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Ms. Jocelyn Jenkyns
Acting City Manager
City of Victoria
1 Centennial Square
Victoria, BC, Canada V8W 1P6

Re: JOHNSON STREET BRIDGE REPLACEMENT PROJECT
3 JANUARY 2018 "FOCUS ON VICTORIA" ARTICLE
LETTER NO. 2822-082

8 January 2018

Ms. Jenkyns:

Having read a 3 January article in "Focus on Victoria" by David Broadland relating to bolted-on plates on the underside of the Johnson Street Bridge rings, I felt it would be helpful if I gave you a brief summary of why those plates are there and how their use came to be. As with all issues that arise during a project of this magnitude, City Staff was fully involved in arriving at the best solution, particularly with respect to public safety, cost and schedule impacts; however, the details of these issues are not usually brought to City Council unless they represent a major scope change to the project, which this does not.

In the course of our routine quality inspections in the steel fabrication plant in China, the Contractor's quality control team discovered a violation of fabrication and welding standards in the particular area in question. This determination was confirmed by the City's Quality Oversight consultant. There was no "design flaw" by Hardesty & Hanover nor any other of the City consultants involved; it was assembly by the fabricator that did not conform to the design plan requirements nor to the applicable detailing and fabrication standards required in the specifications.

In accordance with the Quality Control Procedures in place for the project, an NCR was issued by the Quality Control Team indicating a non-conformance with the required plans and specifications in the subject area. When the NCR was issued, Hardesty & Hanover, as the Engineer of Record for Structural Steel, worked cooperatively with the City, Contractor, Fabricator and Quality Control Team to find the best way to correct the non-conformance.

Because of its location in a critical area of the structure, this non-conformance was particularly difficult to correct. The design team and fabrication team designed and reviewed numerous mitigation options. We even consulted two internationally known experts in fabrication and welding for their input. After reviewing all options, the project team unanimously agreed that the bolted plates were the best option, all factors considered.

In the final design of the bolted plates, care was taken to be sure the existing material was not weakened by the bolt holes and that provisions were made for additional coatings in newly exposed areas to retard corrosion. We even provided extra inspection ports so that the inside of the ring in this area could be accessed. I am confident that the final product with the plate addition meets or exceeds the original design strength.

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Non-conformances are to be expected during any fabrication of this magnitude. I want to assure the City of Victoria that the Quality teams were vigilant throughout fabrication in looking for and correcting non-conformances such as this one and others that are not visible in the final product. Were we not satisfied that the fabricated product was acceptable and would lead to a safe bridge, we would not have allowed it to be shipped to the site for erection. The City's consultant team continues to monitor the erection on behalf of the City and I look forward to being able to provide the City with our final letter of assurance prior to the bridge being placed into service.

Very truly yours,

HARDESTY & HANOVER, LLC
Engineer of Record for Structural Steel

Keith R. Griesing
Principal

Cc: Jonathan Huggett, P.Eng
Angus English, P.Eng