
4. Site Description

4.1 Context

The Kensington Bridge is a three-span, riveted-steel pony truss bridge that carries Riverside Drive over the North Branch of the Thames River, in London, Ontario (Image 13).

4.2 Landscape Context

At the site of the bridge, Riverside Drive is a two lane, urban road that runs in an east-west orientation, though the traffic only flows in an eastbound direction. The bridge accommodates two lanes of vehicular traffic, as well as a cycle lane, and sidewalks. Historically, the bridge crossing at this location was an important link in connecting West London to the City of London in the 19th century. The road west of the Thames River was laid out following the subdivision of land and extension of access to the City east of the Thames River. Meanwhile, the road east of the Thames River was part of the termination of Dundas Street, an early military road, and eventually a main highway system that was designed to connect London to York, and what would become the Greater Toronto Area.¹² The physical landscape consists of a relatively wide valley with moderately steep valley walls. The Thames River flows through a wide channel with shallow sloped banks on the east side of the river. The west side of the Thames River is defined by the West London Dyke, which has recently undergone significant repairs and reconstruction.

The Thames Valley Parkway (TVP) is located on the east and west banks of the Thames River. On the east side of the river, the trail extends through Ivey Park south of the bridge and passes under the bridge before continuing alongside the Thames River through Harris Park. On the west side of the Thames River, the TVP rises high above the river as part of the West London Dyke, and slopes down under the bridge, passing under Queens Avenue and Riverside Drive. Both portions of the TVP are paved and used extensively by pedestrians and cyclists. The stairway providing pedestrian access from Queens Avenue to the trail and park below was incorporated into the original design for the bridge. A variety of signs and historic and commemorative plaques are located along the TVP commemorating the founding of London, the Thames River, and noting the date of the original Kensington Bridge crossing (Images 14 – 19).

Within the Thames River landscape, the Forks of the Thames is historically known as the birthplace of the City of London and visually forms a key landscape component in the area. Various bridge crossings have been built within the vicinity of the Forks of the Thames and they continue to be a key built component spanning the river, connecting the downtown core of London to the surrounding areas. The Queen's Bridge, located immediately north of the Kensington Bridge is the closest structure to the north, while the closest bridge to the south includes the Westminster Bridge. To the west, the Wharnecliffe Road Bridge carries Wharnecliffe Road South over the Thames River.

¹² *Mary Byers and Margaret McBurney, The Governor's Road: Early Buildings and Families from Mississauga to London, Toronto: University of Toronto Press, 1982.*

4.3 Approaches

Both approaches to the bridge are relatively level and are generally consistent with the grading of the road at the bridge. East of the bridge, the road curves north as part of its alignment with the rest of Dundas Street. As it curves north, the grade gradually rises as well, as it approaches Ridout Street (Images 20 – 21).

4.4 Abutments and Piers

The east and west abutments are constructed of reinforced concrete and are built into the earth embankments on either side of the Thames River. The east abutment and wingwalls are directly abutting the TVP on the east side of the river. In 2011, the face of the abutment was rehabilitated and lettering was added to the abutment, visible from the TVP. The lettering includes “KENSINGTON BRIDGE DUNDAS STREET” along with two markers that show the food levels of two of London’s most historic floods, in 1883 and 1937 (Images 22 – 23). The west abutment is also constructed immediately adjacent to the TVP. As part of the rehabilitation efforts in 2011, the face of the abutment was also reconstructed with concrete block, configured to have the appearance of an ashlar stone abutment. The facing of the abutment is also consistent with the facing of the dyke walls. Two concrete piers are located within the river to support the bridge spans (Images 24 – 27).

4.5 Truss

The Kensington Bridge is a three-span, steel pony truss structure. It has three spans, each approximately 32 m (104 feet) in length, with a deck width of 14.87 m (48 feet). Sidewalks are located on both the east and west sides of the bridge with open railing barriers.

The bridge is a rendition of a Warren truss structure, a truss type typically used for spans ranging from 50 – 400 feet. The trusses consist of five main panels and two half panels at each end post. The top chords and end posts are constructed of steel channels separated with riveted plates, and include riveted lattice on their underside. Unlike most verticals and diagonals on truss bridges, the vertical and diagonal members on the Kensington Bridge consist of heavy steel I sections with riveted connections. The use of these members give the truss structure a much more stout and heavy appearance than most truss bridges. The centre panel on each of the trusses consists of two opposite diagonal steel channels connected by riveted plates that form an “X” with a large central gusset plate. A true Warren truss would typically consist of uninterrupted equilateral triangles, however, the central “X” panel in this structure results in a modified Warren truss (Images 28 – 35).

The bridge is similar to the Victoria Bridge, a two-span modified Warren truss that carries Ridout Street over the South Branch of the Thames River approximately 800m southeast of the Kensington Bridge. Much like the Kensington Bridge, the Victoria Bridge, a “sibling” bridge was built in 1926 by the Hamilton Bridge Works Co. Ltd.

4.6 Deck/Railings

The existing concrete deck is supported on multiple longitudinal steel stringers connected to transverse floor beams. On the underside of the deck a series of pipes and conduits run the length of the crossing.

The open railing systems located on the outside of the cantilevered sidewalks consist of steel posts and a railing that extends the length of the crossing. There is no railing system that separates the traffic from the pedestrian sidewalk aside from the truss components. In addition, decorative lampposts are located in between each truss and appear to have been a part of the original construction of the bridge. The bases of the lampposts appear to be

original to the 1930 construction, however, the light fixtures have been replaced. The original posts included large ornate lamps as a gateway-like feature at each approach. In addition, the original posts were quite large, rising above the trusses. Much smaller replica end posts have been incorporated into the pedestrian railings at the west end of the bridge. The remnants of the posts have been entirely removed from the bridge in the early 21st century (Images 36 – 38).¹³



Image 13: View looking north showing three span Kensington Bridge structure over the Thames River

¹³ Recent efforts have been made to locate the posts that were removed and store. However, at the time of preparing this report the stone posts have yet to be located.



Image 14: View looking north showing TVP on the east side of the river



Image 15: View looking north from the bridge showing TVP below The Queen's Bridge, on the east side of the river



Image 16: View looking north from west abutment showing TVP built into the West London Dyke system on the west side of the river



Image 17: Signage on the Kensington Bridge, noting crossings at this location since 1872. Various secondary source material indicates that the first crossing at this location was actually in 1871 which suggests that the date on the sign may be incorrect

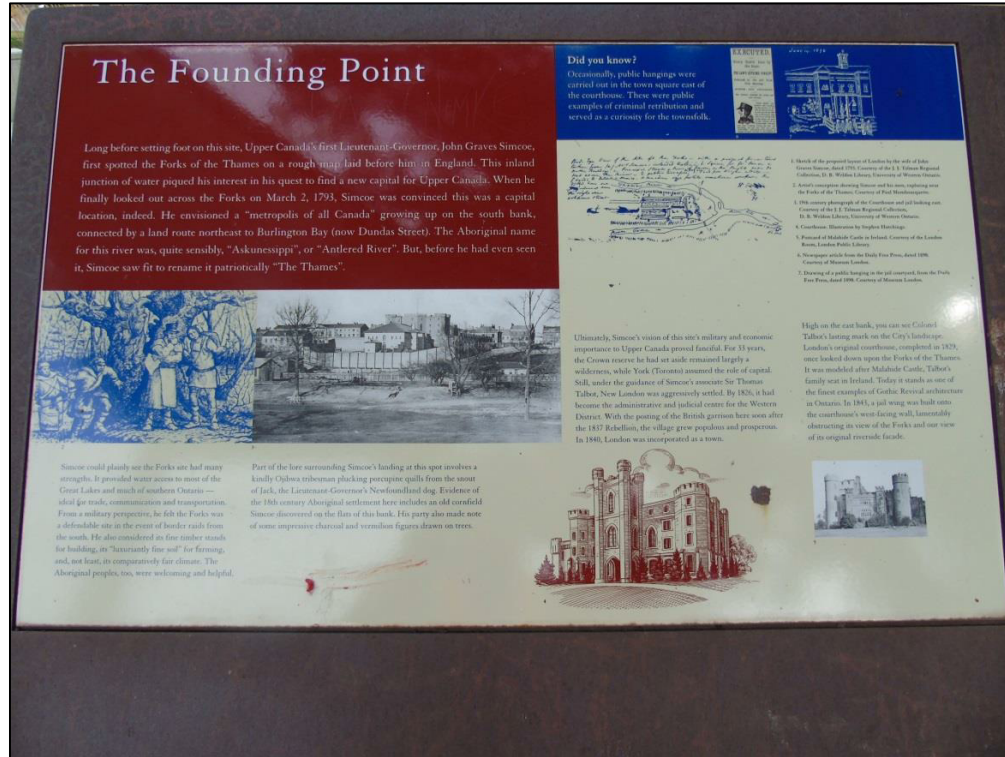


Image 18: Nearby cultural heritage interpretive sign located in Harris Park noting some historical information related to the Thames River

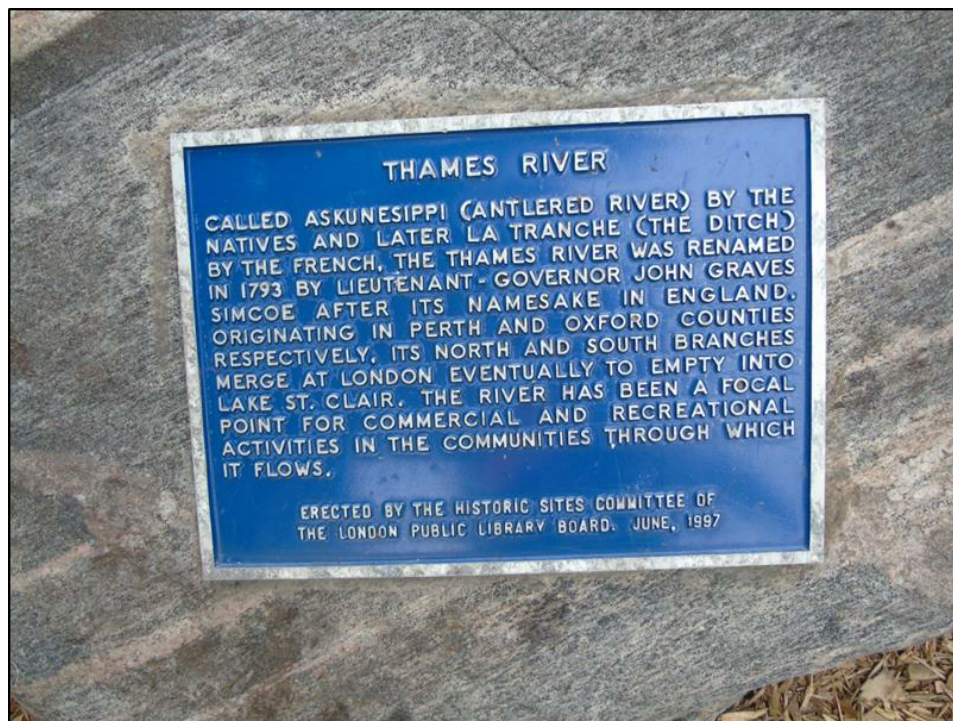


Image 19: Nearby by interpretive plaque including some information about the founding of London at the Forks of the Thames



Image 20: View looking east showing west approach to the bridge



Image 21: View looking west showing east approach and curvature of the road



Image 22: View showing east abutment with "Flood of 1883" markers



Image 23: Detail of "Flood of 1883" markers on east abutment, as well as connection of bottom chord



Image 24: North side of east abutment showing "Flood of 1937" marker



Image 25: East concrete pier located within the river



Image 26: West abutment showing concrete block designed to appear as stone pattern, consistent with dyke walls



Image 27: View from east abutment looking towards west pier



Image 28: View looking east showing top chord, verticals, and diagonal members of the truss system



Image 29: Riveted connection of top chord showing gusset plates



Image 30: View showing diagonal end post and riveted lattice



Image 31: View looking across Riverside Drive/Dundas Street showing truss system on the western-most span



Image 34: View showing centre panel in the Warren truss



Image 36: View looking west across the bridge showing deck, concrete sidewalks, and railing system



Image 38: View looking east showing deck and sidewalks



Image 35: View showing riveted steel beams and stringers along with concrete deck



Image 36: Railings and concrete end post at west end of the bridge. The end post appears to be a small version of the large concrete end posts that were once located at each end of the bridge



Image 37: View showing concrete end post for railing system at west end of the bridge



Image 38: View showing base of lighting systems in the centre of the bridge

5. Evaluation

5.1 Ontario Regulation 9/06

Ontario Regulation 9/06 provides criteria for determining cultural heritage value or interest. If a property meets one or more of the following criteria it may be designated under Section 29, Part IV of the Ontario Heritage Act. The criteria for determining cultural heritage value under *Ontario Regulation 9/06* is mandated by the Province are outlined below:

- 1) The property has **design or physical value** because it:
 - Is a rare, unique, representative or early example of a style, type, expression, material or construction method;
 - Displays a high degree of craftsmanship or artistic merit; or
 - Demonstrates a high degree of technical or scientific achievement.

- 2) The property has **historic or associative value** because it:
 - Has direction associations with a theme, event, belief, person, activity, organization, or institution that is significant to a community;
 - Yields, or has the potential to yield information that contributes to an understanding of a community or culture; or
 - Demonstrates or reflects the work or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.

- 3) The property has **contextual value** because it:
 - Is important in defining, maintaining, or supporting the character of an area;
 - Is physically, functionally, visually, or historically linked to its surroundings; or
 - Is a landmark.

It should be noted that the Kensington Bridge is already designated under Part V of the Ontario Heritage Act as part of the Blackfriars/Petersville HCD. Therefore, as a resource, already designated under the Ontario Heritage Act, the Ontario Regulation 9/06 evaluation undertaken as a part of this CHER has been completed in order to provide a greater understanding and clarity of the specific heritage attributes associated with the Kensington Bridge in advance of any proposed alterations or public works project for the structure. The application of the criteria for the evaluation of the Kensington Bridge is provided below in Table 1.

Table 1: Ontario Regulation 9/06 Evaluation for the Kensington Bridge

Criteria	Meets Criteria (Yes/No)	Rationale
1) The property has <i>design or physical value</i> because it:		
i) Is a rare, unique, representative or early example of a style, type, expression, material or construction method.	Yes	The Kensington Bridge is a representative example of a modified Warren steel truss style of bridge construction. The use of steel trusses in for vehicular bridge design is increasingly rare. A small number of

		steel truss bridges remain in London, however this is one of two modified Warren trusses remaining in the City. The other modified Warren truss structure includes the Victoria Bridge, which is scheduled to be replaced in the coming years.
ii) Displays a high degree of craftsmanship or artistic merit.	No	The Kensington Bridge does not display a high degree of craftsmanship or artistic merit.
iii) Demonstrates a high degree of technical or scientific achievement.	No	The Kensington Bridge is a relatively typical example of a Warren truss structure and does not demonstrate a high degree of technical or scientific achievement.
2) The property has <i>historic value</i> or <i>associate value</i> because it:		
i) Has direct associations with a theme, event, belief, person, activity, organization, or institution that is significant to a community.	Yes	Historically, a crossing of the Thames River at Dundas Street West (later Riverside Drive) has provided an important link in connecting London West to the City of London. The bridge is the 3 rd road bridge at this location. Historically, the bridge was one of the few bridges that connected London West with City of London.
ii) Yields, or has the potential to yield information that contributes to an understanding of a community or culture.	No	The Kensington Bridge does not yield or have the potential to yield information that contributes to an understanding of a community or culture.
iii) Demonstrates or reflects the work or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.	Yes	The bridge was designed by John R. Rostron, a municipal engineer for the City of London. In addition, the bridge was built by the Hamilton Bridge Co., a well-known bridge manufacturing company in the early-20 th century.
3) The property has <i>contextual value</i> because it:		
i) Is important in defining, maintaining or supporting the character of an area.	Yes	The Kensington Bridge, along with the King Street, Victoria Bridge, and Blackfriars Bridge form a grouping of historic bridges in downtown London.
ii) Is physically, functionally, visually or historically linked to its surroundings.	Yes	The Kensington Bridge is historically linked to its surroundings as one of the three crossings at this location. Further, the bridge connects two of the City's Heritage Conservation Districts and is included within the Blackfriars/Petersville HCD.
iii) Is a landmark.	No	Although noted as a gateway from the Blackfriars/Petersville HCD to the Downtown HCD, the Kensington Bridge on its own does not represent a landmark. Although noted for its design/physical value, comparatively the bridge is currently one of two similar bridges within London, and does not have the same landmark status as other bridges within London that have been designated under Part IV of the Ontario Heritage Act such as the Blackfriars Bridge.

5.2 Statement of Cultural Heritage Value

The Kensington Bridge is a three-span, modified Warren steel-pony truss bridge that carries Riverside Drive over the North Branch of the Thames River. The structure was built in 1930 as the third crossing of the Thames River at this location. It was designed by municipal engineer John R. Rostron, known also for his role in designing the nearby Victoria Bridge. The structure acts as a gateway structure between the Blackfriars/Petersville Heritage Conservation District and the Downtown London Heritage Conservation District.

5.2.1 Heritage Attributes

The following are the heritage attributes of the Kensington Bridge:

- Location and setting of the bridge at the Forks of the Thames;
- Riveted, modified Warren painted steel pony truss structure including;
 - Three spans of 32m (104 feet) each and overall length of 96m (315 feet);
 - Steel top and bottom chords;
 - Riveted steel lattice details on underside of steel chords;
 - Steel gusset plates
- Remnants of decorative concrete and limestone end posts at west end of the bridge;
- Decorative lamp posts in centre of the bridge spans;
- Hand railings original to the design of the bridge.

5.3 Review of Heritage Registers and Additional Information

As a part of the evaluation undertaken for this CHER, AECOM reviewed municipal, provincial, and federal heritage registers and inventories including:

- *City of London, Inventory of Heritage Resources (2006)*;
- *City of London CityMap application*;
- *Ontario Heritage Trust's* online inventory of buildings, museums, and easement properties;
- *Canadian Register of Historic Places*; and
- *Federal Heritage Designations*.

The Kensington Bridge is designated under Part V of the Ontario Heritage Act as part of the Blackfriars/Petersville HCD. Further, the bridge provides a link between two of the City's Heritage Conservation Districts (HCD). The Blackfriars/Petersville HCD is located immediately west of the Thames River, while the Downtown HCD is located east of the Thames River. As a result, the bridge acts as a gateway leaving the Blackfriars/Petersville HCD and entering the Downtown HCD.

Properties included within the HCD are designated under Part V of the Ontario Heritage Act. As part of its inclusion within the boundaries of the HCD, the bridges over the Thames are considered to be contributing resources.¹⁴

Lastly, the Thames River is a designated heritage river as part of the Canadian Heritage Rivers System (CHRS). The CHRS is a conservation program that promotes, protects, and enhances Canada's river heritage and ensures that Canada's leading rivers are sustainably managed. As part of the designation application and the on-going

¹⁴ *The definition of a contributing property, as defined in the Blackfriars-Petersville HCD Plan is: "A property, structure, landscape element, or other attribute of a Heritage Conservation District that supports the identified cultural heritage values, character, and/or integrity of the Heritage Conservation District. Contributing resources are subject to the policies and guidelines for the conservation and alteration; and demolition. The bridges over the Thames (Blackfriars and Queens) are considered to be contributing resources and thus should be part of the district."*

monitoring and reporting for the Thames River, a series of publications have been developed to preserve and enhance the natural and cultural heritage of the river. The Kensington Bridge is one of many bridges in London that crosses the Canadian Heritage River.

6. Recommendations

6.1 Cultural Heritage Value or Interest

At the time of the preparation, there is no specific proposed undertaking, however, the design report being undertaken concurrently is anticipated to provide recommendations for rehabilitation activities for the bridge. The Kensington Bridge is designated under Part V of the Ontario Heritage Act as part of the Blackfriars/Petersville HCD. Further, the bridge provides a link between two of the City's Heritage Conservation Districts (HCD). The Blackfriars/Petersville HCD is located immediately west of the Thames River, while the Downtown HCD is located east of the Thames River. As a result, the bridge acts as a gateway leaving the Blackfriars/Petersville HCD and entering the Downtown HCD.

In addition, this CHER has been completed in order to provide a greater understanding and clarity of the specific heritage attributes associated with the Kensington Bridge in advance of any proposed alterations or public works project for the structure. The CHER has identified that the Kensington Bridge has significant cultural heritage value or interest under *Ontario Regulation 9/06*. As a result, the bridge met the evaluation criteria to merit designation under the *Ontario Heritage Act*. This should be considered when determining a proposed undertaking for the bridge. Ideally, rehabilitation activities should be developed that conserve the cultural heritage value of the bridge.

6.2 Permitting/Approval Process

Given the cultural heritage value of the Kensington Bridge that has been identified as part of the evaluation of the structure according to *Ontario Regulation 9/06*, further heritage reporting requirements will be required depending on the proposed works for the bridge. In addition, as a result of its designation under Part V of the *Ontario Heritage Act*, any alterations to the bridge would require approval of a Heritage Alteration Permit. Further, if rehabilitation or replacement alternatives are evaluated as part of a Municipal Class Environmental Assessment (EA) for the bridge, a Heritage Impact Assessment would be required.

As a result of the conclusion of the *Ontario Regulation 9/06* evaluation undertaken for the Kensington Bridge, as well as a result of its existing designation under Part V of the Ontario Heritage Act, the Kensington Bridge has been determined to have cultural heritage value on its own as well as part of its larger role within the Blackfriars/Petersville HCD. Therefore, based on the Municipal Engineer's Association's *Municipal Heritage Bridges Cultural, Heritage, and Archaeological Resources Assessment Checklist* (Revised 2014), a Schedule B or C Municipal Class Environmental Assessment should be undertaken. It should be noted that this conclusion is based solely on the outcome of the heritage evaluation of the structure, and does not take into account additional considerations included in the checklist such as Archaeological Assessments, or further environmental, engineering, or financial considerations that would determine the schedule of a Municipal Class EA.

7. Bibliography

- Aboriginal Affairs and Northern Development Canada. Treaty Texts – Upper Canada Land Surrenders, <https://www.aadnc-aandc.gc.ca/eng/1370372152585/1370372222012#ucls9> (accessed March 2018), 2013.
- Armstrong, Frederick H. *The Forest City: An Illustrated History of London, Canada*. Windsor. Windsor Publications, Ltd. 1986.
- Bremner, Arnold. *City of London, Ontario Canada: The Pioneer Period and the London of Today*. London: London Printing and Lithographing Company Ltd. 1900.
- Byers, Mary and Margaret McBurney. *The Governor's Road: Early Buildings and Families from Mississauga to London*. Toronto: University of Toronto Press, 1982.
- City of London. *Blackfriars-Petersville Heritage Conservation District Study*. January 2014.
- City of London. *Blackfriars-Petersville Heritage Conservation District Plan and Guidelines*. May 2014.
- City of London. *Downtown London Heritage Conservation District Study*. January 2011.
- City of London. *Downtown London Heritage Conservation District Plan*. March 2012.
- Dean, W.G. *Economic Atlas of Ontario*. Toronto: University of Toronto Press, 1969.
- Department of Lands and Forests. Aerial Photography. London. 1:12,000. Roll 746. Line 17. Photo 8. 1942.
- Ellis, Chris J. and Brian Deller/ "Paleo-Indians" in *The Archaeology of Southern Ontario to AD 1650*. Eds. Chris J. Ellis and Neal Ferris. Occasional Publication of the London Chapter, OAS Number 5, 1990.
- Gilbert, Jim. *Looking Back: The Thames River, Ontario*. St. Catharines, Ontario: Vanwell Publishing, 2005.
- Goad, Charles E. Co. *Insurance Plan for the City of London, Ontario, Canada*. 1892 Revised 1907. Toronto.
- Goad, Charles E. Co. *Insurance Plan for the City of London, Ontario, Canada*. 1912 Revised 1915. Toronto.
- Hunting Survey Corporation. Aerial Photography. London. 1:12,000. Line 5. Photo 207. 1965.
- Illustrated Historical Atlas of the County of Middlesex*. Toronto: H.R. Page and Co., 1878.
- London, City of. *City of London Inventory of Heritage Resources*. The London Advisory Committee on Heritage. Department of Planning and Development. 2006.
- London Free Press*. 1930-1973.
- National Topographic Series. 40 I/14. St. Thomas. 1913.

National Topographic Series. 40 I/14. St. Thomas. 1945.

Parks Canada. Canadian Register of Historic Places. www.historicplaces.ca (accessed October 2017).

Rostron, John R. "Victoria Bridge, Ridout St., London, Ont." *The Canadian Engineer*. Vol. 53. No. 7. October 25, 1927.

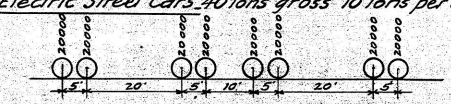
Appendix A

**Plan No. 2 and Plan No. 3
City of London
Kensington Bridge (Dundas
Street)
London, Ontario
December 1929**

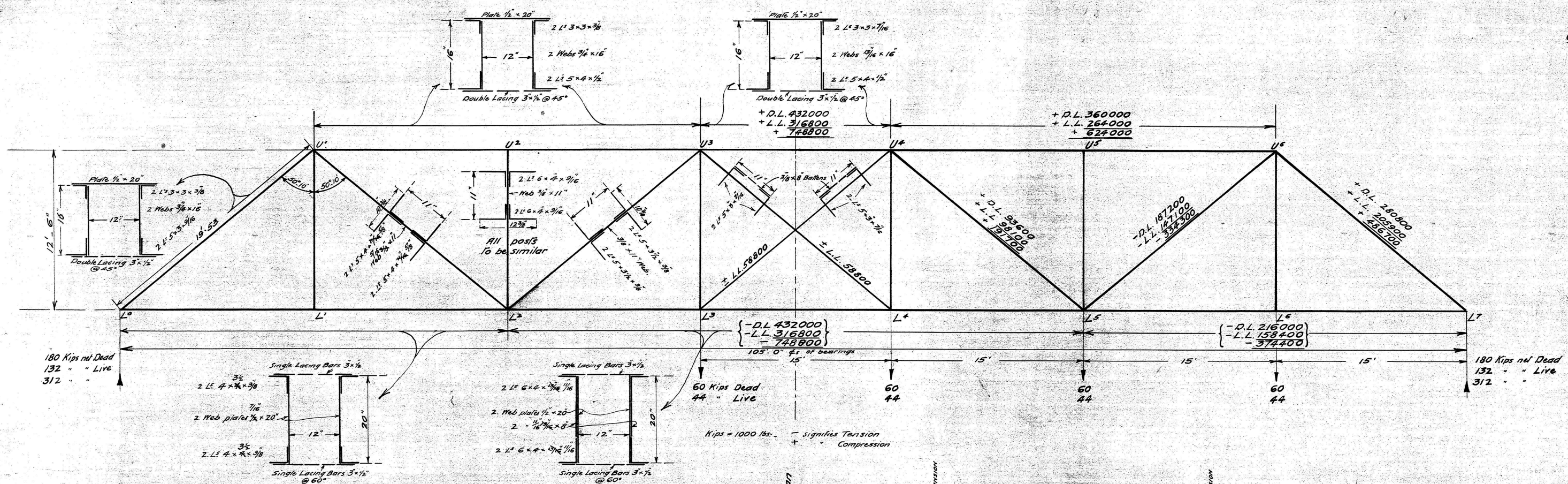
6 Trusses all symmetrical & similar to each other

Ontario Specification for Steel Highway Bridges Class C Loading

Uniform Live Load 100 lbs per sq. ft. on road
 100 " " " sidewalk.
 Concentrated Live Load 20 tons on 2 axles 10 ft G gauge
 and
 2 Electric Street Cars 40 tons gross 10 tons per axle



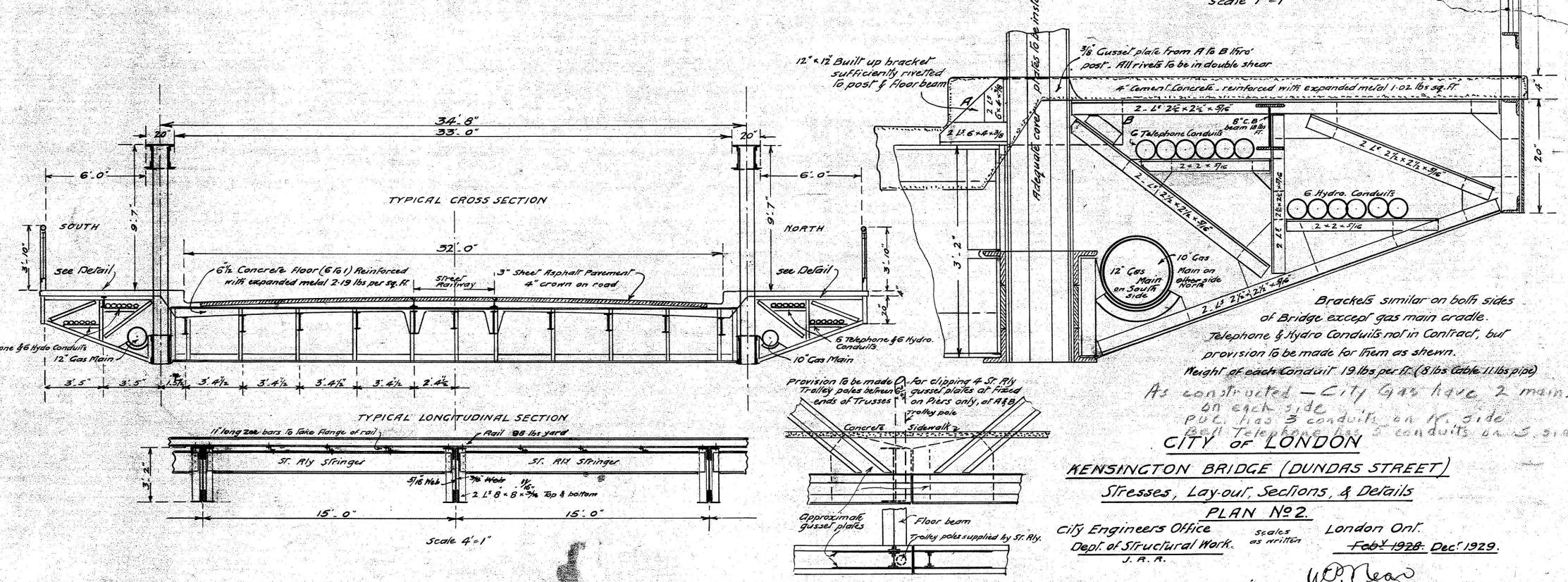
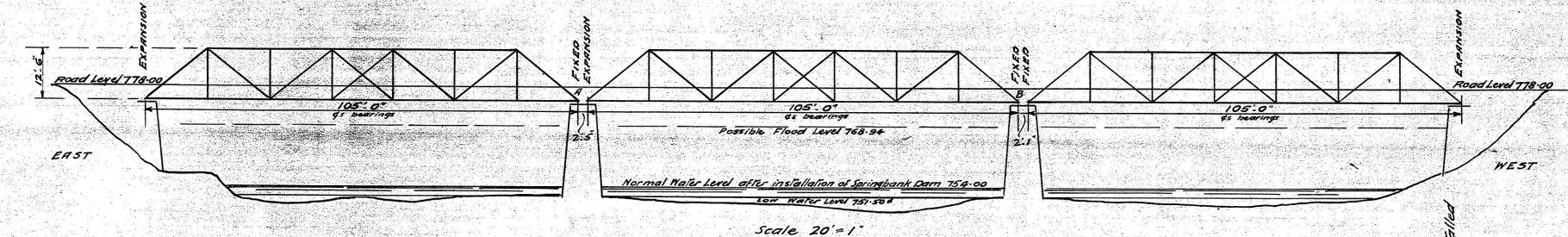
NOTE - The Contractor must conform to the type of Truss sections & all other details shown hereon, but if he wishes to make any changes in composite sections of angles, plates, beams &c he must give full particulars of such changes along with his Tender & these changes will be subject to the approval of the City Engineer and the Ontario Railway & Municipal Board's Engineer also.



NOTE - The alterations in steel sections are brought about by adapting 18000 lbs as the allowable tensional stress per sq. in. - 16000 lbs was the permissible stress at the time this bridge was designed - Feb 1928.

ST. RLY Stringers	I beam minimum Sec. Mod.	55-87	16" C.B. No 161 @ 18 ft Sec. Mod 59.3
Road Stringers	do do	31-79	11 1/2" Beams @ 25 lbs - Sec. Mod. 31.2
ST. RLY Stringers	do do	55-87	16" C.B. No 161 @ 18 ft Sec. Mod 59.3
Road Stringers	do do	31-79	12" Beams I @ 25 lb Sec. Mod. 35.6
do	do do do	do do do	do do do
do	do do do	do do do	do do do
do	do do do	do do do	do do do
Side walk Stringer	do do	13-13	8" C.B. No B 39 @ 18 ft Sec. Mod. 14.7

Expansion plates where required
 End floor beam 3" x 2" spaced but half strength at corners
 Flange stress 3000 lbs. - 11.8 x 8 3/8"



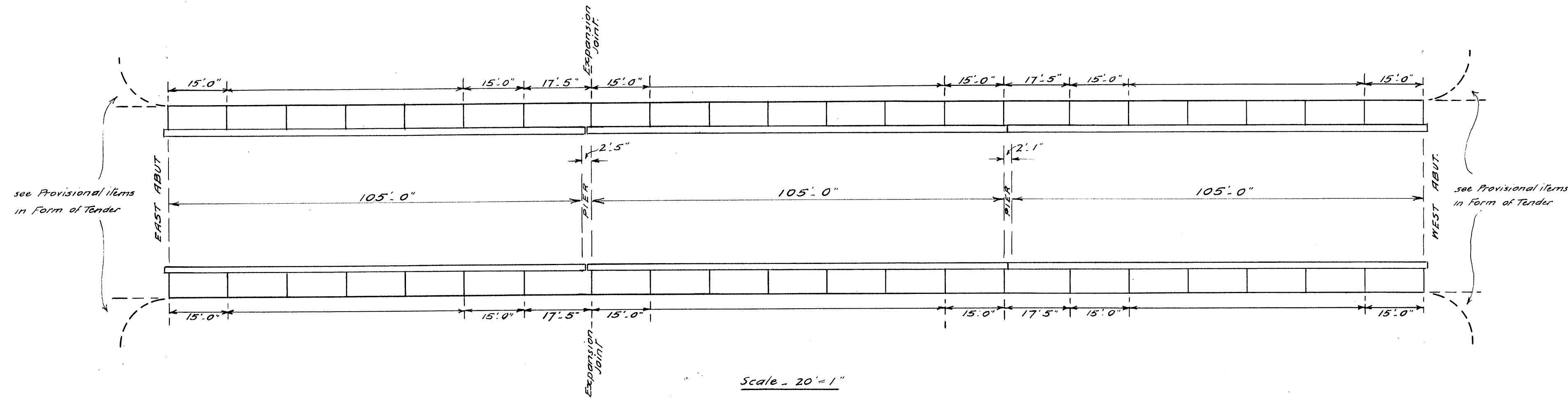
DETAIL OF BRACKETS Scale 1"=1'

Brackets similar on both sides of Bridge except gas main cradle. Telephone & Hydro Conduits not in Contract, but provision to be made for them as shown. Height of each Conduit 19 lbs per ft. (8 lbs cable, 11 lbs pipe). As constructed - City Gas have 2 mains - one on each side. P.U.C. has 3 conduits on N. side and 5 conduits on S. side.

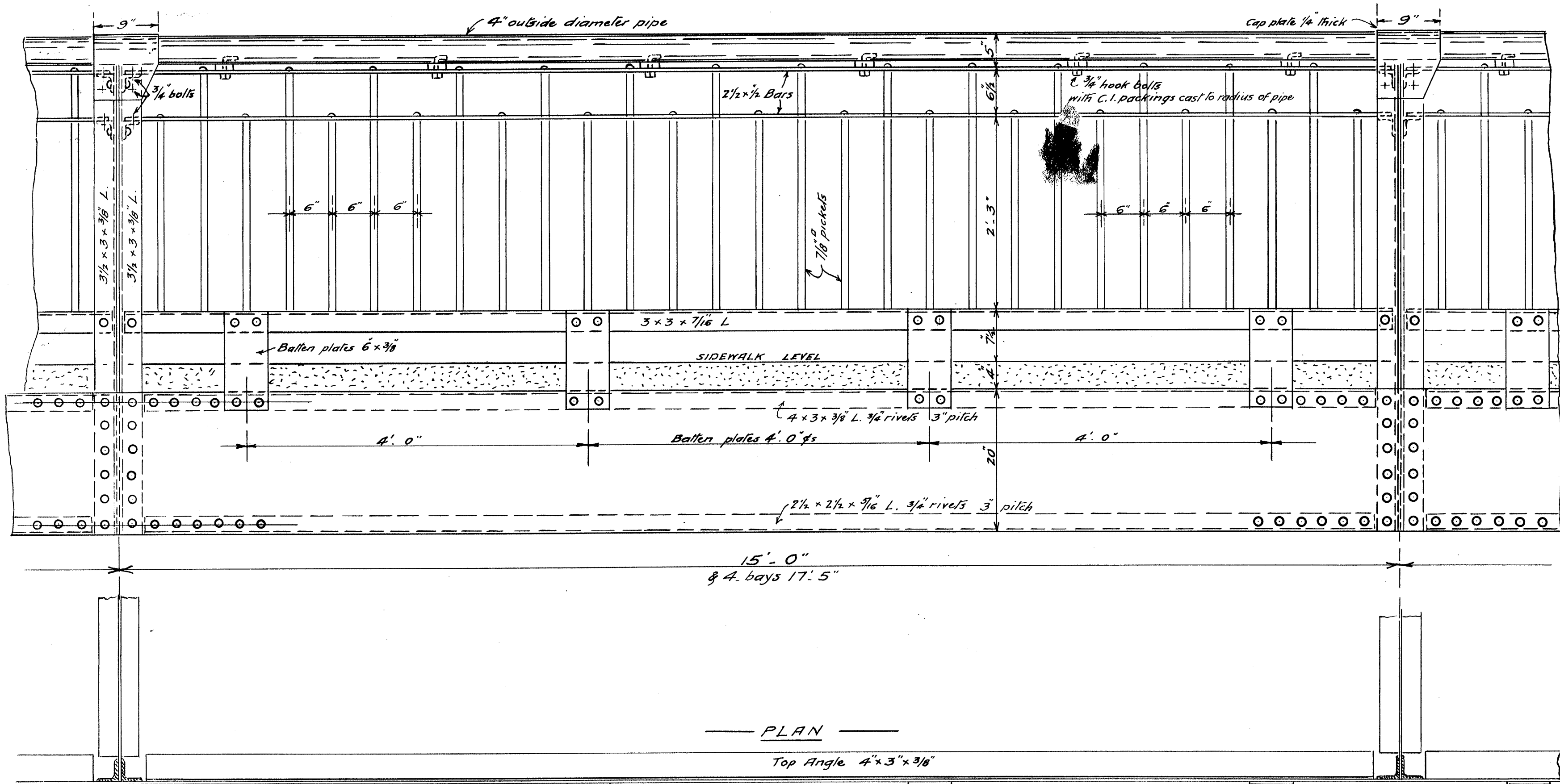
KENSINGTON BRIDGE (DUNDAS STREET)
 Stresses, Layout, Sections, & Details
 PLAN No 2
 City Engineers Office London Ont.
 Dept. of Structural Work. Feb 1928. Dec 1929.
 J. A. R.

W.P. Mead
 City Engineer

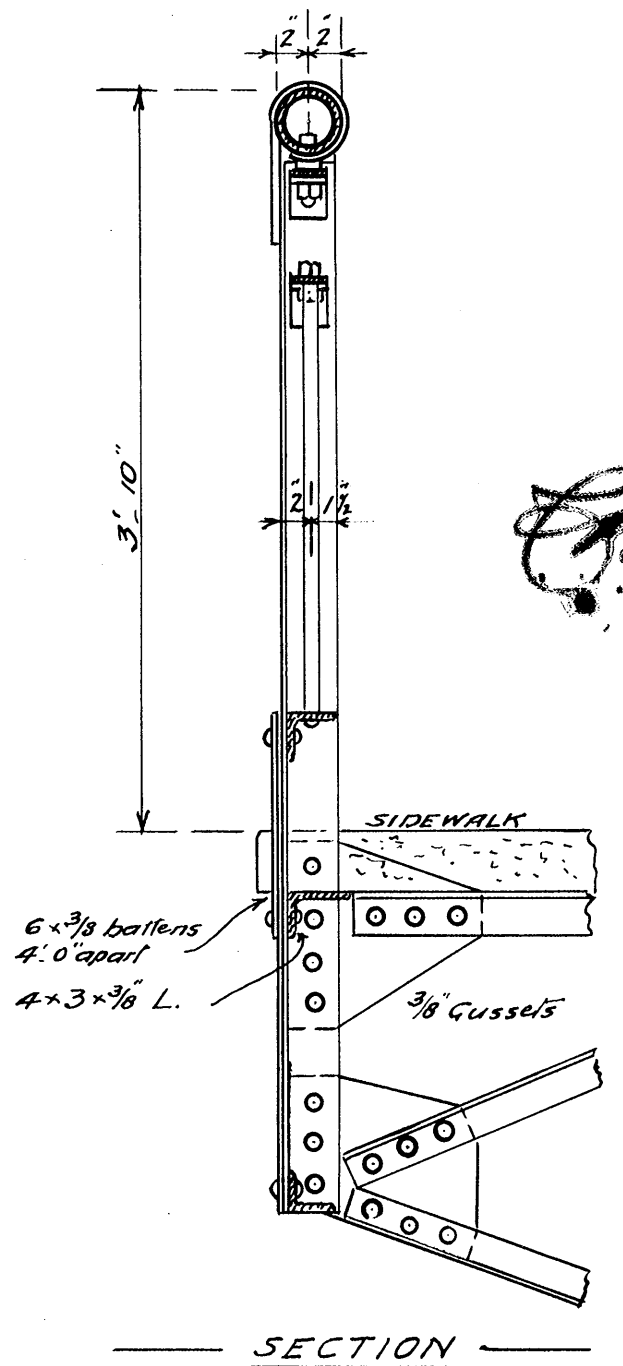
KEY PLAN



Scale - 20' = 1"
 38 Bays 15'-0" long
 4 " 17'-5" "



PLAN
 Top Angle 4 x 3 x 3/8



Chambers

CITY OF LONDON
 KENSINGTON BRIDGE (DUNDAS STREET)
 Details of Railing
 PLAN No 3
 City Engineer's Office London Ont.
 Dept. of Structural Work Scale 1" = 1' Feb. 1928.
 J. R. R.
J. R. R.
 City Engineer