

# DRAFT REPORT:

Heritage Impact Assessment  
Andrewsville Bridge  
Spanning the Rideau River, Lanark County  
and the United Counties of Leeds and  
Grenville, ON



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Project # LHC0295

***LHC***

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## RIGHT OF USE

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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.

## 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 Heritage Planning & Archaeology Inc. (**LHC**) was retained in January 2022 by Jewell Engineering (the **Client**) to prepare a Cultural Heritage Evaluation Report (**CHER**) and Heritage Impact Assessment (**HIA**) on the Andrewsville Bridge (the **Bridge**). The Bridge is located on Andrewsville Road, which spans the Rideau River between the County of Lanark and the United Counties of Leeds and Grenville, Ontario.

This HIA 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 (OHA)*, 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 completed a CHER for the Bridge in October 2022 to evaluate it for Cultural Heritage Value or Interest (**CHVI**) in anticipation of rehabilitation. The CHER evaluated 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 OHA and used guidance from the Ontario Ministry of Transportation's (**MTO**) 2008 *Interim Ontario Heritage Bridge Guidelines* criteria. A Statement of Cultural Heritage Value or Interest (**SCHVI**) was prepared, and a list of heritage attributes was identified.

This HIA was completed in accordance with the *Lanark County Sustainable Communities Official Plan* and the *United Counties of Leeds and Grenville Official Plan*. It follows cultural heritage best practices drawing upon applicable frameworks, such as UNESCO's *Guidance and Toolkit for Impact Assessments in a World Heritage Context*, the International Committee for the Conservation of Industrial Heritage (**TICCIH**) *Nizhny Tagil Charter for the Industrial Heritage*, and the Ministry of Citizenship and Multiculturalism's (**MCM**) *Ontario Heritage Tool Kit Info Sheet #5 Heritage Impact Assessments and Conservation Plans*. This HIA also considers the applicable planning frameworks and identifies if the project complies and/is consistent with the frameworks.

Five (5) development options are proposed for the Bridge:

- Option 1: Rehabilitate the Bridge, Approach Roadway, and Walls – Maintaining Current Load Posting;
- Option 2: Construction of a New Single Lane Bridge and Reconstruction of Retaining Walls;
- Option 3: Complete Removal of the Bridge Structure and Approach Walls – No New Bridge or Turning Basins;
- Option 4: Close Bridge to All Vehicular Traffic – No Turning Basins Installed; and,
- Option 5: Do Nothing.

LHC finds that of the five (5) proposed development options, Option 4 is the preferred option. No potential direct adverse impacts are anticipated to the heritage attributes or CHVI of the Bridge from Option 4.

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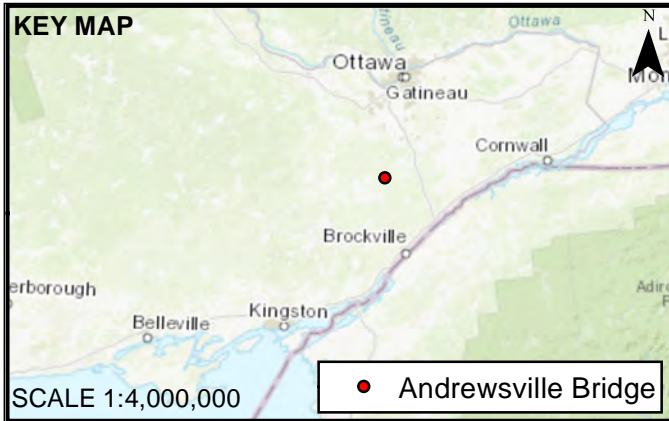
## 1.0 INTRODUCTION



LHC Heritage Planning & Archaeology Inc. (**LHC**) was retained in January 2022 by Jewell Engineering (the **Client**) to prepare a Cultural Heritage Evaluation Report (**CHER**) and Heritage Impact Assessment (**HIA**) on the Andrewsville Bridge (the **Bridge**, Figure 1 and Figure 2). This HIA has been prepared as part of a review of alternatives for a Schedule B, *Municipal Class Environmental Assessment*. The Bridge is on Andrewsville Road, which spans the Rideau River between the County of Lanark and the United Counties of Leeds and Grenville, Ontario.

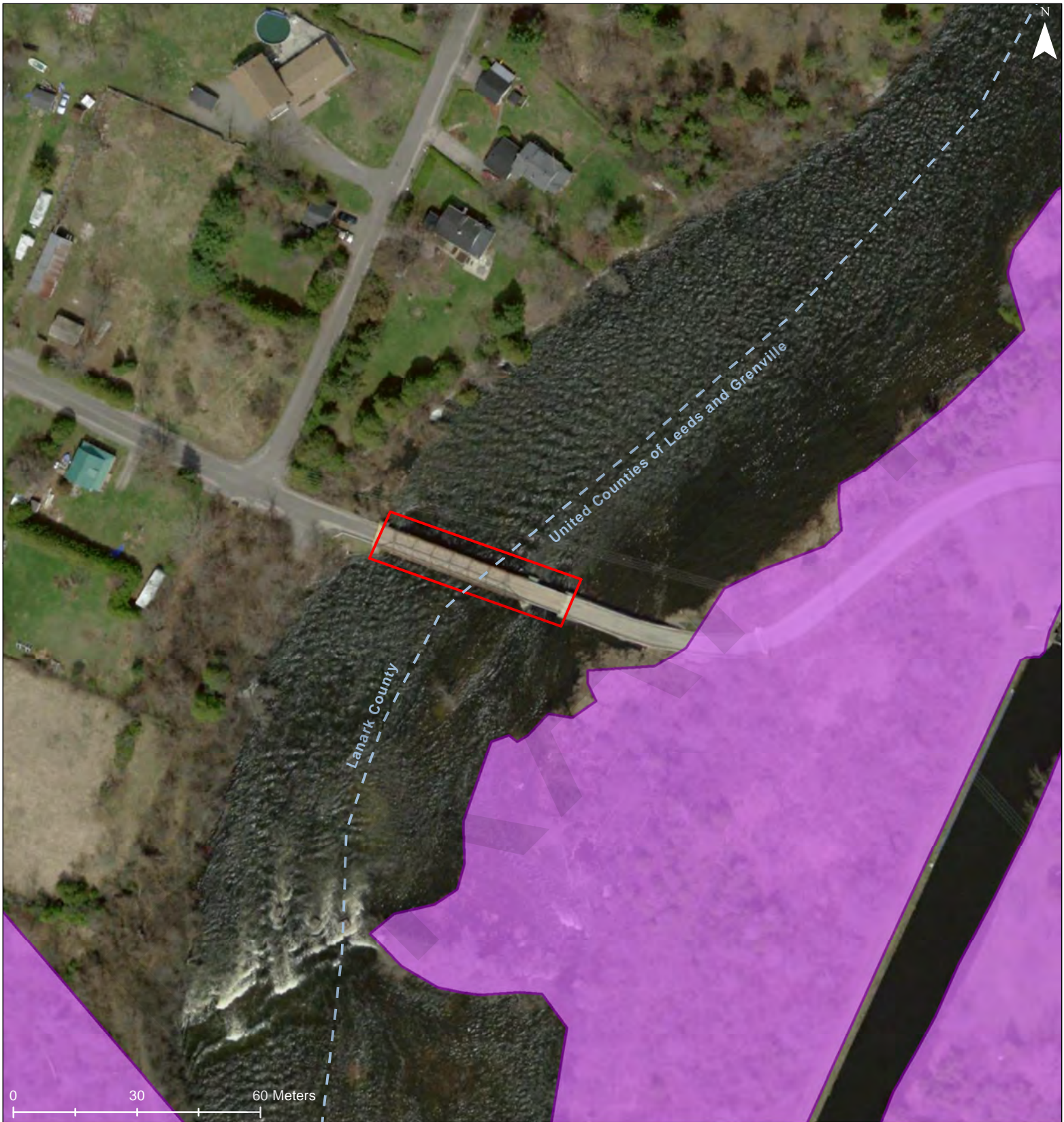
The CHER was completed in October 2022 and found that the Bridge has cultural heritage value or interest. LHC found that the Bridge—which was built in 1904—meets seven of the criteria for determining cultural heritage value or interest from *Ontario Regulation 9/06 (O. Reg. 9/06)*. It has physical value and design value as a rare and representative two-span Pratt truss bridge that spans the Rideau River. It is the only single-lane pedestrian/road bridge from the early 1900s spanning the 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.

The Bridge has not been designated a heritage bridge under the *Ontario Heritage Act (OHA)*, 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**).

This HIA was completed in accordance with the *Lanark County Sustainable Communities Official Plan* and the *United Counties of Leeds and Grenville Official Plan*. It follows cultural heritage best practices drawing upon applicable frameworks, such as UNESCO's *Guidance and Toolkit for Impact Assessments in a World Heritage Context*, TICCIH *Nizhny Tagil Charter for the Industrial Heritage*, and the Ministry of Citizenship and Multiculturalism's (**MCM**) *Ontario Heritage Tool Kit Info Sheet #5 Heritage Impact Assessments and Conservation Plans*. This HIA also considers the applicable planning frameworks of the owner counties and identifies if the project complies and/is consistent with the frameworks.



<b>Legend</b>	 Andrewsville Bridge
<b>NOTE(S)</b> 1. All locations are approximate.	<b>TITLE</b> <b>Location Plan</b>
	<b>CLIENT</b> Jewell Engineering
<b>REFERENCE(S)</b> 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 Portions of this document include intellectual property of Esri and its licensors and are used under license. Copyright (c) Esri and its licensors. All rights reserved.	<b>PROJECT</b> Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON
	<b>CONSULTANT</b> 
	<b>CONSULTANT</b> YYY-MM-DD 2022-05-18
	<b>PREPARED</b> LHC
	<b>DESIGNED</b> JG
	<b>FIGURE #</b> 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  
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<b>TITLE</b> Current Conditions	
<b>CLIENT</b> Jewell Engineering	
<b>PROJECT</b>	PROJECT NO. LHC0295
Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON	
<b>CONSULTANT</b>	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 the *Ontario Heritage Tool Kit*.<sup>1</sup> 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.

The impact assessment is guided by the *Ontario Heritage Tool Kit, Heritage Resources in the Land Use Planning Process, Info Sheet #5: Heritage Impact Assessments and Conservation Plans*, and the UNESCO *Guidance and Toolkit for Impact Assessments in a World Heritage Context (UNESCO G&T)* dated July 2022.<sup>2</sup> A description of the proposed development or site alteration, measurement of development or site impact and consideration of alternatives, mitigation and conservation methods are included as part of planning for the cultural heritage resource.

Municipalities and the Ontario Ministry of Transportation (MTO) are the two primary owners of bridges in Ontario. MTO guidance related to cultural heritage and bridges is drawn from the *Ontario Heritage Bridge Guidelines (OHBG)*<sup>3</sup>, the *Environmental Guide for Built Heritage and Cultural Heritage Landscapes*<sup>4</sup> and section 3.7 of the *Environmental Reference for Highway Design, Cultural Heritage – Built Heritage and Cultural Heritage Landscapes*.<sup>5</sup> These documents guide the MTO and consultants working on MTO projects in cultural heritage identification, evaluation, assessment, conservation and documentation. Municipalities are not required to follow MTO guidance around cultural heritage on bridge sites, however the MTO documents are useful tools to guide cultural heritage studies on bridges. Guidance from MTO documents has been used to inform LHC's consideration of alternatives.

Other principles and guidance for heritage conservation used to inform the consideration of alternatives, mitigation measures and recommendations are drawn from the Principles in the Conservation of Historic Properties from the *Ontario Heritage Tool Kit, Info Sheet #5: Heritage*

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<sup>1</sup> 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.

<sup>2</sup> UNESCO, "Guidance and Toolkit for Impact Assessments in a World Heritage Context", July 2022.

<sup>3</sup> Ministry of Transportation, "Ontario Heritage Bridge Guidelines for Provincially Owned Bridges", Interim, 2008.

<sup>4</sup> Ministry of Transportation, "Environmental Guide for Built Heritage and Cultural Heritage Landscapes", monograph of the Provincial and Environmental Planning Office, 2007, accessed 12 October 2022, <http://govdocs.ourontario.ca/node/27208>.

<sup>5</sup> Ministry of Transportation, Section 3.7 "Environmental Reference for Highway Design" Built Heritage and Cultural Heritage Landscapes, monograph of the Provincial and Environmental Planning office, 2007, accessed 12 October 2022, <http://govdocs.ourdigitalworld.org/node/27203>.

*Impact Assessments and Conservation Plans*<sup>6</sup> and the Canada's Historic Places *Standards and Guidelines for the Conservation of Historic Places in Canada*.<sup>7</sup>

Much of the background history for the Bridge in this HIA has been copied from LHC's CHER and supplemented as required. The evaluation for CHVI against the *O. Reg. 9/06* criteria from the CHER has been copied into this HIA (see Section 7.0). Table 1 outlines UNESCO's requirements for an HIA and the location of this information in this report. A glossary of terms used in this HIA is provided in Appendix B.

Table 1: UNESCO Heritage Impact Assessment Requirements

UNESCO Requirement		HIA Location
1.	<p>Non-technical summary: A clearly written summary of the report and its key findings and recommendations, in particular: identification of the World Heritage property, its OUV and attributes; the proposed action's impacts on OUV and other heritage/conservation values; and recommendations and conclusions</p>	See the Executive Summary in this HIA.
	<p>Contractual information and acknowledgements: For transparency it is helpful to provide information on:</p> <ul style="list-style-type: none"> <li>• Who funded and commissioned the report</li> <li>• The role played by any institutions or agencies responsible for overseeing or reviewing the process</li> <li>• Who carried out the impact assessment work, including key authors and other contributing specialists</li> <li>• A statement by the authors declaring no conflict of interest</li> <li>• Any independent expert review</li> </ul>	See Appendix A and Section 1.0 in this HIA.
	<p>Methodology:</p> <ul style="list-style-type: none"> <li>• A summary of the methodology used for the impact assessment (e.g., this Guidance)</li> <li>• Dates when various stages of the proposed action planning and impact assessment were carried out</li> <li>• How rights-holders and stakeholders were involved and how their views were taken into account (an appendix on the consultation process can list all those who participated in various ways when anonymity is not required)</li> <li>• Any knowledge gaps or uncertainties relating to the baseline data and/or the impact identification and prediction</li> <li>• Specific methodologies used for establishing the baseline or predicting impacts can be included in an annex</li> </ul>	See Section 2.0 in this HIA.

<sup>6</sup> Ministry of Culture, "Info Sheet #5: Heritage Impact Assessments and Conservation Plans," in *Heritage Resources in the Land Use Planning Process: Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005*, Queen's Printer for Ontario, 2006, 1-4.

<sup>7</sup> Canada's Historic Places, "Standards and Guidelines for the Conservation of Historic Places in Canada", 2<sup>nd</sup> Ed, 2010, [www.historicplaces.ca](http://www.historicplaces.ca)

UNESCO Requirement	HIA Location
<p>Baseline:</p> <ul style="list-style-type: none"> <li>• Statement of Outstanding Universal Value</li> <li>• Description of the World Heritage property and its wider setting, including the tangible and intangible attributes of OUV and other heritage/conservation values, its authenticity (in the case of cultural properties) and integrity</li> <li>• Information on the current state of conservation of attributes of the World Heritage and any changes since the time of inscription</li> <li>• Summary of other heritage in or near the property which may also be impacted by the proposal</li> <li>• Relevant legal, regulatory and policy frameworks, including the World Heritage Convention</li> <li>• Analysis of the governance and heritage management system for the World Heritage property</li> </ul>	<p>See Section 3.0 and Section 5.0 in this HIA.</p>
<p>The Proposed Action and Alternatives:</p> <ul style="list-style-type: none"> <li>• The need for the proposed action and its objectives</li> <li>• A description of all stages (construction, operation, decommissioning, recovery) of the proposed action, with sufficient detail for the report to be read as an independent document. Further detailed information may be included as an annex</li> <li>• Maps, plans and illustrations of the project location and/or route in relation to the World Heritage property</li> <li>• Alternatives which were considered, including the 'no project' alternative.</li> </ul>	<p>See Section 8.0 in this HIA.</p>
<p>Identification and evaluation of impacts:</p> <ul style="list-style-type: none"> <li>• Identification of the potential positive and negative impacts of the proposed action on the World Heritage property, including cumulative impacts</li> <li>• Prediction of the characteristics of these potential impacts, including disclosure of any uncertainty</li> <li>• Evaluation of the significance of potential impacts on the attributes which sustain OUV and on other heritage/conservation values</li> </ul>	<p>See Section 9.0 in this HIA.</p>
<p>Mitigation measures:</p> <ul style="list-style-type: none"> <li>• Necessary mitigation measures, including responsibilities and funding sources</li> <li>• Description of any residual impacts after mitigation</li> </ul>	<p>See Section 10.0 in this HIA.</p>
<p>Recommendations:</p>	<p>See Section 11.0 in this HIA.</p>



UNESCO Requirement	HIA Location
<ul style="list-style-type: none"> <li>Recommendation for proceeding with the proposed action, a preferred alternative, or not proceeding in the light of impacts</li> </ul>	
<p>Follow-up:</p> <ul style="list-style-type: none"> <li>Description of monitoring needed should the proposed action take place, including monitoring of the baseline and the implementation of mitigation measures</li> <li>For major projects, a proposed Environmental and Social Management Plan (or similar) for the proponent can be added as an annex</li> </ul>	Not Applicable.
<p>Annexes:</p> <ul style="list-style-type: none"> <li>Terms of Reference</li> <li>Any detailed information gathered to describe the baseline for the World Heritage property (e.g., inventory of attributes of OUV and other values; information on other heritage; surveys; scientific studies; relevant information gained from the consultation process; illustrations and photographs, etc.)</li> <li>Supporting technical information with regard to the prediction of impacts</li> </ul>	Not applicable.

## 2.1 Heritage Impact Statement Requirements and Guidance

### 2.1.1 UNESCO Heritage Impact Assessment Guidance

This guidance requires HIAs consider the World Heritage Site as a single entity that manifests Outstanding Universal Value (**OUV**) reflected in a range of attributes. HIAs should focus on identifying and assessing whether a proposed action has the potential to generate negative and positive impacts on the attributes which convey the OUV of the World Heritage property.<sup>8</sup> Threats to World Heritage Sites include –amongst other things—large-scale developments that may include tall buildings, box buildings, inappropriate, acontextual, or insensitive developments.<sup>9</sup> UNESCO recommends an 11-step impact assessment process that identifies two main components of: A. Participation, and B. Proactive problem solving, through the following prompt questions:

#### A. Participation

- Who are the rights-holders and other relevant stakeholders?
- How should rights-holders and other stakeholders be engaged?
- Are there consent issues to be considered?
- What engagement methods should be used for different groups, including those who have traditionally been disenfranchised?

#### B. Proactive problem solving

- Is the proposed action necessary? Is it preferable to ‘do nothing’?

<sup>8</sup> UNESCO, “Guidance and Toolkit for Impact Assessments in a World Heritage Context”, July 2022, 20, 22.

<sup>9</sup> ICOMOS, “Guidance on Heritage Impact Assessments for Cultural World Heritage Properties”, January 2011, 1.

- What are the alternatives to the proposed action?
- What would be the preferred or the most environmentally benign option for achieving the proposal's objectives?
- How can any negative impacts of the proposed action be avoided or minimized? How can these impacts be avoided/minimized for OUV and its attributes?
- Are there opportunities to provide or enhance any positive impacts of the proposed action? To enhance the management of OUV?<sup>10</sup>

The UNESCO guidance bases impact assessment on the characteristics of the proposed action, the significance of the impact (positive to negative), and the severity of the impact to attributes which give the site its OUV. UNESCO represents this assessment in a table which is to be consulted in the preparation of an HIA (See Table 5 in Section 9.2).

### 2.1.2 The Nizhny Tagil Charter for the Industrial Heritage

This guidance from *The International Committee for the Conservation of the Industrial Heritage (TICCIH)* provides and defines the key concepts and methods of preserving industrial heritage and industrial archaeology in accordance with the spirit of the Venice Charter. Section 5, Maintenance and Conservation, includes the following relevant policies:

- I. Conservation of the industrial heritage depends on preserving functional integrity, and interventions to an industrial site should therefore aim to maintain this as far as possible. The value and authenticity of an industrial site may be greatly reduced if machinery or components are removed, or if subsidiary elements which form part of a whole site are destroyed.
- II. Preservation *in situ* should always be given priority consideration. Dismantling and relocating a building or structure are only acceptable when the destruction of the site is required by overwhelming economic or social needs.
- IV. The adaptation of an industrial site to a new use to ensure its conservation is usually acceptable except in the case of sites of especial historical significance. New uses should respect the significant material and maintain original patterns of circulation and activity, and should be compatible as much as possible with the original or principal use. An area that interprets the former use is recommended.
- VI. Interventions should be reversible and have a minimal impact. Any unavoidable changes should be documented and significant elements that are removed should be recorded and stored safely. Many industrial processes confer a patina that is integral to the integrity and interest of the site.
- VII. Reconstruction, or returning to a previous known state, should be considered an exceptional intervention and one which is only appropriate if it benefits the integrity of the whole site, or in the case of the destruction of a major site by violence.
- IX. Preservation of documentary records, company archives, building plans, as well as sample specimens of industrial products should be encouraged.<sup>11</sup>

<sup>10</sup> UNESCO, "Guidance and Toolkit for Impact Assessments in a World Heritage Context", July 2022, 18-19.

<sup>11</sup> TICCIH, "The Nizhny Tagil Charter for the Industrial Heritage", 17 July 2003, accessed 7 December 2022, <https://ticcih.org/wp-content/uploads/2013/04/NTagilCharter.pdf>.

### 2.1.3 Ontario Heritage Tool Kit Guidance

The impact assessment is based on guidance from the MCM's *Ontario Heritage Tool Kit, Info Sheet #5: Heritage Impact Assessments and Conservation Plans*.<sup>12</sup> Info Sheet #5 outlines seven potential negative impacts to be considered with any proposed development or property alteration including:

1. **Destruction** of any part of any significant heritage attribute or features;
2. **Alteration** that is not sympathetic or is incompatible, with the historic fabric and appearance;
3. **Shadows** created that alter the appearance of a heritage attribute or change the viability of a natural feature or planting, such as a garden;
4. **Isolation** of a heritage attribute from its surrounding environment, context, or a significant relationship;
5. **Direct or indirect obstruction** of significant views or vistas within, from, or built and natural features;
6. **A change in land use** such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces; and
7. **Land disturbances** such as a change in grade that alters soils, drainage patterns that adversely affect an archaeological resource.

The impact assessment also included a consideration of direct and indirect adverse impacts on adjacent properties with known or potential cultural heritage value or interest and assessment of the proposed development against Lanark County's and the United Counties of Leeds & Grenville's heritage planning and policy frameworks.

### 2.1.4 MTO Guidance

Three conservation approaches for bridges are outlined in the *Environmental Guide for Built Heritage and Cultural Heritage Landscapes*. From most to least preferred, these are:

1. Preserve/Retain *in situ*;
2. Relocate and adaptive re-use; and,
3. Document and salvage.<sup>13</sup>

The OHBG expands the list of conservation options to eight. From most to least preferred, the options include:

1. Retention of the existing bridge with no major modifications undertaken.

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<sup>12</sup> Ministry of Culture, "Info Sheet #5: Heritage Impact Assessments and Conservation Plans," in *Heritage Resources in the Land Use Planning Process: Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005*, Queen's Printer for Ontario, 2006, 1-4.

<sup>13</sup> MTO, "Environmental Guide for Built Heritage and Cultural Heritage Landscapes", 2007, 20-21.

2. Restoration of missing or deteriorated elements where physical or documentary evidence (e.g., photographs or drawings) exists for their design.
3. Retention of existing bridge with sympathetic modification.
4. Retention of existing bridge with sympathetically designed new structure in proximity.
5. Retention of existing bridge no longer in use for vehicular purposes but adapted for a new use. For example, prohibiting vehicle or restricting truck traffic or adapting for pedestrian walkways, cycle paths, scenic viewing, etc.
6. Retention of existing bridge as a heritage monument for viewing purposes only.
7. Relocation of smaller, lighter single span bridges to an appropriate new site for continued use (see 4) or adaptive re-use (see 5).
8. Bridge removal and replacement with a sympathetically designed structure.
  - a. Where possible, salvage elements/members of bridge for incorporation into a new structure or for future conservation work or displays.
  - b. Undertake full recording and documentation of existing structure.<sup>14</sup>

### 2.1.5 Eight Guiding Principles in the Conservation of Historic Properties

Ontario's *Eight Guiding Principles for the Conservation of Built Heritage Properties* (Eight Guiding Principles), compiled by the Ministry of Tourism, Culture and Sport (now the MCM)<sup>15</sup> are a useful as a tool to help guide change to cultural heritage resources. These principles are intended to provide a basis for decisions concerning "good practice" in heritage conservation:

1. **Respect for documentary evidence:** do not restore based on conjecture. Conservation work should be based on historic documentation such as historic photographs, drawings, or physical evidence.
2. **Respect for the original location:** do not move buildings unless there is no other means to save them. Site is an integral component of a building or structure. Change in site diminishes the cultural heritage value considerably.
3. **Respect for historic materials:** repair/conservé—rather than replace building materials and finishes, except where absolutely necessary. Minimal intervention maintains the heritage content of the built resource.
4. **Respect for original fabric:** repair with like materials. Repair to return the resource to its prior condition, without altering its integrity.

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<sup>14</sup> MTO, "Ontario Heritage Bridge Guidelines", 2008, 20.

<sup>15</sup> The Ontario Heritage Trust (OHT) has *Eight Guiding Principles in the Conservation of Historical Properties*. Despite the slightly different names both the MCM and OHT principles are identical, only the MCM version is referenced in this report.

5. **Respect for the building's history:** do not restore to one period at the expense of another period. Do not destroy later additions to a building or structure solely to restore to a single time period.
6. **Reversibility:** alteration should be able to be returned to original conditions. This conserves earlier building design and technique, e.g. When a new door opening is put into a stone wall, the original stones are numbered, removed and stored, allowing for future restoration.
7. **Legibility:** new work should be distinguishable from old. Buildings or structures should be recognized as products of their own time, and new additions should not blur the distinction between old and new.
8. **Maintenance:** with continuous care, future restoration work will not be necessary. With regular upkeep, major conservation projects and their high costs can be avoided.

### 2.1.6 Standards and Guidelines for the Conservation of Historic Places in Canada

The *Standards and Guidelines for the Conservation of Historic Places in Canada (S&G)* has been adopted by most federal agencies (including Parks Canada), provinces, heritage agencies (such as the Ontario Heritage Trust), and many municipalities as the guiding document for heritage work. They are considered best practice guidance for heritage conservation in Canada. The Counties have not adopted the S&G to guide heritage conservation decision making.

The S&G document is a tool to help guide change for cultural heritage resources. It provides an overview to the conservation decision-making process, identifies appropriate conservation treatments, and provides standards and guidelines appropriate 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<sup>16</sup> 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,

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<sup>16</sup> Character-Defining Element and heritage attributes are similar concepts. For the purposes of this HIA they will be treated in generally the same way. A Character-Defining Element is a more wholistic concept than 'heritage attributes'. See the definitions in Appendix B, a heritage attribute is a tangible/physical feature and can be a Character-Defining Element. However, a Character-Defining Element incorporates a broader or more inclusive range that also included uses and cultural associations or meanings and therefore can be intangible.

**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.<sup>17</sup>

## Standards

The S&G provide nine general standards against which heritage conservation projects should be evaluated for preservation. These are as follows:

1. Conserve the heritage value of an historic place. Do not remove, replace or substantially alter its intact or repairable character-defining elements. Do not move a part of an historic place if its current location is a character-defining element;
2. Conserve changes to an historic place that, over time, have become character-defining elements in their own right;
3. Conserve heritage value by adopting an approach calling for minimal intervention;
4. Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties, or by combining features of the same property that never coexisted;
5. Find a use for an historic place that requires minimal or no change to its character-defining elements;
6. Protect and, if necessary, stabilize an historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbing archaeological resources, take mitigation measures to limit damage and loss of information;
7. Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention;
8. Maintain character-defining elements on an ongoing basis. Repair character-defining elements by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes; and,
9. Make any intervention needed to preserve character-defining elements physically and visually compatible with the historic place and identifiable on close inspection. Document any intervention for future reference.

Rehabilitation projects need to consider three additional standards;

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

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<sup>17</sup> Canada's Historic Places, "Standards and Guidelines," 2010.

- evidence, make the form, material and detailing of the new elements compatible with the character of the historic place;
11. Conserve the heritage value and character-defining elements when creating any new additions to an historic place or any related new construction. Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place;
  12. Create any new additions or related new construction so that the essential form and integrity of an historic place will not be impaired if the new work is removed in the future;

The S&G includes two additional standards for restoration; however, restoration standards do not apply to this project.

### ***Guidelines***

The S&G also provides detailed guidelines for projects. In general, it is recommended that the heritage attributes be documented, assessed, and recommendations are developed to ensure their protection and maintenance. The guidelines also recommend the retention and repair of original heritage attributes, with replacement being undertaken only when necessary. Not all standards or guidelines are applicable to every project and health, safety and environmental considerations may have priority over heritage conservation in some situations.

## 3.0 POLICY AND LEGISLATION CONTEXT

### 3.1 International Context

#### 3.1.1 Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (2005)

The *Xi'an Declaration* was adopted by ICOMOS on 21 October 2005 to provide guidance and recommendations for the enhanced protection of world heritage sites in their setting. Setting is defined by the *Xi'an Declaration* “as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character”.<sup>18</sup> Points most relevant to the proposed project fall under the recommendation to “Develop planning tools and practices to conserve and manage settings” and include:

- 5. The implementation of effective planning and legislative tools, policies, strategies and practices to sustainably manage settings requires consistency and continuity in application, whilst reflecting the local or cultural contexts in which they function.**

Tools to manage settings include specific legislative measures, professional training, development of comprehensive conservation and management plans or systems, and use of adequate heritage impact assessment methods.

- 6. Legislation, regulation and guidelines for the protection, conservation and management of heritage structures, sites and areas should provide for the establishment of a protection or buffer zone around them that reflects and conserves the significance and distinctive character of their setting.**

- 7. Planning instruments should include provisions to effectively control the impact of incremental or rapid change on settings.**

*Significant* skylines, sight lines and adequate distance between any new public or private development and heritage structures, sites and areas are key aspects to assess in the prevention of inappropriate visual and spatial encroachments or land use in *significant* settings.

- 8. Heritage impact assessments should be required for all new development impacting on the significance of heritage structures, sites and areas and on their settings.**

Development within the setting of heritage structures, sites and areas should positively interpret and contribute to its significance and distinctive character.<sup>19</sup>

When applied to the Bridge, the *Xi'an Declaration's* points make it clear that setting is valuable and must be considered when assessing the proposed project's impacts. Any change should be minimal or beneficial to the existing setting's heritage value.

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<sup>18</sup> ICOMOS, “Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas,” Xi'an, China, 21 October 2005, <https://www.icomos.org/charters/xian-declaration.pdf>, 2.

<sup>19</sup> ICOMOS, “Xi'an Declaration,” 2005, 3.



### 3.1.2 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".<sup>20</sup> 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.<sup>21</sup>

#### **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.<sup>22</sup>

#### **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.<sup>23</sup>

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

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<sup>20</sup> Australia ICOMOS, "The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance," Australia, 31 October 2013, 2, <https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>.

<sup>21</sup> Australia ICOMOS, "The Burra Charter," 2013, 5.

<sup>22</sup> Australia ICOMOS, "The Burra Charter," 2013, 8.

<sup>23</sup> Australia ICOMOS, "The Burra Charter," 2013, 8.

### 3.1.3 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.<sup>24</sup> 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.<sup>25</sup>

## 3.2 National Context

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

Parks Canada prepared the *Rideau Canal National Historic Site of Canada Management Plan* in 2005 to manage the Canal in keeping with national legislation and policy.<sup>26</sup> 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.<sup>27</sup>

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.<sup>28</sup>

Parks Canada relies on municipalities to have adequate policies in their Official Plans which protect the Canal's heritage character.<sup>29</sup> 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.<sup>30</sup>

#### 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

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<sup>24</sup> Parks Canada, "Rideau Canal World Heritage Site Management Plan," prepared for the Government of Canada, 2005, 4.

<sup>25</sup> Parks Canada, "Rideau Canal World Heritage Site Management Plan," 2005, 4.

<sup>26</sup> Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," prepared for the Government of Canada, 2005, 1.

<sup>27</sup> Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 1.

<sup>28</sup> Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 29.

<sup>29</sup> Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 28.

<sup>30</sup> Parks Canada, "Rideau Canal National Historic Site of Canada Management Plan," 2005, 28.

Commemorative Integrity Statement describes Level One and Level Two “cultural resources”.<sup>31</sup> Level One Resources: Symbolize or Represent the National Significance of the Site.<sup>32</sup>

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.”<sup>33</sup> Level Two resources 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 Level 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;<sup>34</sup>

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, viewscales 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;<sup>35</sup>

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

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<sup>31</sup> Parks Canada uses the term “cultural resources” instead of “cultural heritage resources”. This HIA uses the Parks Canada vocabulary when relevant.

<sup>32</sup> Parks Canada, “Rideau Canal National Historic Site of Canada Management Plan,” 2005, 69.

<sup>33</sup> Parks Canada, “Rideau Canal National Historic Site of Canada Management Plan,” 2005, 76.

<sup>34</sup> Parks Canada, “Rideau Canal National Historic Site of Canada Management Plan,” 2005, 69.

<sup>35</sup> 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".<sup>36</sup>

The Bridge 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, Merrickville 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.<sup>37</sup>

The Upper and Lower Nicholsons Lockstations are the most relevant value to this HIA 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.<sup>38</sup>

The Rideau River and scenic river road between Burritts Rapids and Merrickville is a relevant value to this HIA and is elaborated on as:

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<sup>36</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy: Landscape Character Assessment & Planning and Management Recommendations," prepared for Parks Canada, 2012, 3.

<sup>37</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 10.

<sup>38</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 15.

- Through this section the Rideau is a narrow meandering river with adjacent woodlands, farmland and fringe wetlands. The scenic river road between Burritts Rapids and Merrickville affords views of the river amidst well preserved heritage farmhouses and newer riverfront residential homes.<sup>39</sup>

The assessment considers the landscape's sensitivity in terms of its ability to absorb visual change, with most rated as highly sensitive. The Bridge 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.<sup>40</sup> The Bridge is also identified as having "Visual Values as Lands Potentially Visible from the Rideau Canal" with views to/from the Canal.<sup>41</sup> As the Bridge is located within Agricultural/Farmland and Wetland/Marsh zones, it is considered better able to handle visual change than some other areas.<sup>42</sup>

### **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."<sup>43</sup> 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.<sup>44</sup>

These ten 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 HIA, 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

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<sup>39</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 15.

<sup>40</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," Map 9.

<sup>41</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, Appendix B.

<sup>42</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, 25.

<sup>43</sup> Parks Canada, Rideau Canal Waterway Principles for Good Waterfront Development along the Rideau Canal Waterway, 2021.

<sup>44</sup> Parks Canada, 2021.

enhances the canal's landscape character and supports its cultural, ecological and economic value.<sup>45</sup>

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 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.<sup>46</sup>

### 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.<sup>47</sup> 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 an HIA. 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.<sup>48</sup>

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<sup>45</sup> Parks Canada, 2021, Principle 1.

<sup>46</sup> Parks Canada, 2021, Principle 2.

<sup>47</sup> Canadian Heritage Rivers System, "Rideau Waterway" accessed 09 April 2021, <https://chrs.ca/en/rivers/rideau-waterway>

<sup>48</sup> 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.

The S&Gs include recommendations for *adjacent* properties including “protecting *adjacent* character-defining elements from accidental damage or exposure to damaging materials during maintenance or repair work”.<sup>49</sup>

Conservation is a process and the S&Gs describe three actions in a sequence that include understanding the historic place, planning for its conservation and intervening through projects or maintenance.<sup>50</sup> Understanding, planning and intervening involve:

- Understanding an historic place is an essential first step to good conservation practice. This is normally achieved through research and investigation. It is important to know where the heritage value of the historic place lies, along with its condition, evolution over time, and past and current importance to its community.
- Planning is the mechanism that links a comprehensive understanding of an historic place with interventions that respect its heritage value. Planning should consider all factors affecting the future of an historic place, including the needs of the owners and users, community interests, the potential for environmental impacts, available resources and external constraints.
- Intervening on an historic place, that is, any action or process that results in a physical change to its character-defining-elements, must respect and protect its heritage value.<sup>51</sup>

As the S&G outline best practice guidance for heritage conservation of National Historic Sites of Canada such as the Rideau Canal, they are considered by this HIA.

### 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 *Planning Act*, the *Provincial Policy Statement (PPS)*, the *OHA* and the *Environmental Assessment Act (EAA)*. 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 Ontario Heritage Act, R.S.O. 1990, c. O.18

The *OHA, R.S.O. 1990, c. O.18* enables the provincial government and municipalities powers to conserve, protect, and preserve the heritage of Ontario. The *OHA* is administered by a member of the Executive Council (provincial government cabinet) assigned to it by the Lieutenant

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<sup>49</sup> Canada's Historic Places, “Standards and Guidelines,” 2010, 131.

<sup>50</sup> Canadas Historic Places, *Standards and Guidelines for the Conservation of Historic Places in Canada*, 2<sup>nd</sup> edition, 2010, p 3.

<sup>51</sup> Canadas Historic Places, S&Gs, 2010, p. 3. Note, see the S&Gs for a more detailed definition of understanding, planning and intervening.

Governor in Council. At the time of writing the *OHA* is administered by the Minister—Ministry—of Citizenship and Multiculturalism (MCM).<sup>52</sup>

The *OHA* enables the Minister and municipalities with the power to identify and conserve individual properties or districts of cultural heritage value or interest. Through *O. Reg. 9/06* and *Ontario Regulation 10/06 (O. Reg. 10/06)*, the *OHA* sets minimum standards for the evaluation of heritage resources in the Province. 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*. 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 Bridge is not designated or “listed” under the *Ontario Heritage Act*.

### 3.3.2 Environmental Assessment Act

The *Environmental Assessment Act*, R.S.O. 1990, c. E.18 was consolidated on 1 January 2022. 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)].<sup>53</sup> 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 undertaken by municipalities, public utilities and conservation authorities.

The Municipal Engineers Association has prepared a *Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist* (Revised 11 April 2014) to assist

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<sup>52</sup> 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:

- 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),
- Ministry of Heritage, Sport, Tourism, and Culture Industries (2019-2022),
- Ministry of Tourism, Culture and Sport (2022),
- Ministry of Citizenship and Multiculturalism (2022-present).

<sup>53</sup> Province of Ontario, *Environmental Assessment Act*, R.S.O. 1990, c. E.18, Part I S:1, last modified 1 January 2022, <https://www.ontario.ca/laws/statute/90e18>.



with determining requirements for Municipal Class Environmental Assessments (**MCEA**) related to bridges over 40 years of age.<sup>54</sup>

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

The *Planning Act*, R.S.O. 1990, c.P13, was consolidated on 1 January 2022. 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.<sup>55</sup>

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*

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).

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<sup>54</sup> Municipal Engineers Association, “Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist”, 11 April 2014,

<https://municipalclassea.ca/files/Clarifications/Bridges%20Check%20List%20april%202014.pdf>.

<sup>55</sup> 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>.

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.<sup>56</sup>

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 entirety and relevant policies applied in each situation.

### 3.4 Local Planning Context

The County of Lanark and the United Counties of Leeds & Grenville jointly own Andrewsville Bridge. 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 27 June 2012.<sup>57</sup> 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.

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<sup>56</sup> 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>

<sup>57</sup> County of Lanark, *Sustainable Communities Official Plan*, 27 June 2012, <https://www.lanarkcounty.ca/en/doing-business/resources/documents/Planning/Microsoft-Word---SCOP---Adopted-with-approved-MMAH-Modifications-June-18-2013.pdf>.

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;
- 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.

### **3.4.2 The United Counties of Leeds and Grenville Official Plan**

The *Official Plan (LGOP)* was adopted by the Council of the United Counties of Leeds & Grenville on 23 July 2015 through By-law No. 15-47. The Official Plan was approved by the Minister of Municipal Affairs on 19 February 2016. The latest office consolidation is dated 1 September 2022.<sup>58</sup>

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<sup>58</sup> The United Counties of Leeds and Grenville, *Official Plan*, 2016, last modified 1 September 2022, <https://www.leedsgrenville.com/en/government/resources/Documents/PublicWorks/Official-Plan-for-the-UCLG---Office-Consolidation-Text-Only.pdf>.

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**

- 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.

- 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 adjacent to a World Heritage Site, National Historic Site of Canada, and spans a Canadian Heritage River, and a significant cultural landscape as part of the Rideau Canal Corridor. The Bridge is not a Level One or Level 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 (SCOP 8.2.11; LGOP 4.5.1(f)) 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

Human occupation of present-day Ontario began during the retreat of the Wisconsin glaciation and the final retreat of the Laurentide Ice Sheet, which had covered much of the Great Lakes area until 12,000 BCE. This led to the formation of the Champlain Sea – an extension of the Atlantic Ocean, between 11,800 and 10,000 BCE. The Champlain Sea covered the most of Southern Ontario and its surroundings until about 10,000 years ago when the area's first inhabitants were able to move into the region.<sup>59</sup>

#### 4.1.1 Paleo Period (9500-8000 BCE)

The earliest human occupation of Southern Ontario dates to around 11,000 BCE. These early populations consisted of small groups of hunter gatherers who ranged long distances, relying on caribou and other resources available in forests dominated by Spruce trees. Archaeologists identify this as the Paleo period and the stone tools are characterized by lanceolate (a narrow oval pointed at the ends like the head of a lance) shaped points with a channel or flute extending from the base. There is substantial evidence of early Paleo Period occupation in Southwestern Ontario, however evidence in Eastern Ontario is largely limited to reported finds from the Rideau Lakes<sup>60</sup> and along the north shore of Lake Ontario.<sup>61</sup>

Archaeological evidence suggests that people in the later half of the Paleo Period still covered large areas but were more restricted in their movements. This suggests that food resources were more readily available. People in the Late Paleo Period made smaller non-fluted points produced from a broader range of lithic materials. A number of Late Paleo sites have been identified along the north shore of Lake Ontario.<sup>62</sup>

#### 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.<sup>63</sup>

#### 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

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<sup>59</sup> Lyman John Chapman and Donald F. Putnam, *The Physiography of Southern Ontario*, Toronto: University of Toronto Press, 1984, 38-40.

<sup>60</sup> Gordon Watson, "Prehistoric Peoples of the Rideau Waterway" (Ontario Archaeology 1982), 5-26, accessed January 18, 2021, <https://ontarioarchaeology.org/Resources/Publications/oa50-1-watson.pdf>

<sup>61</sup> Arthur Roberts, "Paleo-Indian on the North Shore of Lake Ontario" (Archaeology of Eastern North America No. 8 1984), 28-45.

<sup>62</sup> Arthur Roberts, Paleo-Indian, "Pre-ceramic Occupations Along the North Shore of Lake Ontario" (National Museum of Man, Archaeological Survey of Canada, Mercury Series, Paper 132, 1985).

<sup>63</sup> EMCWFT, "Chapter 3: The First Nations," (Toronto: TRCA, 2002).

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).<sup>64</sup> The Early Woodland is defined by the introduction of clay pots which allowed for preservation and easier cooking.<sup>65</sup> 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 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).<sup>66</sup> 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 longhouses. By the 1500s, Iroquoian communities in southern Ontario – and more widely across northeastern North America – were organized 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).<sup>67</sup>

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

European powers claimed control of much of North America in the 18<sup>th</sup> century. French explorers and missionaries began arriving in southern Ontario during the first half of the 17<sup>th</sup> 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.<sup>68</sup>

A French mission was established near modern-day Trenton and operated from 1668 to 1680.<sup>69</sup> 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.<sup>70</sup>

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<sup>64</sup> EMCWFT, "Chapter 3: The First Nations," (Toronto: TRCA, 2002).

<sup>65</sup> EMCWFT, "Chapter 3: The First Nations," (Toronto: TRCA, 2002).

<sup>66</sup> EMCWFT, "Chapter 3: The First Nations," (Toronto: TRCA, 2002).

<sup>67</sup> Six Nations Elected Council, "About," *Six Nations of the Grand River*, accessed 12 May 2022, <https://www.sixnations.ca/about>; University of Waterloo, "Land acknowledgment," *Faculty Association*, accessed 10 May 2022, <https://uwaterloo.ca/faculty-association/about/land-acknowledgement>; Six Nations Tourism, "History," accessed March 5, 2022, <https://www.sixnationstourism.ca/history/>.

<sup>68</sup> William Fox and Jean-Luc Pilon "St. Charles or Dovetail", 2015, 17.

<sup>69</sup> "Kenté (Quinte) Mission, The", Ontario Heritage Trust, accessed 12 May 2022, <https://www.heritagetrust.on.ca/en/plaques/kente-quinte-mission>.

<sup>70</sup> Mississaugas of the Credit First Nation, "Community Profile," *Mississaugas of the New Credit First Nation*, accessed 10 May 2022, <http://mncfn.ca/about-mncfn/community->

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.<sup>71</sup> 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.<sup>72</sup>

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 Gaspé to a line just west of the Ottawa River.<sup>73</sup> 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.<sup>74</sup> 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.<sup>75</sup> 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.<sup>76</sup> An agreement was made between the Mississaugas and the Crown; however, no copies of this deed survive, only Crawford's letters to his superiors. Some of the land covered

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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>.

<sup>71</sup> "Grenville County History", Grenville County Archives, accessed 10 May 2022, <http://www.grenvillecountyarchives.ca/history.html>

<sup>72</sup> "Grenville County History", Grenville County Archives, accessed 10 May 2022, <http://www.grenvillecountyarchives.ca/history.html>

<sup>73</sup> Randall White, 1985, *Ontario 1610-1985 a political and economic history*, Toronto, ON: Dundurn Press Limited, 51.

<sup>74</sup> Randall White, 1985, *Ontario 1610-1985 a political and economic history*, Toronto, ON: Dundurn Press Limited, 51; Archives of Ontario, 2015a, *The Changing Shape of Ontario*, "The Evolution of Ontario's Boundaries 1774-1912", <http://www.archives.gov.on.ca/en/maps/ontario-boundaries.aspx>

<sup>75</sup> Archives of Ontario, "The Changing Shape of Ontario, Early Districts and Counties 1788-1899", <http://www.archives.gov.on.ca/en/maps/ontario-districts.aspx>.

<sup>76</sup> Government of Ontario, "Map of Ontario Treaties and Reserves," accessed 10 May 2022, <https://www.ontario.ca/page/map-ontario-treaties-and-reserves#t2>.



by the Crawford Purchase was that of the Algonquins who did not participate in the agreement. This created a source of conflict that still has not been resolved.<sup>77</sup>

#### 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 (Figure 3).<sup>78</sup> The first survey of Wolford Township took place in 1795. The first road (known as the Lower Road) was slashed through the wilderness from Prescott, north into Oxford Township reaching the Rideau River at Burritts Rapids in 1792.<sup>79</sup>

The first recorded Euro-Canadian settler in the Andrewsville area was Robert Nicholson, a United Empire Loyalist from Albany, New York 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.<sup>80</sup> 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.<sup>81</sup> By 1802, there were 90 inhabitants in Montague Township and 165 inhabitants in Wolford Township.<sup>82</sup>

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.<sup>83</sup>

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<sup>77</sup> David Shanahan, "Land for Goods: The Crawford Purchases," last updated 8 November 2018, accessed 10 May 2022, <http://anishinabeknews.ca/2018/11/08/land-for-goods-the-crawford-purchases/>; John Boileau, "Crawford Purchases," last updated 16 January 2021, accessed 10 May 2022, <https://www.thecanadianencyclopedia.ca/en/article/crawford-purchase>.

<sup>78</sup> Jean S. McGill, "A Pioneer History of the County of Lanark", 1968, 1

<sup>79</sup> 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>

<sup>80</sup> 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>

<sup>81</sup> 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>

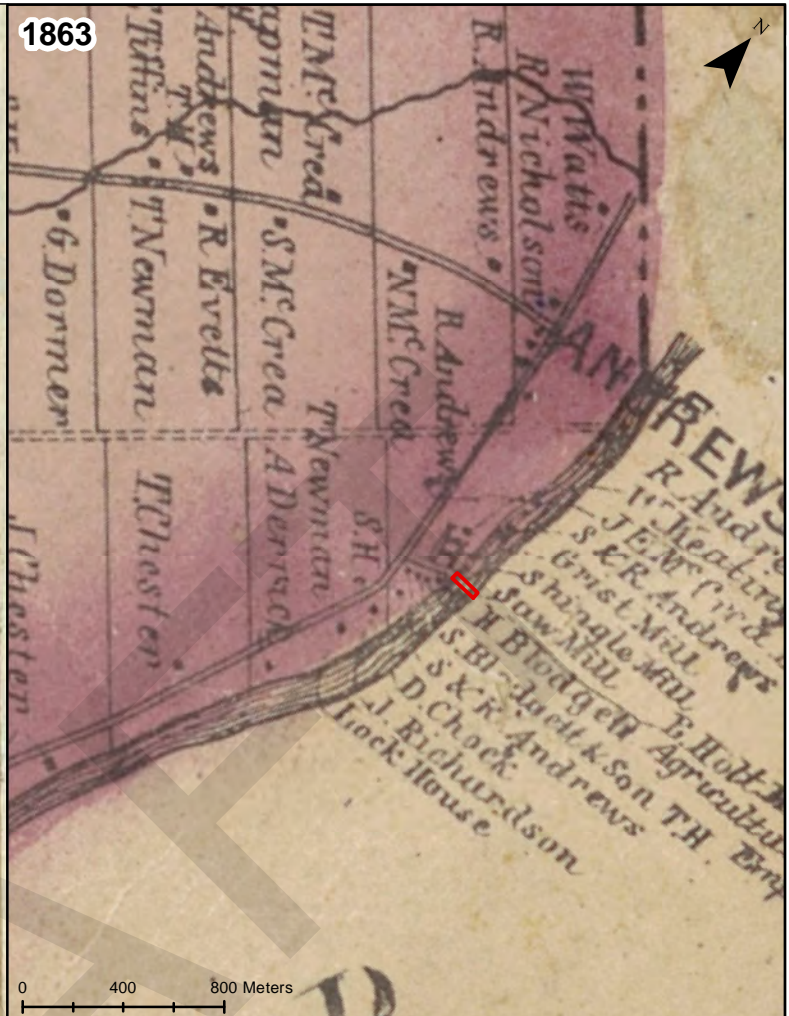
<sup>82</sup> Richard Tatley, "Industries and Industrialists of Merrickville, 1792-1799", Manuscript Report 423, National Historic Parks and Sites Branch & Parks Canada, 1979, 2-3, accessed 11 May 2022, <http://www.parkscanadahistory.com/series/mrs/423.pdf>

<sup>83</sup> Keith Thompson, "Lanark County: History & Maps", May 2002, accessed 9 May 2022, <https://sites.rootsweb.com/~onlanark/history.htm>

1797 rev 1837



1863



1879



**Legend**


 Andrewsville Bridge

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

**CLIENT**  
Jewell Engineering

**PROJECT** PROJECT NO. LHC0295  
Cultural Heritage Evaluation Report Andrewsville Bridge Spanning the Rideau River, Lanark County and the United Counties of Leeds and Grenville, ON

**NOTE(S)** 1. All locations are approximate.  
**REFERENCE(S)**  
1. H. Belden & Co., "Township of Montague", (https://digital.library.mcgill.ca/countyatlas/searchmapframes.php: accessed May 18, 2022), scale unknown, Toronto: H. Belden & Co., 1880.  
2. Gray, O.W., "Map of the Counties of Lanark and Renfrew Canada West", (https://www.arcgis.com/apps/webappviewer/index.html?id=8cc6be34f6b54992b27da17467492d2f: accessed May 18, 2022), digitized map, Ontario Historical County Maps, scale unknown, n.a.: D.P. Putnam, 1963.  
3. Archives of Ontario, "Montague Township", (http://ao.minisisinc.com/FS\_IMAGES/10050885.jpg: accessed May 18, 2022), scale 1:31,680, 1797 rev. 1837.  
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<b>CONSULTANT</b>	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 (Figure 3).<sup>84</sup> 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.<sup>85</sup> 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.<sup>86</sup> 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<sup>87</sup> (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.<sup>88</sup> 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.<sup>89</sup>

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."<sup>90</sup>

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".<sup>91</sup> An 1863 map of Lanark and Renfrew Counties illustrates the growth of Andrewsville and notes prominent milling businesses and residents (Figure 3). An 1879 map of Montague Township illustrates the expansion of the Andrewsville village street grid and the road over the Rideau Waterway is visible (Figure 3). By 1880, the population of Andrewsville increased to two hundred residents

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<sup>84</sup> Upper Canada Land Petitions (1763-1865), 205131, c-2192, 557-560. 59

<sup>85</sup> Richard Tatley, "Industries and Industrialists of Merrickville, 1792-1799", 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>

<sup>86</sup> Parks Canada, *Rideau Canal Preliminary Site Study Series No. 13 Nicholson's Locks/Clowe's Lock*, November 1976, 14.

<sup>87</sup> Parks Canada, *Rideau Canal Preliminary Site Study Series No. 13 Nicholson's Locks/Clowe's Lock*, November 1976, 14.

<sup>88</sup> LRO 27 (Lanark), Montague, Book 0, Concession A to B, 16.

<sup>89</sup> "Hezekiah Andrews", Find-A-Grave, accessed 20 May 2022, <https://www.findagrave.com/memorial/101571359/hezekiah-andrews>

<sup>90</sup> Parks Canada, *Rideau Canal Preliminary Site Study Series No. 13 Nicholson's Locks/Clowe's Lock*, November 1976, 9.

<sup>91</sup> L.H. Newman, "Andrewsville and Some Adjacent Properties", 1967.

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.<sup>92</sup>

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 (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.<sup>93</sup> The grist mill was demolished in 1917, the millstones were donated to Upper Canada Village, and the sawmill was destroyed by flooding in 1930.<sup>94</sup> The concrete piers of the mill dam remain visible in the riverbed.

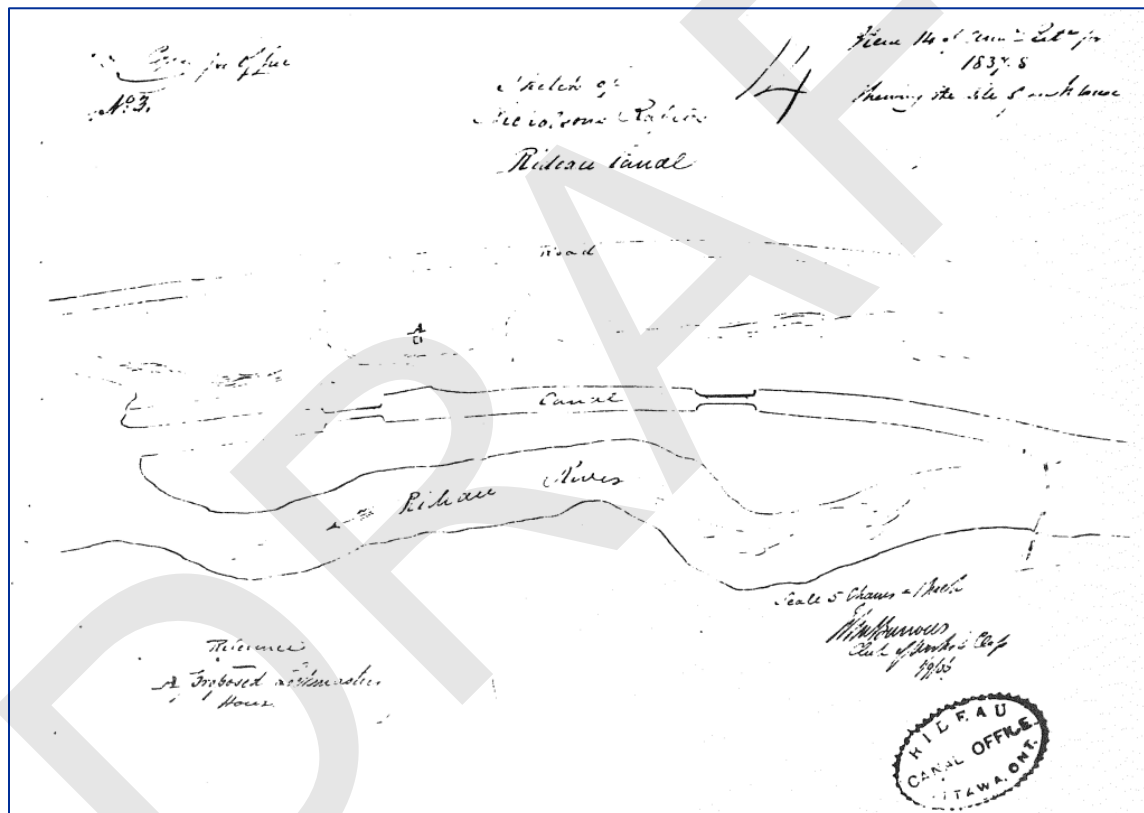


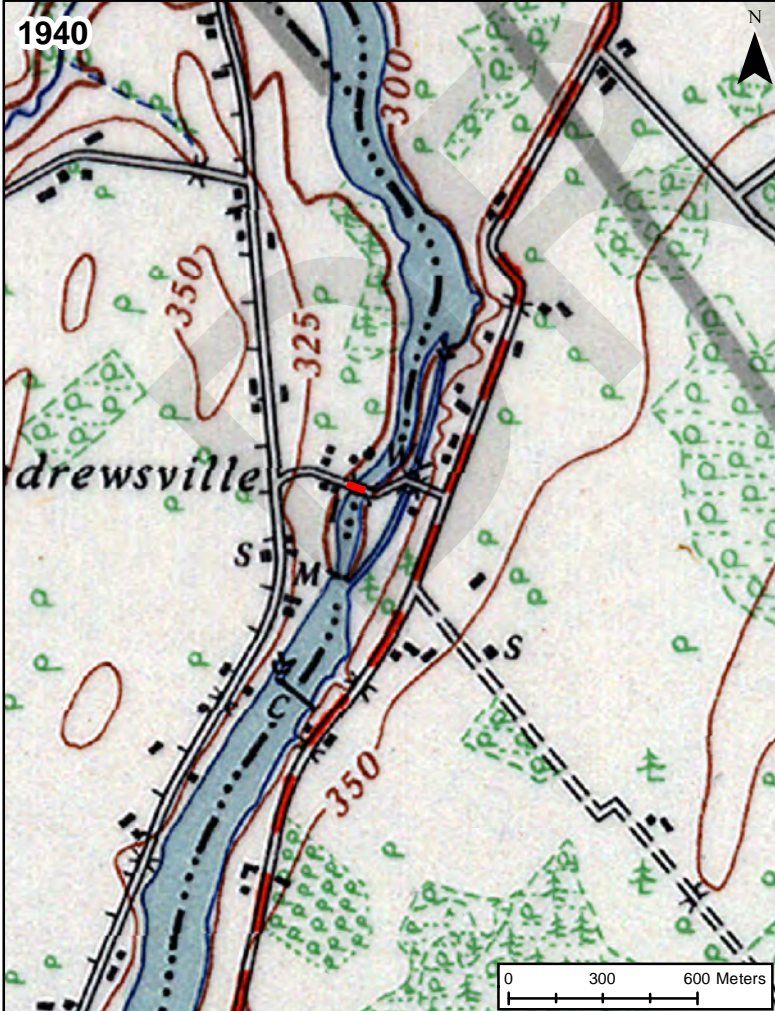
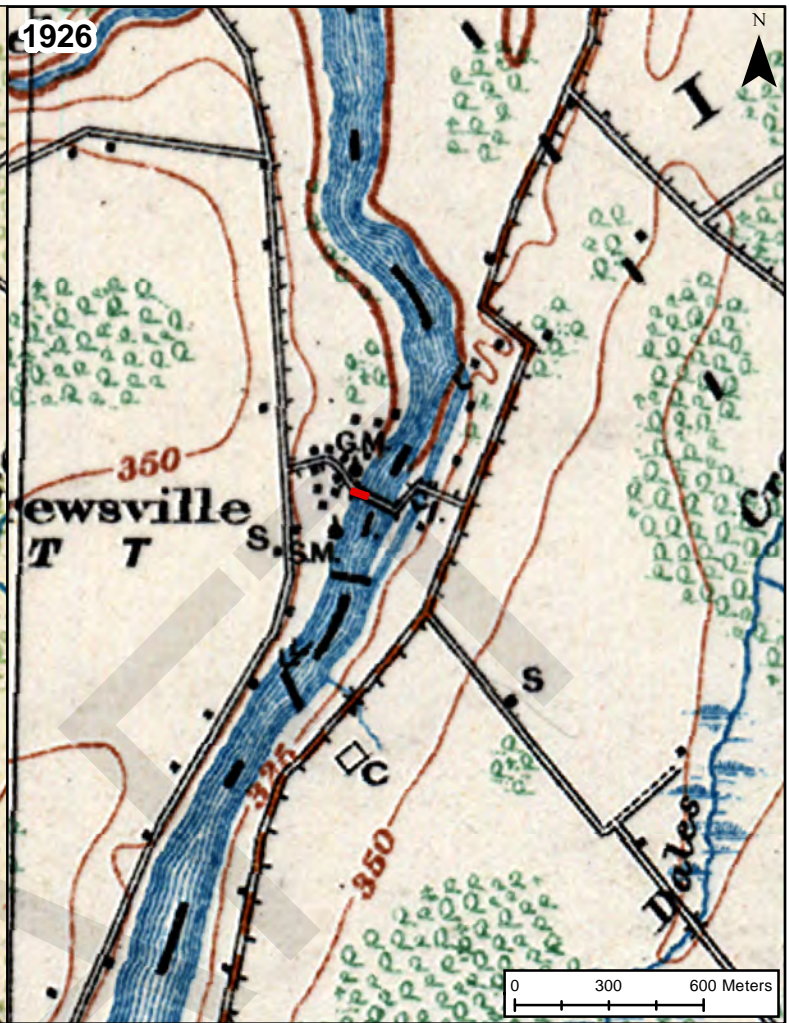
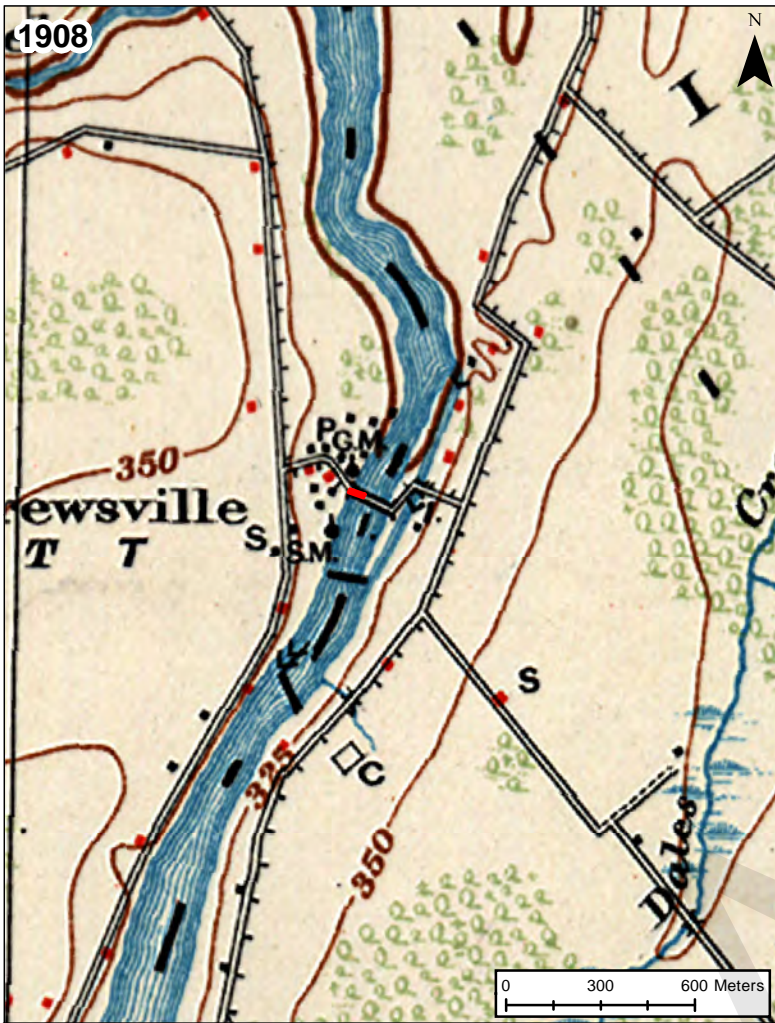
Figure 4: Plan Showing the Proposed Blockhouse at Nicholson's Lockstation, 1836.<sup>95</sup>

<sup>92</sup> L.H. Newman, "Andrewsville and Some Adjacent Properties", 1967.

<sup>93</sup> Jeri Danyleyko, "Andrewsville", Ontario Ghost Towns, 15 January 2015, Accessed 5 May 2022, <https://www.ghosttownpix.com/ontario/towns/andrewsv.html>

<sup>94</sup> 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>

<sup>95</sup> Parks Canada, *Rideau Canal Preliminary Site Study Series No. 13 Nicholson's Locks/Clowe's Lock*, November 1976, 22. Note: sketched by John Burrows.



**Legend**

Andrewsville Bridge

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

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**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/#/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/#/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, "Merrickville, Ontario", (<http://geo2.scholarsportal.info/#/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.  
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<b>CONSULTANT</b>	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.<sup>96</sup> This route was an important transport link between the Great Lakes and Upper Canada running from Montreal to Kingston.<sup>97</sup> Work on the 202-km Canal began in 1827 and was completed in 1832.<sup>98</sup> It served as a main commercial artery for passage through the area until the First World War when commercial use began to cease.<sup>99</sup> The Canal is now used as a recreational route.<sup>100</sup>

## 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.<sup>101</sup> 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 (Figure 6). The second bridge was constructed at Burritt's Rapids in 1824.<sup>102</sup> 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 (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<sup>103</sup> 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 (Figure 9 and Figure 10). Andrews also built a swing bridge across Upper Nicholson's 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).<sup>104</sup> 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.<sup>105</sup>

In December 1901, a committee of Lanark County Council recommended that the timber fixed bridge be rebuilt.<sup>106</sup> By June 1903, the timber fixed bridge was deemed to be unsafe and in poor

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<sup>96</sup> 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>

<sup>97</sup> Parks Canada, "History and Culture," 2021.

<sup>98</sup> Parks Canada, "History and Culture," 2021.

<sup>99</sup> Parks Canada, "History and Culture," 2021.

<sup>100</sup> Parks Canada, "History and Culture," 2021.

<sup>101</sup> 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>

<sup>102</sup> Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", 1976, 29.

<sup>103</sup> Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", 1976, 28.

<sup>104</sup> Robert W. Passfield, "Historic Bridges on the Rideau Waterways System – A Preliminary Report", 1976, 29.

<sup>105</sup> Glenn J. Lockwood, "Montague: A Social History of an Irish Township 1783-1980, Township of Montague, ON, 1980, 368.

<sup>106</sup> 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](https://www.canadiana.ca/view/oocihm.8_06062_618/2)

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.<sup>107</sup> 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.<sup>108</sup> In February 1904, the Dominion Bridge Company completed and opened the bridge for traffic.<sup>109</sup>

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 (Figure 11 and Figure 12).<sup>110</sup> 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.<sup>111</sup>

Maintenance records indicate that the bridge was repaired in 1944 (rebuilding of the floor system and repainting)<sup>112</sup>, in 1963 (when the timber deck was replaced in-kind with creosote-treated jack pine timbers), 1983, 2008, and 2019.<sup>113</sup> Traffic signs limiting loads to a 5-tonne load restriction were installed in 1952.<sup>114</sup> In 1976, historical research undertaken by Robert W. Passfield (Parks Canada historian) identified and documented the Andrewsville Bridge and the Upper Nicholson's Lockstation swing bridge as historic bridges over the Rideau Waterway (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.<sup>115</sup>

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<sup>107</sup> Minutes of the Council United Counties of Leeds & Grenville, November 1903, 401.

<sup>108</sup> Minutes of the Council United Counties of Leeds & Grenville, November 1903, 432.

<sup>109</sup> Minutes of the Council United Counties of Leeds & Grenville, January 1904, 459.

<sup>110</sup> Minutes of the Council United Counties of Leeds & Grenville, June 1904, 512.

<sup>111</sup> Minutes of the Council United Counties of Leeds & Grenville, June 1904, 512.

<sup>112</sup> County of Lanark, Lanark County Highway Committee, 6 September 1944, 3.

<sup>113</sup> County of Lanark, Andrewsville Bridge: Options for the Future (#PW-06-2012), Public Works Committee, 11 January 2012, 2.

<sup>114</sup> County of Lanark, Lanark County Highway Committee, 20 May 1952, 1-2.

<sup>115</sup> OSIM Inspection Report, 2019.



Figure 6: Jebb's Survey of the Rideau River, 1816.<sup>116</sup>

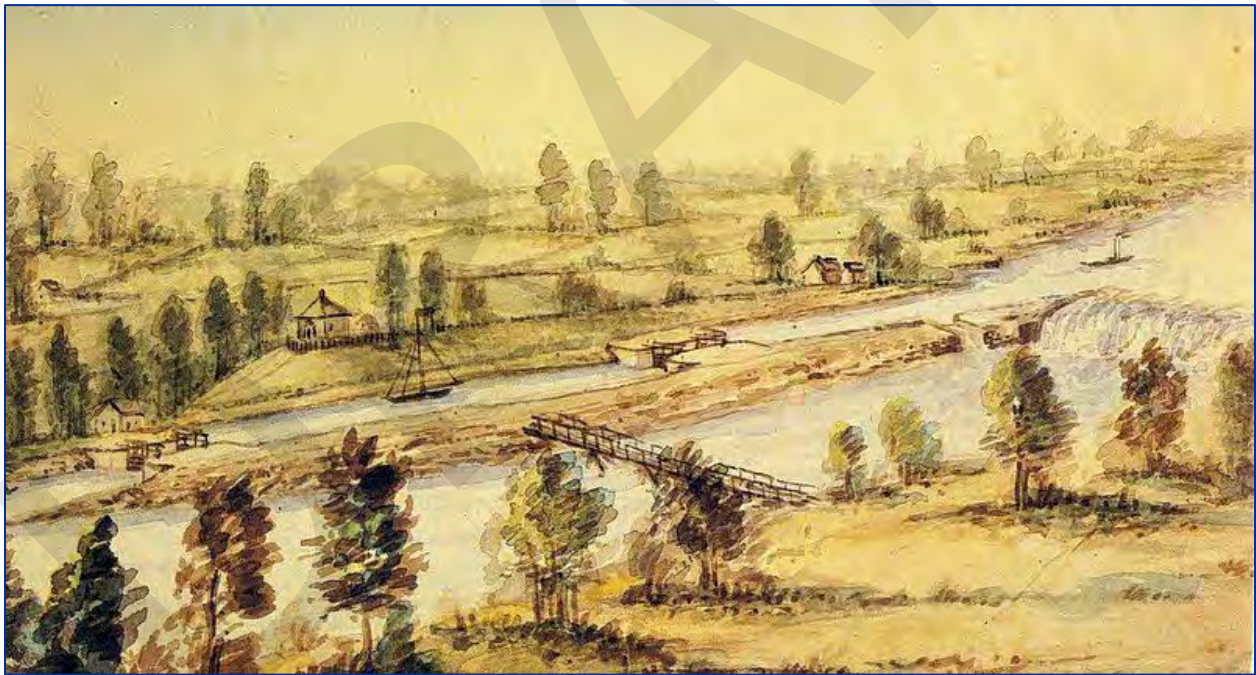


Figure 7: Watercolour painting of Nicholson's Rapids, canal, and timber bridges, c.1840.<sup>117</sup>

<sup>116</sup> Library and Archives Canada, *Plan of the water communication from Kingston to the Grand River* [cartographic material], R2513-526-0-E, 8 July 1816. Note: Showing the Merrickville/Andrewsville area.

<sup>117</sup> Archives of Ontario, C 232, I0021023, William T. Clegg fonds, [online]. Accessed 10 May 2022, [http://ao.minisisinc.com/SCRIPTS/MWIMAIN.DLL/218026015/1/14/21176?RECORD&DATABASE=IMAGES\\_WEB\\_ADD](http://ao.minisisinc.com/SCRIPTS/MWIMAIN.DLL/218026015/1/14/21176?RECORD&DATABASE=IMAGES_WEB_ADD)



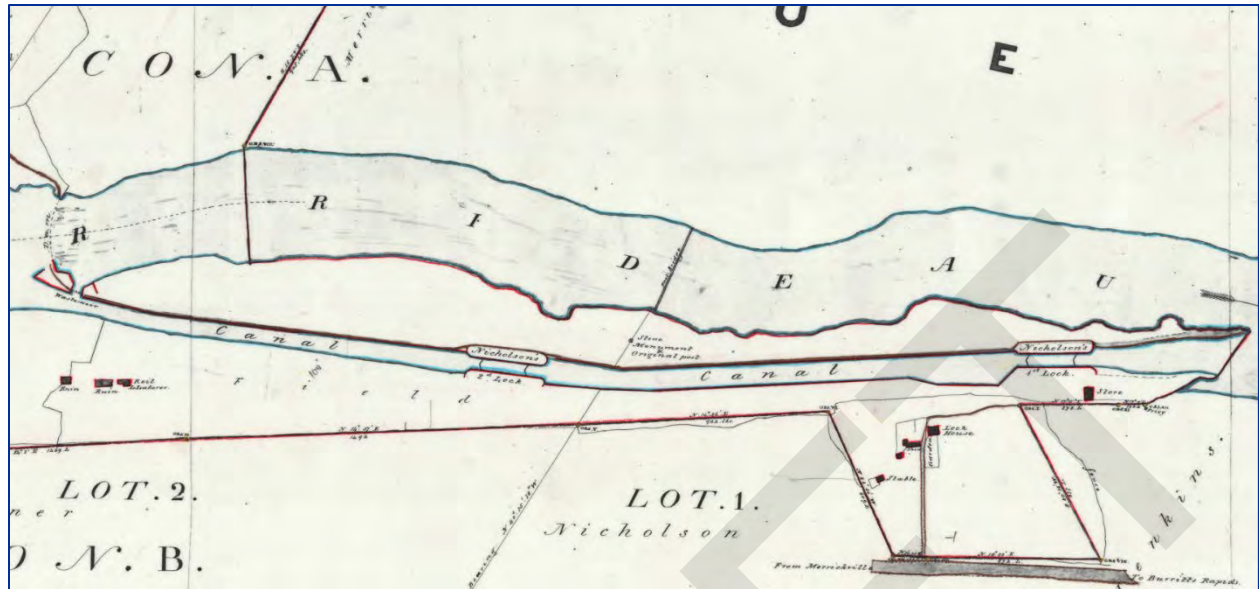


Figure 8: Plan Showing Land Required for Service of the Canal, 1849.<sup>118</sup>

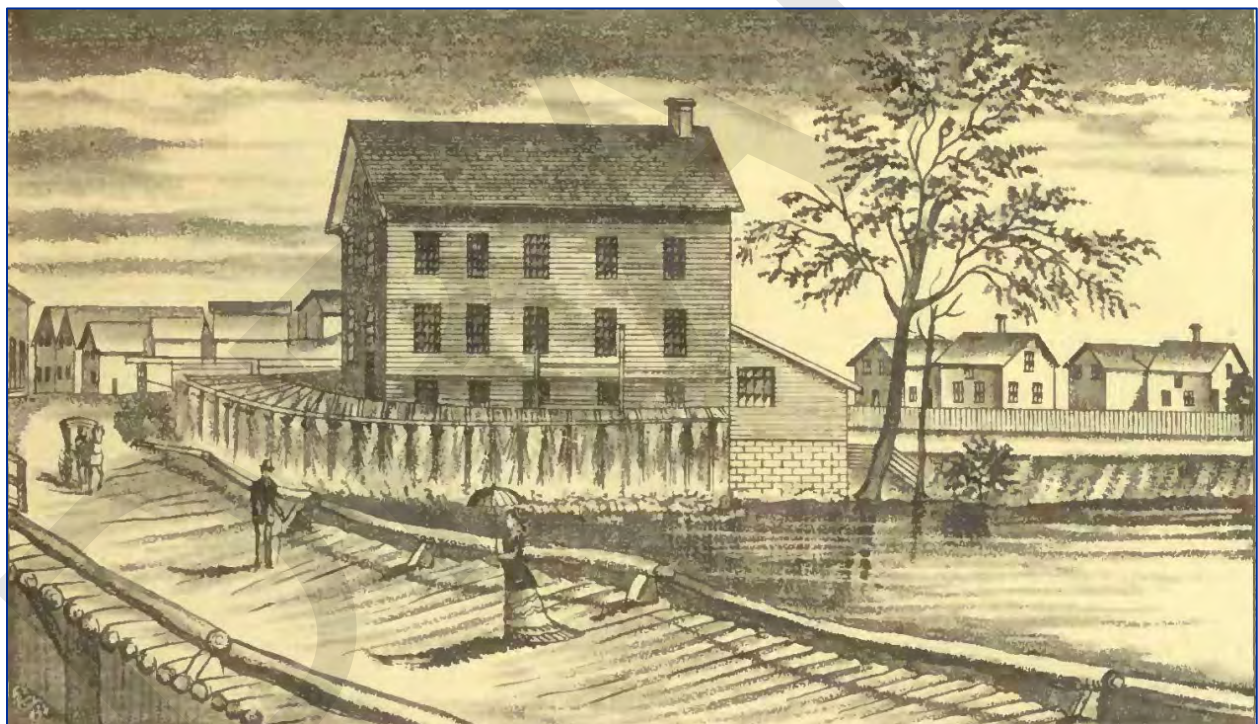


Figure 9: Engraving of Andrews Mill and fixed timber bridge, 1879.<sup>119</sup>

<sup>118</sup> Library and Archives Canada, *Land required for service of the Rideau Canal at Nicholson's and Clow's Lock Station* / John A. Snow, P.L.A, RG84M 77803/9, Accession number: 77803/9 CA, RG84M 77803/9, 1849. Note: existence of a footbridge across the Rideau River.

<sup>119</sup> Thad. W.H. Leavitt, "History of Leeds & Grenville Ontario, From 1749 to 1879", Brockville: ON, Recorder Press, 136.

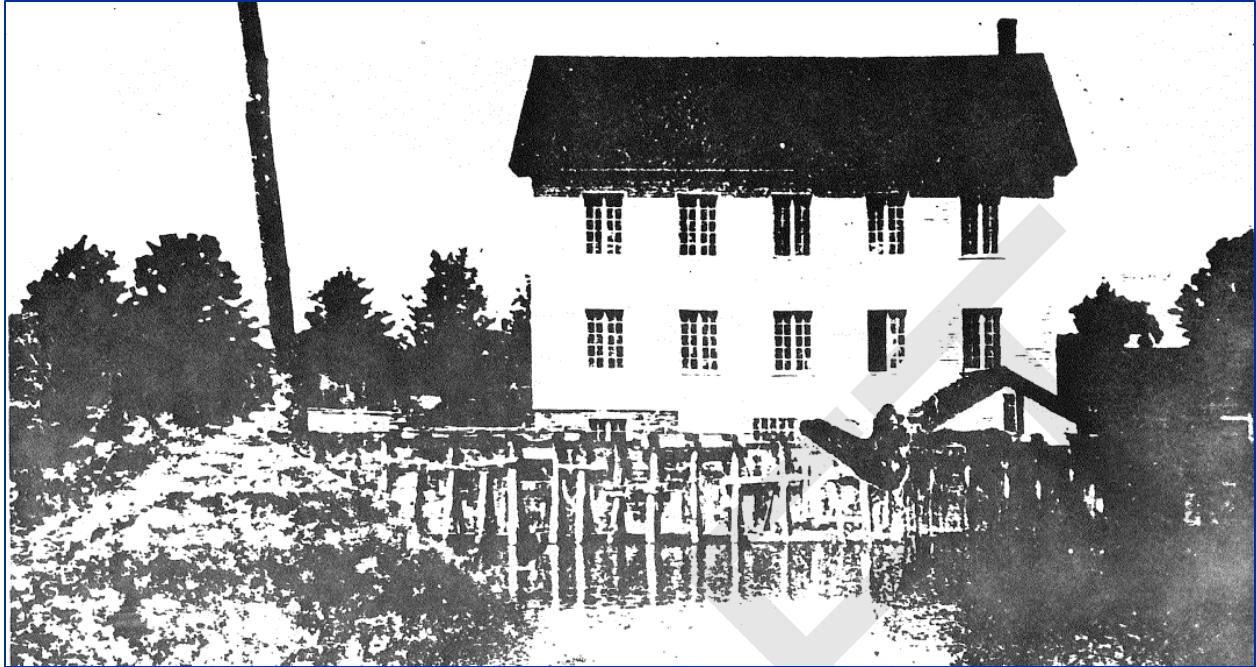


Figure 10: View of Andrews Mill, 1895.<sup>120</sup>

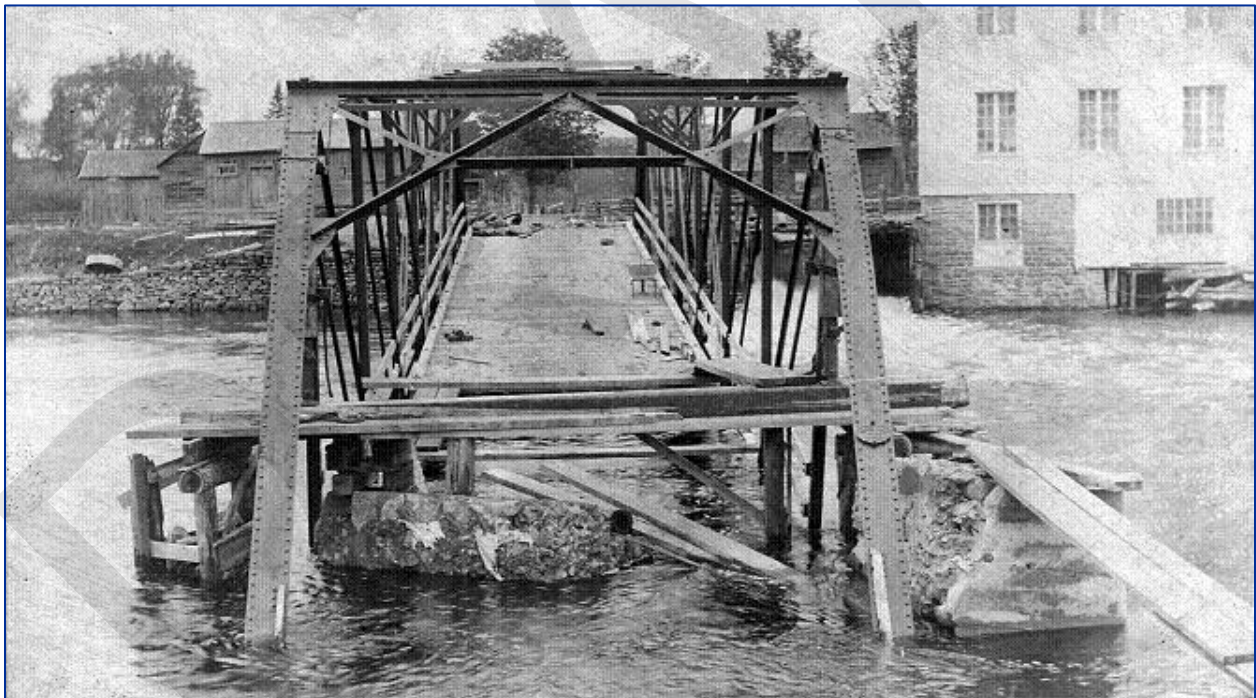


Figure 11: View of the damaged Andrewsville Bridge, 1904.<sup>121</sup>

<sup>120</sup> Parks Canada, *Rideau Canal Preliminary Site Study Series No. 13 Nicholson's Locks/Clowe's Lock*, November 1976, 25. Note: taken by Col. Hassall, Merrickville.

<sup>121</sup> "Andrewsville Bridge", [HistoricBridges.org](https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/andrewsville/), accessed 11 May 2022, <https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/andrewsville/>



Figure 12: View of the damaged Andrewsville Bridge, 1904.<sup>122</sup>

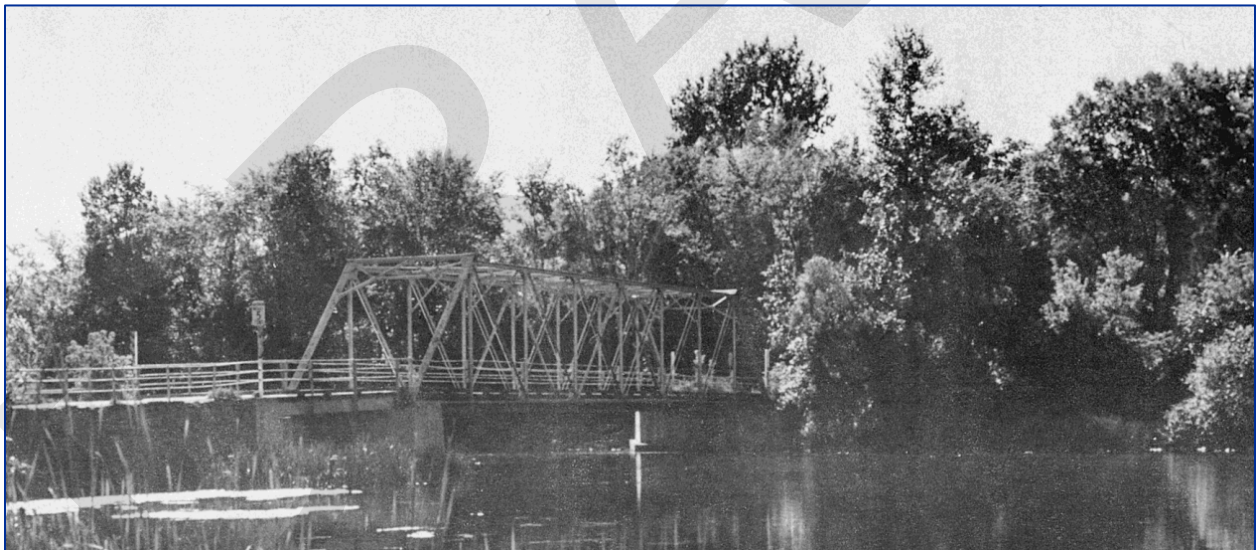


Figure 13: View of Andrewsville Bridge, 1976.<sup>123</sup>

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<sup>122</sup> "Walking Tour of Nicholson's Locks and Vicinity", Ontario Trails Council, May 2010, <https://www.ontariotrails.on.ca/assets/files/pdf/trails/Nicholson%20Locks%20BrochureFinal.doc>. Note: Taken by A.L. Phillips, Library and Archives Canada.

<sup>123</sup> 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: View of the swing bridge at Upper Nicholson's Lockstation, 1976.<sup>124</sup>

#### 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.<sup>125</sup> 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.<sup>126</sup>

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.<sup>127</sup> 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.<sup>128</sup> 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.<sup>129</sup> It consists of selected and prepared layers of lumber that

<sup>124</sup> 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>

<sup>125</sup> David Cuming, "Discovering Heritage Bridges on Ontario's Roads, 1984, 18.

<sup>126</sup> David Cuming, 1984, 24.

<sup>127</sup> David Cuming, 1984, 38.

<sup>128</sup> David Cuming, 1984, 41-43.

<sup>129</sup> 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.

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.<sup>130</sup>

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.<sup>131</sup> Truss bridges were often selected from a catalogue (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.<sup>132</sup>

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.<sup>133</sup> The pin connections were easy and quick to assemble but were prone to loosening from vibration caused by heavily loaded vehicles.<sup>134</sup>

The first hydraulic riveting machine was invented in 1865 by Ralph Hart Tweddell.<sup>135</sup> 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.<sup>136</sup> 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.<sup>137</sup> 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.<sup>138</sup> 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.<sup>139</sup>

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.<sup>140</sup> 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

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<sup>130</sup> 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>

<sup>131</sup> Nathan Holth, "Balls Bridge and Truss Bridges: A Brief Historical Overview", 2006, accessed 14 May 2022, <http://historicbridges.org/bridges/browser/?bridgebrowser=ontario/balls/>

<sup>132</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2005, 2-18.

<sup>133</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16

<sup>134</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16

<sup>135</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16

<sup>136</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16

<sup>137</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2-16

<sup>138</sup> TranSystems, "PennDOT Truss Maintenance Manual," 1-2.

<sup>139</sup> Nathan Holth, "Balls Bridge and Truss Bridges: A Brief Historical Overview", 2006, accessed 14 May 2022, <http://historicbridges.org/bridges/browser/?bridgebrowser=ontario/balls/>

<sup>140</sup> Parsons Brinkerhoff and Engineering and Industrial Heritage, 2005, 3-25 and Nathan Holth, 2006.

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.<sup>141</sup>

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

CATALOGUE S. 1. JANUARY 1915

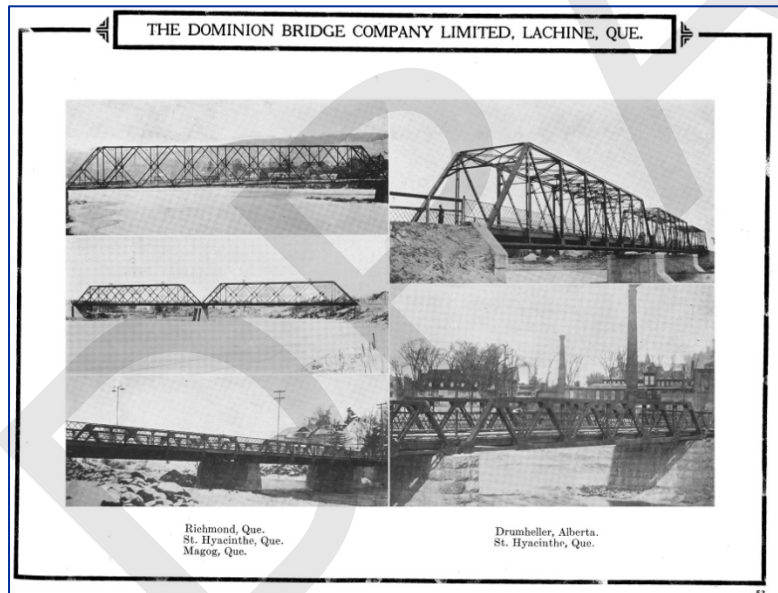


Figure 15: Dominion Bridge Co. trade catalogue, 1915.<sup>142</sup>

<sup>141</sup> 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>

<sup>142</sup> 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 (Figure 16). 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.<sup>143</sup>

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).

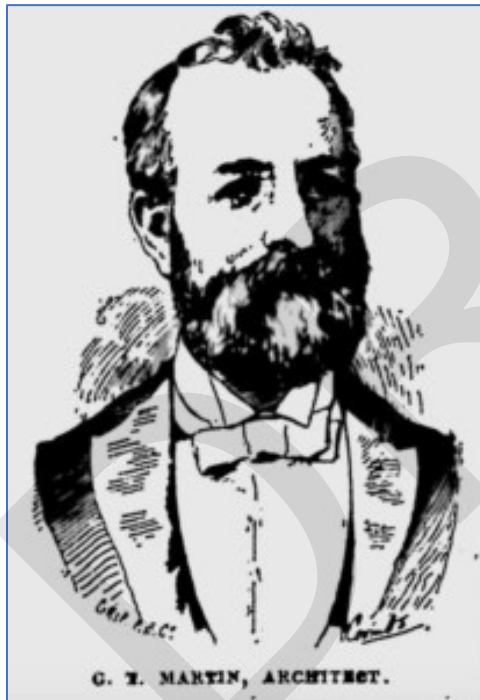


Figure 16: Portrait engraving of George T. Martin, date unknown.<sup>144</sup>

<sup>143</sup> "Martin, George Thomas", Biographical Dictionary of Architects in Canada 1800-1950, accessed 9 May 2022, <http://dictionaryofarchitectsincanada.org/node/664>

<sup>144</sup> 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.<sup>145</sup> By 1885 the company had two plant complexes, one in Lachine and one in Toronto (Figure 17).

In 1888, the Toronto-based subsidiary was closed as all the production was transferred to an expanded Lachine plant complex.<sup>146</sup> A 1903 photograph shows a machine shop at the Lachine plant complex (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 20<sup>th</sup> 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.<sup>147</sup> 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.<sup>148</sup>

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.<sup>149</sup>

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).<sup>150</sup>

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<sup>145</sup> Larry McNally, "Abbott, 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](http://www.biographi.ca/en/bio/abbott_job_12E.html)

<sup>146</sup> "Dominion Bridge Co. Ltd., and Subsidiaries, Lachine, P.Q.", *Canadian Machiner*, 1916, 1113, <https://archive.org/details/canadianmachiner16torouoft/page/1113/mode/1up?view=theater>

<sup>147</sup> *International Directory of Company Histories*, Vol. 16, Detroit, MI: St. James Press, 1997, <http://www.fundinguniverse.com/company-histories/united-dominion-industries-limited-history/>

<sup>148</sup> 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/>

<sup>149</sup> 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>

<sup>150</sup> 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. | Works at Toronto, Ontario.  
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Q. C. Ry.; Q. & L. St. J. Ry.; I. C. Ry.; W. & A. Ry.; Canada Atlantic Ry.; Ont. & Quebec Ry.;  
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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.<sup>151</sup>

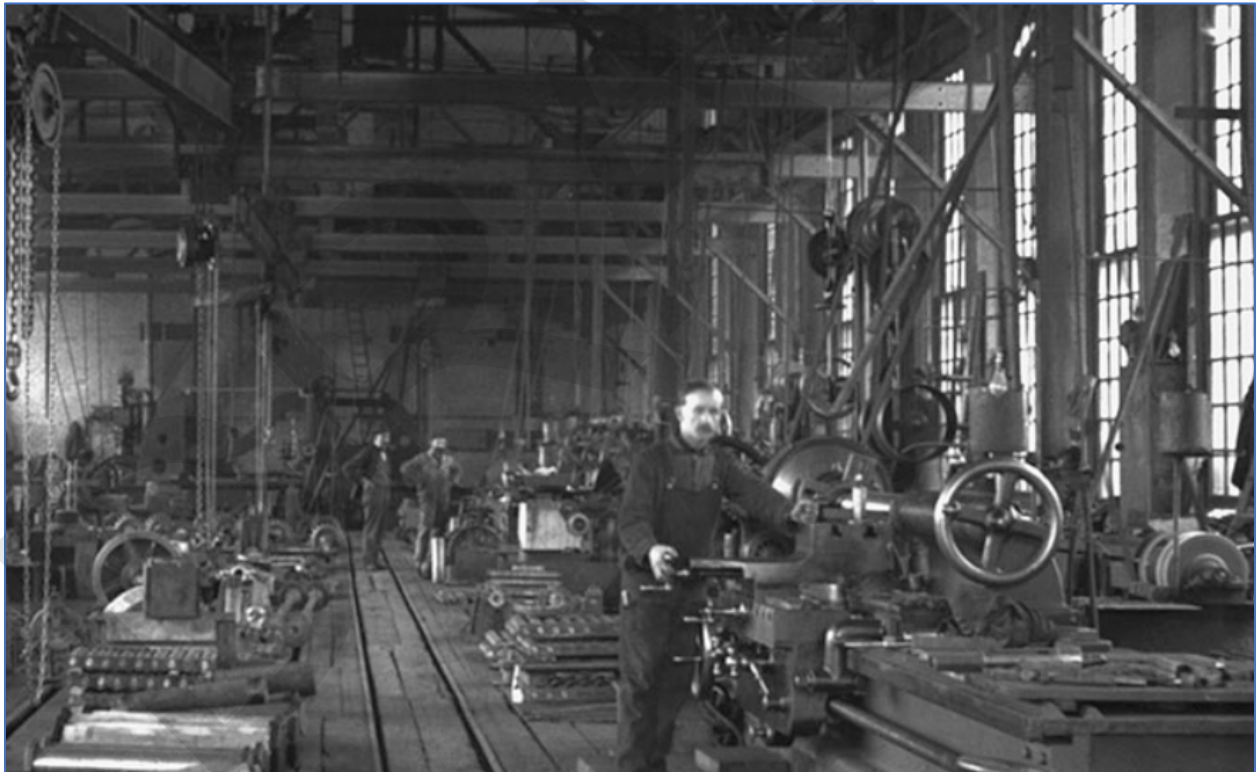


Figure 18: View of machine shop at Lachine, 1903.<sup>152</sup>

<sup>151</sup> "Youngs Point Bridge", HistoricBridges.org, accessed 19 May 2022,  
<https://historicbridges.org/bridges/browser/?bridgebrowser=ontario/youngspointold/>

<sup>152</sup> 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.<sup>153</sup> 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 (Photo 1). Public fundraisers began in 2014 and the first newsletter was published that year.<sup>154</sup>

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 (Photo 2).<sup>155</sup>



Photo 1: View of "Save Our Andrewsville Bridge" placard.

<sup>153</sup> 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>

<sup>154</sup> Friends of the Andrewsville Bridge, No. 1, March 2014; Tom Van Dusen, "Friends fight to save Andrewsville Bridge", 22 August 2012, Ottawa Sun.

<sup>155</sup> 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/>



Photo 2: View of Andrewsville Interpretive plaque.

## 5.0 STATEMENTS OF SIGNIFICANCE/CULTURAL HERITAGE VALUE OR INTEREST

The Bridge does not have formal heritage recognition under the *OHA*, but does span the Rideau River, which forms part of the Rideau Canal, a UNESCO World Heritage Site, a National Historic Site of Canada, and a Canadian Heritage River.

The Bridge is within land associated with the visual setting and landscape character of the Rideau Canal Waterway as it spans the Rideau River adjacent to the Upper and Lower Nicholson Lockstations.<sup>156</sup> The visual setting is associated with the Level Two resources of *In Situ* Resources and the Natural Environment of the Rideau Canal Corridor. As identified in the *Rideau Corridor Landscape Strategy* the landscape character and visual setting of the Upper and Lower Nicholson Lockstations includes a C7 Agricultural/Farmland zone and a N6 Wetland/Marsh zone immediately north of a Rideau Canal Viewpoint towards and immediately south towards.<sup>157</sup>

The following heritage values of the Rideau Canal have been directly quoted from Parks Canada and the Canadian Heritage Rivers System and were considered in the preparation of this HIA.

### 5.1 Rideau Canal UNESCO World Heritage Site Statement of Outstanding Universal Value

The Rideau Canal, a monumental early 19th-century construction covering 202 km of the Rideau and Cataraqui rivers from Ottawa south to Kingston Harbour on Lake Ontario, was built primarily for strategic military purposes at a time when Great Britain and the United States vied for control of the region. The site, one of the first canals to be designed specifically for steam-powered vessels, also features an ensemble of fortifications. It is the best-preserved example of a slackwater canal in North America, demonstrating the use of this European technology on a large scale. It is the only canal dating from the great North American canal-building era of the early 19th century to remain operational along its original line with most of its structures intact.

#### **Outstanding Universal Value**

The Rideau Canal is a large strategic canal constructed for military purposes which played a crucial contributory role in allowing British forces to defend the colony of Canada against the United States of America, leading to the development of two distinct political and cultural entities in the north of the American continent, which can be seen as a *significant* stage in human history.

**Criterion (i):** The Rideau Canal remains the best preserved example of a slackwater canal in North America demonstrating the use of European slackwater technology in North America on a large scale. It is the only canal dating from the great North American canal-building era of the early 19th century

<sup>156</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," 2012, Appendix B.

<sup>157</sup> Dillon Consulting Limited, "Rideau Corridor Landscape Strategy," Map 9.

that remains operational along its original line with most of its original structures intact.

**Criterion (iv):** The Rideau Canal is an extensive, well preserved and *significant* example of a canal which was used for a military purpose linked to a *significant* stage in human history - that of the fight to control the north of the American continent.

The nominated property includes all the main elements of the original canal together with relevant later changes in the shape of watercourses, dams, bridges, fortifications, lock stations and related archaeological resources. The original plan of the canal, as well as the form of the channels, has remained intact. The Rideau Canal has fulfilled its original dynamic function as an operating waterway without interruption since its construction. Most of its lock gates and sluice valves are still operated by hand-powered winches.

All the elements of the nominated area (canal, associated buildings and forts) are protected as national historic sites under the Historic Sites and Monuments Act 1952-3. A buffer zone has been established. Repairs and conservation of the locks, dams, canal walls and banks are carried out directly under the control of Parks Canada. Each year one third of the canal's assets are thoroughly inspected by engineers. A complete inventory thus exists of the state of conservation of all parts of the property. A Management Plan exists for the canal (completed in 1996 and updated in 2005), and plans are nearing completion for Fort Henry and the Kingston fortifications. The Canal Plan is underpinned by the Historic Canals Regulations which provide an enforcement mechanism for any activities that might impact on the cultural values of the monument.<sup>158</sup>

## 5.2 Rideau Canal – National Historic Site of Canada

The Rideau Canal was designated as a national historic site of Canada on 15 May 1925 because:

- [it was] built between 1826 and 1832, it is the best preserved canal from the great canal-building era in North America that is still fully operational: its historic structures and environment speak to its ingenious design, construction, and military purpose, as well as to its social and economic functions;
- it exemplifies cutting edge canal design due to Lieutenant-Colonel John By's innovative "slackwater" approach, which created a navigable route from natural waterways and lakes on a scale previously unseen in North America, and because it was one of the first canals in the world engineered specifically for steam-powered vessels;
- its construction through more than 200 kilometers of bush, swamps, and lakes was a monumental feat. Each year, as many as 5,000-6,000 workmen

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<sup>158</sup> UNESCO World Heritage Convention, "Rideau Canal," World Heritage List, accessed 21 October 2022, <https://whc.unesco.org/en/list/1221/>

- assembled at over two-dozen worksites. The great majority of the labourers were Irish and French Canadian toiling under the supervision of contractors and the Royal Engineers. Working primarily with hand tools and in extremely difficult and dangerous conditions, these labourers and skilled craftsmen, such as Scottish stonemasons, endured disease and injury, with large numbers dying during the canal's construction;
- in the aftermath of the War of 1812, when relations with the United States were tense, it was built to serve as a military canal and represented a fundamental component of Britain's defences in the interior of North America, safeguarding the supply lines between Montréal and Lake Ontario by providing an *alternative* and more defensible route to that along the St. Lawrence River;
  - it contributed *significantly* to the social and economic development of Upper Canada / Ontario prior to 1850, when it was a key artery for the movement of goods and people in and out of the colony. After that time, it continued to be of local commercial importance until the 1930s; since then, it has served as a popular recreational route.

The heritage value of the Rideau Canal lies in the health and wholeness of its cultural landscape, as a witness of the early 19th-century forms, materials and technologies of the waterway, and as a dynamic reflection of the longstanding human and ecological inter-relationships between the canal and its corridor. The Rideau Canal was built for the British government by Lieutenant-Colonel John By as a defensive work in 1826-1837. Canada assumed responsibility for its management in 1855, and the waterway served as a commercial transportation route through most of the 19th and 20th centuries. Parks Canada acquired the canal to sustain its recreational operation in 1972.<sup>159</sup>

### 5.3 Rideau Waterway – Canadian Heritage River

The Rideau Waterway was designated a Canadian Heritage River for its cultural and recreational heritage values.

#### Cultural Heritage

The Rideau canal system, the oldest continually functioning in North America, is a testament to the ingenuity and perseverance of Lieutenant-Colonel John By and others involved in its construction. Built between 1827 to 1832 to provide a safe bypass from Montreal to the south in case of war with America, this trade and commerce route never fell under attack. The 47 locks and many of the original buildings survive to this day. A national historic site and UNESCO World Heritage Site, the cultural heritage of this waterway can be explored through the numerous museums located in communities along its shores.

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<sup>159</sup> Historic Sites and Monuments Board of Canada, "Minutes, June 1924, 1967, November 1987; Commemorative Integrity Statement, 1987", [https://www.pc.gc.ca/apps/dfhd/page\\_nhs\\_eng.aspx?id=503](https://www.pc.gc.ca/apps/dfhd/page_nhs_eng.aspx?id=503)

## Recreational Heritage

The Rideau is a top destination in North America for pleasure boating. To this day, the locks are opened and closed using the original “crab” winches. Boaters must pay fees to pass through the locks and require a mooring permit if they wish to tie up overnight. Camping and toilet facilities can be found at most lockstations. There are also private campgrounds and provincial parks along the route; plenty of hotels and bed-and-breakfasts are also available for canal travellers.

Every winter, a 7.8 km section of the Rideau Canal is transformed into the world’s longest skating rink. Running from Dows Lake to downtown Ottawa, steps away from the Parliament Buildings, the skateway is a must-see tourist destination for the national capital in the winter months.<sup>160</sup>

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<sup>160</sup> Canadian Heritage Rivers System, “Rideau Waterway,” The Rivers, accessed 21 October 2022, <https://chrs.ca/en/rivers/rideau-waterway>.

## 6.0 EXISTING CONDITIONS

### 6.1 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.<sup>161</sup> The Bridge is in the Limestone Plains physiographic region.<sup>162</sup> The Limestone Plains is the largest continuous tract of shallow soil over limestone in Southern Ontario and covers approximately 3,625 km<sup>2</sup>.<sup>163</sup> The surrounding topography is gently rolling and slopes towards the Rideau River.

A commemorative plaque outlining the history of the site and the Bridge is found on the west bank of the Rideau River (Photo 2).

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 (Photo 3 through Photo 6).<sup>164</sup> 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 (Photo 3 and Photo 4). 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). Residential properties are located on the west side of the River, west and north of the Bridge. These properties include 19<sup>th</sup> century brick and stone farmhouses (Photo 4). The Bridge 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 of the Bridge. The Upper and Lower Nicholsons Lockstations are built into an extensive 360 metre artificial channel cut through the east bank of the river (Photo 5 and Photo 6). Lock 20 – Clowes Lockstation is located on the west side of the Bridge (Photo 5), approximately three hundred metres upstream.<sup>165</sup>

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<sup>161</sup> 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>; Maxwell, W., Finkelstein, "Rideau River," 23 January 2014, accessed 10 May 2022  
<https://www.thecanadianencyclopedia.ca/en/article/rideau-river>

<sup>162</sup> L.J. Chapman and D.F. Putnam, *The Physiography of Southern Ontario*, Toronto, ON: Ontario Ministry of Natural Resources, 1984, 197.

<sup>163</sup> L.J. Chapman and D.F. Putnam, *The Physiography of Southern Ontario*, Toronto, ON: Ontario Ministry of Natural Resources, 1984, 197.

<sup>164</sup> 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](https://www.pc.gc.ca/en/lhn-nhs/on/rideau/activ/accueil_info)

<sup>165</sup> Parks Canada, *Rideau Canal Preliminary Site Study Series No. 13 Nicholson's Locks/Clowe's Lock*, November 1976, 9.





Photo 3: View south towards the dam and weir ruins.

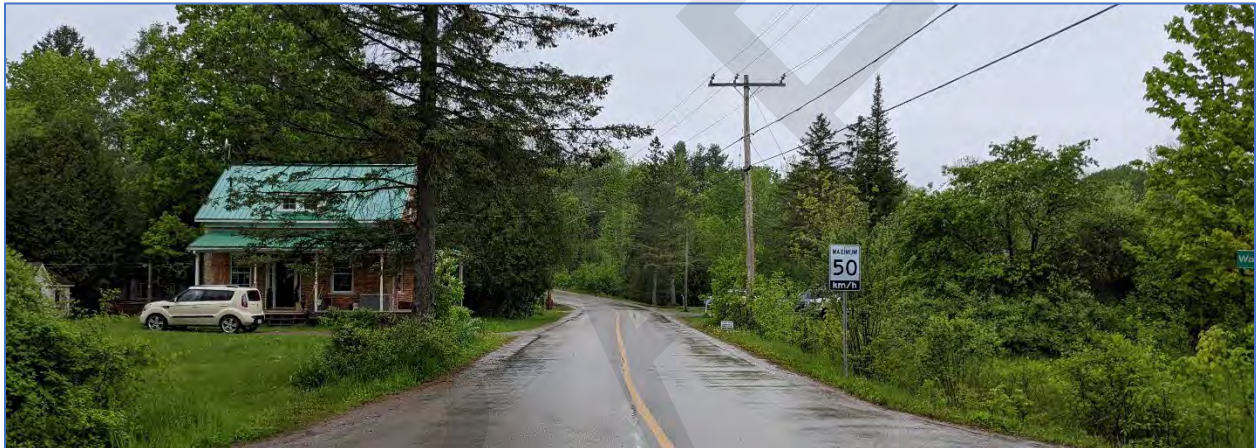


Photo 4: View west towards Andrewsville.

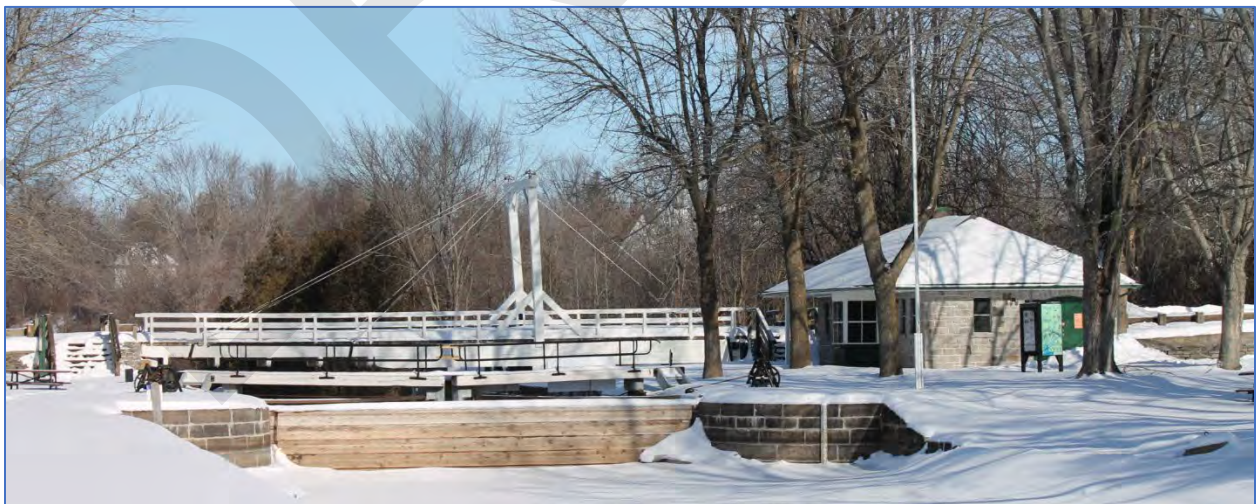


Photo 5: View northwest of Upper Nicholsons Lockstation swing bridge and Lockstation Office.



Photo 6: View south at Upper Nicholson's Lockstation.

## 6.2 The Bridge

The Andrewsville Bridge is a fixed, steel, two-span, eight panel, rivet-connected Pratt through truss bridge. The Bridge has a posted 5-tonne load restriction.

### 6.2.1 Bridge Superstructure

The east span is a short beam bridge with a deck carried on steel I-type beams (Photo 7 through Photo 10). 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 deck of the Bridge is composed of timber planks laid perpendicular with parallel running boards for vehicles (Photo 11). The centre pier and abutments were likely founded on spread footings on bedrock and were originally stone masonry encased in concrete. The guiderails and pedestrian pipe barriers cross the length of the Bridge on the inside of the trusses (Photo 12). The superstructure of the Bridge includes several steel components such as transoms, transom clamps, bracing frames, pins, end posts, and panels (Photo 13). Tie plates were added to many diagonal members in 2013. A "Dominion Bridge Co" plaque is bolted on the southwest elevation end post (Photo 14).<sup>166</sup> The east approach to the Bridge is supported by dry-stone retaining walls backfilled with rubble (Photo 15 and Photo 16).

<sup>166</sup> Keystone Bridge Management Corporation. "Bridge Inspection Report – Andrewsville Bridge", 5 September 2019.



Photo 7: View north towards the Bridge.



Photo 8: View southwest towards the Bridge.



Photo 9: View east across the Bridge.



Photo 10: View east across the Bridge.



Photo 11: View west towards Andrewsville.



Photo 12: View of the guiderails.



Photo 13: View of diagonal and vertical construction.



Photo 14: "Dominion Bridge Co, Ltd. Lachine. P.Q." plaque.



Photo 15: View southwest of dry-stone retaining wall, pier, and 9.2 m span.



Photo 16: View west of the retaining wall and Bridge.

## 6.2.2 Bridge Substructure

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 beam and five stringers spaced at 914 mm. Some stringer ends at the northeast corner have been repaired with bolted extensions (Photo 17 and Photo 18).<sup>167</sup>



Photo 17: View of bolted stringer ends.<sup>168</sup>

<sup>167</sup> Keystone Bridge Management Corporation, "Andrewsville Bridge Wading Inspection Report", July 2021.

<sup>168</sup> Keystone Bridge Management Corporation. "Bridge Inspection Report – Andrewsville Bridge", 5 September 2019, 316 (Image 54).





Photo 18: View east towards the Bridge substructure and east abutment.

### 6.2.3 Bridge Condition Observations

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.<sup>169</sup>

Regarding the bridge superstructure, 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.<sup>170</sup>

### 6.3 Analysis



The Andrewsville Bridge is a fixed, steel, two-span, rivet-connected Pratt through truss bridge. 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

<sup>169</sup> Keystone Bridge Management Corporation. "Bridge Inspection Report – Andrewsville Bridge", 5 September 2019.

<sup>170</sup> Keystone Bridge Management Corporation, "Andrewsville Bridge Wading Inspection Report", July 2021.

located in Lanark County or the United Counties of Leeds and Grenville.<sup>171</sup> Review of the HistoricBridges.org database, an inventory of many historic bridges across North America compiled 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.<sup>172</sup> Presently, the Andrewsville Bridge and the railway bridge at Merrickville are 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.<sup>173</sup> Table 2 provides a brief summary of some Pratt through truss bridges in Ontario.



Table 2: Example of Pratt Through Truss Bridges in Ontario

Bridge and Location	Comment	Image
Merrickville Railway Bridge – Merrickville, Ontario	<p>Metal – Pratt through truss bridge, fixed.</p> <p>It was built in 1906-1907 by the Canadian Pacific Railway.</p> <p>It has unusual details including latticework on the portal bracing and end posts.</p>	 <p>(Historicbridges.org 2013)</p>
Alexandra Bridge – Ottawa, Ontario & Gatineau, Quebec	<p>Metal – Cantilever 18 Panel, Pin-connected, Pratt through truss, fixed.</p> <p>It was built in 1900 by the Dominion Bridge Company.</p> <p>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.</p>	 <p>(Historicbridges.org 2011)</p>

<sup>171</sup> Province of Ontario, “Bridge Conditions,” 2020, accessed 2 March 2022 <https://data.ontario.ca/en/dataset/bridge-conditions>

<sup>172</sup> HistoricBridges.org

<sup>173</sup> 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://parks.canadahistory.com/series/mrs/212rev.pdf>; Gavin Liddy, “Subject: Andrewsville Bridge Cultural and Heritage Evaluation, Parks Canada comments” [correspondence], Parks Canada, 27 August 2007, 2.

Bridge and Location	Comment	Image
<p>Chief William Commanda (Prince of Wales) Bridge – Ottawa, Ontario</p>	<p>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.</p>	 <p>(Historicbridges.org 2018)</p>
<p>Youngs Point Bridge, Peterborough County, Ontario</p>	<p>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.</p>	 <p>(Historicbridges.org 2012)</p>

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## 7.0 UNDERSTANDING OF CULTURAL HERITAGE VALUE OR INTEREST

Table 3 is LHC's evaluation of the Bridge against *O. Reg. 09/06* under the *OHA* using research and analysis presented in the *CHER* dated 17 October 2022.

Table 3: Evaluation against *O. Reg. 09/06*

Criteria for Determining Cultural Heritage Value or Interest	Assessment (Yes/No)	Rationale
<b>1. Design or physical value:</b>		
<b>i. is a rare, unique, representative or early example of a style, type, expression, material, or construction method,</b>	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.
<b>ii. displays a high degree of craftsmanship or artistic merit, or</b>	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.
<b>iii. demonstrates a high degree of technical or scientific achievement.</b>	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.

Criteria for Determining Cultural Heritage Value or Interest	Assessment (Yes/No)	Rationale
<b>2. Historical or associative value:</b>		
<b>i. has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community,</b>	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 Nicholson's Lockstations.
<b>ii. yields, or has the potential to yield, information that contributes to an understanding of a community or culture, or</b>	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 20 <sup>th</sup> century. The history of these bridges is well known.
<b>iii. demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community.</b>	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.
<b>3. Contextual value:</b>		
<b>i. is important in defining, maintaining or supporting the character of an area,</b>	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 Nicholson's Lockstations. The Bridge is the only remaining road/pedestrian bridge from the early 1900s which crosses the Rideau River.
<b>ii. is physical, functionally, visually or historically linked to its surroundings, or</b>	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

Criteria for Determining Cultural Heritage Value or Interest	Assessment (Yes/No)	Rationale
		<p>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.</p> <p>The Bridge is located within 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.</p>
<p><b>iii. is a landmark.</b></p>	<p>Yes</p>	<p>The Bridge is landmark. The MCM defines landmark</p> <p>...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...<sup>174</sup></p> <p>The Bridge is not physically prominent from the surrounding roads; however, it can partially be seen from the Upper Nicholsons and Lower Nicholsons Lockstations.</p> <p>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.</p> <p>A commemorative plaque was installed by the Friends of Andrewsville Bridge community organization, identifying the Bridge as a locally important landmark.</p>

<sup>174</sup> 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](http://www.mtc.gov.on.ca/en/heritage/MTCS_Heritage_IE_Process.pdf), 17.

## 7.1 Statement of Cultural Heritage Value or Interest

### 7.1.1 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.

### 7.2 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 Nicholson's 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.

### 7.3 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 Nicholson's 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.

## 8.0 PROPOSED DEVELOPMENT

The Counties of Lanark and Leeds and Grenville are currently undertaking a *Schedule B, Municipal Class Environmental Assessment* (MCEA) to identify and evaluate alternative solutions for the rehabilitation or replacement of the Bridge. The MCEA seeks to address the following Problem/Opportunity Statement:

The Andrewsville Bridge has greatly exceeded its anticipated service life. With ongoing corrosion and deterioration posing a risk of localized failures, the Andrewsville Bridge has been identified as a priority for the Counties of Lanark and Leeds and Grenville. The Counties have therefore commenced the planning process to identify options of the future of the bridge.

To address the Problem/Opportunity Statement the following five (5) Construction Options were developed:

- Option 1: Rehabilitate the Bridge, Approach Roadway, and Walls – Maintaining Current Load Posting
- Option 2: Construction of a New Single Lane Bridge and Reconstruction of Retaining Walls
- Option 3: Complete Removal of the Bridge Structure and Approach Walls – No New Bridge or Turning Basins
- Option 4: Close Bridge to All Vehicular Traffic – No Turning Basins Installed
- Option 5: Do Nothing

These Options will be reviewed –from a cultural heritage perspective—in Section 10.0, below.

A Preferred Option (Option 4) of closing the Bridge to all vehicular traffic was based on a review of all project constraints and the following evaluation criteria:

- Transportation;
  - Safety Considerations;
  - Active Transportation;
  - Accessibility;
- Structural;
  - Extension of Service Life;
  - Durability;
  - Structural Engineering Risks;
- Natural Environment;
  - Environmentally Sensitive Areas;
  - Wildlife Habitat;
  - Fisheries/Aquatic Habitat;
  - Species at Risk;
  - Ground and Surface Water Quality/Quantity;
  - Climate Change;
- Socio-Economic;
  - Land Use/Socio-economic Conditions;



- Archaeological, Built Heritage and Cultural Heritage Features;
  - Construction Impacts;
- Implementation;
  - Capital Costs; and,
  - Operational and Maintenance Costs.

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## 9.0 HERITAGE IMPACT ASSESSMENT

The Rideau Canal is recognized as a *cultural heritage resource* internationally, nationally, and locally; therefore, potential impacts have been considered for all character-defining-elements or *heritage attributes* identified in these statements of significance (or SCHVIs).

This HIA has been prepared to address cultural heritage requirements under Section 2.6 of the *PPS*.

### 9.1 Rideau Canal Resources

The Level One resources of the Rideau Canal including its “*In Situ Resources*”, “*Moveable Resources*”, and “*Messages of National Significance*” will not be directly or visually affected by the proposed development. No direct views of these resources can be seen from the Bridge, and none are *adjacent* to the Bridge. The Bridge is not a Level One or Level Two resource of the Rideau Canal but is part of the rural setting of Andrewsville.

The Bridge is approximately 120 m from the Upper Nicholson's Lockstation at the Canal, 415 m from the Defensible Lockmaster's House, and 475 m from the Lower Nicholson's Lockstation at the Canal. Furthermore, the Bridge is separated from the Canal by a narrow islet on Parks Canada land. Therefore, concerns about the proposed construction options are not from direct impacts to any cultural resources or attributes of the Rideau Canal itself but on the surrounding cultural landscape which comprises the buffer zone and the wider setting. The proposed Construction Options will have a range from Neutral impact to Major negative impact on these Level One resources as per the UNESCO Severity and Significance of Impact Chart found in Table 5.

Level One “*Designated Place*” resources have the potential to be affected by the proposed development. The designated place resources that could be affected include:

- the continuity and integrity of the lockstations and the sense of a complete “*system*” that these stations convey;
- the historic, ecological and visual associations with the certain shore-lands and communities along the waterway which contributes to the unique historical environment of the Canal.<sup>175</sup>

The Level Two resources of the Rideau Canal including the “*Natural Environment of the Rideau Canal Corridor*” have potential to be affected by the proposed development. These resources include:

The natural ecosystem elements within the Canal corridor are valued because:

- of their contribution to the health and wholeness of the ecosystem within the corridor;
- they are vital parts of the landscape character and history of the corridor.<sup>176</sup>

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<sup>175</sup> Parks Canada, “*Rideau Canal National Historic Site of Canada Management Plan*,” 2005, 69.

<sup>176</sup> Parks Canada, “*Rideau Canal National Historic Site of Canada Management Plan*,” 2005, 79.

Level One and Level Two Resources on the Canal will **not be directly affected by the proposed preferred Construction Option 4** and as the impact will be Neutral (Table 4). However, the visual setting and cultural landscape character of the Rideau Canal that these Level One and Level Two resources describe could be affected by the alternative proposed Construction Options that involve the removal of the Bridge in its entirety, or the removal and replacement of the Bridge.

The specific valued part of the landscape character is summarized in the Rideau Canal Landscape Strategy as, “Through this section the Rideau is a narrow meandering river with adjacent woodlands, farmland and fringe wetlands. The scenic river road between Burritts Rapids and Merrickville affords views of the river amidst well preserved heritage farmhouses and newer riverfront residential homes”.<sup>177</sup>

## 9.2 UNESCO Impact Assessment

The UNESCO *Guidance and Toolkit for Impact Assessments in a World Heritage Context* outlines four categories of impact that can be either negative or positive. The impacts include:

- **Neutral:** Research into the potential impact reveals that no change would occur to the attribute.
- **Minor:** Research into the potential impact reveals that the change would be negligible.
- **Moderate:** Research into the potential impact reveals that there would be some change to the attribute.
- **Major:** Research into the potential impact reveals that there would be large change to the attribute.<sup>178</sup>

The preferred Construction Option (Option 4) is anticipated to lead to neutral impacts for the Level One and Level Two Resources and the Landscape Character and Visual Setting of the Rideau Canal Corridor.

Table 4 outlines and evaluates potential impacts to the Level One and Level Two Resources and the Landscape Character and Visual Setting of the Rideau Canal Corridor for the five (5) proposed Construction Options.

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<sup>177</sup> Dillon Consulting Limited, “Rideau Corridor Landscape Strategy,” 2012, 15.

<sup>178</sup> UNESCO, “Guidance and Toolkit for Impact Assessments in a World Heritage Context”, July 2022, 84.

Table 4: UNESCO Severity and Significance of Impact Chart.<sup>179</sup>

ELEMENT OF PROPOSED ACTION	ATTRIBUTE	DESCRIPTION OF POTENTIAL IMPACT	FREQUENCY OF ACTION	DURATION OF ACTION	REVERSIBILITY OF ACTION	REVERSIBILITY OF CHANGE TO THE ATTRIBUTE	LONGEVITY OF CHANGE TO THE ATTRIBUTE	DEGREE OF CHANGE TO THE ATTRIBUTE	QUALITY OF CHANGE TO THE ATTRIBUTE	EVALUATION OF IMPACT
			Once/ intermittent/ continuous	Short-term/ long-term	Reversible/ irreversible	Reversible/ irreversible	Temporary/ permanent change	None/ negligible/ some/large change	Positive/ negativechange	Neutral/minor/ moderate/major impact (negative and positive)
Option 1: Rehabilitate the Bridge	Level One and Level Two Resources	There will be no change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The Bridge will remain intact in the same orientation and position. It is also separated from the Rideau Canal by enough distance and a narrow islet that the Level One and Level Two resources will not change.	Once	Short-term	Reversible	Reversible	Temporary change	Negligible change	Positive change	Neutral
	The Landscape Character and Visual Setting	There will be no change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The visual setting of the Rideau River, its riverbanks, and the surrounding woodlands, marshes, and view towards Andrewsville from the Bridge will remain the same. Views of the Bridge from the riverbanks will remain the same.	Once	Short-term	Reversible	Reversible	Temporary change	Negligible change	Positive change	Neutral
Option 2: Construction of a New Single Lane Bridge	Level One and Level Two Resources	There will be a change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The Bridge has been a part of the Andrewsville and Upper Nicholson's Lockstation cultural landscape since 1903.	Once	Long-term	Irreversible	Irreversible	Permanent change	Large change	Negative change	Major negative impact

<sup>179</sup> UNESCO, "Guidance and Toolkit for Impact Assessments in a World Heritage Context", July 2022, 86.

ELEMENT OF PROPOSED ACTION	ATTRIBUTE	DESCRIPTION OF POTENTIAL IMPACT	FREQUENCY OF ACTION	DURATION OF ACTION	REVERSIBILITY OF ACTION	REVERSIBILITY OF CHANGE TO THE ATTRIBUTE	LONGEVITY OF CHANGE TO THE ATTRIBUTE	DEGREE OF CHANGE TO THE ATTRIBUTE	QUALITY OF CHANGE TO THE ATTRIBUTE	EVALUATION OF IMPACT
			Once/ intermittent/ continuous	Short-term/ long-term	Reversible/ irreversible	Reversible/ irreversible	Temporary/ permanent change	None/ negligible/ some/large change	Positive/ negativechange	Neutral/minor/ moderate/major impact (negative and positive)
	The Landscape Character and Visual Setting	The visual setting of the Rideau River, its riverbanks, and the surrounding woodlands, marshes, and view towards Andrewsville from the new Bridge will remain the same. Views of the new Bridge from the riverbanks will differ as the historic context will be lost as the old Bridge has been a part of the cultural landscape since 1903.	Once	Long-term	Irreversible	Irreversible	Permanent change	Some change	Negative change	Major negative impact
Option 3: Complete Removal of the Bridge	Level One and Level Two Resources	There will be a large change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The Bridge has been a part of the Andrewsville and Upper Nicholson's Lockstation cultural landscape since 1903 and part of the road network since 1864. In conjunction with the swing bridge, lock, and channel at Upper Nicholson's Lockstation, the Bridge contributes to the character of the Canal system at the site despite not being a Level One or Level Two resource.	Once	Long-term	Irreversible	Irreversible	Permanent change	Large change	Negative change	Major negative impact
	The Landscape Character and Visual Setting	There will be a large change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The visual setting of the Rideau River, its riverbanks, and the surrounding woodlands, marshes, and view towards Andrewsville from the Bridge will be lost with its	Once	Long-term	Irreversible	Irreversible	Permanent change	Large change	Negative change	Major negative impact

ELEMENT OF PROPOSED ACTION	ATTRIBUTE	DESCRIPTION OF POTENTIAL IMPACT	FREQUENCY OF ACTION	DURATION OF ACTION	REVERSIBILITY OF ACTION	REVERSIBILITY OF CHANGE TO THE ATTRIBUTE	LONGEVITY OF CHANGE TO THE ATTRIBUTE	DEGREE OF CHANGE TO THE ATTRIBUTE	QUALITY OF CHANGE TO THE ATTRIBUTE	EVALUATION OF IMPACT
			Once/ intermittent/ continuous	Short-term/ long-term	Reversible/ irreversible	Reversible/ irreversible	Temporary/ permanent change	None/ negligible/ some/ large change	Positive/ negative change	Neutral/ minor/ moderate/ major impact (negative and positive)
		complete removal.								
Option 4 Close Bridge to All Vehicular Traffic	Level One and Level Two Resources	There will be no change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The Bridge will remain intact in the same orientation and position. It is also separated from the Rideau Canal by enough distance and a narrow islet that the Level One and Level Two resources will not change.	Continuous	Long-term	Reversible	Reversible	Permanent change	None	Positive change	Neutral
	The Landscape Character and Visual Setting	There will be no change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal. The visual setting of the Rideau River and the surrounding woodlands, marshes, and view towards Andrewsville from the Bridge will remain the same. Views of the Bridge from the riverbanks will remain the same.	Continuous	Long-term	Reversible	Reversible	Permanent change	None	Positive change	Neutral
Option 5: Do Nothing	Level One and Level Two Resources	There will be no change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal in the short term. The Bridge will remain intact in the same orientation and position. It is also separated from the Rideau Canal by enough distance and a narrow islet that the Level One and Level Two resources will not change. However, if routine	Continuous	Long-term	Reversible	Reversible	Permanent change	None	Negative change	Major negative impact

ELEMENT OF PROPOSED ACTION	ATTRIBUTE	DESCRIPTION OF POTENTIAL IMPACT	FREQUENCY OF ACTION	DURATION OF ACTION	REVERSIBILITY OF ACTION	REVERSIBILITY OF CHANGE TO THE ATTRIBUTE	LONGEVITY OF CHANGE TO THE ATTRIBUTE	DEGREE OF CHANGE TO THE ATTRIBUTE	QUALITY OF CHANGE TO THE ATTRIBUTE	EVALUATION OF IMPACT
			Once/ intermittent/ continuous	Short-term/ long-term	Reversible/ irreversible	Reversible/ irreversible	Temporary/ permanent change	None/ negligible/ some/ large change	Positive/ negative change	Neutral/ minor/ moderate/ major impact (negative and positive)
		maintenance of the Bridge diminishes and eventually ceases, the structure will eventually structurally deteriorate and lose its use as a vehicular/pedestrian bridge.								
	The Landscape Character and Visual Setting	There will be no change to the character-defining elements/heritage attributes associated with the OUV of the Rideau Canal in the short to medium term. The visual setting of the Rideau River and the surrounding woodlands, marshes, and view towards Andrewsville from the Bridge will remain the same. Views of the Bridge from the riverbanks will remain the same. However, if routine maintenance of the Bridge diminishes and eventually ceases, the structure will eventually structurally deteriorate and lose its use as a vehicular/pedestrian bridge. This may potentially impact intangible character-defining elements and tangible heritage attributes of the Bridge and the surrounding cultural landscape.	Continuous	Long-term	Reversible	Reversible	Permanent change	None	Negative change	Major negative impact

### 9.3 Ontario Heritage Tool Kit Impact Assessment

The MCM *Info Sheet #5 Heritage Impact Assessments and Conservation Plans* outlines seven potential negative impacts to be considered with any proposed development or site alteration. The impacts include:

- **Destruction** of any part of any significant heritage attribute or features;
- **Alteration** that is not sympathetic or is incompatible, with the historic fabric and appearance;
- **Shadows** created that alter the appearance of a heritage attribute or change the viability of a natural feature or planting, such as a garden;
- **Isolation** of a heritage attribute from its surrounding environment, context, or a significant relationship;
- **Direct or indirect obstruction** of significant views or vistas within, from, or built and natural features;
- **A change in land use** such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces; and
- **Land disturbances** such as a change in grade that alters soils, drainage patterns that adversely affect an archaeological resource.

The preferred Construction Option is not anticipated to lead to an adverse impact for the CHVI of the Bridge.

Table 5 outlines potential impacts to the heritage attributes of the Bridge from the preferred Construction Option.

Table 5: Impact assessment for the Bridge using the preferred Construction Option (Option 4).

Heritage Attributes	Potential Impacts (Y/N)	Discussion
Its location across the Rideau River;	N	No impacts are anticipated to the location and position of the Bridge 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;	N	No impacts are anticipated to the orientation of the Bridge in relation to Andrewsville, or the cultural resources of the Upper Nicholsons Lockstation on the Rideau Canal.
Its scale and massing;	N	No impacts are anticipated to the scale and massing of the Bridge.



Heritage Attributes	Potential Impacts (Y/N)	Discussion
The single-lane width;	N	No impact is anticipated to the single-lane width of the Bridge as it will be maintained for pedestrian use instead of vehicular use.
Its two different spans, one a short beam bridge and the second a longer Pratt through truss bridge;	N	No impacts are anticipated to the Bridge's spans as they will be maintained.
The raised approach causeway supported by stone retaining walls;	N	No impacts are anticipated to the raised approaches supported by stone retaining walls as they will be maintained.
The steel eight panel Pratt trusses; and	N	No impacts are anticipated to the steel eight-panel Pratt trusses of the Bridge as they will be maintained.
Bolted "Dominion Bridge Co, Ltd. Lachine. P.Q" plaque on the southwest elevation end post.	N	No impact is anticipated for the bolted Dominion Bridge Co. plaque as it will be maintained.

#### 9.4 Impact Assessment Summary

Level One and Level Two Resources on the Canal will not be directly affected by the proposed preferred Construction Option 4 and as the impact will be Neutral (Table 5). However, the visual setting and cultural landscape character of the Rideau Canal that these Level One and Level Two resources describe could be affected by the alternative proposed Construction Options that involve the removal of the Bridge in its entirety, the removal and replacement of the Bridge, or maintaining a 'do nothing' approach for the long term.

No potential direct adverse impacts are anticipated to the heritage attributes of the Andrewsville Bridge from the preferred Construction Option.

## 10.0 CONSIDERED ALTERNATIVES AND MITIGATION OPTIONS

The Client is proposing (5) five Construction Options for the Bridge.<sup>180</sup>

- Option 1: Rehabilitate the Bridge, Approach Roadway, and Walls – Maintaining Current Load Posting
  - This option proposes rehabilitating the existing Bridge including the north and south approach roadways and rockfill retaining walls. The current 5-tonne load restriction is proposed to remain. The preliminary construction cost is estimated to be \$1,500,000.
- Option 2: Construction of a New Single Lane Bridge and Reconstruction of Retaining Walls
  - This option proposes the removal of the existing Bridge and construction of a new single lane Bridge with reconstructed rockfill retaining walls. The preliminary construction cost is estimated to be \$4,000,000.
  - This option would ensure that a new Bridge would remain open for at least 75 years.
- Option 3: Complete Removal of the Bridge Structure and Approach Walls – No New Bridge or Turning Basins
  - This option proposes the removal of the existing Bridge including the north and south approaches and rockfill retaining walls. No new Bridge or turning basins are proposed to be constructed. The preliminary demolition cost is estimated to be \$400,000.
- Option 4: Close Bridge to All Vehicular Traffic – No Turning Basins Installed
  - This is the preferred option.
  - This option proposes to close the Bridge to all vehicular traffic and to re-configure the Bridge for pedestrian use only. No turning basins are proposed to be installed. The Bridge will be continually monitored and seasonally operational per current plans. The preliminary construction cost is estimated to be \$50,000.
- Option 5: Do Nothing
  - This option proposes to retain the Bridge in situ. The 5-tonne load restriction would remain. However, the Bridge would face increasing maintenance costs and further deterioration in the medium to long term. The preliminary cost is estimated to be \$0.

### 10.1 Analysis of Options

#### 10.1.1 Option 1, Rehabilitate the Bridge, Approach Roadway, and Walls – Maintaining Current Load Posting

From a cultural heritage perspective this option is preferred as rehabilitation is preferable to replacement. According to the MTO Bridge Guidance this option would align with conservation option 2: *2. Restoration of missing or deteriorated elements where physical or documentary*

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<sup>180</sup> Jewell Engineering, “Andrewsville Bridge PIC Displays”, 14 September 2022.

evidence (e.g., photographs or drawings) exists for their design. This option aligns with the Eight Guiding Principles, particularly Principles 1, 2, 3, 5, 7, and 8. Rehabilitation work should be based on historic documentation including photographs, plans, and physical evidence. Any rehabilitation work would respect the original location and orientation of the Bridge over the Rideau River. Through a minimum intervention approach and continuous care taken through maintenance, rehabilitation would respect the materiality, the history, and the heritage value of the Bridge as the oldest remaining pedestrian/road bridge over the Rideau River. In regard to the S&G, rehabilitation is one of the three principles which would meet Standards 1, 3, 4, 5, 7, 10, and 11.

This option aligns with Section 5, Article 4 of the TICCIH Nizhny Tagil Charter, relating to maintenance and conservation. Article 4 states that the adaptation of an industrial site to a new use to ensure its conservation is usually acceptable except in the case of sites of especial historical significance. New uses should respect the significant material and maintain original patterns of circulation and activity, and should be compatible as much as possible with the original or principal use. This option would maintain the circulation pattern and purpose of the road network and the timber swing bridge that has enabled pedestrian crossings of the Canal at this location since 1864.

#### **10.1.2 Option 2: Construction of a New Single Lane Bridge and Reconstruction of Retaining Walls**

From a cultural heritage perspective this option is not preferred as rehabilitation is preferable to removal and replacement. According to the MTO Bridge Guidance this option would align with the last ranked conservation option 8, being the option of last resort:

8. Bridge removal and replacement with a sympathetically designed structure.
  - a. Where possible, salvage elements/members of bridge for incorporation into a new structure or for future conservation work or displays.
  - b. Undertake full recording and documentation of existing structure.

Regarding sub-option 'A', it is unlikely that structural elements of the existing Bridge would be salvaged or incorporated into a new single-lane bridge. It is possible that some structural elements or the Dominion Bridge Company plaque could be salvaged for museum display. Regarding sub-option 'B', a full recording and documentation of the existing Bridge would be required. Before replacement with a new single-lane bridge, the conditions of the existing Bridge need to be demonstrated in a Structural Planning Report including the safety of the Bridge being structurally compromised, the cost of the rehabilitation of the Bridge being cost-prohibitive, the alteration of the Bridge from its original form, and the need of the Bridge to be replaced due to demand requirements.

This option does not align with Section 5, Article 3 of the TICCIH Nizhny Tagil Charter, relating to maintenance and conservation. Article 3 states that preservation *in situ* should always be given priority consideration and that the dismantling of a structure is only acceptable when the destruction of a site is required due to overwhelming economic or social needs.

This option does not align with any of the Eight Guiding Principles. In regard to the S&G, this option does not align with any of the Standards.

### 10.1.3 Option 3: Complete Removal of the Bridge Structure and Approach Walls – No New Bridge or Turning Basins

From a cultural heritage perspective, this option is not preferred as rehabilitation is preferable to removal. According to the MTO Bridge Guidance this option would not align with any conservation options as the Bridge and approach walls are proposed to be completely removed with no replacement across the Rideau River at this location. This option does not align with Section 5, Article 3 of the TICCIH Nizhny Tagil Charter, relating to maintenance and conservation. Article 3 states that preservation *in situ* should always be given priority consideration and that the dismantling of a structure is only acceptable when the destruction of a site is required due to overwhelming economic or social needs. This option does not align with any of the Eight Guiding Principles. In regard to the S&G, this option does not align with any of the Standards.

This option would adversely impact the surrounding cultural landscape of the Andrewsville community, the Upper Nicholson's Lockstation and its operation, particularly the direct use and purpose of the timber swing bridge across the Canal. The removal of the Bridge would reduce the associated animation of the Lockstation which contributes to a wide range of heritage experiences for visitors along the Canal. This option would change the road network that has enabled vehicular and pedestrian crossings of the Canal at this location since 1864.

### 10.1.4 Option 4: Close Bridge to All Vehicular Traffic – No Turning Basins Installed

From a cultural heritage perspective this option is the preferred option as the heritage attributes of the Bridge will not face a direct adverse impact as noted in Section 9.3 through the parameters of the Ontario Heritage Toolkit.

Through a minimal intervention approach as identified in the S&Gs, this option would ensure the Bridge remains monitored continuously as per the current management plan, continues to be seasonally operational, and envisions a future permanent closure to all vehicular traffic while remaining open to pedestrians. It may reduce the use of the Bridge and the associated animation of the Upper Nicholson's Lockstation which contributes to a wide range of heritage experiences for visitors along the Canal. However, it would help maintain the strong sense of place for the Andrewsville community and the Upper Nicholson's Lockstation as an integral component of the Canal cultural landscape. The visual setting of the Rideau River and the surrounding woodlands, marshes, and view towards Andrewsville from the Bridge would remain the same. Views of the Bridge itself from the riverbanks would remain the same.

Currently, the Annual Average Daily Traffic (AADT) measured at the Bridge is approximately less than 200 vehicles crossing the Bridge per day. As all vehicular traffic crossing the Bridge on the low-volume Andrewsville Road is proposed to be rerouted, the detour length south from the Bridge to Merrickville is approximately 12.4 km (timed to 12 minutes) and the detour length north from the Bridge to Burritts Avenue is approximately 9.3 km (timed to 9 minutes).

Option 4 meets the most preferred conservation approach for bridges outlined in the *Environmental Guide for Built Heritage and Cultural Heritage Landscapes* which is 1. *Preserve/Retain in situ*. This option also meets the most preferred conservation approach for bridges outlined in the *Ontario Heritage Bridge Guidelines* which is 1. *Retention of the existing bridge with no major modifications undertaken*.

This option aligns with Section 5, Article 4 of the TICCIH Nizhny Tagil Charter, relating to maintenance and conservation. Article 4 states that the adaptation of an industrial site to a new use to ensure its conservation is usually acceptable except in the case of sites of especial historical significance. New uses should respect the significant material and maintain original patterns of circulation and activity, and should be compatible as much as possible with the original or principal use. This option would maintain the circulation pattern and purpose of the road network and the timber swing bridge that has enabled pedestrian crossings of the Canal at this location since 1864.

From a cost perspective Option 4 is preferred. It has significant cost savings over Option 1 with a difference of \$1,450,000. It also has significant cost savings over Option 2 with a difference of \$3,950,000 and Option 3 with a difference of \$350,000. Option 2 and Option 3 would remove the Bridge structure in its entirety and adversely affect the cultural heritage value and heritage attributes of the Bridge and the surrounding cultural landscape of the Andrewsville community and the Upper Nicholsons Lockstation system.

Through the use of operation and maintenance plan, Option 4 also conserves the cultural heritage value and heritage attributes of the Bridge that Option 5 will not conserve in the same manner due to decreased routine maintenance of the Bridge over the medium and long term.

#### **10.1.5 Option 5: Do Nothing**

Option 5 would propose no changes to the Bridge. However, the Bridge would face increasing maintenance costs and further deterioration in the medium to long term due to the vehicular load restriction in place. In the future, if routine maintenance of the Bridge is not completed, the motivation to maintain the Bridge in a working state will diminish. Structural deterioration of the Bridge would lead to an eventual closure of the Bridge to vehicular traffic and then to pedestrians.

## 11.0 CONCLUSION AND RECOMMENDATIONS

LHC was retained in January 2022 by Jewell Engineering to prepare an HIA on the Andrewsville Bridge. The Bridge is on Andrewsville Road, which spans the Rideau River between the County of Lanark and the United Counties of Leeds and Grenville, Ontario.

This HIA 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 *OHA*, 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 and National Historic Site of Canada.

LHC prepared a *CHER* for the Bridge in October 2022 to evaluate it for Cultural Heritage Value or Interest in anticipation of rehabilitation. The *CHER* evaluated the Bridge against the criteria outlined in *O. Reg. 9/06* under the *OHA* and the MTO 2008 *Interim Ontario Heritage Bridge Guidelines* criteria. A Statement of Cultural Heritage Value or Interest was prepared, and a list of heritage attributes was identified.

This HIA was completed in accordance with the *Lanark County Sustainable Communities Official Plan* and the *United Counties of Leeds and Grenville Official Plan*. It follows cultural heritage best practices drawing upon applicable frameworks, such as UNESCO's *Guidance and Toolkit for Impact Assessments in a World Heritage Context*, TICCIH *Nizhny Tagil Charter for the Industrial Heritage*, and the Ministry of Citizenship and Multiculturalism's (**MCM**) *Ontario Heritage Tool Kit Info Sheet #5 Heritage Impact Assessments and Conservation Plans*. This HIA also considers the applicable planning frameworks and identifies if the project complies and/is consistent with the frameworks.

Five (5) development options are proposed for the Bridge: Option 1: Rehabilitate the Bridge, Approach Roadway, and Walls – Maintaining Current Load Posting; Option 2: Construction of a New Single Lane Bridge and Reconstruction of Retaining Walls; Option 3: Complete Removal of the Bridge Structure and Approach Walls – No New Bridge or Turning Basins; Option 4: Close Bridge to All Vehicular Traffic – No Turning Basins Installed, and Option 5: Do Nothing. LHC finds that of the five (5) proposed development options, Option 4: Close Bridge to All Vehicular Traffic – No Turning Basins Installed is the most preferred. No potential direct adverse impacts are anticipated to the heritage attributes of the Bridge from the preferred Option 4.

This option is preferred due to the significant cost to rehabilitate the Bridge which would include the 5-tonne load restriction as Option 1, the significant cost of removing the Bridge and construction of a new single-lane Bridge and wall replacement as Option 2, the complete removal of the Bridge which would adversely impact the surrounding cultural landscape of the Andrewsville community, the Upper Nicholsons Lockstation on the Rideau Canal and its operation as Option 3, and Option 5 which would lead to the long-term deterioration of the Bridge if it remains *in situ* without routine maintenance.

## 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.

Christienne Uchiyama, M.A, CAHP  
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Senior Heritage Planner

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# APPENDIX A: PROJECT PERSONNEL

## **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.

## **Benjamin Holthof, MPI, 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 two decades of experience working on heritage aspects of planning and development projects. She is currently Past 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 300 cultural heritage technical reports for development proposals at all levels of government, including cultural heritage evaluation reports, heritage impact assessments, and archaeological licence reports. Her specialties include the development of Cultural Heritage Evaluation Reports, under both O. Reg. 9/06 and 10/06, and Heritage Impact Assessments.

### **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 archaeological research license (R1104) with the Province of Ontario. Colin is a Professional member of Canadian Association of Heritage Professionals (CAHP) and a member of the Board of Directors of its Ontario Chapter, the Ontario Association of Heritage Professionals.

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 100 technical studies. 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.

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## 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 Citizenship and Multiculturalism's *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* (Burra Charter), the UNESCO *Guidance and Toolkit for Impact Assessments in a World Heritage Context* (UNESCO G&T), the TICCIH *Nizhny Tagil Charter for the Industrial Heritage* (Nizhny Tagil Charter), and the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Federal S&Gs) are provided.

**Adjacent lands** mean 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 “alteration” 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 resources* 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 resources, 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 Impact Assessment** means an activity-specific or project-level assessment that is focused on identifying the potential effect of a proposed activity or project on the heritage/conservation values of a natural and/or cultural heritage place. In the context of World Heritage properties, a Heritage Impact Assessment should be particularly focused on identifying and assessing negative and positive impacts on the attributes which convey the Outstanding Universal Value of the World Heritage property. (UNESCO G&T)

**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)

**Industrial heritage** consists of the remains of industrial culture which are of historical, technological, social, architectural or scientific value. These remains consist of buildings and machinery, workshops, mills and factories, mines and sites for processing and refining,

warehouses and stores, places where energy is generated, transmitted and used, transport and all its infrastructure, as well as places used for social activities related to industry such as housing, religious worship or education. (Nizhny Tagil Charter)

**Integrity** means all properties nominated for inscription on the World Heritage List shall satisfy the conditions of integrity. Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. (UNESCO G&T)

**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)

**Outstanding Universal Value** means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole. (UNESCO G&T)

**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)

**World Heritage property** means a cultural, natural, or mixed heritage place inscribed on the World Heritage List and therefore considered to be of OUV for humanity. When used as a general term, World Heritage refers to all the natural, cultural and mixed properties inscribed on the World Heritage List. (UNESCO G&T)