

# Appendix C: Cultural Heritage and Archaeology

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**CULTURAL HERITAGE RESOURCE ASSESSMENT:  
BUILT HERITAGE RESOURCES AND CULTURAL HERITAGE LANDSCAPES**

**EXISTING CONDITIONS**

**BIRCH AVENUE, BARTON STREET EAST TO BURLINGTON STREET EAST  
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT**

**CITY OF HAMILTON, ONTARIO**

Prepared for:

**IBI Group Professional Service Inc.**  
55 St. Clair Avenue West  
Toronto, ON M4V 2Y7 Canada

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**CITY OF HAMILTON, ONTARIO**

**EXECUTIVE SUMMARY**

ASI was contracted by IBI Group Professional Service Inc. (“IBI Group”) to conduct a Cultural Heritage Resource Assessment (CHRA) as part of the Birch Avenue Municipal Class Environmental Assessment (EA) study. The Birch Avenue study area is in the City of Hamilton, centered on Birch Avenue between Barton Street East and Burlington Street East. The City of Hamilton commenced this Municipal Class EA to identify preferred solutions for existing and future storm water management challenges and to address road clearance issues under City of Hamilton bridges 330, 331, and 332. The study area is generally located in an industrial and residential context.

The results of background historical research and a review of secondary source material revealed a study area with an industrial, residential and commercial land use history dating to the early twentieth century. A field review was conducted for the entire study area to confirm the location of previously identified cultural heritage resources and to document any new potential resources.

The background research, data collection, and field review conducted for the study area determined that 11 cultural heritage resources are located within and/or adjacent to the Birch Avenue study area. Based on the results of the assessment, the following recommendations have been developed:

1. Construction activities and staging should be suitably planned and undertaken to avoid negative impacts to identified cultural heritage resources (i.e. remain within existing right-of-way).
2. Should construction activities occur in close proximity (within 15m) of BHR 2, BHR 6, CHL 1 and CHL 3, the impacts of vibrations may need to be determined through an engineering assessment to ensure that there are no negative impacts to these resources. Any resulting mitigation measures should be implemented prior to construction as needed.
3. BHR 4 (Bridge 331) is expected to be impacted through removal. The removal of the bridge has a direct impact. Given the bridge has been found to have cultural heritage value or interest (CHVI) in a Cultural Heritage Evaluation Report (CHER) (Stantec 2017a) and a Heritage Impact Assessment (HIA) has been completed for its proposed removal by the City of Hamilton, the following mitigation measures are recommended (Stantec 2017b):
  1. Retain the bridge for viewing purposes as a heritage monument.





2. If retention of the bridge is not feasible, complete a Cultural Heritage Documentation Report. Salvage materials where feasible.
3. If retention of the bridge is not feasible, the City of Hamilton should consider commemorating the bridge with a historical/architectural marker in a public space along Birch Avenue.
4. BHR 3 (Bridge 332) and BHR 5 (Bridge 330) are expected to be impacted through replacement or alteration (i.e. lifting the bridge). Although both resources were previously identified as potential heritage structures on the City of Hamilton Heritage Bridge Inventory in 2002, both bridges were evaluated in a CHER under *Ontario Reg. 9/06* and the Hamilton Bridge Guideline in 2017 (Stantec 2017c; Stantec 2017d) and were not found to have significant cultural heritage value or interest. Therefore, no further work is required for BHR 3 (Bridge 332) and BHR 5 (Bridge 330).
5. If CHL 2, the former Hamilton Radial Electric Rail (HRER), is directly impacted by the Birch Avenue improvements, the City of Hamilton should consider commemorating the HRER with a historical/architectural marker in a public space along Birch Avenue.

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## 1.0 INTRODUCTION

ASI was contracted by IBI Group Professional Service Inc. (“IBI Group”) to conduct a Cultural Heritage Resource Assessment (CHRA) as part of the Birch Avenue Municipal Class Environmental Assessment (EA) study. The Birch Avenue study area is in the City of Hamilton, centered on Birch Avenue between Barton Street East and Burlington Street East. The City of Hamilton commenced this Municipal Class EA to identify preferred solutions for existing and future storm water management challenges and to address road clearance issues under City of Hamilton bridges 330, 331, and 332. The study area is generally located in an industrial and residential context (Figure 1).

The purpose of this report is to present an inventory of cultural heritage resources, identify the existing conditions of the Birch Avenue study area, identify potential impacts to the cultural heritage resources, and propose appropriate mitigation measures. Project management and research for this study was conducted by Tara Jenkins, Cultural Heritage Specialist, Cultural Heritage Division, of ASI.

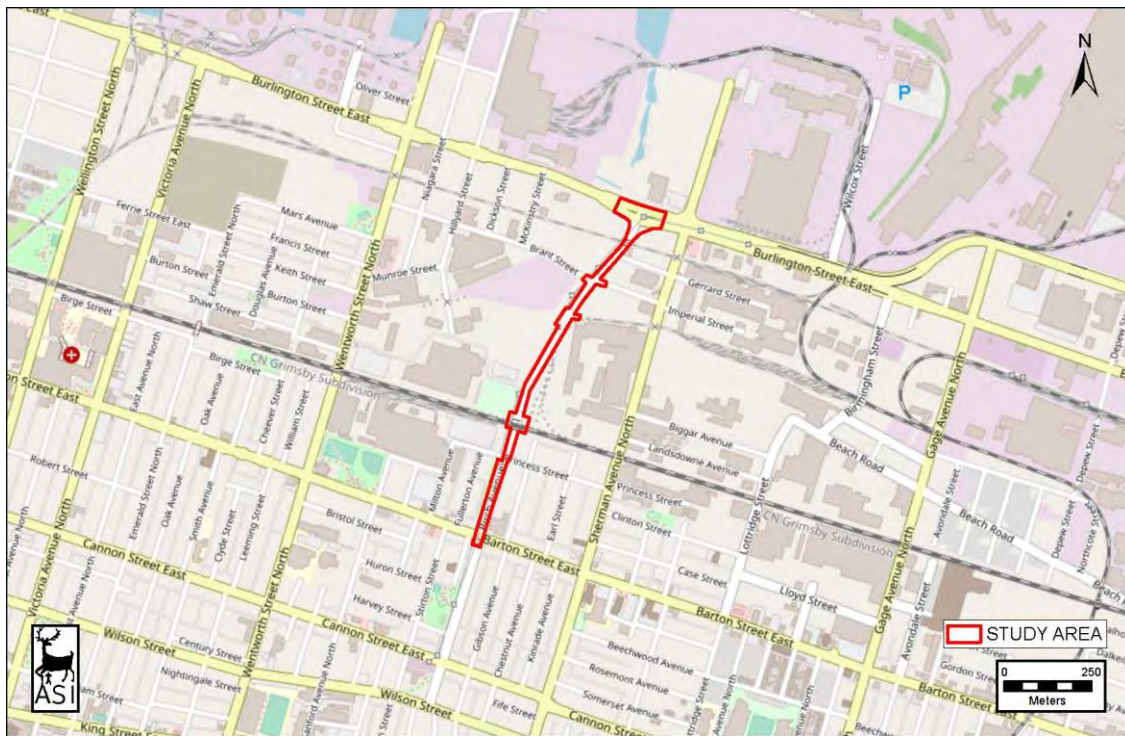


Figure 1: Location of the study area, City of Hamilton

Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

## 2.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT CONTEXT

### 2.1 Policy Framework

The analysis throughout the study process addresses cultural heritage resources under various pieces of legislation and their supporting guidelines. This cultural heritage assessment considers cultural heritage resources in the context of improvements to specified areas, pursuant to the *Environmental Assessment Act*. The *Environmental Assessment Act* (EAA, 1990) provides for the protection, conservation and management of Ontario's environment. Under the EAA, "environment" is defined in Subsection 1(c) to include:

- cultural conditions that influence the life of man or a community; and
- any building, structure, machine, or other device or thing made by man.

The *Ontario Heritage Act* (OHA) gives the Ministry of Tourism, Culture and Sport the responsibility for the conservation, protection and preservation of Ontario's cultural heritage resources. The Ministry of Tourism, Culture and Sport is charged under Section 2 of the OHA with the responsibility to determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario and has published two guidelines to assist in assessing cultural heritage resources as part of an environmental assessment: *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MCC 1992), and *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (MCR 1980). Accordingly, both guidelines have been utilized in this assessment process.

The *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (Section 1.0) states the following:

When speaking of man-made heritage, we are concerned with the works of man and the effects of his activities in the environment rather than with movable human artifacts or those environments that are natural and completely undisturbed by man.

In addition, environment may be interpreted to include the combination and interrelationships of human artifacts with all other aspects of the physical environment, as well as with the social, economic and cultural conditions that influence the life of the people and communities in Ontario. The *Guidelines on the Man-Made Heritage Component of Environmental Assessments* distinguish between two basic ways of visually experiencing this heritage in the environment, namely as cultural heritage landscapes and as cultural features.

Within this document, cultural heritage landscapes are defined as the following (Section 1.0):

The use and physical appearance of the land as we see it now is a result of man's activities over time in modifying pristine landscapes for his own purposes. A cultural landscape is perceived as a collection of individual man-made features into a whole. Urban cultural landscapes are sometimes given special names such as townscapes or streetscapes that describe various scales of perception from the general scene to the particular view. Cultural landscapes in the countryside are viewed in or adjacent to natural undisturbed



landscapes, or waterscapes, and include such land uses as agriculture, mining, forestry, recreation, and transportation. Like urban cultural landscapes, they too may be perceived at various scales: as a large area of homogeneous character; or as an intermediate sized area of homogeneous character or a collection of settings such as a group of farms; or as a discrete example of specific landscape character such as a single farm, or an individual village or hamlet.

A cultural feature is defined as the following (Section 1.0):

...an individual part of a cultural landscape that may be focused upon as part of a broader scene, or viewed independently. The term refers to any man-made or modified object in or on the land or underwater, such as buildings of various types, street furniture, engineering works, plantings and landscaping, archaeological sites, or a collection of such objects seen as a group because of close physical or social relationships.

The Minister of Tourism and Culture published *Standards and Guidelines for Conservation of Provincial Heritage Properties* (2010; *Standards and Guidelines* hereafter). These *Standards and Guidelines* apply to properties the Government of Ontario owns or controls that have cultural heritage value or interest. The *Standards and Guidelines* provide a series of guidelines that apply to provincial heritage properties in the areas of identification and evaluation; protection; maintenance; use; and disposal. For the purpose of this CHRA, the *Standards and Guidelines* provide points of reference to aid in determining heritage significance in the evaluation of these properties.

Similarly, the *Ontario Heritage Toolkit* (MCL 2006) provides a guide to evaluate heritage properties. It states, to conserve a cultural heritage resource a municipality or approval authority may require a heritage impact assessment and/or a conservation plan to guide the approval, modification, or denial of a proposed development.

Additionally, the *Planning Act* (1990) and related *Provincial Policy Statement* (MMAH 2014) make a number of provisions relating to heritage conservation. One of the general purposes of the *Planning Act* is to integrate matters of provincial interest in provincial and municipal planning decisions. In order to inform all those involved in planning activities of the scope of these matters of provincial interest, Section 2 of the *Planning Act* provides an extensive listing. These matters of provincial interest shall be regarded when certain authorities, including the council of a municipality, carry out their responsibilities under the *Act*. One of these provincial interests is directly concerned with:

2.(d) the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest

Part 4.7 of the *PPS* states that:

The official plan is the most important vehicle for implementation of this Provincial Policy Statement. Comprehensive, integrated and long-term planning is best achieved through official plans.





Official plans shall identify provincial interests and set out appropriate land use designations and policies. To determine the significance of some natural heritage features and other resources, evaluation may be required.

Those policies of particular relevance for the conservation of heritage features are contained in Section 2- Wise Use and Management of Resources, wherein Subsection 2.6 - Cultural Heritage and Archaeological Resources, makes the following provisions:

2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

In addition, significance is also more generally defined. It is assigned a specific meaning according to the subject matter or policy context, such as wetlands or ecologically important areas. Regarding cultural heritage and archaeology resources, resources of significance are those that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people (MMAH 2014).

Criteria for determining significance for the resources are recommended by the Province, but municipal approaches that achieve or exceed the same objective may also be used. While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation (MMAH 2014).

Accordingly, the foregoing guidelines and relevant policy statements were used to guide the scope and methodology of this cultural heritage resource assessment.

## 2.2 City of Hamilton Municipal Heritage Policies

As the study area is located within the City of Hamilton, the City's municipal policies regarding cultural heritage resources from the *Urban Hamilton Official Plan* (City of Hamilton 2013) were reviewed as part of this assessment. Selected applicable policies have been included in Appendix A.

## 3.0 ASSESSMENT METHODOLOGY

### 3.1 Introduction

For the purpose of this CHRA, the following summarizes the tasks that were undertaken:

- The identification of major historical themes and activities within the study area through background research and review of available historical mapping;
- A review to identify properties within and/or adjacent to the study area that have been designated under Part IV or V of the *OHA*, or listed on a Municipal inventory or heritage register;
- Consultation with members of the community with knowledge regarding the community in general or potential cultural heritage resources;





- A field review to confirm the location and condition of previously identified cultural heritage resources. The field review is also used to identify cultural heritage resources that have not been previously identified on federal, provincial, or municipal databases;
- A preliminary analysis of potential impacts of the undertaking on identified potential cultural heritage resources; and,
- Preparation of the Cultural Heritage Resource Assessment report.

This assessment addresses above-ground cultural heritage resources over 40 years old. Use of a 40-year-old threshold is a guiding principle when conducting a preliminary identification of cultural heritage resources (MTCS 2016). While identification of a resource that is 40 years old or older does not confer outright heritage significance, this threshold provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from retaining heritage value.

For the purposes of this assessment, the term cultural heritage resource is used to describe both cultural heritage landscapes and built heritage resources.

A built heritage resource is defined as the following (MTC 2010:25):

...a building, structure, monument, installation or any manufactured remnant that contributes to a property's cultural heritage value or interest as identified by a community, including an Aboriginal community"

A cultural heritage landscape is defined as the following (MTC 2010:25):

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

### **3.2 Data Collection**

In the course of the cultural heritage assessment, all potentially affected cultural heritage resources are subject to inventory. Generally, when conducting an identification of cultural heritage resources within a study area, three stages of research and data collection are undertaken to appropriately establish the potential for and existence of cultural heritage resources in a geographic area.

Background historical research, which includes consultation of primary and secondary source research and historical mapping, is undertaken to identify early settlement patterns and broad agents or themes of change in a study area. This stage in the data collection process enables the researcher to determine the presence of sensitive heritage areas that correspond to nineteenth and twentieth century



settlement and development patterns. To augment data collected during this stage of the research process, federal, provincial, and municipal databases and/or agencies are consulted to obtain information about specific properties that have been previously identified and/or designated as retaining cultural heritage value. Typically, resources identified during these stages of the research process are reflective of architectural styles, associated with an important person, place, or event, and contribute to the contextual facets of a particular place, neighbourhood, or intersection.

A field review is then undertaken to confirm the location and condition of previously identified cultural heritage resources. The field review is also used to identify cultural heritage resources that have not been previously identified on federal, provincial, or municipal databases.

Several investigative criteria are utilised during the field review to appropriately identify new cultural heritage resources. These investigative criteria are derived from provincial guidelines, definitions, and experience. During the EA, a built structure or landscape is identified as a cultural heritage resource if it is considered to be 40 years or older, and if the resource has potential to meet at least one of the following criteria:

**Design/Physical Value:**

- It is a rare, unique, representative or early example of a style, type, expression, material or construction method.
- It displays a high degree of craftsmanship or artistic merit.
- It demonstrates a high degree of technical or scientific achievement.
- The site and/or structure retains original stylistic features and has not been irreversibly altered to destroy its integrity.
- It demonstrates a high degree of excellence or creative, technical or scientific achievement at a provincial level in each period.

**Historical/Associative Value:**

- It has a direct association with a theme, event, belief, person, activity, organization, or institution that is significant to: the City of Hamilton; the Province of Ontario; or Canada.
- It yields, or has the potential to yield, information that contributes to an understanding of the history of: the City of Hamilton; the Province of Ontario; or Canada.
- It demonstrates or reflects the work or ideas of an architect, artist builder, designer, or theorist who is significant to: the City of Hamilton; the Province of Ontario; or Canada.
- It represents or demonstrates a theme or pattern in Ontario's history.
- It demonstrates an uncommon, rare or unique aspect of Ontario's cultural heritage.
- It has a strong or special association with the entire province or with a community that is found in more than one part of the province. The association exists for historical, social, or cultural reasons or because of traditional use.
- It has a strong or special association with the life or work of a person, group or organization of importance to the province or with an event of importance to the province.

**Contextual Value:**

- It is important in defining, maintaining, or supporting the character of an area.
- It is physically, functionally, visually, or historically linked to its surroundings.



- It is a landmark.
- It illustrates a significant phase in the development of the community or a major change or turning point in the community's history.
- The landscape contains a structure other than a building (fencing, culvert, public art, statue, etc.) that is associated with the history or daily life of that area or region.
- There is evidence of previous historical and/or existing agricultural practices (e.g. terracing, deforestation, complex water canalization, apple orchards, vineyards, etc.).
- It is of aesthetic, visual or contextual important to the province.

If a resource meets one of these criteria it will be identified as a cultural heritage resource and is subject to further research where appropriate and when feasible. Typically, detailed archival research, permission to enter lands containing heritage resources, and consultation is required to determine the specific heritage significance of the identified cultural heritage resource.

When identifying cultural heritage landscapes, the following categories are typically utilized for the purposes of the classification during the field review:

Farm complexes:	comprise two or more buildings, one of which must be a farmhouse or barn, and may include a tree-lined drive, tree windbreaks, fences, domestic gardens and small orchards.
Roadscapes:	generally two-lanes in width with absence of shoulders or narrow shoulders only, ditches, tree lines, bridges, culverts and other associated features.
Waterscapes:	waterway features that contribute to the overall character of the cultural heritage landscape, usually in relation to their influence on historical development and settlement patterns.
Railscapes:	active or inactive railway lines or railway rights of way and associated features.
Historical settlements:	groupings of two or more structures with a commonly applied name.
Streetscapes:	generally consists of a paved road found in a more urban setting, and may include a series of houses that would have been built in the same time period.
Historical agricultural landscapes:	generally comprises a historically rooted settlement and farming pattern that reflects a recognizable arrangement of fields within a lot and may have associated agricultural outbuildings, structures, and vegetative elements such as tree rows.
Cemeteries:	land used for the burial of human remains.



Results of the desktop data collection and field review are contained in Section 4.2, while Sections 5.0 and 6.0 contain conclusions and recommendations with respect to potential impacts of the undertaking on the identified cultural heritage resource. A cultural heritage resource inventory is provided in Section 7.0, while location mapping is in Section 8.0.

#### **4.0 BUILT HERITAGE RESOURCE AND CULTURAL HERITAGE LANDSCAPE ASSESSMENT**

This section provides a brief summary of historical research and a description of identified above-ground cultural heritage resources that may be affected by the proposed undertaking.

##### **4.1 Background Historical Summary**

A review of available primary and secondary source material was undertaken to produce a contextual overview of the study area, including a general description of physiography, as well as Indigenous and Euro-Canadian land use and settlement.

###### **4.1.1 Physiography**

The study area is located within the Iroquois Plain physiographic region of southern Ontario, which is a lowland region bordering Lake Ontario. This region is characteristically flat and formed by lacustrine deposits laid down by the inundation of Lake Iroquois, a body of water that existed during the late Pleistocene. This region extends from the Trent River, around the western part of Lake Ontario, to the Niagara River, spanning a distance of approximately 300 km (Chapman and Putnam 1984:190). The old shorelines of Lake Iroquois include cliffs, bars, beaches and boulder pavements.

###### **4.1.2 Indigenous Land Use and Settlement**

Southern Ontario has a cultural history that begins approximately 11,000 years ago. The land now encompassed by the City of Hamilton has a cultural history which begins approximately 10,000 years ago and continues to the present. Table 1 provides a general summary of the history of Indigenous land use and settlement of the area<sup>1</sup>.

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<sup>1</sup> While many types of information can inform the precontact settlement of the City of Hamilton, this summary table provides information drawn from archaeological research conducted in southern Ontario over the last century. As such, the terminology used in this review relates to standard archaeological terminology for the province rather than relating to specific historical events within the region. The chronological ordering of this summary is made with respect to two temporal referents: BCE – before Common Era and CE – Common Era.



**Table 1: Outline of Southern Ontario Prehistory**

Period	Archaeological/ Material Culture	Date Range	Lifeways/ Attributes
<b>PALEO-INDIAN PERIOD</b>			
Early	Gainey, Barnes, Crowfield	9000-8500 BCE	Big game hunters
Late	Holcombe, Hi-Lo, lanceolate	8500-7500 BCE	Small nomadic groups
<b>ARCHAIC</b>			
Early	Nettling, Bifurcate-base	7800-6000 BCE	Nomadic hunters and gatherers
Middle	Kirk, Stanley, Brewerton, Laurentian	6000-2000 BCE	Transition to territorial settlements
Late	Lamoka, Genesee, Crawford Knoll, Innes	2500-500 BCE	Polished/ground stone tools (small stemmed)
<b>WOODLAND PERIOD</b>			
Early	Meadowood	800-400 BCE	Introduction of pottery
Middle	Point Peninsula, Saugeen	400 BCE-CE 800	Incipient horticulture
Late	Algonkian, Iroquoian	CE 800-1300	Transition to village life and agriculture
	Algonkian, Iroquoian	CE 1300-1400	Establishment of large palisaded villages
	Algonkian, Iroquoian	CE 1400-1600	Tribal differentiation and warfare
<b>POST-CONTACT PERIOD</b>			
Early	Huron, Neutral, Petun, Odawa, Ojibwa	CE 1600-1650	Tribal displacements
Late	Six Nations Iroquois, Ojibwa Euro-Canadian	CE 1650-1800's CE 1800-present	European settlement

The study area is within Treaty 3, the Between the Lakes Purchase. Following the 1764 Niagara Peace Treaty and the follow-up treaties with Pontiac, the English colonial government considered the Mississaugas to be their allies since they had accepted the Covenant Chain. The English administrators followed the terms of the Royal Proclamation and insured that no settlements were made in the hunting grounds that had been reserved for their use (Johnston 1964; Lytwyn 2005). In 1784, under the terms of the “Between the Lakes Purchase” signed by Sir Frederick Haldimand and the Mississaugas, the Crown acquired over one million acres of land in-part spanning westward from near modern day Niagara-on-the-Lake, along the south shore of Lake Ontario, to modern day Burlington (Aboriginal Affairs and Northern Development Canada 2016).

#### **4.1.3 Historical Euro-Canadian Land Use: Township Survey and Settlement**

Historically, the study area is in the former Township of Barton, County of Wentworth, in part of Lot 9, Concession I.

##### *Barton Township*

The land contained within Barton Township was acquired by the British from the Mississaugas in 1784. This was confirmed by Treaty Number 3, signed at Niagara in December 1792. The township was first surveyed in 1791, and the first settlers took up occupancy on their lands in that same year (Armstrong 1985:141).



For early administrative and land granting purposes, Barton Township originally comprised part of the District of Nassau, which was created by a proclamation issued by Lord Dorchester in July 1788. The district seat for Nassau was located in what was to eventually become the town of Newark (or Niagara), now present-day Niagara-on-the-Lake. In 1792, Lieutenant-Governor John Graves Simcoe re-organized the province of Upper Canada into new electoral divisions. Barton Township fell within the limits of the first riding of Lincoln County in the Home District, with the County seat located at Newark (Armstrong 1985:160).

The District of Niagara was created out of the Home District in 1800. Newark remained the administrative centre for the Niagara District, while the Town of York (Toronto) became the new seat for the old Home District (Stanton 1843:77–82; Armstrong 1985:138–140).

The original designation for this tract of land was “Township Number 8”. The name that was finally given to the township was derived from Barton upon Humber in Lincolnshire, England. It was said to have been a place of “great strength” and commerce before the Norman Conquest. The English place name was originally spelled “Barntown”. Wentworth County was named in honour of Sir John Wentworth, who served as the Lieutenant Governor of Nova Scotia between 1792 and 1808. He was also the brother-in-law of Sir Francis Gore, who was the Lieutenant Governor of Upper Canada at the time when the new County was established in 1816 (Gardiner 1899:261, 266; Rayburn 1997:367).

The first settlers in the township were United Empire Loyalists and disbanded troops, mainly men who had served in Butler’s Rangers during the American Revolutionary War. The earliest families to settle within the township included those of Land, Ryckman, Horning, Rymal, Terryberry, and Markle. By March 1816, the population at the Head of the Lake had grown so sufficiently in size that a new district was created by an act of the Provincial Legislature. The Gore District was established under the provisions of 56 Geo. III ch. 19, “An Act to Erect and Form a New District out of certain parts of the Home and Niagara Districts, to be called the District of Gore”. This new district was extensive, and embraced parts of the future counties of Haldimand, Brant, Halton, Wellington, and Waterloo.

One writer described the Head of the Lake and Burlington Bay in a geographical account of Upper Canada published in the early nineteenth century, but made no particular mention of Barton Township. Settlement was slow up until the time of the War of 1812, perhaps due to the early importance of the nearby town of Dundas. By 1815, it is said that Barton Township contained just 102 families. By 1823, however, the township contained three sawmills and a gristmill. By 1841, the township population had increased to 1,434 and it contained five sawmills and one grist mill. In 1846, the township was described as “well settled” and under cultivation (Boulton 1805:48–49; Smith 1846:8; Mika and Mika 1977:143).

Wentworth County was established following the abolition of the old Upper Canadian district system in 1849, being temporarily united with Brant and Halton Counties until 1854-55. Barton Township was annexed by the City of Hamilton in 1960. In 1973-74, the County was dissolved and succeeded by the Regional Municipality of Hamilton-Wentworth. The City of Hamilton has remained as the administrative seat or county town since the original creation of the Gore District nearly two centuries ago (Stanton 1843:215; Armstrong 1985:170–171; Jonasson 2006:191–209).



#### 4.1.4 Review of Historical Mapping

The 1859 *Map of the County of Wentworth* (Surtees 1859) and the 1875 *Illustrated Historical Atlas of the County of Wentworth, Saltfleet Township* (Page & Smith 1875) were reviewed to determine the potential for the presence of cultural heritage resources within the study area from the nineteenth century (Figure 2 and Figure 3).

It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases. For instance, they were often financed by subscription limiting the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases. In addition, the use of historical map sources to reconstruct/predict the location of former features within the modern landscape generally begins by using common reference points between the various sources. The historical maps are geo-referenced to provide the most accurate determination of the location of any property on a modern map. The results can be often be imprecise or even contradictory as there are numerous potential sources of error inherent in such a process, including differences of scale and resolution, and distortions introduced by reproduction of the sources.

Historically, the study area is in the former Township of Barton, County of Wentworth, in part of Lot 9, Concession I. Details of historical property owners and historical features in the study area are listed in Table 2.

**Table 2: Birch Avenue Study Area – Nineteenth-century property owner(s) and historical features(s)**

Con. #	Lot #	1859 <i>Map of the County of Wentworth</i>		1875 <i>Illustrated Historical Atlas of the County of Wentworth, Barton Township</i>	
		Property Owner(s)	Historical Feature(s)	Property Owner(s)	Historical Feature(s)
1	9	n/a	n/a	E. Wyth	None Illustrated
	9	n/a	n/a	G. Williams	None Illustrated
	9	n/a	n/a	Moore & Davis	School house
	9	n/a	n/a	Peter Grant	None Illustrated
	9	n/a	n/a	D. Ewing	House

The first railway line came to Hamilton in 1854, completed by the Great Western Railway (G.W.R.). The first expansion line was the Hamilton and Toronto Railway branch which opened for service in Hamilton in 1856 (Stantec 2017a). This G.W.R. Main Line runs east-west through the Birch Avenue study area, as shown on the 1859 County of Wentworth map (Surtees 1859) (Figure 2: The study area overlaid on the 1859 Wentworth County map. The 1859 map also shows that a portion of the study area had been subdivided into lots separated by roads. Underlying the layout of the lots, the map shows the survey as part of “Parks Survey”. The map also shows that present-day Burlington Street East, at the northern end of the study area, crossed a portion of Sherman’s Inlet.

By the late 1870s, the G.W.R. railway network reached from Toronto to Niagara, London, Windsor, Sarnia, Kincardine and the three Great Lakes. Hamilton had become the centre of much of this growth. The City attracted rail and other transporting industries. It soon became the hub for railway-related manufacturers such as the Hamilton Bridge Works (Stantec 2017b). The 1875 Township of Barton map (Page & Smith 1875) shows the study area within Lot 9, Concession I (Figure 3). The lot is subdivided into





separate parcels with the G.W.R. Main Line running through the centre of the lot. Table 2 shows the lot as occupied by Moore & Davis, Peter Grant, B. Wych, D. Ewing, and G. Williams. Moore & Davis was a company who are documented as Founders and Tinsmiths located at 100 King Street (Page & Smith 1875). However, still in 1875, the northern portion of the study area overlaid Sherman's Inlet.

Another railway line developed through the study area known as the Toronto, Hamilton & Buffalo (T.H. & B.) Railway which was incorporated in 1884. The line was developed as an alternate route for businesses in Hamilton to export goods to Toronto and Montreal, in addition to American customers to the west (Stantec 2017b). As the railway line expanded, a T.H. & B. Railway Spur line was constructed through the Birch Avenue study area in the 1890s as part of the Welland Subdivision (Stantec 2017b). In 1895, the T.H. & B. was sold under a joint ownership between the Canadian Pacific Railway (C.P.R.) and the New York Central Railway. In 1896, the T.H. & B. obtained rights to operate the Grand Trunk (G.T.) Railway between Toronto and Hamilton (Stantec 2017b).

By 1891, the Birch Avenue study area was incorporated into the City of Hamilton as its city limits were extended to Sherman Avenue North (Stantec 2017b). This triggered the development of industry in the vicinity of the study area, including one of the largest manufacturers, the Hamilton Blast Furnace Company, which was established in 1895 north of the study area on Sherman's Inlet. In the early twentieth century, to the east of Birch Avenue, several factories flourished such as Cosmos-Imperial Mills, Canada Steel Company, and Wallace Barnes & Company Ltd. (Stantec 2017b).

As a response to expanding industries surrounding the Birch Avenue study area, work began in 1900 on the Hamilton Belt Line. This railway provided a more accessible connection between the industries and City factory workers. Birch Avenue was home to one such radial railway line (Stantec 2017b). The Hamilton Radial Electric Railway (HRER) began in early 1896 and in 1898 its tracks were laid along the route of Birch Avenue, within the study area. In 1904, the Hamilton Street Railway (HSR) laid a track parallel to the HRER along Birch Avenue (TrainWeb.org 2019).

The 1909 NTS map depicts three railway crossings through the study area, and the presence of the "Hamilton Radial Electric Railway" (HRER) (Figure 4). The HRER in 1909 ran along Birch Avenue between present-day Burlington Street East and the most southern railway tracks, the former G.W.R. Main Line. Birch Avenue terminated at the most southern set of railway tracks and did not extend north of those tracks. The north and south railway crossings through the study area are shown labelled on the map as the "Grand Trunk" Railway lines. The centre railway line is the "T.H. & B. Railway Spur Line". The map shows the spur line traversing Sherman's Inlet, using a central peninsula of land. It also shows that between Barton Street East and the southern set of railway tracks the study area is surrounded by industrial buildings, a few residential buildings, and a school.

The Hamilton Radial Electric Company was granted permission by the Board of Railway Commissioners for Canada to extend Birch Avenue from the southern railway tracks (now the G.T. Main Line) north to Burlington Street East (formally Gilkinson Street) in 1911. This undertaking included the infilling and grading of a portion of Sherman's Inlet (Stantec 2017b). That same year, the Board authorized the construction of a subway under the T.H. & B. Spur Line as part of the extension of Birch Avenue (Stantec 2017b).





Although some gaps in the 1911 Fire Insurance Plan (FIP) are found within the study area, the maps do depict the route of Birch Avenue as the “Electric Railway Right of Way”, south of Princess Street (Goad 1911; Figure 9). At Princess Street northward, the Electric Railway Right of Way diverges from Birch Avenue. It also details buildings in the vicinity of the study area. Barton Street Public School is depicted at the northeast corner of Barton Street East and Birch Avenue. North of the school on the east side are three frame houses and a greenhouse along Birch Avenue. The northwest corner of the intersection of Barton Street East and Birch Avenue shows a row of commercial buildings from 595 to 583 Barton Street East which include a grocery store, candy store and a clothes cleaning store. The 1911 FIP illustrates the Hamilton Radial Electric Railway (HRER) diverging from Birch Avenue north of Princess Street. North of Princess Street, the “subway” is present beneath the “Toronto, Hamilton & Buffalo Ry siding” and the “G.T. Ry (Southern Division)” (Goad 1911; Figure 8). It also shows the T.H. & B. Ry siding departing from the G.T. main line and crossing the HRER by means of a wooden railway bridge. The area around Birch Avenue and Princess Street appears to be characterized by residential buildings and small businesses. North of the G.T. Main Line, the continuation of Birch Avenue, the road, is not shown as constructed between the rail and Brant Street. The 1911 FIP shows the area context to the west of the study area as characterized by heavy industry including buildings associated with Canadian Oil Companies and Fertilizer Works operated by Freeman Co. Ltd. The T. H. & B. Spur Line is shown running through the centre of the study area (Goad 1911; Figure 7). The northern portion of the study area, just south of Burlington Ave. (late Gilkinson) shows a “Steel Bridge” as the bridge type across Birch Avenue (Goad 1911; Figure 5). On the east side of Birch Avenue and Burlington Avenue, a row of two-and-a-half storey brick houses are present. The west side is illustrated as vacant.

The 1919 NTS map shows Sherman’s Inlet as infilled and terminating at Burlington Street East (Figure 10). The railway bridges that had once crossed the Inlet had been removed. However, it does depict that trestles were installed along the section of the former Sherman’s Inlet associated with the centre railway line (T.H. & B. Spur Line). South of the G.T. Main Line (southern rail) is shown as completely urbanized. The east side of Birch Avenue between Brant Street and Burlington Avenue contains brick and frame houses, while larger brick and/or stone buildings are present between the G.T. Main Line and Brant Street.

By 1924, there was a significant development of industry and rail on the Sherman’s Inlet infill. In May 1924, the HRER tracks along Birch Avenue were removed and replaced by a private right-of-way on the west side of the Avenue (currently a hydro corridor) (TrainWeb.org 2019). The 1924 J.W. Tyrell Atlas of the City of Hamilton shows the HRER diverging from Birch Avenue north of Princess Street (Figure 11). In 1924, from Barton Street East north to Princess Street, Birch Avenue was surrounded by small residential lots, part of the Patterson Bros. Survey (Stantec 2017b). It shows that the southern railway main line as still operated by the Grand Trunk. The centre railway line is labelled as the “Toronto Hamilton and Buffalo Spur Line”. Between the G.T. Main Line and Brant Street, several industries lined Birch Avenue including Brown Boggs Co., Canadian Cartridge Co., Burlington Steel Co. Ltd., W.A. Freeman Co. Ltd. and Armour & Company. On the east side of Birch Avenue from north of Brant Street to Burlington Street East were small residential lots. The 1924 J.W. Tyrell map depicts Sherman’s Inlet as still partially extant, on the west side of Birch Avenue. It appears that a bridge carried Brant Street across the Inlet. The railway crossing just north of Gerrard Street is shown as still operated by the Grand Trunk. The map shows that a bridge was still extant carrying the northern railway line across Sherman’s Inlet. By 1927, the G. T. railway lines became the Canadian National Railway (Stantec 2017b).



The 1938 NTS map (Figure 12), the 1954 aerial photograph (Figure 13), and the 1996 Topographic map (Figure 14) show a similar configuration as the 1924 Tyrell map with the exception that the 1938 NTS map highlights the HRER tracks as being moved to the west side of the Birch Avenue roadway between Barton Street East and Princess Street. By 1954, the radial electric tracks are no longer visible (Figure 13), likely removed in the 1940s (ASI 2012).

In 1976, the United States government amalgamated six bankrupt railways into one entity called Conrail. The following year, the T.H. & B. Railway was transferred from Conrail to the Canadian Pacific Railway (C.P.R.). The T.H. & B. Railway continued to operate as its own entity until 1987, when it was amalgamated into the London Division of the C.P.R. (Stantec 2017b). The centre railway line (formally the T.B. & B. Spur Line), has been abandoned and portions of the tracks were dismantled to the bridge (Bridge 331) in the early twenty-first century (Stantec 2017b).

The 1996 NTS map of the study area shows that the residential area north of Brant Street has been demolished and replaced by small industry or is vacant land (Figure 14). Currently, some industry along Birch Avenue is under demolition (see Section 4.2.3). The vicinity of the study area may be transitioning from an industrial/residential/commercial land use to a residential and commercial area.



Figure 2: The study area overlaid on the 1859 Wentworth County map

Base Map: Surtees 1859



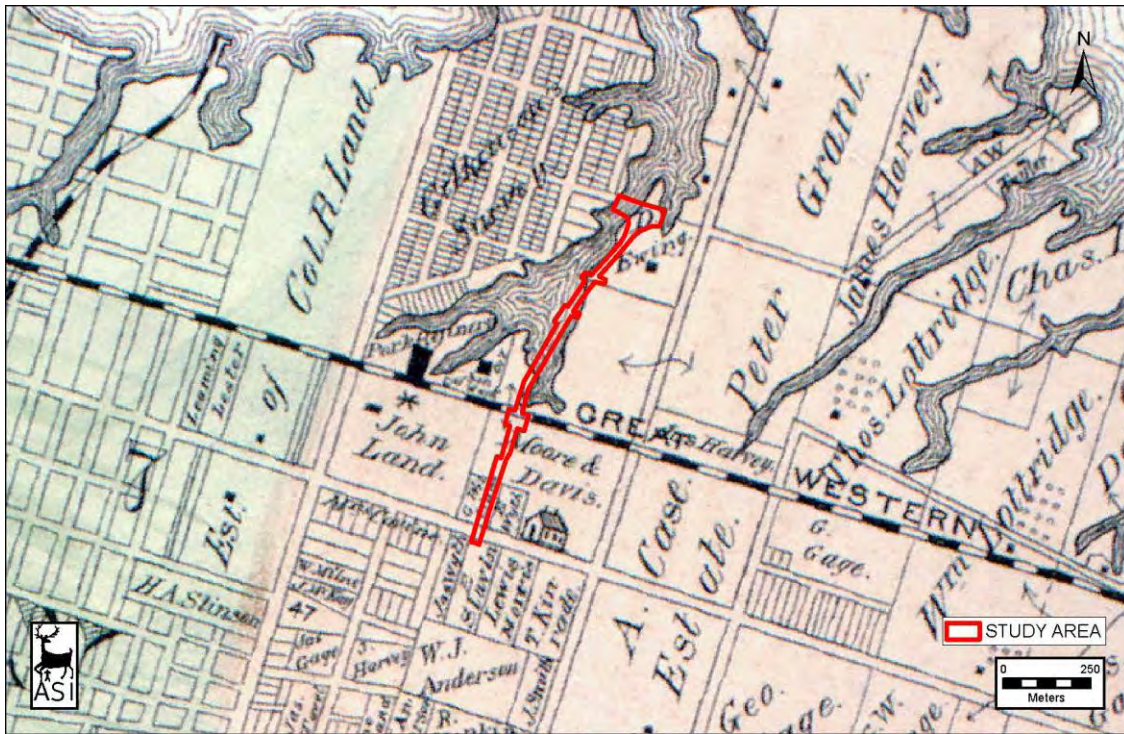


Figure 3: The study area overlaid on the 1875 Illustrated Historical Atlas

Base Map: Page & Smith 1875



Figure 4: The study area overlaid on the 1909 NTS map, Hamilton

Base Map: NTS Sheet No. 030M05 (Department of Militia and Defense 1909)



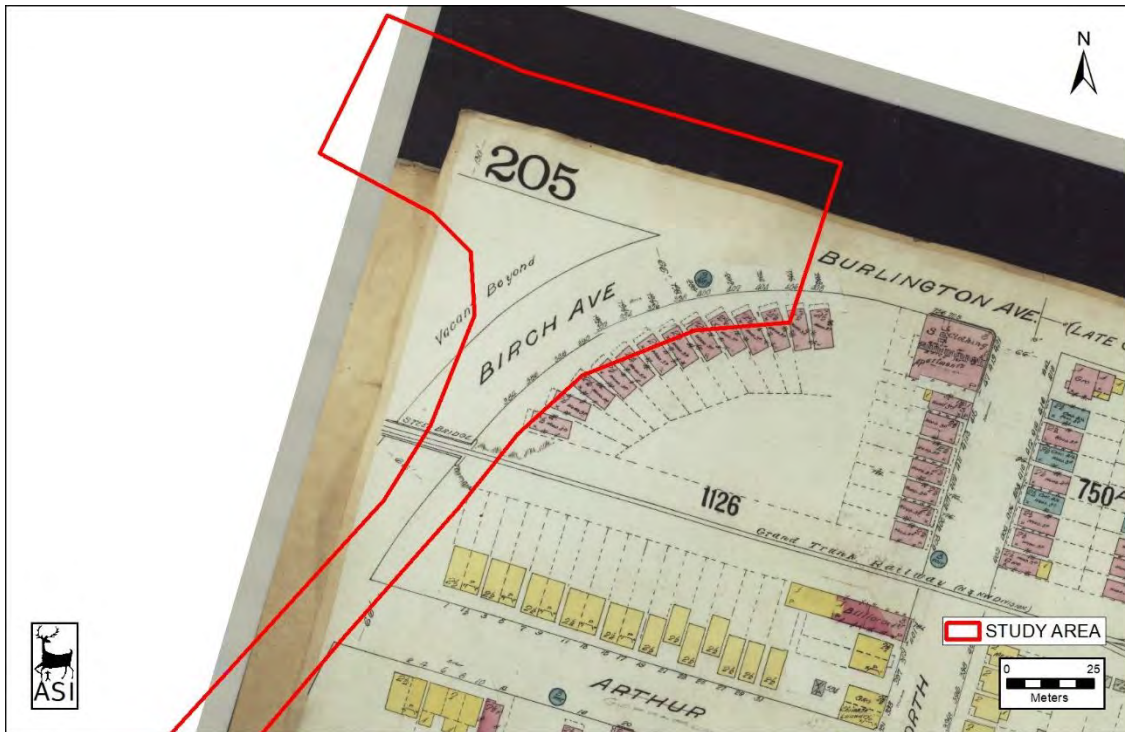


Figure 5: The study area overlaid on the 1911 Fire Insurance Plan, City of Hamilton (Sheet 1 of 5)  
Base Map: *Goald* 1911

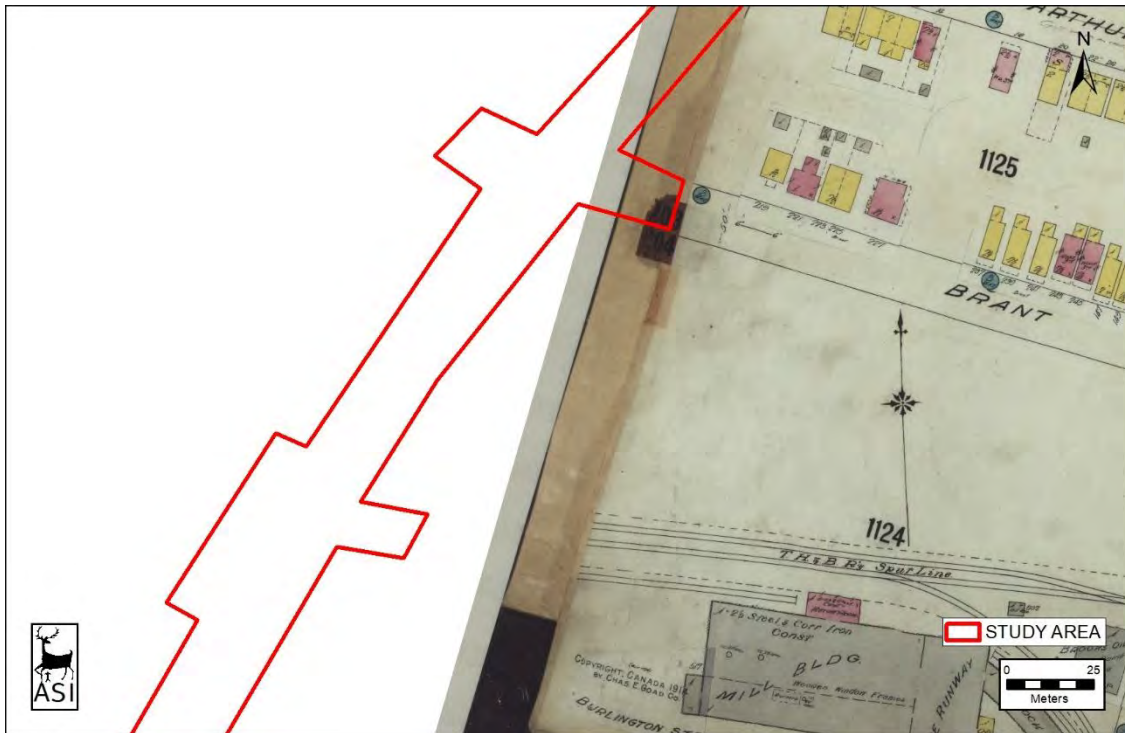


Figure 6: The study area overlaid on the 1911 Fire Insurance Plan, City of Hamilton (Sheet 2 of 5)  
Base Map: *Goald* 1911



Figure 7: The study area overlaid on the 1911 Fire Insurance Plan, City of Hamilton (Sheet 3 of 5)  
Base Map: *Goad 1911*

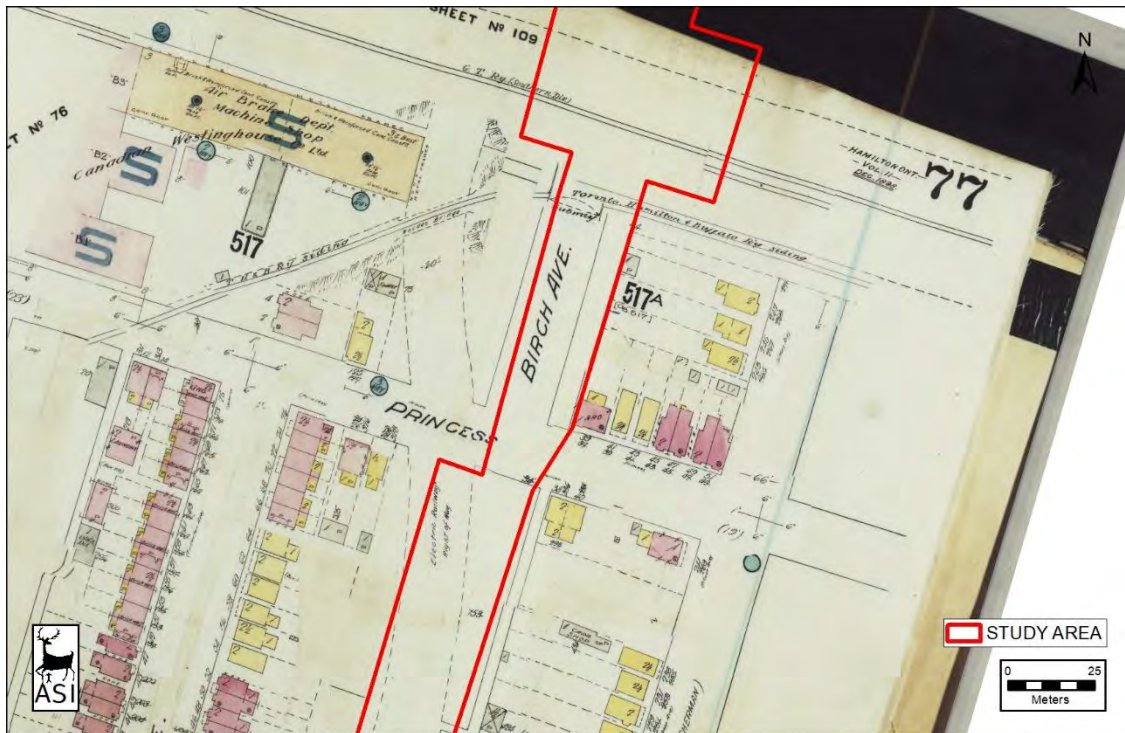


Figure 8: The study area overlaid on the 1911 Fire Insurance Plan, City of Hamilton (Sheet 4 of 5)  
Base Map: *Goad 1911*





Figure 9: The study area overlaid on the 1911 Fire Insurance Plan, City of Hamilton (Sheet 5 of 5)  
Base Map: *Goad* 1911



Figure 10: The study area overlaid on the 1919 NTS map, Hamilton  
Base Map: NTS Sheet No. 030M05 (Department of Militia and Defense 1919)



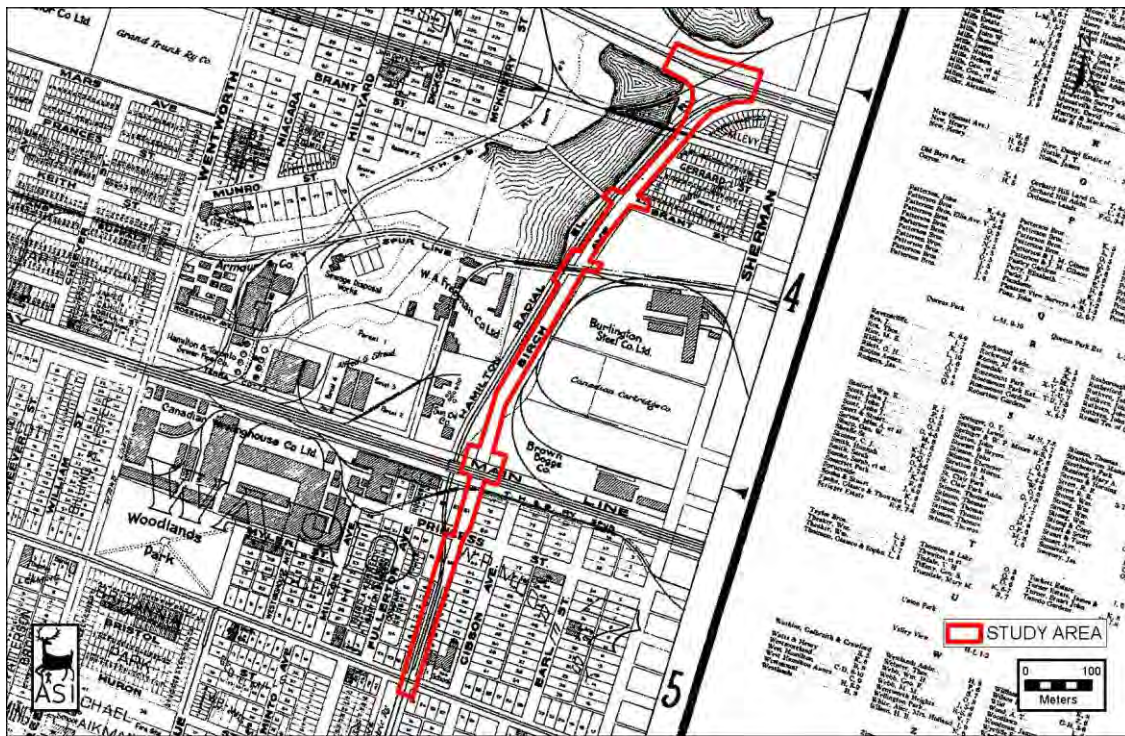


Figure 11: The study area overlaid on the 1924 J.W. Tyrell Atlas of Hamilton Map

Base Map: Tyrell 1924



Figure 12: The study area overlaid on the 1938 NTS map, Hamilton

Base Map: NTS Sheet No. 030M05 (Department of National Defense 1938)





Figure 13: The study area overlaid on the 1954 Aerial Photograph, City of Hamilton  
Base Map: Hunting Survey Corporation Ltd. 1954



Figure 14: The study area overlaid on the 1996 NTS Map, Hamilton  
Base Map: NTS Sheet No. 030M05 (Department of National Defense 1996)



## 4.2 Existing Conditions

### 4.2.1 Review of Existing Heritage Inventories

In order to make an identification of existing cultural heritage resources within the study area, several resources were consulted. These include:

- City of Hamilton Heritage Property Mapping<sup>2</sup>;
- Hamilton's Heritage Volume 6: Inventory of Cemeteries and Burial Grounds<sup>3</sup>;
- Inventory of Significant Places of Worship in the City of Hamilton 1801-2001<sup>4</sup>;
- The inventory of Ontario Heritage Trust easements<sup>5</sup>;
- The Ontario Heritage Trust's *Ontario Heritage Plaque Guide*<sup>6</sup>;
- The Ontario Heritage Trust's Ontario Heritage Act Register<sup>7</sup>
- *Ontario's Historical Plaques* website<sup>8</sup>;
- Inventory of known cemeteries/burial sites in the Ontario Genealogical Society's online databases<sup>9</sup>;
- Parks Canada's *Canada's Historic Places* website<sup>10</sup>;
- Parks Canada's *Directory of Federal Heritage Designations*<sup>11</sup>;
- Canadian Heritage River System<sup>12</sup>; and,
- United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites<sup>13</sup>.

The City of Hamilton's Heritage Property Mapping depicts properties on the City of Hamilton Inventory and the Register. However, the City of Hamilton's *Register of Properties of Cultural Heritage Value or Interest* is an ongoing list of properties of potential cultural heritage value or interest and is a record of non-designated properties protected under Section 27 of the *Ontario Heritage Act*. Therefore, the Cultural Heritage Staff was contacted to verify that there are new potential heritage properties apart from the Heritage Property Mapping.

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<sup>2</sup> Reviewed 23 September 2019 (<https://www.hamilton.ca/city-planning/heritage-properties/heritage-resources>)

<sup>3</sup> Reviewed 23 September 2019 (<https://d3fpllf1m7bbt3.cloudfront.net/sites/default/files/media/browser/2014-12-16/hamiltons-heritage-volume-6.pdf>)

<sup>4</sup> Reviewed 23 September 2019 (<https://d3fpllf1m7bbt3.cloudfront.net/sites/default/files/media/browser/2019-05-27/significantheritageplacesofworship-volume7b.pdf>)

<sup>5</sup> Reviewed 23 September 2019 (<http://www.heritagetrust.on.ca/en/index.php/property-types/easement-properties>)

<sup>6</sup> Reviewed 23 September 2019 (<http://www.heritagetrust.on.ca/Resources-and-Learning/Online-Plaque-Guide.aspx>)

<sup>7</sup> Reviewed 15 October 2019 (<https://www.heritagetrust.on.ca/en/oha/basic-search>)

<sup>8</sup> Reviewed 23 September 2019 ([www.ontarioplaques.com](http://www.ontarioplaques.com))

<sup>9</sup> Reviewed 23 September 2019 (<http://vitacollections.ca/ogscollections/2818487/data?grd=3186>)

<sup>10</sup> Reviewed 23 September 2019 (<http://www.historicplaces.ca/en/pages/about-apropos.aspx>)

<sup>11</sup> Reviewed 23 September 2019 ([http://www.pc.gc.ca/apps/dfhd/search-recherche\\_eng.aspx](http://www.pc.gc.ca/apps/dfhd/search-recherche_eng.aspx))

<sup>12</sup> Reviewed 23 September 2019 (<http://chrs.ca/the-rivers/>)

<sup>13</sup> Reviewed 23 September 2019 (<http://whc.unesco.org/en/list/>)



Based on the review of available municipal, provincial and federal data, there are four previously identified built heritage resources (one Register and three Inventoried) within and/or adjacent to the Birch Avenue Road study area.

In addition, a background search reveals that the City of Hamilton conducted a Heritage Structure Assessment in 2002 which documents the three railway bridges (Bridges 330, 331, 332) that cross the Birch Avenue study area as having cultural heritage value or interest. Trevor Jenkins, IBI Group, provided ASI with a Cultural Heritage Evaluation Report (CHER) and Heritage Impact Assessment (HIA) for Bridge 331.

Bridge 331 is located at the intersection of the former Toronto, Hamilton, & Buffalo Railway Line and Birch Avenue, between Princess Street and Brant Street. Based on an evaluation of the bridge against *Ontario Regulation 9/06*, the CHER for Bridge 331 found that the through girder structure built between 1914 and 1920 had cultural heritage value or interest (Stantec 2017a). This prompted the City of Hamilton to complete a HIA since the City is planning to remove the bridge in the future (Stantec 2017b:i). Since the removal of the bridge is a direct impact the following mitigation measures were recommended (Stantec 2017b:7.1):

*1) The feasibility of retaining the Birch Avenue Bridge as a heritage monument for viewing purposes only should be explored. The through girder section of the Birch Avenue Bridge could be retained as a gateway feature at the north or south ends of Birch Avenue to mark the north or south boundary of the industrial area located on Birch Avenue between Princess Street and Brant Street. This mitigation approach would conserve the historical and contextual value of the bridge since it would remain visually and historically connected to the surrounding industrial area.*

*2) If the retention of the Birch Avenue Bridge as a heritage monument is not feasible, then full documentation and salvage should be carried out for this bridge. Documentation activities should consist of the full heritage recording of the bridge through photography, photogrammetry, or LiDAR scan. Salvage activities should consist of the identification and recovery re-useable bridge components by a reputable salvage company or charity. Materials that should be considered for salvage include the steel girders, steel rivets, timber trestles, steel beams, steel nails, and railway ties. The documentation and salvage work should be carried out under the direction of a Cultural Heritage Specialist in good professional standing with the Canadian Association of Heritage Professionals (CAHP).*

Bridge 332 is located at the former intersection of the former Great West Railway Main Line and Birch Avenue, between Princess Street and Brant Street. The City of Hamilton is considering replacing the bridge or raising the existing bridge. Based on an evaluation of the bridge against *Ontario Regulation 9/06* and the Hamilton Bridge Guideline, the CHER for Bridge 332 found that the I-beam girder structure built in 1913 did not have significant cultural heritage value or interest (Stantec 2017c). Therefore, a Heritage Impact Assessment was not recommended, and no further work is required (Stantec 2017c).

Bridge 330 is located at the former intersection of the former Grand Trunk Railway and Birch Avenue, between Brant Street and Burlington Street East. The City of Hamilton is considering replacing the bridge or raising the existing bridge. Based on an evaluation of the bridge against *Ontario Regulation 9/06*, the



CHER for Bridge 330 found that the I-beam girder structure built in 1923 did not have significant cultural heritage value or interest (Stantec 2017d). Therefore, a Heritage Impact Assessment report was not recommended, and no further work is required (Stantec 2017d).

Furthermore, in 2012 Archaeological Services Inc. conducted a Cultural Heritage Resource Assessment (CHRA) which included a portion of the Birch Avenue study area. The report identified potential cultural heritage resources for the proposed construction of a Maintenance and Service Facility and Spur Lines for the Hamilton Rapid Transit (RT) B-Line (ASI 2012). The Hamilton RT B-Line included a portion of the Birch Avenue study area. The 2012 CHRA report was a guiding reference for this CHRA. Therefore, in addition to the above mentioned resources, a total of four potential cultural heritage landscapes were documented in the 2012 CHRA within and/or adjacent to the current Birch Avenue study area.

#### **4.2.2 Public Consultation**

The following stakeholders were contacted to gather information on potential cultural heritage resources, active and inactive cemeteries, and areas of identified Indigenous interest within and/or adjacent to the study area:

- David Addington, Cultural Heritage Planner, City of Hamilton, was contacted to gather any information on potential cultural heritage resources or concerns within and/or adjacent to the study area (email communication 27 September and 07 October 2019). In response, Mr. Addington verified the cultural resources identified through the background search and provided input on all of the recommendations in this report (including the recommendation that a vibration study is warranted for properties within 15m of heavy construction).
- Megan Salvucci, Project Manager, City of Hamilton, was contacted to gather information on previously identified cultural heritage resources within the study area (03 October 2019). Ms. Salvucci provided the Cultural Heritage Evaluation Reports on Bridge 330 and Bridge 332.
- The Ministry of Tourism, Culture and Sport (email communication 18 and 26 September 2019)<sup>14</sup>. A response confirmed that there are no Provincial Heritage Properties or Provincial Heritage Properties of Provincial Significance within or adjacent to the study area.

#### **4.2.3 Birch Avenue Study Area– Field Review**

On September 18, 2019, a field review of the study area was undertaken by Tara Jenkins, Cultural Heritage Specialist, ASI, to document the existing conditions from the existing right-of-ways. The existing conditions of the study area are described below and captured in Plates 1 to 24 (Figures 15 and 16). The identified cultural heritage resources are summarized in Section 4.2.4 and are mapped in Section 9.0 of this report.

The study area is located along Birch Avenue, former Barton Township, now the City of Hamilton, between Barton Street East and Burlington Street East. In general, the land use is characteristic of the development that occurred in the area in the early twentieth century.

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<sup>14</sup> Contacted at registrar@ontario.ca



Throughout the study area, Birch Avenue extends in a roughly north-south orientation. Birch Avenue is currently a one-way street that carries three lanes of traffic in a southern direction. The study area passes under three separate railway tracks. The right-of-way includes a pedestrian sidewalk along the east side of the street and the former HRER right-of-way, now a hydro corridor, bordering the west side. There is no visible evidence of the HRER tracks within or adjacent to Birch Avenue in proximity of the study area. The former HRER land on the west side of Birch Avenue between Barton Street East and Princess Street has been converted to parkland (Birch Park). North of Princess Street the corridor adjacent to Birch Avenue on the west side is vacant containing scrubby vegetation.

The land uses in the vicinity of the study area include industrial, residential, and small scale commercial enterprises. At Barton Street East and Birch Avenue, the surrounding area is characterized by small-scale commercial buildings interspersed with residences, most of which have been converted for retail purposes. Barton Street East is a heavily travelled route with two lanes in each direction. North of Barton Street East to Princess Street, Birch Avenue is bordered by a former school, detached houses, and Birch Park. North of Princess Street to Brant Street, there are industries that developed in the twentieth century and expanded with the filling of Sherman's Inlet. Currently, the large manufacturer of speciality steel, Hamilton Speciality Bar Inc., on the east side of Birch Avenue, and bounded by Brant Street, Sherman Avenue North, and the southern CN railway tracks, is under demolition. Its tall industrial stack visible from Birch Avenue marks the remains of this formidable industry (Plate 10). Across from the demolition at the northwest corner of Princess Street and Birch Avenue is a small industrial building constructed of cinder block (Plate 8) built in the former HRER right-of-way. This building, likely a mid-twentieth century structure, is currently occupied by a paint shop.

North of Brant Street, Birch Avenue contains a few small industries. At the southeast corner of Burlington Street East and Birch Avenue the land is vacant, and a berm has been created. On the southwest corner there is no visible evidence of the row of brick houses shown on the 1911 FIP (Figure 5; Plate 20). The southwest corner of Burlington Street East and Birch Avenue under construction at the time of field review (September 2019).







Plate 1: Intersection of Birch Avenue and Barton Street East, looking west towards 595 Barton Street East.



Plate 2: View of the former Gibson School, looking northeast.



Plate 3: Birch Avenue at the southern portion of the study area, looking north.



Plate 4: Row of houses, looking northeast.





Plate 5: Birch Park, looking north.



Plate 6: Birch Park, looking south.



Plate 7: Birch Avenue, looking south from Princess Street.



Plate 8: Birch Avenue, looking north from Princess Street.





Plate 9: G.W.R. Main Line (Bridge 332), looking south.



Plate 10: Birch Avenue, looking north, just north of the G.W.R. Main Line (Bridge 332).



Plate 11: Hydro corridor on the west side of Birch Avenue, looking north.



Plate 12: Hydro corridor on the west side of Birch Avenue, looking south.





Plate 13: View of the centre bridge (Bridge 331) crossing Birch Avenue, looking north.



Plate 14: Birch Avenue at Brant Street, looking south.



Plate 15: View of hydro corridor from Birch Avenue and Brant Street, looking southwest.



Plate 16: Birch Avenue, just south of the northern railway crossing (Bridge 330), looking south.





Plate 17: View of manicured lawn on the east side of Birch Avenue, looking south.



Plate 18: Northern railway crossing in the study area (Bridge 330), looking north.



Plate 19: Birch Avenue between Bridge 330 and Burlington Street East, looking north.



Plate 20: Location of former row of brick houses, looking southeast.





Plate 21: Bridge 330, looking south at Birch Avenue from Burlington Street East.



Plate 22: Birch Avenue, looking south, just south of the G.W.R. Main Line (Bridge 332).



Plate 23: 156 Birch Avenue and in the distance the former school, looking south.



Plate 24: View of 594 Barton Street East from the northeast corner of Birch Avenue and Barton Street East.

#### 4.2.4 Birch Avenue Study Area– Identified Cultural Heritage Resources

Based on the results of the background research and field review, 11 cultural heritage resources (CHRs) were identified within and/or adjacent to the Birch Avenue study area. The cultural heritage resources include: three railway bridges, two streetscapes, two transportation corridors, one former school, two commercial buildings, and one industrial complex (Table 3). A detailed inventory of these cultural heritage resources within the study area is presented in Section 8.0 and mapping of the features along with photographic plate locations is provided in Section 9.0 of this report.

**Table 3: Summary of built heritage resources (BHR) and cultural heritage landscapes (CHL) within and/or adjacent to the study area**

Feature ID	Location/Address	Resource Type- Name	Heritage Recognition
BHR 1	594 Barton Street East	Commercial	City of Hamilton Inventory
BHR 2	601 Barton Street East	Institutional- Former Gibson School	City of Hamilton Register Designated Part IV OHA (By-law 16-334)
BHR 3	Birch Avenue between Princess Street and Brant Street	Bridge- Bridge 332, G.W.R Main Line (associated with CHL 4)	Previously Identified/Heritage Bridge Inventory (ASI 2018; City of Hamilton 2002; Stantec 2017c)
BHR 4	Birch Avenue between Princess Street and Brant Street	Bridge- Bridge 331, Birch Avenue Bridge, T.H. & B. Railway Spur	Previously Identified/Heritage Bridge Inventory (City of Hamilton 2002; Stantec 2017a; Stantec 2017b)
BHR 5	Birch Avenue between Brant Street and Burlington Street East	Bridge- Bridge 330	Previously Identified/Heritage Bridge Inventory (ASI 2018; City of Hamilton 2002; Stantec 2017d)
BHR 6	651 Burlington Street East	Industrial- Deering Harvester Building	City of Hamilton Inventory
BHR 7	241 Gibson Avenue	Former Commercial- Diamond Building	City of Hamilton Inventory
CHL 1	597-583 Barton Street East	Streetscape	Previously Identified (*includes Inventoried properties 589, 587, 585, and 583 Barton Street East) (ASI 2012)
CHL 2	Corridor west side Birch Avenue, north and south of Barton Street East	Transportation Corridor- Former Hamilton Radial Electric Railway (HRER)	Previously Identified (ASI 2012)
CHL 3	156-188 Birch Avenue	Streetscape	Previously Identified (ASI 2012)
CHL 4	Between Princess Street and Brant Street	Transportation Corridor- G.W.R Main Line (associated with BHR 3)	Previously Identified (ASI 2012)

### 4.3 Screening for Potential Impacts

To assess the potential impacts of the undertaking, identified cultural heritage resources are considered against a range of possible impacts based on the *Ontario Heritage Toolkit, Heritage Resources in the Land Use Planning Process, InfoSheet #5 Heritage Impact Assessments and Conservation Plans* (MCL 2006:3) which include, but are not limited to:

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

Several additional factors are also considered when evaluating potential impacts on identified cultural heritage resources. These are outlined in a document set out by the Ministry of Culture and Communications (now Ministry of Heritage, Sport, Tourism, and Culture Industries) and the Ministry of the Environment entitled *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (October 1992) and include:

- Magnitude: the amount of physical alteration or destruction which can be expected;
- Severity: the irreversibility or reversibility of an impact;
- Duration: the length of time an adverse impact persists;
- Frequency: the number of times an impact can be expected;
- Range: the spatial distribution, widespread or site specific, of an adverse impact; and
- Diversity: the number of different kinds of activities to affect a heritage resource.

For the purposes of evaluating potential impacts of development and site alteration, the *Provincial Policy Statement* (2014) defines adjacent lands as “those lands contiguous to a *protected heritage property* or otherwise defined in the municipal official plan.” The City of Hamilton defines “Adjacent” in their Urban Hamilton Official Plan as “in regard to cultural heritage and archaeology, those lands contiguous to, or located within 50 metres of, a protected heritage property.”

### 4.4 Potential Impacts of Proposed Work on Cultural Heritage Resources

This section provides an assessment of the potential adverse effects to the identified cultural heritage resources as a result of the proposed improvements for Birch Avenue between Barton Street East and Burlington Street East. This study is being undertaken in accordance with the planning and design



process for a Municipal Class Environmental Assessment. The City of Hamilton commenced this Municipal Class EA to identify preferred solutions for existing and future storm water management challenges and to address road clearance issues under City of Hamilton bridges 330, 331, and 332.

This impact assessment is based on the preliminary preferred plan for the design provided by Trevor Jenkins, IBI Group, on 20 November, 2019 (see Appendix B). Table 4 outlines the potential impacts on the identified cultural heritage resources based on this preliminary preferred plan of design. Where direct impacts to cultural heritage resources are anticipated, 'Y' (for Yes) is listed in the column for direct impacts. Where they may be indirect impacts, 'P' (for Potential) or 'Y' is listed in the column for indirect impacts. Where no impacts to cultural heritage resources are anticipated, 'N' (for No) is listed in the columns for both direct and indirect impacts.

**Table 4: Impacts to Identified Cultural Heritage Resources and Recommended Mitigation Strategies**

Feature ID	Location/Name	Direct Impacts	Indirect Impacts	Discussion
BHR 1	594 Barton Street East	N	N	No further work required.  The heritage resource is approximately 27m from proposed construction work within the study area. There are no negative impacts anticipated.
BHR 2	601 Barton Street East/Former Gibson School	N	P	No direct impacts are anticipated as the study area should be confined to the existing ROW adjacent to the identified cultural heritage resource.  There is no plan to displace, disrupt or alter this designated heritage property. The Birch Avenue improvements are proposed to stay within the existing ROW. Therefore, a Heritage Impact Assessment report is not recommended.  However, since the building sits close to the Birch Avenue study area limit, construction should be planned at a distance as far from the cultural heritage resource as possible. If heavy construction is to occur in close proximity to this building (within 15m), the impacts of the vibrations should be investigated through an engineering assessment and any necessary mitigation measures should be implemented prior to construction.



Feature ID	Location/Name	Direct Impacts	Indirect Impacts	Discussion
BHR 3	Bridge 332	Y	Y	<p>No further work required.</p> <p>This bridge has low roadway clearance. Two options are being proposed:</p> <ol style="list-style-type: none"> <li>1. Replace the bridge.</li> <li>2. Lower the road to increase vertical clearance.</li> </ol> <p>This work will cause direct and indirect impacts to the bridge.</p> <p>In 2002, the bridge has been assessed as having moderate heritage value (Class C) in the Heritage Structure Report. However, a CHER conducted in 2017 (Stantec 2017c), did not find the bridge to have significant cultural heritage value or interest when assessed using Ontario Regulation 9/06 and the Hamilton Bridge Guideline. Therefore, a Heritage Impact Assessment is not warranted.</p>
BHR 4	Bridge 331	Y	Y	<p>A portion of the tracks leading to this bridge have been removed. The bridge is no longer in use. The preferred plan is to remove the bridge.</p> <p>The removal of the bridge would be a direct impact. Given the bridge has been found to have cultural heritage value or interest (CHVI) in a CHER and has a HIA completed for its proposed removal by the City of Hamilton (Stantec 2017b), the following mitigation measures are recommended:</p> <ol style="list-style-type: none"> <li>1. Retain bridge for viewing purposes as a heritage monument.</li> <li>2. If retention of the bridge is not feasible, complete a Cultural Heritage Documentation Report. Salvage materials where feasible.</li> </ol>
BHR 5	Bridge 330	Y	Y	<p>No further work required.</p> <p>This bridge has a low roadway clearance. Two options are being proposed:</p> <ol style="list-style-type: none"> <li>1. Raise the bridge.</li> <li>2. Lower the road to increase vertical clearance.</li> </ol> <p>This work would cause direct and indirect impacts.</p> <p>In 2002, the bridge was assessed as having moderate heritage value (Class B) in the Heritage Structure Report. However, a CHER conducted in 2017 (Stantec 2017d) did not find the bridge to have significant cultural heritage value or interest when assessed using Ontario Regulation 9/06 and the Hamilton Bridge Guideline. Therefore, a Heritage Impact Assessment is not warranted.</p>





Feature ID	Location/Name	Direct Impacts	Indirect Impacts	Discussion
BHR 6	651 Burlington Street East/Deering Harvester Building	N	P	<p>No direct impacts are anticipated as the study area should be confined to the existing ROW adjacent to the identified cultural heritage resource.</p> <p>However, since a building within the property sits close to Burlington Street East, construction should be planned at a distance as far from the cultural heritage resource as possible. If heavy construction is to occur in close proximity to the building on the property (within 15m), the impacts of the vibrations should be investigated through an engineering assessment and any necessary mitigation measures should be implemented prior to construction.</p>
BHR 7	241 Gibson Avenue	N	N	<p>No further work required.</p> <p>The heritage resource is approximately 26m east of the study area. There are no negative impacts anticipated.</p>
CHL 1	597-583 Barton Street East	N	P	<p>No direct impacts are anticipated as the study area should be confined to the existing ROW adjacent to the identified cultural heritage resource.</p> <p>However, since 597/595 Barton Street East sits close to the Birch Avenue study area limit, construction should be planned at a distance as far from the cultural heritage resource as possible. If heavy construction is to occur in close proximity to this building on the property (within 15m), the impacts of the vibrations should be investigated through an engineering assessment and any necessary mitigation measures should be implemented prior to construction.</p>
CHL 2	Former HRER Corridor	Y	Y	<p>No further work is required.</p> <p>The proposed study area extends into portions of the former Hamilton Radial Electric Railway (HRER) corridor in the right-of-way parallel to Birch Avenue on the west side. The HRER tracks were removed likely in the 1940s. Use of this former HRER corridor for transportation purposes can be considered adaptive (sympathetic) reuse. However, the City of Hamilton should consider commemorating the HRER with a historical/architectural marker in a public space along Birch Avenue.</p>



Feature ID	Location/Name	Direct Impacts	Indirect Impacts	Discussion
CHL 3	156-188 Birch Avenue	N	P	<p>No direct impacts are anticipated as the study area should be confined to the existing ROW adjacent to the identified cultural heritage resource.</p> <p>However, since 156-188 Birch Avenue sit close to the Birch Avenue study area limit, construction should be planned at a distance as far from the cultural heritage resource as possible. If heavy construction is to occur in close proximity to this building on the property (within 15m), the impacts of the vibrations should be investigated through an engineering assessment and any necessary mitigation measures should be implemented prior to construction.</p>
CHL 4	G.W.R. Main Line	P	P	<p>No further work is required.</p> <p>Although rail repairs/improvements may be necessary, the proposed plan is to conserve the railway corridor as active.</p>

## 5.0 CONCLUSIONS

The results of background historical research and a review of secondary source material, including historical mapping, revealed a study area with an industrial and residential land use history dating predominately to the early twentieth century. A review of federal registers and municipal and provincial inventories revealed there are 11 previously identified cultural heritage resources within and/or adjacent to the Birch Avenue study area. There were no additional resources identified during the field review.

### *Key Findings*

- A field review of the study area confirmed there are 11 cultural heritage resources consisting of: three bridges (BHR 3, 4, and 5), two commercial buildings (BHR 1 and 7), one former school (BHR 2), one industrial building complex (BHR 6), two streetscapes (CHL 1 and 3), and two transportation corridors (CHL 2 and 4) within or immediately adjacent to the study area;
- Three of the 11 cultural heritage resources are identified by the City of Hamilton as Inventoried (BHR 1, 6, and 7), one was identified by the City of Hamilton on the Register (BHR 2), three bridges were previously identified by the City of Hamilton Heritage Bridge Inventory, and the remainder were previously identified by ASI in 2012 during a field review; and,
- The identified cultural heritage resources are historically and contextually associated with the early twentieth century land use patterns in the City of Hamilton.





## 6.0 RECOMMENDATIONS

The background research, data collection, and field review conducted for the study area determined that 11 cultural heritage resources are located within or adjacent to the Birch Avenue Environmental Assessment study area. Based on the results of the assessment, the following recommendations have been developed:

1. Construction activities and staging should be suitably planned and undertaken to avoid negative impacts to identified cultural heritage resources (i.e. remain within existing right-of-way).
2. Should construction activities occur in close proximity (within 15m) of BHR 2, BHR 6, CHL 1 and CHL 3, the impacts of vibrations may need to be determined through an engineering assessment to ensure that there are no negative impacts to these resources. Any resulting mitigation measures should be implemented prior to construction as needed.
3. BHR 4 (Bridge 331) is expected to be impacted through removal. The removal of the bridge has a direct impact. Given the bridge has been found to have cultural heritage value or interest (CHVI) in a Cultural Heritage Evaluation Report (CHER) (Stantec 2017a) and a Heritage Impact Assessment (HIA) has been completed for its proposed removal by the City of Hamilton, the following mitigation measures are recommended (Stantec 2017b):
  1. Retain the bridge for viewing purposes as a heritage monument.
  2. If retention of the bridge is not feasible, complete a Cultural Heritage Documentation Report. Salvage materials where feasible.
  3. If retention of the bridge is not feasible, the City of Hamilton should consider commemorating the bridge with a historical/architectural marker in a public space along Birch Avenue.
4. BHR 3 (Bridge 332) and BHR 5 (Bridge 330) are expected to be impacted through replacement or alteration (i.e. lifting the bridge). Although both resources were previously identified as potential heritage structures on the City of Hamilton Heritage Bridge Inventory in 2002, both bridges were evaluated in a CHER under *Ontario Reg. 9/06* and the Hamilton Bridge Guideline in 2017 (Stantec 2017c; Stantec 2017d) and were not found to have significant cultural heritage value or interest. Therefore, no further work is required for BHR 3 (Bridge 332) and BHR 5 (Bridge 330).
5. If CHL 2, the former Hamilton Radial Electric Rail (HRER) is directly impacted by the Birch Avenue improvements, the City of Hamilton should consider commemorating the HRER with a historical/architectural marker in a public space along Birch Avenue.



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**8.0 CULTURAL HERITAGE RESOURCE INVENTORY**

**Table 5: Inventory of cultural heritage resources (CHR) in the study area**


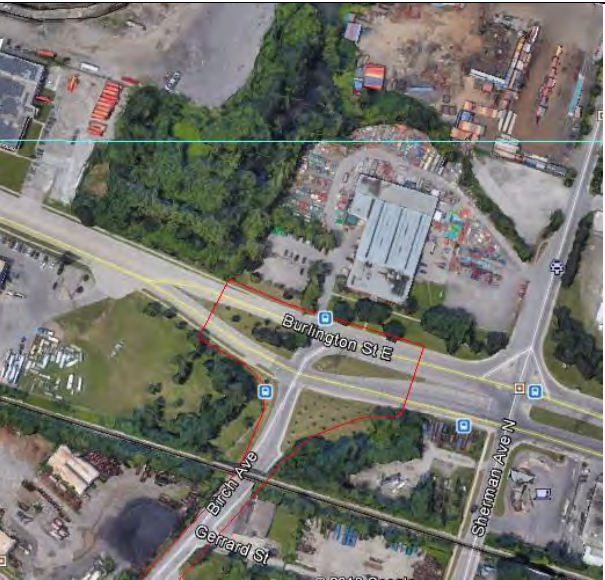
Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
BHR 1	594 Barton Street East	Commercial	City of Hamilton Inventory	<p><b>Historical:</b></p> <ul style="list-style-type: none"> <li>-The structure is not present on the 1875 Historical Atlas map.</li> <li>-A structure was extant on the property by 1911 (present on the 1911 FIP) as a two storey brick building with a one storey rear addition, however the top plan is different than the footprint of the current structure. (<a href="http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A34255/-/collection">http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A34255/-/collection</a>)</li> <li>-There is a date stone above the Birch Avenue entrance that reads 1920.</li> <li>-Current building formally used as apartments, undertaker, and automobile parking.</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>-BHR 1 is a two-storey brown brick building with decorative stone (or artificial stone) elements. Decorative elements include diamond-shaped display with cement bordered in brick; stone trim, door surrounds, entablature, around Barton Street entrance; stone arch, sunburst transom, double glass doors, date stone above Birch Avenue entrance (ASI 2012).</li> <li>-The Barton Street door has been altered into a window.</li> <li>-Retains elements of the Edwardian Classical architectural style.</li> </ul> <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>-Located at the southeast corner of Birch Avenue and Barton Street East. The building responds architecturally to the corner and extends south onto Birch Avenue where the major part of the building is located.</li> <li>-Reflects early twentieth century commercial development along Barton Street East in the City of Hamilton.</li> </ul>	 <p>View of 594 Barton Street East, looking south at the Barton Street East former entrance (ASI 2019)</p>

Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
BHR 2	601 Barton Street East	Institutional- former Gibson School	City of Hamilton Register, Designated Part IV (By-Law 16-334)	<p><b>Historical:</b></p> <ul style="list-style-type: none"> <li>-The site was a school as early as 1854 on Lot 9, Concession I, serving the rural community of Barton Township.</li> <li>-Became Barton Street School in 1892 when the land was annexed by the City of Hamilton and the Hamilton Board of Education acquired S.S. No. 7.</li> <li>-In 1913 it became known as the Gibson School. At that time a 12 room addition was added.</li> <li>-According to the Hamilton Board of Education Archives, the school was rebuilt in 1914.</li> <li>-The 1911 FIP (Figure 9) depicts the school footprint as a L-shape plan.</li> <li>-The school closed in 2009. The building is currently being converted into a loft-style apartment building.</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>-The building represents Edwardian style architecture.</li> <li>-An L-shaped brick building with a 1963 brick addition to the south (front) elevation.</li> <li>-Most likely designed by Stewart and Witton, Hamilton architects who designed many public buildings (MHBC 2015; By-law 16-334).</li> <li>-Heritage attributes include: brick construction, L-shaped plan, projections on all elevations of the 1914 structure, rectangular window opening, stone lintels and sills, continuous stone band above the second storey windows, stone cornice, tapered stone lintels and band above basement windows, east and west side entrance features, flat roof, parapet at roofline with stone caps, rectangular brick courses with stone corners, brick pilasters and stone bands surrounding a stylized rectangular stone decoration in both ends of the south elevation on the second storey, and interior iron staircase (MHBC 2015; By-law 16-334).</li> </ul> <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>-Located on the east side of Birch Avenue, with the main entrance facing Barton Street East.</li> </ul>	 <p data-bbox="1858 977 2473 1003">View of 601 Barton Street East, looking northeast (ASI 2019)</p>







Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
BHR 3	Birch Avenue between Princess Street and Brant Street	Bridge- Bridge 332, G.W.R. Main Line/G.T. Main Line	Heritage Bridge Inventory (City of Hamilton 2002) (associated with CHL 4)	<p><b>Historical:</b></p> <ul style="list-style-type: none"> <li>-The Great Western Railway line commenced operation in 1856 (Stantec 2017b). Historical mapping verifies its Main Line was built in the area in 1859 (Figure 2).</li> <li>-Drawings for the bridge show that it was designed by the Grand Trunk Railway in 1912 and built in 1913 (Stantec 2017c).</li> <li>-Also served as tracks for the Grand Trunk and Canadian National Railway lines. Currently operated by C.N.R.</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>-Is a two-span steel railway bridge with steel I-beam stringers and plate girders (Stantec 2017c). It is one of 63 similar structures in the City of Hamilton (Stantec 2017c).</li> <li>-A steel pier divides Birch Avenue.</li> <li>-The underside of the deck shows the remains of timber.</li> </ul> <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>-Bridge crosses Birch Avenue, just north of Princess Street.</li> <li>-Sits at a transition point between an industrial context and a residential context, in the City of Hamilton.</li> </ul>	 <p>1. View of Bridge 332, looking north (ASI 2019)      2. Underside of deck (ASI 2019)</p>
BHR 4	Birch Avenue between Princess Street and Brant Street	Bridge- Bridge 331- Birch Avenue Bridge- T.H. & B. Spur Line	Heritage Bridge Inventory (City of Hamilton 2002)	<p><b>Historical:</b></p> <ul style="list-style-type: none"> <li>-Construction date of the bridge is 1914 (Stantec 2017b).</li> <li>- Available mapping shows tracks by 1909 (Figure 4).</li> <li>-Operated by the Toronto, Hamilton &amp; Buffalo Railway- referred to as the T.H.&amp;B. Spur Line.</li> <li>-Tracks have been dismantled and the bridge is no longer in use.</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>-A one-span bridge through girder structure fastened together by steel angles and rivets (Stantec 2017b).</li> <li>-The floor of the bridge is comprised of evenly spaced steel plates.</li> <li>-Abutments have been parged so the original material is unknown.</li> <li>-To the west is a four span trestle support. Trestles are depicted on the 1919 FIP crossing through a low and wet area associated with Sherman's Inlet (Figure 10).</li> <li>-The bridge currently carries a single set of railway tracks.</li> </ul> <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>-The bridge crosses Birch Avenue between Princess Street and Brant Street.</li> <li>-Set in an industrial context of the City of Hamilton.</li> </ul>	 <p>1. View of Bridge 331, looking north (ASI 2019)      2. Underside of deck (ASI 2019)</p>





Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
BHR 5	Birch Avenue between Brant Street and Burlington Street East	Bridge- Bridge 330	Heritage Bridge Inventory (City of Hamilton 2002)	<p><b>Historical:</b></p> <ul style="list-style-type: none"> <li>-There are tracks illustrated in the vicinity on available mapping by 1909 (Figure 4).</li> <li>-Previously operated by Grand Trunk Railway, now Canadian National Railway.</li> <li>-Labelled as a Steel Bridge on the 1911 FIP (Figure 5)</li> <li>-Date imprinted on east deck face is 1923 (City of Hamilton 2002) so the current bridge likely replaced the 1911 bridge.</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>-Designed by the Canadian Bridge Company based in Walkerville, Ontario (Stantec 2017d).</li> <li>-A three span steel I-beam and girder bridge (Stantec 2017d).</li> <li>-Steel and concrete piers support the structure.</li> </ul> <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>-Bridge crosses Birch Avenue between Brant Street and Burlington Street East.</li> <li>-Formally set in a residential section, now an industrial context in the City of Hamilton.</li> </ul>	 <p>1. View of Bridge 330 (looking north) (ASI 2019) 2. Underside of deck (ASI 2019)</p>
BHR 6	651 Burlington Street East	Industrial-Deering Harvester Building	City of Hamilton Inventory	<p><b>Historical:</b></p> <ul style="list-style-type: none"> <li>-The structure adjacent to Burlington Street East associated with BHR 6 was constructed after 1938 and was present in 1954 as shown on the aerial photograph- after Sherman's Inlet was infilled in that area north of Burlington Street East (Figure 13).</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>-Structure not clearly visible from the public right-of-way.</li> <li>-The 1996 NTS map shows the building as having an irregular footprint (Figure 14).</li> </ul> <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>-Located on the north side of Burlington Street East. The 1996 FIP labels the property as "Plant" (Figure 14).</li> <li>-Located in an industrial setting in the City of Hamilton.</li> </ul>	 <p>Aerial view of BHR 6 (courtesy of Google Earth, 2019)</p>



Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
BHR 7	241 Gibson Avenue	Commercial/ Residential- Diamond Building	Inventoried by the City of Hamilton	<p><b>Historical:</b> -Date stone that reads "Diamond Bldg 1922".</p> <p><b>Design:</b> -A tall three-storey commercial style building. The second and third windows are slightly arched with brick voussoirs and stone sills. Original windows have been replaced. The building includes some classical styles including a flat roof, wide eaves with a decorative cornice brackets, and brick parapet which may be characteristics of High Victorian style commercial type buildings.</p> <p><b>Context:</b> -Located on the southwest corner of Princess Street and Gibson Avenue. -Located in a mixed residential/industrial setting in the City of Hamilton.</p>	 <p data-bbox="1852 768 2725 798">View of 241 Gibson Avenue from Princess Street, looking south (Google Maps, 2015)</p>
CHL 1	597-583 Barton Street East	Streetscape	Previously Identified as a CHL (ASI 2012) (Includes Inventoried properties: 589, 587, 585, and 583 Barton Street East)	<p><b>Historical:</b> -A streetscape identified by ASI in 2012 that includes small-scale retail and commercial enterprises along the north side of Barton Street East between Sanford Street and Birch Avenue.</p> <p><b>Design:</b> -The buildings show a variety of architectural styles. Most buildings have flat roofs, cornices and a variety of window styles.</p> <p><b>Context:</b> -Represents early twentieth century commercial structures in the City of Hamilton.</p>	 <p data-bbox="1852 1483 2769 1514">View of 597 Barton Street E. and streetscape from Birch Avenue, looking west (ASI 2019)</p>

Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
CHL 2	Corridor west side Birch Avenue, north and south of Barton Street East	Transportation Corridor- former HRER	Previously Identified (ASI 2012)	<p><b>Historical:</b>                      -The Hamilton Radial Electric Railway (HRER) was first announced in 1892. The route was surveyed in 1896 and opened that same year. Initially along Sherman Avenue, but following a disaster, new tracks were laid later in 1898 that utilized Birch Avenue instead of Sherman Avenue. It was proposed the Grand Trunk Railway (GTR) would construct bridges so the HRER could be underneath the tracks to avoid collusion. The GTR began construction of the new bridges that the HRER would pass under on April 4, 1898. Grading work on Birch Avenue began and was completed by June 24, 1898. In 1904, the Hamilton Street Railway (HSR) built a track parallel to the HRER's route along Birch Avenue and Burlington Street, in effect double-tracking the route and allowing the HRER to increase its service and allowing the HSR to reach the Hamilton waterfront industries. In 1924, the radial tracks on Birch Avenue were removed and a new private right-of-way was built along the west side of Birch Avenue. The last days of the HRER began in 1925. The HRER completely stopped running in 1929 and tracks were removed over the next years, with the last tracks removed in 1946 (TrainWeb.org 2019). Therefore, CHL 1 was the site of the HRER until the 1940s when the tracks were removed (ASI 2012).                      - Currently the right-of-way serves as a hydro corridor.</p> <p><b>Design:</b>                      -Rail tracks have been removed.                      -South of Princess Street the landscape has been modified for Birch Park.                      -North of Princess Street- some development within the corridor and some of the corridor is vacant scrub land.</p> <p><b>Context:</b>                      -Located along the west side of Birch Avenue which reflects the early twentieth century industrial development in the City of Hamilton.</p>	 <p>View of the former HRER corridor, south of Princess Street (ASI 2019)</p>  <p>Looking northward along the eastern shore of Sherman's Inlet from underneath the Grand Trunk Railway bridge, ca. 1900. On the right is the HRER line. Today this is the railway bridge (Bridge 330) over Birch Avenue, just south of Burlington Street East (TrainWeb 2017)</p>



Feature ID	Location/Address	Resource Type-Name	Heritage Recognition	Description	Photos
CHL 3	156-188 Birch Avenue	Streetscape	Previously Identified (ASI 2012)	<p><b>Historical:</b>                      -The 2 1/2 storey and the two storey residences just north of the school property are present on the 1911 FIP (Figure 9). A greenhouse was located just beyond these frame houses. By 1924, it appears the land was surveyed (W.P. Moore survey) into small residential lots (Figure 11). The 1954 aerial photograph indicates the greenhouse was removed and the one storey bungalows were built likely post-1950s (Figure 13).</p> <p><b>Design:</b>                      -The streetscape includes early twentieth century frame houses and post-1950s one storey bungalows.</p> <p><b>Context:</b>                      -Located north of Barton Street East, south of Princess Street in the City of Hamilton.                      - The row of houses sits close to the east side of Birch Avenue, north of the former school site (BHR 2), south of Princess Street.</p>	 <p>View of streetscape, east side of Birch Avenue      2 ½ storey frame house, north of former school</p>
CHL 4	Between Princess Street and Brant Street	Transportation Corridor- G.W.R. Main Line	Previously Identified (ASI 2012) (associated with BHR 3)	<p><b>Historical:</b>                      -Former Great Western Railway opened in 1856 (Stantec 2017a). First operated by the Grand Trunk, and later the Canadian National Railway.</p> <p><b>Design:</b>                      -An active railway corridor.</p> <p><b>Context:</b>                      -Tracks represent a dividing line between industrial Hamilton to the north of the tracks and residential/commercial Hamilton to the south.</p>	 <p>Aerial view of CHL 4 (courtesy of Google Earth, 2019)</p>



### 9.0 CULTURAL HERITAGE RESOURCE MAPPING

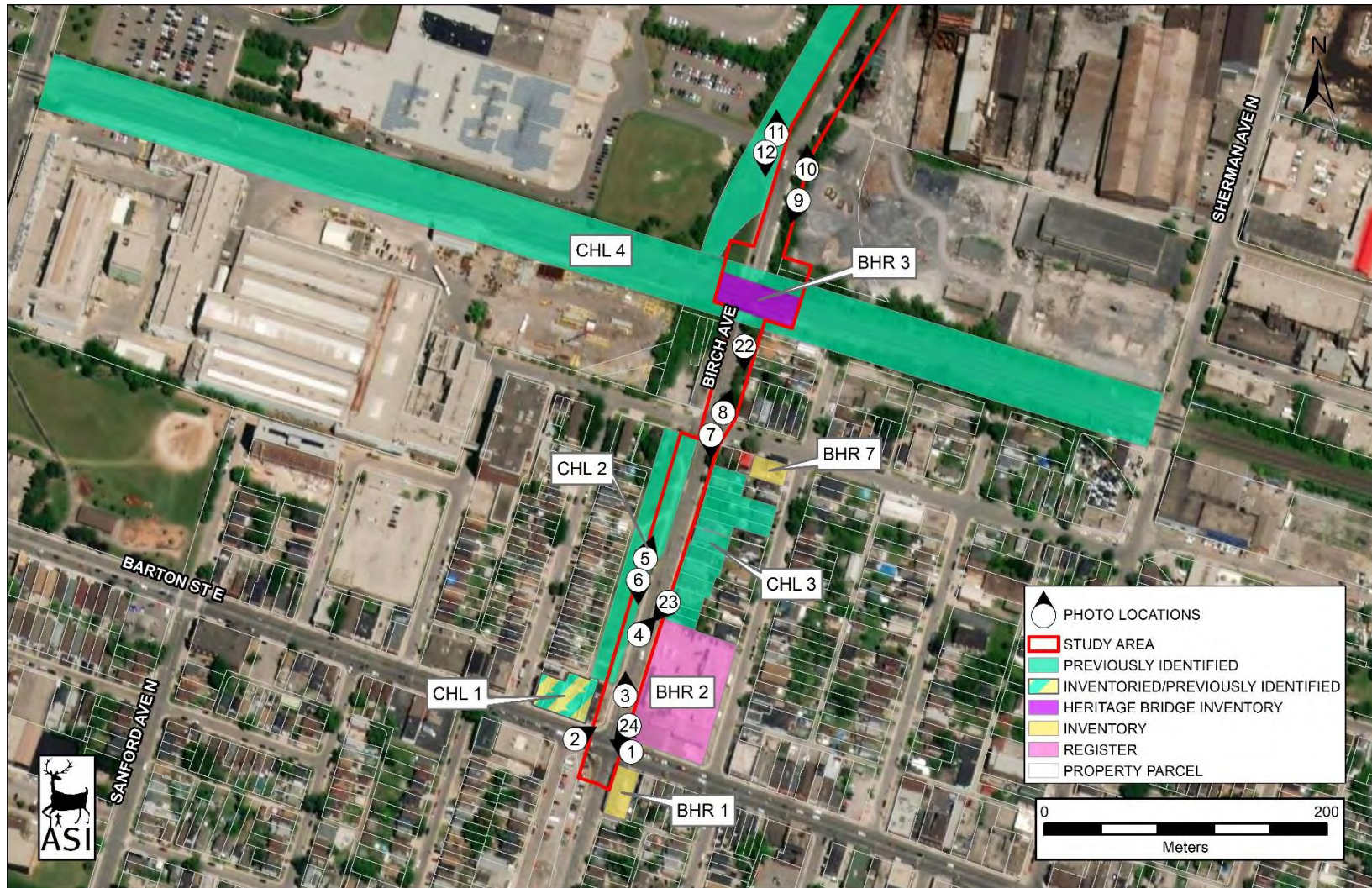


Figure 15: Location of Cultural Heritage Resources and photo plate locations in the Birch Avenue study area (Sheet 1 of 2)



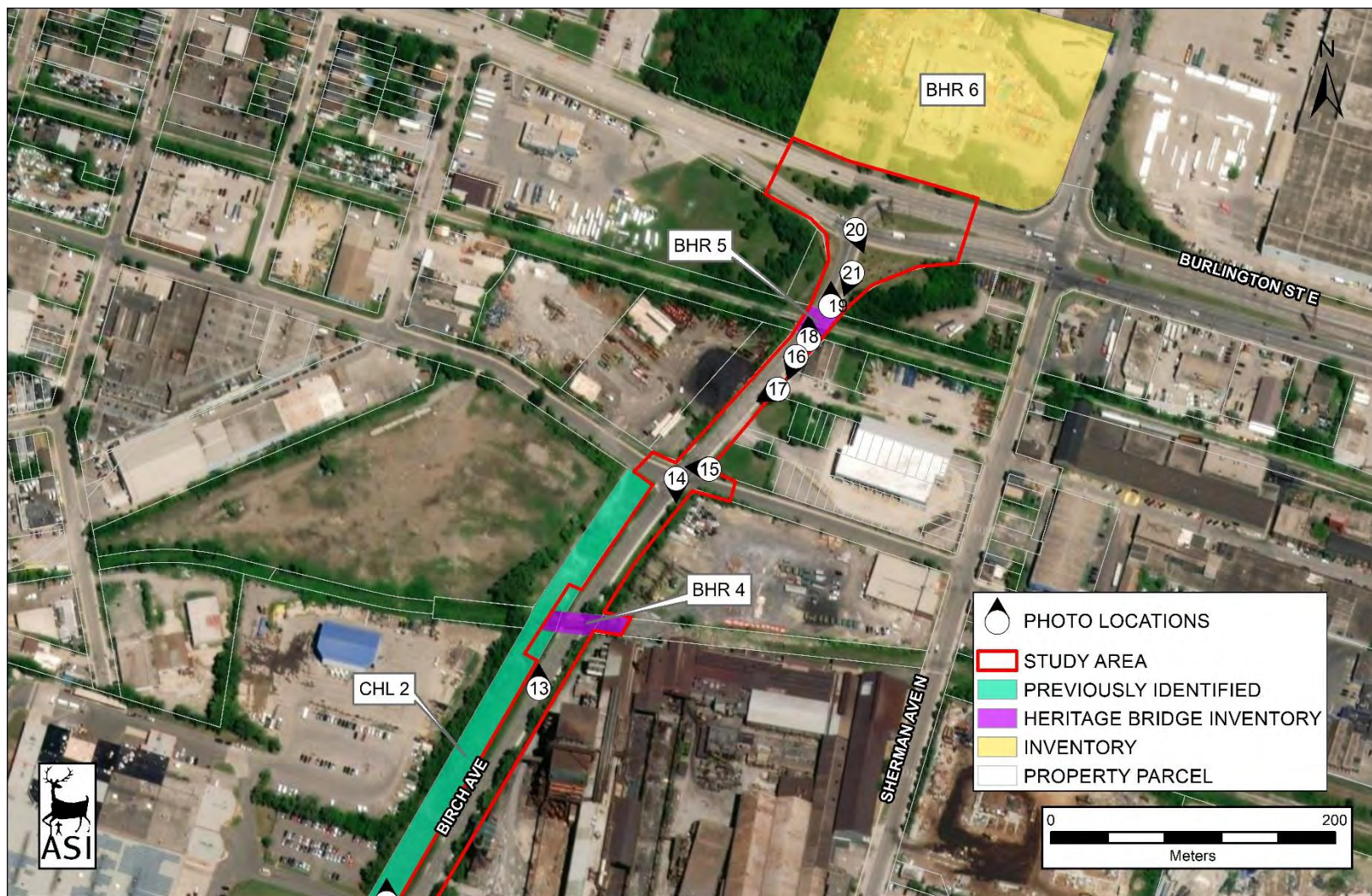


Figure 16: Location of Cultural Heritage Resources and photo plate locations in the Birch Avenue study area (Sheet 2 of 2)

## APPENDIX A: URBAN HAMILTON OFFICIAL PLAN (2013)

### Volume 1

#### 3.4 Cultural Heritage Resources Policies

##### 3.4.1 Policy Goals

The following goals apply to the care, protection, and management of *cultural heritage resources* in Hamilton:

- 3.4.1.1 Identify and conserve the City's *cultural heritage resources* through the adoption and implementation of policies and programs, including partnerships among various public and private agencies and organizations.
- 3.4.1.2 Encourage a city-wide culture of conservation by promoting cultural heritage initiatives as part of a comprehensive environmental, economic, and social strategy, where *cultural heritage resources* contribute to achieving sustainable, healthy, and prosperous communities.
- 3.4.1.3 Ensure that all new *development*, site alterations, building alterations, and additions are contextually appropriate and maintain the integrity of all on-site or adjacent *cultural heritage resources*.
- 3.4.1.4 Encourage the rehabilitation, renovation, and restoration of built *heritage resources* in order that they remain in active use.
- 3.4.1.5 Promote public and private awareness, appreciation, and enjoyment of Hamilton's cultural heritage through public programmes or heritage interpretation activities, heritage tourism, and guidance on appropriate conservation practices.

##### 3.4.2 General Cultural Heritage Policies

- 3.4.2.1 The City of Hamilton shall, in partnership with others where appropriate:
  - a) Protect and conserve the tangible *cultural heritage resources* of the City, including *archaeological resources*, *built heritage resources*, and *cultural heritage landscapes* for present and future generations.
  - b) Identify *cultural heritage resources* through a continuing process of inventory, survey, and evaluation, as a basis for the wise management of these resources.
  - c) Promote awareness and appreciation of the City's cultural heritage and encourage public and private stewardship of and custodial responsibility for the City's *cultural heritage resources*.
  - e) Encourage the ongoing care of individual *cultural heritage resources* and the properties on which they are situated together with associated features and structures by property owners, and provide guidance on sound conservation practices.





- f) Support the continuing use, reuse, care, and conservation of *cultural heritage resources* and *properties* by encouraging property owners to seek out and apply for funding sources available for conservation and restoration work.
- g) Ensure the conservation and protection of *cultural heritage resources* in planning and development matters subject to the Planning Act, R.S.O., 1990 c. P.13 either through appropriate planning and design measures or as conditions of development approvals.
- h) *Conserve* the character of areas of cultural heritage significance, including designated heritage conservation districts and *cultural heritage landscapes*, by encouraging those land uses, *development* and *site alteration* activities that protect, maintain and enhance these areas within the City.
- i) Use all relevant provincial legislation, particularly the provisions of the Ontario Heritage Act, the Planning Act, R.S.O., 1990 c. P.13, the Environmental Assessment Act, the Municipal Act, the Niagara Escarpment Planning and Development Act, the Cemeteries Act, the Greenbelt Act, the Places to Grow Act, and all related plans and strategies in order to appropriately manage, conserve and protect Hamilton's *cultural heritage resources*.

3.4.2.2 The City consists of many diverse districts, communities, and neighbourhoods, each with their own character and form. The City shall recognize and consider these differences when evaluating development proposals to maintain the heritage character of individual areas.

#### Protection of Non-Designated or Non-Registered Heritage Properties

3.4.2.6 The City recognized there may be *cultural heritage properties* that are not yet identified or included in the Register of Property of Cultural Heritage Value or Interest or designated under the Ontario Heritage Act, but still may be of cultural heritage interest. These may be properties that have yet to be surveyed, or otherwise identified, or their significance and cultural heritage value has not been comprehensively evaluated but are still worthy of conservation.

3.4.2.7 The City shall ensure these non-designated and non-registered *cultural heritage properties* are identified, evaluated, and appropriately conserved through various legislated planning and assessment processes, including the Planning Act, R.S.O., 1990 c. P.13, the Environmental Assessment Act and the Cemeteries Act.

3.4.2.8 To ensure consistency in the identification and evaluation of these non-designated *cultural heritage properties*, the City shall use the criteria for determining cultural heritage value or interest established by provincial regulation under the Ontario Heritage Act and set out in Policy B.3.4.2.9.

#### Cultural Heritage Impact Assessments

3.4.2.12 A *cultural heritage impact assessment*: (OPA 57 and OPA 64)

- a) shall be required by the City and submitted prior to or at the time of any application submission pursuant to the Planning Act, R.S.O., 1990 c. P.13 where the proposed *development*, *site alteration*, or *redevelopment* of lands (both



public and private) has the potential adversely affect the following *cultural heritage resources* through displacement or disruption:

- i. Properties designated under any part of the Ontario Heritage Act or adjacent to properties designated under any part of the Ontario Heritage Act;
  - ii. Properties that are included in the City's Register of Property of Cultural Heritage Value or Interest or *adjacent* properties included in the City's Register of Property of Cultural Heritage Value or Interest;
  - iv. Any area for which a *cultural heritage conservation plan statement* has been prepared; or.
  - v. Properties that comprise or are contained within *cultural heritage landscapes* that are included in the Register of Property of Cultural Heritage Value or Interest.
- b) may be required by the City and submitted prior to or at the time of any application submission pursuant to the Planning Act, R.S.O., 1990 c.P.13 where the proposed *development, site alteration, or redevelopment* of lands (both public and private) has the potential to adversely affect *cultural heritage resources* included in the City's Inventory of Buildings of Architectural or Historical Interest through displacement or disruption.

3.4.2.13 *Cultural heritage impact assessments* shall be prepared in accordance with any applicable guidelines and Policy F.3.2.3 – Cultural Heritage Impact Assessments. The City shall develop guidelines for the preparation of *cultural heritage impact assessment*.

3.4.2.14 Where *cultural heritage resources* are to be affected, the City may impose conditions of approval on any planning application to ensure their continued protection. In the event that rehabilitation and reuse of the resource is not viable and this has been demonstrated by the proponent, the City may require that affected resources be thoroughly documented for archival purposes at the expense of the applicant prior to demolition.

### 3.4.5 Built Heritage Resource Policies

3.4.5.1 An inventory of *built heritage resources* shall be prepared by the City and, as appropriate, may be included in the Register of Property of Cultural Heritage Value or Interest. Registered properties containing *built heritage resources* may be considered for designation under the Ontario Heritage Act and shall be protected in the carrying out of any undertaking subject to the Environmental assessment Act or the Planning Act, R.S.O., 1990 c.P.13.

3.4.5.2 The City shall encourage the retention and conservation of *significant built heritage resources* in their original locations. In considering planning applications under the Planning Act, R.S.O., 1990 c. P.13 and heritage permit applications under the Ontario Heritage Act, there shall be a presumption in favour of retaining the *built heritage resource* in its original location.



- 3.4.5.3 Relocation of *built heritage resources* shall only be considered where it is demonstrated by a *cultural heritage impact assessment* that the following options, in order of priority, have been assessed:
- a) retention of the building in its original location and its original use; or,
  - b) retention of the building in its original location, but adaptively reused.
- 3.4.5.4 Where it has been demonstrated that retention of the *built heritage resource* in its original location is neither appropriate nor viable the following options, in order of priority, shall be considered:
- a) relocation of the building within the area of development; or,
  - b) relocation of the building to a sympathetic site.
- 3.4.5.5 Where a significant *built heritage resource* is to be unavoidably lost or demolished, the City shall ensure the proponent undertakes one or more of the following mitigation measures, in addition to a thorough inventory and documentation of the features that will be lost:
- a) preserving and displaying of fragments of the former buildings' features and landscaping;
  - b) marking the traces of former locations, shapes, and circulation lines;
  - c) displaying graphic and textual descriptions of the site's history and former use, buildings, and structures; and,
  - d) generally reflect the former architecture and use in the design of the new development, where appropriate and in accordance with Section B.3.3 – Urban Design Policies.
- 3.4.6 Cultural Heritage Landscapes
- 3.4.6.1 A *cultural heritage landscape* is a defined geographical area characterized by human settlement activities that have resulted in changes and modifications to the environment, which is now considered to be of heritage value or interest. *Cultural heritage landscapes* may include distinctive rural roads, urban streetscapes and commercial mainstreets, rural landscapes including villages and hamlets, designed landscapes such as parks, cemeteries and gardens, nineteenth and twentieth century urban residential neighbourhoods, as well as commercial areas and industrial complexes.
- 3.4.6.2 An inventory of *cultural heritage landscapes* shall be prepared by the City and may be included in the Register of Properties of Cultural Heritage Value or Interest. *Cultural heritage landscapes* may also be considered for designation under the Ontario Heritage Act and shall be protected in the carrying out of any undertaking subject to the Environmental Assessment Act or the Planning Act, R.S.O., 1990 c. P.13.



Heritage Roads

- 3.4.6.6 The City shall identify, conserve, and manage identified heritage roads and associated features in accordance with Section C.4.5.3 – Special Character Roads.



**APPENDIX B: PRELIMINARY PREFERRED PLAN FOR THE DESIGN**





PRELIMINARY FOR DISCUSSION PURPOSES ONLY



**Cultural Heritage Impact  
Assessment, Bridge 331, Birch  
Avenue Bridge**



Prepared for:  
City of Hamilton  
71 Main Street West  
Hamilton ON, L8P4Y5

Prepared by:  
Stantec Consulting Ltd.  
300 W-675 Cochrane Drive  
Markham, ON, L3R 0B8

165001043

December 8, 2017

## Sign-off Sheet

This document entitled Cultural Heritage Impact Assessment, Bridge 331, Birch Avenue Bridge was prepared by Stantec Consulting Ltd. ("Stantec") for the account of the City of Hamilton (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by \_\_\_\_\_

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Approved by \_\_\_\_\_

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## Executive Summary

Between 2014 and 2016 the City of Hamilton (the City) retained Stantec Consulting Ltd. (Stantec) to undertake a review of the bridges included in the 2010 *Bridge Management Software* to identify potential for cultural heritage value or interest (CHVI). In the *City of Hamilton Bridge Master Plan Heritage Bridge Inventory Review*, Stantec identified 25 bridges where additional assessment is required. It was recommended that this assessment be contained within a Cultural Heritage Evaluation Report (CHER). The CHER for Bridge 331, also referred to as the Birch Avenue Bridge, was completed by Stantec in 2017.

The Birch Avenue Bridge was evaluated against *Ontario Regulation 9/06* (O. Reg 9/06) and the *Hamilton Bridge Guideline*. The bridge was found to have CHVI and have high heritage value as a Class C structure. As a Class C bridge with CHVI, it was determined that the Birch Avenue Bridge required a Cultural Heritage Impact Assessment in the event that removal and/or modifications are proposed for this structure. The CHIA must address anticipated impacts to the heritage attributes identified for the bridge, namely the steel girder and timber trestle materials that are associated with railway construction and linked to the industrial history of the surrounding area.

Presently, the City of Hamilton is planning the removal of the Birch Avenue Bridge. Accordingly, a CHIA is required for this bridge. The Birch Avenue Bridge is located at the intersection of the former Toronto, Hamilton, & Buffalo (T.H. & B.) Railway Line and Birch Avenue, between Brant Street and Princess Street, in the City of Hamilton. The Birch Avenue Bridge was constructed between 1914 and 1917 and is a steel through girder structure that is owned and maintained by the City of Hamilton.

The Birch Avenue Bridge has CHVI per O. Reg 9/06 and has moderate heritage value as a Class C structure per the City of Hamilton Heritage Bridge Guideline. The City plans to decommission this structure since the bridge is no longer in use and the rail line connected to the bridge has been removed. The removal of the Birch Avenue Bridge is a direct impact and the following mitigation measures are recommended:

- 1) The feasibility of retaining the Birch Avenue Bridge as a heritage monument for viewing purposes only should be explored. The through girder section of the Birch Avenue Bridge could be retained as a gateway feature at the north or south ends of Birch Avenue to mark the north or south boundary of the industrial area located on Birch Avenue between Princess Street and Brant Street. This mitigation approach would conserve the historical and contextual value of the bridge since it would remain visually and historically connected to the surrounding industrial area.
- 2) If the retention of the Birch Avenue Bridge as a heritage monument is not feasible, then full documentation and salvage should be carried out for this bridge. Documentation

activities should consist of the full heritage recording of the bridge through photography, photogrammetry, or LiDAR scan. Salvage activities should consist of the identification and recovery of re-useable bridge components by a reputable salvage company or charity. Materials that should be considered for salvage include the steel girders, steel rivets, timber trestles, steel beams, steel nails, and railway ties. The documentation and salvage work should be carried out under the direction of a Cultural Heritage Specialist in good professional standing with the Canadian Association of Heritage Professionals (CAHP).

*The Executive Summary highlights key points from the report only; for complete information and findings, the reader should examine the complete report.*



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## Acknowledgements

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Gord Beck:	Map Specialist, McMaster University

## Abbreviations

CAHP	Canadian Association of Heritage Professionals
CHER	Cultural Heritage Evaluation Report
CHIA	Cultural Heritage Impact Assessment
CHVI	Cultural Heritage Value or Interest
LIDAR	Light Detection and Ranging
MCEA	Municipal Class Environmental Assessment
MEA	Municipal Engineers Association
MTCS	Ministry of Tourism, Culture, and Sport

## Glossary

Built heritage resource	Means one or more significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community. These resources may be identified through designation or heritage conservation easement under the Ontario Heritage Act, or listed by local, provincial or federal jurisdictions.
Cultural heritage landscape	A defined geographical area of heritage significance which has been modified by human activities and is valued by a community. It involves grouping(s) of individual heritage features such as structures, spaces, archaeological sites, and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to, heritage conservation districts designated under the Ontario Heritage Act; and villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trailways, and industrial complexes of cultural heritage value.
Cultural heritage resources	Includes built heritage, cultural heritage landscapes, and marine and other archaeological sites. The Ministry of Tourism, Culture and Sport (MTCS) is responsible for the administration of the Ontario Heritage Act and is responsible for determining policies, priorities and programs for the conservation, protection and preservation of Ontario's heritage, which includes cultural heritage landscapes, built heritage and archaeological resources.



## 1.0 INTRODUCTION

### 1.1 STUDY PURPOSE AND METHODS

In 2014, the City of Hamilton (the City) retained Stantec Consulting Ltd. (Stantec) to undertake a review of bridges included in the 2010 *Bridge Management Software* to identify potential for cultural heritage value or interest (CHVI). The goal of the review was to identify where a bridge required additional study to determine CHVI prior to establishment of the schedule of a Municipal Class Environmental Assessment (MCEA). This was done in response to the *Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist* (the Checklist) released by the Municipal Engineers Association (MEA) in March 2013 and revised in April 2014 (Municipal Engineers Association 2014) (see Appendix A). In 2015, the MCEA Manual was further modified to provide more direction regarding bridges over 40 years old.

In response, Stantec conducted a pre-screening exercise to identify bridges within the City that required further assessment to assist the City with scheduling and budget planning for future road and bridge improvements. A total of 25 bridges were identified where cultural heritage assessment is required as indicated by the MEA Checklist prior to the initiation of a MCEA. Stantec recommended that a Cultural Heritage Evaluation Report (CHER) be prepared for each of the 25 bridges identified in that review in advance of any modifications. As part of the pre-screening exercise, a CHER was completed for the Birch Avenue Bridge (331), which included an evaluation of the bridge against *Ontario Regulation 9/06* (Government of Ontario 2006a) and the *City of Hamilton Heritage Bridge Guideline and Heritage Bridge Conservation* (Hamilton Bridge Guideline) (City of Hamilton 2006). The CHER determined that the Birch Avenue Bridge has CHVI and moderate heritage value as a Class C structure. The heritage attributes identified for the Birch Avenue Bridge include the steel girder and timber trestle materials that are associated with railway construction and linked to the industrial history of the surrounding area.

As a bridge with CHVI, the CHER recommended that a Cultural Heritage Impact Assessment (CHIA) be completed in the event that removal and/or modifications are proposed for this structure. Presently, the City of Hamilton is planning the removal of the Birch Avenue Bridge.

This report is a CHIA that evaluates the impacts to the Birch Avenue Bridge and proposes mitigation options. This CHIA was prepared according to the City of Hamilton CHIA Terms of Reference (ToR) (2014). As described in the ToR, this CHIA includes:

- A location plan showing and describing the contextual location of the site, an existing site plan, current floor plans of built structures (where appropriate), a proposed site plan, proposed building elevations, and proposed interior plans;
- Identification and evaluation of all potentially affected cultural heritage resource(s), including detailed site history and cultural heritage resource inventory containing textual and graphic documentation;

## CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

Introduction

December 8, 2017

- A description of the proposed development or site alteration and alternative forms of the development and/or site alteration;
- A description of all cultural heritage resources to be affected by the development and its alternative forms;
- A description of the measures necessary to mitigate the adverse effects of the development and/or site alteration and its alternative forms;
- A description of the measures necessary to mitigate the adverse effects of the development and/or site alterations and its alternatives upon the cultural heritage resource(s), including:
  - The means by which the existing cultural heritage resources shall be integrated within the proposed development and/or site alteration; and,
  - The manner in which commemoration of cultural heritage resources to be removed shall be incorporated within the proposed development and/or site alteration
- Any photographic records, maps, or other **documentary** materials found during the historical research of the property as well as present-day photographs taken during research; and,
- A detailed list of cited materials.

In addition, the Ministry of Tourism, Culture and Sport's (MTCS) Info Sheet #5 in *Heritage Resources in the Land Use Planning Process, Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Info Sheet #5) was reviewed (Government of Ontario 2006b). This document provides guidance on the assessment of impacts based on CHVI resulting from a proposed change. This CHIA also follows the Hamilton Bridge Guideline (City of Hamilton 2006) document to determine appropriate mitigation measures.

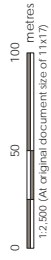
The Birch Avenue Bridge is a single span steel through girder bridge that was constructed between 1913 and 1917 to carry a spur line of the former Toronto, Hamilton, & Buffalo (T.H. & B.) Railway over Birch Avenue. The bridge is located on Birch Avenue between Princess Street and Brant Street, in the City of Hamilton. A site assessment was undertaken on November 8, 2017, by Cultural Heritage Specialists Laura Walter and Frank Smith of Stantec. The weather conditions were mild and overcast. Historical research was conducted at the Hamilton Public Library, McMaster University Lloyd Reeds Map Collection, and supplemented by material available through online resources. Laura Walter visited the City of Hamilton Transportation Department on March 10, 2017, and with the assistance of Trevor McClung (C.E.T., Project Manager, Surface Infrastructure with the City of Hamilton), reviewed the City's bridge files including drawings, modification reports, and photographic material. Dawn Kim, also with the City, provided additional drawings following the file review.





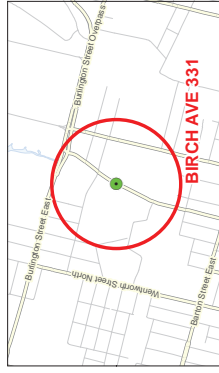


- Legend**
- Study Area
  - Railway
  - Business Improvement Area
  - Parcel Boundary



**Notes**

1. Coordinate System: NAD 83 UTM Zone 17N
2. Base Features produced under license with the Ontario Ministry of Natural Resources and Forestry's Crown's Survey for Ontario, 2017
3. Orthorectified 1-metre aerial imagery, 2012



Project Location  
City of Hamilton

14500104E, REV A  
Prepared by MDW on 2017-11-07  
Technical Review by ABC on 2017-11-07  
Independent Review by ABC on 2017-11-07

Client Project  
CITY OF HAMILTON BRIDGES  
CULTURAL HERITAGE IMPACT ASSESSMENT

Figure No.

**1**  
**STUDY AREA**



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## 2.0 ENVIRONMENTAL ASSESSMENT FRAMEWORK

### 2.1 REQUIREMENTS

The requirement to consider cultural heritage in Class EAs is discussed in the *Municipal Class Environmental Assessment Manual* (MCEA Manual) (Municipal Engineers Association 2015) and the revised 2014 *Provincial Policy Statement* (PPS) (Government of Ontario 2014). The MCEA Manual considers the cultural environment, including built heritage resources and cultural heritage landscapes, as well as archaeological resources, as one in a series of environmental factors to be considered when undertaking a Class EA, particularly when describing existing and future conditions, development alternatives, and determination of the preferred alternative.

The MCEA Manual further suggests that cultural heritage resources that retain heritage attributes should be identified early in the EA process and that these resources should be avoided where possible. Where avoidance is not possible, potential impacts to these attributes should be identified and minimized. Adverse impacts should be mitigated per provincial and municipal guidelines.

### 2.2 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PROCESS

In 2000, the Minister of the Environment and Climate Change approved the MCEA proposed by the MEA. This included a provision to complete a heritage assessment for any bridge over the age of 40 years. Since this time, a series of amendments and clarifications have been made to the MCEA process. One of these clarifications was released in 2003 by the MEA regarding the inclusion of a 40-year threshold for schedule determination. The intent of the MEA was to provide for the protection of potentially significant bridges throughout the province; the 40-year threshold is generally accepted by both the federal and provincial authorities as a preliminary screening measure for CHVI. The MCEA Manual was most recently updated in 2015.

To provide clarity regarding the 40-year threshold for schedule determination, the MEA released guidelines in the form of a series of questions contained within a Checklist. This Checklist assists the proponent in the determination of future study requirements is provided in Appendix A. The MCEA requirements for bridges are covered in Part B of the Checklist. In this section, there are 19 "Descriptions" to which answers of "Yes" or "No" are required. Requirements for additional studies are determined based on the responses to each question. There are three basic steps to carrying out the requirements of the Checklist and these are outlined in Section 2.2.1.

#### 2.2.1 The Process

**Step 1:** Undertake *Municipal Heritage Bridges Cultural, Heritage and Archaeological Checklist* (Part B) to determine if the bridge may have CHVI.

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1. If no potential for CHVI is identified, then the proposed work can be considered a Schedule A or A+ Class EA and no further investigation regarding cultural heritage is required.
  - Schedule A:
    - These projects are limited in scale, have minimal adverse environmental effects, and include a number of municipal maintenance and operational activities. These projects are pre-approved and may proceed to implementation without following the full Class EA planning process. Schedule A projects generally include normal or emergency operational and maintenance activities (Municipal Engineers Association 2015: A-3).
  - Schedule A+:
    - These projects are similar to Schedule A projects in that they are pre-approved. Where they differ is in notice issued to the public. Schedule A+ projects include municipal infrastructure projects where, although the public has no ability to change the outcome, they are notified of planned work. These EAs are typically approved by municipal councils through budget or special project funding. There is also more flexibility in the ways in which the public is notified of this work and varies greatly from one municipality to the next (Municipal Engineers Association 2015: A-4).
2. If potential for CHVI is identified, then proceed to Step 2.

**Step 2:** Undertake a cultural heritage evaluation of the bridge against *Ontario Regulation (O. Reg.) 9/06 of the Ontario Heritage Act (OHA)* and prepare a CHER.

1. If the bridge is determined not to contain CHVI as per O. Reg. 9/06 then the CHER should be submitted to the proponent for review and approval. No further work is required and an EA is not triggered from a cultural heritage perspective.
2. If the bridge is determined to contain CHVI as per O. Reg. 9/06, prior to schedule determination, further work will be required in the form of an HIA. Once the proponent understands the proposed (or potential) scope of work, proceed to Step 3.

**Step 3:** Undertake an HIA to assess the impacts of the proposed change/impact, identify mitigation measures, and establish a conservation strategy, if needed.

1. If no impacts to the heritage attributes identified in the CHER will result from the proposed work, then the HIA should be submitted to the proponent for review and approval. No further work is required and the proposed work can be considered a Schedule A or A+ EA from a cultural heritage perspective.
  2. If the HIA determines that the project has the potential to impact the resource, proceed to Schedule B or C to consider alternative solutions. As part of the HIA, mitigation measures to lessen the impacts of the proposed undertaking and a conservation strategy should be prepared. The HIA should be submitted to the proponent for review and approval and to the MTCS for review and comment.
- Schedule B:
    - These projects have the potential for some adverse environmental impacts. The proponent is required to undertake a screening process involving mandatory contact with directly affected public and relevant review agencies (i.e. MTCS), to ensure that



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they are aware of the project and that their concerns are addressed. If there are no outstanding concerns, then the proponent may proceed to implementation. Schedule B projects general include improvements and minor expansions to existing facilities (Municipal Engineers Association 2015: A-4).

- Schedule C:
  - These projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the MCEA Manual. Schedule C projects require the preparation and filing of an Environmental Study Report (ESR) for review by the public and relevant agencies. Schedule C projects generally include the construction of new facilities and major expansions to existing facilities (Municipal Engineers Association 2015: A-4).

This report represents “Step 3” of the MCEA process and the result is a CHIA that identifies impacts and mitigation measures to ensure that the cultural heritage value of the Birch Avenue Bridge is conserved. A flowchart depicting the MCEA Process as it pertains to municipal bridges is provided in Plate 1 below.

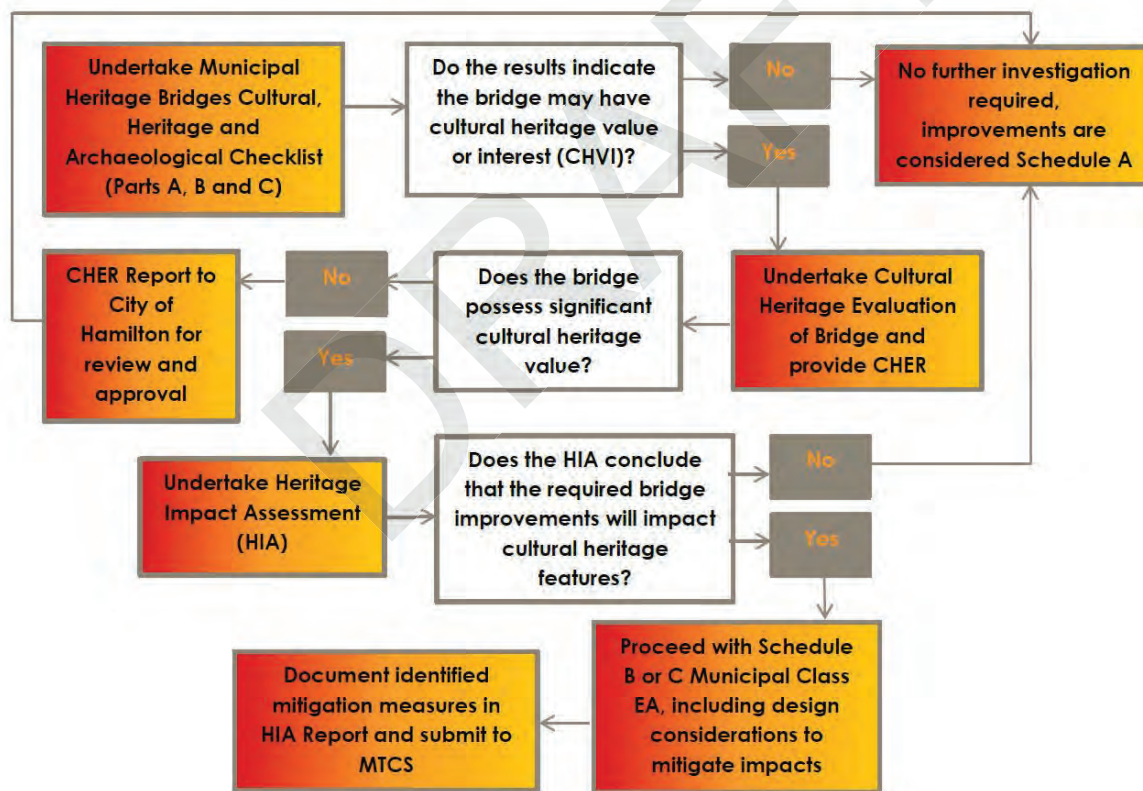


Plate 1: Flowchart of the MCEA Process



### 2.2.2 Determining Project Schedule

Generally, the MCEA Project Schedule is determined by the magnitude of the environmental impacts resulting from the project. As such, projects with minimal impacts are carried out under Schedules A or A+, projects with moderate adverse impacts are carried out under Schedule B, and projects with the potential for significant environmental effects are carried out under Schedule C.

In the case of bridges found to have CHVI, all reconstruction and/or alteration activities to the structure, or grading activities adjacent to the structure, should be carried out under Schedules B or C. As indicated in Appendix 1 of the MCEA Manual, projects involving a bridge with CHVI that cost less than \$2.4 million should be carried out under Schedule B and projects with a cost greater than \$2.4 million should be carried out under Schedule C (Municipal Engineers Association 2015). While the magnitude of the impact to the bridge and the cost of the project can be used to determine the whether to proceed under Schedule B or C, the MCEA Manual notes that the divisions among project Schedules is often not distinct and proponents are encouraged to document their rationale for the selection (Municipal Engineers Association 2015: Appendix 1).

## 3.0 HISTORICAL SUMMARY

### 3.1 LOCATION AND PHYSIOGRAPHY

The Birch Avenue Bridge is located at the intersection of the former T.H. & B. Railway Line and Birch Avenue, between Brant Street and Princess Street, in the City of Hamilton. Birch Avenue is a one-way street that carries three lanes of traffic under the railway. The bridge is situated within an industrial area of the City and is surrounded by numerous industries. The Study Area boundary was defined by the bridge structure itself and includes the embankments approaching the bridge structure.

The Study Area is situated within the Norfolk Sand Plain physiographic region within southwestern Ontario (Chapman and Putnam 1984: 113). Within the City, the sand plain is hemmed in by the shores of Lake Ontario and the Niagara Escarpment to the north, west, and south. Positioned on the western part of Lake Ontario and east of the City, the Bay was formed by a natural sand spit that was originally open to Lake Ontario at the north end. In its early development, the depth of the water over this natural channel restricted access to the Bay, thus eliminating the natural inclination towards development of a major port (Chapman and Putnam 1984:120). Earlier cargoes had to be shipped into Hamilton by small boats as the waterfront itself was not easily accessible to the roads leading to already settled areas. What resulted was a shift in early development away from Hamilton and towards Dundas and Burlington, which were both more accessible.

Challenging topography, caused largely by the escarpment, made access to the waterway from Hamilton prohibitive, which restricted trade and settlement. In 1826, the Desjardins Canal was constructed to open access to the harbor, but ultimately facilitated trade to Dundas not Hamilton (Chapman and Putnam 1984:120). With the arrival of the railway in the mid-19<sup>th</sup> century, and utilization of previously disregarded lands, Hamilton began to take better advantage of its abundant natural resources.

Directly east of Hamilton the sand plain is replaced by limestone. Limestone and dolostone deposits along the Niagara Escarpment contributed greatly to the development of the steel industry in Hamilton; both were used as flux in smelters throughout the region (Chapman and Putnam, 1984: 120). Hamilton also made use of shale from the Niagara Escarpment for making brick, tile, and other ceramic products. The location of the site of shale in particular is on the eastern side of the Escarpment as it drops from the ridge to Hamilton Harbour, forming a steep descent towards the lake (Chapman and Putnam, 1984: 120). The position of natural resources complimented the growing railway hub.

### 3.2 HISTORICAL DEVELOPMENT

The Study Area is located within the former Township of Barton, on Lot 9 Concession 1. The area was surveyed in 1791, using a single-front system (Plate 2), by District Provincial Land Surveyor Augustus Jones, under the direction of Lieutenant Governor John Graves Simcoe. The township was laid out with eight concessions running east to west that were numbered south from Burlington Bay. A broken front was included in the survey where the shoreline of the bay was cut by several inlets. The baseline for the township survey was Base Concession Line (now Burlington Street), which is located just north of the Study Area at the north end of lot 9 (Manson 2003: 11). Laid out using the single-front system, each concession was comprised of 21 lots that were made up of approximately 200 acres each (Smith 1897: 66).

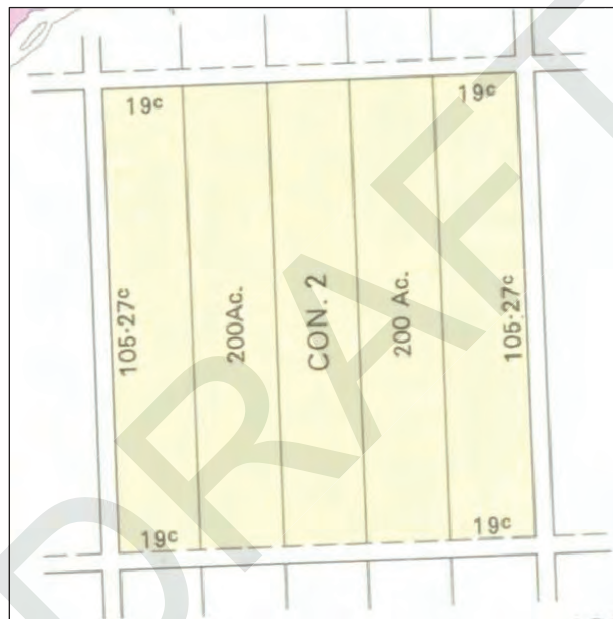


Plate 2: Single-Front System (Source: Dean 1969)

Patents in the township were issued beginning in 1796, but settlers already resided within the township prior to the survey. The Study Area, Lot 9, Concession 1 was patented to Selah Styles on July 8, 1799, along with the adjacent broken front portion north of the Base Concession Line. Styles served as a sergeant in the King's Royal Regiment in New York during the American War of Independence (1775-1783) before settling in the Township of Barton (Long Point Settlers; online). By 1822, the assessment records show that the property passed to William Sherman. He is listed on Lot 9, with 60 acres of improved land and 44 acres of uncultivated land (Page & Smith 1875: VIII). Sherman may have been on the property at an earlier date, as he is referenced as working as blacksmith for the British encampment at Burlington Heights (Sheppard 1994: 135). The inlet extending from Burlington Bay within the adjacent broken front is named in reference to Sherman.

## CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

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The 19<sup>th</sup> century development of the Township of Barton is connected to the City of Hamilton through the establishment of the city that formed within the township boundaries. Settlement increased in the township in the early 1800s with several waves of new immigrants settling near Burlington Bay. Following the War of 1812, George Hamilton (1788-1836) purchased 257 acres of land in the Township of Barton from James Durand (Weaver 1982: 15). In an agreement with adjacent property owner Nathaniel Hughson, Hamilton laid out a 100-acre town plot, southwest of the Study Area (Manson 2003: 13-14). Hamilton was incorporated as a town in 1833, with a population of 1,400. Growth to the town was influenced through the construction of the Burlington Canal from 1823 to 1832. The construction brought workers to Hamilton, developed trades, and built-up the Burlington Bay shoreline with warehouses, docks, and wharves (Page & Smith 1875: XV). The completion of the canal made Hamilton the head of navigation on Lake Ontario and brought with it easy access for immigration and enterprise (Bailey 1983: 37). With a growing population and demand for goods, several factories and foundries were established in Hamilton (Kosydar 1999: 8). Within a few years, the population of the town grew to over 3,000 (Manson 2003: 15).

Growth remained focused within the Town of Hamilton, as the surrounding Township of Barton was slow to develop, with the concentration of farms located near Burlington Bay. Throughout the 19<sup>th</sup> century, as Hamilton continued to grow, portions of the Township of Barton were amalgamated into the town, and then by the City of Hamilton when it was incorporated in June 1846 (Page & Smith 1875: XVI). The new City boundaries extended southwest from Burlington Bay to the base of the Niagara Escarpment and northwest from Emerald Street to Paradise Road (Manson 2003:15). The Study Area was located just southeast of these boundaries.

Increased accessibility to Hamilton came in 1854 with the construction of the first railway line in southwestern Ontario, completed by Great Western Railway (G.W.R.). Between 1854 and 1857 the G.W.R. built railway servicing facilities along Burlington Bay including a roundhouse, shops, foundries, and other facilities to assemble and service locomotives. The first expansion line of the G.W.R. was the Hamilton and Toronto Railway branch that was opened for service in 1856 (Houghton 2008: 88-89). The main G.W.R. line from Niagara to Hamilton ran just south of the Study Area, as shown on the 1859 County of Wentworth Map (Figure 2) (Surtees 1859). The map also shows that by 1859, the Study Area had been subdivided into lots separated by roads. The location of the present Birch Avenue Bridge is shown as part of Sherman's Inlet at that time.

By the late 1870s, the G.W.R. rail network reached from Toronto to Niagara, London, Windsor, Sarnia, Kincardine, and three of the Great Lakes (Plate 3). With Hamilton at the centre of much of this growth, the city attracted rail and other transportation industries. It soon became a hub for railway related manufacturers such as the Hamilton Bridge Works. The 1875 Township of Barton map in the *Illustrated Historical Atlas of the County of Wentworth* (Paige & Smith 1875) shows Lot 9, Concession 1 subdivided into separate parcels, with the G.W.R. line traversing the centre of the lot, and Sherman's Inlet at the northern portion of the lot (Figure 3). The property is occupied by Moore & Davis, Peter Grant, B. Wych, D. Ewing, and G. Williams. The Study Area is located partially on property owned by Peter Grant, and D. Ewing, and a portion is till within Sherman's Inlet.





# CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

Historical Summary  
December 8, 2017



Plate 3: Map of the Great Western Railway of Canada and Connections (Hamilton Public Library 2000)

Another railway line that developed and ran through the Study Area was the T.H. & B. Railway, which was incorporated in 1884. The line was developed as an alternate route for businesses in the Hamilton area to export goods to Canadian customers in Toronto and Montreal, and west to American customers. In 1892, the T.H. & B. acquired the Brantford, Waterloo and Lake Erie Railway, and the line was extended into Hamilton. A further extension was completed in 1895, between Hamilton and Welland, known as the Welland Subdivision. The T.H.& B. Railway Spur Line was constructed through the Study Area in the 1890s as part of the Welland Subdivision (T.H. & B. Railway Historical Society 2011). The spur line is depicted on the 1909 Topographic Map of the City of Hamilton (Figure 4). The map shows the spur line traversing Sherman's Inlet, using a central peninsula of land. The timber trestles attached to the northwest end of the Birch Avenue Bridge are remnants of the original T.H.&B. Railway Spur Line, as determined through the examination of the topographic maps, bridge materials, and the related railway line locations.

## CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

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By 1895, the T.H. & B. was sold under a joint ownership between the Canadian Pacific Railway (C.P.R.) and the New York Central (N.Y.C.) Railway. In 1896, T.H. & B obtained the rights to operate on the Grand Trunk Railway (G.T.R.) between Toronto and Hamilton (T.H.&B. Railway Historical Society 2011).

By 1891, the City of Hamilton extended east to Sherman Avenue North, incorporating the Study Area. As the City extended east along the shore of Burlington Bay, a large number of factories followed suit, and an industrial area developed surrounding the Study Area. This includes one of the largest manufacturers, the Hamilton Blast Furnace Company, which was established north of the Study Area on Sherman's Inlet in 1895.

The early 20<sup>th</sup> century saw Hamilton boom as American companies opened branch plants and manufacturing plants were constructed. At the beginning of the 20<sup>th</sup> century, the City population was about 50,000, with the majority working within the manufacturing sector. Within the first decade of the century the number of manufacturing jobs within the City doubled. One of the largest companies was the Steel Company of Canada, established in 1910, from an amalgamation of the Canada Screw and Hamilton Steel and Iron and three other smaller companies. It became Canada's largest basic steel making plant. Other companies soon followed, including Dominion Steel Castings Ltd. (Dofasco Inc.), National Steel Car Corporation, and Canadian Westinghouse (Bailey 1983: 81).

The Study Area is situated within the industrial area of the City of Hamilton, and is surrounded by numerous manufacturing facilities. North of the Study Area, on Sherman's Inlet, the International Harvester Company was established in 1902. East of the Study Area, numerous factories developed along Sherman Avenue North, including: Brown Boggs, founded in 1890; Cosmos-Imperial Mills, established in 1900; Canada Steel Company, formed in 1911; and Wallace Barnes & Company Ltd., established in 1921. Southwest of the Study Area, Canadian Westinghouse opened a plant in 1905 (Workers' City 2015).

In response to the expanding industries surrounding the Study Area, work began in 1900 on the Hamilton Belt Line. This railway would provide a more accessible connection between the industries and the City for factory workers (T.H.&B. Railway Historical Society 2011). Birch Avenue was home to one such radial railway line. The Hamilton Radial Electric Railway (H.R.E.R.), began operations in 1896, and in 1898 H.R.E.R. tracks were laid along Birch Avenue, with a parallel Hamilton Street Railway (H.S.R.) track laid in 1904 (TrainWeb 2017).

In 1911, the Hamilton Radial Electric (H.R.E.) Company, through Order No. 15241, was granted permission by the Board of Railway Commissioners for Canada to extend Birch Avenue in a north direction to Gilkinson Street (now Burlington Street), which included infilling and grading a portion of Sherman's Inlet. In Order No. 15090, that same year, the Board of Railway Commissioners for Canada authorized the construction of a subway under the T.H. & B. Spur Line as part of the extension of Birch Avenue. Work for the subway was to be completed by the T.H. & B. Railway Company, but at the City's expense, as amended in 1913 in Order No. 19945 (City of Hamilton Bridge Files, 1911, 1913, and 1917).



## CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

Historical Summary  
December 8, 2017

The Birch Avenue Bridge was constructed by the T.H. & B. Railway between 1913 and 1917. The construction date of 1920 is referenced on previous bridge inspection forms, but a C.P.R. Record of Bridges & Culvert from 1980 provides the construction date of 1914 (City of Hamilton Bridge Files). The 1919 Topographic Map of the City of Hamilton shows the completed infill of Sherman's Inlet, with the Birch Avenue Bridge constructed as part of the T.H. & B. Railway (Figure 4).

Steel bridges, such as the Birch Avenue Bridge, became the predominant bridge type around 1900. This bridge material was inexpensive and stronger than wrought iron. Steel bridges could easily support the heavier and faster trains of this era. Most iron bridges were replaced with steel bridges in the early 20<sup>th</sup> century to ensure the safety of railway transportation (Andreae 1996:46). Most railway bridges that can be seen today in Ontario are predominantly steel (Heritage Resources Centre 2013: 7). J.W. Tyrell's 1924 Map of the City of Hamilton shows the T.H. & B. Spur Line over the Birch Avenue Bridge and its connection to nearby industries, including Burlington Steel Co. Ltd., W.A. Freeman Co. Ltd., and Armour & Co. (Figure 5). The map also shows the large amount of industry and railway development on the Sherman's Inlet infill. In May 1924, the H.R.E.R. tracks were removed from Birch Avenue, and replaced with a right of way along the west side of the road (TrainWeb 2017). These radial railway tracks have since been demolished. The 1927 City of Hamilton, Plan of Birch Avenue from Barton Street to Burlington Street, shows the T.H.&B. Spur Line across Birch Avenue, between the C.N.R. Main Line and Brant Street, and the H.R.E.R. right of way (Figure 6).

Alongside the development of railway lines and industries came the expansion of Hamilton's port. Following the establishment of the Hamilton Harbour Commission in 1912, and the completion of the Welland Ship Canal in 1932, Hamilton became the fourth-busiest port in Canada by 1937 (Hamilton Port Authority; online). During the Second World War, factories in Hamilton changed to produce items needed for the war, including steel for tanks, clothing for troops, shells for guns, aircraft and bombsights, and tires for motorized vehicles. The Hamilton port became a vital link in the shipment of materials into the factories, and the export of goods to Europe. In 1943, warehouses on Wellington Street northeast of the Study Area were used for the construction and outfitting of vessels for the Royal Canadian Navy (Bailey 1983: 97).

Following the war, the City of Hamilton received a new surge of immigrants and the manufacturers shifted back to previous operations, with new consumer driven goods (Bailey 1983: 98-99). The population of Hamilton grew from 174,000 in 1945, to 409,409 by 1976 (Weaver 1982: 140; City of Hamilton 2003). Part of this growth was amalgamation of surrounding townships and towns, and the formation of the Regional Municipality of Hamilton-Wentworth on January 1, 1974. Hamilton was established as a city on January 1, 2000 (Government of Ontario 1999).

In 1976, the United States government amalgamated six bankrupt railways into one entity called Conrail. The following year the T.H. & B. Railway was transferred from Conrail to C.P.R. The T.H. & B. continued to operate as its own entity until 1987, when it amalgamated into the London Division of the C.P.R. (T.H.&B. Railway Historical Society 2011). The railway line to the Birch Avenue Bridge was abandoned and portions of the line were dismantled to the bridge in the early 21<sup>st</sup> century.



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### 3.3 STRUCTURE TYPE AND BRIDGE DESCRIPTION

The Birch Avenue Bridge was constructed between 1913 and 1917. According to the Record of Bridges and Culverts, the Birch Avenue Bridge is a through girder structure that is owned and maintained by the City of Hamilton. The Birch Avenue Bridge is connected to a four-span trestle support that was constructed in the 1890s as part of the T.H. & B. Spur Line.

It should be noted that there is a discrepancy in the build date identified in background documents. The Record of Bridges & Culverts (City of Hamilton Bridge File 1980) identifies that the bridge was constructed in 1914 and reconstructed in 1940. However, other background documents identify that the bridge was constructed in 1920. For the purpose of this report, the 1914 build date is used since the Record of Bridges & Culverts contains the most site-specific information regarding this bridge and is the only set of drawings available for this structure.

Based on the drawings and records provided by the City, the existing bridge is a one span (60 feet by 16.3 feet) through girder structure that carries one rail line over Birch Avenue. The bridge crosses Birch Avenue at an angle of 66°. The floor of the bridge is comprised of evenly spaced steel plates. The rail ties rest on the ballast fill that is located between the steel plates of the bridge floor. The abutments of the bridge are parged with plaster or concrete, so the original material is unknown. The roadway in the vicinity of the Birch Avenue Bridge is 50 feet wide (including the sidewalk) and the bottom of the bridge is 15 feet above the base of the roadway. A raised sidewalk is located on the interior side of the east abutment.

The four span (31 feet – 20.6 feet– 21 feet – 21 feet) trestle support that is connected to the through girder structure on its northwest end has steel beams that were manufactured by Carnegie Steel Company Ltd. and Jones & Laughlin (Plate 4 and Plate 6). The Carnegie Steel Company Ltd. was created in 1892 by Andrew Carnegie from the amalgamation of steel mills in the United States which he acquired in the late 19<sup>th</sup> century (Bridge 1991: xx). The imprint on the last steel beam on the far northwest end the Birch Avenue Bridge suggests an 1890s date of manufacture, as by the 20<sup>th</sup> century the 'N' in Carnegie was stylized (Plate 5) (Historic Bridges 2017). The two middle steel beams on the trestle support are Jones & Laughlin and date to the early 20<sup>th</sup> century, as prior to 1902 the company's name was Jones and Laughlins (Plate 7) (Historic Bridges 2017). Jones & Laughlin began as the American Iron Company in 1852, and began producing steel in 1886 south of Pittsburgh, in the United States (Wollman and Inman 1999: 43). The last steel beam attached to the Birch Avenue Bridge has no recognizable inscriptions.



## CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

Historical Summary  
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Plate 4: Carnegie USA inscription on west portion of steel beam on timber trestles



Plate 5: Carnegie imprint example 1899  
(Source: Historic Bridges 2017)



Plate 6: Jones & Laughlin inscription on middle steel beam of timber trestle



Plate 7: Jones & Laughlins imprint example 1890s  
(Source: Historic Bridges 2017)

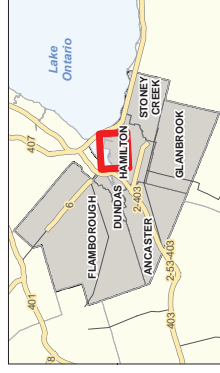
### 3.4 BRIDGE DESIGNER

The original bridge drawings for the Birch Avenue Bridge are not available for review. Accordingly, the bridge designer is unknown. Bridge drawings were prepared in 1980 and these are included in Appendix B.



Map Not to Scale

Notes  
 1. Source: Surtees, Robert. 1859. Map of the County of Wentworth. Hamilton: Hardy Gregory Lithographer & Drygraver.



Project Location  
 City of Hamilton  
 14500043, REV A  
 Prepared by MDW on 2017-11-01  
 Technical Review by ABC on 2017-11-01  
 Independent Review by ABC on 2017-11-01  
 Client/Project  
 CITY OF HAMILTON, PUBLIC WORKS, ENGINEERING SERVICES  
 CITY OF HAMILTON BRIDGES  
 CULTURAL HERITAGE IMPACT ASSESSMENT

Figure No.  
 2

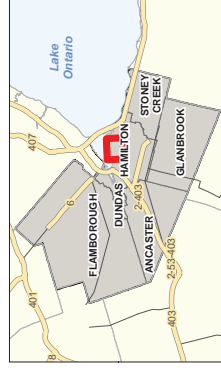
Title  
 County of Wentworth, 1859





Map Not to Scale

Notes  
 1. Source: Page & Smith, 1875. Illustrated Historical Atlas of the County of Wentworth, Ontario. Toronto: Page & Smith.



Project Location  
 City of Hamilton  
 14500043, REV A  
 Prepared by MDW on 2017.11.07  
 Technical Review by ABC on 2017.11.07  
 Independent Review by ABC on 2017.11.07  
 Client/Project  
 CITY OF HAMILTON BRIDGES  
 CULTURAL HERITAGE IMPACT ASSESSMENT

Figure No.  
 3

Title  
 Illustrated Historical Atlas of the County of  
 Wentworth, 1875, Township of Barton



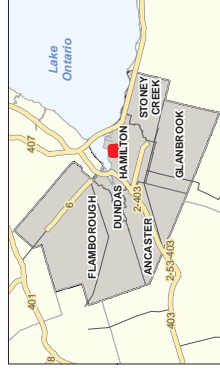






Map Not to Scale

NOTES  
 1. Source: Tynd, James William: 1924. Tynd's Atlas of the City of Hamilton, Ontario.  
 Hamilton, J.W. Tynd and Co.

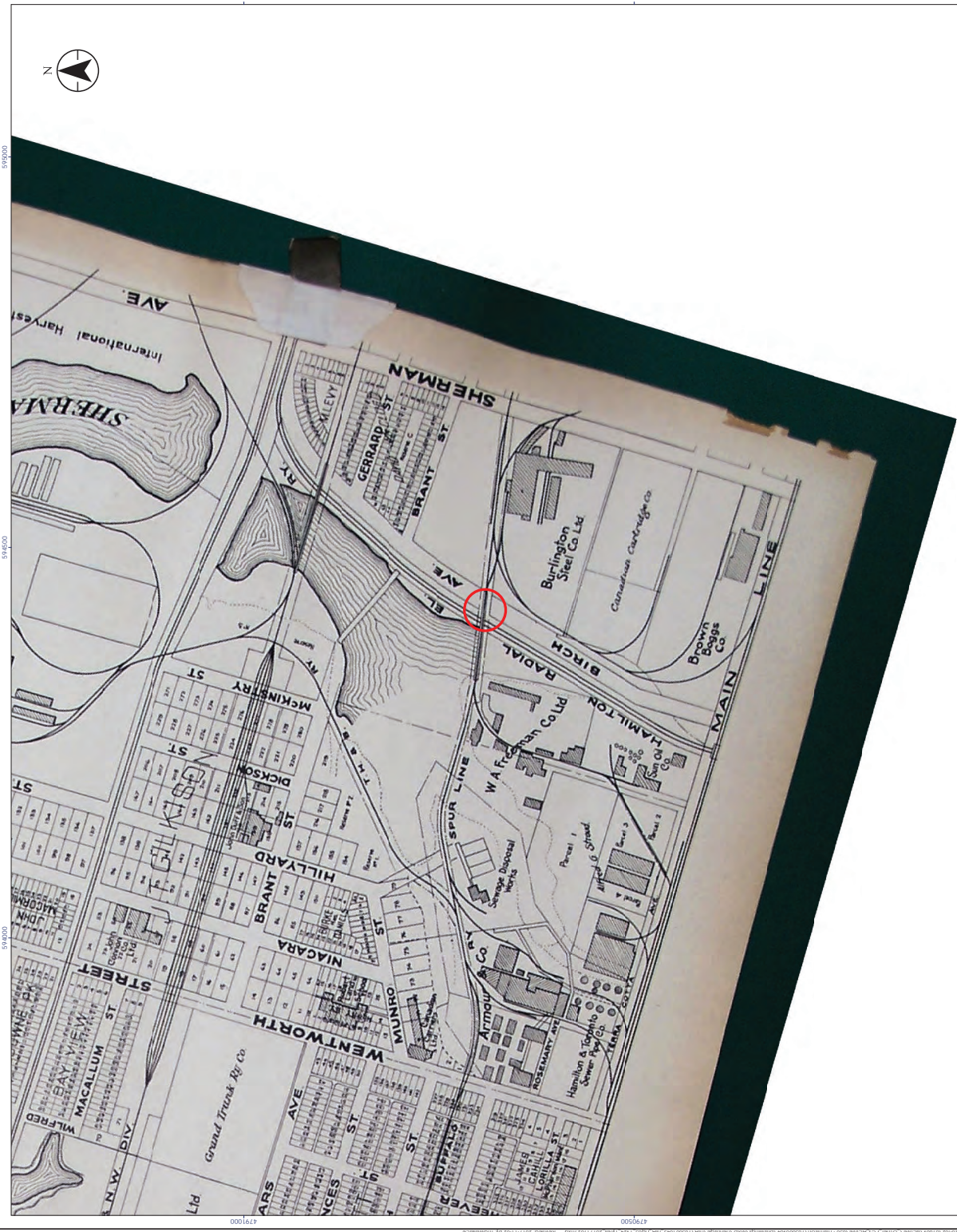


Project Location  
 City of Hamilton

14500043, REV A  
 Prepared by MDW on 2017.11.02  
 Technical Review by ABC on 2017.11.02  
 Independent Review by ABC on 2017.11.02

Client/Project  
 CITY OF HAMILTON BRIDGES  
 CULTURAL HERITAGE IMPACT ASSESSMENT

Figure No. 5  
 Title City of Hamilton, 1924



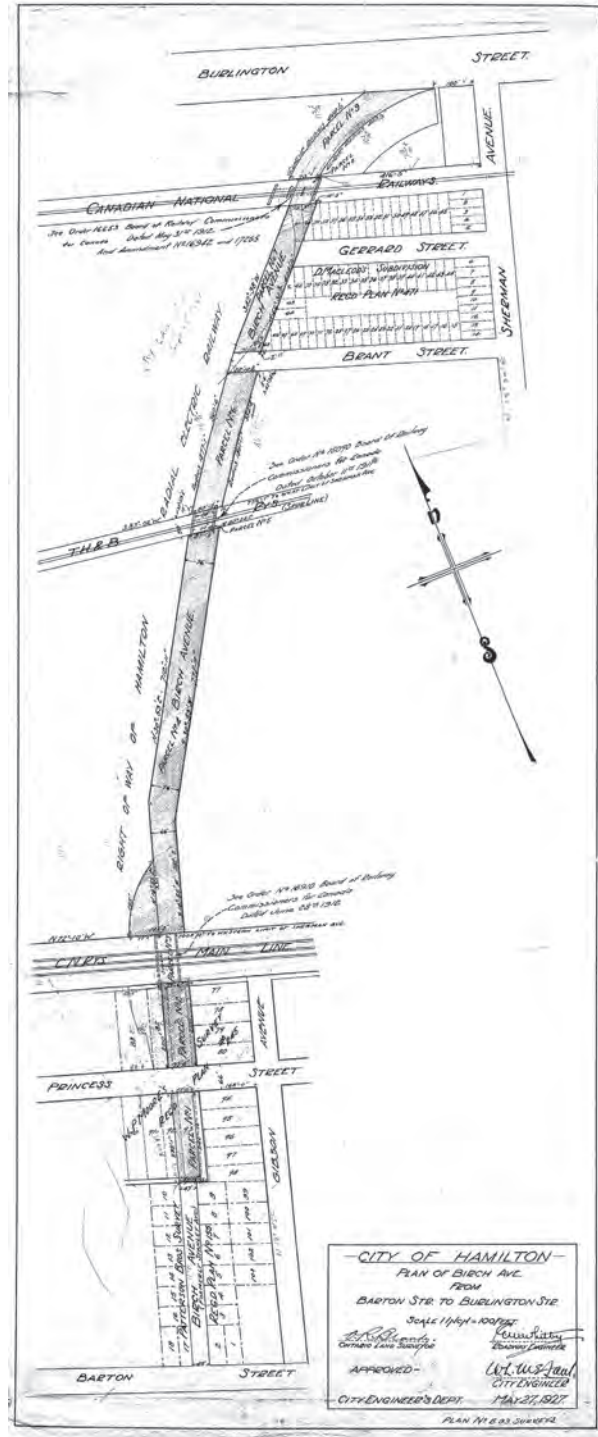
Notes  
 1. Source: City Engineer's Dept. 1927. Plan of Birch Ave. from Barton Str. to Burlington Str., City of Hamilton.

Project Location  
 City of Hamilton

Client/Project  
 City of Hamilton, Public Works, Engineering Services  
 City of Hamilton Bridges  
 Cultural Heritage Impact Assessment

Figure No.  
 6

Title  
 1927. Plan of Birch Ave. from Barton Str. to Burlington Str.





Site Description  
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## 4.0 SITE DESCRIPTION

The following description of the Birch Avenue Bridge is based on available drawings (dating between 1970 and 2002), inspection report (2014) and a site visit completed in March and November 2017. A selection of bridge drawings is found in Appendix B.

### 4.1 LANDSCAPE CONTEXT

The Birch Avenue Bridge is situated within the former Township of Barton, now the City of Hamilton. Brant Street is located approximately 125 metres to the north and Princess Street is located approximately 450 metres to the south.

The bridge is generally set in an industrial context and is immediately bordered by industrial development (Plate 8 and Plate 9). Hamilton Specialty Bar Inc., a manufacturer in specialty steel, is located on the southeast side of the bridge. An area of open space related to nearby industrial sites is located to the west side of the bridge. Birch Avenue is a one-way street that passes underneath the Birch Avenue Bridge (Plate 10). The roadway is three lanes wide, has no shoulders, a sidewalk on the east side, and is generally lined with trees and scrubby vegetation. The land on the west side of the roadway contains a hydro corridor (Plate 11 to Plate 12). The Birch Avenue Bridge carries the former T.H. & B. Railway Spur Line over Birch Avenue. Four timber trestles that support the former T.H. & B. Railway Spur Line are located immediately west of the through girder section of the bridge and comprise the remaining four spans (Plate 13). The former T.H. & B. Railway Spur Line was abandoned and in the early 21<sup>st</sup> century the tracks connecting the bridge to the rail line were dismantled (Plate 14 and Plate 15). The bridge still retains a single set of railway tracks (Plate 16 to Plate 19).



Plate 8: View of bridge and adjacent industry



Plate 9: View of adjacent steel factory looking southeast



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Plate 10: View of bridge approach looking northeast along Birch Avenue



Plate 11: View of bridge approach looking northeast along Birch Avenue



Plate 12: View of adjacent hydro corridor looking northeast



Plate 13: View of timber trestles looking northeast



Plate 14: View of former rail line looking south



Plate 15: View of former rail line looking north



## CULTURAL HERITAGE IMPACT ASSESSMENT, BRIDGE 331, BIRCH AVENUE BRIDGE

Site Description  
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Plate 16: View of railway track across Birch Avenue Bridge looking north



Plate 17: Close-up view of railway tracks over Birch Avenue Bridge



Plate 18: View of railway track across trestle support looking south



Plate 19: View of railway track across trestle support and bridge looking south

### 4.2 BIRCH AVENUE BRIDGE

The Birch Avenue Bridge is a five-span structure with a one span through girder section carrying the former T.H. & B. Railway Spur Line over Birch Avenue in a general east-west direction (Plate 20). Four timber trestles are located immediately west of the through girder section of the bridge and comprise the remaining four spans (Plate 21).

The superstructure of the through girder section of the bridge consists of steel girders that are fastened together with steel angles and rivets (Plate 22 and Plate 23). The top flange of both girders is curved at the abutments. The north elevation of the bridge contains a steel plate at the centre of the bridge that is fastened to the girder with steel bolts. This plate was installed to repair damaged caused by a collision in 2002.





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The underside of the through girder section of the bridge consists of steel cross girders that are fastened with steel rivets (Plate 24). The east abutment is a simple gravity abutment (Plate 25). The west abutment is similar in design to the east abutment and serves to support the bridge and rail line that continues to the west (Plate 26 to Plate 29). Both abutments are parged with concrete. The original concrete materials of the west abutment on are evident on its northwest elevation (Plate 31). The bridge is generally rusted, there are deficiencies in the timber bents and concrete abutments but otherwise appears to be in fair condition.

The four-span trestle section of the bridge is connected to the through girder structure on its west end. It is composed of three sections of timber supports (Plate 32 and Plate 33). The supports carry a single set of railway track over an area that was an inlet (Sherman's Inlet) from Burlington Bay in the late 19<sup>th</sup> century, and infill for the H.R.E.R. in the early 20<sup>th</sup> century. The steel beams that support the railway track were manufactured by Carnegie USA and Jones and Laughlin, as indicated in stamps on the structure (Plate 35). The timber ends of the railway track are each numbered (Plate 36). On the trestle support closest to the Birch Avenue Bridge is a secondary rack that would have held a 120-volt service electrical line (Plate 37).



Plate 20: View of Birch Avenue Bridge looking southwest



Plate 21: View of adjacent timber trestles looking northeast



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Plate 22: View of steel girders looking southwest



Plate 23: Close-up view of steel girder at northeast end



Plate 24: View of underside of bridge



Plate 25: View of east abutment looking south



Plate 26: View of west abutment looking northwest



Plate 27: View of top of northwest abutment and steel girder





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Plate 28: View of west abutment looking southeast



Plate 29: Close-up View of west abutment looking southeast



Plate 30: View of underside of railway line at west abutment looking southeast



Plate 31: Close-up view of early concrete on west abutment



Plate 32: View of timber trestles looking northeast



Plate 33: View of timber trestles looking southeast



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Plate 34: View of timber trestles looking northwest



Plate 35: View of steel beam between timber supports and railway track looking south

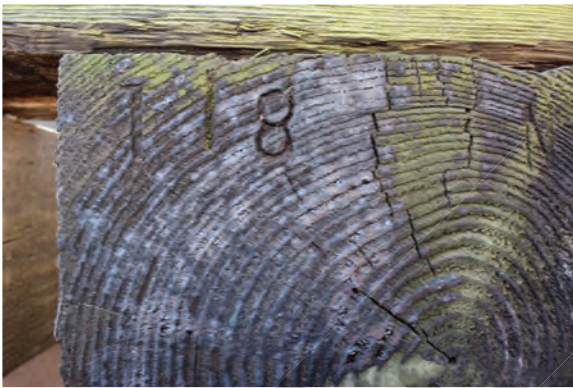


Plate 36: View of numbered timber end looking southwest



Plate 37: View of secondary rack on timber trestle

### 4.3 MODIFICATION

The Birch Avenue Bridge underwent repair in 2002 when the bridge was damaged as the result of a collision in the centre of the north elevation of the bridge. The repair scheme, showing the bolt pattern and steel details, is included in Appendix B. The scope of work carried out as part of the repair included:

- Removal of the damaged portion of the web plate
- Cutting back the end of the floor system to install new bolts to secure the steel plate
- Installation of two steel fill plates and one lap plate to cover damaged area



## 5.0 SUMMARY OF CULTURAL HERITAGE VALUE

### 5.1 SUMMARY

The CHER prepared for the Birch Avenue Bridge by Stantec in 2017 found that this bridge has CHVI under O. Reg. 9/06 and moderate heritage value as a Class C structure per the Hamilton Bridge Guideline. The cultural heritage value of the bridge is based on its historical associations with the surrounding industrial development and contextual value since it is visually, functionally, and historically linked to its surroundings. No design or physical value was identified for the Birch Avenue Bridge (Stantec 2017).

The following statement of cultural heritage value was prepared for the Birch Avenue Bridge based on the research and evaluation completed in 2017 by Stantec as part of the CHER.

### 5.2 STATEMENT OF CULTURAL HERITAGE VALUE OR INTEREST

The Birch Avenue Bridge contains a single span across Birch Avenue and four spans on timber trestles to the west of Birch Avenue. The design of the bridge is functional in nature and the bridge features an unusual combination of materials, including riveted steel and timber trestles. Though uncommon now, these were common materials at the time of the bridge construction.

The Birch Avenue Bridge is associated with industrial development in the City during the late 19<sup>th</sup> century and early 20<sup>th</sup> century. The spans with timber trestles date to the construction of the T.H. & B. Spur Line across Sherman's Inlet in the 1890s. The span over Birch Avenue was constructed between 1913 to 1917 to carry the T.H. & B. Spur Line over the road to service the local industry. The bridge is historically associated with the surrounding industrial development and land use in this part of the City of Hamilton.

The Birch Avenue Bridge supports the overall industrial character of the area. It is a well-proportioned bridge that has general massing that is appropriate to the landscape in which it is situated. The Birch Avenue Bridge is a familiar structure in the area and is visually prominent when travelling south along Birch Avenue. While the bridge is not a known landmark, it is functionally and historically linked to its surroundings.

The heritage attributes of the Birch Avenue Bridge include the steel girder and timber trestle materials that are associated with railway construction and linked to the industrial history of the surrounding area.

## 6.0 ASSESSMENT AND MITIGATION

### 6.1 DESCRIPTION OF THE PROPOSED UNDERTAKING

The City of Hamilton is planning to decommission the Birch Avenue Bridge entirely since the CPR tracks are no longer in use. The railway tracks to the bridge have been removed and bridge is now redundant. Drawings of the proposed work are provided in Appendix C.

### 6.2 IMPACT ASSESSMENT

The assessment of impacts on heritage resources is based on the impacts defined in the MTCS *InfoSheet #5: Heritage Impact Assessments and Conservation Plans from the Heritage Resources in the Land Use Planning Process Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement, 2005* (Government of Ontario 2006b). Impacts to heritage resources may be direct or indirect. Direct impacts include:

- **Destruction** of any, or part of any, significant heritage attributes or features
- **Alteration** that is not sympathetic, or is incompatible, with the historic fabric and appearance

Indirect impacts to cultural heritage resources do not result in the direct destruction or alteration of the feature or its heritage attributes, but may indirectly affect the cultural heritage value of a property by causing:

- **Shadows** created that alter the appearance of a heritage attribute or change the viability of a natural feature or plantings, such as a garden
- **Isolation** of a heritage attribute from its surrounding environment, context or a significant relationship
- **Direct or indirect obstruction** of significant views or vistas within, from, or of built and natural features
- **A change in land** use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces
- **Land disturbances** such as a change in grade that alters soil, and drainage patterns that adversely affect an archaeological resource

(Government of Ontario 2006b)

Table 1 and Table 2 provide an overview of potential direct and indirect impacts related to the Birch Avenue Bridge.

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**Table 1: Evaluation of Potential Direct Impacts**

Direct Impact	Relevance to Birch Avenue Bridge
<b>Destruction</b> of any, or part of any, <i>significant heritage attributes</i> or features.	Removal of the bridge would result in the destruction of the identified heritage attributes and its connection to the industrial area of the City. <b>Therefore, mitigation measures are required.</b>
<b>Alteration</b> that is not sympathetic, or is incompatible, with the historic fabric and appearance.	The City is proposing to remove the bridge. No alterations or modifications are planned for the structure. <b>Therefore, no mitigation measures are required.</b>

**Table 2: Evaluation of Potential Indirect Impacts**

Indirect Impact	Relevance to Birch Avenue Bridge
<b>Shadows</b> created that alter the appearance of a <i>heritage attribute</i> or change the viability of a natural feature or plantings, such as a garden	The City is proposing to remove the bridge, so there will be a direct impact. Once removed indirect impacts will not be a concern. <b>Therefore, no mitigation measures are required.</b>
<b>Isolation</b> of a <i>heritage attribute</i> from its surrounding environment, context or a <i>significant</i> relationship	The City is proposing to remove the bridge, so there will be a direct impact. Once removed indirect impacts will not be a concern. <b>Therefore, no mitigation measures are required.</b>
<b>Direct or indirect obstruction</b> of <i>significant</i> views or vistas within, from, or of built and natural features	The City is proposing to remove the bridge, so there will be a direct impact. Once removed indirect impacts will not be a concern. <b>Therefore, no mitigation measures are required.</b>
<b>A change in land use</b> such as rezoning a battlefield from open space to residential use, allowing new <i>development</i> or <i>site alteration</i> to fill in the formerly open spaces	The City is proposing to remove the bridge, so there will be a direct impact. Once removed indirect impacts will not be a concern. <b>Therefore, no mitigation measures are required.</b>
<b>Land disturbances</b> such as a change in grade that alters soil, and drainage patterns that adversely affect an <i>archaeological resource</i>	The City is proposing to remove the bridge, so there will be a direct impact. Once removed indirect impacts will not be a concern. <b>Therefore, no mitigation measures are required.</b>

### 6.2.1 Summary of Impact Assessment

The City is proposing to remove the Birch Avenue Bridge which will have a direct impact on its identified cultural heritage value and heritage attributes. Therefore, mitigation measures are required.





### 6.3 ALTERNATIVES AND MITIGATION

Section 4.2 of the *City of Hamilton Heritage Bridge Guideline and Heritage Bridge Conservation* (2006) document provides guidance on the alternatives that should be considered when impacts are anticipated to a bridge with cultural heritage value. The alternatives are arranged in a continuum from strategies with the least impact to the structure and its heritage value (most preferable), to those with the most impact (least preferable). The alternatives, and their relevance to the Birch Avenue Bridge, are presented in Table 3.

**Table 3: Considered Alternatives**

Alternative	Relevance to Birch Avenue Bridge
<p>a) retention of existing bridge and restoration of missing or deteriorated elements where physical or documentary evidence (e.g. photographs or drawings) can be used for their design;</p>	<p>The Birch Avenue bridge is no longer in use since the associated T.H.&amp; B. Spur Line has been decommissioned. The retention of the existing bridge <i>in situ</i> is not a suitable alternative since the bridge would have no function and would not be connected to any transportation routes of any type. Further, original drawings and documentary evidence are not available for this bridge.</p> <p><b>Accordingly, this alternative is not suitable for the Birch Avenue Bridge.</b></p>
<p>b) retention of existing bridge with no major modifications undertaken;</p>	<p>The Birch Avenue bridge is no longer in use since the associated T.H.&amp; B. Spur Line has been decommissioned. The retention of the existing bridge <i>in situ</i> is not a suitable alternative since the bridge would have no function and would not be connected to any transportation routes of any type. Maintaining or modifying the bridge when it has no functional purpose is not an appropriate alternative option.</p> <p><b>Accordingly, this alternative is not suitable for the Birch Avenue Bridge.</b></p>
<p>c) retention of existing bridge with sympathetic modification;</p>	<p>The Birch Avenue bridge is no longer in use since the associated T.H.&amp; B. Spur Line has been decommissioned. The retention of the existing bridge <i>in situ</i> is not a suitable alternative since the bridge would have no function and would not be connected to any transportation routes of any type. Sympathetic modifications to the bridge when it has no functional purpose is not an appropriate alternative option.</p> <p><b>Accordingly, this alternative is not suitable for the Birch Avenue Bridge.</b></p>
<p>d) retention of existing bridge with sympathetically design new structure in proximity;</p>	<p>The Birch Avenue bridge is no longer in use since the associated T.H.&amp; B. Spur Line has been decommissioned. The retention of the existing bridge <i>in situ</i> is not a suitable alternative since the bridge would have no function and would not be connected to any transportation routes of any type. No new structures are required at this location since the spur line will not</p>

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	<p>be restored and no pedestrian walkways or cycle paths are planned along the former rail alignment.</p> <p><b>Accordingly, this alternative is not suitable for the Birch Avenue Bridge.</b></p>
<p>e) retention of existing bridge no longer in use for vehicle purposes but adapted for pedestrian walkways, cycle paths, scenic viewing, etc.;</p>	<p>The Birch Avenue Bridge is set in an industrial area that does not include pedestrian walkways, cycle paths, or scenic view points. A sidewalk is located on the east side of Birch Avenue but this pedestrian route serves as a north-south connection between Burlington Street East and Barton Street East. There are no east-west pedestrian pathways planned along the former T.H.&amp; B. Spur Line or in the vicinity of the Birch Avenue Bridge.</p> <p><b>Accordingly, this alternative is not suitable for the Birch Avenue Bridge.</b></p>
<p>f) relocation of bridge to appropriate new site for continued use (see d) or adaptive re-use (see e);</p>	<p>The heritage value of the bridge rests in its historical and contextual associations with the surrounding industrial development. No design value was identified for the bridge. The relocation of the bridge for continued use is not an appropriate mitigation measure since the historical/contextual value would be disrupted and the bridge does not have value beyond its relationship to the industrial development along Birch Avenue.</p> <p><b>Accordingly, this alternative is not suitable for the Birch Avenue Bridge.</b></p>
<p>g) retention of bridge as heritage monument for viewing purposes only;</p>	<p>Transportation Improvements are planned along Birch Avenue. Retention of the bridge as a heritage monument along Birch Avenue is an appropriate alternative for this bridge. Specifically, the Birch Avenue Bridge could be relocated and used as a gateway feature to mark the north or south boundary of the industrial area located between Princess Street and Brant Street.</p> <p><b>This alternative is a suitable alternative for the Birch Avenue Bridge.</b></p>
<p>h) replacement/removal of existing bridge with salvage of elements/members of heritage bridge for incorporation into new structure or for future conservation work or displays;</p>	<p>The Birch Avenue Bridge contains materials that are relatively rare and have salvage potential. Specifically, the steel girders, steel rivets, timber trestles, steel beams, steel nails, and railway ties should be salvaged where possible.</p> <p><b>This alternative is a suitable alternative for the Birch Avenue Bridge.</b></p>
<p>i) replacement/removal of existing bridge with full recording and documentation of the heritage bridge.</p>	<p>The removal of the Birch Avenue Bridge is planned since the T.H.&amp; B. Spur Line is no longer in use. The Birch Avenue Bridge should be subject to full documentation prior to demolition.</p> <p><b>This alternative is a suitable alternative for the Birch Avenue Bridge.</b></p>

In addition, two mitigation options from the *Ontario Heritage Bridge Guideline* are cited in Section 4.2 of the *City of Hamilton Heritage Bridge Guideline and Heritage Bridge Conservation* (2006) document. These mitigation options are suggested where the removal of a bridge is planned. The mitigation options, and their relevance to the Birch Avenue Bridge, are presented in Table 4.

**Table 4: Ontario Heritage Bridge Guideline Mitigation Measures**

Mitigation Measure	Relevance to Birch Avenue Bridge
a) replacement/removal of existing bridge and construction of a new bridge with replication of the appearance of the heritage bridge in the new design, with allowance for the use of modern materials;	The Birch Avenue bridge is no longer in use since the associated T.H.& B. Spur Line has been decommissioned. The construction of a new bridge that replicates the appearance of the Birch Avenue Bridge is not warranted since a bridge is no longer needed in this location. <b>Accordingly, this is not a suitable mitigation measure for the Birch Avenue Bridge.</b>
b) replacement/removal of existing bridge and construction of a new bridge with historically sympathetic design qualities to the heritage bridge, with allowances for the use of new technologies and materials.	The Birch Avenue bridge is no longer in use since the associated T.H.& B. Spur Line has been decommissioned. The construction of a new bridge with historically sympathetic design qualities to the Birch Avenue Bridge is not warranted since a bridge is no longer needed in this location. <b>Accordingly, this is not a suitable mitigation measure for the Birch Avenue Bridge.</b>

## 6.4 MITIGATION MEASURES

The Birch Avenue Bridge has CHVI and moderate heritage value as a Class C structure. As the City is proposing to remove the structure, the following three mitigation options are presented, including:

- Retention of bridge as heritage monument for viewing purposes only;
- Salvage of bridge components for incorporation into new structure or for future conservation work or displays;
- Documentation of the bridge prior to demolition

### 6.4.1 Retention as Heritage Monument

Generally, retention *in situ* is the preferred option when addressing any structure where CHVI has been identified, even if limited. In the case of the Birch Avenue Bridge, the City is proposing to remove the structure, as it is an abandoned railway structure with no railway line connection. Retention of this structure in *in situ* is not appropriate since this bridge would be isolated and would have no functional connection to a transportation route of any kind.

Where retention *in situ* is not feasible or preferred, relocation is often the next option considered to mitigate the loss of a heritage resource. As with retention, relocation of a structure, or



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structures, must be balanced with the CHVI identified. Relocation removes the resource from its contextual setting but allows for the preservation of noteworthy heritage attributes. This is a viable option where the CHVI identified merits preservation and the integrity of the structure is determined to be sound.

In the case of Birch Avenue Bridge, it was identified to have CHVI for its contextual and historical value, as it is linked to the industrial development in the City during the late 19<sup>th</sup> and early 20<sup>th</sup> century. If the bridge was relocated beyond Birch Avenue between Princess Street and Brant Street this contextual value would be lost. The bridge does not merit design or physical value, as it is a common bridge type in the City of Hamilton. The design of the bridge is functional in nature and uses materials such as riveted steel and timber that, while uncommon now, were common for their time of construction. Purpose-built structures are also difficult to relocate, especially the Birch Avenue Bridge, as it was constructed in the early 20<sup>th</sup> century to carry a single railway track of the T.H. & B. Spur Line. The technology and design of railway structures have since evolved. The integrity of the structure to be used elsewhere as part of a railway line is not feasible.

While retention *in situ* and relocation/re-use as a functioning bridge are not viable options for the Birch Avenue Bridge, the retention of this bridge as a heritage monument for viewing purposes is a possible mitigation option. The through girder section of the bridge could be relocated and used as a gateway feature to mark the north or south boundary of the industrial area located on Birch Avenue between Princess Street and Brant Street. This mitigation approach would conserve the historical and contextual value of the bridge since it would remain visually and historically connected to the surrounding industrial area. Retaining and rehabilitating the Birch Avenue Bridge to be a heritage monument should be explored as a mitigation option.

### 6.4.2 Documentation and Salvage

Detailed documentation and salvage is often the preferred mitigation strategy where retention or relocation is not feasible or warranted. Documentation creates a public record of the structure, or structures, which provides researchers and the general public with a land use history, construction details, and photographic record of the resource. Through the selective salvage of identified heritage attributes and other materials, the CHVI of the property can be retained, if in a different context. Documentation and salvage acknowledges the heritage attributes in their current context and, where feasible, allows for reuse. Documentation should be carried out in advance of any changes made to the property.

While documentation and salvage is not a preferred mitigation option, it is an appropriate strategy, as retention *in situ*, relocation and re-use are not feasible options for the bridge. If documentation and salvage is selected as the approach, further, documentation of the existing conditions of the bridge and landscape setting, should be carried out prior to any alteration or construction activity.



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As no materials were identified to be of museum quality, salvage can be completed at the discretion of City of Hamilton. Salvage activities may be undertaken by a reputable salvage company or charity. In order to facilitate salvage activities, the following is a recommended list of materials to be salvaged, where feasible.

- Steel girders
- Steel rivets
- Timber trestles
- Steel beams
- Steel nails
- Railway ties

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## 7.0 RECOMMENDATIONS

The Birch Avenue Bridge has CHVI per O. Reg 9/06 and has moderate heritage value as a Class C structure per the City of Hamilton Heritage Bridge Guideline. The City plans to decommission this structure since the bridge is no longer in use and the rail line connected to the bridge has been removed. The removal of the Birch Avenue Bridge is a direct impact and the following mitigation measures are recommended:

- 1) The feasibility of retaining the Birch Avenue Bridge as a heritage monument for viewing purposes only should be explored. The through girder section of the Birch Avenue Bridge could be retained as a gateway feature at the north or south ends of Birch Avenue to mark the north or south boundary of the industrial area located on Birch Avenue between Princess Street and Brant Street. This mitigation approach would conserve the historical and contextual value of the bridge since it would remain visually and historically connected to the surrounding industrial area.
- 2) If the retention of the Birch Avenue Bridge as a heritage monument is not feasible, then full documentation and salvage should be carried out for this bridge. Documentation activities should consist of the full heritage recording of the bridge through photography, photogrammetry, or LiDAR scan. Salvage activities should consist of the identification and recovery re-useable bridge components by a reputable salvage company or charity. Materials that should be considered for salvage include the steel girders, steel rivets, timber trestles, steel beams, steel nails, and railway ties. The documentation and salvage work should be carried out under the direction of a Cultural Heritage Specialist in good professional standing with the Canadian Association of Heritage Professionals (CAHP).



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## APPENDICES

**Appendix A** MUNICIPAL HERITAGE BRIDGES CULTURAL  
HERITAGE AND ARCHAEOLOGICAL RESOURCES  
ASSESSMENT CHECKLIST

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## Municipal Heritage Bridges Cultural, Heritage and Archaeological Resources Assessment Checklist

*This checklist was prepared in March 2013 by the Municipal Engineers Association to assist with determining the requirements to comply with the Municipal Class Environmental Assessment. View all 4 parts of the module on Structures Over 40 Years at [www.municipalclassea.ca](http://www.municipalclassea.ca) to assist with completing the checklist.*

**Project Name:**

**Location:**

**Municipality:**

**Project Engineer:**

**Checklist completed by:**

**Date:**

**NOTE: Complete all sections of Checklist. Both Cultural Heritage and Archaeological Sections must be satisfied before proceeding.**

### Part A - Municipal Class EA Activity Selection

Description	Yes	No
Will the proposed project involve or result in construction of new water crossings? This includes ferry docks.	<input type="checkbox"/> Schedule B or C	<input type="checkbox"/> Next
Will the proposed project involve or result in construction of new grade separation?	<input type="checkbox"/> Schedule B or C	<input type="checkbox"/> Next
Will the proposed project involve or result in construction of new underpasses or overpasses for pedestrian recreational or agricultural use?	<input type="checkbox"/> Schedule B or C	<input type="checkbox"/> Next
Will the proposed project involve or result in construction of new interchanges between any two roadways, including a grade separation and ramps to connect the two roadways?	<input type="checkbox"/> Schedule B or C	<input type="checkbox"/> Next



Description	Yes	No
Will the proposed project involve or result in reconstruction of a water crossing where the structure is less than 40 years old and the reconstructed facility will be for the same purpose, use, capacity and at the same location? (Capacity refers to either hydraulic or road capacity.) This include ferry docks.	<input type="checkbox"/> Schedule A+	<input type="checkbox"/> Next
Will the proposed project involve or result in reconstruction of a water crossing, where the reconstructed facility will not be for the same purpose, use, capacity or at the same location? (Capacity refers to either hydraulic or road capacity). This includes ferry docks.	<input type="checkbox"/> Schedule B or C	<input type="checkbox"/> Next
Will the proposed project involve or result in reconstruction or alteration of a structure or the grading adjacent to it when the structure is over 40 years old where the proposed work will alter the basic structural system, overall configuration or appearance of the structure?	<input type="checkbox"/> Next	<input type="checkbox"/> Assess Archaeological Resources

**Part B - Cultural Heritage Assessment**

Description	Yes	No
Does the proposed project involve a bridge construction in or after 1956?	<input type="checkbox"/> Next	<input type="checkbox"/> Prepare CHER Undertake HIA
Does the project involve one of these three bridge types?	<input type="checkbox"/> Rigid frame      Next <input type="checkbox"/> Simple Support      Next <input type="checkbox"/> Structural Steel      Next	<input type="checkbox"/> Prepare CHER Undertake HIA
Does the bridge or study area contain a parcel of land that is subject of a covenant or agreement between the owner of the property and a conservation body or level of government?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next

Description	Yes	No
Does the bridge or study area contain a parcel of land that is listed on a register or inventory of heritage properties maintained by the municipality?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is designated under Part IV of the Ontario Heritage Act?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is subject to a notice of intention to designate issued by a municipality?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is located within a designated Heritage Conservation District?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is subject to a Heritage Conservation District study area by-law?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is part of a National Historic Site?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is part of a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is designated under the Heritage Railway Station Protection Act?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next

Description	Yes	No
Does the bridge or study area contain a parcel of land that is identified as a Federal Heritage Building by the Federal Heritage Building Review Office (FHBRO)	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is the subject of a municipal, provincial or federal commemorative or interpretive plaque that speaks to the Historical significance of the bridge?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain a parcel of land that is in a Canadian Heritage River watershed?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Will the project impact any structures or sites (not bridges) that are over forty years old, or are important to defining the character of the area or that are considered a landmark in the local community?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Is the bridge or study area adjacent to a known burial site and/or cemetery?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Is the bridge considered a landmark or have a special association with a community, person or historical event in the local community?	<input type="checkbox"/> Prepare CHER Undertake HIA	<input type="checkbox"/> Next
Does the bridge or study area contain or is it part of a cultural heritage landscape?	<input type="checkbox"/> Prepare Cher Undertake HIA	<input type="checkbox"/> Assess Archaeological Resources



**PART C - HERITAGE ASSESSMENT**

Description	Yes	No
Does the Cultural Heritage Evaluation Report identify any Heritage Features on the project?	<input type="checkbox"/> Undertake HIA	<input type="checkbox"/> Part D - Archaeological Resources
Does the Heritage Impact Assessment determine that the proposed project will impact any of the Heritage Features that have been identified?	<input type="checkbox"/> Schedule B or C	<input type="checkbox"/> Part D - Archaeological Resources

**PART D - ARCHAEOLOGICAL RESOURCES ASSESSMENT**

Description	Yes	No
Will any activity, related to the project, result in land impacts/significant ground disturbance?	<input type="checkbox"/> Next	<input type="checkbox"/> Schedule A - proceed
Have all areas, to be impacted by ground disturbing activities, been subjected to recent extensive and intensive disturbances and to depths greater than the depths of the proposed activities?	<input type="checkbox"/> Schedule A - proceed	<input type="checkbox"/> Next
Has an archaeological assessment previously been carried out that includes all of the areas to be impacted by this project?	<input type="checkbox"/> Next	<input type="checkbox"/> Archaeological Assessment
Does the report on that previous archaeological assessment recommend that no further archaeological assessment is required within the limits of the project for which that assessment was undertaken, and has a letter been issued by the Ministry of Tourism, Culture and Sport stating that the report has been entered into the Ontario Public Register of Archaeological Reports?	<input type="checkbox"/> Schedule A - proceed	<input type="checkbox"/> Obtain satisfaction letter - proceed

**\*\* Include Documentation Summary in Project File\*\***

## Appendix B BIRCH AVENUE BRIDGE DRAWINGS

DRAFT

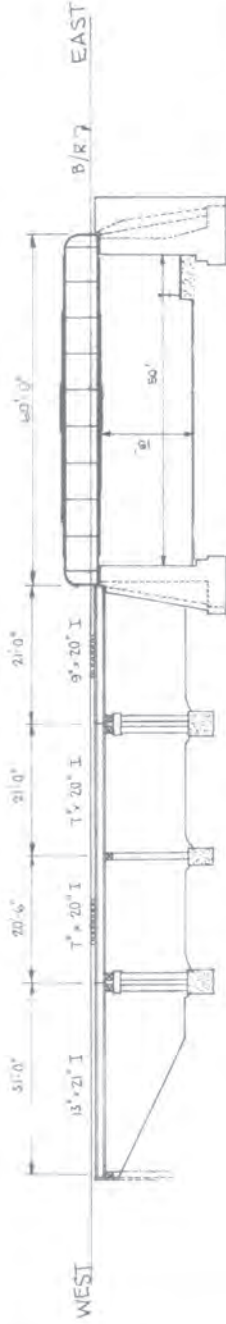


CPRAIL

# RECORD OF BRIDGES & CULVERTS

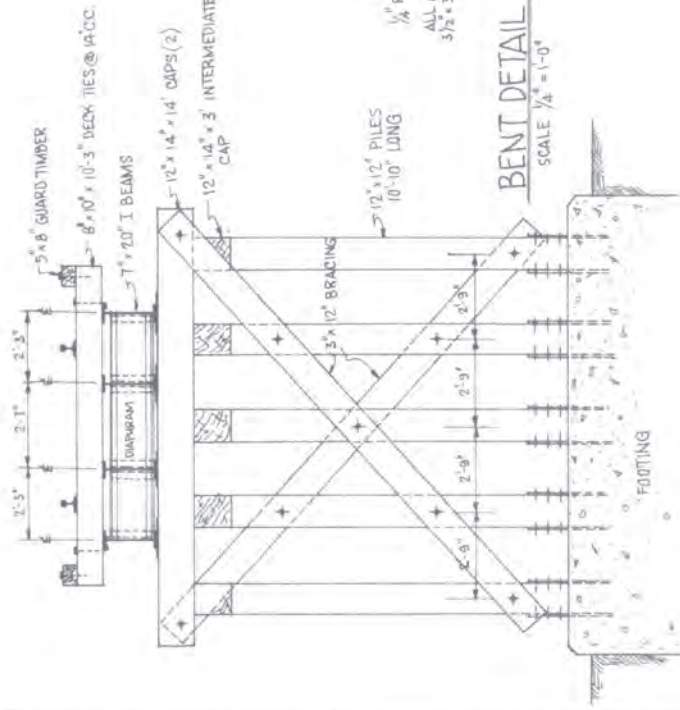
EASTERN REGION  
T.H. & B. R.WY. CO. DIVISION  
BELT LINE SUBDIVISION

SHEET 52 OF 55 SHEETS

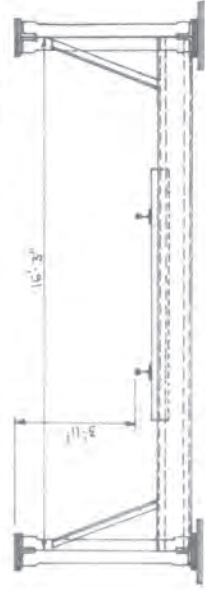


PLAN  
SCALE 1" = 20'

ORIGINAL BRIDGE CONSTRUCTION - 1914  
RECONSTRUCTION - 1940  
CROSSING ANGLE - 66°



BENT DETAIL  
SCALE 3/4" = 1'-0"



SECTION - STEEL  
SCALE 3/4" = 1'-0"



FLOOR DETAIL  
SCALE 1/2" = 1'-0"

TORONTO HAMILTON & BUFFALO R.WY. CO.

## BIRCH AVE. BRIDGE & TRESTLE BELT LINE - M 2-63

BELT LINE SUBDIVISION - HAMILTON - ONT.

SCALE - AS NOTED DATE JUL 30-1980

DATE OF LAST REV.





CP Rail

# RECORD OF BRIDGES & CULVERTS

EASTERN REGION  
 T.H. & B. RWY. CO. DIVISION  
 BELT LINE SUBDIVISION  
 SHEET 42 OF 43 SHEETS

MILEAGE Present / Old	NAME OF CROSSING	CHAINAGE	TYPE	Overall Length	Base of Rail to Bed of Stream	Maximum Clear Size of Opening	Year Built	Approach Number	ORIGINAL COST <sup>①</sup>			REMARKS <sup>②</sup>
									Masonry <sup>③</sup>	Steel	Timber	
1-45	C.N.R. OH. BRIDGE		THRU PL. GIRDER	20'		19'	1900	-				12,764-88 C.N.R. BRIDGE - CONSTRUCTED AND MAINTAINED AT T.H. & B. EXPENSE.
1-43			C.M.P.			12' φ	-	-				
2-63	BIRCH AVE. BRIDGE		THROUGH GIRDER	60'			1914	-				CITY OF HAMILTON OWNED & MAINTAINED.
2-66	BIRCH AVE. TRESTLE		TIMBER	92'-6"			1940	1374				6,877-13 (TRESTLE OVER FORMER H.R.E. RY.)

① Show plan, elevation and sections as required with necessary dimensions and other information on separate diagram sheet.  
 ② Includes concrete and reinforced concrete. Show substructure and superstructure separately, where applicable.  
 ③ Indicate whether cost is actual (A), or estimated (E). For movable bridges, show cost of machinery on separate line under total.

DATE OF LAST REVISION: \_\_\_\_\_

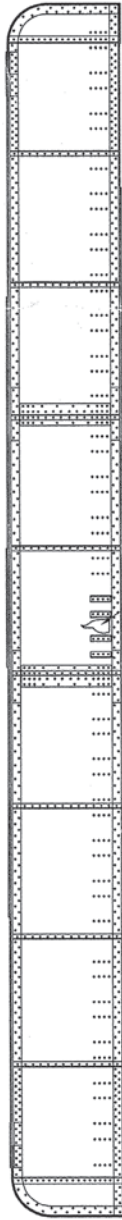






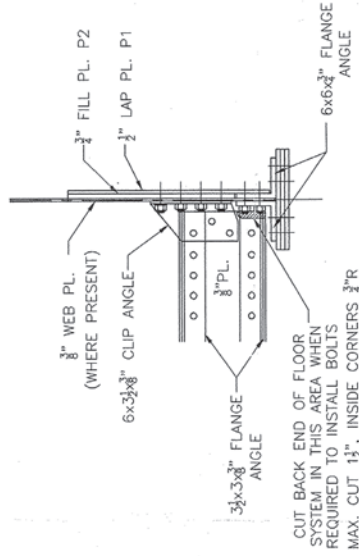
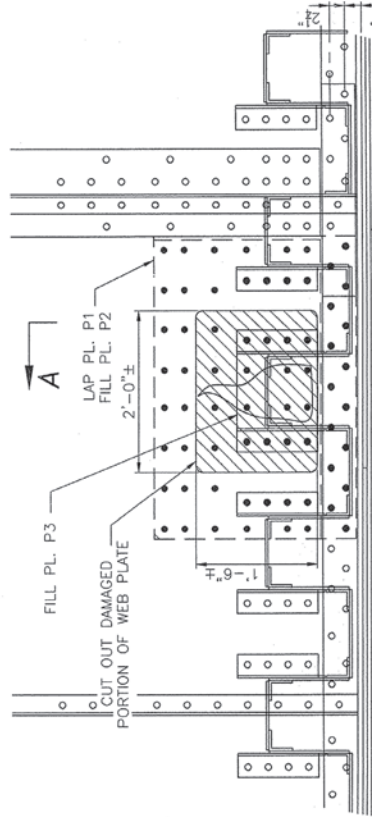
**GENERAL NOTES:**

- SPECIFICATIONS: A.R.E.M.A. MANUAL CHAPTER 15, LATEST EDITION.
- STEEL: NEW STEEL TO BE IN ACCORDANCE WITH ASTM A36, OR APPROVED EQUIVALENT.
- BOLTED CONNECTIONS: SHALL BE MADE USING 7/8" HIGH STRENGTH STEEL BOLTS IN ACCORDANCE WITH A.S.T.M. SPECIFICATION A325. HOLES SHALL BE DRILLED FULL SIZE 1/8" Ø.
- LAYOUT: ALL DIMENSIONS SHOWN TO BE FIELD VERIFIED.

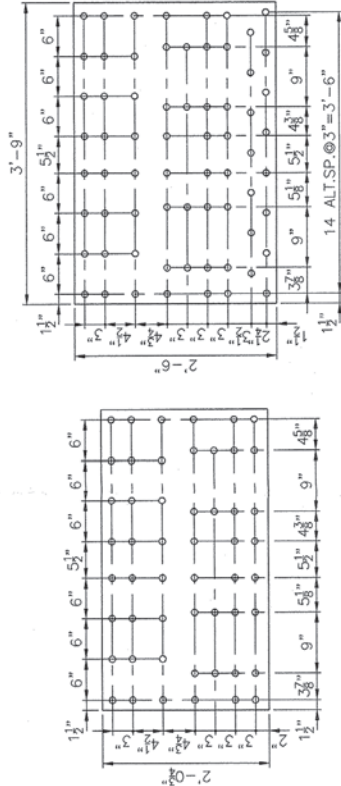
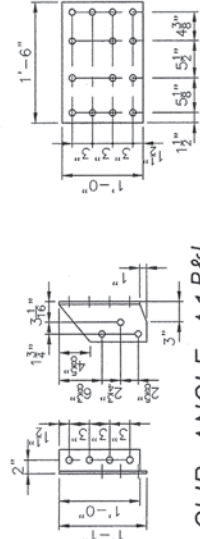


**GENERAL ELEVATION**

SCALE: 3/4" = 1'-0"



**INSIDE ELEVATION OF GIRDER**



FILED IN PLAN ROOM  
OCT 16 2002  
ENGINEERING SERVICES  
CALGARY, ALBERTA



No.	DATE	REVISION	BY
		ISSUED	

**CANADIAN PACIFIC RAILWAY**  
Engineering Services - Structures & Projects  
**STRUCTURES PLANNING & DESIGN**  
CALGARY, ALBERTA

MILE 2.63 HAMILTON BELT LINE S. ONTARIO SERVICE AREA

**REPAIR SCHEME  
BOLT PATTERN &  
STEEL DETAILS**

DWG. BY: JDS    CHK BY: KGB    OFFICE FILE: XB-HABE-2.63  
SCALE: AS SHOWN  
DATE: 2002-07-10  
ENGINEER: *Kenn G. Giff*  
PLANNING & DESIGN  
MANAGER: STRUCTURES PLANNING & DESIGN

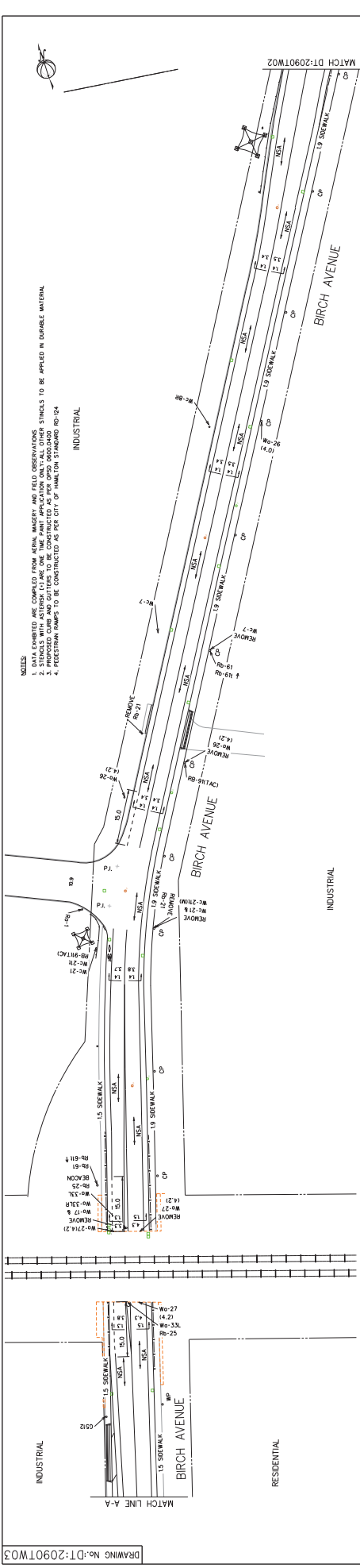
**M-926**

## Appendix C DRAWINGS OF PROPOSED WORK

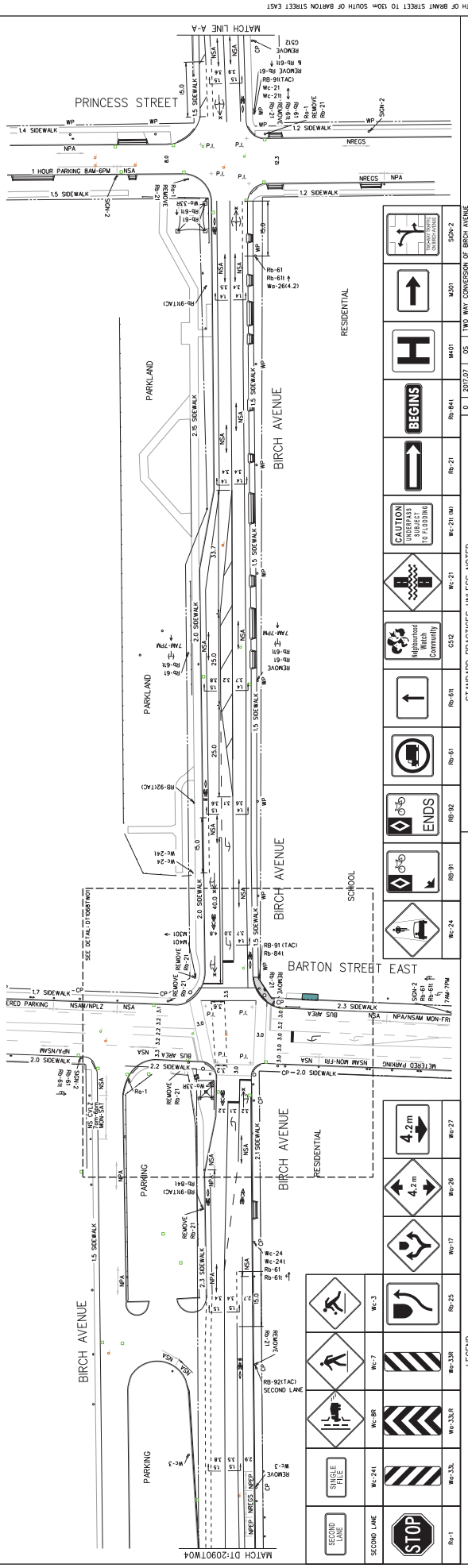
DRAFT







BRCH AVENUE FROM 120m SOUTH OF BRANT STREET TO 130m SOUTH OF BRANT STREET EAST  
 DRAWING NO.: DT-2090TW03



BRCH AVENUE FROM 130m SOUTH OF BRANT STREET TO 100m SOUTH OF BRANT STREET EAST  
 DRAWING NO.: DT-2090TW03

### PAVEMENT MARKINGS DESIGN

BRCH AVENUE  
 FROM 120m SOUTH OF BRANT STREET  
 TO  
 130m SOUTH OF BRANT STREET EAST

IN THE CITY OF HAMILTON,  
 PREPARED BY THE CITY OF HAMILTON,  
 TRAFFIC OPERATIONS & PUBLIC WORKS DEPARTMENT

DATE: 11/11/16  
 SCALE: 1:500  
 DRAWING NO.: DT-2090TW03  
 PROJECT: 1609/2017  
 DESIGNER: MCDONALD

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**NOTES:**

- DATA EXHIBIT ARE COMPILED FROM AERIAL MAPPING AND FIELD OBSERVATIONS
- PROPOSED MARKINGS AND SIGNS TO BE CONSTRUCTED AS PER ODD 600.000.000
- PROPOSED MARKINGS AND SIGNS TO BE CONSTRUCTED AS PER ODD 600.000.000
- PEDESTRIAN RAMPS TO BE CONSTRUCTED AS PER CITY OF HAMILTON STANDARD R9-124

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**STANDARD PRACTICES UNLESS NOTED**

- REMOVE ALL EXISTING MARKINGS AND SIGNS AT ALL INTERSECTIONS TO MAKE UNIFORM EXPRESSIONS BETWEEN CROSSWALK LINES
- DIRECTIONAL LINES IN PEDESTRIAN CROSSINGS NOT SHOWN
- POINT OF INTERSECTION TO CROSSWALK 0.5m
- STOP BAR WIDTH 0.3m AT 10m SET BACK FROM CROSSWALK
- SPEED LIMIT 50 WITH MARKINGS FROM 0.5m TO 1.0m AND TAC BIKWAY TRAFFIC CONTROL GUIDELINES FOR CANADA, FEB. 2002
- LANE DIMENSIONS TO E OF MARKINGS AND ODE OF ASPHALT

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**POLE CODES FORMAT: TYPE, LENGTH, OWNER, POLE NO. MAY BE TRIMMED**

CP-C	CONCRETE TEMPORARY	8	HIGH TELEPHONE
CP-T	CONCRETE TEMPORARY	8	HYDRO LINE
CP-C	CONCRETE PERMANENT	8	HYDRO LINE
UP-M	UTILITY METAL	1	UTILITY
UP-W	UTILITY WOOD	1	UTILITY
UP-T	UTILITY WOOD TEMPORARY	1	UTILITY
WP-T	WOOD TEMPORARY	1	UTILITY

**PARKING REGULATIONS**

WP-2	NO PARKING
WP-3	NO PARKING
WP-4	NO STOPPING
WP-5	NO STOPPING
WP-6	NO STOPPING
WP-7	NO STOPPING
WP-8	NO STOPPING
WP-9	NO STOPPING
WP-10	NO STOPPING
WP-11	NO STOPPING
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WP-100	NO STOPPING

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**LEGEND**

EXISTING	TRAFFIC SIGNAL CONTROL	WP-241
EXISTING	DISCONNECT BOX SERVICE ENTRANCE	WP-242
EXISTING	TRAFFIC JUNCTION BOX	WP-243
EXISTING	TRAFFIC HANDLE	WP-244
EXISTING	TRAFFIC HANDLE	WP-245
EXISTING	TRAFFIC HANDLE	WP-246
EXISTING	TRAFFIC HANDLE	WP-247
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