Johnson Street Bridge Replacement Project

Annual Report

For the fiscal year that ended March 31, 2016
Prepared by City of Victoria
June 2016
An annual progress report and appended audit is required under Section 9 and Schedule D of the Canada – City of Victoria – Building Canada Fund Agreement for the Johnson Street Bridge Replacement. This report is used to provide the Management Committee with information regarding the status of the project and to formally track progress to date under the agreement. The report may also be posted on the Transport Canada website and the City's Johnson Street Bridge Replacement Project website for public use.
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Introduction

Construction is ongoing to replace Victoria’s Johnson Street Bridge, an important transportation connection that connects the neighbourhood of Victoria West and several of Greater Victoria’s regional municipalities with the heart of downtown Victoria. Built to a lifeline seismic standard, the replacement bridge will serve the community for the next 100 years. It will provide improved safety and accessibility for more than 30,000 people that cross the bridge each day, including more than 3,000 cyclists and 4,000 pedestrians. More than 50 per cent of the new bridge will accommodate pedestrians and cyclists. In addition to maintaining three lanes for vehicles, the new bridge will include on-road bike lanes, a multi-use trail for pedestrians and cyclists, and a dedicated pedestrian pathway. The new bridge will help improve pedestrian and cycling connectivity for the region by creating a new downtown trailhead for the Galloping Goose, Lochside, and E&N trails. Cycling and pedestrian connectivity will also be enhanced at Esquimalt and Harbour Roads with the inclusion of a multi-use overpass connecting the Galloping Goose and E&N trails together.

The future David Foster Harbour Pathway will link with the new bridge’s pedestrian walkway, passing underneath the bridge and through the bridge wheel. This new connection will improve pedestrian connectivity between the Victoria West Westsong Walkway, the north end of downtown, and the Inner Harbour. The bridge will also feature new public plazas on the east and west sides of the bridge. The new north east plaza will create a new trailhead for the region’s Galloping Goose, Lochside, and E&N multi-use trails. The south east plaza will connect with the pedestrian pathway across the bridge and future David Foster Harbour Pathway. The west plaza will be built on top of the existing bridge’s pier and provide for improved opportunities to sit and enjoy views of the harbour. It will connect with pedestrian pathways to and from the bridge and a future waterfront green space.

A new park planned for the west side of the bridge is an additional enhancement to the area as a result of the bridge project. Once complete, the new bridge will be one of the largest single-leaf lift bridges in North America, creating a new iconic structure and destination within Victoria’s Inner Harbour.
The new bridge will improve the existing navigation channel, bringing it to modern standards for continued support of the marine industry and recreational and commercial vessels accessing the Upper Harbour.

The replacement of the Johnson Street Bridge is the largest infrastructure project ever undertaken by the City of Victoria. It has required significant planning and preparation to address risks, timeline, and budget.

In July 2014, regular steel quality inspections that were being conducted by quality control consultants found that some aspects of the steel fabrication had not been undertaken in accordance with the design specifications. This resulted in the City of Victoria rejecting the steel and creating a delay. Steel fabrication recommenced in March 2015 and is scheduled to be completed in late 2016. Regular inspections by the fabricator and the contractor’s quality control consultants are being routinely conducted to help ensure all aspects of the steel fabrication meet the design specifications. Any steel not meeting the highest quality and safety specifications will not be accepted by the City of Victoria.

Risks that remain for the project include the condition of the existing bridge, geotechnical and soil conditions, archaeological remains, possible schedule delays in steel fabrication and delivery, and fendering.

The Government of Canada is providing up to $37.5 million in funding towards the project, including $21 million from the Building Canada Fund and $16.5 million through Canada’s Gas Tax Fund. The Government of Canada has also provided a $10.2 million low-cost infrastructure loan through the Canada Mortgage and Housing Corporation’s Municipal Infrastructure Lending Program. The remaining bridge replacement costs are funded by the City of Victoria through reallocated capital budgets and electoral-approved borrowing. The new bridge is expected to open in 2017. It will be the fourth bridge crossing built at its location.
General Overview

Description of Work Complete

March 2015
- Steel fabrication restarted in China

April 2015
- Significant underground electrical work on the downtown side of the bridge to install infrastructure that will supply power to the new Johnson Street Bridge. The work lasted April and May.

May 2015
- Construction of many of the supporting walls that form the new approach to the bridge on the west side
- Also on the west side of the bridge included new multi-use trail connections, the construction of a large retaining wall beside the future multi-use trail, and the foundation work for the new pedestrian overpass

June 2015
- In-water bridge structures substantially completed and work being focused on the bascule pier structure for a large concrete pour

July 2015 & August 2015
- Over the summer months, improvements to aesthetics in and around the bridge construction area included reinstalling irrigation, repairing landscaping, and minimizing construction signage and clutter in the area as much as possible for the tourist season
- On the east side of the bridge, crews completed utility and drainage work in the areas near the road approaches to the bridge.
- Improvements to accommodate pedestrians, cyclists, and vehicles throughout these busy construction areas were also made
- In the harbour, significant progress was made in the construction of the bridge foundation and efforts to prepare the new bridge piers for the placement of large support beams that will form the new bridge deck road approaches took place
September 2015
- The Arctic Tuk – the same crane that removed the rail span from the existing Johnson Street Bridge in 2012 was brought in to place the concrete spans that will form the road approaches
- To accommodate this work, the marine channel under the Johnson Street Bridge was closed to all marine traffic from Monday, September 14 to Friday September 18

October 2015
- Public Realm two-day workshop meeting with bridge stakeholder groups
- Final paving occurred along Esquimalt Road and Harbour Road, including the intersection

November 2015
- More paving for new road surfaces near the Johnson Street Bridge also took place on the downtown side of the bridge in the areas of Store and Wharf Street between Pandora Avenue and Johnson Street

December 2015
- Efforts to keep construction and traffic impacting works in the public right-of-way as minimal as possible during the holiday shopping season

January 2016
- Over the month of January, the new bridge decks that will form the approaches leading up to the future steel bridge span were constructed
- Concrete pours over three weeks formed the new approaches, followed by asphalt paving inside the construction site forming the new road alignments
- Report back to Council on public realm results of the workshop presented to Council

February 2016
- Significant progress on the machinery being fabricated by Steward Machine in Birmingham, Alabama that will help raise and lower the bridge
- Follow up meetings with public realm stakeholder groups as directed by Council in preparation for public open house and engagement on plaza spaces

March 2016
- Mediation sessions took place on March 7 and 8, 2016
- The mediation involved legal counsel and representatives of the City, PCL, MMM, and Hardesty and Hanover, as well as the insurer for MMM and Hardesty and Hanover
Environmental Monitoring Activities and Issues:
April 1 2015 – March 31, 2016

Between April 2015 and March 2016, approximately 27 environmental inspections were carried out at the Johnson Street Bridge replacement site. These inspections typically included reviews of waste management and contaminated soil movement, erosion control, spill prevention and response, fuel storage and management, and other checks that emphasized the prevention of environmental concerns and implementation of appropriate mitigation measures, when warranted. Water quality monitoring was also periodically carried out. In accordance with the Fisheries Act Authorization (FAA) and the Environmental Management Plan (EMP) for the Site, inspections were scheduled more frequently when construction work was carried out in-water, during certain times of the year. The remaining inspections were timed to coincide with construction activities that had the potential to present environmental risks. During environmental inspections, action items were periodically identified, which the bridge constructors addressed promptly and completely, without exception. No non-compliances were noted during any of the inspections.

In accordance with the Waste Discharge Authorization (WDA) permit for the Site, the constructors re-used contaminated soils in two of the three approved on-Site fill areas. The third fill area will not be used. The constructors have now completed fill placement and the required capping of the fill areas. Per the WDA permit, a final report regarding filling activities and compliance with the WDA permit will be prepared and issued to the BC Ministry of Environment (MOE). Under a separate condition of the WDA permit, groundwater quality monitoring will also be initiated in the vicinity of these fill areas.

Transport Canada continues to regularly visit the site and liaise with the constructors, the City, and the Qualified Environmental Professional regarding compliance with the FAA, the EMP, the EWPs, and other applicable laws and regulations.
Project Benefits
Built to a lifeline seismic standard, the new bridge will serve the community for the next 100 years. It will provide improved safety and accessibility for more than 30,000 people that cross the bridge each day, including more than 3,000 cyclists and 4,000 pedestrians. The new bridge will help improve cycling and pedestrian connectivity for the region by creating a new downtown trailhead for the Galloping Goose, Lochside, and E&N Trails.

Cycling and pedestrian connectivity will also be enhanced with the inclusion of on-road bike lanes, a dedicated pedestrian pathway, a multi-use trail and a multi-use trail overpass at the intersection of Harbour and Esquimalt Roads.

Upon completion, the new bridge will be the largest single-leaf bascule bridge in Canada – and one of the largest in the world – creating a new iconic structure and destination within Victoria’s Inner Harbour.

New public plazas spaces and a new City park are planned enhancements to the area as a result of the bridge project.

Economic Improvements
The Urban Development Institute believes the new bridge will encourage and strengthen development opportunities estimated to be in excess of half a billion dollars in Victoria West and downtown Victoria.

In addition to several developments underway in the downtown area, two longstanding vacant properties, the Northern Junk and Janion buildings, are both being revitalized immediately adjacent to the bridge site.

Another new development is also underway and has future economic expansion plans on the west side of the bridge.

Several local businesses have been awarded contracts related to construction of the new bridge, creating and supporting local jobs. Some of the Victoria-based companies working on the project include Butler Brothers Supplies Ltd, Crane Consulting, Don Mann Excavating, Focus Surveying, Hemmera, Island Traffic Services, Ocean Concrete, and Salish Sea Industrial.
Risk Identification and Assessment

As presented at the May 26, 2016 meeting of the Committee of the Whole, the following table identifies specific major risks remaining to completion of the Project and records the actions taken to mitigate these risks:

<table>
<thead>
<tr>
<th>Risk</th>
<th>Detail</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery of Steelwork Being Fabricated in China</td>
<td>The quality and timing of the steel is perhaps the most critical issue facing the Project.</td>
<td>Continued ongoing close monitoring and field inspections. H&amp;H are now in the ZTSS plant in China.</td>
</tr>
<tr>
<td>Fendering</td>
<td>There are financial challenges related to the north side fendering.</td>
<td>Re-evaluation of the north side fendering requirements together with an ongoing stakeholder consultation and input from two independent specialists in marine fender design and operation.</td>
</tr>
<tr>
<td>Public Realm Design</td>
<td>Consideration of public input in design and costing options.</td>
<td>Staff and consultants preparing options, costings and further consultation.</td>
</tr>
<tr>
<td>Management of Contingency Funding</td>
<td>Council has approved a revised project budget which contains a contingency for unforeseen issues.</td>
<td>Project Director is preparing detailed contingency funding reports, and is looking for cost savings opportunities.</td>
</tr>
<tr>
<td>Machinery Issues</td>
<td>A critical part of the bridge is the machinery operation. Work is underway on production of the machinery.</td>
<td>Regular off site inspections of the machinery fabrication are being carried out. Hardesty and Hanover have engaged a specialist machinery expert familiar with this kind of work.</td>
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</table>
Official Management Committee Meetings

Two official management meetings were held during the fiscal year:

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Attending</th>
</tr>
</thead>
</table>
| July 14, 2015 | Teleconference | John Hnatyshyn – Director (West/ITS) – Federal Co-Chair  
Jonathan Huggett – Project Director – City of Victoria (CoV) Co-Chair  
Scott Crombie – Transport Canada (TC) Project Manager  
Katie Hamilton – CoV Director of Citizen Engagement and Strategic Planning  
Laurel Westinghouse – CoV Manager, Accounting Services  
Peter Paine – CoV Accounting Clerk  
Ryan Shotton – CoV Citizen Engagement Coordinator  
Laura Baker – CoV Administrative Assistant |
| April 6, 2016 | Teleconference | Martin McKay – A/Director, Transit and West Projects – Federal Co-Chair  
Susanne Thompson – Director of Finance – CoV Co-Chair  
Jonathan Huggett – Project Director – CoV  
Scott Crombie – Transport Canada (TC) Project Manager  
Fraser Work – CoV Director of Engineering and Public Works  
Laurel Westinghouse – CoV Manager, Accounting Services  
Peter Paine – CoV Accounting Clerk  
Ryan Shotton – CoV Citizen Engagement Coordinator  
Laura Baker – CoV Administrative Assistant |

Schedule Revisions

<table>
<thead>
<tr>
<th>Revision</th>
<th>Revision Date</th>
<th>Justification for Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>2013/07/12</td>
<td>Adjustment between budget forecast years based on award of construction contract. No change in total project forecast.</td>
</tr>
<tr>
<td>8</td>
<td>2013/09/13</td>
<td>New cash flow by contractor and less work being completed by contractor.</td>
</tr>
<tr>
<td>9</td>
<td>2013/12/06</td>
<td>New cash flow by contractor and less work being completed by contractor.</td>
</tr>
<tr>
<td>10</td>
<td>2014/02/06</td>
<td>New cash flow by contractor and less work being completed by contractor.</td>
</tr>
<tr>
<td>11</td>
<td>2015/03/26</td>
<td>New cash flow by contractor, less work being completed by contractor and project extension request.</td>
</tr>
<tr>
<td>12</td>
<td>2015/08/15</td>
<td>New cash flow by contractor, less work being completed by contractor, budget increase and decrease in Transport Canada funding rate.</td>
</tr>
<tr>
<td>13</td>
<td>2015/12/07</td>
<td>New cash flow by contractor, less work being completed by contractor and budget increase</td>
</tr>
</tbody>
</table>
### Detailed Project Status

<table>
<thead>
<tr>
<th>Task</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Final removal of existing rail span of old bridge by Arctic Tuk crane</td>
<td>Completed September 2015</td>
</tr>
<tr>
<td>East side road works interim configuration</td>
<td>June 2016</td>
</tr>
<tr>
<td>Civil infrastructure Harbour and Esquimalt Partial Takeover</td>
<td>June 2016</td>
</tr>
<tr>
<td>West superstructure span/deck</td>
<td>February 2016</td>
</tr>
<tr>
<td>East superstructure span/deck</td>
<td>February 2016</td>
</tr>
<tr>
<td>Bascule structure</td>
<td>June 2016</td>
</tr>
<tr>
<td>Bascule mechanical and electrical work</td>
<td>Commenced January 2016</td>
</tr>
<tr>
<td>Bridge control room</td>
<td>Commenced March 2016</td>
</tr>
<tr>
<td>Pedestrian overpass</td>
<td>Commenced May 2016</td>
</tr>
<tr>
<td>Hydro infrastructure and service</td>
<td>Completed June 2016</td>
</tr>
<tr>
<td>Steel/bascule leaf fabrication (China)</td>
<td>Expected shipment December 2016</td>
</tr>
<tr>
<td>Fendering evaluation and reporting</td>
<td>June 2016</td>
</tr>
</tbody>
</table>
### Project Schedule

<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Start</th>
<th>Finish</th>
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</thead>
<tbody>
<tr>
<td>JSB - 1605A - CoV</td>
<td></td>
<td></td>
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<tr>
<td>Milestones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRIDGE COMPLETION (Traffic on Bridge)</td>
<td>Dec-29-17</td>
<td>Dec-29-17</td>
</tr>
<tr>
<td>SUBSTANTIAL COMPLETION</td>
<td>Mar-29-18</td>
<td>Mar-29-18</td>
</tr>
<tr>
<td>TOTAL COMPLETION</td>
<td>Mar-30-18</td>
<td>Mar-30-18*</td>
</tr>
<tr>
<td>Major Milestones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bascule Pier Cap Complete</td>
<td>May-20-16</td>
<td>May-20-16</td>
</tr>
<tr>
<td>Start Machinery Installation</td>
<td>Jul-19-16</td>
<td>Jul-19-16</td>
</tr>
<tr>
<td>Fendering Complete</td>
<td>Dec-20-16</td>
<td>Dec-20-16</td>
</tr>
<tr>
<td>PED Overpass Complete</td>
<td>Feb-24-17</td>
<td>Feb-24-17</td>
</tr>
<tr>
<td>Start Steel Erection</td>
<td>Jun-29-17</td>
<td>Jun-29-17</td>
</tr>
<tr>
<td>West Span Complete</td>
<td>Oct-17-17</td>
<td>Oct-17-17</td>
</tr>
<tr>
<td>Steel Span Complete</td>
<td>Dec-13-17</td>
<td>Dec-13-17</td>
</tr>
<tr>
<td>Bridge Open To Traffic</td>
<td>Dec-29-17</td>
<td>Dec-29-17</td>
</tr>
<tr>
<td>East Span Complete</td>
<td>Dec-29-17</td>
<td>Dec-29-17</td>
</tr>
<tr>
<td>West Plaza Complete</td>
<td>Feb-20-18</td>
<td>Feb-20-18</td>
</tr>
<tr>
<td>Demolition of Existing Span Complete</td>
<td>Feb-26-18</td>
<td>Feb-26-18</td>
</tr>
<tr>
<td>Demolition of Existing Piers Complete</td>
<td>Mar-08-18</td>
<td>Mar-08-18</td>
</tr>
<tr>
<td>East Plaza Complete</td>
<td>Mar-20-18</td>
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### Design (MMM)

<table>
<thead>
<tr>
<th>Activity Name</th>
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<tbody>
<tr>
<td>General</td>
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<tr>
<td>Bridge Works</td>
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<tr>
<td>Approaches &amp; Roadworks</td>
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<tr>
<td>Existing Bridge</td>
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### Project Completion Milestones

- Bascule Pier Cap Complete
- Start Machinery Installation
- Fendering Complete
- PED Overpass Complete
- Start Steel Erection
- West Span Complete
- Steel Span Complete
- Bridge Open To Traffic
- East Span Complete
- West Plaza Complete
- Demolition of Existing Span Complete
- Demolition of Existing Piers Complete
- East Plaza Complete

### Project Completion Timeline

- **BRIDGE COMPLETION (Traffic on Bridge)**: Dec-29-17
- **SUBSTANTIAL COMPLETION**: Mar-29-18
- **TOTAL COMPLETION**: Mar-30-18*

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5/26/16
<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Activity ID</th>
<th>Remaining Duration</th>
<th>Start</th>
<th>Finish</th>
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<tr>
<td><strong>Contract</strong></td>
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<tr>
<td><strong>Milestones</strong></td>
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<td></td>
</tr>
<tr>
<td>BRIDGE COMPLETION (Traffic on Bridge)</td>
<td>040</td>
<td>0.00</td>
<td>Dec-29-17</td>
<td>Dec-29-17</td>
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<tr>
<td>SUBSTANTIAL COMPLETION</td>
<td>030</td>
<td>0.00</td>
<td>Mar-29-18</td>
<td>Mar-29-18</td>
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<tr>
<td>TOTAL COMPLETION</td>
<td>050</td>
<td>0.00</td>
<td>Mar-30-18</td>
<td>Mar-30-18*</td>
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<tr>
<td><strong>Major Milestones</strong></td>
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<tr>
<td>Bascule Pier Cap Complete</td>
<td>135</td>
<td>0.00</td>
<td>May-20-16</td>
<td>May-20-16</td>
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<tr>
<td>Start Machinery Installation</td>
<td>130</td>
<td>0.00</td>
<td>Jul-29-16</td>
<td>Jul-29-16</td>
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<tr>
<td>Fendering Complete</td>
<td>090</td>
<td>0.00</td>
<td>Dec-29-16</td>
<td>Dec-29-16</td>
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<tr>
<td>PED Overpass Complete</td>
<td>075</td>
<td>0.00</td>
<td>Feb-24-17</td>
<td>Feb-24-17</td>
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<tr>
<td>Start Steel Erection</td>
<td>150</td>
<td>0.00</td>
<td>Jun-29-17</td>
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<tr>
<td>West Span Complete</td>
<td>065</td>
<td>0.00</td>
<td>Oct-17-17</td>
<td>Oct-17-17</td>
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<tr>
<td>Steel Span Complete</td>
<td>070</td>
<td>0.00</td>
<td>Dec-13-17</td>
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<td>Bridge Open To Traffic</td>
<td>120</td>
<td>0.00</td>
<td>Dec-29-17</td>
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<td>East Span Complete</td>
<td>145</td>
<td>0.00</td>
<td>Dec-29-17</td>
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<tr>
<td>West Plaza Complete</td>
<td>105</td>
<td>0.00</td>
<td>Feb-20-18</td>
<td>Feb-20-18</td>
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<tr>
<td>Demolition of Existing Span Complete</td>
<td>095</td>
<td>0.00</td>
<td>Feb-26-18</td>
<td>Feb-26-18</td>
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<tr>
<td>Demolition of Existing Piers Complete</td>
<td>100</td>
<td>0.00</td>
<td>Mar-08-18</td>
<td>Mar-08-18</td>
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<tr>
<td>East Plaza Complete</td>
<td>125</td>
<td>0.00</td>
<td>Mar-20-18</td>
<td>Mar-20-18</td>
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<tr>
<td><strong>Design (MM/M)</strong></td>
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<tr>
<td>Bascule Span (Hardisty &amp; Hanover)</td>
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<tr>
<td>MUD and PED Steel Structures - IFC</td>
<td>0.400</td>
<td>0.00</td>
<td>Jun-13-16</td>
<td>Jun-13-16</td>
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<td>Mechanical Systems (Hardisty &amp; Hanover)</td>
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<tr>
<td>Machinery - Toe Truss Bearing - IFC</td>
<td>0.485</td>
<td>0.00</td>
<td>Aug-15-16</td>
<td>Aug-15-16</td>
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<td>Machinery - Span Centering Device - IFC</td>
<td>0.475</td>
<td>0.00</td>
<td>Aug-22-16</td>
<td>Aug-22-16</td>
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<td>Misc. Structural (MM/M)</td>
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<tr>
<td>Pedestrian Gate Resolution</td>
<td>1620</td>
<td>60.00</td>
<td>Jul-26-16</td>
<td>Jul-26-16</td>
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<td>Fendering Dolphins IFC (On Hold)</td>
<td>0.180</td>
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<td>May-02-16</td>
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<td><strong>Submittal Reviews</strong></td>
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<tr>
<td>PL-2 Barrier Shop Drawings - Revision 1</td>
<td>15.05</td>
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<td>May-02-16*</td>
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## JOHNSON STREET BRIDGE REPLACEMENT PROJECT

### Project Schedule

#### Activity Table

<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Activity ID</th>
<th>Remaining Duration</th>
<th>Start</th>
<th>Finish</th>
</tr>
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<tbody>
<tr>
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#### Activity Schedule

The schedule includes activities such as deck joint shop drawings, steel erection falsework shop drawings, and demolition working plan. Each activity is associated with specific start and finish dates, ensuring a structured timeline for the project's completion.
## Project Schedule

<table>
<thead>
<tr>
<th>Activity Name</th>
<th>Activity ID</th>
<th>Remaining Duration</th>
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## Project Schedule

### JOHNSON STREET BRIDGE REPLACEMENT PROJECT

**PCL Constructors Westcost Inc.**

Print Date: 5/26/16
Primary Baseline: B1 (JSB-1304A-R1)
## Johnson Street Bridge Replacement Project

### Activity Schedule

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<tr>
<th>Activity Name</th>
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### Project Schedule Diagram

- **Install CMU Block Wall**
- **Install Bascule Pier Stairs (PED to Pit)**
- **F/P - North Pinion Bearing Support Suspended Slab**
- **F/P - HPU Room Slab**
- **F/P - Wheel Walkway Slab**
- **Install Bascule Pier Access Stairs/Platforms**
- **F/P - South Pinion Bearing Support Legs**
- **F/P - South Pinion Bearing Support Suspended Slab**
- **Install Span Guide**
- **Prep for Truss and OSD Erection**
- **Erect Bascule Truss & Deck (channel closure)**
- **Weld OSD**
- **Erect Ped & MUD Structures**
- **Install Ped & MUD Guardrails**
- **Install Aluminum Deck**
- **Install PL-2 Barriers & Bicycle Rail**
- **Prepare and Install Bridge Deck Wearing Surface**
- **Final Balance Bascule Span**
- **Final Alignment**

**Notes:**
- Print Date: 5/26/16
- Primary Baseline: B1 (JSB-1304A-R1)
## Project Schedule

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**JOHNSON STREET BRIDGE REPLACEMENT PROJECT**

Print Date: 5/26/16
Primary Baseline: B1 (JSB-1304A-R1)
### Project Schedule

**Pedestrian Canopy - Envelope and Roofing**
- **ID:** 1625
- **Remaining Duration:** 20.0d
- **Start:** Mar-28-16
- **Finish:** May-13-16

**Control Building - Envelope and Roofing**
- **ID:** 1505
- **Remaining Duration:** 20.0d
- **Start:** Mar-31-16
- **Finish:** May-13-16

**Control Building - Plumbing**
- **ID:** A.235
- **Remaining Duration:** 10.0d
- **Start:** May-16-16
- **Finish:** May-30-16

**Control Building - Flooring and Framing**
- **ID:** 1500
- **Remaining Duration:** 10.0d
- **Start:** May-17-16
- **Finish:** Aug-10-16

**Control House - Finishing**
- **ID:** A.220
- **Remaining Duration:** 15.0d
- **Start:** Jul-20-16
- **Finish:** Aug-10-16

**Controls**
- **ID:** E.210
- **Remaining Duration:** 20.0d
- **Start:** Aug-11-16
- **Finish:** Sep-08-16

### Approach & Roadworks

**Earthworks Phase WA-1 & 2**
- **WA-1 Phase 1 Electrical Fxturing & Undrgrd**
  - **ID:** C.104
  - **Remaining Duration:** 9.0d
  - **Start:** Sep-15-14
  - **Finish:** May-12-16

- **WA-1 Grade/Pave L10 Alignment (10n250 to West Abutment)**
  - **ID:** C.830
  - **Remaining Duration:** 15.0d
  - **Start:** May-09-16
  - **Finish:** May-30-16

**Earthworks Phase WA-5**
- **Complete L50 Galloping Goose Trail (On Hold pending Pedestrian Bridge resolution)**
  - **ID:** C.860
  - **Remaining Duration:** 15.0d
  - **Start:** Sep-19-16
  - **Finish:** Oct-07-16

- **WA-5 Demo Transition Alignment**
  - **ID:** C.925
  - **Remaining Duration:** 5.0d
  - **Start:** Feb-07-18
  - **Finish:** Feb-13-18

**Multi-Use Overpass**
- **Construct MSE Walls 1 and 2**
  - **ID:** S.810
  - **Remaining Duration:** 6.0d
  - **Start:** Sep-18-15
  - **Finish:** May-08-16

**West Pile**
- **Modify West Abutment**
  - **ID:** R.710
  - **Remaining Duration:** 30.0d
  - **Start:** Jan-30-18
  - **Finish:** Jan-23-18

**Earthworks Phase EA-1 (Post Bridge Open)**
- **Phase 1E - Grade/Pave Final Lift**
  - **ID:** C.240
  - **Remaining Duration:** 15.0d
  - **Start:** Jun-14-16
  - **Finish:** Jul-05-16

- **Remove Transition Roadworks Temporarily**
  - **ID:** C.170
  - **Remaining Duration:** 5.0d
  - **Start:** Jan-03-18
  - **Finish:** Jan-05-18

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**JOHNSON STREET BRIDGE REPLACEMENT PROJECT**

PCL Constructors Westcoast Inc.

Print Date: 5/26/16
Primary Baseline: B1 (JSB-1304A-R1)
## Contract Authorizations

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<th>Material Supplied/ Work Completed by Recipient</th>
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Environmental Monitoring

Please see Appendix B
Media Releases and Communications Material
New Johnson Street Bridge Begins to Take Shape
Traffic Impacts Week of September 14

Date: Thursday, September 3, 2015

VICTORIA, BC — Bridge work in the harbour will become much more visible over the coming weeks as crews install large concrete sections of the new Johnson Street Bridge. Once in place, the concrete spans will form the road approaches to the new steel structure, due to arrive in the summer of 2016 with the bridge opening to the public in the summer of 2017.

The large concrete sections arrived by barge this week and will be installed by the same large barge and crane, the Arctic Tuk, that performed the removal of the rail span in 2012.

To accommodate the work, the marine channel under the Johnson Street Bridge will be closed to all marine traffic from Monday, September 14 to Friday September 18. This closure includes all vessels including industrial and commercial vessels, and smaller boats such as sailboats, canoes, and kayaks.

On Monday, September 14, from approximately 3:30 p.m. to 4:30 p.m., the Johnson Street Bridge will be closed to all pedestrians, cyclists, and vehicles to allow a final piece of the rail span to be removed and a section of the new bridge installed in its place. This work must be completed during the highest tide of the day to allow equipment to get as close to the work site as possible.

Traffic control will be in place and crews will work as quickly as they can to complete the work, however travellers can expect up to a one hour bridge closure and are advised to plan alternate routes during this time. Periodic traffic delays throughout the week are expected as some short term bridge lifts may be required to accommodate the work.

The City and contractor have worked to reduce impacts to day-to-day operations in the upper harbour and an emergency plan is in place to ensure that the marine channel can be opened in the event of an emergency.

Citizens wishing to view the harbour activity can get the best view from the north east side of the bridge near Canoe Club or online on the project webcam.

For more information and to view the webcam, visit www.JohnsonStreetBridge.com

For More Information:

Katie Hamilton
Director, Citizen Engagement and Strategic Planning
Office: 250.361.0210 Cellular: 250.217.8343

Note to editors: Photo of large concrete spans attached.
Arctic Tuk Crane in Johnson Street Bridge Marine Channel Next Week

Date: Friday, September 11, 2015

VICTORIA, BC — The skyline around the new Johnson Street Bridge will include one of the largest cranes in Western Canada next week. The Arctic Tuk – the same crane that removed the rail span from the existing Johnson Street Bridge in 2012 – will stand high above the new bridge project as it places the concrete spans that will form the road approaches.

The crane will arrive by barge early Monday morning and be positioned in the marine travel channel in order to place the large concrete sections that arrived in Victoria last week.

To accommodate this work, the marine channel under the Johnson Street Bridge will be closed to all marine traffic from Monday, September 14 to Friday September 18. This closure includes all vessels including industrial and commercial vessels, and smaller boats such as sailboats, canoes, and kayaks.

In addition to the marine closure, on Monday, September 14, from approximately 3:30 p.m. to 4:30 p.m., the Johnson Street Bridge will be closed to all pedestrians, cyclists, and vehicles to allow a final piece of the rail span to be removed and a section of the new bridge installed in its place.

Periodic traffic delays throughout the week are expected as some short term bridge lifts may be required to accommodate the work.

MEDIA OPPORTUNITY

What: An opportunity to view the Arctic Tuk removing a final piece of the existing rail span
When: Monday, September 14 at 3:30 p.m. – 4:30 p.m.
Where: The north east side of the bridge in the Mermaid Wharf parking lot or near Canoe Club

Citizens wishing to view the harbour activity can get the best view from the north east side of the bridge near Canoe Club or online on the project webcam.

PHOTO: Attached is a photo of the Arctic Tuk removing the rail span in 2012.

For more information and to view the webcam, visit www.JohnsonStreetBridge.com

For More Information:

Katie Hamilton
Director, Citizen Engagement and Strategic Planning
Cellular: 250.217.8343
Media Release

Paving Along Esquimalt and Harbour Road Next Week

Date: Friday, October 16, 2015

VICTORIA, BC — Drivers, cyclists, and pedestrians are advised that the final paving will occur along Esquimalt Road and Harbour Road next week.

On Tuesday and Wednesday commuters can expect single lane traffic in each direction along Esquimalt Road as well as closures on Harbour Road.

On Tuesday, the paving work will begin on the south side of Harbour Road (near the Delta Hotel) and on the eastbound lanes of Esquimalt Road. On Wednesday, the paving along Esquimalt Road will shift to the westbound lanes and Harbour Road north of Esquimalt Road will be closed to both north and southbound vehicles, cyclists and pedestrians.

On Tuesday, pedestrians and cyclists using the E&N Trail will be redirected around the crossing at Harbour Road near the Delta Hotel as the paving takes place on that section of Harbour Road.

On the downtown side of the bridge nine new traffic poles will also be installed Monday and Tuesday at the intersections of Store Street and Pandora Avenue, as well as Johnson Street at Wharf Street.

During this work, traffic control personnel and signage will be directing drivers, cyclists and pedestrians safely through intersections. Commuters should expect delays in the area.

The upgrades to the new Esquimalt and Harbour Road intersection include new traffic lights at the new four-way intersection, new pedestrian crossing signals and new crosswalks and accessible sidewalks. For the latest information on the project, visit www.JohnsonStreetBridge.com

For More Information:

Katie Hamilton
Director, Citizen Engagement and Strategic Planning
Office: 250.361.0210 Cellular: 250.217.8343
Traffic Impacts Near Johnson Street Bridge Next Week

Date: Friday, October 30, 2015

VICTORIA, BC — As work on the new Johnson Street Bridge road approaches continues, drivers and cyclists can expect reduced lanes and detours when travelling through the area next week.

On the downtown side of the Johnson Street Bridge commuters travelling south along Wharf Street will be reduced to a single lane between Pandora Avenue and Johnson Street. Wharf Street northbound lanes will be closed and detoured at Johnson Street to accommodate utility and road work.

Transit users should note a bus stop in front of the Salvation Army on Johnson Street has been relocated east to the opposite side of Waddington Alley to accommodate traffic flow and reduce congestion through the area.

On the west side of the bridge line painting will take place (weather permitting) on Monday along Harbour Road and a new traffic bike box will be painted on Harbour Road at Esquimalt Road.

Pedestrians will be detoured to avoid work areas. Drivers, cyclists and pedestrians should watch for signage and flaggers to direct them through alternate routes. Access will be maintained in both directions across the Johnson Street Bridge at all times.

Work is being coordinated to minimize impacts to commuters as much as possible. Commuters may wish to take alternate routes to avoid delays.

The existing Johnson Street Bridge will continue to remain open throughout construction.

For the latest information on the project, visit www.JohnsonStreetBridge.com

For More Information:
Bridget Frewer
Citizen Engagement Advisor
bfrewer@victoria.ca
250.217.1943
Paving Underway Near Johnson Street Bridge This Week

Date: Tuesday, November 24, 2015

VICTORIA, BC — Beginning Wednesday morning, paving for new road surfaces near the Johnson Street Bridge will be underway in the areas of Store and Wharf Street between Pandora Avenue and Johnson Street, with completion expected by end of day Friday.

Work will be underway from 7 a.m. to 7 p.m. daily and coordinated to minimize impacts to the morning and afternoon rushes. Commuters are advised to take alternate routes to avoid delays, as lanes will be reduced during non-peak hours. Drivers, cyclists, and pedestrians are asked to watch for flaggers and detour signs when travelling through the area.

Paving completed this week will be the last stage of bridge related road work for 2015 as crews reduce overall impacts to the area with the approaching holiday season.

For More Information:
Katie Hamilton
Director, Citizen Engagement and Strategic Planning
Office: 250.361.0210 Cellular: 250.217.8343

— 30 —
Help Shape the New Johnson Street Bridge Public Realm Spaces

Date: Tuesday, May 24, 2016

VICTORIA, BC — With the new Johnson Street Bridge set to open next year, work continues with the community around what the revitalized areas adjacent to the bridge will look like, and how they can be better utilized. New design concepts are available for public feedback, that show how different the new plaza spaces could look and how they could be used with more opportunities for people to view the harbour, experience performances, or take part in recreation activities.

Results of a recent workshop suggested amenities include a desire for a small boat dock, arts and culture performance opportunities either during the day or in the evening, public washrooms, and public art including stand-alone pieces or art incorporated into furnishings or signage. Interpretive signage and viewing binoculars looking towards the Inner Harbour were also mentioned as desired amenities for the plaza areas. Participants also noted a desire to see plazas designed to offer flexible space for events and programming and to reflect a sense of place and history.

An open house will be hosted to share results of the stakeholder workshop, collect feedback from residents, and identify preferences for the public realm areas around the new bridge.

- **Date:** Wednesday June 1, 2016
- **Location:** The 407 – 100 - 407 Swift Street (Mermaids Wharf)
- **Time:** 4 p.m. – 7 p.m.

An [online survey](#) is also available and all feedback collected will help shape the new public plaza spaces that will be constructed in 2018 in the area the current Johnson Street Bridge occupies.

In late 2015, the City hosted a design workshop involving more than 25 people representing a variety of stakeholder groups. Using plan view drawings of the bridge site, participants worked together to discuss current design challenges as well as opportunities around use of space, connectivity, accessibility, and opportunities for art and placemaking. Input from the workshop was used to produce two concept plans for re-envisioned designs of the public spaces.

The replacement of the Johnson Street Bridge presents an opportunity to revitalize and create new public space on both sides of the new bridge and improve connectivity for people who walk and cycle through the area.

For the latest information on the project, visit [www.JohnsonStreetBridge.com](http://www.JohnsonStreetBridge.com)

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**For More Information:**

Katie Hamilton
Director, Citizen Engagement and Strategic Planning
Office: 250.361.0210
Recent Construction Activity

Progress in 2015 has seen the majority of the road work on the west side of the bridge completed and significant progress for the construction of the foundation for the new bridge completed in the harbour. Work currently underway onsite on the west side of the bridge includes new multi-use trail connections, the construction of a large retaining wall beside the future multi-use trail, and the foundation work for the new pedestrian overpass. This work is expected to be ongoing from now until early 2016.

On the east side of the bridge, crews are currently completing utility and drainage work in the areas near the road approaches to the bridge. This work is expected to continue in the area until early 2016. Improvements to accommodate pedestrians, cyclists, and vehicles throughout these busy construction areas continue to be made. In the harbour, PCL has made significant progress in the construction of the bridge foundation.

More construction progress updates can be found here.
Upcoming Marine Channel Closure

In mid-September, large sections of the new bridge’s structure will be installed with support from the same large barge and crane that was used during the removal of the rail bridge in 2012. The current bridge is expected to remain open to pedestrians, cyclists, and vehicles throughout most of the work, however the marine channel will be closed to marine traffic for five days as crews complete the work. Correspondence with upper harbour stakeholders is currently underway to plan around the closure and minimize impacts to their day-to-day operations.

Bridge Fabrication Underway

Recently, the Johnson Street Bridge project director, along with representatives from MMM and PCL, visited the steel fabrication plant in China to review the onsite steel quality measures. On the left is a photo from high up in the factory of the steel pieces that will be welded together form the new bridge rings.

Updated Project Schedule & Budget

Recently, the project schedule has been revised to reflect delays in the fabrication and delivery of steel for the movable section of the new bridge. As a result of delays, the bridge is now expected to open to traffic in the spring of 2017, with final project completion including the decommissioning of the existing bridge expected in the fall of 2017.

The budget for the project has also been revised to $96.8 million, including a recently approved additional $2.554 million for necessary professional consulting services, habitat compensation, and legal costs. The City will seek to recover many of the costs resulting from steel fabrication and construction delays through the mediation process currently underway between the City, PCL, and MMM Group.

Public Spaces and Landscaping

With recent changes to the project timeline and budget, options are currently being reviewed to bring forward to Council for how to complete landscaping and future public spaces to be created on the both sides of
the bridge. Considerations currently being reviewed include a timeline for when spaces can be completed, updated estimates for the budget needed based on designs shared with Council and the community in 2012, and consideration for interfaces with neighbouring properties and future developments.

A report will be presented to the Governance and Priorities Committee Meeting on August 20 outlining options for Council to consider.
New Bridge Begins to Take Shape

Bridge work in the harbour will become much more visible over the coming weeks as crews install large concrete sections of the new Johnson Street Bridge. Once in place, the concrete spans will form the road approaches to the new steel structure, due to arrive in the summer of 2016 with the bridge opening to the public in the summer of 2017.

The large concrete sections arrived by barge last week and will be installed by the same large barge and crane, the Arctic Tuk, that performed the removal of the rail span in 2012.

September 14 - 18 Traffic Impacts

To accommodate the work, the marine channel under the Johnson Street Bridge will be closed to all marine traffic from Monday, September 14 to Friday September 18. This closure includes all vessels.
including industrial and commercial vessels, and smaller boats such as sailboats, canoes, and kayaks.

On Monday, September 14, from approximately 3:30 p.m. to 4:30 p.m., the Johnson Street Bridge will be closed to all pedestrians, cyclists, and vehicles to allow a final piece of the rail span to be removed and a section of the new bridge installed in its place. This work must be completed during the highest tide of the day to allow equipment to get as close to the work site as possible.

Traffic control will be in place and crews will work as quickly as they can to complete the work, however travellers can expect up to a one hour bridge closure and are advised to plan alternate routes during this time. Periodic traffic delays throughout the week are expected as some short term bridge lifts may be required to accommodate the work.

The City and contractor have worked to reduce impacts to day-to-day operations in the upper harbour and an emergency plan is in place to ensure that the marine channel can be opened in the event of an emergency.

Citizens wishing to view the harbour activity can get the best view from the north east side of the bridge near Canoe Club or online on the project webcam.

For more information and to view the webcam, visit www.JohnsonStreetBridge.com
C O M M U N I C A T I O N S P L A N
Updated June 17, 2016

PURPOSE:
The purpose of the communication plan is to support the Johnson Street Bridge Replacement Project through to completion and opening celebration.

PROJECT BACKGROUND:
Construction is well underway to replace Victoria’s Johnson Street Bridge, an important transportation connection that connects the neighbourhood of Victoria West and several of Greater Victoria’s regional municipalities with the heart of downtown Victoria.

Built to a lifeline seismic standard, the new bridge will serve the community for the next 100 years. It will provide improved safety and accessibility for more than 30,000 people that cross the bridge each day, including more than 3,000 cyclists and 4,000 pedestrians.

More than 50 per cent of the new bridge will accommodate pedestrians and cyclists. In addition to maintaining three lanes for vehicles, the new bridge will include on-road bike lanes, a multi-use trail for pedestrians and cyclists, and a dedicated pedestrian pathway.

The new bridge will help improve connectivity for people who cycle and walk by creating a new downtown trailhead for the Galloping Goose, Lochside, and E&N regional trails. Cycling and pedestrian connectivity will also be enhanced at Esquimalt and Harbour Roads with the inclusion of a multi-use overpass connecting the Galloping Goose and E&N trails together.

The future David Foster Way will link with the bridge’s new pedestrian walkway, passing underneath the bridge and through the bridge wheel. This new connection will improve pedestrian and cycling connectivity between the Victoria West Westsong Walkway, the north end of downtown, and the Inner Harbour.

The bridge will also feature new and improved public plazas on the east and west sides of the bridge. The new north east plaza will create a new trailhead for the Galloping Goose, Lochside, and E&N Regional Trails. The south east plaza will connect with the pedestrian pathway over the bridge and future David Foster Way. The west plaza will be built on top of the existing bridge’s pier and provide for improved opportunities to sit and enjoy views of the harbour. It will connect with pedestrian pathways to and from the bridge and a future waterfront green space.

The new park on the west side is an additional planned enhancement to the area as a result of the bridge project.

Once complete, the new bridge will be one of the largest single-leaf lift bridges in North America, creating a new iconic structure and destination within Victoria’s Inner Harbour.

The new bridge will improve the existing navigation channel, bringing it to modern standards for continued support of the marine industry and recreational and commercial vessels accessing the Upper Harbour.

The replacement of the Johnson Street Bridge is the largest infrastructure project ever undertaken by the City of Victoria. It has required significant planning and preparation to address risks, timeline, and budget.

Risks that remain for the project include the condition of the existing bridge, geotechnical and soil conditions, archaeological remains, and schedule and costs issues related to delays in steel fabrication.

June 18, 2015
PCL Constructors Westcoast was awarded a fixed-price contract to build the bridge. The bridge was designed by MMM Group who act as the City’s engineer of record and provide project management support for the project.

The overall budget for the replacement of the Johnson Street Bridge is now $105.060 million. The increased costs include project management and engineering design services, insurance, permitting, legal services, and administrative and communications support. The Government of Canada is providing up to $37.5 million in funding towards the project, including $21 million from the Building Canada Fund and $16.5 million through Canada’s Gas Tax Fund. The Government of Canada has also provided a $10.2 million low-cost infrastructure loan through the Canada Mortgage and Housing Corporation’s Municipal Infrastructure Lending Program. The remaining bridge replacement costs are funded by the City of Victoria through reallocated capital budgets and electoral-approved borrowing.

The new bridge is expected to open in late 2017. It will be the fourth bridge crossing built at its location.

COMMUNICATIONS PLAN INTRODUCTION:
A high level of public interest has followed the bridge replacement project and is expected to continue through to project completion. Support for this requires a great deal of information sharing through the project website and social media in addition to frequent updates to stakeholders. Many stakeholders (engineering students, locals schools, other municipalities, etc) are also be interested in opportunities to learn from a local project.

The building of an iconic bridge in a downtown urban setting is interesting to witness. In addition to bridge construction, related and nearby projects including the relocation of utilities on the east and west sides of the bridge and adjacent developments (Janion and proposed Northern Junk) are expected to follow similar timelines. These construction projects may compound impacts for stakeholders. Development of new public plazas on both sides of the bridge and a new waterfront public green space in Victoria West are also of interest to many of same stakeholder groups.

It is in the City’s best interest that internal and external communication and consultation efforts related to all these projects be coordinated to streamline information, minimize confusion and mitigate impacts to affected stakeholders.

COMMUNICATIONS OBJECTIVES:

1. Ensure Council and staff remain informed on project progress and challenges.
2. Facilitate the coordination of information on City initiatives related to the bridge project to streamline information and avoid duplication or confusion.
3. Keep all stakeholders informed through timely and meaningful information updates about the bridge and related initiatives.
4. Continue to articulate benefits of the project, such as improved safety, accessibility, and increased support for pedestrians, mobility aids, and cycling amenities.
5. Generate excitement about the new bridge.
6. Communicate opportunities for the public to learn about construction, the history of the crossing, and participate in the opening celebration.

June 18, 2015
STAKEHOLDER/AUDIENCE(S):

- Victoria residents and property owners
- City of Victoria Staff
- City of Victoria Council
- Citizens who work or live near the bridge
- People who commute using the bridge
- Businesses
- Developers
- Harbour Users
- Transportation groups
- BC Transit
- Emergency Services
- Accessibility Groups
- Heritage Groups
- First Nations
- Consultants / Contractors
- Funding partners
- Permitting Agencies
- Neighbouring municipalities / other levels of government
- Engineering / Construction Industry
- Media

KEY MESSAGES:

New Bridge Amenities

- The new bridge will be built to serve the community for the next 100 years. It will provide improved safety and accessibility for cyclists, pedestrians, and those who use mobility aids.

- More than 50 per cent of the new bridge will accommodate people who walk and cycle. In addition to maintaining three lanes for vehicles, the new bridge will include on-road bike lanes, a multi-use trail for pedestrians and cyclists, and a dedicated pedestrian pathway.

- The project includes widened sidewalks and new marked crossings at intersections on both sides of the bridge with connections to adjacent pathways, including the future David Foster Harbour Pathway.

- The bridge will feature new and improved plaza areas for the public to view the harbour.

- New plaza spaces and a new park are planned enhancements to the area as a result of the bridge project.

- Once complete, the new bridge will be one of the largest single-leaf lift bridges in North America - and in the world, creating a new iconic structure and destination within Victoria’s Inner Harbour for the next 100 years.

- The new bridge will be built to a lifeline seismic standard, which means it would be able to withstand an 8.5 magnitude earthquake. In the event of a significant earthquake, it means it will continue to serve as a lifeline transportation route for emergency vehicles (fire, police, and ambulance) and city services such as utilities, road crews, and public transit.

Sustainable Transportation

- The new bridge will provide improved accessibility for people who walk and cycle, and those who use mobility aids.

- More than 50 per cent of the new bridge will accommodate pedestrians and cyclists. In addition to maintaining three lanes for vehicles, the new bridge will include on-road bike lanes, a multi-use trail for pedestrians and cyclists, and a dedicated pedestrian pathway.

June 18, 2015
• The project includes widened sidewalks and new marked crossings at intersections on both sides of the bridge with connections to adjacent pathways, including the future David Foster Harbour Pathway. The new bridge also creates a new downtown trailhead for the region’s Galloping Goose, Lochside, and E&N trails. These enhancements will greatly improve regional connectivity for pedestrians and cyclists.

Improved Safety and Accessibility
• The new bridge will be built to a lifeline seismic standard, which means it would be able to withstand an 8.5 magnitude earthquake. In the event of a significant earthquake, it means it will continue to serve as a lifeline transportation route for emergency vehicles (fire, police, ambulance) and city services such as utilities, road crews, and public transit.
• The new bridge will provide improved safety and accessibility for bikes, strollers, walkers, scooters, and wheelchairs with more than 50 per cent of the new bridge devoted to pedestrians and cyclists.
• The project includes widened sidewalks and new marked crossings at intersections on both sides of the bridge with connections to adjacent pathways, including the future David Foster Harbour Pathway.

History of Bridge Crossing
• The new bridge will be the fourth bridge crossing between downtown Victoria and Victoria West.
• Previous bridges include:
  1. The Victoria Bridge – a low-level wagon bridge built in 1854. It was dismantled and replaced with a ferry service in 1862 to provide marine access to the upper harbour.
  2. A swing bridge – a hand-operated bridge built in 1888 to provide the E&N Railway with access to downtown Victoria. Prime Minister Sir John A. Macdonald drove the last spike, marking the formal completion of the transcontinental railway. It supported pedestrians and trains but not street cars or vehicles.
  3. Today’s Johnson Street Bridge opened on January 11, 1924. It was built based on the need to separate trains from pedestrians, support vehicles, greater freight capacity, and provide easier navigation for marine traffic between the Inner Harbour and the Gorge, and to improve access between Victoria and industrial lands on the west side of the harbour. At the time, many people saw its construction as an essential part of Victoria’s aspirations for economic and industrial development.
  4. The bridge project will be complete in 2017 and be built to serve the community for the next 100 years. It will provide improved access for cyclists, pedestrians, and those who use mobility aids with more than 50 per cent of the new bridge supporting pedestrians and cyclists.

Construction and Project Management
• In order to undertake a project of this magnitude and complexity, MMM Group was hired to provide the engineering services for design and to project manage construction of the bridge. MMM Group is a large Canadian engineering firm with experience and expertise in moveable bridges.
• PCL Constructors Westcoast is the contractor building the new bridge. PCL has built several bridges across North America including the Alex Fraser Bridge in Vancouver. PCL has relocated several staff to Victoria to oversee construction of the new bridge.
• PCL is responsible for hiring all trades, subcontractors, and suppliers to build the new Johnson Street Bridge.

Economic Development and Jobs
• PCL has recruited locally for trades and subcontractors. Several Vancouver Island-based businesses have been awarded contracts related to construction of the new bridge, creating and supporting hundreds of local jobs. Some of the local contractors working on the bridge project include:
  o Butler Brothers Supplies Ltd (Victoria)

June 18, 2015
The firm selected by PCL for fabricating the bascule leaf is ZTSS Bridge located northwest of Shanghai in China.

The Urban Development Institute believes the new bridge will encourage and strengthen development opportunities estimated to be in excess of half a billion dollars in Victoria West and downtown Victoria.

In addition to several developments underway in the downtown area, two longstanding vacant properties, the J anion and Northern J unk buildings, are both being redeveloped immediately adjacent to the bridge site.

Project History

In 2009, an assessment of the Johnson Street Bridge identified many issues common to other bridges built in the 1920s: extensive corrosion to steel structural beams, and obsolete mechanical and electrical systems. The assessment also noted significant seismic vulnerability. It was determined that a substantial investment in the bridge would be required to avoid further deterioration, increasing operational costs, and possible closure.

Council considered many factors important to the community when determining the bridge’s future. These included safety concerns of the current bridge, heritage values, traffic and business disruptions, and accessibility needs for pedestrians and cyclists. After extensive public consultation and additional technical assessments, City Council decided to replace the Johnson Street Bridge. In November 2010, a referendum was held and citizens approved the City of Victoria borrowing of up to $49.2 million towards the replacement of the Johnson Street Bridge.

Funding and Budget

The budget for the replacement of the Johnson Street Bridge is now $105.060 million. In 2015, Council approved $8.2 million in additional funds to cover additional project costs, increasing the budget from $94.3 million. In addition to the electoral approved borrowing of up to $49.2 million and reallocated capital budgets, the Government of Canada has agreed to provide up to $37.5 million in funding towards the project, including $21 million from the Building Canada Fund and $16.5 million through Canada’s Gas Tax Fund.

In January 2013, the City of Victoria signed a fixed-price contract with PCL Constructors for $63,235,000. As a number of changes to the contract have been requested since the contract was awarded, MMM Group, PCL, and the City of Victoria have agreed to work together through mediation to resolve a number of these requested changes. All three parties are committed to work together to deliver a new bridge.

Mediation occurred over a number of sessions in Vancouver through March and April 2016. The mediation process resulted in a resolution of all claims and costs up until April 2016, except one, the mediation process did not deal with one item yet to be resolved, which is the fendering for the bridge.

$27 million were the total claims against the City. As a result of mediation, the City’s share of the total funds required to resolve all claims totals $2 million. In addition, an estimated $462,000 will be paid related to additional technical support to be provided by Hardesty and Hanover.

Anticipated future costs, plus the mediation settlement, resulted in a request for an $8.2 million budget increase, that was approved.

June 18, 2015
Risks

- Risks and mitigation strategies are monitored and updated throughout the project.
- Risks that remain for the project include the condition of the existing bridge and schedule and costs issues related to delays in steel fabrication.
- The City is working with PCL and MMM Group on strategies to mitigate risks and minimize any impacts.
- Steel fabrication was paused in July 2014 as it was found to not be up to standards expected by the City of Victoria. Fabrication restarted in March 2015 and continues in 2016, with delivery of the steel span expected in early 2017.
- An improved Quality Management Plan and Inspection and Testing Plan are now in place at the steel fabrication plant in China. Regular inspections are performed by the fabricator and the contractor’s quality control consultants. PCL, MMM and the project director frequently travel to the fabrication plant to oversee operations.

COMMUNICATION STRATEGIES

1. Updates on the project website and social media pages that highlight progress, milestones, points of interest related to construction methods and technologies, and new features, community involvement, and also any expected impacts (noise, traffic).
2. Keep the public informed and consult with stakeholders most affected by the project as often as needed to mitigate impacts.
3. Look for earned media opportunities to highlight progress and significant milestones, construction methods and technologies, new features of the bridge, community involvement, and impacts. Involve community partners/stakeholders (PCL, DVBA, GVCC, etc) when appropriate.
4. Consider opportunities for using signage/hoarding banners near the bridge to help communicate important messages (bridge open, new amenities, history of crossing).

COMMUNICATIONS TOOLS:

- Dedicated contact person, email and phone number
- Subscriber email news updates (eNews)
- Earned media (free media coverage – media releases, advisories, interviews, photo ops)
- Interpretive signage
- Twitter and Facebook
- Advertising/public notices
- Public displays at events, City Hall and community centres
- Information sessions / drop-in open house events
- Stakeholder meetings

EVALUATION/MEASUREMENT:

- Nature of media coverage (neutral/positive)
- Ongoing feedback from stakeholders
- Visits to www.johnsonstreetbridge.com
- Attendance at information sessions/public events

BUDGET:
The total budget to support ongoing communications to the end of the project, including advertising, website, web cam, public information material, events and activities is $140,000.

An additional $10,000 in federal funding is set aside to support events and activities with the Government of Canada. This includes funding partner signage installed on the east and west sides of the bridge.

June 18, 2015
SPOKESPEOPLE:
Katie Hamilton / Jonathan Huggett / Mayor Helps

STAFF RESPONSIBLE:
Ryan Shotton with support from the Project Director

MILESTONES

<table>
<thead>
<tr>
<th>Activity</th>
<th>Communication Opportunity**</th>
</tr>
</thead>
<tbody>
<tr>
<td>New bridge foundation complete</td>
<td>Media release</td>
</tr>
<tr>
<td>New bascule span arrives in Victoria</td>
<td>Photo op / MR / video</td>
</tr>
<tr>
<td>Erect lower counterweight (channel closure)</td>
<td>Media release</td>
</tr>
<tr>
<td>Erect bascule truss and deck (channel closure)</td>
<td>Media release</td>
</tr>
<tr>
<td>Erect pedestrian and multi-use deck structures</td>
<td>Photo op / MR</td>
</tr>
<tr>
<td>Final balance bascule span</td>
<td>Photo op / MR</td>
</tr>
<tr>
<td>Complete galloping goose trail</td>
<td>Photo op / MR</td>
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<tr>
<td>New bridge operational</td>
<td>Photo op / MR / video</td>
</tr>
<tr>
<td>Erect new multi-use overpass at Esquimalt Road</td>
<td>Photo op / MR</td>
</tr>
<tr>
<td>First pedestrians, cyclists, vehicles over the new bridge</td>
<td>*Event opportunity with funding partners</td>
</tr>
<tr>
<td>Multi-use overpass at Esquimalt Road complete</td>
<td>Photo op / MR</td>
</tr>
<tr>
<td>Old bridge closes to traffic</td>
<td>Media release / event</td>
</tr>
<tr>
<td>Removal of old bridge bascule span</td>
<td>Photo op / MR</td>
</tr>
<tr>
<td>West plaza complete and open to public</td>
<td>Media release / stakeholder event</td>
</tr>
<tr>
<td>East plaza complete and open to public</td>
<td>Media release / stakeholder event</td>
</tr>
<tr>
<td>Project completion</td>
<td>*Event opportunity with funding partners</td>
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</table>

SIGNIFICANT IMPACTS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Communication required</th>
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<tbody>
<tr>
<td>Vehicle traffic reconfigurations on east and west sides</td>
<td>Media release</td>
</tr>
<tr>
<td>Pedestrian detours</td>
<td>Media release</td>
</tr>
<tr>
<td>Cycling detours</td>
<td>Media release</td>
</tr>
<tr>
<td>Night work</td>
<td>Media release</td>
</tr>
<tr>
<td>Channel closure (marine traffic)</td>
<td>Media release / consultation with marine users</td>
</tr>
<tr>
<td>Event Description</td>
<td>Communication Type</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------</td>
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<tr>
<td>Bridge erection (spectators, media coverage)</td>
<td>Media release</td>
</tr>
<tr>
<td>Old bridge decommissioning (spectators, media coverage)</td>
<td>Media release</td>
</tr>
</tbody>
</table>

**All relevant communication tools will be utilized in addition to a media release / event / photo opportunity.**

June 18, 2015
Year-End Summary
Table of Expenditures Under the Agreement

Canada – City of Victoria Building Canada Fund
Schedule of Detailed Expenditure Claims for the Year Ended March 31, 2014

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project / Claim Description</th>
<th>Claim #</th>
<th>Contract Number</th>
<th>Eligible Costs Claimed in 2015/16</th>
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<td>Johnson Street Bridge Replacement</td>
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<td></td>
<td>AON Reed Stenhouse Inc – Insurance Broker Services for the JSB Project Wrap-up Liability</td>
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<td>439902</td>
<td>$34,090</td>
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<td></td>
<td>Pollution Liability Builder’s Risk Insurance Single Project Professional Liability Excess</td>
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<tr>
<td></td>
<td>Wrap-up General Liability Project Enterprise Risk Assessment Credit</td>
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<td></td>
<td>MOE – Permit refuse fee for 203 Harbour Rd.</td>
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<td>461467</td>
<td>$2,320</td>
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<td>PCL Constructors Westcoast Inc. – construct a new, moveable bridge to replace the existing</td>
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<td>452893</td>
<td>$4,847,293</td>
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<td>Johnson Street Bridge as well as certain related street and utility works, and demolish</td>
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<tr>
<td></td>
<td>the existing Johnson Street Bridge.</td>
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<tr>
<td></td>
<td>Hemmera – Ground water monitoring</td>
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<td>Telus – Harbour Rd conduit extension</td>
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<td>468779</td>
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<td></td>
<td>MNP – Financial audit, compliance audit, annual audit of PST payments</td>
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<td>443389</td>
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<td></td>
<td>Horizon Power – Supply and install 45’ power pole</td>
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<td></td>
<td>AON Reed Stenhouse Inc – Insurance Broker Services for the JSB Project Wrap-up Liability</td>
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<td></td>
<td>Golder Associates Ltd – Fish Habitat Monitoring for Telus duct work</td>
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<td>Claim #</td>
<td>Contract Number</td>
<td>Eligible Costs Claimed in 2015/16</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------</td>
<td>---------</td>
<td>-----------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td></td>
<td>AON Reed Stenhouse Inc – Insurance Broker Services for the JSB Project Wrap-up Liability Pollution Liability Builder’s Risk Insurance Single Project Professional Liability Excess Wrap-up General Liability Project Enterprise Risk Assessment Credit</td>
<td>32</td>
<td>439902</td>
<td>$34,090</td>
</tr>
<tr>
<td></td>
<td>MNP – Financial audit, compliance audit, annual audit of PST payments</td>
<td></td>
<td>443389</td>
<td>$5,000</td>
</tr>
<tr>
<td></td>
<td>PCL Constructors Westcoast Inc. – construct a new, moveable bridge to replace the existing Johnson Street Bridge as well as certain related street and utility works, and demolish the existing Johnson Street Bridge.</td>
<td></td>
<td>452893</td>
<td>$5,570,893</td>
</tr>
<tr>
<td></td>
<td>BC Hydro – BC Hydro kiosk relocation</td>
<td></td>
<td>475251</td>
<td>$2,818</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$22,120,193</strong></td>
</tr>
</tbody>
</table>
Annual Financial Audit Report
May 17, 2016

Management Committee
The Corporation of the City of Victoria - Johnson Street Bridge Replacement Project
No. 1, Centennial Square
Victoria, BC V8W 1P6

Re: Audit Findings Report to the Management Committee
Period ending March 31, 2016

Dear Members of the Management Committee:

We are pleased to submit to you this report for discussion of our audit of the financial statement of The Corporation of the City of Victoria - Johnson Street Bridge Replacement Project (the "Project") for the 12 month period ended March 31, 2016 and for the 76 month period ended March 31, 2016. In this report we cover those significant matters which, in our opinion, you should be aware of as members of the management committee.

1. The Audit

Our responsibility, as auditor of the Project, is to report to the management committee on the fair presentation of the 2016 financial statement, in accordance with Schedule D of Building Canada Fund Contribution Agreement for Johnson Street Bridge Replacement dated March 23, 2011. To properly discharge this responsibility, we designed our audit process to assess the risk of material misstatement within the statement by examining and assessing the effectiveness of the Project's controls and accounting systems and the evidence supporting the amounts and disclosures in the statement, including the appropriateness of accounting principles and significant estimates made by management.

We have considered the Project’s internal control as part of the financial statement audit. This included obtaining an understanding of the internal controls (regardless of whether we intended to rely on them for the purpose of our audit); evaluating the design of these controls; and determining whether they have been implemented. This understanding was sufficient to allow us to identify and assess the risks of material misstatement of the financial statement and to design and perform audit procedures. We have not determined whether relevant controls are operating effectively, as such, our understanding of internal controls should not be relied upon for any other purposes.

Our audit procedures, consisting of separate examination of each key transaction, and other event considered significant to the financial statement, were concentrated in areas where risks were identified, and therefore, differences were most likely to arise.

Management has provided us with written representations, acknowledging, among other things, their responsibility for the implementation and maintenance of appropriate reporting systems and controls, including those designed to detect and prevent fraud, and to ensure the appropriateness of the amounts recorded in the accounting records, and the amounts and disclosures in the financial statement.

2. Audit Results

We have satisfactorily completed our audit and have signed our Independent Auditors' Report. A substantive approach was used in auditing the Project's financial statement; thus, the Project's controls were not relied upon. Final materiality calculated and used to assess the significance of misstatements or omissions identified during the audit and determine the level of audit testing performed was $1,791,000. The independent audit report will provide an unqualified opinion to the management committee. Key matters noted during our audit are summarized in the table below.
The Corporation of the City of Victoria - Johnson Street Bridge Replacement Project

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material uncertainties related to events or conditions that may cast significant doubt on entity's ability to continue as a going concern</td>
<td>None</td>
</tr>
<tr>
<td>Illegal or fraudulent acts</td>
<td>None noted</td>
</tr>
<tr>
<td>Non-compliance with laws and regulations</td>
<td>None</td>
</tr>
<tr>
<td>Fraud by employees/management with key roles in control activities</td>
<td>None noted</td>
</tr>
<tr>
<td>Differences that may:</td>
<td>None</td>
</tr>
<tr>
<td>- Have a material effect on comparative information and the current period financial statement</td>
<td>None</td>
</tr>
<tr>
<td>- Cause future statement to be materially misstated</td>
<td>None</td>
</tr>
<tr>
<td>- Indicate significant deficiencies in controls</td>
<td>None</td>
</tr>
<tr>
<td>Irregularities having a material financial statement effect</td>
<td>None</td>
</tr>
<tr>
<td>Limitations placed on the scope of our audit</td>
<td>None</td>
</tr>
<tr>
<td>Significant transactions not in the ordinary course of business</td>
<td>None noted</td>
</tr>
<tr>
<td>Unusual significant transactions given the entity and its environment</td>
<td>None</td>
</tr>
<tr>
<td>Non-monetary transactions</td>
<td>None noted</td>
</tr>
<tr>
<td>Transactions that increase risk</td>
<td>None</td>
</tr>
<tr>
<td>Concerns with management breach of corporate conduct</td>
<td>None</td>
</tr>
<tr>
<td>Conflicts of interest</td>
<td>None</td>
</tr>
<tr>
<td>Disagreements with management</td>
<td>None</td>
</tr>
<tr>
<td>Emphasis of matter or other matter paragraph included in the independent auditors’ report</td>
<td>None</td>
</tr>
<tr>
<td>Matters influencing audit appointment</td>
<td>None</td>
</tr>
<tr>
<td>Difficulties encountered during the audit</td>
<td>None</td>
</tr>
<tr>
<td>Disagreements with management’s accounting estimates</td>
<td>None</td>
</tr>
<tr>
<td>Disagreements with management's adoption of accounting policies or emphasis on the need for a particular accounting treatment</td>
<td>None</td>
</tr>
<tr>
<td>Significant deficiencies in the entity's risk assessment process within the design and/or implementation of controls</td>
<td>None</td>
</tr>
<tr>
<td>Significant deficiencies in controls resulting from inappropriate response by management regarding implementing controls over significant risks</td>
<td>None</td>
</tr>
<tr>
<td>Matters giving rise to questions regarding the honesty and integrity of management</td>
<td>None</td>
</tr>
</tbody>
</table>

There were no adjusted differences or unadjusted differences of any significance noted.

The significant unadjusted differences noted above are differences that we believe to be significant to the Management Committee. A full list of all unadjusted differences is available upon request.

3. Auditor Independence

We confirm to the Management Committee that we are independent of the Project. Our letter to the Management Committee discussing our independence is included as Appendix "A" to this report.

We would like to take this opportunity to formally acknowledge the excellent cooperation and assistance we received from the management and staff of The Corporation of the City of Victoria.

The matters raised in this and other reports that will flow from the audit are only those which have come to our attention arising from, or relevant to, our audit that we believe need to be brought to your attention. They are not a comprehensive record of all the matters arising and, in particular, we cannot be held responsible for reporting all risks in your business or all control weaknesses. This report has been prepared solely for your use and should not be quoted in whole or in part without our prior written consent. No responsibility to any third party is accepted as the report has not been prepared for, and is not intended for, any other purpose.
Page 3

The Corporation of the City of Victoria - Johnson Street Bridge Replacement Project

We appreciate having the opportunity to work with you and are prepared to respond to any questions you may have about our audit, and to discuss any other matters that may be of interest to you.

Yours truly,

MNP LLP
Chartered Professional Accountants
Appendix "A"

May 17, 2016

The Management Committee
The Corporation of the City of Victoria - Johnson Street Bridge Replacement Project
No. 1, Centennial Square
Victoria, BC V8W 1P6

Dear Sirs:

We have been engaged to audit the financial statement of The Corporation of the City of Victoria - Johnson Street Bridge Replacement Project ("the Project") for the period ending March 31, 2016.

CAS 260 Communication with Those Charged with Governance ("the Standard"), requires that we communicate at least annually with you regarding all relationships between the Project and MNP LLP:

(a) Holding a financial interest, either directly or indirectly, in a client;
(b) Holding a position, either directly or indirectly, that gives the right or responsibility to exert significant influence over the financial or accounting policies of a client;
(c) Personal or business relationships of immediate family, close relatives, partners or retired partners, either directly or indirectly, with a client;
(d) Economic dependence on a client; and
(e) Provision of services in addition to the audit engagement.

We are not aware of any relationship between The Corporation of the City of Victoria and MNP that, in our professional judgment, may reasonably be thought to bear on our independence, which have occurred from April 1, 2015 to the date of this letter.

Generally Accepted Auditing Standards require that we confirm our independence to the Audit Committee. Accordingly, we hereby confirm that MNP is independent with respect to The Corporation of the City of Victoria within the meaning of Rules of Professional Conduct of the Chartered Professional Accountants of British Columbia as of the date of this letter.

The total fees charged to the Corporation for 2016 financial audit were $5,400.

This report is intended solely for the use of the management committee, management and others within The Corporation of the City of Victoria and should not be used for any other purposes.

We look forward to discussing with you the matters addressed in this letter as well as other matters that may be of interest to you. We are prepared to answer any questions you may have regarding our independence as well as other matters.

Yours truly,

MNP LLP
Chartered Professional Accountants
The Corporation of the City of Victoria
Johnson Street Bridge Replacement Project
Financial Statements
March 31, 2016
The Corporation of the City of Victoria
Johnson Street Bridge Replacement Project

Contents
For the 12 and 76 month periods ended March 31, 2016

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Independent Auditors’ Report

Financial Statements

Schedule of Expenditures for the 12 month period ended March 31, 2016 ............................................. 1
Schedule of Expenditures for the 76 month period ended March 31, 2016 .................................................. 2
Notes to the Financial Statements .................................................................................................................. 3
Independent Auditors’ Report

To the Management Committee:

We have audited the eligible expenditures column on the accompanying schedules of expenditures of the Johnson Street Bridge Replacement Project for the 12 month period ended March 31, 2016 and for the 76 month period ended March 31, 2016 and a summary of significant accounting policies and other explanatory information (together “the financial statements”).

Management’s Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with the financial reporting framework specified in schedules A and D of the Building Canada Fund Contribution Agreement for Johnson Street Bridge Replacement dated March 23, 2011 and described in Note 2; and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors’ Responsibility
Our responsibility is to express an opinion on the financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors’ judgment, including the assessment of the risks of material misstatements of the financial statement, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity’s preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates, if any, made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements present fairly, in all material respects, the eligible expenditures column on the schedule of expenditures of the Johnson Street Bridge Project for the 12 month period ended March 31, 2016 and for the 76 month period ended March 31, 2016 in accordance with the financial reporting framework specified in Schedules A and D of the Building Canada Fund Contribution Agreement for Johnson Street Bridge Replacement dated March 23, 2011.

Basis of Accounting
Without modifying our opinion, we draw attention to Note 2 to the financial statements, which describes the basis of accounting. The financial statements are prepared to provide information to the Management Committee and Transport Canada. As a result, the financial statements may not be suitable for another purpose.

Nanaimo, British Columbia
May 17, 2016

Chartered Professional Accountants

Suite 400, MNP Place, 345 Wallace Street, Nanaimo, British Columbia, V9R 5B6, Phone: (250) 753-8251
### Johnson Street Bridge Replacement Project

#### Schedule of Expenditures

*For the 12 month period ended March 31, 2016*

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Estimated Eligible Expenditures for Project (unaudited)</th>
<th>Eligible Expenditures (Note 4) (unaudited)</th>
<th>Ineligible Expenditures (unaudited)</th>
<th>Total Expenditures (unaudited)</th>
<th>Contribution to Eligible Expenditures by Canada (unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and project management</td>
<td>12,783,732</td>
<td>884,506</td>
<td>-</td>
<td>884,506</td>
<td>-</td>
</tr>
<tr>
<td>Construction</td>
<td>71,981,862</td>
<td>17,162,500</td>
<td>2,240</td>
<td>17,164,740</td>
<td>2,290,663</td>
</tr>
<tr>
<td>Contingency</td>
<td>4,627,314</td>
<td>1,427,381</td>
<td>1,639,586</td>
<td>3,066,967</td>
<td>157,140</td>
</tr>
<tr>
<td>Land purchase</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Financing costs</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>City costs (communications, finance and project office)</td>
<td>188,628</td>
<td>10,000</td>
<td>386,447</td>
<td>396,447</td>
<td>1,593</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>89,581,336</strong></td>
<td><strong>19,484,387</strong></td>
<td><strong>2,028,273</strong></td>
<td><strong>21,512,660</strong></td>
<td><strong>2,449,396</strong></td>
</tr>
</tbody>
</table>

The accompanying notes are an integral part of this financial statement.
### The Corporation of the City of Victoria
#### Johnson Street Bridge Replacement Project
#### Annual Financial Audit Report

**Schedule of Expenditures**
For the 76 month period ended March 31, 2016

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Estimated Eligible Expenditures for Project (unaudited)</th>
<th>Eligible Expenditures (unaudited)</th>
<th>Ineligible Expenditures (unaudited)</th>
<th>Total Expenditures (unaudited)</th>
<th>Contribution to Eligible Expenditures by Canada (unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and project management</td>
<td>12,783,732</td>
<td>12,647,646</td>
<td>1,570,697</td>
<td>14,218,343</td>
<td>3,127,294</td>
</tr>
<tr>
<td>Construction</td>
<td>71,981,662</td>
<td>46,706,621</td>
<td>71,200</td>
<td>46,777,821</td>
<td>9,011,415</td>
</tr>
<tr>
<td>Contingency</td>
<td>4,627,314</td>
<td>2,540,124</td>
<td>1,764,084</td>
<td>4,304,208</td>
<td>9325580</td>
</tr>
<tr>
<td>Land purchase</td>
<td>-</td>
<td>-</td>
<td>967,000</td>
<td>967,000</td>
<td>-</td>
</tr>
<tr>
<td>Financing costs</td>
<td>-</td>
<td>-</td>
<td>248,700</td>
<td>248,700</td>
<td>-</td>
</tr>
<tr>
<td>City costs (communications, finance and project office)</td>
<td>188,628</td>
<td>73,828</td>
<td>1,356,344</td>
<td>1,430,172</td>
<td>17,977</td>
</tr>
</tbody>
</table>

| Total                                 | 89,581,336                                             | 61,968,219                       | 6,008,025                           | 67,976,244                     | 12,482,686                                                |

---

The accompanying notes are an integral part of this financial statement.
The Corporation of the City of Victoria  
Johnson Street Bridge Replacement Project  
Notes to the Financial Statement  
For the 12 and 76 month period ended March 31, 2016

1. General

The Schedules of Expenditures and the accompanying notes have been prepared to disclose eligible expenditures incurred and claimed according to the contribution agreement (the "Agreement") between The Corporation of the City of Victoria and the Government of Canada for the period between December 4, 2009 and March 31, 2016. The purpose of the agreement is to provide a more reliable, safer and more sustainable bridge with improved cyclist and pedestrian amenities. The Project will replace the existing Johnson Street Bridge and approaches with a new bascule bridge that will span the Victoria Harbour.

2. Summary of significant accounting policies

The Schedules of Expenditures have been prepared in accordance with Canadian generally accepted accounting principles. Expenditures are recorded at cost on an accrual basis.

3. Eligible and ineligible expenditures

The following expenditures are eligible:

Subject to Schedule A of the Agreement, eligible expenditures will be all direct costs, which are in Canada’s opinion properly and reasonably incurred and paid by the City of Victoria under a contract for goods or services necessary for project implementation. They include the following:

a) the capital costs of acquiring, constructing or renovating a tangible capital asset, as defined and determined according to accounting principles generally accepted in Canada;

b) the costs of joint communication activities (press releases, press conferences, translation, etc.) and road signage recognition set out in the Communication Protocol that forms part of the Framework Agreement;

c) all planning (including plans and specifications) and assessment costs specified in the agreement such as the costs of environmental planning, surveying, engineering, architectural supervision, testing and management consulting services. Canada will contribute no more than 15% of its contribution to this cost;

d) active transportation projects including sidewalks, bicycle lanes, pedestrian/bike/mult-use pathways are eligible costs as part of public transit, local roads or highway projects;

e) the costs of engineering and environmental reviews, including environmental assessments and follow-up programs as defined in the Canadian Environmental Assessment Act and the costs of remedial activities, mitigation measures and follow-up identified in any environmental assessment;

f) the costs of project-related signage, lighting, project markings and utility adjustments;

g) the costs of aboriginal consultation;

h) the costs of developing and implementing innovative techniques for carrying out the project;

i) the City of Victoria audit and evaluation costs as specified in the Agreement, and

j) other costs that, in the opinion of Canada, are considered to be direct and necessary for the successful project implementation and have been approved in writing prior to being incurred.
3. **Eligible and ineligible expenditures** (Continued from previous page)

The following expenditures are ineligible:

a) the costs incurred prior to the formal project review and prior to December 4, 2009;

b) the costs incurred after the project completion date;

c) the cost of developing a business case or proposal for funding;

d) the cost of purchasing land and associated real estate and other fees;

e) financing charges and interest payments on loans;

f) leasing land, buildings, equipment and other facilities;

g) general repairs and maintenance of the project work and related structures, unless they are part of a larger capital expansion project tied to capital expansion;

h) services or works normally provided by the City of Victoria, incurred in the course of project implementation, except those specified as eligible costs;

i) the cost of any goods or services which are received through donations or in kind;

j) employee wages and benefits, overhead costs as well as other direct or indirect operating, maintenance and administrative costs incurred by the City of Victoria, and more specifically costs relating to services delivered directly by permanent employees of the City of Victoria, or of a Crown Corporation or corporation owned and controlled by the City of Victoria;

k) Provincial Sales Tax, and Goods and Services Tax or the Harmonized Sales Tax, for which the City of Victoria is eligible for a rebate, and any other costs eligible for rebates; and

l) legal fees.

4. **Reconciliation of eligible expenditures to SIS Claims**

<table>
<thead>
<tr>
<th></th>
<th>12 month period ended March 31, 2016 (Unaudited)</th>
<th>76 month period ended March 31, 2016 (Unaudited)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible expenditures per schedule of expenditures</td>
<td>19,484,387</td>
<td>61,968,219</td>
</tr>
<tr>
<td>Add – Prior year eligible expenditures not previously claimed</td>
<td>7,857,147</td>
<td>-</td>
</tr>
<tr>
<td>Less - Holdbacks on eligible expenditures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Miscellaneous adjustments</td>
<td>(1,836,191)</td>
<td>(3,446,443)</td>
</tr>
<tr>
<td>- Eligible expense claim submitted to Canada but not yet paid</td>
<td>(2,041,647)</td>
<td>(2,041,647)</td>
</tr>
<tr>
<td>- Excess of planning and assessment costs over 15% of total contribution limit</td>
<td>(1,343,503)</td>
<td>(4,201,939)</td>
</tr>
<tr>
<td>SIS claims</td>
<td>22,120,193</td>
<td>52,220,001</td>
</tr>
</tbody>
</table>
Appendix A
Management Committee Meeting Minutes
Appendix A – Management Committee Meeting Minutes

Canada – City of Victoria BCF
 Contribution Agreement for JSB
 Management Committee Meeting # 8

Location – Teleconference

Note taker: Scott Crombie

Attendees:  
John Hnatyshyn – Director (West ITS) – Federal Co-Chair
Jonathan Huggett – Project Director – City of Victoria (CoV) Co-Chair
Scott Crombie – Transport Canada (TC) Project Manager
Katie Hamilton – CoV Director of Citizen Engagement and Strategic Planning
Laurel Westinghouse – CoV Manager, Accounting Services
Peter Paine – CoV Accounting Clerk
Ryan Shotton – Citizen Engagement Coordinator
Laura Baker – CoV Administrative Assistant

1.0 Opening Remarks
John Hnatyshyn welcomes participants and opens meeting.

2.0 Administrative Details

2.1 Meeting Chair
• John Hnatyshyn to chair meeting.

2.2 Note Taker
• Scott Crombie to take notes.

2.3 Approval of Agenda
• No changes to the agenda.

2.4 Review and Approval of Previous Minutes (including action items)
• Previous meeting minutes have been circulated and were approved.
• It was agreed that the action items had been addressed.

Action items – Person Responsible
• N/A

3.0 Program Management

3.1 Contribution Agreement Extension
• The project extension was signed by the minister on June 25, 2015. A fully executed copy was sent to the CoV on July 13, 2015.

3.2 Project Status Updates
• CoV has an excellent record of sending project status updates in a timely manner, and plans to continue sending updates on a regular basis.

3.3 Project Schedule & Deadlines
• The project extension provides an additional year for the CoV to complete the project.
• The Scope of the Project (Schedule B) includes decommissioning and removal of the existing bridge.
• The BC Builders Lien Act defines substantial completion among other things, as a function of the residual value left in the contract to be completed.
• For the purposes of the contribution agreement, substantial completion generally means that the asset is available for public use, though there may be some deficiency or close-up work that needs to be undertaken. Substantial completion is noted when TC receives the Solemn Declaration of Substantial Completion (Schedule E) provided in the contribution agreement, signed by an agent of the recipient.
• CoV would like to avoid a situation where decommissioning of the existing bridge inhibits timely achievement of substantial completion.

RDIMS# 9129743
3.4 Financial Management (Schedule B, Cash Flow Forecasts)
- TC received a formal letter from CoV indicating the current expectation for the full project cost.
- TC has received the 2014/15 Annual Report and Financial Audit, and is reviewing it.
- TC has received Claim #29 and will process it once the annual report has been approved.
- Cashflow #12 was included in the agreement amendment, and as such is approved.
- Cashflow #13 to be submitted in September.
- In reviewing the claims, a number of small anomalies have been identified, which will be investigated.

3.5 Claims and Payments
- At Management Committee Meeting #7, it was decided that claims would be submitted on a monthly basis. The Management Committee agrees that quarterly claims would be acceptable.

3.6 Program Reporting
- The Management Committee agrees to continue the 2013 Audit Plan.
- TC considers that the 2014/15 Annual Report and Financial Audit was submitted in a timely manner.
- TC has waived the requirement for a compliance or recipient audit for the 2014/15 fiscal year, in regard to the Johnson Street Bridge project.

**Action items – Person Responsible:**
- CoV to continue sending regular project updates.
- TC to process Claim #29 after the 2014/15 Annual Report and Financial Audit has been approved.

---

### 4.0 Status of Project

#### 4.1 Project Status Report
- In July 2014, the fabrication of steel in China was stopped due to quality control issues. Since then a more stringent quality control mechanism has been implemented.
- Steel fabrication was re-started in March 2015. The number of inspectors on-site has been substantially increased, and the new mechanism has created some additional delays as any deviations from the program triggers quality control measures.
- The ground work in Victoria required to receive the steel from China is expected to be complete by November 2015. The steel from China will arrive around August 2016. The landscaping and decommissioning of the existing bridge will follow that.
- At the time the agreement amendment was prepared, the expectation was that the new bridge would be open to traffic in January 2017. That has now advanced to April 2017. This may advance further to May or June 2017, depending on how closely the steel manufacturing is conforming to specified tolerances.
- TC has received the most recent status report

#### 4.2 Project Risk
- It was generally agreed that critical project risk factors have been adequately discussed.

#### 4.3 Environmental Assessment Update
- TC has conferred internally with the environmental officer assigned to the project, and no concerns were raised.
- CoV has retained an on-going independent environmental monitor, and is willing to share the reports prepared in this regard.

RDIMS# 9129743
Action items – Person Responsible
- N/A

5.0 Communications Events
- No media events planned.
- Work in September will likely offer further opportunities to demonstrate progress.
- Timelines and budget limit the ability to convey positive messages.
- City council will be providing further direction on the possibility of public consultations.
- There will likely be more events planned for the end of construction.
- The project team continues to ensure that federal signs are up and easily visible.
- No political opportunities are expected and so will not encroach upon the federal election period.

6.0 Other Business
6.1 Next Site Visit
- Maybe planned to coincide with the delivery of the steel from China in August 2016.
6.2 Additional Items
- N/A
6.3 Next Meeting
- To be scheduled for the 2nd week of January.

Action items – Person Responsible
- Next meeting to be scheduled in January.
Canada – City of Victoria BCF
Contribution Agreement for JSB
Management Committee Meeting # 9

**Note taker:** Laura Baker

**Attendees:**
- Martin McKay – A/Director, Transit and West Projects – Federal Co-Chair
- Susanne Thompson – Director of Finance – City of Victoria (CoV) Co-Chair
- Jonathan Huggett – Project Director – CoV
- Scott Crombie – Transport Canada (TC) Project Manager
- Fraser Work – Director of Engineering and Public Works – CoV
- Laurel Westminster – CoV Manager, Accounting Services
- Peter Paine – CoV Accounting Clerk
- Ryan Shotton – Citizen Engagement Coordinator
- Laura Baker – CoV Administrative Assistant

### 1.0 Opening Remarks

Scott Crombie welcomed participants and opened the meeting.

### 2.0 Administrative Details

**2.1 Meeting Chair**
- Scott Crombie to chair meeting.

**2.2 Note Taker**
- Laura Baker to take notes.

**2.3 Approval of Agenda**
- It was agreed that item “3.5 – Roles and Responsibilities of Project Contractors” would be removed from the agenda as this topic has been addressed between both parties in the past month.

**2.4 Review and Approval of Previous Minutes (including action items)**
- Previous meeting minutes have been circulated and were approved on both ends.

### Action items – Person Responsible

- N/A

### 3.0 Program Management

**3.1 Project Status Updates**
- TC thanked CoV for sending status updates, and requested that they continue to be sent – next one to be sent at end of May.

**3.2 Financial Management (Schedule B, Cash Flow Forecasts)**
- TC has been in contact with CoV regarding Cash Flow 13; this has been signed by both parties.
- Some changes have taken place regarding Cash Flow 14 and are being worked through.
- It was noted that the contribution rate is at 24% and this rate will be used until the end of the project.
- The next critical item to be received is the Cash Flow from PCL; the Cash Flow is to be updated via the same process as the Annual Financial Audit. CoV will file this next Cash Flow and upcoming Claim 33 in early May.
- The end of June/early July is first T4 forecast session; therefore, the updated Cash Flow will be included in the TC forecast for the year.
- TC noted that claims for the 2014-2015 Fiscal Year resulted in 36% of what was forecasted. This variance will need to be reported on by TC. TC reminded CoV that it is preferable to be conservative rather than to need to explain why a forecast was high and funds were not spent throughout the year. CoV advised that this information has been explained in previous CoV reporting and has to do with steel.

RDIMS# 11831241
deficiencies which were unforeseen.
- TC inquired about the nature of the payments for steel. CoV explained that there is an initial payment (approximately 10%) which has been made regarding the cost of the steel, with the next major payment of steel to take place when it is ready for shipment from Shanghai. It was noted that this will have an impact on the Cash Flow and that this is anticipated to happen around late summer/early fall 2015. It will subsequently arrive in Victoria around December 2016, and then it will be erected around January/February 2017. This will be factored into information regarding the Cash Flow; an update will be provided to TC once it has been received.

3.3 Claims and Payments
- All claims have been received and processed by TC for the 2015/2016 Fiscal Year.

3.4 Program Reporting
- The 2015/2016 Annual Report and Financial Audit are due at the end of June – CoV is on track for meeting these timelines (TC cannot process new claims until this information is received).

Action items – Person Responsible:
- CoV to continue sending regular project updates.
- TC to process Claim #33 after the 2015/16 Annual Report and Financial Audit has been approved.

4.0 Status of Project
4.1 Project Status Report
- CoV advised that the critical path involves the manufacturing of the steel – pictures of this work from the shop floor in China are being provided in weekly reporting.
- Ongoing welding/fabrication of lift span and rings (which rotate the whole bridge) is taking place now.
- Truss fabrication is largely complete; counterweights and walkways are underway; trial painting is underway.
- The Quality Assurance program is being further reinforced as a permanent engineer is being stationed on the shop floor for the next two or three months in China to ensure no further slippages.
- Most of the in-water work in the harbour has been completed, with the approach spans and walkways under completion now.
- The fendering is a complex component of the project in which the CoV are working very closely with TC.
- It was clarified that the lift span is entirely steel, while the approaches are all concrete; the orthotropic deck will be steel plate.

4.2 Project Risk
- CoV summarized the key project risks as follows:
  1. completion of the steel in China (without this component under control, the project is held up);
  2. completion of the fendering design and ship movements – as there are diverse users in the waterway, ship movement simulation involving key stakeholders is taking place;
  3. steel work placement and assembly of the new bridge (will it work?) – machinery is being put into bascule pit below water line (this is significant mechanical work taking place in the water); and
  4. extensive environmental monitoring is in place to mitigate environmental risks.
- TC inquired whether there are any concerns still standing regarding the removal of the original steel truss bridge. CoV responded that mediation is taking place right now, and this may result in some adjustments to the schedule – no further information on this can be provided at this time as the process is confidential. There is a tentative possibility to share a revised timeline for the project in late April, if results of the mediation have been communicated to CoV Council at that time – TC to be informed once information is presented to Council.
- The BCF Agreement ends March 31, 2016, with all claims to be received by November 30, 2017. Any changes to these dates require the approval of the Minister of Infrastructure. Depending on the expected timelines for the substantial completion of the project and the removal of the original bridge, there may be an option where a final claim made in advance of November 30, 2017 is processed at a higher contribution rate (while remaining under the 33% contribution cap), with a holdback applied.
- CoV is confident that enough money will be spent to claim the full amount prior to the dates in the agreement, however, the actual substantial agreement date may need to be pushed. CoV was in agreement with the proposed approach.

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• Once new dates are available, CoV will advise TC the best way forward.
• Definition of “substantial completion” relates to contract value on CoV’s end; on TC’s side, it refers to the point at which the bridge is available for public use. CoV indicated that once the bridge is open to traffic, this essentially means substantial completion. It was noted that there is some flexibility around this definition.

4.3 Financial Risk
• Any financial risks are being discussed within the context of mediation; therefore, this item may not be disclosed at this point.
• It was noted that the Gas Tax funding, less the 15% holdback until project completion, has been exhausted. CoV mentioned that there are enough expenses to accrue the 15% by the end of this year.

4.4 Environmental Assessment Update
• The most recent report from Hemmera was received by TC.
• Extensive environmental monitoring (i.e. of contaminated soil, overall environmental review, etc.) continues on site.

Action items – Person Responsible
- CoV to inform TC of adjusted schedule (if the schedule is adjusted as a result of the mediation).

5.0 Communications Events
• CoV provided an update regarding events which have taken place since the last Management Committee meeting on July 14, 2015.
• Anytime there are potential traffic impacts, the public are continually advised via media releases, the JSB website, door to door consultation, etc.
• In September, the large Arctic Tuk crane removed the remainder of the old JSB rail bridge. Significant media coverage documented this occasion.
• The webcam on the JSB website now provides live stream footage of the bridge construction area, as opposed to an image that is refreshed every several minutes.
• While there are currently no confirmed events coming up, CoV project staff are brainstorming possible opening events for the new bridge. CoV will keep TC informed of opening event ideas as this will likely be joint effort between CoV/TC.
• Federal funding signs are displayed on site and CoV staff continue to ensure that they are up.
• Steel photo updates are being posted, approximately weekly, over social media outlets. The JSB website also continues to document steel progress.

6.0 Other Business
6.1 Next Site Visit
• The next site visit may be planned to coincide with the delivery of the steel from China. The status of this is TBD and communication will remain open about this over the next year.

6.2 Additional Items
• N/A

6.3 Next Meeting
• To be scheduled for late June (after Annual Report is shared with TC).

Action items – Person Responsible
- Next meeting to be scheduled for late June – TC and CoV to coordinate.

RDIMS# 11831241
Appendix B –
Environmental Monitoring Reports
APPENDIX A:

Johnson Street Bridge: EWP #12 – Rip Rap Installation

<table>
<thead>
<tr>
<th>Revision Number</th>
<th>Date Submitted</th>
<th>Revised By</th>
<th>Description</th>
<th>City of Victoria/Authority’s Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>June 30, 2015</td>
<td>PCL</td>
<td>Completed draft document.</td>
<td></td>
</tr>
<tr>
<td>001</td>
<td>June 30, 2015</td>
<td>Hemmera</td>
<td>Reviewed and commented on initial draft document</td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>June 30, 2015</td>
<td>PCL</td>
<td>Incorporated Hemmera comments and revisions</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>July 2, 2015</td>
<td>Hemmera</td>
<td>Completed final review of document and signed</td>
<td></td>
</tr>
</tbody>
</table>

Anticipated Construction Start Date: July 6, 2015

Review & Sign Off:

Environmental Representative: Claire Lewis

Operation Superintendent: Justin Sieg

Signature
1.0 Type of Work

The following Environmental Work Plan (EWP) provides information relating to mitigation of potential environmental impacts associated with the construction of the habitat compensation areas associated with the Johnson Street Bridge, including installation of rip rap boulders in various in-water and near water locations. This work will be carried out in accordance with the Fisheries Act Subsection 35(2)(b) Authorization No. 09-HPAC-PA3-00556 (hereinafter referred to as the “FAA”), and with the “Johnson Street Bridge Replacement Project Environmental Management Plan” produced by Hemmema and dated May 2013 (hereinafter referred to as the “EMP”).

1.1 Location of Work

The rip rap habitat will be installed as part of the Johnson Street Bridge Habitat Compensation Plan as outlined in the project FAA. Figure 1 shown below illustrates the locations around the existing and new bridge structures that will receive rip rap habitat.
1.2 Sequence of Work

Rip rap boulders are to be installed in pre-defined areas as outlined in the FAA permit per the Habitat Compensation Plan. Specifications for the type of rip rap can be found in the BC Ministry of Transportation and Infrastructure Standard Specifications for Highway Construction\(^1\).

Rip rap will be washed and loaded onto a material barge at a bulkhead. The barge will serve as a stockpile for the rip rap and as a working platform for an excavator. Rip rap will then be placed, using the excavator bucket, in the areas outlined in the FAA permit. Below is a summary of the locations and associated surface areas for the rip rap habitats:

- west of new rest pler: length 40 m, width 4 m, depth 1 m, surface area 102 m\(^2\)
- north of new bascule pler: length 21.75 m, width 2 m, depth 1 m, surface area 43.5 m\(^2\)
- east of new bascule pler: length 40 m, width 4 m, depth 1 m, surface area 87.5 m\(^2\)
- east old bascule pler: length 25 m, width 3.5 m, depth 1 m, surface area 150 m\(^2\)
- west of east pler: length 20 m, width 4 m, depth 1 m, surface area 80 m\(^2\)

Following placement of the rip rap, divers will conduct surveys of the areas to determine the acceptability of the rip rap profiles. Depending on the result of the survey, the work will proceed to the next area or rip rap will continued to be placed until the desired profile is achieved. A more detailed rip rap installation work plan can be found in Appendix C.

In accordance with the overall EMP for the site, water quality in the navigational channel will be monitored twice daily for turbidity and pH during in-water work.

2.0 Construction Schedule

Rip rap will be installed in two phases. Phase 1, which encompasses the habitat west of the marine channel, is scheduled to begin July 6, 2015 and continue for 10 days. Phase 2, which encompasses the habitat east of the channel, is scheduled to begin in September 2015, for a duration of 15 days.

3.0 Work Proceed Requirements

The items identified below are to be completed prior to commencing:

<table>
<thead>
<tr>
<th>WORK IS NOT TO PROCEED UNTIL</th>
<th>Yes</th>
<th>No</th>
<th>Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>A All equipment required for work AND mitigation/contingency plans procured and onsite</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.1 Secondary containment for gas powered equipment and fuel storage is onsite</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.2 Spill kits and silt curtains are stored onsite (if required)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B A signed copy of all applicable permits/variances, authorizations and work plans available onsite (FAA &amp; EMP)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) BC Ministry of Transportation and Infrastructure, 2012 Standard Specifications for Highway Construction, Section 205 – Rip Rap, November 1, 2011
4.0 Environmental Sensitivities and Concerns

The following outlines the risks and associated concerns with the rip rap installation work and the appropriate mitigation measures required:

NOTE: IF, AT ANY TIME, DEAD FISH OR ABNORMAL FISH BEHAVIOUR (COMING TO THE SURFACE OR ERRATIC SWIMMING) ARE OBSERVED IN THE VICINITY OF THE OPERATION, ALL WORK MUST STOP IMMEDIATELY.

NOTE: IN WATER WORKS CARRIED OUT BETWEEN FEBRUARY 15 AND JUNE 30, 2014 (AND SUBSEQUENT WINDOWS) TO BE CONDUCTED UNDER THE FULL TIME SUPERVISION OF THE INDEPENDENT ENVIRONMENTAL MONITOR (IEM) WORKING UNDER THE DIRECT SUPERVISION OF THE LEAD QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP), OR AT A LESSER FREQUENCY, AS DETERMINED BY THE QEP.

NOTE: WORKS WILL CEASE IF MARINE MAMMALS (INCLUDING HARBOUR SEALS) OCCUR WITHIN 50M OF THE WORK AREA OR IF THEY EXHIBIT ABNORMAL BEHAVIOUR AT ANY TIME. WORK CAN BEGIN AGAIN AFTER MARINE MAMMALS HAVE LEFT THE AREA.

<table>
<thead>
<tr>
<th>Environmental Sensitivities &amp; Concerns</th>
<th>Mitigation Measure</th>
<th>Required?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-water work between February 15th and June 30th 2015 and subsequent fish timing windows</td>
<td>Full time IEM monitoring: Full Time IEM monitoring will be undertaken during in-water works (under the direct guidance of the QEP), or at a lesser frequency, as determined by the QEP.</td>
<td>X</td>
<td>Work is scheduled to occur between July 1, 2015 and October 15, 2015. No IEM will be required during this period.</td>
</tr>
<tr>
<td></td>
<td>Timing of in-water works: Avoid working in-water after dusk and before dawn. Where and when possible, time rip-rap placement to coincide with the lowest tides that still allow for barge access.</td>
<td>X</td>
<td>In-water works is defined as installation rip rap, all other works are not considered in-water works. Any construction lighting used over the water should be shielded to prevent it shining into the water after dusk or before dawn. Timing rip-rap placement for lower tides will minimize the drop height of the rip rap, thus reducing the potential for sediment mobilization within the channel (see Water Quality section, below).</td>
</tr>
<tr>
<td>Acoustics (shock waves from in water work)</td>
<td>Hydrophone Monitoring: Monitoring of sound/shock waves through the water</td>
<td>X</td>
<td>Hydrophone monitoring will not be undertaken, as rip-rap placement is not expected to generate significant shock waves or under-water noise.</td>
</tr>
<tr>
<td>Machine oil and oil spills within 30m of water</td>
<td>Biodegradable machine oil; use if supported by the machine</td>
<td>X</td>
<td>Attached at end of this document.</td>
</tr>
<tr>
<td></td>
<td>Adhere to PCL Marine Refuelling Policy</td>
<td>X</td>
<td>PCL has supplied and are trained in the use of spill kits. Spill kits are currently located on both sides of the project site and will also be located on the material barge.</td>
</tr>
<tr>
<td></td>
<td>Large spill kits: present on-site</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

...
<table>
<thead>
<tr>
<th>Environmental Sensitivities &amp; Concerns</th>
<th>Mitigation Measure</th>
<th>Required?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small spill kits: present in each piece of heavy machinery</td>
<td>X</td>
<td>Spill kit in excavator on barge.</td>
</tr>
<tr>
<td></td>
<td>Clean machines: Heavy machines to be clean and free of excess oil</td>
<td>X</td>
<td>Daily equipment inspections will be done prior to use.</td>
</tr>
<tr>
<td></td>
<td>Equipment maintenance: Maintain equipment in good working order</td>
<td>X</td>
<td>Daily equipment inspections (including hydraulic connections and couplers) will be done prior to use. Equipment found to be in poor working order will be removed from service, repaired and re-inspected prior to use onsite again.</td>
</tr>
<tr>
<td></td>
<td>Secondary containment: All fuel containers will have secondary containment with minimum 110% capacity or be double walled.</td>
<td>X</td>
<td>Sub-contractors fuel containers will be inspected as they arrive on-site. Sub-contractors will be required to change out containers that do not include secondary containment.</td>
</tr>
<tr>
<td>Air quality impact from working equipment</td>
<td>No idling: Equipment required to be shut off when not in use.</td>
<td>X</td>
<td>pH and turbidity baseline data have been collected and will be used to monitor changes during construction activities.</td>
</tr>
<tr>
<td></td>
<td>Equipment maintenance: Maintain equipment in good working order</td>
<td>X</td>
<td>pH and turbidity baseline data have been collected and will be used to monitor changes during construction activities.</td>
</tr>
<tr>
<td>Water quality</td>
<td>Background water quality monitoring: To be completed prior to construction activities.</td>
<td>X</td>
<td>Testing procedure and frequency are specified in EMP section 4.4.3. If pH and turbidity readings exceed the BC Water Quality Objectives, the source of the exceedance will be evaluated. Sediment controls may be deployed (such as silt curtains), construction methods may be adjusted, and water quality will be re-tested until in compliance, before construction work continues.</td>
</tr>
<tr>
<td></td>
<td>Water quality monitoring in the navigation channel: pH and turbidity testing will be carried out twice daily in the navigation channel during rip rap placement. Measurements will be recorded, kept onsite and available for review.</td>
<td>X</td>
<td>Testing procedure and frequency are specified in EMP section 4.4.3. If pH and turbidity readings exceed the BC Water Quality Objectives, the source of the exceedance will be evaluated. Sediment controls may be deployed (such as silt curtains), construction methods may be adjusted, and water quality will be re-tested until in compliance, before construction work continues.</td>
</tr>
<tr>
<td></td>
<td>Sediment Control: Minimize potential for fines to enter the water, or for channel sediments to become re-suspended.</td>
<td>X</td>
<td>Loose/fine material will be cleaned from the barge prior to its mobilization to this Site. Rip rap to be washed at supplier’s facility prior to being loaded onto material barge and/or prior to it being placed in the water. When and where possible, rip-rap placement will be timed to coincide with the lowest tides that still allow for barge access. This will minimize the drop height of the rip rap, thus reducing the potential for channel sediments to become re-suspended.</td>
</tr>
<tr>
<td>Above ground noise</td>
<td>Above ground noise monitoring: Periodic noise readings will be taken during construction. PCL also collected background noise measurements prior to starting work.</td>
<td>X</td>
<td>Construction activities to comply with municipal noise bylaws and working hours (weekdays 7am-7pm and weekends 7am-7pm). Noise will not exceed 85dBA at the point of receptor. If an exceedance is measured, where possible, PCL will adjust construction methods/timing. If construction methods must exceed this limit, PCL will apply for an exemption.</td>
</tr>
<tr>
<td>Archaeological sites</td>
<td>Archaeological monitoring</td>
<td>X</td>
<td>PCL has notified MMM of the work and no archcological requirements exist at this time.</td>
</tr>
<tr>
<td>Environmental Sensitivities &amp; Concerns</td>
<td>Mitigation Measure</td>
<td>Required?</td>
<td>Comments</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>--------------------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Containment boom: to be installed around work area</td>
<td>X</td>
<td>Containment boom is stored on West Wharf and will be deployed in the event of a spill</td>
</tr>
<tr>
<td></td>
<td>Housekeeping: to be completed during the course of the work.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Work area: to be left in an orderly state, clear of construction waste upon completion of work.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX B:

PCL Marine Refueling Policy

APPENDIX C:

Detailed Work Plan for Rip Rap Installation
September 11, 2015

YEAR THREE HABITAT COMPENSATION MONITORING

Telus Duct Bank Relocation Project

Submitted to:
Jas Paul, Assistant Director
Underground Utilities and Facilities
City of Victoria, Engineering and Public Works
City Hall, 1 Centennial Square
Victoria, BC V8W 1P6

Report Number: 1314220043-004-R-Rev0
Distribution:
2 copies - City of Victoria
1 e-copy - DFO, Fisheries Protection Program
2 copies - Golder Associates Ltd.
YEAR THREE HABITAT COMPENSATION MONITORING

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6.0 REFERENCES ............................................................................................................................. 6

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Figure 2: Site Plan

APPENDICES
APPENDIX A
DFO Authorization No. 11-HPAC-PA3-00562

APPENDIX B
Photograph Log: Three Years of Compensatory Habitat Monitoring
YEAR THREE HABITAT COMPENSATION MONITORING

1.0 INTRODUCTION

The City of Victoria (“the City”) was required to relocate the existing submarine Telus Duct Bank (TDB) to accommodate the construction of the new Johnson Street Bridge between the Inner and Upper Working Harbours in Victoria, BC (Figure 1). The new TDB is located north of the new Johnson Street Bridge location. Since the TDB relocation had the potential to affect fish and fish habitat, the construction of compensatory fish habitat was required by Fisheries and Oceans Canada (DFO).

A condition of the City’s Fisheries Act Authorization No. 11-HPAC-PA3-00562 (Appendix A) issued by DFO is that the City monitor 370 m² of articulating ballast mats installed as compensatory habitat constructed in conjunction with the TDB relocation between January 4, 2012 and February 17, 2012. Annual compensation monitoring reports are to be submitted to DFO by October 1 of each year over a three year term. The compensation fish habitat will be deemed to be functioning as intended if, in the opinion of DFO, the habitat is physically stable, and supporting encrusting and algal subtidal marine communities typical of similar habitats in Victoria’s Inner Harbour.

In 2013, the City retained Golder Associates Ltd. (Golder) to conduct annual monitoring of the constructed compensatory habitat and to submit monitoring reports to DFO in accordance with the scope of work outlined in Golder’s proposal titled “Response To RFO#056-13-K For Three Year Habitat Compensation Monitoring and Reporting, Telus Duct Work Associated with Johnson Street Bridge Replacement Project, Victoria, BC”, dated August 27, 2013 (Golder File Reference No. P314220043-001-WP-Rev0).

Results from Year One and Year Two monitoring were that the compensatory habitat was observed to be physically stable and supporting encrusting and algal subtidal marine communities typical of similar habitats in Victoria’s Inner Harbour. The Year One (Golder 2013) and Year Two (Golder 2014) Monitoring Reports were submitted to DFO on October 29, 2013 and September 30, 2014, respectively. Shortly after submission, DFO confirmed that the reports were received. This report is designed to meet the Year Three requirements of condition 5.2 of Fisheries Act Authorization No. 11-HPAC-PA3-00562.

2.0 METHODS

The compensatory habitat installed in association with the TDB relocation traverses Victoria Harbour north of the location of the new Johnson Street Bridge in Victoria, BC at the southern end of Vancouver Island (Figure 1). Monitoring of the compensatory habitat and its ancillary components was conducted by two Golder marine biologists (Erika Grebeldinger and John Sherrin) using an underwater towed-video system deployed from Golder’s 24-foot field vessel, the Pacific GAL. The underwater towed-video transect survey occurred on August 11, 2015 from 14:00-15:30 (Figure 2). The underwater video was recorded to a micro SD card and transect locations were recorded using an on-board Garmin GPS unit. The transect GPS positions were recorded each 15 second interval with tracking function.

Although most of the compensatory habitat installed in association with the TDB relocation was surveyed, construction activities and structures in the water northeast and northwest of the existing Johnson Street Bridge limited the field crew’s ability to survey compensatory habitat in these areas.
YEAR THREE HABITAT COMPENSATION MONITORING

The underwater towed-video footage was reviewed in the office by Golder marine biologists who are familiar with subtidal marine communities typical of Victoria’s Inner Harbour. Observations of fish, invertebrates and algae were identified to lowest practical taxonomic level in addition to observations of substrate type in the survey area.

Representative monitoring photographs from Year One to Year Three are presented in Appendix B as a summary of key features and marine organisms observed during the three-year monitoring program. Video survey footage is available upon request.

3.0 RESULTS

The underwater towed-video transects extended from the east side of the Victoria Harbour, along the compensatory habitat corridor to the west side of Victoria Harbour (Figure 2). However, due to ongoing activities on the north side of the Johnson Street Bridge, a portion of the TDB’s east side was not surveyed. Similar to Year One and Year Two monitoring, the substrate observed adjacent to the compensatory habitat was primarily crushed shell, sand and silt with some boulders, anthropogenic debris and drift algae (i.e., non-attached algae). The substrate was partially covered with algae and invertebrates in some areas.

The compensatory habitat was observed to consist of articulating ballast mats as in Appendix B, Photograph 1. These mats were observed to have high algae (e.g., colander kelp [Agarum sp.], green sea lettuce [Ulva sp.], brown bladed kelp [Laminaria sp.]) and encrusting invertebrate (e.g., unknown hydroids, giant plumose anemone [Metridium giganteum]) coverage in some areas, specifically in the western portion of the nearshore area. Motile invertebrates such as Dungeness crab (Metacarcinus magister) and shrimp (Pandalus sp.) were abundant throughout the surveyed area with goby-like fish (likely Black eye goby Rhinogobiops nicholsii and/or Bay goby Lepidogobius lepidus) and eelpout (family Zoarcidae) also observed. A summary of underwater observations from Year One to Year Three video footage is provided in Table 1.

Table 1: A Summary of TDB Towed Video Observations for Year One to Year Three Monitoring.

<table>
<thead>
<tr>
<th>Algae</th>
<th>Invertebrates</th>
<th>Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species Observed During Year One Monitoring (September 19, 2013)</strong></td>
<td><strong>Sessile</strong></td>
<td><strong>Motile</strong></td>
</tr>
<tr>
<td>Green sea lettuce (Ulva sp.), foliose red algae, colander kelp (Agarum sp.), wireweed (Sargassum muticum)</td>
<td>Giant plumose anemone (Metridium giganteum), unknown hydroids</td>
<td>Shrimp/prawn species (Pandalus spp.), mottled star (Evasterias troschelii), sunflower star (Pycnopodia helianthoides), spiny pink star (Pisaster brevispinus), Dungeness crab (Metacarcinus magister), red rock crab (Cancer productus)</td>
</tr>
</tbody>
</table>

September 11, 2015
Report No. 1314220043-004-R-Rev0
YEAR THREE HABITAT COMPENSATION MONITORING

The underwater towed-video footage was reviewed in the office by Golder marine biologists who are familiar with subtidal marine communities typical of Victoria’s Inner Harbour. Observations of fish, invertebrates and algae were identified to lowest practical taxonomic level in addition to observations of substrate type in the survey area.

Representative monitoring photographs from Year One to Year Three are presented in Appendix B as a summary of key features and marine organisms observed during the three-year monitoring program. Video survey footage is available upon request.

3.0 RESULTS

The underwater towed-video transects extended from the east side of the Victoria Harbour, along the compensatory habitat corridor to the west side of Victoria Harbour (Figure 2). However, due to ongoing activities on the north side of the Johnson Street Bridge, a portion of the TDB’s east side was not surveyed. Similar to Year One and Year Two monitoring, the substrate observed adjacent to the compensatory habitat was primarily crushed shell, sand and silt with some boulders, anthropogenic debris and drift algae (i.e., non-attached algae). The substrate was partially covered with algae and invertebrates in some areas.

The compensatory habitat was observed to consist of articulating ballast mats as in Appendix B, Photograph 1. These mats were observed to have high algae (e.g., colander kelp [Agarum sp.], green sea lettuce [Ulva sp.], brown bladed kelp [Laminaria sp.]) and encrusting invertebrate (e.g., unknown hydroids, giant plumose anemone [Metridium giganteum]) coverage in some areas, specifically in the western portion of the nearshore area. Motile invertebrates such as Dungeness crab (Metacarcinus magister) and shrimp (Pandalus sp.) were abundant throughout the surveyed area with goby-like fish (likely Black eye goby Rhinogobiops nicholsii and/or Bay goby Lepidogobius lepidus) and eelpout (family Zoaridae) also observed. A summary of underwater observations from Year One to Year Three video footage is presented in Table 1.

<table>
<thead>
<tr>
<th>Species Observed During Year One Monitoring (September 19, 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Algae</strong></td>
</tr>
<tr>
<td>Green sea lettuce (Ulva sp.), foliose red algae, colander kelp (Agarum sp.), wireweed (Sargassum muticum)</td>
</tr>
</tbody>
</table>

Table 1: A Summary of TDB Towed Video Observations for Year One to Year Three Monitoring.
YEAR THREE HABITAT COMPENSATION MONITORING

<table>
<thead>
<tr>
<th>Algae</th>
<th>Invertebrates</th>
<th>Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Green sea lettuce</em>, foliose red algae, colander kelp, sugar kelp (<em>Laminaria saccharina</em>), branched brown algae</td>
<td><em>Giant plumose anemone</em>, white-spotted anemone (<em>Urticina lofotensis</em>), painted anemone (<em>Urticina crassicornis</em>), unknown anemone (<em>Urticina sp.</em>)</td>
<td><em>Striped sea perch</em> (<em>Embiotoca lateralis</em>), eelpout (family Zoaridae), goby (family Gobiidae)</td>
</tr>
</tbody>
</table>

Species Observed During Year Two Monitoring (August 7, 2014)

Species Observed During Year Three Monitoring (August 11, 2015)

4.0 DISCUSSION

The compensatory habitat is composed of a series of articulating ballast mats that were placed on the buried ducts and provide a hard substrate for the attachment of marine organisms (Stantec 2011). The substrate surrounding the compensatory habitat is low quality crushed shell, silt and sand, with some boulder and anthropogenic debris.

The compensatory habitat provides a hard substrate for algae and sessile invertebrate attachment and growth (Gascon and Miller 1980). Marine species that typically grow on hard substrates, including algae, hydroids and anemone species may not have otherwise been observed if the compensatory habitat was not present. In addition, the increase of algae and large sessile invertebrates provide structural complexity and refuge areas for other marine organisms such as juvenile Dungeness crab (McMillan et al. 1995) and fishes (Connell and Jones 1991).

The compensatory habitat was observed to be physically stable and supporting encrusting and algal subtidal marine communities typical of similar habitats in Victoria’s Inner Harbour. A noticeable increase in algae and sessile invertebrate coverage was observed during Year Three towed video survey compared to Year One indicating that the ballast mats are functioning as intended and providing habitat for the diversity of marine organisms in this area. These observations are consistent with other studies that have assessed colonization of marine organisms on hard substrate over a three-year period. A habitat offsetting study by Wernick et al. (2012) found that placement of substrate materials in an intertidal area in False Creek, British Columbia showed algae and invertebrate colonization with similar coverage to that of the reference site within three years post-construction.
YEAR THREE HABITAT COMPENSATION MONITORING

In summary, the ballast mats have provided a stable and suitable hard substrate for the attachment and growth of marine organisms since 2013 and will continue to do so, acting as a habitat for foraging, spawning and rearing of species typical of Victoria's Inner Harbour.

5.0 CLOSING

We trust the information presented in this Year Three Habitat Compensation Monitoring Report meets your reporting requirements. Please contact Alan Calder at 250-419-4907 if you have any questions or require additional information.

GOLDER ASSOCIATES LTD.

Erika Grebeldinger, B.Sc.
Marine Biologist

Alan Calder, B.Sc., M.A.
Project Manager, Senior EA Specialist

Reviewed by:

Shawn Hedden, H.P.Bio.
Associate, Senior Fisheries Biologist

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September 11, 2015
Report No. 1314220043-004-R-Rev0
6.0 REFERENCES


Appendix B – Environmental Monitoring Reports

Legend

- [Legend]

Site Plan

- Site Plan

Google Earth

- Google Earth

Site Specific Monitoring - Victoria, BC

- Site Specific Monitoring - Victoria, BC

City of Victoria | ANNUAL REPORT 2015/16 | JOHNSON STREET BRIDGE REPLACEMENT PROJECT | 89
APPENDIX A

DFO Authorization No. 11-HPAC-PA3-00562

Issued January 3, 2012
FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

Authorization Issued to:
Name: Corporation of the City of Victoria
Attention: Mike Lai
Address: City Hall, #1 Centennial Square, Victoria, BC, V8W 1P6
Telephone: (250) 590-4623
FAX: (250) 361-0214

Herein referred to as the “Proponent”

Location of Project
The work or undertaking is located adjacent to the Johnson Street Bridge in the City of Victoria’s Inner Harbour, Victoria, British Columbia.

Latitude and longitude: 48° 25' 00" N - 123° 22' 19" W

Valid Authorization Period
The valid authorization period for the harmful alteration, disruption and destruction of fish habitat associated with the replacement of the Telus communications cable adjacent to the Johnson Street Bridge is:

From: January 4, 2012 To: February 15, 2012

The valid Authorization periods for other conditions of this Authorization are as set out below as Conditions of Authorization.

Description of Works or Undertakings
The harmful alteration, disruption and destruction of fish habitat hereby Authorized is the disruption of approximately 370 square metres of subtidal marine soft-bottom fish habitat for marine species in the Inner Harbour at Victoria, BC (as described in “Telus Duct Bank Relocation Project Environmental Assessment Report: A Component of the Johnson Street Bridge Replacement Project” (Schedule 1)).

Conditions of Authorization
1. The conditions of this Authorization notwithstanding, should the above works or undertaking, due to weather conditions, different soil or other natural conditions, or for any other reason, appear, in the opinion of Fisheries and Oceans Canada (“DFO”) likely to cause greater impacts
than the parties previously contemplated, then DFO may direct the Proponent, and its agents, and contractors, to suspend or alter works and activities associated with the project, to avoid or mitigate adverse impacts to fisheries resources. DFO may also direct the Proponent and its agents, and contractors, to carry out at the Proponents’ expense any works or activities deemed necessary by DFO to avoid or mitigate further adverse impacts to fisheries resources. In circumstances where DFO is of the view that greater impacts may occur than were contemplated by the parties, DFO may also modify or rescind this Authorization. If the authorization is to be changed the Proponent will be given an opportunity to discuss any proposed modifications or rescission.

2. Conditions that relate to the Proponent’s plan:

2.1. The Proponent confirms that all plans and specifications relating to this Authorization have been duly prepared and reviewed by appropriate professionals working on behalf of the Proponent. The Proponent acknowledges that they are solely responsible for all design, safety and workmanship aspects of all of the works associated with this Authorization.

2.2. The construction must comply with those criteria as identified within this Authorization. Harmful alteration, disruption or destruction of fish habitat other than that specifically identified within this Authorization is not permitted.

2.3. Works will be conducted following the practices outlined in the following documents:

2.3.1. "Telus Duct Bank Relocation Project: Environmental Assessment Report A Component of the Johnson Street Bridge Replacement Project “ produced by Stantec Engineering dated July 2011 (Schedule 1);

2.3.2. “Enlargement Area East #09079-02  E005 Rev 2” “Typical Section: Underwater Crossing” produced by PBA Consulting Engineers dated July 2011 (Schedule 2);

2.3.3. "Johnson Street Bridge Marine Early Works: Project No. 11-028; Environmental Management Plan” produced by Castor Consultants Ltd. dated December 19, 2011 (Schedule 3).

3. Conditions that relate to the mitigation of potential harmful alteration, disruption or destruction of fish habitat.

Mitigation measures are outlined Schedule 1. Additional mitigation measures include the following:

3.1. No in-water work shall occur between February 15 and June 1 in any year;
3.2. Fish habitat in the rocky intertidal zone of the duct alignment will be removed and tendered (kept watted, covered to avoid desiccation etc.) during construction. Upon completion of
FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

the installation, rocky substrates will be replaced to the intertidal zone at the same elevation as they were removed.

4. Conditions that relate to the compensation for the loss of 370 square metres of fish habitat.

4.1. Approximately 370 square metres of hard-bottom subtidal marine fish habitat for marine species shall be created as compensatory fish habitat.

4.2. The compensatory fish habitat shall be completed as described more specifically in the attached "Telus Duct Bank Relocation Project Environmental Assessment Report A Component of the Johnson Street Bridge Replacement Project" produced by Stantec dated July 2011 (Schedule 1).

4.3. The construction of the compensatory fish habitat shall be completed in conjunction with the completion of construction works.

4.4. The compensatory fish habitat will be deemed to be functioning as intended if the habitat is physically stable and supporting encrusting and algal subtidal marine communities typical of similar habitats in Victoria’s Inner Harbour. If, following the initial monitoring period, and any extensions thereof, the compensatory habitat is not functioning as intended, the Proponent agrees to complete remedial work at the direction of DFO until the compensatory habitat is functioning as described above. If it appears that further remedial work is not likely to rectify the situation, the Proponent shall then propose alternative compensatory works to achieve the overall objective of the fish habitat compensation plan.

4.5. If at any time the Proponent becomes aware that the compensatory habitat is not functioning as intended the Proponent shall carry out any works which are necessary to enable the compensatory habitat to function as designed.

5. Conditions that relate to the monitoring of the Project Plan, the mitigation and the compensation, the "Monitoring Program":

5.1. The Proponent will undertake a Monitoring Program during construction and will provide a geo-referenced "As-built" report to DFO after the construction has been completed. An As-built report will be submitted to DFO within 60 days of completion of construction. The As-built report will detail whether the construction was conducted within the schedule of the Proponent’s plan and whether the mitigation measures outlined in the proponent’s plan and this Authorization (Section 2) were followed, by:

5.1.1. Providing details of the sequence of construction, the quality of construction, and providing "as-built" drawings of the completed works.

5.1.2. Providing dated photographs of: 1) the site (pre-construction), 2) the works (in progress), and 3) the completed project.

5.1.3. Providing a description of any contingency measures that were followed in the event that mitigation measures did not function as described in the Proponent Plan.
FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

5.2. The Proponent will report to DFO, on an annual basis for 3 years (on or by “October 31”), that the compensatory works were conducted according to, and within the schedule of the fish habitat compensation plan by:

5.2.1. Providing a written description of the condition of the compensatory habitat and its ancillary components,

5.2.2. Providing dated photographs or video of the compensatory habitat and its ancillary components,

5.2.3. Submit the annual report by “October 31” of each year it is required,

5.3. All monitoring reports, notifications or results will be submitted to “Scott Northrup”, “Habitat Management Biologist”, “South Coast Area office; 3225 Stephenson Point Road, Nanaimo, BC, V9T 1K3” by the dates specified within this Authorization.

6. Conditions that relate to the financial security.

6.1. The proponents will deliver by January 31, 2012 a letter of credit from a Canadian Bank in the sum of $10,000.00, and, renews annually, and which shall be in a form acceptable to DFO.

6.2. DFO may withdraw funds from the letter of Credit to retain an independent contractor to undertake any activity described in the conditions should those not be completed by the Proponent.

7. Conditions that relate to notification.

7.1. Written notification of the commencement of works or undertakings shall be provided to DFO at least 5 days prior to the initiation of those works or undertakings.

The holder of this Authorization is hereby authorized under the authority of subsection 35(2) of the Fisheries Act, R.S.C., 1985, c. F. 14, to carry out the work or undertaking described herein.

This authorization is valid only with respect to fish habitat and for no other purposes. It does not purport to release the Proponent from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.
FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

This Authorization does not permit the deposit of a deleterious substance in water frequented by fish. Subsection 38(3) of the Fisheries Act prohibits the deposit of any deleterious substances into waters frequented by fish except under conditions authorized by regulations made by Governor in Council.

Failure to comply with any condition of this Authorization may result in charges under the Fisheries Act.

This authorization form should be held on site and work crews should be made familiar with the conditions attached.

Date of issuance: January 1, 2012
Approved by: Nick Leone
Title: Area Manager, Habitat Management Program, South Coast Area Ecosystem Management Branch Fisheries and Oceans Canada

The Corporation of the City of Victoria acknowledges that DFO has consulted with it regarding the terms of this Authorization, and confirms that it has reviewed and understands the terms of this Authorization, and it will comply with them.

Executed by an authorized signatory of The Corporation of the City of Victoria January 3, 2012 in the presence of:

Witness (signature)

ROBERT G. WOODLAND
Corporate Administrator
City of Victoria

Name: #1 Centennial Square
Victoria BC V8W 1P6

Corporation of the City of Victoria

Authorized signatory

Name: MAYOR DEAN FORTIN
#1 Centennial Square
Victoria BC V8W 1P6

Title
Authorization No: 11-HPAC-PA3-00582

FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

SCHEDULE 1

“Telus Duct Bank Relocation Project Environmental Assessment Report, A Component of the Johnson Street Bridge Replacement Project”

Produced by: Stantec

July 2011
FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

SCHEDULE 2

"Enlargement Area East #0079-02 E005 Rev 2"
"Typical Section: Underwater Crossing"

Produced by PBA Consulting Engineers

July 2011
Authorization No: 11-HPAC-PA3-00562

FISHERIES ACT SUBSECTION 35(2) AUTHORIZATION FOR WORKS OR UNDERTAKINGS AFFECTING FISH HABITAT

SCHEDULE 3

"Johnson Street Bridge Marine Early Works Project No. 11-028: Environmental Management Plan"

Produced by: Castor Consultants Ltd.

On Behalf of: Ruskin Construction Ltd.

December 19, 2011
APPENDIX B
Photograph Log: Three Years of Compensatory Habitat Monitoring
APPENDIX B
Photograph Log: Three Years of Compensatory Habitat Monitoring

Photograph 1: West side of Telus Duct Bank (TDB) compensatory habitat exposed in high intertidal zone (August 11, 2015).

Photograph 2: Deployment of underwater towed video system (August 11, 2015).

Photograph 3: Victoria Inner Harbour at Johnson Street Bridge, looking south (August 11, 2015).

Photograph 4: Foliose red algae and unknown hydroids observed on TDB compensatory habitat (September 19, 2013).

Photograph 5: Green sea lettuce (Ulva sp.) and painted anemone (Urticina crassicornis) observed in area of TDB compensatory habitat (August 7, 2014).

Photograph 6: Green sea lettuce and sea colander (Agarum sp.) observed on TDB compensatory habitat (August 11, 2015).
APPENDIX B
Photograph Log: Three Years of Compensatory Habitat Monitoring

Photograph 7: Two adult Dungeness crabs (Metacarcinus magister) adjacent to the compensatory habitat on crushed shell and sand substrate (September 19, 2013).

Photograph 8: Dungeness crab (Metacarcinus magister) (red arrow) on the TDB compensatory habitat (August 7, 2014).

Photograph 9: Plumose anemone observed on the TDB compensatory habitat (August 11, 2015).

Photograph 10: Substrate observed adjacent to TDB compensatory habitat (August 7, 2014).

Photograph 11: Plumose anemones observed on TDB compensatory habitat (August 7, 2014).

Photograph 12: Spiny pink star (Pisaster brevispinus) observed on TDB compensatory habitat (September 19, 2013).
APPENDIX B
Photograph Log: Three Years of Compensatory Habitat Monitoring

Photograph 7: Two adult Dungeness crabs (Metacarcinus magister) adjacent to the compensatory habitat on crushed shell and sand substrate (September 19, 2013).

Photograph 8: Dungeness crab (Metacarcinus magister) (red arrow) on the TDB compensatory habitat (August 7, 2014).

Photograph 9: Plumose anemone observed on the TDB compensatory habitat (August 11, 2015).

Photograph 10: Substrate observed adjacent to TDB compensatory habitat (August 7, 2014).

Photograph 11: Plumose anemones observed on TDB compensatory habitat (August 7, 2014).

Photograph 12: Spiny pink star (Pisaster brevispinus) observed on TDB compensatory habitat (September 19, 2013).
As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth’s development while preserving earth’s integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

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Golder Associates Ltd.
2nd floor, 3795 Carey Road
Victoria, British Columbia, V8Z 6T8
Canada
T: +1 (250) 881 7372
## MINUTES OF JSB MARINE USER GROUP MEETING #8

**Held at PCL Site Office on February 03, 2015 @ 10:00 a.m.**

### JOB #12261300 – 2F.5

**Present:**
- Dave Featherby: Harbour Master
- Carl Wilkinson: City of Victoria
- Dave Eggert: Salts
- Noel Rubino: MMM
- Derek Compton: PCL Constructors Westcoast Inc.
- Hank Bekker: Point Hope Maritime
- Justin Sieg: PCL Constructors Westcoast Inc.
- HM: david.featherby@tc.gc.ca
- CoV: cwilkinson@victoria.ca
- Salts: dave@salts.ca
- MMM: rubion@mmm.ca
- PCL: dcompton@pcl.com
- FHM: hbeekering@pointhope.maritime.com
- PCL: jwsieg@pcl.com

### CC:
- Mark Donahue: PCL Constructors Westcoast Inc.
- Tyler VanderLinden: PCL Constructors Westcoast Inc.
- Ed Kittle: PCL Constructors Westcoast Inc.
- Jim Beldlen: PCL Constructors Westcoast Inc.
- Jordan Presunka: PCL Constructors Westcoast Inc.
- Arlo Skeans: PCL Constructors Westcoast Inc.
- Didier Samouilhan: MMM Group
- Gord Tubman: Ocean Concrete
- Barry Hobbs: Victoria Harbour Ferry
- Peter Martin: Island Asphalt
- John Ellis: Salish Sea Industries
- Dave Bukovec: Point Hope Maritime
- Tony Anderson: Salts
- Mark Cline: Victoria Fire
- Lyle Flag: Lehigh Materials
- Rockie Collins: Victoria Materials Depot
- Rob Duffs: Canadian Coast Guard
- Ryan Greville: Navigable Waters Protection Div
- Matt Waterman: Victoria Police Marine Division
- PCL: mdonahue@pcl.com
- PCL: tvanderlinden@pcl.com
- PCL: ekittle@pcl.com
- PCL: jbeldlen@pcl.com
- PCL: jpresunka@pcl.com
- PCL: askeans@pcl.com
- MMM: samouilhan@mmm.ca
- OC: gtubman@leihgocement.com
- VH: bhobbs@shaw.ca
- IA: pmartin@islandpaving.com
- SSI: jehnellis@salishseaind.com
- FHM: dave@unitedengineering.ca
- SALT: tony@salts.ca
- VF: mcline@victoria.ca
- LM: lflag@leihgocement.com
- VMD: rcollins@leihgocement.com
- CCG: nerg@shaw.ca
- NWPD: ryan.greville@tc.gc.ca
- VPMD: matt.waterman@bicpd.ca

### ITEM

**NOTE:** These are minutes of JSB Marine User Group Meeting #03 carried forward from Meeting #02. Items are numbered corresponding to the meeting number and item of business. Information or resolved items will be carried for one subsequent set of minutes and then removed.

### 1.01 Communication

- **East and West Fender Installation:**
  - Temporary blockages of channel during West camel installation and East pile installation – Channel will remain open to all marine traffic
  - Minimum one hour notices for all bridge openings are required to allow for vessels to cease operations and vacate the channel
  - Weekly NOTSHIP’s and email notifications will be sent to Marine users

---

**INFO**

**PCL**
JOHNSON STREET BRIDGE
JSB Marine User Group Meeting 05
Page 2 of 3, February 03, 2015

ITEM

○ PCL will maintain a marine radio during in-channel works

1.02 Site Layout
- Reviewed site layout and locations of fendering installations
- Salish Sea will be using the Nootka Sound barge and crane to assist in pile and camel installation – the barge will be moored along the West Wharf

2.01 Notification
- NOTSHIP’s sent to CCG on weekly/bi-weekly intervals dependent on construction activities (distributed to marine users).
  ○ Includes site plans with general overview of marine equipment and phasing.
- 4-week look-ahead schedules distributed to marine users
- 02/03/2015: Weekly email notifications will be sent to Marine Users when channel is to be partially blocked

2.02 Signage
- “No Wake” and “No Access” signs posted on existing structures to limit access and improve worker safety.
  ○ Signs posted by order of Harbour Master

2.03 Upcoming Construction Activities
- 02/02/2015:
  ○ West fender (floating camel) installation to begin mid to late February for a duration of approximately 4 weeks
  ○ Existing timber piling to be removed and new timber piling to be installed to the South of existing piers
  ○ Existing concrete selective demolition (East Diaphragm to begin in late February for a duration of approximately 2 weeks)
  ○ Bascule Pier footing and wall construction is underway and is scheduled to be complete in April
  ○ East and West Rail Trestle demolition to begin in June 2015
  ○ Pre-Cast girder erection tentatively scheduled for mid June 2015

NEW BUSINESS

3.1 Fendering Design
- 02/03/2015: Ledcor and Salts representatives concerned about current fendering design showing no bumper attached to existing piers
  ○ CoV to address concerns with Marine Users
- 02/03/2015: CoV and MMM did not have any information/comments regarding dolphin design or design channel speeds
NEXT MEETING TO BE HELD IN APRIL (EXACT DATE TBA).

The above are considered to be a true and accurate recording of all items discussed. Should any discrepancy or inconsistency be noted, advise the recorder or bring it up within five (5) days of receipt of these minutes. If no notification is received, minutes are deemed acceptable by all.

Derek Compton
Project Engineer
WRITER’S DIRECT LINE: 250 410-0638

DC/1j
PCL CONSTRUCTORS WESTCOAST INC.
JOHNSON STREET BRIDGE
MINUTES OF JSB MARINE USER GROUP MEETING #9
Held at PCL Site Office on June 16, 2015 @ 10:00 a.m.

JOB #2261300 – 2F.5

Present:
Carol Unwin                      Harbour Master                  HM Carol.unwin@tc.gc.ca
Carl Wilkinson                   City of Victoria                  COV cwilkinson@victoria.ca
Jana Zamyslicka                  City of Victoria                  COV jzamyslicka@victoria.ca
Kevin Ashley                     Seaspan                          Seasan kashley@seaspan.com
Hank Bekkering                   Point Hope Maritime               PHM hbekkering@pointhopemaritime.com
Didier Samouilhan                MMM Group                        MMM samouilhan@mmm.ca
Derek Compton                    PCL Constructors Westcoast Inc. PCL djcompton@pcl.com
Mark Donahue                      PCL Constructors Westcoast Inc. PCL mdonahue@pcl.com
Jim Belden                       PCL Constructors Westcoast Inc. PCL jibelden@pcl.com
Ethan Kent                       PCL Constructors Westcoast Inc. PCL ekent@pcl.com

CC:
Tyler VanderLinden               PCL Constructors Westcoast Inc. PCL tdvanderlinden@pcl.com
Ed Kittle                         PCL Constructors Westcoast Inc. PCL ekittle@pcl.com
Jordan Presunka                   PCL Constructors Westcoast Inc. PCL jpresunka@pcl.com
Arlo Skeens                       PCL Constructors Westcoast Inc. PCL askeans@pcl.com
Gord Tubman                       Ocean Concrete                   OC gtubman@lehighcement.com
Barry Hobbs                       Victoria Harbour Ferry            VH F bhobbs@shaw.ca
Peter Martin                      Island Asphalt                   IA pmartin@islandpaving.com
John Ellis                        Salish Sea Industries            SSI johnellis@salishseaand.com
Dave Bukovec                      Point Hope Maritime               PHM daveb@unitedengineering.ca
Tony Anderson                     Salts                            SALT tony@salts.ca
Mark Cline                        Victoria Fire                    VF mcline@victoria.ca
Lyle Flagg                        Lehigh Materials                  LM lflagg@lehighcement.com
Rockie Collins                    Victoria Materials Depot          VMD rcollins@lehighcement.com
Rob Duffs                         Canadian Coast Guard             CCG nerg@shaw.ca
Ryan Greville                     Navigable Waters Protection Div NWPD ryan.greville@tc.gc.ca
Matt Waterman                     Victoria Police Marine Division VPMD matt.waterman@bcpcd.ca

ITEM

NOTE: These are minutes of JSB Marine User Group Meeting #09 carried forward from Meeting #08. Items are numbered corresponding to the meeting number and item of business. Information or resolved items will be carried forward to the subsequent set of minutes and then removed.

1.01 Project Schedule:
• 02/03/2015: East and West Fender Installation:
  o Temporary blockages of channel during West camel installation and East pile installation – Channel will remain open to all marine traffic
  o Minimum one hour notices for all bridge openings are required to allow for vessels to cease operations and vacate the channel.
## Appendix B – Environmental Monitoring Reports

### 1.02 Site Layout/Marine Channel:

- **06/16/2015:** Pre-cast Girder Erection drawings reviewed with Marine Users
  - Current plan utilizes Amix 600ton Arctic Tuk crane to set all pre-cast girders and also to remove existing East and West rail spans
  - Two (2) material barges will be used to transport girders from Vancouver – barges to be staged in Harbour
  - Arctic Tuk crane will remain in channel 24 hours a day during the scheduled closure
  - Next Marine User Group meeting to discuss charter fishing boats, Harbour ferry, and recreational user navigation during work

### 2.01 Notification/Coordination:

- NOTSHIP’s sent to CCG on weekly/bi-weekly intervals dependent on construction activities (distributed to marine users).
  - Includes site plans with general overview of marine equipment and phasing.
- 4-week look-ahead schedules distributed to marine users
- **02/03/2015:** Weekly email notifications will be sent to Marine Users when channel is to be partially blocked
- **06/16/2015:** Marine Users require minimum one month notice prior to scheduled closure period
- **06/16/2015:** Harbour Master to notify smaller recreational vessels of planned closure period. PCL to be copied on correspondence.
- **06/16/2015:** Emergency response plans to be developed and discussed at next meeting including contacts for relevant parties

### 2.02 Closures:

- **06/16/2015:** Channel is scheduled to be closed for a 5 day period from September 14-18, 2015 (Monday through Friday) 24 hours a day during pre-cast girder erection and rail span demolition
  - During closure period, all marine traffic will be restricted in the vicinity of the Johnson Street Bridge

---

**Action Notes:**
- INFO
- PCL
- TC
- CLOSED
### JOHNSON STREET BRIDGE
JSB Marine User Group Meeting 09
Page 3 of 3, June 16, 2015

<table>
<thead>
<tr>
<th>ITEM</th>
<th>ACTION</th>
</tr>
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<tbody>
<tr>
<td>- Only small vessels will be capable of navigating through channel during closure period – these passages will be scheduled windows as agreed between Users and PCL. All passages will require an escort designated by PCL.</td>
<td>INFO</td>
</tr>
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2.03 Upcoming Construction Activities
- 06/16/2015: No Update

<table>
<thead>
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<th>NEW BUSINESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1 New Business</td>
</tr>
<tr>
<td>- 06/16/2015: No new business.</td>
</tr>
</tbody>
</table>

NEXT MEETING TO BE HELD IN JULY 2015 (EXACT DATE TBA).

The above are considered to be a true and accurate recording of all items discussed. Should any discrepancy or inconsistency be noted, advise the recorder or bring it up within five (5) days of receipt of these minutes. If no notification is received, minutes are deemed acceptable by all.

Derek Compton
Project Engineer
WRITER'S DIRECT LINE: 250 410-0638

DC/rj
March 10, 2016
File: 470-006.04

Ministry of Environment
Land Remediation Section
Second Floor, 10470 152 Street
Surrey, BC V3R 0Y3

Attn: Kelli Larsen, Senior Contaminated Sites Officer

Dear Ms. Larsen,

Re: Waste Discharge Authorization (WDA) Permit #106843, Section 4 Reporting Requirements
Johnson Street Bridge, Victoria, BC

This Work was performed in accordance with the contract with PO #460817 between Hemmera Envirochem Inc. (“Hemmera”) and the City of Victoria (“Client”), dated March 4, 2016 (“Contract”). This Report has been prepared by Hemmera, based on fieldwork conducted by Hemmera, for sole benefit and use by the City of Victoria. In performing this Work, Hemmera has relied in good faith on information provided by others, and has assumed that the information provided by those individuals is both complete and accurate. This Work was performed to current industry standard practice for similar environmental work, within the relevant jurisdiction and same locale. The findings presented herein should be considered within the context of the scope of work and project terms of reference; further, the findings are time sensitive and are considered valid only at the time the Report was produced. The conclusions and recommendations contained in this Report are based upon the applicable guidelines, regulations, and legislation existing at the time the Report was produced; any changes in the regulatory regime may alter the conclusions and/or recommendations.

The following letter has been prepared on behalf of the City of Victoria to address the requirements of the BC Ministry of the Environment (MOE) Waste Discharge Authorization (WDA) permit 106843, issued to the City of Victoria on January 9, 2014, for work at the Johnson Street Bridge (JSB) in Victoria, BC. Specifically, this letter is intended to satisfy the reporting requirements stipulated in Section 4.2 of the WDA permit, within 30 days following the anniversary of the issue date of the WDA permit.
The works authorised in Section 1.1.3 of the WDA permit (namely: Fill Areas 1, 2 and 3, and associated cap material) have been substantially completed.

**Fill Area 1**, on the east side of the site, was not used to discharge contaminated soils, and will not be required for the duration of the project.

**Fill Area 2**, in the northwest area of the site, has been filled and capped with a minimum 1 m "clean" soil.

**Fill Area 3**, in the southwest area of the site, has been filled in its entirety. It has been capped with a minimum 1 m thickness of “clean” soil, with the exception of two small areas (totalling approximately 7 m$^2$) that are currently only capped with 0.85 – 0.9 m of “clean” soil. The cap thickness in this “thin” area will be increased to the full 1 m by December 2017.

The completed fill areas are illustrated on Figure 1 – Johnson Street Bridge Waste Discharge Authorization Fill Areas (the full 1 m thick cap is shown in green; the area in Fill Area 3 with the thinner cap is shown in yellow and orange). A survey has been completed by PCL Constructors Westcoast Inc., and reviewed by Hemmera, to confirm soil cap thicknesses.

It should be noted that in the annual letter dated February 6, 2015, it stated that “materials consisting of non-hazardous-waste soils contaminated with metals have been discharged into Fill Areas 1 and 2”. The fill areas were identified incorrectly, and should have been listed as Fill Areas 2 and 3.

As required by Section 3.2 of the WDA permit, a groundwater monitoring and sampling plan (the “plan”) was submitted to the MOE on the City of Victoria’s behalf (by Hemmera, on March 28, 2014). This plan was acknowledged by the MOE in writing on April 24, 2014. In accordance with the plan, since the fill areas have been substantially completed, Hemmera will recommend to the City that the groundwater monitoring wells now be installed and sampled. As noted above, Fill Area 1, on the east side, was not utilised to discharge contaminated soils, and as such, a groundwater monitoring well will not be installed on the east side.

Claire Lewis, P.Eng., Environmental Engineer, has demonstrable experience pursuant to the BC Waste Discharge Regulation and confirms that the requirements of WDA permit 106843 were met during the reporting period of January 9, 2015 through January 8, 2016.
Should you have any questions or require more information, please feel free to contact the undersigned.

Letter prepared by:  
Hemmera Envirochem Inc.

Letter reviewed by:  
Hemmera Envirochem Inc.

**ORIGINAL SIGNED**

Gundeep Randhawa  
Contaminated Sites Technologist  
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Claire Lewis, P.Eng.  
Senior Environmental Engineer  
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Cc: Jonathan Huggett, P.Eng, J.R. Huggett Company Corp., jhuggett@jrhuggettc.com

This document represents an electronic version of the original hard copy document, sealed, signed and dated by Claire Lewis, P.Eng. and retained on file. The content of the electronically transmitted document can be confirmed by referring to the original hard copy and file. This document is provided in electronic format for convenience only. Hemmera Envirochem Inc. shall not be liable in any way for errors or omissions in any electronic version of its report document.
Appendix B – Environmental Monitoring Reports
INSPECTION REPORT
Worker and Employer Services Division

The Workers Compensation Act requires that the employer must post a copy of this report in a conspicuous place at or near the workplace inspected for at least seven days, or until compliance has been achieved, whichever is the longer period. A copy of this report must also be given to the joint committee or worker health and safety representative, as applicable.

<table>
<thead>
<tr>
<th>Employer Name</th>
<th>Jobsite Inspected</th>
<th>Scope of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL Constructors Westcoast Inc.</td>
<td>203 Harbour Rd Victoria BC. V8A 3S1</td>
<td>Johnson Street Bridge Replacement</td>
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<th>Date of Initiating Inspection</th>
<th>Date of This Inspection</th>
<th>Delivery Date of This Report</th>
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<tr>
<td>Apr 02, 2015</td>
<td>Apr 02, 2015</td>
<td>Apr 05, 2015</td>
<td>Email</td>
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</table>

THERE IS ONE (1) ORDER OUTSTANDING

ACTION REQUIRED

Summary of Orders
See “Orders – Full Details” section of this Inspection Report for orders cited.

Order No. 1  □  Status: Outstanding  Cited: OHS13.2(2)(b)

Notice of Compliance Required.

ORDER STATUS LEGEND

<table>
<thead>
<tr>
<th>Order Status</th>
<th>Description</th>
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<tbody>
<tr>
<td>Outstanding</td>
<td>Order Outstanding - Action Required to Achieve Compliance</td>
</tr>
<tr>
<td>Compiled</td>
<td>Compliance Achieved - No Further Action Required</td>
</tr>
<tr>
<td>Closed</td>
<td>Order Could Not be Followed Up – No Further Action Required</td>
</tr>
<tr>
<td>Rescinded</td>
<td>Order has been canceled – No Further Action Required</td>
</tr>
</tbody>
</table>

IR 2015/160680514 Printed: Apr 6, 2015 0:40
INSPECTION NOTES

This employer is the prime contractor at this workplace overseeing the construction of the new Johnson Street Bridge. Following construction of the new single-leaf bascule bridge structure, this employer will remove the existing, approximately 100 year old, double-leaf truss Johnson Street bridge.

This inspection focused on the placement and operation of a Kobelco CK1600-II (160 Ton) mobile hydraulic crane (SN: GN03-02347) that this employer has rented from Construction Drilling Inc. The crane is located on the East Side Work Trestle, Span 3. The crane is erected with 140 feet of lattice boom, full counterweight and has both a four part main hoist line and single part whip line installed. The crane is being operated by a BC Industry Training Authority - Mobile Crane Construction Certified operator and being used to install foundation components for the east bridge abutment(s).

After completing a work-site orientation and reviewing engineering drawings, this employer’s Superintendent, Field Engineer, Health, Safety, and Environment Supervisor and us (WorkSafeBC Officers) completed an inspection of the east bridge abutment and trestle work areas.

The following was discussed with this employer’s representatives, crane operator and workers:

1) Dedicated Emergency Platform - Type 2 Drawing Detail

Professional Engineer certified drawing # 8944-DEF-100, dated February 8, 2012, produced for this employer’s Dedicated Emergency Platform - Type 2 which is a crane supported work platform, does not include all information, required by WCB Standard WPL 2, Design, Construction and Use of Crane Supported Work Platforms, 2004, Section 4: “Design of Crane Supported Work Platforms”, including but not limited to:

- (e) the relevant data to be displayed on a data plate, as detailed in the appropriate section of the Occupational Health and Safety Regulation
- (g) a statement by the professional engineer, or other qualified designer, indicating that the crane supported work platform design and fabrication meets this Standard.

See Order # 1 on this inspection report. This employer will be forwarded a copy of WCB Standard WPL 2, Design, Construction and Use of Crane Supported Work Platforms, 2004 for review.

2) Mobile Crane Supporting Surface

The employer produced professional engineer certified drawing # PCL-JSB-EST-01C for the Johnson Street Bridge East Side Work Trestle - Trestle Crane Loading, dated October 29, 2013.

3) Guard-rail Locations

This employer is using three Flexiloat sectional type barges as marine work platforms and equipment storage. This employer was encouraged to review their work practices on these barges to confirm if guard-rails would be possible and effective for protecting workers from inadvertently falling in the water.

4) Mobile Crane Operator Qualifications

A person must demonstrate competency, including familiarity with the operating instructions for the mobile crane, including Load Moment Indicator set-up, adjustment and use, before operating the equipment.

5) Mobile Crane Inspection and Maintenance (Log Book) Records

The mobile crane inspection and maintenance Log Book, recording system must contain an entry signed by the person responsible for any test, inspection, modification, repair or maintenance performed on the equipment, summarizing the work done...
indicating the status of the equipment or machine for further use, and if appropriate, noting where a detailed record of the test, inspection, modification, repair or maintenance can be obtained.

6) JCB Fork Lift Load handling Attachment

The JCB Fork Lift Load handling Attachment, Unit # J10G, SN: V8288 AS/DWG: WLL: 10,000 LBS was removed from service by the employer prior to this inspection. The attachments right pin flanges appear to have over stressed and distorted (bent). In addition, the attachments lifting hook safety latch was broken.

I have attached a copy of this employer's Dedicated Emergency Platform - Type 2 drawing to this inspection report for future reference.

WorkSafeBC has a wide range of health and safety information to assist you. For information on workplace health and safety, call toll-free within BC 1-888-621-SAFE (7233) or visit the WorkSafeBC website www.worksafebc.com.
Orders - Full Details

Order No. 1  □  Status: Outstanding  □  Cited: OHS13.2(2)(b)

Professional Engineer certified drawing # 8944-DEP-100, dated February 8, 2012, produced for this employer’s Dedicated Emergency Platform - Type 2 which is a crane supported work platform, does not include all information, required by WCB Standard WPL 2, Design, Construction and Use of Crane Supported Work Platforms, 2004, Section 4, “Design of Crane Supported Work Platforms”, including but not limited to:

- (e) the relevant data to be displayed on a data plate, as detailed in the appropriate section of the Occupational Health and Safety Regulation
- (g) a statement by the professional engineer, or other qualified designer, indicating that the crane supported work platform design and fabrication meets this Standard.

This is in contravention of the Occupational Health and Safety Regulation Section 13.2(2)(b).

In designing and installing a work platform, appropriate safety factors and minimum rated loads must be used in the materials and method of installation, in accordance with WCB Standard WPL 2, Design, Construction and Use of Crane Supported Work Platforms, 2004.

Measures to Ensure Compliance:
Pursuant to section 194 (1) of the Workers Compensation Act, the employer must prepare a Notice of Compliance report. In accordance with section 194 (2), this report must detail what has been done to comply with this order. The Notice of Compliance report must include a Provincial audit of all this employer’s workplaces to ensure Dedicated Emergency Platform drawings are in compliance with WCB Standard WPL 2, Design, Construction and Use of Crane Supported Work Platforms, 2004. Please submit the report no later than May 1, 2015.

The report can be submitted to WorkSafeBC, this Officer by:

- email to doug.younger@ worksafebc.com or
- faxed to Attention Doug Younger @ 604.233.3719.
REFERENCES

In addition to any orders and the information provided in the Inspection Notes in this Inspection Report, the officer may discuss other health and safety issues with the employer arising out of the inspection. The information below sets out the health and safety requirements discussed with the employer, and unless otherwise noted, violations of these requirements were not observed.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Details Discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCA194(1)</td>
<td>Notice of Compliance</td>
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<tr>
<td>WCA194(2)</td>
<td>Notice of Compliance</td>
</tr>
<tr>
<td>OHS14.58(1)</td>
<td>Discussed with this employer's representatives, crane operator and workers.</td>
</tr>
<tr>
<td>OHS4.55</td>
<td>Discussed with this employer's representatives, crane operator and workers.</td>
</tr>
</tbody>
</table>

An area accessible to workers must have guards or guardrails installed in any of the following circumstances:
(a) if a raised floor, open-sided floor, mezzanine, gallery, balcony, work platform, ramp, walkway, or runway is 122 cm (4 ft) or more above the adjacent floor or grade level;
(b) on both sides of any walkway over or adjacent to any substance which is a hazard if a worker fell in, on it, or which is over machinery or work areas;
(c) around the perimeter of any open container or containment area such as an open vat, bin, tank or pit which is 122 cm (4 ft) or more in depth and which has sides that do not extend at least as high as required for a guardrail above the adjacent grade or work surface;
(d) if a stairway ends in direct proximity to dangerous traffic or other hazard to prevent inadvertent entry into the dangerous area.
<table>
<thead>
<tr>
<th>Reference</th>
<th>Details Discussed</th>
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<tbody>
<tr>
<td>OHS14.34(1)</td>
<td>A crane or hoist must only be operated by a qualified person who has been instructed to operate the equipment. Discussed with this employer's representatives, crane operator and workers.</td>
</tr>
<tr>
<td>OHS4.3(2)(a)</td>
<td>Unless otherwise specified by the Occupational Health and Safety Regulation, the installation, inspection, testing, repair and maintenance of a tool, machine or piece of equipment must be carried out (a) in accordance with the manufacturer's instructions and any standard the tool, machine or piece of equipment is required to meet, or (b) as specified by a professional engineer. Discussed with this employer's representatives, crane operator and workers.</td>
</tr>
<tr>
<td>OHS15.10(1)</td>
<td>A hook must have a safety latch or other means that will retain slings, chains, or other similar parts, under slack conditions. Discussed with this employer's representatives, crane operator and workers.</td>
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<tr>
<td>OHS14.14(d)</td>
<td>Records of inspection and maintenance meeting the requirements of Part 4 (General Conditions) must be kept by the equipment operator and other persons inspecting and maintaining the equipment for (d) a mobile crane, boom truck or sign truck. Discussed with this employer's representatives, crane operator and workers.</td>
</tr>
<tr>
<td>OHS4.9(2)(c)</td>
<td>The recording system for a machine or piece of equipment must contain an entry signed by the person responsible for any test, inspection, modification, repair or maintenance performed on the equipment, summarizing the work done, indicating the status of the equipment or machine for further use, and if appropriate, noting where a detailed record of the test, inspection, modification, repair or maintenance can be obtained. Discussed with this employer's representatives, crane operator and workers.</td>
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#### INSPECTION REPORT

**Worker and Employer Services Division**

**201516058051A**

<table>
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<th>Operating Location</th>
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<tr>
<td>050164</td>
<td>UNIT 310 13911 WIRELESS WAY RICHMOND BC V6V 3B9</td>
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<th>Workers onsite during Inspection</th>
<th>Notice of Project Number</th>
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<td>N</td>
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<td>15</td>
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**Inspection Report Delivered To:**
- **Domenic DeSimone**
- **Jim Bolden**
- **Lulu Bertrand**

**Labour Organization & Local**

**WorkSafeBC Officer Conducting Inspection:**
- Doug Younger

*Inspection Time*  
4.00 hrs

*Travel Time*  
1.00 hrs

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*The time recorded above reflects the cumulative inspection time and travel time associated with the inspection activity cycle. Additional time may be added for subsequent activity.*

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**Right to a Review of Orders**

Any employer, worker, owner, supplier, union, or a member of a deceased worker’s family directly affected may, within 90 calendar days of the delivery date of this report, in writing, request the Review Division of WorkSafeBC to conduct a review of an order, or the non-issuance of an order, in this report by contacting the Review Division. Employers requiring assistance may contact the Employers’ Advisers at 1-800-925-2233.

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WorkSafeBC values your feedback. To obtain that feedback, our external market research provider may be contacting you to complete a survey.
WCB Standard: WPL 2-2004 Design, Construction and Use of Crane Supported Work Platforms

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1. Scope
This Standard applies to the design, construction, use, and maintenance of work platforms suspended from or attached to cranes or hoists. These work platforms are intended to support personnel and limited materials. Generally, these cranes or hoists were not specifically designed for lifting persons.

This Standard is an update of former WCB Standard A326 Design, Construction and Use of Suspended Platforms.

2. Definitions
"brittle materials" means those materials that do not meet the requirement for ductile materials;

"crane supported work platform" means a personnel platform which is raised, lowered, and held in working position by the hoisting line of a crane or hoist, or is attached to a crane boom, (generally the occupants of platforms suspended from cranes or attached to crane booms do not have direct personal control over the movement of the platform);

"ductile materials" means materials having a minimum elongation of 14% in a gauge length of 50 mm;

"rigging" means fibre ropes, wire ropes, chains, slings, attachments, connecting fittings and associated components.

3. Exclusions
The following types of platforms are not governed by this Standard:

- platforms which are supported by hoists or cranes designed for the suspension of work platforms (such as swing stages, digester platforms, chimney hoists, vehicle-mounted aerial devices, digger derricks)
- cranes or hoists specifically rated by the manufacturer for lifting personnel
- fixed platforms suspended from structures by wire ropes or chains
- platforms intended solely for lifting materials
- platforms suspended under aircraft

4. Design of crane supported work platforms
Crane supported work platforms must be certified by a professional engineer or other qualified designer (i.e., an engineer registered in the jurisdiction in which the platform was designed). Drawings and specifications containing all information necessary to
construct and rig the platform according to the design requirements must be provided and kept available for the duration of the service life of the platform.

The following information must be available on the drawings:

(a) the geometry of the platform and the sizes and required properties of all components,

(b) the type, quality and strength of materials,

(c) the fabrication details, sizes and specifications, for all bolted and welded connections,

(d) the rigging components, such as length and size of slings and the size of fittings, shackles, and any proprietary items, to permit accurate field identification for a crane supported platform or the details for attaching a platform to the boom,

(e) the relevant data to be displayed on a data plate, as detailed in the appropriate section of the Occupational Health and Safety Regulation,

(f) the professional engineer’s dated seal and signature, and the names of the platform fabricator and the owner of the platform, and;

(g) a statement by the professional engineer, or other qualified designer, indicating that the crane supported work platform design and fabrication meets this Standard.

5. Design loads and stresses

5.1 Design loads

A specified design live load of not less than 1.1 kN (250 lb.) per occupant must be used. The design live load must be calculated from the number of occupants and additional load due to tools, equipment, and materials carried on the work platform. The design live load must be applied to produce the most critical stresses on the platform structure and the rigging or the attachment to the boom.

A crane supported work platform designed for transporting injured workers must be designed for a minimum 3.5 kN (800 lb.) capacity to accommodate two occupants plus one occupied stretcher.

The guardrail must be able to withstand a concentrated force of 1000 N (225 lbf) in any direction at any point without sustaining permanent deformation.

5.2 Load factors

The design dead load and live load must be multiplied by a stress concentration factor \( f_1 \) and a dynamic loading factor \( f_2 \). The values of \( f_1 \) and \( f_2 \) must not be less than 1.1 and 1.25, respectively.

5.3 Allowable stresses

The allowable stresses in structural components must not exceed 50% of the yield stress of ductile materials, or 20% of the ultimate stress of brittle materials.
6. Suspension system

6.1 Work platforms suspended by load lines
Work platforms may be suspended from the main line or auxiliary line of cranes or hoists that meet the requirements the *Occupational Health and Safety Regulation* and the *Workers Compensation Act*. The allowable load on rigging components must not exceed 10% of their breaking strength.

The suspension system must be designed to prevent the platform from tipping when personnel are occupying the platform move. Headroom must be provided to allow occupants to stand upright in the platform.

6.2 Platforms attached to crane booms
Work platforms may be attached to the boom tip of telescopic boom cranes that meet the requirements of the *Occupational Health and Safety Regulation* and the *Workers Compensation Act*. The components and method of connecting a platform to a crane boom must be designed and certified by the crane manufacturer or a professional engineer. Platforms must be designed to remain level while occupied.

7. Guardrails
The perimeter of work platforms must have standard guardrails complete with an intermediate rail and toeboard, or be fully enclosed. Screen mesh to cover the area between the toeboard and the intermediate rail is recommended if full enclosure is not provided. The top rail must be 102 cm to 112 cm (40 in to 44 in) above the platform level. If an access door is provided, it must open inward, or have an equally effective latching mechanism to prevent the door from inadvertently opening. Guards around the perimeter of a platform used to transport injured personnel must consist of standard guardrails with mesh or solid enclosure at least up to the level of the midrail.

8. Construction
Crane supported platforms must be constructed accurately, according to the drawings and specifications required by section 4 of this Standard. The welding must be carried out by firms registered under CSA W47.1 or W47.2, for steel and aluminum welding, respectively, or alternatively welding must be inspected and certified by a professional engineer. All rough edges exposed to contact by workers must be surfaced or smoothed to prevent injury from punctures or lacerations.

9. Data plate
A data plate displaying the following information must be permanently affixed to the platform:

(a) names of the engineer or other qualified person certifying the platform, and the fabricator of the platform,
(b) identification which correlates the platform to the relevant design drawings,
(c) date of manufacture,
(d) rated capacity,
(e) minimum rated capacity required for the crane or hoist,
(f) number of occupants for which the platform was designed,
(g) all-up weight (weight of platform and rigging plus rated capacity), and
(h) a statement that the platform conforms to this Standard.

10. Rigging
When a fibre, wire rope or chain bridle sling is used to connect a crane supported
platform to the hoisting line, each bridle leg must be connected to a master link or
shackle in a manner that ensures the load is distributed amongst the bridle legs. The
slings, shackles, rings, and master links must be designed with a safety factor of 10 on
the breaking strength of the component, based on the all-up weight. The working load
limit (WLL) of a bridle with more than 3 legs is limited to the WLL of any 3 legs of the
bride. All supporting hooks or shackles must be safety-wired, or must be a type that can
be closed and locked, to prevent dislodgment. All eyes in fibre or wire rope slings must
be fabricated with thimbles. The rigging slings and fittings must be permanent
attachments to the platform and must not be used for other load lifting purposes.

No spreader bar(s) may be interposed between the load hook and the work platform.

11. Lifeline anchors and fall protection

11.1 Personal fall protection equipment and anchorages
Workers on a platform suspended from a crane or attached to a crane boom must wear
personal fall protection equipment, including a full body harness and shock-absorbing
lanyard, secured to a designated anchorage point. Single or multiple anchorages must
have an ultimate breaking strength of at least 8 kN (1800 lb.) for each lanyard attached.
The strength requirement applies only to the local attachment and not the overall lifting
capacity of the crane or hoist.

11.2 Work platform suspended from a crane
Anchorages for workers on platforms suspended from cranes may be above the load
hook or on the platform.

11.2.1 Anchorage above load hook
A lifeline anchorage above the load hook may consist of an appropriate eye welded to
the load block of the crane providing the modification to the block is certified by a
professional engineer or approved by the load block manufacturer. A wire rope sling
may be connected to the eye on the load block, and lanyards may be snapped onto the
lower eye of the sling. Where a single part line is used, lanyards may be snapped onto
the hoisting line above the load hook, or onto a sling connected to the hoisting line
above the load hook. The anchorage strength requirement applies only to the local
attachment, not the overall lifting capacity of the crane or hoist.
11.2.2 Anchorage on platform
If a platform is suspended from a crane or hoist and anchorages are provided on the platform, an additional safety sling, designed to a safety factor of 10 based on the all-up weight of the occupied platform, must be interposed between the platform (i.e. the master link) and an anchorage above the load hook that will prevent the platform from falling more than 15 cm (6 in.) if the platform becomes dislodged from the hook.

11.3 Work platform attached to a crane boom
Anchorage(s) must be provided on the crane boom when the work platform is attached to the boom.

12. Crane requirements

12.1 Load rating of crane or hoist
The all-up weight of the suspended platform must not exceed 50% of the manufacturer's rated capacity of the crane or hoist at the radius at which the lift will be made.

12.2 Types of cranes and hoists
Platforms must be suspended from cranes having telescoping or fixed booms and from hoisting gear only capable of lowering under power. Free running boom and hoisting winches, controlled only by brakes, must not be employed. Any dog-clutches in the hoisting winch drives must be secured against inadvertent disengagement.

12.3 Two-block prevention
A crane or hoist used to suspend a work platform on the load line must have a device to prevent two-blocking if the equipment has a telescoping boom, or a device to warn the operator of impending two-blocking if the crane has a fixed length boom.

13. Crane operation

13.1 Operator qualifications
A qualified operator, who must remain at the controls while workers occupy the crane supported work platform, must operate the crane or hoist. Platform movements must be controlled by the Standard code of hand signals published in the Occupational Health and Safety Regulation or by effective radio or telephone communications. The platform must not be moved except upon receipt of a clearly understood signal from the designated signaler upon the platform.

13.2 Footing
Cranes must be set on a firm footing, uniformly level within 1%. Cranes must not travel while supporting a platform occupied by workers, except for rail-mounted cranes.

13.3 Trial lift
A trial lift with the unloaded platform, from the location where workers enter the platform to all locations to which workers will be hoisted, must be done prior to placing workers
on the platform. The trial lift is to determine that all work locations can be reached without contacting obstructions, that all controls function properly, and that the all-up weight indicated on the data plate remains within 50% of the crane or hoist rating throughout the range of intended operation.

14. Maintenance and inspection

A crane supported work platform and its rigging, must be inspected by a qualified person prior to each lift. A worker must not be hoisted in a work platform until all deficiencies have been corrected. If broken, bent, or heavily corroded structural members, or fractured welds or otherwise defective connections are found, the platform must be taken out of service for repair and must be re-certified by a professional engineer. A platform must be re-certified by a professional engineer if structural modifications are made, or components are welded to the structural members of the platform.
DESIGNATED EMERGENCY PLATFORM (D-E-P)

DEFINITION:
An engineered container, the design of which is reviewed, accepted and a registration number assigned by the WCB to be used specifically for the evacuation of an injured worker where conventional means are impractical.

Contents to be checked weekly by first aid attendant:
- Weatherproof covering
- Rigging for 4-point hook-up
- Full-body harnesses and lanyards for three workers
  (When in use each lanyard to be attached to crane block above load block)
- Basket stretcher CW with tie downs
- Three blankets

Note: The first aid attendant shall be in complete charge of the D-E-P evacuation operations.

PROCEDURE FOR USE:
Where advised through the authority of the first aid attendant that a D-E-P evacuation is required:
1. The crane is to be immediately freed of other work activity and proceed to the D-E-P storage location.
2. Rigger to remove container’s weather cover, attach 4-point rigging and signal crane operator to required area. If necessary, evacuation personnel may ride in the enclosed D-E-P to the required area providing full-body harnesses(s) and lanyard(s) are used.
3. Open door.
4. Load disabled worker.
5. Secure all occupants, stretcher tie-downs as required via on-board stretcher straps, full-body harnesses with lanyards attached to anchorage above load hook for non-stretcher occupants.
6. Close and lock door.
7. Under the direction of the rigger, the D-E-P is to be flown to an area easily accessed by ground emergency personnel.

NOTE:
Lifeline and fall protection anchorage above the load hook: Projects are required to have an equipment specific plan in place that meets the WSBC standard.

NOTES:
1. Where channel is in contact with angle, use 5/16" fillet weld X length of contact, both sides, all locations.
2. Where channels contact each other use 5/16" fillet weld along entire contact area including inside face and back.
3. Where angles contact each other use 3/16" fillet weld along entire contact area (both sides).
4. Docking to be two layers of 40x 80x 11/12" (40x 80x 11/12") D-FIR plywood, face grain in long direction and bolted to angles @ 18" C/C maximum with 3/8" bolts. Provide 1/4" of continuous wood blocking between underside of plywood and top of channel. Alternate decking flattened mesh.
5. Side panels to be 11-1/2" D-FIR plywood bolted to angles @ 18" C/C maximum.
6. Safe working load is 1200 LBS uniformly distributed. The maximum number of people allowed including the injured worker on this platform is three.
7. Use the designated 4-leg wire rope sling for lifting as follows. 5/8" X 10-7" wire rope grade 110/120 (WVHC 1RS) with thimble and Flemish eye both ends.
A. Lot Master Link #101431 Crosby A424 X 1/8.
3/4" (4-3/4 ton) Crosby G-2130 Bolt Type Shackles.
8. Steel shall be CSA G40.20/G40.13 GB Grade 350.
9. Use E4400X weld electrodes.
10. D-E-P shall be covered with tar when not in use.
11. Paint exterior white on all four sides.
12. Approximate weight of empty D-E-P = 1000 LBS.
14. Void and discard all previous revisions.

CERTIFYING ENGINEER: WARREN TUTTON P.ENG
FABRICATOR: PCL CONSTRUCTORS
DESIGN DRAWINGS: 8944-DEP-100
8944-DEP-110

DATE OF MANUFACTURE:
RATED CAPACITY: 1,000 lbs
MINIMUM CRANE/ HOIST RATED CAPACITY: 4,000 lbs
MAXIMUM NUMBER OF OCCUPANTS: 3
ALL-UP WEIGHT: 2,000 lbs
DESIGN IN ACCORDANCE WITH WCB STANDARD:
WPL-2-2004 DESIGN, CONSTRUCTION AND USE OF CRANE SUPPORTED WORK PLATFORMS.

DATA PLATE
8944-DEP-110 C
NOTICE OF COMPLIANCE REPORT
Instructions for Completion
Worker and Employer Services Division

April 05, 2015

PCL CONSTRUCTORS WESTCOAST INC,
UNIT 310 13911 WIRELESS WAY
RICHMOND BC V6V 3B9

Reference: Inspection Report #201515058051A

Dear Domenic DeSimone,

One or more orders cited in the above referenced Inspection Report includes a requirement for you to provide a Notice of Compliance Report (NOC) to WorkSafeBC, explaining the actions you have either taken, or plan to take to comply with the order(s).

Please note that a copy of this NOC has also been provided to your head office, along with a copy of the related Inspection Report. Coordinate completion and submission of this NOC with your head office.

Instructions:

1. Complete in full the attached Notice of Compliance Report. If you prefer to submit documents in addition to or in place of this NOC, note the associated inspection Report number on those documents.

2. Submit by email, fax, or mail one copy of the NOC and any other related documents to the prevention officer identified below by the due date specified on the Notice of Compliance Report or as otherwise specified in the Inspection Report.

3. If compliance has not been achieved by the due date of the NOC, the employer or other person must also prepare a follow-up compliance report when compliance is achieved, and submit the report to WorkSafeBC.

4. A copy of all completed NOC reports must be posted in a conspicuous place at or near the workplace where the inspection was conducted for at least seven days, or until compliance has been achieved, whichever is the longer period.

5. Provide a copy of all completed NOC reports to the joint committee or worker health and safety representative, as applicable. If the report relates to a workplace where workers of the employer are represented by a union, send a copy of the report to the union.

Submit NOC to:
Attention: Doug Younger (Occupational Safety Officer)
Phone: (604) 214-4827
Fax: (604) 232-1558
Email: Doug.Younger@worksafebc.com
Mailing Address: Worker and Employer Services Division
WorkSafeBC
North Van-Prov Crane Initiative
400 - 224 Esplanade W
North Vancouver BC
V7M 1A4

Should you have any questions, please contact the officer identified above.
The Workers Compensation Act requires that the employer must post a copy of this report in a conspicuous place at or near the workplace inspected for at least seven days, or until compliance has been achieved, whichever is the longer period. A copy of this report must also be given to the joint committee or worker health and safety representative, as applicable. If the report relates to a workplace where workers of the employer are represented by a union, send a copy to the union.

PCL CONSTRUCTORS WESTCOAST INC.

UNIT 310 1391 WIRELESS WAY
RICHMOND BC V6V 3B9

Reference: Inspection Report #201516058051A

Refer to the ‘Orders - Full Details’ section of the Inspection Report when completing this form.

<table>
<thead>
<tr>
<th>Order #</th>
<th>Cited</th>
<th>Description of actions taken to comply, or the intended actions to comply, and the estimated date of compliance</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>OH813.2(2)(b)</td>
<td></td>
</tr>
</tbody>
</table>

Please submit the completed NOC report along with any supporting documentation, or in turn the documents that replace it no later than Tuesday, May 5, 2015 or as otherwise specified in the Inspection Report.

Submit NOC to:
Attention: Doug Younger (Occupational Safety Officer)
Phone: (604) 214-4827
Fax: (604) 232-1558
Email: Doug.Younger@worksafebc.com
Mailing Address: Worker and Employer Services Division
               WorkSafeBC
               North Van-Prov Crane Initiative
               400 – 224 Esplanade W
               North Vancouver BC
               V7M 1A4

NOC for IR 201516058051A Printed: Apr 6, 2015 0:49
The **Worker and Employer Services Division**

The **Workers Compensation Act** requires that the employer must post a copy of this report in a conspicuous place at or near the workplace inspected for at least seven days, or until compliance has been achieved, whichever is the longer period. A copy of this report must also be given to the joint committee or worker health and safety representative, as applicable.

**Inspection Report #201513729145A**

<table>
<thead>
<tr>
<th>Employer Name</th>
<th>Jobsite Inspected</th>
<th>Scope of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL CONSTRUCTORS WESTCOAST INC.</td>
<td>Johnson Street Bridge Replacement Victoria BC</td>
<td>Mobile Crane</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Date of Initial Inspection</th>
<th>Date of This Inspection</th>
<th>Delivery Date of This Report</th>
<th>Delivery Method</th>
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<tbody>
<tr>
<td>Sep 17, 2015</td>
<td>Sep 17, 2015</td>
<td>Sep 17, 2015</td>
<td>Email</td>
</tr>
</tbody>
</table>

**THERE ARE ZERO (0) ORDERS OUTSTANDING**

**ACTION MAY STILL BE NECESSARY TO ENSURE COMPLIANCE**

**PLEASE READ FULL REPORT**
INSPECTION NOTES

This site visit was conducted after this officer had received information that a crane misadventure may have occurred on September 14, 2015 during the removal of a portion of the existing bridge.

The employer stated the event was not a misadventure. They had lost one of several tag lines on the load due to breakage resulting in no loss of control of the load and at no time did the load, crane etc. come into contact with any other structure.

This employer as well as the crane employer have initiated their own investigation and agreed to provide this officer with the complete final version upon completion.

No misadventure was identified.

Information and resources regarding occupational health and safety can be found at the WorkSafeBC website (worksafebc.com). If additional education or consultation is needed please feel free to contact this Officer.

Norm Schlosser
Occupational Safety Officer
Regional Services, Vancouver Island
norm.schlosser@worksafebc.com
(250)334-8775
REFERENCES

In addition to any orders and the information provided in the Inspection Notes in this Inspection Report, the officer may discuss other health and safety issues with the employer arising out of the inspection. The information below sets out the health and safety requirements discussed with the employer, and unless otherwise noted, violations of these requirements were not observed.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Details Discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>OHS14.16.1</td>
<td>Discussed</td>
</tr>
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</table>

In this section, "misadventure" means:
(a) a contact with a high voltage electrical source,
(b) a shock load,
(c) a loss of a load,
(d) a brake failure,
(e) a collision or upset, or
(f) any other circumstance that may impair the safe operation of the crane or hoist.
### INSPECTION REPORT

**Worker and Employer Services Division**  
**201513729145A**

<table>
<thead>
<tr>
<th>Employer #</th>
<th>Mailing Address</th>
<th>Classification Unit #</th>
<th>Operating Location</th>
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<tbody>
<tr>
<td>650164</td>
<td>UNIT 310 13911 WIRELESS WAY RICHMOND BC V6Y 3R9</td>
<td>722001</td>
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<table>
<thead>
<tr>
<th>Lab Samples Taken</th>
<th>Direct Readings</th>
<th>Results Presented</th>
<th>Sampling Inspection(s)</th>
<th>Workers on site during inspection</th>
<th>Notice of Project Number</th>
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<tbody>
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<td>N</td>
<td></td>
<td>33</td>
<td></td>
</tr>
</tbody>
</table>

**Inspection Report Delivered To:**  
Jim Belden

**Employer Representative Present During Inspection:**  
Ed Kittle

**Work Rep Present During Inspection:**  
Jim Supervisor

**Labour Organization & Local:**  

**WorkSafeBC Officer Conducting Inspection:**  
Norman Schlosser

*Inspection Time*  
1.00 hrs  

*Travel Time*  
3.00 hrs

*The time recorded above reflects the inspection time and travel time associated with this inspection report and includes time spent on pre and post-inspection activities. Additional time may be added for subsequent activity.

---

**Right to a Review of Orders**

Any employer, worker, owner, supplier, union, or a member of a deceased worker's family directly affected may, within 45 calendar days of the delivery date of this report, in writing, request the Review Division of WorkSafeBC to conduct a review of an order, or the non-issuance of an order, in this report by contacting the Review Division. Employers requiring assistance may contact the Employers’ Advisers at 1-800-925-2233.

WorkSafeBC values your feedback. To obtain that feedback, an external market research provider may be contacting you to complete a survey.

---

*IR 201513729145A Printed. Sep 17, 2015 17:47*
### Status: Open

#### RISK MATRIX CLASSIFICATION

- **Frequency of Task**
  - 3 - Common
- **Severity - Consequences**
  - 4 - Major
- **Risk Category**
  - A - High (8-16)
- **Classify the Type of Incident**
  - Near Miss

#### COLLECT THE GENERAL FACTS

- **Project Name**: Johnson Street Bridge Replacement Project
- **Client**: Corporation of the City of Victoria
- **Brief Summary of Incident**: A tag line connected to a load broke causing the load to shift.
- **Company Reporting Incident**: PCL Constructors Westcoast Inc.
- **Reported To**: Ed Kettle
- **Date of Incident**: 14/09/2015
- **Date Incident was Reported**: 14/09/2015
- **Weather**: Sunny
- **Temperature**: 15°C
- **Lighting**: Daylight
- **Witnesses**:

- **Project No.**: 2261300
- **Incident Location**: East Side
- **Reported By**: Justin Sleg
- **Time of Incident**: 4:00 PM
- **Time Incident was Reported**: 4:00 PM
- **Wind**: 5 km/h E

#### COLLECT INCIDENT FACTS

- **Company Involved with Near Miss**: PCL Constructors Westcoast Inc.
- **Superintendent Involved with Near Miss**: Cameron (External)
- **Foreman Involved with Near Miss (PCL only)**: Darin Ellis (External)
- **Worker Involved with Near Miss**: Devin Owen (External)

- **What the outcome would have been if it was not a Near Miss**: Equipment/Property

- **Hours of Employment on the Day of the Near Miss**: FROM: 7:00 AM
- **Number of Days in Shift Rotation**: S2
- **Day in Rotation Near Miss Occurred**: 1

- **Hours of Employment on the Day of the Near Miss**: TO: 7:00 PM
Incident

PSI Completed*: Y
Trade Contractors:
Division of Work*: Concrete
Work Activity Category* Work Activities* Scheduled Work Activities*
Rigging Tagline Regularly Scheduled
Hand/Small Power Tools
Large Equipment/Power Tools

DESCRIPTION

Describe the Incident*:

During removal of the existing East rail span with the Arctic Tuk barge crane, long tag lines were secured to each end of the structure so that the load could be controlled during the entire lift from the laydown area on the barge. The crane picked up the structure and boomed up. Once the crane radius was at the pre-determined radius so as not to conflict with surrounding structures, the crane began swinging counter-clockwise away from the existing bridge and road.

While the crane was swinging towards the laydown area, the leading edge of the rail span was getting increasing difficult to keep square to the crane. To combat the force in the tag line, the workers handling the tag lines were instructed by their foreman to loop the tagline through padeyes on the front of the crane. After the workers had done this, the tag line on the leading (East) end of the structure, slipped through the padeye and was cut on a sharp corner. The structure began rotating clockwise and spun approximately 90 degrees so that it was parallel to the crane boom. There was approximately 10 meters between the structure and both the adjacent building and crane boom. Workers in a boat retrieved the end of the tag line and tied an extension back on. The structure was rotated back to square to the crane and the lift was completed.

DEVELOP THE SEQUENCE OF EVENTS:

Use the information collected and determine the events prior to, during, and after the incident.

During removal of the existing East rail span with the Arctic Tuk barge crane, long tag lines were secured to each end of the structure so that the load could be controlled during the entire lift from the laydown area on the barge. The crane picked up the structure and boomed up. Once the crane radius was at the pre-determined radius so as not to conflict with surrounding structures, the crane began swinging counter-clockwise away from the existing bridge and road.

While the crane was swinging towards the laydown area, the leading edge of the rail span was getting increasing difficult to keep square to the crane. To combat the force in the tag line, the workers handling the tag lines were instructed by their foreman to loop the tagline through padeyes on the front of the crane. After the workers had done this, the tag line on the leading (East) end of the structure, slipped through the padeye and was cut on a sharp corner. The structure began rotating clockwise and spun approximately 90 degrees so that it was parallel to the crane boom. There was approximately 10 meters between the structure and both the adjacent building and crane boom. Workers in a boat retrieved the end of the tag line and tied an extension back on. The structure was rotated back to square to the crane and the lift was completed.

DETERMINE THE CAUSE(S)

- Substandard Acts

  1  
  Substandard Act: Failure to Identify Hazard/Risk
  Corrective Actions:
  
  1  Assigned To: Justin Sleg
  
  Corrective Action:
  Review sharp/leading edge hazards and common preventative measures with workers.
  Target Date: 15/09/2015  Completed Date: 15/09/2015
Substandard Conditions

Substandard Condition: Inadequate Instructions/Procedures

Corrective Actions:

1

Assigned To: Justin Sieg

Corrective Action:
Instruct workers to use shackle if sharp edges exist on padeyes.

Target Date: 15/09/2015
Completed Date: 15/09/2015

Supervisor To Notify: Ed Kittle <ekittle@pcl.com>

Notes:

Hazard Category: 13 - Cranes / Hoists / Lifts

Hazard Standard: 17 - Other

Corrective Actions:

1

Assigned To: Justin Sieg

Corrective Action:
Review sharp/leading edge hazards as they relate to rigging and taglines and common practices and procedures for eliminating the hazards.

Target Date: 15/09/2015
Completed Date: 15/09/2015

Supervisor To Notify: Ed Kittle <ekittle@pcl.com>

Notes:

Root Cause(s)

Root Cause Category: Hazard Identification and Control

Root Cause Subcategory: Not Communicated

Corrective Actions:

1

Assigned To: Cliff Bottoms (External)

Corrective Action:
Revisit the AMIX S.W.P. for tagline use, plan / organize and safe control of work.

Target Date: 21/09/2015
Completed Date: 21/09/2015

Supervisor To Notify: Justin Sieg <JWSieg@pcl.com>

Notes:
Incident investigation completed by AMIX with the SWP revised.
Corrective Actions:

ATTACHMENTS:

1. DSCN2098.jpg
2. DSCN2101.jpg
3. 201509251407.pdf
4. DSCN2102.jpg
5. DSCN2103.jpg
6. 201509261406.pdf
7. 201509251410.pdf

DOCUMENTS TO CONSIDER:

Photos
JHAs/PSIs
Witness Statement

NOTES:

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<tr>
<th>Note</th>
<th>Created At</th>
<th>Created By</th>
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</table>

SIGNATURES:

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<th>Role</th>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
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<tbody>
<tr>
<td>Lead Investigator / Lead Investigator</td>
<td>Justin Sieg</td>
<td></td>
<td>24/09/2015</td>
</tr>
<tr>
<td>Investigator / Investigator</td>
<td>Jim Beiden</td>
<td></td>
<td>24/09/2015</td>
</tr>
<tr>
<td>Investigator / Investigator</td>
<td>Derek Compton</td>
<td></td>
<td>24/09/2015</td>
</tr>
<tr>
<td>Investigator / Investigator</td>
<td>Kerry Cameron (External)</td>
<td></td>
<td>24/09/2015</td>
</tr>
<tr>
<td>PCL Project Superintendent</td>
<td>Ed Kittie</td>
<td></td>
<td>25/09/2015</td>
</tr>
<tr>
<td>PCL Project Manager</td>
<td>Mark Donahue</td>
<td></td>
<td>25/09/2015</td>
</tr>
<tr>
<td>District/General Manager</td>
<td>SEAN BROCK</td>
<td></td>
<td>25/09/2015</td>
</tr>
<tr>
<td>Incident</td>
<td>Name</td>
<td>Role</td>
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<tr>
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<tr>
<td>Foreman Involved with Near Miss</td>
<td>Darin Ellis</td>
<td>External</td>
<td>25/09/2015</td>
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<tr>
<td>Superintendent Involved with Near Miss</td>
<td>Kerry Cameron</td>
<td>External</td>
<td>25/09/2015</td>
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<tr>
<td>Worker Involved with Near Miss</td>
<td>Devin Owen</td>
<td>External</td>
<td>25/09/2015</td>
</tr>
</tbody>
</table>
Incident Investigation/Report

Address/location where incident occurred: Victoria – JSB/PCL – Arctic Tuk

City (Victoria) | Province: BC | Postal Code
---|---|---

Date of incident: September 14, 2015 | Time incident occurred: 16:00.

Supervisor/Master: Kerry Cameron

Incident Type

- [x] Near Miss
- [ ] Equipment Damaged
- [ ] Fire
- [ ] Collision (Between ships)
- [ ] Striking
- [ ] Grounding
- [ ] Damage to Structure(s)
- [ ] Weather Damage
- [ ] Contractor Incident
- [ ] Cargo Damage or Loss
- [ ] Structural Failure
- [ ] Spill (Environment)
- [ ] Other

Injured Person [x] Not Applicable | First Aid Form Attached [x]

Last name

First name

Job title & Experience

Contractor Contact Info

Treatment Given by:

- [ ] First Aid (Worker returned to work)
- [ ] Medical (Offsite medical attention)
- [ ] Lost Time (Worker off work)
- [ ] Restricted work (Worker assigned light duty)

Worker transported to medical by:

Location of Facility:

Type of Injury:

Body part injured:

Witnesses

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
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<tbody>
<tr>
<td>Cameron</td>
<td>Kerry</td>
</tr>
<tr>
<td>Ellis</td>
<td>Darren</td>
</tr>
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</table>

Witness statements written and attached (if applicable)

Incident Description

Describe what happened, including the sequence of events preceding the incident. (Who, What, When, Where, Why)

While the Arctic Tuk crane was swinging a 150 T rail span from shore to the barge deck, a tag line affixed to the unit broke while swinging the span in close quarters of a new construction building on shore. One end of the tag line was affixed to the rail span -- the line was then passed through a fixed eye hook on the heel of the crane boom with the other end being held by a worker on the barge deck. As the rail span was being swung, the friction movement of the rope at the eye hook caused the tag line to split and break. The rail span then rotated opposite of the desired hold back and towards the building. The building structure was missed by the moving rail span by 10 – 12 meters. The load was immediately stopped. A new gauge tag-line was installed and the crane movement was continued until the span was safely placed on the deck. There was no contact between the rail span and the building or crane boom.
Incident Investigation/Report

Evidence:
Sketch of incident scene, Description of physical evidence collected, Photo/Video (Note: *to be turned into Amix Marine)

Analysis/Causation
From the sequence of events, identify what events may have been significant in this incident occurring. An analysis of these events will assist in determining the underlying (root) or causal factors in the occurrence.

What was the Direct Cause if the incident? *(What caused injury or damage or near miss?)*

- Inappropriate run-through of tag-line.
- Sharp edge on eye hook on crane heel

What were the Indirect (root) Cause(s)? *(What caused the incident?)*

i.e. Worker(s): Material/Equipment: Management: Environment

1) Inadequate planning and organisation of the work:
   - An adequate and effective Job Safety Analysis (JSA), was not conducted beforehand; the risks, precautions, lift plan, rigging arrangements were not discussed,

2) Failure to follow procedures:
   - Better planning and control over the operation.
## Incident Investigation/Report

### Recommended Immediate Corrective Actions

<table>
<thead>
<tr>
<th>Recommended corrective actions</th>
<th>Action assigned to</th>
<th>Completion date or expected completion date</th>
</tr>
</thead>
</table>
| 1) The company’s instructions for lifting equipment and lifting operations to be revised to include a new section ‘Use of Taglines’ describing the consideration of safe positioning, dynamic forces of loads, line friction, securing taglines and a warning to never wrap a tagline around any body part for controlling the load.  
   - The practice of using tag lines needs to take into account of dynamic and friction forces when controlling movement of the load; (i.e. the use of shackles on eye hooks) | Kerry Cameron, Supervisor Cliff Bottoms, H & S Manager JOHS Committee | Sept 30, 2015 |
| 2) Plan and Organise Work:                                                                                              | Kerry Cameron, Supervisor Arctic Tuk Crew | Sept 14, 2014 |
   - Rigging and lifting arrangements shall be discussed and agreed prior to commencing a lift,  
   - All parties shall participate in the JSA process, including those with a ‘passive’ role,  
   - Roles and responsibilities for any work shall be clearly defined and agreed, including a clear definition of how communication will be conducted (e.g. directly to the lift supervisor),  
   - Clear and unambiguous “stop the job” signals or commands will be agreed,  
   - No activity shall start until all involved confirm they believe it is safe to do so  
   - Hazard zones around worksites shall be clearly identified and no unauthorized people shall be able to enter during activities. |                                      |                                      |
| 3) Evaluate key risk areas by assessing the quality and effectiveness of standards, procedures and practices for:  
   - Safe Control of Work (work instructions, JSA/Risk assessment, etc.)  
   - Lifting and rigging  
   - Competence Assurance  
   - and any other safety critical activities and risks.                                                                   | Kerry Cameron, Supervisor Arctic Tuk Crew | Sept 14, 2014 |

### Persons Conducting Investigation

<table>
<thead>
<tr>
<th>Representative of</th>
<th>Name (please print)</th>
<th>Signature</th>
<th>Date signed (mm/dd/yyyy)</th>
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<tbody>
<tr>
<td>AMIX Manager</td>
<td>Kerry Cameron</td>
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<td>2/21/2015</td>
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<tr>
<td>AMIX H &amp; S Manager</td>
<td>Cliff Bottoms</td>
<td></td>
<td>2/21/2015</td>
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<tr>
<td>Worker (Arctic Tuk)</td>
<td>Darren Ellis</td>
<td></td>
<td>2/21/2015</td>
</tr>
</tbody>
</table>

Copies to:
- Joint Health & Safety Committee, Supervisor, Management Review

January 2014  
Version 1.0  
Page 3 of 3
Safe Work Practice

3.31 Rigging Guidelines and Safe Practices

<table>
<thead>
<tr>
<th>Hazards Present</th>
<th>Personal Protective Equipment or Devices Required</th>
<th>Additional Training Requirements</th>
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<tbody>
<tr>
<td>• Gear and equipment not properly inspected.</td>
<td>• Hand hat</td>
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<tr>
<td>• Defective gear and equipment.</td>
<td>• Safety glasses</td>
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</tr>
<tr>
<td>• Moving parts and equipment.</td>
<td>• Hi vis clothing</td>
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</tr>
<tr>
<td>• Loads not safely rigged before being hoisted.</td>
<td>• Radio (if required)</td>
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</tr>
<tr>
<td>• Improper use of tag line allowing hoisting material to swing out of control.</td>
<td>• Steel toed boots</td>
<td></td>
</tr>
<tr>
<td>• Loads swung or suspended overhead.</td>
<td>• Gloves</td>
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</tr>
<tr>
<td>• Hazardous locations between a swinging load and fixed object</td>
<td>• Hearing protection</td>
<td></td>
</tr>
<tr>
<td>• Use of hoisting and handling equipment near energized lines.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cluttered work area.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Safe Work Procedure:

Rigging looks like an easy operation that requires no particular skill or experience. However, many workers have lost fingers, hands or suffered more serious injuries because they thought “anybody can do that”. This portion of our Health & Safety Manual deals with safe work practices involved in rigging operations shall only be performed by qualified workers.

Responsibilities

The Area/Project Supervisor is responsible for ensuring:

- Applicable employees are competent in rigging practices and are familiar with the information contained in this EH&S Practice;
- Proper rigging and hoisting equipment is available, maintained and replaced as required.

Employees are responsible for:

- Inspecting equipment prior to use;
- Tagging defective equipment and reporting defective equipment to their immediate supervisor; and
- Utilizing equipment as outlined in the applicable regulations, industry recognized practices and this practice.
- Rigging must be done only by those qualified to do so and must be familiar with the equipment used and the authorized code of signals.
- Waiting for a load to be safely landed before unhooking begins

Storage

- Rigging equipment must be handled and stored properly to ensure the equipment is maintained in good condition and to maximize its service life.
- Lifting tackle must be stamped with the manufacturer’s identification number and its safe working load.
**Inspection**

- Wire rope, slings and lifting attachments must be inspected prior to each use and at regular intervals as specified by the manufacturer.
- Wire rope, slings, and attachments used in connection with acids or other chemicals, which will increase deterioration, must be inspected on a regular basis for any damage.
- Wire rope and slings must be maintained and lubricated as required by the manufacturer.
- Any sling with a knot should not be used.
- Inspect wire rope and slings for:
  - abrasions;
  - crushed strands;
  - corrosion;
  - kinks;
  - electrical contact;
  - rope diameter reduction;
  - bird caging;
  - Protruding core.
- An inspection of a sling assembly must ensure that the WLL of any individual component of the assembly is not exceeded.
- When U-bolt type clips are used for fastening wire rope, the U-bolt is installed so that the U-bolt section bears on the short or "dead" side of the rope, the saddle bears on the long or "live" side of the rope, and the number of clips, their spacing, and torque values are as follows:

<table>
<thead>
<tr>
<th>Diameter of Rope (mm)</th>
<th>Number of Clips</th>
<th>Center to Center Space between clips (mm)</th>
<th>Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.00</td>
<td>2</td>
<td>38.00</td>
<td>21.00</td>
</tr>
<tr>
<td>8.00</td>
<td>2</td>
<td>51.00</td>
<td>40.00</td>
</tr>
<tr>
<td>10.00</td>
<td>2</td>
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<tr>
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<tr>
<td>12.00</td>
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<td>76.00</td>
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<tr>
<td>16.00</td>
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<tr>
<td>19.00</td>
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<td>114.00</td>
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</tr>
<tr>
<td>22.00</td>
<td>4</td>
<td>133.00</td>
<td>305.00</td>
</tr>
<tr>
<td>25.00</td>
<td>4</td>
<td>152.00</td>
<td>305.00</td>
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<tr>
<td>29.00</td>
<td>5</td>
<td>178.00</td>
<td>305.00</td>
</tr>
<tr>
<td>32.00</td>
<td>5</td>
<td>203.00</td>
<td>488.00</td>
</tr>
<tr>
<td>38.00</td>
<td>6</td>
<td>229.00</td>
<td>488.00</td>
</tr>
<tr>
<td>44.00</td>
<td>7</td>
<td>267.00</td>
<td>628.00</td>
</tr>
<tr>
<td>50.00</td>
<td>8</td>
<td>305.00</td>
<td>881.00</td>
</tr>
</tbody>
</table>

- Double saddle type clips or fist clips must be used in similar numbers and spacing as required by the above chart.
Where double base clips are used for fastening wire rope, they must be spaced at least 6 rope diameters in length.

- Rigging blocks must be constructed or installed so that the ropes cannot jump off the sheaves.
- At least 5 full wraps of rope must remain on the winding drum at all times.
- When a Flemish eye splice is used in conjunction with a manufactured pressed steel ferrule to form an eye loop in a wire rope:
  - the end of the splice must be visible beneath the ferrule; or
  - the ferrule must cover the "Flemish eye" splice.
- Commercially manufactured aluminum alloy ferrules, which have been pressed to form a cold flowed mass around the strands of the wire rope to form an eye loop on a wire rope, must be used where such ferrules are so identified.

**Wire Rope Slings**

- A wire rope sling with a swaged or pored socket or a pressed fitting must be permanently identified with:
  1. Its working load limit WLL
  2. The angle upon which the WLL is based; and
  3. The name of the manufacturer

**Steel Alloy Chains**

A steel alloy chain must be permanently identified with:

1. The size
2. The manufacturer's grade and the WLL
3. The length and number of legs, and
4. The name or mark of the sling manufacturer.

**Fiber Strap Slings**

- Fiber strap slings must not be used for lifting or lowering if the strap is badly chafed externally, worn internally or where the fibers have noticeably deteriorated.
- Fiber strap slings should not be used in connection with acid or other deteriorating chemicals.
- When not in use, fiber strap slings must be hung up where they can dry naturally in a free circulation of cool air and out of direct sunlight.

**Synthetic Web Slings**

- Synthetic web slings must be permanently identified with the:
  a) Manufacture's name or mark
  b) Manufacture's code or stock number
  c) Working load limits, and
  d) Type of synthetic web material
Hooks

- Hooks must be immediately removed from service if the hook:
  - has been opened more than 15% of the normal throat opening measured at the narrowest point;
  - has been twisted more than 10 degrees from the original plane;
  - is cracked.
- All hooks must have a safety latch or hook "mousing" to prevent dislodgment of the hook except for the following:
  - when hoisting of skeleton steel or a similar operation is in progress and a sorting hook is used; where it would require a worker to place himself in danger in order to disconnect the hook.
- No hook shall be use if there could be a potential dislodgement of the load from a hook that would endanger any employee on-site

Rejection of Slings

- In most instances the above conditions will result in reduced lifting capacity.
- Where a wire rope or sling has a kink, knot, electric arc contact, bird caging or protruding core, the sling should be discarded.
- Sharp edges must be padded to prevent damage to slings or straps.
- The diameter of wire rope sheaves, spools, or drums must not be less than the diameter specified by the manufacturer. The rope must be of the correct size for the sheave, spool or drum.
- End fittings and connectors used on wire rope shall conform to the manufacturer's specifications as to number, size, and method of installation.
- A sling with damaged end fittings must not be used.

Safe Rigging Practices

1. Workers will ensure that the maximum load rating of rigging components as recommended by the manufacturer are not exceeded.
2. Check all rigging, hooks and components for excessive wear and damage prior to use.
3. Rigging lines, slings, and other components shall be protected against cutting, chaffing, and abrasion.
4. One member of the crew will act as the designated signalperson and will wear the appropriate distinctive vest, armllets, etc.
5. The signalperson will review the signals to be used with the crane operator.
6. The signalperson is the only one to signal for a lift and must be careful not to order a move until he has received the "all ready" signal from each member of the crew.
7. Be sure you are in the clear before you give an "all ready" to the signalperson.
8. Be sure your hand is clear of pinch points.
9. Watch for the roll or swing of the load. Anticipate the direction of the swing or roll and work away from it.
10. Never be between material, equipment or any stationary object and the load swing.
11. Stay away from stacked material that may be knocked over by a swinging load.
12. Never stand under the load, and keep from under the boom as much as possible.
13. Look over the location where the load is to be set. Remove unnecessary blocks or other objects that might fly up if struck by the load.

14. When lowering or setting the load, ensure feet and all other parts of your body are out from under the load.

15. Set the load down easily and slowly so that if it rolls on the blocking, it will be a slow shift that you can get away from.

16. Damaged rigging must be clearly tagged “Out of Service”, removed from the work area and either repaired or replaced.

Taglines
At all times, loads on hooks must be controlled to prevent swinging, turning or other unintentional movement. For this purpose, taglines are to be used on all loads. For lifts where the load could make contact with the boom of the crane or other objects in the work area, taglines must be long enough to control the load from the ground until the load is controlled from a different location. The same will apply when windy conditions exist. Under the above conditions, two or more taglines should be used to control the load. In all cases, good judgment must be used, using less than two taglines.

- Taglines should be made from nonconductive materials where possible. If working in the vicinity of overhead power lines, a tagline insulator should be considered. All ropes when wet can conduct enough electricity to kill the person holding it.

- The practice of using taglines needs to take into account of dynamic and friction forces when controlling movement of the load; (i.e. the use of shackles on eye hooks)

- The tagline must be substantial enough to provide the tagline person proper grip without the use of loops or knots. Ropes with less than a ½inch-diameter should not be used. The tagline’s diameter will vary depending on the weight of the object and the length of the tagline.

- It may be necessary to use equipment or other substantial anchor points with the taglines where objects having large sail areas are subjected to light winds. Check anchor points for sharp edges and where applicable use shackles for run-through ropes.

- Gloves will be worn at all times when controlling a load with a tagline. The tagline should never be wrapped around any body part.

Guidance Documents / Standards / Applicable Legislation / Other:
- WorkSafeBC Regs part 15 Rigging

This Safe Work Procedure will be reviewed annually by the Safety Manager. Revisions or modifications will be presented to the Joint Safety Committee.
## Incident Investigation Report

**BC Region**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Lead Investigator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Johnson Street Bridge Replacement Project</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Matrix Classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Task:</td>
</tr>
<tr>
<td>Severity – Consequences:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Incident:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near Miss</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company Reporting Incident:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amity Heavy Lift</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PSI Completed:</th>
<th>Witness:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

If Yes, who was the next level of management consulted? (Canada only):

<table>
<thead>
<tr>
<th>If no, why?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Post-Incident Alcohol &amp; Drug testing done?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company Involved with Incident:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amity Heavy Lift</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Superintendent Involved with Incident:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerry Cameron</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Worker’s Name Involved with Incident:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Foremen Involved with Incident (PCL only):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### Description of the Incident:

"While swinging a new rail span from shore to barge deck, a tag line was caught in a lug on crain to assist with holdback of the rail span. The sharp edges of the tag line cut through the tag line and one of the two tensioners was lost, resulting in the span to rotate towards the construction site."

### Develop the Sequence of Events (describe the sequence of events that led to the incident):

1. **Heavy span being swung from shore to barge in narrow space.**
2. **Tag line was secured to a lug with sharp internal edges.**
3. Rotation of span caused excess line pull on tag line, which was noticed by rigger contact. The rigger then noticed the sharp edges on the tag line.
4. **Tag line continued swinging around to barge deck continued to stress the tag line until sharp edges cut thru.**

### Details:

<table>
<thead>
<tr>
<th>Date/Time Occurred</th>
<th>Date/Time reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/14/2015 @ 9:00 AM</td>
<td>9/14/2015 @ 11:00 AM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weather:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daylight</td>
</tr>
</tbody>
</table>

**Start date on this project:** Sept 14, 2015

**Hours of Employment on the Day of the incident:**

FROM 06:30 AM/PM TO 20:00 AM/PM

**Number of Days in Shift Rotation (circle one):**

1/3 0/3 1/0 1/1 0/1 1/0 1/1

**Day in Rotation Incident Occurred (circle one):**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

<table>
<thead>
<tr>
<th>Division of Work Activity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitework</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Work Activity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy lifting of crane on barge</td>
</tr>
</tbody>
</table>

Updated: September 3, 2013
## Incident Investigation Report

### Determine the cause(s)

Immediate or primary factors that contribute to an incident and lead to the determination of root causes.

Choose at least one: 1) Substandard Act OR 2) Substandard Condition OR 3) Hazard Standard-hazard code.

<table>
<thead>
<tr>
<th>1) Substandard Acts</th>
<th>2) Substandard Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Equipment Without Authority</td>
<td>Inadequate Guards Or Barriers</td>
</tr>
<tr>
<td>Failure To Warn</td>
<td>Defective Tools, Equipment Or Materials</td>
</tr>
<tr>
<td>Travelling Too Fast Or Rushing To Complete A Task</td>
<td>Congestion Or Restricted Action</td>
</tr>
<tr>
<td>Making Safety Devices Inoperative</td>
<td>Inadequate Warning System</td>
</tr>
<tr>
<td>Using Defective Equipment</td>
<td>Fire And Explosion Hazards</td>
</tr>
<tr>
<td>Compliance With Personal Protective Equipment Requirements</td>
<td>Poor Housekeeping / Disorder</td>
</tr>
<tr>
<td>Improper Loading</td>
<td>Noise Exposure</td>
</tr>
<tr>
<td>Improper Lifting And Hoisting</td>
<td>Radiation Exposure</td>
</tr>
<tr>
<td>Improper Position For The Task</td>
<td>Temperature Extremes</td>
</tr>
<tr>
<td>Servicing Equipment In Operation</td>
<td>Inadequate Or Excessive Lighting</td>
</tr>
<tr>
<td>Under Influence Of Alcohol And/or Other Drugs</td>
<td>Inadequate Ventilation</td>
</tr>
<tr>
<td>Using Equipment Improperly</td>
<td>Presence Of Harmful Materials</td>
</tr>
<tr>
<td>Failure To Follow Procedures / Policy / Practice</td>
<td>Inadequate Instructions / Procedures</td>
</tr>
<tr>
<td>Failure To Identify Hazard / Risk</td>
<td>Inadequate Preparation/Planning</td>
</tr>
<tr>
<td>Failure To Check / Monitor</td>
<td>Inadequate Communications Hardware / Software Process</td>
</tr>
<tr>
<td>Failure To React / Correct</td>
<td>Road Conditions</td>
</tr>
<tr>
<td>Failure To Communicate / Coordinate</td>
<td>Weather Conditions</td>
</tr>
</tbody>
</table>

### 3) Inspection Hazard Categories and Standards Deficiencies


(Hazard Code from the inspection hazard list)

---

### Root Cause(s)

Select the most basic cause that when corrected will prevent recurrence.

1. Orientation and Training
   - Not Required
   - Not Established
   - Not Understood
   - Not Available
   - Not Inadequate
   - Not Current
   - Not In Compliance

2. Communication Systems
   - Not Established
   - Not Available
   - Not Understood
   - Not Current
   - Not Compliant

3. Hazard Identification and Control
   - Not Established
   - Not Available
   - Not Communicated
   - Not Inadequate
   - Not Current
   - Not In Compliance

4. Inspection and Audits
   - Not Established
   - Not Available
   - Not Understood
   - Not Current
   - Not In Compliance

---

4. Security/Emergency Response
   - Not Established
   - Not Available
   - Not Communicated
   - Not Inadequate
   - Not Current
   - Not In Compliance

5. Standard Operating Procedures Practices and Legislation
   - Not Established
   - Not Available
   - Not Communicated
   - Not Inadequate
   - Not Current
   - Not In Compliance

6. Environmental Management
   - Not Established
   - Not Available
   - Not Understood
   - Not Current
   - Not In Compliance

7. Trade Contractor Management
   - Not Required
   - Not Available
   - Not Understood
   - Not Current
   - Not In Compliance

8. Procurement
   - Not Required
   - Not Available
   - Not Understood
   - Not Current
   - Not In Compliance

9. Engineering
   - Not Required
   - Not Available
   - Not Understood
   - Not Current
   - Not In Compliance

10. Pre-qualification/Selection
    - Not Required
    - Not Available
    - Not Understood
    - Not Current
    - Not In Compliance

11. Site Specific Safety Plan
    - Not Established
    - Not Available
    - Not Understood
    - Not Current
    - Not In Compliance

12. HR/PD.
    - Not Established
    - Not Available
    - Not Understood
    - Not Current
    - Not In Compliance

13. Leadership and Administration
    - Inadequate Accountability
    - Lack of Discipline
    - Lack of Enforcement
    - Inadequate
    - Lack of Resources
    - Inadequate Planning

Corrective action:

- To ensure that sharp edges that could damage them.
- Preventative maintenance.
- Discuss with crew the root cause of this near miss and how to prevent future situations.

Assigned to: Kerry Cameran
Target Date: Date Completed:

Assigned to: Target Date: Date Completed:

Assigned to: Target Date: Date Completed:

---

City of Victoria | ANNUAL REPORT 2015/16 | JOHNSON STREET BRIDGE REPLACEMENT PROJECT 155
PCL HSE MANUAL
Incident Investigation
Standard HSE-13-03

Witness Statement

Date and time statement was written*: 08/08/2015 13:15 (AM/PM)

Name of person giving statement*: Kerry Cameron

Name of person taking statement*: 

This statement is regarding (who / what)*: Tag Line Failure

Details (be specific and descriptive)*: The person who was controlling the east tag line looped the tag line through a lashing lug on crane to assist with unloading the rail span from spinning and making contact with the new (under construction) apartment tower next to the Johnson Street bridge. As tension increased, the tag line on the lug was cut by sharp edge. Once the tag line broke, the span rotated back and missed the new building by 10-12 meters and missed the tower by 8-10 meters. As the span rotated, the crane operator reached the counter swinging to ensure the span could not contact the new building.

I declare that the statement above, which I have given to * has been read by (to) me.

I understand the contents of this statement and I declare that it truly and correctly records the information given by me.

Witness: Kerry Cameron
Address: 3255 Zouave Street
Phone*: 604 789-1234

Person Taking the Statement: 

Address: 
Phone: 

City 
Zip Code/Postal Code
Work (###) ###-####

*Required Entry into the SMC
When completing a statement (or reviewing one), the following must be included:

- The date and time that the statement was written,
- Name and title of person who wrote the statement,
- Who / what the statement is about,
- The sequence of events, in chronological order,
- Very specific and descriptive detail, including:
  - Times within the details
  - Names and titles of people
  - Specifics of what was said, rather than general comments
  - A sequence of events that are accurate and include all information. The more descriptive the statement the better.
- Do not include any personal or subjective comments on a statement.
Witness Statement

Date and time statement was written*: 8/5/2015 9:00 AM

Name of person giving statement*: Devon Owen

Name of person taking statement*: 

This statement is regarding (who / what)*: Tag line failure.

Details (be specific and descriptive)*: Myself was controlling east side tag line, when I looped left side crane leg it increased weight causing the rope to slip threw the legs sharp edges causing the rope to snap on swing into construction site, building next to the Johnson Street bridge, leaving 0-15 meters of clearance to the building once the rope snapped we had boat crew tie knew line on, after crane operator swing west avoiding building.

(Use additional pages if more space is required)

I declare that the statement above, which I have given to * has been read by (to) me.

I understand the contents of this statement and I declare that it truly and correctly records the information given by me.

Witness Address: 7649 Robson St. Abbotsford, BC
Witness Phone*: 778-345-5339

*Required Entry into the SMC
When completing a statement (or reviewing one), the following must be included:

- The date and time that the statement was written,
- Name and title of person who wrote the statement
- Who / what the statement is about,
- The sequence of events, in chronological order,
- Very specific and descriptive detail, including:
  - *Times within the details*
  - *Names and titles of people*
  - *Specifics of what was said, rather than general comments*
  - *A sequence of events that are accurate and include all information. The more descriptive the statement the better.*
- Do not include any personal or subjective comments on a statement.
Witness Statement

Date and time statement was written*: 18/09/2015 09:15 (AM/PM)

Name of person giving statement*: Diyaas Dardanes

Name of person taking statement*: PCL HSE Dept

This statement is regarding (who / what)*: Broken Tag Line on Rail Trestle, Victoria, BC

Details (be specific and descriptive)*: While lifting eastern rail trestle from Johnson Street Bridge, Victoria, BC. A tag line broke. I was on the right hand tag line which was tied to rail trestle about 20' from the end. There was another tag line tied onto the left side about 20' from the end as well. As we were swinging left towards the trestle (projector) the tag line got very tight and we (I and the other tag line) were told to tie them off to the crane. My line started to get too tight and as I was waiting untilying it I saw the other tag line snap. As the crane operator stopped swinging and lowered the boom down to avoid hitting the crane boom. We tied my tag line off to stop the swing of the trestle. It avoided the boom by about 10' - 20' feet. Just as quickly as it happened we had a crew tie the 2 pieces of tag line together from a boat in the water, both tie lines were frayed now.

I declare that the statement above, which I have given to __________________________ has been read by (to) me.

I understand the contents of this statement and I declare that it truly and correctly records the information given by me.

Witness Address: 8594 Casselman Court, Mission, BC
Witness Phone*: Home: 0527

Person Taking the Statement- Signature
City
Zip Code/Postal Code
Work (###) ###-####

*Required Entry into the SMC

December, 2012
Rev. 04
When completing a statement (or reviewing one), the following must be included:

- The date and time that the statement was written,
- Name and title of person who wrote the statement
- Who / what the statement is about,
- The sequence of events, in chronological order,
- Very specific and descriptive detail, including:
  - *Times within the details*
  - *Names and titles of people*
  - *Specics of what was said, rather than general comments*
  - *A sequence of events that are accurate and include all information. The more descriptive the statement the better.*
- Do not include any personal or subjective comments on a statement.
### Inspection Report #201513729153A

<table>
<thead>
<tr>
<th>Employer Name</th>
<th>Jobsite Inspected</th>
<th>Scope of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL CONSTRUCTORS WESTCOAST INC.</td>
<td>Replacement 203 Harbour Road, Victoria BC</td>
<td>Johnson Street Bridge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of Initiating Inspection</th>
<th>Date of This Inspection</th>
<th>Delivery Date of This Report</th>
<th>Delivery Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 30, 2015</td>
<td>Sep 30, 2015</td>
<td>Sep 30, 2015</td>
<td>Email</td>
</tr>
</tbody>
</table>

**THERE ARE ZERO (0) ORDERS OUTSTANDING**

**ACTION MAY STILL BE NECESSARY TO ENSURE COMPLIANCE. PLEASE READ FULL REPORT**
INFORMATION REPORT
Worker and Employer Services Division
201513729153A

INFORMATION NOTES
This inspection report is provided to the employer to acknowledge the receipt of their investigation report regarding a near miss incident on site on September 14, 2015.

The employers investigation report appears to meet the regulatory requirements for an investigation and indicates corrective actions to prevent re-occurrence were implemented.

No further action is warranted on this matter.

Information and resources regarding occupational health and safety can be found at the WorkSafeBC website (worksafebc.com). If additional education or consultation is needed please feel free to contact this Officer.

Norm Schlosser
Occupational Safety Officer
Regional Services, Vancouver Island
norm.schlosser@worksafebc.com
(250)334-8775
**REFERENCES**

In addition to any orders and the information provided in the Inspection Notes in this Inspection Report, the officer may discuss other health and safety issues with the employer arising out of the inspection. The information below sets out the health and safety requirements discussed with the employer, and unless otherwise noted, violations of these requirements were not observed.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Details Discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCA173(1)(c)</td>
<td>An employer must conduct a preliminary investigation under section 175 and a full investigation under section 176 respecting any accident or other incident that did not involve injury to a worker, or involved only minor injury not requiring medical treatment, but had a potential for causing serious injury to a worker.</td>
</tr>
<tr>
<td></td>
<td>Referenced.</td>
</tr>
</tbody>
</table>
### INSPECTION REPORT
**Worker and Employer Services Division**

201513729153A

<table>
<thead>
<tr>
<th>Employer #</th>
<th>Mailing Address</th>
<th>Classification Unit #</th>
<th>Operating Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>650164</td>
<td>UNIT 311 13911 WIRELESS WAY RICHMOND BC V8V 3B0</td>
<td>722001</td>
<td>001</td>
</tr>
</tbody>
</table>

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<tr>
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<td></td>
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<tr>
<th>Inspection Report Delivered To</th>
<th>Employer Representative Present During Inspection</th>
<th>Worker Representative Present During Inspection</th>
<th>Labour Organization &amp; Local</th>
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</thead>
<tbody>
<tr>
<td>Jim Beldon</td>
<td>Ed Kittle</td>
<td>Jim Beldon</td>
<td></td>
</tr>
</tbody>
</table>

**WorkSafeBC Officer Conducting Inspection**

Norman Schlosser

<table>
<thead>
<tr>
<th><em>Inspection Time</em></th>
<th><em>Travel Time</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 hrs</td>
<td>0.00 hrs</td>
</tr>
</tbody>
</table>

*The time recorded above reflects the inspection time and travel time associated with the inspection report and includes time spent on pre and post-inspection activities. Additional time may be added for subsequent activity.

**Right to a Review of Orders**

Any employer, worker, owner, supplier, union, or a member of a deceased worker's family directly affected may, within 45 calendar days of the delivery date of this report, in writing, request the Review Division of WorkSafeBC to conduct a review of an order, or the non-issuance of an order, in this report by contacting the Review Division. Employers requiring assistance may contact the Employers' Advisers at 1-800-925-2233.

WorkSafeBC values your feedback. To obtain that feedback, an external market research provider may be contacting you to complete a survey.
## Inspection Report

**#201617190051A**

<table>
<thead>
<tr>
<th>Employer Name</th>
<th>Jobsite Inspected</th>
<th>Scope of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL CONSTRUCTORS WESTCOAST INC. (COMMERCIAL DIVISION)</td>
<td>Replacement 203 Harbour Road Victoria BC</td>
<td>Johnson Street Bridge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of Initiating Inspection</th>
<th>Date of This Inspection</th>
<th>Delivery Date of This Report</th>
<th>Delivery Method</th>
</tr>
</thead>
</table>

**THERE ARE ZERO (0) ORDERS OR OTHER ITEMS OUTSTANDING**

**ACTION MAY STILL BE NECESSARY TO ENSURE COMPLIANCE PLEASE READ FULL REPORT**

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**IR 201617190051A** Printed: Feb 18, 2016 9:21
INSPECTION REPORT
Worker and Employer Services Division
201617190051A

INSPECTION NOTES

This inspection report is the result of a site visit to conduct a workplace inspection. Site activities include the construction of the new Johnson Street Bridge.

Discussed the following items:

LADDERS

This inspection was conducted as part of WorkSafeBC’s 2016 Construction High Risk Strategy which focuses on use of portable ladders. The goal of this strategy is to reduce injuries and death resulting from falling off ladders by raising awareness of ladder use at workplaces. Over a three year period from 2012 to 2014 there were 1,005 injuries that resulted from falling off ladders in the construction industry alone. That is almost one fall every day.

As a part of the obligations under the Workers Compensation Act section 115, employers have a duty to ensure the health and safety of all workers, by establishing policies and programs that will ensure compliance with the regulations at the workplace. This includes verifying that supervisors and workers onsite are provided with the appropriate means to safely access elevated work areas: ladders, ladder platforms, scaffolding/work platforms, or elevating work platforms, etc. To assist you in determining if a ladder is an appropriate means of accessing elevated areas of your workplace, WorkSafeBC has provided a risk assessment guide for you and your workers to use. Ladder safety and ladder use was discussed in person by this officer with representative(s) of your firm.

Discussed the following specific to ladder safety:

- Inspect each ladder before use
- Ladders with loose, broken, or missing rungs, split or bent side rails, or other defects must be identified and removed from service
- Use only CSA or ANSI Standard approved heavy duty ladders or job-built wooden ladders built to WorkSafeBC Standard LDR 1-2004
- Ladder tops must rest against a firm structure
- Ladders must extend about one meter (three feet) above a safe landing or parapet wall
- Ladders must be set up with a four vertical to one horizontal slope.
- Ladders must be tied, blocked, or otherwise secured to prevent them from slipping
- The base of a ladder’s side rails must rest on a firm, level foundation
- Watch for overhead power lines before erecting a ladder
- Metal, including wire-reinforced wooden ladders, must not be used near energized electrical conductors.
- Conduct a ladder assessment and determine its the right ladder for the job

More information and resource material is available online at our websites www.worksafebc.com under “safety at work” topics >> Ladder safety

Provided the employer with electronic copies of the ladder safety series.

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If you have any questions on the above items please do not hesitate to contact this officer for further clarification or other assistance. Additional information on health and safety issues can also be found on the WorkSafeBC website at www.worksafebc.com

Inspecting Officer:

IR 201617190051A Printed Feb 15, 2016 9:21
Christopher Logan
Occupational Safety Officer
WorkSafeBC - Victoria B.C.
4514 Chatterton Way - V8X 5H2
Desk 250.881.3417
Fax 250.881.3482
Toll-Free 1.800.663.7593
After Hours Emergency 1.866.922.4357
Christopher.Logan@WorkSafeBC.com
REFERENCES

In addition to any orders, or other items, and the information provided in the Inspection Notes section in this Inspection Report, the officer may discuss other health and safety issues with the employer arising out of the inspection. The information below sets out the health and safety requirements discussed with the employer, and unless otherwise noted, violations of these requirements were not observed.

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<td>WCA115(1)</td>
<td>As referenced in the inspection text.</td>
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Every employer must ensure the health and safety of:

(i) all workers working for that employer, and
(ii) any other workers present at a workplace at which that employer’s work is being carried out, and

(b) comply with this Part, the regulations and any applicable orders.
### INSPECTION REPORT

**Worker and Employer Services Division**

201617190051A

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**WorkSafeBC Officer Conducting Inspection**

Christopher Logan

**Right to Review**

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