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Vancouver Fraser  
Port Authority

# **PROJECT AND ENVIRONMENTAL REVIEW REPORT**

**PER NO. 19-092  
BARGE LOADING FACILITY**

Prepared for:  
Director, Environmental Programs

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 <b>PORT of vancouver</b> Vancouver Fraser Port Authority		<b>VANCOUVER FRASER PORT AUTHORITY  PROJECT AND ENVIRONMENTAL REVIEW  REPORT</b>
<b>PER No.:</b>	<b>19-092</b>	
<b>Tenant:</b>	<b>BD Hall Constructors Corp.</b>	
<b>Project:</b>	<b>Barge Loading Facility</b>	
<b>Project Location</b>	<b>2320 Rogers Avenue, Coquitlam, BC</b>	
<b>Vancouver Fraser Port Authority SID No.:</b>	<b>COQ333</b>	
<b>Land Use Designation:</b>	<b>Industrial</b>	
<b>Applicant(s):</b>	<b>Active Earth Engineering Ltd. on behalf of BD Hall Constructors Corp.</b>	
<b>Applicant Address:</b>	<b>160-2250 Boundary Road, Burnaby</b>	
<b>Category of Review:</b>	<b>C</b>	
<b>Recommendation:</b>	<b>That PER No. 19-092 for Barge Loading Facility be approved.</b>	

## 1 INTRODUCTION

The Vancouver Fraser Port Authority (the “Port Authority”), a federal Port Authority, manages lands under the purview of the *Canada Marine Act*, which imparts responsibilities for environmental protection. The Port Authority accordingly conducts project and environmental reviews of works and activities undertaken on these lands to ensure that the works and activities will not likely cause significant adverse environmental effects. This project and environmental review report documents the Port Authority’s project and environmental review of PER No. 19-092: Barge Loading Facility (the “Project”) proposed by Active Earth Engineering Ltd. working on behalf of BD Hall Constructors Corp. (the “Applicant”).

This project and environmental review was carried out to address the Port Authority’s responsibilities under the *Canada Marine Act*, and to meet the requirements of the *Impact Assessment Act*, as applicable. The proposed Project is not a “designated project” under the *Impact Assessment Act* and an impact assessment as described in the *Impact Assessment Act* is not required. However, Port Authority authorization is required for the proposed Project to proceed and in such circumstances, where applicable, Section 82 of the *Impact Assessment Act* requires federal authorities to assure themselves that projects will not likely cause significant adverse environmental effects. The project and environmental review process is designed to provide that assurance. In addition, the Port Authority considers other interests, impacts and mitigations through the project and environmental review.

The project and environmental review considered the application along with supporting studies, assessments and consultations carried out or commissioned by the Applicant, as well as other information provided by the Applicant. In addition, this project and environmental review considered other information available to the Port Authority and other consultations carried out by the Port Authority. A full list of information sources germane to the review is provided in Appendix B.

This project and environmental review report is NOT a project authorization. This project and environmental review report summarizes the review outcome and provides the basis for approval or denial. Should the project be approved, the report is accompanied by a project permit (the “Permit”) and the conclusions described in this report require compliance with the conditions in the Permit.

## 2 PROJECT DESCRIPTION

BD Hall Constructors Corp. proposes to construct a shore-access barge loading facility on the north shore of the Fraser River at 2320 Rogers Avenue, Coquitlam, BC. The purpose of the barge loading facility is to load barges with non-contaminated soil for disposal at sea with appropriate permits from Environment and Climate Change Canada. The facility would also be used to import clean gravel. The source and destination sites for the soil and gravel would be various construction properties throughout Metro Vancouver.

Site operations would include upland material storage, trucking of material to and from barges, barge moorage, and barge transportation. Barges would be up to 18 meters by 73 meters in size and an estimated one to two barges would be loaded per week for disposal at sea. The barge ramp facility is anticipated to operate Monday to Saturday between 7:00 a.m. and 8:00 p.m. Approximately 500 trucks per week or 83 trucks per working day, on average, would arrive at the site during operations. Vehicle parking and truck staging would not be conducted on federal lands.

The Applicant will also install habitat improvements along 25 meters of beach west of the barge ramp to improve riparian and aquatic habitat. The proposed beach enhancement is not mandatory offsetting required by the *Fisheries Act* and has been proposed by the Applicant as a best practice.

### 2.1 Proposed Works

The proposed works include:

- Installation of six 610 millimeter diameter steel piles for the barge ramp abutment to the deck
- Installation of eight 914 millimeter diameter steel piles for the barge ramp deck and ramp, two of which will be installed in the foreshore above the high watermark for the deck abutment
- Installation of eight 1219 millimeter diameter steel piles for barge mooring, clustered into three dolphins
- Grading a portion of the existing berm for truck traffic land access to the pile-supported deck, consisting of an approximate 0.5 meter deep cut into the berm and placement of approximately 0.5 meter thickness of structural fill on the north (upland) side of the berm
- Installation of a prefabricated pile-supported ramp headframe structure
- Installation of a 28 meter long prefabricated pile-supported barge ramp
- Installation of a 36.6 meter long prefabricated pile-supported deck
- Installation of ancillary components in and around the barge ramp structure, such as lights and mooring bollards
- Installation of 90 square meters of riparian enhancement with vegetation and 54 square meters of beach improvements, including removal of existing debris (concrete and asphalt scattered in the area), regrading, strategic placement of mixed sand, gravel, and cobble to match the less-disturbed area of beach upstream of the project location, placement of a rip rap slope, and tree and shrub plantings

### 2.2 Proposed Construction Methods

It is proposed that both land-based and marine equipment be used to construct the pile supported barge ramp. Twenty-two steel piles are proposed to be installed using a vibratory hammer on a scow. Following pile installation, a prefabricated ramp headframe, prefabricated barge deck, and a prefabricated barge ramp would be connected to the piles. Grading of the foreshore, placement of rip rap and riparian enhancement will be conducted by excavator.

Construction activities will be limited to Monday to Saturday between 7:00 a.m. and 8:00 p.m., excluding holidays. No in-water works will occur during the sensitive period for the Fraser River (March 1 to June 15). The Project is anticipated to take up to 15 weeks to complete.

### **3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS**

The following Port Authority departments have reviewed the application and have the following project considerations.

#### **3.1 Planning**

Planning has reviewed the application and has the following land use comments.

- The proposal meets the Planning's requirements, based on the primary considerations of the current land use designation and current land use policies.
- The proposed facility is consistent with the designation of "Industrial" in the Port Authority's 2020 Land Use Plan.

#### **3.2 Engineering**

Engineering has reviewed the application and requires the Applicant to conduct/apply/adhere/ensure the following:

- There are existing underground and overhead utilities in the vicinity of the proposed works. The Applicant shall locate all existing infrastructure before starting work, and exercise caution to avoid damaging same.

This is reflected in condition no. 5 in the Permit.

The proposal meets Engineering's requirements, subject to adherence to the listed project and environmental conditions in the Permit.

#### **3.3 Marine Operations**

Marine Operations has reviewed the application and requires the Applicant to conduct/apply/adhere/ensure the following:

- Contact Coast Guard to have a NavWarn issued.
- Submit a marine construction staging plan for Port Authority review.
- Share marine construction staging plan with Lafarge for comment.
- Establish a marine communications plan identifying how to communicate relevant user updates.
- Notify the Port Authority's Harbour Master and Environmental Programs prior to commencing physical activities on the water.
- Position vessels and barges, exhibit lights and shapes, monitor VHF, do not impede safety of navigation, in accordance with applicable rules and regulations.
- Provide coordinates of the barge ramp piles.
- Submit post-construction drawings to the Canadian Hydrographic Service (CHS).

These are reflected in conditions no. 20, 21, 22, 23, 25, 41, 42 and 45 in the Permit.

The proposal meets Marine Operations' requirements, subject to adherence to the listed project and environmental conditions in the Permit.

### **4 STAKEHOLDER CONSULTATION**

The proposed Project was assessed to have potential impacts to a short list of stakeholders, and consultation activities were determined to be required. The following sections describe the stakeholder consultation activities undertaken by the Applicant as part of the project and environmental review.

## 4.1 Municipal Consultation

The proposed Project was assessed by the Port Authority to have potential impacts to municipal interests. A referral letter was sent to the City of Coquitlam in November 2019 notifying them of the proposed Project. The City at that time confirmed that the proposal was in keeping with the municipal land use designation and did not provide any objection to the proposal.

Following modifications to the project design and pile/barge locations in 2020, the City of Coquitlam were again provided an opportunity to review the updated design, by email referral in November, 2020. The City again confirmed compliance with land use, and in addition set out six additional comments related to the Fire Code and engineering best practices.

Below is a table summarizing the comments received and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
The private road access to the barge should comply with Subsection 3.2.5 of the BC Building Code, including minimum road widths and minimum turn radii.	Condition 19 of the Permit requires the Applicant to work with the City of Coquitlam to confirm access road dimensions and radii on the upland property.	This is in keeping with engineering best practices.
Access routes should be designed to support the weight of an 85,200lb fire aerial vehicle, including the loads imposed by the levelling outriggers.	Condition 16 of the Permit requires the final design and the Issued for Construction plans to include notations indicating that the fire access routes are designed to support an 85,200lb vehicle, including outriggers.	This is in keeping with engineering best practices, and is in the interest of the facility, in case of firefighting need at the ramp or on the barge.
A Construction Fire Safety Plan should be developed in accordance with Section 5.6 of the BC Fire Code.	Condition 24 of the Permit requires that a Construction Fire Safety Plan be in place prior to the commencement of construction.	This is best practice, and occasionally requested by the jurisdiction providing fire coverage and emergency response services.
Cross access legal agreements may be required for the federal lands located south of 2320 and 2340 Rogers Ave.	This is not required for access to a site where the upland owner is the Applicant, as in this case.	This requirement is not applicable to this situation.
The project should be compliant with Section 2.15 Marinas and Boatyards in the BC Fire Code.	Condition 16 of the Permit requires that the final design be compliant with this section of the Fire Code.	This is in keeping with construction best practices for structures of this type.
Hydro Right of Ways and requirements should be observed, in consultation with BC Hydro.	None required.	See the response provided to BC Hydro noted in Section 4.3 below. This concern is addressed by the existing agreement that the Port Authority has with BC Hydro.

## 4.2 Federal, Provincial, Regional Agency Consultation

The proposed Project was assessed by the Port Authority to be of potential interest to other regulatory agencies. The following agencies were consulted in October 2019 about the proposed Project:

- Environment and Climate Change Canada

- Fisheries and Oceans Canada
- Transport Canada

Below is a table summarizing the comments received and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
The Project footprint is within western painted turtle critical habitat which is protected under the federal <i>Species At Risk Act</i> .	None required.	The Applicant's July 2020 Fish & Fish Habitat Impact Assessment Report indicates that the area is heavily disturbed with existing industrial development and activities. Based on the criteria listed in the western painted turtle recovery strategy, this site meets the definition of "unsuitable habitat" due to existing infrastructure, impassable barriers, and being bordered by a river with strong flows that are too fast for western painted turtles. Environment and Climate Change Canada reviewed the report and confirmed that a permit under the <i>Species at Risk Act</i> is not required as the biophysical attributes for western painted turtle critical habitat are not present within the Project footprint.
Fish and fish habitat	Condition 32 requires the Applicant to adhere to the October 19, 2020 Letter of Advice provided by Fisheries and Oceans Canada.	The mitigation and avoidance measures in the Letter of Advice reduce the Project's adverse effects on fish and fish habitat.
Proximity to marine navigation channels	None required.	Transport Canada confirmed that review and approval under the <i>Canadian Navigable Waters Act</i> is required.

### 4.3 Adjacent Tenant Consultation

The proposed Project was assessed to have potential impacts to adjacent Port Authority tenant operations. A referral letter was sent to the following Port Authority tenants in October 2019 notifying them of the proposed Project:

- Lafarge Canada Inc.
- Fortis BC
- BC Hydro

Following modifications to the Project design and pile/barge locations in 2020, these stakeholders were provided an opportunity to review the updated design in November 2020.

Below is a table summarizing the comments received, how they were responded to, and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Lafarge Canada Inc. - Impact of the location of the proposed ramp in relation to the Lafarge ramp, which is immediately downstream of the proposed facility.	None required.	The Applicant was provided the comments, and was in turn able to update their design by shortening the pier and re-orienting the piles to angle the berthing location slightly in the 2020 re-design.
Lafarge Canada Inc. - Impact of the location of the proposed ramp. Lafarge had some concern that access to their ramp may be compromised for some barge berthing operations.	None required.	The concerns of Lafarge Canada Inc. were considered and no further re-design or relocation of the improvements is warranted.
Fortis BC – No concerns.	None required.	
BC Hydro – Lighting Plan requested, and subsequently provided to BC Hydro for their review.	None required.	
BC Hydro – Requested that the Port Authority sign a BC Hydro Compatible Use letter.	None required.	The Port Authority (in response to comments from both referrals) declined to sign this compatible use letter, on the basis that the Port Authority has a licence in place with BC Hydro for their overhead transmission lines, which cross the Fraser River immediately upstream from this location. The terms of that agreement sufficiently protect the interests of BC Hydro. The Port Authority is not permitted to cause detrimental action against BC Hydro's works.

#### 4.4 Marine Users Consultation

The proposed Project was assessed to have potential impacts to marine users. A referral letter was sent to the following marine users on November 13, 2019 notifying them of the proposed Project:

- Council of Marine Carriers
- Lafarge
- Forrest Marine
- Harken Towing
- Pacific Custom Log Sorting
- Timber West Forest Company

The Port Authority did not receive feedback from marine users at the time. After receiving feedback shared by marine users through Transport Canada's Navigation Protection Program, the Project was redesigned. New notification letters were sent in November 2020 to Council of Marine Carriers and Lafarge. The Council of Marine Carriers had no further concerns after the redesign. Lafarge's concerns, received after the commenting period had closed, are as above in Section 4.3.

The Applicant and Lafarge have maintained communications throughout the review process. The Applicant has responded to Lafarge's concerns and intends to continue doing so.

## **5 PUBLIC ENGAGEMENT**

To meet requirements of section 86 of the *Impact Assessment Act*, the Port Authority posted a description of the Project and notice of public participation to the Canadian Impact Assessment Registry to provide the public 30 calendar days to comment on the Project and provide community knowledge.

The public was initially invited to submit written comments between October 7 and November 7, 2019. At the close of the 30 calendar day public comment period, no comments were received from the public.

In 2020, the Applicant redesigned the Project based on feedback from regulators, Indigenous communities, and marine users. As a result, the Project summary was updated and the public was once again invited to submit written comments. The second comment period ran from November 5 to December 4, 2020. At the close of the 30 calendar day public comment period, no comments were received from the public.

### **5.1 Summary of Public Engagement**

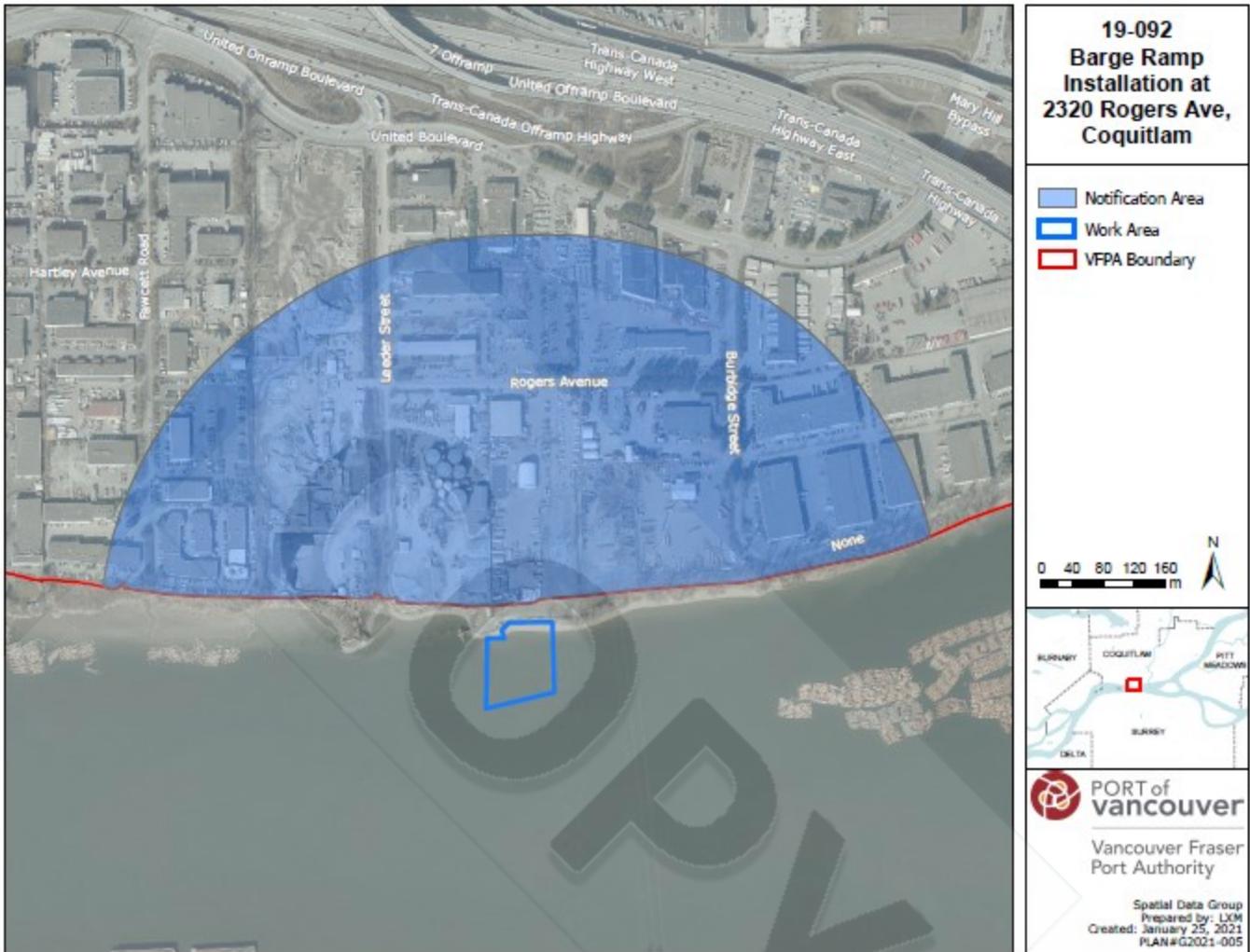
The proposed Project was assessed by the Port Authority to have minimal or no potential impacts to community interests in the surrounding area once the Project is completed. Therefore, no public engagement was required to be conducted by the Applicant.

### **5.2 Summary of Public Engagement – Application Review**

The proposed Project was assessed by the Port Authority to have potential impacts to community interests in the surrounding area during construction, such as noise due to vibratory pile driving.

As a result, the Applicant is required to send a construction notification to adjacent businesses in Coquitlam as shown in the map below. The notification area is within approximately 500 meters of the Project site. The construction notification shall be distributed by the Applicant at least 10 business days prior to the start of the works. The construction notification will be posted on the Port Authority and the Applicant websites. This is condition no. 18 in the Permit.

**Map of Notification Area**



**6 INDIGENOUS CONSULTATION**

The Port Authority reviewed the proposed works and determined that the Project may have the potential to adversely impact Aboriginal or Treaty rights.

The following Indigenous groups were consulted:

- Cowichan Tribes;
- Halalt First Nation;
- Katzie First Nation
- Kwantlen First Nation;
- Kwikwetlem First Nation;
- Lyackson First Nation;
- Musqueam Indian Band;
- Penelakut Tribes;
- Semiahmoo First Nation
- Squamish Nation;

- Tsawwassen First Nation;
- Tseil-Waututh Nation; and,
- Sto:lo Nations, via People of the River Referrals Office (PRRO).

The following consultation activities were conducted:

- In October 2019, the Port Authority sent a referral letter to the Indigenous groups listed above. The correspondence included the following enclosures:
  - Application Form
  - Archaeological Overview Assessment
  - Construction and Operation Plan
  - Disposal at Sea Alternatives Assessment
  - Construction Drawings
  - Construction Environmental Management Plan
  - Species at Risk & Habitat Assessment Report
  - Request for Review Application to Fisheries and Oceans Canada
- In December 2019, the Project was placed on hold, however several Indigenous groups provided comments on the proposed application. The Port Authority responded to Indigenous groups in January 2020.
- In November 2020, the Port Authority notified Indigenous groups the technical review of the application was recommencing. The letter provided a Project update, noted the Project scope had changed and highlighted updated documents for review. The letter also noted that the Port Authority would be coordinating consultation with Transport Canada for the Project. Enclosed with the letter was a frequently asked questions document (that identified original key comments and responses in consideration of the revised application).
- As part of the consultation process, the Port Authority engaged and consulted with interested Indigenous groups, including responding to comments, concerns and questions received.

Below is a table summarizing key comments received by the Port Authority from Indigenous groups and how they were considered as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Concerns regarding climate change resulting in high tide/flood events	None required.	The potential scour and deposition as a result of the presence of permanent in-water project elements (approach deck, ramp, guide tower, piles and dolphins) will likely be localized and not be significant, even taking into consideration potential flood events.
Concern regarding underwater noise and impact on fish	Condition no. 32 will require the Applicant to implement the mitigation measures listed in the October 19, 2020 DFO Letter of advice, and the amended measure related to side-scan sonar monitoring prior to pile driving activities.	19-092 N/A

	<p>Condition no. 34 will require the Applicant to engage a qualified environmental professional to monitor the Project in order to ensure that the works are carried out in compliance with this Permit. Monitoring events shall take place as required by the environmental monitor, the construction environmental management plan, or the Port Authority, provided that monitoring will be full time when works are under way that have the potential to adversely affect fish or fish habitat.</p>	
<p>Concern regarding transportation of invasive plant species</p>	<p>Condition no. 39 will require the Applicant to manage invasive plants in a manner that prevents their spread.</p> <p>Condition no. 47 will require the Applicant to monitor the riparian plantings for two years and provide an assessment of the productivity of the riparian plantings.</p>	<p>The installation of the riparian planting area will not directly introduce invasive plants and will not increase the likelihood of natural establishment of the invasive plants.</p>
<p>Concern regarding potential impacts to unidentified archaeological resources</p>	<p>Condition no. 40 will require the Applicant to carry out the Project in accordance with the Archaeological Chance Find Procedure developed for the Project.</p>	<p>The Applicant has prepared a Chance Find Procedure for the Project, and will be required to comply with the procedure.</p>
<p>Request clarification on how cumulative effects in the area has been considered</p>	<p>None required.</p>	<p>Through its project and environmental review (PER) process, the Port Authority reviews and considers potential effects from all proposed projects on federal lands and waters, including their impact on neighboring communities, as well as Indigenous groups.</p> <p>While the Port Authority does not have a legislative requirement to explicitly consider cumulative effects, the past and current effects of development on the environment provide the context for PER. The review cumulatively considers the conditions that exist today, and includes considerations of other activities or development in the local or regional area in proximity to</p>

		<p>the proposed Project that may contribute to current conditions.</p> <p>The Applicant has redesigned the original Project to address concerns with potential effects on fish and fish habitat resulting from scour and potential changes in hydrology.</p>
<p>Concern regarding increased barge lighting and negative effect to fish and migratory movements</p>	<p>Condition no. 27 will require the Applicant to provide a lighting plan that demonstrates the location and lumen intensity of all proposed permanent lighting. Lighting must comply with the Port Authority's lighting guidelines</p> <p>Additionally, Condition no. 32 will require the permit holder to implement the mitigation measures listed in the October 19, 2020 DFO Letter of advice.</p>	<p>Lighting from barges, the ramp head frame, piles, and other marine infrastructure are required to meet marine navigation requirements as established by Transport Canada. Lighting is not expected to have a significant adverse effect on fish or fish migratory patterns.</p>
<p>Request to be notified of spill or contamination</p>	<p>None required.</p>	<p>As outlined in the CEMP, section 6.3.5 and 6.4, spills will be classified and reported to Emergency Management British Columbia and Fisheries and Oceans Canada. Further, the Port Authority may share information pertaining to incidents with interested Indigenous groups.</p>
<p>Request for opportunity for local Indigenous groups to send archaeological and environmental monitors during project construction</p>	<p>None required.</p>	<p>The request has been shared with the Applicant.</p>
<p>It is noted that historical piles and various debris (concrete, tires, bricks, fabrics, rope) were regularly encountered at the Project site during the field assessment. Requests that the proponent remove the historical piles and debris prior to construction of the Project</p>	<p>None required.</p>	<p>The beach improvements will involve removal of existing debris (concrete, asphalt scattered in area), regrading, and strategic placement of mixed sand, gravel, and cobble to match the less-disturbed area of beach upstream of the Project location.</p> <p>Historical piles have not been deemed a navigational hazard or pollution at this time, and may be left in place. Should this change,</p>

	the Applicant (leaseholder) will be required to remove them.
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The Port Authority has made a meaningful effort to consult with all potentially affected Indigenous groups. Based on the record of consultation, the Port Authority is of the view that the duty to consult has been met.

## 7 ENVIRONMENTAL EFFECTS REVIEW

To fulfill its responsibilities under the *Canada Marine Act* and the *Impact Assessment Act*, the Port Authority must make a determination on the potential environmental effects of a proposed project on Port Authority managed lands and waters prior to authorizing those works to proceed. To make that determination, the Port Authority considers the residual adverse effects of the Project, that is, the effects after mitigation measures have been taken into account.

This section of the project and environmental review report summarizes the environmental effects review conducted for the Project and provides the environmental effects decision. The environmental review also considered the information provided in the previous sections of this report.

### 7.1 Scope of Environmental Review

The environmental review includes consideration of the potential environmental effects of the proposed Project, taking into account mitigation measures to avoid or reduce those effects. This review considered the Project components and physical activities described in Section 2.

The temporal scope of the review includes Project construction and operation.

The environmental review considered potential adverse environmental and social effects of the Project on 14 environmental components (e.g., species with special status, aquatic species and their habitat, recreational interests, etc.) and from accidents and malfunctions. These environmental components are aspects of the biophysical and socio-economic environment considered to have ecological, economic, social, cultural, archaeological, or historical importance.

Section 7.2 summarizes the results of the environmental effects review and proposed mitigations.

### 7.2 Environmental Effects and Mitigation Summary

Project information pertinent to the environmental review includes the following:

- A Request for Review package was submitted to Fisheries and Oceans Canada (DFO). In response, DFO recommended mitigations to be implemented to reduce potential impacts to fish and fish habitat, including: scheduling activities to occur within least-risk work windows for aquatic species, undertaking environmental monitoring by a qualified professional, and conducting acoustic monitoring and sound source verification during pile driving activities with potential to exceed hydroacoustic thresholds for the protection of fish and marine mammals.
- The Applicant has proposed beach and riparian enhancement as a best practice. These activities are not mandatory offsetting required by the *Fisheries Act*. The footprint proposed includes 90 square meters of riparian habitat with shrubs and trees and 54 square meters of beach expansion for a wetted gain of aquatic habitat. The habitat enhancement is anticipated to support early life-stages of nearshore fish communities.
- A fish and fish habitat assessment determined that fish mortality during construction was avoidable through the application of appropriate, well-established best management practices. In addition, the study assessed the approximate 400 square meter area of the Project footprint that falls within critical habitat for the western painted turtle. Based on the criteria listed in the western painted turtle recovery strategy,

the Project site was determined to meet the definition of “unsuitable habitat” and a permit under the *Species at Risk Act* was not required.

- A desktop-based qualitative assessment of the potential change in scour and sedimentation in the Fraser River at and near the Project site determined that any changes caused by the proposed permanent in-water Project elements (approach deck, ramp, guide tower, piles and dolphins) will likely be localized and not significant. In addition, post-construction surveying was recommended to monitor changes in bathymetry over time at the Project site.
- An Archaeological Overview Assessment of the revised design recommended that a Chance Find Procedure be in place during construction.
- The construction environmental management plan (CEMP) submitted as part of the application identified mitigation measures to be implemented during the Project, including: environmental monitoring by a qualified professional, erosion and sediment control measures, spill prevention, and emergency spill response procedures.

The following table summarizes the potential environmental effects the project could have on the identified environmental components.

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Air quality</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on air quality during construction activities from equipment operation. Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the construction environmental management plan (CEMP). This includes an idling reduction, turning off emission sources when not in use, and dust control as needed. Construction activities will be temporary and short-term in duration (i.e., intermittent over an approximate 15 week period).</p> <p>With mitigation in place, residual adverse effects on air quality are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Lighting</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>New lighting will be installed on the barge ramp as part of the Project to comply with the Collision Regulations. There is potential for adverse lighting effects on local communities during night-time construction and operation. Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the CEMP, including pointing lights downward and placing task lighting as close to the work area as possible.</p> <p>A lighting plan with detailed lighting and lumen intensity demonstrating compliance with the Port Authority’s lighting guidelines will be submitted prior to construction.</p> <p>With mitigation in place, residual adverse effects from Project-related lighting are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Noise</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse noise effects during construction activities.</p> <p>Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the CEMP. Construction work will be conducted during regular hours. Construction noise is anticipated to have minimal adverse effects due to the location of the Project site in an industrial area.</p> <p>With mitigation in place, residual adverse effects on noise are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Soils</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects to soil from spills during construction activities.</p> <p>Mitigation measures outlined in the CEMP will be implemented during construction to mitigate adverse effects to soils. Clean equipment will be used during construction. A spill prevention, containment and clean-up plan will be implemented prior to works.</p> <p>Project operations will be limited to upland storage and transfer of non-contaminated soil. Soil quality below surface layers are not expected to be affected by the Project. A spill prevention and reporting plan will be in place during operations to reduce accidents and malfunctions that could impact soil quality.</p> <p>With mitigation in place, residual adverse effects on soil quality are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Sediments</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects to sediment from spills, displacement, or deposition of re-suspended sediments during pile installation, grading activities, and rip rap placement.</p> <p>Mitigation measures outlined in the CEMP will be implemented during construction to mitigate adverse effects to sediments. Clean equipment will be used during construction. A spill prevention, containment and clean-up plan will be implemented prior to works. Erosion and sediment control measures will be implemented.</p> <p>During operations, a change in scour and sedimentation may result from the new in-water structures. Post-construction monitoring will be conducted to assess potential changes in bathymetry. Scour and sedimentation changes, should they occur, can be identified and corrective measures implemented.</p> <p>A spill prevention and reporting plan will be in place during operations to reduce accidents and malfunctions that could impact sediment quality.</p> <p>With mitigation in place, residual adverse effects on sediment quality are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Groundwater</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects to groundwater from spills during construction activities.</p> <p>Mitigation measures outlined in the CEMP will be implemented during construction to mitigate adverse effects to soils. Clean equipment will be used during construction. A spill prevention, containment and clean-up plan will be implemented prior to works.</p> <p>Operations will be limited to upland storage and transfer of non-contaminated soil. A spill prevention and reporting plan will be in place during operations to reduce accidents and malfunctions that could impact groundwater quality.</p> <p>With mitigation in place, residual adverse effects on groundwater quality are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Surface water and water bodies</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Pile installation, grading activities, and rip rap placement have the potential to induce turbidity and change water quality. Spills during construction could adversely affect water quality.</p> <p>Potential adverse effects will be reduced through the implementation of mitigation measures outlined in the CEMP and the October 19, 2020 Letter of Advice from DFO. Clean equipment will be used during construction. A spill prevention, containment and clean-up plan will be implemented prior to works. Erosion and sediment control measures will be implemented. Residual effects from turbidity will be largely confined to the Project footprint and immediate vicinity.</p> <p>During operations, measures included in the stormwater pollution prevention plan for the site will be implemented to prevent the release of turbid or sediment laden water, or hydrocarbon impacted water, to any surface water body. A spill prevention and reporting plan will be in place during operations to reduce accidents and malfunctions that could impact water quality.</p> <p>With mitigation in place, residual adverse effects on surface water and water bodies are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>Species/habitat with special status</b></p> <p>Assessed under section 79 of the <i>Species at Risk Act</i>, as applicable</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Approximately 400 square meters of the Project footprint falls within critical habitat for the western painted turtle Pacific Coast population, listed as Endangered in Schedule 1 of the <i>Species at Risk Act</i>. The Applicant’s July 2020 Fish &amp; Fish Habitat Impact Assessment Report indicates that the area is heavily disturbed with existing industrial development and activities. Based on the criteria listed in the western painted turtle recovery strategy, the Project site meets the definition of “unsuitable habitat” due to the poor biophysical features, such as existing infrastructure, impassable barriers, lack of vegetation, and unsuitable aquatic habitat that is high salinity and fast moving (i.e., the Fraser River). Environment and Climate Change Canada reviewed the report and confirmed that a permit under the <i>Species at Risk Act</i> is not required as the biophysical attributes for western painted turtle critical habitat are not present within the Project footprint.</p> <p>The in-water Project footprint includes habitat that may be used by green sturgeon, a species listed as Special Concern under the <i>Species at Risk Act</i>. The protection and recovery of this species is managed by DFO. The October 19, 2020 Letter of Advice from DFO indicated that based on the Project scope and the proposed mitigation measures, neither a <i>Fisheries Act</i> Authorization nor a <i>Species at Risk Act</i> permit are required for the Project. Mitigation measures to further reduce potential effects include underwater noise and turbidity monitoring, thresholds for stop-work, side-scan sonar monitoring for the presence of sturgeon, and working within the least risk timing window for fish and fish habitat.</p> <p>With mitigation in place, residual adverse effects on species/habitat with special status are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Terrestrial resources</b> (e.g., vegetation, wildlife, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The Project includes work within the upland riparian zone and intertidal foreshore. Upland vegetation includes early successional species such as Himalayan blackberry and tansy along a berm that runs parallel to the shoreline. The foreshore has no existing vegetation.</p> <p>Wildlife observed at the site were limited to several bird species. No nests were observed within the Project footprint.</p> <p>As a best practice, native riparian shrubs and trees will be planted in a 90 square meter area to enhance the site for terrestrial vegetation and wildlife.</p> <p>Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the CEMP. Vegetation removal will be minimized and avoided while birds and wildlife are breeding, nesting, roosting or rearing young. Erosion and sediment control measures will be implemented. Invasive plants and potentially affected materials, such as soil, encountered within the Project footprint will be appropriately contained, collected and disposed of.</p> <p>With mitigation in place, residual adverse effects on terrestrial resources are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Wetlands</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>There is no wetland habitat within the Project footprint. Wetlands are not anticipated to be affected by the Project.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Aquatic resources</b> (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on aquatic resources from underwater noise and changes in water quality (i.e., turbidity or pollutants) during construction.</p> <p>Potential adverse effects to aquatic resources will be mitigated by measures outlined in the CEMP and the October 19, 2020 Letter of Advice from DFO, including scheduling activities to occur within least-risk work windows for aquatic species, undertaking environmental monitoring by a qualified professional, conducting acoustic monitoring and sound source verification during pile driving activities with potential to exceed hydroacoustic thresholds for the protection of fish and marine mammals, adhering to criteria for work stoppages, and monitoring for signs of sedimentation.</p> <p>As a best practice, beach enhancement will be conducted over a 54 square meter area for a wetted gain of aquatic habitat. Beach enhancement activities include removal of existing debris (concrete and asphalt scattered in the area), regrading, and strategic placement of mixed sand, gravel, and cobble to match the less-disturbed area of beach upstream of the Project.</p> <p>With mitigation in place, residual adverse effects on aquatic resources are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Health and socio-economic conditions</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Based on the very low magnitude of residual effects on air and noise, the Project is not expected to cause adverse effects on health or socio-economic conditions of people, including Indigenous people.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Archaeological, physical, and cultural heritage resources</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Ground disturbing activities within the intertidal zone have the potential to affect archaeological resources. Marine construction activities have the potential to affect access for fishing.</p> <p>Mitigations described in a Chance Find Procedure for the Project will be implemented. The Applicant has committed to stopping in-water works when requested to ensure that fishing activities are not disrupted.</p> <p>With mitigation in place, residual adverse effects on archaeological, physical, and cultural heritage resources are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<b>Accidents and malfunctions</b>  Assessed as required by the <i>Canada Marine Act</i>	■	<input type="checkbox"/>	There is potential for adverse effects on surface water from accidental equipment leaks or spills.  Mitigation measures will be in place to reduce potential for adverse, project-related effects due to accidents by implementing the measures outlined in the CEMP during construction. A spill prevention and reporting plan will be in place during operations.  With mitigation measures in place, the effect of an accident or malfunction on the environment, if it were to occur, is predicted to be not significant.	<input type="checkbox"/>	■

Residual adverse effects (i.e., effects that remain with mitigation in place) were identified for the following environmental components:

- Air quality
- Lighting
- Noise
- Soils
- Sediment
- Groundwater
- Surface water and waterbodies
- Species or habitat with special status
- Terrestrial resources
- Aquatic resources
- Archaeological, physical, and cultural heritage resources
- Accidents and malfunctions

Overall, the residual adverse effects of the Project on the environmental components are characterized as:

- Low in magnitude and primarily due to the presence of construction activities in the intertidal zone, physical disturbance of the riverbed and water column during pile installation, and associated potential effects on aquatic resources and water quality during temporary construction activities.
- Local in geographic extent, because effects will be limited to the Project footprint and immediate vicinity.
- Short-term in duration because Project construction will be intermittent and temporary for approximately 15 weeks and is unlikely to result in ongoing effects on water quality or aquatic resources once construction is complete.
- Continuous (daily to weekly) in frequency during Project construction.
- Reversible/temporary because residual adverse effects of the Project would cease once construction is complete.

In conclusion, based on the characterization above, the mitigation measures proposed by the Applicant and the permit conditions, the residual adverse effects from the Project are predicted to be not significant.

### 7.3 Environmental Effects Review Decision

In completing the project and environmental effects review, the Port Authority has reviewed and taken into account relevant information available on the proposed Project and has considered any adverse impact that the Project may have on the rights of Indigenous peoples, Indigenous knowledge, community knowledge, comments received from the public, and measures that would mitigate any significant adverse environmental effects of the Project. We conclude that with the implementation of proposed mitigation measures and Permit conditions, the Project is not likely to cause significant adverse environmental effects.

ORIGINAL COPY SIGNED

**LISA MCCUAIG**  
MANAGER, ENVIRONMENTAL PROGRAMS

April 14, 2021

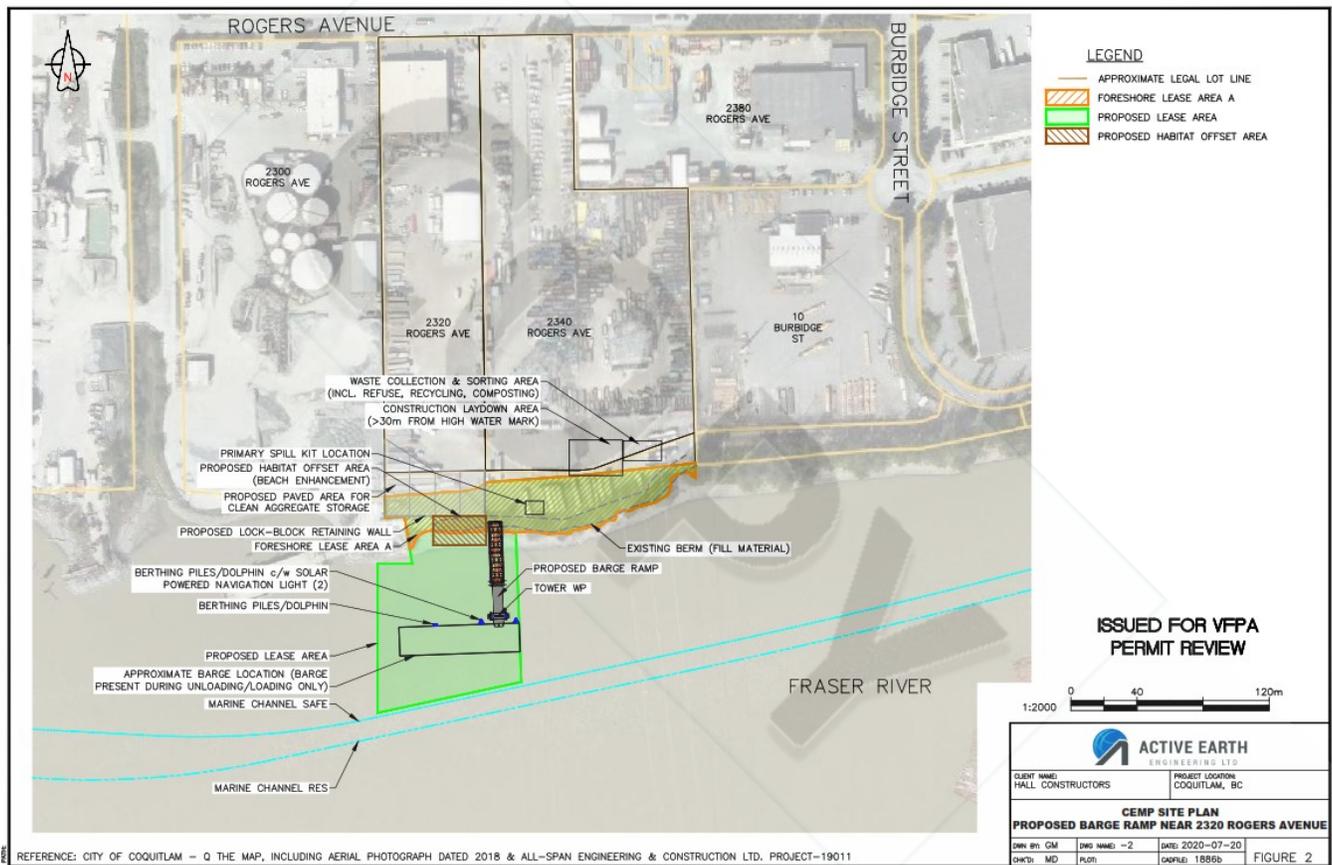
**DATE OF DECISION**

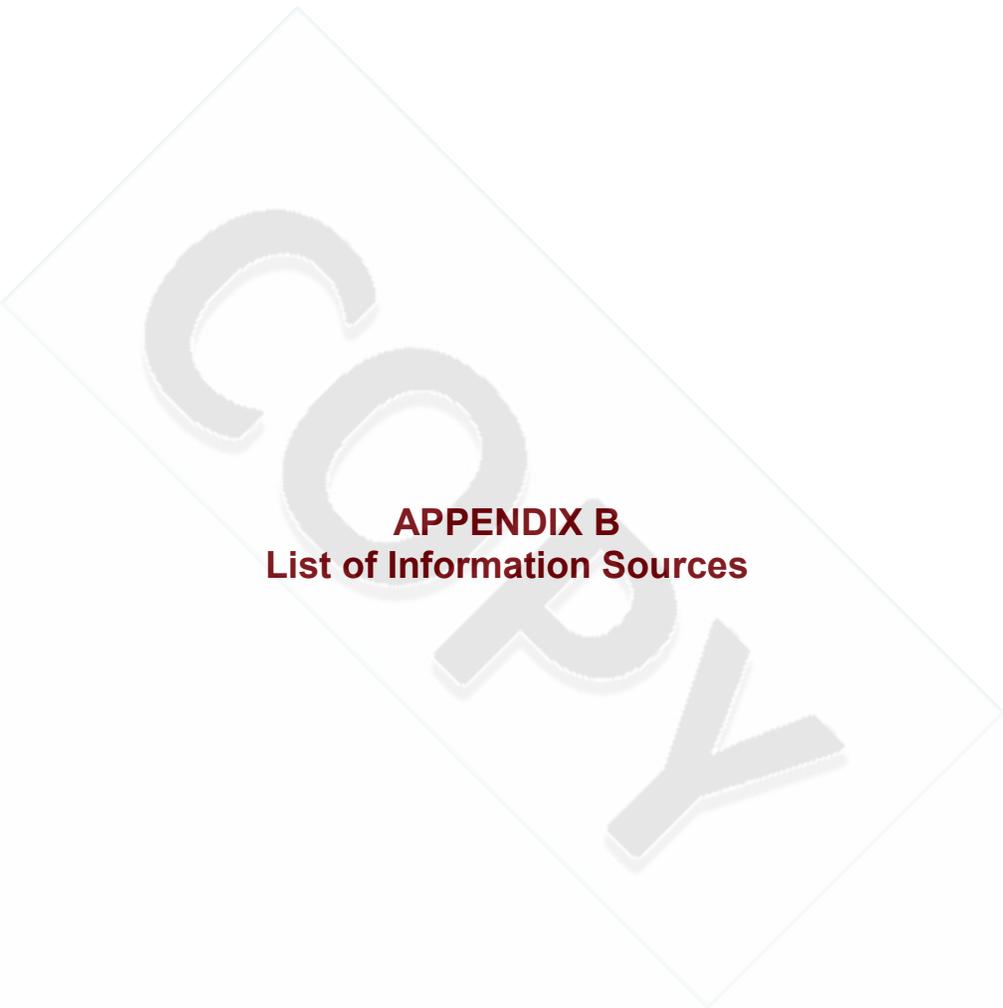
## 8 CONCLUSION

In completing the project and environmental review, the Port Authority concludes that with the implementation of proposed mitigation measures and conditions described in the Permit, the Project has appropriately addressed all identified concerns.

It is the recommendation of staff that this application be approved subject to conformance with the project and environmental conditions listed in project permit **PER No. 19-092**.







**APPENDIX B**  
**List of Information Sources**

**The Port Authority has relied on the following sources of information in the project and environmental review of the Project:**

- Application form and materials submitted by the Applicant on August 13, 2020
- Project correspondence from August 13, 2020 to April 13, 2021
- Plans and drawings labelled PER No. A to B

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