expensive, beautiful in appearance and near everlasting. The parts that can fail over time are the fasteners that hold the slate to the roof. However, these can be effectively repaired and broken slates replaced with old or new.

## FLASHING

Roofs are most vulnerable at their joints - at valleys, hips, ridges, chimneys and dormers. Many times when a roof problem arises, it is at the flashing. It is advisable to select the best flashing possible as replacement is very expensive. This could be copper or 26-gauge galvanized steel.

### Maintenance

Keep clean by removing leaves and debris. Scrub away lichens and moss, which corrode metal.



Paint regularly with metal primer and linseed oil top coat.

#### Spot Repairs

For cracking and holes, replace the section entirely or adhere a new section on the old with a lock seam or cold patch.

For buckling, allow the flashing to move by applying a rosin paper under or fastening with cleats.

### WINTER ICE BUILDUP

Old buildings are frequently under-insulated and one common problem is ice buildup on the roof. As heat escapes through the attic and melts the under layers of snow on the roof, the runoff caches in eavestroughs and refreezes to form an ice dam. The dam prevents the rest of the melted snow from running off the roof, resulting in huge icicles and blankets of ice on the roof, which by freezing and thawing breaks the shingle seal. Leaking may then come into the house. To avoid this, the following steps should be taken:

Insulation	Lay more insulation in the attic to prevent heat escaping into the roof space.
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Roof Cleaning	Shovel snow off the roof to prevent a buildup.
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### REMOVING OLD SHINGLES

Frequently, to save time and landfill fees, old wood and asphalt shingles are left under the new roof. This should be avoided. The accumulated weight of old shingles is considerable, stressing the roof structure, and moisture gets trapped between the layers. Removing the old shingles also enables the replacement of defective wood roof boards.

### GUTTERS & DOWNSPOUTS

Gutters and downspouts are an important functional and visual feature on an historic building. They should be sized to carry the required volume of water and prevent the overshoot of water down a steep roof.

The older gutters and downspouts were generally larger than today's factory-made seamless, which often appear out of place. Also, the older ones were often elaborately shaped in copper. A good compromise is to install a larger size galvanized gutter, which may then be painted to match the building's historic colour scheme.

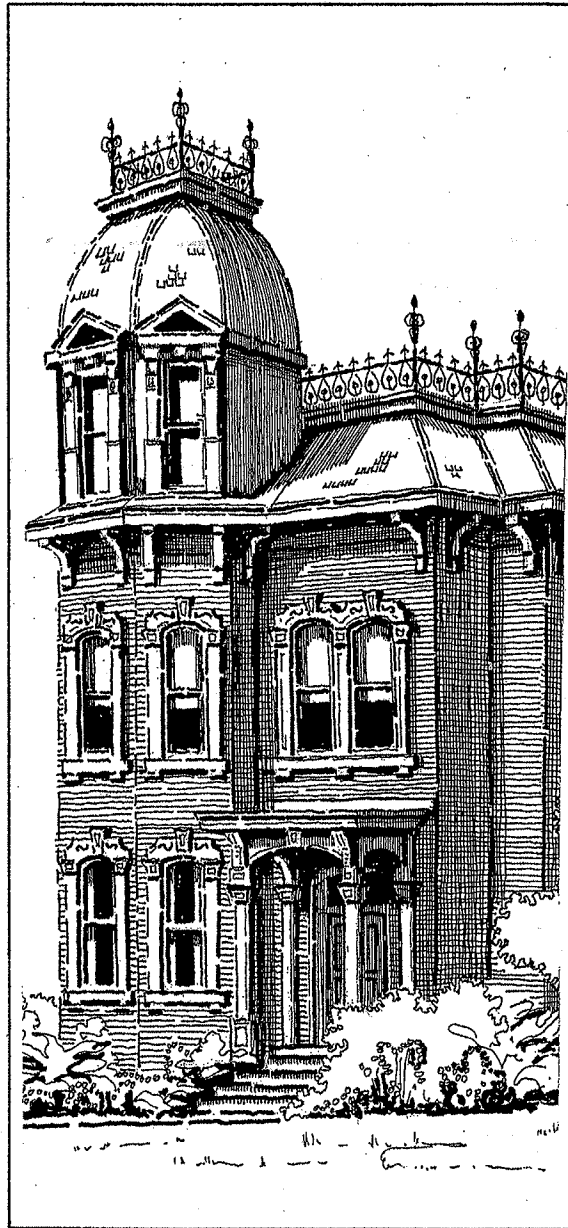
### CRESTING & FINIALS

Cresting and finials were popular up to c1880 and provided an ornate finish to the rooftop. Constructed of either sheet metal, wood or cast iron, they varied in shape and size to suit the architectural style of the building. Now largely removed or deteriorated, consideration should be given to reinstating these delightful features.

# GUTTERS DOWNSPOUTS CRESTING

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## CONSERVATION PRINCIPLES

- If still existing, conserve and maintain original galvanized steel or copper gutters and downspouts.
- Carefully size new gutters and downspouts. For older building, the roof pitch and size may require a larger size than off-the-shelf.
- Research old photographs to determine if iron cresting once adorned the roof

## GUTTERS

While gutters are generally considered primarily a functional element of a building, they have a tradition of being decorative for certain architectural styles. Functionally, the two critical aspects to be determined when renewing gutters is size and material. Today the common size is 5". However, on many older buildings, gutters were often custom-made and 6" or larger. The steeper the roof the greater the possibility of rain overshooting and overflowing. Each roof situation, therefore, should be carefully considered and the gutter appropriately sized. The material makeup of a gutter includes modern aluminum or galvanized steel or copper. Their characteristics are as follows:

### Aluminum

This is the most popular and economical material for gutters and downspouts. They are a pre-painted light weight system and can be made to any length with a slip joint. The disadvantages are that they are easily bent out of shape by roof snow and ice or by a ladder leaning against them. Also, the colour range is limited and rarely matches the original historic paint colour of the building.

### Galvanized Steel or Copper

This is the traditional system and comprises 10-foot lengths of gutter soldered together to form a long-lasting and watertight system. The advantage is that they will last 50 years. The disadvantages are that they require painting and the cost is higher. To paint, the system should be allowed to weather for 12 months so the oil surface used in the manufacturing process is removed.

Besides the functional aspects of size and material, there are important design considerations. The gutters should be located both to efficiently take the roof water away as well as fit discreetly on the building facade, usually at an end corner. On a primary elevation, hoppers were frequently used as a decorative feature, particularly on Tudor Revival and Ontario Gothic style buildings. This was a common place for the construction date to be inscribed, embellished with a decorative metal surround.

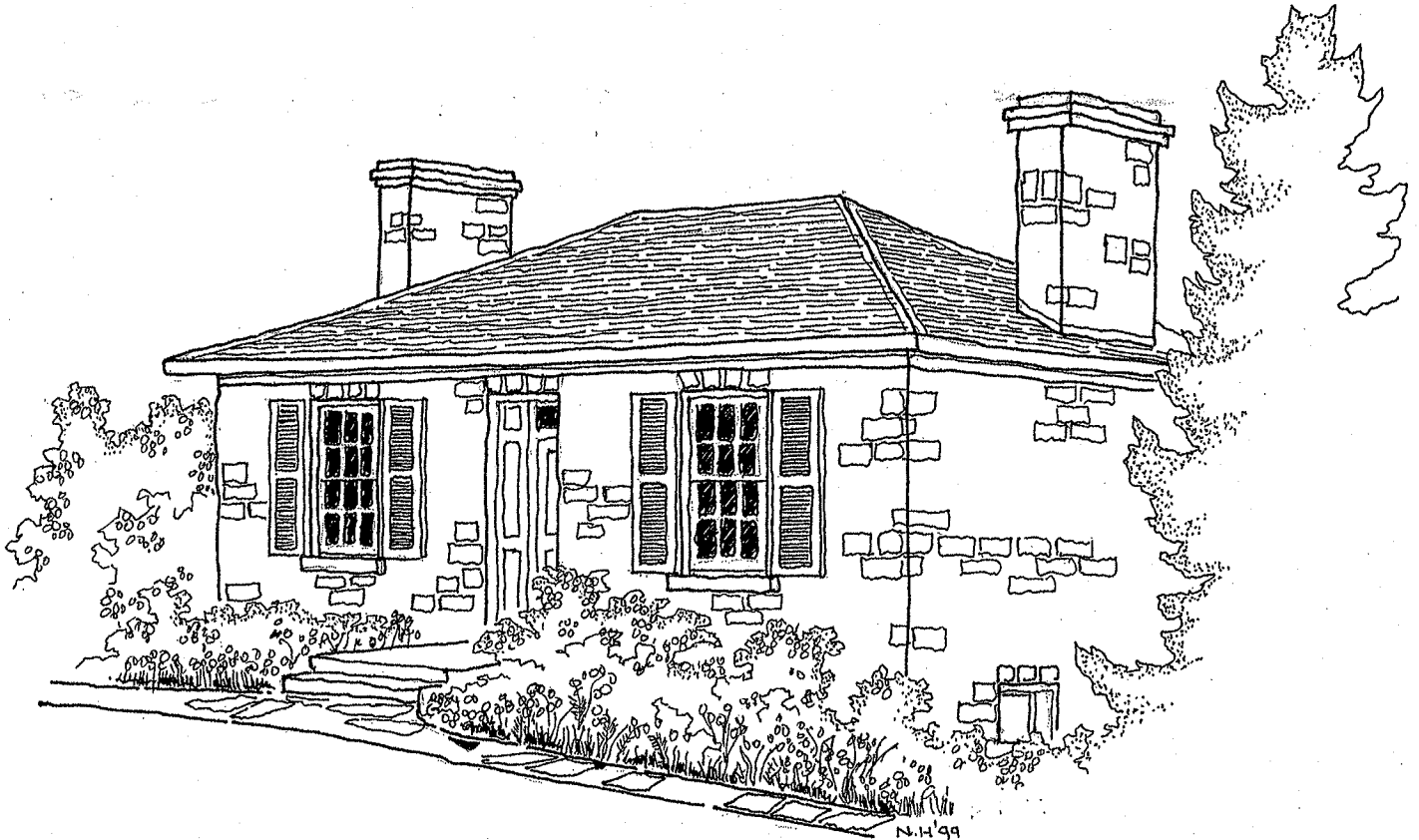
## CRESTING

Cresting is a decorative band placed on the top of a roof. Made of either cast iron or stamped metal, cresting was popular up to the 1880s, on Ontario Gothic, Italianate and Mansard style buildings. Although most has been removed, it may still be seen on houses and provides a wonderful visual flourish to the silhouette. Like many such features it is now being reproduced again. The best evidence as to whether it once existed on a particular building is through historic photographs.

# CHIMNEYS

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## CONSERVATION PRINCIPLES

- Chimneys are an integral part of the architectural composition of an historic building. Conserve original chimneys, even when no longer in use.
- If rebuilding, match the original or the building style.
- Regularly maintain as a safety measure.
- Always use the services of a professional when rebuilding, relining or maintaining a chimney.

## INTRODUCTION

The purpose of a chimney is to take smoke safely away from a building. Being prominent on the roofline, the design of chimneys has always been an important architectural feature of an historic building. The chimney is an integral part of the total visual effect and so should be preserved and carefully maintained. Detail is particularly important, such as a splayed top that provides flourish and display. For most chimney work, a professional should be retained to advise and do the work.

## COMMON FAULTS & REPAIRS

The most common faults which should be addressed in an old chimney are the following:

- Cracked or crumbling masonry
- No tile lining
- Leaning
- Flashing leaks

These faults can be addressed by one or a number of the following maintenance steps:

### Spring Clean

Spring clean the chimney at the end of the heating season when the byproducts have not had a chance to corrode the mortar. Brush soot off the flue walls, then vacuum up from the hearth and smoke shelf.

### Chimney Lining

Most chimneys prior to the early 1900's had no clay-tile liner. Over time, smoke and byproducts erode the brick and mortar joints from the inside out. Not attended to, chimneys eventually disintegrate. Look up the chimney with a mirror to check the condition. If the chimney is actively used, consider inserting a new tile lining.

### Creosote Bleeding

Creosote or soot bleeding, which leads to a black exterior streak up the chimney path, indicates deteriorated mortar joints in the chimney. To remedy this, re-line the chimney.

### Chimney Height

To ensure good take-away of the smoke and minimize the risk of live sparks falling on the roof, a chimney should be at least 3' high and be 2' higher than any roof, ridge peak or wall within 10'

### Leaning Chimneys

Chimneys lean, not usually because of wind force, but because sulphur dioxide combines with and expands lime in mortar. The result is a lopsided expansion of the mortar and a leaning chimney. If the lean becomes serious, the chimney should be taken down to the roofline and rebuilt.

### Caps

Ensure the chimney cap is complete, otherwise moisture will penetrate the masonry. Extend at least 2" beyond the face of the chimney with a drip to shed water. For unused chimneys, cap the entire top.

### Obstructions

Chimneys are prone to obstructions such as dead birds, nests, wire, pipes and dislodged mortar. Sight up and down the flue and lower a weight to locate the obstruction. Clean out as required.

### Flashing

Flashing around chimneys is usually made of aluminum, copper or galvanized tin. It is installed in two stages - base flashing and cap flashing. Leaks frequently occur where the cap flashing is set into the mortar between the bricks. Mortar loosens and moisture penetrates. If only spots of mortar have loosened, remove loose pieces and fill with a butyl rubber caulk. If the mortar is extensively deteriorated, remove flashing, clean out all joints and re-flash.

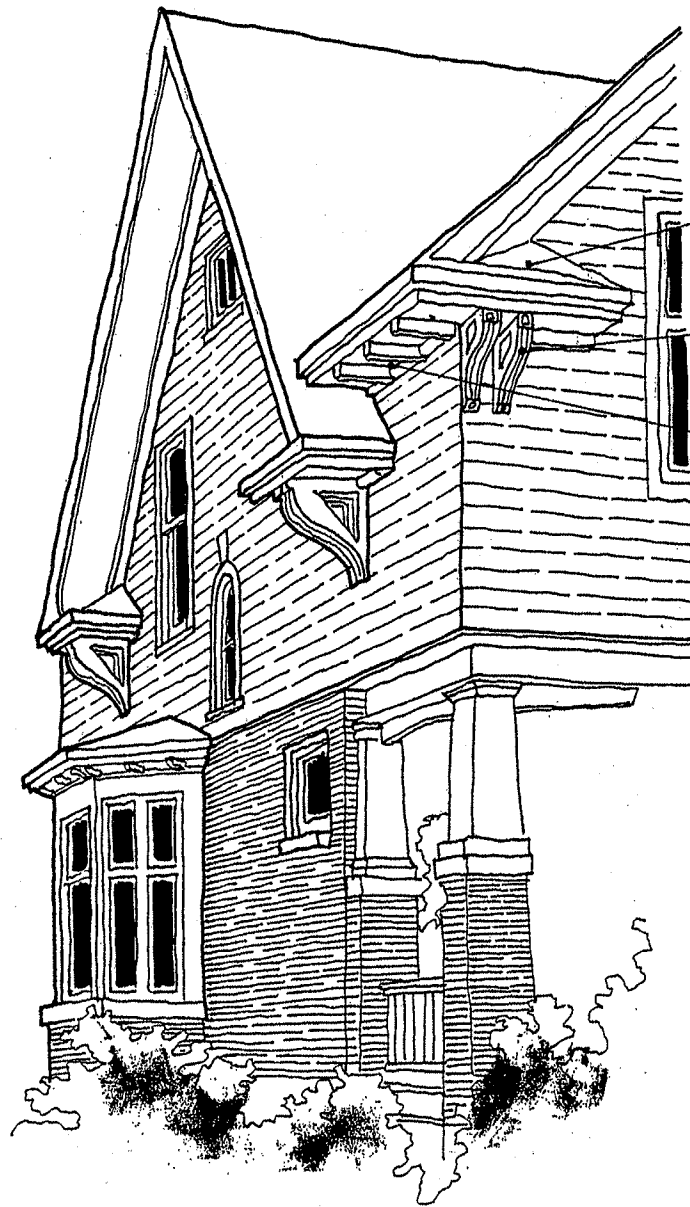
## NEW CHIMNEYS

If a new chimney is to be built it should complement the architectural style of the building. The brick or stone also should match the existing or be appropriate in colour and texture if the building is wood-sided. A recycled brick may be a good solution, providing the brick is a hard-faced outer brick and not a soft inner brick. A recurring feature on most historic chimneys is the corbelled top. This technique stepped the top of the chimney out to widen the wall or shaft. It was used in many different ways and gave the chimney visual drama and flourish. A flat chimney will appear visually unattractive. A skilled bricklayer will easily build a corbelled top and be proud to continue the tradition.

# BARGEBOARDS & EAVES

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## CAULKING

This area is particularly prone to weather damage. Ensure joints are caulked and weather tight.

## BRACKETS

These brackets are architectural highlights. Conserve and accent with historic colours.

## SOFFITS

Traditionally made of wood, soffits should be maintained and painted in historic colours. Avoid covering with metal siding. It is industrial looking and the prefinished colours are not historic.

## CONSERVATION PRINCIPLES

- Conserve original wood eaves, soffits, fascias and bargeboards. They are prominent visual features, often with elegant turned brackets and mouldings.
- Paint using historic colours that match the rest of the building.
- Avoid covering eaves and soffits with aluminum or vinyl siding, which lack historic character and colour. Also, the installation of these materials frequently requires the removal of decorative wood brackets and mouldings.

## **INTRODUCTION**

The eave is the roof overhang and gives protection to the walls beneath. It is a very visible feature and consists of the roof fascia board that holds the gutter, the soffit board under and the soffit fascia board against the wall. Often the eave is turned around onto a gable wall to form a boxed-in return. Sometimes brackets decorate the eaves too. Traditionally the eave is made of wood and painted, using the historic paint colour of the remainder of the house. The bargeboard is the wood fascia board on the building gable. As architectural styles became more decorative throughout the 1880s, the bargeboard became a key area for carved and decorative woodwork. Collectively, the eaves and bargeboards are important architectural features that should be carefully conserved. However, because eaves and bargeboards are high up, difficult to maintain and susceptible to wear and tear, they are frequently covered over with aluminum or vinyl. This seriously depletes the historic character of the facade. This approach should be avoided. Metal and vinyl siding come in a limited and non-historic colour range and it is also more costly than regularly maintaining and painting the original wood eaves.

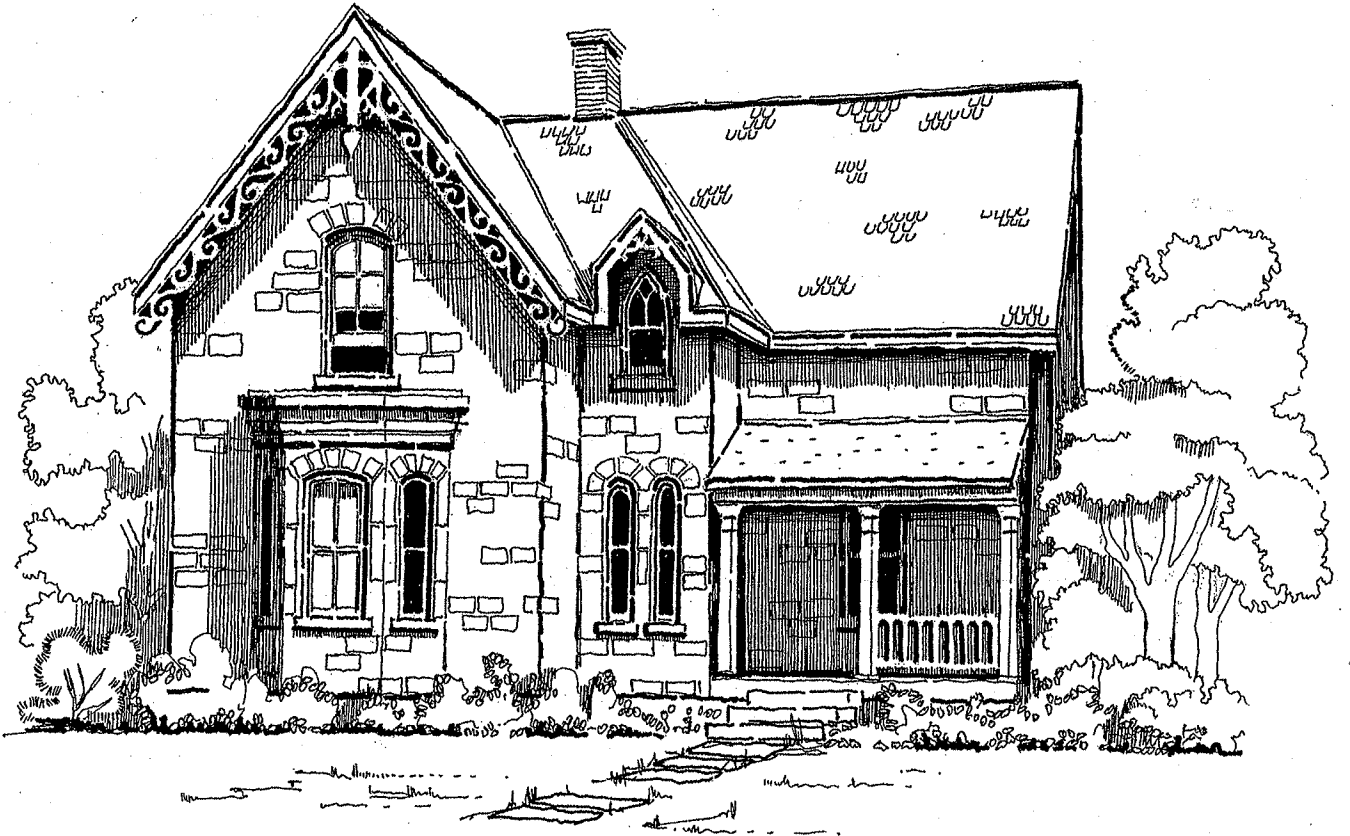
## **MAINTENANCE**

Subject to water and ice damage from the roof or blocked gutters, eaves require regular maintenance. Their height and awkward accessibility can make the task difficult and time consuming, particularly if preparation is required for painting. However, once proper care is established, they are a highly attractive part of, and integral to, the historic appearance of the building.

## **VENTILATION**

A frequent omission in old houses is soffit venting. Roofs must be able to breathe and dry. The easiest way of inserting a soffit vent is by cutting out a 1"-wide strip and nailing on a continuous metal soffit vent. When painted, it is not conspicuous and achieves a good ventilation opening. A second method is by drilling round openings in the soffit and inserting a vent plug. This allows a flow of air.

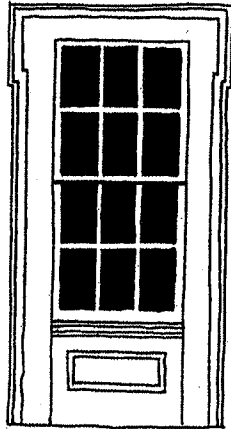




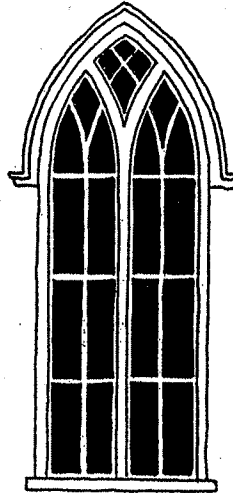
# WINDOWS

BUILDING CONSERVATION GUIDELINE

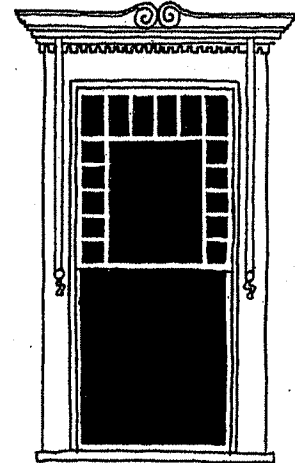
Nicholas Hill Architect . Planner



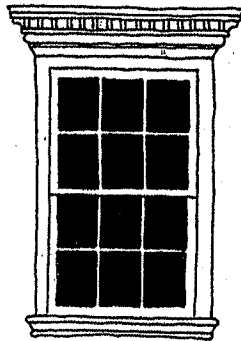
GREEK REVIVAL  
c. 1820 TO 1860



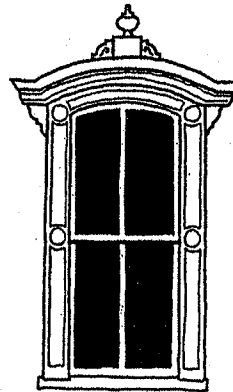
GOthic REVIVAL  
c. 1820 TO 1860



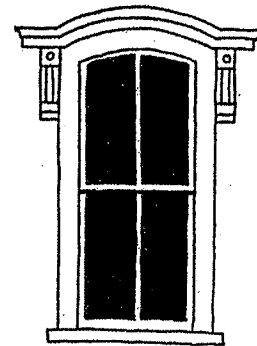
QUEEN ANNE  
c. 1876 TO 1900



GEORGIAN  
c. 1820 TO 1860



MANSARD  
c. 1860 TO 1880



ITALIANATE  
c. 1845 TO 1880

## CONSERVATION PRINCIPLES

- Conserve original wood windows with their old and attractive glass. They are one of the most important historic features of a building.
- Conserve original storm windows. With new insulating tapes, they are an excellent insulator.
- If replacement is essential, consider retaining the frame and sash and only replacing the old glass with insulglass.
- Paint the frame and sash in period heritage colours.

## INTRODUCTION

Windows are one of the most important architectural features on the exterior of an historic building facade. Glass originated in windows in the mid-1600s in England. The earliest windows were casement frames of wood or metal holding small diamond-shaped panes of glass set in lead strips. Glass was very valuable. Windows greatly improved in the 1700s with the development of the single-hung sash and later the double-hung sash. Early pane sizes varied from 6" X 8" to 10" X 12". In time, the 6 over 6 sash became the standard and is found in most buildings in Ontario of the early to late 1800s. Design characteristics of windows in the changing building styles of the 1800s are as follows:

Georgian 1800-1820	Elegant, evenly spaced windows Rectangular 6 over 6 or 6 over 9
Ontario Gothic 1820-1860	Pointed, narrow and tall Elegant tracery in church windows
Italianate 1845-1880	Larger sheets of glass Elliptical or circle-headed tops Embellished frames Often in pairs
Mansard 1860-1880	Large sheets of glass Increasingly elaborate decoration. Window hoods, brackets and pediments
Queen Anne 1875-1900	Multi-paned windows Clear, stained and etched glass Varied pane size in each sash

## THE WINDOW ASSEMBLY

The traditional window assembly consists of a fixed prime wood window and removable storm windows and screens. A single pane window loses up to 20 times as much heat as a well insulated wall. When a storm window is added, the loss is reduced by more than half. In addition, drafts are eliminated, which improves the comfort of the occupants. The storm window is kept in place by toggles on the side screwed into the window frame or by hangers from the top. The hangers allow the storms to be pushed out in summer for ventilation. Small holes were also drilled through the bottom rail for additional ventilation in the winter. They could be closed off by a small adjustable wood flap. In the summer, the storm was usually removed and replaced by a fly screen that fitted into the lower half. This allowed the lower sash to move up and open. The merits of conserving original wood windows are as follows:

- They are an original historic feature.
- The wood is usually of high quality.
- They can be homeowner maintained.
- With care, they will last indefinitely.
- They can be painted using historic colours.
- Decorative features can be preserved.

## **OLD GLASS**

A very attractive feature of old windows is their glass. In windows of the early 1800s, the glass was made from hand-blown hollow cylinders that were then cut, re-heated and flattened into sheets. The process resulted in an irregular and distorted surface and varied thickness. Bubbles were frequent. However, the glass was usually very clear and emitted a bright and beautiful light sometimes tinged with a pinky-blue shade. Early window glass, therefore, is a valued historic characteristic which should be carefully conserved. Where replacements are required, they should match the vintage of the original.

Later in the 1800s, plate glass was made by pouring molten glass to a uniform thickness on an iron table. When it cooled down, it was cut up and polished to a fine finish. Bubbles are still found. Plate glass was thicker and sturdier and was used for larger windows.

It is important today, therefore, to save old windows whenever possible for their glass which can be used to replace broken panes.

## **REPLACING SINGLE GLASS WITH INSULATING GLASS**

Priority should be given to conserving the original glass of an historic window. However, if retention of the original window assembly is still in question, a compromise could be to remove the old single sheet glass and set in new custom-made insulating glass. This is only practical when the window mouldings are thick enough for the wider insulating glass and the sheets are large too. The advantage of this option is that the original wood frame and sash are retained.

## **ALUMINUM STORM WINDOWS**

Many wood storm windows have, over the years, been replaced by aluminum storms. They are fixed, light-weight, easy to maintain and relatively affordable. Most importantly, they have protected the historic prime window which might otherwise have been replaced. Although the wood storm is the preferred option, aluminum storms are an acceptable compromise. A clear aluminum finish can also be painted with the colours of the principal window. If they are replacing wood storms, the wood storms should be carefully stored away in the attic or garage for future use. Where aluminum storms are not appropriate is when an aluminum panel is used to fill in an elliptical or circle-head top of the principal window. This greatly diminishes the appearance of the historic building facade. In this case, the new storm should be made of wood to perfectly fit the top of the opening.

## **VINYL AND ALUMINUM WINDOWS**

Vinyl and aluminum-clad insulglass windows are largely the windows of choice today. However, for historic buildings, they are not appropriate for the following reasons:

- Their colour range is limited and non-historic.
- Unless custom-made, at significant cost, stock sizes do not usually fit the old window opening and unsightly filler strips are required on the sides and top.
- New insulglass panes are usually large in 1 over 1 and 2 over 2 profiles. They do not replicate the original and common 6 over 6 sash of most historic buildings.

- Frequently, historic circle-head windows are panelled over to save money on making a custom-fit window.

## THE EXTERIOR WOODEN STORM WINDOW

The traditional wooden storm window are most appropriate for the following reasons:

- It is an authentic window for an historic building.
- It is an excellent insulator.
- It can be cut precisely to fit the prime window opening.
- It can be painted in the period historic colours of the building.

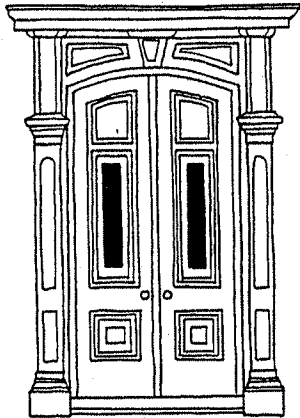
Priority should be given, therefore, to conserving and using traditional storm windows if they exist or building new ones if required. The former may be of wood and clip on the surrounding fascia. For casement windows, the glass may be held in a plastic sleeve and screwed onto the inside of the sash.

## MAINTENANCE

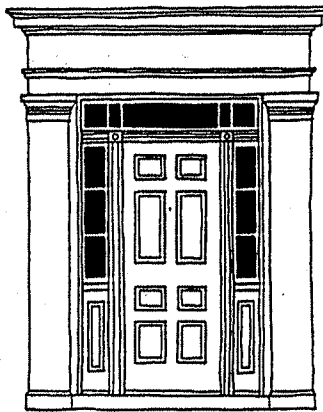
Regular maintenance of old windows is essential to ensure they operate well and will last.

- Cleaning** Regularly wash window frames, sash and glass. If glass surface grime persists, use a combination of 0-0-0 steel wool with straight ammonia and rinse with plain water.
- Broken Glass** To replace broken glass, carefully shatter the pane and with the heat gun remove putty around the sash edge. Clean and prime paint the opening. Insert new glass in a bed of putty with glazier's points every 6". If possible, obtain glass of the same vintage as that remaining in the window. This will conserve the character and look of the window's old glass. Old glass can often be retrieved from obsolete storm windows. Paint, overlapping the glass by 1/16".
- Old Putty** Over time, putty, particularly on upper faces, can become cracked and loose. To remove, shield the glass with a wide scraper, heat gun and carefully scrape off. Clean, re-putty, prime and paint.
- Surface Cracks** Over time, cracks can appear in wood window frames, sash and sills. To repair, remove loose wood, clean out and fill with an epoxy or a linseed oil/putty combination. Prime and paint. If the cracks are overly large, glue in a wood filler.
- Caulking** To seal gaps between the window frame and wall, use a rubber, butyl or polyurethane caulking.
- Weather-stripping** Air leakage can be a major problem with old windows and an energy expense. Fortunately, there are now many effective weather-stripping products for the junction, edges and undersides of sash. These are commonly compressible vinyl or metal strips that create a tight air seal.

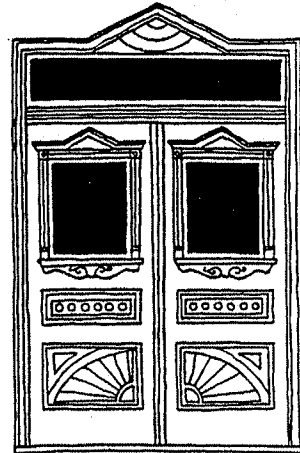
# DOORS



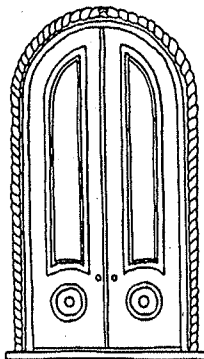
MANSARD  
c. 1860 TO 1880



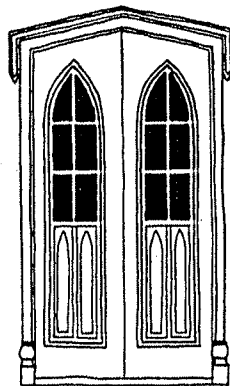
GREEK REVIVAL  
c. 1820 TO 1860



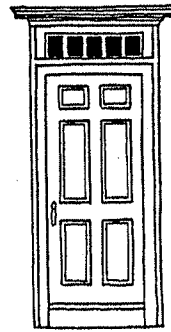
QUEEN ANNE  
c. 1870 TO 1900



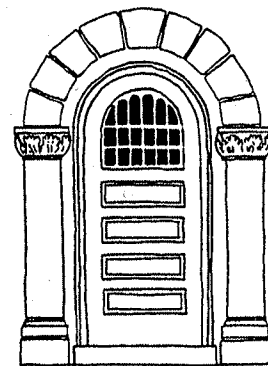
ITALIANATE  
c. 1845 TO 1890



GOthic REVIVAL  
c. 1820 TO 1860



GEORGIAN  
c. 1820 TO 1860



ROMANESQUE  
c. 1875 TO 1895

## CONSERVATION PRINCIPLES

- Conserve original doors and their frames. They are one of the most important historic features of a building, particularly if adorned with transom and sidelights.
- Install a wood exterior storm/screen door that matches the proportions of the principal door.
- Install weather stripping to ensure energy efficiency.
- Conserve, where possible, the original hardware.

## INTRODUCTION

The entrance door is a focal point of a building. It is an important functional component providing entry, security and weather protection, and a design element providing ceremony, style and appeal. Throughout history, doors have expressed the architectural style of the building.

Most doors, up to the 1930s, were of panel construction, comprising a 1 & 1/2" to 1 & 3/4" wood frame holding thinner centre panels. Usually 6' 8" to 7' 0" high and 2' 8" to 3' 0" wide, the whole was doweled and glued together. After the 1930s, flush surfaced doors became the norm. Simpler designed winter storm and summer screen doors were hung on the outside, sometimes one door holding a removable screen and storm. Adding to the style of the door are hardware features, including handles, hinges, letter slots, knockers, doorbells and street numbers.

Design characteristics of doors in some of the changing building styles during the 1800s and early 1900s are as follows:

Early Victorian 1855-1875	Simple 4-panel 2 tall upper panels; 2 shorter lower panels
Victorian Gothic 1875-1885	Elaborated 4-panel Applied decorative fretwork
Italianate 1845-1880	Elliptical or round-arched top Heavy mouldings around panels
Queen Anne 1875-1900	Random patchwork of panels Small glazing panes; stained glass
Arts & Crafts 1900-1930	Solid, tall lower panels Small top glass panes
Tudor Revival 1915-1940	Solid oak 4 to 6 panels Round or Tudor-arch top Small top glass panes

## MAINTENANCE

Doors are a highly used building feature that require constant maintenance, including some of the following:

Binding	If a door is binding, mark the spots where it binds, remove and sand or plane to fit.
Bowing	If a door is bowed, remove, set on end supports, and apply a heavy weight over the bulged part for 24 hours.
Warping	If a door is warped, reshape by tightening a turnbuckle - a wire connecting screw eyes at both ends and over a bridge in the centre. If unsuccessful, reset the door stop on the jamb to fit the warp.

Replacing a Threshold	To replace a worn threshold, take off the door and remove the door stops. Hand saw the threshold into three equal parts, removing first the centre and then the sides. Use the parts as a template for a new one, usually of oak. Tap the new one into place.
Repairing a Threshold	To repair a threshold, gouge out all rotted wood, vacuum to remove loose debris, treat with a preservative and fill with an epoxy filler. Prime and paint.
Hardware	The original hardware is part of the architectural history of the door. Preserve original handles, hinges and locks. Periodically clean and lubricate. If replacing, match closely the original.
Decoration	Bells, knockers, numbers and mail slots are often beautiful features of an old door. Preserve them carefully. If replacing, match the original.

## STORM & SCREEN DOORS

Custom storm and screen doors are essential to protect the main door in winter, enable ventilation in summer and insulate the house. Although it is regrettable not to have the main historic door visible, storm and screen doors can be complementary and equally attractive. For historic buildings, the traditional and appropriate style is a wood frame door with interchangeable storm and screen inserts. This allows for a design that mirrors the proportions and hardware of the principle door. Paint colour can also be applied to match the house. Beware of buying pre-made wood storm/screen doors, which can be too decorative and do not complement the style of an original main door. If an aluminum storm and screen door is considered, it should match as closely as possible the proportions of the main door. Unfinished is preferable to finished so it can be painted to match the colour scheme of the building.

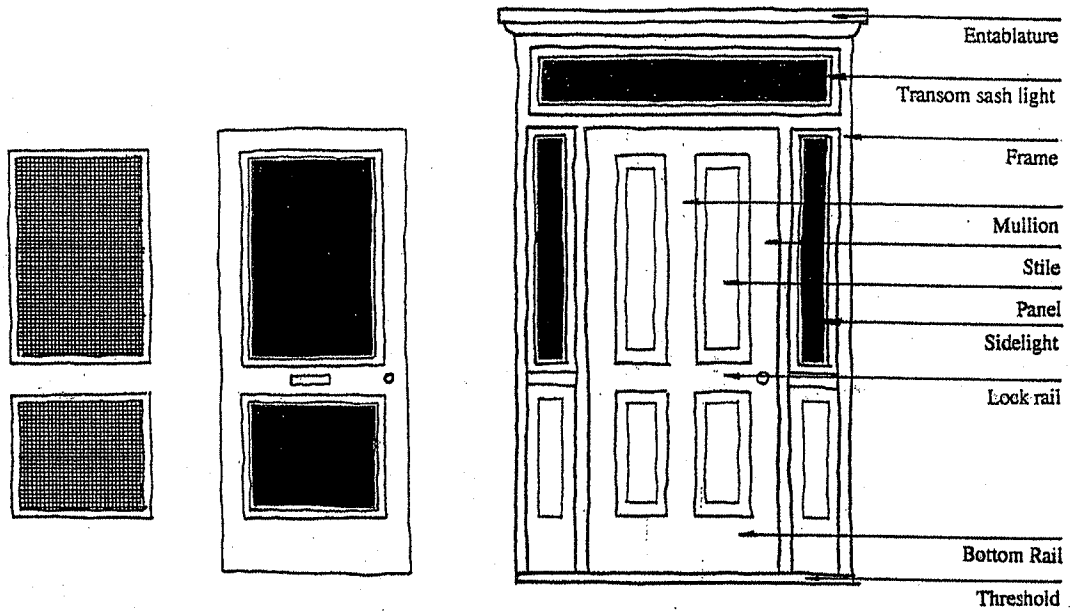
## SIDELIGHTS & TRANSOMS

The front doors of many historic houses are adorned with sidelights and transoms. In the early styles, such as Georgian and Greek Revival, these can be exquisite, with very slender glazing bars and old glass. Stained glass is often used in later styles, such as the Queen Anne Revival. These windows are works of art framing the main door. They should be carefully conserved. If repaired, it is essential to duplicate the original style and profile with re-used old glass. To double-glaze sidelights and transoms, it is best to insert an interior storm window so that the exterior appearance is not changed. The interior storm may be set into a slender vinyl frame that is almost invisible when hung. It can easily be removed for periodic cleaning.

## WEATHER-STRIPPING

Doors, by their nature, opening to the outside, highly used and old, are continually subject to air infiltration, particularly along the sides, top and bottom. Although effective weather-stripping products are available, many are cheap-looking and appear tacked-on. This can spoil the appearance of a handsome historic door. It is important that weather-stripping is visually inconspicuous and does not stand out. A most effective door weather-stripping is a metal V-strip nailed around the door, which seals tight when closed. A dark pre-painted finish will largely disguise its presence. For the base, and effective weather-strip is an aluminum/vinyl channel fitted to the bottom of the door. It is out of sight and receives less wear than if mounted on the threshold.





**SCREENS**

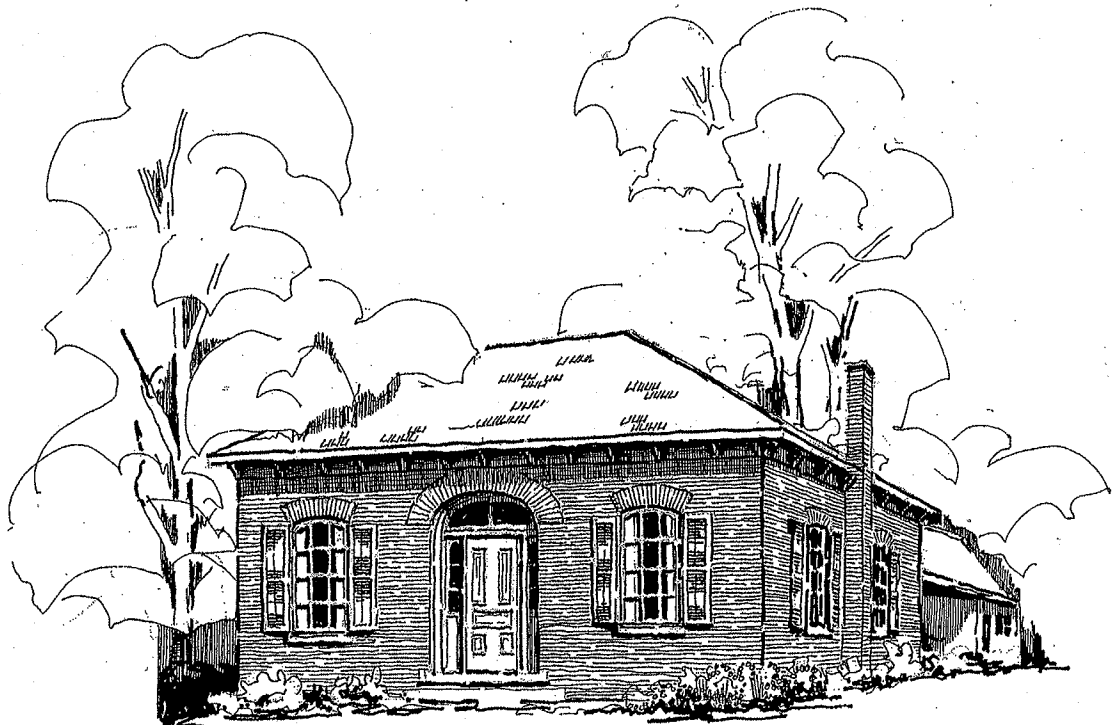
The screen replace the storm windows during the summer.

**STORM DOOR**

Storm doors should match the historic entrance style. Recommended is a wood door with interchangeable winter storms and summer screens. It has the proper proportions and is very durable. Avoid thin pre-finished tack-on metal doors.

**A WORK OF ART**

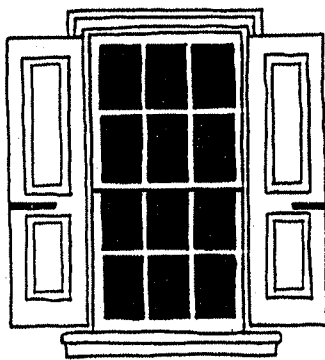
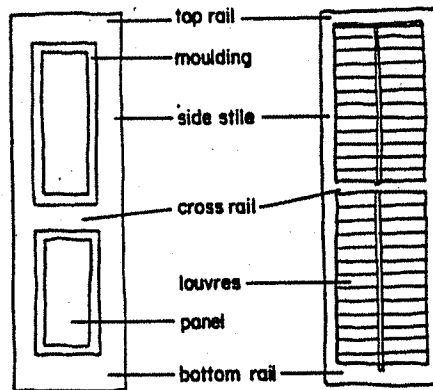
An historic entrance assembly is often a work of art, like the one shown above. Conserve, maintain and paint using historic colours. It should be a feature of the building.



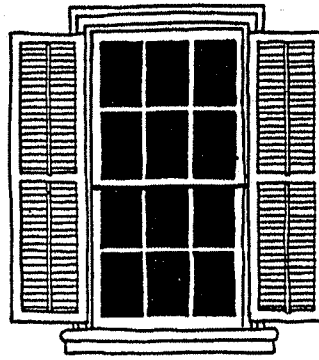
# SHUTTERS & BLINDS

BUILDING CONSERVATION GUIDELINE

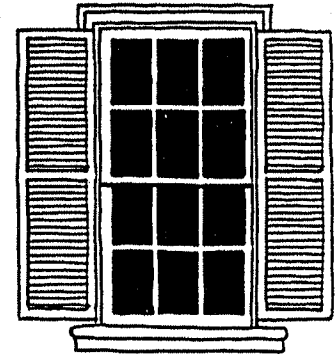
Nicholas Hill Architect . Planner



SHUTTER



ADJUSTABLE LOUVRE



FIXED LOUVRE

## CONSERVATION PRINCIPLES

- Conserve original shutters and blinds - they are valuable architectural features.
- If replacing, duplicate the originals or in-keeping with the architectural style of the building.
- Size new shutters and blinds to fit the window opening and make operable.
- Paint in period heritage colours.

## INTRODUCTION

From the 1830s through to the end of the century, shutters and blinds were an essential feature on a building, particularly the weathered south, east and west elevations. Hinged to open and close, they protected a window from bad weather, diffused the incoming light and controlled the amount of ventilation. Although shutters have now largely been superseded by air conditioning, interior drapes and blinds, they can still be an effective weather protection, save on energy bills and have a most attractive external appearance.

Shutters or blinds enhance the overall architectural character of the building. On Georgian and early Ontario Gothic style buildings, with their restrained and simpler facades, shutters and blinds provide a complementary decorative richness. On later nineteenth century buildings that tended to become more embellished, such as the Queen Anne Revival and Italianate, the addition of shutters may appear to clutter the facades. Judge each facade on its own merit.

## THE DIFFERENCE BETWEEN SHUTTERS & BLINDS

Shutters and blinds serve the same purpose but their construction and appearance are different. A shutter is solid and a blind is louvered. A shutter is like a small door with solid wood panels. A blind is set in a wooden frame and has fixed or movable horizontal slats. The shutter was popular in the early 1800s and revived again in the early 1900s with styles such as Tudor. The blind was popular from the 1830s through to the end of the 1800s. Both styles require a special projecting hinge so they close tight in against the window frame and within the opening. Careful examination of the frame may show whether a hinge was present and therefore blinds or shutters once hung.

## MAINTENANCE

If shutters and blinds still hang on the building or are stored in the attic, they should be carefully conserved and hung as a valuable original feature of the building. Notwithstanding their condition, they can usually be repaired at significant savings over buying new. They are intricate and exposed features subject to weathering and deterioration. Regular maintenance by washing down, operating the louvres, paint touch-ups and periodic repairs will preserve them in good condition.

- Straightening Over time, a common occurrence is for shutters and blinds to sag on the outer sides through loosened corner joints. Square up by gently pushing the stile and rail back together and inserting and gluing a wood dowel through the members.
- Cap Flashing Nail a narrow metal cap along the top of the shutter to prevent moisture penetrating into the stile tops and rail.

## REPLACEMENT

If replacement is required, the shutters or blinds should duplicate the original if they still survive or complement the architectural style of the building. It is most important that they fit the window opening and appear to close. Typically, they are constructed of a 1&1/8 inch thick pine frame. As a specialized item, it is best to order from a millwork company that custom-makes them.

# PAINT & COLOUR

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect. Planner



## QUEEN ANNE STYLE

On Queen Anne style buildings, vivid dark colours predominated, often with combinations of two, three and four different colours to highlight decorative details.

## CONSERVATION PRINCIPLES

- Ensure good preparation of the surfaces before painting.
- Use a high quality paint - it lasts longer and holds its colour.
- Take paint chips from a shady corner to determine the original colour. If the chips are taken from an exposed area, the colour could have faded and not be true to the original.
- Repaint using the original historic colour or of the period.

## INTRODUCTION

Paint provides a protective coating essential to such materials as wood. Paint consists of three components: a binder, such as linseed oil or latex resin; a thinner, such as turpentine or water; and a pigment. The binder is the most expensive and most important component. Its presence determines the durability and longevity of a paint. More expensive paints have a higher quality binder and more of it. Combined with proper application, paint is good for ten years and more on the exterior of a building before repainting is required.

## PREPARATION

Good preparation of the surfaces to be painted is essential for the durability and longevity of the paint. In many respects, preparation is the most difficult and time consuming phase of painting an historic building. However, when properly done, the results will be attractive, the paint will last longer and repainting will be easier. Allocate more time than planned to prepare well.

- |             |   |
|-------------|---|
| Clean up    | To ensure good adhesion, clean surfaces to be painted by brushing and washing down with a mild detergent or household cleaner. Surfaces must be dry before painting.  |
| Caulking    | Seal open joints with a caulking compound.  |
| Nail Holes  | Ensure nails are set below the surface and puttied. Although non-rusting galvanized nails are generally left, consider counter-sinking and puttying to achieve a smooth even surface.   |
| Sealing     | All knots, either in new wood or old, should be sealed to prevent discolouration of the paint by resin from the knots.  |
| Loose Paint | Remove all loose, flaking or blistering paint with a wire brush and scraper. If necessary, use a chemical paint remover or heat gun.  |
| Weather     | Paint in clear dry weather with temperatures above 5 degrees C (40 F). Wait until the morning dew has evaporated. Do not paint in full sunlight. After rain, allow to dry for at least a day before painting. Latex paint is more tolerant of moisture than is oil-based. |

## SELECTING THE PAINT COLOUR

Colours should be chosen that either match the original or are appropriate to the style of the historic building. To discover the original paint colour, chip off a little bit of paint and analyze the layers of colour with a magnifying glass. As paint fades in the sun, it is best to get a chip from a shady corner or an area that has been covered over.

Historic paint colours in Ontario were few, dark and rich. The many historic paint colour guides presented in stores, while colourful, are not generally accurate or authentic for Ontario.

The predominant historic colours found in Ontario are as follows:

1820-1850	white body forest green trim
1850-1900	dark brown body & trim oxblood body & trim forest green body & trim black body & trim gray body & trim ivory (as an accent)
1900-1930	gray

Generally, buildings were painted one colour only. The most popular combination was forest green and ivory. For example, the window frame would be green and the sash ivory. While this colour palette may seem dark and sombre, it is very rich and vibrant and provides historic buildings with a real historic character that has been largely lost over the past 30 years as lighter colours have predominated. Many historic buildings today have been painted ivory. While this provides a light, fresh and clean look, it completely ignores the original colour tradition.

## **PAINTING**

Number of Coats	For new work, three coats is best - one primer and two finish. When repainting, one finish coat can be sufficient, but if the old paint is very thin or a long time has elapsed since last repainting, two finish coats are recommended.
Prime Coats	Prime paint unpainted wood or old surfaces that have lost most of their paint. Priming prevents finish coats soaking into the wood and provides a uniform paint surface.
Finish Coats	Most old buildings will have been painted with oil based paint. If so, continue to use oil based. Do not apply latex over oil based. Latex (water) based paints provide the same durability as oil based and have the advantage of breathing and being thus less sensitive to moisture. For new work, latex is recommended.
Floors	For exterior wood floors and steps of verandahs and porches, use a varnish based enamel paint, which dries to a hard gloss. To overcome the slippery surface, lay down sisal matting.
Masonry	Painting masonry is not recommended. If there is no alternative, paints must be resistant to alkali present in concrete and mortar. Exterior latex paints, solvent thinned masonry paints and Portland cement paints are recommended.
Metal	For existing painted metal, wire brush, prime bare spots and apply an under coat and finish coat.

## COMMON PROBLEMS WITH PAINT

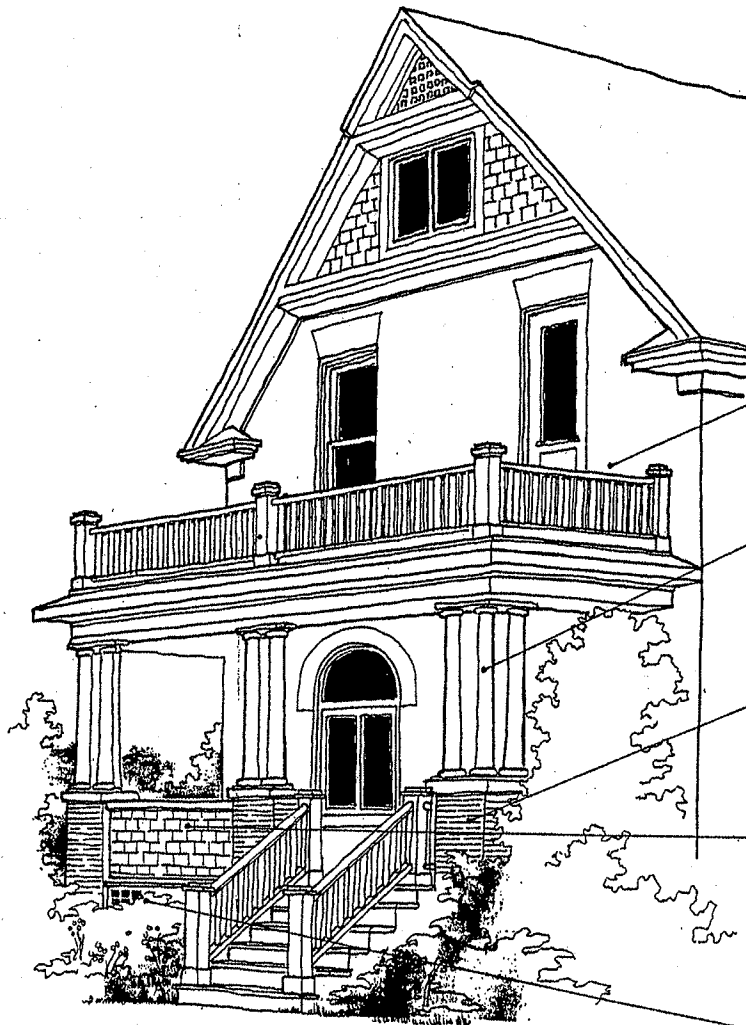
Paint work is susceptible to many problems, including the following:

- Alligatoring    caused by applying a second coat before the first coat has dried.
- Peeling        caused by applying paint to a damp or wet surface, which prevents the paint from bonding.
- Wrinkling     caused by applying the paint too thickly.
- Tackiness     caused by applying during damp weather, direct sunlight or over paint that had never dried.
- Running       caused by too heavy an application of paint.

# PORCHES

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## BALCONY

The balcony has robust wood end and centre posts, handrail and spindles. Note the posts also have a baseboard and decorative cap. The design is strong and well detailed.

## COLUMNS

These elegant wood columns are doubled and tripled to give extra support to the large balcony structure above. They are handsome features that need careful conservation.

## BRICK PIERS

Brick piers are a common feature in the Area. They give solidity to the verandah and the brick links with the main part of the residence.

## SHINGLE HANDRAIL

Painted wood shingle handrails are a distinctive feature in the Area. They provide enclosure to the verandah and can be painted to match the house colours. They should be conserved rather than replaced with an open spindle handrail.

## APRON

The verandah apron should be latticed for ventilation, and painted a dark colour to provide a "shadow" base for the verandah above.

## CONSERVATION PRINCIPLES

- Conserve original porches. They are an integral part of the overall architectural appearance of the building.
- When repairing, duplicate the original sizes of column, handrail, skirting and decorative features.
- Avoid closing-in porches. They lose their social value as outside rooms on the street.



## INTRODUCTION

Porches are prominent features on many historic homes. Historically, porches were relatively unknown before the 1800's, but by the mid-1800's they became an essential feature of practical and social use. Practically, they provide shelter to the house entrance and outdoor seating. Socially, they are communal places to sit and converse with family, friends and neighbours. Published in 1850, A. J. Downing's *The Architecture of Country Houses* described the porch as a "pretty little open porch where in the cooler hours of the day the husband, wife and children may sit and enjoy the fresh breath of morning or evening hours . . . ." Porches contribute, therefore, both to the architecture of the building and the quality of life of the neighbourhood. However, porches have had an uneven conservation history. Because they are a high maintenance item, they are prone to removal and replacement, often with a structure that bears little resemblance to the original or historic style of the building. In other cases, the decorative brackets, handrails and columns are removed or the whole verandah is closed in, appearing bulky and out of keeping. It is important to avoid such incompatible changes and to conserve the original appearance of an historic porch.

## PORCH MAINTENANCE

More than most parts of an historic building, porches are most prone to deterioration by weather, water, insects and ground settlement. They are exposed features, but if periodically checked and maintained will last indefinitely.

Footings	A frequent problem with porches occurs when the front sinks and is pulled away from the house. This is usually caused by water collecting underneath. To avoid this, slope the ground under the porch away from the house. As an added precaution, install a perforated drainage tile 12" outside the perimeter.
Understructure	Ensure good ventilation and treat wood with a water-repellent preservative to protect against mold and mildew.
Floor Slope	Ensure the floor slopes away from the house a minimum of 1/4" rise for each 2' for good surface drainage.
Floor Support	As piers can move over the seasons, ensure the floor structure is resting evenly on the piers. Remedy by inserting wood shim.
Floor Boards	These are prone to extreme weathering and wear, particularly the outer ends above the headerboard. Replace only those boards, or parts thereof, and fit in to match the original. If the entire floor needs replacement, consider Douglas fir, which is the hardest softwood, with a dense close grain.
Floor Joists	Often porches were under-structured, allowing bounce and deterioration of the floor boards and finish. To remedy, insert additional new joists either mid-spaced between, or bolted onto, existing joists.
Skirtings	Being close to the ground, porch skirtings are susceptible to deterioration. Ensure a minimum clearance to the ground of 3". Keep foundation planting back by 3' for breathing and drying the under-structure.

Keep foundation planting back by 3' for breathing and drying the under-structure.

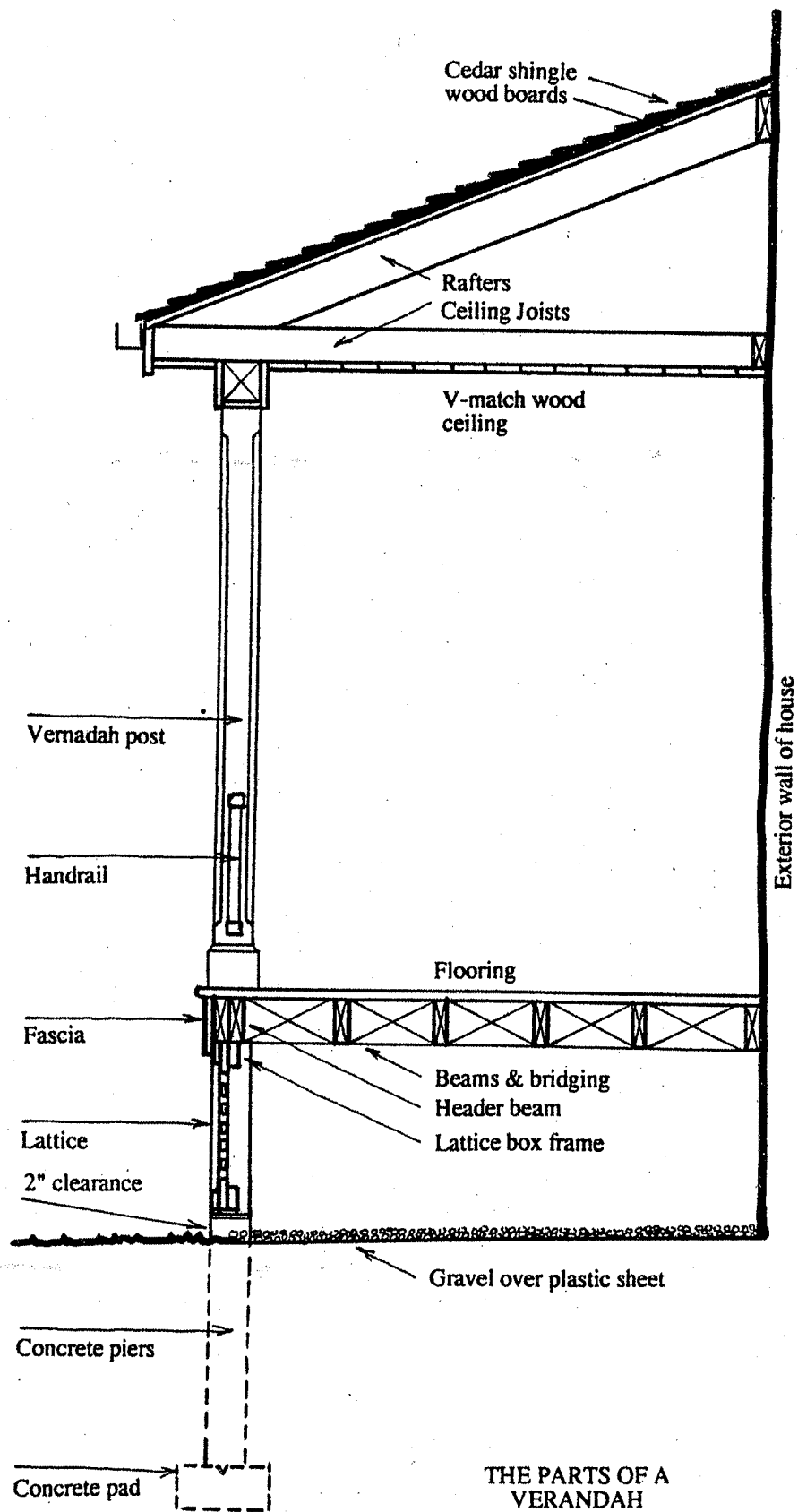
Railings	Ensure the top and bottom railings are sloped to drain water off.
Columns	Column bases are highly susceptible to rot due to cracks opening up between the columns and floor, and allowing water to penetrate the open grain of the wood. If rotted, repair only what is deteriorated by splicing in a new section, using a downward sloping miter to prevent moisture trapping.
Matting	A painted wood floor can be slippery, particularly in winter. Consider installing a length of natural sisal matting on the floor and steps.

## PORCH REPLACEMENT

When a porch has deteriorated beyond repair, it will require replacement. The following should be considered when designing the new porch.

Style	The porch style should match the architectural style of the building. The four prominent porch styles are: <ul style="list-style-type: none"><li>• Victorian Gothic - pointed and geometric</li><li>• Queen Anne - exuberant and multi-angled</li><li>• Classical - elegant and refined</li><li>• Craftsman - boxy and hand-crafted</li></ul>
Foundation	It is best to pour concrete foundations in circular card sonar tubes to 48" below grade level. Set the top 2" above grade with a metal stirrup to attach the new wood posts of the porch. In this way, no wood is in contact with the ground.
Floor	Porch floors were typically 7/8" deep, 6" wide, tongue-and-grooved planks of Douglas fir. This makes for a sound floor and is preferable to the 3/4" deep planks more commonly manufactured today.
Steps	Porch steps were traditionally constructed with wood stringers, risers and treads. This should be continued. Precast concrete, while requiring less maintenance, do not belong on an historic building and should be avoided. The riser and tread dimensions should comply with the OBC. Risers should not exceed 7/8". A comfortable rise is between 7" and 7&1/2".
Skirting	The porch skirting which closes in the area under the raised floor should be of wood and in the architectural style of the building. Typically, skirts were either wood diagonal or rectangular lattice or vertical wood slats.

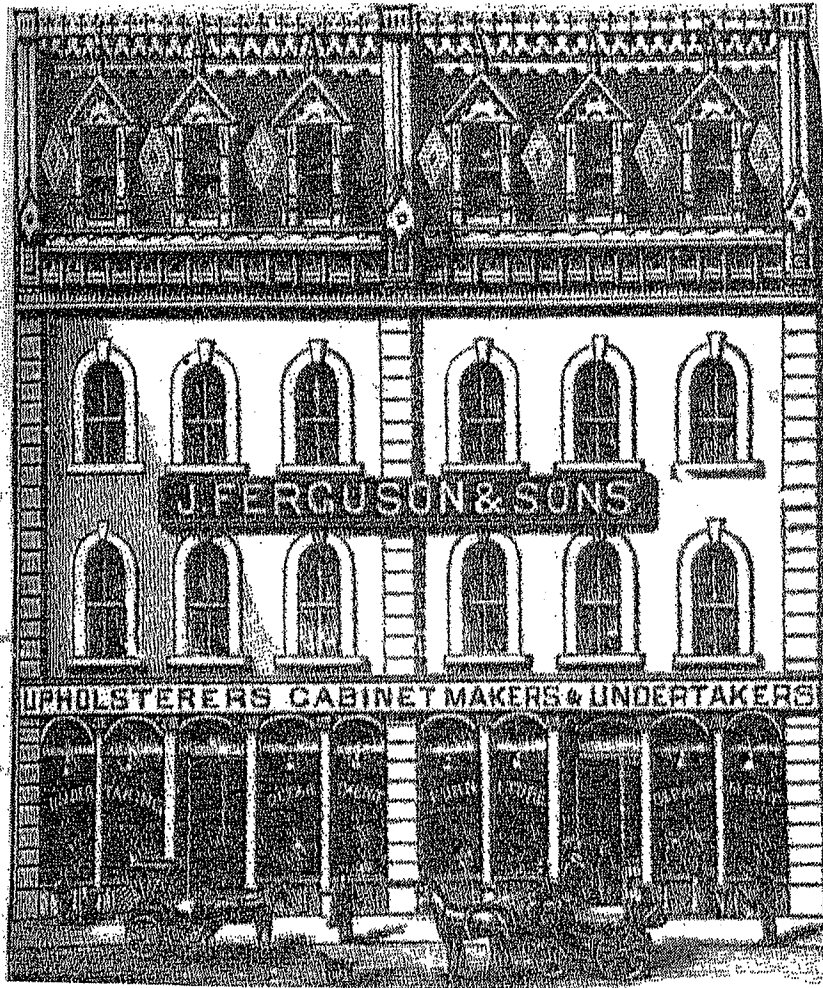
- Posts** Posts should be carefully selected and designed to suit the architectural style of the building. The four typical post styles are:
- Solid round turned wood
  - Solid square wood with applied ornament
  - Built-up square box columns
  - Turned hollow columns
- Redwood or cedar are preferred woods to use for new posts.
- Handrail** Handrails and newel posts should match the post style. Typically, old handrails were 30" high. Today, the OBC requires 36" to 42", depending on circumstances. This can upset the original proportions of the porch. A partially successful remedy is to build the handrail to the traditional height and add a second higher rail in slender metal pipe that does not clash with the original. This should be discussed with the building inspector.
- Spindles** Traditionally, spindles were 1 & 3/4" square and 3 & 1/2" apart between centres. Frequently new spindles are thinner and further apart. This should be avoided as the rail looks weak and light-weight.
- Decorative Features** It is important to match the style and extent of decorative brackets and fascias with the architectural style of the building. The extent and design of the decorative features are very important to the porch appearing right.



# SIGNS

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## NEW SIGN PRINCIPLES

- Painted wood signs are traditional for historic buildings
- The size and shape of the sign should fit the proportions of the historic facade.
- The storefront sign should extend across the full length of the storefront.
- Painted wood hanging signs should be small and decorative.
- Back-lit, aluminum and vinyl signs are generally not appropriate on historic facades.

## INTRODUCTION

Signs were a vital part of the character of early stores, hotels and downtown business areas. They were assertive, bold, plain and plentiful, located on the storefront windows, the upper fascia board, the main facade and on the roof. Large signs were painted directly on blank side walls. Without these signs, the true character of an historic downtown is incomplete. Why historic streetscapes appeared coordinated, as opposed to chaotic, was that the signs were all of painted wood and scaled to fit the facade. It is essential, therefore, that this tradition continue in conserving historic buildings and streetscapes. Other and newer materials are acceptable if they are designed in the spirit of the original. The answer is to ensure that new signage complements or duplicates the old. Together with well conserved storefronts and upper facades, traditional signage on an historic streetscape can be attractive and effective.

## TYPES OF TRADITIONAL SIGNS

The historic streetscapes of 19th century Ontario abounded in signs. Small signs were found on the storefront window and larger signs on the upper facades. Most importantly, they were painted wood with flush or raised lettering. This gave them a hand-crafted character well suited to an historic facade.

Storefront Signs	These are fascia signs above and across the storefront. The lettering should be bold and painted or raised on a painted and framed wood name board.
Window Signs	Window signs are etched or painted on the inside of the storefront window. The lettering should be small and traditionally centred.
Hanging Signs	Hanging signs are placed at right angles to the building face, either fixed or hanging. They should match the painted wood storefront sign but be smaller, simpler and decorative.
Architectural Signs	These are signs that are integrated into the building, such as mosaic lettering in a recessed entry floor.
Wall Signs	Wall signs are similar to painted wood storefront signs but are located on the upper facade either horizontally or vertically. They were a common feature in historic downtown streetscapes. The lettering should be bold and simple.
Roof Signs	These are similar to painted wood storefront signs but placed on top of the building facade. Traditionally they were more decorative, with an eye-catching visual flourish to the roofline.
Painted Wall Signs	Painted wall signs are found usually on side facades. They are effective in dressing up large blank facades and animating the streetscape as a whole.

## **MATERIAL**

The authentic material for signs on historic buildings is painted wood. Raised lettering is traditional and the edges are best defined with a wood moulding. The contemporary sand-blasted and painted wood sign is also compatible, providing it is bold and clear. Metal signs can also be acceptable providing they are sensitively designed to fit the historic facade. Plastic and back-lit signs, however, should be avoided, as they do not complement an historic storefront or streetscape.

## **SIZE**

Signs should fit the architectural facade. Storefront and wall signs should be narrow and long across the entire building facade; hanging signs small, decorative and square; painted wall signs large and bold to fit an entire facade area; roof signs ornate and decorative; window signs small and informative.

## **COLOUR**

Traditionally, signs were painted for contrast rather than colour - black letters on a white background, gold letters on black or a dark colour. Accent colours can be added to the decorative flourishes and borders.

## **LETTERING**

Historic sign lettering should be plain, bold or classic uppercase arranged symmetrically. The same style should be used throughout. The lettering should be legible from a distance. Contrast with the background was important and achieved by painting in shadows and using contrasting colours.

## **LIGHTING**

A traditional and effective way of illuminating painted wood signs is by overhead gooseneck lights. They are attractive to look at and provide a focused light source.

## **BACK-LIT SIGNS**

Back-lit signs are a recent form of signage. They are more assertive and visible than traditional signs, and frequently larger too. They are particularly preferred by franchises, convenience stores and fast food outlets. However, they are not suitable on an historic building. They visually out-compete the traditional signs and disrupt the integrity of the historic streetscape as a whole.

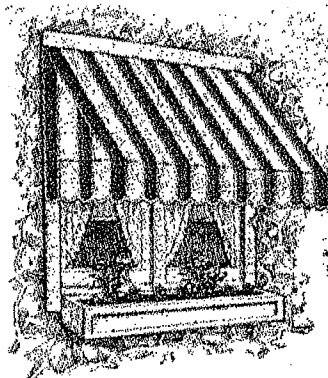
# AWNINGS

Awnings are an important visual element of an historic building facade. Basically, they are canvas coverings extending from the face of a storefront over the sidewalk. Old photographs of historic downtowns show that awnings were plentiful and practical. Their purpose was to shelter customers and shade merchandise. Their design was standard - retractable, large and roomy, extending the full width of the storefront. They were made of coarse cotton, sometimes woven with a stripe. The end panels and front edges were often lettered. Logos, too, were often located on an end panel and related to the store's business, such as a bottle of ink and quill for a book shop. Collectively, awnings can provide a pedestrian protected area all along a street, as well as providing an attractive visual cohesion.

Today in historic areas or on an historic building, it is essential to conserve or renew the traditional canvas awning. Canvas has colour and texture and new surface treatments ensure their durability. They should be retractable for seasonal use or, when fixed, they should extend and complement the architecture.

## VINYL & BOXED AWNINGS - NOT APPROPRIATE

Today, vinyl has largely replaced canvas as an awning material as it is less expensive. However, vinyl lacks the texture and character of canvas and is not an appropriate alternative for an historic facade. Likewise, fixed vinyl-covered boxed awnings are inappropriate. They are appropriate to contemporary commercial and industrial buildings. It is important, therefore, to select a traditional canvas material for an historic building.



**RAYMOND BROS.**  
MANUFACTURERS OF  
*Awnings, Tents, Flags and Covers*

102 YORK STREET

BROOKLYN, N.Y.

## DESIGN PRINCIPLES

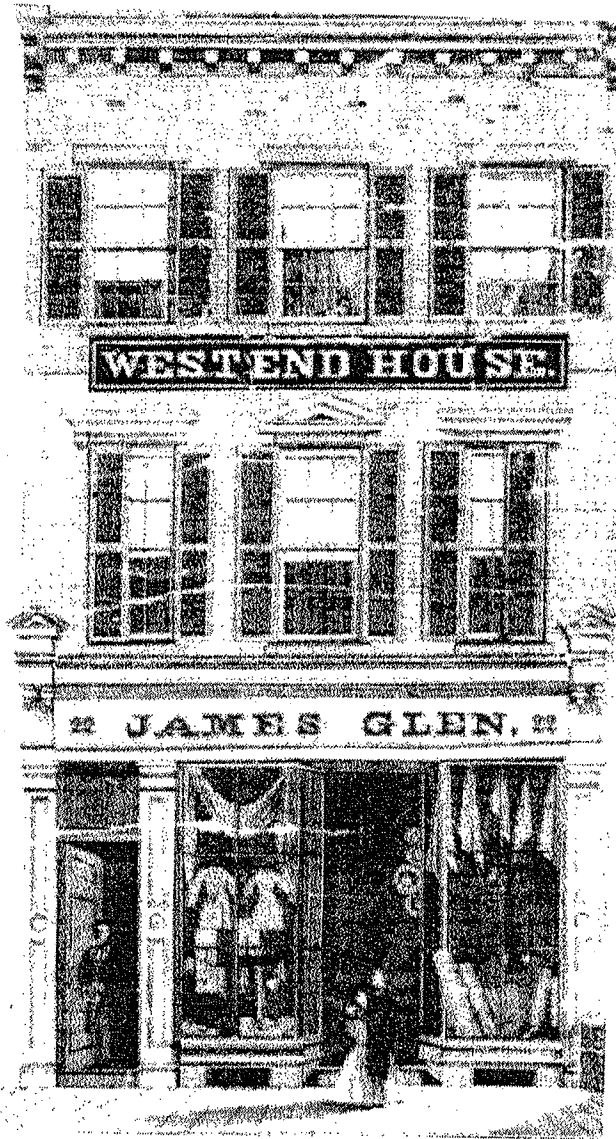
- Awnings should be made out of canvas - a traditional or hard wearing material.
- The awning should extend across the full width of the storefront, be retractable and come out generously over the sidewalk.
- Lettering and logos should be small and discreet on the end side panels and front fringe. The awning should not become a basis for advertising text. This is the role of the painted wood sign over the storefront.



# STOREFRONTS

BUILDING CONSERVATION GUIDELINE

Nicholas Hill Architect . Planner



## CONSERVATION PRINCIPLES

- Conserve original storefronts - they are becoming a rarity.
- If replacing, match as closely as possible the character of the original. This allows for the repositioning of entranceways and storefront sizes.
- Coordinate the size, style and colour of the signage and awnings with the storefront.
- Historic storefronts were usually tall. If replacing, avoid lowering the height. A lower storefront will look out of scale with the exterior.

## INTRODUCTION

Storefronts are a visually very important part of our building heritage. When conserved and maintained well, historic storefronts are attractive and functional. Since the advent in the mid-1800's of cast iron beams to provide a large storefront opening and later plate glass to fill the opening, the basic appearance of historic storefronts has changed little. On old main streets the building was usually 20 feet wide, with the store at first floor level and apartments above with access from a side door and stairway. The storefront had a centre recessed entry with glass display windows to either side set on a 16 inch high base wall. Intermediate slender cast iron columns supported the front cross beam. Above the glazed front was an awning box and sign fascia.

Conservation of historic and new storefronts should achieve the following:

- Transparency** The storefront front should be largely transparent, with large glass windows for display. Avoid lowering the original storefront window for a new lower ceiling within.
- Entrance** The entrance should be recessed for weather protection either in the center or to one side.
- Door** The door should be match the architecture of the storefront. Varnished or painted wood is a good choice, with a centred glass insert.
- Awning** A full width roll-out awning should be located above the storefront. The awning should be a traditional canvas in a solid colour or stripe.
- Signage** Signage should be on a sign fascia the full width of the storefront. The sign should be painted wood with a combination of painted or raised lettering. The colours should be traditional, such as gold lettering on a black background, or contemporary to complement the business. Hanging signs are also traditional.
- Colour** The colour of storefronts can be traditional with an emphasis on classic dark and rich colours common in the mid to late 1800's. Colours for the storefront, signage and awnings should be coordinated.
- Lighting** Besides the storefront, which should be well and attractively illuminated, the storefront sign should be lit, preferably from overhead with goose-neck light fixtures. These complement the character of the sign.

## NEW STORE FRONTS

More than most architectural features in a commercial building, storefronts are most prone to removal. This usually results in taking out the old store front and installing a new one with prefinished metal window frames, thermopane glass, metal upper fascia and back-lit sign. This can be ruinous for an historic streetscape. It throws the character of the street off, and instead of fitting in, stands out. The success of historic storefronts and streetscapes depends on visual coordination and good manners between all stores. With the same design approach, a line of well conserved historic storefronts can look attractive and inviting. New storefronts, therefore, should resemble the scale of the original and fit in with the streetscape as a whole.