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MEMORANDUM

TO: Town of Georgina
C/O: Neil MacDonald P.Eng.
Manager Capital Delivery | Operations & Infrastructure

FROM: Christienne Uchiyama, MA, CAHP
Benjamin Holthof, MPl, MMA, RPP, MCIP, CAHP

DATE: 12 July 2024

RE: CULTURAL HERITAGE IMPACT OPINION MEMORANDUM, MOSSINGTON BRIDGE, HEDGE ROAD, TOWN OF GEORGINA, ON, LHC FILE NO. LHC0457

EXECUTIVE SUMMARY

In June 2024 LHC Heritage Planning & Archaeology Inc. (LHC) was retained by the Town of Georgina (the Town) to provide a formal opinion from a heritage conservation perspective regarding the Town's plans to implement focused safety measures on the Mossington Bridge (the Bridge) that carries Hedge Road over the Black River. It is understood that the proposed safety measures may impact the cultural heritage value or interest and heritage attributes or Character-Defining Elements of the Bridge. This memorandum assesses impacts from a heritage conservation perspective and how the changes affect the heritage integrity of the Bridge.

In LHC's professional opinion the proposed Bridge modifications are generally consistent with good heritage conservation practices. Based on review of the Mossington Bridge Modifications report and design drawings for the modifications, the heritage value of the Bridge has been considered and integrated into the modifications. Removal of the lattice railing is an adverse change to the Bridge but is understood to be necessary for safety and security. The proposed steel plates and the method of attaching them to the Bridge is a minimal intervention. The proposed railing will be a slight change to the overall appearance of the Bridge but is a clearly modern intervention and can be removed. The change in appearance from the tall railing will likely have a small adverse effect on the Bridge as part of the picturesque landscape by altering its heritage integrity. The feeling associated with the Bridge as a historic place and appreciation of the historic structure may be reduced with this modern intervention. However, since this change is necessary for safety and security and is reversible it is consistent with heritage conservation guidance.

1 INTRODUCTION

In June 2024 LHC Heritage Planning & Archaeology Inc. (LHC) was retained by the Town of Georgina (the Town) to provide a formal opinion from a heritage conservation perspective regarding the Town's plans to implement focused safety measures on the Mossington Bridge (the Bridge) that carries Hedge Road over the Black River. It is understood that the proposed safety measures may impact the cultural heritage value or interest and heritage attributes or Character-Defining Elements of the Bridge. This memorandum assesses impacts from a heritage conservation perspective and how the changes affect the heritage integrity of the Bridge.

2 HERITAGE STATUS, ATTRIBUTES AND CHARACTER

2.1 HERITAGE STATUS

The Bridge is designated under Part IV Section 29 of the *Ontario Heritage Act* (*OHA*) through By-law 2002-0015.[1]

2.2 HERITAGE VALUE

Schedule A to By-law 2002-0015 includes a detailed historical background of the Bridge and surrounding lots. It describes the historical significance of the location as a river crossing, individuals and families that owned and developed the lands on either side of the Bridge, planning for the Bridge, significance of Frank Barber –the Bridge's designer—, the importance of steel truss bridges at the time it was built, construction technology of the time, and includes some Bridge specifications.

The heritage significance or value of the Bridge outlined in the By-law generally describes the Bridge as important technology, as a historic river crossing, and as a landmark in the community. It also describes its historic value as an example of the work of Frank Barber and for its connection to the National Bridge Company. The historical background in the By-law includes local histories about the Black River and surrounding area, including a description of people jumping from the Bridge into the River for recreation. Several features of the area described in the historical background section in the By-law –such as former mill and a recreational pavilion—no longer exist. The Bridge as a historical landmark appears to be a tangible representation, focal point, or anchor for a broader sense of local history.

2.3 HERITAGE ATTRIBUTES AND CHARACTER

By-law 2002-0015 predates changes to the *OHA* in 2005 that require a statement of cultural

[1] The Corporation of the Town of Georgina, By-law Number 2002-0015

heritage value or interest and list of heritage attributes. The By-law therefore does not include a specific list of heritage attributes.

The *OHA* defines heritage attributes as:

> **Heritage Attributes:** 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.[2]

The Ontario Heritage Tool Kit, Designating Heritage Properties expands on this to describe heritage attributes as:

> those attributes (i.e. materials, forms, location and spatial configurations) of the property, buildings and structures that contribute to the property's cultural heritage value or interest, and which should be retained to conserve that value.[3]

Another key concept in understanding a historic place is Character-Defining Elements which are:

> **Character-Defining Element:** 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.[4]

Character-Defining Elements and Heritage Attributes are similar concepts. Often, they are treated in generally the same way. However, a Character-Defining Element is a more wholistic concept than a Heritage Attribute. A Heritage Attribute is a tangible/physical feature that is part of the real property and can be a Character-Defining Element. A Character-Defining Element incorporates a broader or more inclusive range of heritage values that includes tangible/physical features, but also uses and cultural associations or meanings. A Character-Defining Element can therefore be intangible.

LHC has prepared a list of likely Heritage Attributes (Table 1) and Character-Defining Elements (Table 2) for the Bridge based on review of the By-law, readily available history of the Bridge, a visit to the site, and prior experience evaluating historic bridge structures.

[2] Province of Ontario, Ontario Heritage Act, R.S.O. 1990, c. O.18, June 6, 2024, S. 1.
[3] Ministry of Citizenship and Multiculturalism, 2006, *Ontario Heritage Tool Kit, Designating Heritage Properties*, pg.18
[4] Canadas Historic Places, 2010, *Standards and Guidelines for the Conservation of Historic Places in Canada* pg. 5

Table 1. Likely Heritage Attributes of the Bridge

Heritage Attribute	Rationale
The single span, seven panel Pratt through truss design; including the following on each truss: • **Four vertical members connected with diagonal lacing bars.** • **Two crossing (X) diagonal members with diagonal lacing bars in the centre panel of each truss.** • **The arrangement of vertical and diagonal members in each truss, heavily built near the centre of the bridge and lighter near the edges.** • **Riveted "I" beam diagonal members on the ends and top chords.**	The arrangement of vertical and horizontal members, top, end, and bottom chords, in a Pratt truss pattern along with the pattern of lacing bars on vertical members reflects the design choices of Frank Barber in designing the Bridge and the physical value of the structure. It also has contextual value as part of the landmark status of the Bridge. The Bridge has high visual appeal. The design elements of the trusses are well balanced and proportioned. It has a massing appropriate for the local landscape. The Bridge is a local example of a Pratt truss design which was a common—but is becoming increasingly rare—type of bridge. Note: HistoricBridges.org describes the Bridge as "an attractive and traditionally composed riveted through truss." The pattern of vertical and horizontal members in the Pratt truss pattern conveys this traditional composition.
Steel construction including the; trusses, stringers, floor beams and cross braces.	Use of steel had replaced iron for bridges by 1912. The choice of material reflects the needs of the community at the time the Bridge was designed and is connected to the physical and design value of the Bridge and to its historical value.
Rivet connections	The designation By-law mentions that field riveting was a relatively new technology in 1912. Portable riveting machines were available in the 1910s making field riveting more affordable than hand riveting. The rivet connections have physical value as they represent

Heritage Attribute	Rationale
	changing technology. It should be noted that several parts of the Bridge are connected with bolts and it appears that in some places rivets have been replaced with bolts.
Lattice railing	The designation By-law mentions that the Township Council wanted a lattice rail substituted instead of a Piper Rail. The lattice railing has design value because it was specifically requested as part of the original design and contextual value as part of the overall landmark.
"I" beam stringers and floorbeams	The design of the stringers and floorbeams has design and physical value as part of the original design.
Concrete deck and abutments	The designation By-law indicates that concrete was specifically chosen for the deck and abutments. The choice of material is part of the design value of the Bridge.
Single-lane width	The Bridge was designed as a single lane structure. In a Georgina Historical Society newsletter (Vol. 4, May 2021) its width is described as being valued as a reminder of the evolution of roadways and bridges in the community.[5] Note: In the Town's *Waterfront Parks Master Plan* the single lane width was valued because it calms traffic, but the community also identified widening the Bridge would be important to improve safety. Some places reconcile this by adding a pedestrian walkway outside

[5] Georgina Historical Society, Mossington Bridge, Georgina Historical Society Newsletter #44, Volume 4, May 2021, pg. 4.

Heritage Attribute	Rationale
	the truss on one or both sides of the Bridge.
The blue colour	The By-law states that the Bridge was first painted silver, then light blue, then darker blue (in 1977).[6] It is understood that the Bridge is often known/referred to as the "Blue Bridge" and part of its contextual value as a landmark is associated with the colour. The colour has become part of the character of the Bridge that evolved over time.

Table 2. Character-Defining Elements of the Bridge

Character Defining Element	Rationale
The physical structure of the Bridge, its form, scale, massing and design	The form, scale, massing, materials, and design of the Bridge listed as heritage attributes contribute to its landmark status, structural value and fit the local landscape.
Historic links to the development of the surrounding historic estates	Historically the Bridge connected the estates in the area. The Bridge –in part—enabled the subdivision of the estates into the current pattern of residential and cottage lots.
Location across the Black River near where the River enters Lake Simcoe	The location of the Bridge is a character defining element as part of the local identity and for its aesthetic presence. The location is linked to its landmark value.

[6] The Corporation of the Town of Georgina, By-law Number 2002-0015

Character Defining Element	Rationale
Part of the picturesque landscape	The landscape around the Bridge is naturalized with many trees, shrubs, hedges, and grasses. Much of the landscape is not formally arranged. It opens up on the north side towards Lake Simcoe. Furthermore, the road curves slightly on both sides of the Bridge. The overall structure and colour of the Bridge stands out from the natural landscape while being partially hidden until it is close. This landmark structure within a naturalized landscape is picturesque.

The Bridge has become a symbol of local history. The background history, anecdotes, and oral history included in the background history section of the designation By-law indicate a rich local history associated with the Black River and the area surrounding where the River meets the Lake. Many of the tangible remains of that history have been removed or altered over time and the Bridge is one of the few features remaining. The Bridge as a landmark appears to have become a tangible anchor for the local history.

2.4 HERITAGE INTEGRITY

In a heritage conservation and evaluation context, the concept of integrity is associated with the ability of a property to represent or support the cultural heritage value or interest of the property or to covey its heritage significance.[7] It is understood as the 'wholeness' or 'honesty' of a place[8] or if the heritage attributes continue to represent or support the cultural heritage value or interest of the property.[9] Heritage integrity can be understood through how much of the resource is whole, complete, changed, or unchanged from its original or 'valued subsequent configuration'.[10] Changes or evolution to a place that have become part of its cultural heritage value become part of the heritage integrity, however if the cultural heritage value of a place is

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

linked to another structure or environment that is gone the heritage integrity is diminished.[11] Heritage integrity is not necessarily related to physical condition or structural stability.

There are few tools describing a methodology to assess historic integrity. One of the tools come from the U.S. National Park Service (NPS), which has informed Ontario practice, and considers heritage integrity a necessary condition of listing on the National Register. The NPS states that "Heritage properties either retain integrity or they do not."[12] They identify seven aspects of integrity, degrees and combinations of which can be used to determine if a site has heritage integrity. The seven aspects include: Location; Design; Setting; Materials; Workmanship; Feeling; and Association.[13]

The Bridge is in its original location and its original design, materials, workmanship. It conveys a feeling of history and historic associations. It has very good heritage integrity. Changes to the Bridge are unlikely to affect its location, materials, and workmanship. They will not change the overall design but will affect its aesthetic appearance which may make the design more difficult to appreciate. The change in aesthetics may affect the feeling the Bridge conveys. The associations are unlikely to be affected by the proposed changes.

3 LEGISLATION AND POLICY CONTEXT

3.1 LEGISLATIVE CONTEXT

Since the Bridge is designated under the *OHA* plans to alter the structure –if the alteration is likely to affect the property's heritage attributes—are subject to requirements under Part IV Section 33. This section requires the owner (the Town) to apply and receive written consent to the alteration from Municipal Council [Section 33(1)]. Council must consult with its municipal heritage committee if one is established [Section 33(6)]. However, it is understood that the Town currently does not have municipal heritage committee. Town will need to follow its heritage permit process and Municipal Council will make decisions under the *OHA* without municipal heritage committee advice.

3.2 OFFICIAL PLAN CONTEXT

Review of municipal objectives, goals and policies finds that the Town commits to conserving, protecting, enhancing, and promoting cultural heritage resources as part of sustainability and healthy and complete communities [*Official Plan* sections 2.2.2.9 and 2.2.12.6]. Cultural heritage policies include a commitment to conserving cultural heritage resources [*Official Plan* Policy

[11] MHSTCI 2006a: 26.
[12] NPS 1997: 44.
[13] NPS 1997: 44.

8.8.3 (a)] and promotion of understanding and appreciation of cultural heritage resources [*Official Plan* Policy 8.8.3(c)].

This memorandum has been prepared to review proposed alterations to the Bridge in support of municipal goals, objectives, and policies around heritage conservation.

4 PROPOSED ALTERATIONS

It is understood that the Town has explored different engineering solutions to deter access to climbing the Bridge trusses and attempt to prevent jumping from the Bridge into the River. LHC has reviewed the *Mossington Bridge Modifications* confidential report by Doug Dixon & Associates Inc. from April 2024. This report explored four engineering solutions that include:

- Acrylic Barriers;
- Net/Mesh/Fence;
- Localized steel plates; and,
- Localized acrylic plates.

The *Mossington Bridge Modifications* report considered each solution against a number of factors including heritage impacts. The localized steel plates were identified as the preferred option along with a tall railing (up to 2.4 m or 8 feet).

5 CONSERVATION STRATEGY

As a historic place, the decision-making process for conservation of the Bridge while enabling change for safety reasons should be guided by the Canadas Historic Places *Standards and Guidelines for the Conservation of Historic Places in Canada* 2nd Edition (S&Gs, discussion in Section 5.1) and Government of Ontario's *Eight Guiding Principles for the Conservation of Built Heritage Properties* (discussion in Section 5.1 and 5.2).

Heritage conservation includes three primary treatments; preservation, rehabilitation, and restoration. The S&Gs describe each treatment as:

> *Preservation* involves protecting, maintaining and stabilizing the existing form, material and integrity of an historic place or individual component, while protecting its heritage value.
>
> *Rehabilitation* involves the sensitive adaptation of an historic place or individual component for a continuing or compatible contemporary use, while protecting its heritage value.
>
> *Restoration* involves accurately revealing, recovering or representing the state of an historic place or individual component as it appeared at a particular period in its

history, while protecting its heritage value.[14]

The proposed changes to the Bridge generally fall under the category of Rehabilitation. They are an adaptation for continuing use while improving safety. Conservation decisions should also be informed by guidance for preservation as required.

5.1 REVIEW OF PROPOSED BRIDGE MODIFICATIONS WITH THE S&GS

Twelve of the fourteen Standards apply to preservation and rehabilitation projects. The Standards are not presented in a hierarchical order. Discussion on how the proposed changes to the Bridge align with the Standards for preservation and rehabilitation is in Table 3.

Table 3. S&G Standards and proposed Bridge modifications

	Standard	Discussion
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.	The proposed changes to the Bridge generally comply with this Standard. The changes do not substantially alter character defining elements. It does remove the lattice railing and replace it with a much taller railing which will somewhat alter the appearance of the Bridge. However, the seven panel, Pratt truss design, and location will be conserved.
2	Conserve changes to an historic place that over time, have become Character-Defining Elements in their own right.	The only change to the Bridge that has become a Character-Defining Element is the blue colour. It is understood that the Bridge and the modifications will be painted blue to blend with the historic bridge.
3	Conserve heritage value by adopting an	The proposed changes to the Bridge

[14] 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, 17.

	Standard	Discussion
	approach calling for minimal intervention.	are consistent with a minimal intervention approach. The lattice railing and a limited number of rivets will be removed to enable the safety measures to be implemented. It is understood that the steel plates will be bolted on through existing rivet holes.
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.	The proposed alterations do not create a false sense of historic development.
5	Find a use for an historic place that requires minimal or no change to its Character-Defining Elements.	The proposed modifications allow the Bridge to continue in use as a bridge.
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.	The Bridge is maintained and no additional stabilization is required as part of this project.
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.	The condition of the Bridge is regularly evaluated. The *Mossington Bridge Modifications* report has considered its condition and had identified an appropriate intervention that respects heritage value.

	Standard	Discussion
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.	N/A
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.	The proposed interventions are not specifically focused on preserving Character-Defining Elements but are physically and visually compatible and identifiable.
10	Repair rather than replace Character-Defining Elements. Where Character-Defining Elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements. Where there is insufficient physical evidence, make the form, material and detailing of the new elements compatible with the character of the historic place.	N/A
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.	The proposed modifications are physically compatible and distinguishable from the historic Bridge. However, the steel plates will cover the lacing bars and make the affected members appear more solid. The railing will be large and is not subordinate to the historic bridge.
12	Create any new additions or related new construction so that the essential form and	The proposed modifications are expected to be removable and will

	Standard	Discussion
	integrity of an historic place will not be impaired if the new work is removed in the future.	not impair the integrity and essential form of the historic structure.

The proposed modifications to the Bridge generally align with the Standards from the S&Gs. The S&Gs recognize that health, safety, and security may require modifications to a historic place.[15] They encourage examining the impact the proposed health, safety, and security changes will have on the heritage value and character defining elements. They encourage looking at the objectives of safety requirements to determine if alternative approaches can be found that conserve heritage value while meeting safety objectives. The S&Gs recognize that hazardous materials may need to be removed. They recognize that security concerns (including concerns about unauthorized access and dangerous behaviors –such as jumping from a Truss bridge) may require introducing new measures such as barriers. New equipment or barriers should be carefully planned to reduce their impact on the heritage value of a historic place.

Relevant guidelines for the Bridge generally fall under Section 4.4, Guidelines for Engineering Works, Including Civil, Industrial, and Military Works. In this section "Civil Works, such as bridges, dams, and canals, present a different challenge. These works often remain fully functional and so must meet stringent contemporary safety codes that did not exist at the time of their construction. Their continued use is contingent on meeting these standards, often necessitating significant rehabilitation." [16]

Guidance on Constructed Elements (Section 4.4.1) relevant to the proposed Bridge modifications include the following recommended and not recommended guidelines (Table 4).

[15] Canada's Historic Places, "Standards and Guidelines for the Conservation of Historic Places in Canada," 42.
[16] Canada's Historic Places, "Standards and Guidelines for the Conservation of Historic Places in Canada," 192.

Table 4. Guidelines for Preservation and Rehabilitation for Constructed Elements of the Bridge

	Recommended	Not Recommended	Discussion
General Guidelines for Preservation, Rehabilitation and Restoration			
1	Understanding the constructed element and how it contributes to the heritage value of the engineering work.		The *Mossington Bridge Modifications* report and the proposed modifications demonstrate an understanding of the Bridge as an engineering work. It has recommended modifications based on minimal intervention to the structure.
3	Documenting the form, materials and condition of the constructed element before undertaking an intervention.	Undertaking an intervention that affects a constructed element without first documenting its existing character and condition.	The Bridge has been documented in OSIM reports. However, it is recommended that—if not already complete—a set of current conditions drawings be prepared along with a detailed set of current condition photographs before modifications are made to the Bridge.
5	Assessing the overall condition of constructed elements early in the planning process so that the scope of	Carrying out a level of intervention that exceeds what is required, or taking action based on assumptions or	The Town has current OSIM reports for the Bridge that document its condition. The *Mossington Bridge Modifications* report references the OSIM reports and

	Recommended	Not Recommended	Discussion
	work is based on current conditions.	rules of thumb.	appears to base recommendations on these assessments.
	Taking into account the past performance and load history of constructed elements or their components when determining their present or future capacity.		The *Mossington Bridge Modifications* report considers loads on the structure for each of the options considered. The recommendations are based on wind load forces.
13	Imposing limits on the acceptable use of constructed elements, based on their actual characteristics and capacities to protect them from damage. There is a need to balance present and anticipated usage demands with heritage value, and to avoid, if possible, any use that would damage or destroy the constructed elements.	Subjecting constructed elements to uses that could overload existing systems, such as installing equipment or systems that undermine the heritage value of the engineering work.	The *Mossington Bridge Modifications* report considers loads on the structure for each of the options considered. The recommendations are based on wind load forces. The acrylic panel option which would allow more of the historic Bridge to be visible was rejected in part because it would subject the Bridge to unacceptable wind forces.
	Balancing the need to alter constructed elements to meet current safety codes and standards (to allow continued use) with the need to preserve the heritage		The *Mossington Bridge Modifications Report* and proposed modifications attempt to balance the safety and security needs of the Town –to prevent

	Recommended	Not Recommended	Discussion
	value of the work's functionality and operation.		unauthorized activities such as jumping—with the need to preserve heritage value.
17	Adapting interim stabilization interventions to the anticipated lifespan of the constructed element, so that they remain as reversible as possible.		The proposed interventions are for safety instead of stabilization but are designed to remain reversible.
19	Protecting adjacent Character-Defining Elements and components of constructed elements from accidental damage or exposure to damaging materials during maintenance or repair work.		Planning the work to install proposed interventions should include measures to protect adjacent historic components of the Bridge from accidental damage.
23	Documenting all interventions that affect constructed elements, and ensuring that this documentation will be available to those responsible for future interventions.		Documentation of the current condition of the Bridge and the changes to the Bridge should be documented and copies of all reports, construction drawings, and a photographic record of the Bridge following installation should be kept and made available in a publicly

	Recommended	Not Recommended	Discussion
			accessible archive.
28	Designing additions for a new use in a manner that is compatible with the constructed element and respects the heritage value of the engineering work.	Introducing additions to constructed elements that are incompatible with the character of the engineering or that alter the historic relationships of the work.	The proposed steel plate covers over the lacing bars on the vertical and diagonal members of the trusses has been designed in a manner that respects the heritage value of the Bridge. This modification is a minimal change in a compatible material and is reversible. The proposed tall railing is compatible with the Bridge—but not sympathetic. It is a noticeable change that will affect the aesthetics and heritage integrity of the Bridge in the landscape.
30	Designing a new addition to a constructed element in a manner that draws a clear distinction between what is historic and what is new.	Duplicating the exact form, material, style and detailing of the original constructed element so that the new work appears to be part of the historic place.	The proposed Bridge modifications are clearly distinct from the historic structure.
31	Considering the design of an attached exterior addition in terms of its	Designing and building new additions that negatively affect the heritage	The proposed Bridge modifications are compatible in terms of massing,

	Recommended	Not Recommended	Discussion
	relationship to the engineering work. The design for the new work may be contemporary or refer to design motifs from the historic place. In either case, it should be compatible in terms of massing, materials and colour, yet be distinguishable from the historic place.	value of the engineering work, including its design, materials, workmanship, location or setting.	material, and colour and are distinguishable from the historic place. The height of the railing and how far it extends beyond the ends of the trusses is a noticeable change that will affect the aesthetics and heritage integrity of the Bridge in the landscape.
32	Placing a new addition on a non-character-defining elevation and limiting its size and scale in relation to the engineering work.	Designing a new addition that obscures, damages or destroys constructed elements, or undermines the heritage value of the engineering work.	The proposed Bridge modifications will be made to Character-Defining Element parts of the Bridge. However, they do not damage or destroy constructed elements. The steel plates and new railing will partially obscure views of the Bridge trusses and of specific truss members. However, these modifications are reversible and only cover as much of the Character-Defining Elements as is necessary.
	Health, Safety and Security Considerations		
39	Adding new features to meet health, safety or security requirements, in a		The proposed Bridge modifications meet safety and security requirements.

	Recommended	Not Recommended	Discussion
	manner that conserves the constructed elements and minimizes impact on the heritage value of the engineering work.		They are reversible and make minimal changes to the heritage attributes of the Bridge. They minimize impacts on the heritage value of the engineering work.
40	Working with code specialists to determine the most appropriate solution to health, safety and security requirements with the least impact on the Character-Defining Elements and overall heritage value of the engineering work.	Making changes to constructed elements, without first exploring equivalent systems, methods or devices that may be less damaging to the Character-Defining Elements of the engineering work.	The proposed Bridge modifications have been recommended after first exploring other systems, methods, and devices. Based on the *Mossington Bridge Modifications* report the proposed Bridge modifications appear to generally have fewer adverse effects to the Bridge than other options considered.

5.2 REVIEW OF PROPOSED BRIDGE MODIFICATIONS WITH THE EIGHT GUIDING PRINCIPLES

The *Eight Guiding Principles*[17] provide the basis for good practice decisions on heritage conservation. Discussion on how the proposed changes to the Bridge align with the *Eight Guiding Principles* is in Table 5.

Table 5. *Eight Guiding Principles* and Proposed Bridge modifications

	Guiding Principle	Discussion
1	RESPECT FOR DOCUMENTARY EVIDENCE: Do not base restoration on conjecture. Conservation work should be based on historic documentation such as historic photographs, drawings and physical evidence.	The Bridge is well documented and the proposed modifications are not a restoration. However, it is recommended that current condition drawings and a photographic record of the Bridge be prepared before modifications are made so that a detailed record of the Bridge before modification is available to inform future conservation projects if necessary .
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 cultural heritage value considerably.	N/A the Bridge will not be moved.
3	RESPECT FOR HISTORIC MATERIAL: Repair/conserve -rather than replace building materials and finishes, except where absolutely necessary. Minimal intervention maintains the heritage content	A limited amount of historic material (rivets) will be removed to affix the steel plates. This is a minimal intervention.

[17] Province of Ontario, Eight Guiding Principles on the Conservation of Built Heritage Properties

	Guiding Principle	Discussion
	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.	The proposed Bridge modifications respect original fabric and have chosen steel for the plates and railing to remain compatible with the original fabric.
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.	The proposed modifications respect the Bridge's history.
6	REVERSIBILITY: Alterations 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.	The proposed modifications are reversible. It is recommended that—if possible—the lattice railing be removed intact and stored or sent to a local museum. This will enable it to be restored in the future if conditions allow.
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.	The proposed Bridge modifications will be distinguishable from the historic structure. The steel plates will be noticeable as covering the historic fabric and the proposed railing is a modern design that will not blur the distinction between old and new.
8	MAINTENANCE: With continuous care, future restoration will not be necessary. With regular upkeep, major conservation projects and their high costs can be avoided.	It is understood that the Bridge has regular maintenance.

6 CONCLUSION

In LHC's professional opinion the proposed Bridge modifications are generally consistent with good heritage conservation practices. Based on review of the *Mossington Bridge Modifications* report and design drawings for the modifications, the heritage value of the Bridge has been considered and integrated into the modifications. Removal of the lattice railing is an adverse change to the Bridge but is understood to be necessary for safety and security. The proposed steel plates and the method of attaching them to the Bridge is a minimal intervention. The proposed railing will be a slight change to the overall appearance of the Bridge but is a clearly modern intervention and can be removed. The change in appearance from the tall railing will likely have a small adverse effect on the Bridge as part of the picturesque landscape by altering its heritage integrity. The feeling associated with the Bridge as a historic place and appreciation of the historic structure may be reduced with this modern intervention. However, since this change is necessary for safety and security and is reversible it is consistent with heritage conservation guidance.

6.1 RECOMMENDATIONS

LHC makes the following recommendations related to the proposed Bridge modifications:

- The Town should compile and maintain an archival file documenting the Bridge. Documentation should include:
    - Current condition/as built drawings of the Bridge;
    - Current photographs of the Bridge as a whole and of detailed elements;
    - Reports prepared about the Bridge including any reports prepared for heritage assessments, condition assessments, or for proposed changes;
    - Construction drawings of the proposed modifications; and,
    - Photographs of the Bridge following the changes.
- If possible—remove the historic lattice railing intact and store it for possible restoration in the future. Alternatively, send the railing or a sample of it to a local museum as a representative piece of the Bridge along with a documentary record of the Bridge and its history.

7 CLOSURE

We trust this Memorandum assesses the proposed Bridge modifications against heritage conservation guidance. If there are any questions or concerns, or if we can modify it in any way, please do not hesitate to contact the undersigned.

Sincerely,

Christienne Uchiyama, MA, CAHP
Principal | Manager of Heritage Consulting Services

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

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