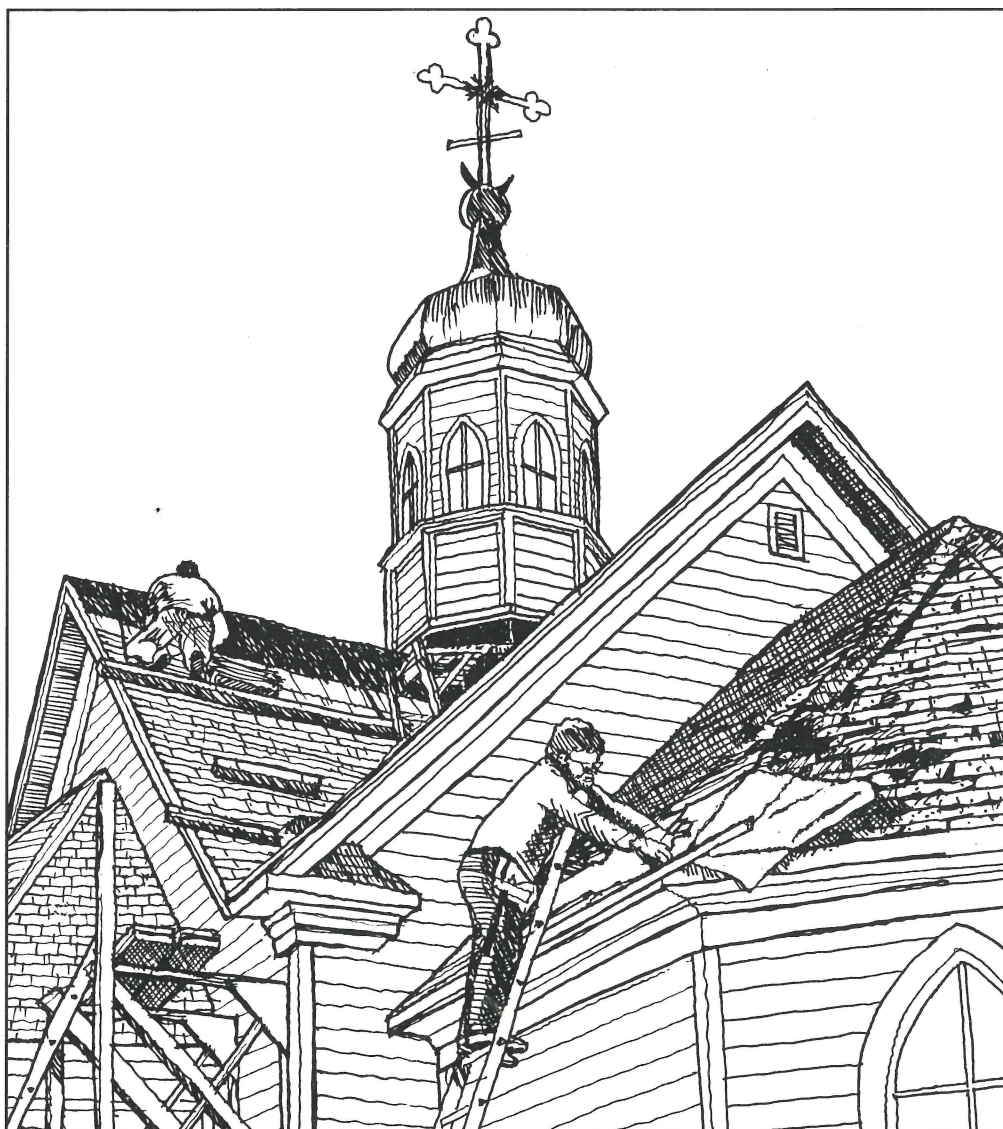




HOW-TO SERIES 6

DEVELOPING A CONSERVATION STRATEGY FOR A HERITAGE BUILDING



DEVELOPING

A CONSERVATION STRATEGY

FOR A HERITAGE BUILDING

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INTRODUCTION

Heritage buildings have become a popular way to focus resources on the interpretation of our cultural and architectural history. The increasing interest in historic buildings has led to a growing concern for ensuring not only that these structures are conserved, but that their conservation should attain high levels of quality. This publication has been produced to aid people interested in heritage building conservation projects.

Heritage building conservation is the process of protecting historically significant structures from damage or inappropriate alteration. Conservation may also include sensitive repairs or alterations that enhance our understanding of, or add life to, a historic building.

At one level this publication will introduce the reader to the issues associated with this important subject. Turning to any page will give you useful information on a particular conservation issue. But the publication has more ambitious goals. It has been designed to assist community organizations and building owners in developing a strategy for conserving their architectural heritage. It will help organize the project, from building acquisition to completion. More importantly, it will help ensure that the project will succeed in terms of meeting accepted standards for building conservation.

Municipal governments can also use this guide when a building of local significance has been designated under The Heritage Resources Act. It will assist in implementing a comprehensive review of a conservation strategy before a Heritage Permit is issued to allow the project to proceed. The guide also will be used by provincial Historic Resources Branch staff.

This publication does not prescribe to its users a set of rules. As you read further, you will see that building conservation is not a science where "do's" and "don'ts" can be rigidly determined. Rather, it is an art

dependent on the unique qualities of each historic building. This booklet provides the user with a set of guidelines that, if used with knowledge and sensitivity, will result in a conservation project of the highest quality.

The guide has been organized to reflect the process involved in a typical conservation project. Ten steps, or sections, have been identified:

1. PROTECTION
2. DOCUMENTATION
3. LOCATION
4. USE
5. STRUCTURE
6. EXTERIOR
7. INTERIOR
8. FEATURES & DETAILS
9. CONTEMPORARY REQUIREMENTS
10. LOOKING TO THE FUTURE

Throughout the guide each section is highlighted on an introductory page that explains its relevance in a building conservation context. Every section has also been divided into subsections that address particular issues associated with that subject. Thus, under Section 2. **DOCUMENTATION** are the issues of:

- A. A Building Record**
- B. Archaeological Resources**
- C. A Conservation Record**

These issues, or guidelines, are the heart of the publication. A two-page spread is devoted to every issue. On the left-hand side is a discussion of the issue; on the right are illustrative materials that help clarify the issue.

One critical decision that should be made early on in your project is: how should the building be conserved?

- Will it be a **RESTORATION**?
- Will it be a **PRESERVATION**?
- Will it be a **REHABILITATION**?

The approach you should take for your project will become clearer once you have

completed stage 2. **(DOCUMENTATION)**. However, the conservation approach should be well-established by the time you get to stage 4. **(USE)**, since it will significantly affect the rest of your conservation strategy. You should also consider if there are parts of the building that should be treated differently. For example, in a building you would like to **REHABILITATE**, is there a room of great historical importance that should be **RESTORED**?

The three conservation approaches are each distinguished by a different level of structural intervention, building use and cost.

RESTORATION is the recovery of a building's form, details and historic character to a known earlier state in its history through reconstruction of missing or damaged original details and removal of later alterations. A restoration project typically will involve rigorous analysis of a building's history, careful investigation of architectural features and details (and precise mending of any deteriorated parts), and scrupulous maintenance of the building to ensure the continued quality of the restoration. The labour and financial costs implied in this approach suggest that a restoration project often will be the most demanding of the three conservation approaches. Consequently, it is most common for such resources to be devoted to historically significant buildings that are intended to be used as museums. In rare cases, a restored building might be used for other purposes, requiring that some secondary spaces be rehabilitated within the building. Regardless of use, a restoration project should accurately convey to visitors the historic character of a building, down to its smallest detail.

PRESERVATION is the maintenance and protection from deterioration of a historic building, in its existing state. While restoration often involves the removal of architectural changes to get to a building's original state, preservation accepts the functional and physical changes that have

occurred over the course of a building's life. Consequently, preservation is often the least expensive of the three conservation approaches. No significant changes to the building as a whole will be made and it is usually possible for the existing use of the building to continue. Preservation work typically focuses on protecting a building from further damage or deterioration and ensuring ongoing maintenance. This work, often called building stabilization, could include foundation repairs, roof repairs, eavestrough and downspout upgrading and exterior painting.

REHABILITATION is the sensitive alteration of a historic building for continued or new use through adapting of interior spaces or exterior additions while preserving historically and architecturally significant original features. In this approach a historic building would be upgraded to meet the same standards that apply to a new building. This will mean introducing new amenities like air conditioning, heating, washrooms, modern lighting and computer terminals. The relative success of a rehabilitation project will depend on how well the new amenities and alterations are controlled. It is very important at the outset to indicate what can be changed and the limits of those changes. Any rehabilitation project should, at minimum, include the preservation or restoration of significant historical aspects of the building. This generally includes the exterior of the building and can include important rooms and/or interior elements (staircases, cast iron columns, pressed metal ceilings, etc.).

While the three conservation approaches are very distinct, it is actually quite common, as noted above, to incorporate more than one approach in a project. The following discussion will help explain how a project can be broadly defined according to the precepts of one of the three conservation approaches. However, the discussion also will indicate how any project can incorporate one of the other approaches in certain circumstances. A sequence of images will help illustrate how the same building might look if it was the subject of one of the



A BUILDING . . .

three conservation approaches.

In the photograph on the far left is a house in a state of disrepair and decay. Elements have clearly been removed, windows have been replaced and the brick work is suffering from deterioration in places. Inside, rooms have been subdivided (in the 1960s the house was renovated to accommodate apartments), features have been removed and some damage to walls has occurred. Overall, however, the building is still in fairly good condition and would be a worthy object of conservation.

If the owners embarked on a general **preservation** approach, the result might look like the example at centre left. Here, most of the work done to the building is to preserve it. Even the function -- as an apartment building -- has been preserved. Most importantly, the brickwork has been repaired and the interior problems have been resolved. Moreover, a remnant of an original porch and verandah has been



. . . AS A PRESERVATION,

preserved and important structural components of the porch have been carefully restored (a complete restoration of the rest of the verandah has not been attempted, probably because such an undertaking would be quite expensive). But the owners have decided that certain parts of the project merit a different approach. The existing doors were deemed unworthy of preserving and new doors of the original period were introduced. Most significantly, the asphalt roof shingles have been replaced with wooden shingles, a restoration of the original roof surface.

If the owners had undertaken a **rehabilitation** project, the result might look like the example at centre right. This will be a more ambitious enterprise to accommodate a new use - a suite of offices. Like the previous example, the owners have preserved the brick walls with careful repairs. They have also undertaken the restoration of the former wood-shingled roof. But the owners have gone a few steps further. Some of the roof cresting on the



... AS A REHABILITATION

original building has been restored. The two-storey porch has been the subject of a sympathetic (although not exact) redesign. Again, the verandah extension has not been re-introduced, the cost simply being too great. Perhaps the most noticeable change has been the introduction of an enclosed fire stair on the left side of the building. This necessary response to building code regulations has been designed with considerable care and blends in with the original building. Inside, the changes are more dramatic, as would be expected in a rehabilitation project. It has been necessary to reconfigure the walls, to add half walls and to introduce new lighting fixtures, doors, computer stations, carpeting throughout and modern washrooms facilities. However, all these changes have been carried out with a keen eye to retaining the historic character of the interior. The new half walls are rendered compatible with the rest of the interior by the use of woodwork that is sympathetic with the original. And new



... AND AS A RESTORATION.

doors are similar to those removed. The result is a rehabilitated building that, outside, retains the sense of the original, and inside combines modern conveniences with a sensitivity to its past.

If the owners decided that a **restoration** project was feasible, the result would look like the example at far right. This would be the fruit of much careful research and a substantial budget. Like the previous examples, they have preserved the exterior brickwork and the interior wall surfaces, as well as restoring the wood-shingled roof. But they have also undertaken much more restorative work. First, they have restored the building's original function, as a single family house. They have been able to reproduce exact copies of the roof cresting. They have located glass panes from the same period and used them in the construction of new windows that follow exactly the design of the originals. They have hunted down original drawings for the porch and verandah and have succeeded in recreating that exceptional feature. Inside, they have

used the original plans to replace missing walls. They have even restored, through reproductions, the original light fixtures, fireplace and wallpaper on the main floor. The result is a restoration of great distinction.

HOW TO USE THIS GUIDE

As discussed above, the development of a coherent heritage conservation strategy involves identifying a particular conservation approach and then carefully applying several guidelines. The chart opposite identifies the three conservation approaches that are defined and described above:

RESTORATION
PRESERVATION
REHABILITATION

The chart also features the ten stages and 30 issues, or guidelines, that can be used in a variety of conservation projects. The chart is very simple to use. Once you have identified the conservation approach appropriate for your project, look down the labelled column on the right-hand side and determine which guidelines you should review. Page references in the last column permit quick access to the appropriate guideline.

You will note that not all of the guidelines apply to any one of the conservation approaches. Depending on the conservation approach you have selected, some guidelines are more important than others for successfully developing a conservation project. This fact has been addressed in the creation of symbols that indicate the importance of a guideline to a specific conservation approach:

- VERY IMPORTANT - this guideline should be followed
- NOT APPLICABLE - this guideline need not be used

A Conservation Strategy Worksheet
(Appendix 1, page 92) is a version of this chart that has been adapted as a checklist

to ensure that appropriate steps are addressed and followed through the course of a project.

The ideal suggested by the organization of the ten sections will not always be appropriate for a particular project. And not all sections even need to be addressed for some projects. Moreover, there is the potential for considerable cross-referencing as you make your way through this guide. You will find this especially true when you are dealing with those sections -- 3. LOCATION, 4. USE, 5. STRUCTURE, 6. EXTERIOR, 7. INTERIOR and 8. FEATURES & DETAILS -- that deal with specific **design** qualities of a project. The introductions to each section will be of some service in suggesting whether a particular issue will be covered there. For certain issues it may be necessary to skim through a few sections to determine where a particular concern is addressed. For example, the broad subject of materials is addressed throughout Sections 6, 7, and 8., in each case according to a distinct conservation issue - their care, repair and replacement options.

At the same time, the guide has been designed to anticipate some of the most common interrelationships between certain sections and ensure that there are clear directions to connect these sections. Invariably, however, there will be connections that cannot be anticipated. It is through them that your own unique conservation program will be created.

CONSERVATION STRATEGY GUIDELINES

	RESTORATION	PRESERVATION	REHABILITATION	PAGE REFERENCE
1. PROTECTION				
A. Mothballing	●	●	●	10
B. Preventive Measures	●	●	●	12
2. DOCUMENTATION				
A. A Building Record	●	●	●	16
B. Archaeological Resources	●	●	●	18
C. A Conservation Record	●	●	●	20
3. LOCATION				
A. Original Location	●	●	●	24
B. New Location	--	●	●	26
4. USE				
A. Original Use	●	●	●	30
B. New Use	--	●	●	32
5. STRUCTURE				
A. Original Structure	●	●	●	36
B. Structural Problems	●	●	●	38
C. Fixing the Structure	●	●	●	40
D. Structural Upgrades	--	●	●	42
6. EXTERIOR				
A. Original Exterior	●	●	●	46
B. External Upgrades	--	--	●	48
C. Additions	--	--	●	50
D. Reconstruction	--	●	--	54
E. Facadism	--	●	--	56
7. INTERIOR				
A. Original Interior	●	●	●	60
B. New Interior	--	●	●	62
8. FEATURES & DETAILS				
A. What to Keep	●	●	●	66
B. Recording the Changes	●	●	●	68
C. Problems With the Details	●	●	●	70
D. Fixing the Details	●	●	●	72
E. Adding Features & Details	●	●	●	74
9. CONTEMPORARY REQUIREMENTS				
A. Building Services	●	●	●	78
B. New Elements	●	●	●	80
10. LOOKING TO THE FUTURE				
A. Maintenance	●	●	●	84
B. Old Neighbours	●	●	●	86
C. New Neighbours	●	●	●	88

1. PROTECTION

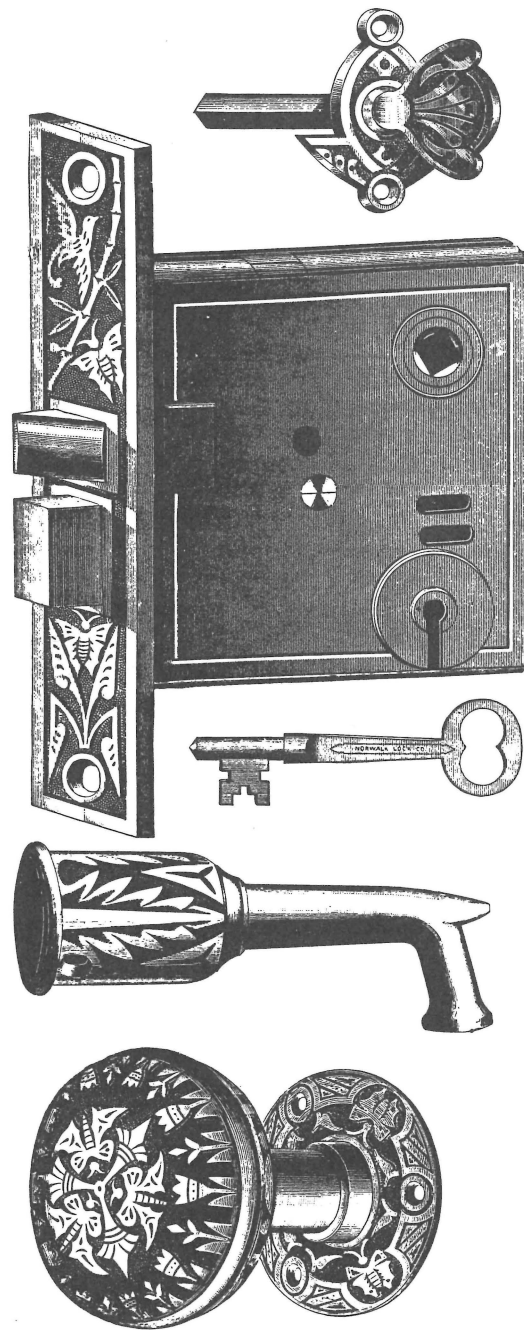
Building protection involves adopting common-sense approaches that will minimize the potentially disastrous effects from fire, climatic erosion, vandals and animal and bird infiltration.

In the course of a building conservation project, the subject of protection can be discussed with reference to the following issues:

1.A. Mothballing

1.B. Preventive Measures

LOCK COMPANY



1.A. MOTHBALLING

PROTECT A VACANT BUILDING UNTIL CONSERVATION WORK BEGINS.

A vacant and unattended building is an invitation to deterioration. Minor deterioration, like flaking paint or loose fixtures, is easily remedied. However, if a building is left vacant for a long time, much more serious deterioration is inevitable. And that deterioration can lead to serious structural problems, resulting in a significant increase in expenses that can make a proposed conservation project economically unfeasible.

There are two key factors that cause deterioration. **Moisture penetration** is the foremost and it is insidious. Minor penetration will stain and loosen building material. Major water penetration can lead to the irreparable deterioration of foundation, roof and wall materials. During the winter months, when moisture penetration is coupled with the freeze-thaw cycle, the deterioration of structural material can be even more severe. The second factor in deterioration is the unpredictable intrusion of **rodents or birds**, which can cause damage to almost any part of a building.

One of the most important means of preventing deterioration is to ensure continuous use and occupancy of a building. Sometimes, however, this preferred solution is not feasible. If you have not yet developed a conservation strategy, or building funds are being raised, the building may have to stand vacant for a time. In such cases, short-term protection of the building, referred to as "mothballing," should be undertaken. "Mothballing" includes the following:

- 1) Regularly inspect the building for leaks and deterioration, especially at critical junctures in the building (where the roof meets the walls or where the walls meet the foundation).
- 2) Cover and seal windows and doors, being careful not to damage original building materials.
- 3) Provide minimal heat to keep the basement and foundation above the freezing point. Electric heaters are preferred since gas-fired heaters add water vapour to the air, which could lead to deterioration over the long term. Additional fans or ducting may be necessary to ensure that heat is evenly distributed to all areas of the basement.
- 4) Provide minimal heat to levels above ground floor if important architectural features (decorative plasterwork, wall murals, etc.) are located there.
- 5) Maintain and repair roofs and eavestroughs as if the building was still in use.
- 6) Ventilate the basement or crawlspace through screened openings to avoid moisture build-up during the non-winter months.
- 7) Close off or screen any exterior openings that might allow animals, pigeons or other pests to enter the building.
- 8) Clean the property regularly to avoid the build-up of flammable debris.



Some typical mothballing procedures. **Top left:** a number of historic buildings whose windows have been carefully covered with plywood. **Top right:** a good example of a foundation screen that will protect the building from animal intrusion. **Bottom left:** a building awaiting restoration work; here the roof has been covered with asphalt sheeting for protection, the building has been lifted to ensure the bottom logs do not rot out and a wire fence has been erected to afford additional security to the site.



1.B. PREVENTIVE MEASURES

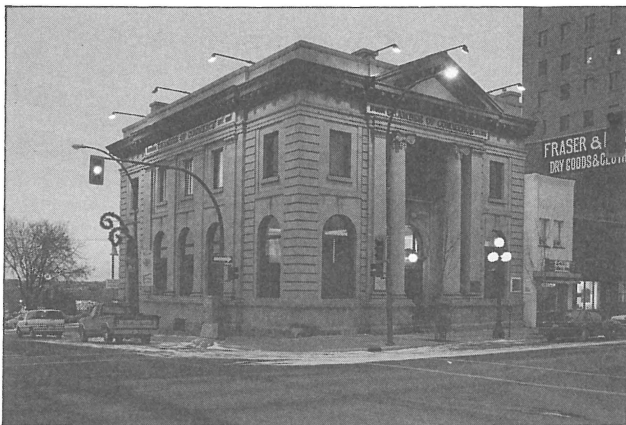
AS ADDED PROTECTION FOR A BUILDING IN USE, ENSURE IT IS PROTECTED FROM FIRE OR VANDALISM.

The cost of replacing a building damaged or destroyed by fire or through acts of vandalism can be extremely high. And even if a building was completely, and accurately, reconstructed it would only be a reminder of the original and could never claim to be of historic value itself (for additional information on conservation guidelines in such cases, also see Section 6.D. **RECONSTRUCTION**, pages 54-55). Thus it is vitally important that procedures be in place that will reduce the chances of fire or acts of vandalism ever occurring. Preventive precautions include the following:

- 1) Regular and random inspection of the building grounds and interior.
- 2) Prompt removal of flammable debris.
- 3) Installing security lighting on the building grounds.
- 4) Securing all building openings with adequate locks, window bars, etc.
- 5) Providing additional security devices such as alarm systems where warranted by the location.

While prevention is the first and best line of defence, accidents do happen. Therefore, provisions should be in place to minimize damage. These should include:

- 1) Installing a fire and burglar alarm system; where viable, these should be connected directly to a central monitoring service or a fire or police station.
- 2) Establishing and following procedures for responding to fire/burglar alarms.
- 3) If the building is periodically closed (as is often the case with a museum), ensuring that the space is constantly occupied (e.g., a live-in building manager).



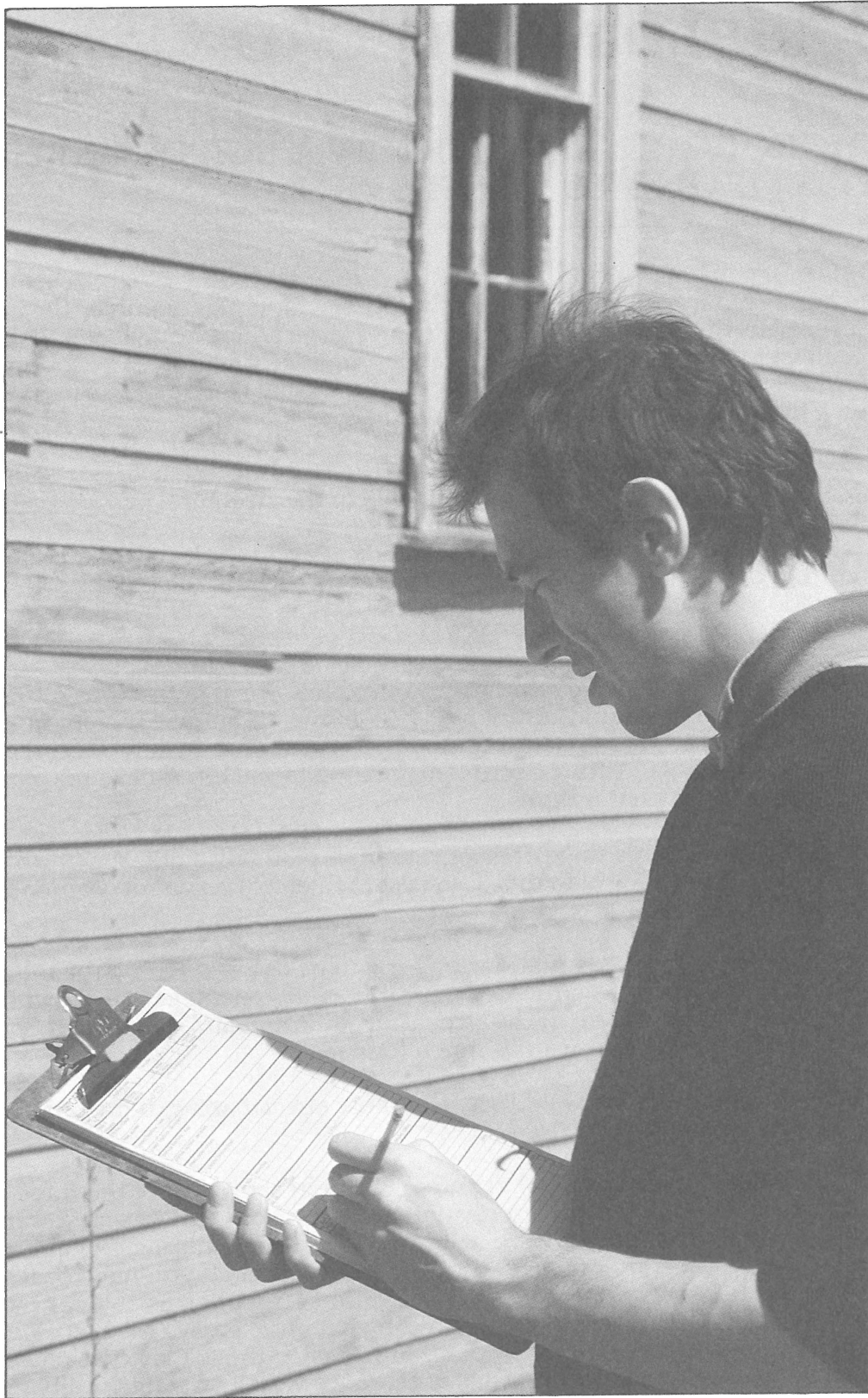
Some acceptable designs that will ensure a building is well-lit. **Top left and right:** a good example in which the lights are isolated from the building and set unobtrusively in a line of bushes. This isolation ensures that the building fabric is not accidentally damaged by the placement of a light on the building. **Bottom:** lights that are secured on the roof, and that extend over the cornice, highlight this building during the evening.

2. DOCUMENTATION

Documentation involves collecting available information in anticipation of a conservation project. It is also a record of the evolution of the project.

In the course of a building conservation project, the subject of documentation can be discussed with reference to the following issues:

- 2.A. A Building Record**
- 2.B. Archaeological Resources**
- 2.C. A Conservation Record**



2.A. A BUILDING RECORD

THOROUGHLY INVESTIGATE A BUILDING BEFORE ATTEMPTING TO CONSERVE IT.

An important early step in the development of a conservation plan involves the analysis of a building's current physical condition. For projects of large scale, it may be advisable to consult an architect to prepare the necessary background information. The following procedures will ensure that future decisions made during the course of a conservation project rest on a thorough knowledge of the building:

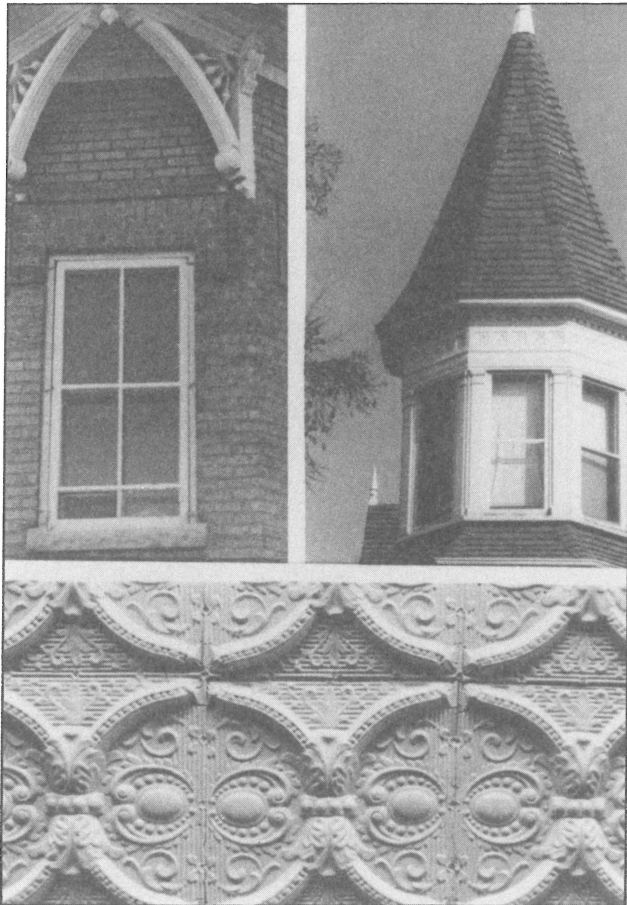
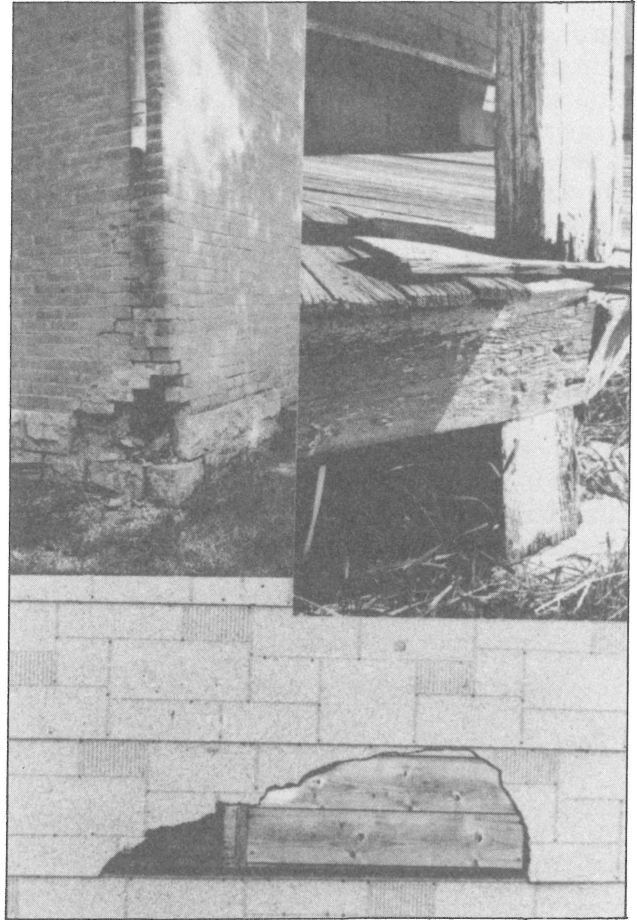
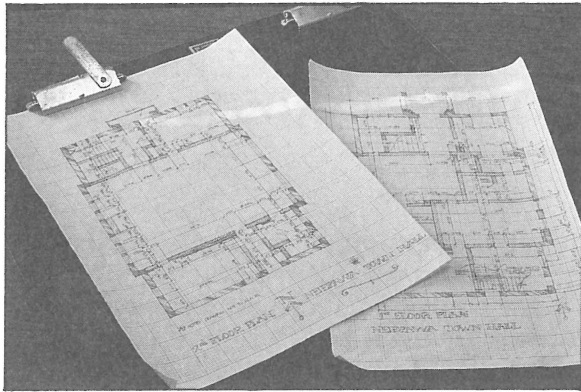
- 1) Engage an engineer or architect to assess the building's structural condition. The assessment will identify those components of the structural system that may be in need of repair or replacement.
- 2) Prepare a report that identifies obvious problems with the current physical condition of the building. These problems will include things like rotten shingles, foundation cracks or deteriorated window details (see APPENDIX 2: A **CONDITION ASSESSMENT WORKSHEET**, pages 93-96).
- 3) Prepare an inventory of the building's special architectural features.
- 4) Compile a comprehensive set of exterior and interior photographs of the building.
- 5) Produce a set of "as-found" drawings. "As-found" drawings record, in a building's present state, the exact dimensions and placement of rooms, walls and details.
- 6) Collect all available historic documents related to the building, such as original drawings and old photographs.

The information collected at this stage of a conservation plan will suggest some of the initial cost implications. It will also begin to give a sense of which conservation approach is best suited for a particular building.

The magnitude of costs of any conservation project will be determined by the information gathered in **points 1) and 2)**. If the structural condition and general physical condition are good, the costs will be minimalized. If the structural condition and general physical condition are poor, the project costs can be much higher.

The information gathered in **point 3)** will identify those special areas of the building that will merit restoration or preservation.

The information gathered in **points 3), 4) 5) and 6)** will suggest which of the three conservation approaches will be most appropriate for the whole building: restoration, preservation or rehabilitation. If you have determined that the building contains many original features, it would be preferable to pursue preservation. If you have concluded that the building contains few original features, rehabilitation might be possible for the whole building, with any special areas (such as the building exterior) being restored or preserved. It is possible that the materials collected in **point 6)** will encourage a restoration approach. These materials will show an earlier building appearance which, architecturally or historically, may be more significant than the present state.



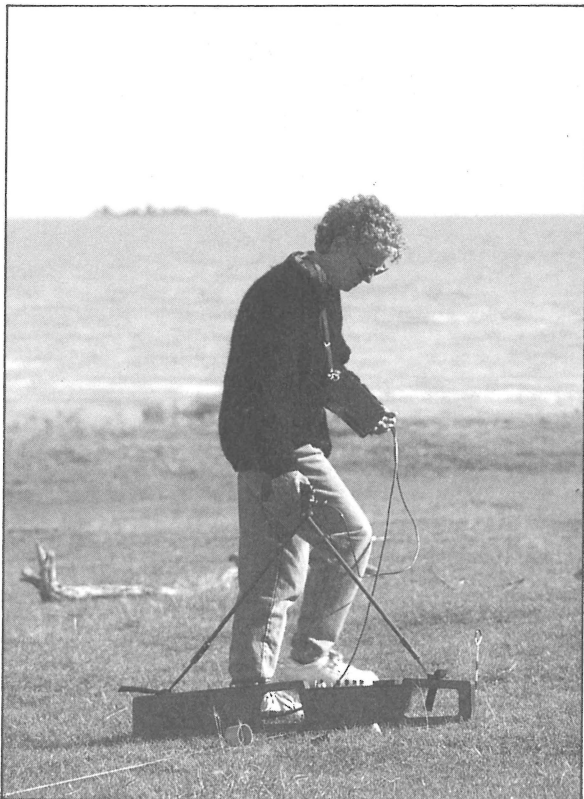
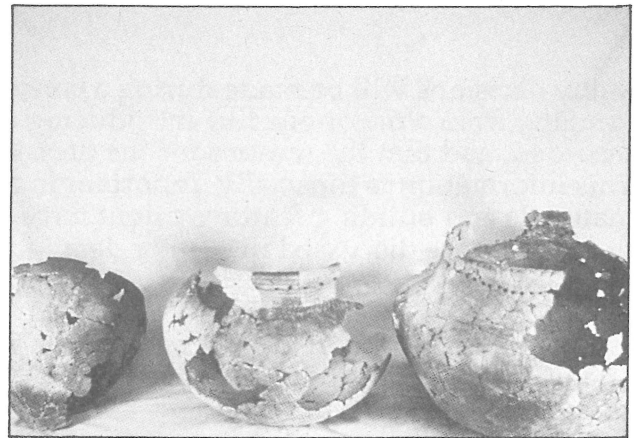
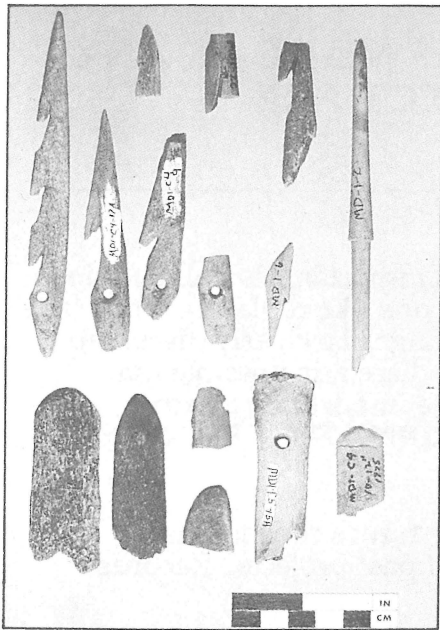
The range of materials that will be collected during this part of the documentation process. **Top left:** a sample of "as-found" drawings. **Top right:** a selection of photographs taken on-site that describe some typical problems with a building. **Bottom left:** a selection of photographs that highlight a building's special architectural features.

2.B. ARCHAEOLOGICAL RESOURCES

DETERMINE IF ARCHAEOLOGICAL RESOURCES WILL BE AFFECTED BY A CONSERVATION PROJECT.

Any work that alters or disturbs the land surface can affect archaeological deposits buried beneath the soil. Of special concern is the major impact that can occur during the construction of highways, pipelines, mines, dams and large commercial developments. In large scale reconstruction and restoration projects, archaeological exploration may supply new information and previously hidden material on both the buildings at the site and the lifeways of the early inhabitants. This is especially important when a number of buildings have existed on the site through time. If archaeological resources are known or suspected to exist at the project site, a heritage resource impact assessment (HRIA) may be required. The HRIA is a written evaluation, which outlines the project, describes the natural and cultural context of the development, identifies the impact of the project and recommends ways to reduce the impact on heritage resources. If the project is reviewed in its planning stages, most anticipated effects can be reduced well before the start of construction.

The average small-scale project, such as restoring an old porch or replacing a sidewalk, is not likely to affect archaeological deposits. However, if you suspect that a proposed construction site is near archaeological resources, you should contact Manitoba Culture, Heritage and Citizenship to arrange for a review of the project.



Archaeological resources include items like bone tools and potsherds (**top left and right**). These artifacts are critical for an understanding of Manitoba's first inhabitants. **Lower right:** stones strewn across a field appear to be a natural feature; closer inspection by archaeologists reveals them to be the remnants of an old building foundation. **Lower left:** a sub-surface archaeological survey carried out with an electromagnetic ground conductivity meter.

2.C. A CONSERVATION RECORD

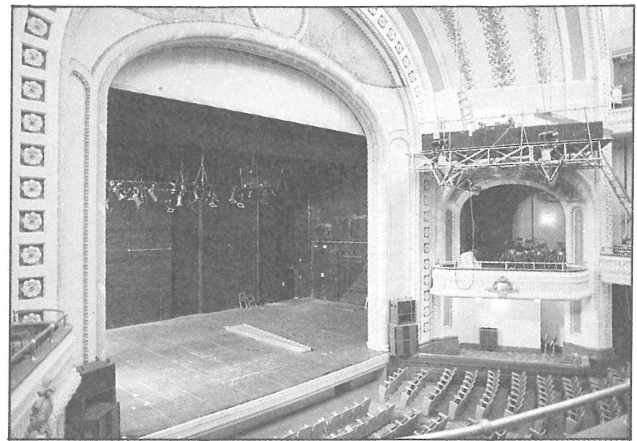
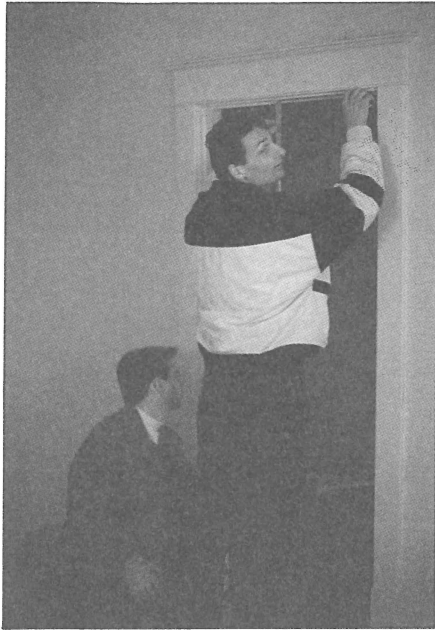
ENSURE THAT CRITICAL DECISIONS MADE AT ANY STAGE OF A CONSERVATION PROJECT ARE RECORDED.

Many decisions will be made during a conservation project. It is important that all decisions (ranging from a major one like introducing a new use to a minor one like replacing a door) be recorded, and that the reasons for the decisions and resulting changes be clearly discussed. This information is especially important in restoration projects, where it is possible that materials and building features might have to be removed. These important recording procedures are discussed in greater detail in Section **8.B. RECORDING THE CHANGES**, pages 68-69.

For the most part, these decisions should be recorded so that any future conservation attempts on the building are carried out with a full knowledge of past projects. Records should include the following:

- 1) Producing written materials to describe the reasons for the change(s).
- 2) Taking photographs (before and after), showing what has been changed because of the decision.

These records should all be accommodated in a similar format (for example, to fit in a binder) and should be safely stored in an appropriate location (project architect's office, local archive, building manager's office).



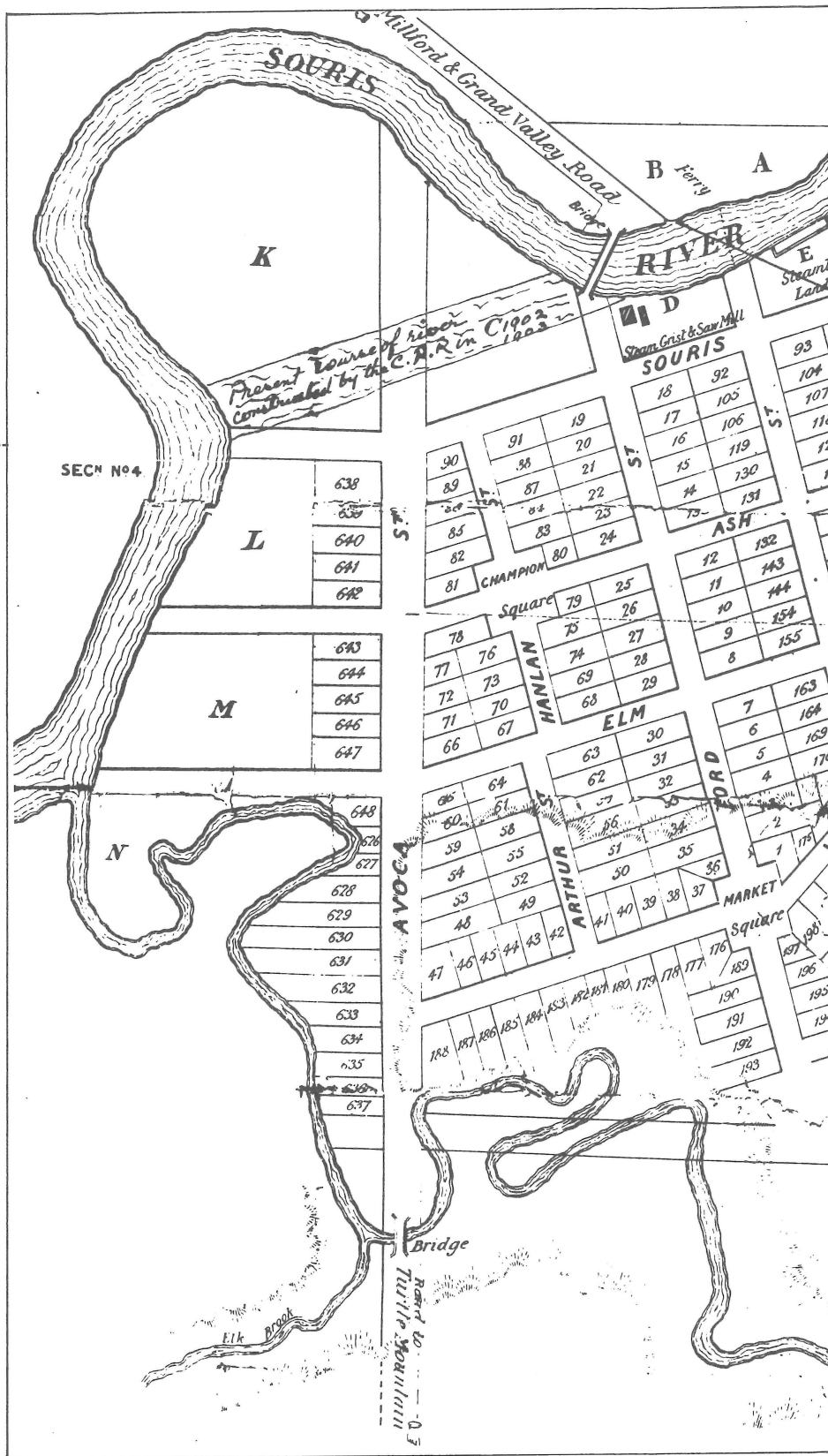
Records produced at this stage of a conservation project will ensure that those involved with any future projects are adequately informed about current project decisions. Here, (**top left and top right**) careful records are made of building components. **Left and above:** photographs trace a restoration project from its inception (before the dropped ceiling and ducting were removed) and later as work proceeded.

3. LOCATION

A building's location is defined by its placement within a specific physical context. This context can be described by its immediate environment (the yard upon which a house sits, for example). But the location can also be extended to include a larger context (the neighbourhood in which the house sits, for example).

In the course of a building conservation project, the subject of location can be discussed with reference to the following issues:

- 3.A. Original Location
- 3.B. New Location



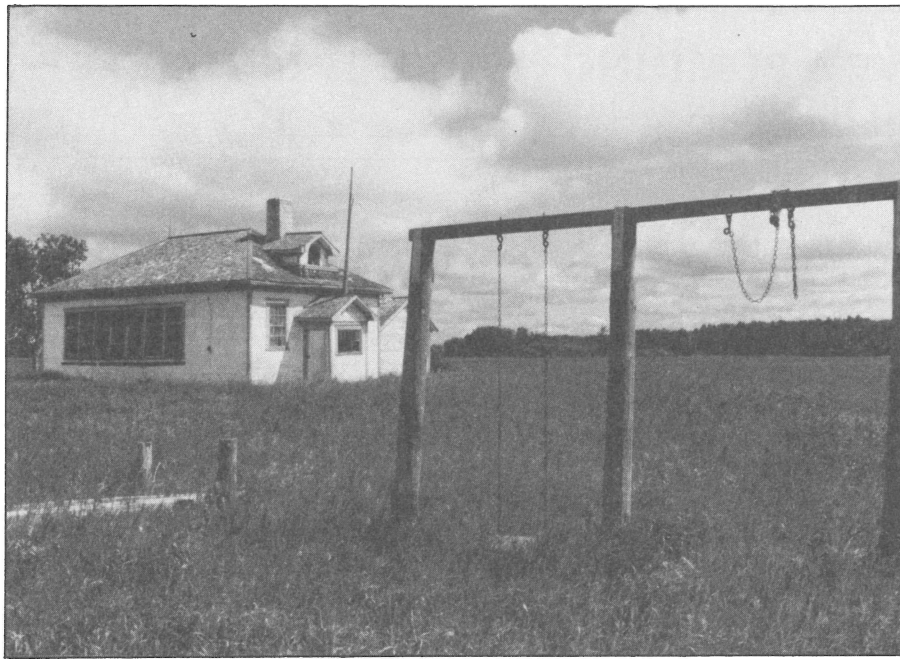
3.A. ORIGINAL LOCATION

WHEREVER POSSIBLE, ENSURE THAT A BUILDING REMAINS ON ITS ORIGINAL SITE.

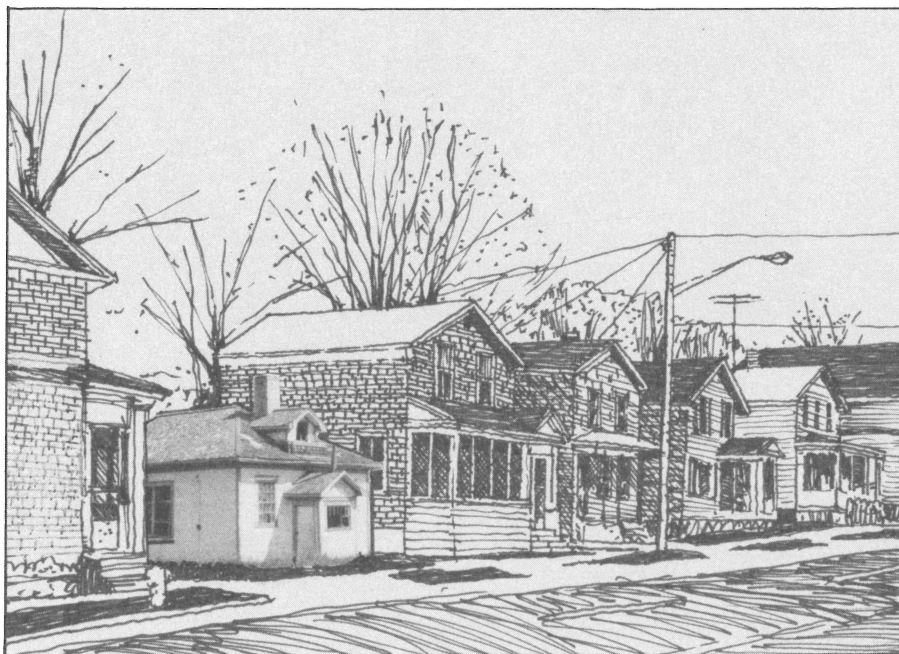
A building's location is central for developing an appreciation for its past. Someone decided to construct the building on a specific spot for a reason. People who lived or worked in the building experienced it within the specific context as they walked towards it. People beheld special views from within. Moreover, the building has a relationship with buildings and natural features near it. If moved, all these important connections to the site would be lost. **In a restoration project, it is critical that the original location of a building be retained, to ensure that this important aspect of its historic character is conserved.** At a more practical level, moving a building can be extremely expensive; indeed, it is sometimes impossible due to the great size of the building or the fragile building materials used.

The images opposite illustrate a situation in which a building has been moved from its original location to a new, unsuitable site. The reasons why this solution is unacceptable in a building conservation project are discussed below, focused on three key qualities of location.

- 1) **Orientation.** This describes the way the building sits on the land. The key here is the compass direction in which the front wall faces. Buildings are oriented in specific directions for business opportunities, for protection from winds, for views or to avoid odours. For instance, the front doors of churches often face west because, for liturgical reasons, the altar is usually set in the east end. In the example opposite, the one-room school originally faced south, to protect those entering the building from the blasts of prevailing north winds, and to allow light from the east-facing windows to fall over the right shoulders of the students. At the new hypothetical site the building faces west, into prevailing winds, and the light streams into the windows from the south. The critical decisions made about its siting when the building was designed are lost at the new site.
- 2) **Site Geography.** This describes the quality of the terrain (flat or hilly) and the nature of the vegetative cover (grassy, brush or treed). These landscape qualities are also discussed in Sections **10.B. OLD NEIGHBOURS** and **10.C. NEW NEIGHBOURS**, pages 86-89. In the example opposite the school originally sat in a large grassy field, with a hedge in the background. At the new site the building sits in an urban setting and can no longer convey its important links with its rural community.
- 3) **Site Character.** This describes the nature of adjacent buildings, focusing specifically on building types, development density and building heights. This issue is typically defined in terms of the difference between urban and rural, residential and commercial. In the example opposite the school had swings and a small field for a playground. At the new site the school looks as if it might be a house. Also, the site character of the existing neighbourhood is harmed, as the school does not fit with regard to height, set back from the street and building materials.



The image above shows a one-room school in its original location. In the hypothetical situation below, the school has been moved to a new and unsympathetic location. The discussion on the opposite page highlights the reasons why this new location is inappropriate in a building conservation project.

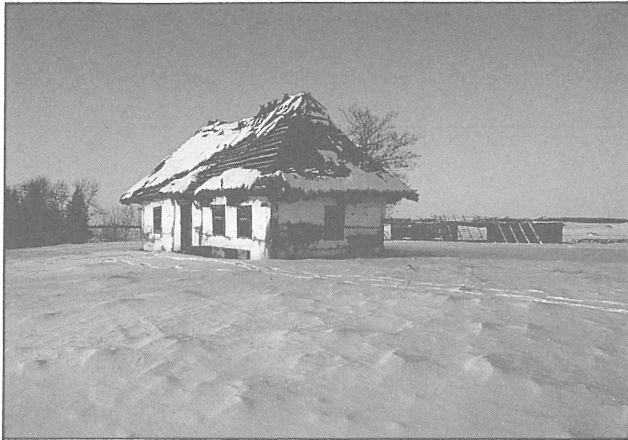


3.B. NEW LOCATION

MOVE A BUILDING ONLY IF IT IS THREATENED WITH DEMOLITION.

In a conservation project, the only acceptable reason for moving a building is if it is threatened with demolition or inevitable deterioration. The threat of demolition could be overcome through negotiations with the property owner, easements, designation and/or grants. If these avenues are exhausted, and it is still necessary to move a building from its original location, the following criteria and questions should be considered. These will be especially useful when a building must be moved to a museum site. The last three criteria were discussed in the previous section in greater detail.

- 1) **Stability.** Can the building be moved without losing much of its original fabric?
- 2) **Orientation.** Will the proposed new location be acceptable in terms of the front wall direction? For example, if you are moving an old church, will the original west wall of the building face west at the new site?
- 3) **Site Geography.** Will the proposed new location retain the original condition of the land? For example, if you are moving an old farmhouse, will the rolling terrain and grassland vegetation of the original site be present at the new site? These landscape qualities are also discussed in Sections **10.B. OLD NEIGHBOURS** and **10.C. NEW NEIGHBOURS**, pages 86-89.
- 4) **Site Character.** Will the proposed new location retain the original physical attributes of the site? For example, if you are moving an old store, will the busy commercial nature of the original site, with its tight street frontage, two-storey building heights and window awnings, be retained at the new site?



Some examples where buildings have been moved to new, sympathetic sites. **Top left and right:** a pioneer Ukrainian house that had to be moved to a new site (right) conveys the site geography and character of the original. **Centre:** this railway station was moved, but railway tracks have been installed at the new site, along with a rail car, to give the new location a better sense of the building's original site character. **Bottom:** an old house that was threatened with demolition was moved into a sympathetic urban neighbourhood.

4. USE

Every building type (house, school, bank, etc.) has been designed to accommodate a particular set of functional requirements, or uses. A house, for example, requires bedrooms, a kitchen and usually a dining room and living room. A large school needs classrooms, a gymnasium and staff offices. And a bank requires a large hall in which customers can circulate, an area in which tellers can serve their customers and a manager's office.

In the course of a building conservation project, the subject of use can be discussed with reference to the following issues:

4.A. Original Use

4.B. New Use



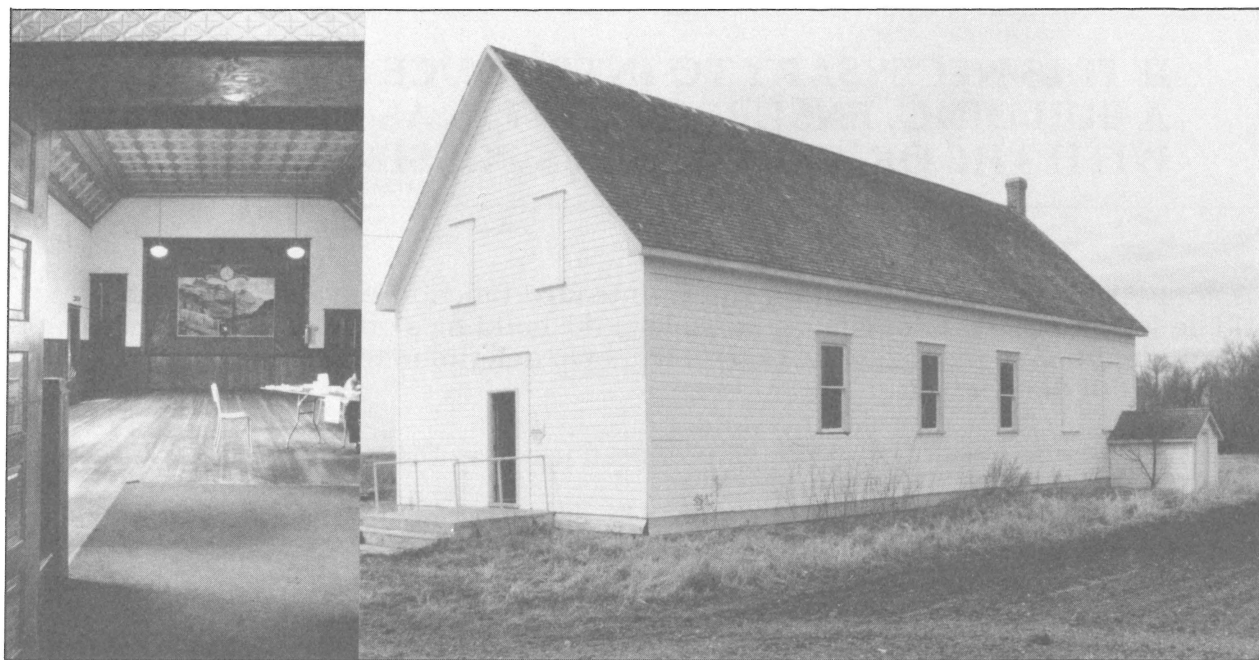
4.A. ORIGINAL USE

WHEREVER POSSIBLE, USE A BUILDING FOR ITS ORIGINAL PURPOSE.

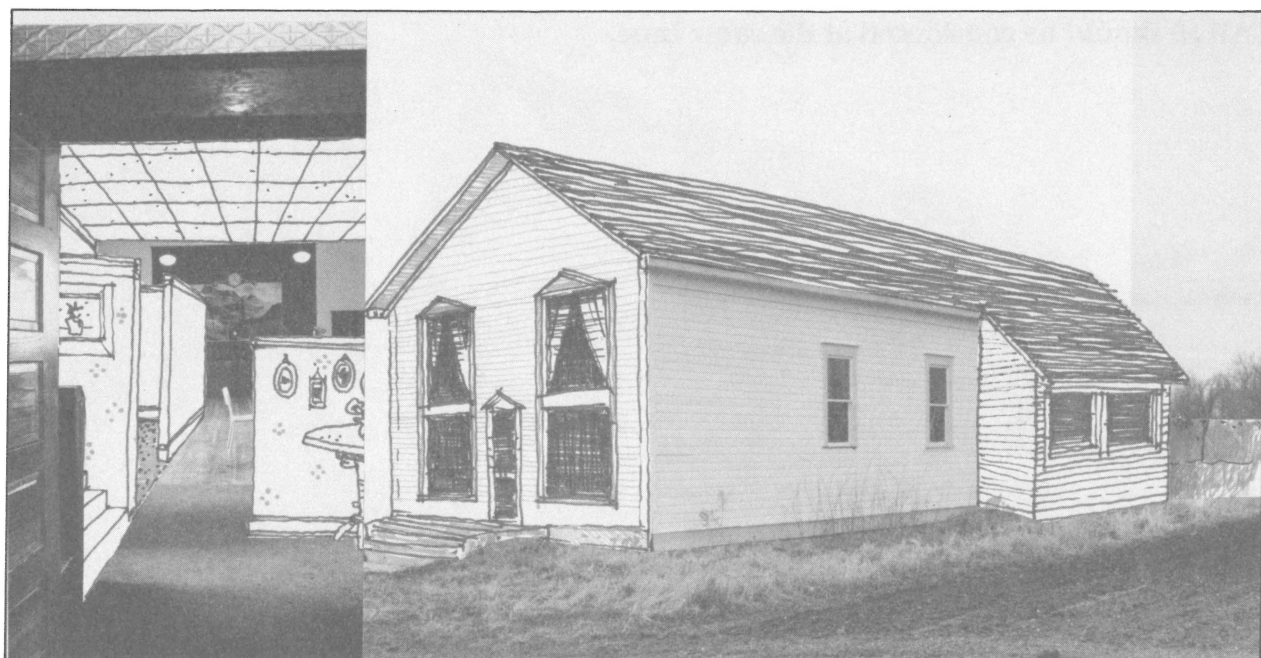
A building's use (or function) is a key to understanding its history. It was the demand for this specific function that led to the construction of the building in the first place. The use defined all subsequent design choices that were made: what sort of structure would be used, what the exterior would look like, how the interior would be planned and what sort of features and details would be used. In a building conservation project, maintaining the use honours that original key decision. **In a restoration project, an attempt is usually made to ensure that the original use of the building is maintained. A new use can severely compromise an understanding of why the building was constructed.**

Unlike the other design characteristics discussed in this publication (Sections 5. **STRUCTURE**, 6. **EXTERIOR**, 7. **INTERIOR** and 8. **FEATURES & DETAILS**), the subject of original use is not easily analyzed according to the specific qualities that define it. Instead, the subject of use is more usefully connected with the above four design characteristics; it affects each of them. For this reason, the illustrative example opposite, which shows a building altered by a new use, will be discussed according to the changes to each design characteristic.

- 1) **Structure.** Building use often determines the need for a certain structural system. For example, the community hall opposite requires open interior spaces for flexible movement and storage. In such a case the structural system would be a wood frame for the walls that is surmounted with a spanning truss system. Fortunately, the new hypothetical use -- as a residence -- has not entailed interference with the original structure.
- 2) **Exterior.** Function will often determine a building's external expression. A community hall often requires only a basic shape (a rectangular plan) and a simple gable roof. In the example opposite, the new use unfortunately has resulted in dramatic changes to the exterior. The roof has been lowered and new window openings have been cut into the front face. A kitchen addition has erased the original long face of the building. The result of all these changes has rendered the original building, and its use, completely unrecognizable.
- 3) **Interior.** Building use also determines the internal room arrangement, as well as the interior appearance. The wide, open space of the original hall allowed a variety of activities to be accommodated: theatre, dances, political rallies. In the example opposite, the hypothetical residential use has obliterated the hall space with a dropped ceiling and new partition walls.
- 4) **Features & Details.** The function of a building will have a considerable impact on the type and appearance of the features and details used. In the community hall opposite, the features and details are relatively simple, but still elegant: wood wainscoting, a pressed tin ceiling, decorative window and door surrounds and a fine staircase. The dropped ceiling and new walls of the hypothetical new building have covered or eliminated most of these delights.



The images above show a community hall as it was originally used. In the hypothetical situation below, the hall has suffered from the introduction of a new, unsympathetic use. The discussion on the opposite page highlights the reasons why this new use is inappropriate in a building conservation project.



4.B. NEW USE

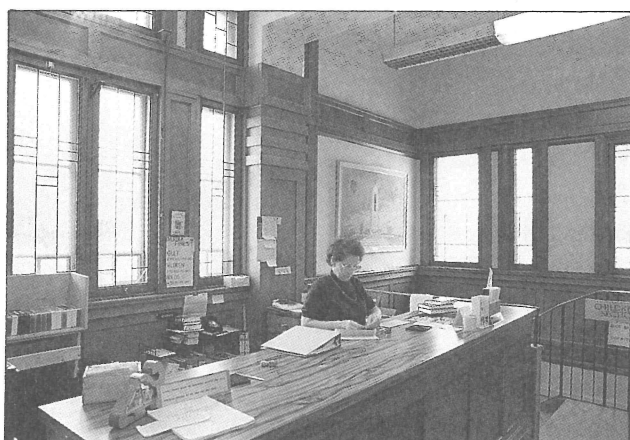
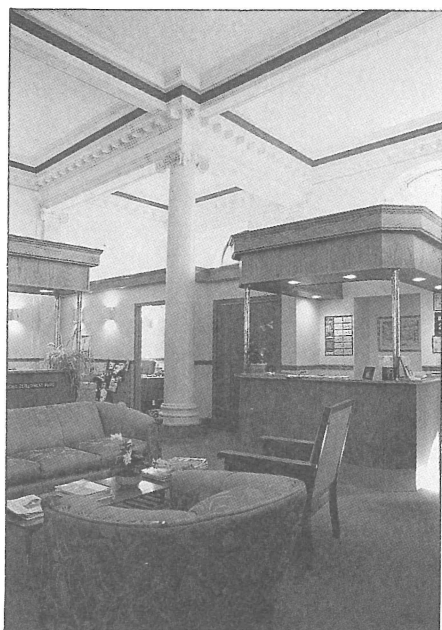
IF IT IS NECESSARY TO INTRODUCE A NEW USE INTO A BUILDING, ENSURE THAT IT IS AS COMPATIBLE WITH THE ORIGINAL USE AS POSSIBLE.

If it is not possible to reuse the building for its intended function, an alternative function should be selected that is as similar as possible to the building's original use. Addressing the questions identified in the following criteria will help determine whether a new use is compatible with the original:

- 1) **Individual Room Use.** Will the proposed use have the same, or similar, uses ascribed for each room?
- 2) **Number of Rooms.** Will the proposed use accommodate the same number of rooms as the original?
- 3) **Room Sizes.** Will the proposed use have rooms approximately the same size as the rooms in the original?
- 4) **Room Locations.** Will the proposed use accommodate its rooms on the same floors as the original?

The closer the proposed new use can get to these criteria, the more successful it will be, economically and in conservation terms. The financial costs of a conservation project will be greatly reduced because there will be less need to add or remove walls, floors or ceilings. And, of course, damage to the building fabric will be minimized.

While following these use-specific criteria should limit the impact of a new function in a building, the whole subject is still complicated enough that the other four design characteristics (Sections 5. STRUCTURE, 6. EXTERIOR, 7. INTERIOR and 8. FEATURES & DETAILS) should be considered at the same time.



These examples illustrate the introduction of acceptable new uses in a variety of conservation projects. **Top left:** many of the architectural features of an old bank have been saved in this rehabilitation to an office building. **Top right:** conversion of this school into apartment suites has been carried out with no changes to the exterior. **Centre:** the sympathetic introduction of new furniture to accommodate a library does not detract from the original features of this old post office. **Bottom:** some minor changes (like repainted doors and an awning) reflect its new use as a drop-in centre, but the original function, as a firehall, has been respected by the retention of the tower, dormers and openings.

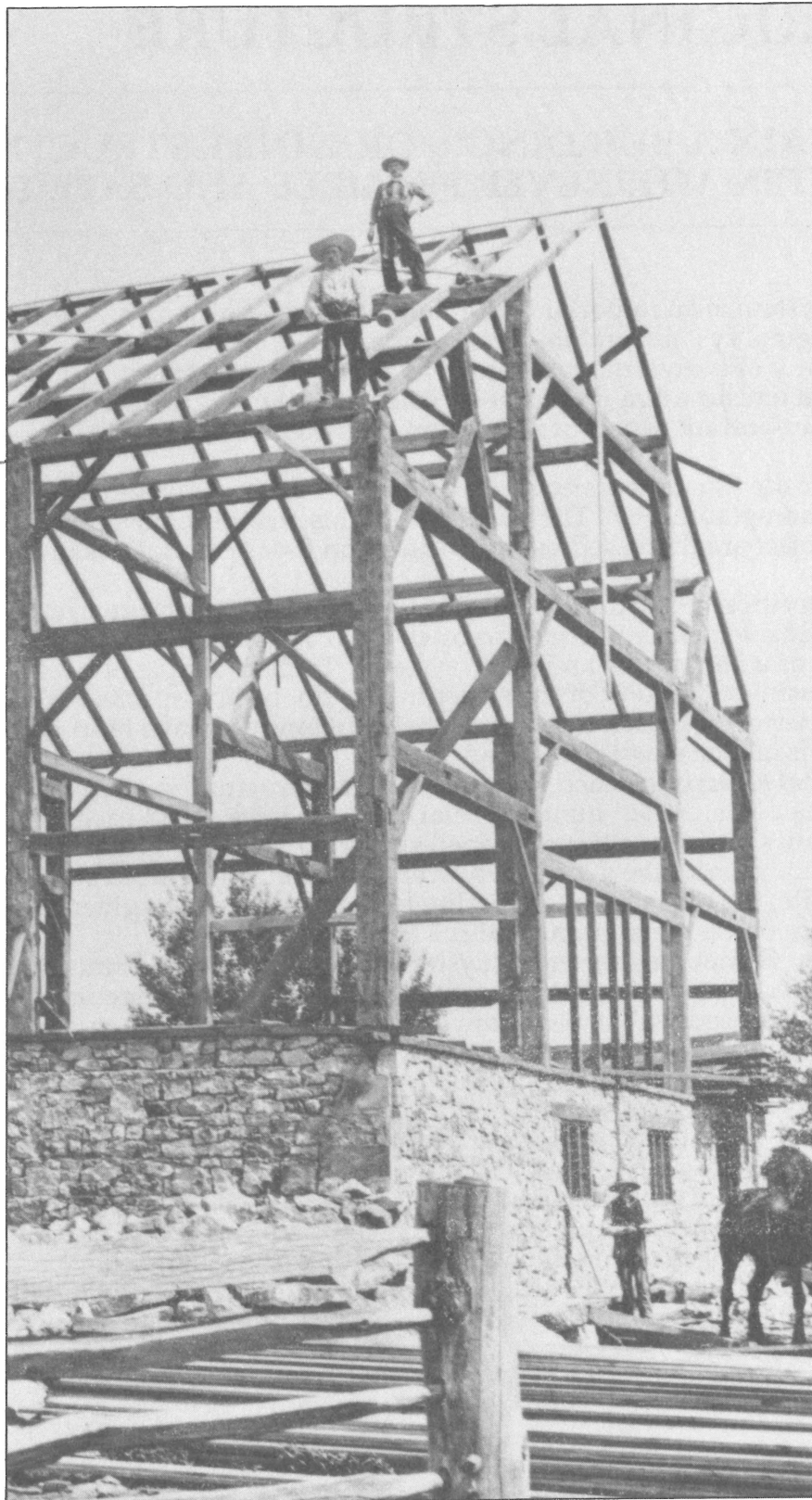


5. STRUCTURE

A building's foundation, walls and roof not only contain and protect the functions that happen within, they also make up a structural network. Each of these elements can also be described in terms of its individual components. The foundation is usually solid, constructed either of stone or concrete. The walls can be made of solid logs, a heavy post and beam system of wood or metal, a light frame of wood or metal, or masonry (brick, stone or concrete block). The roof structure is usually a framework, either of wood or metal.

In the course of a building conservation project, the subject of structure can be discussed with reference to the following issues:

- 5.A. Original Structure
- 5.B. Structural Problems
- 5.C. Fixing the Structure
- 5.D. Structural Upgrades



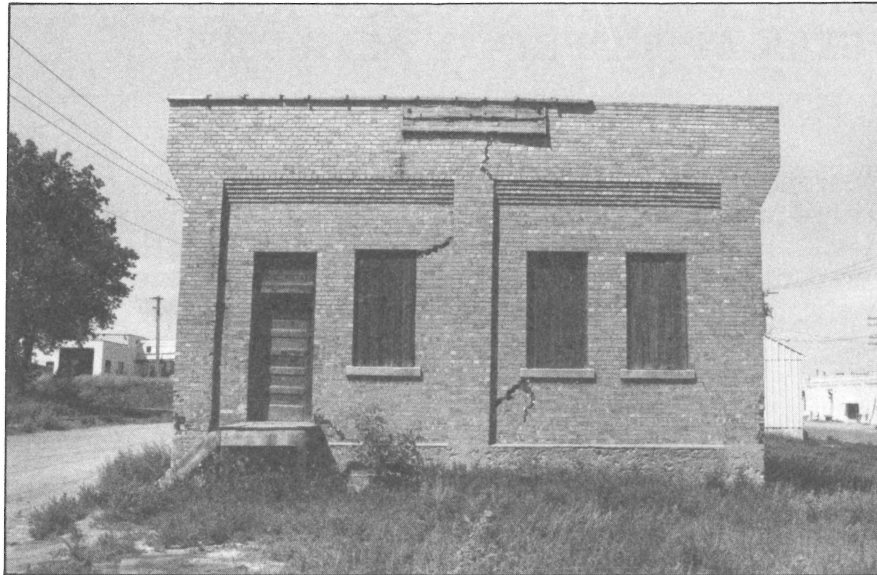
5.A. ORIGINAL STRUCTURE

RETAIN A BUILDING'S ORIGINAL STRUCTURAL SYSTEM WHENEVER FEASIBLE AND SAFE TO DO SO.

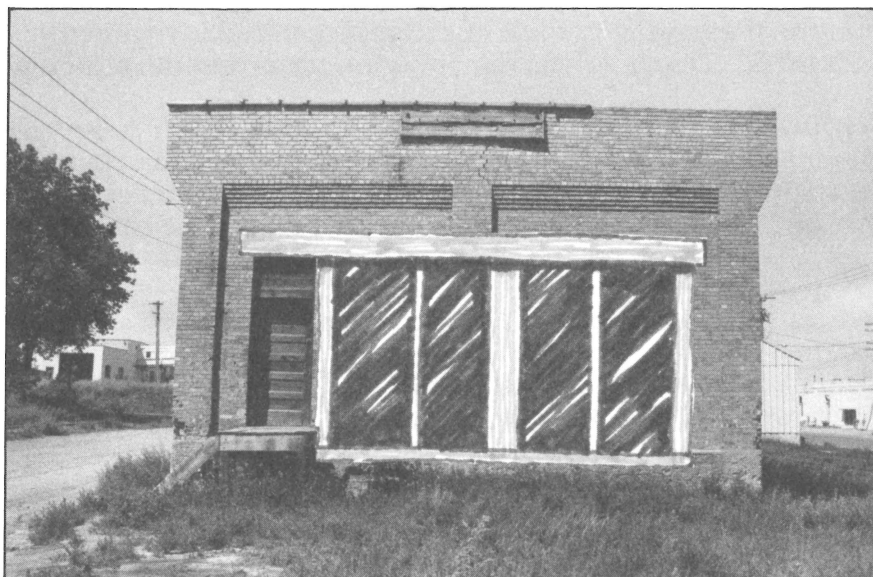
The structural system is an important, although often concealed, characteristic of a building's history. The original system, and its components, reflect early construction technologies and often the ingenuity of individual builders in adapting them to specific physical or design requirements. **In a restoration project, it is critical that the original structure be retained, to ensure that this important aspect of its historic character is conserved.**

The images opposite illustrate a situation in which a building's original structure has been altered in an unacceptable way. The reasons why this change is unacceptable in a building conservation project are discussed below, focused on four key qualities of structure.

- 1) **Composition.** Structural components are limited to certain arrangements: as a solid (like a foundation or solid brick wall) or as a framework (like a light wood frame or a heavy post and beam system). In the example opposite, the original compositional quality of the structure has not been respected. Those sections of the deteriorated brick wall that have been removed have been replaced with a metal frame inset with glass panes.
- 2) **Material & Surface.** Each component of the structural system is made of a certain material: logs, milled lumber, metal, stone or brick. And each component also has a certain surface quality: machined smooth (like a decorative column or ashlar stone) or rough (like a log hewn with an axe or rough-faced stone). In the example opposite, the original rough quality of the brick wall has given way to the smooth surfaces of the metal frame and the large glass panes.
- 3) **Design.** Sometimes structural systems and components attract a designer's attention. This will be most common where the system or component is visible, like an exposed wall or a column or beam. In the example opposite, the original designer created an articulated surface with insets and projections, but the structural system is clearly of solid masonry. In the new situation, the metal frame and glass section subverts the building's structural integrity. The weight of the wall that would naturally be carried to the foundation through the bricks is now carried by a huge lintel and ungainly post.
- 4) **Connections.** Components in the system are joined together in several ways: with nails, bolts or other mechanical mechanisms; with notches and joints (typical in log and post and beam construction); and with mortar (in masonry construction). In the example opposite the walls are composed of bricks bonded with mortar. The new section is strikingly out of place, with its bolted connections.



The image above shows an old brick building whose structure has suffered from a number of cracks around the windows. In the hypothetical situation below, the damaged part of the building has been altered with the introduction of a new, unsympathetic structure. The discussion on the opposite page highlights the reasons why, in a building conservation project, this altered structure is inappropriate.



5.B. STRUCTURAL PROBLEMS

MONITOR A BUILDING FOR STRUCTURAL PROBLEMS AND SEEK APPROPRIATE REMEDIES.

All buildings are susceptible to the vagaries of our climate. Water penetration, for example, will have serious consequences for the structural condition of a building. Because these problems can lead to an irredeemable situation, it is important that they be dealt with as soon as they are discovered, and that a systematic approach be followed to remedy the problem. This is especially critical for the building foundation. It is imperative that the foundation be in good condition, because it supports other work carried out during the course of a conservation project.

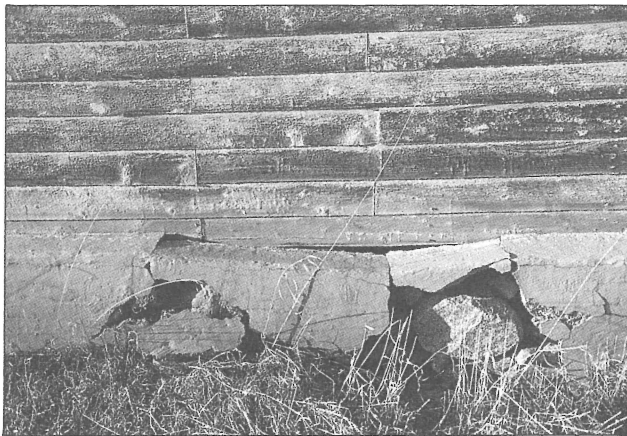
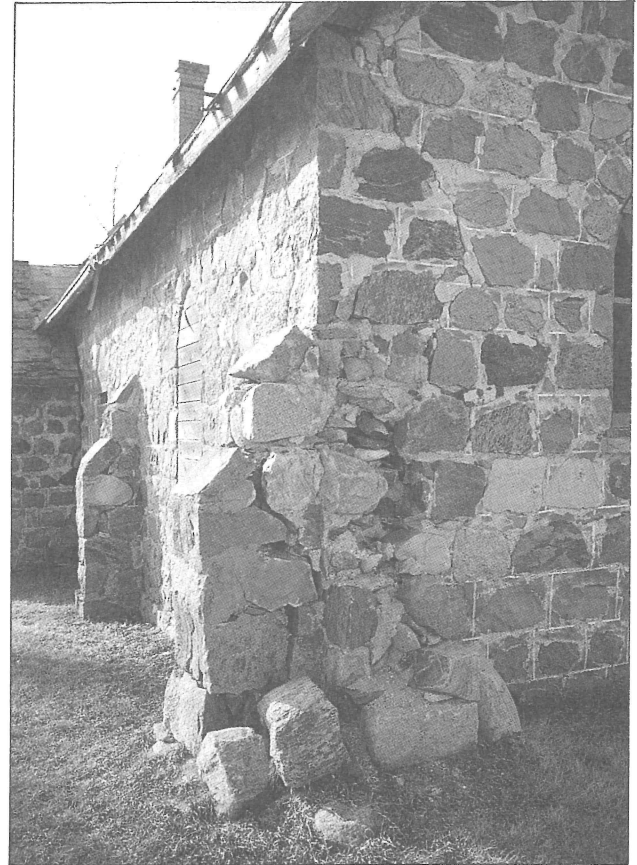
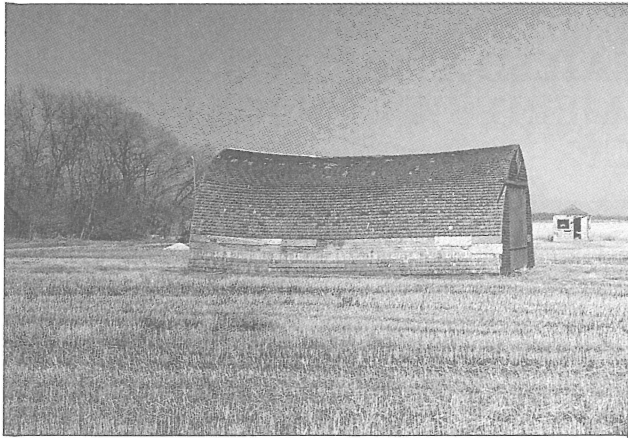
The immediate indication of a structural problem is often connected to a problem quite distant from it. For example, water leaking through a faulty roof shingle can gradually infiltrate the wall system, running down the 2 x 4 wall studs and pooling along the sill plate. Over time the sill plate and the 2 x 4s connected to it will rot. Even if the problem with the sill plate and 2 x 4s is identified, and remedied, the roof leak will continue, and get even worse. Very quickly, all the work done to fix the sill plate and 2 x 4s will be undone. Therefore, when undertaking the remedy of a structural problem, it is important to search through the system for the root cause.

The type of damage will usually suggest the cause, and the source. Damage from wind erosion, heat and acid rain is usually localized, and remedies can focus on the damaged or deteriorated component. Damage and deterioration from moisture, however, is the most common cause of structural problems. If the damage is from water, backtrack through the system to find the source of the infiltration. You may find other structural damage along the way. Depending on the amount of damage, you will be able to undertake one of the following corrective procedures:

- 1) **REPAIRS.** These typically will be carried out if the problem is minor. Repairs will ensure that the maximum amount of original material is retained.
- 2) **REPLACEMENT.** This involves removing material and introducing new materials.

While the two procedures are distinct, the process involved in repair or replacement, whether to a feature or a detail, follows the same steps: a) damaged or deteriorated sections are inspected for structural integrity, b) if structurally unsound, damaged or deteriorated sections are removed and c) new material is added, either to replace the original material or to support it.

Both of these procedures can also be carried out according to two quite distinct approaches: replication or sympathetic design. The guidelines for undertaking a replication or a sympathetic design are outlined in Section 8.D. **FIXING THE DETAILS**, pages 72-73. If the structural problems are serious (like a cracked beam or a badly shifting wall), it will be necessary to consult a structural engineer.



Some typical structural problems. **Top left:** the sway in this roof signifies a deflected ridge beam; the situation could be remedied with internal braces. **Top right:** a severely damaged wall buttress; this could be repaired but it may be costly. **Bottom:** a deteriorated foundation section.

5.C. FIXING THE STRUCTURE

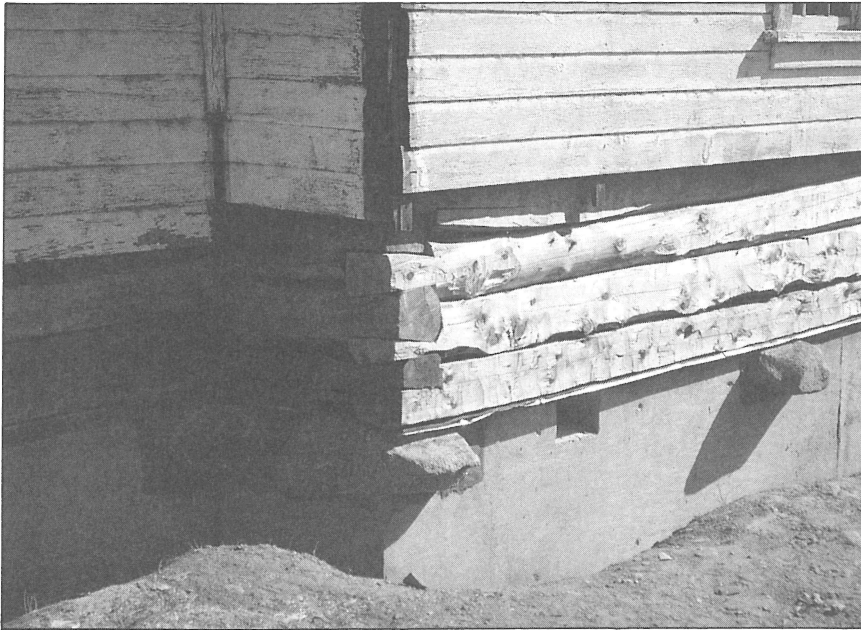
DETERMINE WHETHER A FAILED STRUCTURAL SYSTEM OR COMPONENT MERITS A REPLICATION OR A SYMPATHETIC DESIGN.

Occasionally, in a building conservation project, you will encounter structural problems, in which the structural system, or a component of the system, has been damaged or deteriorated, but **can be repaired**. A typical fault in the system is a crack. A typical fault with a component will be minor rot from water damage. **Repairing the structure is always the preferred solution where material has been damaged or is deteriorated. However, because the structure is so important in the overall stability of the building, it is important that repairs be undertaken only if they will ensure that the structure meets its loadbearing requirements.**

In other cases, there will be more serious problems with the structure that will require the outright **replacement** of part of the system or a component. The parts of the system that often require replacement are the foundation, the roof and the floor structure, where the effects of climate are most strongly felt. An example of an irreparable component is a completely rotted sill log in a wall.

The process of both repair and replacement, whether to the system or to a component, follows the same steps: a) damaged or deteriorated section(s) removed; b) new material(s) added; and c) ensuring adequate bracing or connections to secure the new material(s). These steps can be undertaken with reference to two different approaches: replication or sympathetic design. **Replication** involves exactly recreating the original part of the system or the component. **Replication is the recommended remedy in a restoration project, where it is critical that the authenticity of the original structure be maintained. Even where it is hidden, it is important in a pure restoration that damaged parts and components of the structure be faithfully recreated.** On the other hand, **sympathetic design** involves an attempt to suggest the appearance of the original. It is less rigorous than replication, allowing more latitude for interpretation. In either case, however, ensuring that all of the following criteria are addressed will produce a good result:

- 1) **Materials & Surface.** In a replication, the material(s) should be exactly the same as the original. When a sympathetic design is being undertaken, the materials and surface would attempt to convey the qualities of the original.
- 2) **Design.** Where a part of the system or a component is visible, replication would entail careful duplication of all the design qualities (shape, profile) of the original. When a sympathetic design is chosen, the new materials would convey the sense of the original.
- 3) **Composition.** In a replication, the materials would have to be arranged exactly as they were in the original. In a sympathetic design, materials would only be similarly arranged.
- 4) **Connections.** In a replication, the connecting procedures would duplicate the original. In a sympathetic design, these connections could be slightly different.



Some good examples of structure that has been fixed. **Top:** sill logs in an old church have been replaced, following a replication procedure in which tree species, corner notches and surface treatment copy the original. The foundation shows a sympathetic design. When first built, the logs were supported by stones located around the perimeter. Because these would not ensure the stability of the structure over the long term, a new concrete foundation was designed that also incorporated the stones so that when the foundation was backfilled the stones would still be visible and thus evoke the original foundation condition. **Centre:** roof shingles are replaced, replicating the materials and spacing of the original. **Bottom:** a roof structure has been braced with new materials sympathetic to the original ones.

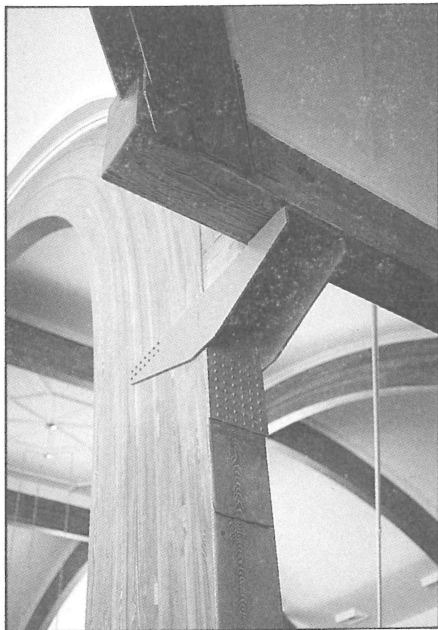
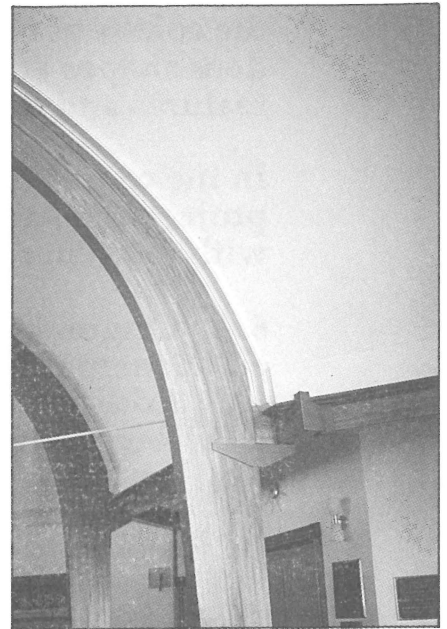
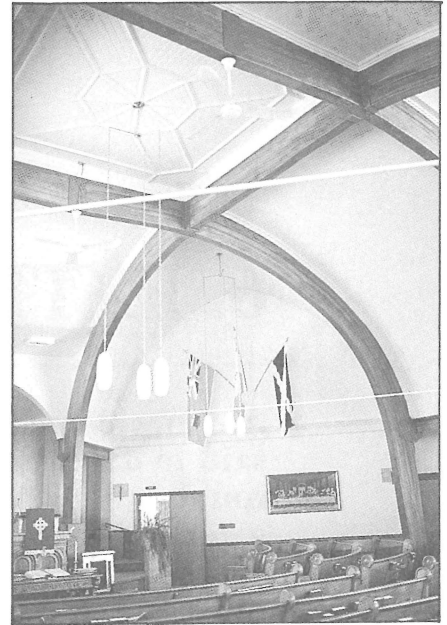
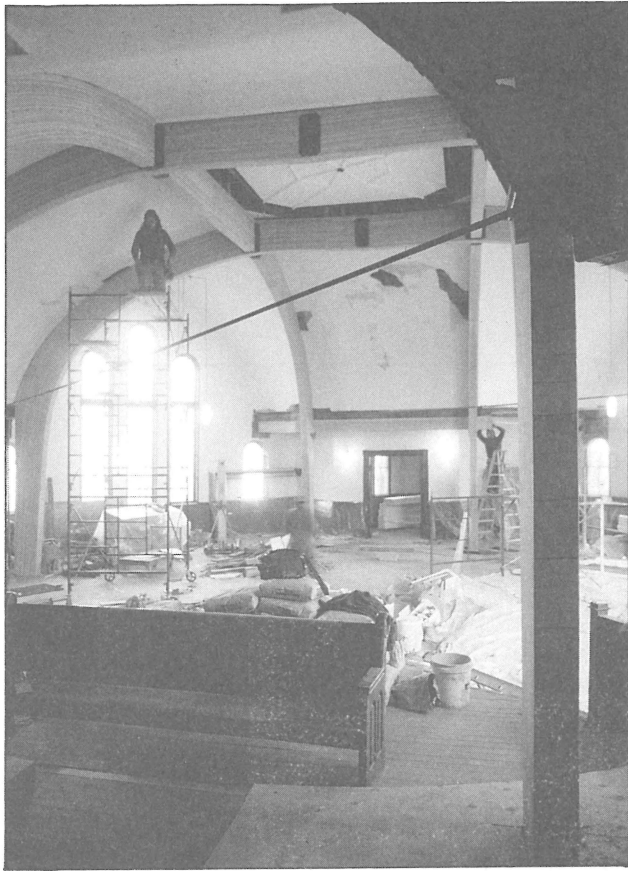
5.D. STRUCTURAL UPGRADES

DESIGN NEW STRUCTURAL COMPONENTS TO BE SYMPATHETIC TO, BUT DISTINGUISHABLE FROM, THE ORIGINAL STRUCTURAL FABRIC.

It is possible that the structural system that exists in a historic building was not particularly well designed, and it will be necessary to upgrade the system with additional supporting components. In other cases, where a new use has been adopted in a building conservation project, it is common for the use to increase the demands on the original structure of the building. As a consequence, national building code requirements may necessitate reinforcement of the existing structure by adding new components. Where a new use entails greater structural reinforcement, the new structure and its components should distinguish themselves from, but complement, the original structure.

Addressing one or both of the following points will ensure an acceptable result in both the cases noted above:

- 1) **Structural System.** The new system could be different than the original. For example, a new system added to an old warehouse (part of whose structure is a post and beam system), could be a light wood frame.
- 2) **Materials & Surface.** The new materials could have a different colour. This can be achieved by using different types of wood, metal or brick, or by painting the new material.



These photographs show the results of a carefully considered structural upgrade. The original structural design of this historic church was unfortunately inadequate, with the result that the roof was approaching collapse. The solution, traced in this series of images, was to build a new structural system (of laminated wooden beams); one that was compatible with, but distinguishable from, the original structure.

6. EXTERIOR

At a basic level, a building's exterior can be said to disguise and protect the comparatively rougher structural system behind it. But the exterior is also a complex combination of characteristics that creates visual pleasure, at the same time as indicating its use. These characteristics include its shape, its materials, the colour of those materials, the window and door shapes and sizes, and any notable features and details.

In the course of a building conservation project, the subject of exterior can be discussed with reference to the following issues:

- 6.A. Original Exterior**
- 6.B. External Upgrades**
- 6.C. Additions**
- 6.D. Reconstruction**
- 6.E. Facadism**



6.A. ORIGINAL EXTERIOR

WHEREVER POSSIBLE, RETAIN ALL THE ELEMENTS AND QUALITIES OF A BUILDING'S ORIGINAL EXTERNAL CHARACTER.

Because the exterior is the part of the building seen most by the public, it is generally the most significant aspect. **In most conservation projects, it is typical that the original exterior of the building be carefully maintained.** An examination of the exterior can tell you what the building was used for, the economic circumstances of the owner, the sophistication of the designer and even the level of development of the community at the time of the building's construction. Replacing large amounts of original materials with new and unsympathetic materials, making additions of strikingly modern design, or using modern colour schemes can seriously undermine a building's authenticity. Such changes do not honour the original building technologies or stylistic preferences; in fact they subvert them by giving a mistaken impression about the building's original form, construction and colour. Moreover, some contemporary materials have not been proven to last over the long term; the wood, brick and stone used on most historic buildings have accepted track records. The images opposite illustrate how a building's original exterior, which has survived more than 70 years of continuous use, was subjected to considerable, and unfortunate, alterations. The reasons why these changes are unacceptable in a building conservation project are discussed below, focused on four key qualities of exterior.

- 1) **Mass.** This important issue includes the height of the building, its size (length and width), the overall character of the plan (a simple rectangle, for example, or a complex irregular shape) and its roof shape. In the hypothetical example opposite, the building has been compromised by the inappropriate addition on the left side and the skylight protruding from the roof on the right side.
- 2) **Materials.** What is the exterior of the building covered with and what colours are those materials? The covering materials can include wood siding, shingles, brick and stone. In the example opposite, the main floor of the building has been covered with wood siding, rather than the stone used in the original. And the addition has been covered with a dark-coloured vinyl siding, undermining the original material character of the building: light-coloured stone. (Sections **8.C. PROBLEMS WITH THE DETAILS**, **8.D. FIXING THE DETAILS** and **8.E. ADDING FEATURES & DETAILS** pages 70-75, contain more information on this subject.)
- 3) **Fenestration.** This refers to the size, shape and location of window and door openings. In the example opposite, the windows of the main floor have been greatly enlarged, completely disrupting the carefully balanced design of the facade. On the addition, the window openings are completely unrelated, in shape, size and placement, to the original. (Sections **8.C. PROBLEMS WITH THE DETAILS**, **8.D. FIXING THE DETAILS** and **8.E. ADDING FEATURES & DETAILS**, pages 70-75, contain more information on this subject.)
- 4) **Features & Details.** Are there any features or details that enrich the exterior? (Section **8. FEATURES & DETAILS**, pages 64-75, contains a detailed analysis of this subject.) Features include things like a porch or verandah. Details include things like the chimney, a cornice, door and window surrounds, window glazing patterns, cresting along the roof, decorative brick and stonework and decorative woodwork. In the example opposite, the original details of the ground floor have been lost in the renovation and the cornice has been removed, creating an awkward design.



The image above shows a railway station with its original exterior intact. In the hypothetical situation below, the building has suffered from the introduction of new, unsympathetic external changes. The discussion on the opposite page highlights the reasons, in a building conservation project, why this new exterior is inappropriate.



6.B. EXTERNAL UPGRADES

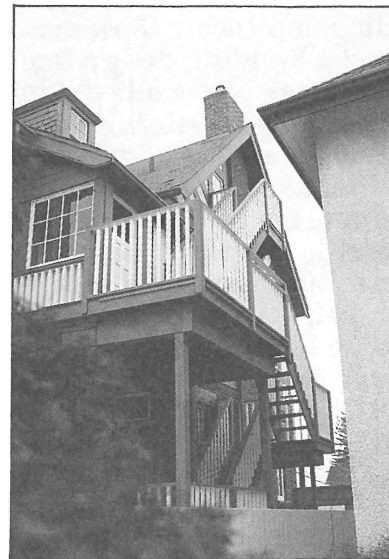
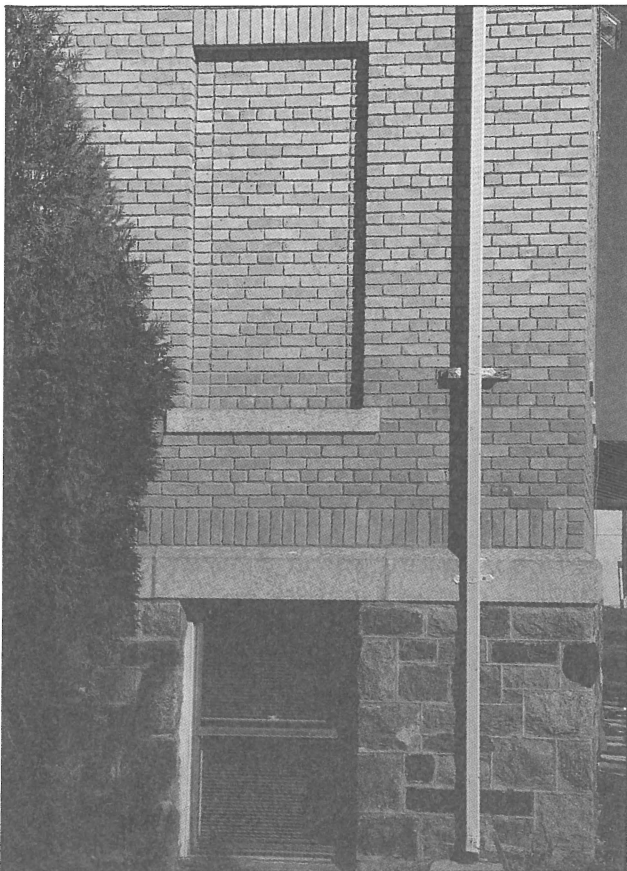
WHERE EXTERNAL CHANGES ARE APPROPRIATE, ENSURE THEY ARE SYMPATHETIC TO THE ORIGINAL CHARACTER.

During the course of a rehabilitation project, it might occasionally be necessary to change or upgrade the elements or features of the original building exterior. The following are typical reasons for such alterations:

- 1) Damage to, or deterioration of, the materials, features or details. This important issue is dealt with in considerable detail in Section **8.D. FIXING THE DETAILS**, pages 72-73.
- 2) To maintain the exterior materials. This will typically include repainting, following the original colour scheme. In a restoration project the paint would have to be made of original constituents and be applied as it was originally. In preservation and rehabilitation projects, it would be acceptable to use paint of modern constituents and to apply it with modern technologies.
- 3) To introduce a new use into the building. If a conservation project has followed the guidelines for use outlined in Section **4. USE** (pages 28-33), there will be a minimal impact on the exterior of a building. However, there will be cases where a new use requires new exterior conditions. Where a new use exceeds a building's space potential, it will be necessary to consider making an addition. This important subject is dealt with in considerable detail in the following section (**6.C. ADDITIONS**, pages 50-53). Where a new use is contained within the existing walls of the building, it is possible that internal requirements will require creating new window and door openings, or closing those openings. If it is necessary to create a new window or door opening:
 - i) Ensure that it is limited to side or back walls.
 - ii) Ensure that it is the same size as adjacent openings.
 - iii) Ensure that the spacing (the distance between windows or doors) mimics the original spacing.
 - iv) Ensure that the design of new windows and doors matches adjacent windows and doors.

If it is necessary to cover a window or door opening:

- i) Ensure that the location, size and framing devices are still clearly visible.
- ii) Cover the opening with materials that are sympathetic to the adjacent wall materials. For example, in a brick building, use bricks of a similar colour or materials that are the same colour as the surrounding bricks.
- iii) Recess the covering material to mimic the plane of the original window or door surface.
- iv) Retain window features such as framing, sills and any decorative hardware.



Some examples of external upgrades.

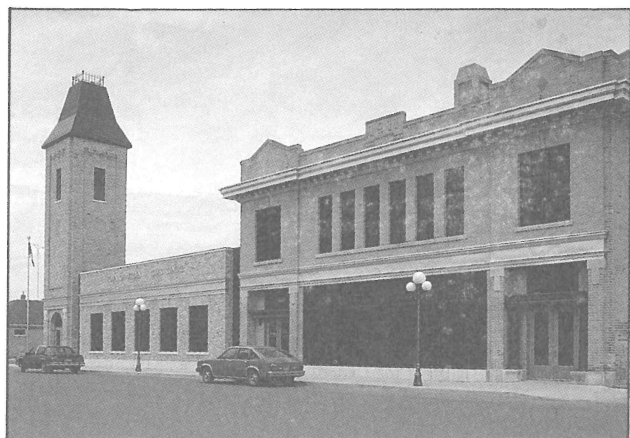
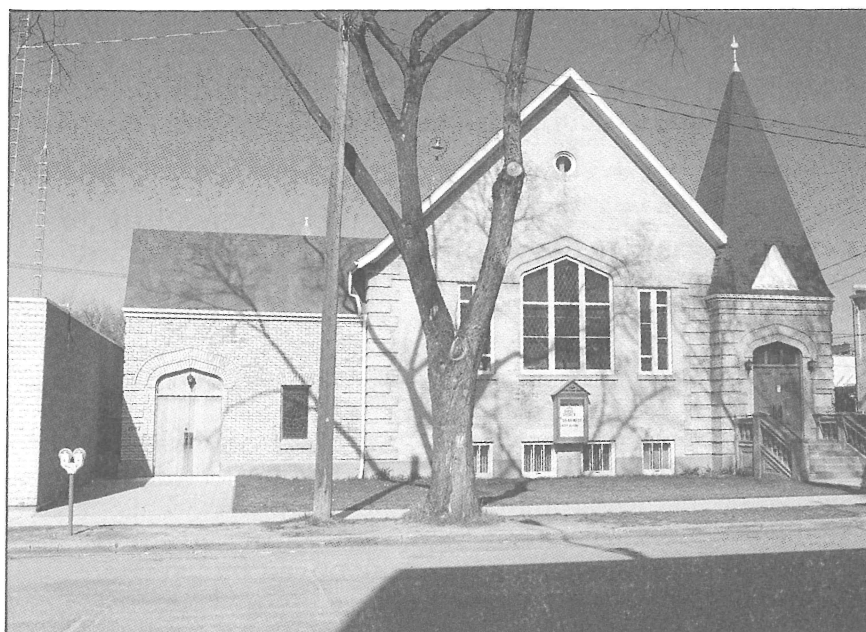
Top: the introduction of a new door is rendered sympathetic in this case by its location along the side of the building, and then by its placement within the structural bay system. **Left:** a window that had to be closed up is rendered sympathetic by the use of brick the same colour as the original and by its recession into the original window cavity. **Centre right:** a fire escape has been designed and painted to fit with the rest of the house.

6.C. ADDITIONS

ADDITIONS MADE TO A BUILDING SHOULD BE SENSITIVE TO THE ORIGINAL EXTERNAL CHARACTER.

Occasionally, during the course of a conservation project, it may be necessary to add to the original building. This situation will arise when a new use requires more space than the existing building contains. The design of appropriate additions is a complex task, but a key concept is that additions should not upstage or dominate the building. Moreover, clues to the appropriate design of a new addition can be found in the historic building itself. If it is necessary to construct an addition to the existing building the design should be based on the following criteria:

- 1) **Design.** The design of new additions should be sympathetic to the design of the original building. At the same time, the addition should be distinguishable from the historic building as a product of a different era.
- 2) **Addition Location.** In determining a location for the new addition, consider the style of the historic building and its historic pattern of growth. Respect the building entrance, exterior circulation pattern and public views of the building. Respect a building design that is symmetrical (one side of the building is the mirror image of the other side); the new addition should maintain the balance of such buildings. Determine the least-significant side of the historic building and, if possible, locate the addition there. Determine the location of earlier additions. Consider attaching new additions to previous ones, if possible.
- 3) **Building Height.** The original building should visually dominate the addition. Generally, the height of additions should be reasonably close to the height of the historic building, usually within 10-20%. Significantly higher additions can overwhelm the building.
- 4) **Building Mass.** Height, width and length determine the mass of a building. In general, the mass of the addition should be less than the building's mass in order to avoid having the building overpowered by the addition.
- 5) **Building Shape.** This is the relationship of building height to width. If these dimensions are the same, the building would be square. If the height was double that of the width, the building would be a tall rectangle (e.g., an office tower). Generally, the shape of the addition should be similar to that of the historic building.
- 6) **Facade Proportions.** This important consideration involves a number of issues. The addition should follow the visual combination of forms, elements and details that comprise the original. This will include things like window sizes and spacing, size and location of cornices and other horizontal features such as brick belt courses.
- 7) **Connections.** The addition should cause minimal damage to the significant features of the building at the point of attachment.
- 8) **Features & Details.** The addition should not obscure the significant architectural features of the original building.
- 9) **Original Design.** Was the building designed to accommodate additions? Many schools in Manitoba were designed to be enlarged when population demands required an addition. And some large commercial buildings were designed to accept vertical extensions when financial circumstances warranted such additions.

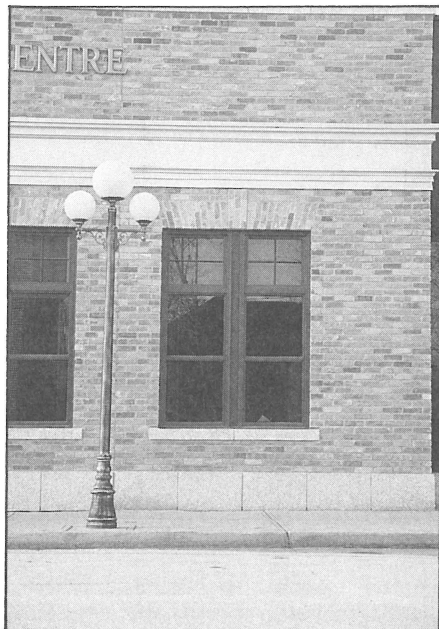
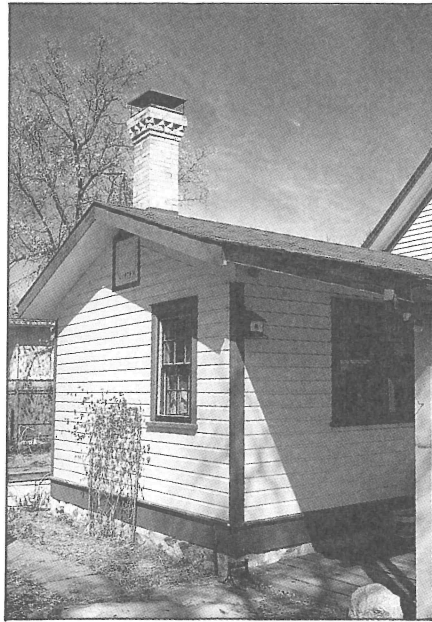
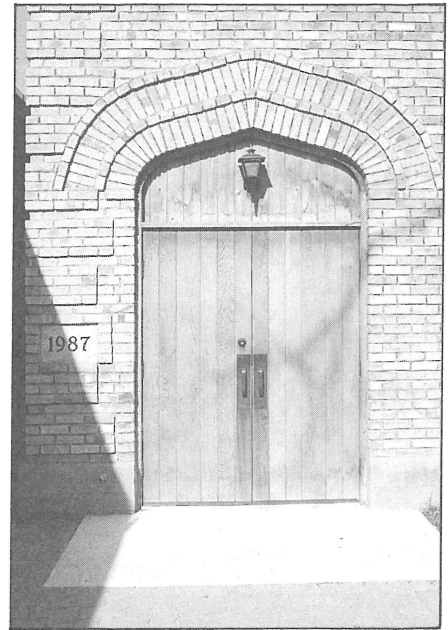
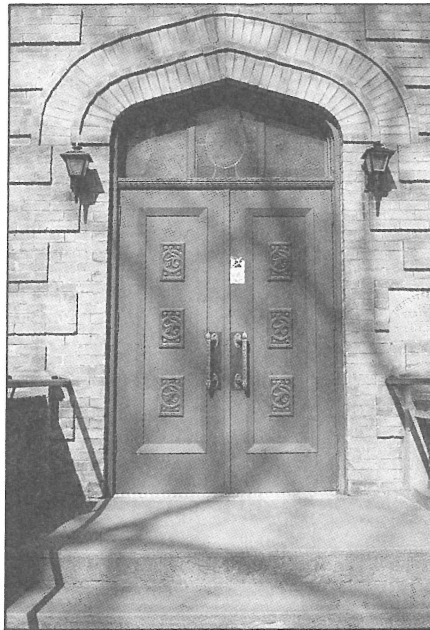


Some good examples of sympathetic additions. **Top:** the addition on the left side of this church is a good fit. **Centre:** a low kitchen addition on the left is sympathetically treated. **Bottom left:** the structure on the right is the original; the adjoining low building and the tower are additions that actually recall an earlier building.

6.C. ADDITIONS (CONTINUED)

When the form of the addition is established, next consider the details of the addition by again referring to the historic building for clues. Attention to the following design criteria will be a useful guide:

- 1) **Roof.** In general, the type of roof (e.g., flat, gable, hip) should be sympathetic to that on the historic building. For example, in the case of gable, hip or mansard roofs, the pitch or slope should also be the same.
- 2) **Materials.** While it is not necessary to use the same material as is on the historic building, a material sympathetic in its colour, texture, quality and dimensions should be considered. Generally, new materials should be "quieter" in colour and texture.
- 3) **Windows and Doors.** Window proportions (height and width) should be similar to windows on the building. Similarly, the spacing of window openings (the distance between windows, both vertically and horizontally) should be similar. This helps to extend the rhythm or sequence of window-wall-window-wall, etc. from the building to the addition. This continuity will be further enhanced by using a window type (e.g., wood, double-hung) sympathetic to those on the historic building. Door proportions and design should be similar to those on the building.
- 4) **Features & Details.** Continuity between the building and addition can be enhanced by continuing any horizontal 'banding' elements such as belt courses of brick or stone, or decorative cornices.



Details of the three additions on page 51. **Top left and right:** the original door and the new door of the church; the new door mimics the arch shape of the original, and the brickwork is almost identical; even the lamp is the same. **Centre right:** wood siding, colour choices and detailed chimney design effectively tie the addition to the original. **Lower left:** brick treatment, cornice and window design complement the original building.

6.D. RECONSTRUCTION

AVOID UNDOCUMENTED RECONSTRUCTION OF BUILDINGS THAT ARE BADLY DAMAGED OR DETERIORATED; INSTEAD, SENSITIVELY INTERPRET THE REMAINS.

In very rare cases a conservation project may focus on a building that has been severely damaged or one that is badly deteriorated. (For those cases where the subject of interest is a badly damaged or deteriorated building feature -- a porch for example -- refer to Section 8.E. **ADDING FEATURES & DETAILS**, pages 74-75.) In such cases it is important to remember that a good conservation project will rest on solid documentary evidence of the building's original appearance (inside and out) and its structure. And a good conservation project will ensure that as much of the original building fabric will be retained as possible.

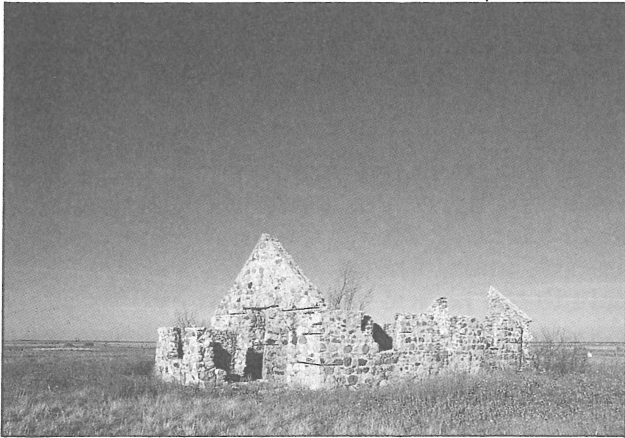
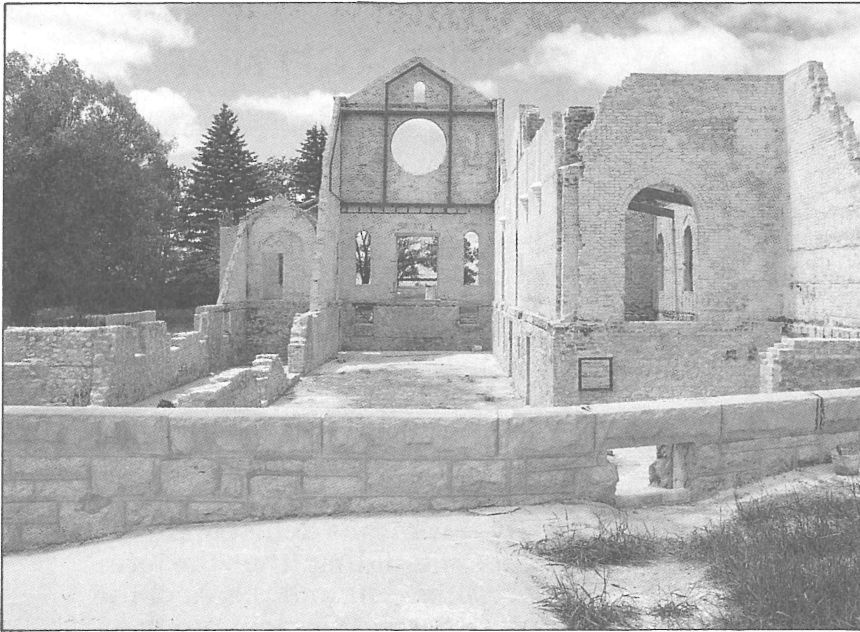
Clearly, these principles will be compromised where the conservation project deals with a building in a ruined state. The extensive records that would be needed to undertake a thorough project likely will not have been accumulated by past occupants. It would be nearly impossible to recreate the original building without those records. And even if they did exist, so much of the original building fabric will have been lost that any attempt to recreate the original building will result in only a reminder of the building. The new building would have no historical merit of its own.

While it is not recommended that a severely ruined building, in which only the exterior walls remain, be the subject of a rebuilding project, it is still possible to undertake a comprehensive, meaningful conservation of the remaining parts of the building. It should be recognized at the outset, however, that this approach can involve a considerable commitment for ongoing maintenance. In fact, maintenance for building remains are often more complicated than for a conventional building, where previously protected surfaces (such as interior walls) are now exposed to the elements and subject to increased deterioration as a result. The recommended approach is to **reconstruct the idea** of the building. One common method of reconstruction, which assures the interested observer that the ruins are historically correct, focuses on the following issues:

- 1) Preserving any physical remains (foundations, ruins).
- 2) Restoring only missing parts of the building that are well documented.
- 3) Introducing built representations of those parts of the building only if they are constructed to clearly express their modern manufacture.

Where parts of the building are missing and not sufficiently documented, it is still possible to conserve the ruins, as well as providing an interpretative device to convey historical information to an observer. The means will vary depending on the aspect of the building to be interpreted, but the following suggestions will provide direction:

- 1) If the building form is known but not the exterior materials or finishes, the form could be represented by a "ghost structure," signifying the building's original shape.
- 2) If the original foundation or artifacts contained in a building exist, but there is little or no record of the actual building, a contemporary enclosure, with symbolic reference to the past, might be the answer. The selected interpretative device should be sympathetic to the preserved or restored portions of the building, but be clearly distinguishable as a product of a different era.



Two options for reconstruction. **Top left:** an old monastery that was destroyed by fire gets a new lease on life with the careful preservation of the ruins. **Bottom:** it will be possible to preserve the ruins of this old stone church, but because the wall surfaces are exposed to the elements, it will be necessary to carry out frequent application of mortar to protect the wall tops, as well as regular repair to the stonework.

6.E. FACADISM

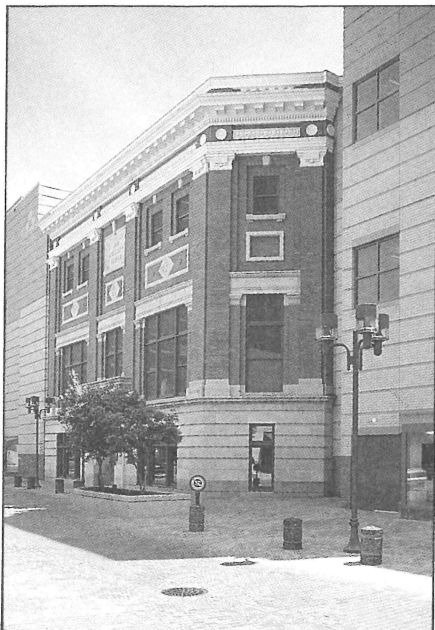
CONSERVE BUILDINGS AS A WHOLE AND NOT AS COMPONENTS, ELEMENTS OR FACADES.

Buildings are complex entities, with many considerations entering the design process. Often, however, the focus of a building is on the exterior. This attention is understandable, for it is the exterior faces that are typically used to describe a building. The consequence of this focus, however, is lack of recognition of the other important quality that describes a building: its interior spaces. A building without its interior is only a shell.

In recent years there has been a trend to "conserve" buildings by saving only parts of the exterior. Partial retention involves demolishing those parts of the building that are structurally unsound or economically difficult to upgrade and reuse, while saving those parts that are considered architecturally important. Usually this means demolishing everything except the decorative outside walls or facades of the building (thus the term "facadism"). More dramatic are those cases where only decorative bits and pieces of the building (called "shards") are retained. Partial retention projects result in no more than two-dimensional postcard memories of the original building.

Occasionally, however, within the economic limits of a conversion project, it is just not possible to maintain the whole building. The only conditions under which partial retention might be successful will meet the following criteria:

- 1) All visible facades are conserved intact and in their original location.
- 2) The new structure behind the facades is similar to the original structure, such that a relationship of the new interior spaces (e.g., rooms, halls) to the original facade elements (e.g., windows, doors, column lines) is maintained.
- 3) The scale of the new structure is appropriate to the facade (e.g., similar building, height and floor areas).
- 4) Exterior features of the historic facade are used as intended (e.g., doors and windows are functional, opening into appropriate interior spaces).



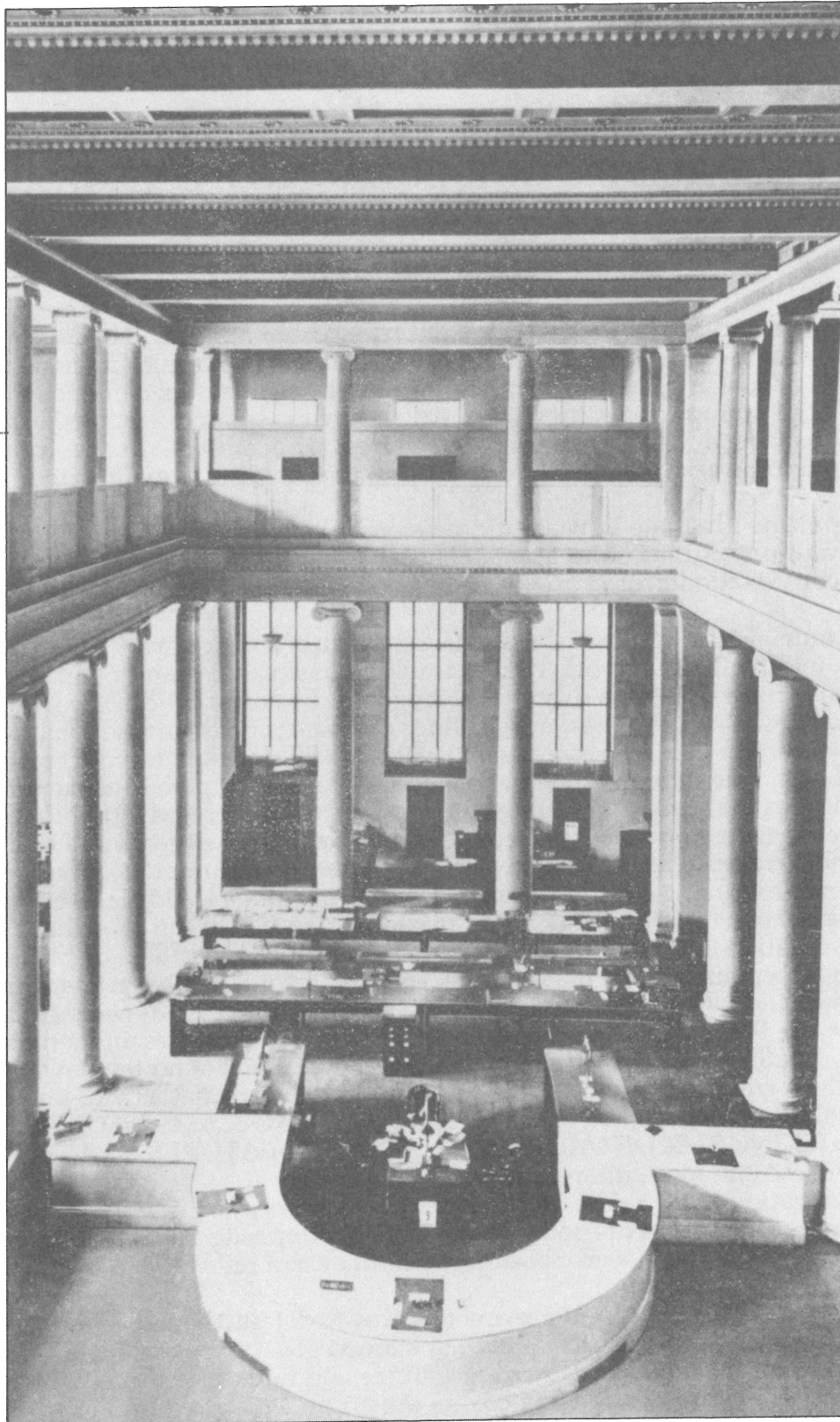
The facade of an old fraternal hall (shown in its original location, **top**) has been saved, in this case by moving it to one side of a new shopping centre (**bottom**). The building's visual delight has been retained, but its connection to its original neighbourhood has been lost.

7. INTERIOR

Like the exterior, a building's interior can be said to cover and protect the structure. And like the exterior, the interior is a complex combination of characteristics, in this case focused on rooms and spaces, that are defined by their use. The rooms and spaces can be described in terms of their size, wall, ceiling and floor treatments, window and door locations and any notable features and details.

In the course of a building conservation project, the subject of interior can be discussed with reference to the following issues:

- 7.A. Original Interior
- 7.B. New Interior



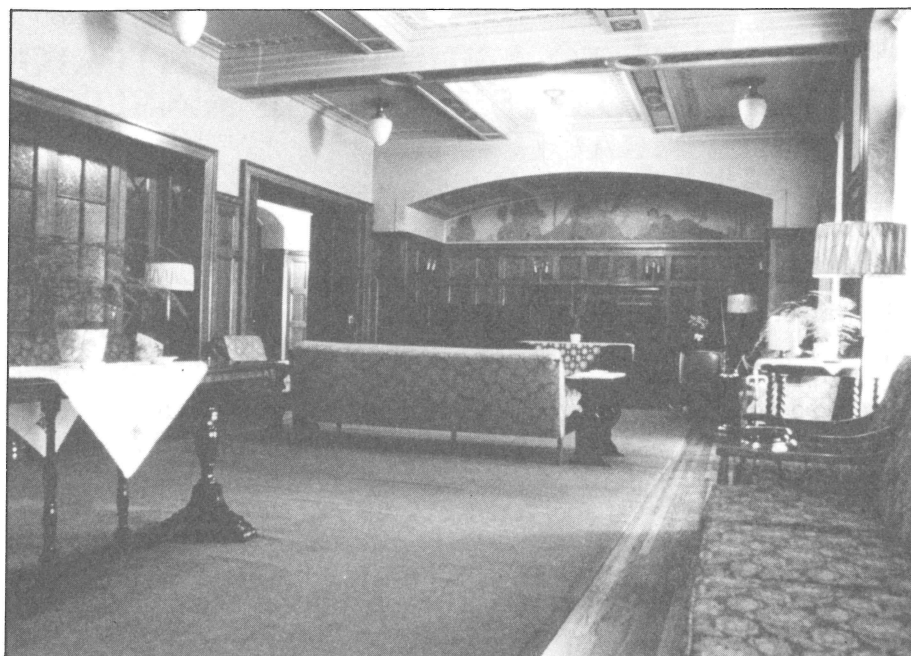
7.A. ORIGINAL INTERIOR

WHEREVER POSSIBLE, RETAIN ALL THE ELEMENTS AND QUALITIES OF A BUILDING'S ORIGINAL INTERNAL CHARACTER.

The interior spaces and rooms are an important feature of a building's history. Spaces and rooms bear the imprint of previous occupants. It is inside a building that lives were led and decisions made. You can discern what were popular living arrangements for the era (small kitchens and large dining rooms, for example) and what were popular finishes and details (wooden wainscotting and ornate brass light fixtures, for example). **In a restoration project, it is necessary that the original interior character of the building is maintained.**

The images opposite illustrate how a building's original interior has been the subject of considerable, and unfortunate, alterations. The reasons why these changes are unacceptable in a building conservation project are discussed below, under four key qualities of interior.

- 1) **Volume.** This describes a basic characteristic of a space or room: its height, length and width. In the hypothetical example opposite, the grand open space has been greatly reduced with a dropped ceiling and the construction of partition walls.
- 2) **Materials.** What are the walls, ceilings and floors made of and what colours are they? In an older house, walls and ceilings will typically be composed of plaster and lath. The floors will often be wood, of oak, fir or pine construction. In public buildings the walls and ceilings may also be of plaster and lath, but frequently are covered with stone or wood siding. Floors will be of either wood or some sort of stone. In a pure restoration project, it is common to undertake changes to the interior following exactly the example of the original building. For wall repairs, for example, this will mean using plaster and lath. On the other hand, in preservation and rehabilitation projects, it is quite acceptable only to suggest the skin appearance of the materials. Therefore, the use of plasterboard in place of plaster and lath would still convey the sense of the original wall. In the example opposite the materials of the dropped ceiling (acoustic tiles and a metal frame) are incompatible with the original materials in the room. And the new walls -- of modern wood panelling sheets -- are similarly unsympathetic to the wood panelling of the original space. (Sections **8.C. PROBLEMS WITH THE DETAILS**, **8.D. FIXING THE DETAILS** and **8.E. ADDING FEATURES & DETAILS**, pages 70-75, contain more information on this subject.)
- 3) **Fenestration.** This refers to the size, shape and location of window and door openings in a space or room. In the example opposite, the fine windows on the left-hand side have been closed in without even a reference to the original openings.
- 4) **Features & Details.** Are there any features or details that enrich the interior? Features are things like a staircase or stained glass window. Details include things like baseboards, plaster mouldings, lamps and light switches. In the example opposite, the dropped ceiling covers the original ornate ceiling, and the new walls obscure views of the woodwork and murals. (Sections **8.C. PROBLEMS WITH THE DETAILS**, **8.D. FIXING THE DETAILS** and **8.E. ADDING FEATURES & DETAILS**, pages 70-75, contain more information on this subject.)



The image above shows a nurses' residence with its original interior intact. In the hypothetical situation below the interior has suffered from the introduction of new, unsympathetic internal changes. The discussion on the opposite page highlights the reasons why, in a building conservation project, this new interior is inappropriate.



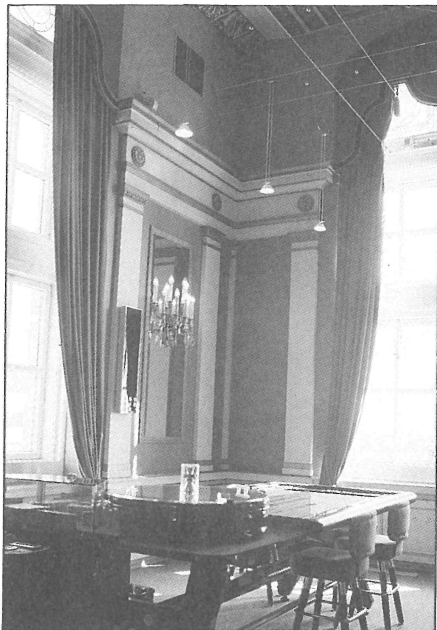
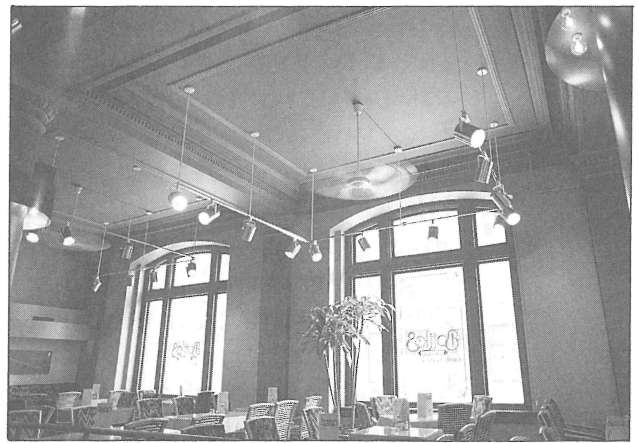
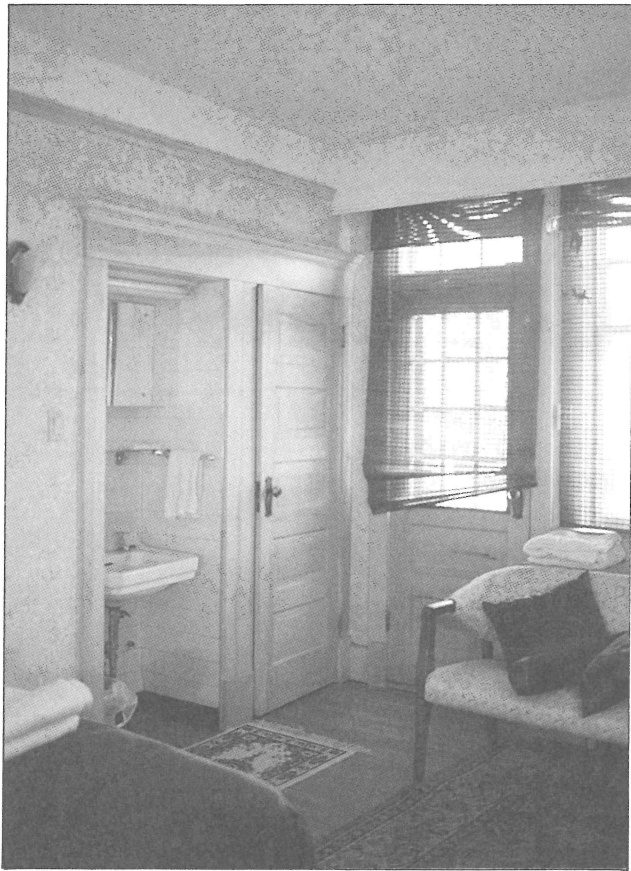
7.B. NEW INTERIOR

CHANGES MADE TO A BUILDING'S INTERIOR SPACES AND ROOMS SHOULD BE SENSITIVE TO THE ORIGINAL CHARACTER.

In the course of a conservation project, it may be necessary to change or upgrade the elements of the original building interior. The following are typical reasons for such changes or upgrades:

- 1) Damage to, or deterioration of, the materials, features or details. This important issue is dealt with in considerable detail in Sections **8.C. PROBLEMS WITH THE DETAILS** and **8.D. FIXING THE DETAILS**, pages 70-73.
- 2) Maintenance of the interior materials. This will typically include repainting, following the original colour scheme. In a restoration project the paint would have to be made of original constituents and be applied as it was originally. In preservation and rehabilitation projects, it would be acceptable to use paint of modern constituents and to apply it with modern technologies.
- 3) The introduction of a new use into the building. If a conservation project has followed the guidelines for use outlined in Section **4. USE** (pages 28-33), there will be a minimal impact on the interior of a building. There will, however, be cases where a new use requires new interior conditions. It is possible that internal requirements will necessitate reconfiguration of spaces and rooms, as well as the creation of new window and door openings -- or the closing of those openings. If it is necessary to reconfigure spaces and rooms, the design should be based on the following guidelines:
 - i) Attempt to cluster new uses, especially uses that require external expression (a door or a vent for example) in an area that will have minimal effects on important external faces.
 - ii) Ensure that rooms and spaces retain their spatial character. This will mean that ceilings should not be covered with dropped panels, floors should not be raised, nor should walls be removed. If it is necessary to subdivide a large space, use low glass dividers that do not obscure important features. If lighting in the original ceiling is inadequate, use task lights (light fixtures, such as desk lamps, that provide adequate work light at the work surface) that avoid the need for unsightly overhead lights, which would obscure the ceiling. You might also use uplights (light fixtures that project their light upwards) to illuminate the original decorative ceiling. This not only provides general lighting to the space but enhances the appearance of the ceiling feature. If a ceiling must be dropped, ensure that this will not adversely affect the exterior appearance of the building. If necessary, create pockets where the ceiling meets the windows.

If it is necessary to create new window or door openings, or to cover openings, refer to the guidelines in Section **6.B. EXTERNAL UPGRADES**, pages 48-49. These will provide suggestions for limiting the impact on the interior fabric.



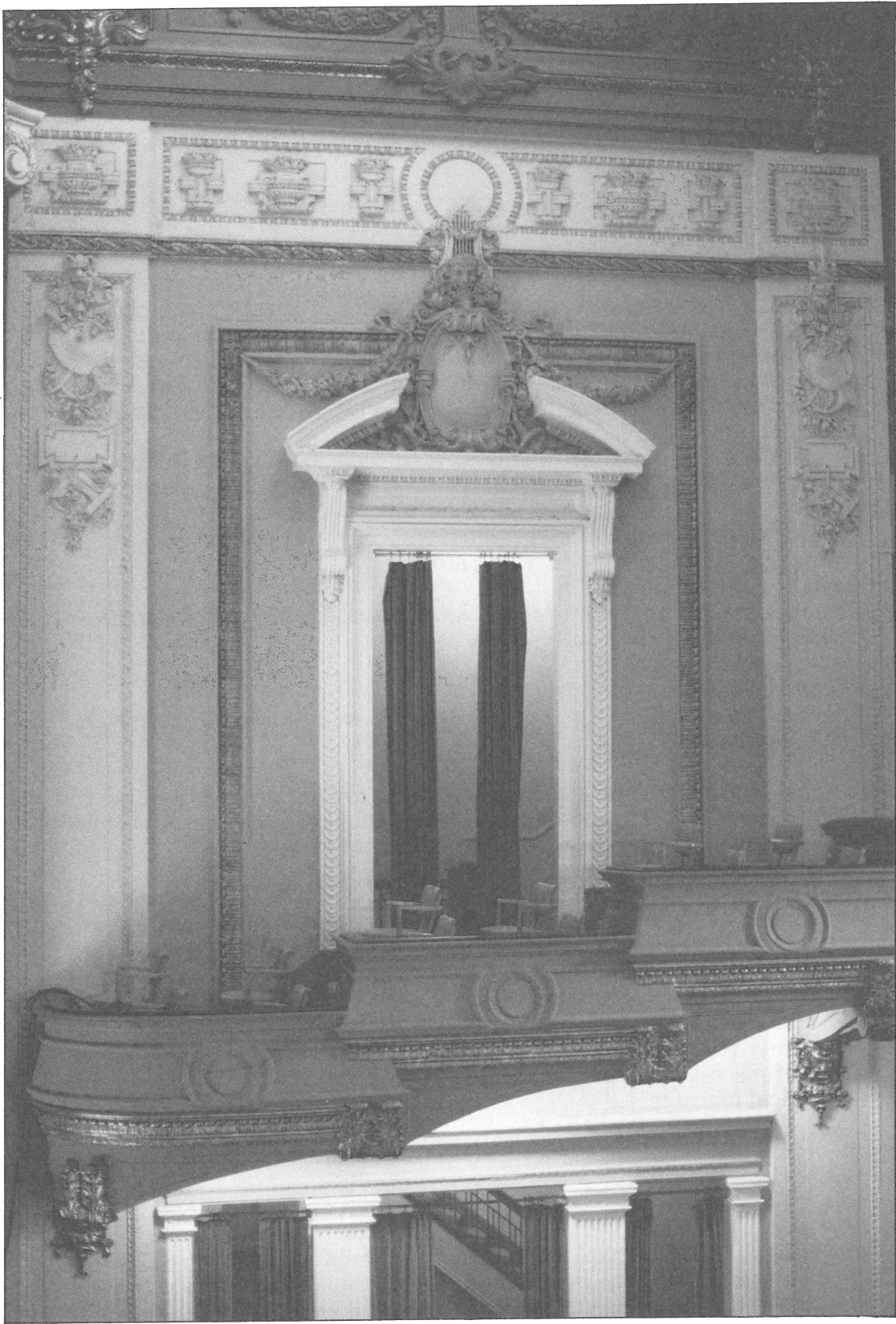
Some examples of sensitive internal treatment with the introduction of a new use. **Top left:** the clever introduction of a sink into an old closet limits the effects of changing the use from a family home to a bed and breakfast facility. **Above right and bottom:** suspended lighting respects the original architectural details in these two interiors, one an old insurance office, the other an old hotel ballroom.

8. FEATURES & DETAILS

The features and details on the exterior and interior of a building are what often creates its visual delight. Features are defined as things like windows and doors and their respective decorative attributes, as well as larger items, like a porch or, inside, a staircase. Features also include the building's siding, roofing and, inside, the wall finishes. Details are those components that make up a feature.

In the course of a building conservation project, the subject of features and details can be discussed with reference to the following issues:

- 8.A. What to Keep
- 8.B. Recording the Changes
- 8.C. Problems with the Details
- 8.D. Fixing the Details
- 8.E. Adding Features & Details



8.A. WHAT TO KEEP

KEEP ALL OF A BUILDING'S SPECIAL FEATURES AND DETAILS.

Maintaining a building's original features and details is usually the one area where there is little debate about the merits of retention versus change. Features and details are the most commonly conserved components in a conservation project. It is the features and details that are clearly the source of delight. It would be unthinkable to change or cover a beautiful stained-glass window, or to remove an elegantly detailed verandah. These are the clearest, most prized reflections of early design sensibilities and the skills of earlier craftsmen.

External features can be grouped according to their scale and impact on the overall appearance of the building. Those external features that have the greatest impact at a distance are:

- wall materials (usually brick, stone, wood siding)
- original roof material (e.g., wood shingles)
- porches and verandahs

Features of smaller scale that are noticed at closer proximity to the building are:

- window sashes, glass and frames
- doors and door frames
- decorative chimneys
- decorative roof trim (e.g., bargeboard, brackets, parapets, cresting)
- lighting features

Likewise, internal features can be grouped according to their scale and impact on the overall appearance of the building. Those internal features that have the greatest impact are:

- original wall finishes (e.g., wallpaper, murals)
- floor finish materials (e.g., wood floors, tiles)
- staircases

Features of smaller scale that are noticed at closer proximity to a room are:

- interior window frames
- interior doors and frames
- wood and plaster mouldings
- fireplaces, mantels and other built-in elements
- door and window hardware
- hand-finished features (e.g., grained wood finish)
- electrical features

A discussion of any of a building's features and details can be focused on the following issues:

- 1) **Material.** What is the detail made of: wood? metal? glass?
- 2) **Design.** Has the detail been the object of a designer's consideration? For example, a brick has few design features; a spindle in a staircase has been turned on a lathe to produce a fanciful profile.
- 3) **Location.** Where is the detail located within the feature: at the top, in the middle or at the bottom?
- 4) **Connections.** How is the detail connected to other details in the feature? For example, floor boards are connected to the subfloor with hidden nails, while the hinges and even the screws that connect a door to its frame are often visible, and very decorative.



This collage of features and details highlights the special parts of some fine Manitoba buildings.

8.B. RECORDING THE CHANGES

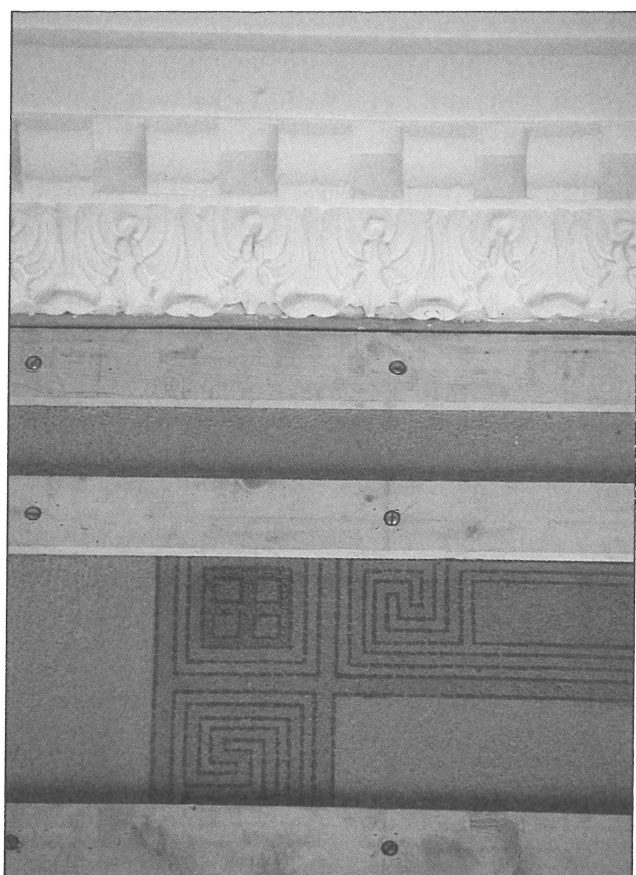
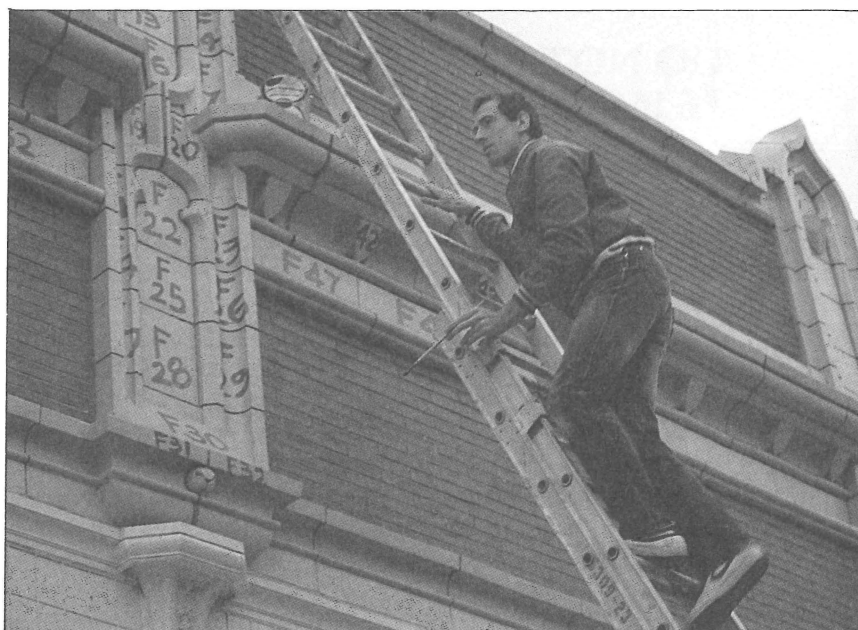
MAINTAIN A COMPREHENSIVE RECORD OF FEATURES AND DETAILS COVERED OR REMOVED DURING THE COURSE OF A CONSERVATION PROJECT.

In certain conservation projects it will occasionally be necessary to remove or cover original architectural features and details. A **restoration project**, which is an accurate, and rigorous, portrayal of a building at a particular point in its history, often requires removal of materials that were added to the building after that point. During the course of a **rehabilitation project**, contemporary requirements may necessitate that a feature (like a floor) be covered (with a wall-to-wall carpet, for example). It is always better to cover than to remove a feature or detail; that way, it can always be uncovered at a future date. The nature of a **preservation project**, in which as much existing material as possible is saved, dictates that details and features not be covered or removed.

In cases where features and details are covered or removed, it is extremely important that these materials, and the removal or concealing processes involved, be carefully recorded. Because this stage of a restoration project is very important, trained professionals usually undertake the recording work. In a rehabilitation it is more likely that the project architect will do it. Whether material is covered or removed, the same recording process should be followed:

- 1) Before the work begins, take photographs that show the feature or detail in context.
- 2) If the project involves removal of material, produce a set of "as-found" drawings (see Section 2.A. **A BUILDING RECORD**, page 16, point 5) that record the feature or detail in context.
- 3) Before the work begins, take detailed photographs of those areas of the building that may be affected by covering or removing the feature or detail.
- 4) Before the work begins, take detailed photographs of the feature or detail. If the project involves removal of material, produce a set of technical drawings of the feature or detail.
- 5) Take photographs showing the feature or detail as the work progresses.
- 6) If the project involves removal of material, take samples (e.g., wallpaper, paint chips, moulding fragments) and store them in a safe place.
- 7) Collect the photographs and drawings in a binder and store in a safe but accessible place (building manager's office, project architect's office and local archives).

These records will be invaluable for anyone involved with work on a building in which material has been covered or removed. Where material has been covered, records will help if it is decided to reveal and restore the hidden features as part of a future conservation project. In the case of a restoration project, the records will provide a synopsis of every stage of the project. They can be critical in those rare cases where new evidence suggests that a feature or detail removed in the initial restoration project should actually have been saved. The records will ensure that the feature or detail is recreated with great accuracy (see Section 8.E. **ADDING FEATURES & DETAILS**, pages 74-75).



Top: in this complex case, building parts are carefully numbered and coded before they are removed. **Bottom:** before this decorative ceiling stencilling is covered with acoustic tiles, photographs are taken to ensure that future owners know of its existence.

8.C. PROBLEMS WITH THE DETAILS

DO NOT IGNORE A FAILED FEATURE OR DETAIL: FIX IT IMMEDIATELY.

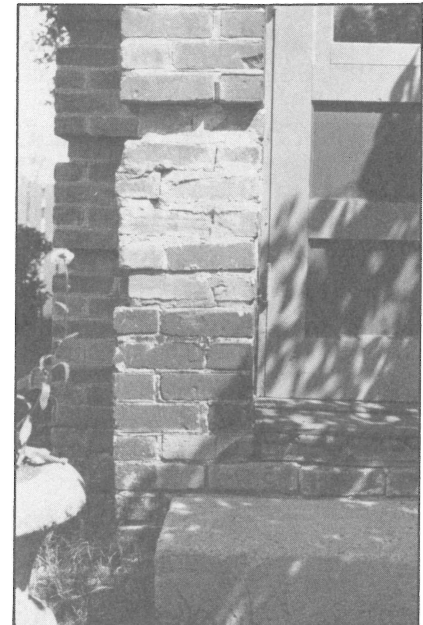
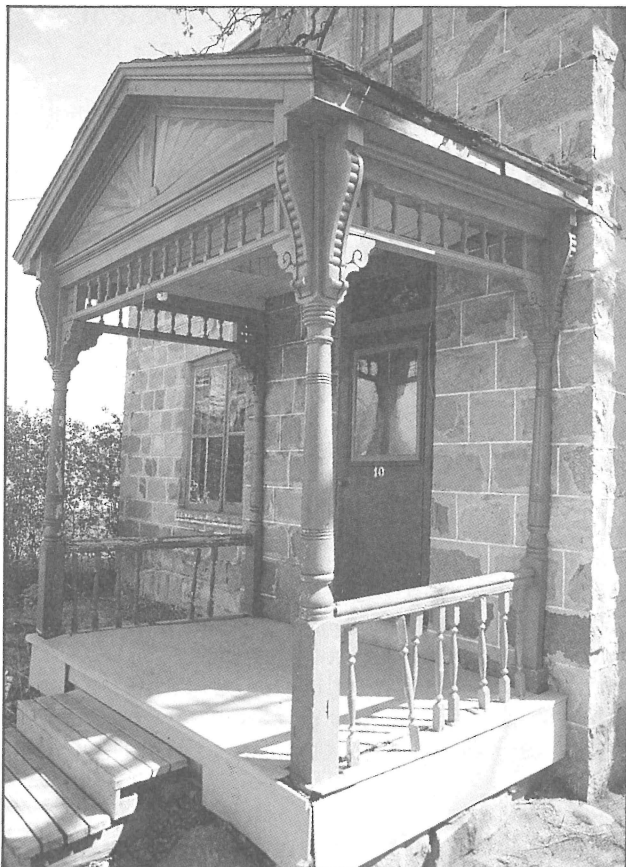
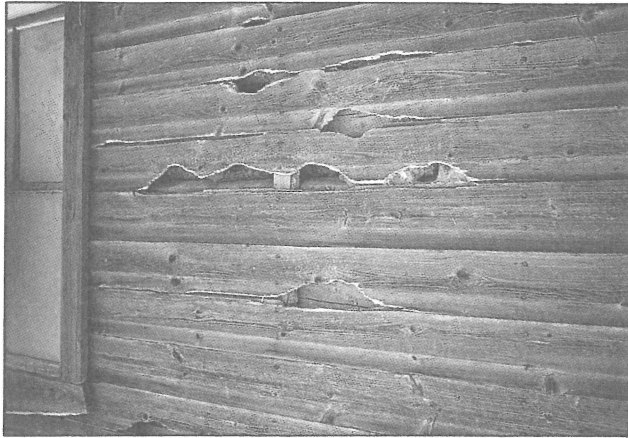
All features and details on a building are susceptible to damage from vandalism and deterioration from our climate and the stress of everyday use (in the case of historic buildings, the stress from one hundred years of everyday use can be considerable). Depending on the amount of damage or deterioration of a feature or detail, you will be able to undertake one of the following corrective procedures:

- 1) **REPAIRS.** Typically these will be carried out if the problem is minor. **Repairing features and details is always preferable where material has been damaged or is deteriorated. This will ensure that most of the original historic building material is saved.** A typical repairable fault in a feature (a brick fireplace, for example) is a crack. A typical repairable fault with a detail (a wooden column, for example) involves minor, localized wood rot. Repairs will often involve splicing new material into the existing fabric, or adding modern epoxies to fill and secure cracks and holes.
- 2) **REPLACEMENT.** This involves completely removing a feature or detail and introducing new materials. These situations typically result from considerable damage or deterioration. Some problems in certain details -- like rotten eavestroughs, for example -- can have more serious consequences, eventually leading to problems with the structure (see Section 5.B. **STRUCTURAL PROBLEMS**, pages 38-39). It is not recommended that significant problems be rectified with modern materials; their longevity has not been tested like wood, brick and stone has.

While the two procedures are distinct, the process involved in repair or replacement, whether to a feature or a detail, follows the same steps:

- 1) removing damaged or deteriorated sections
- 2) adding new material

Both of these procedures can be carried out according to two quite distinct approaches: replication or sympathetic design. The guidelines for undertaking a replication or a sympathetic design are outlined next, in Section 8.D. **FIXING THE DETAILS**, pages 72-73.



Some typical problems with features and details. **Top left:** badly deteriorated wall boards, sections of which will have to be replaced. **Top right:** a porch detail in which the foundation has failed, with consequent deterioration of the wooden sill boards and separation of the upper porch members; the sill will likely have to be replaced, but the upper members can be repaired. **Above:** weathered and cracked brickwork that can be repaired with new mortar. **Left:** another porch, this one with missing and damaged spindles. Some of them will have to be replaced, others just refastened.

8.D. FIXING THE DETAILS

DETERMINE WHETHER A FAILED DETAIL OR EVEN A WHOLE FEATURE MERITS REPLICATION OR A SYMPATHETIC DESIGN.

Repairing or replacing damaged or deteriorated features and details (outlined in Section 8.C. **PROBLEMS WITH THE DETAILS**, pages 70-71) involves two distinct processes: replication or sympathetic design. A third option -- buying features or details from commercial establishments -- is discussed in the next section, 8.E. **ADDING FEATURES & DETAILS**.

Replication is the exact recreation of a damaged or deteriorated feature or detail. **Replication is the only remedial choice in a restoration project where it is critical that the authenticity of the original be maintained.** **Sympathetic design** is an attempt to suggest the appearance of the original. It is less rigorous than replication, allowing more latitude for interpretation. While replication or sympathetic design of a detail or feature involves quite different levels of veracity, both attend to the same issues.

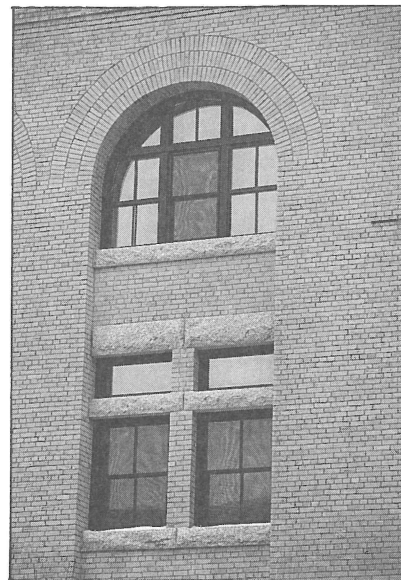
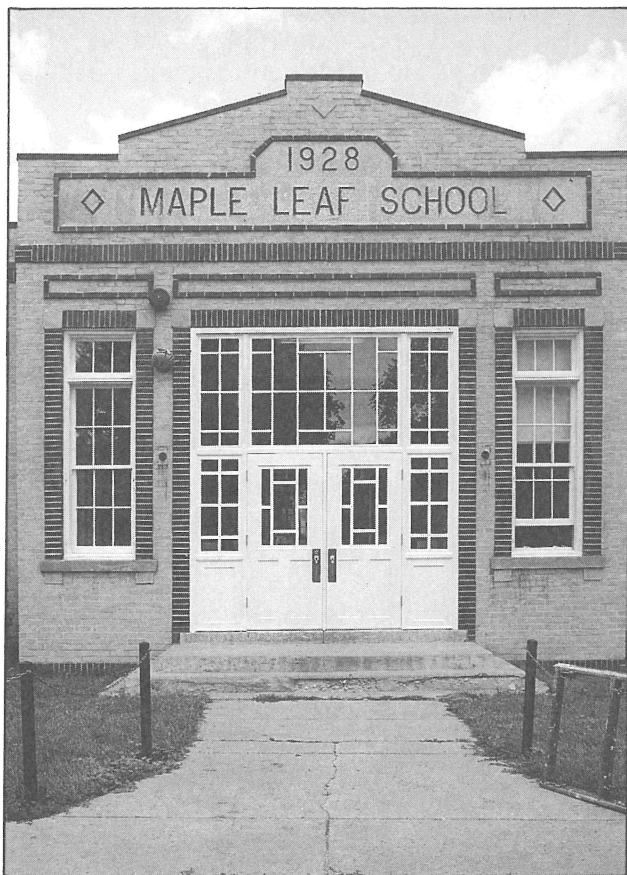
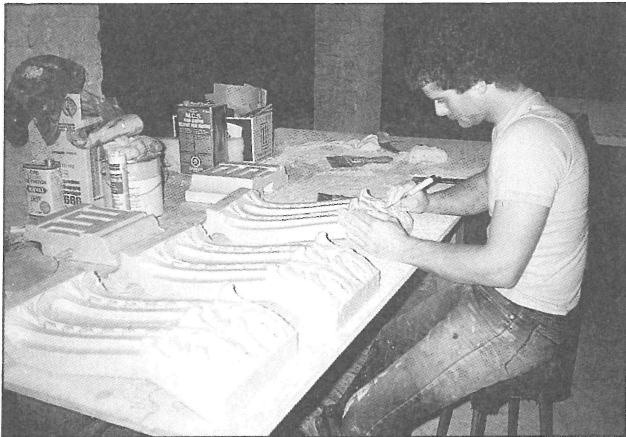
REPLICATION PROCEDURES:

- 1) **Materials & Surface.** The materials should be exactly the same as the original. The kind of wood, the constituents of brick or mortar, etc., must be exactly the same as the detail or feature that is being repaired or replaced. And the colour must be the same as the original.
- 2) **Fabrication.** The material must be fabricated in exactly the same way. The tools and procedures used to produce the original detail should be used to create the new detail.
- 3) **Design.** The design qualities (shapes and profiles) should match exactly the design qualities of the original.
- 4) **Composition.** The new materials should be arranged exactly as they were in the original.
- 5) **Connections.** The procedures used to connect details should duplicate exactly the procedures used in the original.

It is clear from these points that a replication is very exacting and complicated. Not only is it necessary to locate exact replicas of the materials, but often craft skills are required that typically are not available in the late 20th century. Therefore it is most common for these demanding procedures to be carried out only in a pure restoration project. In a preservation or rehabilitation project, it is more common to rely on the following sympathetic design procedures:

SYMPATHETIC DESIGN PROCEDURES:

- 1) **Materials & Surface.** The materials and surface suggest the basic qualities of the original. It may be possible to use a different kind of wood or new constituents to create bricks and mortar. The colour should be the same as the original.
- 2) **Fabrication.** The material can be fabricated in a way that recalls the original. Modern tools and procedures can be used to produce the new detail.
- 3) **Design.** The design qualities (shapes and profiles) will suggest the original design qualities.
- 4) **Composition.** Materials are arranged to recall the original composition.
- 5) **Connections.** The procedures used to connect details will suggest the procedures used in the original.



Some replications of details. **Top left:** intricate copies of original plasterwork. **Top right:** the careful recreation of a straw roof on an old Ukrainian house. **Lower left and right:** new windows in two historic buildings. The windows in the historic school on the left are replicated; the original framing materials (wood), shape and size of those materials, window patterns and hardware have all been carefully reproduced. The windows in the old warehouse on the right are sympathetic designs; the original glazing configuration has been retained, as has the support material design, but the actual support materials are metal and modern, clear, gas-filled thermopane glass units have been used for energy efficiency.

8.E. ADDING FEATURES & DETAILS

ANY ATTEMPT TO ADD A MISSING FEATURE OR DETAIL SHOULD RELY ON DOCUMENTARY EVIDENCE.

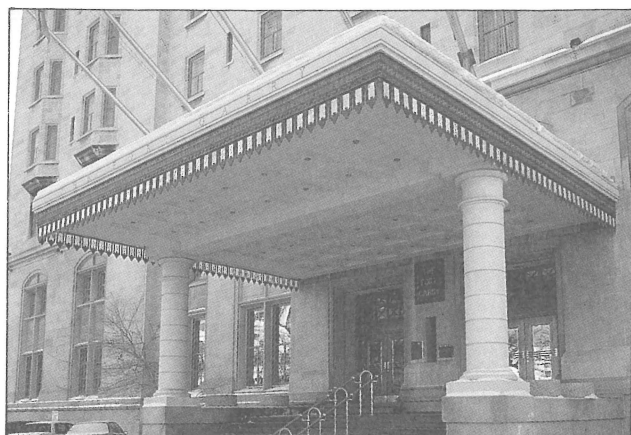
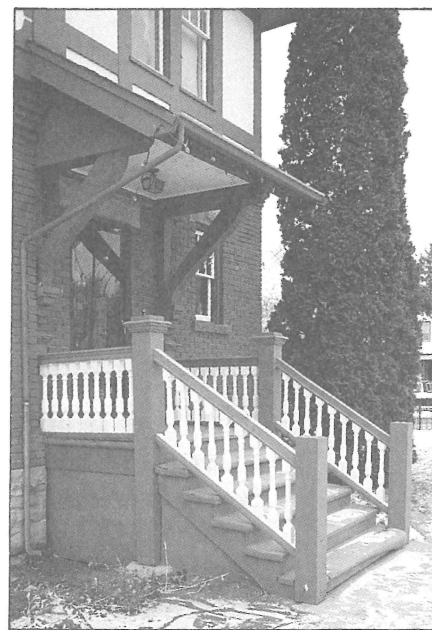
In a conservation project, a feature or detail may be very badly damaged or deteriorated. Or a feature or detail known to have once existed may have been removed. For those instances where a new sign is to be added, or where a storefront is to be redesigned, reference should be made to Section **9.B. NEW ELEMENTS**, pages 80-81. In the first two cases, the feature or detail may be considered so important that replacement is contemplated. In many cases, where a detail is the object of attention, (a window or baseboard, for example), nearby and adjacent details will suggest obvious design solutions. In other cases, where the object of attention is a unique detail, the process can be more complicated. For example, physical evidence (paint marks, nail holes, for example) or old photographic evidence may suggest that a porch once graced the entrance to a house. Two levels of detail will have to be considered for replacing this original feature. If your project is a pure **restoration**, it will be necessary to:

- 1) Collect original drawings of the feature or detail, prepared by the designer/architect. If these are not available, the restoration feature will be only conjectural; even a series of photographs cannot show how connections were made.
- 2) Undertake **replication** of all components of the feature. See the guidelines for replication in Section **8.D. FIXING THE DETAILS**, pages 72-73.

If the project is a **preservation or rehabilitation**, it will be necessary to:

- 1) Obtain historic photographs that clearly illustrate the feature or detail.
- 2) Carefully examine physical evidence at the building site (e.g., paint marks, nail holes, wear marks, foundation remnants) to determine the general character of the feature or detail.
- 3) Interview people who occupied the building or are familiar with the missing feature or detail when it still existed.
- 4) Undertake a **sympathetic design** of the feature or detail. See the guidelines for sympathetic design in Section **8.D. FIXING THE DETAILS**, pages 72-73.

For preservation and rehabilitation projects, it also may be possible to locate features and details of a sympathetic nature from commercial establishments. Salvage stores often stock architectural materials that may be of use in conservation projects. However, it is imperative that the replacement feature or detail conform as closely as possible to points 3), 4) and 5) of Sympathetic Design Procedures outlined in Section **8.D. FIXING THE DETAILS**, pages 72-73.



Some new features on old buildings.
Top left: a carefully replicated porch, created with reference to historical documents. **Top right:** a modest new staircase is a sympathetic design. **Centre left:** the design of a grand new canopy is sympathetic, based on the original. **Bottom left:** a wrought-iron fence of sympathetic design.

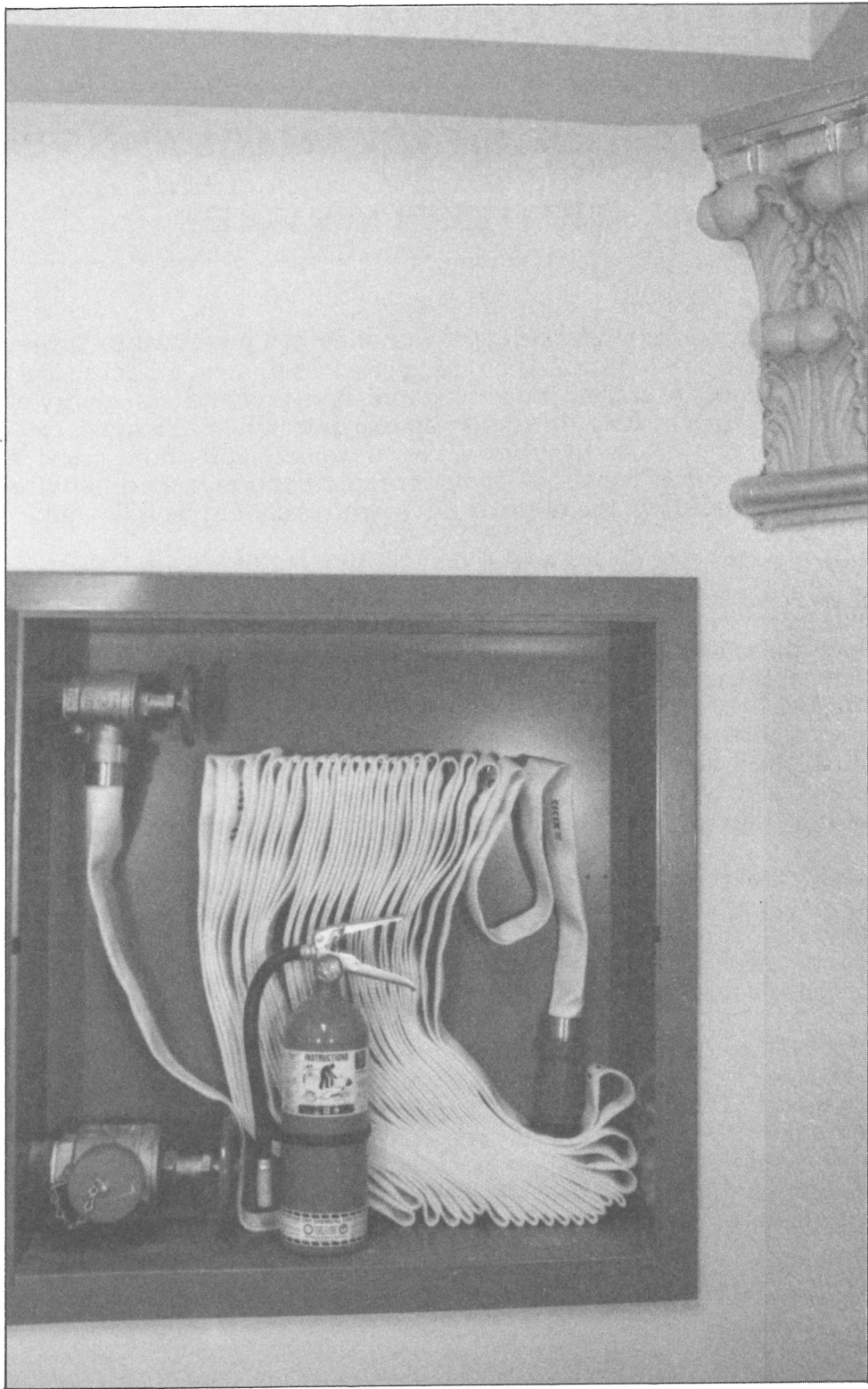


9. CONTEMPORARY REQUIREMENTS

While it is important that the original historic character of a building be retained, usually there are contemporary requirements that will have to be accommodated to ensure that the building is safe and comfortable, according to modern standards. Thus, it is typical to introduce simple upgrades like a new electrical system, new telephone systems and smoke detectors. At another level, it may be necessary to add major upgrades like elevators, ramps, heating and cooling systems and sprinkler systems.

In the course of a building conservation project, the subject of contemporary requirements can be discussed with reference to the following issues:

- 9.A. Building Services**
- 9.B. New Elements**



9.A. BUILDING SERVICES

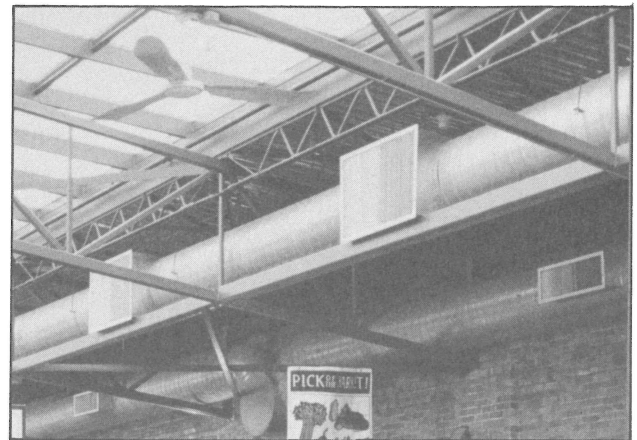
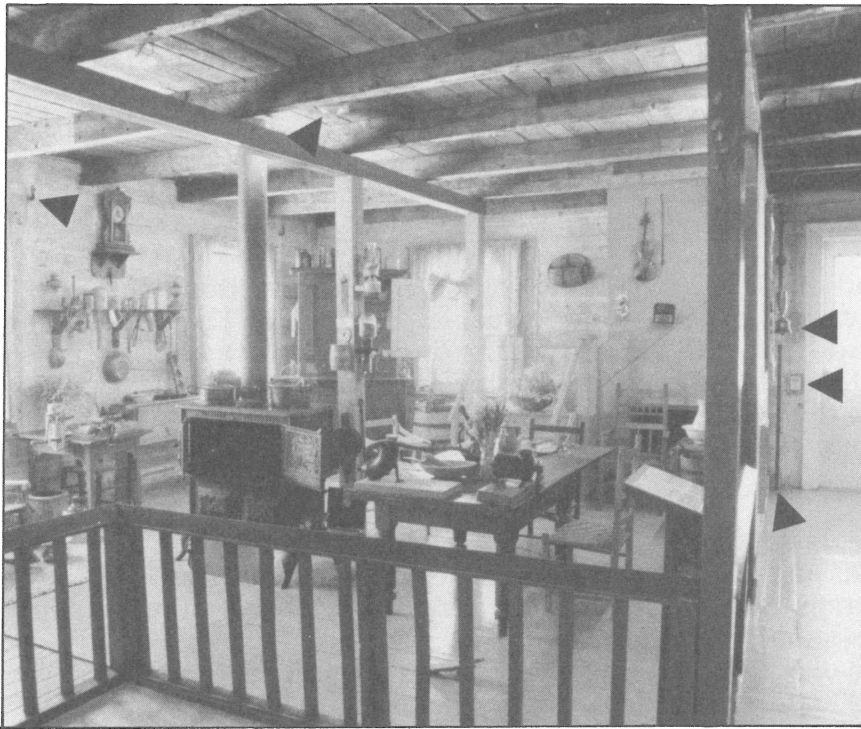
MINIMIZE THE PHYSICAL DAMAGE AND VISUAL IMPACT OF INTRODUCING MECHANICAL, ELECTRICAL AND OTHER SERVICES.

Even in the most rigorous **restoration** project, and often in a **preservation** project, it frequently will be necessary to upgrade building services to meet modern safety requirements, accommodate contemporary conveniences and address energy efficiency standards. Safety features include things like smoke detectors, EXIT signs, etc. Modern conveniences include new electrical systems, new plumbing and phone lines. As the introduction of these services represents a modern intervention in an otherwise carefully restored or preserved building, the following procedures should be followed:

- 1) Wherever possible, modern systems should be hidden within the historic fabric of the building (e.g., run wiring between the studs of a wood-frame wall or ducts and locate pipes in the cavity of wood frame or brick walls or in closets).
- 2) Where the existing building structure does not contain cavities in which to hide services (as in a solid log or stone wall), the original structure should not be damaged in order to hide the services. Where specially designed service components must be visible (e.g., EXIT lights, fire and smoke detectors, floor vent grilles), these components should be selected for the unobtrusiveness of their designs (e.g., compact components that blend with their surroundings). More obtrusive services (pipes and ducts) should be painted to match the background.

Where a **rehabilitation** project has resulted in a dramatic change to a building's use, there is often an accompanying need to radically upgrade services. It will usually not be possible to camouflage new services within the original fabric. In such cases, the location of new services should be carefully reviewed according to the following criteria to minimize the impact on the historic fabric of the building:

- 1) Try to cluster services in locations of minimal historical importance. This could mean running horizontal services along corridors, perhaps lowering the ceiling to accommodate them.
- 2) Where there are special interior spaces worth preserving, follow the two guidelines above that relate to restoration or preservation.
- 3) Chimneys and other vertical stacks on the exterior should be clustered in the least-visible location and on the least-important side of the building.



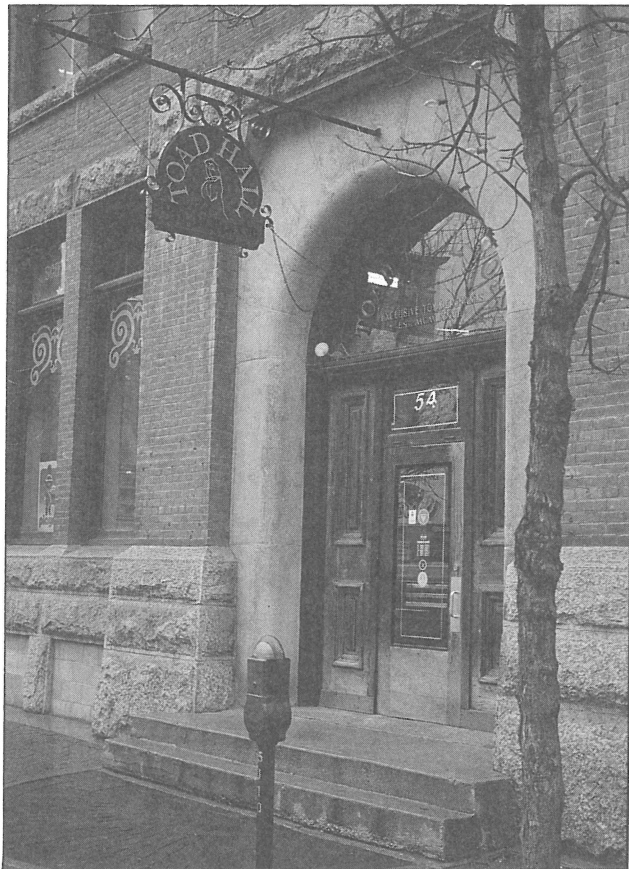
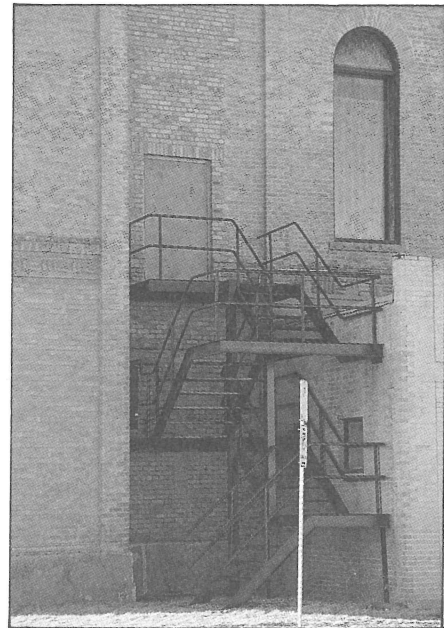
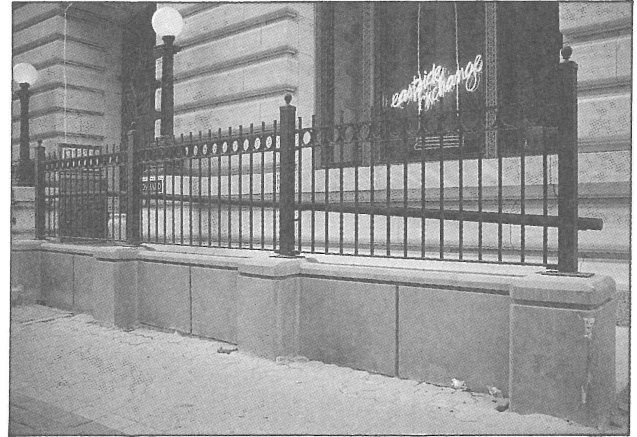
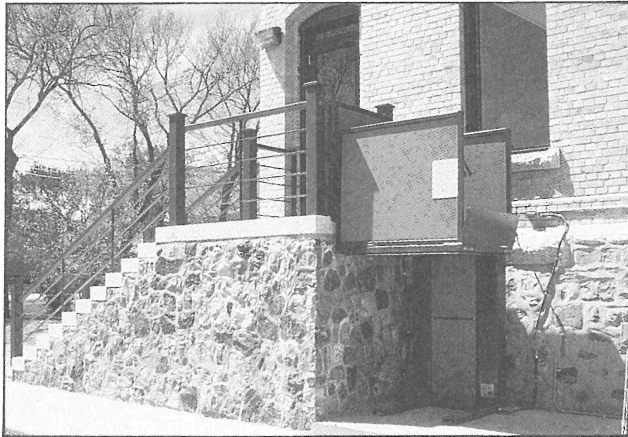
Building services in different circumstances. **Top:** in this museum the arrows indicate how various modern amenities (electrical conduit) and safety features (sprinklers, smoke detectors and motion detectors) are situated in the entrance area or placed strategically along posts and beams. **Bottom left and right:** the mechanical system is clearly visible, running between the roof trusses.

9.B. NEW ELEMENTS

RESPECT THE ORIGINAL BUILDING FABRIC WHEN ADDING NEW STAIRWELLS, ELEVATORS, RAMPS AND OTHER MAJOR ELEMENTS.

In many rehabilitation projects, and in a few restoration projects, the introduction of a new use will necessitate introducing a variety of new -- and intrusive -- elements. These include things like enclosed stairwells (inside and out), elevator shafts (inside and out), access ramps, signs and awnings, large lighting fixtures and built-in furniture and cabinetry. The challenge in these situations is to incorporate these dramatically new elements into a building with minimal impact on the historic fabric. The following criteria will assist in achieving a successful result:

- 1) New elements should be designed to cause minimal damage to the original building fabric (e.g., holes and fasteners should be introduced carefully).
- 2) The number of original architectural features that are visually obscured or hidden behind new construction should be minimized.
- 3) New elements should be of a scale and finish that match the scale and quality of the original architectural features and do not overwhelm them. Where possible, ensure that the new elements conform to the criteria for sympathetic design established in Sections **8.D. FIXING THE DETAILS** and **8.E. ADDING FEATURES & DETAILS**, pages 72-75.



Some good examples of major new building elements that have been successfully introduced in old structures. **Top left:** this elevator has been discreetly placed behind a staircase. **Top right:** a new ramp features carefully detailed concrete work and wrought-iron railings that are sympathetic to the building. **Centre right:** a new fire escape is not enclosed, allowing clear views of the building surfaces behind it. **Lower left:** the placement of this sign ensures minimal damage to building materials and that building materials are not obscured. Moreover, its design is complementary to the building.

10. LOOKING TO THE FUTURE

After all the work in a conservation project has been concluded, it is still necessary to be vigilant to ensure the continued life of the building, as well as its special place in the community.

In the course of a building conservation project, the subject "looking to the future" can be discussed with reference to the following issues:

- 10.A. Maintenance**
- 10.B. Old Neighbours**
- 10.C. New Neighbours**



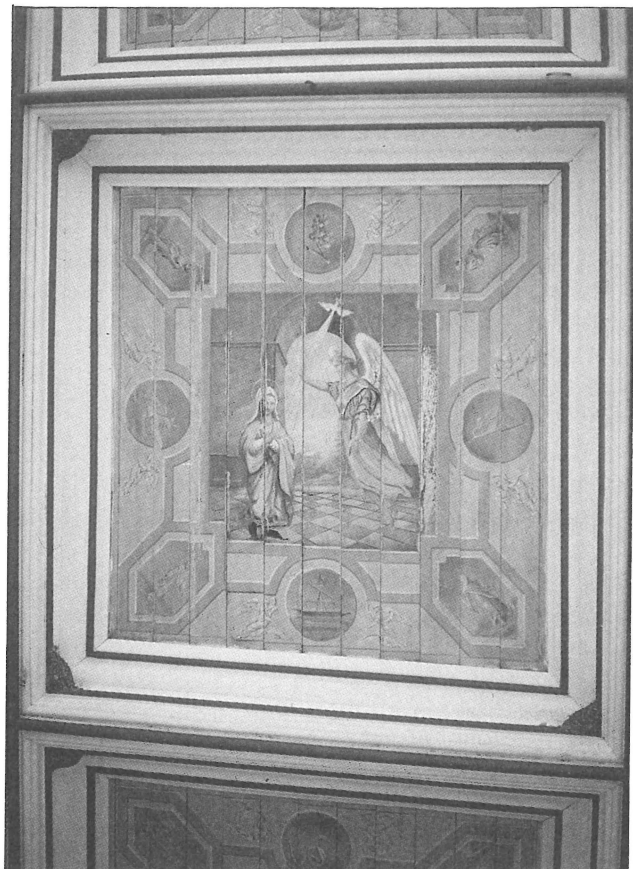
10.A. MAINTENANCE

PLAN FOR THE LONG-TERM MAINTENANCE OF THE CONSERVED BUILDING BY CREATING A MAINTENANCE MANUAL AND A SCHEDULE OF MAINTENANCE DUTIES.

Once a conservation project is completed, all the careful work that was done could be undone if plans and procedures for continuously maintaining the building have not been addressed. It is imperative to prepare a maintenance manual that includes a detailed schedule of maintenance duties. This will ensure that those charged with maintaining the building over the years will have the information at hand to do their work in a way that will not harm the building or allow it to deteriorate. The manual should include the following information:

- 1) **Cyclical maintenance schedule.** A schedule should be prepared indicating the frequency of maintenance (e.g., once a week for cleaning and inspecting for damage or deterioration, seasonally to prepare for changes in the weather and long-term, for reroofing, painting and, where applicable, overall building cleaning), when the work should be done (e.g., in the fall), the materials to be used (e.g., mild detergent and a soft sponge), how the work should be done (e.g., scrub vigorously or rub lightly) and who is responsible for completing the tasks. The schedule should include a twelve-month calendar that graphically shows who does the tasks (and when), a report form indicating that the work has been completed and a section that highlights any problems encountered.
- 2) **A building history.** This will help maintenance staff gain an informed appreciation of the building. The building history will usually be prepared by a consulting architect or architectural historian.
- 3) **Designation status.** If the building is designated and protected by a provincial or municipal authority, note what is designated (exterior, specific rooms, etc.), the names of contacts within the designating agency and when those contacts should be consulted regarding future work to the building.
- 4) **Conservation techniques and materials.** Include notes that will help in determining the best repair technique, as well as the names and suppliers of materials used in the conservation process. Manuals from suppliers on new products and equipment should be attached to the maintenance manual.
- 5) **Sources of assistance.** This should include the names of architects, engineers and craftspeople who were involved in the conservation project. Maintenance people should be invited to contact these specialists if they encounter a problem or require direction.
- 6) **Protection.** Maintenance staff should be familiar with building security and fire prevention systems.

A copy of the completed maintenance manual should be kept at the building at all times, and maintenance staff should be encouraged to use it daily.



Top: the cleaning of a large building requires the experience of professionals to ensure that materials are not damaged. Overcleaning of brick buildings, often done with sandblasting, will produce a sparkingly clean building, but will also remove the protective exterior brick glaze and lead to the rapid deterioration of the bricks. **Bottom:** a special feature, like this ceiling painting, will require both careful diagnosis by professionals and, if problematic, care by professionals.

10.B. OLD NEIGHBOURS

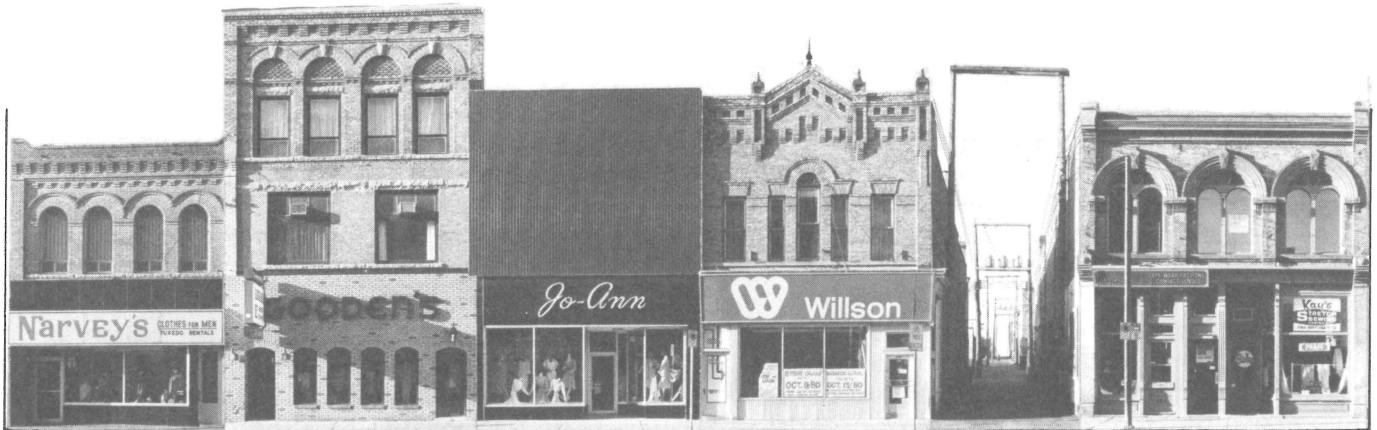
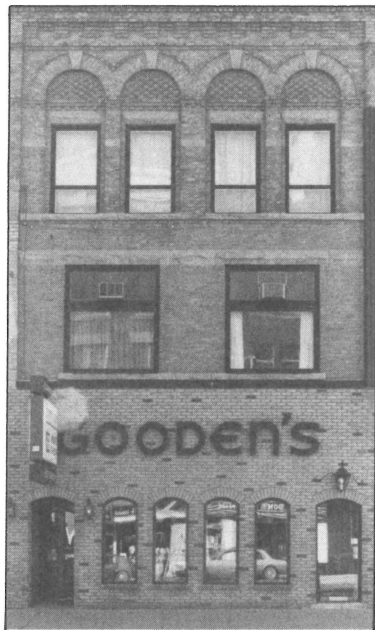
PRESERVE NEARBY BUILDINGS THAT CONTRIBUTE TO THE NEIGHBOURHOOD IDENTITY ESTABLISHED BY THE CONSERVED BUILDING.

Conserved buildings do not exist in a vacuum, and our appreciation of them will continue to be affected by the surrounding environment. This can include future development (dealt with in Section **10.C. NEW NEIGHBOURS**, pages 88-89). In an urban setting, the conserved historic building will also be surrounded by a wide range of buildings that may or may not be historic, but whose designs still contribute to the overall character of the neighbourhood. They may have been constructed in a different era and the architectural style may be significantly different. On the other hand, the buildings may contribute to an established streetscape by making it more complete. They also may have some historic importance of their own.

It may be possible to become an advocate for historic conservation, and to work with other building owners to create a coherent, carefully conserved architectural neighbourhood. To determine which of these neighbours should be conserved as part of the overall neighbourhood character, consider the following:

- 1) If evaluated according to historical criteria (did someone important live there?; does it represent an important historical development, like early settlement?), could the building be considered historic on its own merit?
- 2) If vacant, can the building functionally contribute to the quality of the neighbourhood (i.e., can it be used to fill a neighbourhood need)?
- 3) Would the conserved building fit the visual character of the neighbourhood?
- 4) Are there common elements that tie all the potential "character" buildings together (e.g., the same finishes or materials).

If additional buildings are to be conserved as part of the overall neighbourhood character, they should be conserved according to their own merits and not altered to make them blend in. While a neighbourhood relies on features common to every building to tie it together, it still needs variety to give it a sense of liveliness. By taking a close look at an older, well-established neighbourhood, you will notice that there is a theme that unifies it (e.g., all residential, one-storey bungalows) and variations on that theme (e.g., different colours, porches, the occasional two-storey house) that gives the neighbourhood vitality. It is also important to conserve the streetscaping and landscaping qualities of the neighbourhood. Original street lights, benches, and sidewalk treatments, as well as trees, hedges and gardens are vital components of a neighbourhood.



Top: this important heritage building is a worthy object of a conservation project. And the building's neighbours (**below**), if also conserved, will help preserve the architectural character of the streetscape and make the area a vital resource for the community.

10.C. NEW NEIGHBOURS

DESIGN NEW BUILDINGS THAT WILL ENHANCE THE CHARACTER OF THE NEIGHBOURHOOD ESTABLISHED BY THE CONSERVED BUILDING.

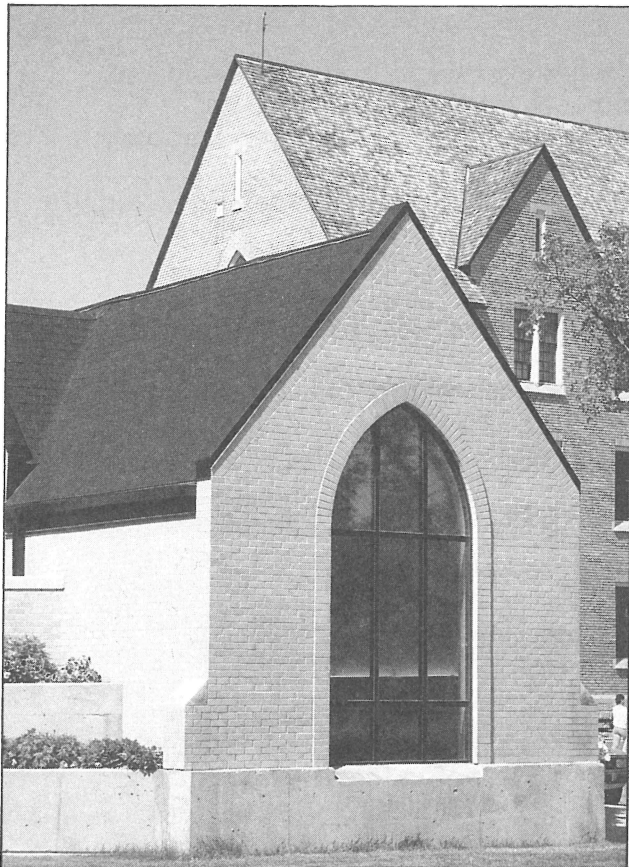
A building that has been conserved is special. The act of conserving a building establishes its historical and architectural significance to the town, city or province. Quite often such buildings are designated as historic sites. All of these factors suggest that the conserved historic building should act as a standard for the appearance of the neighbourhood. By ensuring that new development in the area meets this standard, two important objectives can be achieved:

- 1) The character of the historic building itself will not be diminished by inappropriate developments nearby.
- 2) The character of the whole neighbourhood will be given a cohesive, stronger image, which is unique because it responds to the special qualities of the historic building.

In this context, a new building can be thought of as an addition to a historic building. In that case, the criteria established in Section **6.C. ADDITIONS** (pages 50-53), will guide new construction. And while it is important to ensure that new buildings are sympathetic to their historic neighbours, they should still be seen, in a subtle fashion, as a product of a different era. They should not attempt to reproduce a period feeling or themes (e.g., the "Swiss Alpine village" look) that do not accurately express the special character of the neighbourhood.

Another important element that will help bridge the gap between new and historic neighbours involves **streetscaping**. Streetscaping includes roads, sidewalk treatment, fences, gates, benches, refuse bins and lighting. Archival photographs of street scenes can usually be found, indicating how the area looked in earlier times. They will indicate the elements that helped to unify the neighbourhood: the style of fences, the roof shapes, the spacing between buildings, the setback from the street or the style of the buildings in the area. The **landscape** qualities of the neighbourhood are also important factors. The location, size and type of trees, bushes, hedges and other plantings will also ensure continuity between old and new neighbours.

Determining standards of quality for new buildings and streetscape and landscape features may require the establishment of a heritage district as well as design guidelines specially created for the district. The creation of such districts is usually reserved only for those parts of a community or area that are of great significance. Any proposal to establish design controls for the neighbourhood must result from the desire, and cooperation, of the neighbourhood property owners to establish a unified, special historical character. Once that step has been accomplished, it may be feasible to create a mutually agreeable bylaw that would formally establish the character for the neighbourhood.



Some sympathetic additions to old neighbourhoods. **Top:** a new parking garage respects the winding streetscape, actually bending to follow the street; the new building also picks up on the size, materials and window openings of its neighbours. **Bottom:** the new building in the foreground reiterates the roof slope and pointed windows of the neighbouring historic building behind.

GUIDELINE SYNOPSIS

Manitoba
Culture, Heritage
and Citizenship



The following 30 statements are drawn from the opening of each of the preceding 30 guidelines. Together, they offer a recitation of the main concepts to keep in mind over the course of a conservation project. You might want to make a copy of these pages and keep them at hand for easy reference.

PROTECTION

1. Protect a vacant building until conservation work begins.
2. Ensure a building is protected from fire or vandalism.

DOCUMENTATION

3. Thoroughly investigate a building before attempting to conserve it.
4. Determine if archaeological resources will be affected by a conservation project.
5. Ensure that critical decisions made at any stage of a conservation project are recorded.

LOCATION

6. Wherever possible ensure that a building remains on its original site.
7. Only move a building if it is threatened with demolition.

USE

8. Wherever possible use a building for its original purpose.
9. If it is necessary to introduce a new use into a building, ensure that the use is as compatible with the original use as possible.

STRUCTURE

10. Retain a building's original structural system whenever feasible and safe to do so.
11. Monitor a building for structural problems and seek appropriate remedies.
12. Determine whether a failed structural system or component merits a replication or a sympathetic design.
13. Design new structural components to be sympathetic to, but distinguishable from, the original structural fabric.

EXTERIOR

14. Wherever possible retain all the elements and qualities of a building's original external character.
15. Where external changes are appropriate, ensure they are sympathetic to the original character.



The application of many of the guidelines outlined above helped turn this building . . .



16. Additions made to a building should be sensitive to the original external character.
17. Avoid undocumented reconstruction of buildings that are badly damaged or deteriorated; instead, sensitively interpret the remains.
18. Conserve buildings as a whole and not as components, elements or facades.

INTERIOR

19. Wherever possible retain all the elements and qualities of a building's original internal character.
20. Changes made to a building's interior spaces and rooms should be sensitive to the original character.

FEATURES & DETAILS

21. Keep all of a building's special features and details.
22. Maintain a comprehensive record of features and details covered or removed during the course of a conservation project.
23. Do not ignore a failed feature or detail: fix it immediately.
24. Determine whether a failed detail of even a whole feature merits replication or a sympathetic design.
25. Any attempt to add a missing feature or detail should rely on documentary evidence.

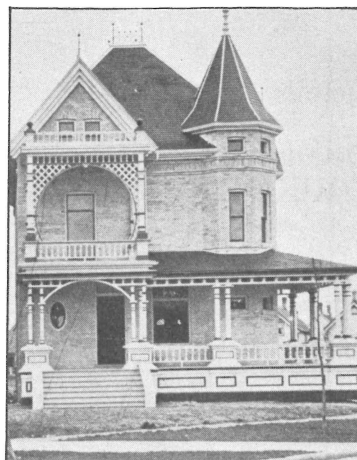
CONTEMPORARY REQUIREMENTS

26. Minimize the physical damage and visual impact of the introduction of mechanical, electrical and other services.
27. Respect the original building fabric when adding new stairwells, elevators, ramps and other major elements.

LOOKING TO THE FUTURE

28. Plan for the long-term maintenance of the conserved building by creating a maintenance manual and a schedule of maintenance duties.
29. Conserve nearby buildings that contribute to the neighbourhood identity established by the conserved building.
30. Design new buildings that will enhance the character of the neighbourhood established by the conserved building.

... into a conservation project of considerable distinction.



APPENDIX 1.

A CONSERVATION STRATEGY WORKSHEET

This worksheet is a simple checklist that will ensure all appropriate steps required in a conservation project are addressed and undertaken. You should also co-ordinate this checklist with the **Conservation Strategy Guidelines Chart** on page 7 to ensure that your particular project is following the necessary steps.

CONSERVATION STRATEGY GUIDELINES

1. PROTECTION

- A. Mothballing ☐
- B. Preventive Measures ☐

2. DOCUMENTATION

- A. A Building Record ☐
- B. Archaeological Resources ☐
- C. A Conservation Record ☐

3. LOCATION

- A. Original Location ☐
- B. New Location ☐

4. USE

- A. Original Use ☐
- B. New Use ☐

5. STRUCTURE

- A. Original Structure ☐
- B. Structural Problems ☐
- C. Fixing the Structure ☐
- D. Structural Upgrades ☐

6. EXTERIOR

- A. Original Exterior ☐
- B. External Upgrades ☐
- C. Additions ☐
- D. Reconstruction ☐
- E. Facadism ☐

7. INTERIOR

- A. Original Interior ☐
- B. New Interior ☐

8. FEATURES & DETAILS

- A. What to Keep ☐
- B. Recording the Changes ☐
- C. Problems with the Details ☐
- D. Fixing the Details ☐
- E. Adding Features & Details ☐

9. CONTEMPORARY REQUIREMENTS

- A. Building Services ☐
- B. New Elements ☐

10. LOOKING TO THE FUTURE

- A. Maintenance ☐
- B. Old Neighbours ☐
- C. New Neighbours ☐

APPENDIX 2.

A CONDITION ASSESSMENT WORKSHEET

Building Code	_____	Date	_____	Recorder	_____
Building Name	_____				
Contact Name	_____				
Address	_____				
Town	_____	Postal Code	_____	Phone Res.	_____ Bus. _____

CHANGES IN BUILDING SINCE LAST INSPECTION

Change in building ownership?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Owner Name	_____	
Address	_____	
Town	_____	Postal Code _____ Phone Res. _____ Bus. _____

Change in building status?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<input type="checkbox"/> Utilized	<input type="checkbox"/> Vacant	<input type="checkbox"/> Abandoned	<input type="checkbox"/> Other

Change in building function / location?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Change in general building integrity?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Exterior	Interior	
<input type="checkbox"/> Excellent	<input type="checkbox"/> Excellent	Excellent (75 - 100% original, essentially unaltered)
<input type="checkbox"/> Good	<input type="checkbox"/> Good	Good (50 - 75% original, largely unaltered)
<input type="checkbox"/> Fair	<input type="checkbox"/> Fair	Fair (25 - 50% original, major alterations)
<input type="checkbox"/> Poor	<input type="checkbox"/> Poor	Poor (less than 25% original, massive alterations)

BUILDING MAINTENANCE

Supervisor Name	_____				
Address	_____				
Town	_____	Postal Code	_____	Phone Res.	_____ Bus. _____

BUILDING MAINTENANCE

Items	Poor					Excellent					Notes
Completeness of maintenance schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cleanliness of floors and mats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cleanliness of walls and ceilings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Care for interior finished carpentry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Control of plant growth and insects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Water drainage away from building and off site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

BUILDING CONDITION

ROOFING											<input type="checkbox"/> Applicable	<input type="checkbox"/> Not Applicable
Items	Poor					Excellent					Notes	
Condition of roof structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of roof surface/shingles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of decorative details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of flashing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of chimney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Roof ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of downspouts and gutters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	

BASEMENT / CRAWLSPACE											<input type="checkbox"/> Applicable	<input type="checkbox"/> Not Applicable
Items	Poor					Excellent					Notes	
Condition of basement/crawlspace	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of foundation walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of basement floor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of basement ventilation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of floor joists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Stability and moisture intrusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	

EXTERIOR WALLS											<input type="checkbox"/> Applicable	<input type="checkbox"/> Not Applicable
Items	Poor					Excellent					Notes	
Condition of exterior walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of cladding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
Condition of decorative details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	

BUILDING CONDITION

WINDOWS

☐ Applicable ☐ Not Applicable

Items	Poor					Excellent	Notes
Condition of windows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of the glass and glazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of the sill plates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of the window sashes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of window trim - exterior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of window trim - interior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

EXTERIOR ADDITIONS

☐ Applicable ☐ Not Applicable

Items	Poor					Excellent	Notes
Condition of exterior additions/porches, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of foundation/structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of exterior elements; roof, walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of decorative details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

INTERIOR FINISHES

☐ Applicable ☐ Not Applicable

Items	Poor					Excellent	Notes
Condition of doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of interior walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of ceilings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of mouldings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

MECHANICAL

☐ Applicable ☐ Not Applicable

Items	Poor					Excellent	Notes
Condition of plumbing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of heating system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of electrical system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

FACILITIES

☐ Applicable ☐ Not Applicable

Items	Poor					Excellent	Notes
Washrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Handicap access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

LANDSCAPE☐ Applicable☐ Not Applicable

Items	Poor					Excellent	Notes
Condition of landscaping; lawn, trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of outbuildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of fencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of paths, driveways, parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition of lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

SITE PROTECTION☐ Applicable☐ Not Applicable

Items	Poor					Excellent	Notes
Security lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Security methods; alarms, locks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lighting protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fire protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

FUTURE PLANS FOR THE BUILDING

RECOMMENDED WORK

PHOTOGRAPHS TAKEN OF THE FOLLOWING

MISCELLANEOUS NOTES
