

# Cultural Heritage Evaluation Report

## Meaford Bridge No. 125

### Municipality of Meaford, Ontario

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#### Draft Report

Prepared for:

**Centex Engineering and Development Inc.**

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Archaeological Services Inc. File: 24CH-069

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## Executive Summary

Archaeological Services Inc. (A.S.I.) was contracted by Centex Engineering and Development Inc. on behalf of the Municipality of Meaford to conduct a Cultural Heritage Evaluation Report (C.H.E.R.) for Meaford Bridge No. 125 (BR-125) in the Municipality of Meaford, Ontario. The C.H.E.R. is being undertaken as part of the Rehabilitation or Reconstruction of Meaford Bridge No. 125 Municipal Class Environmental Assessment (M.C.E.A.). The structure is a single-span timber trestle railway bridge constructed in 1901 at Mile 113.99 of the Grand Trunk Railway (G.T.R.) Line. The bridge is currently used as a pedestrian bridge that carries the Georgian Trail recreational trail over Meaford Creek, north of Edwin Street East. As the subject bridge was constructed before 1956, it requires a C.H.E.R. to determine cultural heritage value or interest as part of this Environmental Assessment (Municipal Engineers Association, 2023). The Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources for the subject bridge is included in Appendix A.

This report includes an evaluation of the cultural heritage value or interest of the structure as determined by the criteria in Ontario Regulation 9/06 of the *Ontario Heritage Act*. This evaluation determined that the bridge has design and physical value and contextual value in the local context. In particular, the subject bridge is considered to be a good representative example of an early timber trestle railway bridge in the local context. The structure is believed to be the first bridge at the crossing, constructed in 1901 by the G.T.R., and continues to be used as a crossing on the rail corridor which has been converted to a recreational trail, thus preserving the bridge's visual and historical links with its surroundings.

Based on the results of the assessment, the following recommendations have been developed:

1. A Heritage Impact Assessment (H.I.A.) should be completed for Meaford Bridge No. 125 as early as possible during the detailed design phase. The H.I.A. will help to identify alternatives as well as mitigation and monitoring



commitments to avoid or lessen impacts on the heritage attributes of the bridge, based on the proposed Statement of Cultural Heritage Value or Interest. This assessment should be completed by a qualified person who has relevant and recent experience in the conservation of rail bridges (see Section 3.0 of the *Standards and Guidelines for Conservation of Provincial Heritage Properties* [Ministry of Citizenship and Multiculturalism, 2014] as a guide for best practice) and submitted to heritage staff at the Municipality of Meaford for review and approval and to the Ministry of Citizenship and Multiculturalism (M.C.M.) for review.

2. The proponent should submit this report for review and comment to planning staff at the Municipality of Meaford, the M.C.M. and to any other relevant stakeholder that has an interest in the heritage of the subject bridge. Any feedback will be incorporated into this report prior to finalization. The final report should be submitted to the Meaford Museum for archival purposes.

## Report Accessibility Features

This report has been formatted to meet the Information and Communications Standards under the *Accessibility for Ontarians with Disabilities Act, 2005* (A.O.D.A.). Features of this report which enhance accessibility include: headings, font size and colour, alternative text provided for images, and the use of periods within acronyms. Given this is a technical report, there may be instances where additional accommodation is required in order for readers to access the report's information. If additional accommodation is required, please contact Annie Veilleux, Manager of the Cultural Heritage Division at Archaeological Services Incorporated, by email at [aveilleux@asiheritage.ca](mailto:aveilleux@asiheritage.ca) or by phone 416-966-1069 ext. 255.



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## 1.0 Introduction

Archaeological Services Inc. (A.S.I.) was contracted by Centex Engineering and Development Inc. on behalf of the Municipality of Meaford to conduct a Cultural Heritage Evaluation Report (C.H.E.R.) for Meaford Bridge No. 125 (BR-125) in the Municipality of Meaford, Ontario (Figure 1). The C.H.E.R. is being undertaken as part of the Rehabilitation or Reconstruction of Meaford Bridge No. 125 Municipal Class Environmental Assessment (M.C.E.A.). The structure is a single-span timber trestle bridge constructed in 1901 as a rail bridge for the Grand Trunk Railway (G.T.R.). The bridge is currently used as a pedestrian bridge that carries the Georgian Trail recreational trail over Meaford Creek, north of Edwin Street East in the Municipality of Meaford.

### 1.1 Project Overview

The Rehabilitation or Reconstruction of Meaford Bridge No. 125 M.C.E.A. is being completed to address structural deficiencies in the bridge and to determine a preferred alternative for the structure. The 2023 Ontario Structural Inspection Manual (O.S.I.M.) report evaluated the bridge as being in generally poor condition with a Bridge Condition Index (B.C.I.) score of 44.5 and recommended replacement of the subject bridge within two years (R. J. Burnside & Associates Limited, 2023).

The subject bridge is not identified as a built heritage resource by the municipality and is not included on the *Ontario Heritage Bridge List* (Ministry of Transportation, 2010). As the subject bridge was constructed before 1956, it requires a C.H.E.R. to determine cultural heritage value or interest as part of this Environmental Assessment (Municipal Engineers Association, 2023). The Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources for the subject bridge is included in Appendix A. Research was completed to investigate, document, and evaluate the cultural heritage value of the subject bridge. The C.H.E.R. was conducted by Leora Bebko, Cultural Heritage Technician, under the project management of John Sleath, Cultural Heritage Specialist, and



senior project management of Lindsay Graves, Senior Project Manager, of the Cultural Heritage Division, A.S.I.

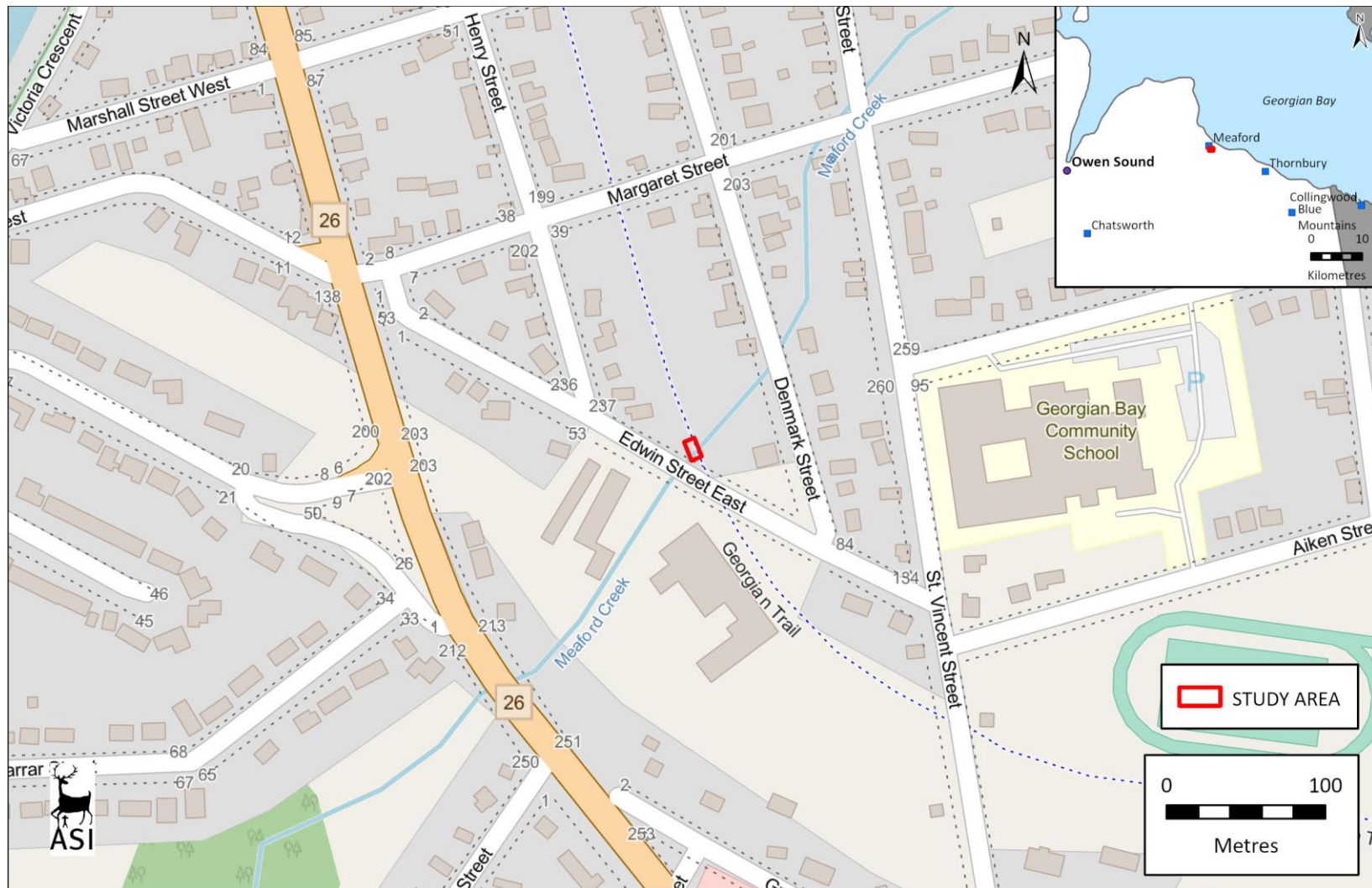


Figure 1: Location of Meaford Bridge No. 125 on the north side of Edwin Street East in the Municipality of Meaford. Source: (c) Open Street Map contributors, Creative Commons n.d.

## 1.2 Legislation and Policy Context

Pursuant to the *Environmental Assessment Act* (Ministry of the Environment 1990), applicable infrastructure projects are subject to heritage assessment and/or evaluation to identify built heritage resources and cultural heritage landscapes and to determine related impacts on identified heritage properties (Ministry of Transportation, 2007). Infrastructure projects have the potential to impact built heritage resources and cultural heritage landscapes in a variety of ways such as loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible, or atmospheric elements that are not in keeping with the resources and/or their setting.

The analysis used throughout the cultural heritage evaluation process addresses cultural heritage resources under other various pieces of legislation and their supporting guidelines. These policies form the broad context which frame this assessment, and are included as relevant to this undertaking based on professional opinion and with regard for best practices:

- *Environmental Assessment Act* (Ministry of the Environment 1990);
- *Ontario Heritage Act* (Ontario Heritage Act, R.S.O. c. O.18, [as Amended in 2023], 1990);
- *Ontario Heritage Tool Kit* (Ministry of Citizenship and Multiculturalism, 2006);
- *Ontario Heritage Bridge Guidelines* (Ministry of Culture and Ministry of Transportation, 2008);
- *Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources* (Municipal Engineers Association, 2023); and
- *Ontario Regulation 160/02, Standards for Bridges* (Public Transportation and Highway Improvement Act, R.S.O. 1990, c.P.50, 2002).



## 1.3 Approach to Cultural Heritage Evaluation Reports

The scope of a C.H.E.R. is guided by the *Ontario Heritage Tool Kit* (Ministry of Citizenship and Multiculturalism, 2006).

Generally, C.H.E.R.s include the following components:

- A general description of the history of the study areas as well as detailed historical summaries of property ownership and building(s) development;
- A description of the cultural heritage landscapes and built heritage resources that are under evaluation in this report;
- Representative photographs of the exterior and interior of a building or structure, and character-defining architectural details;
- A cultural heritage resource evaluation guided by the *Ontario Heritage Act* criteria;
- A summary of heritage attributes;
- Historical mapping, photographs; and
- A location plan.

Using background information and data collected during the site visits, the property is evaluated using criteria contained within Ontario Regulations 9/06 of the *Ontario Heritage Act*. The criteria require a full understanding, given the resources available, of the history, design and associations of all cultural heritage resources of the property in the community context. If a property meets one criterion in Ontario Regulation 9/06, it is eligible for inclusion on a municipal heritage register as a non-designated, listed property. If a property meets two or more criteria, then it is eligible for designation under the *Ontario Heritage Act* (Ontario Heritage Act, R.S.O. c. O.18, [as Amended in 2023], 1990).



## 2.0 Community Engagement

The following section outlines the community consultation that was undertaken to gather and review information about the subject bridge.

### 2.1 Relevant Agencies/Stakeholders Engaged and/or Consulted

The following stakeholders were contacted with inquiries regarding the heritage status and for information concerning the subject bridge and any additional adjacent built heritage resources or cultural heritage landscapes:

- Denise McCarl, Acting Director of Development Services, Municipality of Meaford (email communications 17, 18, and 20 September 2024). Email sent requesting confirmation that the subject bridge did not have any heritage recognition and that there are no recognized heritage properties adjacent to the bridge. Follow-up email requested any information regarding the reasoning for the construction date given for the subject bridge in the Town's structural inventory (1920) and requesting any available documents relating to the construction of the subject bridge or the similar timber bridges in the Municipality. A response indicated that the Planning Department did not have any information relating to the construction date and that the request for information had been passed on to the Meaford Museum. A follow-up response indicated that the Planning Department had conferred with the museum and were unable to locate any documents pertaining to the construction of the subject bridge or similar bridges.
- The Ministry of Citizenship and Multiculturalism (M.C.M.) (email communication 23 September 2024). Email correspondence confirmed that to date no properties within or adjacent to the study area have been designated by the Minister and that the Ministry is not aware of any provincial heritage properties within or adjacent to the study area at this time.



- The Ontario Heritage Trust (email communication 24 September 2024). A response indicated that there are no conservation easements or Trust-owned properties within the study area and that there are no heritage plaques within the study area.
- Karin Noble, Archivist, Grey Roots Museum and Archives (email communication 24 September 2024). Email sent requesting information on a collection of documents in the archive relating to the construction of the Grand Trunk Railway line to Meaford Harbour. Response included two design plan drawings for the “Grand Trunk Railway Proposed Line to Harbour at Meaford”, one of the plans was date 1899 and the other was undated.

## 2.2 Agency Review

The draft report will be submitted to the M.C.M and the Municipality of Meaford for review and comment. Any feedback received will be considered and incorporated into this report as appropriate. The final cultural heritage evaluation report will be submitted to the M.C.M., Meaford Museum, and the Municipality of Meaford for their information.

## 2.3 Indigenous Nations Engagement

Consultation will be undertaken following completion of a communication plan to be developed by Centex Engineering and Development Inc. to identify any relevant stakeholders and concerned groups. Any feedback received in the consultation process will be considered and incorporated into the final report.

## 3.0 Description of the Structure and Crossing

The following section provides a description of the subject bridge and crossing.

### 3.1 Existing Conditions

Meaford Bridge No. 125 is a single-span timber trestle bridge that was constructed to carry the Grand Trunk Railway (G.T.R.) line extension to its new



terminal station at Meaford Harbour in 1901 (Hughes, 2022). The bridge has since been converted to a pedestrian bridge on the Georgian Trail Bay (Figure 2). The structure's single span carries the Georgian Trail over Meaford Creek, a small and generally slow-moving waterway which empties into Georgian Bay approximately 0.75 kilometres northeast of the subject crossing.

The bridge is located on the northeast side of Edwin Street East approximately seven metres from the roadway. Edwin Street East crosses Meaford Creek via a concrete culvert that is adjacent to the subject bridge on the west side. These crossings are located within a mixed industrial and residential context (Figure 3).



Figure 2: South elevation of Meaford Bridge No. 125, looking northeast (A.S.I., 2024)



Figure 3: Aerial image of the subject bridge in the Municipality of Meaford (Google Maps)

## 3.2 Heritage Recognitions

The subject bridge is not recognized as a known or potential heritage property by the municipality or county.

## 3.3 Adjacent Lands

The subject bridge is located within a mixed residential and industrial context with late nineteenth and early twentieth century residences to the north, east, and south and industrial structures on the opposite side of Edwin Street East and at the corner of Edwin Street East and Denmark Street. There is a large empty lot southwest of the subject bridge. The area has many mature trees, particularly along the former rail line (now the Georgian Trail recreational trail).

## 4.0 Research

This section provides: the results of primary and secondary research; a discussion of historical or associative value; a discussion of physical and design value; a discussion of contextual value; and results of comparative analysis.

### 4.1 List of Key Sources, Report Limitations, and Site Visit Information

The following section describes the sources consulted and research activities undertaken for this report.

#### 4.1.1 Key Sources

Background historical research, which includes consulting primary and secondary source documents, photos, and historic mapping, was undertaken to identify early settlement patterns and broad agents or themes of change in the study area. In addition, online historical research was undertaken through the websites of the following libraries and archives to build upon information

- Heritage Meaford / Architectural Conservancy of Ontario Meaford Chapter (<https://www.heritagemeaford.com/resources.php>);
- Meaford Historical Tidbits (<https://tidbits.site/>);
- Meaford Museum (<https://www.meaford.ca/en/explore-play/meaford-museum.aspx>); and
- Grey Roots Museum and Archives (<https://greyroots.com/collections-and-research>).

Available federal, provincial, and municipal heritage inventories and databases were also consulted to obtain information about the properties. These included:

- Meaford Municipal Heritage Register (Municipality of Meaford, 2023);
- The *Ontario Heritage Act Register* (Ontario Heritage Trust, n.d.b);
- The *Places of Worship Inventory* (Ontario Heritage Trust, n.d.c);



- The inventory of Ontario Heritage Trust easements (Ontario Heritage Trust, n.d.a);
- The Ontario Heritage Trust's *An Inventory of Provincial Plaques Across Ontario*: a PDF of Ontario Heritage Trust Plaques and their locations (Ontario Heritage Trust, 2023);
- Parks Canada's *Directory of Federal Heritage Designations*, an online database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings, and Heritage Lighthouses (Parks Canada, n.d.b);
- Parks Canada's *Historic Places* website, an online register that provides information on historic places recognized for their heritage value at all government levels (Parks Canada, n.d.a); and
- Inventory of bridges included at *Historicbridges.com*.

No previous consultant reports associated with potential above-ground cultural heritage resources and archaeological resources within and/or adjacent and/or in the vicinity of the subject bridge in the Municipality of Meaford were available for review as part of this assessment.

A full list of references consulted can be found in Section 8.0 of this document.

#### **4.1.2 Research and Report Limitations**

No original design drawings of the subject bridge were available as part of this assessment, which presents a research limitation as the engineer responsible for designing the structure and the date of the design is could not be confirmed.

#### **4.1.3 Site Visit**

A site visit to the subject bridge was conducted on 12 September 2024 by Leora Bebko of Archaeological Services Inc. (A.S.I.). The site visit included photographic documentation of the exterior of the structure from the Georgian Trail and Edwin Street West rights-of-way. Permission to Enter was not required for adjacent properties, as all work was conducted from the publicly-accessible right-of-way.



## 4.2 Discussion of Historical or Associative Value

Historically, the bridge was located on Lot 15, Concession 5 in the Township of St. Vincent, County of Grey. It is now located on the Georgian Trail, approximately seven metres north of Edwin Street East, between Henry Street and Denmark Street in the Municipality of Meaford.

### 4.2.1 Summary of Early Indigenous History in Southern Ontario

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years before present (B.P.) (Ferris, 2013). Populations at this time would have been highly mobile, inhabiting a boreal-parkland similar to the modern sub-arctic. By approximately 10,000 B.P., the environment had progressively warmed (Edwards & Fritz, 1988) and populations now occupied less extensive territories (Ellis & Deller, 1990).

Between approximately 10,000-5,500 B.P., the Great Lakes basins experienced low-water levels, and many sites which would have been located on those former shorelines are now submerged. This period produces the earliest evidence of heavy wood working tools, an indication of greater investment of labour in felling trees for fuel, to build shelter, and watercraft production. These activities suggest prolonged seasonal residency at occupation sites. Polished stone and native copper implements were being produced by approximately 8,000 B.P.; the latter was acquired from the north shore of Lake Superior, evidence of extensive exchange networks throughout the Great Lakes region. The earliest evidence for cemeteries dates to approximately 4,500-3,000 B.P. and is indicative of increased social organization, investment of labour into social infrastructure, and the establishment of socially prescribed territories (J. Brown, 1995, p. 13; Ellis et al., 1990, 2009).

Between 3,000-2,500 B.P., populations continued to practice residential mobility and to harvest seasonally available resources, including spawning fish. The Woodland period begins around 2,500 B.P. and exchange and interaction



networks broaden at this time (Spence et al., 1990, pp. 136, 138) and by approximately 2,000 B.P., evidence exists for small community camps, focusing on the seasonal harvesting of resources (Spence et al., 1990, pp. 155, 164). By 1,500 B.P. there is macro botanical evidence for maize in southern Ontario, and it is thought that maize only supplemented people's diet. There is earlier phytolith evidence for maize in central New York State by 2,300 B.P. - it is likely that once similar analyses are conducted on Ontario ceramic vessels of the same period, the same evidence will be found (Birch et al., 2021). As is evident in detailed Anishinaabek ethnographies, winter was a period during which some families would depart from the larger group as it was easier to sustain smaller populations (Rogers, 1962). It is generally understood that these populations were Algonquian-speakers during these millennia of settlement and land use.

From the beginning of the Late Woodland period at approximately 1,000 B.P., lifeways became more similar to that described in early historical documents. Between approximately 1000-1300 Common Era (C.E.), the communal site is replaced by the village focused on horticulture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource base was still practised (Williamson, 1990, p. 317). By 1300-1450 C.E., this episodic community disintegration was no longer practised and populations now communally occupied sites throughout the year (Dodd et al., 1990, p. 343). By the mid-sixteenth century these small villages had coalesced into larger communities (Birch et al., 2021). Through this process, the socio-political organization of the First Nations, as described historically by the French and English explorers who first visited southern Ontario, was developed.

By 1600 C.E., the communities within Simcoe County had formed the Confederation of Nations encountered by the first European explorers and missionaries. In the 1640s, the traditional enmity between the Haudenosaunee and the Huron-Wendat (and their Algonquian allies such as the Nipissing and Odawa) led to the dispersal of the Huron-Wendat. Shortly afterwards, the Haudenosaunee established a series of settlements at strategic locations along the trade routes inland from the north shore of Lake Ontario. By the 1690s however, the Anishinaabeg were the only communities with a permanent



presence in southern Ontario. From the beginning of the eighteenth century to the assertion of British sovereignty in 1763, there was no interruption to Anishinaabeg control and use of southern Ontario.

In Bruce and Grey Counties, archaeological evidence is indicative of some residential stability related to the practice of agriculture (Rankin, 2000). The archaeological evidence of Huron-Wendat/ Tionontaté material culture on Odawa sites, the proximity of contemporary Huron-Wendat and Tionontaté and Odawa sites to each other, and the historically documented alliance between the Odawa and the Neutral Nations are all indicative of cooperation between Algonquian and Iroquoian populations in Bruce and Grey Counties (Fox, 1990).

The Odawa are first described in 1615 when Samuel de Champlain encountered a group of Odawas at the mouth of the French River (Langton & Ganong, 1971). The Odawa were an Algonquian Nation who occupied Bruce County, Grey County and Manitoulin Island. The Odawa subsisted primarily from fishing but also practiced horticulture and were extensively involved in trade. They were known to co-reside with Iroquoian populations (Thwaites, 1896). The oral tradition from Nawash and Saugeen suggests that the ancestors of the Saugeen Ojibway Nation occupied the area as early as 7,500 years ago.

The Tionontaté were closely related to the Huron-Wendat and lived in the area west of Huronia within the current Town of The Blue Mountains, Grey County, Ontario. The seventeenth-century French explorers who encountered these peoples dubbed them the Petun, or “tobacco people,” due to their reputation of growing large amounts of tobacco. They lived in large, palisaded villages (averaging 1.7 ha), temporary hunting and fishing camps, cabin sites, and small hamlets with a material culture characterized by globular-shaped ceramic vessels, ceramic pipes, bone/antler awls and beads, ground and chipped stone tools, and copper objects. The population peaked at approximately 30,000 people during the late 15th century, however by the early sixteenth century Tionontaté territory contracted and the north shore of Lake Ontario was almost abandoned.



The region of Bruce and Grey Counties is not specifically addressed in the contemporary documentary sources; however, the later dispersal of the Haudenosaunee from the region in the late seventeenth century is confirmed by Ojibway oral tradition (Copway, 1850).

The arrival of European trade goods in the sixteenth century, Europeans themselves in the seventeenth century, and increasing settlement efforts in the eighteenth century all significantly impacted traditional ways of life in Southern Ontario. Over time, war and disease contributed to death, dispersion, and displacement of many Indigenous peoples across the region. The Euro-Canadian population grew in both numbers and power through the eighteenth and nineteenth centuries and treaties between colonial administrators and First Nations representatives began to be negotiated.

The subject bridge is located in the traditional territory of the Saugeen Ojibway Nation (S.O.N.) the collective name for the Saugeen Ojibway First Nation and the Chippewas of Nawash Unceded First Nation, known as *Saukiing Anishnaabekiing*. *Saukiing Anishnaabekiing* includes the Saugeen Peninsula (or Bruce Peninsula), the waters and islands of Lake Huron and Georgian Bay surrounding the Saugeen Peninsula, and extends south to include the Maitland River watershed and east to include the Nottawasaga River watershed in part of Grey, Bruce, Huron, Perth, Wellington, Dufferin, and Simcoe Counties (Saugeen Ojibway Nation, 2011).

The subject bridge is within the Nottawasaga Purchase (Treaty 18), a provisional agreement sometimes called the Lake Simcoe-Nottawasaga Treaty, signed on October 17, 1818, by representatives of the Government of Upper Canada and the Anishinaabe (Ministry of Indigenous Affairs, 2020). Treaty 18 encompassed 1,592,000 acres of land between the District of London in the west, Lake Huron in the north, the west limit of the Penetanguishene Purchase (1815) in the east, and the west shore of Lake Simcoe, Cook's Bay, and the Holland River in the northwest. In exchange for the land, the Crown agreed to pay an annual sum of £1200 in goods at the "Montreal price" (Ministry of Indigenous Affairs, 2020).



The Nottawasaga Purchase territory includes the present-day communities of Wasaga, Bradford, and Collingwood.

With the signing of the 1818 Lake Simcoe-Nottawasaga Treaty 18 and the 1836 “Saugeen Tract Agreement” Treaty 45 ½, Ojibway chiefs granted the Crown approximately 1.5 million acres of land south of the Peninsula in an effort to secure a land base on Manitoulin Island along the shores of Lake Huron and southern Georgian Bay (Crown-Indigenous Relations and Northern Affairs, 2016b). In exchange for the land surrendered under Treaty 45 ½, the Crown promised to protect the Saugeen Peninsula forever (Saugeen Ojibway Nation, 2021).

The Saugeen continued using their traditional territory for hunting, medicine gathering, sugaring camps and fish spawning. Euro-Canadian settlement continued to encroach upon the Peninsula and in 1847 Queen Victoria issued a Royal Declaration to support the rights of the Saugeen Ojibway Nation. The Declaration also established strict rules for the purchase and surrender of Indigenous lands in Canada and confirmed that the Bruce Peninsula belonged to the Saugeen Ojibway Nation. Additional acts were passed in 1850 and 1851 to protect lands from squatters and loggers but these documents did little to stem the tide of Euro-Canadian settlement.

In 1994 a claim was submitted to the Crown arguing that Treaty 72 was not valid as the Crown had not fulfilled its duty to the Saugeen Ojibway Nation and Chippewas of Nawash Unceded First Nation to protect them from the effects of colonization and that they were misled by the Crown during negotiations for Treaty 72 (Olthuis Kleer Townshend L.L.P., 2021). In 2003 the Saugeen Ojibway Nation and the Chippewas of Nawash Unceded First nation subsequently filed a joint claim for Aboriginal Title to portions of Lake Huron and Georgian Bay (Olthuis Kleer Townshend L.L.P., 2021). The trial addressing these claims began in 2019 and a decision was reached in 2021 (Olthuis Kleer Townshend L.L.P., 2021). The court rejected S.O.N.’s Aboriginal Title claim but agreed that the Crown breached its honour by failing to uphold its promise to protect the Saugeen Peninsula forever.



## 4.2.2 Township of St. Vincent

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Indigenous pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes continued the use of existing Indigenous trails that typically followed the highlands adjacent to various creeks and rivers (Archaeological Services Inc., 2006). Early European settlements occupied similar locations as Indigenous settlements as they were generally accessible by trail or water routes and would have been in locations with good soil and suitable topography to ensure adequate drainage.

Throughout the period of initial European settlement, Indigenous groups continued to inhabit Southern Ontario, and continued to fish, gather, and hunt within their traditional and treaty territories, albeit often with legal and informal restrictions imposed by colonial authorities and settlers. In many cases, Indigenous peoples acted as guides and teachers, passing on their traditional knowledge to Euro-Canadian settlers, allowing them to sustain themselves in their new homes. Indigenous peoples entered into economic arrangements and partnerships, and often inter-married with settlers. However, pervasive and systemic oppression and marginalization of Indigenous peoples also characterized Euro-Canadian colonization, with thousands being displaced from their lands, denied access to traditional and treaty hunting, fishing, and collecting grounds, and forced to assimilate with Euro-Canadian culture through mandatory attendance at Day and Residential Schools (Ray, 2005; Rogers & Smith, 1994).

Historically, the property is located in the Township of St. Vincent, County of Grey in Lot 15, Concession 5.

The Township of St. Vincent, in which Meaford is situated, was formally surveyed in 1835 by Charles Rankin. The first Euro-Canadian settlement in what



would become the Municipality of Meaford was established in 1838. Meaford was originally named Peggy's Landing for Peggy Miller, wife of the first settler David Miller. The Millers' pioneer cabin served as a stopping place for early travellers. A village was laid out in 1845 and was named for Meaford Hall, the English estate of Admiral Sir John Jervis, Earl of St. Vincent. The township of St. Vincent is also named for the Earl. Early industry in Meaford relied heavily on lumbering, fisheries, and agriculture, facilitated by the ease of transportation afforded by the construction of the North Grey Railway (an extension of the Northern Railway) in 1855. Meaford was incorporated into a town in 1874 nearing a population of 1,000 (Mika & Mika, 1983).

Meaford established itself as an important fishing port on Georgian Bay and the fish, as well as the agricultural and industrial produce of the region, drew many commercial vessels to Meaford's docks in the late nineteenth century. The establishment of fruit orchards after the turn of the century proved to be another draw to the area as ships made stops to pick up fruits for transport throughout the Great Lakes region (White, 2022).

Three noteworthy historical figures once called the Meaford area home. Canadian artist and friend of the Group of Seven, Tom Thomson, spent his childhood growing up in the village of Leith. Tom is buried at the Leith Church, near his boyhood home (South Georgian Bay Tourism, 2022). Author Margaret Marshall Saunders visited Meaford in 1892 and wrote a novel based on a true story about a local dog who had been rescued from a cruel owner by a local miller. *Beautiful Joe* has since sold over 7 million copies and the famous dog is buried in Beautiful Joe Park (Beautiful Joe Heritage Society, 2021; Dougherty & Binstead, 2015). In 1934, Saunders was granted Canada's highest civilian award at the time, Commander of the Most Excellent Order of the British Empire (Beautiful Joe Heritage Society, 2022). American naturalist and author John Muir moved to Meaford during the American Civil War (1861-1865). When he returned to the United States he helped form the Sierra Club and is credited as the father of the United States National Park system (South Georgian Bay Tourism, 2022).



Meaford was incorporated as a municipality in 2001, when it amalgamated with St. Vincent and Sydenham townships, with a population of 11,100.

### 4.2.3 North Grey Railway

The North Grey Railway line was built in 1872 to connect Collingwood with Meaford. It was an extension of the line that the Northern Railway already operated between Toronto and Collingwood, which had been built by their predecessor, the Ontario, Simcoe and Huron Union Railroad (O.S.H.U.R.).

The O.S.H.U.R. underwent a name change in 1858, at this point the third of many such changes in their history, becoming the Northern Railway Company of Canada or simply, the Northern Railway. It was under this name that, in 1872, the line east through Thornbury and terminating at Meaford in the west was constructed. Meaford's first train station was located south of the city, in the location of present-day Station Hill Park. In 1888, the Northern Railway and its affiliated companies amalgamated with the Grand Trunk Railway (G.T.R.) Company of Canada with the railway from Allandale to Meaford designated the Meaford Subdivision. In 1901, a new station was built at Meaford Harbour on the west side of Bridge Street and the railway was realigned to angle northwest through the town to the new station the subject bridge is located along this new alignment. In 1923, the railway company was again amalgamated, this time with the government-owned Canadian National Railway (Cooper, 2009; Hughes, 2022).

The railway track remained operational until 1984. In the late 1980s, the railway corridor was transformed into a recreational pathway known as the Georgian Trail. Completed in 1989, the Georgian Trail covers a 34-kilometre stretch of the former North Grey Railway, albeit with some divergences from the original railway line. Managed by the Georgian Cycle & Ski Trail Association, it is a multi-use recreational trail used by pedestrians, joggers, cyclists, cross country skiers, and snowshoers (Georgian Cycle & Ski Trail Association, 2022).



#### 4.2.4 Grand Trunk Railway

The Grand Trunk Railway Company of Canada (G.T.R.) was incorporated by the Canadian government in 1852 and was planned to connect Toronto to Montreal. It began in 1853 by purchasing five existing railways: the St. Lawrence and Atlantic Railroad Company, the Quebec and Richmond Railroad Company, the Toronto and Guelph Railroad Company, the Grand Junction Railroad Company, and the Grand Trunk Railway Company of Canada East.

In 1853 the G.T.R. merged with the Toronto and Guelph Railroad Company who had already begun construction of their line which was then redirected by the G.T.R. from its original route and extended to Sarnia to be a hub for Chicago bound traffic. By 1856 the line had been built from Montreal to Sarnia via Toronto. The company fell into great debt in 1861 and while it was saved from bankruptcy by the Canadian government, in 1919 the company was bankrupt following its expansion west in an attempt to compete with the Canadian Pacific and Canadian Northern Railways and was taken over by the federal government (Library and Archives Canada, 2005). Many of the G.T.R.'s former lines were nationalized, forming the basis for the Canadian National (C.N.) rail network.

#### 4.2.5 Meaford Creek

The subject bridge carries the Georgian Trail over Meaford Creek. Meaford Creek is a coldwater stream which empties into Georgian Bay approximately 0.75 kilometres northeast of the subject bridge. The creek has a total watershed area of approximately 370 hectares and is part of the Grey Sauble Conservation watershed area (Golder Associates, 2021).

#### 4.2.6 Early Ontario Railway Bridges and Culverts

In the nineteenth century, wooden structures were generally used for short span bridges and culverts, due to the relative ease of reconstruction and the low costs associated. Beginning in the mid-late nineteenth-century, these simple wooden box-culverts and sluices were replaced with more durable stone or concrete arch and box culverts and eventually concrete pipe culverts as supplies



of inexpensive quality lumber dwindled, and population growth caused increased traffic on roadways (Ontario Department of Public Works, 1899). By the early twentieth-century, wooden culverts were largely replaced by more durable cast-in-place concrete structures. These cast-in-place concrete culverts were in turn increasingly replaced with precast concrete culverts and corrugated steel pipe culverts in the late twentieth century due to the ease of installation, low cost, and minimal site disturbance (Stesel, 2014).

The first railway bridges to be built in England were stone arch bridges in the eighteenth and nineteenth centuries. The first stone arch bridge in North America was built in 1829 by the Baltimore and Ohio Railroad at Gwynns Falls, Maryland, with a span of 280 m. By the time railway bridges were under construction in Ontario, during the 1850s, iron truss bridges supporting plate girders above had become the preferred railway bridge design as they were stronger and cheaper than stone arch bridges. However, the vast majority of railway bridges built in Ontario in the 1850s were wooden trestle bridges given the lower cost and availability of wood as a raw material (R. Brown, 2013). Despite the popularity of wooden trestle bridges due to their low cost, they were generally less durable than stone structures and would require more frequent rehabilitation and had a shorter use-life than stone structures.

Rail culverts and bridges were generally constructed to a higher technical standard than municipal road structures, with improved durability required due to the increased weight of rail traffic and the necessity for decreased maintenance and disruption to rail services (AREMA (American Railroad Engineering and Maintenance-of-Way Association), 2021). Because of the emphasis on durability and the speed of construction, short span stone arch bridges and both stone arch and stone box culverts persisted in popularity on rail lines into the late nineteenth century, as they required less construction time than cast-in-place concrete structures and afforded greater durability than wooden structures. Further, construction using stone masonry was often more straightforward to complete with unskilled labourers due to the uniform size of the stones, and the ease of transporting the blocks and the machinery required to place the stone blocks on the railway line. While complex arches with



keystones were costly in terms of the time to design and the skill to build the structures, simple stone box culverts proliferated in the mid and late nineteenth century on railways in Ontario.

By the 1890s, steel was becoming the material of choice when constructing bridges given that it was less expensive and more durable than its wood and wrought iron predecessors. Steel truss structures were very common by 1900, as were steel girder bridges. The use of concrete in constructing bridges was introduced at the beginning of the twentieth century, and by the 1930s, it was challenging steel as the primary bridge construction material in Ontario.

In Ontario, railway bridges were first built to span natural obstacles, such as rivers and valleys. As the population increased and communities prospered, railway bridges were built to span other railways and to carry roads over, or under, the railroads. In the early twentieth century, many at-grade rail crossings were eliminated through the construction of overhead bridges (A.S.I., 2017b).

#### 4.2.7 Wood and Timber Bridges

Wood has been used as a construction material for bridges since prehistoric times; there is evidence of timber-piles and crude woodwork crossings as early as 1500 Before Common Era (B.C.E.). The earliest examples of timber bridges in Europe were built in Switzerland by the Roman Empire in the second century Common Era (C.E.). Stone became the preferred bridge-building material throughout the medieval period for its durability, but due to its wide availability and ease of transportation, wood continued to be used throughout this era and well into later centuries. The oldest wooden bridge in Europe is the Kapellbrücke (or Chapel Bridge) in Lucerne Switzerland, built over 650 years ago (*First Bridge - History of Wooden Bridges*, 2022).

In the nineteenth and twentieth centuries, cast iron, steel, and eventually concrete, replaced wood and stone as the preferred materials for bridge-building, however wood continued to be used for short-span bridges throughout this period (Ou & Weller, n.d.). General innovations in bridge engineering, like the patenting of the Howe Truss in 1840 and the Pratt Truss soon after, resulted



in a period of bridge-building that often mixed wood with concrete, iron, or steel elements. An example of this is the Sioux Narrows Bridge in Ontario, a box Howe truss bridge with a solid Douglas Fir span built in 1836. The bridge was in service for nearly 70 years and for a time was the world's longest single-span wooden bridge (Bever, 2002; Moses Structural Engineers & Brown & Co. Engineering Ltd, 2017).

The Province of Ontario has a long history of timber bridge-building. The 2017 Ontario Wood Bridge Reference Guide lists 157 timber bridges and culverts in Ontario currently in service with the Ministry of Transportation (M.T.O.) but estimates the total number of wooden bridges in the province to be as high as 250. Counter to mainstream trends, Ontario has continued building timber bridges throughout the twentieth and into the twenty-first centuries, particularly in the northern parts of the province (Moses Structural Engineers & Brown & Co. Engineering Ltd, 2017). Recently, advances in wood treatment and composite wood materials, like glue-laminated timber, combined with an interest in sustainable materials and building practices have led to a renewed interest in the use of wood in modern bridge-building (Moses Structural Engineers & Brown & Co. Engineering Ltd, 2017; Ou & Weller, n.d.)

#### **4.2.8 Historical Chronology and Setting of the Subject Crossing**

The following provides a brief overview of the historical chronology of the subject crossing, as provided in available sources, as well as a mapping review. It is based on a variety of primary and secondary source materials, including maps, and archival documents.

The subject bridge was constructed in 1901 by the Grand Trunk Railway (G.T.R.) as part of a new section of track when the former North Grey/Northern Railway line was realigned to meet the new G.T.R. station at Meaford Harbour.

The 1855 Rankin *Map of the Counties of Grey and Bruce* (Rankin, 1855) and the 1880 *Illustrated Historical Atlas of the Counties of Grey and Bruce* (Belden, 1880)



were reviewed to determine the historical setting of the subject bridge in the nineteenth century (Figure 4 and Figure 5). It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

The 1855 map (Figure 4) shows little detail of the study area which is shown to be west of the settlement of Meaford. The settlement is depicted as a collection of rectangles on the west side of the Bighead River on the shore of Georgian Bay. The 1880 map (Figure 5) shows the study area to now be just outside the town of Meaford (shaded area) which has expanded considerably since the 1855 map. The land surrounding the study area has been laid out in town lots with streets in a grid pattern. This grid pattern remains extant in the present day. Edwin Street East is depicted in this mapping following its present-day alignment. The roadway is shaded, likely indicating an important thoroughfare. There is a railway in this mapping which passes below the study area, running roughly parallel to Edwin Street East and terminating southwest of the location of the study area.

In addition to nineteenth-century mapping, historical topographic mapping, aerial photographs, and a G.T.R. Structure Inventory from the twentieth century were examined. This report presents maps and aerial photographs from 1945, 1954, and 1999 (Figure 6 to Figure 8), and an excerpt from the 1907 GTR Structure Inventory (GTR, 1907).

The 1945 topographic map shows considerable development in and around the Town of Meaford which has expanded further in all directions. The railway depicted in this mapping follows the present-day alignment of the Georgian Trail. The alignment which ran parallel to Edwin Street East in previous mapping appears to have been rerouted to this new alignment, with the line which previously terminated to the southwest of the study area removed. Individual residential structures and groupings of residences are depicted along the



surrounding roadways. There is a group of large structures, likely industrial, on the south side of Edwin Street East, southeast of the subject bridge. While the railway and Meaford Creek are shown in this mapping, no bridge is indicated at the subject crossing though records indicate the bridge was constructed in 1901. The construction of the subject bridge is described in Section 4.2.9.

Little detail is discernable in the 1954 aerial photograph (Figure 7), however the railway and Meaford Creek can be seen clearly following the same alignments as in previous mapping. The 1999 topographic map (Figure 8) no longer shows the railway line. South of Edwin Street East, a dashed line follows the former railway alignment indicating the presence of the trail. North of Edwin Street East, the trail is not marked, and the area is shaded red indicating a higher density of development. The extant industrial structure on the south side of Edwin Road East, southwest of the subject bridge can be seen in this mapping, however the group of industrial buildings to the subject bridge's southeast are no longer shown. Meaford Creek is shown following its present alignment, however no bridge is indicated in this mapping.



Figure 4: The location of the subject bridge overlaid on the Rankin *Map of the Counties of Grey and Bruce* (C. Rankin D.S., 1855).

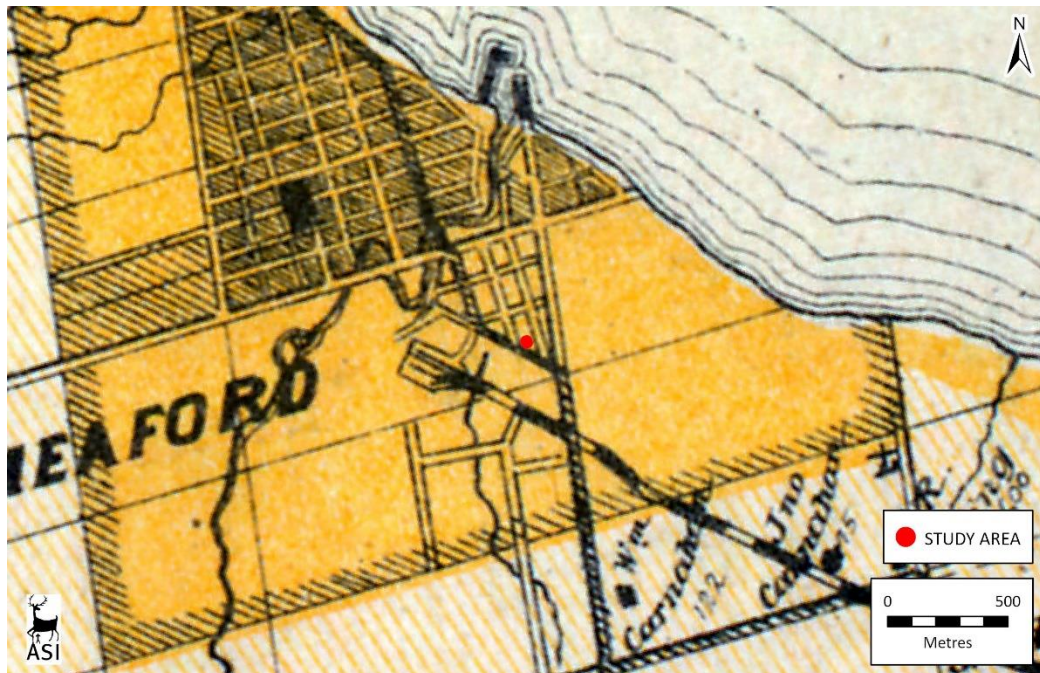


Figure 5: The location of the subject bridge overlaid on the 1880 *Illustrated Historical Atlas of Grey and Bruce* (Belden, 1880).



Figure 6: The location of the subject bridge overlaid on the 1945 topographic map of Owen Sound (Department of National Defence, 1945).



Figure 7: The location of the subject bridge overlaid on the 1954 aerial photograph of Southern Ontario (Hunting Survey Corporation Limited, 1954).

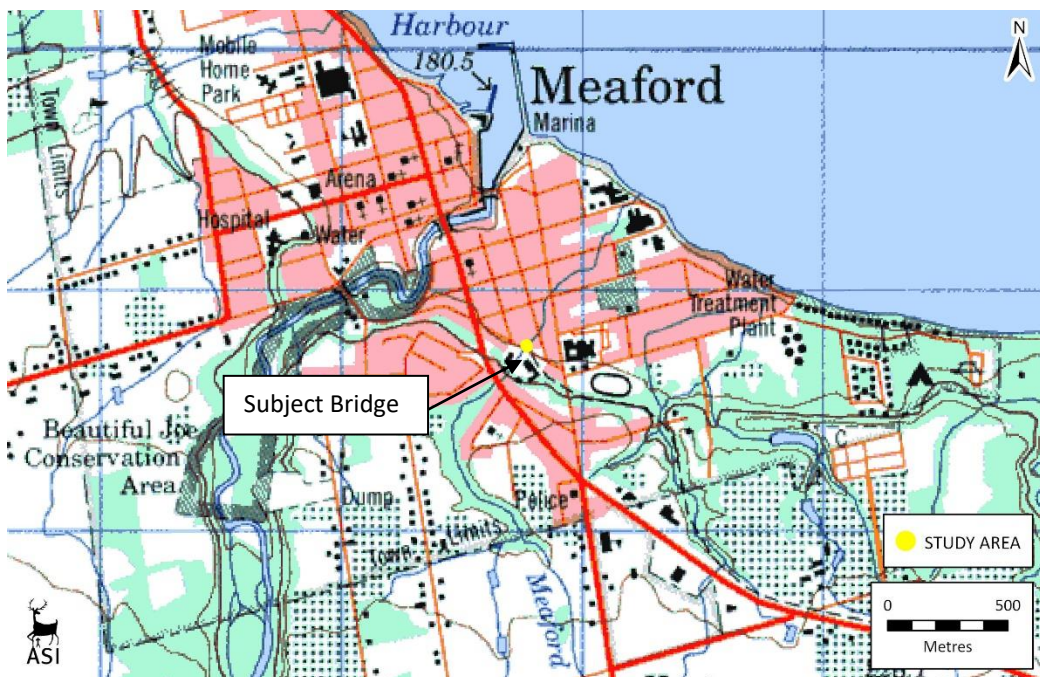


Figure 8: The location of the subject bridge overlaid on the 1999 topographic map of Owen Sound (Natural Resources Canada, 1999).

### 4.2.9 Bridge Construction, Evolution, and Alterations

The subject bridge was constructed 123 years ago in 1901 by the G.T.R. at Mile 113.99 of the North Grey/Northern Railway line when it was realigned to meet the new G.T.R. station at Meaford Harbour. While the Ontario Structural Inspection Manual (O.S.I.M.) and Meaford Structure Inventory give a construction date of 1920, this date is believed to be an estimated date of construction given by engineers based on the bridge type. No documents or drawings could be found to support construction of the bridge in 1920. The construction date of 1901 is provided in a G.T.R. structure inventory from 1907 which describes a timber trestle bridge with the same approximate location, measurements, and general descriptors at Mile 113.99 from Toronto on the G.T.R. line (Figure 9) (Grand Trunk Railway, 1907). This date also aligns with the construction date of this section of the railway by the G.T.R. in 1901.

While no design plans for the subject bridge specifically were available for review, two plans for the proposed G.T.R. line to Meaford station were reviewed, one of which was dated 1899 while the other was undated. The 1899 plans were attributed to a Henry K. Wicksteed O.L.S. of Cobourg who served as the Chief Engineer of Surveys for the Canadian Northern Railway. The plans have also been signed off on by Joseph Hobson who was the Chief Engineer for the G.T.R. from 1882 to after 1907 (Biographical Dictionary of Architects in Canada, n.d.; Town of Mont Royal, n.d.). The plans are attached in Appendix D.

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| Mileage from<br>Toronto | STATIONS,<br>SIDINGS,<br>Kind of<br>Structure | Name and No.<br>of Structure |            | No. of Spans | Length of Spans<br>and Dimensions<br>of Culverts | Total Length of<br>Structure | Height of Rail<br>above low water | When Built | REMARKS      |  |  |  |
|-------------------------|-----------------------------------------------|------------------------------|------------|--------------|--------------------------------------------------|------------------------------|-----------------------------------|------------|--------------|--|--|--|
|                         |                                               | NAME                         | Bridge No. |              |                                                  |                              |                                   |            |              |  |  |  |
|                         |                                               |                              | feet.      |              | ft.                                              | ft.                          |                                   |            |              |  |  |  |
| 113.40                  | Wood -----                                    | Culvert                      | ---        | ---          | 4x6                                              | 34                           | 6 $\frac{1}{2}$                   | 1889       |              |  |  |  |
| 113.60                  | Wood -----                                    | "                            | ---        | ---          | 2x2                                              | 22                           | 2                                 | 1888       |              |  |  |  |
| 113.75                  | Wood -----                                    | "                            | ---        | ---          | 3x5                                              | 31                           | 7                                 | 1901       |              |  |  |  |
| 113.99                  | Wood strs -----                               | Bridge                       | 355        | 1            | 10                                               | 14 $\frac{1}{2}$             | 7                                 | 1901       | On tim.walls |  |  |  |
| 114.11                  | Twin wood -----                               | Culvert                      | ---        | ---          | 4x4                                              | 38                           | 9                                 | 1901       |              |  |  |  |
| 114.18                  | Wood strs -----                               | Bridge                       | 356        | 1            | 10 $\frac{1}{2}$                                 | 16                           | 10                                | 1901       | On tim.walls |  |  |  |
| 114.20                  | Twin wood -----                               | Culvert                      | ---        | ---          | 5x5                                              | 58                           | 12 $\frac{1}{2}$                  | 1901       |              |  |  |  |
| 114.30                  | Wood strs -----                               | Bridge                       | 357        | 1            | 10                                               | 15                           | 13 $\frac{1}{2}$                  | 1901       | On tim.walls |  |  |  |
| 114.35                  | Concrete pipe -                               | Culvert                      | ---        | ---          | 1'8                                              | 50                           | 12 $\frac{1}{2}$                  | 1901       |              |  |  |  |
| 114.43                  | Concrete pipe -                               | "                            | ---        | ---          | 1'8                                              | 72                           | 18                                | 1901       |              |  |  |  |
| 114.48                  | Twin wood -----                               | "                            | ---        | ---          | 6x7                                              | 96                           | 25 $\frac{1}{2}$                  | 1901       |              |  |  |  |
| 114.52                  | Concrete pipe -                               | "                            | ---        | ---          | 2                                                | 59                           | 15                                | 1901       |              |  |  |  |
| 114.64                  | Wood -----                                    | "                            | ---        | ---          | 3x3                                              | 40                           | 8 $\frac{1}{2}$                   | 1901       |              |  |  |  |
| 114.74                  | Wood -----                                    | "                            | ---        | ---          | 2x2                                              | 40                           | 6                                 | 1901       |              |  |  |  |
| 114.84                  | Wood strs -----                               | Bridge                       | 358        | 1            | 15                                               | 20'8                         | 8                                 | 1901       | On tim.walls |  |  |  |
| 114.96                  | Wood -----                                    | Culvert                      | ---        | ---          | 1x1'8                                            | 26                           | 4 $\frac{1}{2}$                   | 1901       |              |  |  |  |
| 114.97                  | Wood -----                                    | "                            | ---        | ---          | 1x1'8                                            | 26                           | 4 $\frac{1}{2}$                   | 1901       |              |  |  |  |
| 115.17                  | Wood -----                                    | "                            | ---        | ---          | 4x4                                              | 54                           | 13                                | 1901       |              |  |  |  |
| 115.30                  | Wood -----                                    | "                            | ---        | ---          | 1x2                                              | 105                          | 3 $\frac{1}{2}$                   | 1901       |              |  |  |  |
| 115.60                  | Wood -----                                    | "                            | ---        | ---          | 3x3                                              | 44                           | 6 $\frac{1}{2}$                   | 1901       |              |  |  |  |

COLWELL to PENETANG—14th District.

Figure 9: Excerpt from the 1907 G.T.R. Structure Inventory. The subject bridge is outlined in red (Grand Trunk Railway, 1907).

To construct this bridge, the timber piles would have been driven by heavy machinery, and the timber abutments would have been constructed and then backfilled. Once the substructure was built, the timber girders would have been laid on the substructure to span the river, with the railway ties installed transversely across the girders. The wooden elements were creosoted to prevent deterioration and rotting.

While there is no documentation of any major bridge rehabilitations, it can be assumed that the bridge was altered in 1989 to convert the structure from a rail bridge to a pedestrian bridge with the construction of the Georgian Trail. The current timber deck, railings, and curbs were likely added at this time.

The 2023 O.S.I.M. report determined the bridge to have a Bridge Condition Index (B.C.I.) of 44.5, which is 3.5 points lower than the previous O.S.I.M. report, completed in 2021, showing the rapid deterioration of the structure. The O.S.I.M. report recommended removal and replacement of the structure within two years (R. J. Burnside & Associates Limited, 2023).

### **4.3 Discussion of Physical and Design Value**

No original structural drawings of the bridge were available for review at the time of report production. A field review was undertaken to conduct photographic documentation of the bridge crossing and to collect data relevant for completing a heritage evaluation of the structure. The following description of the structure, including the dates of interventions, and existing conditions is based on a combination of the results of the field review and historical background research on the subject bridge. Photographic documentation of the current conditions of the bridge is provided in Figure 10 to Figure 27. Further, photographs of comparative timber structures in Southern Ontario are also provided in Section 4.5.1.

#### **4.3.1 Physical Characteristics**

The subject bridge, Meaford Bridge No. 125, is a single-span timber trestle bridge. The bridge carries the Georgian Trail over Meaford Creek and has a length of 3.5 metres. The subject bridge has an overall length of 4.5 metres and an overall width of 4.3 metres (Figure 10).

The superstructure of the subject bridge consists of timber girders which run the length of the bridge across the creek. Above these beams, running in a perpendicular direction, are creosote-treated timber railroad ties (Figure 11). Every second railroad tie is attached to the timber beams by metal strapping at



either end (Figure 12). The beams and ties appear to be good condition with few signs of deterioration.

The substructure of the subject bridge features timber abutments and timber bents. There are two sets of bents on either side of the creek, with one right up against the abutments and another directly in front. Each of these bents are constructed of six piles made of timber piles with a timber crossbeam above forming the pile cap and supporting the girders above (Figure 13). These bents show considerable signs of damage, particularly on the west side of the bridge where the bent closest to the waterway appears to have been completely washed away. All that remains of the bent are the jagged bases of the piles. The central piles of the bent behind along the abutment wall are also severely damaged (Figure 14). The remaining bents are intact, but show considerable damage and deterioration, particularly near the waterline. The cap of the bent at the eastern abutment wall has begun to collapse toward the abutment. The subject bridge's abutment walls are constructed of stacked timbers that extend beyond the width of the superstructure on either side. The abutment walls on both sides of the waterway have begun to collapse inward with considerable erosion to the earth around them (Figure 15). The piles meant to retain the abutment walls have also begun to lean inward (Figure 16). There is significant vegetative overgrowth and incursion throughout the abutment walls including a tree growing directly behind the wall on the north side of the structure on the west side of the waterway which is pushing the wall inward (Figure 17).

The deck of the subject bridge is constructed of timber planks laid diagonally across the width of the structure with curbs on either side created by timber planks laid lengthwise along the sides of the bridge (Figure 18 and Figure 19). There are timber railings on both sides of the bridge which are bolted to the exterior of the superstructure. The timber deck and railing system were likely added when the bridge was converted for pedestrian use in 1989 and seem to be in good condition (Figure 20). At the northwest portion of the abutment wall, a tree growing along side the wall has wound itself through the railing. The railing and a small portion of the bridge deck are overgrown with ivy at the southwest portion of the abutment wall (Figure 21).



The bridge carries the Georgian Trail over Meaford Creek. Meaford Creek is a small waterway that passes under the bridge in a generally southwest-northeast direction. The creek bed is narrow and rocky near the subject bridge which widens slightly northeast of the bridge. There is a significant amount of debris and detritus in the creek bed (Figure 22 and Figure 23). On the west of the Edwin Street East culvert south of the subject bridge, the waterway passes through another concrete culvert from a concrete channel which runs along the industrial property on the west side of Edwin Street East (Figure 24). The Georgian Trail, which is carried over Meaford Creek by the subject bridge is a recreational trail that connects Meaford to Collingwood along the former North Grey/Grand Trunk Railway line. In the immediate vicinity of the subject bridge the trail has a gravel surface (Figure 25).

The bridge crossing's surrounding context is mixed residential and industrial with late nineteenth and early twentieth century detached residences to the north and east. There are also industrial properties in the immediate vicinity of the crossing on the south side of Edwin Street East and at the corner of Edwin Street East and Denmark Street. Edwin Street East is two lane roadway which also crosses Meaford Creek. The culvert that carries the creek under the roadway is located approximately seven metres to the south of the subject bridge (Figure 26 and Figure 27).

### 4.3.2 Existing Conditions Photographs



Figure 10: South elevation of the subject bridge, looking northeast (A.S.I., 2024)



Figure 11: The bridge superstructure, the beams and railroad ties are visible beneath the railing (A.S.I., 2024)



Figure 12: Detail view of the strapping connecting railroad ties to beams (A.S.I., 2024)



Figure 13: The bents on the eastern side of the bridge, note the leaning cap on the pier along the ballast wall (A.S.I., 2024)



Figure 14: Detail view of the broken piles and severe deterioration on the western piers (A.S.I., 2024)



Figure 15: The southeastern ballast wall. Note the warping of the wall and vegetation growing through (A.S.I., 2024)



Figure 16: Detail view of the leaning northeastern ballast wall pile (A.S.I., 2024)



Figure 17: Detail view of the northwestern ballast wall. The tree pushing the wall inward is visible through the gap in the wall (A.S.I., 2024)



Figure 18: The timber bridge deck, looking southeast (A.S.I., 2024).



Figure 19: Detail view of the bridge deck and timber curb (A.S.I., 2024).



Figure 20: Detail view of the railing system on the southern elevation. Note the bolts connecting the railing to the superstructure (A.S.I., 2024).



Figure 21: Detail view of the tree growing through the railing at the northwest ballast wall (A.S.I., 2024).



Figure 22: Meaford Creek, looking north from the subject bridge (A.S.I., 2024).



Figure 23: Meaford Creek, looking south from the subject bridge toward the Edwin Street East culvert (A.S.I., 2024).



Figure 24: The culvert on the south side of Edwin Street East, looking south (A.S.I., 2024).



Figure 25: The Georgian Trail over the subject bridge, looking northwest. Edwin Street is on the left (A.S.I., 2024).



Figure 26: Looking northwest from the Edwin Street East culvert. The industrial property on the south side of the street is visible on the left and residential properties are visible in the distance (A.S.I., 2024).



Figure 27: Edwin Street East, looking southeast from the Georgian Trail. The industrial property on Denmark Street is on the left and residential properties are visible in the distance (A.S.I., 2024).

## 4.4 Discussion of Contextual Value

The following section discusses the contextual value of the subject bridge.

### 4.4.1 Setting and Character of the Bridge and Surroundings

The subject bridge carries the Georgian Trail in a generally southeast-northwest orientation over Meaford Creek in the Municipality of Meaford. The subject bridge is within a mixed residential and industrial context with both industrial properties and late nineteenth to early twentieth century residential properties in the immediate vicinity. The bridge was constructed as a railway bridge by the G.T.R. in 1901, and in 1989 it was converted for pedestrian use as part of the Georgian Trail which follows the former alignment of the N.G.R./G.T.R. line from Collingwood to Meaford (Figure 28).

The subject bridge was constructed by the G.T.R. in 1901 when Meaford Station was moved to the harbour and the track rerouted from its former alignment constructed by the North Grey Railway (N.G.R.). According to the G.T.R. structural inventory from 1907, it is one of several timber bridges built along this route in the same year. The Meaford Structural Inventory (provided to A.S.I. in 2022) also lists four timber trestle bridges remaining on the Georgian Trail within the Municipality. Timber was a common construction material for rail bridges in the early twentieth century, however, as the century progressed and into the twenty first century, timber bridges were often replaced with cement or steel structures or demolished increasing the rarity of extant timber structures from this time.

The mixed residential and industrial context of the area around the subject bridge developed due to the area's location on the edge of town and its direct access to the railway. One such industry was the Knights of Meaford flooring and lumber factory which occupied the now empty lot southeast of the subject bridge and had a set of tracks leading directly to its loading area. While the area around the subject bridge retains some of the mixed residential/industrial context established in the late nineteenth to early twentieth century, this context has been degraded considerably by the complete removal of the railway



and associated infrastructure, the destruction of the Knights of Meaford building by fire in 2017, and the addition of several late twentieth century industrial buildings (Figure 29) (Tidbits Meaford, 2022).



Figure 28: Edwin Street East, looking northwest. The subject bridge and Georgian Trail are visible to the right of the roadway (A.S.I., 2024).



Figure 29: The empty lot formerly occupied by Knights of Meaford is located to the right of the trail marking the former railway alignment (A.S.I., 2024).

#### 4.4.2 Community Landmark

The subject bridge is not considered to be a significant community landmark. The subject bridge is a small bridge with no ornamentation or decoration. The bridge is located on a popular recreational trail and is likely used by a fair number of pedestrians and cyclists daily, particularly in the summer months, however the bridge is not visually distinctive or particularly visible from the trail, nor is it large enough to be considered a notable crossing on the route. The deck and railings of the bridge are also visible from Edwin Street East, however they are also not visually distinctive or notable from the roadway.

#### 4.5 Comparative Analysis

Meaford Bridge No. 125 is a three-span timber trestle bridge that measures approximately 4.5 metres in length and 4.3 metres in width that was

constructed in 1901 to carry the Grand Trunk Railway (G.T.R.) line over Meaford Creek. For the purposes of the comparative analysis, similar timber trestle bridges in the Meaford Structure Inventory (Municipality of Meaford, n.d.), the MTO Bridge Inventory (West Region)(Ministry of Transportation, 2017), and the inventory on *Historicbridges.org* were reviewed. According to this comparative sample, there are three comparable timber trestle bridges in the Municipality of Meaford. It should be noted that these bridges are all listed in the Meaford Structure Inventory as the MTO Bridge Inventory did not list any timber bridges in the West Region, and the inventory on *historicbridges.org* did not list any timber bridges within Grey County.

A copy of the Meaford Structure Inventory and the relevant section of 1907 G.T.R. Structure Inventory used in this comparative analysis is provided in Appendix C.

#### **4.5.1 Comparable Timber Trestle Bridges**

The three comparative timber trestle bridges reviewed as part of this analysis all have listed construction dates of 1920, however these dates are believed to be estimates. It should also be noted that the Meaford Structure Inventory also lists the construction date for the subject bridge as 1920, so it can be assumed that all four bridges were constructed around the same time in 1901<sup>1</sup>. The subject bridge, therefore, is not significant in terms of age within the comparative sample however its age is significant in general within the local context as these four bridges are the oldest listed in the Meaford Structure Inventory and are likely even older given the assumed construction date of 1901. The subject bridge, constructed in 1901, has been in use at this same crossing for 123 years.

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<sup>1</sup> The 1907 Grand Trunk Railroad structure inventory lists four timber bridges constructed in 1901 along the track at Meaford. Measurements and the general location off the subject bridge are consistent with bridge 355 at mile 113.99 which is listed in the 1907 inventory. For comparison purposes, it is assumed that the other three bridges also have a construction date of 1901 and are original structures on the former railway.



One of the comparative bridges, located on the Georgian Trail between Montgomery Street and Swarthmore Drive was examined visually at the time of field review for comparison (Figure 30). This comparable bridge's overall length is considerably longer than the subject bridge. The subject bridge is quite short with a span length of 3.5 metres and an overall length of 4.5 metres. Two of the comparable bridges in the 1907 inventory have similar dimensions to the subject bridge with the bridge at 114.18 miles having a span length of 10.5 feet (3.2 metres) and an overall length of 16 feet (4.88 metres) and the bridge at 114.30 miles having a span length of 10 feet (3.05 metres) and an overall length of 15 feet (4.57 metres). The third comparable bridge in this inventory is longer, with a span length of 15 feet (4.57 metres) and an overall length of 20 feet eight inches (6.3 metres). The subject is therefore likely not significant in terms of its length.

The Georgian Trail bridge between Montgomery Street and Swarthmore Drive also has three spans while the subject bridge is a single-span structure. As a single-span structure it is likely not significant in terms of number of spans within the comparative sample. It is also considerably taller than the subject bridge, which spans a fairly shallow creek bed with a slow-moving waterway and would not have required a high degree of technical expertise or craftsmanship to construct.



Figure 30: The comparable bridge on the Georgian Trail between Montgomery Street and Swarthmore Drive (A.S.I., 2024).

### 4.5.2 Summary

Based on the inventory of timber trestle bridges above, the subject bridge is one of four comparative timber trestle bridges in this sample. All four structures have similar construction dates, so the subject bridge is not significant in terms of its age within the comparative sample however these four bridges have the earliest construction dates within the Meaford Structure Inventory and the bridge is therefore generally considered to be significant in terms of its age within the Municipality of Meaford.

The subject bridge is short with an overall length of only 4.5 metres. The Georgian Trail bridge between Montgomery Street and Swarthmore Drive is considerably longer and taller than the subject bridge based on a visual inspection. Of the three comparable bridges in the 1907 inventory, one bridge (Mile 114.84) is considerably longer while the other two bridges (mile 114.18 and mile 114.30) are of similar dimensions to the subject bridge. Meaford Bridge No. 125 is a small bridge which is not significant in the local context in terms of its overall length, number of spans, or technical difficulty of construction.

The subject bridge is a good representative example of an early twentieth century timber railroad bridge with a similar method of construction to the Georgian Trail bridge between Montgomery Street and Swarthmore Drive, however as it is utilitarian in construction and does not have any decorative or ornamental features, it is not considered to be exemplary in terms of artistic merit.

## 5.0 Heritage Evaluation

The evaluation of Meaford Bridge No. 125 using the criteria set out in Ontario Regulation 9/06 is presented in the following section (Section 5.1). The following evaluation has been prepared in consideration of data regarding the design, historical/associative, and contextual values in the Municipality of Meaford and on rail corridors in southern Ontario in general.

### 5.1 Ontario Regulation 9/06

Evaluation of Meaford Bridge No. 125 using Ontario Regulation 9/06 of the *Ontario Heritage Act*.

1. The property has design value or physical value because it:
  - i. is a rare, unique, representative or early example of a style, type, expression, material or construction method:
    - The subject bridge was constructed in 1901 which makes one of the four earliest bridges within the Meaford Structure Inventory and is therefore significant in terms of age. The bridge is a good representative example of an early timber trestle railway bridge that has been in use at this crossing for 123 years.
    - The subject bridge meets this criterion.
  - ii. displays a high degree of craftsmanship or artistic merit:
    - The subject bridge is a small utilitarian structure with a simple design and no ornamental or decorative features.
    - The subject bridge does not meet this criterion.



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

- The subject bridge is a short single-span structure constructed over a shallow, slow-moving creek and would not have required a high degree of technical or scientific achievement to construct.
- The subject bridge does not meet this criterion.

2. The property has historical value or associative value because it:

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

- The subject bridge is not known to be associated with a theme, event, belief, person, activity, organization, or institution that is significant to the community.
- The subject bridge does not meet this criterion.

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

- The subject bridge is not currently known to have the potential to yield information that contributes to an understanding of community or culture.
- The subject bridge does not meet this criterion.

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

- The architect or builder of the bridge is unknown and was likely designed by an engineer on staff with the Grand Trunk Railway.
- The subject bridge does not meet this criterion.

3. The property has contextual value because it:

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

- The subject bridge is within a mixed residential and industrial context originally established around the rail line in the late nineteenth to early



- twentieth centuries. While the subject bridge was constructed as part of the railway, is it not a visually distinct feature within the local context nor it does not play an important role in defining, maintaining, or supporting the residential/industrial character of the area.
- The subject bridge does not meet this criterion.
- ii. is physically, functionally, visually or historically linked to its surroundings:
- The subject bridge was constructed in 1901 for the Grand Trunk Railway line and is the original bridge at the crossing. Though the railway itself has been decommissioned and removed, the rail corridor has been maintained and repurposed at the Georgian Trail and has been used as a crossing for 123 years, maintaining the subject bridge's visual and historical links to its surroundings.
  - The subject bridge meets this criterion.
- iii. is a landmark:
- The subject bridge is on the Georgian Trail, which is a popular recreational trail, however the bridge is not visibly distinctive, nor is the crossing or waterway significant. The deck and railings of the bridge are also visible from Edwin Street East, however they are also not visually distinctive, and therefore the bridge is not considered to be a landmark.
  - The subject bridge does not meet this criterion.

Based on available information, it has been determined that Meaford Bridge No. 125 meets the criteria contained in Ontario Regulation 9/06 of the *Ontario Heritage Act* for design and physical value and contextual value.

## 6.0 Conclusions and Recommendations

This evaluation was prepared in consideration of data regarding the design, historical/associative, and contextual values within the Municipality of Meaford. This evaluation determined that Meaford Bridge No. 125 meets the criteria



outlined in Ontario Regulation 9/06 of the *Ontario Heritage Act*, and therefore has cultural heritage value or interest at the local level.

The following recommendations are proposed:

1. A Heritage Impact Assessment (H.I.A.) should be completed for Meaford Bridge No. 125 as early as possible during the detailed design phase. The H.I.A. will help to identify alternatives as well as mitigation and monitoring commitments to avoid or lessen impacts on the heritage attributes of the bridge, based on the proposed Statement of Cultural Heritage Value or Interest. This assessment should be completed by a qualified person who has relevant and recent experience in the conservation of rail bridges (see Section 3.0 of the *Standards and Guidelines for Conservation of Provincial Heritage Properties* [Ministry of Citizenship and Multiculturalism, 2014] as a guide for best practice) and submitted to heritage staff at the Municipality of Meaford for review and approval and to the Ministry of Citizenship and Multiculturalism (M.C.M.) for review.
2. The proponent should submit this report for review and comment to planning staff at the Municipality of Meaford, the M.C.M. and to any other relevant stakeholder that has an interest in the heritage of the subject bridge. Any feedback will be incorporated into this report prior to finalization. The final report should be submitted to the Meaford Museum for archival purposes.



## **7.0 Draft Statement of Cultural Heritage Value and Heritage Attributes**

Meaford Bridge No. 125 in the Municipality of Meaford meets two out of nine criteria outlined in Ontario Regulation 9/06, which considers the bridge within the local context. As such the subject bridge should be considered to have cultural heritage value or interest at the local level.

This section provides the description of the property, a description of its cultural heritage value or interest, and a list of associated heritage attributes.

### **7.1 Description of Property**

Meaford Bridge No. 125 (BR-125) is a single-span timber trestle bridge resting on four timber bents. The bridge measures 4.5 metres in length with a width of 4.3 metres. The bridge was constructed to carry the Grand Trunk Railway's (G.T.R.) North Grey Railway line over Meaford Creek at Mile 133.99 but now serves as a pedestrian and cycle bridge on the Georgian Trail. The bridge was constructed in 1901 by the G.T.R. and was likely modified for pedestrian use in 1989 when the Georgian Trail was opened as a recreational trail along the former G.T.R. and North Grey Railway (N.G.R.) alignment.

The bridge is located in the Municipality of Meaford, just north of Edwin Street East, on the Georgian Trail.

### **7.2 Cultural Heritage Value or Interest**

Meaford Bridge No. 125 has physical and design value as it was constructed in 1901 making it one of the four oldest bridges in the Municipality of Meaford. These bridges are of similar timber trestle construction and were likely all constructed around the same time. These four bridges are the only extant timber bridges in the Municipality of Meaford. The subject bridge is constructed of four timber bents made of log piles, timber beam girders, and wooden



railroad ties treated with creosote and is a good representative example of an early timber trestle railway bridge.

Meaford Bridge 125 has contextual value as it was constructed in 1901 for the Grand Trunk Railway line and is an original bridge at the crossing. Though the railway itself has been decommissioned and removed, the rail corridor has been maintained and repurposed as the Georgian Trail and continues to be used as crossing on the rail corridor, maintaining the subject bridge's visual and historical links to its surroundings.

### **7.3 Heritage Attributes**

Physical attributes of Meaford Bridge No. 125 that express the design value of the structure include:

- Timber construction
- Single-span structure supported by four bents and timber abutment walls
- Log piles
- Timber beam stringers
- Timber abutment walls
- Wooden, creosote-treated railroad ties

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## **Appendix A: Municipal Bridges Criteria for Evaluating Potential for Cultural Heritage Resources Checklist**

## **Municipal Bridges**

### **Criteria for Evaluating Potential for Cultural Heritage Resources**

**(revised July 7, 2023)**

This checklist was prepared by the Municipal Engineers Association in consultation with the Ministry of Citizenship and Multiculturalism (MCM) to assist with undertaking cultural heritage due diligence as per the requirements of the Municipal Class Environmental Assessment.

**Project Name:** Reconstruction of Rehabilitation of Meaford Structure 125

**Location:** Georgian Trail over Meaford Creek, north of Edwin Street East

**Municipality:** Municipality of Meaford

**Project Engineer:** Centex Engineering and Development Inc.

**Checklist completed by:** Leora Bebko, Archaeological Services Inc.

**Date:** September, 2024

**NOTE: Complete all sections of Checklist. Both Built Heritage Resources/Cultural Heritage Landscapes (B) and Archaeological (C) Sections must be satisfied before proceeding.**

Questions apply to the entire study area including temporary storage or work areas as well as temporary roads/detours, except as otherwise stated.

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
  - the municipal addresses of all properties within the project area
  - the lot(s), concession(s), and parcel number(s) of all properties within a project area
- Answer each question in succession and follow the instructions in blue. Continue until all questions are answered or a definitive conclusion is reached.

Refer to the Appendix for additional details and resources to assist in answering select questions.

#### **Font Colour**

**Green – MEA's Advice**

**Blue - Instructions**



## PART B – SCREENING FOR BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPES

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person to undertake technical cultural heritage studies as identified at the end of Part B.

| Screening Questions                                                                                                                                                                                                                                                                                                                                              | Response                        |                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|
| <b>Part B1: Screening for Recognized Cultural Heritage Value or Interest</b>                                                                                                                                                                                                                                                                                     |                                 |                                           |
| 1. Is the proposed undertaking consistent with an approved conservation plan, if one exists?                                                                                                                                                                                                                                                                     | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| If you answered <b>YES</b> , then it is not necessary to complete the remaining questions in the checklist. The proponent will include this information in the project file and follow the recommendations of the conservation plan during project planning and implementation.                                                                                  |                                 |                                           |
| If you answered <b>NO</b> , continue to question 2.                                                                                                                                                                                                                                                                                                              |                                 |                                           |
| 2. Has the bridge and the study area been evaluated before and found not be of cultural heritage value or interest (CHVI)?                                                                                                                                                                                                                                       | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| If you answered <b>YES</b> , it is not necessary to complete the remaining questions in the Part B. The proponent will summarize the previous evaluation and add this checklist to the project file, with appropriate documentation demonstrating that a cultural heritage evaluation was undertaken. Proceed to Part C: Screening for Archaeological Resources. |                                 |                                           |
| If you answered <b>NO</b> , continue to question 3.                                                                                                                                                                                                                                                                                                              |                                 |                                           |
| 3. Is the bridge, or a parcel of land in the study area:                                                                                                                                                                                                                                                                                                         |                                 |                                           |
| a. designated under the <i>Ontario Heritage Act</i> ?                                                                                                                                                                                                                                                                                                            | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| b. subject to an agreement, covenant or easement entered into under Parts II or IV of the <i>Ontario Heritage Act</i> ?                                                                                                                                                                                                                                          | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| c. included on a register or inventory of heritage properties maintained by the municipality?                                                                                                                                                                                                                                                                    | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| d. subject to a notice of <ul style="list-style-type: none"><li>intention to designate (under Part IV of the <i>Ontario Heritage Act</i>)?</li><li>a Heritage Conservation District study area by-law (under Part V of the <i>Ontario Heritage Act</i>)?</li></ul>                                                                                               | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |

|                                                                                                                                                                                                                |                                 |                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|
| e. included in MCM's list of provincial heritage properties?                                                                                                                                                   | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| f. designated under the <i>Heritage Railway Stations Protection Act</i> ?                                                                                                                                      | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| g. designated under the <i>Heritage Lighthouse Protection Act</i> ?                                                                                                                                            | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| h. identified as a Federal Heritage Building by Federal Heritage Buildings Review Office?                                                                                                                      | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| i. a National Historic Site or part of one?                                                                                                                                                                    | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| j. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?                                                                                             | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| If you answered <b>YES</b> to any of the questions 3a through 3h, a Heritage Impact Assessment is necessary. Proceed to Part C.                                                                                |                                 |                                           |
| If you answered <b>YES</b> to either of questions 3i or 3j, follow the direction in the conservation and management documents for the National Historic Site or UNESCO World Heritage Site. Proceed to Part C. |                                 |                                           |
| If you answered <b>NO</b> to all of the above questions, continue to Part B2                                                                                                                                   |                                 |                                           |

| <b>Part B2: Screening for potential Cultural Heritage Value or Interest</b>                                                                                                                                                                                                                                             |                                 |                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|
| 4. Will the proposed project involve a bridge structure that was:<br>a) constructed less than 40 years ago?                                                                                                                                                                                                             | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| b) constructed after 1956 with a plain concrete substructure, and the superstructure construction is with common steel and/or concrete products involving one of the following four bridge types?<br>- Rigid Frame<br>- Precast Girders with Concrete Deck<br>- Culvert or Simple Span<br>- Steel Girders/Concrete Deck | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| If you answered <b>YES</b> to 4 (a) or (b), continue this Part.                                                                                                                                                                                                                                                         |                                 |                                           |
| If you answered <b>NO</b> to both 4 (a) and (b), the bridge has potential CHVI. Proceed to Part B3 to screen for potential impacts.                                                                                                                                                                                     |                                 |                                           |
| 5. Will the project involve replacement of a bridge's substructure, or any alteration of adjacent lands?                                                                                                                                                                                                                | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/>            |
| If you answered <b>YES</b> , continue this Part to screen for potential CHVI of the property/location.                                                                                                                                                                                                                  |                                 |                                           |
| If you answered <b>NO</b> , proceed to Part C.                                                                                                                                                                                                                                                                          |                                 |                                           |

|                                                                                                                                                                                                                                                                                                           |                                 |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------|
| 6. Is the bridge or project area described by an on-site municipal, provincial or federal commemorative or interpretive plaque?                                                                                                                                                                           | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| 7. Does the project area contain a parcel of land that has or is adjacent to a known burial site or cemetery?                                                                                                                                                                                             | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| 8. Does the proposed project involve a crossing of a Canadian Heritage River?                                                                                                                                                                                                                             | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| 9. Is there local or Indigenous knowledge or accessible documentation suggesting that the property (or project area) is situated on a parcel of land that:                                                                                                                                                |                                 |                                |
| a. Is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area? (For example: buildings or landscape features accessible to the public or readily noticeable and widely known, complexes of buildings, monuments, ruins) | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| b. Has a special association with a community, person or historical event? (For example: Indigenous sacred site, traditional-use area, battlefield, birthplace of an individual of importance to the community, etc.)                                                                                     | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| c. Contains or is part of a cultural heritage landscape (for example, an Indigenous trail, historic road or rail corridor, park, designed garden, unique landform, or any other area in which multiple features are valued together for their interrelationship, meaning or association)?                 | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/> |
| If you answered <b>YES</b> to one or more of questions 6, 7, 8 or 9, there is potential for built heritage resources and/or cultural heritage landscapes in the study area. Continue to Part B3 to screen for potential impacts.                                                                          |                                 |                                |
| If you answered <b>NO</b> , there is a low potential for built heritage resources and/or cultural heritage landscapes to be impacted. Proceed to Part C.                                                                                                                                                  |                                 |                                |

| <b>B3 Screening for potential Cultural Heritage Impacts to the Bridge Structure</b>                                                                                                                                                                                                                                                   |                                 |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|
| 10. a) Will the proposed project leave the substructure of the bridge unchanged?                                                                                                                                                                                                                                                      | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| b) Is the substructure of the bridge constructed with plain concrete with no untypical elements?                                                                                                                                                                                                                                      | Yes<br><input type="checkbox"/> | No<br><input checked="" type="checkbox"/> |
| If you answered <b>YES</b> to either 10 (a) or (b), proceed to question 11.                                                                                                                                                                                                                                                           |                                 |                                           |
| If you answered <b>NO</b> to both 10 (a) and (b), there is potential for cultural heritage impacts on the bridge structure. You need to hire a qualified person(s) to undertake a CHER for the existing bridge area. Continue to Part C.                                                                                              |                                 |                                           |
| 11. a) Is the superstructure of the bridge constructed with common steel and/or concrete products involving one of the following four bridge types?<br><ul style="list-style-type: none"> <li>- Rigid Frame</li> <li>- Precast with Concrete Deck</li> <li>- Culvert or Simple Span</li> <li>- Steel Girders/Concrete Deck</li> </ul> | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/>            |
| b) Will the finished product replicate the existing superstructure?                                                                                                                                                                                                                                                                   | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/>            |
| If you answered <b>YES</b> to both 11 (a) and (b), continue to 12.                                                                                                                                                                                                                                                                    |                                 |                                           |
| If you answered <b>NO</b> to either 11 (a) or (b), there is potential for cultural heritage impacts on the bridge structure. You need to hire a qualified person(s) to undertake a CHER for the existing bridge area. Proceed to Part C.                                                                                              |                                 |                                           |
| 12. a) Is work proposed on the parapet walls/railings of the bridge?                                                                                                                                                                                                                                                                  | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/>            |
| b) If YES to (a), are the parapet walls/railings contain materials other than plain concrete and steel, or any untypical elements?                                                                                                                                                                                                    | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/>            |
| If you answered <b>YES</b> to both 12 (a) and (b), continue to question 12 (c).                                                                                                                                                                                                                                                       |                                 |                                           |
| If you answered <b>NO</b> to either 12 (a) or (b), there is low potential for cultural heritage impacts on the bridge structure. Proceed to Part C.                                                                                                                                                                                   |                                 |                                           |
| c) Is the purpose of the work being done on the parapet walls/railings to upgrade them to meet current crash test standards?                                                                                                                                                                                                          | Yes<br><input type="checkbox"/> | No<br><input type="checkbox"/>            |
| If you answered <b>YES</b> , proceed with reconstructing the parapet walls/railings to a <b>sympathetic design</b> ; see guidance in the Appendix. Hire a qualified person(s) to undertake a CHER if this is not practicable. Proceed to Part C.                                                                                      |                                 |                                           |
| If you answered <b>NO</b> , there is potential for cultural heritage impacts on the bridge structure. You need to hire a qualified person(s) to undertake a CHER for the existing bridge area. Continue to Part C: Screening for Archaeological Resources.                                                                            |                                 |                                           |

## Appendix: Additional instructions, information sources, and definitions to assist in answering checklist questions

| <b>Part A</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1             | <p><b>Maintenance</b> means work that extends the life of the structure or keeps the structure safe for intended use.</p> <p><b>Repairs</b> means work that fixes or replaces components of the structure to return the structure to its original condition.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2             | <p><b>Rehabilitation</b> means a modification, alteration, or improvement of the condition of a structure or bridge subsystem that is designed to correct deficiencies in order to achieve a particular design life and live load level.</p> <p><b>Vehicle capacity</b> means the number of through travel lanes for vehicles on the bridge. Adjusting lane width to current standards does not increase the number of travel lanes and cycling, parking, or turning lanes are not through travel lanes. Increasing the width of a narrow bridge (one lane with two-way traffic) to the current standard to accommodate two-way traffic (two lane) is not considered an increase in capacity.</p>                                                                                                                                                                                                                        |
| <b>Part B</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1             | Municipal heritage staff and municipal heritage committees can help determine whether an approved conservation plan, or previous cultural heritage evaluation, exist.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2             | <p>A previous evaluation might have been carried out by:</p> <ul style="list-style-type: none"> <li>• A heritage consultant, in a CHER prepared for a previous consultant/applicant</li> <li>• The Municipal Heritage Committee, in considering the property for inclusion on the municipality's Heritage Register</li> <li>• The municipality, in a Bridge Infrastructure Master Plan</li> </ul> <p>Evaluations should use the criteria in Ontario Regulation 9/06. Re-evaluation is necessary if new information is available or there is evidence that heritage attributes have changed.</p>                                                                                                                                                                                                                                                                                                                          |
| 3             | <p>Where to find information:</p> <p>a) For OHA-designated properties contact the municipal clerk, or search the Ontario Heritage Trust (OHT) Register at <a href="https://www.heritagetrust.on.ca/en/pages/tools/ontario-heritage-act-register">https://www.heritagetrust.on.ca/en/pages/tools/ontario-heritage-act-register</a></p> <p>b) - For municipal easements, contact the municipal clerk<br/> - For OHT easements, contact the OHT Provincial Heritage Registrar at <a href="mailto:registrar@heritagetrust.on.ca">registrar@heritagetrust.on.ca</a> or see <a href="https://www.heritagetrust.on.ca/en/property-types/easement-properties">https://www.heritagetrust.on.ca/en/property-types/easement-properties</a><br/> - Easements can also be identified through the local land registry (title search)</p> <p>c) For listed or inventoried properties, contact the municipal clerk or heritage staff</p> |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>d) For properties subject to a notice of intention to designate or notice of Heritage Conservation District Study, contact the municipal clerk or heritage staff</p> <p>e) For provincial heritage properties, contact the MCM Registrar at <a href="mailto:registrar@ontario.ca">registrar@ontario.ca</a></p> <p>f) For all federal designations, search the Directory of Federal Heritage Designations at <a href="https://www.pc.gc.ca/apps/dfhd/default_eng.aspx">https://www.pc.gc.ca/apps/dfhd/default_eng.aspx</a></p> <p>g) See (f) above</p> <p>h) See (f) above</p> <p>i) See (f) above</p> <p>j) For UNESCO World Heritage Sites see the UNESCO website: <a href="http://whc.unesco.org/en/statesparties/CA">http://whc.unesco.org/en/statesparties/CA</a> (note: as of 2020, Ontario's only UNESCO World Heritage Sites are the Rideau Canal and Pimachiowin Aki)</p> |
| 6 | <p>Plaque locations can be found from the following sources:</p> <ul style="list-style-type: none"> <li>• Municipal heritage committees or local heritage organizations</li> <li>• Ontario Heritage Trust: <a href="https://www.heritagetrust.on.ca/en/online-plaque-guide">https://www.heritagetrust.on.ca/en/online-plaque-guide</a></li> <li>• Historic Sites and Monuments Board of Canada: <a href="http://www.pc.gc.ca/apps/dfhd/default_eng.aspx">http://www.pc.gc.ca/apps/dfhd/default_eng.aspx</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                               |
| 7 | <p>Cemeteries can be located through the Bereavement Authority of Ontario's Public Register of licensed cemeteries: <a href="https://licensees.bereavementauthorityontario.ca/public-register">https://licensees.bereavementauthorityontario.ca/public-register</a></p> <p>If cemetery limits are unclear, an Investigation Authorization issued by the Bereavement Authority of Ontario may be required.</p> <p>In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.</p>                                                                                                                                                                                                                                                                                                                                                                |
| 8 | <p>A list of the Canadian Heritage Rivers in Ontario can be found at <a href="http://chrs.ca/the-rivers-ontario/">http://chrs.ca/the-rivers-ontario/</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 9 | <p>For information, contact:</p> <ul style="list-style-type: none"> <li>• Elders in Indigenous Communities or community researchers who may have information on potential cultural heritage resources. Please note that Indigenous traditional knowledge may be considered sensitive.</li> <li>• municipal heritage committees or local heritage organizations</li> <li>• Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province: <a href="https://ontariohistoricalsociety.ca/directory-and-map/">https://ontariohistoricalsociety.ca/directory-and-map/</a></li> </ul> <p>Information specific to trails may be obtained through Ontario Trails at <a href="https://www.ontariotrails.on.ca/index.php?url=trails">https://www.ontariotrails.on.ca/index.php?url=trails</a></p>                          |

|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10     | If the checklist indicates the need to hire a qualified person to undertake a Cultural Heritage Evaluation Report (CHER), do this during the EA study and follow its recommendations, which may include completing a Heritage Impact Assessment (HIA) if the structure or property is found to have cultural heritage value or interest (CHVI) and may be impacted by the project. Both the CHER and the HIA should be included in EA documentation and inform the decision-making in the EA process.                                                                                                                                                                                                                                                                                                                 |
| 11     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 12     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 12 (c) | To develop a <b>sympathetic design</b> for railings, the proponent should first consider retaining the existing railing. If the existing railing is tall enough for pedestrian safety, consider providing a new barrier wall between road and sidewalk if adequate space and bridge capacity is available, and snow clearing operations can continue. If inadequate space and structural capacity exists, or snow clearing cannot be accommodated, or pedestrian Ontario Building Code (OBC) safety requirements are not met, then the existing railings should be removed and replaced with a new Canadian Highway Bridge Design Code- and OBC- (if applicable) compliant barrier with a design that, as much as possible, uses the same materials and elements (e.g. vertical steel posts) as the original railing. |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|----------------|----------|-------------------------|---------------------|--------------------------------|-------------------------------|-----------------------------|--------------------|------------------------------------------|--|
| <b>Part C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| <p>If this Part indicates the need for an archaeological assessment, you will need to hire an archaeologist licensed under the Ontario Heritage Act. This licensee will follow the archaeological assessment process laid out in the <i>Standards and Guidelines for Consultant Archaeologists</i> and submit archaeological assessment reports directly to MCM for technical review. Archaeological assessment follows a phased approach that begins with evaluation of archaeological potential and proceeds as necessary to a field survey, an assessment of any sites identified, and mitigation measures such as excavation, with each phase resulting in recommendations as to whether the next is necessary. MCM will inform the client/proponent when review of and any necessary revisions to archaeological assessment reports have been completed. Archaeological assessment reports should be included in EA documentation.</p> <p>You can find information on archaeological assessments, and a list of licensed Archaeologists in Ontario, on MCM's website at <a href="https://www.ontario.ca/page/archaeological-assessments">https://www.ontario.ca/page/archaeological-assessments</a> and <a href="https://www.ontario.ca/page/archaeologists-licensed-ontario">https://www.ontario.ca/page/archaeologists-licensed-ontario</a>.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Information can be obtained from MCM by emailing <a href="mailto:archaeology@ontario.ca">archaeology@ontario.ca</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The municipality may be able to answer Question 3 if it has a data sharing agreement with MCM.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Significant ground disturbance</b> means to interfere with or alter the existing condition of the ground, whether it is above or below water, through human actions that have potential to affect cultural heritage resources, and includes, but not limited to:</p> <table border="0"> <tr> <td>altering the existing grade of land</td><td>compacting, excavating or removing topsoil</td></tr> <tr> <td>power spraying</td><td>dredging</td></tr> <tr> <td>placing or dumping fill</td><td>removing vegetation</td></tr> <tr> <td>allowing heavy vehicle traffic</td><td>trenching (e.g. for services)</td></tr> <tr> <td>drainage ditch construction</td><td>trail construction</td></tr> <tr> <td>scarification and soil mechanics studies</td><td></td></tr> </table> <p>A ground disturbance does <u>not</u> include:<br/>normal, regular farming practices such as ploughing or tilling or gardening</p> | altering the existing grade of land | compacting, excavating or removing topsoil | power spraying | dredging | placing or dumping fill | removing vegetation | allowing heavy vehicle traffic | trenching (e.g. for services) | drainage ditch construction | trail construction | scarification and soil mechanics studies |  |
| altering the existing grade of land                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | compacting, excavating or removing topsoil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| power spraying                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | dredging                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| placing or dumping fill                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | removing vegetation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| allowing heavy vehicle traffic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | trenching (e.g. for services)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| drainage ditch construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | trail construction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| scarification and soil mechanics studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Recent</b> means since 1960.</p> <p><b>Extensive</b> means over all or most of the area.</p> <p><b>Intensive</b> means thorough or complete disturbance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |                                            |                |          |                         |                     |                                |                               |                             |                    |                                          |  |

## Appendix B: Qualified Persons Involved in the Project

### **Lindsay Graves, M.A., C.A.H.P.**

#### **Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division**

The Senior Project Manager for this Cultural Heritage Evaluation Report is **Lindsay Graves** (M.A., Heritage Conservation), Senior Cultural Heritage Specialist and Assistant Manager for the Cultural Heritage Division. She was responsible for: overall project scoping and approach; development and confirmation of technical findings and study recommendations; application of relevant standards, guidelines and regulations; and implementation of quality control procedures. Lindsay is academically trained in the fields of heritage conservation, cultural anthropology, archaeology, and collections management and has over 15 years of experience in the field of cultural heritage resource management. This work has focused on the assessment, evaluation, and protection of above ground cultural heritage resources. Lindsay has extensive experience undertaking archival research, heritage survey work, heritage evaluation and heritage impact assessment. She has also contributed to cultural heritage landscape studies and heritage conservation plans, led heritage commemoration and interpretive programs, and worked collaboratively with multidisciplinary teams to sensitively plan interventions at historic sites/places. In addition, she is a leader in the completion of heritage studies required to fulfill Class Environmental Assessment processes and has served as Project Manager for over 100 heritage assessments during her time at Archaeological Services Incorporated (A.S.I.). Lindsay is a member of the Canadian Association of Heritage Professionals.

### **John Sleath, M.A.**

#### **Cultural Heritage Specialist, Project Manager - Cultural Heritage Division**

The Project Manager for this Cultural Heritage Evaluation Report is **John Sleath** (M.A.), who is a Cultural Heritage Specialist and Project Manager within the

Cultural Heritage Division with A.S.I. He was responsible for the day-to-day management activities, including scoping of research activities and site surveys and drafting of study findings and recommendations. John has worked in a variety of contexts within the field of cultural heritage resource management for the past 14 years, as an archaeologist and as a cultural heritage professional. An exposure to both land-based and underwater archaeology and above ground cultural heritage assessments has provided John with a holistic understanding of heritage in a variety of contexts. In 2015 John began working in the Cultural Heritage Division researching and preparing a multitude of cultural heritage assessment reports and for which he was responsible for a variety of tasks including: completing archival research, investigating built heritage and cultural heritage landscapes, report preparation, historical map regression, and municipal consultation. Since 2018 John has been a project manager responsible for a variety of tasks required for successful project completion. This work has allowed John to engage with stakeholders from the public and private sector, as well as representatives from local municipal planning departments, government agencies, and museums. John has conducted hundreds of cultural heritage assessments across Ontario, with a focus on transit and rail corridor infrastructure including bridges and culverts.

**Leora Bebko, M.M.St.**

Cultural Heritage Technician, Technical Writer and Researcher - Cultural Heritage Division

The Cultural Heritage Technician for this Cultural Heritage Evaluation Report is **Leora Bebko** (M.M.St.), who is a Cultural Heritage Technician and Technical Writer and Researcher within the Cultural Heritage Division. She was responsible for preparing and contributing research and technical reporting. In Leora's career as a cultural heritage and museum professional she has worked extensively in public programming and education within built heritage spaces. Leora is particularly interested in the ways in which our heritage landscapes can be used to facilitate public engagement and interest in our region's diverse histories. While completing her Master of Museum Studies she was able to combine her interest in heritage architecture and museums by focusing on the

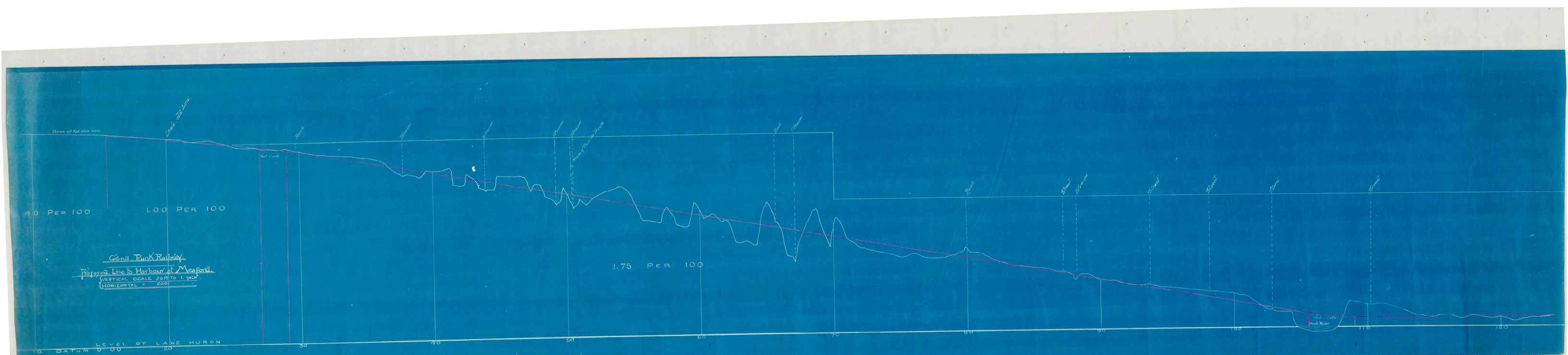


historic house museum and the accessibility challenges they face. As a thesis project, Leora co-curated the award-winning exhibit *Lost & Found: Rediscovering Fragments of Old Toronto* on the grounds of Campbell House Museum. Since completing her degree she has worked as a historical interpreter in a variety of heritage spaces, learning a range of traditional trades and has spent considerable time researching heritage foodways and baking in historic kitchens. In 2022, she joined A.S.I.'s Cultural Heritage team as a Cultural Heritage Technician.

## **Appendix C: Municipality of Meaford Bridge Inventory**

| Structure Number | Structure Name                           | Road Name                       | Structure Type                     | Year Construction |
|------------------|------------------------------------------|---------------------------------|------------------------------------|-------------------|
| 1                | Bridge No. 1 (Cornfield's Bridge)        | Sideroad 21                     | CSP Multi-Plate Arch Culvert(s)    | 2003              |
| 2                | Bridge No. 2 (Prosje's Bridge)           | Sideroad 24                     | Cast-In-Place Concrete T-Beam      | 1925              |
| 3                | Bridge No. 3 (Price's Bridge)            | Concession 6                    | Precast Concrete Box Culvert       | 1985              |
| 4                | Bridge No. 4 (MacQueen's Bridge)         | Sideroad 24                     | Steel I-Girder (Concrete Deck)     | 2002              |
| 5                | Bridge No. 5 (Cupsky's Bridge)           | 2nd Concession                  | Cast-In-Place Conc. Rigid Frame    | 1945              |
| 6                | Bridge No. 6 (Duggin's Gulley)           | Sideroad 27                     | CSP Multi-Plate Ellipse Culvert(s) | 1975              |
| 7                | Bridge No. 7 (MacJohnson's Bridge)       | Sideroad 30                     | Steel I-Girder (Concrete Deck)     | 1925              |
| 8                | Bridge No.8 (Fettes' Bridge)             | Lakeshore Drive                 | Cast-In-Place Conc. Rigid Frame    | 1982              |
| 9                | Bridge No.9 (Struyk's Bridge)            | Lakeshore Drive                 | Steel I-Girder (Concrete Deck)     |                   |
| 10               | Bridge No. 10 (Fraser's Bridge)          | Concession B                    | Cast-In-Place Concrete T-Beam      | 1925              |
| 11               | Bridge No. 11 (Waterton Bridge)          | Sideroad 8                      | Cast-In-Place Conc. Rigid Frame    | 1981              |
| 12               | Bridge No. 12 (Bognor Bridge)            | Sideroad 6                      | Cast-In-Place Conc. Rigid Frame    | 2009              |
| 13               | Bridge No.13 - Reid's Bridge             | Sideroad 6                      | Cast-In-Place Conc. Rigid Frame    | 1960              |
| 14               | Bridge No.14 (Thomson Bridge)            | Sideroad 6                      | Cast-In-Place Conc. Rigid Frame    | 1987              |
| 15               | Bridge No. 15 (Gialles' Bridge)          | Sideroad 3                      | Cast-In-Place Conc. Rigid Frame    | 1940              |
| 16               | Bridge No. 16 – 5th Line Bridge          | 4th Concession South            | Arch (Concrete)                    | 1960              |
| 17               | Bridge No.17 – Shields Bridge            | 1st Concession                  | Precast Concrete Box Girder        | 1970              |
| 18               | Bridge No. 18 (Medley's Bridge)          | Lakeshore Drive                 | CSP Multi-Plate Ellipse Culvert(s) | 1983              |
| 19               | Bridge No. 19                            | Sideroad 24                     | CSP Arch Culvert(s)                | 1983              |
| 21               | Bridge No. 21 (Twin Bridges)             | Holland-Sydenham Townline       | Concrete Arch Culvert              | 1975              |
| 22               | Bridge No. 22 (Twin Bridges)             | Holland-Sydenham Townline       | Concrete Arch Culvert              | 1975              |
| 25               | Bridge No. 25                            | 2nd Concession North            | Cast-In-Place Conc. Rigid Frame    | 1968              |
| 27               | Bridge No. 27 (Wood's Bridge)            | Sideroad 24                     | Cast-In-Place Conc. Rigid Frame    | 1945              |
| 28               | Bridge No. 28 (Palmer's Driveway Bridge) | Woodford Crescent               | Steel I-Girder (Timber Deck)       | 1965              |
| 30               | Bridge No. 30 (Bakeshop Bridge)          | Edwin Street                    | Precast Concrete I-Girder          | 1981              |
| 31               | Bridge No. 31 (Trowbridge St. Bridge)    | Trowbrige Street                | Concrete Rigid Frame               | 1958              |
| 32               | Bridge No. 32 (Cementary Road Bridge)    | Graham Street                   | Cast-In-Place Conc. Rigid Frame    | 1965              |
| 35               | Bridge No. 35                            | Lake Shore Road South           | Cast-In-Place Conc. Rigid Frame    | 1946              |
| 37               | Bridge No. 37                            | Sykes Street                    | Cast in Place Concrete Box Culvert | 1975              |
| 38               | Bridge No. 38                            | Sykes Street                    | Slab on Precast Girder             | 1965              |
| 38               | Bridge No. 38                            | Sykes Street                    | Precast Concrete I-Girder          | 1965              |
| 39               | Bridge No. 39                            | 7th Line South                  | Cast-In-Place Conc. Rigid Frame    | 1964              |
| 40               | Bridge No. 40                            | Marshall street East            | Cast-In-Place Conc. Rigid Frame    |                   |
| 41               | Bridge No. 41                            | 7th Line                        | Cast-In-Place Conc. Rigid Frame    | 1960              |
| 42               | Bridge No. 42                            | Sideroad 10                     | Cast-In-Place Conc. Rigid Frame    | 1940              |
| 43               | Bridge No. 43                            | 7th Line                        | Cast-In-Place Conc. Rigid Frame    | 2020              |
| 44               | Bridge No. 44                            | Sideroad 10                     | Cast-In-Place Conc. Rigid Frame    | 1965              |
| 45               | Bridge No. 45                            | Sideroad 13                     | Precast Concrete I-Girder          | 1965              |
| 46               | Bridge No. 46                            | Sideroad 13                     | Precast Concrete I-Girder          | 1970              |
| 47               | Bridge No. 47 (Ambercrombie #1)          | Sideroad 13                     | Cast-In-Place Conc. Rigid Frame    | 1960              |
| 48               | Bridge No. 48 (Ambercrombie #2)          | Sideroad 13                     | Cast-In-Place Conc. Rigid Frame    | 1975              |
| 49               | Bridge No. 49                            | Sideroad 13                     | Precast Concrete Box Culvert       | 1960              |
| 50               | Bridge No. 50 (Bullsink's Bridge)        | 11th Line                       | Cast-In-Place Conc. Rigid Frame    | 1975              |
| 51               | Bridge No. 51 (Doherty Bridge)           | 11th Line                       | Cast-In-Place Conc. Rigid Frame    | 1973              |
| 53               | Bridge No. 53                            | Sideroad 10                     | Cast-In-Place Conc. Rigid Frame    | 1965              |
| 52/67            | Bridge No. 52/67                         | 11th Line                       | Cast-In-Place Conc. Rigid Frame    | 1943              |
| 54               | Bridge No. 54                            | 10th Sideroad                   | Cast-In-Place Conc. Rigid Frame    | 1970              |
| 58               | Bridge No. 58                            | 11th Line South                 | Cast-In-Place Conc. Box Culvert    | 1973              |
| 59               | Bridge No. 59                            | Sideroad 4                      | Conc. Rigid Frame/T-beam           | 1960              |
| 62               | Bridge No. 62                            | St. Vincent-Sydenham Townline   | Conc. Rigid Frame Culvert          |                   |
| 64               | Bridge No. 64                            | 10th Sideroad                   | Cast-In-Place Conc. Rigid Frame    | 1973              |
| 65               | Bridge No. 65 (Sewell Bridge)            | Sideroad 10                     | Cast-In-Place Conc. Rigid Frame    | 1966              |
| 66               | Bridge No. 66                            | Sideroad 10                     | Cast-In-Place Conc. Rigid Frame    | 1960              |
| 69               | Bridge No. 69                            | 7th Line                        | Cast-In-Place Conc. Rigid Frame    |                   |
| 70               | Bridge No. 70                            | Sideroad 4                      | Steel I-Girder (Timber Deck)       | 1960              |
| 74               | Bridge No. 74                            | Sideroad 4                      | Cast-In-Place Conc. Rigid Frame    | 1960              |
| 75               | Bridge No. 75                            | Sideroad 4                      | Cast-In-Place Conc. Rigid Frame    | 1960              |
| 80               | Bridge No. 80                            | 3rd line                        | Cast-In-Place Conc. Rigid Frame    | 1950              |
| 81               | Bridge No. 81                            | 3rd line                        | CSP Multi-Plate Arch               | 1980              |
| 82               | Bridge No. 82                            | 3rd line                        | CSP Multi-Plate Arch               | 1980              |
| 109              | Bridge No. 109                           | Ridge Creek Drive               | Cast in Place Concrete Box Culvert | 1990              |
| 110              | Bridge No. 110                           | Meadow Lane                     | Cast in Place Concrete Box Culvert | 1990              |
| 111              | Bridge No. 111                           | Ridge Road                      | Cast in Place Concrete Box Culvert | 1990              |
| 112              | Bridge No. 112                           | Thompson Street                 | Cast-In-Place Conc. Rigid Frame    | 1975              |
| 113              | Bridge No. 113                           | Boucher Street                  | Cast-In-Place Conc. Rigid Frame    | 1985              |
| 114              | Bridge No. 114                           | St. Vincent Street              | Cast in Place Concrete Box Culvert | 2000              |
| 115              | Bridge No. 115                           | Denmark Street                  | CSP Multi-Plate Arch               | 1985              |
| 116              | Bridge No. 116                           | Edwin Street                    | Cast in Place Concrete Box Culvert | 1963              |
| 118              | Bridge No. 118                           | Sykes Street                    | Cast in Place Concrete Box Culvert | 1966              |
| 120              | Bridge No. 120                           | Sideroad 13                     | Twin CSP Multi-Plate Arch Culvert  | 1980              |
| 125              | Bridge No. 125                           | Georgian Trail                  | Timber Trestle                     | 1920              |
| 127              | Bridge No. 127                           | Georgian Trail                  | Timber Trestle                     | 1920              |
| 129              | Bridge No. 129                           | Georgian Trail                  | Cast in Place Concrete Box Culvert | 1923              |
| 131              | Bridge No. 131                           | Stewart Street                  | Precast Concrete Box Culvert       | 1995              |
| 132              | Bridge No. 132                           | Susan Street                    | Cast-In-Place Conc. Rigid Frame    | 1995              |
| 133              | Bridge No. 133                           | Sideroad 8                      | Cast-In-Place Conc. Rigid Frame    |                   |
| 134              | Bridge No. 134                           | Georgian Trail                  | Timber Trestle                     | 1920              |
| 135              | Bridge No. 135                           | Georgian Trail                  | Timber Trestle                     | 1920              |
| 145              | Bridge No. 145                           | Euphrasia - St Vincent Townline | Concrete Rigid Frame               |                   |

## **Appendix D: Design Drawings for Proposed Grand Trunk Railway Line to Meaford Harbour (circa 1899)**

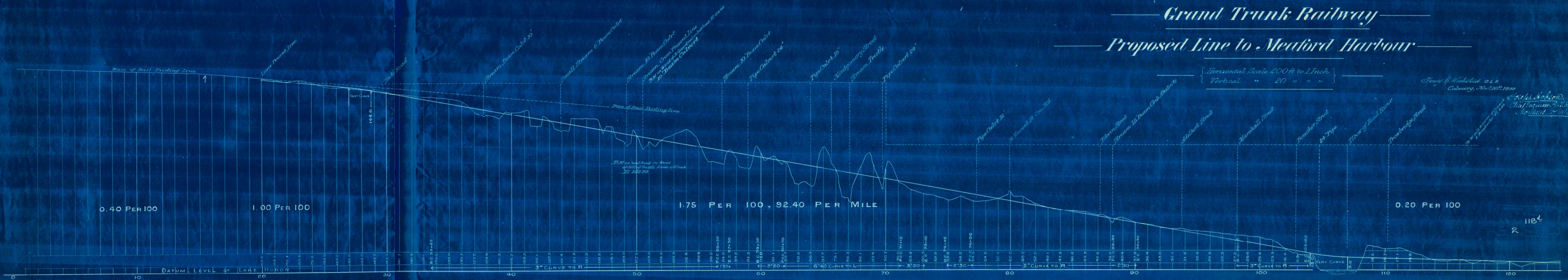


Grand Trunk Railway  
Proposed Line to Meatford Harbour

Horizontal Scale 200 ft to 1 Inch  
Vertical " 20 " " "

Survey of 1884, 812  
Cobourg, Nov. 1884

W. H. K. K. K.  
Superintendent  
Nov. 1884



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