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vancouver

Vancouver Fraser
Port Authority

PROJECT AND ENVIRONMENTAL REVIEW REPORT

**PER NO. 21-057
RAILYARD EXPANSION - RICHARDSON**

Prepared for: Director, Project and Environmental Review

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 PORT of vancouver Vancouver Fraser Port Authority		VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT
PER No.:	21-057	
Tenant:	Richardson International Ltd.	
Project:	Railyard Expansion - Richardson	
Project Location	375 Low Level Road, North Vancouver	
Vancouver Fraser Port Authority SID No.:	CNV044	
Land Use Designation:	Port Terminal	
Applicant(s):	Richardson International Ltd.	
Applicant Address:	375 Low Level Road, North Vancouver	
Category of Review:	C	
Recommendation:	That PER No. 21-057 for Railyard Expansion - Richardson be approved	

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. 21-057: Railyard Expansion - Richardson (the “Project”) proposed by Richardson International Ltd. (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 consultation 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

Richardson International Ltd. are proposing an expansion of the rail infrastructure at their North Vancouver grain terminal. The proposed Project would allow the terminal to store an additional loaded unit train within the terminal lease area instead of relying on Canadian National (CN) Rail to temporarily store the train on the rail network. A unit train is a single origin train shipped to a single destination as a continuous block. With the track expansion, CN Rail would be able to deliver up to two (2) full unit trains directly to the terminal rail siding without having to occupy track within the nearby CN Lynn Yard. This Project would therefore also reduce the likelihood of delays in the rail network caused by Richardson-bound train traffic.

The reduction in terminal downtime, which may currently occur while waiting for CN Rail to deliver the second half of a train, would allow the Applicant to increase throughput. Currently, the terminal is operating at a capacity of 6 million tonnes per annum (Mt/a) of grain. With the rail expansion, it is expected that the operating capacity of the terminal will be increased to the facility's design capacity of 7.5 Mt/a.

The site is located at 375 Low Level Road, with vehicular access via Victory Ship Way. The site is bound to the east and west by industrial uses and to the south by the existing Richardson rail yard/tracks, with Burrard Inlet beyond. To the north of the site, across Low Level Road, there is a mix of commercial and residential properties. The Project site is 2.4 hectares in size and it is primarily currently vacant, having been previously used for the temporary storage of construction materials. The northern portion of the project site is occupied by a small number of existing rail storage tracks, some of which would be realigned as part of this proposal. .

2.1 Proposed Works

The proposed expansion proposes the following:

- Construction of 15 additional rail storage tracks
- Realignment of rail tracks within the existing yard
- Addition of crossovers and turnouts within the existing yard
- Installation of a vehicle hammerhead turnaround area, service access road and construction of new vehicular access gates (security and emergency)
- Various associated works such as installation of new lighting, fencing and utilities.

2.2 Proposed Construction Methods

The construction of the Project is anticipated to take 20 weeks to complete. All works would be undertaken within the Port Authority's standard construction hours of 7:00 a.m. to 8:00 p.m. Monday to Saturday (excluding holidays).

Construction would entail electrical upgrades to the existing yard, the stripping and excavation of surficial material to prepare the rail bed, and installation of the new rail siding as well as other essential rail equipment.

Project construction is proposed to be conducted in three phases, as follows:

- Phase 1 includes protections to hydro and water utilities necessary to service equipment installed for the Project and within the expanded area of the industrial siding
- Phase 2 includes the stripping of surficial material and preparation of the rail bed. All materials that cannot be repurposed for the Project (i.e., soils), would be disposed of in an acceptable manner
- Phase 3 involves the installation of new rail infrastructure at the facility, next to the existing industrial siding, including tracks, switches, crossings, and other essential rail siding equipment.

3 TECHNICAL REVIEW

The Port Authority has reviewed the application and has the following project considerations.

3.1 Planning

3.1.1 Land Use Planning

The Project site is situated in an industrial area on the north shore of Burrard Inlet. To the north of the site are a mix of commercial and residential properties across Low Level Road. The Vancouver Fraser Port Authority's Land Use Plan requires that careful planning and collaboration between the Port Authority and adjacent municipalities and Indigenous groups take place in this area, in order to reduce the potential for conflicts between port-related and non-industrial uses. Sections 4, 5 and 6 of this report detail the engagement that has taken place to meet this requirement.

The proposal meets Port Authority requirements based on the primary considerations of the Land Use Plan, which include the land use designation and current land use policies identified below.

3.1.2 Land Use Designation

The Project site is designated as Port Terminal in the Land Use Plan, and its primary use is as a grain terminal. Transportation infrastructure is permitted in all land use designation areas where compatible with primary uses on the site. Shipping and transportation of goods is also a primary use for Port Terminal designations and, in this case, the rail infrastructure supports the grain terminal operations. Therefore, the Project is compliant with the Land Use Plan designation.

3.1.3 Existing Land Use Policies

The Transportation Policy in the Land Use Plan requires new and upgraded transportation infrastructure within the Port Authority's jurisdiction to comply with all transportation regulations and standards applicable to the Port Authority, and consider the applicable policies, guidelines, and designs of the connecting road and rail authorities. These requirements are considered under section 3.3 of this report.

Transportation infrastructure projects should also generally meet the following objectives:

- Support the goals, objectives, and policy directions contained within the Vancouver Fraser Port Authority Land Use Plan
- Encourage the orderly and efficient development of Port Authority lands over the long term in support of Canada's trade priorities
- Ensure the long-term ability to efficiently manage port-related road and rail traffic

In line with these objectives, the Land Use Plan notes that the anticipated future uses of this area should support continued growth of port-related uses in all commodity sectors and further intensification of port-related industrial users on existing sites. Previous projects at the facility have included the Richardson International Grain Storage Capacity Project, which created an additional 70,000 tonnes of grain storage capacity at the terminal. This rail expansion proposal supports the intensification of use at this facility by improving terminal infrastructure and logistics to allow the terminal to increase from the current operations (6Mt/a) to operate at its design capacity (7.5Mt/a).

3.1.4 Building Permit Requirements

A building permit is not required for the Project.

3.2 Engineering

The proposed Project has been designed by professional engineers licensed to practice in the Province of British Columbia and has been designed to applicable engineering standards.

Underground utilities were investigated in November 2021 by the Applicant under a separate permit (PER No. 21-147) to support the Project. All abandoned utilities shall be located, removed from the track expansion area, and capped at the property line by the Applicant. The project proposes to provide protections for hydro and water services at the site. Additionally a number of existing storm sewer lines at the site will be removed, relocated, replaced and new pipe installed.

A vehicle turnaround (hammerhead turn) is to be constructed at the end of Victory Ship Way to Master Municipal Construction Document arterial classification and the Port of Vancouver's Superpave Hot-Mix Asphalt Concrete Paving Supplemental Specifications, Version 1.0 (or an alternative design by a professional engineer that meets the requested pavement durability).

The proposal meets Port Authority engineering requirements, subject to adherence to the project and environmental conditions in the Permit.

3.3 Transportation Planning

The Project proposes to realign the terminal's existing rail infrastructure and introduce 15 new storage tracks in the adjacent vacant land. This would consist of modifying and expanding the terminal rail siding to enable an incremental increase in throughput capacity to a design capacity of 7.5 Mt/a. Rail access between the existing and new trackwork would be provided by a series of new crossovers and turnouts. The Project would allow the terminal to enable more efficient rail operations and benefit the North Shore as a whole, since these rail movements can take place on the terminal instead of utilizing the mainline railway's rail capacity.

Currently, trains are spotted in 85-car blocks into the terminal. CN Rail normally has to break up the trains into the nearby Lynn Yard to service the terminal. The intent of the track expansion is to enable the spotting of a 104-car, 112-car or larger train sizes. This would yield efficiency for the railways, as they would not have to break trains into multiple strings and thus not tie up capacity in their own rail yards.

While the number of rail cars is expected to increase by 8 percent overall as a result of the Project, there would be fewer trains going to the facility, because the trains would be longer. Over the course of a year, the Applicant expects a decrease of about 100 trains, or a reduction of 16 percent of total trains currently going to the site. Correspondingly, the switching movements between the CN Lynn Yard to/from the site are expected to decrease by 27 percent.

The Applicant submitted a Rail Operations Plan to supplement the intended operations of the terminal. Transportation Planning have reviewed the plan and are satisfied with its contents. Construction related road traffic is anticipated to be minor and manageable. The Applicant will provide a construction-phase traffic management plan once those details become available.

The Port Authority has reviewed the application with respect to transportation planning and requires the Applicant to supply the following:

A Construction Parking and Traffic Management Plan will be required 20 business days prior to the commencement of any construction or physical activities.

This is reflected in condition No. 20 in the Permit.

The proposal meets the Port Authority's transportation planning requirements, subject to adherence to the listed project and environmental conditions in the Permit.

3.4 Environment

The environmental review of the proposed Project is summarized in Section 7: Environmental Effects Review.

4 STAKEHOLDER CONSULTATION

The proposed Project was assessed to have potential impacts to stakeholders and the local community and consultation activities were determined to be required. The following sections describe the stakeholder engagement activities undertaken by the Port Authority 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 North Vancouver on November 17, 2021.

The City of North Vancouver responded with comments. A meeting was held between the port authority, the Applicant and the City of North Vancouver following receipt of the municipality's queries. 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 length of the public engagement period was not long enough.	None required.	The Applicant initially planned their public engagement period for 25 business days in line with the Port Authority's requirement. Due to unforeseeable circumstances of extreme weather occurring in the province in the latter part of November 2021, the Applicant decided to extend the public engagement period by 12 business days to January 7, 2022. The public was notified of this extension through new ads with the North Shore News and through updates to the Project website.
Consideration is to be given to all resident and business comments received on the expansion process.	None required.	The Applicant collected and assessed comments from the community over the course of the extended public engagement period and a public engagement summary and consideration report was prepared that outlines how the Applicant considered all feedback. The Port Authority has reviewed that report and considered all feedback received as part of our review of the proposed Project.
The City strongly recommends the Port of Vancouver and the Applicant works with neighbouring businesses and residents and find ways to minimize noise, lights, late nights, holiday observances and view impacts on neighbouring lands.	Condition No. 33 of the Permit requires the Applicant to adhere to the submitted Construction Environmental Management Plan, which sets out how the Applicant will mitigate against potential impacts.	All construction activity associated with this Project would be undertaken within the Port Authority's standard hours of 7:00 a.m. to 8:00 p.m., Monday to Saturday, excluding holidays.

Issue	Mitigations and Permit Conditions	Rationale
	Condition 25 sets out the standard construction hours within which all construction activity will take place.	
The construction schedule may conflict with Esplanade Complete Streets Construction schedule, involving intersection of St Georges at Esplanade / Low Level Road. Additional coordination may be required between the CNV and Port project teams that could result with construction delays.	None required.	The Applicant has offered to reach out to the City when the construction schedule is finalized.
The new lighting design is acceptable, but the Applicant should be aware that the Applicant could be asked to mitigate excessive lighting after construction is completed, if affected CNV residents and business owners found the new lighting destructing.	None required.	<p>Off-site light spill and additional glare are not anticipated. To reduce lighting spill and glare at the adjacent residential area, the Applicant has proposed that glare shields, sharp cut-off optics, tall poles, acute aiming angles, and specialty luminaires be utilized.</p> <p>The lighting design has been reviewed as part of our PER process and is considered satisfactory.</p>
The Applicant could be asked to mitigate excessive noise levels during construction and after construction is completed, if affected CNV residents and business owners found the construction and operation noise destructing.	<p>Condition No. 33 of the Permit requires the Applicant to adhere to the submitted Construction Environmental Management Plan, which sets out measures to reduce potential noise impacts.</p> <p>Condition 46 of the Permit requires the Applicant to undertake monitoring post-completion and, if results deviate from the findings of the noise assessment, the Port Authority may require additional mitigation measures.</p>	<p>Measures to reduce potential noise impacts during construction include turning off machinery and equipment when not in use, minimizing vehicle and equipment idling time, and properly maintaining equipment to limit noise emissions.</p> <p>Operational noise is not expected to result in adverse effects, as day-evening-night equivalent noise and low frequency noise levels at the closest residences are predicted to increase by no more than 1 dBA relative to existing conditions.</p>
The city would like confirmation as to whether the proposed expansion will result in more trains across the at-grade crossings of Chesterfield, Forbes and Bewicke.	None required – all train traffic arrives to the terminal from the east.	Trains arriving at the Richardson facility do not cross any of the at-grade crossings at Chesterfield, Forbes, or Bewicke.
Staff would like confirmation as to whether the effects of this development on train staging that blocks to the Chesterfield, Forbes or Bewicke Crossings.	None required.	Trains arriving at the Richardson facility do not cross any of the at-grade crossings at Chesterfield, Forbes, or Bewicke.

Issue	Mitigations and Permit Conditions	Rationale
Ensure new turnaround is designed to accommodate CNV Fire Department vehicles. Turning radius information can be provided upon request.	None required.	The emergency access into the main terminal site remains unchanged. It is not anticipated that the new turnaround area will be utilized by emergency vehicles.

4.2 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 on November 17, 2021:

- Cargill Ltd.
- BC Hydro
- Seaspan ULC
- CN Railway Company

The Port Authority did not receive any tenant comments.

4.3 North Shore Waterfront Liaison Committee Notification Activities

The proposed Project was assessed to be of potential interest to the North Shore Waterfront Liaison Committee. An email was sent to the committee on November 19, 2021 providing information about the proposed Project, engagement period, and the planned online information session. The Port Authority did not receive any comments from the Committee.

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 comment period ran from November 15 to December 14, 2021. At the close of the 30-calendar day public comment period, no comments were received.

In addition to posting information about the Project on the Registry website, the Port Authority required the Applicant to conduct public engagement activities with a 25-business day public engagement period and host an online public information session. The objective of public engagement as part of the permit review is to solicit feedback from the public on the proposed Project, the completed technical studies, and proposed mitigations during construction and operation. Due to unforeseeable weather-related circumstances occurring in the province in the latter part of November 2021 (historic flooding and road washouts), the Applicant decided to extend the public engagement period by 12 business days to provide additional time for the public to comment.

The Applicant carried out their public engagement activities on the proposed Project from November 15, 2021 to January 7, 2022 (37 business days). This included an online public information session held on December 1, 2021. The Port Authority reviewed the record of public engagement, including all comments received and the Applicant's response to comments, in determining mitigation requirements and in making a decision on the proposed Project.

5.1 Summary of Public Engagement

A description of the Project and proposed works, and all supporting materials were posted to the Port Authority's website on November 2, 2021 for public review and comment. The website also included details of the Applicant's online public information session, and links to the Applicant's website for more information.

The online public information session on December 1, 2021 included an overview of the Project, an explanation about why the Project was being proposed, and details about the Project including benefits, impacts, and mitigation measures during construction and following construction. The Applicant had Project representatives and technical consultants available to answer questions from the public. Port Authority employees also attended.

During the public engagement period, public participation was as follows:

- Five people attended the online public information session (two of which also submitted written feedback)
- 14 people submitted feedback forms to the Applicant
- 11 people submitted feedback by email to the Applicant
- Two people submitted feedback by email to the Port Authority, which were also addressed to, and counted by, the Applicant

Comments from the public were mainly related to possible impacts such as noise, diesel emissions, dust, and light pollution, following completion of the Project, and mitigations of those impacts. The public also shared feedback about their level of satisfaction with the information provided during the public engagement process.

The Applicant provided a detailed summary of the public engagement process and all comments received in a Public Engagement Summary Report and a Consideration Report dated January 26, 2022, which included the Applicant’s formal responses to public comments received, by theme. The Port Authority has reviewed the document and found it to be acceptable. The reports were posted on the Port Authority and the Applicant’s websites on March 30, 2022.

Below is a table summarizing issues raised by the public, and how they were considered by the Port Authority as part of the project and environmental review.

Issue	Mitigations and Permit Conditions	Rationale
Increased shaking in buildings upon Project completion.	None required.	The Noise and Vibration Study provided by the Applicant predicts vibration associated with the Project would be insignificant given the new track work will be more than 90 metres away from the closest residences.
Increased shunting activity following completion of the project.	Condition No. 46 requires the Applicant to conduct noise monitoring to confirm the predictions of the environmental noise assessment and validate the effects on the surrounding community.	The Applicant explained that following completion of the Project, fewer trains would enter and exit the site, which means no moving of train cars would be required. This would reduce shunting.
Increased noise levels after construction in comparison to current rail-related noise.		Results of the third party noise modeling submitted by the Applicant indicate operational noise is not expected to result in adverse effects, as day-evening-night equivalent noise and low frequency noise levels at the closest residences are predicted to increase by no more than 1 dBA relative to existing conditions due to increased indexer operating times and increased rail car movement in the railyard. The Applicant also indicated the current 3.5-metre noise barrier located

Issue	Mitigations and Permit Conditions	Rationale
		between Low Level Road and Spirit Trail would further screen possible noise emissions. The Applicant is currently studying ways to make on-site rail movements more efficient, which would reduce disruptions and contribute to fewer noise events.
Impacts to air quality following project completion, e.g., diesel emissions.	None required.	The Applicant explained that the Project would enable the third party carrier to deliver and retrieve rail cars in two movements, instead of three. This operational change has the potential to reduce diesel emissions.
Increased dust from current, non-rail-related activities at the terminal, e.g., ship loading.	None required.	The Applicant currently meets the requirements set out by the Metro Vancouver air quality regulatory program, which governs point source emissions on site such as loading, and will continue to do so.
Increases in vehicular traffic upon project completion.	None required.	The Traffic Technical Memo provided by the Applicant indicated the Project is not anticipated to generate additional traffic above current volumes.
Light spillage and glare during construction and upon project completion.	None required.	The Applicant indicated the need for incremental lighting would be minimal, and that any installation would be equipped with mitigation devices to minimize light spillage and glare to off-site receivers. The Applicant also indicated construction activities would primarily take place during daylight hours and be in compliance with Port Authority standard hours of construction.
General dissatisfaction with the mitigation measures the Applicant presented to address potential impacts during and after construction.	Condition No. 18 requires the Applicant to develop a construction communication plan that outlines how the public will be informed during construction, and mechanisms for contact. As part of this plan, the Applicant would be required to identify how they intend to provide more clarity around their proposed mitigation measures, and respond to complaints.	Approximately half of respondents were not satisfied with the information the Applicant presented on mitigation measures. Providing more clarity on this during construction would benefit the community.
Requests for access to a complaints line.		The Applicant provided the contact information for operational matters and inquiries.
Construction hours.	Condition No. 25 requires the Applicant to undertake construction from Monday to Saturday between 7:00 a.m. and	The Applicant confirmed the contractors and subcontractors will be in compliance with the Port Authority standard hours of construction.

Issue	Mitigations and Permit Conditions	Rationale
	8:00 p.m. (during Port Authority standard hours of construction).	
Increase in operational hours.	None required.	The terminal's current hours of operation are 24 hours a day, seven days a week.
General security at the site upon project completion.	None required.	The Applicant outlined current measures in compliance with Transport Canada Marine Facility Security requirements.

The Port Authority has reviewed the record of public engagement and, with the mitigation measures outlined in the table above and conditions within the Permit, is of the view that the Project has adequately addressed the concerns raised during public engagement.

The proposed Project was assessed by the Port Authority to have potential impacts to community interests in the surrounding area during construction. These include potential impacts such as noise and increases in truck traffic accessing the site during construction.

As a result, the Applicant is required to send a construction notification to adjacent residents and businesses in North Vancouver as shown in the above notification distribution area map. The notification area is within approximately 500 metres 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 Applicant's website. This is condition No. 19 in the project permit.

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.

Best efforts were made to consult the following Indigenous groups:

- Musqueam Indian Band
- S'ólhTéméxw Stewardship Alliance and its member Nations
- Squamish Nation
- Tsleil-Waututh Nation

The following consultation activities were conducted:

- Referral packages provided for review including consultation letter and link to FTP site to download the application package and appendices
- Participation funding agreements provided to Indigenous groups
- Discussion of the Project at monthly project and environmental review meetings the Port Authority has with several Indigenous groups
- Response table provided to Indigenous groups who provided comments on the referral package
- Secondary response table provided to Indigenous groups who provided a second round of comments on the referral package.

Below is a table summarizing 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
Identification and removal of invasive species	Condition No. 38 requires the Applicant to ensure that any materials brought onto site to	Any imported soils to the site have the potential to spread invasive species.

Issue	Mitigations and Permit Conditions	Rationale
	<p>use for backfilling or site preparation are free of invasive species and noxious weeds.</p> <p>Condition No. 40 requires the Applicant to manage invasive plants in a manner that prevents their spread. Invasive plants and potentially affected materials, such as soil, shall be appropriately contained, collected and disposed of.</p> <p>Additional mitigation measures for vegetation are provided in section 5.9.1 of the Construction Environmental Management Plan (CEMP).</p>	
<p>Impacts of development on unidentified archaeological resources</p>	<p>Condition No. 28 requires the Applicant to carry out the project in accordance with the management recommendations provided in the interim Archaeological Impact Assessment.</p> <p>Condition No. 29 requires the Applicant to carry out additional archaeological assessment work if the area in and to the north of the registered archaeological site on the property is to be disturbed during project works.</p> <p>Condition No. 31 requires the Applicant to have an Archaeological Chance Find Procedure in place prior to any ground disturbances for the Project.</p>	<p>The Applicant chose to complete an AIA prior to a permit decision to inform further archaeological work on the project.</p> <p>A new archaeological site was identified during the course of the AIA and management recommendations for the site are provided in the AIA. 21-057.</p>
<p>Indigenous monitoring for project works which may impact native soils</p>	<p>Condition No. 30 requires the Applicant to provide opportunities for interested Indigenous groups to monitor and be present on the Project site during any ground disturbing works which require a professional archaeologist to be on site.</p>	<p>As there is a newly identified archaeological site on the property, Indigenous monitoring of any future archaeological assessment work for the project was recommended in the AIA.</p>
<p>Sediment run off from Project area affecting Burrard Inlet.</p>	<p>Condition No. 23 requires the Applicant to submit an updated soil management plan to the Port Authority's satisfaction. The updated soil management plan shall outline how soils will be tested, appropriately handled to prevent migration/run-off, and disposed of at a licensed facility if unsuitable for reuse.</p> <p>Soils intended for reuse on site shall be tested according to the BC Ministry of Environment Technical Guidance 1 on Contaminated Sites. All excavated soil to be reused on site shall meet Canadian Council of Ministers of the Environment (CCME) Industrial Land (IL) guidelines (including the</p>	<p>None required.</p>

Issue	Mitigations and Permit Conditions	Rationale
	Canada-Wide Standards for Petroleum Hydrocarbons) and/or the BC Contaminated Sites Regulations (CSR) soil standards for industrial use. Backfilling/reusing excavated soils on site is not permitted without the written consent of the Port Authority.	
Impact of construction works on nesting birds	<p>Condition No. 22 requires the Applicant to conduct nest surveys if there is potential to affect birds and/or their active nests and eggs, including ground nesting birds such as killdeer.</p> <p>For any nests identified in surveys, a qualified environmental professional shall confirm that the nest is not occupied by a species protected at that time of year under applicable legislation. To reduce the risk of Project-related harm, the Permit Holder should avoid certain physical activities during the general bird-breeding season, which falls between April 1 and July 31, or outside of this time span if occupied nests are present.</p>	None required.

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

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
Air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on air quality from equipment operation during construction activities. The Project is located entirely within an industrial area with existing truck and rail traffic.</p> <p>Best management practices to reduce potential adverse effects during construction will be implemented as detailed in the construction environmental management plan. These include idling reduction where possible and when not in use, keeping equipment and materials clean to reduce dust nuisance, and ensuring stationary equipment (e.g., generators) are turned off when not in use.</p> <p>The Project is not anticipated to generate additional vehicle traffic during operation. The Project will enable the delivery and retrieval of rail cars in two movements, instead of three. The new track layout will provide capacity for a locomotive to be able to shunt with an increase of up to four more railcars into or out of the two dumpers, reducing the amount of switching moves in the dumper area by approximately 27 percent. While overall railcar traffic is anticipated to increase as more railcars are moved in the yard, with more efficient rail operations, changes in emissions are anticipated to be minor.</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
Lighting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects from lighting during construction activities and operation. Mitigation measures will be implemented to reduce effects during construction, including pointing temporary construction lights downward and placing task lighting close to the work area.</p> <p>New lighting consisting of seven 24-meter light poles each with three to five 540 watt LED fixed-position dark sky friendly area lights will be installed within the railyard. To reduce lighting spill and glare during operation, glare shields, sharp cut-off optics, tall poles, acute aiming angles, and specialty luminaires will be utilized. The new lighting will be located within a railyard in an existing industrial area.</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"/>
Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse noise impacts during construction-related activities. Measures to reduce potential noise impacts are outlined in the construction environmental management plan and include turning off machinery and equipment when not in use, minimizing vehicle and equipment idling time, and properly maintaining equipment to limit noise emissions.</p> <p>Potential changes in operational noise are anticipated to be influenced by increased indexer operating times and increased rail car movement in the railyard. Operational noise is not expected to result in adverse effects, as annual average day-evening-night equivalent noise and low frequency noise levels at the closest residences are predicted to increase by no more than 1 dBA relative to existing conditions. The CN mainline track, Low Level Road, and a 3.5 meter high noise barrier are located between the railyard and the nearest residences. Post-construction noise monitoring will be conducted to confirm the predictions of the environmental noise assessment. Additional mitigations may be required if monitoring results deviate from the assessment.</p> <p>With mitigation in place, residual adverse effects associated with Project-related noise 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
Soils	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects to soil quality resulting from construction activities. The Project is located entirely within an industrial area that has been subject to prior disturbance and historic fill placement.</p> <p>Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the construction environmental management plan, including appropriate testing, containment, handling, and disposal of contaminated soils, and implementing a spill prevention and response plan prior to works.</p> <p>With mitigation in place, residual adverse effects on soils are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sediments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects to sediment quality from accidental spills and discharge of stormwater. Measures to reduce these impacts include implementing a site specific spill prevention and response plan, diverting surface water away from construction areas, installing silt fencing, and directing stormwater through an oil grit separator prior to discharge.</p> <p>With mitigation in place, residual adverse effects on sediments are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Groundwater	<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 to reduce the potential for adverse effects will be implemented as detailed in the construction environmental management plan, including implementing a spill prevention and response plan prior to works.</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
Surface water and water bodies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Construction activities such as excavation and grading have the potential to release sediment or debris through surface water runoff and erosion. Routine accidental leaks and spills during operation have the potential to affect surface water quality.</p> <p>Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the construction environmental management plan. Measures include diverting surface water away from construction areas (e.g., excavation areas, stockpiles, and laydown areas) and the installation of silt fences to contain waterborne movement of any stockpiled material. During operation, stormwater will be directed through an oil grit separator prior to discharge from the railyard expansion area.</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"/>
<p>Species/habitat with special status</p> <p>Assessed under section 79 of the <i>Species at Risk Act</i>, as applicable</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is located entirely within an upland industrial area with minimal native vegetation and low habitat value. No flora or fauna species at risk were identified during the desktop review or observed during the site survey.</p> <p>Species with special status 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
Terrestrial resources (e.g., vegetation, wildlife, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on terrestrial resources during construction activities.</p> <p>A field assessment of the site and surrounding area was conducted on June 23, 2021 to survey for raptor nests and other wildlife habitat features, including potential amphibian breeding wetlands, riparian areas, mammal dens, and wildlife trees. Killdeer were observed to be present. While no nests were found, nesting activity was evident and killdeer ground nests were considered likely to be present. No other wildlife features or wildlife were observed.</p> <p>Up to approximately 2,000 square meters of terrestrial vegetation may be removed or disturbed. The site is primarily dominated by invasive species, with Himalayan blackberry being the most common. The dominant native tree species is black cottonwood, with several saplings observed on site.</p> <p>Mitigation measures to reduce the potential for adverse effects on terrestrial vegetation and wildlife will be implemented as detailed in the construction environmental management plan. These mitigations include cleaning mud and plant debris from equipment prior to entering the Project area, clearing vegetation outside the songbird nesting season (March 15 to August 31) and/or conducting nesting bird surveys to establish no-work zones where appropriate.</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"/>
Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is located entirely in an upland terrestrial environment. Wetland habitat is 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
Aquatic resources (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is negligible potential for adverse effects on aquatic resources. The Project is located in an upland industrial area more than 50 meters from the nearest water body. No in-water or shoreline works are associated with the Project. Mitigation measures to reduce the potential for adverse effects to surface water and water bodies will be implemented as detailed in the construction environmental management plan, including diverting surface water away from construction areas and installing silt fencing. During operation, stormwater will be directed through an oil grit separator prior to discharge from the railyard expansion area. Aquatic resources are not anticipated to be affected by the Project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Health and socio-economic conditions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Archaeological, physical, and cultural heritage resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Excavation activities during construction have the potential to affect archaeological resources. An Archaeological Impact Assessment (AIA) identified a new archaeological site in the Project area. Archaeological monitoring by a qualified archaeologist will be conducted during any construction activities within the newly identified archaeological site boundary. Management recommendations in the AIA and an Archaeological Chance Find Procedure will be implemented during Project construction. With mitigation in place, residual adverse effects on archaeological, physical, and cultural heritage resources are expected to be not significant.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Accidents and malfunctions Assessed as required by the <i>Canada Marine Act</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There is potential for adverse effects on surface water, soils, groundwater, and sediments 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 construction environmental management plan. 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"/>	<input checked="" 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
- Soil
- Sediment
- Ground water
- Surface water and water bodies
- Terrestrial resources
- Archaeological resources
- Accidents and malfunctions

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

- Low in magnitude, due to the location of the Project in an existing industrial area with effects on a small area of terrestrial resources, no new discharge to the aquatic environment, and the temporary nature of the construction activities.
- Local in geographic extent, because effects will be limited to the Project area and nearby community.
- Short-term in duration because Project construction will be intermittent and temporary for approximately 20 weeks and unlikely to result in ongoing effects on air quality, lighting, noise, soils, or surface water once construction is complete.
- Continuous (daily to weekly) in frequency during Project construction.
- Reversible/temporary because residual adverse effects of the Project would be reversible once the Project is decommissioned.

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.

8 CONCLUSION

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. 21-057**.

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**APPENDIX A
Location Plan**

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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 between October 28, 2021 and April 28, 2022.
- All Project correspondence from October 28, 2021 to April 28, 2022.
- All plans and drawings labelled PER No.21-057 - A to F

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