



**PORT of  
vancouver**

## **PROJECT AND ENVIRONMENTAL REVIEW REPORT**

**PER NO. 19-006**

**CANADIAN PACIFIC | TRACK EXTENSION, CASCADIA TERMINAL**

Prepared for: Director, Planning & Development

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<b>PER No.:</b>	<b>19-006</b>
<b>Tenant:</b>	<b>Canadian Pacific</b>
<b>Project:</b>	<b>CP Track Extension – Cascadia Terminal</b>
<b>Project Location</b>	<b>South Shore of Burrard Inlet, East of Second Narrows</b>
<b>VFPA SID No.:</b>	<b>BBY077, BBY086</b>
<b>Land Use Designation:</b>	<b>Port Water</b>
<b>Applicant(s):</b>	<b>Canadian Pacific</b>
<b>Applicant Address:</b>	<b>1670 Lougheed Highway, Building 9, Port Coquitlam</b>
<b>Category of Review:</b>	<b>C</b>
<b>Recommendation:</b>	<b>That PER No. 19-006 for CP Track Extension – Cascadia Terminal be approved.</b>

## 1 INTRODUCTION

The Vancouver Fraser Port Authority (VFPA or port authority), a federal port authority, manages lands under the purview of the *Canada Marine Act*, which imparts responsibilities for environmental protection. VFPA 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 VFPA’s project and environmental review of PER No. 19-006: CP Track Extension - Cascadia Terminal (the Project) proposed by Canadian Pacific (the Applicant).

This project and environmental review was carried out to address VFPA’s responsibilities under the *Canada Marine Act*, and to meet the requirements of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012), as applicable. The proposed Project is not a CEAA 2012 “designated project” and an environmental assessment as described in CEAA 2012 is not required. However, VFPA authorization is required for the proposed Project to proceed and in such circumstances, where applicable, Section 67 of CEAA 2012 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 VFPA 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

The Applicant is proposing to extend an existing rail track, located east of the Cascadia Grain Terminal (the Terminal) along the south shore of Burrard Inlet in Burnaby, east of Second Narrows. The Project would increase the length of the existing third track (the northernmost of the existing tracks) by approximately 300 metres to the east. Freight volumes in and out of the Terminal have resulted in a shortage of track capacity during peak shipping season. The rationale for the proposed extension is to improve overall mainline and switching operations

at the Terminal, and the increased track length will also add capacity for additional grain product unloading. The majority of the new rail infrastructure is proposed to be located within the Canadian Pacific right-of-way, with a portion of the rail embankment, grading works and shoreline protection within the port authority's jurisdiction.

Within the port authority's jurisdiction the proposed track extension will involve widening of the existing rail embankment, including placement of clean, engineered, fill material extending into Burrard Inlet resulting in permanent alteration and some permanent loss of intertidal fish habitat in the marine environment. Fisheries and Oceans Canada has determined that a *Section 35(2) Fisheries Act Authorization* is required. The Applicant has developed a habitat offsetting plan that includes the construction of fish habitat offsetting features within the intertidal and subtidal marine environment of the Project area.

## 2.1 Proposed Works

- Establishment of access, equipment and material laydown areas, including:
  - vegetation clearing
  - site mobilization
  - construction of a temporary work pad (approximately 1,900 m<sup>2</sup>) located partially within the subtidal zone, using 6,800 m<sup>3</sup> of structural fill
- Dredging to prepare the seabed for fill placement
- Installation of approximately 9,700 m<sup>3</sup> of structural fill along the construction corridor, to support rail sidings
- Installation of approximately 3,100 m<sup>3</sup> of rip rap as a 2:1 slope
- Extension of four (4) existing culverts
- Removal of temporary work pad
- Construction of habitat offsetting, including approximately 3,100 m<sup>2</sup> of artificial shallow rock reefs.

## 2.2 Proposed Construction Methods

The proposed construction activities are anticipated to occur from the marine side of the Project site supported by a barge anchored immediately offshore. Granular and rock fill would be transported to the site via barge. Dredging would be conducted to prepare the seabed for fill placement, dredgeate would be transported to and disposed of at an approved facility. A work pad would be temporarily constructed at the western end of the Project site, the work pad serving as a material unloading area, the scow would be tied up adjacent to this pad. Marine work equipment is anticipated to be derrick with a track mounted crane containing a clam shell bucket for rip-rap placement and removal. Land based grading equipment would include rock trucks, excavators and/or bulldozers and a packer. A salvage of the marine intertidal and subtidal areas would be conducted prior to fill placement. Following fill placement, the new track grade would be constructed.

Construction is anticipated to take approximately four months to complete, all in-water works are anticipated to be completed outside of the fisheries sensitive period (March 1 to August 15). The Applicant has proposed to undertake some construction and physical activities outside of the port authority's regular hours of construction (between Monday and Saturday from 7:00 a.m. to 8:00 p.m.). This request can be split into two categories as follows:

- 1) General construction activities would be conducted between Monday and Sunday from 7:00 a.m. to 8:00 p.m.
- 2) Intertidal aquatic life salvage activities and environmental and geotechnical monitoring inspections would occur over a 24 hour a day and 7 days a week basis.

The estimated project cost is \$8,300,000.

### **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 Planning's requirements, based on the primary considerations of the land use designation and current land use policies.

##### **3.1.1 Land Use Designation**

The proposed use conforms to the designation of "Port Water" in Vancouver Fraser Port Authority's Land Use Plan.

#### **3.2 Engineering**

VFPA Engineering provided advice to the Applicant in the pre-application stage including directing them to the VFPA Shore Protection Guidelines – Inspection, Maintenance, Design and Repair to ensure industry best practice is incorporated into the design of the project. Engineering reviewed the PER application, the scope of the review included a general engineering review to ensure VFPA's interests are met, and preparation of associated permit conditions that are suited to the nature of the Project.

The proposed Project intends to extend the existing rail embankment including rip-rap and shoreline protection. Four (4) underground culverts within the project area are proposed to be extended or replaced. It is noted that 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.

Engineering has reviewed the application and has provided requirements to the Applicant to adhere to under Conditions No. 17, 59 and 60.

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

#### **3.3 Transportation Planning**

The key driver for the Project is to improve overall mainline and switching operations at the Terminal, the increased track length will also add capacity for additional grain product unloading. The Applicant has stated that the terminal capacity will be increased from the current 6.4 million metric tonnes per year to 7.5 million metric tonnes per year. The increase is expected as a result of more efficient handling; as the two train per day service is expected to remain the same as existing after the Project is completed.

The majority of rail infrastructure is proposed within Canadian Pacific's right-of-way and outside of the port authority's jurisdiction. A rail operations plan has been provided as part of the application submission outlining the present day rail operation for providing service to the Terminal as well as proposed changes as part of the Project, this plan has been reviewed by Transportation Planning. The Applicant is also working with the port authority to determine how this Project meets the goals of rail projects on the South Shore as funded by the National Trade Corridors Fund. The port authority is satisfied that this Project is consistent with those goals.

Access to the Project site will be gained via marine barge and Canadian Pacific's right-of-way. There will, therefore, be no impacts to the local road network during construction.

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

### 3.4 Marine Operations

Access to the Project site for construction activities is proposed to be gained via marine barge. To facilitate barge access, a temporary work area is proposed to be installed at the western end of the Project site prior to slope construction to provide a stable working area for material unloading, temporary stockpiles, equipment set up and storage. Barge operations will be managed following Transport Canada requirements to minimize potential interference with active commercial and recreational navigation. A marine construction and staging plan has been provided as part of the application submission and has been reviewed and approved by VFPA Marine Operations.

The Applicant submitted a Hydraulic Process and Alteration Report as part of their application submission given the potential for the proposed infill to impact local hydraulics, particularly as the Project is within the Second Narrows Traffic Control Zone (TCZ-2). The report concludes that the effect on flow hydraulics, if any, within TCZ-2 is expected to be unnoticeable for navigational purposes.

Marine Operations has reviewed the application and has provided requirements to the Applicant to adhere to under permit Conditions No. 21, 24, 25, 26, 34 and 61.

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 stakeholders and the local community and consultation activities were determined to be required. The following sections describe the stakeholder and public consultation activities undertaken by the Applicant and 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 Burnaby on August 29, 2019, notifying them of the proposed Project. The port authority did not receive any comments from the City of Burnaby.

The Applicant has proposed to extend the City of Burnaby-owned Gilmore Outfall by approximately 10.5 metres. As a result, the Applicant also consulted the City of Burnaby with regards to the design of the outfall and the City has confirmed they have no concerns with the design.

### 4.2 Regional Agency Consultation

The proposed Project was assessed by the port authority to be of potential interest to other regulatory agencies. A referral letter was sent to Metro Vancouver on August 29, 2019, notifying them of the proposed Project.

Metro Vancouver responded with comments on the proposed Project. 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
Proximity of project to Metro Vancouver (MV) Water Services existing facilities. Proposed work must not impair MV’s ability to access its facilities	<p>Condition 5 holds the Applicant responsible for locating all existing site utilities. The Applicant would be responsible for repair or replacement of any damage to existing site utilities that result from the construction and operation of the Project.</p> <p>Condition 23 requires the Applicant to provide an updated Project schedule and construction methodology to Metro Vancouver prior to commencing construction.</p>

	Condition 30 ensures that Metro Vancouver staff are allowed access to all Metro Vancouver facilities and infrastructure in the vicinity of the project area.
The hydraulic impact assessment on the proposed rip rap, loading along the shore and instream work does not specifically address MV utilities.	It is not considered necessary for the Hydraulic Process and Alteration Report to reference Metro Vancouver utilities given the separation from the Project area.

### 4.3 Federal and Other Agency Consultation

The proposed Project was assessed to have potential impacts to federal agencies interests. Fisheries and Oceans Canada and Transport Canada were regularly engaged throughout the project and environmental review.

The proposed Project requires a Section 35(2) *Fisheries Act* Authorization due to the potential to result in serious harm to fish. Fisheries and Oceans Canada review leads were consulted throughout the review process for review progress updates, consultation process updates, to ensure consistency of information received and to review draft conditions. Condition 20 requires that the Applicant provide the port authority with a copy of their *Fisheries Act* Authorization prior to commencing construction or any physical activities.

The proposed Project requires authorization under the Canadian Navigable Waters Act. The Transport Canada review lead was consulted throughout the review process for review progress updates, to ensure consistency of information received and to review draft conditions.

### 4.4 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 August 29, 2019, notifying them of the proposed Project:

- Parkland Refining (B.C.) Limited
- Viterra Inc.

Viterra responded providing their full support for the Project. The port authority did not receive comment from Parkland Refining (B.C.) Limited.

### 4.5 Marine Users Consultation

The proposed Project was assessed to have potential impacts to marine users. The Applicant was required to consult directly with the Pacific Pilotage Authority. A meeting was held on November 7, 2019 to discuss the project and the potential impacts to navigation.

Given the potential impacts to navigation, regular consultation is required throughout the construction of the Project. Conditions 24 and 25 require that the Applicant submit an updated marine construction and staging plan and an updated marine communication plan to the port authority's satisfaction. As condition 26, a Marine Users Working Group will be required to be established that includes Pacific Pilotage Authority, British Columbia Coastal Pilots, Council of Marine Carriers, Seaspan ULC, SAAM SMIT Canada Inc. and all marine terminals east of Second Narrows. A copy of the marine construction and staging plan will be provided by the Applicant for the groups consideration and feedback, Any updates to the documents must be provided to the working group before and during in-water construction phases.

## 5 PUBLIC CONSULTATION

The proposed Project was assessed by the port authority to have minimal or no potential impacts to community interests upon completion of the project. Therefore public consultation was not required to be conducted by the Applicant during the permit review.

The proposed Project was assessed by the port authority to have potential impacts to community interests during construction. These include potential impacts such as noise and light impacts due to construction activities on Sundays and the proposed 24 hour environmental and geotechnical monitoring inspections and intertidal aquatic life salvage operations.

As a result, the Applicant is required to send a construction notice to adjacent residents and businesses as shown in the map below. The notification area is within approximately four blocks (500 m) from the project site. The construction notice shall be distributed by the Applicant at least 10 business days prior to the start of the works. The construction notice will be posted on VFPA's and the Applicant's websites. This is set out in Conditions No. 18 and 19 in the project permit.

Map of notification area



## 6 INDIGENOUS CONSULTATION

Under subsection 5(1)(c) of CEAA, 2012, the port authority must consider, with respect to Indigenous peoples, whether the proposed project will result in any change to the environment that may affect the health and socio-economic conditions, physical and cultural heritage, current use of lands and resources for traditional purposes, or any structure, site or thing of historical, archaeological, paleontological or architectural significance. This also included whether the proposed works have the potential to adversely impact Aboriginal or Treaty rights.

The port authority reviewed the proposed works and determined that the project may have the potential to adversely impact Aboriginal or Treaty rights.

### 6.1 Summary of Indigenous Consultation

The proposed project falls within the asserted traditional territory of the following Indigenous groups:

- Kwikwetlem First Nation
- Musqueam Indian Band
- Squamish Nation

- Sto:lo Nation
- Tsleil-Waututh Nation

The following consultation activities were conducted by the port authority:

- On August 29, 2019, referral packages were sent to the Indigenous groups listed above for review and comment. The referral packages included:
  - a consultation letter with links to the project files on the port authority’s website; and,
  - a VFPA location plan
- The port authority received comments from Indigenous groups in the form of letters, emails and phone calls, and responded to those comments received.
- No meetings were requested by Indigenous groups.

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
<p>Concern regarding decline of Pacific herring in Burrard Inlet and requested the assessment be updated to reflect this information.</p> <p>Concern regarding impacts to kelp beds as a result of the project, and recommended CP consider inclusion of soft shore erosion protection in the design of the Project.</p>	<p>None required.</p>	<p>A continuous band of bull kelp, approximately 30 m wide in some locations, is adjacent to the proposed Project area. Bull kelp is an annual plant with spores produced during late spring and fall months. The submitted biophysical survey indicated that bull kelp plants do not persist through the winter months and work during the winter months is unlikely to impact the bull kelp bed in subsequent growth seasons.</p> <p>The habitat offsetting includes the creation of a complex of shallow rock reefs, both near the base of the proposed shoreline expansion and slightly offshore within the shallow subtidal area. Rock reefs have been designed to enhance the existing bull kelp habitat and the adjacent intertidal areas. The habitat is anticipated to support early life-stages of nearshore fish communities including rockfish, ling cod, surf perch, forage fish (e.g., Herring and Pacific sand lance), and juvenile salmonids.</p>
<p>Requests to be involved in monitoring offsetting activities associated with the project, including those in waterways and sensitive environments</p>	<p>Condition 32 requires the Applicant to provide opportunities for interested Indigenous groups to monitor and be present on the Project site at all times for the purposes of environmental and archaeological monitoring.</p>	<p>The Applicant has committed to providing opportunities for interested Indigenous groups to monitor and be present on the Project site for the purposes of environmental and archaeological monitoring</p>

Issue	Mitigations and Permit Conditions	Rationale
Requests to be notified immediately if a spill or malfunction occurs where deleterious substances enter sensitive environments and waterways, namely Burrard Inlet.	None required.	The Applicant has committed to notifying interested Indigenous groups of any accident or malfunction immediately.

VFPA has made a meaningful effort to consult with all potentially affected Indigenous groups, and is of the view that the duty to consult has been met.

## 7 ENVIRONMENTAL REVIEW

To fulfill its responsibilities under the *Canada Marine Act* and CEAA 2012, 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 review conducted for the Project, and provides the environmental review 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.

The environmental components assessed by VFPA are presented in Section 7.2 and include the environmental effects listed in section 5(1) and 5(2) of CEAA 2012.

Section 7.2 summarizes the results of the environmental review.

## 7.2 Environmental Effects Summary

The proposed project area is located east of the Second Narrows, in an area where Burrard Inlet narrows to a width of 600 m, which results in strong tide-driven currents that can reach up to ~6 knots. The project area is composed of intertidal and subtidal habitat with an abundance of invertebrate and fish species including leather stars, tube worms, red rock crab, schools of perch, and juvenile salmonids. A continuous band of bull kelp, approximately 30 m wide in some locations, is adjacent to the proposed Project area. Bull kelp is an annual plant with spores produced during late spring and fall months. The submitted biophysical survey indicated that bull kelp plants do not persist through the winter months and work during the winter months is unlikely to impact the bull kelp bed in subsequent growth seasons.

The habitat offsetting includes the creation of a complex of shallow rock reefs, both near the base of the proposed shoreline expansion and slightly offshore within the shallow subtidal area. Rock reefs have been designed to enhance the existing bull kelp habitat and the adjacent intertidal areas. The habitat is anticipated to support early life-stages of nearshore fish communities including rockfish, ling cod, surf perch, forage fish, and juvenile salmonids.

The following table summarizes the potential environmental effects the project could have on the identified environmental components and describes the mitigation measures proposed.

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>Air quality</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	■	<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 CEMP. This includes an idling reduction, and the turning off of emission sources when not in use. To minimize dust during construction, loads of dusty materials will be covered, and dust-generating activities will be monitored and managed during high winds.</p> <p>With mitigation in place, residual adverse effects on air quality are expected to be not significant.</p>	<input type="checkbox"/>	■
<p><b>Lighting</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	■	<input type="checkbox"/>	<p>No new permanent lighting will be installed as part of the Project.</p> <p>There is potential for adverse effects from temporary lighting during night-time construction works. Mitigation measures will be implemented to reduce those effects, including the use of directional lighting focused on the works area, and limiting night-time works when applicable.</p> <p>With mitigation in place, residual adverse effects from Project-related lighting are expected to be not significant.</p>	<input 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>Noise</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<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 (7:00 a.m. to 8:00 p.m.) seven days per week. However non-noise-generating activities such as aquatic life salvages and environmental monitoring would occur over a 24 hour a day and 7 days a week basis, where required and to accommodate tide requirements.</p> <p>Construction noise is anticipated to have minimal adverse effects due to the location of the project site (greater than 500 m away from residents), and the mitigation measures implemented.</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"/>
<p><b>Soils</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project components within port authority jurisdiction are located entirely within foreshore and intertidal marine environment. No effects on soils are anticipated and impacts to soils are not included in the scope of this review.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Sediments</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for spills or suspension of sediments during excavation, dredging and placement of fill materials and to affect sediment quality.</p> <p>Mitigation measures outlined in the CEMP will be implemented during construction to mitigate off-site transport of sediment including the use of a silt curtain, and turbidity monitoring. An environmental monitor will be onsite during all works below the high water mark. A spill prevention, containment and clean-up plan will be implemented prior to commencing works.</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"/>
<p><b>Ground water</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project components within VFPA jurisdiction are located entirely within foreshore and intertidal marine environment. Impacts to groundwater are not included in the scope of this review.</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>Surface water and water bodies</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on surface water and water bodies during construction activities, including excavation and placement of riprap and fill materials. Potential adverse effects are anticipated to be limited to water quality effects including total suspended solids (TSS) concentrations.</p> <p>To mitigate the potential sedimentation effects from increased TSS, turbidity monitoring will be conducted during in-water works. Sediment and erosion control measures and a spill prevention plan will be in place. Equipment operating near water will use biodegradable hydraulic oil and grease. Mitigation measures that will be implemented to reduce sediment transport are outlined in the CEMP</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><b>Species/habitat with special status</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p> <p>Assessed under section 79 of the Species at Risk Act, as applicable</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on species with special status during construction activities.</p> <p>Federally-listed species with ranges that potentially overlap with the Project site include: Green Sturgeon, Stellar sea lion, Killer Whale (Southern Resident and Transient), leatherback sea turtle, and yellow eye rockfish. None of these species were identified at the site during the biophysical assessments and are unlikely to be present based on known habitat preferences.</p> <p>Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the CEMP. These include conducting in-water construction works within the fisheries least-risk window (August 15 to February 28); aquatic life salvages conducted prior to infill activities; and conducting marine mammal monitoring around the Project site including implementing stoppage of work if cetaceans (whales, dolphins, and porpoises) are sighted.</p> <p>With mitigation in place, no residual adverse effects on species/habitat with special status are expected from 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
<p><b>Terrestrial resources</b> (e.g., vegetation, wildlife, etc.)</p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Project components within VFPA jurisdiction are located entirely within foreshore and intertidal marine environment. Impacts to terrestrial resources are not included in the scope of this review.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Wetlands</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Project is located within foreshore and intertidal marine environment. Wetland habitat is not anticipated to be affected by the Project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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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>Aquatic resources</b> (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)</p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on aquatic resources from habitat loss due to infilling activities and marine intertidal works. Fish, waterbirds, shorebirds, invertebrates, and marine plants use the aquatic habitats in the project area.</p> <p>To mitigate impacts on nearshore water quality and to aquatic species during construction activities, ongoing turbidity monitoring will be conducted, and an aquatic life salvage will be conducted in the Project work area prior to the placement of rock and fill materials. Salvaged organisms will be relocated to similar habitat outside of the works area.</p> <p>Riparian vegetation removal will be limited to what is required for the project and will be replanted at project completion. Habitat offsetting will be conducted to mitigate the loss of habitat from the infill and shoreline works. Habitat offsetting includes construction of approximately 3,100 m<sup>2</sup> of artificial reefs proposed to provide enhanced intertidal and shallow subtidal marine fish habitat. None of the proposed reef habitat locations are within the bull kelp bed. Reef habitats have been designed to enhance existing bull kelp habitat and adjacent intertidal areas. Installed habitat will be monitored for success based on criteria established by DFO.</p> <p>Migratory birds (e.g., surf scoter, great blue heron) that may utilize the site for food sources may be temporarily displaced during construction activities. Food sources for migratory birds (e.g., mussel, benthic invertebrates, and fish) are anticipated to recolonize following project completion.</p> <p>Other mitigations, as outlined in the CEMP, will be in place to reduce impacts to aquatic resources. These include: visual monitoring for marine mammals and implementing slow start-up procedures for in-water works</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"/>
<p><b>Health and socio-economic conditions</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<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 peoples.</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>Archaeological, physical, and cultural heritage resources</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on archeological, physical, and cultural heritage resources during construction activities.</p> <p>The works will follow the recommendations made in the Archaeological Impact Assessment (AIA), and a chance find procedure will be implemented as described in the CEMP. See Section 6, Indigenous Consultation for further details.</p> <p>With mitigation measures in place, the proposed works are not anticipated to affect archaeological, physical, or cultural heritage resources.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Current use of lands and resources for traditional purposes by Indigenous peoples</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The proposed works are not anticipated to affect current use of lands and resources for traditional purposes by Indigenous peoples.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Accidents and malfunctions</b></p> <p>Assessed as required by the <i>Canada Marine Act</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on surface water from accidental equipment leaks or spills.</p> <p>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.</p> <p>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.</p>	<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
- Sediments
- Surface water
- Terrestrial resources
- Aquatic resources
- Archaeological, physical, and cultural heritage resources
- Accidents and malfunctions

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

- Low in magnitude due to impacts on surface water and aquatic resources anticipated to be not significant with mitigations in place, the temporary nature of the construction activities, and construction of artificial reef habitat
- Local (i.e., offsite effects on nearby environment or community) in geographic extent because project impacts will be limited to the project site and immediate vicinity
- Short-term in duration because the Project will be in construction for approximately four months
- Continuous (daily to weekly) in frequency during the project construction period (approximately four months)
- Reversible/temporary because residual adverse effects of the Project would be cease once the project 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 Review Decision

In completing the environmental review, the port authority has reviewed and taken into account relevant information available on the proposed project, has considered the information and proposed mitigations provided by the Applicant and other information as listed elsewhere in this document, and concludes 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

December 16, 2019

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**ANDREA MACLEOD**  
**MANAGER, ENVIRONMENTAL PROGRAMS**

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**DATE OF DECISION**

## 8 CONCLUSION

In completing the project and environmental review, 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.** 19-006.

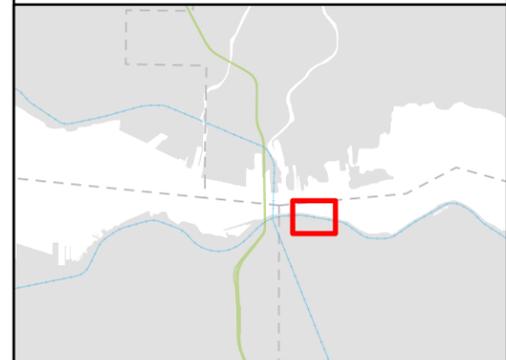
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**APPENDIX A  
Location Plan**

# CP Track Extension Cascadia Terminal PER 19-006

-  VFPA Boundary
-  Project Location
-  Railway
-  Property Line

0 10 20 40  
Meters



VFPA Spatial Data Group  
Prepared by: BL  
August 15, 2019  
Last updated: August 15, 2019  
PLAN #G2019-080

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

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

- Application form and materials submitted by Applicant on dates as follows:
  - PER application materials: June 27, 2019
  - Additional application materials: August 2, 2019, August 15, 2019 and October 30, 2019
  - Revised application materials: July 25, 2019
- All Project correspondence from June 27, 2019 to December 6, 2019.
- All plans and drawings labelled PER No.19-006-A to I.

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