

APPENDIX M

Cultural Heritage Evaluation Report – Gardiner Expressway Overhead

GO Rail Network Electrification TPAP
Final Cultural Heritage Evaluation Report:
Gardiner Expressway Overhead

For



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1	December 23, 2016	Revised report reflecting new information, corrected information, client review comments, etc.
2	September 8, 2017	Final Report to Metrolinx reflecting new template and finalization

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REPORT DISCLAIMER

NOTWITHSTANDING the results and recommendations presented in this study, Archaeological Services Inc. notes that no cultural heritage assessment, no matter how thorough or carefully completed, can necessarily identify every property and/or structure that has not been previously identified as a known or potential cultural heritage resource. Cultural heritage assessments for transportation related projects are limited to the public right-of-way, and as such, potential cultural heritage resources on private property may be screened from view by vegetation and/or other barriers. In the event that a potential cultural heritage resource is found during subsequent construction activities, the consultant cultural heritage specialist and approval authority should be immediately notified.

Executive Summary

ASI was contracted by Morrison Hershfield on behalf of Metrolinx to conduct a Cultural Heritage Evaluation Report (CHER) and Cultural Heritage Evaluation Recommendation Report (CHERR) for the Gardiner Expressway Overhead on the Lakeshore West rail corridor as part of the GO Rail Network Electrification Transit Project Assessment Project (TPAP). Metrolinx is undertaking a TPAP study under *Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings* for electrification of the GO Rail Network. The Gardiner Expressway Overhead was identified as a Potential Provincial Heritage Property as part of the Cultural Heritage Screening Report completed for the GO Rail Network Electrification TPAP.

The Gardiner Expressway Overhead is located from Mile 5.57 to 5.68 of the GO Transit Lakeshore West rail corridor, and is owned by the City of Toronto. The bridge was built in 1974 and carries the Frank G. Gardiner Expressway over the Lakeshore West rail corridor, between Brookers Lane and Silver Moon Drive, in the City of Toronto.

Part 1 of this CHER provides a description of the potential cultural heritage resources, including a summary of its historical and current context (Section 1), a description of methodology and sources (Section 2), existing heritage recognition of the resource (Section 3), a description of adjacent lands (Section 4), summary of previous archaeological assessment (Section 5), community input (Section 6), and discussion of cultural heritage value (Section 7). A data sheet is provided in Section 8 and figures, including mapping and photographs, are provided in Section 9. Part 2 of this CHER contains the Recommendations Report which presents the evaluation tables outlining criteria set out in Ontario Regulations 9/06 and 10/06 and recommended outcome of the evaluation.

The CHER was conducted by Joel Konrad, Cultural Heritage Specialist, ASI.

1 Introduction

ASI was contracted by Morrison Hershfield on behalf of Metrolinx to conduct a Cultural Heritage Evaluation Report (CHER) and Cultural Heritage Evaluation Recommendation Report (CHERR) for the Gardiner Expressway Overhead, located on the Lakeshore West rail corridor (Mile 5.61), as part of the GO Rail Network Electrification Transit Project Assessment Process (TPAP). Metrolinx is undertaking a Transit Project Assessment study under *Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings* for electrification of the GO Rail Network. The purpose of the Project is to convert the GO Network from diesel to electric power. The Gardiner Expressway Overhead was identified as a Potential Provincial Heritage Property as part of the Cultural Heritage Screening Report completed for this Project.

The objective of this CHER is to provide evidence as to why the subject resource may be of cultural heritage value or interest, and identify the physical elements that contribute to its heritage value. Research for this CHER was conducted under the senior project management of Lindsay Graves, Assistant Manager of the Cultural Heritage Division, ASI.

1.1 Description of Property

The Gardiner Expressway Overhead is located between Mile 5.57 and 5.68 of the GO Transit Lakeshore West rail corridor, and is located in the City of Toronto (Figure 1-1 and Figure 1-2). The structure is a two-span, precast, prestressed concrete girder bridge that carries eastbound and westbound Gardiner Expressway Traffic over four rail lines and located with the following ownership parcel: PIN 07623-0036. The bridge is currently owned and maintained by the City of Toronto.

1.2 Historical Summary

The Gardiner Expressway Overhead is located on Lot 3, Concession 3, in the historic Township of Etobicoke, County of York. The bridge is situated adjacent to the historic village of Mimico, which was established as a model community in the 1850s, though the plan was not fully realized. However, population in the village increased over the second half of the nineteenth century and by 1917 the settlement gained town status.

The Gardiner Expressway Overhead was built in 1974 with no record of major rehabilitation.

1.3 Current Context

The Gardiner Expressway Overhead is located along the Gardiner Expressway in the City of Toronto, approximately 850 metres southwest of the Humber River and 500 metres northwest of Humber Bay. The area around the bridge is characterized by the rail corridor, the Ontario Food Terminal to the north, and the former Mr. Christie's Bakery to the south.

FINAL CULTURAL HERITAGE EVALUATION REPORT: GARDINER EXPRESSWAY OVERHEAD

Figure 1-1: Location of Gardiner Expressway Overhead study area in the City of Toronto, Ontario (Open Street Map)



Figure-1-2: South elevation of the Gardiner Expressway Overhead



2 Methodology and Sources

2.1 Legislation and Policy Context

This cultural heritage evaluation considers cultural heritage resources in the context of improvements to specified areas, pursuant to *Ontario Regulation 231/08: Transit Projects and Metrolinx Undertakings* (Transit Projects Regulation) and the Ontario *Environmental Assessment Act* (EAA 1990). Pursuant to the *Environmental Assessment Act*, applicable infrastructure projects are subject to assessment so as to determine related impacts on above ground cultural heritage resources (MTO 2006). Infrastructure projects have the potential to impact cultural heritage resources in a variety of ways such as loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible or atmospheric elements that are not in keeping with the resources and/or their setting.

When considering cultural heritage resources in the context of improvements to specified areas, a 40 year old threshold is used as a guiding principle when identifying cultural heritage resources. 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.

The TPAP is defined in sections 6-17 in *Ontario Regulation 213/08: Transit Projects and Metrolinx Undertakings*, and provides a series of relevant provisions and definitions. The TPAP Guide (January 2014) includes provisions to consider when the proposed project may have a negative impact on a matter of provincial importance, which is defined as follows (2014: 2):

...a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest...

The TPAP Guide further notes that identification and assessment of potentially impacted built heritage resources, cultural heritage landscapes, and protected heritage properties are relevant in determining if a matter is of 'provincial importance' (2014: 10). It should be noted that the TPAP Guide acknowledges that a built heritage resource, cultural heritage landscape, or protected heritage property does not necessarily need to meet criteria set out under *Regulation 10/06* of the *Ontario Heritage Act* to be considered of 'provincial importance'.

The analysis used throughout the cultural heritage resource assessment process addresses cultural heritage resources under other various pieces of legislation and their supporting guidelines:

- *Environmental Assessment Act* (R.S.O. 1990, Chapter E.18)

- *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MCC – MOE 1992)
- *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (MCR – MOE 1981)
- *Ontario Heritage Act* (R.S.O. 1990, Chapter O.18) and a number of guidelines and reference documents prepared by the Ministry of Tourism and Culture (MTC):
 - *Standards and Guidelines for the Conservation of Provincial Heritage Properties* (MTC 2010)
 - *Ontario Heritage Tool Kit* (MCL 2006)
- *Planning Act* (R.S.O. 1990, Chapter P.13) and the 2014 *Provincial Policy Statement*

This assessment was also guided by the *Metrolinx Interim Cultural Heritage Management Process* (Metrolinx 2013b), the *Draft Terms of Reference for Consultants: Cultural Heritage Evaluation Report and Cultural Heritage Evaluation Report Recommendations* (Metrolinx 2014); and the City of Toronto *Terms of Reference for Heritage Impact Statements* (August 2011).

2.2 Approach to Cultural Heritage Evaluation Report

The scope of a Cultural Heritage Evaluation Report (CHER) is guided by the Ministry of Tourism, Culture and Sport's *Ontario Heritage Toolkit* (2006) as well as the Metrolinx *Draft Terms of Reference for Consultants: Cultural Heritage Evaluation Report and Cultural Heritage Evaluation Report Recommendations* (2014). Generally, CHERs include the following components:

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

A site visit was conducted by Joel Konrad, Cultural Heritage Specialist, ASI, on 10 August 2016 to conduct photographic documentation of the subject resource. The assessment was conducted under the supervision of a flagging professional coordinated by Metrolinx.

Using background information and data collected during the site visit, the cultural heritage resource is evaluated using criteria contained within *Regulation 9/06* and *10/06* of the *Ontario Heritage Act*. The two criteria sets share a requirement to fully understand the history, design and associations of all cultural heritage resources of the property. The following differences between the two sets of criteria should be noted (Metrolinx 2014: 12):

- *Regulation 9/06* requires a consideration of the community context
- *Regulation 10/06* requires a consideration of the provincial context

2.2.1 List of Key Sources and Research Limitations

Key Sources

Background historical research, which includes the consultation of primary and secondary source documents, photos, and historic mapping, was undertaken to identify early settlement patterns and broad agents or themes of change in a study area. In addition, on-site archival research was undertaken at the following libraries and archives to build upon information gleaned from other primary and secondary materials:

- Toronto Archives
- City of Toronto Reference Library
- Archives of Ontario

Where available, comprehensive bridge inventories were consulted for comparative analysis purposes to determine the potential design value of the subject bridge. The Metrolinx Master Bridge List (August 31, 2015) recording information such as bridge name, location, construction date, material, bridge type, number of spans and overall bridge length, was provided by Metrolinx and utilized for comparative purposes. Additional sources were considered for comparative analysis where relevant.

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

- The City of Toronto's Inventory of Heritage Properties;
- The Ontario Heritage Trust's *Provincial Plaque Program* database;

- Park's Canada's *Directory of Federal Heritage Designations*, a searchable on-line database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings, and Heritage Lighthouses; and
- Park's Canada's *Canada's Historic Places* website: a searchable on-line register that provides information on historic places recognized for their heritage value at the local, provincial, territorial and national levels.

Previous consultant reports associated with potential above-ground cultural heritage resources and archaeological resources within and/or adjacent to the GO Rail Network Electrification TPAP included the following:

- Cultural Heritage Screening Report: GO Rail Network Electrification TPAP (ASI 2016)

A full list of references consulted can be found in Section 11 of this CHER.

Research Limitations

No research limitations were identified.

2.3 Consultation

Consultation with Kiki Aravopolis, Easements Coordinator with the Ontario Heritage Trust, Karla Barboza, Heritage Advisor with the Ministry of Tourism, Culture, and Sport (MTCSS), and Sherry Pedersen, Program Manager with the City of Toronto regarding the subject properties took place as part of the Cultural Heritage Screening Report (ASI 2016).

An additional email was sent to Heritage Preservation Services on 19 August 2016 to confirm that the subject bridge is not currently recognized as a heritage structure by the City of Toronto. No reply has been received at the time of report submission.

3 Heritage Recognitions

3.1 Municipal

The subject resource is not identified on the City of Toronto's Inventory of Heritage Properties.

3.2 Provincial

The subject resource does not retain heritage recognition at the provincial level for the following reasons:

- The property was owned by the MTO, it has not previously been identified as a Provincial Heritage Property and is not on the Ontario Heritage Bridge List; and

- The property has not been commemorated by the Ontario Heritage Trust.

3.3 Federal

The subject resource does not retain heritage recognition at the federal level for the following reasons:

- The property does not contain a Federal Heritage Building; and
- The property is not a National Historic Site.

4 Adjacent Lands

The Gardiner Expressway Overhead is not adjacent to any known heritage properties.

5 Summary of Archaeological Assessments

The Stage 1 Archaeological Assessment for the GO Rail Network Electrification TPAP is currently underway (ASI, in progress). Once completed, this report will provide information about archaeological potential in the study area.

6 Community Input

A number of stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Gardiner Expressway Overhead in the City of Toronto. See Appendix A for questionnaire responses received and Table 6-1 for a list of organizations contacted and a description of information received. At the time of writing, no responses were received from those contacted, and therefore no concerns regarding the heritage value or local community interest were identified.

In addition, a review of various online sources did not reveal any interest from the community in the potential heritage value of the Gardiner Expressway Overhead.

Table 6-1: Results of Community Consultation for Gardiner Expressway Overhead

Contact	Organization	Contact Information	Date(s) of Communications	Description of Information Received
n/a	Toronto Railway Historical Association	255 Bremner Blvd, Unit 15	3 June, 2016	No information received at the time of report writing
n/a	Heritage Toronto	157 King Street East, 3rd Floor	3 June, 2016	No information received at the time of report writing
n/a	Toronto Historical Association	P.O. Box 67, 260 Adelaide St. E.	3 June, 2016	No information received at the time of report writing

7 Discussion of Cultural Heritage Value

7.1 Discussion of Historical or Associative Value

7.1.1 Settlement History

Township of Etobicoke

The land which comprises the former Township of Etobicoke was alienated by the British from the native Mississaugas by provisional treaty number 13, known as the “Toronto Purchase,” dated at the Bay of Quinte on September 23, 1787. Due to certain irregularities contained in the original document, this purchase was confirmed by a second treaty dated August 1, 1805. Between 1784 and 1792, this part of Southern Ontario formed a part of the judicial District of Montreal in the Province of Quebec.

The first township survey was undertaken by Alexander Aitken in 1788. Abraham Iredell continued the survey work in 1795. Additional surveys of the township were made in 1798, by William Hambly, and by Samuel Wilmot in the winter of 1811. The reserve at the mouth of the Humber was surveyed by H.J. Castle in January 1838, and the road allowances were resurveyed in 1857.

The first “legal” settlers did not occupy their lands until the early years of the nineteenth century. Many of the early land grants along the township “front” were assigned to disbanded soldiers from the Queen’s Rangers. This was due to the fact that the Upper Canadian government wished to settle seasoned veterans in the township. These men would serve as a buffer, and would be called upon to defend the provincial capital from any possible armed invasion from the west (Mika 1977:694; Winearls 1991:497-498; Armstrong 1985:143).

The Township was named using a European corruption of a Mississauga word, *Wah-do-bekaung*. The etymology for this word was provided by Augustus Jones, an early provincial surveyor, as “the place where the alders grow.” The name was also sometimes spelled as “Atobicoake” and “Ytobicoke.” Some old maps rendered it as “Toby Cook,” which raised speculation about the possibility that the township honoured an early settler who bore this name (Gardiner 1899: 218; Rayburn 1997:115). Mimico is said to have been derived from another Mississauga word, *Omimeca*, signifying “place of wild pigeons.” It was said that large flocks of migratory passenger pigeons used to feed in the fields along the Mimico Creek (Currell 1967:18-19; Heyes 1974:48; Mika 1981:674).

The township comprised part of the East Riding of York in the Home District which, between 1792 and 1800, was administered from Niagara. Following the abolition of the Districts in 1849, the Home District was succeeded in 1850, by the United Counties of York, Peel and Ontario. Ontario and Peel were elevated to separate county status in 1851-52 (12 Vic. c. 81; *IndianTreaties* vol. 1:32-35; Armstrong 1985:143; Jonasson 2006:191-209). In 1805, it was noted that the Humber River flowed through this township, which contained the government sawmills. The Humber was an important carrying place trail. It was observed that “the tract between the Tobicoake and the head of the lake is frequented only by

wandering tribes of Mississaugues” (Boulton 1805:48). The river was also described by nineteenth century writers as being particularly rich in salmon (Smith 1851:16). In 1846, Etobicoke was described as “a well settled township,” with good land. The soil near the lake was sandy and timbered mainly in pine, but the quality of the land improved further back where the forests contained principally hardwood. The Humber was described as an “excellent mill stream.” The township then contained five grist mills and nine saw mills. The value of realty within the township increased dramatically during the second quarter of the nineteenth century (Smith 1846:57; Smith 1851:17-18).

The 1878 *Illustrated Historical Atlas* (Figure 9-1) depicts the study area as a rural, agricultural area in the second half of the nineteenth century. While the area was well populated at that time, the study area was not located within a significant settlement. The rail corridor is represented as well as the general alignment of present day Lakeshore Boulevard.

Topographic mapping from 1909 (Figure 9-2) indicates that settlement had increased along Lakeshore Boulevard, with a Brick Yard located to the south of the subject bridge. Little had changed by the 1934 (Figure 5), though increased settlement is notable to the north and west of the study area.

Aerial photography dating to 1947 (Figure 9-3) depicts the Queen Elizabeth Way (QEW) crossing the rail corridor within the study area. Two bridges, completed by 1939, carried two lanes each of QEW traffic over the rail corridor. No further development appears to have occurred immediately adjacent to the study area.

Substantial commercial development occurred by 1962 (Figure 9-4), however, by which time the Ontario Food Terminal and the Mr. Christie’s Bakery had been constructed to the north and south of the original QEW bridges. Generally, both commercial and residential development in the area increased dramatically between 1947 and 1962.

Aerial photography dated to 1973 (Figure 9-5) indicates that construction had begun on the subject bridge, with the pillars to the north outlined clearly. However, no further development appears to have occurred in the area at that time. By 1975 (Figure 9-6), the original bridge had been removed and the subject bridge completed, with substantial improvements to the QEW and surrounding infrastructure. The photography reveals that tracks were laid beneath the north span of the subject bridge, where the dirt access road now exists. These tracks had been removed by 1989 (Figure 9-7) and the gravel access road established.

Settlement at Mimico

Mimico fronts Lake Ontario and became part of Etobicoke in 1967. Etobicoke was established in 1792, but remained Indian lands for several years. The surveying of the township was undertaken at various times until 1838 (Mika, eds 1980:674).

The first inhabitants of Mimico were Richard Wilson and Robert Gray, but they did not remain. In the 1850s plans were made to develop Mimico as a model town. A few Toronto businessmen purchased land along the new railway line. The land was divided into lots that were auctioned off. The area to the north of the railway, however, was still farmland (Currell 1967:20, 44-45).

Mimico did not succeed as a model village. Few of the lots were sold and fewer were occupied. According to Harvey Currell's *The Mimico Story* the village failed for two reasons. First, the depression at the end of the Crimean War led to the collapse of the land speculation boom. Second, Mimico was too far from Toronto to be a commuter village. People were not willing to travel to Toronto, and there were not enough jobs in Mimico (Currell 1967: 45).

In the 1890s, the Toronto and Mimico Electric Railway and Light Co. was formed. This enabled people to commute to the city, and in 1897, Mimico was incorporated as a police village. By 1917, Mimico gained town status (Currell 1967:54, Mika eds.1980:674).

The town became known for its brickyards and market gardens, with hotels and picnic gardens that catered to visitors. Some Torontonians built spacious summer homes in the town (Mika eds. 1980: 675).

7.1.2 Significant Themes, Events and/or People

Railway Development

The Lakeshore West rail corridor follows the tracks initially laid in the mid 1850s from Toronto to Hamilton by the Hamilton & Toronto Railway Company (H&TR). The H&TR was established by Sir Allan MacNab and a number of other investors, with additional financial support from England, and a charter was granted in 1852. Construction on the line began in 1853 and was completed in 1855 (Colin Churcher 2016). The line was initially leased to the Great Western Railway (GWR), who in turn supplied railway stations along the corridor and constructed the GWR branch between Hamilton and Toronto (Paterson & George 1988:13). Given that the GWR was headquartered in Hamilton, mileage started in Hamilton. Extending from Hamilton, the first train stations were as follows (Reynolds 2011):

- Hamilton, Stuart St. (Mile 0.00);
- Bronte (Mile 13.33);
- Oakville (Mile 17.57);
- Clarkson (Mile 22.82);
- Lorne Park (Mile 23.89)
- Port Credit (Mile 25.84);
- Mimico (Mile 32.26); and
- Sunnyside (Mile 35.18).

By the 1870s, there were five trains running daily between Toronto and Hamilton (Hicks 2006). Locomotives were now powered by coal rather than wood, and air brakes had been developed which allowed for trains to attain greater speeds. By 1872, iron rails were being replaced by the more resilient steel rails, greatly improving safety standards and reducing expenses. It was also around this time that the H&TR was absorbed into the GWR and the single track between Hamilton and Toronto became known as the Toronto Branch. Other lines constructed by, or purchased by, the GWR included: The Galt & Guelph Railway; the London & Port Sarnia Railway; and the Canada Air Line Railway (Reynolds 2011).

In 1882, the Grand Trunk Railway (GTR) merged with the GWR. Track mileage was reversed at this time, with Union Station in Toronto now at Mile 0.00. In the late 1890s the GTR began the double track program along the Toronto Branch rail corridor.

Due to financial difficulty, control of the GTR was assumed by the Canadian Government in 1919 and by 1923, the GTR was amalgamated with Canadian National Railways (CNR) (Andreae 1997). The CNR continued to operate freight and passenger trains along the Lakeshore West rail corridor on a regular basis, making this one of the busiest rail corridors in Canada. By the 1950s, automobiles and highways were replacing trains and railways as the preferred mode of transportation, which meant that it was becoming economically unviable for the CNR to continue passenger services. The following decades saw the introduction of GO Transit commuter rail service, beginning in May of 1967, and the creation of VIA Rail Canada by the federal government to ensure the continuity of intercity passenger train services (VIA Rail n.d.).

Gardiner Expressway Bridge

As vehicular traffic increased during the 1930s, a plan was devised to convert the Middle Road, running west from Toronto, into a new highway corridor. Construction on the New Middle Road Highway was completed between 1932 and 1937, with the complete section between Toronto and Hamilton opened in the summer of 1937. While the highway proved an important infrastructural development for the province, the name did not reflect the corridor's importance. A planned Royal Visit by the sitting monarch of England, King George VI and his Wife Queen Elizabeth (The Queen Mother), inspired the dedication of the highway to the Royal Consort.

The subject bridge was built in 1974 as part of improvements to the QEW. The current bridge replaced two earlier bridges, constructed by 1939, that carried two eastbound and two westbound lanes of QEW vehicular traffic over the Lakeshore West rail corridor. These earlier bridges retained arched metal light standards with the letters "ER" (Elizabeth Regina) integrated into the design. Together, these earlier bridges served as the gateway to the QEW and, to mark the importance of the highway, a monument was situated between the two bridges. Designed by architect W.L. Summerville and sculpted by Frances Loring and Florence Wyle, the monument consisted of a 40-foot column with a stylized lion at its base. Although the bridges were removed and replaced with the current bridge in 1974, the monument was retained and now rests in Sir Casimir Gzowski Park adjacent to Humber Bay (Bever 2016). By the late

1990s, the stretch of highway between the Humber River and the 427 had been downloaded to the City of Toronto and was thus incorporated into the existing Gardiner Expressway.

Prestressed, Precast Concrete Bridge Construction

Prestressed, precast concrete girder bridges were introduced as a cost-effective alternative to steel. The method was adopted in Canada during the 1950s after it proved successful in Europe and the United States (Fowler 2000). Notable bridges, such as the Champlain Bridge spanning the St. Lawrence and the Kinnaird Bridge over the Columbia River, were built during the late 1950s and early 1960s, demonstrating that prestressed, precast concrete could be effectively adapted to the Canadian landscape (Fowler 2000). Precast, prestressed concrete structures, including bridges, became commonly used in the 1970's as a means of quickly and efficiently creating consistent and structurally sound designs with the most economical means possible. By precasting components with prestressed concrete, a means to increase the strength with tensioning cables, engineers were able to contract the work to large factories where supply and quality control could be highest. Also, precasting components reduced the amount of formwork needed for pouring components in situ (Sanabra-Loewe and Capella-Llovera 2014, Podolny 1979).

7.2 Discussion of Design and Physical Value

7.2.1 Physical Characteristics

The following description of the Gardiner Expressway Overhead is based on the original design drawings, historical photographs, site visit, inspection reports, rehab drawings, and bridge inventory. The following drawings were available for review:

- Plans for Bridge No. 5, Department of Highways, Ontario, 1970; and
- Bridge Inspection Report, Metrolinx, 2013.

The Gardiner Expressway Overhead was constructed in 1974 to carry nine lanes of generally east-west Gardiner Expressway traffic over four tracks of the GTR's Toronto Branch. The Metrolinx Master Bridge List indicates that the bridge is a two-span bridge with a multi-column concrete pier comprised of 18 panels separating the spans. The rail corridor passes under the generally southeast span and a dirt access road passes under the northwest span. The structure features precast concrete girder construction with a single, multi-column pier and poured concrete abutments. The multi-column pier design is reflected in the abutment extensions that, like the pier, extend beyond the bridge deck. The concrete, I-Beam girders are connected by non-load bearing metal trusses which appear to have been added after the construction of the structure. The bridge retains a tangent alignment, crossing the rail corridor at a pronounced skew. The bridge retains an asphalt deck and concrete barriers which appear to have replaced an earlier metal guardrail system.

Modifications

According to available documentation provided by Metrolinx, no substantial modifications have been undertaken since the construction of the structure in 1974. However, the non-load bearing metal trusses attached to some of the concrete girders on the bridge's soffit appears to have been added sometime after the construction. In addition, the original metal railing system indicated on the bridge plans has been replaced with a concrete barrier system.

Existing Conditions

According to a 2013 Bridge Inspection Report (Metrolinx 2013), the 1974 structure carrying the Gardiner Expressway in both directions over the Metrolinx rail corridor is generally in fair condition. The bridge deck and superstructure are recorded as being in good condition, while the abutments are recorded as being in "fair" condition, with minor spalling on both abutments. No future work is recommended for the bridge.

7.2.2 Comparative Analysis

The two-span, 1974 Gardiner Expressway Overhead is comprised of precast, prestressed concrete girder construction. The Metrolinx Master Bridge List indicates the MTO owns the property and thus the MTO Structural Inventory for Central Region was consulted to complete a comparative analysis. However, no bridge named "Gardiner Expressway Overhead" exists on list and no other CNR overheads along the QEW match the construction date. As such, the bridge will be compared with existing CPCI Girder Bridges crossing along the QEW as well as those on the Metrolinx Master Bridge List.

The bridge is recorded as 128 feet long (39 metres) in the Metrolinx Master Bridge List, with individual spans of 49 feet (15 metres) and 79 feet (24 metres). Precast, prestressed concrete girder bridges were introduced in Canada in the 1950s and quickly became a preferred type of bridge construction in Ontario. This type of bridge is typically used to span highways and railroads across the province.

According to the MTO Structural Inventory, there are 33 CPCI Girder Bridges along the QEW. The oldest of these bridges, the Niagara Street Underpass, was built in 1964, ten years before the construction of the Gardiner Expressway Overhead, which is the eleventh oldest bridge owned by the MTO along the original QEW corridor. The Sixteen Mile Creek Bridge West Bound Lane is recorded as the longest CPCI Structure, measuring 184 metres in length (603 Feet). The Gardiner Expressway Overhead retains the 28th longest deck length of the bridges reviewed. Therefore, the subject bridge does not is not significant for its age or length in the context of MTO owned CPCI structures along the QEW corridor.

According to a review of the Metrolinx Bridge Inventory (2015), there are 19 other precast, prestressed truss railway bridges over Metrolinx rail corridors. Out of these bridges, the Gardiner Expressway bridge is the fifth oldest, with the Markham Road Overpass, built in 1961, being the oldest. The subject bridge also retains the shortest total length, at 128 feet, with the longest bridge identified as the Islington

Avenue Bridge, with an overall length of 1,617 feet. In addition, the Gardiner Expressway Overhead retains the sixth longest individual span at 79 feet, with the Islington Avenue Bridge retaining the longest individual span at 273 feet.

The bridge design is attributed to Registered Professional Engineer D. R. Gluppe. A review of the DHO Annual Reports for the mid to late 1960s, the MTO Library Online Catalogue, and internet search did not reveal any information about this engineer. D. R. Gluppe is also associated with the design a number of other bridges in Ontario, such as the Thousand Island Parkway Underpass and the Highway 137 Overpass at Highway 401. The designs for the Gardiner Expressway Overhead date to 1970 and the bridge was completed in 1974.

Based on this review, the subject bridge is not considered to be the oldest example of a precast, prestressed concrete girder bridge, nor is it significant in terms of individual span length or overall bridge length.

7.3 Discussion of Contextual Value

7.3.1 Description of Setting and Character of the Property and Surroundings

The Gardiner Expressway Overhead is located approximately 800 metres to the southwest of the Humber River and 450 metres northwest of Lake Ontario. The Ontario Food Terminal is located adjacent to the subject bridge, located to the north, and the property provides access to the gravel maintenance road passing under the bridge to the northwest of the tracks. The former Mr. Christie's Bakery is located directly south of the bridge, with the Mr. Christie's water tower approximately 50 metres to the southeast of the subject bridge. Thus, the bridge is located within a generally industrial local landscape that supports the character of the rail corridor.

7.3.2 Community Landmark

Limited access to the current bridge as well as limited visibility of the structure precludes the subject bridge from being a community landmark.

8 Data Sheet

	
Property Name:	Gardiner Expressway Overhead
Municipal Address:	Mile 5.57 to 5.68 43°37'38.02"N 79°28'57.36"W Datum WGS84
Municipality:	City of Toronto
Metrolinx/GO Transit Rail Corridor:	Lakeshore West
PIN:	07623-0036
Ownership:	Ministry Of Transportation, Ontario
Date of Construction:	1974
Date of Significant Alterations:	N/A
Architect/Designer/Builder:	Department of Highways, Ontario
Previous Owner(s)/Occupant(s):	N/A
Current Function:	Bridge
Previous Function(s)	N/A
Heritage Recognition/Protection:	None
Local Heritage Interest:	None
Adjacent Lands:	There are no adjacent heritage properties

9 Figures

9.1 Historic Map Review

Figure 9-1: View of the study area on 1878 historic mapping (Miles & Co. 1878)



Figure 9-2: View of the study area on 1909 topographic mapping (Department of Militia and Defence 1909)

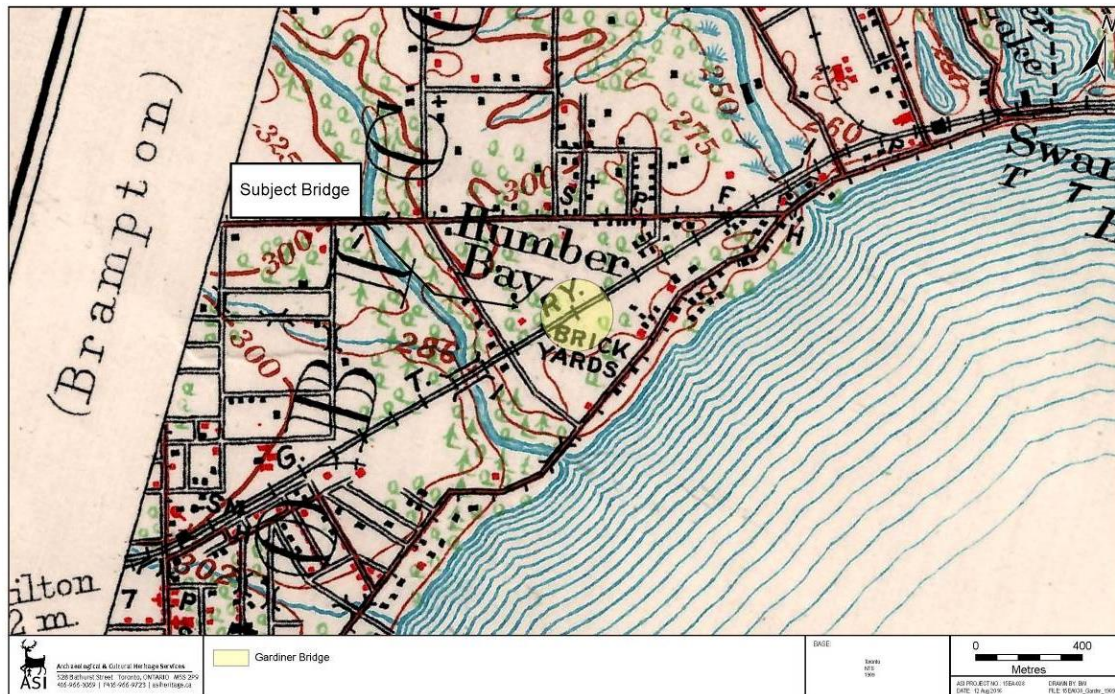


Figure 9-3: View of the study area on 1934 topographic mapping (Department of National Defence 1934)



Figure 9-4: View of the study area on 1947 aerial photography (Toronto Archives 1947)

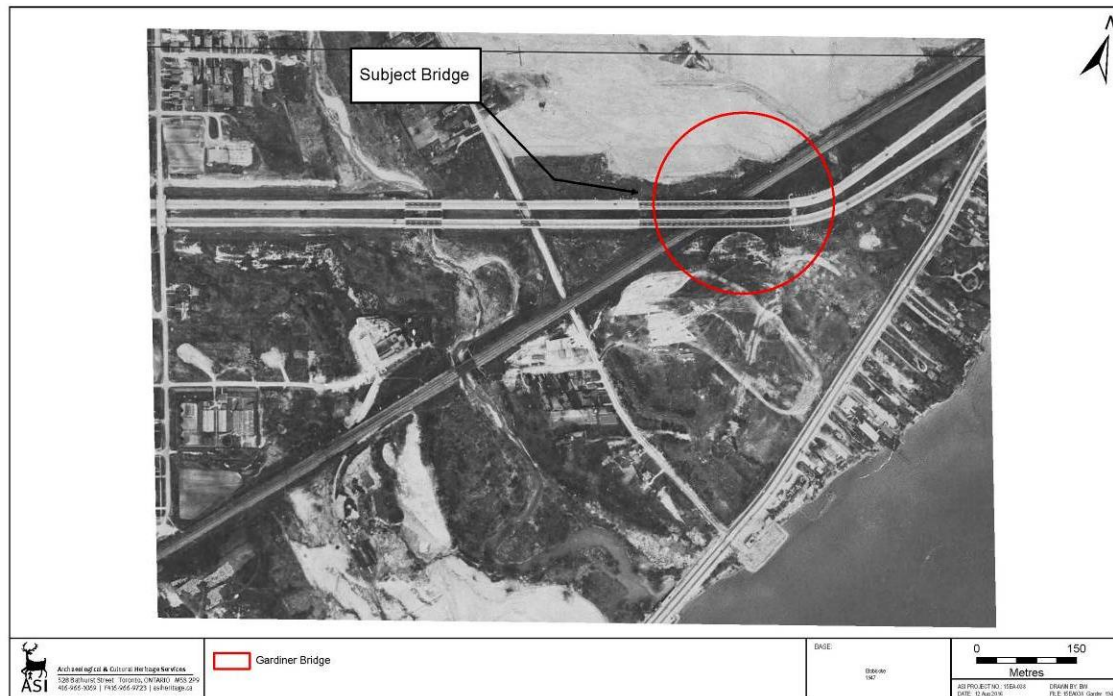


Figure 9-5: View of the study area on 1962 aerial photography (Toronto Archives 1962)



Figure 9-6: View of the study area on 1973 aerial photography (Toronto Archives 1973)



Figure 9-7: View of the study area on 1975 aerial photography (Toronto Archives 1975)

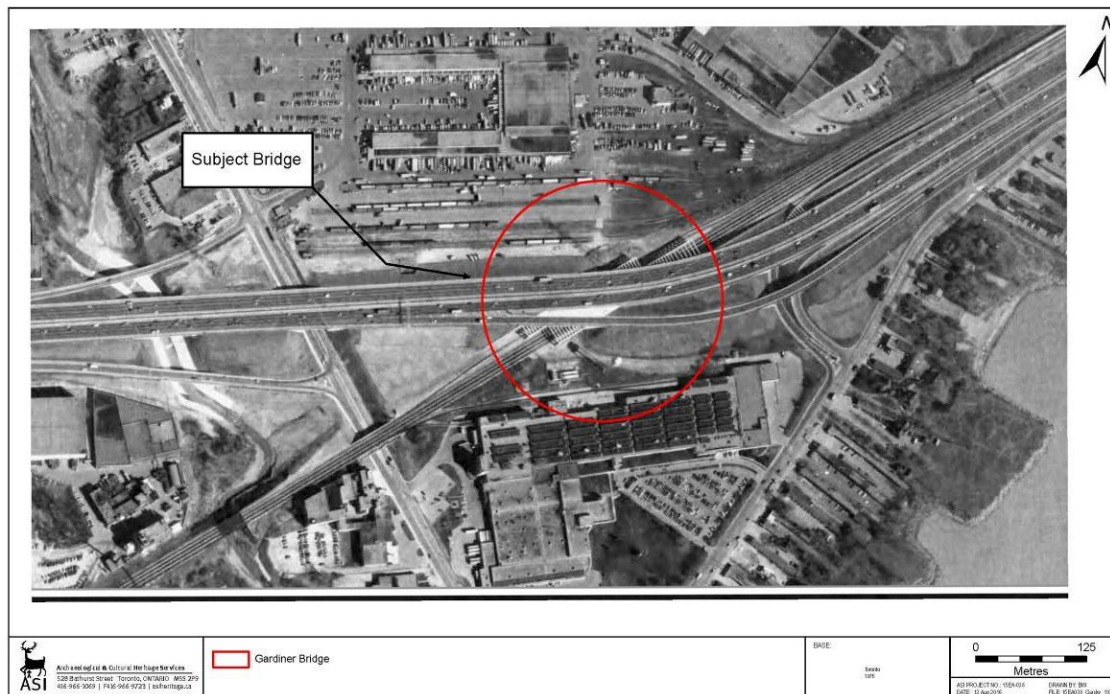
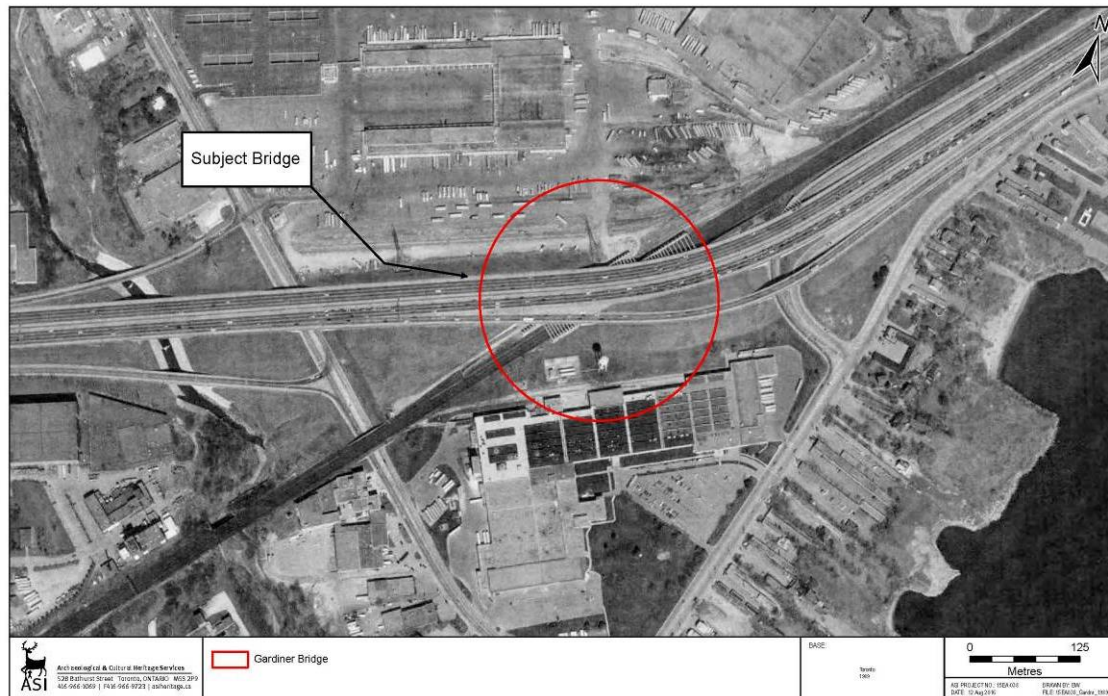


Figure 9-8: View of the study area on 1989 aerial photography (Toronto Archives 1989)



9.2 Select Structural Drawings

Figure 9-9: Original structural drawings showing elevation and sections of the bridge (Department of Highways, Ontario)

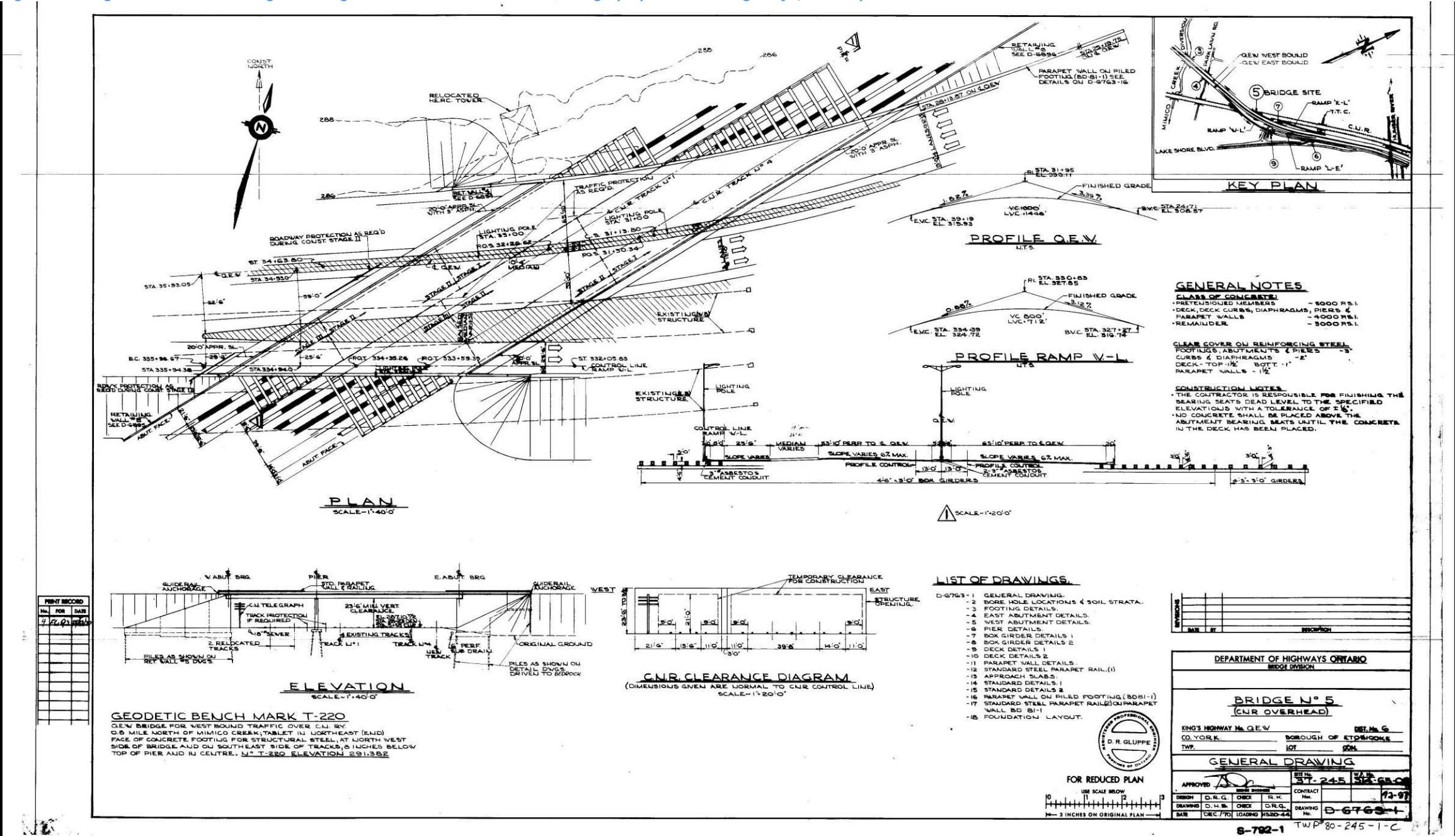


Figure 9-10: Original structural drawings showing sections of the bridge (Department of Highways, Ontario)

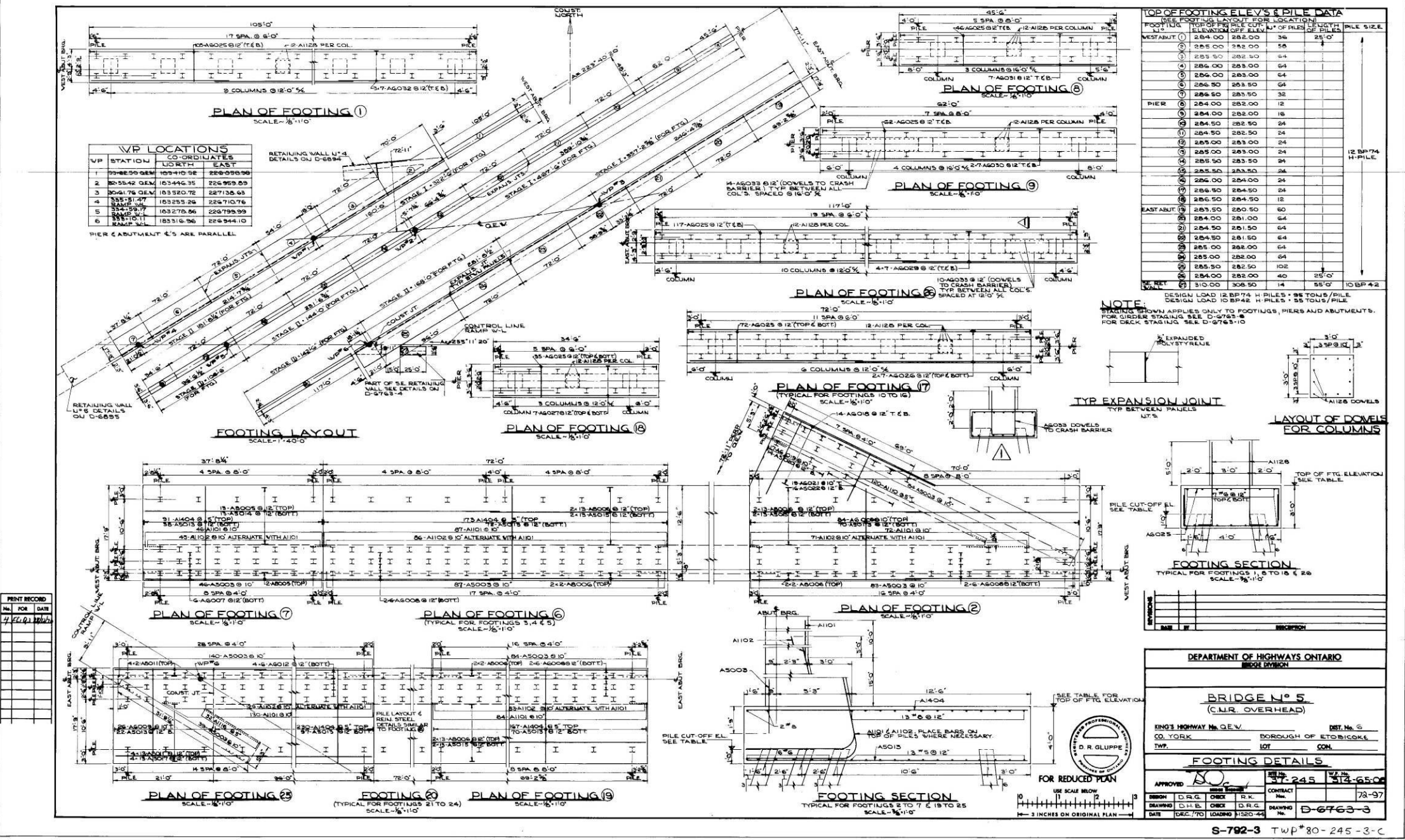
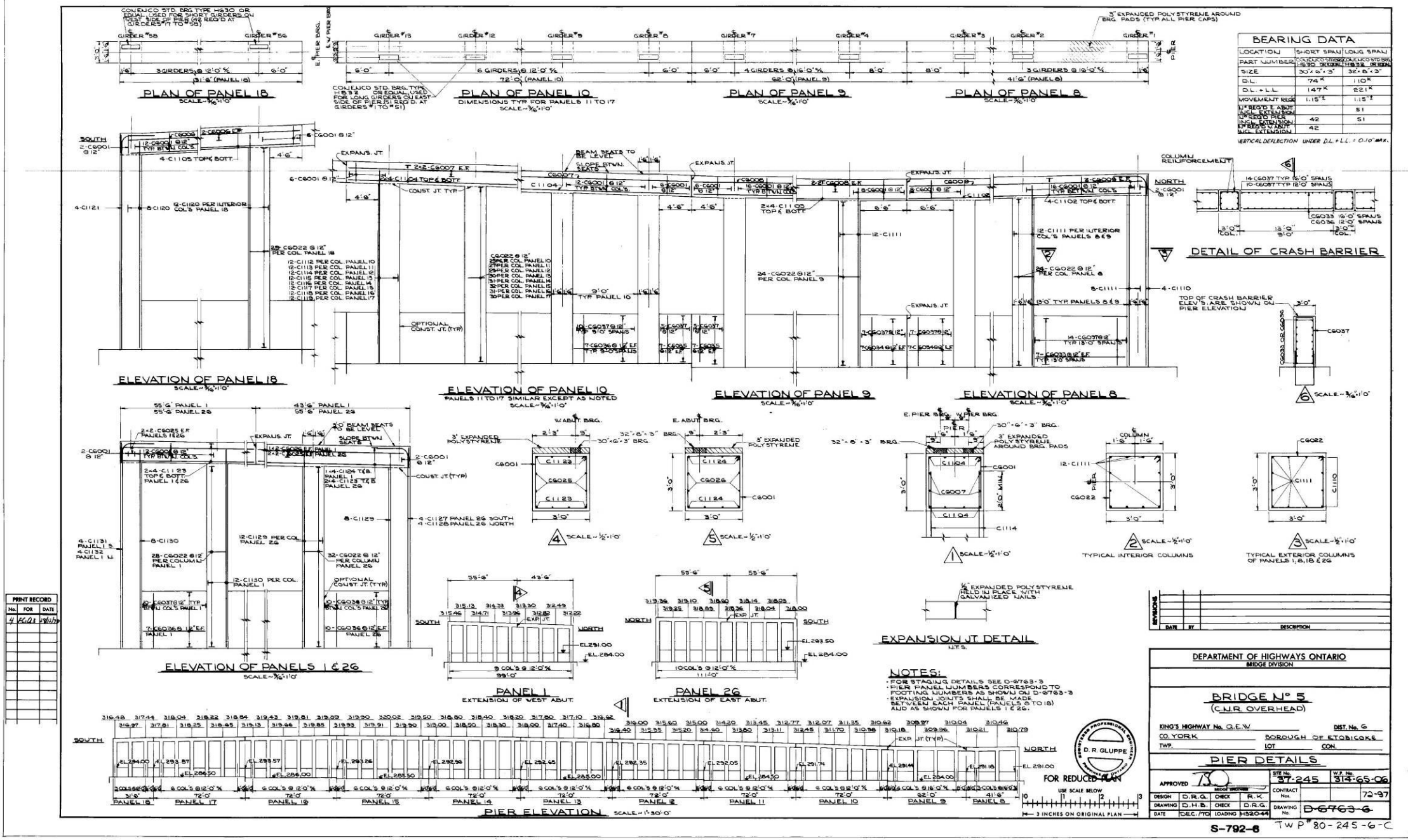


Figure 9-11: Original structural drawings showing sections of the bridge (Department of Highways, Ontario)



PRINT RECORD

No.	FOR	DATE
4	PL 81	4/2/81

REVISIONS

DATE	BY	DESCRIPTION
SEPT. 1970		STANDARD DRAWING
SEPT. 1970		REVISED: 37-245-65-6

DEPARTMENT OF HIGHWAYS ONTARIO
BRIDGE DIVISION

BRIDGE No. 5
(CNR OVERHEAD)

KING'S HIGHWAY No. 6 E.W. DIST. No. 6
CO. YORK BOROUGH OF STOKES
TWP. LOT CON.

PARAPET WALL DETAILS

APPROVED	DESIGN	DRAWING	DATE
37-245-65-6	37-245-65-6	37-245-65-6	37-245-65-6

FOR REDUCED PLAN

USE SCALE BELOW

10 12 13

3 INCHES ON ORIGINAL PLAN

NOTES:

- FOR SPACING OF PARAPET RAIL POSTS SEE PARAPET RAIL DRAWING 80-40-3.
- REINFORCING STEEL NOT CONTINUOUS THROUGH JOINTS. COVER TO REINFORCING STEEL 1 1/2".
- EF DENOTES EACH FACE.

LEGEND:

- E4013 TYPE T1 C = 7" E B = 1" D A = 4 1/2" E
- E5001 TYPE 17 C = 7" B = 1" D
- E5002 TYPE 18 C = 7" A = 2" D

WHERE POST LAYOUT IS NOT SHOWN,
POSTS SHALL BE EQUALLY SPACED EXCEPT
THAT POSTS AT EXPANSION AND CONSTRUCTION
JOINTS SHALL BE MOVED AS REQUIRED TO
ATTAIN 9' CLEARANCE.
(SEE TABLE BELOW FOR POST SPACING LIMITS)

CAP ENDS AT PARAPET
END POSTS ONLY.

FOR TYPICAL DETAIL OF PARAPET END POST WHEN REQUIRED
SEE PARAPET WALL DRAWINGS.

DISTANCE END TO END OF RAIL	MINIMUM POST SPACING	MAXIMUM POST SPACING
UNDER 40'	9'-0"	12'-0"
OVER 40'	10'-0"	12'-0"

* POST LAYOUT SHALL BE SYMMETRICAL
ABOUT & BRIDGE SPAN.

NOTE:
ALL UNSPECIFIED RADII 1/8"

GALVANIZED
DIAMETER

NOTE:
THE GALVANIZE COATING
ON THESE MATING SURFACES
OF TUBE STRUCTURES (PER SPEC)
TO HAVE UNIFORM THICKNESS
AND NOT TO EXCEED .005 TH.
(FOR SLIDE FITS)

RAIL ASSEMBLY
(N.T.S.)

WASHER DETAIL
(FULL SCALE)

SECTION A-A
SCALE 1/2" = 1'-0"

TEMPLATE
(1 1/2" THICK PLYWOOD)
TEMPLATE TO BE INCLUDED AS PART OF ANCHORAGE
SCALE 1/2" = 1'-0"

GENERAL NOTES:

- RAIL ELEMENTS SHALL BE STRUCTURAL TUBING SUPPLIED IN ACCORDANCE WITH A.S.T.M. A36.
- STEEL IN POSTS AND RAIL CAPS SHALL BE CAST STEEL SUPPLIED IN ACCORDANCE WITH A.S.T.M. A27-60 GR. 60-35.
- RAIL TUBING SHALL BE SUPPLIED WITH SPLICE IN LENGTHS OF 21'-0" (EXCLUDING SPLICES) EXCEPT AS NOTED.
- POSTS, RAILS, WASHERS AND CAPS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153. SET SCREWS SHALL BE CROMIUM PLATED TO JOOZ WITH A SPECIAL BRIGHT DIP FINISH TO STD. SPEC. D.O.P.-A6A CLASS III. ALL GALVANIZING SHALL BE DONE AFTER FABRICATION.
- ELECTRODES SHALL BE TO A LOW HYDROGEN SPECIFICATION E70S, E70S OR E70H.
- ANCHORAGE AND BOLTS SHALL BE MICHIGAN TYPE D-M11 OR EQUAL, MODIFIED AS SHOWN. ROBERTS AND ANCHOR BOLTS SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153-B. BOLTS SHALL BE GIVEN A LIBERAL COATING OF WHITE NON-STAINING GREASE.

ERECTOR NOTES:

- RAIL TUBING SHALL BE BENT TO FOLLOW CURVATURE OF ROAD.
- RAIL POSTS SHALL BE SET PERPENDICULAR TO GRADE.
- WHERE LAYOUT OF POSTS IS NOT SHOWN, POST LOCATION SHALL BE DETERMINED BY THE CONTRACTOR.
- SET SCREWS SHALL NOT BE TIGHTENED ON POSTS ADJACENT TO EXPANSION JOINTS.
- RAIL SHALL BE CUT AS REQUIRED WITH PIPE CUTTERS AND CUT SURFACE TREATED WITH ZINC RICH PAINT.
- WHEN CONNECTING TO EXISTING RAIL, RAIL MUST BE MADE CONTINUOUS AND POST SPACING DETERMINED WITH REFERENCE TO EXISTING POST.

NOTE: SCALE 1/2" = 1' (EXCEPT WHERE OTHERWISE NOTED)

ITEM	NO.	L.F.	BENDING RADIUS	LOCATION
POST #	43			NORTH SIDE
ANCHORAGE	30			SOUTH SIDE
END CAPS	8			
3/2" TUBE WITH SPLICE (21'-0" LENGTHS)	40	876'-6"		NORTH SIDE
3/2" TUBE WITHOUT SPLICE (20'-0" LENGTHS)	28	613'-6"		SOUTH SIDE
1/2" TUBE WITHOUT SPLICE (18'-0" LENGTHS)	2	40'-0"		NORTH SIDE
1/2" TUBE WITHOUT SPLICE (18'-0" LENGTHS)	2	27'-2"		SOUTH SIDE

INCLUDING SET SCREWS FOR POSTS AND BOLTS, WASHERS AND TEMPLATE FOR ANCHORAGE.

* # INCLUDING SET SCREWS.

BRIDGE NO. 5
(C.N.R. OVERHEAD)

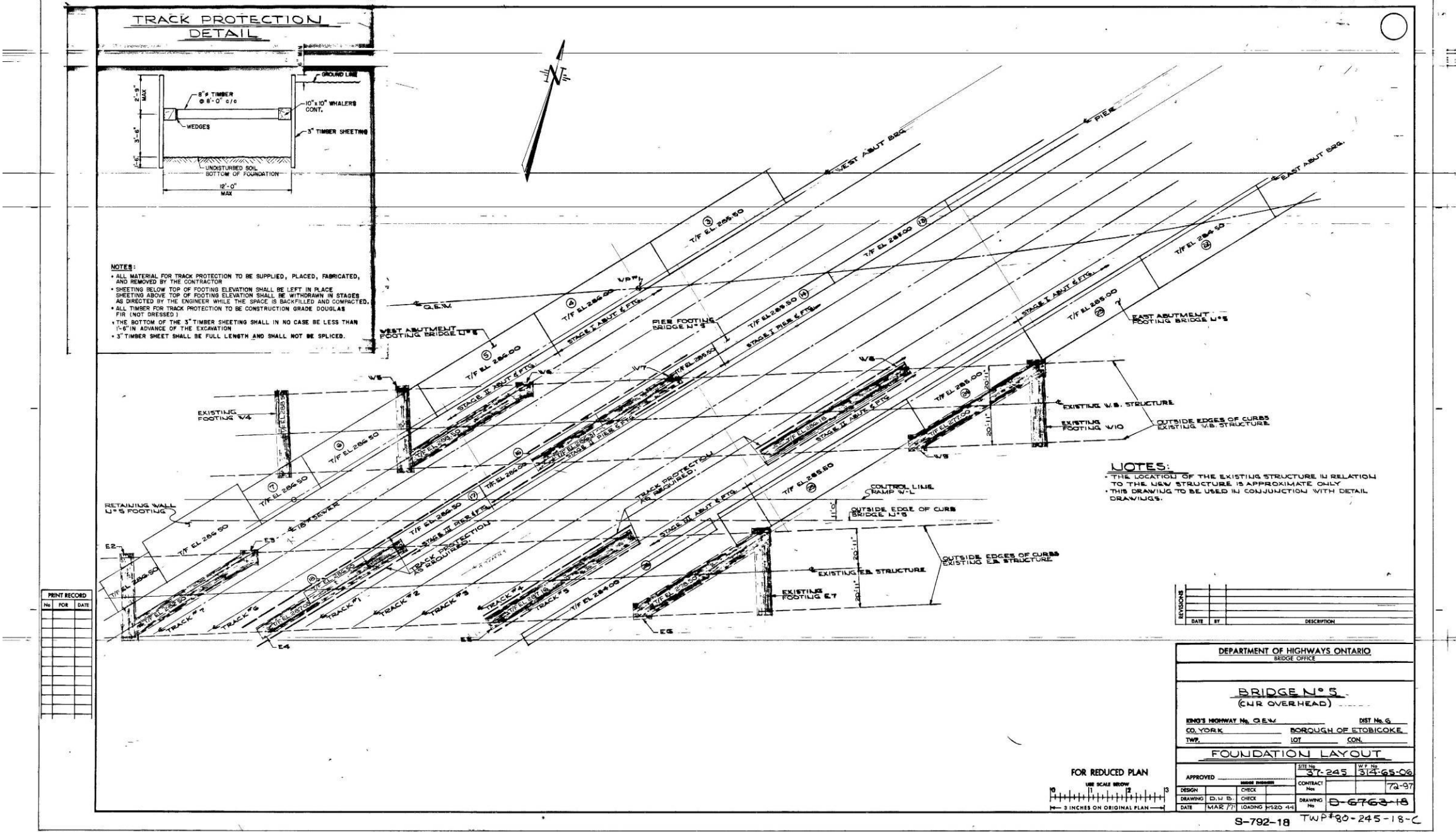
KING'S HIGHWAY No. 625 DIST. No. 6
CO. YORK DOUGLASS OF STONICOKE
TWP. LOT CON.

STANDARD STEEL PARAPET RAIL

APPROVED [Signature] DATE 2-24-58 CONTRACT No. 12-97
DESIGN BY [Signature] CHECK BY [Signature]
DATE DEC-70 DRAWING No. B-6763-97

S-792-12 TWP#80-245-12-C

Figure 9-14: Original structural drawings showing sections of the bridge (Department of Highways, Ontario)



9.3 Site Visit Photographs

Figure 9-15: View of west elevation, looking east.



Figure 9-16: View toward west concrete columns, looking east.



Figure 9-17: View of columns extending from northwest abutment, looking north.



Figure 9-18: View towards southeast abutment, looking south.



Figure 9-19: Detail of the concrete beams supporting bridge deck.



Figure 9-20: Detail of the drainage system on the northwest abutment.



Figure 9-21: View of concrete columns comprising the single pier, looking west.



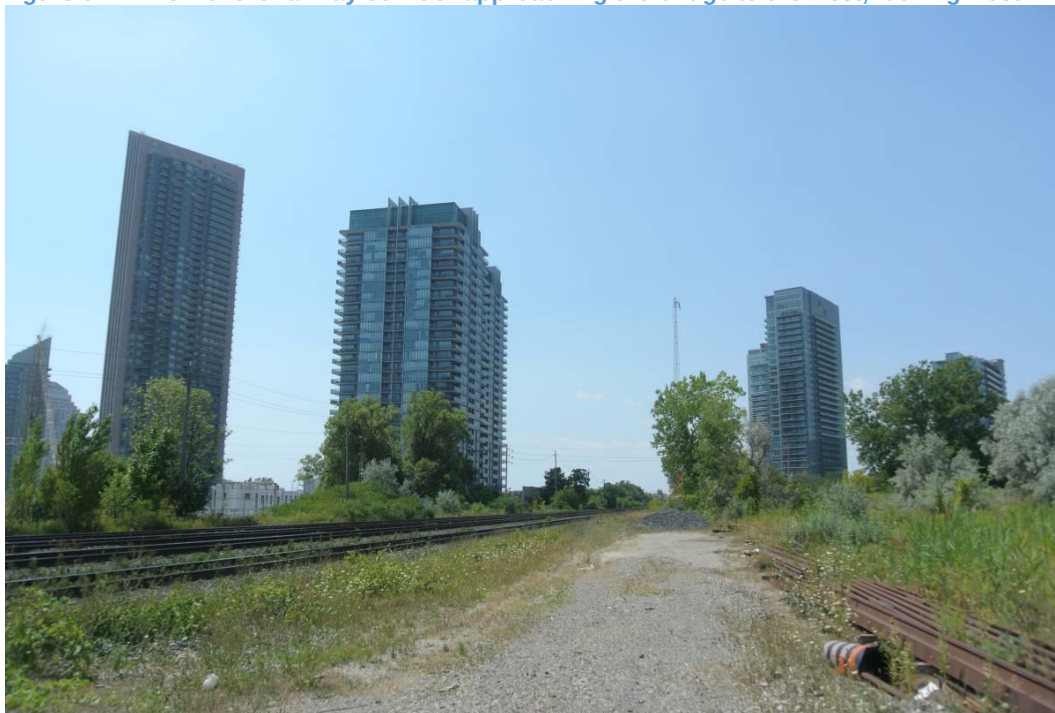
Figure 9-22: View of the concrete columns extending east from the single pier, looking east.



Figure 9-23: View toward the replaced light standard on the subject bridge.



Figure 9-24: View of the railway corridor approaching the bridge to the west, looking west.



10 Chronology

Date	Event	Reference
1855	The Great Western Railway begins service	Andreae 1997
1923	The railway is widened to include three tracks by 1923.	Department of Defense
1930s	Original QEW Bridges built and lion monument erected.	Bevers 2016
1974	Original Bridges demolished and lion monument removed.	Bevers 2016
1974	Gardiner Expressway Overhead constructed	Department of Highways, Ontario, Original Drawings, 1970; Aerial Photography, 1975

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