DRAFT REPORT:

Cultural Heritage Evaluation Report
Andrewsville Bridge
Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON

LHC | Heritage Planning and Archaeology

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30 June 2022

Project # LHC0295

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REPORT LIMITATIONS

The qualifications of the heritage consultants who authored this report are provided in Appendix A. All comments regarding the condition of the Bridge are based on a superficial visual inspection and are not a structural engineering assessment of the buildings unless directly quoted from an engineering report. The findings of this report do not address any structural or physical condition related issues associated the Bridge or the condition of any heritage attributes.

Concerning historical research, the purpose of this report is to assess potential impacts of the proposed site alteration on the cultural heritage value or interest and heritage attributes of the Bridge. The authors are fully aware that there may be additional historical information that has not been included. Nevertheless, the information collected, reviewed, and analyzed is sufficient to conduct this assessment. This report reflects the professional opinion of the authors and the requirements of their membership in various professional and licensing bodies.

The review of policy and legislation was limited to that information directly related to cultural heritage management and is not a comprehensive planning review. Additionally, soundscapes, cultural identity, and sense of place analyses were not integrated into this report.

Due to the ongoing COVID-19 pandemic, access to archives was limited.

EXECUTIVE SUMMARY

The Executive Summary only provides key points from the report. The reader should examine the complete report including background, results as well as limitations.

LHC was retained in January 2022 by Jewell Engineering to prepare a Cultural Heritage Evaluation Report (**CHER**) on the Andrewsville Bridge (the **Bridge**), on Andrewsville Road, which spans the Rideau River between the County of Lanark and the United Counties of Leeds and Grenville, Ontario.

This CHER has been prepared as part of a review of alternatives for a Schedule B, *Municipal Class Environmental Assessment*. The Bridge was constructed in 1904. It is not a designated heritage bridge under the *Ontario Heritage Act*.

This cultural heritage evaluation was undertaken following guidance from the *Ontario Heritage Tool Kit* (2006). The process included background research into the site, an on-site assessment, and evaluation of the cultural heritage value of the property based on the criteria of *Ontario Regulation 9/06: Criteria for Determining Cultural Heritage Value or Interest* under the *Ontario Heritage Act* (***O. Reg. 9/06***). Guidance from the Ontario Ministry of Transportation's (MTO) 2008 *Interim Ontario Heritage Bridge Guidelines* and its criteria were used to inform the evaluation and guide background research for this CHER.

This CHER included an evaluation of the Bridge against the criteria outlined in *Ontario Regulation 9/06: Criteria for Determining the Cultural Heritage Value or Interest (O. Reg. 9/06*) under the *Ontario Heritage Act* (*OHA*). The Bridge is not included on a Heritage Register as a designated or non-designated property, nor is it included on the *Ontario Heritage Bridge List.* The Bridge crosses the Rideau River –a Canadian Heritage River—and is adjacent to the Rideau Canal World Heritage Site (**WHS**) and National Historic Site of Canada (**NHSC**).

LHC finds that the Bridge meets seven of the criteria for determining cultural heritage value or interest from O.Reg. 9/06. In LHC's professional opinion, the Bridge meets criteria 1i, 1ii, 2i, 2ii, 3i, 3ii, and 3iii. It has physical value and design value as a rare and representative two-span Pratt truss bridge, being the only single-lane pedestrian/road bridge from the early 1900s spanning the Rideau River. It has historical and associative value because of its associations with architect George T. Smith, the Dominion Bridge Company, and the historical industrial development of the former village of Andrewsville. It has contextual value because it supports and maintains the historic rural character of the area and has historical and visual links to its surroundings. The Bridge is a cultural heritage resource and supports the landscape setting of the Rideau River and Canal.

In LHCs professional opinion the Bridge should be conserved and rehabilitated to be used. This opinion is based on international, federal, provincial and municipal guidance outlined in Section 3.0 of this CHER.

LHC recommends that the heritage attributes of the Bridge be conserved where possible and a Heritage Impact Assessment be required as part of design for rehabilitation or replacement.

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1.0 INTRODUCTION

LHC was retained in January 2022 by Jewell Engineering to prepare a Cultural Heritage Evaluation Report (**CHER**) on the Andrewsville Bridge (the **Bridge**), on Andrewsville Road, which spans the Rideau River between the County of Lanark and the United Counties of Leeds and Grenville, Ontario.

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Legend

Andrewsville Bridge

NOTE(S)
1. All locations are approximate.

REFERENCE(S)
1. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
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TITLE
Location Plan

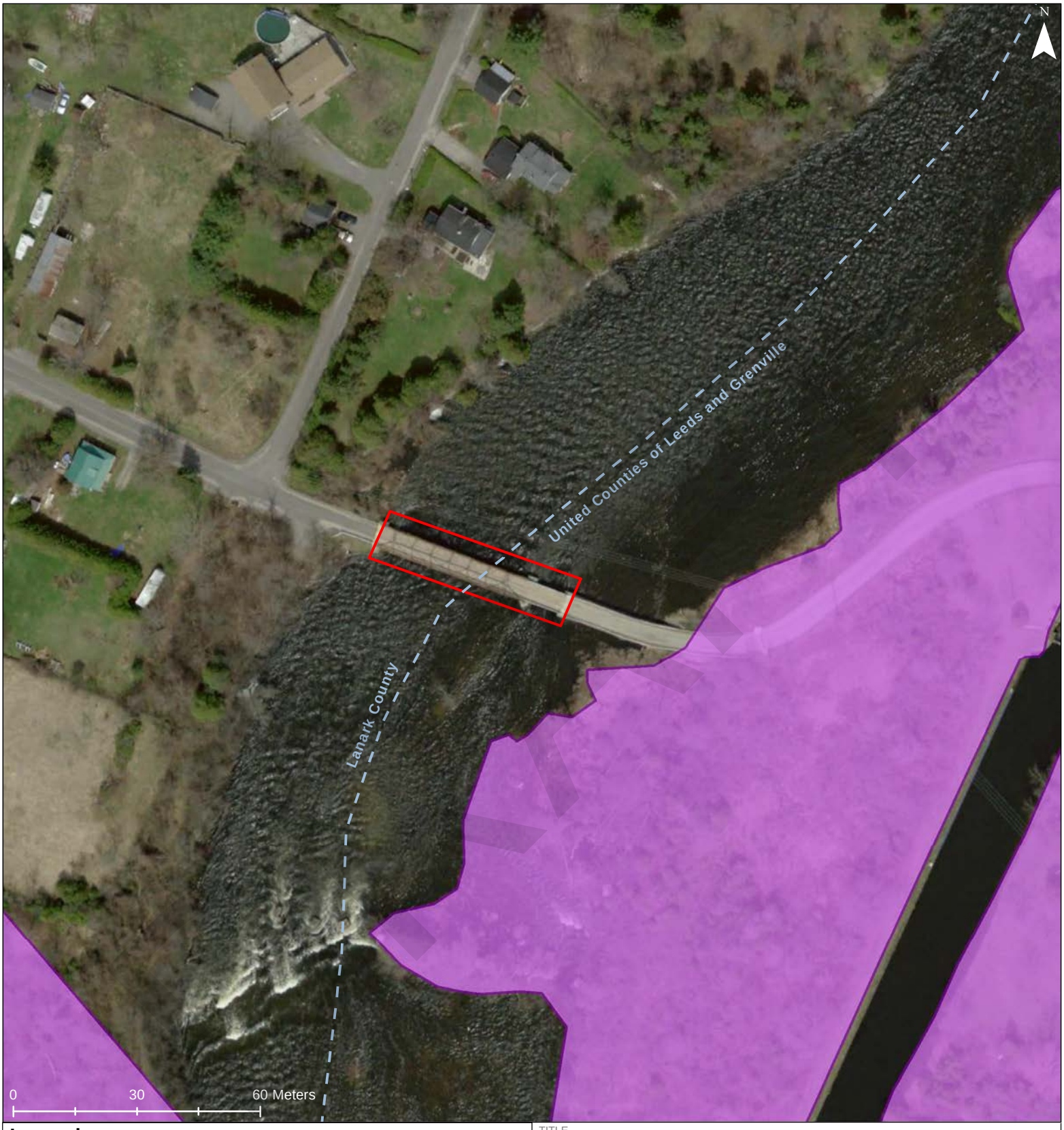
CLIENT
Jewell Engineering

PROJECT
Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON

PROJECT NO. LHC0295

CONSULTANT
LHC

YYYY-MM-DD	2022-05-18
PREPARED	LHC
DESIGNED	JG
FIGURE #	1



Legend

- Andrewsville Bridge
- Parks Canada Property Parcels

NOTE(S)
1. All locations are approximate.

REFERENCE(S)
1. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

TITLE
Site Plan

CLIENT
Jewell Engineering

PROJECT
Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON

PROJECT NO. LHC0295

CONSULTANT
LHC

YYYY-MM-DD	2022-05-18
PREPARED	LHC
DESIGNED	JG
FIGURE #	2

2.0 STUDY APPROACH

LHC follows a three-step approach to understanding and planning for cultural heritage resources based on the understanding, planning and intervening guidance from the Canada's Historic Places *Standards and Guidelines for the Conservation of Historic Places in Canada,* Ontario Ministry of Transportation's (MTO) 2008 *Interim Ontario Heritage Bridge Guidelines*, and MHSTCI *Ontario Heritage Tool Kit*.[1] Understanding the cultural heritage resource involves:

- Understanding the significance of the cultural heritage resource (known and potential) through research, consultation and evaluation–when necessary.
- Understanding the setting, context and condition of the cultural heritage resource through research, site visit and analysis.
- Understanding the heritage planning regulatory framework around the cultural heritage resource.

This is consistent with the recommended methodology outlined by the MHSTCI in the *Ontario Heritage Tool Kit: Heritage Property Evaluation*. To evaluate a property for cultural heritage value or interest (CHVI) the MHSTCI identifies three key steps: Historical Research, Site Analysis, and Evaluation.

2.1 Legislation and Policy Review

The CHER includes a review of provincial legislation, plans and cultural heritage guidance, and relevant municipal policy and plans. This review outlines the cultural heritage legislative and policy framework that applies to the Bridge.

2.2 Historical Research

Historical research for this CHER included local history research and the history of bridges. LHC consulted primary and secondary research sources including:

- Local histories;
- Historic maps;
- Aerial photographs;
- Ministry of Transportation files;
- Parks Canada files;
- Books and articles about bridges and the history of bridges in Ontario; and,
- Online sources about local history, bridges and bridge history.

Online sources consulted included (but was not limited to):

- The Archives of Ontario;
- Library and Archives Canada;
- Canada Lands Survey System;

[1] Canada's Historic Places, "Standards and Guidelines for the Conservation of Historic Places in Canada", 2010, p. 3, and Ministry of Heritage, Sport, Tourism and Culture Industries, "Heritage Property Evaluation" Ontario Heritage Tool Kit, 2006, p. 18.

- The Ontario Council of University Libraries, Historical Topographic Map Digitization Project;
- The Canadian County Atlas Digital Project;
- The Merrickville & District Historical Society;
- The Grenville County Archives;
- The Lanark County Archives;
- Canadiana/Heritage; and
- The Internet Archive

2.3 Enquiries

LHC contacted:

- Susan Millar – Planner, Ontario Waterways Rideau Canal Office Parks Canada for confirmation on Parks Canada's lands around the Bridge and information on any heritage value Parks Canada identifies relevant to the Bridge and surrounding area.
- Jasmin Ralph, Lanark County Clerk for information on the Bridge including copies of the historical County Council minutes.
- Wendy Roberts, Lanark County Archives for local history information.
- Grenville County Archives for local history information.
- Ann Martin, Merrickville Historical Society for local history information.

2.4 Site Visit

A site visit was conducted on 16 February 2022 by Senior Heritage Planner Ben Holthof and 19 May 2022 by Cultural Heritage Specialist Colin Yu. All photographs were taken from the Andrewsville Road right-of-way and Upper Nicholsons Lockstation grounds. The purpose of these site visits was to document the current conditions of the Bridge, its structure, and its surrounding context. Unless otherwise attributed all photographs in this CHER were taken during the site visits. A selection of photographs from the site visits that document the Bridge are included in Section 5.0.

2.5 Evaluation

Under Provincial legislation and policy, the conservation of cultural heritage resources is a matter of Provincial importance (see Section 3.0 below for details). The environmental assessment process requires evaluation of this Bridge for CHVI. The CHER is being prepared in accordance with the Municipal Engineers Association 2015 Municipal Class Environmental Assessment Manual.

O. Reg. 9/06 identifies the criteria for determining cultural heritage value or interest under Section 29 of the OHA and is used to create a Statement of Cultural Heritage Value or Interest (SCHVI). These criteria are used in determining if an individual property has CHVI. LHC has applied these criteria to the evaluation of the Bridge.

The regulation has three criteria, each with three sub-criteria:

1) The property has design value or physical value because it,

i. is a rare, unique, representative or early example of a style, type, expression, material or construction method;

ii. displays a high degree of craftsmanship or artistic merit, or

iii. demonstrates a high degree of technical or scientific achievement.

2) The property has historical value or associative value because it,

i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community;

ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or

iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.

3) The property has contextual value because it,

i. is important in defining, maintaining or supporting the character of an area;

ii. is physically, functionally, visually or historically linked to its surroundings, or

iii. Is a landmark.[2]

Properties –including bridges—that meet one of these criteria may be designated under Part IV Section 29 of the *OHA*.

Additional guidance for evaluation of bridges comes from the Ontario Ministry of Transportation (MTO). As the largest owner of bridges in the province the MTO has developed guidance on heritage evaluation and conservation of bridges through:

- The *Ontario Heritage Bridge Guidelines for Provincially Owned Bridges* (*OHBG*, 2008);
- The *Environmental Guide for Built Heritage and Cultural Heritage Landscapes* (2007); and,
- Section 3.7 of the *Environmental Reference for Highway Design, Cultural Heritage – Built Heritage and Cultural Heritage Landscapes* (2006).

The *OHBG* has an evaluation process that builds from *O. Reg. 9/06.* This CHER has referenced and uses guidance from MTO sources to inform research, documentation and evaluation of the Bridge. CHERs for municipally owned bridges may reference MTO guidance but must use *O. Reg. 9/06* when evaluating the bridge for CHVI.

This CHER uses guidance from the *Ontario Heritage Tool Kit* and MTO sources to inform our recommendations.

[2] *O. Reg. 9/06*: *Criteria for Determining Cultural Heritage Value or Interest* under *Ontario Heritage Act*, R.S.O. 1990, c. O.18

3.0 POLICY AND LEGISLATION CONTEXT

3.1 International Context

3.1.1 The Burra Charter (2013)

The *Burra Charter* was first adopted in 1979 and most recently updated in October 2013. Place is defined by the *Burra Charter* as "…a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions".[3] The *Burra Charter* serves as a best practice guide for conservation of heritage places and includes several conservation principles. The following principles are relevant for the proposed project.

> **Article 8. Setting**
> Conservation requires the retention of an appropriate setting. This includes retention of the visual and sensory setting, as well as the retention of spiritual and other cultural relationships that contribute to the cultural significance of the place.
>
> New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.[4]
>
> **Article 26. Applying the Burra Charter Process**
> 26.1 Work on a place should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines. The results of studies should be kept up to date, regularly reviewed and revised as necessary.
>
> 26.2 Written statements of cultural significance and policy for the place should be prepared, justified and accompanied by supporting evidence. The statements of significance and policy should be incorporated into a management plan for the place.[5]
>
> **Article 27. Managing change**
> 27.1 The impact of proposed changes, including incremental changes, on the cultural significance of a place should be assessed with reference to the statement of significance and the policy for managing the place. It may be necessary to modify proposed changes to better retain cultural significance.
>
> 27.2 Existing fabric, use, associations and meanings should be adequately recorded before and after any changes are made to the place.[6]

When applied to the Study Area, the *Burra Charter*'s principles emphasize the need for impact studies which consider the place as a whole rather than its component parts.

[3] Australia ICOMOS, "The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance," Australia, October 31, 2013, https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf, 2.
[4] Australia ICOMOS, "The Burra Charter," 2013, 5.
[5] Australia ICOMOS, "The Burra Charter," 2013, 8.
[6] Australia ICOMOS, "The Burra Charter," 2013, 8.

3.1.2 Rideau Canal World Heritage Site Management Plan (2005)

Parks Canada prepared the *Rideau Canal World Heritage Site Management Plan* in 2005 to reflect the Government of Canada's commitment to the conservation and protection of the Rideau Canal as a World Heritage Site.[7] The World Heritage Management Plan lists the world heritage values to be protected, the policy framework for management, how the management system will be implemented, and mechanisms for future monitoring.[8]

3.2 National Context

3.2.1 Rideau Canal National Historic Site of Canada Management Plan (2005)

The *Rideau Canal National Historic Site of Canada Management Plan* was prepared by Parks Canada in 2005 to manage the Canal in keeping with national legislation and policy.[9] The purpose of the Plan is to ensure commemorative integrity, appropriate public use, the use of cultural resource management principles and practices, and to conserve the Canal.[10]

Section 6 deals with Waterfront Land Use and Development with the following goals:

- To encourage respect for the natural, cultural and scenic values of the Canal's waterfront lands.
- To encourage Canal corridor municipalities to adopt planning policies which protect the heritage character of the waterfront and safe and enjoyable use of the Canal.[11]

Parks Canada relies on municipalities to have adequate policies in their Official Plans which protect the Canal's heritage character.[12] These policies should be consistent with:

> Parks Canada's primary interest in land uses *adjacent* to the Canal and Canal lands (the designated place) is the retention and enhancement of the natural, cultural and scenic values (heritage character) of the Canal waterfront lands. Therefore, the potential impact of the construction of in-water and shoreline works, buildings and associated boating activities on the cultural and natural environment of the Canal and public safety of Canal users is of primary concern.[13]

3.2.1.1 Commemorative Integrity Statement

The *Rideau Canal National Historic Site of Canada Management Plan* includes the Rideau Canal's Commemorative Integrity Statement which outlines the reasons for designation. The

[7] Parks Canada, "Rideau Canal World Heritage Site Management Plan," prepared for the Government of Canada, 2005, 4.
[8] Parks Canada, "Rideau Canal World Heritage Site Management Plan," 2005, 4.
[9] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," prepared for the Government of Canada, 2005, 1.
[10] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 1.
[11] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 29.
[12] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 28.
[13] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 28.

Commemorative Integrity Statement describes Level One and Level Two "cultural resources.[14]" Level One Resources: Symbolize or Represent the National Significance of the Site.[15]

Parks Canada divides Level One into the categories of Designated Place (e.g., the engineering achievement of the construction of the Canal), *In Situ* Resources (e.g., Smiths Falls), Moveable Resources (e.g., archival material), and Messages of National Significance (e.g., the construction of the Canal system).

Level Two resources for the Canal are "other associative and physical historic values that contribute to the site's heritage character and heritage experience."[16] Level Two resource are divided into the categories of *In Situ* Resources (e.g., Tay Canal), Moveable Resources (e.g., tools and hardware), the Natural Environment of the Rideau Canal Corridor (e.g., natural ecosystem inventory), and Heritage Messages Communicated to the Public (e.g., evolving use of the Canal from commercial to recreational waterway).

The Level One and Two resources are the basis for determining national historic significance and must be considered in terms of impacts. For visual elements, the Management Plan includes the following:

> In the case of the Rideau Canal, the designated place consists of the lands and waters under the jurisdiction of Parks Canada including the bed of the Rideau Canal to the high water mark between the Ottawa River and the harbor in Kingston… *Significant* view sheds, visual linkages and associative values encompass a variety of urban, rural and natural areas *adjacent* to the Canal. The following identifies associated lands of particular importance to the values of the Rideau Canal; these include but are not restricted to:
>
> - the views from the Canal and Canal lands to the heritage shore-lands and communities between Becketts Landing and Kilmarnock lockstation;[17]
>
> The designated place will be unimpaired or not under threat when:
>
> - the heritage character of corridor shore-lands are safeguarded from inappropriate development or uses; the heritage character of those identified corridor communities are safeguarded;
> - the landmarks, viewscapes and natural ecosystem features of the Canal's islands, shore-lands and wetlands that are related to the construction of the Canal and which are part of the Canal's unique historical environment are safeguarded;[18]

The Rideau Canal's visual setting extending over the shoreline is a value that must be considered by any proposed project.

[14] Parks Canada uses the term "cultural resources" instead of "cultural heritage resources". This CHER uses the Parks Canada vocabulary when relevant.
[15] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 69.
[16] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 76.
[17] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 69.
[18] Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 70.

3.2.2 Rideau Corridor Landscape Strategy: Landscape Character Assessment & Planning and Management Recommendations (2012)

The Rideau Corridor Landscape Strategy (the Strategy) was created in 2010 under recommendation of the World Heritage Committee. Parks Canada funded the Strategy, and its development was led by a steering committee from Parks Canada, the National Capital Commission, the Province of Ontario, First Nations and the thirteen municipalities, three counties and two conservation authorities located along the Rideau Canal. The Strategy was developed to strengthen the visual protection outside of the buffer zone (30 m), in order to ensure the visual values of the setting are protected alongside the environmental values.

A landscape character assessment was completed as part of the Strategy. It was meant to identify and classify the elements which give the Rideau Canal a sense of place. This ensures that "…future development is respectful of the valued views and landscapes that make up the Corridor and consider ways to protect and even improve or enhance them".[19]

The Study Area falls within Sector 2: Rideau River and Lakes – Hogs Back Locks to Newboro Lock and Subsector 2c: Burritts Rapids Lock to Smith Falls. This sector's values were identified as:

- Upper and Lower Nicholsons Lockstations, excavated channel and replica king post swing bridge; Clowes Lockstation and stone arch dam
- Meandering, wooded river and scenic river road between Burritts Rapids and Merrickville with views to historic homes / farms;
- Historic downtown Merrickville, Merrickvile Lockstation and Blockhouse, Blockhouse Park, the Depot and industrial ruins;
- Rideau Bird Sanctuary and wetlands, interspersed with long views over agricultural landscapes between Merrickville and Smiths Falls
- Kilmarnock Lockstation, Edmonds Lockstation and stone arch dam, view to dam from river;
- Old Slys Locks, Smiths Falls Combined Lock, Smiths Falls Detached Lock, Bascule railway bridge, Centennial Park and associated greenspace.[20]

The Upper and Lower Nicholsons Lockstations are the most relevant value to this CHER and is elaborated on as:

- A short distance from Burritts Rapids, are the Upper and Lower Nicholsons Locks (Locks 18-19);
- The locks are set a short distance apart from each other along a canal cut which bypassed significant rapids. A manually operated authentic replica king post swing bridge with stone abutments carries a local road over the Canal.[21]

[19] Dillon Consulting Limited, "Rideau Corridor Landscape Strategy: Landscape Character Assessment & Planning and Management Recommendations," prepared for Parks Canada, 2012, 3.
[20] Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 10.
[21] Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 15.

The assessment considers the landscape's sensitivity in terms of its ability to absorb visual change, with most rated as highly sensitive. The Study Area is identified as C7 Agricultural/Farmland zone and a N6 Wetland/Marsh zone immediately north of a Rideau Canal Viewpoint towards and immediately south towards.[22] The Study Area is also identified as having "Visual Values as Lands Potentially Visible from the Rideau Canal" with views to/from the canal.[23] As the Study Area is located within Agricultural/Farmland and Wetland/Marsh zones, it is considered better able to handle visual change than some other areas.[24]

3.2.2.1 Rideau Canal Waterway – Principles for Good Waterfront Development along the Rideau Canal Waterway

Ten principles for good waterfront development were developed from the Strategy. These principles "provide guidance on how waterfront and shoreline development and redevelopment can respect, protect and enhance these values, through property owner's actions and municipal decision making."[25] Application of these principles is intended to support the long-term conservation of the Rideau Canals valued landscapes. The ten principles are:

1. Understand and respect the local landscape character.
2. Conserve historic buildings and cultural heritage features.
3. Conserve, protect and enhance wetlands.
4. Maintain and retain natural shoreline.
5. Located development back from the shoreline.
6. Work with the landscape, not against it.
7. Design buildings to complement the site.
8. Design residential docks and boathouses for low impact.
9. Protect water quality.
10. Prevent hazards and property damage.[26]

These 10 Principles can be applied to transportation infrastructure projects as part of municipal decision making. The Bridge crosses and is visible from the Rideau River and visible from the Rideau Canal. For this CHER, principles 1 and 2 are the most relevant.

Understanding and respecting the local landscape character (Principle 1) is based descriptions of the landscape character from the Strategy. The principle states that "the highest quality development is consistent with this diversity [the Canal's variety of landscapes], blends with or enhances the canal's landscape character and supports its cultural, ecological and economic value.[27]

Conserve historic buildings and cultural heritage features (Principle 2) involves actions to conserve and reuse historic houses and cottages, lodges, mills, barns, fences and other cultural

[22] Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," Map 9.
[23] Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, Appendix B.
[24] Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 25.
[25] Parks Canada, Rideau Canal Waterway Principles for Good Waterfront Development along the Rideau Canal Waterway, 2021.

[26] Parks Canada, 2021.
[27] Parks Canada, 2021, Principle 1.

heritage features to preserve the landscape character of the Rideau corridor. Aboriginal communities share a long history and relationship with the pre and post canal landscape. Archaeological resources found along the corridor shed light on this history.[28]

3.2.3 Canadian Heritage Rivers System

The Rideau Waterway, including the Rideau River, was designated in 2000 as a Canadian Heritage River. The waterway has cultural heritage value as the oldest continually functioning canal system in North America and as a testament to the ingenuity and perseverance of Lieutenant-Colonel John By and others involved in its construction. The forty-seven locks and many of the original buildings survive to this day.[29] Management of the waterway and details on its cultural heritage values as a Canadian Heritage River is achieved through Parks Canada's management plans.

3.2.4 Standards and Guidelines for the Conservation of Historic Places

Canada's Historic Places' *Standards and Guidelines for the Conservation of Historic Places in Canada* (**S&Gs**) is a national tool to be consulted in the preparation of conservation options for a CHER. It provides an overview to the conservation decision-making process; conservation treatments; standards for appropriate conservation, and guidelines for conservation. In the context of the S&G, conservation is understood to embrace several key concepts including preservation, rehabilitation, and restoration. These terms are defined as follows:

- **Conservation:** all actions or processes that are aimed at safeguarding the character-defining elements of an historic place 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;
- **Preservation:** the action or process of protecting, maintaining, and/or stabilizing the existing materials, form, and integrity of an historic place, or of an individual component, while protecting its heritage value;
- **Rehabilitation:** the action or process of making possible a continuing or compatible contemporary use of an historic place, or an individual component, while protecting its heritage value; and,
- **Restoration:** the action or process of accurately revealing, recovering or representing the state of an historic place, or of an individual component, as it appeared at a particular period in its history, while protecting its heritage value.[30]

The S&Gs outline the conservation decision making process which includes a sequence of actions:

- Understanding the historic place;

[28] Parks Canada, 2021, Principle 2.
[29] Canadian Heritage Rivers System, "Rideau Waterway" accessed 09 April 2021, https://chrs.ca/en/rivers/rideau-waterway
[30] Canada's Historic Places, "Standards and Guidelines for the Conservation of Historic Places in Canada," prepared for Her Majesty the Queen in the Right of Canada, second edition, 2010, 22-23.

- Planning for its conservation; and,
- Intervening.

This CHER is part of understanding the historic place, which will inform planning for its conservation and eventual intervention.

3.3 Provincial Context

In Ontario, cultural heritage is considered a matter of provincial interest and cultural heritage resources are managed under Provincial legislation, policy, regulations, and guidelines. Cultural heritage is established as a key provincial interest directly through the provisions of the *Environmental Assessment Act* (***EAA***), *Planning Act,* the *Ontario Heritage Act (**OHA**)*, and the *Provincial Policy Statement* (***PPS***). Other provincial legislation deals with cultural heritage indirectly or in specific cases. These various acts and the policies under these acts indicate broad support for the protection of cultural heritage by the Province. They also provide a legal framework through which minimum standards for heritage evaluation are established. What follows is an analysis of the applicable legislation and policy regarding the identification and evaluation of cultural heritage.

3.3.1 Environmental Assessment Act

The *Environmental Assessment Act*, R.S.O. 1990, c. E.18 was consolidated on 1 July 2019. The *Act's* purpose is the "betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management in Ontario of the environment. It applies to public sector projects and specific types of private sector projects in the province. The Minister of the Ministry of Environment, Conservation and Parks (**MECP**) administers this Act.

Under the *EAA* the meaning of environment is broad and includes –among other things—the social, economic and cultural conditions that influence the life of humans or a community, and any building, structure, machine or other device or thing made by humans [Part I1(1, c and d)].[31] Cultural Heritage sites, including bridges, are included in 'cultural conditions' and "building, structure… or thing made by humans."

The *EAA* aims to provide for the protection, conservation and wise management of Ontario's Environment. It applies to all public activities including project undertake by municipalities, public utilities and conservation authorities.

3.3.2 *Ontario Heritage Act, R.S.O. 1990, c. O.18*

The *Ontario Heritage Act, R.S.O. 1990, c O.18* (***Ontario Heritage Act*** *or* ***OHA***) enables the provincial government and municipalities powers to conserve, protect, and preserve the heritage of Ontario. The Act is administered by a member of the Executive Council (provincial government cabinet) assigned to it by the Lieutenant Governor in Council. At the time of writing the Minister—Ministry—of Heritage, Sport, Tourism and Culture Industries (MHSTCI) administers the *Ontario Heritage Act*.[32]

[31] *Environmental Assessment Act,* Part I S:1.
[32] Since 1975 the Ontario ministry responsible for culture and heritage has included several different portfolios and had several different names and may be referred to by any of these names or acronyms based on them:

The *OHA* and associated regulations establish the protection of cultural heritage resources as a key consideration in the land-use planning process, set minimum standards for the evaluation of heritage resources in the province, and give municipalities power to identify and conserve individual properties, districts, or landscapes of cultural heritage value or interest. Municipalities are permitted to maintain and "list" a Register of properties that are of cultural heritage value or interest under Section 27. Individual heritage properties are designated by municipalities under Part IV, Section 29 and heritage conservation districts are designated by municipalities under Part V, Section 29 of the *OHA.* Generally, an *OHA* designation applies to real property rather than individual structures. However, many bridges in Ontario are designated as individual heritage properties or within heritage conservation districts. The Andrewsville Bridge is not designated or "listed" under the *Ontario Heritage Act*.

3.3.3 *Planning Act*, R.S.O. 1990

The *Planning Act*, R.S.O. 1990, c.P13, was consolidated on 14 April 2020. The Minister – Ministry—of Municipal Affairs and Housing (MMAH) administers this act. Its purpose is to:

(a) to promote sustainable economic development in a healthy natural environment within the policy and by the means provided under this Act;
(b) to provide for a land use planning system led by provincial policy;
(c) to integrate matters of provincial interest in provincial and municipal planning decisions;
(d) to provide for planning processes that are fair by making them open, accessible, timely and efficient;
(e) to encourage co-operation and co-ordination among various interests;
(f) to recognize the decision-making authority and accountability of municipal councils in planning (Section 1.1).

The Planning Act is the primary document for municipal and provincial land use planning in Ontario. This Act sets the context for provincial interest in heritage. It states under Part I (2, d):

> The Minister, the council of a municipality, a local board, a planning board and the Municipal Board, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as…the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest.[33]

• Ministry of Culture and Recreation (1975-1982),
• Ministry of Citizenship and Culture (1982-1987),
• Ministry of Culture and Communications (1987-1993),
• Ministry of Culture, Tourism and Recreation (1993-1995),
• Ministry of Citizenship, Culture and Recreation (1995-2001),
• Ministry of Tourism, Culture and Recreation (2001-2002),
• Ministry of Culture (2002-2010),
• Ministry of Tourism, Culture and Sport (2011-2019).

[33] Province of Ontario. "The Planning Act, R.S.O. 1990, c. P.13," last modified December 8, 2020, https://www.ontario.ca/laws/statute/90p13.

To meet the purposes of the *Planning Act,* it enables the Province to issue policy statements under the authority of Part 1 (3) –the *Provincial Policy Statement*—on matters relating to municipal planning that are of provincial interest including cultural heritage and archaeology.

3.3.4 *Provincial Policy Statement* (2020)

The *PPS* is issued under the authority of Section 3 of *The Planning Act* and provides further direction for municipalities regarding provincial requirements. Land use planning decisions made by municipalities, planning boards, the Province, or a commission or agency of the government must be consistent with the *PPS*. The *PPS* makes the consideration of cultural heritage equal to all other considerations in relation to planning and development within the province. The *PPS* addresses cultural heritage in Sections 1.7.1d and 2.6.

Section 1.7 of the *PPS* on long-term economic prosperity encourages cultural heritage as a tool for economic prosperity by "encouraging a sense of place, by promoting well-designed built form and cultural planning, and by conserving features that help define character, including *built heritage resources* and *cultural heritage landscapes*" (Section 1.7.1e).

Section 2.6 of the *PPS* articulates provincial policy regarding cultural heritage and archaeology:

> 2.6.1 *Significant built heritage resources* and *significant cultural heritage landscapes* shall be *conserved*.
>
> 2.6.2 *Development* and *site alteration* shall not be permitted on lands containing archaeological resources or areas of *archaeological potential* unless *significant archaeological resources* have been *conserved*.
>
> 2.6.3 Planning authorities shall not permit development and *site alteration* on *adjacent lands* to *protected heritage property* except where the proposed *development* and *site alteration* has been evaluated and it has been demonstrated that the *heritage attributes* of the *protected heritage property* will be *conserved.*
>
> 2.6.4 Planning authorities should consider and promote archaeological management plans and cultural plans in conserving cultural heritage and archaeological resources.
>
> 2.6.5 Planning authorities shall engage with Indigenous communities and consider their interests when identifying, protecting and managing cultural heritage and archaeological resources.[34]

The *Provincial Policy Statement* recognizes that there are complex interrelationships among environmental, economic and social factors in land use planning. It is intended to be read in its entirely and relevant policies applied in each situation.

[34] Province of Ontario, "The Provincial Policy Statement 2020," last modified May 1, 2020, https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf

3.4 Local Planning Context

Andrewsville Bridge is jointly owned by the County of Lanark and the United Counties of Leeds & Grenville as it straddles the boundary between the two counties. The following relevant policies for each county are listed below:

3.4.1 Lanark County Sustainable Communities Official Plan

The Official Plan (SCOP) was adopted by the Council of the County of Lanark on June 27, 2012.[35]

The Vision Statement of the Plan contains the following:

Lanark County is proud of its heritage and cherishes its small-town character, rural way of life, sense of community and distinctive natural features. We want to strengthen and diversify the economy effectively manage growth, protect the environment, preserve our heritage and maintain our unique character for future generations.

Section 1.2 Objectives of the Plan contains the following direction for heritage:

1.2 Objectives

6) The distinct character and heritage of our towns, villages, hamlets and rural and waterfront areas will be maintained.

Section 3.3.5 Special Policies contains the following policies for the Rideau Canal Corridor UNESCO World Heritage Site:

3.3.5.1 The Rideau Canal Corridor UNESCO World Heritage Site

Some municipalities include parts of the Rideau Canal Corridor, a UNESCO World Heritage Site. In these municipalities the local Official Plan should consider policies which address the need to protect and preserve the heritage resource.

Part of the designation requires the inclusion of strategies that will preserve the heritage and cultural resources. Parks Canada is leading the development of a landscape strategy for the Rideau Corridor.

The Rideau Canal Corridor Landscape Strategy, once completed, will be taken into consideration by the County as it discharges its responsibilities with respect to the approval of local Official Plans and Official Plan Amendments, and in the review and approval of plans of subdivisions and consent applications.

Section 8.2.11 Heritage Conservation contains the following policies for heritage resources:

Section 8.2.11 Heritage Conservation

1) Conserving built heritage resources, cultural heritage landscapes and archaeological resources that are under municipal ownership and\or stewardship;
2) Conserving and mitigating impacts to all significant cultural heritage resources, when undertaking public works;

[35] County of Lanark, “Sustainable Communities Official Plan”, 27 June 2012.

3) Respecting heritage resources identified, recognized or designated by federal and provincial agencies.

Local Official Plans may permit development and site alteration on adjacent lands where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.

A heritage impact assessment may be required if there are any adverse impacts to any significant cultural heritage resources resulting from development proposals. Mitigative measures and/or alternative development approaches may be required for the conservation of heritage attributes of a protected heritage property. The Ontario Heritage Act may be utilized to conserve, protect and enhance any significant cultural heritage resources located in a municipality.

Areas of archaeological potential are determined through the use of provincial screening criteria, or criteria developed based on the known archaeological record. Local Official plans shall include policies to ensure that archaeological features and resources are conserved.

3.4.2 The United Counties of Leeds and Grenville Official Plan

The Official Plan (OP) was adopted by the Council of the United Counties of Leeds & Grenville on July 23, 2015 through By-law No. 15-47. The Official Plan was approved by the Minister of Municipal Affairs on February 19, 2016. The latest office consolidation is dated March 1, 2021.[36]

Section 1.15 Strategic Directions of the Plan contains the following direction for heritage:

1.15 Strategic Directions

8) Conserve significant cultural heritage, archaeological resources and areas of archaeological potential and the history and defining character of the Counties, including historical connections to Aboriginal communities and early settlers.

Section 4.0 Natural Heritage, Water Resources, and Cultural Heritage contains the following relevant policies for heritage resources.

4.2.12.1 Crown Lands

a) The policies of the Plan are not applicable to Crown land activities. Use of Crown lands will be determined by the Province, with regard for the policies of this Plan and the local municipal Official Plans. Crown lands are identified on Schedule A of this Plan.
b) Where development or site alteration is proposed directly abutting Crown lands, the local municipality will consult with the applicable agency.
c) Where consideration is given to changes to either the type or intensity of land use or to disposing of significant holdings of Crown lands, applicable agencies are encouraged to consult with the Counties and the local municipality prior to any such change occurring.

[36] The United Counties of Leeds and Grenville, Official Plan, 1 March 2021.

e) Development on or above the bed of navigable waters will be reviewed by the applicable Ministry or agency and may be subject to various permitting and approvals.
f) The use and development of National and Provincial Park lands will take place in accordance with applicable legislation, associated Regulations and the policies of applicable agencies. The Counties encourages that development on private land surrounding these Crown lands be compatible with natural resource management activities and natural heritage values.

4.2.12.2 Conservation Lands and Significant Local Features

a) The Counties recognizes and supports the protection of the Rideau Canal and will assist Parks Canada in its implementation of the Rideau Canal Management Plans and the Rideau Corridor Landscape Strategy. Local municipalities will establish policies related to development adjacent to the Rideau Canal and review requirements and/or recommendations by Parks Canada.
b) Any development activities in, on or over the bed of the Rideau Canal require an approved In-Water Works Permit from Parks Canada, in accordance with the Policies for In-Water and Shoreline Works and Related Activities, 2007.
d) Where development or site alteration is proposed directly abutting conservation lands, the local municipality will consult with the applicable agency.
e) Where consideration is given to changes to either the type or intensity of land use or to disposing of significant holdings of conservation lands, applicable agencies are encouraged to consult with the Counties and the local municipality prior to any such change occurring.

4.5.1 Built Heritage and Cultural Heritage Landscapes

a) Significant built heritage resources and significant cultural heritage landscapes will be conserved.
b) Local municipalities are encouraged to undertake the preparation of cultural plans in conserving cultural heritage resources.
c) The interests of Aboriginal communities will be considered in conserving cultural heritage.
d) Local municipal Official Plans will include policies that encourage Council to utilize its authority under the Ontario Heritage Act to designate individual properties under Part IV and heritage conservation districts under Part V that are of cultural heritage value or interest. Local municipal Official Plans may also include policies that encourage Council to list non-designated properties on the municipal register, to provide these properties with interim protection from demolition under the Ontario Heritage Act, including
f) A heritage impact assessment by a qualified professional will be required whenever significant cultural heritage resources may be impacted by a proposed development. Such an assessment will include recommendations regarding mitigation measures or alternative development approaches for how impacted cultural heritage resources

will be conserved. In the event that a development is likely to result in known impacts which can be addressed through recommended mitigation measures, as identified in existing management plans for cultural heritage resources such as the Rideau Canal, the local municipality will determine whether a heritage impact assessment is required.

j) Development and site alteration will not be permitted on adjacent lands to protected heritage properties except where proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the designated property will be conserved.

k) Development and site alteration will have consideration for the policies that address the natural, cultural, scenic and recreational values of the Rideau Canal, as presented in Parks Canada's Rideau Canal National Historic Site Management Plan, 2005 and Rideau Canal World Heritage Site Management Plan, 2005; the Principles for Good Waterfront Development along the Rideau Waterway; and the Landscape Character Assessment and Planning and Management Recommendations Report for the Rideau Corridor Landscape Strategy.

3.5 Summary of the Policy and Legislative Context of the Bridge

The Bridge is next to and crosses a World Heritage Site, National Historic Site of Canada, a Canadian Heritage River, and a significant cultural landscape. The Bridge is not a level one or two resource of the Rideau Canal but is part of the rural setting of Andrewsville. It has not been previously evaluated against the criteria of *O. Reg. 9/06*. Policies from municipal planning documents along with guidance from Parks Canada management documents, the S&Gs and the Burra Charter must guide planning decisions about the conservation of the Bridge.

4.0 HISTORIC CONTEXT

4.1 Indigenous Pre-Contact History

4.1.1 Paleo Period (9500-8000 BCE)

The cultural history of southern Ontario began around 11,000 years ago following the retreat of the Wisconsin glacier.[37] During this archaeological period, known as the Paleo period (9500-8000 BCE), the climate was like the present-day sub-arctic and vegetation was dominated by spruce and pine forests.[38] The initial occupants of the province had distinctive stone tools. They were nomadic big-game hunters (i.e., caribou, mastodon, and mammoth) who lived in small groups and travelled over vast areas, possibly migrating hundreds of kilometres in a single year.[39]

4.1.2 Archaic Period (8000-1000 BCE)

During the Archaic archaeological period (8000-1000 BCE), the occupants of southern Ontario continued their migratory lifestyles, although living in larger groups and transitioning towards a preference for smaller territories of land – possibly remaining within specific watersheds. People refined their stone tools during this period and developed polished or ground stone tool technologies. Evidence of long-distance trade has been found on archaeological sites from the Middle and Later Archaic times including items such as copper from Lake Superior, and marine shells from the Gulf of Mexico.[40]

4.1.3 Woodland Period (1000 BCE – 1650 CE)

The Woodland period in southern Ontario (1000 BCE – 1650 CE) represents a marked change in subsistence patterns, burial customs, and tool technologies, as well as the introduction of pottery making. The Woodland period is sub-divided into the Early Woodland (1000–400 BCE), Middle Woodland (400 BCE – CE 500) and Late Woodland (CE 500 - 1650).[41] The Early Woodland is defined by the introduction of clay pots which allowed for preservation and easier cooking.[42] During the Early and Middle Woodland, communities grew and were organized at a band level. Peoples continued to follow subsistence patterns focused on foraging and hunting.

Woodland populations transitioned from a foraging subsistence strategy towards a preference for agricultural village-based communities around during the Late Woodland. During this period people began cultivating maize in southern Ontario. The Late Woodland period is divided into three distinct stages: Early (CE 1000–1300); Middle (CE 1300–1400); and Late (CE 1400–1650).[43] The Late Woodland is generally characterised by an increased reliance on cultivation of domesticated crop plants, such as corn, squash, and beans, and a development of palisaded village sites which included more and larger longhouses. By the 1500s, Iroquoian communities in

[37] Christopher Ellis and D. Brian Deller, “Paleo-Indians,” in *The Archaeology of Southern Ontario to A.D. 1650*, ed. Christopher Ellis and Neal Ferris (London, ON: Ontario Archaeological Society, London Chapter, 1990), 37.
[38] EMCWTF, “Chapter 3: The First Nations,” in *Greening Our Watersheds: Revitalization Strategies for Etobicoke and Mimico Creeks* (Toronto: TRCA, 2002). http://www.trca.on.ca/dotAsset/37523.pdf.
[39] EMCWFT, “Chapter 3: The First Nations,” (Toronto: TRCA, 2002).
[40] EMCWFT, “Chapter 3: The First Nations,” (Toronto: TRCA, 2002).
[41] EMCWFT, “Chapter 3: The First Nations,” (Toronto: TRCA, 2002).
[42] EMCWFT, “Chapter 3: The First Nations,” (Toronto: TRCA, 2002).
[43] EMCWFT, “Chapter 3: The First Nations,” (Toronto: TRCA, 2002).

southern Ontario – and more widely across northeastern North America –organized themselves politically into tribal confederacies. Communities south of Lake Ontario at this time included the Haudenosaunee Confederacy, made up of the Mohawks, Oneidas, Cayugas, Senecas, Onondagas, and Tuscarora, and groups including the Anishinaabe and Neutral (Attiwandaron).[44]

4.2 Seventeenth- and Eighteenth-Century Historic Context (1600s and 1700s)

European powers claimed control of much of North America in the 18th century. French explorers and missionaries began arriving in southern Ontario during the first half of the 17th century.

Samuel de Champlain documented his numerous interactions with Indigenous peoples in the Ottawa Valley during visits in 1613 and 1615. As early as 1688, the Rideau River was marked on a French map as the "R. du Rideau". At the time, an extensive, complex network of trade existed with various culturally distinct peoples around the Ottawa Valley.[45]

A French mission was established near—modern day--Trenton and operated from 1668 to 1680. European contact and movement amongst Indigenous groups in the area led to significant changes to local settlement patterns. European explorers and missionaries brought with them diseases for which the Indigenous peoples had no immunity. Also contributing to the collapse and eventual dispersal of the Huron, Petun, and Attiwandaron was the movement of the Haudenosaunee Confederacy from south of Lake Ontario. Between 1649 and 1655, the Haudenosaunee Confederacy waged war on the Huron, Petun, and Attiwandaron, many of whom moved away from the north shore of Lake Ontario. In the eighteenth century, the Mississauga moved into areas around Lake Ontario and established trading posts with the French.[46]

The French occupied sections of Grenville County with explorers and fur traders passing through this area towards to Fort Frontenac (Kingston) to meet the Indigenous hunters and trappers. The French built a supply depot at La Galette (Johnstown) in the 1670s and a shipyard and star-shaped fort at Pointe au Baril (Maitland) in 1758, with the ships, the Outouaise and the Iroquoise, being built there. France and Britain were competing for control of the St. Lawrence River area and this broke out into a full-scale war in the 1750s. As the French troops were withdrawing to Quebec, they levelled the fortifications at Pointe au Baril so it would be of no use to the advancing British troops. Before long, the French decided to build new fortifications that would prevent attacks from the west, and they built a fort in 1759 on Isle Royale (Chimney Island) called Fort de Levis, where the last battle in North America between English and French troops took place in August 1760.[47]

[44] Six Nations Elected Council, "About," *Six Nations of the Grand River*, accessed March 5, 2022, https://www.sixnations.ca/about; University of Waterloo, "Land acknowledgment," *Faculty Association*, accessed March 5, 2022, https://uwaterloo.ca/faculty-association/about/land-acknowledgement; Six Nations Tourism, "History," accessed March 5, 2022, https://www.sixnationstourism.ca/history/.
[45] William Fox and Jean-Luc Pilon "St. Charles or Dovetail" 2015: 17.
[46] Mississaugas of the Credit First Nation, "Community Profile," *Mississaugas of the New Credit First Nation*, accessed March 5, 2022, http://mncfn.ca/about-mncfn/community-profile/#:~:text=Origin%3A,the%20years%201634%20and%201635.%E2%80%9D.; Mississaugas of Scugog Island First Nation, "Origin & History," accessed 12 May 2022, https://www.scugogfirstnation.com/Public/Origin-and-History.
[47] "Grenville County History", Grenville County Archives, accessed 10 May 2022, http://www.grenvillecountyarchives.ca/history.html

The Treaty of Paris concluding the Seven Years War (1756-1763) transferred control of New France to Great Britain. The *British Royal Proclamation* (1763) defined the British boundaries of the Province of Quebec and represents early British administrative control over territories in what would become Canada. The boundaries were defined as extending from the Gaspe to a line just west of the Ottawa River.[48] In 1774, British Parliament passed the *Quebec Act* extending the boundaries into what is now Ontario south of the Arctic watershed and including land that would become much of Ontario and several midwestern states in the United States.[49] Loyalists to the British who left the United States following the American Revolution (1775-1783) put pressure on the British administration in the remaining British North American colonies to open land for more settlement. The Crown rushed to purchase land and signed Treaties with local Indigenous groups.

In 1788, the administration of the colony divided what would become southern and eastern Ontario into four political districts: Lunenburg, Mecklenburg, Nassau, and Hesse. The districts were renamed the Eastern, Midland, Home, and Western Districts, respectively in 1791 when the Province of Upper Canada was formed.[50] The Bridge is in part of what was Lunenburg District, followed by Eastern District.

4.3 Crawford Purchase

In 1783, Captain William Redford Crawford was assigned to conduct negotiations with the Mississaugas for the land along the north shore of eastern Lake Ontario and the St. Lawrence River.[51] An agreement was made where the Mississaugas ceded their land to the Crown in exchange for clothing and weapons; however, no copies of this deed survive, only Crawford's letters to his superiors. This was less a treaty and more a one-time transaction. However, some of the land covered by the Crawford Purchase was claimed by the Algonquins who did not participate in the agreement. This created a source of conflict that still has not been resolved.[52]

4.4 Survey and Early Euro-Canadian Settlement

The first survey of Montague Township took place in 1774, by William Fortune and was completed by John Stegemann in 1797 (see Figure 3).[53] The first survey of Wolford Township took place in 1795. The first road (known as the Lower Road) was slashed through the

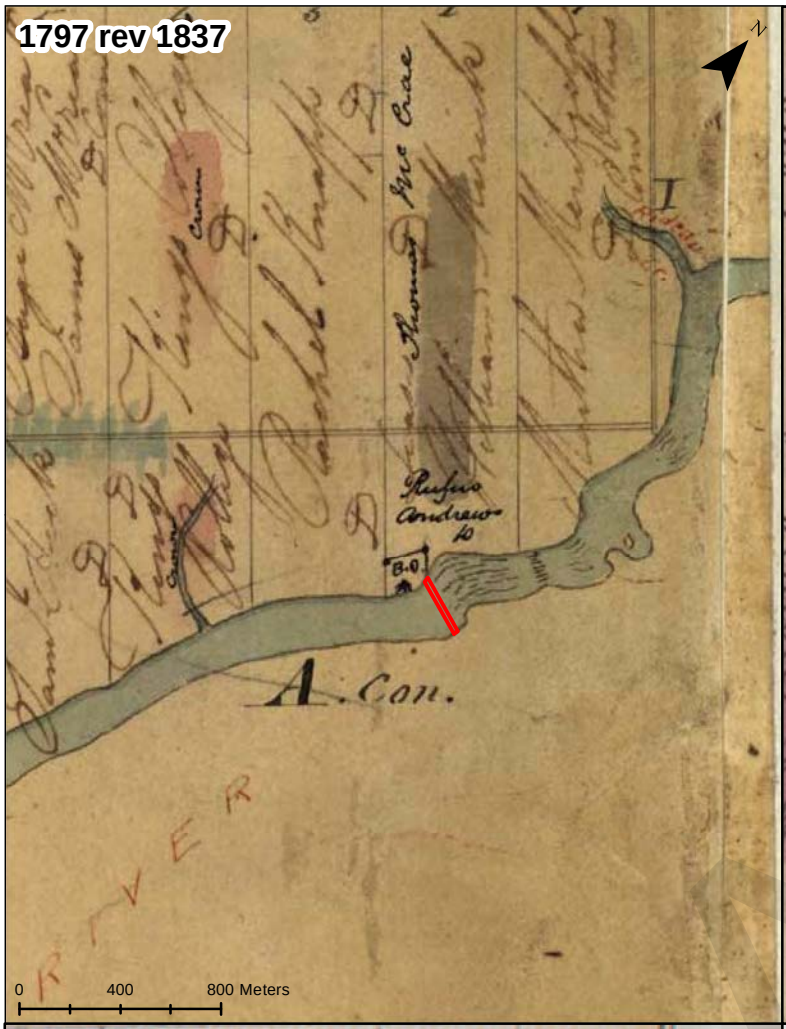
[48] White, Randall. 1985. *Ontario 1610-1985 a political and economic history*. Dundurn Press Limited. Toronto ON. p.51
[49] Ibid, p.51 and Archives of Ontario. 2015a. The Changing Shape of Ontario, The Evolution of Ontario's Boundaries 1774-1912. [online] Accessed at: http://www.archives.gov.on.ca/en/maps/ontario-boundaries.aspx
[50] Archives of Ontario. The Changing Shape of Ontario, Early Districts and Counties 1788-1899. [online] Accessed at: http://www.archives.gov.on.ca/en/maps/ontario-districts.aspx.
[51] Government of Ontario, "Map of Ontario Treaties and Reserves," accessed 13 April 2022, https://www.ontario.ca/page/map-ontario-treaties-and-reserves#t2.
[52] David Shanahan, "Land for Goods: The Crawford Purchases," last updated 8 November 2018, accessed 13 April 2022, http://anishinabeknews.ca/2018/11/08/land-for-goods-the-crawford-purchases/.; John Boileau, "Crawford Purchases," last updated 16 January 2021, accessed 13 April 2022, https://www.thecanadianencyclopedia.ca/en/article/crawford-purchase.
[53] Jean S. McGill, "A Pioneer History of the County of Lanark", 1968, 1

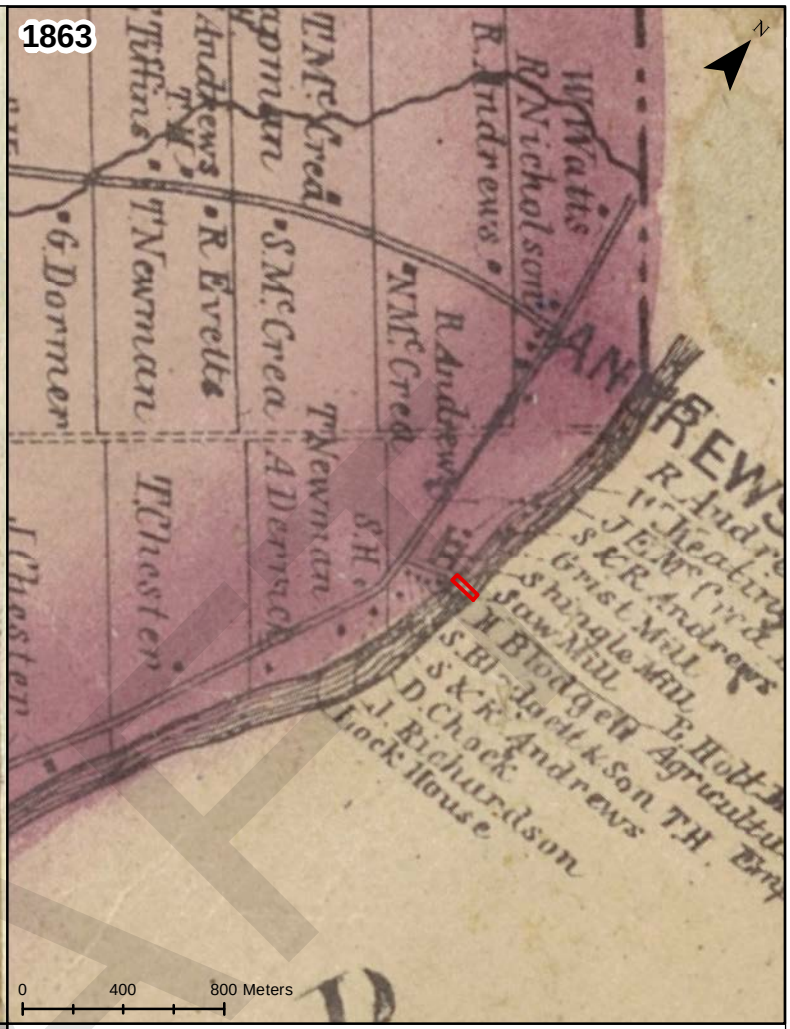
wilderness from Prescott, north into Oxford Township reaching the Rideau River at Burritts Rapids in 1792.[54]

The first recorded Euro-Canadian settler in the Andrewsville area was Robert Nicholson, a United Empire Loyalist from Albany, New York who first who first settled along the St. Lawrence River in Augusta Township in 1784. After 10 or 11 years, he moved to the north shore of the Rideau River above Burritt's Rapids. Nicholson served with the Corps of Loyal Rangers (Jessup's Corps) in the American Revolution and may have been influenced to settle there by the fact that another member of Jessup's Corps, Lt. Gershom French, had surveyed the Rideau River in 1783 and had reported the area favourable for settlement.[55] Other early settlers in the Township included the McCrea family who were United Empire Loyalists from Ballston, New York and Roger Stevens of Vermont whom cleared land on Lots 1, 2, and 3 fronting the Rideau River in Montague Township in 1790.[56] By 1802, there were 90 inhabitants in Montague Township and 165 inhabitants in Wolford Township.[57]

In 1800, the counties of Leeds, Grenville, and Carleton were consolidated into the Johnstown District. The Bathurst District, which contained Lanark County, was created in 1822. In 1838, the boundaries of the Bathurst District and the Johnstown District were changed to be along the course of the Rideau River. By 1849, the Johnstown District comprised only the Counties of Leeds and Grenville. Throughout the 1840s, the Townships of Oxford, Wolford, Marlborough, and Montague were originally considered as one township for municipal purposes and had one Council. Montague Township transferred from the Johnstown District to the Bathurst District in 1842 and became part of Lanark County. With the abolishment of districts in 1849, the Johnstown District became the United Counties of Leeds and Grenville.[58]

[54] Marsha H. Snyder, "Nineteenth Century Industrial Development in the Rideau Corridor: A Preliminary Report, Manuscript Report 215, National Historic Parks and Sites Branch & Parks Canada, April 1977, 29, accessed 11 May 2022, http://parkscanadahistory.com/series/mrs/215.pdf
[55] Ken W. Watson, "A History of the Rideau Lockstations", 1996-2022, accessed at http://www.rideau-info.com/canal/history/locks/h18-19-nicholsons.html
[56] Marsha H. Snyder, "Nineteenth Century Industrial Development in the Rideau Corridor: A Preliminary Report, Manuscript Report 215, National Historic Parks and Sites Branch & Parks Canada, April 1977, 28, accessed 11 May 2022, http://parkscanadahistory.com/series/mrs/215.pdf
[57] Richard Tatley, "Industries and Industrialists of Merrickville, 1792-1979", Manuscript Report 423, National Historic Parks and Sites Branch & Parks Canada, 1979, 2-3, accessed 11 May 2022, http://www.parkscanadahistory.com/series/mrs/423.pdf
[58] Keith Thompson, "Lanark County: History & Maps", May 2002, accessed 9 May 2022, https://sites.rootsweb.com/~onlanark/history.htm





Legend

Andrewsville Bridge

TITLE
1837, 1863, and 1879 Historic Maps showing Andrewsville Bridge

CLIENT
Jewell Engineering

PROJECT
Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON

PROJECT NO. LHC0295

NOTE(S) 1. All locations are approximate.

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CONSULTANT
LHC

YYYY-MM-DD	2022-05-18
PREPARED	LHC
DESIGNED	JG
FIGURE #	3

4.5 Andrewsville

After establishing a mill at Merrickville with Roger Stevens, William Merrick had attempted to establish a gristmill at Nicholsons Rapids in November 1795 and in June 1797, specifically seeking Lots 1 and 2 (400 acres combined) between Montague and Wolford Townships but instead received the land at another location (see Figure 3).[59] Merrick requested to lease those lots in 1799 at the same time when other settlers including David Nettleton, William Leaky, Rice Honeywell, and John Butterfield had petitioned. In August 1801, the Land Board attempted to settle the matter, but Merrick appealed in 1804 and it was noted that these lands on both sides of the Rideau River were reserved for Clergy and for the Crown. By 1826, an unfinished mill frame had been constructed but it was dismantled for the Rideau Canal works.[60] In an 1831 annual report justifying Rideau Canal expenses, Colonel By suggested the construction of a Defensible Lockmaster's House for defense and lodging for the Lockmaster and the permanent labourers.[61] An 1836 drawing accompanied the estimate of expenses for 1837-1838, showing the location of the Upper Nicholsons Lockstation and the proposed location of the Defensible Lockmaster's House[62] (see Figure 4).

In 1847, the first Crown Patent for Lot 2, Concession A of Montague Township (68 acres) was deeded to Rufus Andrews (1808-1879) at no charge through the Clergy Reserves Scheme which made land available to Protestant Loyalist settlers.[63] Rufus and his brothers, Silas (1805-1884) and Russell (1814-1904), were the sons of Hezekiah Andrews (1777-1857), a United Empire Loyalist from Connecticut, who settled in North Gower.[64]

The former village of Andrewsville, on the west bank of the Rideau River across from Upper Nicholsons Lockstation, was founded by Rufus and Silas Andrews in the 1840s when they built a shingle mill. In 1855, a petition was submitted to the Township Council regarding the bad road "*from the mills at Andrewsville to the Burritt's Rapids-Merrickville Road*."[65]

In 1861, the Andrews brothers constructed a grist mill with the capability of grinding five hundred bushels of wheat per day. They sold the entire milling operation to Benjamin and Thomas Cook, two Ontario-born millers from nearby Kemptville. Since Andrewsville was located adjacent to the Upper and Lower Nicholson Lockstations where there an abundant source of waterpower, its industries grew rapidly and the village was colloquially known as "The Flats".[66] An 1863 map of Lanark and Renfrew Counties illustrates the growth of Andrewsville and notes prominent milling businesses and residents (see Figure 3). An 1879 map of Montague Township illustrates the

[59] Upper Canada Land Petitions (1763-1865), 205131, c-2192, 557-560. 59
[60] Richard Tatley, "Industries and Industrialists of Merrickville, 1792-1979", Manuscript Report 423, National Historic Parks and Sites Branch & Parks Canada, 1979, 46, accessed 11 May 2022, http://www.parkscanadahistory.com/series/mrs/423.pdf
[61] Rideau Canal Preliminary Site Study Series No.13 Nicholson's Locks/Clowe's Lock. Parks Canada, November 1976, 14.
[62] Rideau Canal Preliminary Site Study Series No.13 Nicholson's Locks/Clowe's Lock. Parks Canada, November 1976, 14.
[63] LRO 27 (Lanark), Montague, Book 0, Concession A to B, 16.
[64] "Hezekiah Andrews", Find-A-Grave, accessed 20 May 2022, https://www.findagrave.com/memorial/101571359/hezekiah-andrews
[65] Rideau Canal Preliminary Site Study Series No.13 Nicholson's Locks/Clowe's Lock. Parks Canada, November 1976, 9.
[66] L.H. Newman, "Andrewsville and Some Adjacent Properties", 1967.

expansion of the Andrewsville village street grid and the road over the Rideau Waterway is visible (see Figure 3). By 1880, the population of Andrewsville increased to two hundred residents and increased milling activities. In the same year, the Andrews built a sawmill which changed ownership several times until 1899, when it became the property of Alonzo Bowen of the Kemptville Milling Co. This company modified the sawmill and converted it into a hydroelectric power generating station which supplied the village of Kemptville. In addition to the Cook mills, there was a carding mill and a second sawmill, a general store, a blacksmith shop. The post office was established in 1890. The community had acquired a public school and telephone service by 1895.[67]

By the late 1890s, the population of Andrewsville had dropped to around seventy-five. Topographic maps dating to 1908, 1926, and 1940 illustrate the rapid decline of Andrewsville (see Figure 5). Like many similar mill towns, Andrewsville was bypassed by the railways. Without transportation, Andrewsville's industries declined as the mills and the post office were closed in 1912.[68] The grist mill was demolished in 1917, the millstones were donated to Upper Canada Village, and the sawmill was destroyed by flooding in 1930.[69] The concrete piers of the mill dam remain visible in the riverbed.

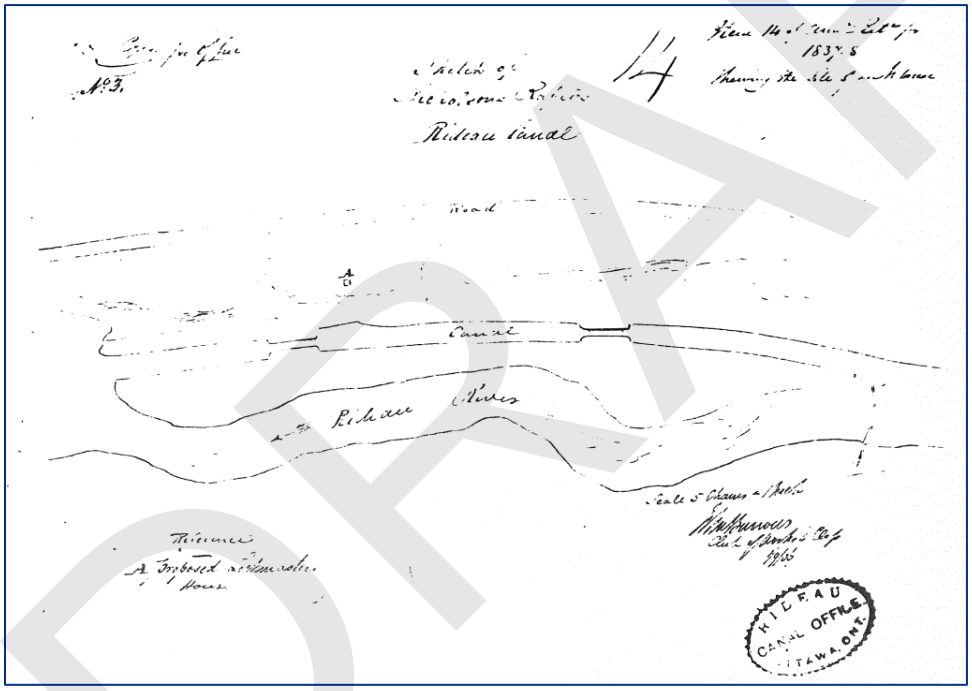
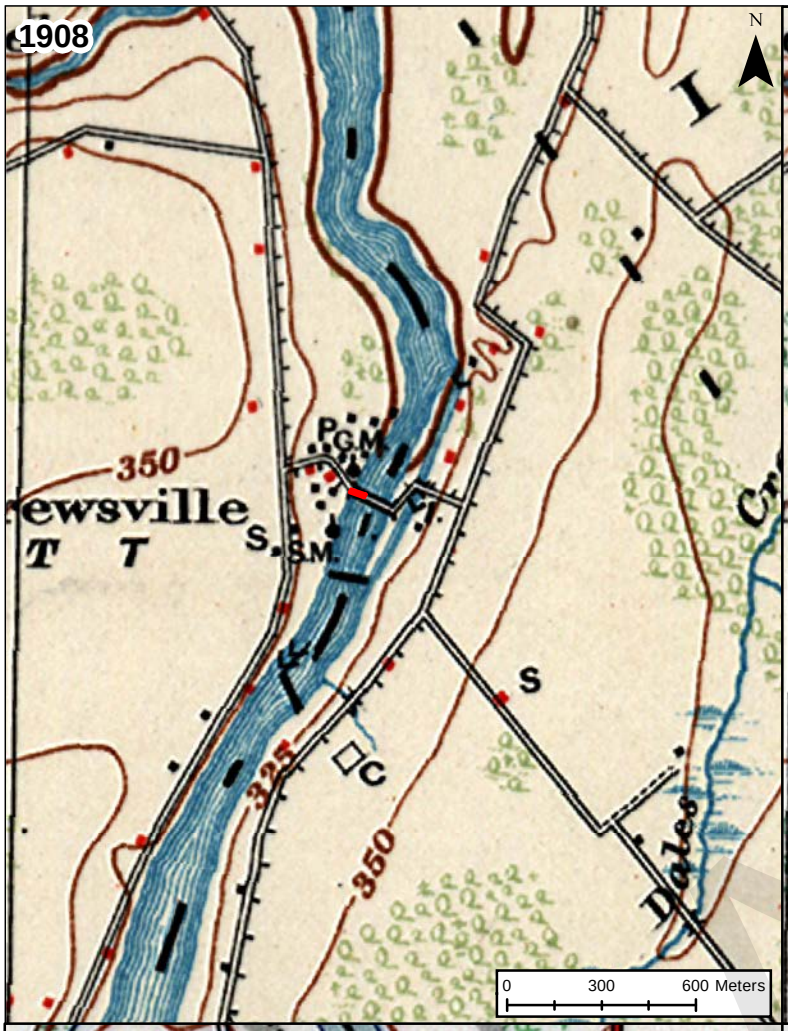
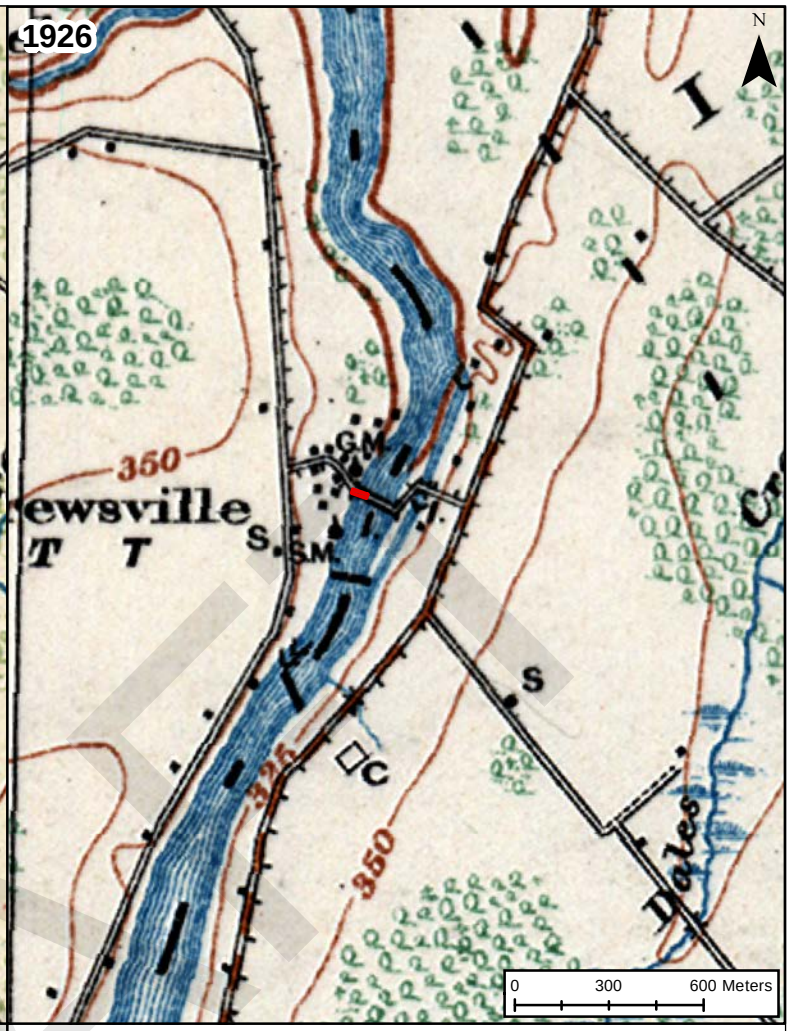
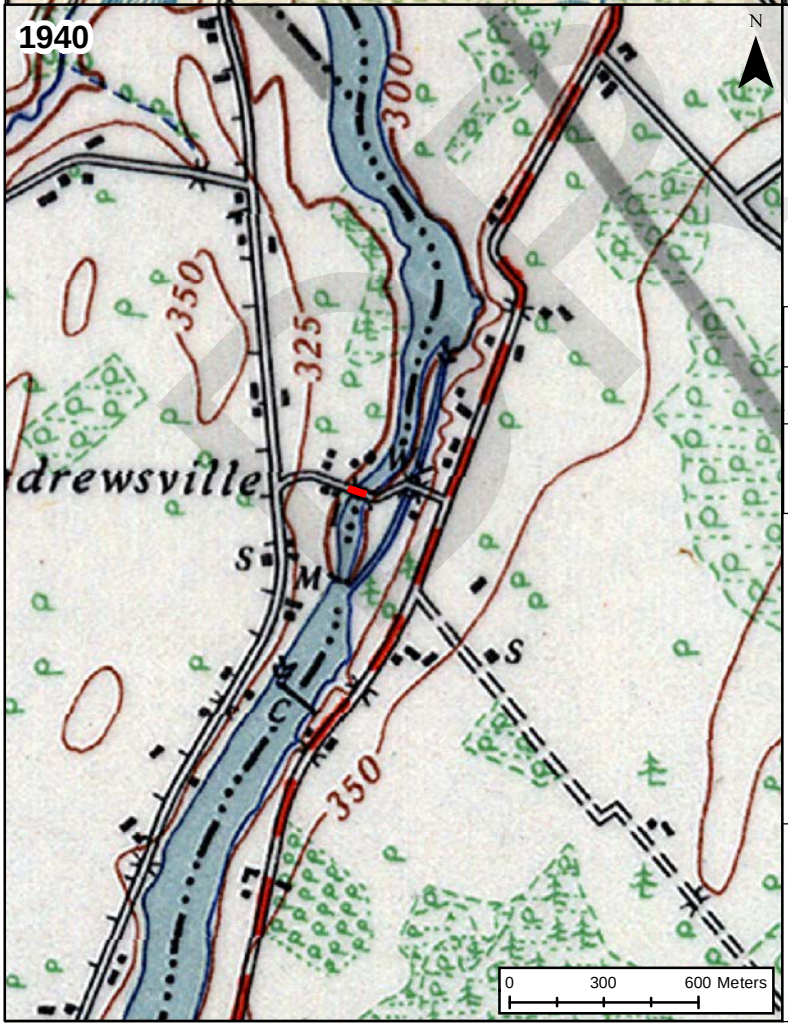


Figure 4: Plan Showing the Proposed Blockhouse at Nicholson's Lockstation, 1836.[70]

[67] L.H. Newman, "Andrewsville and Some Adjacent Properties", 1967.
[68] Jeri Danyleyko, "Andrewsville", Ontario Ghost Towns, 15 January 2015, Accessed 5 May 2022, https://www.ghosttownpix.com/ontario/towns/andrewsv.html
[69] Marsha H. Snyder, "Nineteenth Century Industrial Development in the Rideau Corridor: A Preliminary Report, Manuscript Report 215, National Historic Parks and Sites Branch & Parks Canada, April 1977, 52, accessed 11 May 2022, http://parkscanadahistory.com/series/mrs/215.pdf
[70] Rideau Canal Preliminary Site Study Series No.13 Nicholson's Locks/Clowe's Lock, Parks Canada, November 1976, 22. Note: sketched by John Burrows.







Legend

Andrewsville Bridge

TITLE
1908, 1926, and 1940 Topographic Maps showing Andrewsville Bridge

CLIENT
Jewell Engineering

PROJECT
Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON

PROJECT NO. LHC0295

NOTE(S) 1. All locations are approximate.

REFERENCE(S)

1. Department of Militia and Defence Topographical Section, General Staff No. 2197, "Topographic Map, Ontario, Merrickville Sheet", (http://geo2.scholarsportal.info/#r/discovery/show: accessed May 18, 2022), digitized map, Scholars Portal, Ontario Council of University Libraries Toronto Ontario, Canada, sheet 31 B/13, scale 1:63,360, Ottawa: Department of Mines, 1908.
2. Department of National Defence Geographical Section, General Staff, "Topographic Map, Ontario, Merrickville Sheet", (http://geo2.scholarsportal.info/#r/discovery/show: accessed May 18, 2022), digitized map, Scholars Portal, Ontario Council of University Libraries Toronto Ontario, Canada, sheet 31 B/13, scale 1:63,360, Ottawa: Department of Mines, 1926.
3. Department of National Defence Geographical Section, General Staff, "Merickville, Ontario", (http://geo2.scholarsportal.info/#r/discovery/show: accessed May 18, 2022), digitized map, Scholars Portal, Ontario Council of University Libraries Toronto Ontario, Canada, sheet 31 B/13, scale 1:63,360, Ottawa: Department of Mines and Resources, 1940.

CONSULTANT
LHC

YYYY-MM-DD	2022-05-18
PREPARED	LHC
DESIGNED	JG
FIGURE #	5

4.6 Rideau Canal

The Rideau Canal was constructed following the American Revolution and War of 1812 to create a second safer route from Montreal to the Great Lakes, which could not be cut off like the St. Lawrence.[71] This route was an important transport link between the Great Lakes and Upper Canada running from Montreal to Kingston.[72] Work on the 202-km Canal began in 1827 and was completed in 1832.[73] It served as a main commercial artery for passage through the area until the First World War when commercial use began to cease.[74] The Canal is now used as a recreational route.[75]

4.7 Bridge History

The earliest recorded timber bridges on the Rideau River were fixed bridges and four moveable rolling bridges utilized before 1843 during and pre-dating the construction of the Canal.[76] The first bridge over the Rideau River is presumed to have been erected before 1816, being shown on Lt. Joshua Jebb's map, crossing the river at "Chesters", located approximately one kilometre north of Merrickville (see Figure 6). The second bridge was constructed at Burittts Rapids in 1824.[77] At Andrewsville, the earliest recorded wooden footbridges were noted in the c.1840 watercolour painting of Nicholson's Rapids by William Clegg and in a c.1849 land acquisition plan (see Figure 7 and Figure 8). From the land acquisition plan, it is evident that portions of Lot 2, Concession A, Montague Township; Lot 1, Lot 2, and Lot 3, Concession B of Wolford Township were acquired for the servicing of the Rideau Canal.

Rufus Andrews built a sturdier fixed timber bridge across the Rideau River in 1864[78] approximately one hundred metres south of the original location of the footbridge marked on the 1849 plan and seen in the 1840 watercolour. An engraving from 1879 and a photograph from 1895 shows the fixed timber bridge across from the Andrews' mill (see Figure 9 and Figure 10). Andrews also built a swing bridge across Upper Nicholsons Lockstation which was replaced in 1877 by an unequal arm, center bearing timber swing bridge (of the same design of a 1970s replica which currently exists at the Lockstation).[79] By 1888, a new bridge was needed, and the Reeve and Vice-Reeve of Montague Township were appointed to compel Lanark County Council to construct the bridge.[80]

[71] Parks Canada, "History and Culture," Rideau Canal National Historic Site, January 5, 2021, https://www.pc.gc.ca/en/lhn-nhs/on/rideau/histoire-history
[72] Parks Canada, "History and Culture," 2021.
[73] Parks Canada, "History and Culture," 2021.
[74] Parks Canada, "History and Culture," 2021.
[75] Parks Canada, "History and Culture," 2021.
[76] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", Manuscript Report 212, National Historic Parks and Sites Branch & Parks Canada, 1976, 2, accessed 10 May 2022, http://parkscanadahistory.com/series/mrs/212rev.pdf
[77] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report",1976, 29.
[78] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report",1976, 28.
[79] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report",1976, 29.
[80] Glenn J. Lockwood, "Montague: A Social History of an Irish Township 1783-1980, Township of Montague, ON, 1980, 368.

In December 1901, a committee of Lanark County Council recommended that the timber fixed bridge be rebuilt.[81] By June 1903, the timber fixed bridge was deemed to be unsafe and in poor condition. A delegation from the Council of the United Counties of Leeds & Grenville was sent to speak with the Minister of Railways and Canals on the bridge's conditions.[82] In August 1903, construction tenders for a new bridge were received; three bids for a wooden bridge, and a single bid for a steel bridge. The bid for a steel through-truss bridge designed by Smith Falls architect George T. Martin (one span, 125 feet by 16 feet, concrete piers) was accepted for $3,800.[83] In February 1904, the Dominion Bridge Company completed and opened the bridge for traffic.[84]

Due to heavy ice during March and April 1904, the government dam at Poonamalie and parts of Bowen's hydroelectric power station dam were breached. The resulting flood waters washed out the east abutment of the Andrewsville bridge, causing approximately $200 in damages as the south pier of the bridge and around twenty feet of the stone wall abutment were destroyed and the bridge plunged into the water (see Figure 11 and Figure 12).[85] Timber and iron materials were carted from Merrickville as the bridge was repaired at a cost of approximately $1,500 in summer 1904 with architect George T. Martin overseeing the reconstruction.[86]

Maintenance records indicate that the bridge was repaired in 1944 (rebuilding of the floor system and repainting)[87], in 1963 (when the timber deck was replaced in-kind with creosote-treated jack pine timbers), 1983, 2008, and 2019.[88] Traffic signs limiting loads to a 5-ton load restriction were installed in 1952.[89] In 1976, historical research undertaken by Robert W. Passfield (Parks Canada historian) identified and documented the Andrewsville Bridge and the Upper Nicholsons Lockstation swing bridge as historic bridges over the Rideau Waterway (see Figure 13 and Figure 14). In 2013, clearance portals were installed at both approaches to restrict vehicles with a height more than 2.4 m from driving onto the bridge.[90]

[81] Canadian Contract Record, Vol. 12, No. 44, Toronto: C.H. Mortimer, 1901, 2, accessed 9 May 2022, https://www.canadiana.ca/view/oocihm.8_06062_618/2
[82] Minutes of the Council United Counties of Leeds & Grenville, November 1903, 401.
[83] Minutes of the Council United Counties of Leeds & Grenville, November 1903, 432.
[84] Minutes of the Council United Counties of Leeds & Grenville, January 1904, 459.
[85] Minutes of the Council United Counties of Leeds & Grenville, June 1904, 512.
[86] Minutes of the Council United Counties of Leeds & Grenville, June 1904, 512.
[87] County of Lanark, Lanark County Highway Committee, 6 September 1944, 3.
[88] County of Lanark, Andrewsville Bridge: Options for the Future (#PW-06-2012), Public Works Committee, 11 January, 2012, 2.
[89] County of Lanark, Lanark County Highway Committee, 20 May 1952, 1-2.
[90] OSIM Inspection Report, 2019.

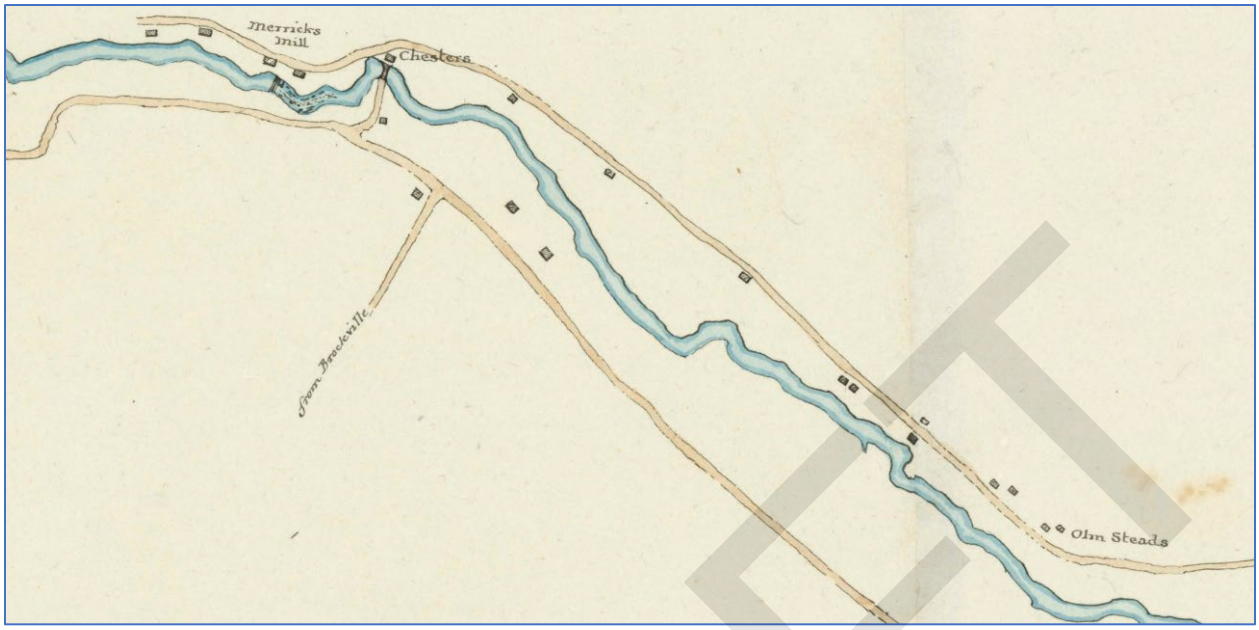


Figure 6: Jebb's Survey of the Rideau River, 1816.[91]

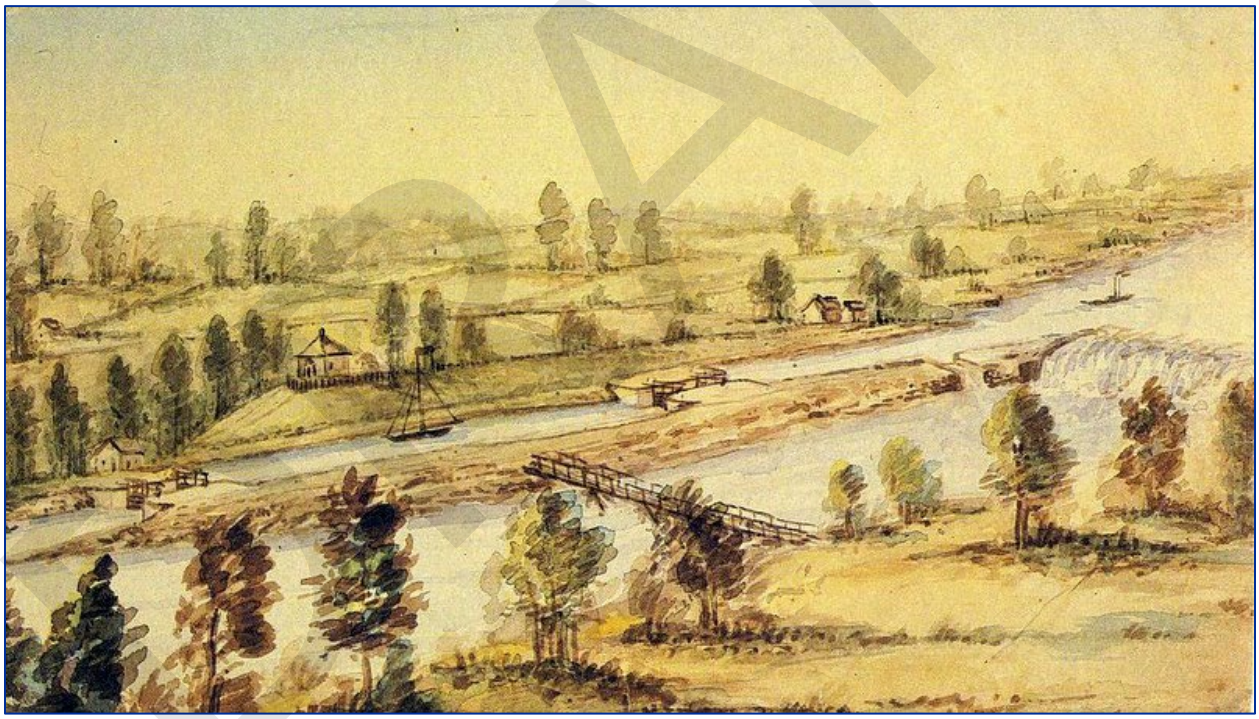


Figure 7: Watercolour painting of Nicholson's Rapids, canal, and timber bridges, c.1840.[92]

[91] Plan of the water communication from Kingston to the Grand River [cartographic material], R2513-526-0-E, Library and Archives Canada, 8 July 1816. Note: Showing the Merrickville/Andrewsville area.
[92] Archives of Ontario, C 232, I0021023, William T. Clegg fonds, [online]. Accessed at http://ao.minisisinc.com/SCRIPTS/MWIMAIN.DLL/218026015/1/14/21176?RECORD&DATABASE=IMAGES_WEB_ADD

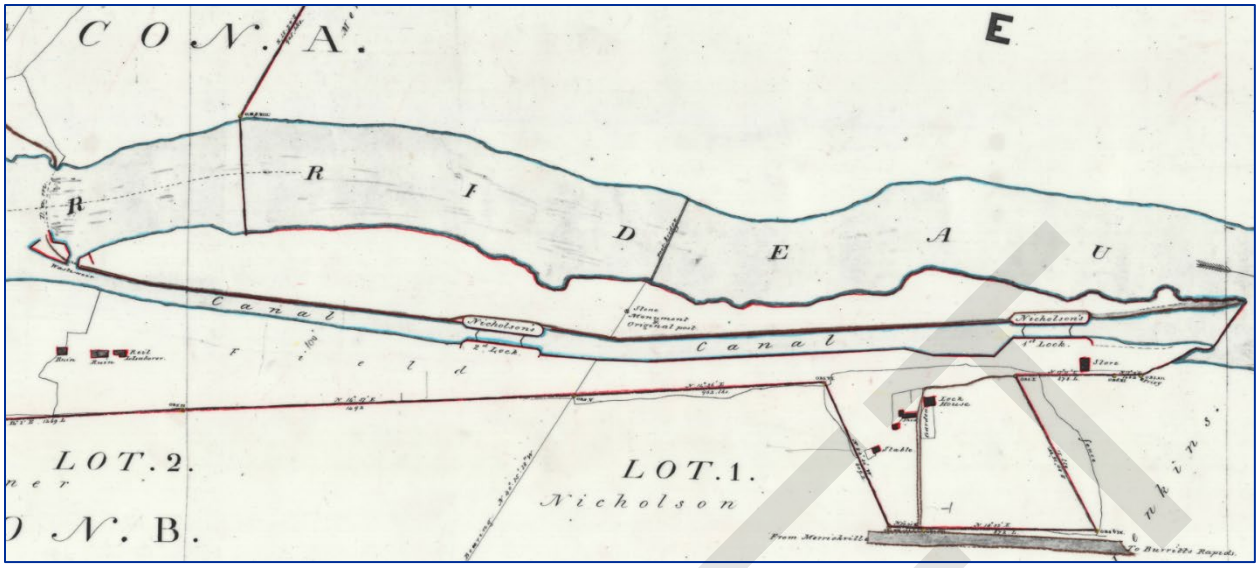


Figure 8: Plan Showing Land Required for Service of the Canal, 1849.[93]

[93] Land required for service of the Rideau Canal at Nicholson's and Clow's Lock Station / John A. Snow, P.L.A, Library and Archives Canada, RG84M 77803/9, Accession number: 77803/9 CA, RG84M 77803/9, 1849. Note: existence of a footbridge across the Rideau River.

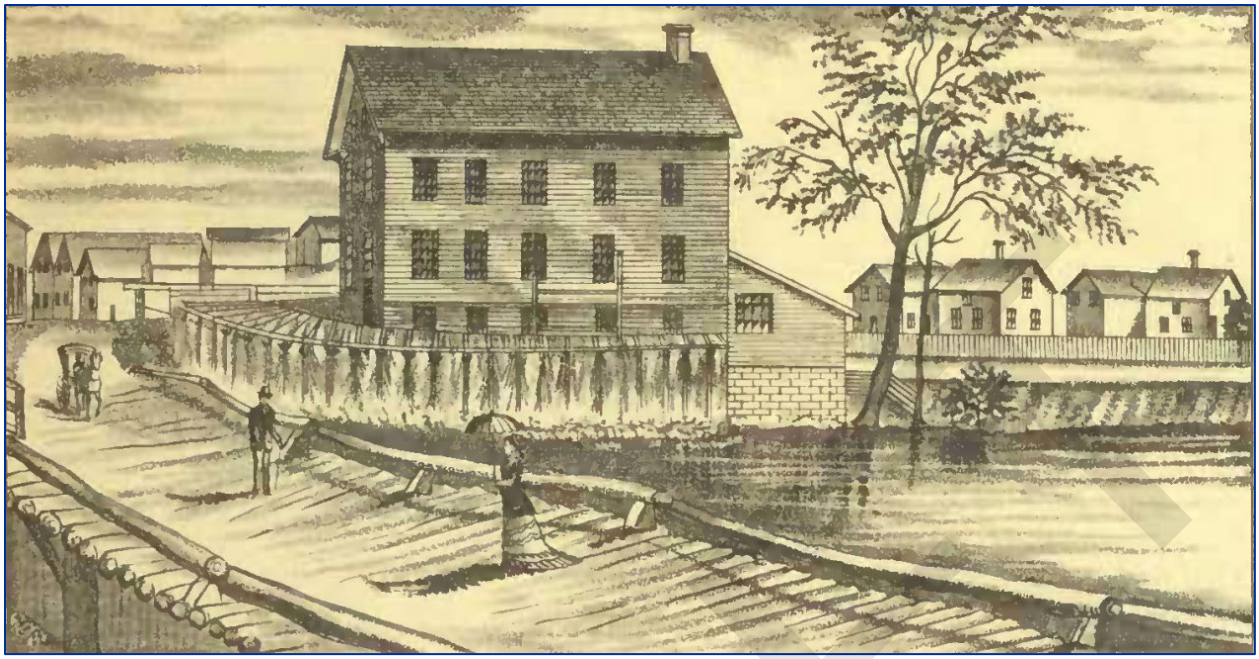


Figure 9: Engraving of Andrews Mill and fixed timber bridge, 1879.[94]

Figure 10: Photo of Andrews Mill, 1895.[95]

[94] Thad. W.H. Leavitt, "History of Leeds & Grenville Ontario, From 1749 to 1879", Brockville: ON, Recorder Press, 136.
[95] Rideau Canal Preliminary Site Study Series No.13 Nicholson's Locks/Clowe's Lock, Parks Canada, November 1976, 25. Note: taken by Col. Hassall, Merrickville.

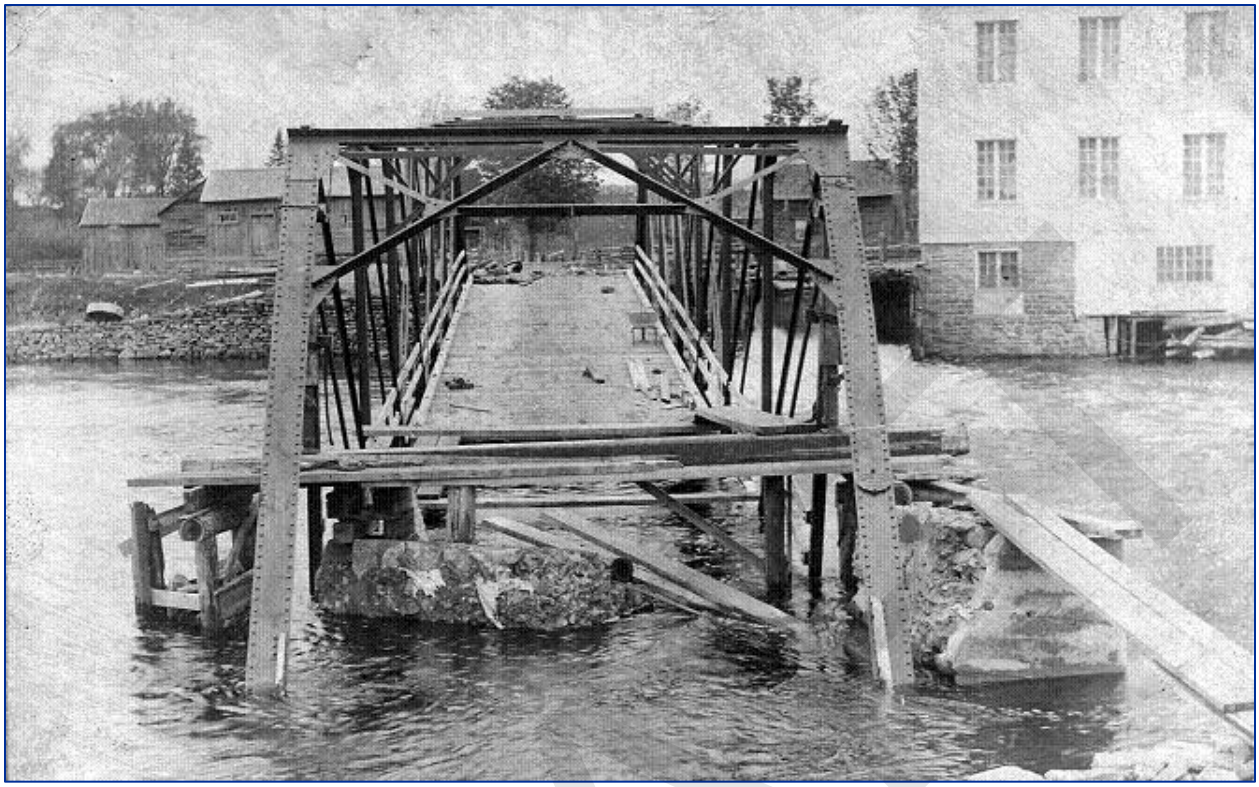


Figure 11: Photo of the damaged Andrewsville Bridge, 1904.[96]

[96] "Andrewsville Bridge", HistoricBridges.org, accessed 11 May 2022, https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/andrewsville/

Figure 12: Photo of the damaged Andrewsville Bridge, 1904.[97]

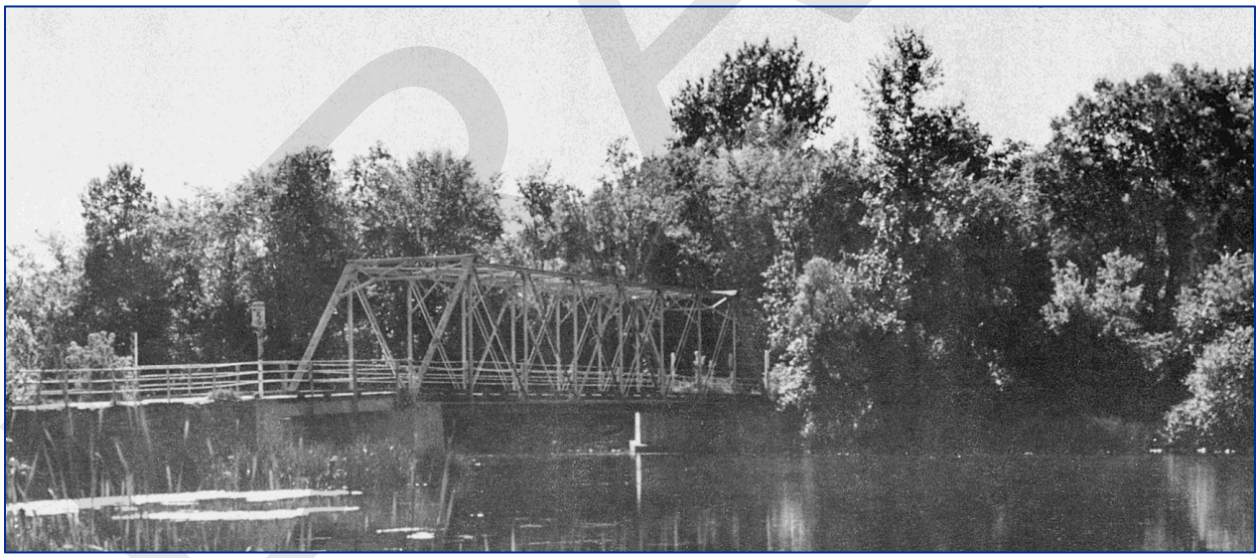


Figure 13: Photo of Andrewsville Bridge, 1976.[98]

[97] "Walking Tour of Nicholsons Locks and Vicinity", Ontario Trails Council, May 2010, https://www.ontariotrails.on.ca/assets/files/pdf/trails/Nicholsons%20Locks%20BrochureFinal.doc. Note: Taken by A.L. Phillips, Library and Archives Canada.
[98] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", Manuscript Report 212, National Historic Parks and Sites Branch & Parks Canada, 1976, 113, accessed 10 May 2022, http://parkscanadahistory.com/series/mrs/212rev.pdf

Figure 14: Photo of the swing bridge at Upper Nicholsons Lockstation, 1976.[99]

[99] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", Manuscript Report 212, National Historic Parks and Sites Branch & Parks Canada, 1976, 55, accessed 10 May 2022, http://parkscanadahistory.com/series/mrs/212rev.pdf

4.8 Steel Truss Bridges and Pratt Truss Bridges in Ontario

The earliest bridges in North America were built of wood and stone but over time technological improvements and economic factors led to the use of iron and steel, then later concrete, for bridge construction.[100] The earliest bridges were often constructed by local builders but over time, toward the end of the 19th century, bridge design had become the responsibility of civil engineers and specialized bridge building companies, as it does today.[101]

Engineering developments in bridge design and materials was often linked to developments in the railway industry. Railway bridge technology was later transferred to road bridges. Wood was the dominant material for bridge building in the early part of the 19th century. By the 1850s wrought iron was more common and was used through the 1870s.[102] In the 1880s steel produced in the United States and exported to Ontario began to replace wrought iron as the material of choice for bridges.[103] After the 1930s concrete bridges largely replaced steel bridge designs on roads in many places although steel and timber continued to be used. Glued-Laminated (Glulam) timber has been successfully used as a structural material in Europe since the late 1800s, and in the United States, it has been used in buildings since approximately 1935 and in highway bridges since 1942.[104] It consists of selected and prepared layers of lumber that are bonded on their wide faces with waterproof structural adhesive. Examples of this type of bridge include the Keystone Wye bridges in South Dakota, Golden Bridge in British Columbia, and the Roger Bacon Bridge in Nova Scotia.[105]

Truss frame bridges were developed because they used materials efficiently and were able to distribute large loads through their network of beams arranged in triangle patterns. Trusses were originally developed for wood. With advances in iron and steel material technology these new materials were found to be very suitable for truss bridge design.[106] Truss bridges were often selected from a catalogue (see Figure 15). A community or railroad company requiring a bridge chose a basic design and a bridge company would design the specific bridge, fabricate the pieces, and ship the pieces to the location for assembly.[107]

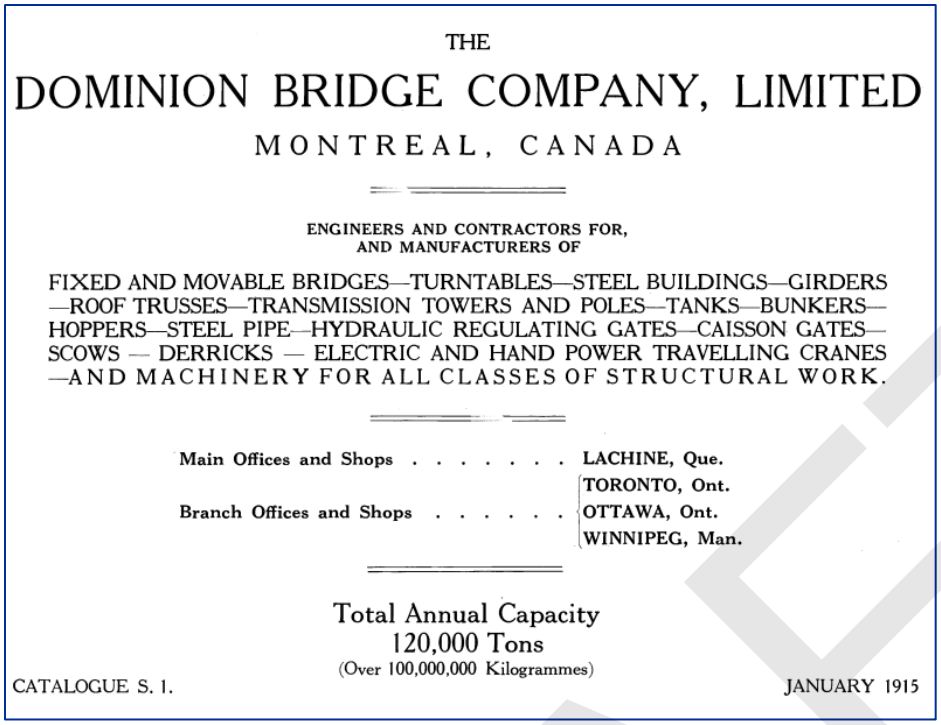
Older truss bridges were generally held together with pins. Truss bridges were prefabricated and connected together on site at panel points using pins that passed through punched holes, pin plates or eyes.[108] The pin connections were easy and quick to assemble but were prone to loosening from vibration caused by heavily loaded vehicles.[109]

[100] Cuming, David, “Discovering Heritage Bridges on Ontario’s Roads, 1984, 18.
[101] Cuming, 1984, 24.
[102] Cuming, 1984, 38.
[103] Cuming, 1984, 41-43.
[104] Michael Ritter, et al, *Innovations in Glulam Timber Bridge Design*, Structures Congress 12: Proceedings of Structures Congress ’94; 1994 April 24-28; Atlanta, GA. New York: American Society of Civil Engineers; 1994, 1298.
[105] Christopher Legg & Dan Tingley, “Timber Best Practices and the State of the Industry in Atlantic Canada”, Wood Research and Development, 15 December 2020, accessed 24 May 2022, https://wood-works.ca/wp-content/uploads/2020/12/Timber-Bridge-Industry.pdf
[106] Holth, 2006.
[107] Parsons Brinkerhoff and Engineering and Industrial Heritage 2005: 2-18.
[108] Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16
[109] Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16

The first hydraulic riveting machine was invented in 1865 by Ralph Hart Tweddell.[110] The early hydraulic rivet machines were large and their use in the field was limited until smaller, portable pneumatic machines were developed in the 1880s and 1890s.[111] In 1898, Joseph Boyer invented a pneumatic riveting hammer that could be used by a single person. This made rivet connected bridges easier to build.[112] Riveted truss bridges connected the members (chords, verticals, diagonals, end posts etc.) to gusset plates at the panel corner points. The arrangement of the steel members was determined by the type of bridge that was built.[113] In the 1870s in Ontario, the tied-arch or bowstring truss was one of the early preferred designs for metal bridges but by the 1880s pin-connected Pratt and Warren truss bridges were common.[114]

The Pratt Truss was developed and patented in 1844 by Caleb and Thomas Willis Pratt. It became a common pin-connected design for bridges in Ontario from the late 1870s to the 1920s.[115] In appearance, this truss conformed closely to the standard Howe truss, but the action of the web members was exactly reversed. The diagonals were in tension and constructed of wrought iron, and the vertical members were in compression and were of wood or cast iron. Eventually wood and iron were replaced with steel. The superiority of the Pratt truss consisted of having the vertical members in compression rather than the diagonals which were more susceptible to buckling in wide panels. The Pratt Truss was simplified as advances were made in calculating stresses, so that by 1860, the diagonals were reduced to single members in all but the two centre panels and the end panels. The modified Pratt Truss was further simplified in the 1870s when the diagonals were reduced to a single diagonal system throughout the length of the truss. The Pratt Truss was rather slow in gaining acceptance; but in time it became second only to the Howe truss in popularity among timber bridge builders.[116]

[110] Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16
[111] Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16
[112] Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16
[113] TranSystems, “PennDOT Truss Maintenance Manual,” 1-2.
[114] Holth, 2006.
[115] Parsons Brinkerhoff and Engineering and Industrial Heritage 2005: 3-25 and Holth, 2006.
[116] Robert W. Passfield, “Historic Bridges on the Rideau Waterways System – A Preliminary Report”, Manuscript Report 212, National Historic Parks and Sites Branch & Parks Canada, 1976, 32, accessed 10 May 2022, http://parkscanadahistory.com/series/mrs/212rev.pdf



THE

DOMINION BRIDGE COMPANY, LIMITED

MONTREAL, CANADA

ENGINEERS AND CONTRACTORS FOR,
AND MANUFACTURERS OF

FIXED AND MOVABLE BRIDGES—TURNTABLES—STEEL BUILDINGS—GIRDERS —ROOF TRUSSES—TRANSMISSION TOWERS AND POLES—TANKS—BUNKERS—HOPPERS—STEEL PIPE—HYDRAULIC REGULATING GATES—CAISSON GATES—SCOWS — DERRICKS — ELECTRIC AND HAND POWER TRAVELLING CRANES —AND MACHINERY FOR ALL CLASSES OF STRUCTURAL WORK.

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Total Annual Capacity
120,000 Tons
(Over 100,000,000 Kilogrammes)

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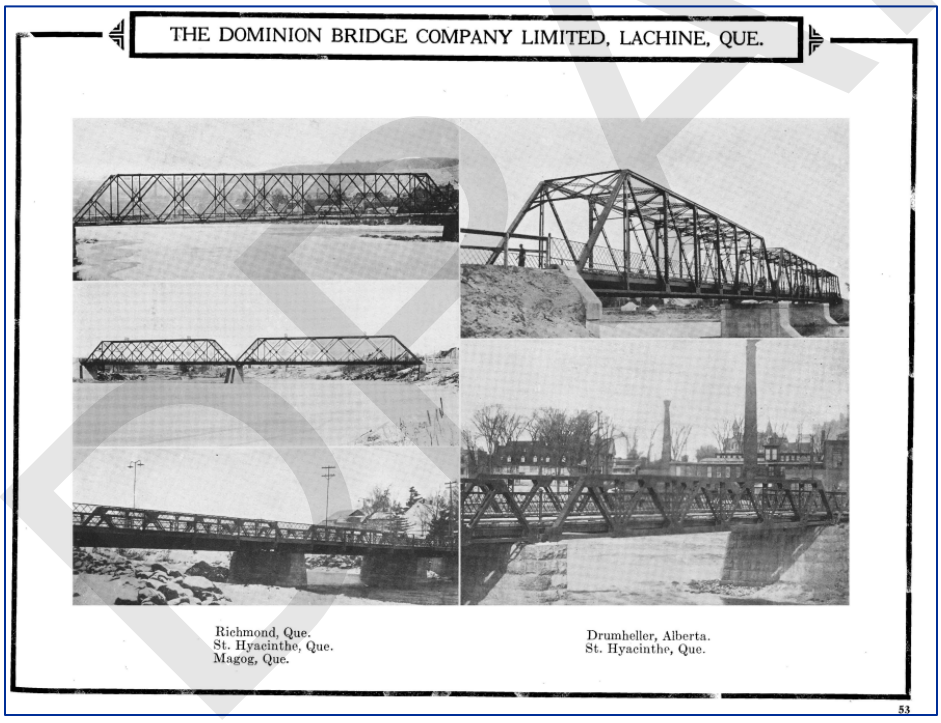


Figure 15: Dominion Bridge Co. trade catalogue, 1915.[117]

[117] Bridges and steel structures: [catalogue S.1], Dominion Bridge Company, Ltd., Toronto Public Library, 1915, accessed 13 May 2022, https://digitalarchive.tpl.ca/objects/328098/bridges-and-steel-structures-catalogue-s-1. Note: Figure 16 shows examples of "Light Highway Bridges" built 1903-1914.

4.9 George T. Martin

George Thomas Martin (1844-1925) was a prominent architect in the Smiths Falls area –including the surrounding counties of Lanark, Leeds and Grenville—for over two decades. He was born in Surrey, England and emigrated to Canada in 1870 where he practiced carpentry. In 1880, he moved to eastern Ontario to construct passenger stations and bridges for the Canadian Pacific Railway. In 1889, he moved to Smith's Falls and opened an architectural office. He adopted a brusque Romanesque Revival style for his large-scale projects, making use of the ample supply of building stone found in the Hughes quarry near Perth. He frequently worked with local contractor, Matthew Ryan, and bricklayer, Herbert Allen (of the firm Ryan & Allan). Martin also possessed a vision for the 'grand plan', setting out a scheme to connect all the summer resorts on the Rideau River with an electric railway system in 1899. In 1907, he was the patentee of a method to improve the construction of railway coaches. Few works can be attributed to him after 1910. Martin died on 4 March 1925 and was buried at Maple Vale Cemetery in Smiths Falls.[118]

Martin's prominent works include: the Rideau River bridge at Beckwith Street (1890); Trinity Methodist Church (1895); the Lanark County House of Industry in Perth (1903); Chambers Memorial Hospital in Smith Falls (1910); the Carnegie Library in Perth (1906), and various Georgian Bay & Seaboard Railway stations in Orillia, Eldon, and Brechin (1912).

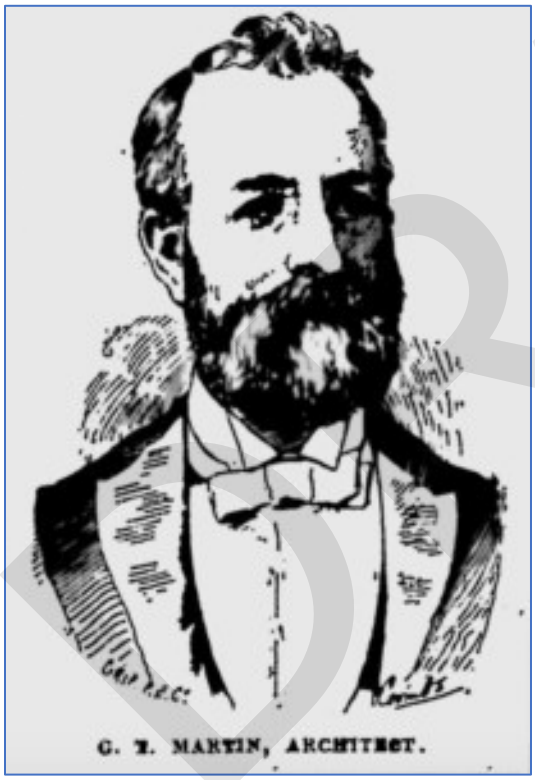


Figure 16: Portrait engraving of George T. Martin, date unknown.[119]

[118] "Martin, George Thomas", Biographical Dictionary of Architects in Canada 1800-1950, accessed 9 May 2022, http://dictionaryofarchitectsincanada.org/node/664
[119] Smiths Falls Public Library, "George Martin", accessed 9 May 2022, https://vitacollections.ca/smithsfallsdigitalarchive/3740461/data?dis=ex

4.10 Dominion Bridge Company

The Dominion Bridge Company Ltd. began as the Toronto Bridge Company in 1879. It was started in response to National Policy tariffs on imported fabricated iron and steelwork from the United States. Job Abbott, James Bartlett, James Cooper, and other investors founded the company with support from the Chicago-based Wrought Iron Bridge Company. In 1882, property was acquired in Lachine, Quebec and the company was incorporated and granted a federal charter.[120] By 1885 the company had two plant complexes, one in Lachine and one in Toronto (see Figure 17).

In 1888, the Toronto-based subsidiary was closed as all the production was transferred to an expanded Lachine plant complex.[121] A 1903 photograph shows a machine shop at the Lachine plant complex (see Figure 18). Various subsidiaries were created including the Dominion Engineering Company, Northern Electric Company, and the Canadian Wire and Rope Company.

By 1934, the Dominion Bridge Company's plants had an annual capacity of 200,000 tons of bridge and structural work. The company was also producing boilers and electric- and hand-powered traveling cranes. Branch plants were operated in Ottawa, Winnipeg, and Toronto. Fabricating plants operated in Vancouver, Amherst (Nova Scotia), and Calgary. Through the first half of the 20th century the company was primarily a structural steelmaker and construction company. Most of its plants were located in Canada. The Dominion Bridge Company quickly became Canada's largest steel distributor, as well as its leading structural steel company.[122] The company provided steel for construction of buildings for the 1976 Olympics. It started to decline once the buildings for the 1976 Olympic Games in Montreal were completed.[123]

In 1982, the Dominion Bridge Company reincorporated into AMCA International, reflecting its various American and Canadian interests and majority ownership by Canadian Pacific. The company changed its name United Dominion Industries Ltd., in 1994 when the original Dominion Bridge Company's assets were sold off. In 1998, the company declared bankruptcy and its assets were sold off following the collapse of the steel market.[124]

The Dominion Bridge Company and its successors were known for constructing or supplying steel for the following structures, including: the Alexandra Bridge (1900) in Ottawa, the Peterborough Lift Lock (1904), the Jacques Cartier Bridge (1930), the Ile d'Orleans Bridge (1935) in Montreal, the Golden Gate Bridge in San Francisco (1937), Lions Gate Bridge (1938) in Vancouver, the TD Bank Tower (1967) and Rogers Centre roof trusses in Toronto (1989).[125]

[120] Larry McNally, "Abott, Job". Dictionary of Canadian Biography, vol. 12, University of Toronto/Universite Laval, 1990, accessed 15 May 2022, http://www.biographi.ca/en/bio/abbott_job_12E.html
[121] "Dominion Bridge Co. Ltd., and Subsidiaries, Lachine, P.Q.", *Canadian Machiner*, 1916, 1113, https://archive.org/details/canadianmachiner16torouoft/page/1113/mode/1up?view=theater
[122] *International Directory of Company Histories*, Vol. 16, Detroit, MI: St. James Press, 1997, http://www.fundinguniverse.com/company-histories/united-dominion-industries-limited-history/
[123] Victoria Michaud, "Dominion Bridge: des vestiges de l'ère industrielle menaces", 23 June 2016, accessed 19 May 2022, https://journalmetro.com/local/lachine-dorval/984562/dominion-bridge-des-vestiges-de-lere-industrielle-menaces/
[124] CBC News, "United Dominion bought by SPX for $1.8 billion US", 12 March 2001, accessed 19 May 2022, https://www.cbc.ca/news/business/united-dominion-bought-by-spx-for-1-8-billion-us-1.296470
[125] CBC News, "United Dominion bought by SPX for $1.8 billion US", 12 March 2001, accessed 19 May 2022, https://www.cbc.ca/news/business/united-dominion-bought-by-spx-for-1-8-billion-us-1.296470

DOMINION BRIDGE CO.,

(LIMITED.)

Works at Lachine, P. Q.
Job Abbott, President and Engineer.

Works at Toronto, Ontario.
Phelps Johnson, Manager and Engineer.

STEEL EYE BARS,

Plates, Channels, Beams, Angles and Rivets.

STEEL AND IRON RAILWAY AND HIGHWAY PLATE

AND

Truss Bridges, Viaducts, Roofs, Turn-Tables and Structural Metal Work.

Refer to G. T. Ry.; C. V. Ry.; T. G. & B. Ry.; G. B. & L. E. Ry.; Central Ontario Ry.; S. E Ry.; Q. C. Ry.; Q. & L. St. J. Ry.; I. C. Ry.; W. & A. Ry.; Canada Atlantic Ry ; Ont. & Quebec Ry.; Canada Pacific Ry.; Dept. of Railways and Canals, Ottawa and municipal authorities at numerous points in Canada. Capacity of both works, 15,000 tons yearly.

Special Rates for American Designs for Export Trade.

PRESIDENT AND CHIEF ENGINEER'S OFFICE:

Room No. 1, Windsor Hotel, Montreal, P. Q.

Figure 17: Dominion Bridge Co. advertisement, 1885.[126]

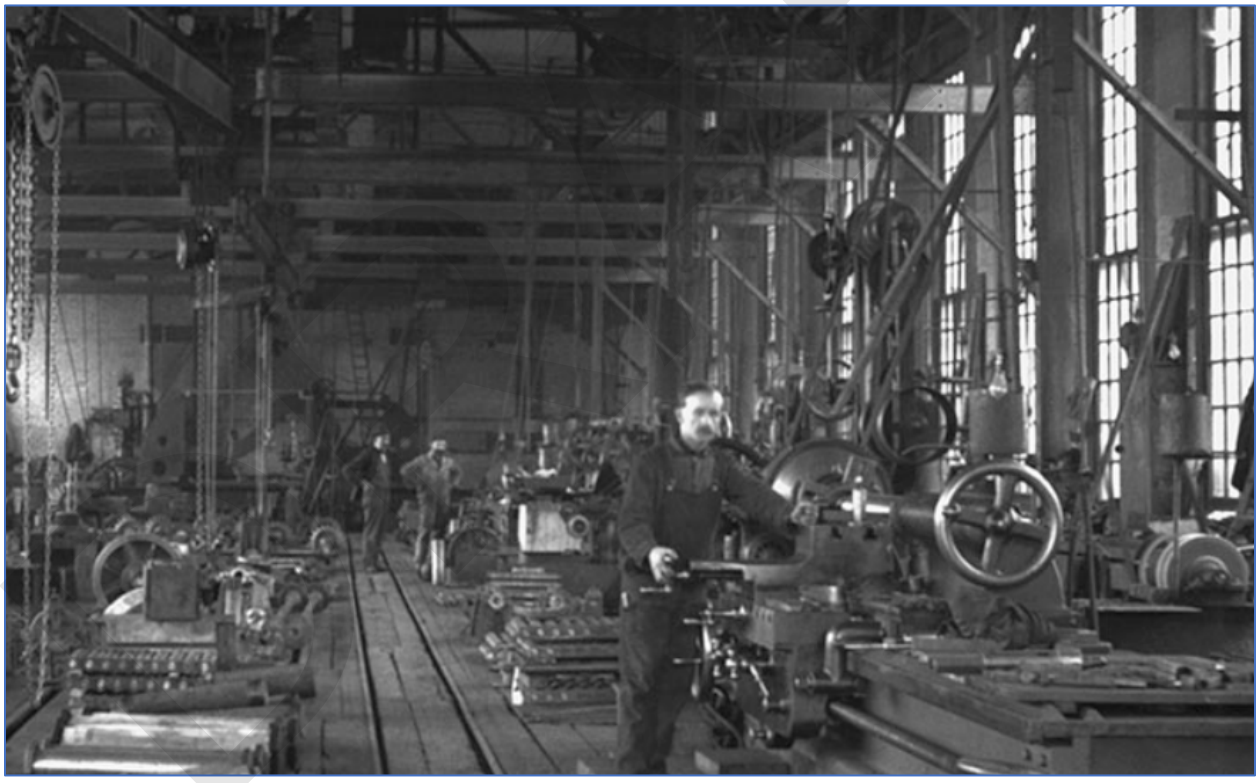


Figure 18: Photo of machine shop at Lachine, 1903.[127]

[126] "Youngs Point Bridge", HistoricBridges.org, accessed 19 May 2022, https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/youngspointold/
[127] Library and Archives Canada, "Dominion Bridge Company machine shop before the 1903 extension", N S 3 568, 1974-234 NPC.

4.11 Community Involvement

In 2007, it was noted that the service life of the Bridge was ending without a long-term strategy for rehabilitation or replacement. At a 17 May 2007 Public Information Centre (PIC) meeting, local residents in the Andrewsville, Merrickville, and Burritt's Rapids areas indicated overwhelming support for the rehabilitation of the bridge and did not support its closure. Since that time, Friends of Andrewsville Bridge group began as a community effort based on the desire of the members to protect and conserve the Andrewsville Bridge as an important heritage asset of their community.[128] Through the "Save Our Andrewsville Bridge" campaign, the community group petitioned municipal and county councils in both Lanark County and the United Counties of Leeds and Grenville to address long-standing bridge condition, load restriction issues and funding provisions between 2012 and 2015 (see Figure 19). Public fundraisers began in 2014 and the first newsletter was published that year.[129][130]

In 2017, a commemorative plaque outlining the history of Andrewsville and the Bridge was unveiled by the organization in a special event as part of a Canada 150 project attended by municipal, provincial, and federal dignitaries (see Figure 20).[131]

Figure 19: View of "Save Our Andrewsville Bridge" placard.

[128] Parks Canada, "Rideau corridor recognition awards program", 2017, accessed 20 May 2022, https://www.pc.gc.ca/en/lhn-nhs/on/rideau/info/services-immobiliers-realty/sacr-rcls/prix-2017-awards
[129] Friends of the Andrewsville Bridge, No. 1, March 2014.
[130] Tom Van Dusen, "Friends fight to save Andrewsville Bridge", 22 August 2012, Ottawa Sun.
[131] Ashley Kulp, "History of Andrewsville commemorated through interpretive plaque", Inside Ottawa Valley, 13 June 2017, accessed 24 May 2022, https://www.gottarent.com/community-story/7369110-history-of-andrewsville-commemorated-through-interpretive-plaque/

Figure 20: View of Andrewsville Interpretative plaque.

5.0 EXISTING CONDITIONS

5.1 Surrounding Context

The Rideau River is the primary natural feature that characterizes the surrounding area. The Rideau River traverses north from Lower Rideau Lake at Poonamalie and empties into the Ottawa River at the Rideau Falls, which is a chief tributary of the St Lawrence River.[132][133] The Bridge is in the Limestone Plains physiographic region.[134] The Limestone Plains is the largest continuous tract of shallow soil over limestone in Southern Ontario and covers approximately 3,625 km².[135] The surrounding topography is gently rolling and slopes towards the Rideau River.

The area around the Andrewsville Bridge can generally be characterized as rural and located adjacent to the Rideau Canal National Historic Site of Canada. The heritage designation includes the Canal bed, walls, and the surrounding embankments and associated structures for Lock 18 – Lower Nicholsons Lockstation and Lock 19 – Upper Nicholsons Lockstation (see Figure 21 to Figure 24).[136] The Bridge is located on elevated abutments above the waterway. Accordingly, the east abutment is on the United Counties of Leeds & Grenville side of the bridge and the west abutment is on the Lanark County side.

The riverbanks around the Bridge are heavily covered in trees and brush. The Bridge is located in rural parts of Montague Township and the Village of Merrickville-Wolford on Andrewsville Road, approximately two hundred metres east of County Road 2 (Heritage Drive). To the north of the Bridge are a few residential structures which include 19th century brick and stone farmhouses. It is bound on the west by Water Street and Main Street, and to the east by Burritts Rapids Road. County Road 2 (Heritage Drive) is located approximately 150 metres to the west. The Upper and Lower Nicholsons Lockstations are built into an extensive 360 metre artificial channel cut through the east bank of the river. Lock 20 – Clowes Lockstation is located on the west side, three hundred metres upstream.[137]

A commemorative plaque outlining the history of the site and the Bridge is found on the west bank of the Rideau River (Figure 20).

[132] Province of Ontario, "Ontario Flow Assessment Tool," accessed 10 May 2022 https://www.lioapplications.lrc.gov.on.ca/OFAT/index.html?viewer=OFAT.OFAT&locale=en-ca
[133] Maxwell, W., Finkelstein, "Rideau River," 23 January 2014, accessed 10 May 2022 https://www.thecanadianencyclopedia.ca/en/article/rideau-river
[134] Chapman, L.J., and Putnam, D.F. *The Physiography of Southern Ontario.* Toronto: Ontario Ministry of Natural Resources, 1984, 197.
[135] Chapman, L.J., and Putnam, D.F. *The Physiography of Southern Ontario.* Toronto: Ontario Ministry of Natural Resources, 1984, 197.
[136] 4 Parks Canada, "Rideau Canal National Historic Site," 2021, accessed 10 May 2022 https://www.pc.gc.ca/en/lhn-nhs/on/rideau/activ/accueil_info
[137] Rideau Canal Preliminary Site Study Series No.13 Nicholson's Locks/Clowe's Lock. Parks Canada, November 1976, 9.

Figure 21: View looking south towards the dam and weir ruins.

Figure 22: View looking north towards Andrewsville.

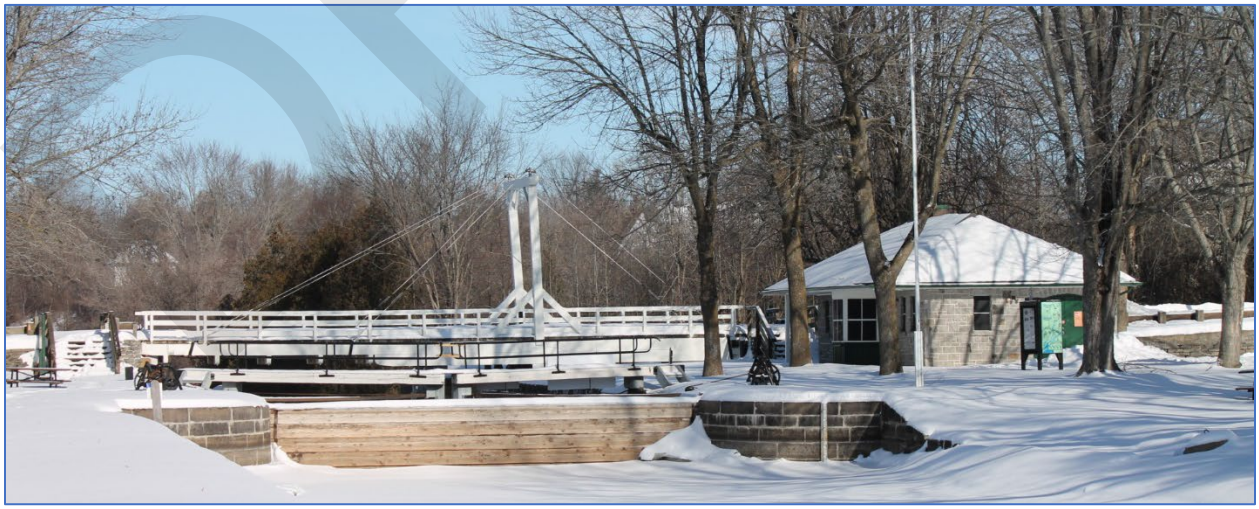


Figure 23: View of Upper Nicholsons Lockstation swing bridge and Lockstation Office.

Figure 24: View looking south at Upper Nicholsons Lockstation.

5.2 The Bridge

The Andrewsville Bridge is a fixed single lane, two-span bridge with a 5-tonne load restriction. The east span is a short beam bridge with a deck carried on steel I-type beams. The west span is a long Pratt Through Truss span. The Bridge is approximately 38 m long with a timber deck, a 9.2 m long timber deck on I-type steel stringers and I-type floor beams. The centre pier and abutments were likely founded on spread footings on bedrock and were originally stone masonry encased in concrete. The east approach to the Bridge is supported by dry-stone retaining walls backfilled with rubble (Figure 33 and Figure 34). The guiderails and pedestrian pipe barriers cross the length of the Bridge on the inside of the trusses (Figure 28). The superstructure of the Bridge includes several steel components such as transoms, transom clamps, bracing frames, pins, end posts, and panels. Tie plates were added to many diagonal members in 2013. A “Dominion Bridge Co” plaque is bolted on the southwest elevation end post (Figure 29).[138]

The deck of the Bridge is composed of timber planks laid perpendicular with parallel running boards for vehicles (Figure 26). The substructure of the Bridge includes its concrete abutments, wingwalls, sway brace, and underside of the deck. The truss has nine lower chord panel points supporting floor beams spaced at 4.88 m. Floor beams are only located at the interior panel points. Spanning from floor beam to floor beam on the truss are five lines of steel S200 x 27 stringers spaced at 0.9 m. The stringers directly support the 4.9 m wide laminated timber deck. The structural steel framing on the east approach span consists of two main girders, a connecting floor

[138] Keystone Bridge Management Corporation. “Bridge Inspection Report – Andrewsville Bridge”, 5 September 2019.

beam and five stringers spaced at 914 mm. Some stringer ends at the northeast corner have been repaired with bolted extensions (Figure 27 and Figure 36).[139]

Five steel stringers at the west end of the bridge were replaced in the fall of 2016. In December 2018, following the first winter closure of the bridge, the east approach span stringers and timber deck were replaced, and all the timber curbs on the main truss span and approach span were replaced. The stringers were replaced due to severe section loss with perforations.[140]

Figure 25: View looking east across the Bridge.

[139] Keystone Bridge Management Corporation, “Andrewsville Bridge Wading Inspection Report”, July 2021.
[140] Keystone Bridge Management Corporation, “Andrewsville Bridge Wading Inspection Report”, July 2021.

Figure 26: View looking east across the Bridge.

Figure 27: View of bolted stringer ends.[141]

[141] Keystone Bridge Management Corporation. “Bridge Inspection Report – Andrewsville Bridge”, 5 September 2019, 316 (Image 54).

Figure 28: View of the guiderails.

Figure 29: “Dominion Bridge Co, Ltd. Lachine. P.Q.” plaque.

Figure 30: View of diagonal and vertical construction.

Figure 31: View looking northwards.

Figure 32: View looking southwest towards the Bridge.

Figure 33: View of dry-stone retaining wall, pier, and 9.2 m span.

Figure 34: View of the retaining wall and Bridge.

Figure 35: View looking west towards Andrewsville.

Figure 36: View of the Bridge substructure and east abutment.

5.3 Physical Condition

An OSIM inspection by Keystone Bridge Management Corporation in September 2019 identified the following issues with the Bridge:

- Stability of the dry-stone walls on the east and west approaches.
- Approach barriers and bridge railings deficient to current standards.
- Corrosion of steel stringers has increased since previous inspections.[142]

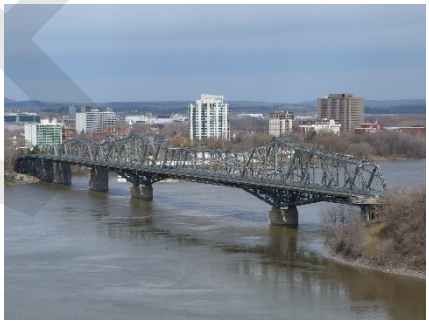
5.4 Analysis

The Andrewsville Bridge is a fixed two-span, rivet-connected Pratt through truss. A review of the MTO Bridge Inventory (2020) shows that the MTO owns forty-three truss bridges across the Province, all of which were built after 1970. None of the MTO truss bridges are located in Lanark County or the United Counties of Leeds and Grenville.[143] Review of the HistoricBridges.org database, an inventory of many historic bridges across North America complied by historic bridge enthusiasts, includes at least 90 extant, and eight demolished Pratt truss bridges, four of which are in the United Counties of Leeds and Grenville and the Andrewsville Bridge is the only one in Lanark County.[144] Presently, the Andrewsville Bridge and the railway bridge at Merrickville are

[142] Keystone Bridge Management Corporation. “Bridge Inspection Report – Andrewsville Bridge”, 5 September 2019.
[143] Province of Ontario, “Bridge Conditions,” 2020, accessed 2 March 2022 https://data.ontario.ca/en/dataset/bridge-conditions
[144] HistoricBridges.org

the only bridges of this type to be found on the Rideau River and the Andrewsville Bridge remains as the only pedestrian/road bridge from the early 1900s to be found on the Rideau River.[145] Table 1 provides a brief summary of some Pratt through truss bridges in Ontario.

Table 1: Example of Pratt through truss bridges in Ontario

Bridge and Location	Comment	Image
Merrickville Railway Bridge – Merrickville, Ontario	Metal – Pratt through truss bridge, fixed. It was built in 1906-1907 by the Canadian Pacific Railway. It has unusual details including latticework on the portal bracing and end posts.	 (Historicbridges.org 2013)
Alexandra Bridge – Ottawa, Ontario & Gatineau, Quebec	Metal – Cantilever 18 Panel, Pin-connected, Pratt through truss, fixed. It was built in 1900 by the Dominion Bridge Company. It is one of the most significant bridges in Canada, spanning the Ottawa River and an extremely early surviving example of a large-scale cantilever truss bridge completed by a Canadian firm.	 (Historicbridges.org 2011)
Chief William Commanda (Prince of Wales) Bridge – Ottawa, Ontario	Metal – Pratt through truss bridge, 10 panel, rivet-connected, fixed Comprised of two bridges that cross Lemieux Island and span the Ottawa River. Built by the Dominion Bridge Company in 1926.	 (Historicbridges.org 2018)

[145] Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", Manuscript Report 212, National Historic Parks and Sites Branch & Parks Canada, 1976, 23-24, accessed 10 May 2022, http://parkscanadahistory.com/series/mrs/212rev.pdf. And, Gavin Liddy, "Subject: Andrewsville Bridge Cultural and Heritage Evaluation, Parks Canada comments" [correspondence], Parks Canada, 27 August 2007, 2.

Bridge and Location	Comment	Image
Youngs Point Bridge, Peterborough County, Ontario	Metal – Pratt through truss bridge, 6 Panel, pin-connected, fixed It is one of the oldest metal bridges remaining in Ontario which also uses imported steel and wrought iron in its construction. Built by the Dominion Bridge Company in 1885.	 (Historicbridges.org 2012)

6.0 UNDERSTANDING OF CULTURAL HERITAGE VALUE OR INTEREST

The Bridge was evaluated against *O. Reg. 9/06* under the *OHA* using research and analysis presented in Sections 4.0 and 5.0 of this CHER.

Table 2: Evaluation against *O. Reg. 9/06*

Criteria for Determining Cultural Heritage Value or Interest	Assessment (Yes/No)	Rationale
1. **Design or physical value:**		
i. is a rare, unique, representative or early example of a style, type, expression, material, or construction method,	Yes	The Bridge is a representative and rare surviving example of a style, type, expression, material or construction method. Pratt truss bridges are becoming increasingly rare in Ontario and are not commonly found along the Rideau River and Eastern Ontario. The Bridge is the only surviving single-lane pedestrian/road bridge from the early 1900s spanning the Rideau River.
ii. displays a high degree of craftsmanship or artistic merit, or	Yes	The Bridge displays a high degree of artistic merit but does not demonstrate craftsmanship. Its craftsmanship is indicative of a common type of bridge designed to be easily and quickly constructed using common materials and bridge building techniques, particularly from a plan book or catalogue. The Bridge fits within its landscape. For a piece of infrastructure, the overall design and proportions of the Bridge and its massing within the context of the landscape demonstrate a high degree of artistic merit.
iii. demonstrates a high degree of technical or scientific achievement.	No	The Bridge does not demonstrate a high degree of technical or scientific achievement. Engineering and scientific achievements with this type of bridge were developed in the 1840s. This bridge is a much later example from a time when the use of Pratt truss bridges was popularized. The environment was not complex to bridge.

2. Historical or associative value:		
i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community,	Yes	The Bridge is directly associated with George T. Martin, a prominent local architect. The Property is directly associated with the industrial development of Andrewsville and part of the Rideau River and Canal cultural landscape around the Upper and Lower Nicholsons Lockstations.
ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or	No	The Bridge does not yield or have the potential to yield information that contributes to the understanding of a community or culture. Pratt truss bridges were used extensively in the early 20th century. The history of these bridges is well known.
iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.	Yes	The Bridge reflects the work of George T. Martin, a local architect who designed many buildings and structures in Smiths Falls and Perth. The Bridge was constructed by the Dominion Bridge Company Ltd. of Montreal, which was prolific in constructing many bridges across Canada.
3. Contextual value:		
i. is important in defining, maintaining or supporting the character of an area,	Yes	The Bridge is important in defining, maintaining, or supporting the character of the Andrewsville area and the Rideau River and Canal cultural landscape around the Upper and Lower Nicholsons Lockstations. The Bridge is the only remaining road/pedestrian bridge from the early 1900s which crosses the Rideau River.
ii. is physical, functionally, visually or historically linked to its surroundings, or	Yes	The Bridge is functionally, visually and historically linked to its surroundings. The Bridge is on the border and connects Lanark County and the United Counties of Leeds and Grenville. The Bridge has a historically functional link in facilitating movement across the Rideau River between Merrickville, Burritts Rapids and other communities across county borders. The presence of the Bridge and previous bridges at

		that location which required a swing bridge across the Upper Nicholsons Lockstation is linked to the Rideau Canal and its operation. The Bridge is located n the Rideau Canal cultural landscape and the views from the Bridge link it to the Upper Nicholsons Lockstation and the Andrewsville community. The Bridge is the final iteration of a series of fixed bridges over the Rideau River at or near that location since the 1840s.
iii. is a landmark.	Yes	The Bridge is landmark. The MHSTCI defines landmark …as a recognizable natural or human-made feature used for a point of reference that helps orienting in a familiar or unfamiliar environment; it may mark an event or development; it may be conspicuous…[146] The Bridge is not physically prominent from the surrounding roads; however, it can partially be seen from the Upper Nicholsons and Lower Nicholsons Lockstations. The Bridge is symbolic of the Andrewsville community's history and as a component of a group of historic Bridges that span the Rideau Canal. A commemorative plaque was installed by the Friends of Andrewsville Bridge community organization, identifying the Bridge as a locally important landmark.

6.1 Summary of Evaluation

LHC finds that the Bridge meet five of the criteria from *O. Reg. 9/06* and is eligible for designation under Part IV Section 29 of the *OHA*. In LHC's professional opinion the Bridge meets criteria 1i, 1ii, 2i, 2iii, 3i, 3ii, and 3iii. It has physical and design value because it is a representative and rare surviving example of a Pratt truss bridge in Ontario and the only surviving single-lane pedestrian/road bridge from the early 1900s spanning the Rideau River. The overall design and proportions of the Bridge and its massing within the context of the landscape demonstrate a high degree of artistic merit.

[146] MHSTCI, *Standards & Guidelines for Conservation of Provincial Heritage Properties: Heritage Identification & Evaluation Process,* 2014, http://www.mtc.gov.on.ca/en/heritage/MTCS_Heritage_IE_Process.pdf, 17.

It has historical and associative value because of its association to architect George T. Martin of Smith's Falls and as a part of the Rideau River and Canal cultural landscape around Nicholson's Lockstation and the former village of Andrewsville. It has contextual value because it supports and maintains the rural character of the area while facilitating historical and visual links across county borders for over a century. The Bridge is symbolic of the Andrewsville community's history and a component of a group of historic bridges that span the Rideau Canal. The Bridge is recognized as a locally important landmark.

The Bridge is a cultural heritage resource. Section 6.3 (below) is a Statement of Cultural Heritage Value or Interest for the Bridge along with a list of its heritage attributes. Based on international, federal, provincial and municipal guidance planning the future of the Bridge should focus on conservation.

6.2 Heritage Integrity

In a heritage conservation and evaluation context, the concept of integrity is associated with the ability of a property to represent or support the cultural heritage value or interest of the property or to covey its heritage significance.[147] It is understood as the 'wholeness' or 'honesty' of a place[148] or if the heritage attributes continue to represent or support the cultural heritage value or interest of the property.[149] Heritage integrity can be understood through how much of the resource is 'whole', 'complete' changed or unchanged from its original or 'valued subsequent configuration'.[150] Changes or evolution to a place that have become part of its cultural heritage value become part of the heritage integrity, however if the cultural heritage value of a place is linked to another structure or environment that is gone the heritage integrity is diminished.[151] Heritage integrity is not necessarily related to physical condition or structural stability.

The MHSTCI *Ontario Heritage Tool Kit* discusses integrity and physical condition in relation to evaluation. However, heritage integrity and physical condition are not part of the evaluation criteria. They are part of understanding a property and its potential cultural heritage resources. There are few tools describing a methodology to assess historic integrity. One of the tools come from the U.S. National Park Service (**NPS**), which has informed Ontario practice, and considers heritage integrity a necessary condition of listing on the National Register. The NPS states that "Heritage properties either retain integrity or they do not".[152] They identify seven aspects of integrity, degrees and combinations of which can be used to determine if a site has heritage

[147] Heritage Property Evaluation: A Guide to Listing, Researching, and Evaluating Cultural Heritage Property in Ontario Communities, prepared by the Ministry of Culture, (Ottawa: Queen's Printer for Ontario, 2006). p. 26. And National Park Service, "How to Evaluate the Integrity of a Property", Chapter VIII in National Register Bulletin, How to Apply the National Register Criteria for Evaluation, U.S. Department of the Interior, National Park Service, Cultural Resources, 1997, p. 44.
[148] English Heritage, "Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment". 2008, p. 45.
[149] MHSTCI, p. 26.
[150] English Heritage, p. 45. And, Kalman, Harold and Marcus R. Létourneau, 2021. Heritage Planning: Principles and Process. 2nd Ed, Routledge, New York: 314.
[151] MHSTCI 2006a: 26.
[152] NPS 1997: 44.

integrity. The seven aspects include: Location; Design; Setting; Materials; Workmanship; Feeling; and Association.[153]

Understanding a place's significance or CHVI helps to identify which aspects of integrity support its heritage value. Furthermore, the heritage integrity of the heritage attributes supports the CHVI of a property. This is an iterative process to evaluate significance and plan appropriate management of a cultural heritage resource.

Using this guidance, it is understood that the Bridge retains its heritage integrity. The rivet connected trusses are intact and convey a sense of design, setting feeling and association. Furthermore, the Bridge is in its original location. The historic design of the Bridge is evident. Many of the materials are original, however the Bridge has had significant repairs and may steel members have been replaced. Many rivets have been replaced with bolts. In general, the Bridge demonstrates historic integrity and conveys a sense of its history. However, replacement of parts and the use of bolts during repairs have a slight affect on its heritage integrity.

6.3 Statement of Cultural Heritage Value or Interest

6.3.1 Description of Property

The Andrewsville Bridge is located in both Montague Township, County of Lanark, and the Village of Merrickville-Wolford, the United Counties of Leeds and Grenville. It carries Andrewsville Road across the Rideau River and connects the former village of Andrewsville with Parks Canada land adjacent to the Rideau Canal Lock 19 Upper Nicholson's Lockstation.

6.4 Summary of Cultural Heritage Value or Interest

The Bridge has cultural heritage value or interest for its physical and design value because it is a representative and rare surviving example of a Pratt truss bridge in Ontario and the only surviving single-lane pedestrian/road bridge from the early 1900s spanning the Rideau River. For a piece of infrastructure, the overall design and proportions of the Bridge and its massing within the context of the landscape demonstrate a high degree of artistic merit.

The Bridge has historical and associative value because of its association to architect George T. Martin of Smith's Falls, the Dominion Bridge Company Ltd., and as a part of the Rideau River and Canal cultural landscape around Upper Nicholson's Lockstation and the former village of Andrewsville.

The Bridge has contextual value because it supports and maintains the rural character of the area while facilitating historical and visual links across County borders. The Bridge is important in maintaining and supporting the character of an area. It is part of a larger cultural landscape that consists of Upper Nicholson's Lockstation – Lock 19 and the views from the Bridge are critical to the protection of the Upper Nicholsons Lockstation and the Andrewsville community. The Bridge is historically associated with the industrial development of Andrewsville, having been the final iteration of a series of fixed bridges over the Rideau River at or near this location since at least the 1840s. The Bridge is symbolic of the Andrewsville community's history and as an integral part of a group of historic bridges that span the Rideau Canal. It is recognized locally as a landmark.

[153] NPS 1997: 44.

6.5 List of Heritage Attributes

Key heritage attributes of the Bridge are:

- Its location across the Rideau River;
- The orientation of the Bridge in relation to the former village of Andrewsville, Upper Nicholsons Lockstation, swing bridge, and Rideau Canal channel;
- Its scale and massing;
- The single-lane width;
- Its two different spans, one a short beam bridge and the second a longer Pratt through truss bridge;
- The raised approach causeway supported by stone retaining walls;
- The steel eight panel Pratt trusses; and
- Bolted “Dominion Bridge Co, Ltd. Lachine. P.Q” plaque on the southwest elevation end post.

7.0 CONCLUSION AND RECOMMENDATIONS

LHC was retained in January 2022 by Jewell Engineering to prepare a Cultural Heritage Evaluation Report (**CHER**) on the Andrewsville Bridge (the **Bridge**), on Andrewsville Road, which spans the Rideau River between the County of Lanark and the United Counties of Leeds and Grenville, Ontario.

This CHER has been prepared as part of a review of alternatives for a Schedule B, *Municipal Class Environmental Assessment*. The Bridge was constructed in 1904. It is not a designated heritage bridge under the *Ontario Heritage Act*.

This CHER included an evaluation of the Bridge against the criteria outlined in *Ontario Regulation 9/06: Criteria for Determining the Cultural Heritage Value or Interest (O. Reg. 9/06*) under the *Ontario Heritage Act* (*OHA*). The Bridge is not included on a Heritage Register as a designated or non-designated property, nor is it included on the *Ontario Heritage Bridge List.* The Bridge crosses the Rideau River –a Canadian Heritage River—and is adjacent to the Rideau Canal World Heritage Site (**WHS**) and National Historic Site of Canada (**NHSC**).

The Bridge is a fixed, two-span, steel, eight panel, rivet-connected Pratt through truss bridge. It rests on concrete abutments and spans the Rideau River. The area around the Bridge is rural and is adjacent to the Rideau Canal National Historic Site (Upper and Lower Nicholsons Lockstations – 18 & 19).

LHC finds that the Bridge meets seven of the criteria for determining cultural heritage value or interest from O.Reg. 9/06. In LHC's professional opinion, the Bridge meets criteria 1i, 1ii, 2i, 2ii, 3i, 3ii, and 3iii. It has physical value and design value as a rare and representative two-span Pratt truss bridge, being the only single-lane pedestrian/road bridge from the early 1900s spanning the Rideau River. It has historical and associative value because of its associations with architect George T. Smith, the Dominion Bridge Company, and the historical industrial development of the former village of Andrewsville. It has contextual value because it supports and maintains the historic rural character of the area and has historical and visual links to its surroundings. The Bridge is a cultural heritage resource and supports the landscape setting of the Rideau River and Canal.

In LHCs professional opinion the Bridge should be conserved and rehabilitated to be used. This opinion is based on international, federal, provincial and municipal guidance outlined in Section 3.0 of this CHER.

LHC recommends that the heritage attributes of the Bridge be conserved where possible and a Heritage Impact Assessment be required as part of design for rehabilitation or replacement.

SIGNATURES

Please contact the undersigned should you require any clarification or if additional information is identified that might have an influence on the findings of this report.

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Senior Heritage Planner

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APPENDIX A: PROJECT PERSONNEL

Benjamin Holthof, MPl, MMA, MCIP, RPP, CAHP – Senior Heritage Planner

Ben Holthof is a heritage consultant, planner, and marine archaeologist with LHC, with experience working in heritage consulting and not-for-profit museum sectors. He holds a Master of Urban and Regional Planning degree from Queens University; a Master of Maritime Archaeology degree from Flinders University of South Australia; a Bachelor of Arts degree in Archaeology from Wilfrid Laurier University; and a certificate in Museum Management and Curatorship from Fleming College.

Ben has consulting experience in cultural heritage screening, evaluation, heritage impact assessment, cultural strategic planning, cultural heritage policy review, historic research, and interpretive planning. His work has involved a wide range of cultural heritage resources including on cultural landscapes, institutional, industrial, commercial, and residential sites as well as infrastructure such as wharves, bridges, and dams. Much of his consultant work has been involved in heritage for environmental assessment. Before joining LHC, Ben worked for Golder Associates Ltd. as a Cultural Heritage Specialist from 2014-2020.

Ben is experienced in museum collections management, policy development, exhibit development and public interpretation. He has written museum strategic plans, interpretive plans and disaster management plans. He has been curator at the Marine Museum of the Great Lakes at Kingston, the Billy Bishop Home and Museum, and the Owen Sound Marine and Rail Museum. These sites are in historic buildings and he is knowledgeable with collections that include large artifacts including, ships, boats, railway cars, and large artifacts in unique conditions with specialized conservation concerns.

Ben is also a maritime archaeologist having worked on terrestrial and underwater sites in Ontario and Australia. He has an Applied Research archaeology license from the Government of Ontario (R1062). He is also a professional member of the Canadian Association of Heritage Professionals.

Christienne Uchiyama, MA, CAHP – Principal, LHC

Christienne Uchiyama MA CAHP is Principal and Manager - Heritage Consulting Services with LHC. She is a Heritage Consultant and Professional Archaeologist (P376) with more than a decade of experience working on heritage aspects of planning and development projects. She is currently President of the Board of Directors of the Canadian Association of Heritage Professionals and received her MA in Heritage Conservation from Carleton University School of Canadian Studies. Her thesis examined the identification and assessment of impacts on cultural heritage resources in the context of Environmental Assessment.

Since 2003 Chris has provided archaeological and heritage conservation advice, support and expertise as a member of numerous multi-disciplinary project teams for projects across Ontario and New Brunswick, including such major projects as: all phases of archaeological assessment at the Canadian War Museum site at LeBreton Flats, Ottawa; renewable energy projects; natural gas pipeline routes; railway lines; hydro powerline corridors; and highway/road realignments. She has completed more than one hundred cultural heritage technical reports for development proposals at all levels of government, including cultural heritage evaluation reports, heritage impact assessments, and archaeological licence reports.

Diego Maenza, B.A., M.Pl. – Heritage Planner

Diego Maenza is a Heritage Planner with LHC. He holds a B.A. in Human Geography and Urban Studies from the University of Toronto and a Master of Planning degree from Dalhousie University. His thesis considered the urban morphological changes of railway infrastructure, landscapes, and neighbourhoods before and after the 1917 Halifax Explosion. Diego is a heritage professional with three years of public sector experience in Alberta, Nova Scotia, and Ontario through team-based and independent roles. He is an intern member of the Canadian Association of Heritage Professionals (CAHP) and a candidate member of the Ontario Professional Planners Institute (OPPI).

At LHC, Diego has worked on numerous projects dealing with all aspects of Ontario's cultural heritage including the competition of cultural heritage technical reports for development proposals and providing heritage planning advisory support for the Town of Niagara-on-the-Lake and the Municipality of Port Hope.

Colin Yu, MA, CAHP – Cultural Heritage Specialist and Archaeologist

Colin Yu is a Cultural Heritage Specialist and Archaeologist with LHC. He holds a BSc with a specialist in Anthropology from the University of Toronto and a M.A. in Heritage and Archaeology from the University of Leicester. He has a special interest in identifying socioeconomic factors of 19th century Euro-Canadian settlers through quantitative and qualitative ceramic analysis.

Colin has worked in the heritage industry for over eight years, starting out as an archaeological field technician in 2013. He currently holds an active research license (R1104) with the Ministry of Heritage, Sport, Tourism, and Culture Industries (MHSTCI). Colin is a professional member of Canadian Association of Heritage Professionals (CAHP).

At LHC, Colin has worked on numerous projects dealing with all aspects of Ontario's cultural heritage. He has completed over thirty cultural heritage technical reports for development proposals and include Cultural Heritage Evaluation Reports, Heritage Impact Statements, Environmental Assessments, and Archaeological Assessments. Colin has worked on a wide range of cultural heritage resources including; cultural landscapes, institutions, commercial and residential sites as well as infrastructure such as bridges, dams, and highways.

Jordan Greene, BA – Mapping Technician

Jordan Greene is a mapping technician with LHC. She holds a Bachelor of Arts in Geography with a Certificate in Geographic Information Science (GIS) and a Certificate in Urban Planning Studies from Queen's University. Jordan joined the LHC team shortly after graduating and during her time at the firm has contributed to over one hundred reports. Jordan has completed mapping for projects including, but not limited to, cultural heritage assessments and evaluations, archaeological assessments, environmental assessments, hearings, and conservation studies. In addition to project mapping Jordan has also begun to develop interactive maps and tools that will contribute to LHC's internal data management. She has also taken on the role of Health and Safety representative for the firm. Between graduation and beginning work with LHC her GIS experience allowed her the opportunity to briefly volunteer as a research assistant contributing to the study of the extent of the suburban population in America with Dr. David Gordon. Jordan is excited to continue her work with LHC to further develop her GIS skills and learn more about the fields of heritage and archaeology.

APPENDIX B: GLOSSARY

Definitions are based on those provided in the *Provincial Policy Statement 2020* (PPS), *Ontario Heritage Act (*OHA*), Environmental Assessment Act (*EAA*)*, the Ministry of Heritage, Sport, Tourism, and Cultural Industries *Standards & Guidelines for Conservation of Provincial Heritage Properties – Heritage Identification & Evaluation Process*, and the Ministry of Transportation's (MTO) 2008 *Interim Ontario Heritage Bridge Guidelines.* In some instances, documents have different definitions for the same term, all definitions have been included and should be considered.

Where relevant terms are not defined in the Provincial documents, definitions from the *Burra Charter* and the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Federal S&Gs) are provided.

Adjacent lands means for the purposes of policy 2.6.3, those lands contiguous to a protected heritage property or as otherwise defined in the municipal official plan. (PPS)

Alter means to change in any manner and includes to restore, renovate, repair, or disturb and "*alter*ation" has a corresponding meaning ("transformer," "transformation"). (OHA)

Bridge A structure that provides a roadway or walkway for the passage of vehicles, pedestrians, or cyclists across an obstruction, gap or facility that is greater than 3 metres in span. (Canadian Highway Bridge Design Code). In the context of this guideline, this term refers to those bridge structures owned by the provincial government. (MTO)

Built heritage means one or more significant buildings (including fixtures or equipment located in or forming part of a building), structures, monuments, installations, or remains associated with architectural, cultural, social, political, economic, or military history and identified as being important to a community. For the purposes of these Standards and Guidelines, "structures" does not include roadways in the provincial highway network and in-use electrical or telecommunications transmission towers. (I&E Process)

Built Heritage Resource means a building, structure, monument, installation or any manufactured or constructed part or remnant that contributes to a property's cultural heritage value or interest as identified by a community, including an Indigenous community. *Built heritage resource*s are located on property that may be designated under Parts IV or V of the *Ontario Heritage Act*, or that may be included on local, provincial, federal, and/or international registers. (PPS)

Character the combination of physical elements that together provide a place with a distinctive sense of identity. It may include geomorphology, natural features, pattern of roads, open spaces, buildings and structures, but it may also include the activities or beliefs that support the perceptions associated with the character. (I&E Process)

Character-Defining Elements are the materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of an historic place, which must be retained to preserve its heritage value. (Federal S&Gs)

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. (Federal S&Gs)

Conserved means the identification, protection, management and use of *built heritage resource*s, *cultural heritage landscapes* and *archaeological resources* in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decisionmaker. Mitigative measures and/or alternative development approaches can be included in these plans and assessments. (PPS)

Cultural Heritage Evaluation Report (CHER) means a report prepared with advice by a qualified person who gathered and recorded, through research, site visits and public engagement enough information about the property to sufficiently understand and substantiate its cultural heritage value. (I&E Process)

Cultural heritage landscape means a defined geographical area of heritage significance that human activity has modified and that a community values. Such an area involves a grouping(s) of individual heritage features, such as buildings, spaces, archaeological sites, and natural elements, which together form a significant type of heritage form distinct from its constituent elements or parts. Heritage conservation districts designated under the Ontario Heritage Act, villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trails, and industrial complexes of cultural heritage value are some examples. (PPS; I&E Process)

Cultural landscape (*paysage culturel*) Any geographical area that has been modified, influenced, or given special cultural meaning by people.

- Designed cultural landscapes were intentionally created by human beings;
- Organically evolved cultural landscapes developed in response to social, economic, administrative or religious forces interacting with the natural environment. They fall into two sub-categories:
    - Relict landscapes in which an evolutionary process came to an end. Its significant distinguishing features are, however, still visible in material form. Continuing landscapes in which the evolutionary process is still in progress.
    - They exhibit significant material evidence of their evolution over time.
- Associative cultural landscapes are distinguished by the power of their spiritual, artistic or cultural associations, rather than their surviving material evidence (Federal S&Gs).

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. (Burra Charter)

Environment means,

(a) air, land or water,

(b) plant and animal life, including human life,

(c) the social, economic and cultural conditions that influence the life of humans or a community,

(d) any building, structure, machine or other device or thing made by humans,

(e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or

(f) any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario; ("environnement") (EAA).

Fabric means all the physical material of the place including elements, fixtures, contents and objects. (Burra Charter)

Heritage attribute means, in relation to real property, and to the buildings and structures on the real property, the attributes of the property, buildings and structures that contribute to their cultural heritage value or interest ("attributs patrimoniaux"). (OHA)

Heritage attributes means the principal features or elements that contribute to a protected heritage property's cultural heritage value or interest, and may include the property's built, constructed, or manufactured elements, as well as natural landforms, vegetation, water features, and its visual setting (e.g., *significant* views or vistas to or from a protected heritage property). (PPS)

Heritage attributes means the physical features or elements that contribute to a property's cultural heritage value or interest, and may include the property's built or manufactured elements, as well as natural landforms, vegetation, water features, and its visual setting. (I&E Process)

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 an historic place is embodied in its character-defining materials, forms, location, spatial configurations, uses and cultural associations or meanings. (Federal S&Gs)

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. (Federal S&Gs)

Integrity means the degree to which a property retains its ability to represent or support the cultural heritage value or interest of the property. (I&E Process)

Intervention (*intervention*) Any action, other than demolition or destruction, that results in a physical change to an element of a historic place. (Federal S&Gs)

Landmark a recognizable natural or human-made feature used for a point of reference that helps orienting in a familiar or unfamiliar environment; it may mark an event or development; it may be conspicuous (I&E Process)

Listed bridge A bridge that has been identified as having cultural heritage importance, scored greater than 60 in the evaluation, and is worthy of conservation by inclusion on the Ontario Heritage Bridge List. Such bridges are subject to the provisions of the Ontario Heritage Bridge Guidelines. (MTO)

Maintenance (*entretien*) Routine, cyclical, non-destructive actions necessary to slow the deterioration of an 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. (Federal S&Gs)

Minimal intervention (*intervention minimale*) The approach that allows functional goals to be met with the least physical intervention. (Federal S&Gs)

Patented Land means land originally granted by the Crown from public lands to persons which subsequently can be, or has been, resold (I&E Process)

Place means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions. (Burra Charter)

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. (Federal S&Gs)

Rehabilitation means the action or process of making possible a continuing or compatible contemporary use of an historic place, or an individual component, while protecting its heritage value. (Federal S&Gs)

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. (Federal S&Gs)

Qualified person(s) means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources. (I&E Process)

Significant means in regard to cultural heritage and archaeology, resources that have been determined to have cultural heritage value or interest. Processes and criteria for determining cultural heritage value or interest are established by the Province under the authority of the *Ontario Heritage Act*. (PPS)

Spatial configuration means the arrangement of a property's elements in relation to each other, to the site and to adjacent sites. (I&E Process)

Statement of Cultural Heritage Value means a concise statement explaining why a property is of heritage interest; this statement should reflect one or more of the criteria found in Ontario Heritage Act *O. Regs. 9/06* and *10/06*. (I&E Process)

Sympathetic Modification Means making new work physically and visually compatible with the heritage attributes of a bridge. New additions, alterations, structural reinforcements, or related new construction shall not destroy historic materials that characterize the bridge. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the cultural heritage value of the bridge and its environment. (MTO)

Truss (ferme) A structural framework, made of either timber or metal, that is composed of individual members fastened together in a triangular arrangement. (Federal S&Gs)

View means a visual setting experienced from a single vantage point, and includes the components of the setting at various points in the depth of field. (I&E Process)