Standards and Guidelines

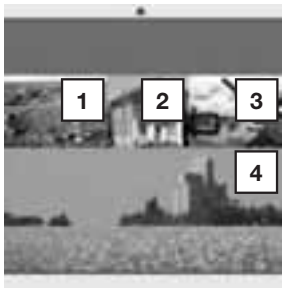
for the Conservation of Historic Places in Canada

Parks Canada Parcs Canada

Canada

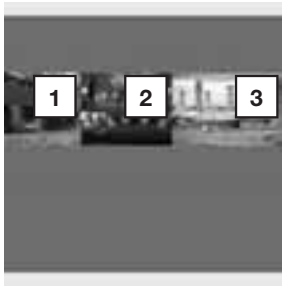
Standards and Guidelines

for the Conservation of Historic Places in Canada



Cover photographs:

Front Cover:
1- Teepee rings, Grasslands National Park, Saskatchewan, © W. Lynch, Parks Canada, 1989
2- Former Bank of Commerce, Nokomis, Saskatchewan, © F. Korvemaker, Saskatchewan Municipal Affairs and Housing, 1987
3- Smiths Falls Bascule Bridge, Smiths Falls, Ontario, © F. Cattroll, Parks Canada
4- Newdale, Manitoba, © Pat Buchik, July 2003



Back Cover:

1- Percy Covered Bridge, Quebec, © Gerard Van Rijn, Parks Canada, 2003
2- Imperial Theatre, Saint John, New Brunswick, © J. Butterill, Parks Canada, 1995
3- Claybank, Saskatchewan, © Guy Masson, PWGSC, 1994

Compliance with these Standards and Guidelines for the Conservation of Historic Places in Canada does not, in and of itself, confer immunity from legal obligations.

Canadian Cataloguing in Publication Data

Main entry under title:
Standards and Guidelines for the Conservation of Historic Places in Canada
Also issued in French under the title: Normes et lignes directrices pour la conservation des lieux patrimoniaux au Canada

ISBN 0-662-34897-4
CCG cat. Nº. R62-343/2003E

1. Historic sites–Conservation and restoration–Handbooks, manuals, etc. 2. Historic buildings–Conservation and restoration–Handbooks, manuals, etc. 3. Architecture–Conservation and restoration–Handbooks, manuals, etc. 4. Landscape architecture–Conservation and restoration–Handbooks, manuals, etc. 5. Historic preservation–Canada–Handbooks, manuals, etc. 6. Cultural property–Canada–Handbooks, manuals, etc. I. Parks Canada Agency.

FC215.S72 2001 363.6'9/0971 C2001-900916-X
F1010.S72 2001

Cette publication est aussi disponible en français.
www.parkscanada.gc.ca

Printing: Tri-Co Group
Design: In Grid Communications

Contents

Foreword

The *Standards and Guidelines for the Conservation of Historic Places in Canada* is the result of a major collaborative effort among federal, provincial, territorial and municipal governments, heritage conservation professionals, heritage developers, and many individual Canadians.

This collaborative process has laid down an important foundation for the evolution of conservation practice in Canada and this approach, based on the involvement of all stakeholders and interested parties, will continue to be used for the periodic revision of the *Standards and Guidelines for the Conservation of Historic Places in Canada* and for other issues related to the conservation of historic places.

Through this pan-Canadian collaboration, we have reinforced the development of a culture of conservation in Canada, which will continue to find a unique expression in each of the jurisdictions and regions of our country.

The development of the *Standards and Guidelines for the Conservation of Historic Places in Canada* could not have been so successful without the vision, leadership and rigor of a Parks Canada employee, Gordon Fulton. As a steward and a guide, he has helped to make available to the heritage conservation community an effective new tool.

On behalf of Parks Canada, I am proud to adopt the *Standards and Guidelines for the Conservation of Historic Places in Canada* for use in our stewardship of Canada's national historic sites and other heritage properties. Together with our many partners, we will move towards a strengthened culture of conservation.

Alan Latourelle

Chief Executive Officer
Parks Canada

Preface and Acknowledgements

Over the years, guidance on how best to conserve our irreplaceable built heritage, and the limits of acceptable change to it, have been provided in a number of documents (see the BIBLIOGRAPHY). A common set of standards and guidelines for the conservation of historic places in Canada, however, remained an unfulfilled challenge. In June 2000, a working group of heritage conservation and real property experts from industry, non-governmental heritage organizations, municipal, provincial and territorial governments, and federal departments and agencies was brought together by the federal Department of Canadian Heritage to address this shortcoming. The result is this document.

Like most of its Canadian predecessors, *Standards and Guidelines for the Conservation of Historic Places in Canada* draws very heavily and is modelled quite directly on the United States Government's landmark publication, *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (1995). This document is a model of clarity and practicality. The working group that developed these Canadian standards and guidelines could find no reason not to use it as a basis, with appropriate modifications to the Canadian situation. The working group acknowledges the U.S. National Park Service's Technical Preservation Services for its support and encouragement in using and adapting this document and its companion, *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes* (1996).

The working group was also very fortunate to be able to build on the excellent work of a number of agencies in this country and beyond. In particular, it gratefully acknowledges British Columbia's Ministry of Small Business, Tourism and Culture for *Principles of Heritage Conservation* (1989) and *Rehabilitation Principles and Guidelines* (1989); Alberta's Ministry of Community Development for *Guidelines for the Rehabilitation of Designated Historic Resources* (1993); Manitoba's Ministry of Culture, Heritage and Tourism for *Developing a Conservation Strategy for a Heritage Building* (1994); Ontario's Ministry of Citizenship, Culture and Recreation for *Eight Guiding Principles in the Conservation of Historic Properties* (1997); the Ontario Heritage Foundation for *Well-Preserved: the Ontario Heritage Foundation's Manual of Principles and Practice for Architectural Conservation* (1988); le ministère des Affaires culturelles du Québec for *Principes et critères de restauration et d'insertion : le patrimoine architectural d'intérêt public au Québec* (1991); la Ville de Québec and le ministère de la Culture et des Communications du Québec for *Guide d'intervention : conserver et mettre en valeur le Vieux-Québec* (1998); the City of Saint John, New Brunswick, for the *Practical Preservation Guidelines series* (1990-96); Public Works and Government Services Canada for *Federal Heritage Buildings Review Office Code of Practice* (1996); Australia ICOMOS for *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (1999); and the British Standards Institution for *British Standard 7913: 1998, Guide to the Principles of the Conservation of Historic Buildings* (1998), all of which provided inspiration for this document.

The *Standards and Guidelines for the Conservation of Historic Places in Canada* was produced under the guidance and direction of the Working Group on Conservation Standards and Guidelines, whose members volunteered their time and expertise. Gordon W. Fulton served as the Working Group's project manager and edited the draft of the Standards and Guidelines, which was then used for consultations.

Working Group members, and their affiliations at the time of their involvement, are as follows:

Gordon Bennett, Policy and Government Relations Branch, Parks Canada (Historic Places Initiative steering committee); Jim Bezanson, Community Planning Department, City of Saint John, New Brunswick; Dinu Bumbaru, Héritage Montréal; Monika Dankova and Byron Johnson, Real Property Services, Public Works and Government Services Canada; Neil Einarson, Historic Resources Branch, Manitoba Culture, Heritage and Tourism; Ken Elder, Heritage Conservation Services (formerly Heritage Conservation Program), Public Works and Government Services Canada; Mary Lou Evans and Melissa Gordon, Heritage Policy and Program Development, Ontario Ministry of Tourism, Culture and Recreation; Louise Fox, Department of Canadian Heritage (Archaeology); Gordon Fulton, Parks Canada (Historic Places Initiative, working group project manager); Denise Gendron, Preservation Services, City of Toronto; Robert Harrold and Daniel LaRoche, Archaeological Services Branch, Parks Canada; Alastair Kerr, Heritage Branch, British Columbia Ministry of Small Business, Tourism and Culture; François Leblanc, Architecture, National Capital Commission and ICOMOS Canada; Robert Lemon, Robert G. Lemon Architecture & Preservation, Vancouver; Don K. Macdonald, Real Estate Advisory Services, Public Works and Government Services Canada; Cliff McCawley, Conservation and Scientific Services, Canadian Conservation Institute; Guy Masson, Heritage Conservation Services, Public Works and Government Services Canada and ICOMOS Canada; Doug Olynyk, Heritage Branch, Tourism

Yukon; Sharon C. Park, Michael Auer and Kay D. Weeks, Technical Preservation Services, U.S. National Park Service; Larry Pearson, Community Heritage Services, Alberta Community Development; David Scarlett, Architecture, National Capital Commission; Julian Smith, Julian Smith and Associates, Almonte, Ontario; Michael Tippin, Tippin Corporation, Toronto; François Varin, La Fondation Rues principales, Quebec; and Vivian Walsworth, Realty and Engineering Policy Directorate, Department of National Defence.

A number of people reviewed specific parts of the *Standards and Guidelines for the Conservation of Historic Places in Canada*. Special thanks go to Karen L. Mudie of the Department of Canadian Heritage's Legal Services; Douglas Bryce, Lyle Henderson, Daniel LaRoche and Virginia Myles of Parks Canada's Archaeological Services; Victoria Angel and Johanne Fortier of Parks Canada's Historic Places Program; David A. Morrison of the Canadian Museum of Civilization (Archaeological Survey of Canada); Lyse Blanchet, Lyne Fontaine, Joann Latremouille, Gerry van Rijn, Jack Vandenberg, John Ward and John Zvonar of Public Works and Government Services Canada's Heritage Conservation Services; Douglas Franklin of The Heritage Canada Foundation; Rick Goodacre of the Heritage Society of British Columbia; Shelley Bruce, Giles Bugailiskis, David Firman and Linda Seyers of the City of Winnipeg's Historical Buildings Committee; and Wayne Morgan and Sherry Pedersen of the City of Toronto's Preservation Services.

Following the preparation of the *Standards and Guidelines for the Conservation of Historic Places in Canada*, 42 pilot projects were undertaken to test use of the Standards and Guidelines. Pat Buchik, Robert Pajot and Ève Wertheimer from Heritage Conservation Services of Public Works and Government Services Canada were instrumental in identifying and coordinating the pilot projects and sharing the results of this work with the working group. Comments provided as a result of these pilot projects contributed to the further refinement of the document and a final review of the document by the working group.

We also acknowledge members of the piloting team, which included the following:

Alastair Kerr, Heritage Branch, Ministry of Small Business, Tourism and Culture, Government of British Columbia; Larry Pearson, Heritage Resource Management Branch, Government of Alberta; Neil Einarson, Heritage Buildings Unit, Historic Resources Branch, Manitoba Culture Heritage and Tourism; Tamara Anson-Cartwright and Melissa Gordon, Heritage & Libraries Branch, Ontario Ministry of Tourism, Culture & Recreation; Michael McClelland, ERA Architects, Toronto, Ontario; Denise Gendron, Murray Miller and Sherry Pedersen, Heritage Preservation Services, Culture Division, City of Toronto; Fernand Lévesque, Direction des politiques culturelles et de la propriété intellectuelle, Gouvernement du Québec; Jean-François Gravel, Division du Patrimoine, Service du développement économique et urbain, Ville de Montréal, Québec; Jim Bezanson, Planning & Development, City of Saint John, New Brunswick; Dale Jarvis, Heritage Foundation of Newfoundland and Labrador; Leslie Maitland and Shannon Ricketts, Systems Development Branch, National Historic Sites Directorate, Parks Canada; Jacqueline Hucker, Federal Heritage Building Review Office, National Historic Sites Directorate, Parks Canada; Pat Buchik, Heritage Conservation Services, Public Works and Government Services Canada.

A special acknowledgement must be made to working group members and others who generously made their photographic collections available to illustrate this document. Guy Masson and Jim Bezanson both contributed numerous photographs from their extensive collections. Susan Ross, from the Heritage Conservation Services of Public Works and Government Services Canada provided a needed focus for the selection of illustrations for this document.

The coordination of the last stages of production of the document was under the responsibility of the following: Christiane Lefebvre and Johanne Fortier of the Historic Places Program, National Historic Sites Directorate, Pat Buchik, Ève Wertheimer and Geneviève Charrois of Heritage Conservation Services, Public Works and Government Services Canada, who oversaw the editing of the document in both official languages, as well as Ellen Cunningham and Lana Stewart of the Historic Places Program, National Historic Sites Directorate, for the coordination of the design and layout.

Peter Frood

Director
Historic Places Program
National Historic Sites Directorate
Parks Canada



1 Introduction

The principles and practices that encourage the long-term conservation of our country's historic places are described in this document. The fundamental principles for conserving historic places of all types were first outlined in a set of "Standards". Detailed "Guidelines" then present the Dos and Don'ts of safeguarding archaeological sites, and preserving, rehabilitating or restoring historic landscapes, buildings and engineering works. Emphasis has been placed on providing sound, practical advice for conserving our rich and irreplaceable built heritage.

1- Powerscourt, Quebec, © Jean-Pierre Jérôme, Parks Canada, 2003
2- Château Frontenac, Quebec, Quebec, © Guy Masson, PWGSC, 1978
3- Truro Federal Building, Truro, Nova Scotia, © Bill Hockey, PWGSC, 2002
4- Ferryland, Newfoundland, © Ève Wertheimer, 2003

The Purpose of the Standards and Guidelines

The primary purpose of the *Standards and Guidelines for the Conservation of Historic Places in Canada* is to provide **sound, practical guidance** to achieve good conservation practice. Anyone with an interest in conserving Canada's historic places who voluntarily follows these Standards and Guidelines will benefit from clear and consistent guidance. The intent of the document is not to replace the role of conservation practitioners or provide detailed technical specifications appropriate to every situation. It does, however, offer results-oriented guidance for sound decision making when planning for, intervening and using a historic place.

A second purpose of the *Standards and Guidelines for the Conservation of Historic Places in Canada* is to develop a pan-Canadian set of Standards and Guidelines. The Standards and Guidelines may be adopted by federal, provincial, territorial or other authorities as a benchmark for assessing proposed conservation interventions. For example, jurisdictions which adopt the Standards and Guidelines may use them to assess proposed changes to a historic place listed on the Canadian Register of Historic Places. Under these circumstances, the Standards and Guidelines would be used to measure compliance with legislation relating to the **statutory protection** of these historic places. To comply with the legislation, a project would then have to respect and conserve the heritage value and character-defining elements of the historic place as recommended in these Standards and Guidelines and as determined by the appropriate authority both at the planning stage and upon completion.

The third purpose is to assist people who intend to apply for government **financial incentives** for conservation. When adopted by a jurisdiction, the Standards and Guidelines may form the basis for review and assessment of a preservation, rehabilitation or restoration project before the project starts, and again upon completion. To be approved and certified for federal financial incentives, a project must be consistent with the *Standards and Guidelines for the Conservation of Historic Places in Canada.*

Definitions of Some Key Terms

A number of terms used in this document have very specific meanings in the context of heritage conservation and are defined as follows:

Character-defining elements: the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the *heritage value* of a *historic place*, which must be retained in order to preserve its *heritage value.*

Conservation: all actions or processes that are aimed at safeguarding the *character-defining elements* of a cultural resource so as to retain its *heritage value* and extend its physical life. This may involve "*Preservation*," "*Rehabilitation*," "*Restoration*," or a combination of these actions or processes. Reconstruction or reconstitution of a disappeared cultural resource is not considered conservation and is therefore not addressed in this document.

Guidelines: statements that provide practical guidance in applying the *Standards for the Conservation of Historic Places*. They are presented herein as recommended and non-recommended actions.

Heritage value: the aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present or future generations. The *heritage value* of a *historic place* is embodied in its character-defining materials, forms, location, spatial configurations, uses and cultural associations or meanings.

Historic place: a structure, building, group of buildings, district, landscape, archaeological site or other place in Canada that has been formally recognized for its *heritage value*.

Intervention: any action, other than demolition or destruction, that results in a physical change to an element of a *historic place*.

Maintenance: routine, cyclical, non-destructive actions necessary to slow the deterioration of a *historic place*. It entails periodic inspection; routine, cyclical, non-destructive cleaning; minor repair and refinishing operations; replacement of damaged or deteriorated materials that are impractical to save.

Minimal intervention: the approach which allows functional goals to be met with the least physical intervention.

Standards: Norms for the respectful conservation of historic places.

Preservation

Preservation: the action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of a *historic place* or of an individual component, while protecting its *heritage value*.

Preservation can include both short-term and interim measures to protect or stabilize the place, as well as long-term actions to retard deterioration or prevent damage so that the place can be kept serviceable through routine maintenance and minimal repair, rather than extensive replacement and new construction.

Rehabilitation

Rehabilitation: the action or process of making possible a continuing or compatible contemporary use of a *historic place* or an individual component, through repair, alterations, and/or additions, while protecting its *heritage value.*

Rehabilitation can include replacing missing historic features. The replacement may be an accurate replica of the missing feature, or it may be a new design that is compatible with the style, era, and character of the historic place.

Restoration

Restoration: the action or process of accurately revealing, recovering or representing the state of a *historic place* or of an individual component, as it appeared at a particular period in its history, while protecting its *heritage value.*

Restoration includes the removal of features from other periods in its history and the reconstruction of missing features from the restoration period. Restoration must be based on clear evidence and detailed knowledge of the earlier forms and materials being recovered.

These and other definitions can also be found in the Glossary.

The Principles Behind the Standards and Guidelines

Heritage conservation involves identifying, protecting and promoting the elements that our society values. The term "heritage" can cover a wide range of physical things from a railway station to a garden to a painting, and non-physical things such as traditional knowledge and language. The term "heritage conservation" (or "historic preservation" in some regions) has traditionally been associated with protecting the physical or "built" environment, i.e., the tangible landscapes, buildings, structures and artefacts that have been created throughout the history of Canada. More recently, the term has also come to be associated with safeguarding the non-physical associations between people and a place, i.e., associations linked to use, meanings and cultural or spiritual values. *Standards and Guidelines for the Conservation of Historic Places in Canada* deals with both the physical aspects of historic places and their non-physical associations.

The fundamental principles that form the basis for good conservation practice have traditionally been collected and published in "charters." These charters, beginning with the Athens Charter in 1931, reflect our ongoing efforts to spell out as clearly as possible the reasons why one idea or one action may be better than another when dealing with our fragile and irreplaceable historic places. Each of the charters embodies a certain philosophy or bias or focus — the cultural associations in Australia's Burra Charter, for example. Nevertheless, a consistent thread of logic runs through each. This thread is summarized here and forms the philosophical foundation for the Standards and Guidelines that follow. The principles are presented in a sequence of actions from "beginning" to "end" — from understanding the historic place to making changes to it. However, the persons involved in conservation must occasionally backtrack and re-examine their approaches and obtain additional information, because conservation, an ongoing process, is cyclical by nature.

Decisions regarding any conservation action on the *heritage value* of a *historic place* require sound, cautious judgment to balance conflicting requirements while engaging all relevant stakeholders and considering case-specific criteria. Engaging multidisciplinary experts and all relevant stakeholders is often necessary in the decision-making process.

A. Understanding

A comprehensive understanding of a historic place is an essential first step to good conservation practice, which is normally achieved through documentary and oral research and physical investigation. It is important to know where the heritage value of the historic place lies; how it fits physically and functionally into its surroundings; and how it was and is important to its larger community past, present, and future. The evaluation of a *historic place* therefore constitutes an important part of the process of understanding it. Planning for, using and intervening in a historic place must be made with this understanding.

B. Planning

Planning must precede any interventions to a historic place. In other words, conservation work must be coordinated and integrated with planning and other future-oriented activities. Planning is the mechanism that links a comprehensive understanding of a historic place with interventions that respect that place's specific heritage value. In planning, it is important to maintain a firm sense of the longer term and the larger picture, and to not place emphasis on particular character-defining elements at the expense of others. Planning should include consideration of *all* factors affecting the future of a historic place, including the owner's needs, resources and external constraints.

C. Using

If the use of a historic place is part of its heritage value, then that use should be retained. Otherwise, a use compatible with its heritage value should be found. A viable use — economic, social or symbolic — will better ensure the long-term survival of a historic place and lessen or prevent deterioration caused by environmental and human activities. Because of the effects of the ongoing day-to-day use of a historic place, regular inspection, monitoring and maintenance, appropriate to the particular circumstances of the place, should be planned and undertaken. Accessible records should be kept on an ongoing basis to document its condition over time. These records will add to the comprehensive understanding of the historic place. In addition, emergency response plans, monitoring systems and other safeguards should be implemented in a respectful way to protect the place and any people within, in the event of a disaster such as fire.

D. Intervening

Any interventions to a *historic place,* i.e., any actions or processes that result in a physical change to its tangible elements, must respect its heritage value. In any intervention, as French archaeologist Adolphe-Napoléon Didron wrote in 1839, "it is better to preserve than to repair, better to repair than to restore, better to restore than to reconstruct." New contributions should respect the spirit and substance of the old. The objective for the conservation of a historic place is to meet functional goals while respecting its heritage value and character-defining elements. This "minimal intervention" approach is the foundation of good conservation practice. Translating good intentions into respectful interventions and clear, unambiguous instructions (usually in the form of design drawings and specifications) is essential.

The Format of the Standards and Guidelines

Standards and Guidelines for the Conservation of Historic Places in Canada has four main sections. The first section, the Introduction, begins with the **purpose** of the Standards and Guidelines, followed by **definitions** of some key terms. The fundamental **principles** that form the basis for good conservation practice and underlie every standard and guideline in this document are then summarized. The Introduction concludes with this outline of the **format** of the Standards and Guidelines, and a description of **how to use** this document.

In the second section, the **Standards** for conservation are introduced and presented. Nine "General Standards" apply to historic places of all types and to the conservation treatment *"Preservation."* They are also required for the two other conservation treatments, *"Rehabilitation"* and *"Restoration."* There are three additional Standards that apply only to the *Rehabilitation* conservation treatment, and two additional Standards that apply only to the *Restoration* conservation treatment.

The third and largest section of this document is made up of the **Guidelines**, which are intended to assist in applying the Standards and determining whether the intent of the Standards has been met. After an introduction that discusses **the application of** the Guidelines, and a general discussion on **substitute materials** and **balancing other considerations**, the specific Guidelines for archaeological sites, landscapes, buildings and engineering works — any or all of which may be part of a historic place — are presented.

The fourth section includes detailed recommendations for **other considerations**, such as health and safety issues, accessibility, energy efficiency and ecological objectives, and new additions to historic places.

A number of terms used in this document have very specific meanings in the context of heritage conservation. These terms are defined in this Introduction, and are also included in the **Glossary**. The glossary is followed by a bibliography (technical guide) of useful books and references.

Trained and skilled workers are a vital part of a well-thought out and well-executed conservation project.

How to Use the Standards and Guidelines

The following text and accompanying chart outline the main steps to achieving a successful conservation project. Key recommendations and cautions are highlighted.

1. Identify Heritage Value and Character-Defining Elements

A concept that permeates this document is a respect for heritage value and character-defining elements. A *historic place*'s *heritage value* and *character-defining elements* are usually identified when it is formally recognized by an authority or when it is nominated to the *Canadian Register of Historic Places*. If the character-defining elements of a historic place have not been identified, the first and absolutely essential step in any project is to **identify and describe the elements that are important in defining the overall *heritage value* of the *historic place***. The essence of these elements is usually captured in a "statement of significance" or equivalent document.

2. Determine the Primary Treatment

While any conservation project may involve aspects of more than one of the three conservation treatments, it is truly beneficial to **decide during the planning stage whether it is *essentially* a *Preservation*, a *Rehabilitation* or a *Restoration* project**. A clear idea of the primary focus or objective of the project along with the heritage values of the historic place, from the outset, will contribute to the success of a consistent, coherent conservation project. For a discussion on when to use *Preservation*, *Rehabilitation* or *Restoration* as the primary treatment, see section 2, Applying the Standards.

3. Review the Standards

The **Standards,** which are at the heart of this document, and the principles on which they are based, are central to the process of *Preserving*, *Rehabilitating* or *Restoring* a historic place in a responsible and consistent manner. It is important, therefore, to review the Standards and the principles before getting into the Guidelines. Note that the Standards are interrelated, meaning that **compliance with the Standards for each type of treatment means compliance with *all* of the Standards for that type of treatment**, not just some of them. In other words, Standards 1 to 9 apply to a *Preservation* project; Standards 1 to 12 to a *Rehabilitation* project; and Standards 1 to 9 and 13 to 14 to a *Restoration* project.

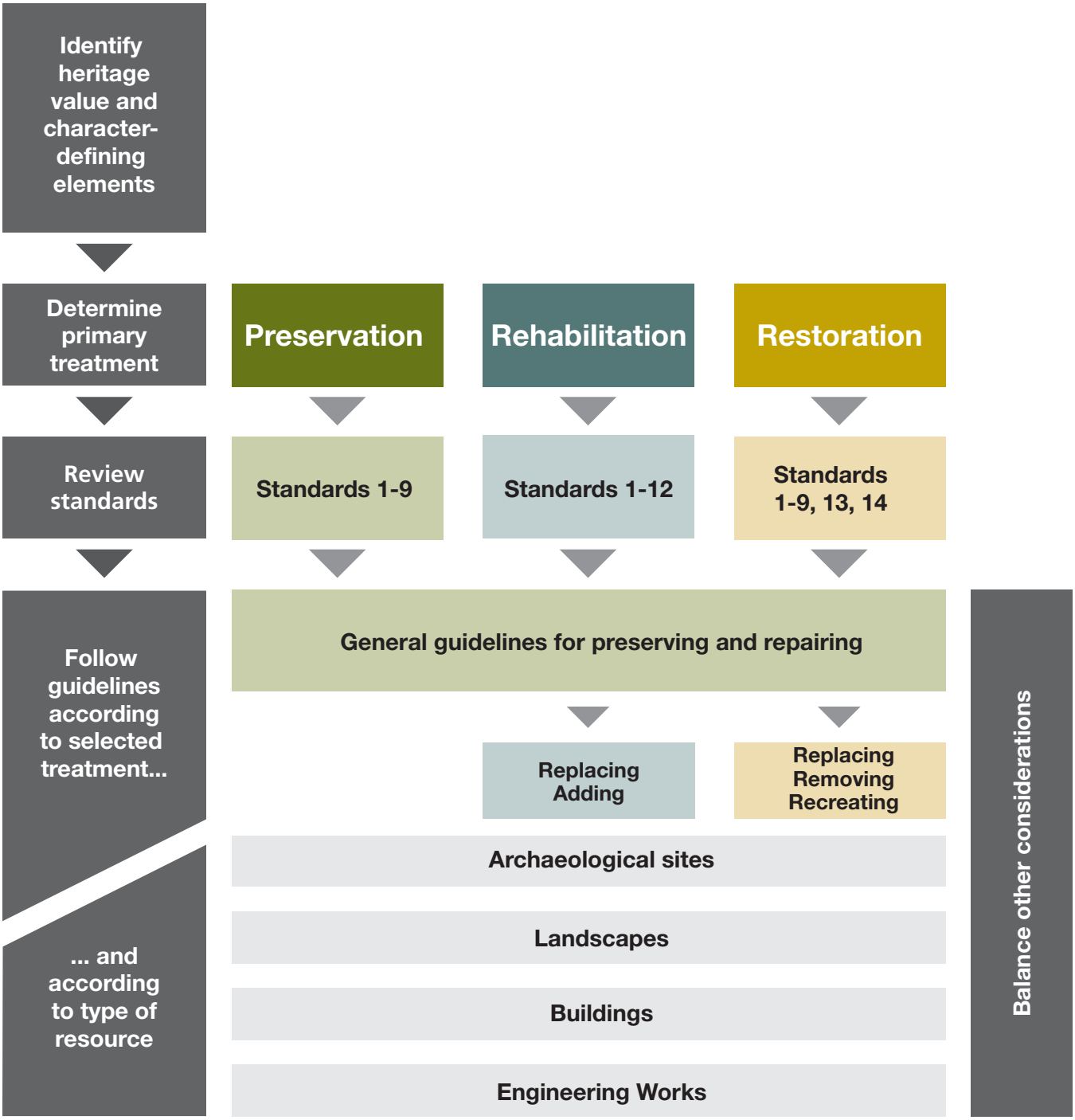
4. Follow the Guidelines for the Appropriate Resource Type and Treatment

A thorough **understanding** of a historic place and its components is essential to good conservation practice. The better the understanding, the more likely heritage value will be respected. The Guidelines therefore always recommend **documenting, identifying, surveying and analyzing the form, materials and condition** (and function and interrelationships, where applicable) **of the historic place and its components before the project work begins.**

Balancing health and safety and other issues with conservation objectives is an extremely important aspect of any conservation project. The challenge often involves meeting requirements such as fire codes, seismic standards or the use of chemicals, while minimizing the negative impact on a historic place's heritage value. A conservation project's chances of success may depend on the extent to which fundamental issues of health, safety and heritage value can be adequately reconciled. Therefore, a general discussion on meeting these concerns while respecting heritage value is presented at the beginning of the Guidelines section (Balancing other considerations). Detailed recommendations on these issues can be found in Section 4, Other Considerations.

After an understanding of the historic place and its components has been developed and other applicable issues have been given consideration, the next step is **following the appropriate Guidelines**. In terms of resource types, the Guidelines are divided into four parts: archaeological sites, landscapes, buildings and engineering works. For ease of use, the landscapes and buildings Guidelines are subdivided into separate components, such as landforms or windows.

These Guidelines, which deal with different resource types including their separate components, **should not be used in isolation.** There may be heritage value in the relationships between archaeological sites, landscapes, buildings or engineering works, and these values should not be compromised when undertaking a project on individual components of a historic place.


Identify heritage value and character-defining elements
Determine primary treatment
Review standards
Follow guidelines according to selected treatment...
... and according to type of resource
Preservation
Rehabilitation
Restoration
Standards 1-9
Standards 1-12
Standards 1-9, 13, 14
General guidelines for preserving and repairing
Replacing
Adding
Replacing
Removing
Recreating
Archaeological sites
Landscapes
Buildings
Engineering Works
Balance other considerations

In terms of treatments, each of the Guideline sections in this document begins with recommendations concerned with ***Preserving***, i.e., stabilizing, protecting, maintaining and/or retaining the elements that are important in defining the heritage value of the historic place. ***All* conservation projects should follow these Guidelines**. For projects requiring more than *Preservation*, one can follow either the additional Guidelines for *Rehabilitation* or the additional Guidelines for *Restoration*.

The Guidelines' approaches to work, treatments, and techniques that are consistent with the Standards for the Conservation of Historic Places in Canada are listed in the "**Recommended**" column on the left; those that are not are listed in the "**Not Recommended**" column on the right.

5) Undertake the Project Work

The project work is a critical phase in the conservation process. It is just as important to have well-supervised people with the right skills undertaking the work as it is to determine the right work to undertake. While giving advice on project management and related activities is beyond the scope of this document, one can safely say that **it is vital to ensure that all those involved in the actual work of a conservation project possess the right training and skills**. They must be familiar with special conservation approaches **and understand the scope of the project**. Furthermore, while significant interventions may be necessary in a conservation project, **the best long-term investment in a historic place is adequate and appropriate maintenance.**

2 Standards for the Conservation of Historic Places in Canada

The Standards for the Conservation of Historic Places in Canada are intended to promote responsible conservation practices that help protect Canada's irreplaceable historic places. They provide a philosophical consistency for project work; and while neither technical nor case-specific, they provide the framework for making essential decisions about which features of a historic place should be maintained, and which can be altered.

1- Klondike, Yukon, © Guy Masson, PWGSC, 1992
2- Winnipeg, Manitoba, © Guy Masson, PWGSC, 1982
3- Dawson City, Yukon, © Guy Masson, PWGSC, 1989
4- Head-Smashed-In Buffalo Jump, Fort MacLeod, Alberta, © Parks Canada

Applying the Standards

The Standards are to be applied to historic places, which have been (or could be) recognized by an appropriate authority for their *heritage value*, i.e., for their aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present, or future generations. Historic places can include archaeological sites with resources on or below ground or under water, such as battlefields or shipwrecks; landscapes of all types and sizes, with their related natural and built features, such as urban parks or Aboriginal sacred sites; buildings such as individual houses or entire urban districts; and engineering works of all materials, construction types and sizes such as bridges or mining headframes. The Standards can also be applied to new construction attached, adjacent or related to any of these resource types. They are to be applied to specific conservation projects in a reasonable manner, taking into consideration economic and technical feasibility.

Conservation in the context of these Standards refers to retaining the heritage value of historic places and extending their physical life. Retaining the heritage value of historic places is primarily ensured through *interventions*, i.e., any actions (or deliberate inactions) that have a physical effect on the tangible elements of a historic place that do not obscure, damage, or destroy character-defining elements. The latter consist of the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of the historic place.

It is useful to consider conservation under three distinct headings: *Preservation, Rehabilitation* and *Restoration,* while recognizing that a given conservation project will often include a combination of these activities.

Preservation

Preservation involves protecting, maintaining and stabilizing the existing form, material and integrity of a historic place, or of an individual component, while protecting its heritage value. There are nine Standards relating to *Preservation,* and they must all be applied to a *Preservation* project.

Since protection, maintenance and stabilization are at the core of *all* conservation projects, all nine *Preservation* Standards must be applied to *any* conservation project.

***Preservation* should be considered as the primary treatment when** (a) the historic place's materials, features and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; (b) depiction during a particular period in its history is not appropriate; and (c) a continuing or new use does not require extensive alterations or additions. *Preservation* tends to be the most cautious of the conservation treatments and retains the most materials. It is therefore most appropriate when heritage values related to physical materials dominate. A plan for *Preservation* should be developed before work is undertaken.

Rehabilitation

Rehabilitation involves the sensitive adaptation of a historic place or of an individual component for a continuing or compatible contemporary use, while protecting its heritage value. This is achieved through repairs, alterations and/or additions.

Three Standards relate to *Rehabilitation* and all three must be applied to a *Rehabilitation* project, in addition to the nine Preservation Standards.

Rehabilitation **should be considered as the primary treatment when** (a) repair or replacement of deteriorated features is necessary; (b) alterations or additions to the historic place are planned for a new or continued use; and (c) its depiction during a particular period in its history is not appropriate. *Rehabilitation* can revitalize historical relationships and settings and is therefore most appropriate when heritage values related to the context of the historic place dominate. A plan for *Rehabilitation* should be developed before work begins.

Restoration

Restoration involves revealing, recovering or representing the state of a historic place or of an individual component, as it appeared at a particular period in its history, as accurately as possible, while protecting its heritage value.

Two Standards relate to *Restoration,* both of which must be applied to a *Restoration* project, in addition to the nine *Preservation* Standards.

Restoration **may be considered as the primary treatment when** (a) the significance of a historic place during a particular period in its history *significantly* outweighs the potential loss of existing materials, features and spaces from other periods; (b) there is substantial physical and documentary or oral evidence to accurately carry out the work; and (c) contemporary alterations and additions are not planned. *Restoration* is most appropriate when strong associative or symbolic heritage values have been obscured and can be revealed through removals, repairs and replacements based on detailed historical evidence. Before the work begins, a particular period (i.e., the restoration period) must be selected and justified, and a plan for *Restoration* should be developed.

A word of caution is in order: the removal of materials, features and spaces can result in considerable change to a historic place. The *Restoration* plan must therefore include a thorough analysis of the heritage value of the existing historic place as part of the justification for this potentially damaging treatment.

Standards

Definitions of the terms in *italics* can be found in the Introduction. The Standards are not presented in a sequential or hierarchical order, and as such, equal consideration should be given to each. All standards for any given type of treatment must therefore be applied simultaneously to a project.

General Standards (all projects)

1. Conserve the *heritage value* of a historic place. Do not remove, replace, or substantially alter its intact or repairable *character-defining elements.* Do not move a part of a *historic place* if its current location is a *character-defining element.*

2. Conserve changes to a *historic place* which, over time, have become *character-defining elements* in their own right.

3. Conserve *heritage value* by adopting an approach calling for *minimal intervention.*

4. Recognize each *historic place* as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other *historic places* or other properties or by combining features of the same property that never coexisted.

5. Find a use for a *historic place* that requires minimal or no change to its *character-defining elements.*

6. Protect and, if necessary, stabilize a *historic place* until any subsequent *intervention* is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbance of archaeological resources, take mitigation measures to limit damage and loss of information.

7. Evaluate the existing condition of *character-defining elements* to determine the appropriate *intervention* needed. Use the gentlest means possible for any intervention. Respect *heritage value* when undertaking an *intervention.*

8. Maintain *character-defining elements* on an ongoing basis. Repair *character-defining elements* by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of *character-defining elements,* where there are surviving prototypes.

9. Make any *intervention* needed to preserve *character-defining elements* physically and visually compatible with the *historic place,* and identifiable upon close inspection. Document any intervention for future reference.

(continued)

Additional Standards Relating to Rehabilitation

10. Repair rather than replace *character-defining elements.* Where *character-defining elements* are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements. Where there is insufficient physical evidence, make the form, material and detailing of the new elements compatible with the character of the *historic place.*

11. Conserve the heritage value and *character-defining elements* when creating any new additions to a historic place or any related new construction. Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place.

12. Create any new additions or related new construction so that the essential form and integrity of a *historic place* will not be impaired if the new work is removed in the future.

Additional Standards Relating to Restoration

13. Repair rather than replace *character-defining elements* from the restoration period. Where *character-defining elements* are too severely deteriorated to repair and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements.

14. Replace missing features from the restoration period with new features whose forms, materials and detailing are based on sufficient physical, documentary and/or oral evidence.



3 Guidelines for Archaeological Sites, Landscapes, Buildings, and Engineering Works

The Guidelines for Preserving, Rehabilitating and Restoring archaeological sites, landscapes, buildings and engineering works have been prepared to provide direction on how the Standards for the Conservation of Historic Places in Canada are to be interpreted and applied. They are intended for owners, managers and developers of historic places, conservation practitioners and contractors. They are also intended for project reviewers prior to and after treatment, if compliance with the Standards and Guidelines has been mandated.

1- Fort Battleford, Saskatchewan, © Guy Masson, PWGSC, 1994
2- Mount Royal Park, Montreal, Quebec, © Susan Ross, 2001
3- Percy Covered Bridge, Quebec, © Gerard Van Rijn, Parks Canada, 2003
4- Former Hay house, Killarney, Manitoba, © Manitoba Culture, Heritage and Tourism, 1995

Applying the Guidelines

As noted earlier, the Standards have been designed to be applied to all types of historic places included in the Canadian Register of Historic Places. The Guidelines, however, apply to *specific* resource types: archaeological sites, landscapes, buildings and engineering works.

The Guidelines are not meant to give case-specific advice or to address exceptions or rare instances. It is therefore recommended that the advice of qualified conservation professionals be obtained early in the planning stage of the project. Such professionals may include conservation architects, conservation engineers, conservation landscape architects, architectural historians, historians, archaeologists and others who have experience in working with historic places. For historic places imbued with spiritual or other non-material cultural values, persons recognized and accepted as competent in such matters should be consulted.

The Guidelines' approaches to work, treatments and techniques that are consistent with the Standards for the Conservation of Historic Places in Canada are listed in the "**Recommended**" column on the left; those that are not appear in the "**Not Recommended**" column on the right.

The Guidelines are presented in ascending sequence of lesser to greater intervention — from documenting, to maintaining, to repairing, to replacing character-defining elements. Since the expressed objective of the Standards is to conserve the character of historic places, projects should focus on the first activities in the sequence of Guidelines, i.e., applying the standard of "minimal intervention" and resort to the last activities in the sequence only when essential functional goals cannot otherwise be met.

Protecting and maintaining character-defining elements using non-destructive methods is always recommended for historic places. Protection can include such activities as limited paint removal and reapplication of protective coatings.

Preserving Elements

The Guidelines always begin with a recommendation on **preserving** elements that are important in defining the overall heritage value of the historic place. The heritage value may be defined by the form and detailing of materials, such as wood and metal, and of features, such as windows, vegetation, machinery and spatial relationships, as well as structural and mechanical systems; and by uses and cultural associations.

Next are recommendations about **documenting** the character-defining elements prior to beginning project work. This includes identifying their location, form and materials (and their function and relationships, where applicable), and analyzing them in order to gain a thorough understanding of the historic place and its components. An overall evaluation of their physical condition should always begin at this level.

Recommendations are then presented on **protecting and maintaining** elements, with an emphasis on non-destructive methods and daily, seasonal and cyclical tasks such as maintenance. Protection generally represents the least degree of intervention. For example, protection includes the maintenance of historic material through treatments such as rust removal, limited paint removal and the re-application of protective coatings; cyclical pruning, top-dressing and cleaning of drainage inlets or outlets; or installation of fencing, alarm systems and other preventive measures.

Then, recommendations are provided on **retaining** sound elements and elements that can be repaired, rather than removing or reconstructing them.

Recommendations on **stabilizing** fragile and deteriorated elements follow next. This typically involves interim structural reinforcement, protection from the weather and correction of any unsafe conditions, as may be required, until any additional work is undertaken. A *limited* amount of **repair and replacement** may be acceptable at this point for extensively deteriorated or missing *parts* of an element, if the repair focuses on using limited reinforcement or well-tested consolidants, or if the replacement is done "in kind" (i.e., with the same form, material and detailing as the existing), where there are surviving prototypes.

Each section on *Preserving* elements concludes with a recommendation to evaluate the overall physical condition of the element to determine whether more than protection, maintenance and limited repair or replacement in kind are required.

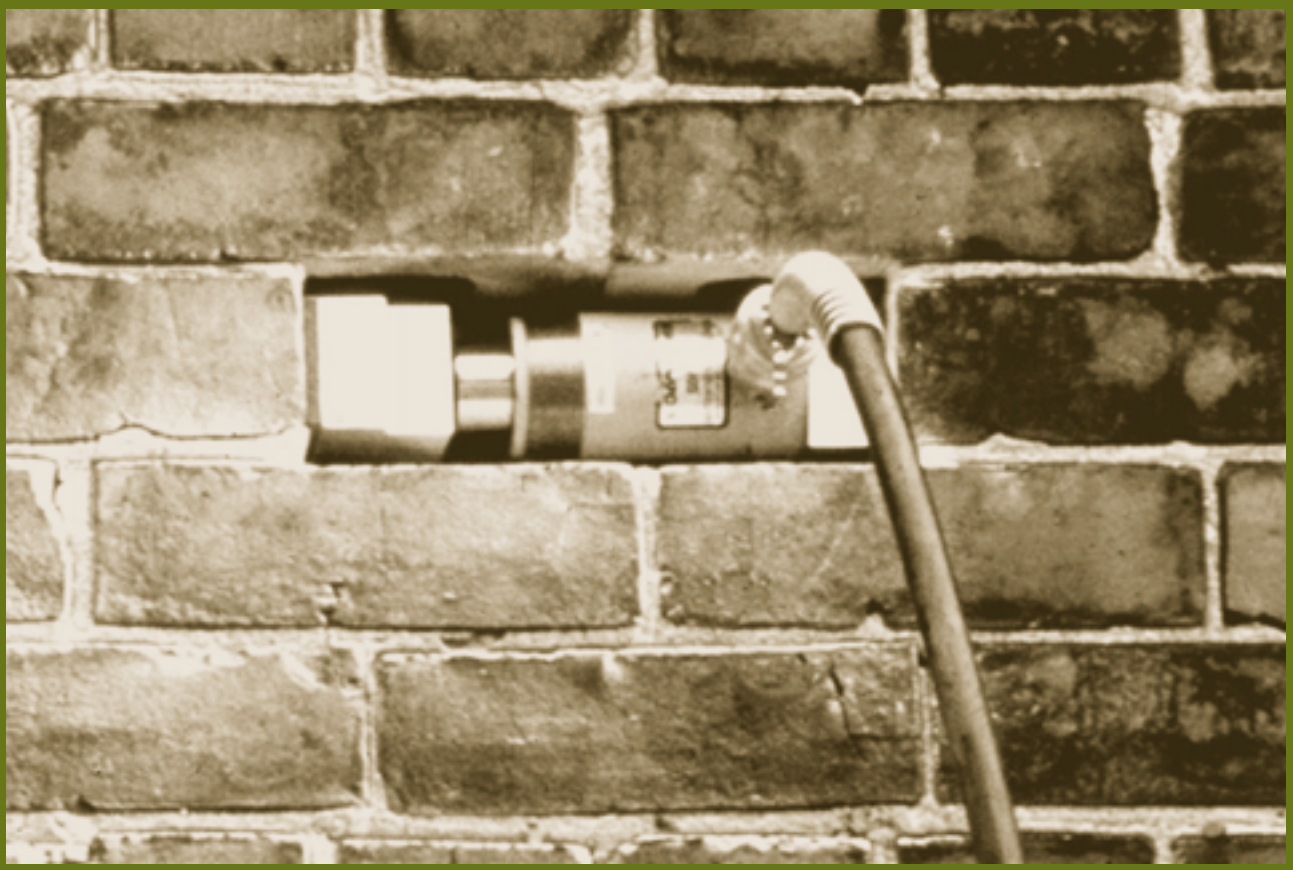
Repairing Elements

When the physical condition of character-defining elements warrants more than protection, maintenance, or limited repair and replacement in kind, **repairing** is recommended. Guidance for the repair of materials such as masonry, wood and metal begins with the least degree of intervention possible, such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods.

In *Restoration* projects, all repair work should be unobtrusively dated to guide future research and treatment.

Replacing Elements

Following repair in the hierarchy of conservation interventions, guidance is provided for **replacing** *all or part* of a character-defining element (for example, a storefront, an interior staircase, or a diseased sentinel tree), if there is sufficient physical evidence to match the forms, materials and detailing of a sound version of the same element. Replacement may be required because an existing feature is so severely deteriorated or damaged that repair is not possible, or because a feature is missing entirely. In all cases where replacement is required, sound elements that may be part of a larger grouping should be preserved. For example, a few brackets in a cornice, a few windows in a factory, or



Minimally destructive testing techniques should be used to determine the strength of materials. For example, this in-place "push test" uses a calibrated hydraulic ram and a pressure gauge to measure the actual shear strength of a traditional brick wall, and thus its seismic resistance. A single brick beside the brick being tested is removed to accommodate the hydraulic ram (and is replaced in the wall after completion of the test).

a few plantings in a flowerbed may be salvageable, even though the overall character-defining element is severely damaged. Retaining even a small piece of the latter will sustain an important historic record, provide a point of reference for new work and enhance the richness of the site.

The specific guidance on replacement for *Rehabilitation* and *Restoration* projects is slightly different:

In a *Rehabilitation* project, replacing an **existing** feature that is beyond reasonable repair may be appropriate if its essential form and detailing are still evident. Replacing a feature that is **missing** but is known from physical, documentary and oral evidence may be appropriate; accepting the loss and not intervening is another possibility. (Where an important feature is missing, its replacement is always recommended in these Guidelines as the *first*, or preferred, course of action.) The approach for replacement work will depend on the overall design approach and design intentions for the historic place, and most particularly on achieving a visual and functional balance between the new work and the remaining historic "fabric." In some cases, the preferred design approach will be replacement "in kind" (with the same form, material and detailing as the existing); in other cases, substitute forms, materials or detailing may be appropriate. In both cases, the replacement should be visually and physically compatible with the fabric and character of the historic place and, secondarily, should be distinguishable from the historic place. If the replacement is in kind, the work need only be distinguishable on close inspection; otherwise, it should be distinguishable at a glance to avoid creating a misleading or false historic appearance.

In a *Restoration* project, replacement, as a rule, should be done in kind. **Re-creating** earlier forms, materials, textures, finishes, colours and detailing, as well as patterns and relationships, can help to recover or represent a historic place as it appeared at a particular period in its history. Success is largely a question of accuracy, and this requires scrupulous attention to the physical, documentary and oral evidence, as well as careful monitoring of the replication process. The replacement work will normally be distinguishable only on close inspection, or as part of the project documentation. The source of the information (the physical evidence, such as paint traces, and the documentary and oral evidence, such as historic photographs or traditional knowledge) and the extent of the replacement (how much was replaced, and where was it replaced) should both be carefully documented. If there is insufficient physical, documentary and oral evidence to establish a reasonable level of accuracy, then *Restoration* is probably *not* an appropriate treatment.

Removing Existing Features from Other Periods

In a *Restoration* project, the goal is to depict the appearance of a historic place or an individual component as it appeared at a particular period in its history (usually the most significant). Thus, specific guidance is included on **removing** or altering existing features such as landforms, roof dormers or windows that do not represent the restoration period. (Since this can result in considerable change to a historic place, *Restoration* should be undertaken only when the place's heritage value relates very specifically to a single period in its history.) Before such materials, features, spaces, or finishes from other periods are altered or removed, they should be documented to guide future research and treatment.

Alterations/Additions for a New Use

In a *Rehabilitation* project, some alterations to a historic place may be needed to assure its continued use. If this is the case, it is most important that such alterations do not obscure, radically change, or destroy character-defining materials, forms, spatial configurations, uses or cultural associations and meanings. Alterations required for the new use could include providing additional parking space, installing landscape drainage systems, cutting new entrances or windows on secondary building elevations, inserting an additional floor, installing an entirely new mechanical system, or creating an atrium or light well.

The construction of an exterior **addition** in a historic place may seem to be essential for the new use, but it is emphasized in the Guidelines that such new additions should be avoided, if possible, and considered *only* after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and created so that the heritage value of the historic place is not radically changed and to ensure that its character-defining elements are not obscured, damaged, or destroyed. The addition should be physically and visually compatible with, subordinate to and distinguishable from the historic place, so that a false historical appearance is not created.

Additions and alterations to historic places are mentioned within specific sections of the Guidelines such as Landforms, Roofs, Structural Systems, etc., but are addressed in more detail in New Additions to Historic Places, in Section 4: Other Considerations.

Substitute Materials

Historic materials should be used whenever possible. Substitute materials — those products used to imitate historic materials — should be used only after all other options for repair and replacement in kind have been ruled out. Substitute materials are normally used only when the historic materials or craftsmanship are no longer available, when the original or existing materials are of a poor quality or are causing damage to adjacent materials, or when there are specific regulations that preclude the use of historic materials. Use of these materials should be limited, since replacement of historic materials on a large scale may jeopardize the integrity of a historic place.

Every means of repairing deteriorating historic materials or replacing them with identical materials should be examined before turning to substitute materials. Because there are so many unknowns regarding the long-term performance of substitute materials, their use should not be considered without a thorough investigation into the proposed materials, the manufacturer , the installer, the availability of specifications and the use of that material in a similar situation in a similar environment. The importance of matching the appearance and physical properties of historic materials and, thus, of finding a successful long-term solution cannot be overstated.

The long-term performance of many substitute materials is uncertain. This is why historic materials should be used wherever possible. Instead of repairing and repainting the wood elements of this character-defining balcony (original balcony above, altered balcony below), the existing wood structure was covered in metal and fiberglass cladding. The original colours that matched the remaining wood windows and details such as a drip moulding were lost. Materials that are considered "low-maintenance" are often used as new substitutes, although they may be less durable in the longer term.

Under certain circumstances, substitute materials may be appropriate. As part of a *Rehabilitation* project, new finials were designed based on remains of originals. The originals were fabricated of wafer thin galvanized metal soldered together. The substitute material used in the new design was plate aluminum.

Balancing Other Considerations

In a conservation project, there may be a need to strike a reasonable balance between health and safety, land use or other regulations and the conservation of the character-defining materials, forms, spatial configurations, uses and cultural associations or meanings of a historic place. Fulfilling the requirements set down in regulations such as by-laws and construction codes should include creative solutions that also preserve a historic place's heritage value.

The Guidelines recommend that repairs or alterations should not radically change, obscure, damage or destroy character-defining elements in the process of meeting other requirements. Thus, actions such as seismic upgrading or abatement of lead paint and asbestos within a historic place require particular care if the heritage value is not to be adversely affected. In addition, alterations and new construction needed to meet requirements such as universal accessibility should respect heritage value and character-defining elements of the historic place. Even recognized preservation methods, if improperly applied (such as washing exterior masonry when there is a possibility of freezing temperatures), may cause or accelerate the physical deterioration of a historic place.

Alterations or new construction designed to meet requirements such as accessibility need to be carefully thought out in order to respect the character-defining elements of a historic place. Accessibility requirements at Province House in Charlottetown, Prince Edward Island were met by changing the slope in the grounds as part of the rehabilitation of the landscape in front of the main entrance. The change in grade is limited to the middle section of the building in order to preserve the view of the base course and the use of sections of the original steps.

A general discussion on ways of addressing health and safety, accessibility, energy efficiency and ecological concerns while respecting heritage value is presented herein. Detailed recommendations on these issues can be found in Section 4, Other Considerations.

Health And Safety

In undertaking work on historic places, it is necessary to consider the impact that compliance with current health and safety codes (public health, occupational health, life safety, fire safety, electrical, seismic, structural and building codes) will have on a historic place's heritage value. Special coordination with the proper code officials may be required. Securing required permits is best accomplished early in project planning. It is often necessary to look beyond the "letter" of code requirements to their underlying purpose; most modern codes allow for alternative approaches and reasonable variance to achieve compliance.

Some historic materials (insulation, lead paint, etc.) contain toxic substances that are potentially hazardous to people. Following careful investigation and analysis, some form of abatement may be required. All workers involved in the encapsulation, repair or removal of known toxic materials should be adequately trained and should wear proper personal protective gear. Finally, preventive and routine maintenance for historic places known to contain such materials should also be developed to include proper warnings and precautions.

Accessibility

Providing people of all ages, interests and capacities with broad, general access to heritage places — and ensuring that such access is accompanied by adequate psychological comfort and dignity — is a highly desirable and therefore a frequently mandated social goal. In general, the solutions that best balance accessibility needs with heritage values are those that enhance the use and appreciation of a property for everyone. Work should be carefully planned and undertaken so that damage to a historic place's heritage value and character-defining elements is minimized: the objective is to provide the highest level of access with the lowest level of impact. To determine the most appropriate solutions to access problems, it is recommended that accessibility and conservation specialists, as well as affected users, be consulted early in the planning process.

Energy Efficiency

Some features of a historic place such as treed windbreaks, window shutters and porches can play an energy-conserving role. Therefore, prior to adapting or retrofitting historic places to make them more energy efficient, the first step should always be to identify and evaluate existing features to assess their inherent energy-conserving potential. Any decision to proceed with energy saving measures should include a step where the total environmental cost of these measures is weighed against the overall environmental costs of retaining the existing features. If it is determined that retrofitting measures are appropriate, such work then needs to be carried out with particular care to ensure that character-defining elements are not obscured, damaged, or destroyed.

Environmental Considerations

Modifications undertaken to comply with environmental objectives such as protecting a rare or endangered species' nesting area should not result in the damage or loss of a historic place's heritage value and character-defining elements. To determine the most appropriate solutions to meet environmental objectives, it is recommended that officials be consulted early in the planning process. In the case of environmentally motivated requirements, it may be possible to develop systems, methods, devices or technologies of equivalent or superior effectiveness to those prescribed by regulation so that damage to character-defining elements can be avoided.



Guidelines for Archaeological Sites

An archaeological site refers to physical evidence of past human activity found in a specific location on or below the ground, or under water. (A palaeontological site refers to the physical evidence of fossilized animals and plants; both types of evidence may be associated with the same location.) An archaeological site is comprised of features, structures and objects, including artefacts, soil, botanical samples, animal bones, pollen, or any specimen of archaeological interest. Identifying an archaeological site is a remarkable — and perhaps unique — opportunity to learn about the ancient and the not-so-ancient past of this country.

These Guidelines, which address archeological sites, including their separate components, should not be used in isolation. There may be heritage value in the relationships between archaeological sites and landscapes, buildings or engineering works, and therefore, those sections of the Guidelines should also be consulted when undertaking a project. The intention is to protect ALL heritage values associated with the historic place.

1- Fort Battleford, Saskatchewan, © Guy Masson, PWGSC, 1994
2- Ferryland, Newfoundland, © Ève Wertheimer, 2003
3- Champs-de-Mars, Montreal, Quebec, © Guy Masson, PWGSC, 1999
4- Robson Road, Leamington, Ontario, © Jim Molnar, 1987

Archaeology and the Law

Provinces and territories have laws that relate to exploration for and the discovery and disturbance of archaeological resources. These should be consulted before undertaking any work that could result in the disturbance of archaeological resources. It is a complex subject and providing precise instructions on how to evaluate, excavate, stabilize, monitor or generally manage archaeological sites in Canada lies beyond the scope of this document. For specific guidelines dealing with these activities, consult the appropriate permitting agency. Some general concepts, however, are common to all or almost all provincial and territorial legislation. These are explained in detail in *Unearthing the Law: Archaeological Legislation on Lands in Canada* (Parks Canada, 2000) and are summarized here.

The various laws related to archaeological sites apply not only to physical evidence *in* the ground and under water, but *on* the ground as well — and *above* the ground for old carvings in rock in British Columbia and Ontario or culturally modified trees in British Columbia. The laws also require governments and members of the private sector to *plan* for archaeology and to *protect* archaeological resources, whether discovered by accident or as part of a conscious research effort.

Accidental Discoveries

All the laws explain what to do in the event of accidental discoveries, involving either artefacts or human remains. In the event of the accidental discovery of human remains, the laws specify that all activities *must* be halted, the area secured and the police called. The police will determine whether the site is a crime scene or "archaeological," and then contact the relevant authorities.

While human remains are, by law, managed separately from archaeological resources, respecting their association with archaeological resources, as well as their physical and interpretive context, is still very important. A prerequisite for any physical anthropology research on human remains is consultation with relatives and/or an existing cultural group(s) thought to have a direct relationship with the remains to be studied.

The laws are less explicit about what to do in the event of the accidental discovery of artefacts not involving human remains. In general, all work that could potentially threaten the site should be halted, the site secured and the responsible provincial, territorial or federal archaeological officials notified. Where there is any doubt as to whether a find is an archaeological object, it is best to obtain expert advice immediately.

Archeological Sites such as the Champs-de-Mars not only add to our knowledge of past times and people, they can enrich our environment.

Authorized Exploration

Under the laws of the provinces and territories, all archaeological exploration must be authorized. This includes scanning the land visually or with various kinds of equipment (e.g., metal detectors), though British Columbia, Alberta and Saskatchewan require a permit only if the applicant intends to dig or "disturb" the soil, or move or alter an archaeological object. Every province and territory has a governmental body with an established format for permit applications and for filing reports for authorized archaeological exploration. As part of the permit process, consultations with affected groups (such as Aboriginal people) may be stipulated.

The federal government also has various policies and departmental directives that support archaeological evaluation and interventions when projects could potentially disturb the land.

Recognized Archaeological Sites

A number of historic places in Canada are archaeological sites or include an archaeological component that is a character-defining element of the recognized historic place. General guidelines for maintaining the physical integrity of such archaeological sites are provided in the following pages. The focus of these guidelines is on *Preservation*; i.e., on documenting, stabilizing, protecting, maintaining and retaining the archaeological site. There are no guidelines provided for *Restoring* or *Rehabilitating* an archaeological site, as there are for historic landscapes, buildings and engineering works, since these treatments have limited and specific application in the field of archaeology.

Note: Protecting archaeological resources is required by provincial, territorial and federal law. Obtaining qualified advice on meeting the obligations spelled out in the various archaeological legislation, policies and directives is strongly recommended.

It is important to remember that protecting archaeological resources is required by law. Obtaining qualified advice on meeting the obligations is spelled out in the various archaeological legislation, policies and directives, and is strongly recommended.

Guidelines for Archaeological Sites

Archaeological sites in the context of these Guidelines are the physical traces of material culture left behind by people in the past. Examples include evidence of past human activity such as a stone tool flaking area, a butchering site, a fishing station or an industrial site; remains of human settlement such as a temporary shelter, building, trading post, agricultural settlement or village; vestiges of means of communication or transportation, such as a ship or dugout canoe; and the context in which these traces are found, including the stratigraphy and the spatial distribution of artefacts. These remnants of the past may be visible on the surface of the earth, or deeply buried, leaving no indication of their existence; or, partially or completely submerged in a lake, a river or the sea, like a shipwreck.

Recommended	Not Recommended
Preserving archaeological sites that are important in defining the overall heritage value of the historic place.	Removing or damaging archaeological sites that are important in defining the overall heritage value of the historic place, which diminishes the heritage value.
Documenting and surveying the historic place and surroundings prior to beginning project work and, in particular, the zones where the terrain will be altered, in order to determine the potential impact on archaeological sites.	Damaging or destroying archaeological sites by failing to document and survey the historic place before beginning project work.
Protecting and maintaining the context of archaeological sites, including the stratigraphy and the spatial distribution of artefacts, in order to retain the associated scientific and research information for those sites.	Disturbing the context of archaeological sites, thus compromising the associated scientific and research information for those sites.
Protecting archaeological sites in place by identifying, evaluating and treating the causes of deterioration, such as environmental erosion or tourism-generated traffic.	Failing to undertake adequate measures to protect the archaeological sites in place from environmental or human damage.
Providing proper drainage for terrestrial sites to ensure that water does not damage or destroy archaeological sites.	Failing to maintain adequate drainage for terrestrial sites so that archaeological sites are damaged or destroyed; or alternatively, changing the terrain grading so that water no longer drains properly.
Minimizing disturbance of the terrain, thus reducing the possibility of damaging or destroying archaeological sites.	Introducing a use, activity, feature, or piece of equipment (such as on-site parking or heavy machinery) into areas where it will disturb or damage archaeological sites.
Protecting archaeological sites against unauthorized activity before work begins, such as erecting protective fencing or installing alarm systems that are keyed into local protection agencies.	Allowing the historic place to remain unprotected so that archaeological sites are damaged or destroyed.

Recommended	Not Recommended
Retaining features such as ground cover that help to protect archaeological sites.	Removing or altering protective features so that archaeological sites are exposed to an increased risk of damage or deterioration.
Monitoring archaeological sites on a regular basis in order to maintain a stable environment.	Failing to monitor archaeological sites on a regular basis, thus increasing the chances of a destructive change in the site's environment going undetected and untreated.
Planning and carrying out any necessary investigation and salvage work using qualified personnel such as trained archaeologists. Such work would be undertaken only if the archaeological site must be disturbed, and then only after the required mitigation efforts have been explored.	After the required mitigation efforts have been explored, permitting unqualified personnel to perform salvage work and data recovery on archaeological sites, creating a situation where improper methodology results in the loss of important archaeological data or material.
Ensuring that there is a reasonable balance between the scientific and research knowledge that may be gained from excavating archaeological sites and the preservation of archaeological resources in place.	Excavating archaeological sites to such an extent that the preservation of archaeological resources in place is seriously compromised, thus significantly reducing the potential for future research and presentation.
Protecting the physical integrity of archaeological objects and records during and after excavation.	Failing to protect the physical integrity of archaeological objects and records during and after excavation.
Ensuring the proper long-term storage of archaeological objects related to the site in order to minimize their deterioration.	Failing to provide proper long-term storage for archaeological objects.

The physical integrity of this excavated archaeological site at Fort Battleford, Saskatchewan was temporarily protected from accidental disturbance by covering the ground with plastic sheets and erecting a small barrier fence. As required by law, the archaeological exploration was authorized and a permit was obtained before excavation began.



Guidelines for Landscapes

Landscapes in the context of these Guidelines are exterior spaces that have been assigned cultural (including spiritual) meaning, such as an Aboriginal sacred site, or have been deliberately altered in the past for aesthetic, cultural, or functional reasons, such as a city park, a cemetery or a backyard garden. Landscapes include land patterns, such as the Métis river lot system; landforms, such as hills, prairie or terraces; spatial organization, such as the relation of a house to a barn; and vegetation, such as trees, shrubs or herbaceous plants. They also include related circulation systems, such as paths, roads, parking lots, rail lines and rights-of-way or canals; water features such as lakes, streams, pools or fountains; built features such as light standards, fences, benches or statuary; and views or other visual relationships.

These Guidelines, which address landscapes, including their separate components, should not be used in isolation. There may be heritage value in the relationships between landscapes and archaeological sites, buildings or engineering works, and therefore, those sections of the Guidelines should also be consulted when undertaking a project. The intention is to protect ALL heritage values associated with the historic place.

1- Motherwell Homestead, Saskatchewan, © Guy Masson, PWGSC, 1987
2- Hatley Park, Victoria, British Columbia, © Guy Masson, PWGSC, 1987
3- Forestry Farm and Zoo, Saskatoon, Saskatchewan, © Joann Latremouille, PWGSC, 2002
4- Maplelawn, Ottawa, Ontario, © Lloyd Brown, 2002

Land Patterns

Recommended	Not Recommended
Preserving land patterns — such as the overall arrangement and interrelationship of forests, meadows, water, topography, built features and other larger landscape components that are important in defining the overall heritage value of the landscape.	Removing or radically changing land patterns that are important in defining the overall heritage value of the landscape.
Documenting the overall pattern of the landscape; the size, configuration, proportion and relationship of its larger components, such as forests or fields; and its evolution and condition prior to beginning project work. Documentation also includes identifying the intangible values that contribute to the meaning of land patterns, such as associations from Aboriginal oral traditions.	Undertaking project work that will have an impact on character-defining land patterns without first documenting and understanding their characteristics, relationships, evolution, conditions, intangible values and environmental context.
Evaluating and understanding the local environmental context, including climate, prevailing winds, underlying topography and ecological processes.	
Protecting and maintaining features that define land patterns by using non-destructive methods in daily, seasonal and cyclical tasks. This could include maintaining the topography, vegetation and structures that comprise the overall pattern of the landscape.	Allowing land patterns to be altered through incompatible development or neglect. Utilizing maintenance methods that destroy or obscure the landscape's land patterns.
Retaining sound land patterns or deteriorated land patterns that can be repaired or rejuvenated.	Replacing land patterns that can be repaired or rejuvenated.
Repairing and stabilizing deteriorated land pattern elements by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated land pattern elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of land patterns where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire land pattern element such as a forest when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic land pattern element.
Evaluating the overall condition of the landscape's land patterns to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to the land pattern elements will be necessary.	Failing to undertake adequate measures to protect the landscape's land patterns.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating land patterns, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of land patterns in order to determine the proper method of conservation.
Repairing or rejuvenating extensively deteriorated or missing parts of features that define land patterns by using non-destructive methods and materials, such as regenerating a deteriorated meadow.	Failing to undertake necessary repairs, resulting in the loss of land patterns. Replacing a feature that defines land patterns when repair is possible.
Replacing in kind an entire feature that defines a land pattern that is too deteriorated to repair, such as replanting a clear-cut woodlot.	Removing a feature that is beyond repair and not replacing it; or replacing it with a new feature that does not respect the land pattern.

The overall arrangement of landscape may best be appreciated from an aerial view or photograph. The land patterns created by the interrelationship of larger landscape components, such as the topography, cultivated fields and human settlements of Neubergthal, Manitoba, are often more obvious from this perspective.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new features that respect or acknowledge historic land patterns. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical, documentary and oral evidence.	Introducing new features that are incompatible with the land patterns. Creating a false history because the replacement feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing new features when required by the new compatible use that do not obscure, damage or destroy character-defining land patterns, such as locating a new road to follow a forest edge.	Adding a new feature that detracts from, damages or destroys character-defining land patterns, such as draining a character-defining wetland to create a residential subdivision. Placing a new feature where it may cause damage to or is intrusive in land patterns, such as cutting a straight utility corridor through a forest with rolling topography. Introducing a new feature that is incompatible in size, scale or design.
Removing non-significant features that detract from or have altered the land patterns.	Removing historic features that are important in defining the land patterns, such as removing hedgerows that define field size.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring land patterns, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to land patterns from the restoration period will be necessary.	Failing to evaluate the overall condition of land patterns in order to determine the proper method of conservation.
Repairing or rejuvenating declining features that define land patterns from the restoration period by using non-destructive methods.	Replacing an entire feature from the restoration period that defines land patterns when repair or rejuvenation is possible; or using destructive repair or rejuvenation methods, thus causing further damage to fragile historic materials.
Replacing in kind an entire feature from the restoration period that defines land patterns, which is too deteriorated to repair or rejuvenate, such as replanting in kind a historic orchard.	Removing a feature from the restoration period that is beyond repair and not replacing it; or replacing it with a new feature that does not respect land patterns.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing land patterns from periods other than the accepted restoration period; and the replacement of missing land patterns from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering features from other periods that intrude on the historic land patterns.	Failing to remove features from another period, thus confusing the depiction of the landscape's land patterns during the restoration period.
Documenting features dating from other periods prior to their removal or alteration. If possible, selected examples of these features and materials should be stored to facilitate future research.	Failing to document features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing feature important to the land patterns that existed during the restoration period, based on physical, documentary and oral evidence.	Constructing a feature that was part of the original design or concept but was never executed, thus creating a false historic appearance; or constructing a land pattern feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Landforms

Recommended	Not Recommended
Preserving landforms — such as naturally occurring hills, valleys, slopes, plains and other topographical features, as well as terraces, embankments, berms, swales and other human-engineered topographical changes to the underlying ground plane that are important in defining the overall heritage value of the landscape.	Removing or radically changing the landform elements that are important in defining the overall heritage value of the landscape.
Documenting the elevation, slope, shape, orientation, contour, condition and function of landforms prior to beginning project work.	Undertaking project work that will have an impact on landforms without documenting the existing topographic variation, condition and function.
Evaluating the evolution of landforms over time, using archival resources such as plans and aerial photographs or, in their absence, archaeological analysis or oral history techniques, in order to understand the landforms and any cultural values associated with them.	Undertaking project work without un derstanding its impact on historic landforms.
Protecting and maintaining landforms by using non-destructive methods and daily, seasonal and cyclical tasks. This may include cleaning drainage systems or mowing vegetative cover.	Failing to undertake regular preventive maintenance. Utilizing maintenance methods that destroy or degrade landforms, such as using heavy equipment on steep or vulnerable slopes.
Retaining sound landforms or deteriorated landforms that can be repaired or rejuvenated.	Replacing landforms that can be repaired or rejuvenated.
Repairing and stabilizing deteriorated landform elements by structural reinforcement and weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated landform elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of landforms when there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire landform element such as a slope or terrace when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic landform element.
Evaluating the overall condition of landforms to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to landform elements will be necessary.	Failing to undertake adequate measures to protect landforms.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating landforms, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of the landscape's landforms in order to determine the proper method of conservation.
Repairing declining landforms. This could include re-excavating a silted swale through appropriate regrading, or re-establishing an eroding agricultural terrace.	Destroying the shape, slope, elevation or contour of landforms when repair is possible.
Replacing deteriorated landform materials and features by using the existing physical evidence of their form and composition. If using the same kind of material is not technically, economically or environmentally feasible, then a compatible substitute material may be considered. For example, eroded bunkers or ramparts in a battlefield could be re-established with a substitute soil mix that supports improved drainage and health and vigour of ground cover plant materials.	Removing a landform feature that is deteriorated and not replacing it; or replacing it with a new feature that does not convey the same visual appearance (for example, changing stepped terracing to a graded slope).

Land forms can be natural, such as hills and plains, or they can be human-engineered. Dramatic examples of human-engineered landforms that define the overall character of a landscape are the early 20th century tailing fields in the Yukon's Klondike Gold Fields.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new landform features when the historic feature is completely missing. It may be a new design that is compatible with the shape, slope, elevation and contour of the historic landform (for example, recutting an earthen embankment that has slumped or eroded over time); or a replica based on physical, documentary and oral evidence.	Introducing a new landform feature that is incompatible in shape, slope, elevation, aspect and contour. Creating a false history because the replacement feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing new landform features when required by the new use so that they are as unobtrusive as possible and assure the preservation of the historic topography. This could include incorporating existing low points in the landscape when designing and installing new drainage swales to protect historic landform features.	Placing a new feature where it may cause damage to or be incompatible with historic topography. This could include failing to provide proper drainage for a new feature, which results in the decline or loss of historic landforms. Locating a new feature in such a way that it detracts from or alters the historic topography (for example, planting trees and shrubs that mask the austerity and visual drama of a steep, grassed embankment). Introducing a new feature in an appropriate location, but making it visually incompatible in terms of its size, scale, design, materials, colour and texture, such as installing berms to screen a parking area, but using an incongruous topographic shape and contour.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring landforms, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to landforms from the restoration period will be necessary.	Failing to evaluate the overall condition of landforms in order to determine the proper method of conservation.
Repairing declining landforms from the restoration period.	Replacing an entire landform feature from the restoration period when repair is possible; or using destructive repair methods, thus causing further damage to fragile historic materials.
Replacing in kind an entire landform feature from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the feature.	Removing a deteriorated landform feature from the restoration period that is beyond repair and not replacing it; or replacing it with a new feature that does not convey the same appearance.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing landform features from periods other than the accepted restoration period; and the replacement of missing landform features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering landform features dating from other periods, such as reshaping knolls to their appearance during the restoration period.	Failing to remove landscape features from another period, thus confusing the depiction of the landscape during the restoration period.
Documenting landforms from other periods prior to their alteration or removal.	Failing to document landforms from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing landform that existed during the restoration period, based on physical, documentary and oral evidence; for example, recreating a trench and fortification from the restoration period based on stratigraphic research.	Creating a landform that was part of the original design but was never executed, thus creating a false historic appearance; or creating a landform that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Spatial Organization

Recommended	Not Recommended
Preserving the spatial organization of the landscape — such as the arrangement in three dimensions of a landscape's component elements, their relationship to each other and their relationship to the overall landscape — that is important in defining the overall heritage value of the landscape.	Removing or radically changing the spatial organization of elements and relationships that are important in defining the overall heritage value of the landscape.
Documenting the spatial organization of the landscape, including the orientation, alignment, size, configuration and interrelationships of its component features; the relationship of features to the overall landscape; and its evolution and condition prior to beginning project work. Documentation also includes recognizing the functional basis for spatial arrangements, such as siting a farmhouse upwind from a barn, as well as identifying the intangible values that contribute to the spatial organization of the landscape, such as feng shui and other locational theories and practices.	Undertaking project work that will have an impact on the character-defining spatial organization of the landscape without first documenting and understanding their characteristics, relationships, evolution, conditions and intangible values.
Protecting and maintaining features that define spatial organization by using non-destructive methods in daily, seasonal and cyclical tasks.	Allowing spatial organization to be altered through incompatible development or neglect. Utilizing maintenance methods that destroy or obscure the landscape's spatial organization.
Retaining sound spatial organizations or deteriorated spatial organizations that can be repaired or rejuvenated.	Replacing elements of the spatial organization that can be repaired or rejuvenated.
Repairing and stabilizing deteriorated elements of the landscape's spatial organization by structural reinforcement or weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated elements of the spatial organization that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of the landscape's spatial organization where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire element of the spatial organization when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the landscape's historic spatial organization.
Evaluating the overall condition of the landscape's spatial organization to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to the landscape's spatial organization will be necessary.	Failing to undertake adequate measures to protect the landscape's spatial organization.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating the spatial organization of the landscape, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of the spatial organization of the landscape in order to determine the proper method of conservation.
Repairing or rejuvenating extensively deteriorated or missing parts of features that define the spatial organization by using non-destructive methods and materials.	Failing to undertake necessary repairs, resulting in the loss of spatial organization.
	Replacing a feature that defines spatial organization when repair is possible.
Replacing in kind an entire feature that defines the spatial organization that is too deteriorated to repair.	Removing a feature that is beyond repair and not replacing it; or replacing it with a new feature that does not respect the spatial organization of the landscape.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new features that respect or acknowledge the historic spatial organization of the landscape. It may be a new design that is compatible with the character of the historic place; or a replica based on physical, documentary and oral evidence. For example, a new shrub planting could be reinstalled to define the edge of a missing historic boundary.	Introducing new features that are incompatible with the spatial organization of the landscape.
	Creating a false history because the replacement feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing new features when required by the new compatible use that do not obscure, damage or destroy the character-defining spatial organization.	Adding a new feature that detracts from or alters the spatial organization, such as constructing a new farmhouse wing on top of a kitchen garden.
	Placing a new feature where it may cause damage to or is intrusive in the spatial organization.
	Introducing a new feature that is incompatible in size, scale or design.
Removing non-significant features that detract from or have altered the spatial organization of the landscape.	Removing historic features that are important in defining the spatial organization of the landscape.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring the spatial organization of the landscape, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to the spatial organization from the restoration period will be necessary.	Failing to evaluate the overall condition of the spatial organization of the landscape in order to determine the proper method of conservation.
Repairing or rejuvenating declining features that define the spatial organization from the restoration period by using non-destructive methods.	Replacing an entire feature from the restoration period that defines spatial organization when repair or rejuvenation is possible; or using destructive repair or rejuvenation methods, thus causing further damage to fragile historic materials. This could include replacing a hedge when the existing hedge could have been pruned to generate new growth.
Replacing in kind an entire feature from the restoration period that defines spatial organization that is too deteriorated to rejuvenate.	Removing a feature from the restoration period that is beyond repair and not replacing it; or replacing it with a new feature that does not respect the spatial organization.

The character-defining spatial organization of Motherwell Homestead in Saskatchewan was preserved when the landscape was restored. In particular, the orientation, alignment, size, configuration and interrelationships of its component features, including the formal tennis lawn and ornamental garden (foreground), the household vegetable garden (beside the implement shed) and the grain fields beyond, were carefully preserved.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing spatial organization features from periods other than the accepted restoration period; and the replacement of missing spatial organization features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering features dating from other periods that intrude on the historic spatial organization of the landscape.	Failing to remove features from another period, thus confusing the depiction of the landscape's spatial organization during the restoration period.
Documenting features dating from other periods prior to their removal or alteration. If possible, selected examples of these features and materials should be stored to facilitate future research.	Failing to document features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing feature important to the spatial organization of the landscape that existed during the restoration period, based on physical, documentary and oral evidence.	Constructing a feature that was part of the original design or concept but was never executed, thus creating a false historic appearance; or constructing a feature of the spatial organization that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Vegetation

Recommended	Not Recommended
Preserving vegetation — such as trees, shrubs, herbaceous plants, grasses, vines and other living plant material that is important in defining the overall heritage value of the landscape.	Removing or radically changing vegetation that is important in defining the overall character of the landscape.
Documenting the extent and condition of broad cover types within forests, woodlands, meadows, planted and fallow fields, as well as the genus, species, caliber, height, colour, form and texture of significant individual plants prior to beginning project work.	Undertaking project work that will have an impact on character-defining vegetation without preparing a survey of existing plant material and its condition.
Evaluating the evolution of a landscape's vegetation over time, using archival resources such as plans and aerial photographs or, in their absence, archaeological analysis or minimally destructive techniques (e.g., resistivity testing to determine tree age) to understand the historic vegetation; and understanding any cultural values embedded in vegetation, such as the oak as a symbol of fortitude.	Undertaking project work such as indiscriminately clearing a woodland understory without understanding its impact on historic vegetation.
Analyzing the roles of people, animals and insects in producing and maintaining the existing vegetation.	Undertaking project work without understanding the dynamics of the ecosystem and the human history of the historic place.
Protecting and maintaining vegetation by using non-destructive methods and daily, seasonal and cyclical tasks. This could include pruning or establishing colonies of beneficial insects that protect fruit trees from pests.	Failing to undertake preventive maintenance of vegetation. Utilizing maintenance practices and techniques that are harmful to vegetation, such as insufficient or excessive irrigation.
Utilizing maintenance practices that respect the habit, form, colour, texture, bloom, fruit, fragrance, scale and context of historic vegetation.	Utilizing maintenance practices and techniques that fail to recognize the uniqueness of individual plant materials. Examples could include utilizing soil amendments that may alter flower colour, or poorly timed pruning and/or application of insecticide, which may alter fruit production.
Utilizing historic horticultural and agricultural maintenance practices when those techniques are critical to maintaining the character of the vegetation, such as the manual removal of dead flowers to ensure continuous bloom.	Employing contemporary practices when traditional or historic practices can be used, such as utilizing untraditional harvesting practices when traditional practices are still feasible.
Retaining and perpetuating vegetation through the propagation of existing plants by preserving seed collections and genetic stock cuttings from existing materials to preserve the genetic pool.	Failing to propagate vegetation from existing genetic stock, when few or no known sources or replacements are available.
Stabilizing deteriorated vegetation by structural reinforcement (e.g., using steel cables to support large branches) or correcting unsafe conditions, as required, until any additional work is undertaken.	Failing to stabilize deteriorated vegetation, thus putting it at risk of further deterioration.

Recommended	Not Recommended
Replacing in kind extensively deteriorated or missing parts of vegetation where there are surviving prototypes. The new plantings should match the old.	Removing deteriorated vegetation that could be stabilized and conserved; or using untested techniques and untrained personnel, thus causing further damage to fragile elements. Replacing vegetation when limited replacement of deteriorated and missing elements is appropriate. Using replacement material that does not match the historic vegetation.
Evaluating the overall condition of vegetation to determine whether more than protection, maintenance and limited rejuvenation or replacement in kind are required; i.e., if more extensive repairs to vegetation elements will be necessary.	Failing to undertake adequate measures to protect vegetation.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating vegetation, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of vegetation in order to determine the proper method of conservation.
Rejuvenating historic vegetation by corrective pruning, deep root fertilizing, aerating soil, renewing seasonal plantings and/or grafting onto historic genetic root stock.	Replacing or destroying vegetation when rejuvenation is possible. This could include removing a deformed or damaged plant when corrective pruning could be successfully employed.
Replacing a deteriorated or declining vegetation feature with a new feature based on the physical evidence of its composition, form and habit. If using the same kind of material is not technically, economically, or environmentally feasible, then a compatible substitute material may be considered. For example, a diseased sentinel tree in a meadow may be replaced with a disease resistant tree of similar type, form, shape and scale.	Removing deteriorated historic vegetation and not replacing it, or replacing it with a new feature that does not convey the same appearance, such as replacing a large, mature, declining canopy tree with a dwarf ornamental flowering tree.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new vegetation features when the historic features are completely missing. It may be a new design that is compatible with the habit, form, colour, texture, bloom, fruit, fragrance, scale and context of the historic vegetation (for example, replacing a lost vineyard with more hardy stock similar to the historic); or a replica based on physical, documentary and oral evidence.	Introducing new replacement vegetation that is incompatible with the historic character of the landscape. Creating a false history because the replaced feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing a compatible new vegetation feature when required by the new use to assure the preservation of the historic character of the landscape. This could include designing and installing a hedge that is compatible with the historic character of the landscape to screen new construction.	Placing a new feature where it may cause damage to or is incompatible with the character of the historic vegetation (for example, constructing a new building that adversely affects the root systems of historic vegetation). Locating any new vegetation feature in such a way that it detracts from or alters the historic vegetation. An example could include introducing exotic species in a landscape that was historically comprised of indigenous plants. Introducing a new vegetation feature which is incompatible in terms of its habit, form, colour, texture, bloom, fruit, fragrance, scale or context.

The Saskatoon Forestry Farm and Zoo was originally operated by the Federal Government from 1914 as a tree nursery. Its original function was to grow and distribute tree seedlings to Prairie farmers for shelterbelts. Used as a park since 1966, the City of Saskatoon has preserved this character-defining linear row of trees that act as a windscreen for the site. To the right are seedlings waiting to be transplanted – part of a programme of retaining and perpetuating vegetation through the propagation of existing plants.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring vegetation, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to vegetation from the restoration period will be necessary.	Failing to evaluate the overall condition of vegetation in order to determine the proper method of conservation.
Rejuvenating declining vegetation from the restoration period by corrective pruning, deep root fertilizing, aerating the soil, renewing seasonal plantings and/or grafting onto historic stock.	Replacing vegetation from the restoration period when rejuvenation is possible; or using destructive repair methods, thus causing further damage to fragile historic materials.
Replacing in kind an entire vegetation feature from the restoration period that is declining or too deteriorated to repair — if the overall form, habit or composition is still evident — using the physical evidence as a model to reproduce the feature.	Removing vegetation from the restoration period that has deteriorated and not replacing it; or replacing it with a new feature that does not convey the same appearance.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing vegetation from periods other than the accepted restoration period; and the replacement of missing vegetation from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering vegetation dating from other periods, such as removing later foundation planting or old-field successional species.	Failing to remove vegetation from another period, thus confusing the depiction of the landscape during the restoration period.
Documenting vegetation from other periods prior to its alteration or removal. If possible, representative examples of this vegetation should be saved, cultivated and managed through seed collection and genetic stock cuttings to facilitate future research.	Failing to document vegetation from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering it.
Recreating Missing Features from the Restoration Period	
Recreating a missing vegetation feature that existed during the restoration period, based on physical, documentary and oral evidence. An example could include replanting crop types based on pollen analysis.	Planting vegetation that was part of the original design but was never installed, thus creating a false historic appearance; or installing vegetation that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Viewscapes

Recommended	Not Recommended
Preserving viewscapes — such as vistas, views, aspects, visual axes and sight lines that may (or may not) be framed by vertical features or terminate in a focal point — that are important in defining the overall heritage value of the landscape.	Removing or radically changing viewscapes that are important in defining the overall character of the landscape.
Documenting viewscapes — including their foreground, middle ground and background; landmarks, edges and skyline; prospects both to and from the historic place; and condition — prior to beginning project work.	Undertaking project work that will have an impact on character-defining viewscapes without beginning a survey of characteristics and conditions.
Evaluating the evolution of the viewscapes. This could include using historic photographs to understand how a viewscape may have changed or been lost over time.	Undertaking project work without understanding its impact on viewscapes (for example, removing vegetation that was intended to frame an important viewscape from the historic place).
Protecting and maintaining viewscapes by using non-destructive methods and daily, seasonal and cyclical tasks, such as pruning to retain sight lines.	Allowing viewscapes to be altered, obscured or lost through incompatible development or neglect.
Stabilizing deteriorated viewscapes by structural reinforcement or weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken.	Utilizing maintenance methods that destroy or obscure character-defining viewscapes.
Evaluating the overall condition of viewscapes to determine whether more than protection and maintenance are required; i.e., if repairs to viewscapes will be necessary.	Failing to stabilize deteriorated viewscapes, thus putting them at risk of further deterioration. Failing to undertake adequate measures to protect viewscapes.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating viewscapes, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of viewscapes in order to determine the proper method of conservation.
Repairing or rejuvenating materials that define viewscapes by using non-destructive methods and materials when additional work is required, such as regenerating vegetation that frames important viewscapes.	Failing to undertake necessary repairs, resulting in the loss of character-defining viewscapes. Replacing a feature that defines a viewscape when repair is possible.
Replacing in kind an entire feature that defines a viewscape that is too deteriorated to repair. If using the same kind of material is not technically, economically or environmentally feasible, then a compatible substitute material may be considered.	Removing a feature that is beyond repair and not replacing it; or replacing it with a new feature that does not respect the viewscape.

Project work that will have an impact on character-defining viewscapes should not be started before completing a survey of their characteristics, conditions and interrelationships – such as the interrelationship between built features, water, vegetation and viewscapes at Hatley Park near Victoria – or before understanding any related cultural values (such as the still pool as a symbol of the quiet mind).

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and creating new viewscapes when the historic viewscape has been completely lost. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical, documentary and oral evidence.	Introducing a new viewscape that is incompatible in character with the landscape.
Alterations/Additions for the New Use	
Designing and creating new viewscapes when required by the new use. These should be compatible with the overall design of the landscape and not undermine its heritage value.	Creating a false history because the replacement viewscape is based on insufficient physical, documentary and oral evidence. Placing a new viewscape where it may cause damage to the overall character of the landscape. This could include inserting a focal point such as a building at the end of a character-defining vista that was traditionally terminated only by the sky. Introducing a new viewscape in an appropriate location, but making it incompatible in terms of its size, scale, design, materials, colour and texture, as when historical framing devices such as trees have been replaced by modern high-rise buildings. Locating a new feature in such a way that it detracts from or alters character-defining viewscapes (for example, obscuring a view to a prominent landmark by constructing a new wall).

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring viewscapes, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to viewscapes from the restoration period will be necessary.	Failing to evaluate the overall condition of viewscapes in order to determine the proper method of conservation.
Repairing declining viewscapes from the restoration period by reinforcing the materials that comprise these features.	Replacing an entire viewscape from the restoration period when repair, limited replacement and/or rejuvenation of deteriorated or missing components are appropriate; or using destructive repair methods, such as re-establishing the vegetative framing for a sight line by introducing exotic plants that call attention to themselves and thus detract from the vista. Using a substitute material for a replacement part that neither conveys the same appearance of the surviving parts of the viewscape from the restoration period, nor is physically or environmentally compatible.
Replacing in kind an entire viewscape feature from the restoration period that is too deteriorated to repair — if the overall form, detailing and alignment are still evident — using the physical evidence as a model to reproduce the feature.	Removing a deteriorated viewscape feature from the restoration period that is irreparable and not replacing it; or replacing it with a new feature that does not convey the same appearance or reinforce the same view.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing viewscapes from periods other than the accepted restoration period; and the replacement of missing viewscapes from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering viewscapes or viewscape features dating from other periods.	Failing to remove viewscapes or viewscape features from another period, thus confusing the depiction of the landscape during the restoration period.
Documenting viewscapes and viewscape features from other periods prior to their alteration or removal. If possible, selective examples of these materials or features should be stored to facilitate future research.	Failing to document viewscapes or viewscape features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing viewscape that existed during the restoration period, based on physical, documentary and oral evidence.	Creating a viewscape that was part of the original design but was never executed, thus creating a false historic appearance; or creating a viewscape that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Circulation

Recommended	Not Recommended
Preserving circulation systems — such as paths, walkways, parking lots, roads, highways, railways and canals — that are important in defining the overall heritage value of the landscape.	Removing or radically changing circulation system elements that are important in defining the overall heritage value of the landscape.
Documenting the alignment, surface treatment, edge, grade, materials, infrastructure and condition of circulation systems prior to beginning project work.	Undertaking project work that will have an impact on character-defining circulation systems without preparing a survey of the character and condition of the circulation systems.
Evaluating the evolution of circulation systems. This could include using aerial photographs to understand a transportation corridor's change from a two-lane road to a six-lane highway, or using archaeological techniques to locate pathways and roads not obvious from surface investigation; and understanding the cultural values that may be embedded in circulation systems, such as the journey as a metaphor for life.	Undertaking project work without understanding the evolution of circulation systems. This could include changing road alignments and widths without a thorough evaluation of the historic road.
Protecting and maintaining circulation systems by using non-destructive methods in daily, seasonal and cyclical tasks. This could include using rubberized blade edges on snow plows to prevent damage to stone curbs.	Failing to undertake preventive maintenance of circulation features and materials. This could include using a snow plow across a coarse-textured pavement.
	Using materials such as salts and chemicals that can hasten the deterioration of surfaces.
Utilizing maintenance practices that respect infrastructure; for example, periodically resetting paving stones to ensure a level road surface, rather than paving them over.	Allowing infrastructure to become dysfunctional, such as permitting aquatic weeds to clog a canal and thus interfere with boat propellers.

Circulation systems largely define the character of the Sault-Ste. Marie Canal National Historic Site of Canada, where a historic canal, paths, roadways, parking lots and railways converge in a very small area. Protecting and maintaining this landscape requires careful management of the site's circulation infrastructure.

Recommended	Not Recommended
Retaining sound circulation systems or deteriorated circulation systems that can be repaired.	Replacing or rebuilding circulation systems that can be repaired.
Repairing and stabilizing deteriorated circulation system elements by structural reinforcement or weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated circulation system elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of circulation systems where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire circulation system element such as a stone curb when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic circulation system element.
Evaluating the overall condition of the circulation systems to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to the circulation systems will be necessary.	Failing to undertake adequate measures to protect the circulation systems.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating circulation systems, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of circulation systems in order to determine the proper method of conservation.
Repairing surface treatment, materials and edges. Examples could include applying a traditional material to a stabilized subsurface base, or patching a canal's retaining wall.	Replacing or destroying circulation features and materials when repair is possible (for example, not salvaging and reusing historic stone walk material).
Replacing a deteriorated circulation feature by using the physical evidence of its form, detailing and alignment to reproduce it. If using the same kind of material is not technically, economically or environmentally feasible, then a compatible substitute material may be considered (for example, replacing decayed timber edging in kind along a historic trail route).	Removing a circulation feature that is deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. This could include replacing a set of stairs with a wall or terrace.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new circulation features when the historic feature is completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical, documentary and oral evidence.	Introducing a new circulation feature that is incompatible with the historic character of the landscape, such as using a standardized concrete barrier along a historic parkway. Creating a false history because the replaced feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing and installing compatible new circulation features when required by the new use to protect the historic character of the landscape. This could include controlling and limiting new curb cuts, driveways and intersections along a historic road.	Placing a new feature where it may cause damage to or is incompatible with the historic circulation, such as adding new driveways or intersections along a historic road. Locating any new circulation feature in such a way that it detracts from or alters the historic circulation pattern (for example, installing a new bike path when an existing historic path can accommodate the new use). Introducing a new circulation feature but making it incompatible in terms of its scale, alignment, surface treatment, width, edge treatment, grade, materials or infrastructure. An example could be installing a new parking lot in a non-significant location, but utilizing paving materials and patterns that are incongruous with the landscape's historic character.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring circulation systems, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to circulation systems from the restoration period will be necessary.	Failing to evaluate the overall condition of circulation systems in order to determine the proper method of conservation.
Repairing declining circulation features from the restoration period by reinforcing the materials that comprise these features. Repairs will also generally include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of features when there are surviving prototypes. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire circulation feature from the restoration period when repair of materials and limited replacement of deteriorated or missing components are appropriate; or using destructive repair methods, thus causing further damage to fragile historic materials.
Replacing in kind an entire circulation feature from the restoration period that is too deteriorated to repair — if the overall form, detailing and alignment are still evident — using the physical evidence as a model to reproduce the feature. The new work should be unobtrusively dated to guide future research and treatment.	Removing a deteriorated circulation feature from the restoration period that is irreparable and not replacing it; or replacing it with a new feature that does not convey the same appearance; or failing to document the new work.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing circulation features from periods other than the accepted restoration period; and the replacement of missing circulation features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering circulation features, such as a later parking lot, dating from other periods.	Failing to remove circulation features from another period, thus confusing the depiction of the landscape during the restoration period.
Documenting circulation features from other periods prior to their alteration or removal. If possible, representative features should be stored for future research.	Failing to document circulation features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing circulation feature that existed during the restoration period, based on physical, documentary and oral evidence, such as duplicating paving patterns based on surviving prototypes.	Constructing a circulation feature that was part of the original design but was never executed, thus creating a false historic appearance; or creating a circulation feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Water Features

Recommended	Not Recommended
Preserving water features and water sources — such as natural ocean fronts, lakes, ponds, sloughs, rivers and streams, as well as constructed pools, dugouts and fountains — that are important in defining the overall heritage value of the landscape.	Removing or radically changing water feature elements that are important in defining the overall heritage value of the landscape. Examples could include placing a section of stream in a culvert or concrete channel, or filling in a farm dugout.
Documenting water features before beginning project work. Documentation should include shape, edge and bottom condition/material; water level, sound and reflective qualities; associated plant and animal life; water quality; natural erosion and flooding; and condition.	Undertaking project work that will have an impact on character-defining water features and associated hydrology without beginning a survey of the character and condition of the water features.
Evaluating the evolution of water features over time and their role in the overall hydrology of the landscape. This could include using archaeological techniques to determine the changing path of a watercourse using infrared aerial photographs to map hydrological patterns; and understanding the cultural values embedded in water features, such as the still pool as a symbol of the quiet mind.	Undertaking project work without understanding the evolution of water features.
Protecting and maintaining water features by using non-destructive methods in daily, seasonal and cyclical tasks, such as cleaning leaf litter or mineral deposits from drainage inlets or outlets.	Failing to undertake preventive maintenance of water features and materials. Utilizing maintenance methods that destroy or degrade water features (for example, using harsh chemical additives for maintaining water quality).

Beaver Lake is a man-made pond that has become a central feature in Montreal's Mount Royal Park, part of Quebec's first natural and historic district. Its intense use puts great pressure on its condition. Protecting and maintaining water features includes daily, seasonal and cyclical tasks. Maintaining a constructed water feature's mechanical, plumbing and electrical systems is essential to ensure the appropriate depth and quality of water.

Maintaining a constructed water feature's mechanical, plumbing and electrical systems to ensure appropriate depth of water or direction of flow. This could include maintaining the timing and sequencing mechanisms for irrigation systems.	Allowing mechanical systems to fall into a state of disrepair, resulting in the degradation of the water feature. For example, algae could develop if a pool's aeration system is not maintained.
Retaining sound water features or deteriorated water features that can be repaired or rejuvenated.	Replacing or rebuilding water features that can be repaired or rejuvenated.
Repairing and stabilizing deteriorated water feature elements by structural reinforcement or weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated water feature elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of water features where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire water feature element such as a fountain when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic water feature element.
Evaluating the overall condition of water features to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to water features will be necessary.	Failing to undertake adequate measures to protect water features.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating water features, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of water features in order to determine the proper method of conservation.
Repairing water features by reinforcing materials or augmenting mechanical systems. Examples could include patching a crack in a pond liner or repairing a failed pump mechanism.	Replacing or removing water features or systems when repair is possible, such as abandoning a silted-in retention pond.
Replacing a deteriorated water feature by using the existing physical evidence of its form, depth and detailing to reproduce it. If using the same kind of material is not technically, economically or environmentally feasible, then a compatible substitute material may be considered (for example, replacing a lead pond liner with one made of plastic).	Removing a water feature that is irreparable and not replacing it, or replacing it with a new feature that does not convey the same appearance. This could include replacing a single orifice nozzle with a spray nozzle, thus changing a fountain's historic character from a singular stem of water to a mist-like stream.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing a new water feature when the historic feature is completely missing. It may be a new design that is compatible with the style, era and character of the historic place (for example, a lost irrigation feature may be replaced by using materials that convey the same appearance); or a replica based on physical, documentary and oral evidence.	Introducing a new design that is inconsistent with the style, era and overall historic character of the landscape, such as replacing a natural pond with a manufactured pool. Creating a false history because the replaced feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing and installing a compatible new water feature when required by the new use to assure the preservation of the historic character of the landscape. An example could include siting a new retention basin in a secondary or non-significant space in the landscape.	Placing a new water feature where it may cause damage to or is incompatible with the historic character, such as locating a baroque fountain within a picturesque garden. Locating any new water feature in such a way that it detracts from or alters the historic character of the landscape (for example, installing a "period" fountain where one never existed). Introducing a new water feature that is in an appropriate location, but is visually incompatible in terms of its shape, edge and bottom condition/material; or water level, movement, sound and reflective quality. An example could include introducing a wading pool in a non-significant space, but utilizing non-traditional materials and colours.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring water features, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to water features from the restoration period will be necessary.	Failing to evaluate the overall condition of water features in order to determine the proper method of conservation.
Repairing deteriorated water features from the restoration period by reinforcing the materials that comprise these features. Repairs will also generally include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of features when there are surviving prototypes. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire water feature from the restoration period when repair of materials and limited replacement of deteriorated or missing components are appropriate; or using destructive repair methods, thus causing further damage to fragile historic materials. Using a substitute material for the replacement part that neither conveys the same appearance as the surviving parts of the water feature from the restoration period, nor is physically or environmentally compatible.

Recommended	Not Recommended
Replacing in kind an entire water feature from the restoration period that is too deteriorated to repair — if the overall form, depth and detailing are still evident — using the physical evidence as a model to reproduce the feature. The new work should be unobtrusively dated to guide future research and treatment.	Removing a deteriorated water feature from the restoration period that is irreparable and not replacing it; or replacing it with a new feature that does not convey the same appearance; or failing to document the new work.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing water features from periods other than the accepted restoration period; and the replacement of missing water features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering water features, such as a later retention pond, dating from other periods.	Failing to remove water features from another period, thus confusing the depiction of the landscape during the restoration period.
Documenting water features from other periods prior to their alteration or removal. If possible, selective examples of these materials or features should be stored to facilitate future research.	Failing to document water features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing water feature that existed during the restoration period, based on physical, documentary and oral evidence. An example could include recasting a fountain from its original mould.	Creating a water feature that was part of the original design but was never executed, thus creating a false historic appearance; or constructing a water feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Built Features

Recommended	Not Recommended
Preserving built features — such as gazebos, grottoes, bridges, fences, benches, light standards, drinking fountains, playground equipment, statuary and other constructed amenities, as well as culturally significant objects such as inukshuks — that are important in defining the overall heritage value of the landscape.	Removing or radically changing built features that are important in defining the overall heritage value of the landscape.
Documenting the condition, materials and surroundings of built features and the relationship of these features to each other, prior to beginning project work.	Undertaking project work that will have an impact on character-defining built features without beginning a survey of conditions, materials, surroundings and interrelationships.
Evaluating the evolution of built features over time. Examples could include using historic aerial photographs to understand the relationship of windmills, silos and water troughs in a ranch compound, or the placement of light standards and benches along park paths; and understanding the cultural values embedded in built features such as inukshuks.	Undertaking project work without understanding the evolution of built features.
Protecting and maintaining built features by using non-destructive methods and daily, cyclical and seasonal tasks. This may include limited rust or paint removal and reapplication of protective coating systems in kind (for example, painting metal wrought iron fences, or repointing masonry to match existing mortar material, colour and profile).	Failing to undertake preventive maintenance for built features, resulting in their damage or loss. An example could include failing to stop water infiltration on roofs and in foundations. Utilizing maintenance practices and materials that are harsh, abrasive or unproven, for example using aggressive and potentially damaging cleaning methods such as grit blasting on wood, brick or soft stone, or using harsh chemicals on masonry or metals.
Retaining sound built features or deteriorated built features that can be repaired.	Replacing or rebuilding built features that can be repaired.
Retaining the relationships between the landscape and its built features.	Removing or relocating built features or objects, such as removing stones that are integral to an Aboriginal sacred site, thus diminishing or destroying the relationship between the landscape and these features.
Repairing and stabilizing deteriorated built feature elements by structural reinforcement or weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated built feature elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of built features where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire built feature element when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic built feature element.

Recommended	Not Recommended
Evaluating the overall condition of built features to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to structures, furnishings or objects will be necessary.	Failing to undertake adequate measures to protect the landscape's built features.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating built features, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of built features in order to determine the proper method of conservation.
Repairing features and materials of buildings, structures, furnishings or objects by reinforcing historic materials. Examples could include returning a children's swing to good working order or reshaping a section of a deformed play structure.	Replacing or destroying a feature of structures, furnishings or objects when repair is possible. Examples could include replacing a pavilion's tile roof with physically or visually incompatible roofing, or removing a non-working historic light fixture instead of rewiring it.
Replacing a deteriorated built feature by using the existing physical evidence of its form, material and detailing to reproduce it. If using the same kind of material is not technically, economically or environmentally feasible, then a compatible substitute material may be considered, for example replacing redwood decking with wood from a less endangered tree species such as cedar.	Removing and not replacing a built feature that is deteriorated, or replacing it with a new feature that does not convey the same visual appearance. An example could include removing a wooden rustic footbridge and replacing it with a concrete bridge.

In addition to protecting and maintaining sound character-defining built features and retaining deteriorated built features that can be repaired, *Preservation* recommends retaining the relationships between the landscape and its built features. The open space surrounding this rustic gazebo is a character-defining aspect of this landscape.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new built features when the historic features are missing. It may be a new design that is compatible with the style, era and character of a historic place (this could include replacing a picnic shelter with one of a new compatible design); or a replica based on physical, documentary and oral evidence.	Introducing a new design that is inconsistent with the style, era and overall historic character of the landscape, such as replacing a lost wooden fence with a chain-link fence. Creating a false history because the replaced feature is based on insufficient physical, documentary and oral evidence.
Alterations/Additions for the New Use	
Designing and installing a new built feature when required by the new use, which is compatible with the preservation of the historic character of the landscape. Examples could include constructing a new farm outbuilding, utilizing traditional building materials, or installing appropriately scaled and detailed signs.	Placing a new built feature where it may cause damage to or is incompatible with the historic character of the landscape, such as constructing a new maintenance facility in or near a character-defining space. Locating a new built feature in such a way that it detracts from or alters the historic character of the landscape, such as locating a gazebo in an open space that has always been a simple grassed area. Introducing a new built feature in an appropriate location, but making it visually incompatible in mass, scale, form, features, materials, texture or colour. This could include constructing a visitors' centre that is incompatible with the historic character of the landscape.

The *Rehabilitation* of the landscape of this early Modernist house included adding a new privacy wall and address marker near the entrance. These additions complement and reinforce the forms, materials and colour of the house.

Additional Guidelines for Restoration Projects

Recommended

Restoring built features, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to built features from the restoration period will be necessary.

Repairing deteriorated built features from the restoration period by reinforcing the materials that comprise these features. Repairs will also generally include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of features when there are surviving prototypes such as roof features, windows, bollards and signs. The new work should be unobtrusively dated to guide future research and treatment.

Replacing in kind an entire built feature from the restoration period that is too deteriorated to repair — if the overall form, material and detailing are still evident — using the physical evidence as a model to reproduce the feature. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Failing to evaluate the overall condition of built features in order to determine the proper method of conservation.

Replacing an entire structure, furnishing or object from the restoration period when repair of materials and limited replacement of deteriorated or missing components are appropriate; or using destructive repair methods, thus causing further damage to fragile historic material.

Using a substitute material for the replacement part that neither conveys the same appearance as the surviving parts of the structure, furnishing or object from the restoration period, nor is physically or environmentally compatible.

Removing a deteriorated built feature from the restoration period that is irreparable and not replacing it; or replacing it with a new feature that does not convey the same appearance; or failing to document the new work.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing built features from periods other than the accepted restoration period; and the replacement of missing built features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering built features dating from other periods.	Failing to remove built features from another period, thus confusing the depiction of the landscape during the restoration period.
Documenting built features from other periods prior to their alteration or removal. If possible, selected examples of these materials or features should be stored to facilitate future research.	Failing to document built features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing or altering them.
Recreating Missing Features from the Restoration Period	
Recreating a missing built feature that existed during the restoration period, based on physical, documentary and oral evidence, such as duplicating a corn crib from an existing prototype.	Constructing a built feature that was part of the original design but was never executed, thus creating a false historic appearance; or constructing a built feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.



Guidelines for Buildings

Buildings in the context of these Guidelines include structures created in the past to shelter activities related to habitation, business or social functions, including houses, apartment buildings, hotels and other residential buildings; stores, offices, warehouses and other commercial buildings; auditoriums, stadiums, town halls, court houses, schools, places of worship; and other recreational and institutional buildings. These structures are not limited by size, material, occupancy or construction type.

These Guidelines, which address buildings, including their separate components, should not be used in isolation. There may be heritage value in the relationships between buildings and archaeological sites, landscapes or engineering works, and therefore, those sections of the Guidelines should also be consulted when undertaking a project. The intention is to protect ALL heritage values associated with the historic place.

1- Aberdeen Pavilion, Ottawa, Ontario, © Monique Trépanier, Parks Canada, 1995
2- Vancouver, British Columbia, © Guy Masson, PWGSC, 2000
3- Port Edward, British Columbia, © Jean-Pierre Jérôme, Parks Canada, 1997
4- Manitoulin Island, Ontario, © Gordon Fulton, 1998

Exterior Wood

Clapboard, weatherboard, shingles, logs and other wooden elements

Recommended	Not Recommended
Preserving exterior wood features — such as siding, corner boards, brackets, columns, window and door surrounds or architraves, cornices, pediments and balustrades; and their paints, finishes and colours — that are important in defining the overall heritage value of the building.	Removing or radically changing exterior wood elements that are important in defining the overall heritage value of the building.
Documenting the form, type and colour of coatings such as paint; and the condition of exterior wood features prior to beginning project work.	Undertaking project work that will have an impact on character-defining exterior wood elements without first documenting their existing character and condition.
Protecting and maintaining exterior wood elements by preventing water penetration and by maintaining proper drainage so that water or organic matter is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.	Failing to identify, evaluate and treat the causes of exterior wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.
Inspecting painted exterior wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.	Removing paint that is firmly adhering to and thus protecting exterior wood surfaces.
Retaining coatings such as paint that help protect the exterior wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program that involves repainting or applying other protective coatings in kind.	Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.
Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (scraping and sanding by hand), then repainting in kind.	Using destructive paint removal methods such as propane or butane torches, sandblasting or water-blasting. These methods can irreversibly damage exterior woodwork or cause catastrophic fires.

Maximizing the retention of character-defining materials and features is the primary goal of *Preservation*, as demonstrated in this photograph. Work on this wooden warehouse consisted primarily of minor repairs to the foundation skirting and limited replacement of deteriorated material. The new wood will be left to weather to the same appearance as the old.

Recommended	Not Recommended
Using electric hot-air guns carefully on decorative wood elements and electric heat plates on flat wood surfaces when paint is so deteriorated or so thick that total removal is necessary prior to repainting.	Using thermal devices improperly so that the woodwork is scorched. Failing to have a fire extinguisher nearby when using thermal devices.
Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding and the thermal devices recommended above. Detachable wooden elements such as shutters, doors and columns may be chemically dip-stripped if proper safeguards are taken.	Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere. Allowing detachable wood elements to soak too long in a caustic solution so that the wood grain is raised and the surface roughened. Stripping character-defining painted exterior wood surfaces to bare wood, then applying clear finishes or stains in order to create a "natural" look. Stripping paint or varnish to bare wood rather than repairing or reapplying the same finish (e.g., a grained finish) to an exterior wood element such as a front door.
Creating conditions that are unfavourable to the growth of fungus, such as eliminating unintentional entry points for water, drying out the structure by opening vents, removing piled up earth resting against the building and applying a chemical preservative treatment using recognized preservation methods.	
Applying compatible paint coating systems following proper surface preparation, such as washing with trisodium phosphate.	Failing to follow the manufacturer's product and application instructions when repainting exterior woodwork.
Repainting with colours that are appropriate to the building and district.	Using new colours that are inappropriate to the building or district.
Applying chemical preservatives to exterior wood elements such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.	Using chemical preservatives such as creosote or copper napthanate, because if they have not been used historically, they can change the appearance of exterior wood elements.
Inspecting buildings to determine the reason(s) for any damage or degradation, such as abrasion, animal gnawing (e.g., rodents), fungal decay or insect infestation (e.g., beetles, horntails, wood borers, carpenter ants, carpenter bees, wasps, termites and weevils).	Undertaking remedial project work on log buildings without first identifying the actual cause(s) of damage or degradation.
Treating the deterioration of log buildings from abrasion or animals by isolating, insofar as possible, the building from the source of deterioration, such as blocking wind-borne sand and grit with a windbreak, or putting a wire mesh screen over floor joists in a crawlspace to thwart rodents.	Neglecting to treat known conditions that threaten buildings, such as abrasion, animal gnawing, fungal decay or insect infestation, thus putting them at risk of further deterioration.
Treating active infestations of insects by first identifying the type of insect and then implementing a program of elimination appropriate to that insect. If using pesticides, confirm that the chemical is registered for the intended purpose with Agriculture and Agri-Food Canada and follow the manufacturer's product and application instructions. Fumigation should be done only by a licensed applicator.	

Recommended	Not Recommended
Taking into account the settlement rate of a building when augmenting or reinforcing its structural components, so that the new components settle at the same rate.	Structurally augmenting or reinforcing a building with components that do not have a similar rate of settlement.
Retaining sound exterior wood or deteriorated exterior wood that can be repaired.	Replacing wood elements that can be repaired.
Repairing and stabilizing deteriorated exterior wood elements by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated exterior wood elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of exterior wood elements where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire wood element such as a cornice when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic wood element.
Evaluating the overall condition of the exterior wood to determine whether more than protection, maintenance and limited repair or replacement in kind are required; in other words, if more extensive repairs to wood elements will be necessary.	Failing to undertake adequate measures to protect exterior wood elements.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating an exterior wood element, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of an exterior wood element in order to determine the appropriate method of conservation.
Repairing exterior wood elements by patching, piecing-in, consolidating or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of elements where there are surviving prototypes such as brackets, moulding or sections of siding.	Replacing an entire wood element such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate. Using a substitute material for the replacement part that neither conveys the same appearance as the surviving parts of the wood element nor is physically or chemically compatible.
Replacing in kind an entire exterior wood element that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the element. Examples of wood elements include a cornice, entablature, or balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing an entire exterior wood element that is irreparable and not replacing it; or replacing it with a new element that does not convey the same appearance.

It is important to identify the cause of any damage to a wooden building element before beginning a *Preservation* treatment. In the case of the former machine shop of the North Pacific Cannery, exposure to marine conditions led to deterioration of the exterior wood cladding.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing a new exterior wood feature such as a cornice or doorway when the historic feature is completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new exterior wood feature that is incompatible in size, scale, material, style and colour. Creating a false historical appearance because the replaced wood feature is based on insufficient physical and documentary evidence.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring an exterior wood element, if an evaluation of its overall condition determines that more than preservation is required; in other words, if repairs to wood features from the restoration period will be necessary.	Failing to evaluate the overall condition of an exterior wood element in order to determine the appropriate method of conservation.
Repairing, stabilizing and conserving fragile wood from the restoration period using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.	Removing wood from the restoration period that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.
Repairing exterior wood elements from the restoration period by patching, piecing-in or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of elements from the restoration period where there are surviving prototypes such as brackets, moulding or sections of siding. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire exterior wood element from the restoration period such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate. Using substitute material for the replacement part, which neither conveys the same appearance as the surviving parts of the wood element, nor is physically or chemically compatible.
Replacing in kind an entire exterior wood element from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the element. Examples of exterior wood elements include a cornice, entablature or balustrade. The new work should be unobtrusively dated to guide future research and treatment.	Removing an entire exterior wood element from the restoration period that is irreparable and not replacing it.

The extensively deteriorated wood siding on the exposed side of this building was replaced in kind. The new wood siding matches the surviving siding in form and detailing.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing wood features from periods other than the accepted restoration period; and the replacement of missing wood features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering wood features, such as a later doorway, porch or steps, dating from other periods.	Failing to remove a wood feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document wood features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing wood feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a roof dormer or porch.	Constructing a wood feature that was part of the original design of the building, but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Exterior Masonry

Brick, stone, terra cotta, concrete, stucco and mortar

Recommended	Not Recommended
Preserving masonry elements such as walls, brackets, railings, steps, columns, window and door surrounds or architraves, cornices, pediments, balustrades; and details such as jointing, tooling and bonding patterns, coatings and colour that are important in defining the overall heritage value of the building.	Removing or radically changing masonry elements that are important in defining the overall heritage value of the building.
Documenting the form, materials and condition of masonry elements prior to beginning project work.	Undertaking project work that will have an impact on character-defining masonry elements without first documenting their existing character and condition.
Protecting and maintaining masonry by preventing water penetration and by maintaining proper drainage so that water or organic matter does not stand on flat, horizontal surfaces or accumulate in curved decorative features.	Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, failed flashings or extreme weather exposure. Applying water-repellent coatings to stop moisture penetration when the problem could be solved by repairing failed flashings, deteriorated mortar joints or other mechanical defects.

Preserving the exterior of the British Columbia Legislative Building (its rear façade is shown here), including its masonry walls, steps, columns, pilasters, window surrounds, decorative details and cornices, began with documenting the material, form, jointing, tooling, bonding patterns, coatings, colour, and conditions of these elements prior to beginning project work.

Recommended	Not Recommended
Cleaning masonry using recognized preservation methods and only when necessary to halt deterioration or remove heavy soiling or graffiti.	Cleaning masonry surfaces when they are not heavily soiled in order to create a new appearance, thus needlessly introducing chemicals or moisture into the materials.
Carrying out masonry surface cleaning tests after it has been determined that such cleaning is appropriate. If acceptable, carrying out cleaning tests which should be observed over a sufficient period of time so that both the immediate and the long-range effects are known, the gentlest method possible is selected and appropriate level of cleanliness achieved.	Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.
Cleaning masonry surfaces using the gentlest method possible, such as low-pressure water and detergents, using natural bristle brushes.	Blasting brick or stone surfaces using dry or wet grit sand or other abrasives that permanently erode the surface of the material and accelerate deterioration.
	Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.
	Cleaning with chemical products that will damage masonry or mortar such as using acid on limestone or marble; or leaving chemicals on masonry surfaces.
	Applying high-pressure water cleaning methods that will damage the masonry and the mortar joints.
Protecting adjacent materials during cleaning to avoid damage by abrasion or water infiltration.	
Inspecting painted masonry surfaces to determine whether repainting is necessary.	
Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand scraping) prior to repainting.	Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.
	Using methods of removing paint that are destructive to masonry, such as sandblasting, application of caustic solutions or high-pressure water-blasting.
Applying compatible paint or stucco following proper surface preparation.	Failing to follow manufacturers' product and application instructions when repainting masonry.
	Applying paint or stucco to masonry that has been historically unpainted or uncoated.
	Removing paint from historically painted masonry, unless it is causing damage to the underlying masonry.
	Removing stucco from masonry that was historically never exposed.
	Radically changing the type of paint or coating or its colour.

The harsh climate in many parts of Canada can seriously damage masonry elements. This wall in Quebec City has suffered irreversible damage from water penetrating the brick façade and freezing, causing the faces of many bricks to pop off. To avoid damage such as this, it is recommended that moisture penetration be stopped by repairing failed flashings, deteriorated mortar joints or other mechanical defects, not by applying water-repellent coatings, which can trap moisture inside the masonry.

Recommended	Not Recommended
Repainting or re-stuccoing with colours that are historically appropriate to the building and district.	Using new paint or stucco colours that are inappropriate to the building and district.
Retaining sound exterior masonry or deteriorated exterior masonry that can be repaired.	Replacing or rebuilding masonry that can be repaired.
Repairing and stabilizing deteriorated masonry elements by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated masonry elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of masonry elements where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire masonry element such as a column when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic masonry element.

Recommended	Not Recommended
Repairing masonry walls and other masonry elements by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls or damaged plaster work.	Removing non-deteriorated or acceptable mortar from sound joints, then repointing the entire building to achieve a uniform appearance.
Removing deteriorated or inappropriate mortar by carefully raking the joints using hand tools or appropriate mechanical means to avoid damaging the masonry.	Using rotary grinders on thin joints or vertical joints, or electric saws to remove mortar from joints prior to repointing.
Using mortars that will ensure the long-term preservation of the masonry assembly. Mortar should be compatible in strength, porosity, absorption and vapor permeability with the existing masonry units. Bedding and pointing mortars should be less durable than the masonry units. Bedding mortars should meet structural requirements. Colour, texture, width and joint profile should be physically and visually compatible with the masonry.	Repointing with mortar of high Portland cement content (unless it is the content of character-defining mortar). This can often create a bond that is stronger than the historic material (brick or stone) and can cause damage as a result of the differing coefficients of expansion and the differing porosity of the materials. Repointing with a synthetic caulking compound. Using a “scrub” coating technique to repoint instead of traditional repointing methods.
Duplicating original mortar joints in colour, texture, width and joint profile, if the mortar joints are a character-defining element.	
Evaluating the overall condition of the exterior masonry to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to masonry elements will be necessary.	Failing to evaluate the overall condition of an exterior masonry element in order to determine the appropriate method of conservation. Failing to undertake adequate measures to protect masonry elements.

Deteriorated mortar joints in masonry walls should be repaired by repointing. The deteriorated mortar should be removed by carefully hand-raking the joints to avoid damaging the masonry, and the new mortar should duplicate the period mortar in strength, composition, colour, texture, width and joint profile. Repointing with mortar of high Portland cement content is not recommended, unless this was the historic mortar.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating an exterior masonry element, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of an exterior masonry element in order to determine the appropriate method of conservation.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, colour, porosity and texture.	Removing sound stucco or repairing with new stucco that is stronger than the character-defining material or does not convey the same appearance.
Cutting damaged character-defining concrete back to remove and correct the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with and match the character-defining concrete.	Patching concrete without removing the source of deterioration, or patching with a concrete that is incompatible with the existing.
Repairing character-defining masonry elements by patching, piecing-in or consolidating the masonry using appropriate conservation methods. Repair may also include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of masonry elements such as terra cotta brackets or stone balusters when there are surviving prototypes.	Replacing an entire character-defining masonry element such as a cornice when repair of the masonry and limited replacement of deteriorated or missing parts are feasible. Using a substitute material (in place of the replacement part) which neither conveys the appearance of the surviving parts of the masonry element, nor is physically or chemically compatible.
Applying new or non-historic surface treatments such as proven water-repellent coatings to masonry only after repointing and only if masonry repairs, alternative design solutions or flashings have failed to arrest water penetration problems.	Applying waterproof, water repellent or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary and expensive and may change the appearance of character-defining masonry as well as accelerate its deterioration.
Replacing in kind an entire character-defining masonry element that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the element. Examples can include large sections of a wall, a cornice, balustrade, column or stairway. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a character-defining masonry element that is irreparable and not replacing it; or replacing it with a new element that does not convey the same appearance.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing a new masonry feature such as steps or a door pediment when the historic feature is completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new masonry feature that is incompatible in size, scale, material, style and colour. Creating a false historical appearance because the replaced masonry feature is based on insufficient physical and documentary evidence.

Cleaning masonry should be undertaken only when necessary to halt deterioration or remove heavy soiling. If surface cleaning is appropriate, tests using recognized preservation methods should be first be made in order to select the gentlest cleaning method possible, and be observed over time to determine the immediate and the long-term effects. The test-cleaning of the left portion of this brick and stone wall (using low pressure water and detergents, when there was no chance of freezing) created an acceptably clean wall.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring an exterior masonry element, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to masonry features from the restoration period will be necessary.	Failing to evaluate the overall condition of an exterior masonry element in order to determine the appropriate method of conservation.
Repairing, stabilizing and conserving fragile masonry from the restoration period by well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.	Removing masonry from the restoration period that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.
Repairing stucco by removing the damaged material and patching with new stucco that duplicates stucco of the restoration period in strength, composition, colour and texture.	Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same appearance.
Cutting damaged concrete back to remove the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with and match the historic concrete.	Patching concrete without removing the source of deterioration, or patching with a concrete that is incompatible with the existing.
Repairing masonry features from the restoration period by patching, piecing-in or otherwise reinforcing the masonry using recognized preservation methods. Repair may also include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of masonry features from the restoration period when there are surviving prototypes such as terra cotta brackets or stone balusters. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire masonry feature from the restoration period such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts are appropriate. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the masonry feature, nor is physically or chemically compatible.
Applying new or non-historic surface treatments such as proven water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.	Applying waterproof, water repellent or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary and expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.
Replacing in kind an entire masonry feature from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the feature. Examples can include large sections of a wall, a cornice, balustrade, column or stairway. The new work should be unobtrusively dated to guide future research and treatment.	Removing a masonry feature from the restoration period that is irreparable and not replacing it.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing masonry features from periods other than the accepted restoration period; and the replacement of missing masonry features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering masonry features, such as a later doorway, porch or steps, dating from other periods.	Failing to remove a masonry feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document masonry features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing masonry feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a terra cotta bracket or stone balustrade.	Constructing a masonry feature that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

One of the primary causes of deterioration of glazed architectural terra cotta is water. Water-related damage to the glazed units, mortar, metal anchors or masonry backfill can be repaired only when the sources of that water have been eliminated. This typically means repairing flashing, repointing deteriorated mortar with a mortar that has a compressive strength lower than the adjacent masonry unit, and coating or sealing blistered spots to prevent further entry of water. Repointing with waterproof caulking compounds or the wholesale coating of the wall with waterproof materials will impede the normal outward migration of moisture through the masonry joints and likely cause spalling of the glaze or mortar.

Architectural Metals

Cast iron, steel, pressed metal, copper, aluminum and zinc elements

Recommended

Preserving architectural metal elements — such as cladding, columns, capitals, brackets, window hoods, cornices, balustrades or stairways; and their finishes and colours — that are important in defining the overall heritage value of the building. (See also Roofs for gutters and downspouts.)

Documenting the form, materials and condition of architectural metal elements prior to beginning project work. It is critical to differentiate between metals prior to project work, since each metal has unique properties and thus requires a different treatment.

Protecting and maintaining architectural metals from corrosion by preventing water penetration and by maintaining proper drainage so that water or organic matter does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Not Recommended

Removing or radically changing architectural metal elements that are important in defining the overall heritage value of the building.

Undertaking project work that will have an impact on character-defining architectural metal elements without undertaking a survey of existing conditions.

Failing to identify, evaluate and treat the causes of corrosion such as moisture from leaking roofs or gutters.

Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin and aluminum.

The first step in *Preserving* architectural metals is to identify the type of metal. Before cleaning, determine that cleaning is appropriate for the particular metal: removing the patina from the bronze door shown above would not be appropriate if the patina is a character-defining finish of the metal, or if it provides a protective coating. If cleaning is appropriate, testing is recommended to ensure that the gentlest cleaning method possible is used.

A regular programme of cleaning and re-applying appropriate paint has preserved to a remarkable degree the metal entrance canopy of Winnipeg's Union Station, which was completed in 1911. Protection from corrosion should be considered the first line of defence in preserving architectural metals.

Recommended	Not Recommended
Identifying the particular type of metal prior to any cleaning procedure and then testing to ensure that the gentlest cleaning method possible and the appropriate level of cleanliness are selected, or determining that cleaning is inappropriate for the particular metal.	Using cleaning methods that alter or damage the character-defining colour, texture and finish of the metal; or cleaning when it is inappropriate for the metal. Removing the character-defining patina of metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant character-defining finish.
Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings.	Exposing metals that were intended to be protected from the environment. Applying paint or other coatings to metals such as copper, bronze or stainless steel that were meant to be exposed.
Cleaning soft metals such as lead, tin, copper, terneplate and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.	Cleaning soft metals such as lead, tin, copper, terneplate and zinc with grit blasting or other abrasive methods or tools such as wire brushing, which will abrade the surface of the metal.
Using the gentlest cleaning methods for cast iron, wrought iron and steel — hard metals — in order to remove excessive paint build-up and corrosion. If hand scraping and wire brushing prove ineffective, low-pressure grit blasting may be used as long as it does not abrade or damage the surface.	Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.
Protecting adjacent materials during cleaning so as to avoid damage by abrasion or chemical reaction.	Failing to mask or otherwise protect adjacent masonry, wood or glass surfaces.
Applying an appropriate protective coating such as lacquer or wax to an architectural metal element such as a bronze door that is subject to heavy pedestrian use.	Failing to assess pedestrian use or new access patterns so that architectural metal elements are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.
Re-applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.	Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.
Repainting, if warranted, with colours that are appropriate to the building or district.	Using new colours that are inappropriate to the building or district. Radically changing a character-defining type of finish or character-defining colour or accent scheme, which detracts from the character of the building.
Retaining sound architectural metal elements or deteriorated architectural metal elements that can be repaired.	Replacing architectural metal elements that can be repaired.
Repairing and stabilizing deteriorated architectural metal elements by structural reinforcement, weather protection or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated architectural metal elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.

Recommended	Not Recommended
Replacing in kind extensively deteriorated or missing parts of architectural metal elements where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire architectural metal element such as a pressed metal ceiling when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic architectural metal elements in appearance or in physical or chemical properties.
Evaluating the overall condition of architectural metals to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to architectural metal elements will be necessary.	Failing to undertake adequate measures to protect architectural metal elements.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating an architectural metal element, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of an architectural metal element in order to determine the appropriate method of conservation.
Repairing an architectural metal element by welding, soldering, patching, splicing, or otherwise reinforcing the metal following recognized conservation methods. Repairs may also include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of elements when there are surviving prototypes such as porch balusters, column capitals or bases; or roof cresting.	Replacing an entire architectural metal element such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are feasible. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the architectural metal element, nor is physically or chemically compatible.
Replacing in kind an entire architectural metal element that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the element. Examples could include cast iron porch steps or steel sash windows. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing an architectural metal element that is irreparable and not replacing it; or replacing it with a new architectural metal element that does not convey the same appearance.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing a new architectural metal feature such as a metal cornice or cast iron capital when the historic feature is completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new architectural metal feature that is incompatible in size, scale, material, style and colour. Creating a false historical appearance because the replaced architectural metal feature is based on insufficient physical and documentary evidence.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring an architectural metal element, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to metal features from the restoration period will be necessary.	Failing to evaluate the overall condition of an architectural metal element in order to determine the appropriate method of conservation.
Repairing, stabilizing and conserving fragile architectural metal from the restoration period using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.	Removing architectural metal from the restoration period that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

In *Rehabilitation*, replacing in kind an entire architectural metal element that is too deteriorated to repair is recommended, if the overall form and detailing are still evident. Missing metal roof cresting on the Shaughnessy House in Montreal was replaced by using existing physical evidence as a model to reproduce the element.

Recommended	Not Recommended
Repairing architectural metal features from the restoration period by patching, splicing or otherwise reinforcing the metal using recognized preservation methods. Repairs may also include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of features from the restoration period when there are surviving prototypes such as porch balusters, column capitals or bases; or porch cresting. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire architectural metal feature from the restoration period such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are appropriate. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the architectural metal feature, nor is physically or chemically compatible.
Replacing in kind an entire architectural metal feature from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the feature. Examples could include cast iron porch steps or roof cresting. The new work should be unobtrusively dated to guide future research and treatment.	Removing an architectural metal feature from the restoration period that is irreparable and not replacing it.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing architectural metal features from periods other than the accepted restoration period; and the replacement of missing architectural metal features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering architectural metal features, such as a later cast iron porch railing, or aluminum windows, dating from other periods.	Failing to remove an architectural metal feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document architectural metal features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing architectural metal feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a cast iron storefront or porch.	Constructing an architectural metal feature that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Roofs

Recommended	Not Recommended
Preserving roofs — and their functional and decorative elements — that are important in defining the overall heritage value of the building.	Damaging or destroying roofs that are important in defining the overall heritage value of the building so that, as a result, the heritage value is diminished.
	Changing the configuration of a roof by adding new elements such as dormer windows, vents or skylights so that the character is diminished.
Documenting the form, materials and condition of roofs and roof elements prior to beginning project work. This includes the roof's pitch; shape, such as hipped, gambrel and mansard; decorative elements such as cupolas, cresting, chimneys and weathervanes; and roofing material such as slate, wood, clay tile and metal, as well as its size, colour and patterning.	Undertaking project work that will have an impact on character-defining roofs and roof elements without first documenting their existing character and condition.
Stabilizing and protecting a leaking roof with plywood and building paper until it can be properly repaired.	Permitting a leaking roof to remain unprotected so that accelerated deterioration of its building materials (such as masonry, wood, plaster, paint and structural members) occurs.
Protecting and maintaining a roof by cleaning and maintaining the gutters and downspouts and replacing deteriorated flashing in kind. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to ensure that materials are free from insect infestation.	Failing to replace deteriorated flashing or to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing and the underlying structure.
Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.	Allowing roof fasteners such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.
Retaining sound roofs or roof elements, or deteriorated roofs or roof elements that can be repaired.	Replacing or rebuilding roofs that can be repaired.
	Stripping the roof of sound character-defining material such as slate, clay tile, wood and architectural metal.
	Applying paint, stain or other coatings to roofing material that historically has been uncoated.
Repairing and stabilizing deteriorated roofs and roof elements by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated roof elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of roofs where there are surviving prototypes. The new work should match the existing elements in form and detailing.	Replacing an entire roof element such as a dormer when limited replacement of deteriorated and missing components is appropriate.
	Using replacement material that does not match the historic roof or roof element.

Recommended	Not Recommended
Evaluating the overall condition of roofs and roof elements to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to roofs will be necessary.	Failing to undertake adequate measures to protect roofs.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating a roof, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of a roof in order to determine the appropriate method of conservation.
Repairing a roof by reinforcing the character-defining materials that comprise roof elements. Repairs will also generally include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of elements when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles or wood shingles on a main roof.	Replacing an entire roof element such as a cupola, dormer or lightning protection when repair of the character-defining materials and limited replacement of deteriorated or missing parts is feasible. Failing to reuse intact slate or tile when only the roofing substrate needs replacement. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the roof, nor is physically or chemically compatible.
Replacing in kind an entire element of the roof that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the element. Examples can include a large section of roofing or a dormer or chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing an element of the roof that is irreparable, such as a chimney or dormer and not replacing it; or replacing it with a new element that does not convey the same appearance.

The *Rehabilitation* of the Truro Federal Building, in Truro, Nova Scotia included restoring its distinctive slate roof. In *Rehabilitation*, the replacement of missing historic features with a replica based on physical and documentary evidence, as in this project, is acceptable, as is a new design that is compatible with the character of the historic place.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and constructing a new feature when the historic feature is completely missing, such as chimney or cupola. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new roof feature that is incompatible in size, scale, material, style and colour. Creating a false historical appearance because the replaced feature is based on insufficient physical and documentary evidence.
Alterations/Additions for the New Use	
Installing mechanical and service equipment on the roof such as air conditioning, transformers or solar collectors when required for the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining elements, or undermine the heritage value.	Installing mechanical or service equipment which damages or obscures character-defining elements; or is conspicuous from the public right-of-way.
Designing additions to roofs such as residential, office or storage spaces; elevator housing; decks and terraces; or dormers or skylights when required by the new use so that they are inconspicuous from the public right-of-way and do not damage or obscure character-defining elements, or undermine the heritage value.	Radically changing a character-defining roof shape or damaging or destroying character-defining roofing material as a result of incompatible design or improper installation techniques.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring a roof, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to a roof from the restoration period will be necessary.	Failing to evaluate the overall condition of a roof in order to determine the appropriate method of conservation.
Repairing a roof from the restoration period by reinforcing the materials that comprise roof features. Repairs will also generally include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of features such as cupola louvers, dentils, dormer roofs or slates, tiles or wood shingles when there are surviving prototypes. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire roof feature from the restoration period such as a cupola or dormer when the repair of materials and limited replacement of deteriorated or missing parts are appropriate. Failing to reuse intact slate or tile when only the roofing substrate needs replacement. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the roof, nor is physically or chemically compatible.

During the *Restoration* of the former post office in Dawson, Yukon, the metal roofing surface, which was too deteriorated to repair, was replaced "in kind" (using the same form, materials, and detailing). Physical evidence from the *Restoration* period was used as a model to reproduce the characteristic standing seam detail.

Recommended

Replacing in kind an entire roof feature from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the feature. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Removing a roof feature from the restoration period that is irreparable and not replacing it; or failing to document the new work.

A surviving pressed metal shingle was used as a prototype for manufacturing replacement shingles for the *Restoration* of the main house at the Motherwell Homestead near Abernathy, Saskatchewan. As a rule, in *Restoration*, repairs or replacements of extensively deteriorated or missing parts of features are done in kind, and are based on physical, documentary and oral evidence.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing roofs and roof features from periods other than the accepted restoration period; and the replacement of missing roof features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering roofs or roof features, such as a later dormer or asphalt roofing, dating from other periods.	Failing to remove a roof feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document roofing materials and roof features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating missing roofing material or a roof feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a dormer or cupola.	Constructing a roof feature that was part of the original design of the building, but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Windows

Recommended

Preserving windows and their functional and decorative components — such as frames, sashes, muntins, glazing, sills, heads, hoodmoulds, panelled or decorated jambs and mouldings, interior and exterior shutters and blinds — that are important in defining the overall heritage value of the building.

Documenting the location, form, style, materials and method of operation of windows and their elements prior to beginning project work.

Not Recommended

Removing or radically changing windows that are important in defining the heritage value of the building.

Changing the number, location, size or glazing pattern of windows by cutting new openings, blocking in windows and installing replacement sashes that do not fit the character-defining window opening.

Changing the character-defining appearance of windows through the use of inappropriate designs, materials, finishes or colours that noticeably change the sash, depth of reveal and muntin configuration; the reflectivity and colour of the glazing; or the appearance of the frame.

Obscuring character-defining window trim with metal or other materials.

Preserving a building's character-defining windows generally involves scraping, sanding, re-puttying and repainting. While some limited repair and replacement work was undertaken within the scope of work on the Aberdeen Pavilion in Ottawa (photo on left: before, photo below: after), almost all of the windows were retained, including the glass. Wholesale replacement of window units is not an appropriate *Preservation* treatment.

Recommended	Not Recommended
Conducting an in-depth survey of the condition of windows early in the planning process so that repair and upgrading methods and possible replacement options can be fully explored.	Undertaking project work that will have an impact on character-defining windows without first documenting their existing character and condition.
Protecting and maintaining the wood and architectural metals that comprise the window frames, sashes, muntins and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal and re-application of protective coating systems in kind.	Failing to provide adequate protection of materials on a cyclical basis, which results in deterioration of the window.
Making windows weathertight by re-puttying and replacing or installing weatherstripping. These actions also improve thermal efficiency (see also section 4 Energy Efficiency Considerations, Buildings: Windows).	Retrofitting or replacing windows rather than maintaining the sash, frame and glazing.
Retaining sound windows and window elements or deteriorated windows and window elements that can be repaired.	Replacing windows that can be repaired. Peeling paint, broken glass, stuck sashes or high air infiltration are NOT, in themselves, indications that windows are beyond repair.
Repairing and stabilizing deteriorated windows and window elements by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated materials such as wood, cast iron or bronze from windows that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of windows where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire window element such as a shutter when limited replacement of deteriorated and missing components is appropriate. Using replacement material that does not match the historic window or window element.
Evaluating the overall condition of windows and window elements to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to windows will be necessary.	Failing to undertake adequate measures such as cyclical maintenance to protect windows.

The replacement of an entire character-defining element is recommended in *Rehabilitation* if the element is extensively deteriorated and cannot reasonably be repaired. The replacement should accurately replicate the original, as shown in the project on the left, or be compatible with the character of the historic place.

Additional Guidelines for Rehabilitation Projects

Recommended

Rehabilitating a window, if an evaluation of its overall condition determines that more than preservation is required.

Repairing window frames and sashes by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind — or with a compatible substitute material — of those parts that are either extensively deteriorated or are missing, when there are surviving prototypes such as architraves, hoodmolds, sashes, sills and interior or exterior shutters and blinds.

Replacing in kind an entire window that is too deteriorated to repair using the same sash and pane configuration and other design details. If using the same kind of material is not technically or economically feasible when replacing windows deteriorated beyond repair, then a compatible substitute material may be considered.

Not Recommended

Failing to evaluate the overall condition of a window, in order to determine the appropriate method of conservation.

Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts is feasible.

Failing to reuse serviceable window hardware such as sash lifts and sash locks.

Using substitute material for the replacement part, that neither conveys the same appearance as the surviving parts of the window, nor is physically or chemically compatible.

Removing a character-defining window that is irreparable and blocking it in; or replacing it with a new window that does not convey the same appearance.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing new windows when the historic windows (frames, sashes and glazing) are completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new design that is inconsistent with the style, era and overall historic character of the building. Creating a false historical appearance because the replaced window is based on insufficient physical and documentary evidence.
Alterations/Additions for the New Use	
Designing and installing additional windows on non-character-defining elevations if required by the new use. Such designs should be compatible with the overall style, era and character of the building, but not necessarily duplicate the fenestration pattern and detailing of a character-defining elevation.	Installing new windows, including frames, sashes and muntins, that are incompatible with the building's historic appearance or obscure, damage or destroy character-defining elements.
Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.	Inserting new floors or furred-down ceilings that cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring a window, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to wood features from the restoration period will be necessary.	Failing to evaluate the overall condition of a window in order to determine the appropriate method of conservation.
Repairing window frames and sashes from the restoration period by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include limited replacement — preferably in kind — of extensively deteriorated or missing parts such as architraves, hoodmoulds, sash, sills and interior or exterior shutters and blinds when there are surviving prototypes. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire window from the restoration period when repair of materials and limited replacement of deteriorated or missing parts are appropriate. Failing to reuse serviceable window hardware such as brass sash lifts and sash locks. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the window, nor is physically or chemically compatible.

Recommended	Not Recommended
Replacing in kind a window feature from the restoration period that is too deteriorated to repair using the same sash and pane configuration and other design details. The new work should be unobtrusively dated to guide future research and treatment.	Removing a window feature from the restoration period that is irreparable and not replacing it; or failing to document the new work.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing windows and window features from periods other than the accepted restoration period; and the replacement of missing window features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering windows or window features, such as later single-pane glazing or inappropriate shutters, dating from other periods.	Failing to remove a window feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document window features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing window or window feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a hoodmould or shutter.	Constructing a window feature that was part of the original design of the building, but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Entrances and Porches

Recommended	Not Recommended
Preserving entrances and porches — and their functional and decorative features such as doors, fanlights, sidelights, pilasters, entablatures, columns, balustrades and stairs — which are important in defining the overall heritage value of the building.	Removing or radically changing entrances and porches that are important in defining the overall heritage value of the building so that, as a result, the heritage value is diminished.
Documenting the form, materials and condition of entrances and porches prior to beginning project work.	Undertaking project work that will have an impact on character-defining entrances and porches without first documenting their existing character and condition.
Protecting and maintaining the masonry, wood and architectural metals that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal and reapplication of protective coating systems in kind.	Failing to provide adequate protection of materials on a cyclical basis, which results in deterioration of entrances and porches.
Retaining sound entrance and porch elements or deteriorated entrance and porch elements that can be repaired (see also section 4: Accessibility Considerations).	Removing sound or repairable material such as wood, cast iron, terra cotta tile and brick from entrances and porches. Removing an entrance or porch because the building has been reoriented to accommodate a new use. Creating new entrances on a character-defining elevation. Altering utilitarian or service entrances so they appear to be formal entrances by adding panelled doors, fanlights and sidelights.
Repairing and stabilizing deteriorated entrance and porch elements by structural reinforcement, weather protection; or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated entrance and porch elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of entrance and porch elements where there are surviving prototypes. The new work should match the existing elements in form and detailing.	Replacing an entire entrance or porch element when limited replacement of deteriorated and missing components is appropriate. Using a replacement material that does not match the historic entrance or porch element.
Evaluating the overall condition of materials to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to entrance and porch elements will be necessary.	Failing to undertake adequate measures to protect entrances and porches.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating an entrance or a porch, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of an entrance or a porch in order to determine the appropriate method of conservation.
Repairing an entrance or porch by reinforcing the character-defining materials. Repair will also generally include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of repeated elements where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights and stairs, or where there is clear evidence such as old paint traces on adjacent surfaces.	Replacing an entire entrance or porch when the repair of materials and limited replacement of parts are feasible. Using a substitute material for replacement parts that neither conveys the appearance of the surviving parts of the entrance and porch, nor is physically or chemically compatible.
Replacing in kind an entire entrance or porch that is too deteriorated to repair — if the form and detailing are still evident — using the physical evidence as a model to reproduce the element. If using the same kind of material is not technically or economically feasible, then compatible substitute materials may be considered.	Removing an entrance or porch that is irreparable and not replacing it; or replacing it with a new entrance or porch that does not convey the same appearance.

Porches, such as this portico on the old Bonsecours Market in Montreal (built 1844-47) with its striking Greek Doric cast iron columns, can play a very significant role in defining the character of a building. Maximizing the retention of character-defining elements, including the portico, was the primary conservation objective when the building was Rehabilitated for use as a Municipal office.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and constructing a new entrance or porch when the historic entrance or porch is completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new entrance or porch that is incompatible in size, scale, material, style or colour. Creating a false historical appearance because the replaced entrance or porch is based on insufficient physical and documentary evidence.
Alterations/Additions for the New Use	
Designing enclosures or screening for character-defining porches on secondary elevations when required by the new use in a manner that preserves the character of the building. This can include using large sheets of glass and recessing the enclosure wall behind existing scrollwork, posts or balustrades.	Enclosing porches in a manner that detracts from or results in a loss of character by using materials such as wood, stucco or masonry.
Designing and installing additional entrances or porches on non-character-defining elevations when required for the new use in a manner that preserves the character of the building, i.e., limiting such alteration to non-character-defining elevations.	Installing secondary entrances and porches on non-character-defining elevations that are incompatible in size or scale with the historic building or obscure, damage or destroy character-defining elements.

In *Rehabilitation*, deteriorated features should be repaired, whenever possible, and replaced when the severity of the damage makes it necessary. Here, the character-defining stone steps of the entrance to a house in Saint John, New Brunswick were cracked. Appropriate work on the entrance included repairs to the stone steps and walls, and the installation of a metal handrail to meet building code requirements.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring an entrance or a porch, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to features from the restoration period will be necessary.	Failing to evaluate the overall condition of an entrance or a porch in order to determine the appropriate method of conservation.
Repairing entrances and porches from the restoration period by reinforcing the historic materials. Repairs will also generally include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of repeated features such as balustrades, cornices, entablatures, columns, sidelights and stairs where there are surviving prototypes, or where there is clear evidence such as old paint traces on adjacent surfaces. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire entrance or porch feature from the restoration period when the repair of materials and limited replacement of parts are appropriate. Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts of the entrance and porch, nor is physically or chemically compatible.
Replacing in kind an entire entrance or porch from the restoration period that is too deteriorated to repair — if the form and detailing are still evident — using the physical evidence as a model to reproduce the feature. The new work should be unobtrusively dated to guide future research and treatment.	Removing an entrance or porch feature from the restoration period that is irreparable and not replacing it; or failing to document the new work.

In *Restoration*, reinstating the historic paint colours from the restoration period should be based on physical or documentary evidence, such as on-site paint analysis and colour photographs.

The following Restoration work has been highlighted to indicate that it involves the removal or alteration of existing entrance and porch features from periods other than the accepted restoration period; and the replacement of missing entrance and porch features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering entrances and porches and their features, such as a later porch railing or balustrade, dating from other periods.	Failing to remove an entrance or porch feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document entrance or porch features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing entrance or porch or its features that existed during the restoration period based on physical or documentary evidence; for example, duplicating a fanlight or porch column.	Constructing an entrance or porch feature that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Storefronts

Recommended	Not Recommended
Preserving storefronts — and their functional and decorative features such as display windows, doors, transoms, cornices, corner posts, awnings and signs — that are important in defining the overall heritage value of the building.	Removing or radically changing storefronts — and their features — that are important in defining the overall heritage value of the building.
Documenting the form, materials and condition of storefronts prior to beginning project work. The careful removal of non-character-defining cladding, false mansard roofs and other cover-ups may reveal an earlier storefront beneath.	Undertaking project work that will have an impact on character-defining storefronts and storefront elements without first documenting their existing character and condition.
Stabilizing and protecting storefronts against arson and vandalism before work begins by boarding up windows and installing alarm systems that are keyed into local protection agencies.	Permitting entry into the building through unsecured or broken windows and doors so that interior elements and finishes are damaged by exposure to weather or vandalism.
Protecting and maintaining wood, masonry and architectural metals that comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal and re-application of protective coating systems in kind.	Failing to provide adequate protection of materials on a cyclical basis, which results in the deterioration of storefronts.

The character-defining form and features of 1880s storefronts in Vancouver, including their large plate-glass display windows with multi-pane transom windows above and recessed central doorways, have been retained through *Preservation.*

Recommended	Not Recommended
Retaining sound storefronts and storefront elements, or deteriorated storefronts and storefront elements that can be repaired.	Stripping storefronts of character-defining material such as wood, brick, metal, structural glass (e.g., Carrara Glass or Vitrolite), terra cotta and cast iron; or covering over character-defining material.
	Changing the storefront so that it appears residential rather than commercial in character.
	Changing the proportions of display windows.
	Changing the location of a storefront's main entrance.
	Removing material from the storefront to create a recessed arcade.
	Introducing coach lanterns, false mansard roofs, wood shakes, non-operable shutters and small-paned windows if they cannot be documented historically.
Retaining character-defining signs and awnings that are sound or could be repaired.	Replacing sound character-defining signs and awnings, or signs and awnings that could be repaired.
Repairing and stabilizing deteriorated storefront elements by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated storefront elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of storefronts where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire storefront element such as a cornice when limited replacement of deteriorated and missing components is appropriate.
	Using replacement material that does not match the historic storefront element.
Evaluating the overall condition of storefronts to determine whether more than protection, maintenance and limited repair or replacement in kind is required; i.e., if more extensive repairs to storefronts will be necessary.	Failing to undertake adequate measures to protect storefronts.

Creating a false sense of history , such as adding features based on 18th century American architecture to a 19th century Canadian building, is not recommended.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating a storefront, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of a storefront in order to determine the appropriate method of conservation.
Repairing storefronts by reinforcing the character-defining materials. Repairs will also generally include the limited replacement in kind — or with compatible substitute materials — of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, cornices, pilasters or signs.	Replacing an entire storefront when repair of materials and limited replacement of its parts are feasible. Using a substitute material for replacement parts, which neither conveys the same appearance as the surviving parts of the storefront, nor is physically or chemically compatible.
Replacing in kind an entire storefront that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered.	Removing a storefront that is irreparable and not replacing it; or replacing it with a new storefront that does not convey the same appearance.

The *Rehabilitation* of the exterior of this building in Nelson, British Columbia involved carefully removing panels that covered the storefront and stripping the paint from the second storey to reveal the underlying brick and stone façade, and installing traditional-style fabric awnings. Many older commercial buildings were reclad in an attempt to give them a modern face. Beneath these cover-ups may be a well-designed and well-built façade. Removing such cover-ups, if they are not character-defining elements, is recommended.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and constructing a new storefront when the historic storefront is completely missing. It may be a new design that is compatible with the style, era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new design that is incompatible in size, scale, material, style and colour. Creating a false historical appearance because the replaced storefront is based on insufficient physical and documentary evidence. Using inappropriately scaled signs and logos or other types of signs that are incompatible in size, scale, material, style, colour or illumination; or obscure, damage, or destroy character-defining elements of the building, or undermine its heritage value. Using awnings, canopies or marquees that are incompatible in size, scale, material, style, colour or illumination; or obscure, damage, or destroy character-defining elements of the building, or undermine its heritage value.

A new storefront was constructed to replace the extensively altered storefront of this bank in Perth, Ontario when the building was *Rehabilitated*. The new storefront could have been a replica of the historic storefront, if there had been sufficient evidence. An acceptable alternative in *Rehabilitation*, as shown in the photo to the right, is a new design that is compatible in form, material and detailing with the style, era and character of the building.

New signs, as illustrated at right, should be compatible with the building in terms of size, scale, material, style and colour. In addition, they should not obscure, damage, or destroy character-defining elements of the building. In some cases, as in the Rialto Theatre in Montreal at left, signs added later become character-defining elements in their own right.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring a storefront, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to storefront features from the restoration period will be necessary.	Failing to evaluate the overall condition of a storefront in order to determine the appropriate method of conservation.
Repairing storefronts from the restoration period by reinforcing the historic materials. Repairs will also generally include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of storefronts such as transoms, cornices, pilasters or signs where there are surviving prototypes. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an entire storefront feature from the restoration period when repair of materials and limited replacement of its parts are appropriate. Using a substitute material for the replacement part, which neither conveys the same appearance as the surviving parts of the storefront, nor is physically or chemically compatible.
Replacing in kind a storefront from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model. The new work should be unobtrusively dated to guide future research and treatment.	Removing a storefront feature from the restoration period that is irreparable and not replacing it; or failing to document the new work.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing storefront features from periods other than the accepted restoration period; and the replacement of missing storefront features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering storefronts and their features, such as inappropriate cladding or signage, dating from other periods.	Failing to remove a storefront feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document storefront features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing storefront or storefront feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a display window or transom.	Constructing a storefront feature that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation. Installing signs, awnings, canopies or marquees for which there is insufficient physical or documentary evidence; or that are inappropriate to the building and the restoration period.

Restoration of a storefront may involve removing inappropriate cladding dating from a later period. Recreating a missing feature, such as the awnings on this storefront in New Brunswick, should be based on physical or documentary evidence.

Interior Spaces, Features and Finishes

Recommended	Not Recommended
Interior Spaces	
Preserving circulation patterns or interior spaces — such as lobbies, reception halls, entrance halls, double parlours, theatres, auditoriums and industrial or commercial spaces — that are important in defining the overall heritage value of the building.	Radically changing circulation patterns or interior spaces — including individual rooms — that are important in defining the overall heritage value of the building.
Documenting the form, materials and condition of circulation patterns or interior spaces prior to beginning project work. This includes the size, configuration, proportion and relationship of rooms and corridors; and the relationship of features to spaces.	Undertaking project work that will have an impact on character-defining circulation patterns or interior spaces without first documenting their existing character and condition.
Retaining sound circulation patterns or interior spaces, or deteriorated circulation patterns or interior spaces that can be repaired (see also section 4: Accessibility Considerations).	Altering the floor plan by demolishing principal walls and partitions in order to create a new appearance. Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls. Relocating an interior feature such as a staircase, thereby altering the relationship between features and spaces.

Restoring theatre interiors includes preserving the proportion and form of spaces and furnishings, as well as other features and finishes that are important in defining the overall character of the building. The *Restoration* of the interior of the Imperial Theatre in Saint John, New Brunswick included rehabilitation of the seating and circulation according to code requirements, and restoration of the ornamental plaster ceilings and light fixtures.

Recommended	Not Recommended
Interior Features and Finishes	
Preserving interior features and finishes that are important in defining the character of the building, including columns, cornices, baseboards, fireplaces and mantels, panelling, light fixtures, hardware and flooring; wallpaper, plaster, paint and finishes such as stencilling, marbling and graining; and other character-defining decorative materials that accent interior features and provide colour, texture and patterning to walls, floors and ceilings.	Removing or radically changing features and finishes that are important in defining the overall character of the building.
Documenting the form, materials and condition of interior features and finishes prior to beginning project work.	Undertaking project work that will have an impact on character-defining interior features and finishes without first documenting their existing character and condition.
Stabilizing and protecting interior features and finishes against arson and vandalism before project work begins, in a non-damaging, reversible manner, such as erecting protective fencing, boarding up windows and installing fire alarm systems that are keyed to local protection agencies.	Permitting unauthorized entry into historic buildings through unsecured or broken windows and doors, exposing the interior features and finishes to damage caused by weather or vandalism. Stripping interiors of decorative materials and features such as woodwork, doors, windows, light fixtures, copper piping, radiators.

An example of "limited replacement in kind" points out an appropriate scope of work within the treatment *Preservation*. Only the damaged corner of a stair's newel post has been replaced- (it will be stained to match). Targeting repairs to the deteriorated elements meant that most of the character-defining elements were retained.

Recommended	Not Recommended
Protecting and maintaining masonry, wood and architectural metals, as well as wall treatments that comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal and re-application in kind of protective coating systems.	Failing to provide adequate protection of materials on a cyclical basis, which results in the deterioration of interior features.
Protecting interior features such as a staircase, mantel or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets, for example.	Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented or otherwise mechanically damaged.
Installing protective coverings in areas of heavy pedestrian traffic to protect elements such as wall coverings, parquet flooring and panelling.	Failing to take new patterns of use and circulation into consideration, resulting in damage to interior features and finishes.
Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.	Using destructive methods such as propane or butane torches or sandblasting to remove paint, whitewash or other coatings. These methods can irreversibly damage the materials that comprise interior features.
Using proven cleaning methods that do not damage interior features and finishes. Abrasive cleaning should only be considered when it is necessary to halt deterioration or remove heavy soiling and only after other, gentler methods have been proven in tests to be ineffective and the desired level of cleanliness has been established.	Changing the texture and patina of interior features and finishes through sandblasting or use of abrasive methods to remove paint, discolouration or plaster. This includes both exposed wood (including structural members) and masonry.
Repainting with colours that are appropriate to the historic building.	Using new finishes or paint colours that are inappropriate to the historic building.
Retaining sound interior features and finishes, or deteriorated interior features and finishes that can be repaired.	Removing paint, plaster or other finishes from historically finished surfaces in order to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece).
	Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and panelling.
	Radically changing the type of finish or its colour, such as painting a previously varnished wood feature.
	Installing new decorative material that obscures or damages interior features or finishes, or undermines the heritage value of the space.
	Applying paint, plaster or other finishes to surfaces that have been historically unfinished in order to create a new appearance.
Repairing and stabilizing deteriorated interior features and finishes by addressing the root causes of the damage, opting for structural reinforcement or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated interior features and finishes that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.

Recommended	Not Recommended
Replacing in kind extensively deteriorated or missing parts of interior features and finishes where there are surviving prototypes. The new work should match the old in form and detailing.	Replacing an entire interior feature or finish when limited replacement of deteriorated and missing components is appropriate.
	Using replacement material that does not match the historic interior feature or finish.
Evaluating the overall condition of interior features and finishes to determine whether more than protection, maintenance and limited repair or replacement in kind is required; i.e., if more extensive repairs to interior features and finishes will be necessary.	Failing to undertake adequate measures to protect interior features and finishes.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating interior spaces, features and finishes, if an evaluation of their overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of interior spaces, features and finishes in order to determine their proper conservation.
Repairing interior features and finishes by reinforcing the character-defining materials. Repair will also generally include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.	Replacing an entire interior feature such as a staircase, panelled wall, parquet floor or cornice; or finish such as a decorative wall covering or ceiling, when repair of materials and limited replacement of such parts is feasible.
	Using a substitute material for the replacement part that neither conveys the appearance of the surviving parts or portions of the interior feature or finish, nor is physically or chemically compatible.

When the Birkett Castle in Ottawa was first converted from residential to office use, its plaster ceiling was covered in acoustic tiles and fluorescent lighting was installed throughout. Some years later the building was sensitively rehabilitated by its new owner: in addition to removing the ceiling tiles and fluorescent light fixtures and carefully patching the damage they created, the sound character-defining interior features and finishes were retained and restored, and the deteriorated ones were repaired or replaced in kind.

Recommended	Not Recommended
Replacing in kind an entire interior feature or finish that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model for reproduction. Examples could include wainscoting, a pressed-metal ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a character-defining feature or finish that is irreparable and not replacing it; or replacing it with a new feature or finish that does not convey the same appearance.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and installing a new interior feature or finish if the historic feature or finish is completely missing. This could include missing partitions, stairs, elevators, lighting fixtures and wall coverings; or even entire rooms if all historic spaces, features and finishes are missing or have been destroyed by inappropriate "renovations." It may be a new design that is compatible with the character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new interior feature or finish that is incompatible with the scale, design, materials, colour and texture of the surviving interior features and finishes. Creating a false historical appearance because the replaced feature is based on insufficient physical, historical and pictorial documentation or on information derived from another building.
Alterations/Additions for the New Use	
Accommodating service functions such as bathrooms, mechanical equipment and office machines required by the building's new use in secondary spaces such as first floor service areas or on upper floors.	Dividing rooms, lowering ceilings and damaging or obscuring character-defining elements such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.
Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door moulding, panelled doors and simple wainscoting; and relocating such material or features to areas appropriate to their historic placement.	Discarding character-defining material when it can be reused within the rehabilitation project or relocating it to historically inappropriate areas.
Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior space.	Installing permanent partitions that damage or obscure character-defining spaces, features or finishes.

Recommended	Not Recommended
Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used.	Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining elements are destroyed.
Placing new code-required stairways or elevators in secondary and service areas of the historic building.	Radically changing, damaging, or destroying character-defining spaces, features or finishes when adding new code-required stairways and elevators.
Creating an atrium or a light well to provide natural light when required for the new use in a manner that ensures the preservation of the structural system as well as character-defining interior spaces, features and finishes.	Destroying character-defining interior spaces, features or finishes; or damaging the structural system, in order to create an atrium or light well.
Adding a new floor if required for the new use in a manner that preserves character-defining interior spaces, features and finishes.	Inserting a new floor within a building that radically changes a character-defining interior space; obscures, damages, or destroys decorative detailing; or alters or destroys the arrangement of windows in a building.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring interior features and finishes, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to interior features and finishes from the restoration period will be necessary.	Failing to evaluate the overall condition of interior features and finishes in order to determine their proper conservation.
Repairing interior features and finishes from the restoration period by reinforcing the historic materials. Repair will also generally include the limited replacement — preferably in kind — of extensively deteriorated or missing parts of repeated features such as stairs, balustrades, wood panelling, columns, or decorative wall coverings or ornamental metal or plaster ceilings when there are surviving prototypes. The new work should be unobtrusively dated to guide future research and treatment.	Replacing an interior feature from the restoration period such as a staircase, panelled wall, parquet floor or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate. Using a substitute material for the replacement part, which neither conveys the same appearance as the surviving parts or portions of the interior feature or finish, nor is physically or chemically compatible.
Replacing in kind an entire interior feature or finish from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model for reproduction. Examples could include wainscoting, a pressed-metal ceiling or interior stairs. The new work should be unobtrusively dated to guide future research and treatment.	Removing a feature or finish from the restoration period that is irreparable and not replacing it; or failing to document the new work.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing interior spaces, features and finishes from periods other than the accepted restoration period; and the replacement of missing interior spaces, features and finishes from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering interior spaces, features and finishes, such as a later suspended ceiling or wood panelling, dating from other periods.	Failing to remove or alter an interior space, feature or finish from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document interior spaces, features and finishes from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating an interior space, or a missing feature or finish, from the restoration period based on physical or documentary evidence; for example, duplicating a marbleized mantel or a staircase.	Constructing an interior space, feature or finish that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

When adding any new features to meet functional requirements, it is recommended that adjacent character-defining elements be conserved. A new glass wall in this Halifax office building was carefully designed to complement the quality of the lobby's materials and finishes, and installed in a way that avoided damaging the adjacent character-defining plasterwork and stone-wainscoting. Its contemporary design is sympathetic to the style of the mid-1930s building.

Structural Systems

(See also Engineering Works)

Recommended	Not Recommended
Preserving structural systems and individual features of systems — such as load-bearing wood, brick, or stone walls, trusses, post-and-beam systems, summer beams, cast iron columns or above-grade stone foundation walls — that are important in defining the overall heritage value of the building.	Removing, covering or radically changing visible features of structural systems that are important in defining the overall heritage value of the building. Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members. Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea formaldehyde foam insulation into frame walls. Putting the building to a new use, which could overload the existing structural system; or installing equipment or mechanical systems that could damage the structure.
Documenting the form, materials, function and condition of structural systems prior to beginning project work.	Undertaking project work that will have an impact on character-defining structural systems without first documenting their existing character and condition.
Stabilizing deteriorated structural systems by structural reinforcement or weather protection, or ensuring that unsafe conditions are corrected, as required, until any additional work is undertaken.	Failing to stabilize deteriorated structural systems, thus putting them at risk of further deterioration. Failing to obtain advice from qualified personnel such as professional engineers for any structural systems that may be unsafe.
Protecting and maintaining the structural system by cleaning and maintaining the roof gutters and downspouts; replacing roof flashing in kind; keeping masonry, wood and architectural metals in a sound condition; and ensuring that structural members are free of fungal decay and insect infestation.	Failing to provide proper building maintenance, resulting in the deterioration of the structural system. Causes of deterioration include subsurface ground movement, rising damp, vegetation growing too close to foundation walls, improper grading, fungal rot and poor interior ventilation that results in condensation.
Examining and evaluating the physical condition of the structural system and its individual features using minimally destructive techniques such as radiographic, ultrasonic, electromagnetic or acoustic testing.	Utilizing destructive probing or sampling techniques that will damage or destroy structural material.
Retaining sound structural systems or deteriorated structural systems that can be repaired.	Replacing or rebuilding structural systems that can be repaired; e.g., demolishing a load-bearing masonry wall that could be augmented and retained and replacing it with a new wall, using the masonry only as an exterior veneer.
Repairing deteriorated structural systems in such a way that repairs are physically and visually compatible.	Removing deteriorated structural system elements that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.

Recommended

Replacing in kind extensively deteriorated or missing parts of structural systems where there are surviving prototypes. The new work should match the old in form and detailing and have adequate strength.

Evaluating the overall condition of structural systems to determine whether more than protection, maintenance and limited repair or replacement in kind is required; i.e., if more extensive repairs to structural systems will be necessary.

Not Recommended

Replacing an entire structural system element such as a summer beam when limited replacement of deteriorated and missing components is appropriate.

Using a replacement material that does not match the historic structural system element.

Failing to undertake adequate measures to protect structural systems.

Additional Guidelines for Rehabilitation Projects

Recommended

Rehabilitating a structural system and its individual features, if an evaluation of its overall condition determines that more than preservation is required.

Repairing the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be paired with a new member, braced or otherwise supplemented and reinforced.

Not Recommended

Failing to evaluate the overall condition of a structural system and its individual features in order to determine the appropriate method of conservation.

Upgrading the building structurally in a manner that diminishes the character of the exterior (such as installing strapping or channels, or removing a decorative cornice) or that damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

Preserving structural systems includes stabilizing deteriorated systems by structural reinforcement until any additional work is undertaken, as illustrated here in the temporary bracing of the E.B. Eddy factory in Gatineau, Quebec.

Recommended	Not Recommended
Replacing in kind — or with a substitute material — those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of load-bearing walls. Substitute material should convey the same form, design and overall appearance as the character-defining element; and at least be equal to its load-bearing capabilities.	Installing a visible replacement feature that does not convey the same appearance, e.g., replacing an exposed wooden beam with a steel beam. Using substitute material that does not equal the load-bearing capabilities of the character-defining material and design or is otherwise physically or chemically incompatible.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Alterations/Additions for the New Use	
Limiting any new excavations adjacent to character-defining foundations to avoid undermining the structural stability of the building or adjacent historic buildings. Studies should be done to ascertain potential damage to archaeological and landscape resources.	Carrying out excavations or regrading adjacent to or within a historic building that could cause the character-defining foundation to settle, shift or fail. This could have a similar effect on adjacent historic buildings or destroy significant archaeological or landscape resources.
Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining elements.	Radically changing interior spaces or damaging or destroying features or finishes that are character-defining, while trying to correct structural deficiencies in preparation for the new use.
Designing and installing new mechanical or electrical systems when required for the new use that minimize the number of cutouts or holes in structural members.	Installing new mechanical and electrical systems or equipment in a manner that results in numerous cuts, splices or alterations to the structural members.
Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage or destroy character-defining spaces, features or finishes.	Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features or finishes. Inserting new floors or furred-down ceilings that cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.
Creating an atrium or a light well to provide natural light when required for the new use in a manner that ensures the preservation of the structural system as well as character-defining interior spaces, features and finishes.	Damaging the structural system or individual features; or radically changing, damaging or destroying character-defining interior spaces, features or finishes in order to create an atrium or a light well.

In *Preservation*, visible structural systems that are important in defining the overall character of a building should not be removed or obscured. If an evaluation of the physical condition of the structural system (using minimally destructive techniques) indicates that repairs of deteriorated parts are required, they should match the old in form and detailing and have adequate strength.

Additional Guidelines for Restoration Projects

Recommended

Restoring a structural system and its individual features, if an evaluation of their overall condition determines that more than preservation is required; i.e., if repairs to structural features from the restoration period will be necessary.

Repairing the structural system by augmenting or upgrading individual parts or features in a manner that is consistent with the restoration period. For example, weakened structural members such as floor framing can be paired with a new member, braced or otherwise supplemented and reinforced. The new work should be unobtrusively dated to guide future research and treatment.

Replacing in kind — or with a substitute material — those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of load-bearing walls. Substitute material should convey the same form, design and overall appearance as the historic feature; and, at a minimum, be equal to its load-bearing capabilities. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Failing to evaluate the overall condition of a structural system and its individual features in order to determine the appropriate method of conservation.

Upgrading the building structurally in a manner that diminishes the historic character of the exterior (such as installing strapping channels or removing a decorative cornice) or that damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

Installing a visible replacement feature that does not convey the same appearance, e.g., replacing an exposed wood summer beam with a steel beam; or failing to document the new work.

Using substitute material that does not equal the load-bearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing structural systems and features from periods other than the accepted restoration period; and the replacement of missing structural system features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering visually intrusive structural features such as a non-matching column or exposed ceiling beams, dating from other periods.	Failing to remove or alter a visually intrusive structural feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document structural features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing structural feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a cast iron column.	Constructing a structural feature that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

Evaluating the physical condition of the elements of a wood structure should be carried out using non-destructive testing methods. The testing of wood columns in Gatineau, Quebec was carried out with a Densitomat micro-drill. The principle of measurement is based on the power required to advance the drill bit at a constant rate through the material. This can provide information about wood density variations indicative of decay or insect damage, and is a preferred method for testing because of the small diameter of the bit involved. The resulting borehole is generally invisible to the eye, essentially closing itself with the sawdust generated by the procedure.

Mechanical Systems

Heating, air conditioning, electrical and plumbing

Recommended	Not Recommended
Preserving elements of mechanical systems — such as heating plants, radiators, vents, fans, grilles, plumbing fixtures, switch plates and lights — that are important in defining the overall heritage value of the building.	Removing or radically changing elements of mechanical systems that are important in defining the overall heritage value of the building.
Documenting the form, materials, function and condition of mechanical systems prior to beginning project work.	Undertaking project work that will have an impact on character-defining mechanical systems without first documenting their existing character and condition.
Protecting and maintaining mechanical, plumbing and electrical systems and their elements through cyclical cleaning and other appropriate measures.	Failing to provide adequate protection of materials on a cyclical basis, which results in deterioration of mechanical systems and their visible elements.
Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces and cellars so that moisture problems are avoided, and by providing access for servicing.	Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results, or in areas that cannot be accessed easily for servicing or maintenance.
Improving the energy efficiency of existing mechanical systems to help reduce the need for elaborate new equipment. Consideration should be given to installing storm windows, insulating attic crawl spaces, or adding awnings, if appropriate.	Installing unnecessary climate control systems that can add excessive moisture to the building. This additional moisture can either condense inside, damaging interior surfaces, or pass through interior walls to the exterior, potentially damaging adjacent materials as it migrates.
Retaining sound mechanical systems or deteriorated mechanical systems that can be repaired.	Replacing mechanical systems that can be repaired.
Repairing and stabilizing deteriorated mechanical systems until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated mechanical systems that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.
Replacing in kind extensively deteriorated or missing parts of mechanical systems where there are surviving prototypes. The new work should match the old in form and detailing and have adequate capacity.	Replacing an entire mechanical system when limited replacement of deteriorated and missing components is appropriate. Using a replacement material that does not match the historic mechanical system element.
Evaluating the overall condition of mechanical systems to determine whether more than protection, maintenance and limited repair or replacement in kind are required; i.e., if more extensive repairs to mechanical systems will be necessary.	Failing to undertake adequate measures to protect mechanical systems.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating a mechanical system, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of a mechanical system in order to determine the appropriate method of conservation.
Repairing mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts, rewiring or adding new compressors or boilers.	Replacing a mechanical system or its functional parts when it could be upgraded and retained.
Replacing in kind — or with a compatible substitute material — those visible character-defining elements of mechanical systems such as ceiling fans, switch plates, radiators, grilles or plumbing fixtures that are extensively deteriorated.	Installing a visible replacement element that does not convey the same appearance.

The following REHABILITATION work is highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Alterations/Additions for the New Use	
Installing a completely new mechanical system, if required, for the new use, while ensuring that it causes the least alteration possible to the building's floor plan and the exterior elevations, and the least damage to the character-defining building materials.	Installing a new mechanical system so that character-defining structural or interior elements are radically changed, damaged or destroyed.
Providing adequate structural support and vibration isolation for new mechanical equipment.	Failing to consider the weight and design of new mechanical equipment, resulting in a weakening or cracking of character-defining structural members or finished surfaces.
Installing the vertical runs of ducts, pipes and cables in non-character-defining areas (e.g., closets, service rooms and wall cavities).	Installing vertical runs of ducts, pipes and cables in places where they will obscure character-defining elements.
Installing heating/air conditioning units if required by the new use in such a manner that character-defining elements are not damaged or obscured and excessive moisture, which will accelerate deterioration of character-defining materials, is not generated.	Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of character-defining building material. Installing a "dropped" acoustical ceiling to hide mechanical equipment when it destroys the proportions of character-defining interior spaces. Cutting through elements such as masonry walls in order to install heating/air conditioning units.

Recommended	Not Recommended
Installing heating/air conditioning units in window frames in such a manner that sashes and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to character-defining materials.	Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in character-defining window frames.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring a mechanical system, if an evaluation of its overall condition determines that more than preservation is required; i.e., if repairs to mechanical features from the restoration period will be necessary.	Failing to evaluate the overall condition of a mechanical system in order to determine the appropriate method of conservation.
Repairing mechanical systems from the restoration period by augmenting or upgrading system parts, such as installing new pipes and ducts, rewiring or adding new compressors or boilers.	Replacing a mechanical system from the restoration period or its functional parts when it could be upgraded and retained.
Replacing in kind — or with a compatible substitute material — those visible features of restoration period mechanical systems that are either extensively deteriorated or are prototypes such as ceiling fans, switch plates, radiators, grilles or plumbing fixtures.	Installing a visible replacement feature that does not convey the same appearance.
Installing a new mechanical system, if required, in a way that results in the least alteration possible to the building.	Installing a new mechanical system that alters the structural or interior features of the restoration period.
Providing adequate structural support for new mechanical equipment.	Failing to consider the weight and design of new mechanical equipment, resulting in a weakening or cracking of character-defining structural members or finished surfaces.
Installing the vertical runs of ducts, pipes and cables in closets, service rooms and wall cavities.	Installing vertical runs of ducts, pipes and cables in places where they will obscure features from the restoration period.
Installing heating/air conditioning units in such a manner that features are not damaged or obscured and excessive moisture, which will accelerate the deterioration of historic materials, is not generated.	Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of building material from the restoration period. Cutting through features such as masonry walls in order to install heating/air conditioning units.

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing mechanical systems and features from periods other than the accepted restoration period; and the replacement of missing mechanical systems and features from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering mechanical systems and features, such as an elevator or plumbing fixture, dating from other periods.	Failing to remove a mechanical system or feature from another period, thus confusing the depiction of the building's significance.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document mechanical systems and features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the building.
Recreating Missing Features from the Restoration Period	
Recreating a missing feature of the mechanical system that existed during the restoration period based on physical or documentary evidence; for example, duplicating a heating vent or gaslight fixture.	Installing a mechanical system or feature that was part of the original design of the building but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.

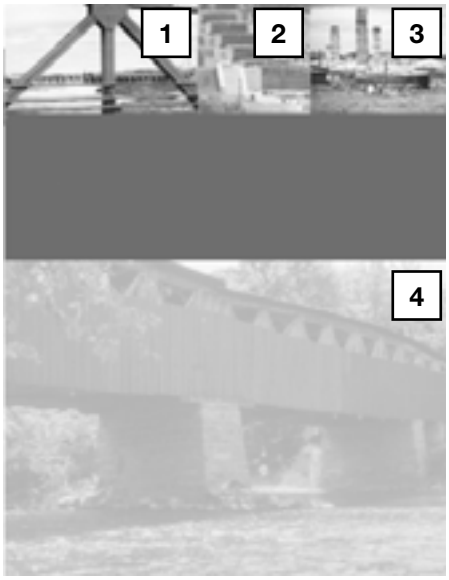
New mechanical systems should be installed in a way that results in the least alteration possible to the building. In the *Restoration* of St. George's Anglican Church, Halifax after a devastating fire, care was taken to ensure that the character-defining structural system and interior features from the restoration period were not altered or obscured when a new fire-suppression sprinkler system was installed in the attic.



Guidelines for Engineering Works

Engineering works in the context of these Guidelines include the structures created by people in the past, primarily for purposes other than habitation. This includes transportation (i.e., bridges, roads, railways, canals, lighthouses and airports); energy development (i.e., dams and generating plants); communications (i.e., telegram, telephone and radio installations; industry (i.e., mills and factories); resource extraction and processing (i.e., mines and refineries); flood control and irrigation (i.e., weirs); and defence (i.e., fortifications). Also included are human-engineered landscapes such as canal corridors, mining districts, industrial complexes and flood control systems, where engineering works have transformed and defined the landscape.

These Guidelines, which address engineering works, including their separate components, should not be used in isolation. There may be heritage value in the relationships between engineering works and archaeological sites, landscapes or buildings, and therefore, those sections of the Guidelines should also be consulted when undertaking a project. The intention is to protect ALL heritage values associated with the historic place.



1- Chaudière Bridge, Gatineau, Quebec, © Susan Ross, 2003
2- Rideau Canal, Ottawa, Ontario, © Guy Masson, PWGSC, 1999
3- Claybank, Saskatchewan, © Guy Masson, PWGSC, 1994
4- Percy Covered Bridge, Quebec, © Gerard Van Rijn, Parks Canada, 2003

Engineering Works

Engineering works are structures created primarily for purposes other than habitation, such as industry, transportation, communications, energy development, resource extraction and processing, flood control and irrigation, and defence. These works may also include associated landscapes that have been transformed and defined by engineering works such as flood control systems.

Engineering and the Law

Engineering is a regulated profession in Canada. This means that, by law, no one can practice the profession of engineering without a licence. Licences are issued by twelve provincial and territorial engineering associations (Nunavut is represented by the Northwest Territories' association), which set standards and regulate the profession. These associations are mandated to ensure public safety and serve the public interest on behalf of their provincial or territorial government.

Provincial and territorial laws on the practice of engineering vary considerably, and as a result, the information presented here is very general in nature. More complete information can be obtained from the engineering association of your province or territory.

The Practice of Professional Engineering

By law, only licenced engineers can approve engineering drawings or reports or in any way offer engineering services to the public. Most other technical work (i.e., work not considered part of the practice of professional engineering) may be performed by non-licenced persons without restriction. However, such work may be governed by other legislation, including acts governing architects or land surveyors. Buildings under a certain size or projects of less than a certain value may be exempted from the provisions of the relevant provincial or territorial act.

The definition of professional engineering varies from province to province to territory. The Ontario definition, for example, has three parts, or tests: "(1) any act of designing, composing, evaluating, advising, reporting, directing or supervising, (2) wherein the safeguarding of life, health, property or the public welfare is concerned, and (3) that requires the application of engineering principles, but does not include practising as a natural scientist." If the proposed project work meets *all three* tests, it must be carried out under the supervision and control of a licenced engineer.

The Hamilton Waterworks, built in 1857-59, is the only intact mid-19th century waterworks in North America. The character-defining compound-beam steam pumping engines were restored to working condition in 1998.

Alberta, on the other hand, defines the practice of engineering as reporting on, advising on, evaluating, designing, preparing plans and specifications for, or directing the construction, technical inspection, maintenance, or operation of any structure, work, or process that (1) is aimed at the discovery, development or utilization of matter, materials, or energy or in any other way designed for the use and convenience of man, and (2) requires the professional application of the principles of mathematics, chemistry, physics, or any related applied subject.

Where there is any doubt as to whether a project involves the practice of professional engineering, it is best to obtain expert advice.

Public Safety

One of the responsibilities of licenced engineers is to ensure the health and safety of people who may be affected by their work. Engineers may be held liable for injuries resulting from their failure to perform to a reasonable level of competence. The public safety responsibilities of engineering, therefore, require engineers to be aware of both the applicable standards for health and safety, and the laws relevant to practice. Knowing and complying with health and safety requirements is an essential component of any project.

Recognized Engineering Works

A number of historic places in Canada are recognized engineering works, or include an engineering component that is a character-defining element of the recognized historic place. General guidelines for such engineering works are provided in this document on the following pages.

Note: Since the practice of professional engineering is regulated by provincial and territorial laws, it is strongly recommended that qualified engineering advice be obtained from a licensed professional engineer.

The Brilliant Suspension Bridge was built over the Kootenay River near Castlegar, British Columbia in 1913. Ensuring public safety is one of the primary concerns of professional engineers.

Guidelines for Engineering Works

Recommended

Preserving engineering works that are important in defining the overall heritage value of the historic place.

Documenting the form, materials and condition of engineering works prior to beginning project work.

Analyzing and evaluating the engineering work in sufficient detail to fully understand its structural complexity and behaviour. This can include determining its load history, applied loads and load paths; measuring the actual strength of its materials and any deflections; monitoring its movements and rate of deterioration over time to understand the actual behaviour of the engineering work; and undertaking mathematical modelling that replicates the actual characteristics of and thus the potential risk to the engineering work.

Not Recommended

Removing or radically changing engineering works that are important in defining the overall heritage value of the historic place.

Undertaking work that will have an impact on character-defining engineering works without (a) first documenting their existing character and condition; (b) understanding their complexity and behaviour; and (c) being able to mathematically replicate what is observed in real life.

Prior to beginning project work, the form, materials and condition of engineering works should be documented. Heritage recording of the Percy covered bridge, National Historic Site of Canada in Powerscourt, Quebec, the only surviving bridge that uses the McCallum inflexible arch construction, included detailed measurements and a photographic record.

Recommended	Not Recommended
Testing engineering works or their components in place in order to determine their actual rather than theoretical characteristics, provided the appropriate precautions are taken to avoid their failure or destruction.	Undertaking testing in place without taking appropriate precautions against the failure or destruction of the engineering works being tested or their components.
Examining and evaluating the physical condition of engineering works and their components using minimally or non-destructive techniques such as flat jacks or radiographic, ultrasonic, electromagnetic or acoustic testing.	Utilizing highly destructive probing techniques that damage or destroy engineering works or their components.
Taking into account the past performance of engineering works when determining their present or future capacity.	Making assumptions about the present or future capacity of engineering works without taking into account their past performance.
Stabilizing deteriorated engineering works on an interim basis by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken.	Failing to stabilize deteriorated engineering works, thus putting them at risk of further deterioration. Neglecting to treat known conditions that threaten engineering works, such as deflection of beams, cracking and bowing of walls, or racking of structural members.
Protecting and maintaining engineering works through appropriate and regular treatments such as cleaning, removing injurious oxidization, maintaining protective coating systems, keeping materials and mechanical components in sound condition, lubricating working components and avoiding moisture problems.	Failing to provide adequate maintenance of engineering works on a cyclical basis, causing the materials and mechanical components to deteriorate. Failing to identify, evaluate and treat the causes of surface or structural deterioration, including corrosion caused by moisture. Utilizing treatments or products that accelerate the deterioration of engineering works, pollute the environment or create a health hazard.

A regular program of inspection and maintenance is recommended for the *Preservation* of engineering works. This is particularly true for structures in exposed, damp locations, such as bridges. Regular cleaning, removal of oxidization and re-application of protective paint coatings can help to minimize the deterioration of materials and mechanical components, and thus reduce the need for extensive interventions in the future.

The cracks and checks in these wooden trusses were filled with epoxy in a questionable attempt to consolidate them. The result is not only visually disturbing, it has significantly altered the performance characteristics of the building's structural systems.

Recommended	Not Recommended
Protecting engineering works against unauthorized activity before project work begins by, for example erecting protective fencing or installing alarm systems that are keyed into local protection agencies.	Failing to undertake adequate measures to protect engineering works against unauthorized activity before project work begins.
Protecting ecological features that are part of or associated with engineering works, such as wetlands in a canal corridor.	Failing to protect ecological features that are part of or associated with engineering works.
Imposing limits on the acceptable use and loading capacity of engineering works to protect them from damage. There is a need to balance present and anticipated usage demands with its historic character, and to avoid, if possible, any use that would damage or destroy the engineering work.	Subjecting engineering works to uses that could overload the existing structural systems; or installing equipment or mechanical systems that damage or destroy the historic character of the engineering works.
Retaining sound engineering works, or deteriorated engineering works that can be repaired.	Replacing or rebuilding an engineering work that can be repaired.
Retaining the relationship between an engineering work and its location, when this relationship is part of its heritage value. In the case of an engineering work that is designed for a particular application rather than a particular location, and where its present location is not a character-defining element, it may be moved and re-established at another comparable location if the move is necessary to ensure its conservation, and if its character-defining elements can be maintained unimpaired at the new location.	Removing or relocating an engineering work when its heritage value is related to its location, thus destroying the relationship between the engineering work and its historic place.
Repairing and stabilizing deteriorated engineering works by structural reinforcement, weather protection, or correcting unsafe conditions, as required, until any additional work is undertaken. Repairs should be physically and visually compatible.	Removing deteriorated engineering works that could be safely stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile elements.

Recommended	Not Recommended
Replacing in kind extensively deteriorated or missing parts of engineering works where there are surviving prototypes. The new work should match the old in form and detailing, and have adequate strength.	Replacing an entire element of an engineering work when limited replacement of deteriorated and missing components is appropriate. Using a replacement material that does not match the historic engineering work.
Evaluating the overall condition of engineering works to determine whether more than protection, maintenance, and limited repair or replacement in kind is required; that is, if more extensive repairs to engineering works will be necessary.	Failing to undertake adequate measures to protect engineering works.

Additional Guidelines for Rehabilitation Projects

Recommended	Not Recommended
Rehabilitating an engineering work, if an evaluation of its overall condition determines that more than preservation is required.	Failing to evaluate the overall condition of an engineering work in order to determine its proper method of conservation.
Repairing engineering works or their components by patching, piecing-in, splicing, consolidating or otherwise augmenting them using recognized preservation methods. For example, weakened structural members in a truss could be paired with new members, braced, spliced or otherwise consolidated. Repairs may also include the limited replacement in kind — or with a compatible substitute material — of those extensively deteriorated or missing parts of elements when there are surviving prototypes.	Replacing an entire component of an engineering work such as a truss when repair and limited replacement of deteriorated or missing parts are feasible. Using a substitute material for the replacement part that does not convey the appearance of the surviving parts of the engineering work or that is physically or chemically incompatible.
Replacing in kind an entire component of an engineering work that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the component. Examples could include cast iron columns or sections of load-bearing walls. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. Substitute materials should have the same form and overall appearance; and material properties similar to a sound version of the replaced component and adequate strength or load-bearing capabilities.	Removing an engineering work component that is irreparable and not replacing it; or replacing it with a new component that does not convey the same appearance. Using a substitute material that does not have adequate strength or load-bearing capabilities, or is otherwise physically or chemically incompatible.

The following REHABILITATION work has been highlighted to indicate that it involves a particularly complex technical or design aspect and should only be considered after the *Preservation* and *Rehabilitation* concerns listed above have been addressed.

Recommended	Not Recommended
Designing for the Replacement of Missing Historic Features	
Designing and constructing a new feature of an engineering work when the historic feature is completely missing, such as a country grain elevator man-lift, a mill wheel, or a fortification rampart. It may be a new design that is compatible with the era and character of the historic place; or a replica based on physical and documentary evidence.	Introducing a new feature that is incompatible in size, scale, material, style or colour. Creating a false historical appearance because the replaced feature is based on insufficient physical and documentary evidence.
Alterations/Additions for the New Use	
When required by the new use, designing new additions such as onsite parking, ancillary structures or roadways that are compatible with the character of the historic place and that preserve engineering works.	Introducing additions or new construction that (a) are incompatible with the character of the historic place in terms of size, scale, design, materials, colour or texture; (b) destroy the historic relationships of the historic place; or (c) damage or destroy engineering works.
Undertaking soil mechanics studies and limiting new excavations adjacent to engineering works to avoid undermining the structural stability of the engineering work or adjacent historic structures. Archaeological investigations should be undertaken prior to any excavation to avoid damage to archaeological sites.	Carrying out excavations or regrading adjacent to or within engineering works that could cause them to settle, shift or fail; have a similar effect on adjacent historic structures; or damage archaeological sites.
Correcting structural deficiencies in preparation for the new use in a manner that preserves the engineering work and its character-defining elements.	Damaging or destroying character-defining elements such as interior spaces while trying to correct structural deficiencies in preparation for the new use.
Designing and installing new mechanical or electrical systems or equipment when required for the new use so as to minimize both the number and the adverse effects of changes made to the engineering work.	Installing new mechanical or electrical systems or equipment in a manner which results in numerous or harmful changes to the engineering work.
Adding a new structural system when required for the new use if such an alteration does not obscure, damage or destroy character-defining elements.	Inserting a new structural system when such a radical change obscures, damages or destroys character-defining elements.
Creating a habitable space when required for the new use in a manner that assures the preservation of the character-defining elements.	Radically changing, damaging or destroying character-defining elements in order to create a habitable space, such as removing the historic lighting apparatus from a lighthouse.

Additional Guidelines for Restoration Projects

Recommended	Not Recommended
Restoring an engineering work, if an evaluation of its overall condition determines that more than preservation is required; that is, if repairs to engineering works from the restoration period will be necessary.	Failing to evaluate the overall condition of an engineering work in order to determine the proper method of conservation.
Repairing engineering works or their components from the restoration period by patching, piecing-in, splicing, consolidating or otherwise augmenting them using recognized preservation methods. Repairs may also include the limited replacement — preferably in kind — of those extensively deteriorated or missing parts of features when there are surviving prototypes. The new work should be physically and visually compatible, and be unobtrusively dated, if possible, to guide future research and treatment.	Replacing an entire component of an engineering work from the restoration period when the repair of materials and limited replacement of deteriorated or missing parts are appropriate. Using a substitute material for the replacement part which neither conveys the appearance of the surviving parts of the engineering work, nor is physically or chemically compatible.
Replacing in kind an entire component of an engineering work from the restoration period that is too deteriorated to repair — if the overall form and detailing are still evident — using the physical evidence as a model to reproduce the component. The replacement should have the same form and overall appearance and material properties similar to a sound version of the replaced component; and have adequate strength or load-bearing capabilities. Replacement mechanisms should function in the same way as the historic mechanism and operate using the same motive power, e.g., hand-operated or automated. The new work should be unobtrusively dated, if possible, to guide future research and treatment.	Removing an engineering work component from the restoration period that is irreparable, and not replacing it; or failing to document the new work. Using a substitute material that does not have adequate strength or load-bearing capabilities, or is otherwise physically or chemically incompatible.

The *Rehabilitation* of the Rideau Canal Waterway, Ottawa involved replacing deteriorated portions of the canal's stone walls and lock gates "in kind" with new stone blocks and wooden members, using the physical evidence of the existing walls and gates to replicate their form and detailing. Nearby circulation paths and roadways were rehabilitated using compatible substitute materials, including modern asphalt. Replacement "in kind" and replacement with compatible substitute materials forms and detailing are both acceptable approaches in *Rehabilitation*.

The *Restoration* program for this early 20th-century brick plant near Claybank, Saskatchewan, included a monitoring program and analysis of the various components such as the kilns and stacks in order to thoroughly understand their structural properties and deficiencies; testing the structural components in place using minimally destructive techniques to determine their actual rather than theoretical characteristics; stabilizing and repairing the deteriorated elements by structural reinforcement; and replacing "in kind" extensively deteriorated or missing parts, such as roofs that had failed due to overloading. This is an appropriate scope of work within the treatment *Restoration.*

The following RESTORATION work has been highlighted to indicate that it involves the removal or alteration of existing features from engineering works from periods other than the accepted restoration period; and the replacement of missing features from engineering works from the restoration period with all new materials. This work should only be considered after the *Preservation* and *Restoration* concerns listed above have been addressed.

Recommended	Not Recommended
Removing Existing Features from Other Periods	
Removing or altering visually intrusive features, such as a non-matching column or exposed ceiling beams, dating from other periods.	Failing to remove or alter a visually intrusive feature from another period, thus confusing the depicted significance of the engineering works.
Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.	Failing to document features from other periods (which results in the loss of a valuable portion of the historic record) prior to removing them from the engineering work.
Recreating a Missing Feature from the Restoration Period	
Recreating a missing feature of an engineering work that existed during the restoration period based on physical or documentary evidence; for example, duplicating a metal catwalk.	Constructing a structural feature that was part of the original design for the engineering work but was never actually built; or constructing a feature that was thought to have existed during the restoration period, but for which there is insufficient documentation.



4 Other Considerations

Health and safety, accessibility, energy efficiency, environmental considerations and new additions to historic places can be extremely important aspects of conservation projects. While they are usually not part of the overall process of conserving heritage value (*Preservation*, *Rehabilitation* or *Restoration*), it is important that such considerations be assessed for any potential adverse impact on the heritage values of the historic place. In particular, care must be taken not to obscure, damage or destroy character-defining elements.

1- St. George's Anglican Church, Halifax, Nova Scotia, © Bill Hockey, Parks Canada, 1995
2- Arlington Apartments, Edmonton, Alberta, © Larry Pearson, Alberta Community Development, 2002
3- E.B. Eddy, Gatineau, Quebec, © Susan Ross, 2003
4- Province House, Charlottetown, © Bill Hockey, PWGSC, 2002

Health and Safety Considerations

Recommended	Not Recommended
Identifying the historic place's heritage value and character-defining elements, i.e., materials, forms, location, spatial configurations, uses and cultural associations or meanings in order to avoid damaging or destroying them while making modifications to comply with health and safety requirements.	Undertaking health and safety-required modifications before identifying the heritage value and those elements that are important in defining the overall character of the historic place.
Complying with health and safety requirements such as seismic standards or the use of chemicals in such a manner that character-defining elements are conserved and heritage value is maintained.	Radically changing, damaging or destroying character-defining elements or undermining the heritage value while making modifications to a historic place in order to comply with health and safety requirements.
Removing toxic materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.	Damaging or destroying a historic place's character-defining elements or heritage value when removing toxic materials by neglecting to conduct thorough testing first and not considering less invasive abatement methods.
Working with code officials to investigate systems, methods or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary interventions can be avoided.	Making changes to historic places without first exploring equivalent health and safety systems, methods or devices that may be less damaging to character-defining elements and to the heritage value.
Upgrading character-defining elements to meet health and safety requirements in a manner that assures their conservation (e.g., upgrading a stairway without destroying its character-defining handrails and balustrades).	Damaging or obscuring character-defining elements or adjacent areas, or undermining the heritage value while doing work to meet health and safety requirements.

An exit stair added to meet fire code requirements was sensitively designed and installed in a secondary area of the Bank of Montreal in Ottawa, Ontario. This reversible intervention minimized the visual and physical impact on the materials, forms and finishes of this character-defining interior by careful placement, choice of materials and details.

Recommended	Not Recommended
Installing sensitively designed fire-suppression systems such as sprinklers, which retain character-defining elements and respect the heritage value.	Covering flammable character-defining elements with fire-resistant sheathing that alters their appearance.
Applying the necessary materials to add protection to character-defining elements. An example could include applying fire-retardant intumescent paint coatings to a deck to add protection to its steel.	Using materials intended to provide additional protection, such as fire-retardant coatings, if they damage or obscure character-defining elements.
Limiting public access to fragile character-defining elements when, for technical, economic or environmental reasons, these elements cannot be protected immediately using recognized preservation methods.	Replacing or reconstructing fragile character-defining elements when, for technical, economic or environmental reasons, they cannot be immediately protected.
Adding new features to meet health and safety requirements in a manner that conserves adjacent character-defining elements and respects the overall heritage value.	Damaging or destroying adjacent character-defining elements or undermining the heritage value when adding new health and safety-required features.
Placing a code-required stairway or elevator in a new exterior addition if it cannot be accommodated within the historic place. Such an addition should be on an inconspicuous, non-character-defining elevation.	Constructing a new addition to accommodate code-required stairs or elevators on highly visible, character-defining elevations; or in a location where it obscures, damages or destroys character-defining elements.

Accessibility Considerations

Recommended	Not Recommended
Identifying the heritage value of the historic place and character-defining elements — materials, forms, location, spatial configurations, uses and cultural associations or meanings — so that required accessibility modifications will not damage or destroy them.	Undertaking required accessibility modifications before identifying those elements that are important in defining the overall character of the historic place.
Complying with accessibility requirements in such a way that character-defining elements are conserved and heritage value maintained.	Damaging or destroying character-defining elements or undermining the heritage value in attempting to comply with accessibility requirements.
Working with accessibility and conservation specialists and affected users to determine the most appropriate solution to access problems that will have the least impact on character-defining elements and overall heritage value.	Altering character-defining elements without consulting with the appropriate experts.
Providing accessibility that promotes independence for the disabled person to the highest degree practicable, while conserving the heritage value and character-defining elements.	Making accessibility modifications that do not strike a reasonable balance between independent, safe access and conservation of character-defining elements and heritage value.
Adapting the intervention to its anticipated lifespan, so that short-term improvements remain as reversible as possible.	Intervening without taking into consideration the anticipated lifespan of the modification, so that a short-term improvement has an irreversible impact on the heritage value of the place.
Finding solutions to meet accessibility requirements that minimize the impact on the historic place and its environment.	Making accessibility-related modifications without considering the impact on the historic place and its environment.

This new ramp was discretely integrated into one side of an existing entrance porch, in order to minimize the impact on the historic building.

Energy Efficiency Considerations

Recommended	Not Recommended
Identifying the historic place's heritage value and character-defining elements — materials, forms, location, spatial configurations, uses and cultural associations or meanings — so that energy efficiency modifications will not damage or eliminate them.	Undertaking energy efficiency modifications before identifying those elements that are important in defining the overall heritage value of the historic place.
Complying with energy efficiency objectives in such a manner that character-defining elements are conserved and the heritage value maintained.	Damaging or destroying character-defining elements or undermining the heritage value while making modifications to a historic place to comply with energy efficiency objectives.
Working with energy efficiency and conservation specialists to determine the most appropriate solution to energy conservation problems that will have the least impact on character-defining elements and the overall heritage value.	Making changes to historic places without first exploring equivalent energy efficiency systems, methods or devices that may be less damaging to character-defining elements and heritage value.
Weighing the total environmental cost of energy saving measures against the overall environmental costs of retaining the existing features or fabric, when deciding whether to proceed with energy saving measures.	
Landscapes	
Retaining and maintaining character-defining landscape elements such as deciduous trees, windbreaks and lakes or ponds that perform passive energy conserving functions and moderate the effects of climate on the historic place.	Removing or altering those character-defining landscape elements or parts of elements that serve an energy conservation purpose, creating a situation where the effects of wind, rain and sun result in accelerated deterioration of the historic place.
Improving the energy efficiency of existing character-defining landscape elements through non-destructive means, such as utilizing a recirculating system in a fountain rather than uncontrolled discharge to a storm system.	Replacing energy inefficient character-defining landscape elements rather than improving their energy conservation potential, such as replacing an entire historic light standard rather than retrofitting the fixture to be more efficient.
Buildings: Insulation	
Exercising caution and foreseeing the potential effects of insulating the building on the envelope system so as to avoid damaging changes such as displacing the dew point and creating thermal bridges.	Installing insulation without anticipating its potential impact on the building envelope.
Installing thermal insulation in attics and in unheated cellars and crawl spaces to increase the efficiency of the existing mechanical systems unless this could adversely affect the building envelope.	Inserting thermal insulation with a high moisture content in wall cavities that might damage character-defining elements.

Recommended	Not Recommended
Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior moulding around the windows or other character-defining interior architectural detailing.	Installing wall insulation without considering its effect on character-defining interior moulding or other character-defining architectural detailing.
Buildings: Windows	
Utilizing the inherent energy conserving features of a building by maintaining character-defining windows and/or louvered blinds in good operating condition for natural ventilation.	Removing character-defining shading devices rather than keeping them in an operable condition.
Improving thermal efficiency with weatherstripping, storm windows, interior shades and, if historically appropriate, blinds and awnings.	Replacing character-defining multi-paned sashes with new thermal sashes utilizing false muntins.
Installing interior storm windows with air-tight gaskets, ventilating holes and/or removable clips to ensure proper maintenance and to avoid condensation damage to character-defining windows.	Installing interior storm windows that allow moisture to accumulate and damage character-defining windows.
Installing exterior storm windows that do not damage or obscure character-defining windows and frames.	Installing new exterior storm windows that are inappropriate in size, design or colour and therefore damage or obscure character-defining windows and frames.
	Replacing character-defining operable windows or transoms with fixed thermal glazing, or allowing operable windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.
Buildings: Entrances and Porches	
Maintaining character-defining porches and double vestibule entrances so that they can retain heat or block the sun and provide natural ventilation.	Altering character-defining porches or double vestibule entrances that serve an energy-conserving function so that they no longer retain heat or block the sun and provide natural ventilation.
Buildings: Interior Features	
Retaining character-defining interior shutters and transoms for their inherent energy conserving features.	Removing character-defining interior elements that play an energy conserving role.
Buildings: Mechanical Systems	
Improving the energy efficiency of existing mechanical systems by installing insulation in attics and basements, unless this could adversely affect the building envelope.	Replacing existing mechanical systems that could be repaired for continued energy efficient use.
New Additions to Historic Places	
Putting on a new addition that may be necessary to increase energy efficiency on non-character-defining elevations.	Designing a new addition which obscures, damages or destroys character-defining elements.

According to the Standards for Conservation, existing historic materials should be protected, maintained and repaired. In an exemplary project, the character-defining multi-pane windows and associated trim in this historic residence were carefully preserved.

Environmental Considerations

Recommended	Not Recommended
Identifying the heritage value of a historic place and character-defining elements — materials, forms, location, spatial configurations, uses and cultural associations or meanings — so that environmentally motivated modifications will not damage or eliminate them.	Undertaking environmentally motivated modifications before identifying those elements that are important in defining the overall character of the historic place.
Complying with environmental objectives in such a manner that character-defining elements are conserved and heritage value maintained. This could include protecting character-defining vegetation in which rare or endangered species nest.	Altering, damaging or destroying character-defining elements, or otherwise undermining the heritage value while making modifications to a historic place to comply with environmental objectives.
Working with environment officials to investigate systems, methods, devices or technologies that are just as or even more effective than those prescribed by regulation so that unnecessary interventions can be avoided.	Making changes to historic places without first exploring equivalent environmental protection systems, methods, devices or technologies that may be less damaging to character-defining elements and heritage value.
Reclaiming or re-establishing natural resources in a manner that promotes environmental protection, while conserving character-defining elements and maintaining the heritage value. An example could include reclaiming a character-defining wetland to meet ecological objectives, while re-establishing the feature as it appeared historically.	Making environmental modifications that do not provide a reasonable balance between improved environmental conditions and the conservation of character-defining elements and heritage value.

New Additions to Historic Places

Recommended	Not Recommended
Placing functions and services required for the proposed use in existing non-character-defining spaces rather than constructing a new addition.	Constructing a new addition when the proposed use could be met by altering existing non-character-defining spaces.
Constructing a new addition to retain as many of the historic materials as possible and to ensure that the character-defining features are not obscured, damaged, or destroyed, or the heritage value undermined.	Constructing a new addition so that the character-defining features of the historic resource are obscured, damaged or destroyed, or the heritage value is otherwise undermined.
Designing a new addition in a manner that draws a clear distinction between what is historic and what is new.	Duplicating the exact form, material, style and detailing of the historic resource in a new addition so that the new work appears to be part of the historic place.
	Replicating a historic style or period in a new addition.
Considering the design for an attached exterior addition in terms of its relationship to the historic place as well as the historic district or neighbourhood. Design for the new work may be contemporary or may reference design motifs from the historic place. In either case, it should be compatible in terms of mass, materials, relationship of solids to voids, and colour, yet be distinguishable from the historic place.	Designing and constructing new additions that diminish or eliminate the historic character of the resource, including its design, materials, workmanship, location or setting.
Placing a new addition on a non-character-defining portion and limiting its size and scale in relationship to the historic place.	Designing a new addition that obscures, damages or destroys character-defining features of the historic place or undermines its heritage value.
When required for a new use of a building, designing a rooftop addition that is set back from the wall plane such that it is as inconspicuous as possible when viewed from the public realm.	Constructing a rooftop addition to a building so that the historic appearance of the building is radically changed.

This addition to a bank in Calgary, Alberta was built as a greenhouse type rooftop structure set back from the wall plane. The existing high parapet, making it as inconspicuous as possible from the street, largely conceals it. While distinguishable from the elaborate sandstone exterior of the original building, it is physically and visually compatible, and subordinate to, the historic building.



5 References

1- Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989
2- Ottawa, Ontario, © Natalie Bull, 1991
3- Gatineau, Quebec, © Michel Filion, PWGSC, 2001
4- Riding Mountain National Park, Manitoba, © Guy Masson, PWGSC, 1993

Glossary

Arch: (*arche*) mechanical arrangement of building elements which are put together, generally along a curved line, in such a way that, supported by piers, abutments or walls, they carry the weight and resist the pressure.

Architrave: (*chambranle*) mouldings around openings such as doors, windows and chimneys and certain other locations to conceal joints or for decorative purposes.

Ashlar: (*pierre de parement*) stone that has been cut square and *dressed*.

Atrium: (*atrium*) an interior courtyard that is open to the weather; or a significant interior space, often skylighted.

Attic: (*combles*) the top floor of a building, often reduced in height and unfinished.

Awning: (*auvent*) a moveable, fabric-covered, sloped surface that projects from a wall — usually over a door, window or storefront — to provide shelter from the weather. See also *canopy* and *marquee*.

Balustrade: (*balustrade*) a railing composed of *posts* (balusters) and a handrail.

Bargeboard: (*bordure de pignon*) boards or other decorative woodwork fixed to the edges or projecting rafters of a *gabled roof*, sometimes called gingerbread.

Batten: (*tasseau*) a narrow vertical strip of wood, placed over joints of wider boards to protect the joints from the weather; the combination is called board-and-batten construction. See also *siding*.

Beam: (*poutre*) a principal horizontal structural member; also see *joist*.

Berm: (*talus*) an embankment or ridge of earth, usually created to serve as a protective barrier.

Bracket: (*console*) a member, often triangular in form, that projects from a wall or other vertical surface and supports another component, such as an *eave*.

Bunker: (*casemate*) part of a fortification defence system built partly or entirely below ground.

Canopy: (*auvent fixe*) a fixed horizontal, sloped or arched surface that projects from a wall — usually over a door — to provide shelter from the weather. See also *awning* and *marquee*.

Capital: (*chapiteau*) the decorative head of a *column*, *pilaster*, *pier* or other vertical support.

Casement: (*fenêtre à battants*) a window that opens by being hinged on one side.

Chamfer: (*chanfrein*) a sloping or bevelled edge.

Character-defining elements: (*éléments caractéristiques*) the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the *heritage value* of a *historic place*, and which must be retained in order to preserve its *heritage value.*

Cladding: (*recouvrement*) the external, non-structural material that protects the structural wall or frame from the weather.

Clapboard: (*planche à gorge*) a *siding* or *cladding* of bevelled boards laid horizontally and overlapping at the top and bottom, applied to the outside of a wood-framed building to make it weatherproof; the face of each board is oblique to the wall (also called bevelled siding).

Column: (*colonne*) an upright support *post* of circular section; a steel or iron member used vertically is also called a column.

Concrete: (*béton*) a mixture of cement, aggregate (usually sand and gravel) and water that hardens and attains great compressive strength. When used structurally it is usually reinforced with embedded steel rods or mesh to give it tensile strength as well.

Conservation: (*conservation*) all actions or processes that are aimed at safeguarding the *character-defining elements* of a cultural resource so as to retain its *heritage value* and extend its physical life. This may involve "*Preservation*," "*Rehabilitation*," "*Restoration*," or a combination of these actions or processes.

Corner board: (*boiserie cornière*) narrow vertical components used to encase the corner of a wall; most often used on buildings clad in *shiplap* or similar horizontal siding.

Cornice: (*corniche*) projecting horizontal element (to shed water and for decoration) at the top of a building or the top of a storefront, or a similar feature (often in plaster) at the top of a wall of a room.

Course: (*assise*) a single horizontal row of brick, stone or other walling material.

Crépi: (*crépi*) a lime plaster used as a coating on stone buildings, particularly in New France, to protect the wall and the mortar joints from the weather.

Cresting: (*crête*) a decorative rail, a row of *finials* or another feature at the top of a building, often along the *ridge* of a sloped roof.

Cupola: (*coupole*) a feature at the top of a roof, usually cylindrical with louvred openings and a dome-shaped roof on top.

Curtain wall: (*mur-rideau*) an exterior wall that is fastened to a frame and protects the building from the weather; it has no structural function and supports only its own weight.

Dentil: (*denticule*) a small, tooth-like square block, used in a row as a decorative feature in a *cornice*.

Dormer: (*lucarne*) a window that projects from a sloping roof, with a small roof of its own.

Dressed: (*taillé*) a stone cut square on all sides and smoothed on the face.

Earthworks: (*remblai*) in military architecture, a defensive structure constructed of earth.

Eave: (*débord de toit*) the projecting edge of a roof.

Ecosystem: (*écosystème*) the system formed by the interaction of all the living things of a particular environment with one another and with their habitat.

Entablature: (*entablement*) the horizontal component, usually decorated, that lies directly above a *column* or other support; in Classical architecture, the entablature is composed of an *architrave*, a *frieze* and a *cornice*.

Fascia: (*bordure de toit*) a finish element covering the face of eaves and roof projections.

Finial: (*fleuron*) an ornamental projection at the top of a *gable*, roof or other high component.

Frame: (*charpente*) the structural skeleton of a building.

Frieze: (*frise*) the middle portion of an *entablature*; or any decorated horizontal band.

Gable: (*pignon*) the triangular portion of a wall beneath the end of a *gabled roof*.

Gabled roof: (*toit à pignon*) a roof that slopes on two sides.

Guidelines: (*lignes directrices*) statements that provide practical guidance in applying the *Standards* for the conservation of historic places. They are presented here in a format that provides recommended and non-recommend actions.

Herbaceous plants: (*plantes herbacées*) plants with stems that are soft and not woody.

Heritage value: (*valeur patrimoniale*) the aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present or future generations. The *heritage value* of a *historic place* is embodied in its character-defining materials, forms, location, spatial configurations, uses and cultural associations or meanings.

Hipped roof: (*toit en croupe*) a roof that slopes on four sides.

Historic place: (*lieu patrimonial*) a structure, building, group of buildings, district, landscape, archaeological site or other place in Canada that has been formally recognized for its *heritage value*.

In kind: (*à l'identique*) with the same form, material and detailing as the existing element.

Intervention: (*intervention*) any action, other than demolition or destruction, that results in a physical change to an element of a *historic place*.

Inukshuk: (*inukshuk*) an Inuit stone cairn having the rough outline of a human figure.

Joist: (*solive*) a secondary horizontal structural member, usually supported by a *beam* at each end, and itself supporting a floor, ceiling, or roof.

Lantern: (*lanternon*) a windowed superstructure at the top of a roof or dome; a small *cupola*.

Lintel: (*linteau*) the horizontal supporting member at the top of a door or window.

Mansard roof: (*toit en mansarde*) a roof that has a double slope, with the lower part steeper than the upper one; also called a gambrel roof, especially for barns.

Marquee: (*marquise*) a fixed horizontal structure that projects from a wall — usually over a theatre's entrance — to provide shelter from the weather. See also *awning* and *canopy*.

Masonry: (*maçonnerie*) stone, brick, concrete, tile, or any other earthen products used in construction.

Maintenance: (*entretien*) the routine, cyclical, non-destructive actions necessary to slow the deterioration of a *historic place*. It normally entails routine, periodic inspection; routine, cyclical, non-destructive cleaning associated with housekeeping; minor repair and refinishing operations; replacement of damaged, broken or deteriorated materials that are impractical to save (e.g., broken window glass); rust removal; cyclical pruning; top-dressing; and cleaning of drainage inlets or outlets.

Minimal intervention: (*intervention minimale*) the approach which allows functional goals to be met with the least physical intervention.

Moulding: (*moulure*) a shaped decorative element, usually a horizontal band, that projects slightly from the surface of a wall.

Mullion: (*meneau*) a thin upright member within a window or between adjacent windows.

Old-field successional species: (*espèce de succession des champs*) plant species that naturally establish themselves in abandoned fields as a precursor to forest cover.

Parapet: (*parapet*) in a building, a portion of a wall that projects above a roof; in a fortification, a low wall or mound, usually of stone or earth, created to protect soldiers.

Patching : (*ragréage*) the action of making defects disappear from a wood, stone or concrete surface.

Piecing-in: (*rapiéçage*) the action of inserting a replacement piece as a substitute to a missing or irreparable portion of material.

Pediment: (*fronton*) the triangular end of a gable, or a triangular ornamental element resembling it, defined by a *moulding* (or series of mouldings) along its three edges.

Pier: (*pilier*) an upright support *post* of square or rectangular section, usually of *masonry*.

Pilaster: (*pilastre*) an upright shallow rectangular upright support *post* set into a wall and used mainly as decoration.

Post: (*Poteau*) a generic word for any upright support: a **pier** is a post of square or rectangular section, usually of *masonry*; a **column** is a post of circular section; a steel or iron member used vertically is also called a column; a **pilaster** is a shallow rectangular upright support set into a wall and used mainly as decoration.

Preservation: (*préservation*) the action or process of protecting, maintaining and/or stabilizing the existing materials, form and integrity of a *historic place*, or of an individual component, while protecting its heritage value.

Rafter: (*chevron*) in timber roof construction, a principal sloping component that runs from the top of the wall to the *ridge*.

Rampart: (*rempart*) a wide bank of earth, usually with a parapet on top, built around a fort to help defend it.

Rehabilitation: (*réhabilitation*) the action or process of making possible a continuing or compatible contemporary use for a *historic place*, or of an individual component, through repair, alterations and/or additions, while protecting its *heritage value*.

Restoration: (*restauration*) the action or process of accurately revealing, recovering or representing the state of a *historic place*, or of an individual component, as it appeared at a particular period in its history, while protecting its *heritage value.*

Ridge: (*faîte*) the uppermost part of a roof, usually horizontal; or the structural component at the top of a roof.

Sash: (*châssis*) in a window, the wood or metal frame that holds the glass.

Shed roof: (*toit en appentis*) a roof with only one slope; also used to describe the roof of a *dormer* window if it has only one slope.

Shiplap: (*planche à feuillure*) a *siding* or *cladding* of horizontally laid boards with notched edges that make an overlapping joint, applied to the outside of a wood-framed building, or a stone wall, to make it weatherproof; the face of each board is parallel to the plane of the wall (also called drop siding).

Sidelight: (*fenêtre latérale*) a window beside a door, forming part of the door unit.

Siding: (*bardage*) a facing material, or *cladding*, applied to the outside of a wood-framed building to make it weatherproof, sometimes called weatherboarding: **shiplap** (or drop siding) consists of horizontally laid boards with notched edges that make an overlapping joint; the face of each board is parallel to the plane of the wall; **clapboard** (or bevelled siding) consists of bevelled boards laid horizontally and overlapping at the top and bottom; the face of each board is oblique to the wall; **board-and-batten** siding is composed of vertically applied boards whose joints are covered by narrow strips (battens); shingles may also be used as a siding, as may composite materials such as asphalt, asbestos or synthetic materials, often imitating brick or shingle; metal and vinyl siding are also used.

Sill: (*seuil*) a horizontal member at the bottom of a window, or of a wall (sometimes called a sill plate).

Soffit: (*soffite*) the underside of an *eave*, *beam*, or other component.

Spandrel: (*tympan*) the portion of a wall between the top of one window and the window *sill* above it; or the roughly triangular surface between two adjacent arches.

Splicing: (*épissage*) the action of joining an existing element with a new element in order to compensate for the weakness of a damaged edge. The splicing of structural members for reinforcement is a typical example.

Stratigraphy: (*stratigraphie*) the composition and arrangement of geographic strata or layers of earth in a particular area.

Standards: (*normes*) Norms for the respectful conservation of historic places.

Stud: (*poteau*) in timber construction, one of a series of vertical supports.

Terra cotta: (*terre cuite*) fired clay commonly shaped in a mould and frequently glazed after firing.

Terrace: (*terrasse*) a flat level of land, often a component of a series of step-like flat levels on a slope.

Transom: (*imposte*) a small window over a door or another window, often hinged for opening.

Truss: (*ferme*) a structural framework, made of either timber or metal, that is composed of individual members fastened together in a triangular arrangement.

Windbreak: (*brise-vent*) a row of trees or bushes planted to provide protection from the wind and, often, to prevent soil erosion.

Bibliography - Technical Guidance and Further Reading

Sections 1- 2

Standards, Guidelines, Principles and Practices

Birnbaum, Charles A. and Christine Capella Peters, eds. *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes*. Washington, D.C.: U.S. Department of the Interior, National Park Service and the Historic Landscape Initiative, 1996. ISBN 0160487005.

Developing a Conservation Strategy for a Heritage Building. How-To series no. 6. Winnipeg: Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, 1994. ISBN 0771109059.

Eight Guiding Principles in the Conservation of Historic Properties. Architectural Conservation Note no. 1. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote1.htm

Fram, Mark. *Well-Preserved: the Ontario Heritage Foundation's Manual of Principles and Practice for Architectural Conservation*. Erin, Ont.: The Boston Mills Press for the Ontario Heritage Foundation, third revised edition, 2003. ISBN 550463861.

Guide to the Principles of the Conservation of Historic Buildings. British Standard 7913: 1998. London, Eng.: British Standards Institution, 1998. ISBN 058029515X.

Lemon, Robert. *Rehabilitation Principles and Guidelines*. Edited by Mary McKinnon. Technical Paper series no. 11. Victoria: British Columbia Heritage Trust, 1989. ISBN 0771887701.

Marquis-Kyle, Peter and Meredith Walker. *The Illustrated Burra Charter: Making Good Decisions About the Care of Important Places*. Sydney: Australia ICOMOS and Australian Heritage Commission, 1992; reprint ed. 1996. ISBN 064612403X.

Morton, W. Brown III, Gary L. Hume, Kay D. Weeks and H. Ward Jandl. *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings*. Washington, D.C.: U.S. Department of the Interior, National Park Service, 1991, reprint ed. 1997. ISBN 0160359791. http://www2.cr.nps.gov/tps/tax/rhb/index.htm

Oberlander, Judy, Harold Kalman and Robert Lemon. *Principles of Heritage Conservation*. Edited by Mary McKinnon. Technical Paper series no. 9. Victoria: British Columbia Heritage Trust, 1989. ISBN 077188768X.

Preservation Programs. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Reny, Claude. *Principes et critères de restauration et d'insertion : le patrimoine architectural d'intérêt public au Québec*. Québec, Gouvernement du Québec, Ministère des Affaires culturelles, 1991. ISBN 2551146011.

Roy, Odile, réd. *Guide d'intervention : conserver et mettre en valeur le Vieux-Québec*. Québec, La Ville de Québec et Gouvernement du Québec, Ministère de la Culture et des Communications, 1998. ISBN 292086095X.

Russell, Karen, comp. and ed. *Guidelines for the Rehabilitation of Designated Historic Resources*. 2nd ed. Edmonton: Alberta Community Development and The Alberta Association of Architects, 1993. ISBN 0773260293.

Stovel, Herb and Julian Smith. *Federal Heritage Buildings Review Office Code of Practice*. Edited by Jean-Pierre W. Landry and Lyette A.M. Fortin. Ottawa: Public Works and Government Services Canada, 1996. ISBN 066262274X.

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural significance. 4th ed. Canberra: Australia ICOMOS Inc., 1999. http://www.icomos.org/australia/burra.html

Weeks, Kay D. and Anne E. Grimmer. *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. Washington, D.C.: U.S. Department of the Interior, National Park Service, 1995. ISBN 0160480612. http://www2.cr.nps.gov/tps/Standards/index.htm

General Conservation

Feilden, Bernard M. *Conservation of Historic Buildings*. Rev. ed. Oxford, Boston: Butterworth Architecture, 1994. ISBN 075061739X.

Fitch, James Marston. *Historic Preservation: Curatorial Management of the Built World*. Charlottesville: University Press of Virginia, 1990. ISBN 0813912725.

Research, Evaluation and Investigation

Architectural Styles. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Carter, Margaret. *Researching Heritage Buildings*. Ottawa: Parks Canada, Canadian Inventory of Historic Building, 1983. ISBN 0662123069.

Facades. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Kalman, Harold. *The Evaluation of Historic Buildings*. Ottawa: Parks Canada, 1980. ISBN 0662104838.

Nelson, Lee H. *Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character*. Preservation Brief no. 17. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1988. http://www2.cr.nps.gov/tps/briefs/brief17.htm

McDonald, Travis C. Jr. *Understanding Old Buildings: The Process of Architectural Investigation*. Preservation Brief no. 35. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1994. http://www2.cr.nps.gov/tps/briefs/brief35.htm

Parker, Elyse. *A Guide to Heritage Structure Investigations*. Toronto: Ontario Ministry of Culture and Recreation, Heritage Administration Branch, 1979. ISBN 0774341912.

Process and Planning

Déom, Claudine and Dinu Bumbaru. *A Handbook for Montreal's Heritage: To Discover and to Protect*. Montreal: Héritage Montréal, 1998. http://www.heritagemontreal.qc.ca/hm_en/gui1_en.htm

Duguay, Gary. *The Architectural Preservation Process*. Heritage Notes no. 4. Edmonton: Alberta Historical Resources Foundation and Alberta Community Development [formerly Alberta Culture and Multiculturalism], 1992.

Heritage Conservation Principles for Landuse Planning. Architectural Conservation Note no. 6. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote6.htm

Kerr, Alastair. *Heritage Planning: A Guide for Local Government*. Edited by Mary McKinnon. Victoria: Province of British Columbia, Heritage Conservation Branch, 1992. ISBN 0771891954.

Patterson, Robert M. *Manual for the Preparation of "As Found" Drawings*. Technical Paper series no. 3. Victoria: British Columbia Heritage Trust, 1982. ISBN 0771990375.

Respecting Our Past — Preparing for Our Future: Heritage Conservation in British Columbia. Victoria: British Columbia Heritage Trust, 1998. ISBN 0772676542.

Section 3

Archaeological Sites

Archaeological Sites in Europe: Conservation, Maintenance and Enhancement. Council of Europe Architectural Heritage series no. 22. (Conimbriga, Portugal: Council of Europe and the Instituto Portugês do Património Cultural, 1992). ISBN 9287120471.

Archaeological Stabilization Guide: Case Studies in Protecting Archaeological Sites. Tallahassee, Fla.: Florida Department of State, Division of Historical Resources, Bureau of Archaeological Research, 2000.

Best Management Practices: An Owner's Guide to Protecting Archaeological Sites. Tallahassee, Fla.: Florida Department of State, Division of Historical Resources, Bureau of Archaeological Research, 2000.

Cleere, Henry, ed. *Archaeological Heritage Management in the Modern World*. One World Archaeology series, vol. 9. New York: Routledge, 1990. ISBN 0044459149.

Denhez, Marc. *Unearthing the Law: Archaeological Legislation on Lands in Canada*. Ottawa: Parks Canada, 2000. ISBN 0662288092.

Grenville, Jane, ed. *Archaeological Heritage Management and the English Agricultural Landscape*. York Archaeological Heritage Studies Occasional Paper no. 1. Oakville, Conn.: David Brown Book Co., 1996. ISBN 0946722110.

ICOMOS Charter for the Protection and Management of the Archaeological Heritage (1990). http://www.icomos.org/docs/archaeological_charter.html

Kerber, Jordan E., ed. *Cultural Resource Management: Archaeological Research, Preservation Planning and Public Education in the Northeastern United States*. Westport, Conn.: Bergin & Garvey, 1994. ISBN 0897893697; 0897894138 (pbk.).

Thorne, Robert M. *Filter Fabric: A Technique for Short-Term Site Stabilization*. Technical Brief no. 1. Washington, D.C.: National Park Service, Archeology & Ethnography Program, 1988. http://www.cr.nps.gov/aad/pubs/techbr/tch1.htm

Thorne, Robert M. *Intentional Site Burial: A Technique to Protect Against Natural or Mechanical Loss*. Technical Brief no. 5. Washington, D.C.: National Park Service, Archeology & Ethnography Program, 1989, rev. 1991. http://www.cr.nps.gov/aad/pubs/ techbr/tch5.htm

Thorne, Robert M. *Revegetation: The Soft Approach to Archeological Site Stabilization*. Technical Brief no. 8. Washington, D.C.: National Park Service, Archeology & Ethnography Program, 1990, rev. 1992. http://www.cr.nps.gov/aad/pubs/ techbr/tch8.htm

Thorne, Robert M. *Site Stabilization Information Sources*. Technical Brief no. 12. Washington, D.C.: National Park Service, Archeology & Ethnography Program, 1991. http://www.cr.nps.gov/aad/pubs/techbr/tch12a.htm

Landscapes

Alanen, Arnold R. and Robert Z. Melnick, eds. *Preserving Cultural Landscapes in America*. Baltimore: Johns Hopkins University Press, 2000. ISBN 0801862639; 0801862647 (pbk.).

Birnbaum, Charles A. *Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes*. Preservation Brief no. 36. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1994. http://www2.cr.nps.gov/tps/briefs/brief36.htm

Birnbaum, Charles A. and Christine Capella Peters, eds. *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for the Treatment of Cultural Landscapes*. Washington, D.C.: U.S. Department of the Interior, National Park Service and the Historic Landscape Initiative, 1996. ISBN 0160487005.

Buggey, Susan, ed. "Conserving Historic Landscapes." *APT [Association for Preservation Technology] Bulletin* 24, no. 3-4 (1992).

Coffin, Margaret. *Guide to Developing a Preservation Maintenance Plan for a Historic Landscape*. Cultural Landscape Publication no. 7. Washington, D.C.: Olmsted Center for Landscape Preservation, National Park Service, U.S. Department of the Interior, 1995.

Copps, David H. *Views from the Road: A Community Guide for Assessing Rural Historic Landscapes*. Washington, D.C.: Island Press, 1995. ISBN 155963412X.

Stokes, Samuel N. A., Elizabeth Watson, Genevieve P. Keller and J. Timothy Keller. *Saving America's Countryside: A Guide to Rural Conservation*. Baltimore: Johns Hopkins University Press for the National Trust for Historic Preservation, 1989. ISBN 0801836956; 0801836964 (pbk.).

Landforms

Johnson, Ron. *The Basics of Site Drainage*. Heritage Notes no. 7. Edmonton: Alberta Historical Resources Foundation and Alberta Community Development [formerly Alberta Culture and Multiculturalism], 1994.

Vegetation

Harper, David E. *Trees and Towns*. Technical Paper series no. 5. Victoria: British Columbia Heritage Trust, 1983. ISBN 0771991479.

Built Features

Montagna, Dennis R. *Conserving Outdoor Bronze Sculpture*. Washington, D.C.: U.S. Department of the Interior, National Park Service Cultural Resources, Preservation Assistance Division, 1989.

Buildings

Architectural Conservation Technology. Produced by the Heritage Conservation Program, Architectural and Engineering Service, Public Works and Government Services Canada. 7 vols. Ottawa: Parks Canada, 1994. ISBN 0660146576 (set).

Ashurst, John and Nicola Ashurst. *Practical Building Conservation*. English Heritage Technical Handbook series. 5 vols. New York: Halsted Press, John Wiley & Sons, 1988. ISBN 0470211040 (v. 1), 0470211059 (v. 2), 0470211067 (v. 3), 0470211075 (v. 4); Aldershot, Eng.: Gower Technical Press, 1988, repr. 1989. ISBN 029139776X (v. 5).

Auer, Michael J. *The Preservation of Historic Barns*. Preservation Brief no. 20. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1989. http://www2.cr.nps.gov/tps/briefs/brief20.htm

Blouin, Marc, Hélène Deslauriers, Michel Dufresne, Martin Weaver et François Varin. *Entretien et restauration : de la fondation à la toiture*. Québec, Conseil des monuments et sites du Québec, 1985.

Fisher, Charles E. III, ed. *Caring for Your Historic House*. New York: Harry N. Abrams, Heritage Preservation, and National Park Service, 1998. ISBN 0810940876; 0810927799 (pbk.).

Foulks, William G., ed. *Historic Building Façades: The Manual for Maintenance and Rehabilitation*. New York: John Wiley & Sons and New York Landmarks Conservancy, 1997. ISBN 0471144150.

Hutchins, Nigel and Donna Farron Hutchins. *Restoring Old Houses*. Rev. ed. Toronto: Key Porter Books, 1997. ISBN 1550138421.

Jester, Thomas C., ed. *Twentieth-Century Building Materials: History and Conservation*. New York: McGraw-Hill, 1995. ISBN 0070325731.

Moss, Roger W., ed. *Paint in America: The Colors of Historic Buildings*. Washington, D.C.: Preservation Press, 1994; reprint ed. New York: John Wiley & Sons, 1996. ISBN 047114410X.

Park, Sharon C. *Mothballing Historic Buildings*. Preservation Brief no. 31. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1993. http://www2.cr.nps.gov/tps/briefs/brief31.htm

Park, Sharon C. *The Use of Substitute Materials on Historic Building Exteriors*. Preservation Brief no. 16. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1988. http://www2.cr.nps.gov/tps/briefs/brief16.htm

Park, Sharon C. *Holding the Line: Controlling Unwanted Moisture in Historic Buildings*. Preservation Brief no. 39. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1996. http://www2.cr.nps.gov/tps/briefs/brief39.htm

Respectful Rehabilitation: Answers to Your Questions about Old Buildings. Washington, D.C.: Preservation Press and Technical Preservation Services, National Park Service, U.S. Department of the Interior, 1982. ISBN 0891331034.

Surface Preparation Guidelines for Painting Historic Structures. Architectural Conservation Note no. 5. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote5.htm

Weaver, Martin E. and F.G. Matero. *Conserving Buildings: Guide to Techniques and Materials*. Rev. ed. New York: Preservation Press, 1997. ISBN 0471509442.

Exterior Wood

Bomberger, Bruce L. *The Preservation and Repair of Historic Log Buildings*. Preservation Brief no. 26. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1991. http://www2.cr.nps.gov/tps/briefs/brief26.htm

Goodall, Harrison and Renee Friedman. *Log Structures: Preservation and Problem-Solving*. Nashville, Tenn.: American Association for State and Local History, 1980. ISBN 0910050465.

Hutchins, Nigel and Donna Hutchins. *Restoring Wooden Houses*. Toronto: Key Porter Books for Limestone Productions Ltd., 1999. ISBN 155263048X.

Larsen, Knut Einar and Nils Marstein. *Conservation of Historic Timber Structures: An Ecological Approach*. Oxford, Boston: Butterworth-Heinemann, 2000. ISBN 0750634340.

London, Mark et Cecile Baird. *Revêtements traditionnels : entretien, réparation, remplacement*. Guide technique no. 4. Montréal, Héritage Montréal et Québec, Ministère des Affaires Culturelles, 1986. ISBN 292058815X.

Myers, John H. and Gary L. Hume. *Aluminum and Vinyl Siding on Historic Buildings: The Appropriateness of Substitute Materials for Resurfacing Historic Wood Frame Buildings*. Preservation Brief no. 8. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1984. http://www2.cr.nps.gov/tps/briefs/brief08.htm

Roy, Odile. *Les revêtements de bois*. Guides techniques de la collection Maître d'œuvre, no. 9. Québec, Ville de Québec, Service de l'urbanisme, 1989. ISBN 29208633X.

Stumes, Paul. *W.E.R.-System Manual: Structural Rehabilitation of Deteriorated Timber*. Edited by Martin E. Weaver and Susan Hum-Hartley. Ottawa: Association for Preservation Technology, 1979. ISBN 0920476031.

Weeks, Kay D. and David W. Look. *Exterior Paint Problems on Historic Woodwork*. Preservation Brief no. 10. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1982. http://www2.cr.nps.gov/tps/briefs/brief10.htm

Wood. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Western Red Cedar Shingles. Architectural Conservation Note no. 4. Toronto: Ontario Ministry of Citizenship, Culture and Recreation, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote4.htm

Exterior Masonry

Ashurst, Nicola. *Cleaning Historic Buildings*. London, Eng.: Donhead, 1994. 2 vols. ISBN 1873394128 (set).

Collier, Richard. *Guidelines for Restoring Brick Masonry*. Technical Paper series no. 2. Victoria: British Columbia Heritage Trust, 1981. ISBN 0771987102.

Grimmer, Anne E. *Dangers of Abrasive Cleaning to Historic Buildings*. Preservation Brief no. 6. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1979. http://www2.cr.nps.gov/tps/briefs/brief06.htm

Grimmer, Anne E. *A Glossary of Historic Masonry Deterioration Problems and Preservation Treatments*. Washington, D.C.: U.S. Dept. of the Interior, National Park Service, Preservation Assistance Division, Technical Preservation Services, 1984.

Grimmer, Anne E. *Keeping it Clean: Removing Exterior Dirt, Paint, Stains and Graffiti from Historic Masonry Buildings*. Washington, D.C.: U.S. Dept. of the Interior, National Park Service, Preservation Assistance Division, Technical Preservation Services, 1988.

Grimmer, Anne E. *The Preservation and Repair of Historic Stucco*. Preservation Brief no. 22. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1990. http://www2.cr.nps.gov/tps/briefs/brief22.htm

Historic Cast Stone. Preservation Brief no. 42. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 2001. http://www2.cr.nps.gov/tps/briefs/brief42.htm

Hutchins, Nigel and Donna Farron Hutchins. *Restoring Houses of Brick & Stone*. Rev. ed. Willowdale, Ont.: Firefly Books, 1998. ISBN 1550139622.

London, Mark and Dinu Bumbaru. *Traditional Masonry*. Technical guide no. 3. Montreal: Héritage Montréal and Quebec Ministry of Cultural Affairs, 1986. ISBN 2920588117.

London, Mark. *Masonry: How to Care for Old and Historic Brick and Stone*. Washington, D.C.: Preservation Press, 1988. ISBN 0891331255.

Mack, Robert C. and Anne Grimmer. *Assessing Cleaning and Water-Repellent Treatments for Masonry Buildings*. Preservation Brief no. 1. Rev. ed. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 2000. http://www2.cr.nps.gov/tps/briefs/brief01.htm

Mack, Robert C. and John P. Speweik. *Repointing Mortar Joints in Historic Masonry Buildings*. Preservation Brief no. 2. Rev. ed. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1998. http://www2.cr.nps.gov/tps/briefs/brief02.htm

Maltby, Sue. *Stone Repair Adhesives*. Architectural Conservation Note no. 13. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote13.htm

Masonry. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Pearson, Larry. *Repointing Historic Masonry*. Heritage Notes no. 5. Edmonton: Alberta Historical Resources Foundation and Alberta Community Development [formerly Alberta Culture and Multiculturalism], 1992.

Roy, Odile. *La maçonnerie de pierre*. Guides techniques de la collection Maître d'œuvre, no. 6. Québec, Ville de Québec, Service de l'urbanisme, 1989. ISBN 2920860305.

Roy, Odile. *La maçonnerie de brique*. Guides techniques de la collection Maître d'œuvre, no. 7. Québec, Ville de Québec, Service de l'urbanisme, 1989. ISBN 2920860313.

Roy, Odile. *Les crépis et les enduits*. Guides techniques de la collection Maître d'œuvre, no. 8. Québec, Ville de Québec, Service de l'urbanisme, 1989. ISBN 2920860321.

Roy, Odile. *Les foyers et les cheminées*. Guides techniques de la collection Maître d'œuvre, no. 12. Québec, Ville de Québec, Service de l'urbanisme, 1991. ISBN 2920860399.

Saint-Louis, Denis. *Maçonnerie traditionnelle : origines et caractéristiques des matériaux*. Montréal, Héritage Montréal, 1984. ISBN 2920588001 (sér.).

Saint-Louis, Denis. *Maçonnerie traditionnelle : principaux usages dans la construction traditionnelle.* Montréal, Héritage Montréal, 1984. ISBN 2920588001 (sér.).

Saint-Louis, Denis. *Maçonnerie traditionnelle : pathologie et traitement.* Montréal, Héritage Montréal, 1984. ISBN 2920588001 (sér.).

Tiller, de Teel Patterson. *The Preservation of Historic Glazed Architectural Terra-Cotta*. Preservation Brief no. 7. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1979. http://www2.cr.nps.gov/tps/briefs/brief07.htm

Architectural Metals

Gayle, Margot, David W. Look and John G. Waite. *Metals in America's Historic Buildings: Uses and Preservation Treatments*. HCRS publication no. 29. 2nd ed. Washington, D.C.: U.S. Department of the Interior, National Park Service, Cultural Resources, Preservation Assistance, 1992. ISBN 0160380731.

Waite, John G. and Margot Gayle. *The Maintenance and Repair of Architectural Cast Iron*. Preservation Brief no. 27. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1991. http://www2.crnps.gov/tps/briefs/brief27.htm

Volkovsky, Claude. *La conservation des métaux*. Éditions du CNRS, Paris, 2001. ISBN 2-271-05693-4.

Roofs

Cullen, Mary. *Slate Roofing in Canada*. Studies in Archaeology, Architecture and History. Ottawa: National Historic Parks and Sites, Canadian Parks Service, 1990. ISBN 0660134454.

Dormers. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Eaves & Cornices. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Gables. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Grimmer, Anne E. and Paul K. Williams. *The Preservation and Repair of Historic Clay Tile Roofs*. Preservation Brief no. 30. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1992. http://www2.cr.nps.gov/tps/briefs/brief30.htm

Levine, Jeffrey S. *The Repair, Replacement and Maintenance of Historic Slate Roofs*. Preservation Brief no. 29. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1992. http://www2.cr.nps.gov/tps/briefs/brief29.htm

London, Mark et Mireille Ostiguy. *Couvertures traditionnelles : entretien, réparation, remplacement*. Guide technique no. 1. Montréal, Héritage Montréal et ministère des Affaires culturelles de Québec, 1984. ISBN 2920588028.

Park, Sharon C. *The Repair and Replacement of Historic Wooden Shingle Roofs*. Preservation Brief no. 19. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1989. http://www2.cr.nps.gov/tps/briefs/brief19.htm

Roofs. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Saint-Louis, Denis. *Les toitures en pente*. Guides techniques de la collection Maître d'œuvre, no. 1. Québec, Ville de Québec, Service de l'urbanisme, 1988. ISBN 2920860127.

Saint-Louis, Denis. *Les couvertures en « tôle à la canadienne »*. Guides techniques de la collection Maître d'œuvre, no. 2. Québec, Ville de Québec, Service de l'urbanisme, 1988. ISBN 2920860135.

Saint-Louis, Denis. *Les couvertures en « tôle à baguettes »*. Guides techniques de la collection Maître d'œuvre, no. 3. Québec, Ville de Québec, Service de l'urbanisme, 1988. ISBN 2920860143.

Slaton, Deborah and Charles E. Fisher III, eds. *The Roofing Handbook for Historic Buildings*. Washington, D.C.: Historic Preservation Education Foundation, 1999.

Sweetser, Sara M. *Roofing for Historic Buildings*. Preservation Brief no. 4. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1978. http://www2.cr.nps.gov/tps/briefs/brief04.htm

Windows

Fisher, Charles E. III, Deborah Slaton and Rebecca A. Shiffer, eds. *Window Rehabilitation Guide for Historic Buildings*. Washington, D.C.: Historic Preservation Education Foundation, 1997.

London, Mark and Dinu Bumbaru. *Traditional Windows*. Technical guide no. 2. Montreal: Heritage Montréal and Quebec Ministry of Cultural Affairs, 1985. ISBN 2920588095.

Myers, John H. *The Repair of Historic Wooden Windows*. Preservation Brief no. 9. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1981. http://www2.cr.nps.gov/tps/briefs/brief09.htm

Park, Sharon C. *The Repair and Thermal Upgrading of Historic Steel Windows*. Preservation Brief no. 13. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1984. http://www2.cr.nps.gov/tps/briefs/brief13.htm

Repairing Old and Historic Windows: A Manual for Architects and Homeowners. Washington, D.C.: Preservation Press and New York Landmarks Conservancy, 1992. ISBN 0891331859.

Saint-Louis, Denis. *Les fenêtres à battants*. Guides techniques de la collection Maître d'œuvre, no. 4. Québec, Ville de Québec, Service de l'urbanisme, 1988. ISBN 2920860151.

Saint-Louis, Denis. *Les fenêtres à guillotine*. Guides techniques de la collection Maître d'œuvre, no. 5. Québec, Ville de Québec, Service de l'urbanisme, 1988. ISBN 292086016X.

Taylor, Dave. *Dave's Top Five Reasons to Conserve Historic Wood Windows*. Architectural Conservation Note no. 11. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote11.htm

Vogel, Neal A. and Rolf Achillies. *The Preservation and Repair of Historic Stained and Leaded Glass*. Preservation Brief no. 33. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1993. http://www2.cr.nps.gov/tps/briefs/brief33.htm

Windows. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Entrances and Porches

Doors. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Porches. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Roy, Odile. *Les portes et les portes cochères*. Guides techniques de la collection Maître d'œuvre, no. 11. Québec, Ville de Québec, Service de l'urbanisme, 1991. ISBN 2920860380.

Storefronts

Auer, Michael J. *The Preservation of Historic Signs*. Preservation Brief no. 25. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1991. http://www2.cr.nps.gov/tps/briefs/brief25.htm

Awnings. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Collier, Richard. *Guidelines for Storefronts of Heritage Buildings*. Technical Paper series no. 4. Victoria: British Columbia Heritage Trust, 1982. ISBN 0771990677.

Deslauriers, Hélène and Herb Stovel. *Appropriate Design on Main Street*. Edited by Gordon Fulton. Ottawa: The Heritage Canada Foundation, 1989. ISBN 088814038X.

Dufaux, François. *Façades et devantures : guide de rénovation des bâtiments commerciaux*. Les Publications du Québec. Québec, Gouvernement du Québec, Ministère des Affaires municipales, 1987. ISBN 2551085381.

Facades. A guide for property owners in the downtown. New Brunswick. Cooperation agreement on urban economic development. Cooperation Canada.

Jandl, H. Ward. *Rehabilitating Historic Storefronts*. Preservation Brief no. 11. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1982. http://www2.cr.nps.gov/tps/briefs/brief11.htm

Schoettle, B. Clarkson. *Keeping Up Appearances: Storefront Guidelines*. Washington, D.C.: National Trust for Historic Preservation, 1983.

Signs. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Storefronts. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

The Conservation and Maintenance of Storefronts. Architectural Conservation Note no. 8. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote8.htm

The Preservation of Historic Pigmented Structural Glass (Vitrolite and Carrara Glass). Preservation Brief no. 12. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1984. http://www2.cr.nps.gov/tps/briefs/brief12.htm

Interior Spaces, Features, and Finishes

Chase, Sara B. *Painting Historic Interiors*. Preservation Brief no. 28. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1992. http://www2.cr.nps.gov/tps/briefs/brief28.htm

Chouinard, Roger et Odile Roy. *Les planchers, les escaliers et les boiseries intérieures*. Guides techniques de la collection Maître d'œuvre, no. 14. Québec, Ville de Québec, Service de l'urbanisme, 1991. ISBN 2920860410.

Fisher, Charles E. III, Michael Auer and Anne Grimmer, eds. *The Interiors Handbook for Historic Buildings*. Washington, D.C.: Historic Preservation Education Foundation, 1988.

Flaharty, David. *Preserving Historic Ornamental Plaster*. Preservation Brief no. 23. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1990. http://www2.cr.nps.gov/tps/briefs/brief23.htm

Grimmer, Anne E. and Kimberly A. Konrad. *Preserving Historic Ceramic Tile Floors*. Preservation Brief no. 40. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1996. http://www2.cr.nps.gov/tps/briefs/brief40.htm

Jandl, H. Ward. *Rehabilitating Interiors in Historic Buildings: Identifying Character-Defining Elements*. Preservation Brief no. 18. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1988. http://www2.cr.nps.gov/tps/briefs/brief18.htm

MacDonald, Mary Lee. *Repairing Historic Flat Plaster: Walls and Ceilings*. Preservation Brief no. 21. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1989. http://www2.cr.nps.gov/tps/briefs/brief21.htm

Moss, Roger W. *Lighting for Historic Buildings: A Guide to Selecting Reproductions*. Washington, D.C.: Preservation Press, 1988; reprint ed. New York: John Wiley & Sons, 1996. ISBN 0471143995.

Nylander, Jane C. *Fabrics for Historic Buildings: A Guide to Selecting Reproduction Fabrics*. Washington, D.C.: Preservation Press, 1990; reprint ed. New York: John Wiley & Sons, 1995. ISBN 0471143790.

Roy, Odile. *Les plâtres intérieurs*. Guides techniques de la collection Maître d'œuvre, no. 13. Québec, Ville de Québec, Service de l'urbanisme, 1991. ISBN 2920860402.

Seale, William. *Recreating the Historic House Interior*. Nashville, Tenn.: American Association for State and Local History, 1979. ISBN 0910050325.

Shivers, Natalie W. *Walls & Molding: How to Care for Old and Historic Wood and Plaster*. Washington, D.C.: Preservation Press, 1990. ISBN 0891331557.

The Conservation of Heritage Interiors, preprints of a Conference Symposium 2000, The Conservation of Heritage Interiors, Ottawa, Canada, May 17 to 20, 2000, Ottawa, Canadian Conservation Institute, 2000. ISBN 0660181479

Thornton, Jonathan and William Adair. *Applied Decoration for Historic Interiors: Preserving Historic Composition Ornament*. Preservation Brief no. 34. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1994. http://www2.cr.nps.gov/tps/briefs/brief34.htm

Structural Systems

Application of NBC Part 4 for the structural evaluation and upgrading of existing building. User's Guide - National Building Code of Canada 1995. Structural Commentaries (Part 4). Commentary K, pp. 93-102. ISBN 0-660-16275-X.

Bases for design of structures, Assessment of existing structures. International Organization for Standardization. ISO/FDIS 13822:2001.

Beckmann, Poul. *Structural Aspects of Building Conservation*. London, New York: McGraw-Hill, 1995. ISBN 0077079906.

Koshman, David. *Structural and Subfloor Repairs*. Heritage Notes no. 8. Edmonton: Alberta Historical Resources Foundation and Alberta Community Development [formerly Alberta Culture and Multiculturalism], 1994.

Rabun, J. Stanley. *Structural Analysis of Historic Buildings: Restoration, Preservation and Adaptive Reuse Applications for Architects and Engineers*. New York: John

Wiley & Sons, 2000. ISBN 0471315451.

Recommendations for the Analysis, Conservation and Structural Restoration of Architectural Heritage, Part I, Principles. ICOMOS International Scientific Committee for Analysis and Restoration of Structures of Architectural Heritage, 2001.

Roy, Odile. *Les fondations*. Guides techniques de la collection Maître d'œuvre, no. 10. Québec, Ville de Québec, Service de l'urbanisme, 1989. ISBN 2920860348.

Mechanical Systems

Kay, Gersil Newmark. *Mechanical & Electrical Systems for Historic Buildings: Profitable Tips for Professionals, Practical Information for Preservationists*. New York: McGraw-Hill, 1992. ISBN 0070336695.

Park, Sharon C. *Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches*. Preservation Brief no. 24. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1991. http://www2.cr.nps.gov/tps/briefs/brief24.htm

Engineering Works

Clifford, Candace, Ralph Eshelman, Michael Seibert and Thomas A. Vitanza. *Historic Lighthouse Preservation Handbook*. Washington, D.C.: U.S. National Park Service Historic Preservation Training Center and National Maritime Initiative, U.S. Coast Guard, U.S. Department of Defense Legacy Resource Management Program and U.S. Lighthouse Society, 1997. ISBN 0160491045. http://www.cr.nps.gov/maritime/handbook.htm

Coney, William B. *Preservation of Historic Concrete: Problems and General Approaches*. Preservation Brief no. 15. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1987. http://www2.cr.nps.gov/tps/briefs/brief15.htm

Noble, Bruce J. Jr. and Robert Spude. *Guidelines for Identifying, Evaluating and Registering Historic Mining Properties*. Washington, D.C.: U.S. Department of the Interior, National Park Service Cultural Resources, Interagency Resources Division, 1992.

Section 4

Other Considerations

Health and Safety

Karacabeyli, Erol and Brenda Wong. *Seismic Building Upgrading for Vancouver's Gastown*. Technical Paper series no. 8. Victoria: British Columbia Heritage Trust, 1985. ISBN 0772602921.

Look, David, Terry Wong and Sylvia Rose Augustus. *The Seismic Retrofit of Historic Buildings: Keeping Preservation in the Forefront*. Preservation Brief no. 41. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1997. http://www2.cr.nps.gov/tps/briefs/brief41.htm

Park, Sharon C. and Douglas C. Hicks. *Appropriate Methods of Reducing Lead-Paint Hazards in Historic Housing*. Preservation Brief no. 37. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1995. http://www2.cr.nps.gov/tps/briefs/brief37.htm

Stairs, Decks & Fire Escapes. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Sussman, Gail. *Fire Prevention in Heritage Buildings*. Edited by Martin E. Weaver. Technical Paper series no. 7. Victoria: British Columbia Heritage Trust, 1983. ISBN 0771993315.

Accessibility

Accessibility and Historic Buildings. Architectural Conservation Note no. 9. Toronto: Ontario Ministry of Culture, 1997. http://www.culture.gov.on.ca/english/culdiv/heritage/conote9.htm

Jester, Thomas C. and Sharon C. Park. *Making Historic Properties Accessible*. Preservation Brief no. 32. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1993. http://www2.cr.nps.gov/tps/briefs/brief32.htm

Parrott, Charles. *Access to Historic Buildings for the Disabled: Suggestions for Planning and Implementation*. Washington, D.C.: U.S. Dept. of the Interior, National Park Service, Preservation Assistance Division, Technical Preservation Services, 1980.

Energy Efficiency

Chouinard, Roger et Odile Roy. *L'isolation*. Guides techniques de la collection Maître d'œuvre, no. 15. Québec, Ville de Québec, Service de l'urbanisme, 1991. ISBN 2920860429.

Maddex, Diane, ed. *New Energy From Old Buildings*. Washington, D.C.: Preservation Press, 1981. ISBN 089133095X.

Smith, Baird M. *Conserving Energy in Historic Buildings*. Preservation Brief no. 3. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1978. http://www2.cr.nps.gov/tps/briefs/brief03.htm

New Additions to Historic Places

Weeks, Kay D. *New Exterior Additions to Historic Buildings: Preservation Concerns*. Preservation Brief no. 14. Washington, D.C.: National Park Service, Heritage Preservation Services Division, Technical Preservation Services, 1986. http://www2.cr.nps.gov/tps/briefs/brief14.htm

Section 5
References

Glossaries and Definitions

A Glossary of House-Building and Site Development Terms. Canada Mortgage and Housing Corporation, 1982. Reprinted in 1990. ISBN 0-660-51026-X

Dictionary. Practical Preservation Guidelines series. Saint John, N.B.: Heritage Planning, City of Saint John, 1990-96.

Duguay, Gary. *Definitions of Preservation Terms*. Heritage Notes no. 3. Edmonton: Alberta Historical Resources Foundation and Alberta Community Development [formerly Alberta Culture and Multiculturalism], 1992.

Bibliographies

Zuzanek, Jiri, Brenda Luscott and Jo Nordley Beglo. *Heritage Preservation: Tradition and Diversity, an Annotated Bibliography*. Waterloo, Ont.: Otium Publications, 1996. ISBN 1895125065.

Birnbaum, Charles A. and Heather Barrett. *Making Educated Decisions: A Landscape Preservation Bibliography*. Washington, D.C.: Historic Landscape Initiative, National Park Service, Heritage Preservation Services, 2000. ISBN 016042786X.

Photo Credits

Introduction

1 Ottawa, Ontario, © Natalie Bull, 1991

2 (a) (before) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1988

2 (b) (after) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

3 (a) (before) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1992

3 (b) (after) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1993

3 (c) (before) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1993

3 (d) (after) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1994

5 Château Frontenac, Quebec, Quebec, © Guy Masson, PWGSC, 1978

Guidelines for Archaeological Sites, Landscapes, Buildings, and Engineering Works

1 Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1993

2 Chamber Building, Ottawa, Ontario, © Lyne Fontaine, PWGSC, 1992

4 (a) Montreal, Quebec, © Susan Ross, 1999

4 (b) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 2000

5 Province House, Charlottetown, © Bill Hockey, PWGSC, 2002

Guidelines for Archaeological Sites

1 Champs-de-Mars, Montreal, Quebec, © Guy Masson, PWGSC, 1999

2 Ferryland, Newfoundland, © Ève Wertheimer, 2003

4 Fort Battleford, Saskatchewan, © Guy Masson, PWGSC, 1994

Guidelines for Landscapes

2 Neubergthal, Manitoba, © Archview, 1997

6 Klondike, Yukon, © Guy Masson, PWGSC, 1992

11 Motherwell Homestead, Saskatchewan, © Guy Masson, PWGSC, 1987

15 Forestry Farm and Zoo, Saskatoon, Saskatchewan, © Joann Latremouille, PWGSC, 2002

18 Hatley Park, Victoria, British Columbia, © Guy Masson, PWGSC, 1987

21 Sault-Sainte-Marie Canal, Ontario, © Roger Draycott, Parks Canada, 1986

25 Mount Royal Park, Montreal, Quebec, © Susan Ross, 2001

30 Riding Mountain National Park, Manitoba, © Guy Masson, PWGSC, 1993

32 Winnipeg, Manitoba, © Gordon Fulton, 1997

Guidelines for Buildings

1 NCC Warehouse, Dawson City, Yukon, © Guy Masson, PWGSC, 1986

4 Port Edward, British Columbia, © Jean-Pierre Jérôme, Parks Canada, 1997

5 Dawson City, Yukon, © Guy Masson, PWGSC, 1989

7 Victoria, British Columbia, © Guy Masson, PWGSC, 2000

9 Quebec, Quebec, © Guy Masson, PWGSC, 1978

10 (a) (before) Monument Lefebvre, Memramcook, New Brunswick, © Brian Gallant, PWGSC, 2002

10 (b) (after) Monument Lefebvre, Memramcook, New Brunswick, © Brian Gallant, PWGSC, 2002

12 Winnipeg, Manitoba, © Guy Masson, PWGSC, 1992

14 Winnipeg, Manitoba, © Guy Masson, PWGSC, 1994

15 (a) Winnipeg, Manitoba, © Guy Masson, PWGSC, 1982

15 (b) Union Station, Winnipeg, Manitoba, © Guy Masson, PWGSC, 1992

18 Shaughnessy House, Montreal, Quebec, © Guy Masson, PWGSC, 1999

21 Truro Federal Building, Truro, Nova Scotia, © Bill Hockey, PWGSC, 2002

23 (a) Dawson, Yukon, © Guy Masson, PWGSC, 1989

23 (b) Motherwell Homestead, Abernethy, Saskatchewan, © Michel Soucy, Parks Canada, 1980

25 (a) (before) Aberdeen Pavilion, Ottawa, Ontario, © Parks Canada, 1977

25 (b) (after) Aberdeen Pavilion, Ottawa, Ontario, © Monique Trépanier, Parks Canada, 1995

27 (l) (before) Arlington Apartments, Edmonton, Alberta, © Larry Pearson, Alberta Community Development, 1995

27 (r) (after) Arlington Apartments, Edmonton, Alberta, © Larry Pearson, Alberta Community Development, 2002

31 Bonsecours Market, Montreal, Quebec, © Guy Masson, PWGSC,1999

32 (a) (before) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

32 (b) (during) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

32 (c) (after) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

33 (a) (before) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1995

33 (b) (after) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1996

35 Vancouver, British Columbia, © Guy Masson, PWGSC, 2000

36 Cambridge, Ontario, © Don McIntosh, Heritage Canada Foundation, 1983

37 (a) (before) Nelson, British Columbia, © Hans Honneger, Heritage Canada Foundation, 1982

37 (b) (after) Nelson, British Columbia, © Hans Honneger, Heritage Canada Foundation, 1982

38 (a) (before) Perth, Ontario, © S. MacKenzie, Heritage Canada Foundation, 1980

38 (b) (after) Perth, Ontario, © S. MacKenzie, Heritage Canada Foundation, 1984

39 (a) (left) Rialto Theatre, Montreal, Quebec, © Susan Ross, 1999

39 (b) (right) Victoria, British Columbia, © Gordon Fulton, 1982

40 (a) (before) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

40 (b) (during) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

40 (c) (after) Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1989

41 Imperial Theatre, Saint John, New Brunswick, © Jim Bezanson, City of Saint John, 1994

42 Dawson City, Yukon, © Guy Masson, PWGSC, 1993

44 Birkett Castle, Ottawa, Ontario, © Guy Masson, PWGSC, 1981

47 Halifax, Nova Scotia, © Don K. Macdonald, PWGSC, 2003

49 E.B. Eddy, Gatineau, Quebec, © Christiane Lefebvre, 2002

51 Windsor Station, Montreal, Quebec, © Guy Masson, PWGSC, 1999

52 Gatineau, Quebec, © Michel Filion, PWGSC, 2001

56 St. George's Anglican Church, Halifax, Nova Scotia, © Bill Hockey, Parks Canada, 1995

Guidelines for Engineering Works

1 Hamilton Waterworks, Hamilton, Ontario, © Heritage Recording Service, Parks Canada, 1990

2 Brilliant Suspension Bridge, near Castlegar, British Columbia, © R. Eddy, Parks Canada, 1985

3 Powerscourt, Quebec, © Jean-Pierre Jérôme, Parks Canada, 2003

4 Chaudière Bridge, Gatineau, Quebec, © Susan Ross, 2003

5 St John's Market, Saint John, New Brunswick, © Parks Canada, 1983

8 Rideau Canal, Ottawa, Ontario, © Guy Masson, PWGSC, 1999

9 Claybank, Saskatchewan, © Guy Masson, PWGSC, 1994

Guidelines for Other Considerations

1 Ottawa, Ontario, © Rosanne Dubé, PWGSC, 2003

3 Province House, Charlottetown, Prince Edward Island, © Bill Hockey, PWGSC, 2002

6 Bath, Ontario, © Craig Sims, 1990

8 (a) (street view) Canadian Imperial Bank of Commerce, Calgary, Alberta, © Larry Pearson, Alberta Community Development, 2002

8 (b) (facade close-up) Canadian Imperial Bank of Commerce, Calgary, Alberta, © Rino Basso, Alberta Community Development, 2003



The *Standards and Guidelines for the Conservation of Historic Places in Canada* is the first Canada-wide set of standards and guidelines for heritage conservation. They have been developed by the Working Group on Standards and Guidelines as part of the Historic Places Initiative, a pan-Canadian collaboration between the federal, provincial and territorial governments to create new tools in support of heritage conservation in Canada. Designed as a common reference point for conservation practice in Canada, the *Standards and Guidelines* may be adopted by Canadian jurisdictions or other authorities.

The *Standards and Guidelines* are available on-line at:
www.pc.gc.ca

ISBN 0-662-34897-4