



PORT of
vancouver


PROJECT AND ENVIRONMENTAL REVIEW REPORT

PER NO. 20-034 SEASPAN OUTFITTING PIER EXTENSION

Prepared for: Director, Planning & Development

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 PORT of vancouver Vancouver Fraser Port Authority		VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT
PER No.:	20-034	
Tenant:	Seaspan ULC	
Project:	Outfitting Pier Extension	
Project Location	10 Pemberton Avenue, North Vancouver	
Vancouver Fraser Port Authority SID No.:	DNV059	
Land Use Designation:	Industrial	
Applicant(s):	Seaspan ULC	
Applicant Address:	10 Pemberton Avenue, North Vancouver	
Category of Review:	C	
Recommendation:	That PER No. 20-034 for Outfitting Pier Extension 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. 20-034: Outfitting Pier Extension (the “Project”) proposed by Seaspan ULC (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* IAA is not required. However, the Port Authority authorization is required for the proposed Project to proceed and in such circumstances, where applicable, Section 82 of the *Impact Assessment Act* requires federal authorities to assure themselves that projects will not likely cause significant adverse environmental effects. The project and environmental review process is designed to provide that assurance. In addition, the Port Authority considers other interests, impacts and mitigations through the project and environmental review.

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

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

2 PROJECT DESCRIPTION

The Applicant proposes to construct a new outfitting pier located within the Vancouver Shipyards site at 10 Pemberton Avenue in North Vancouver. The project includes the removal of the existing timber outfitting pier; a timber structure approximately 155 meters in length and 10 meters in width (originally constructed in 1966 and extended in 1974) and replacing it with a new outfitting pier constructed of steel piles and a concrete deck approximately 272 meters in length and 19 meters in width. The new pier would effectively be a replacement and extension of the existing pier.

The new pier would have an increased footprint of approximately 3,700 square meters. Approximately 590 creosote and steel piles are proposed to be removed and replaced with approximately 126 new steel piles. Dredging is proposed for the area located adjacent to the new pier to allow for construction, and for vessel draft during operations. The new pier includes modular building provisions for three washrooms, a two-storey office, and two change rooms, at the north west corner.

The project would allow for increased capacity and improved efficiency for shipbuilding operations and support work under the National Shipbuilding Strategy (NSS), among other operations of the shipyard. Seaspan is under contract with the Canadian federal government through the NSS Program to construct and launch several non-combat vessels for Fisheries and Oceans Canada, Canadian Coast Guard, and non-combat support ships for the Royal Canadian Navy.

2.1 Proposed Works

Demolition of the existing timber outfitting pier, 155 m in length and 10 m in width including:

- Removal of approximately 590 wood creosote treated piles and four steel piles and supporting timber pile caps
- Removal of existing timber pier surface, stringers and decking trestle
- Removal and repurposing of the existing floating walkways from both sides of the existing outfitting pier
- Removal and reuse of nine existing floating steel camels
- Removal of eight multi-timber pile dolphins securing the camels

Construction of a new outfitting pier above the water surface with an area of approximately 272 m in length and 19.2 m in width including:

- Installation of approximately 126 X 1.1 m diameter vertical piles, supporting pile caps and piers, for a total in-water footprint of 119.7 m²
- Installation of 19 concrete pile caps (including the abutment) at bents from the shoreline to the outer mooring dolphin
- Installation of concrete or composite spans between bents
- Installation of concrete cast in place deck slabs
- Installation of ancillary deck infrastructure, including rail mounted traveling portal crane, buildings, fenders and mooring bollards
- Installation of a mooring dolphin consisting of four X 1.2 m diameter steel piles connected to the new outfitting pier via a dolphin catwalk
- Dredging the area surrounding the pier to accommodate changes in bathymetry in the basin associated with sediment transport and Seaspan vessel activities.

2.2 Proposed Construction Methods

Construction would include in-water and over-water construction activities within the Vancouver shipyards site. Marine equipment including barges, clamshell, pile drivers, tugs, cranes, drill rig, excavators, loaders, vibratory and impact hammer, air compressor and welding equipment will be used throughout construction. The equipment, materials and contractors are anticipated to arrive at the site via marine and land transportation.

Demolition of the existing timber outfitting pier is proposed in an isolated work area through removal of the pier deck infrastructure and existing deck slabs, removal of pier caps and stringers, and removal of timber piles and steel piles through vibro-extraction (where possible). Timber piles that break during initial extraction would be removed with a clamshell bucket. Additional debris would be removed from around the old pier area. Removal of existing vessel tie-up floats and timber/steel dolphins is also required. An existing outfall discharge pipe would be protected and reconnected to the newly constructed outfitting pier.

Demolition would be followed by dredging of a pocket to -8.8 metres chart datum using an environmental clamshell dredge. All dredging activities are proposed to be conducted within Fisheries and Oceans Canada's least risk to fish and fish habitat window of August 16 to February 28 annually. All other project activities are proposed to occur throughout the year.

Cantitravel construction of the new outfitting pier is a potential method of construction. Cantitravel involves the use of a custom fabricated bridge unit that supports a crane and accommodates multiple work fronts as it advances along the length of the pier, supported solely on the pier's pile foundations. The Cantitravel unit allows installation of all major structural elements in sequence. Alternatively, the pier may be constructed using spud barges, jack-up barges, barge derricks, and/or other floating construction equipment.

Dredging activities, including maintenance, crew shift changes, moving spud and flat-bottomed barges and ongoing bathymetric surveys are proposed to be carried out 24 hours a day, 7 days a week within the least risk fish window. With the exception of dredging, construction is proposed to take place within regular port authority construction hours of Monday to Saturday between the hours of 7:00 a.m. and 8:00 p.m., and no construction or physical activities are to take place on Sundays or statutory holidays.

Construction is scheduled to occur over an 18-month period starting in Q1 2022, and completing around Q3 2023.

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 continued use of the area for vessel manufacturing and marine support services conforms to the designation of "Industrial" in Vancouver Fraser Port Authority's Land Use Plan.

3.2 Engineering

The proposed Project intends to replace aging infrastructure with new steel piles, mooring dolphins, concrete cast in place deck slabs and ancillary deck infrastructure. This includes services and utilities that are to be determined at the detailed design phase.

Engineering has reviewed the application and requires the Applicant to adhere to the following:

- Signed and sealed drawings approved for construction by a professional engineer to be submitted prior to commencement of construction;
- On completion of the project the Applicant shall provide record drawings.

These are reflected in condition No. 16 and 46 in the Permit.

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

3.3 Marine Operations

The proposed Project does not cause any navigational concerns as it is fully within the Applicant’s waterlot and will only impact the Applicant’s operations for the duration of construction.

Marine Operations have reviewed the application and require the Applicant to adhere to the following:

- Notify the Harbour Master two days prior to commencing construction;
- Contact Canadian Coast Guard for issuance of a NavWarn;
- Inform the BC Coast Pilots & Pacific Pilotage Authority of the Marine Construction Staging Plan;
- Position vessels and barges in such a way that is safe to Marine traffic;
- Send newly constructed record drawings of marine works to the Canadian Hydrographic Service.

These are reflected in condition Nos. 22, 23, 24, 30 and 47 in the Permit.

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

4 STAKEHOLDER CONSULTATION

The proposed Project was assessed to have potential impacts to stakeholders and the local community and consultation activities were determined to be required. The following sections describe the stakeholder 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 District of North Vancouver on March 2, 2021 notifying them of the proposal.

The District of North 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	Rationale
Due to the nature of the proposed work both in water and on land, it is important that the contractor obtain an Erosion and Sediment Control Plan for review and approval as noted in the CEMP.	Condition No. 32 of the Permit requires the Applicant to carry out all work in accordance with the construction environmental management plan provided by the Applicant. The construction environmental management plan summarizes erosion and sediment control measures.	Adherence to an approved construction environmental management plan will ensure potential impacts to the marine environment are appropriately mitigated.
Request for additional information regarding potential increase in traffic on District roads during construction.	None required.	Construction traffic volumes are unknown at this time, but unlikely to significantly affect roads in the area. Construction equipment, materials and contractors are set to arrive at the site via both marine and land transportation. The

		Applicant may need to consult directly with District staff to discuss any municipal requirements that apply to road traffic.
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4.2 North Shore Waterfront Liaison Committee - Liaison Group Notification

The proposed Project was assessed to be of potential interest to the North Shore Waterfront Liaison Committee (NSWLC) community liaison group. A referral letter was sent to the committee as part of their March 12, 2021 meeting package, notifying them of the proposed Project. The Port Authority did not receive any comments from the NSWLC.

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 March 1 to March 30, 2021. At the close of the 30 calendar day public comment period, no comments were received from the public.

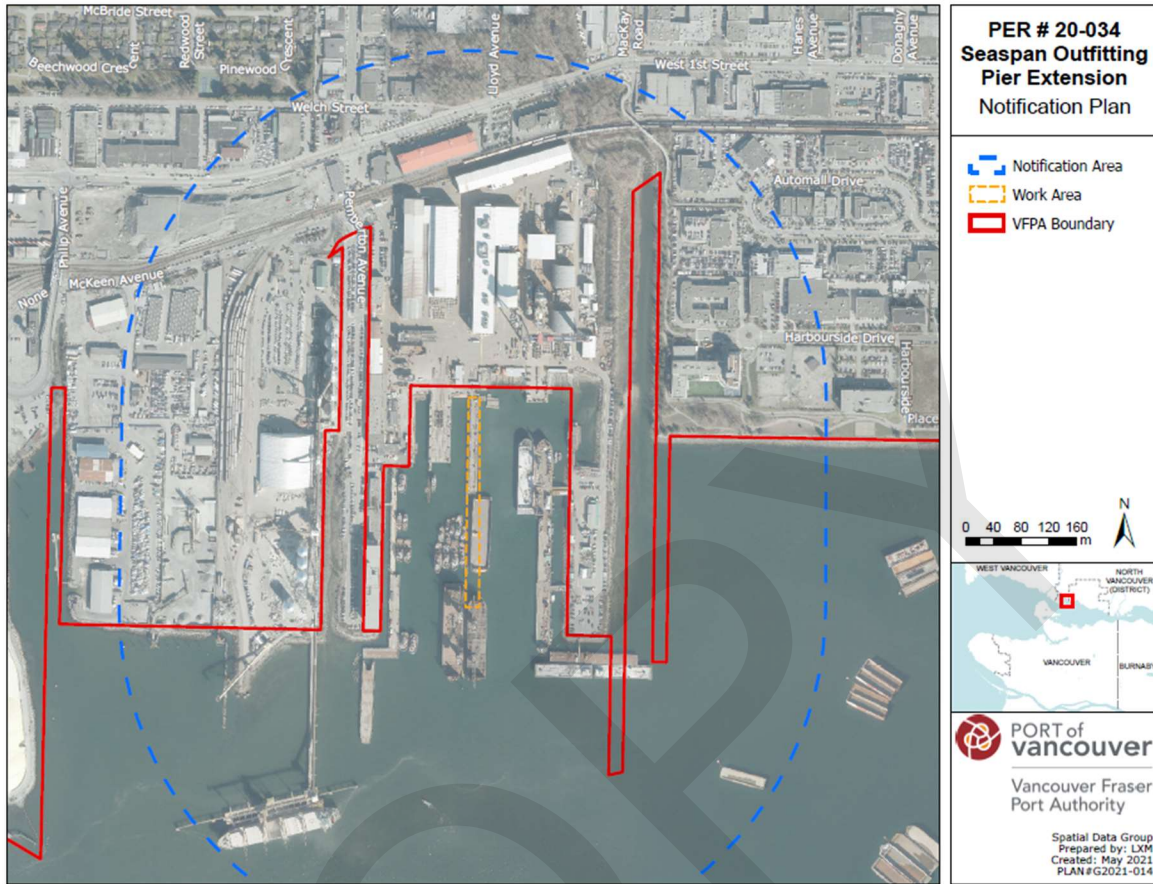
5.1 Summary of Public Engagement

A description of the Project and proposed works, and all supporting materials were posted to the Port Authority’s website in March 2021. In addition, the notice of intent was posted to the Canadian Impact Assessment Registry as noted above. A link to the Canadian Impact Assessment registry posting was included on the Port Authority’s and the Applicant’s project specific webpages. Links were provided from the port authority’s webpage to the Applicant’s website for more information.

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 caused by pile removal and installation activities, or dredging activities during construction.

As a result, the Applicant is required to send a construction notice to adjacent residents and businesses in the District and City of North Vancouver as shown in the map below. The notification area is within approximately 500 m from the project site. The Applicant is also required to send a copy of the construction notice via email to the Norgate Community Association. The construction notice shall be distributed by the Applicant at least 10 business days prior to the start of works. The construction notice will also be posted on the Port Authority’s and the Applicant’s websites. This is set out conditions No. 19 and 20 in the project permit.

Map of notification area



6 INDIGENOUS CONSULTATION

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

The following Indigenous groups were consulted:

- Musqueam Indian Band
- Squamish Nation
- Tsleil-Waututh Nation

The following consultation activities were conducted - on February 11, 2021, a referral package was sent to each of the Indigenous groups listed above. The referral package included:

- Consultation letter
- Participation Funding Agreement
- Attachments:
 - Seaspan Outfitting Pier Extension Application document
 - Appendix A – Project and Environmental Review application submission requirements and application form
 - Appendix B – Location Plan
 - Appendix C – Site Plan
 - Appendix D – Seaspan Site Photo Log
 - Appendix E – Design Drawings

- Appendix F – Construction Fire Safety Plan
- Appendix G – Pre-Demolition Hazardous Building Materials Assessment
- Appendix H – Geotechnical Report
- Appendix I – Biophysical Survey Report – Subtidal Dive Survey
- Appendix J – Dredge Sediment Report
- Appendix K – Archeological Overview Assessment
- Appendix L – Construction Environmental Management Plan
- Appendix M – Fisheries and Oceans Request for Review Application
- Appendix N – Draft Communications Plan
- Appendix O – Draft Material for the North Shore Waterfront Liaison Committee (NSWLC)

Comments were requested from Indigenous groups within 45 calendar days, by March 29, 2021. On March 17, 2021, reminders were sent to those Indigenous groups who had not yet submitted comments to indicate that the end of the comment window was upcoming. The consultation period was subsequently extended.

The Port Authority provided written responses to the comments provided by various Indigenous groups, in July and August 2021. Meetings were also held with interested Indigenous groups to discuss the project in April 2021 and again in August 2021. The comment window for the project closed on August 26, 2021.

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
Concerns regarding the potential for the project to impact undisturbed archaeological or cultural heritage resources.	None.	As no ground disturbing activities are planned for the proposed project, further archaeological studies are not planned.
Potential for construction activities (i.e., machinery and equipment) to affect water quality and subsequently impact fish habitat.	The applicant submitted a Construction and Environmental Management Plan (CEMP), which included a number of mitigation measures relating to water quality, including the following based on specific feedback from Indigenous groups: <ul style="list-style-type: none"> • Requiring that drip trays be placed under all stationary equipment • Requiring that a large spill kit be available on-site at all times • Details regarding the maintenance of fuel containers 	None.
Potential for dredging activities to affect water quality.	The applicant has prepared a Dredge Management Plan, which indicates that a silt curtain will be in place for dredging activities.	None.
Potential impacts of underwater noise to fish during pile driving.	See conditions No. 34 & 35.	None.

<p>Occurrence of in-water activities outside of the Department of Fisheries and Oceans (DFO) Least Risk window for fish in Burrard Inlet.</p>	<p>None.</p>	<p>Dredging will occur during the DFO least risk fish window and all other activities will occur year-round with appropriate mitigations in place.</p>
<p>Role of the environmental monitor (EM) and the ability of the EM to stop work.</p>	<p>See condition No. 31 & 33. Additional details regarding the role of the EM are contained in the CEMP submitted by the applicant. This includes granting the EM the authority to issue stop-work orders.</p>	<p>None.</p>
<p>Concerns that a cumulative effects assessment was not included.</p>	<p>None.</p>	<p>Consideration of cumulative effects is inherently integrated into the Port Authority's environmental reviews and initiatives. While the Port Authority does not have a legislative requirement to explicitly consider cumulative effects, the past and current effects of development on the environment provide the context for PER.</p>
<p>Concerns that the project may result in an increase in marine traffic and noise.</p>	<p>None.</p>	<p>It is not anticipated that any increased capacity brought about by the project would have a notable impact on marine traffic in the area. Construction impacts are to be confined to the Applicant's waterlot and only impact their own operations.</p>
<p>Concerns regarding the potential for the project to impact marine mammals.</p>	<p>A Marine Mammal Management Plan will be developed for the project. See condition No. 21.</p>	<p>None.</p>

The Port Authority has made a meaningful effort to consult with all potentially affected Indigenous groups. Based on the record of consultation, the Port Authority is of the view that the duty to consult has been met.

7 ENVIRONMENTAL EFFECTS REVIEW

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

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

7.1 Scope of Environmental Review

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

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

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

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

7.2 Environmental Effects and Mitigation Summary

Project information pertinent to the environmental review includes the following:

- A subtidal marine biophysical dive survey was conducted within the footprint of the new outfitting pier and dredge area in June 2020 to assess and characterize the marine environment potentially affected by the Project. Substrates observed throughout the survey area were dominated by fines or sand. Overall, limited species diversity and low density were observed within the Project area. Dungeness crab, red rock crab, and horse clams were observed on the soft bottom habitat, while plumose anemones, ochre stars, shiner perch and striped perch were observed on, or around, the existing dolphin/pile structures. The most common organism observed throughout the survey area was the mottled star. Algae was generally rare, with sugar wrack kelp being the most commonly observed species.
- The construction environmental management plan (CEMP) submitted as part of the application identified mitigation measures to be implemented during the Project, including: environmental monitoring by a qualified professional, isolating the work area using floating silt curtains, visual monitoring for marine mammals and adherence to a cetacean exclusion zone, hydroacoustic monitoring during impact pile driving to monitor underwater sound, and implementing spill prevention planning.
- Sediment sampling identified contaminated surface sediment in the western portion of the basin which has been characterized and delineated in consultation with Environment and Climate Change Canada (ECCC). Sediments not suitable for disposal at sea will be appropriately handled and disposed in an upland licensed landfill facility permitted to receive contaminated sediment. Sediment chemistry analysis indicated that a portion of the upper elevation and deeper portions of sediment within the dredge pocket may meet criteria and be suitable for disposal at sea.
- The dredge management plan identified mitigation measures to be implemented during dredging, including: isolating the work area using floating silt curtains, conducting a salvage program within the construction area to capture and relocate slow moving resident marine species such as crabs, dredging contaminated sediment using an environmental clamshell bucket to limit sediment suspension in the water column, and sequencing dredging to first remove contaminated sediments (up to approximately 1.5 metres below the seabed) and collect confirmatory samples, followed by dredging material intended for disposal at sea.

- A Request for Review and supplemental information were submitted to Fisheries and Oceans Canada (DFO). In response, DFO recommended mitigations to be implemented to reduce potential impacts to fish and fish habitat. These include monitoring by a qualified environmental professional, conducting hydroacoustic monitoring during impact pile driving, using an effective sound attenuation device (e.g., bubble curtain) to reduce peak sound pressure levels to below 206 dB re: 1 µPa and a SELcum of 186 dB re: µPa2s outside of the sound attenuation device to protect fish and pinnipeds, establishing a cetacean exclusion zone (e.g., perimeter around the noise source) prior to impact pile driving where sound levels are not to exceed 160 dBRMS re: 1 µPa at the edge of the cetacean exclusion zone, and using a soft start procedure during impact pile driving.
- A desktop-based archaeological review determined that the risk of impact to archaeological or protected historical resources is very low. Additional detailed archaeological studies were not recommended.

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 during construction activities from equipment operation. Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the construction environmental management plan. This includes an idling reduction, the turning off of emission sources when not in use, and dust control if needed. Construction activities will be temporary and short-term in duration (i.e., intermittent over an approximately 18 month period).</p> <p>With mitigation in place, residual adverse effects on air quality are not expected to be significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lighting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects from lighting during nighttime construction activities and operation. Mitigation measures will be implemented to reduce those effects, including pointing temporary construction lights downward and placing task lighting close to the work area. Lighting is anticipated to have minimal adverse effects due to the location of the Project in an industrial zone and construction works being limited to marine activities.</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"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Noise	<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 construction environmental management plan. With the exception of dredging, construction activities will be conducted during regular hours. Construction noise is anticipated to have minimal adverse effects due to the location of the Project in an industrial zone and works being limited to marine activities.</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"/>
Soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is located within subtidal and intertidal areas in Burrard Inlet. Soils are not anticipated to be affected by the Project.</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 from spills during marine construction activities and suspension of sediments during dredging.</p> <p>Mitigation measures outlined in the construction environmental management plan and the dredge management plan will be implemented during construction to mitigate adverse effects to sediments. These include isolating the work area using floating silt curtains, dredging contaminated sediment using an environmental clamshell bucket to limit sediment suspension in the water column, monitoring for turbidity during in-water works, and implementing a spill prevention, containment and clean-up plan.</p> <p>During operation, surface water on the new pier will be directed to the upland and incorporated into the existing upland stormwater management system.</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"/>
Ground water	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is located within subtidal and intertidal areas in Burrard Inlet. Groundwater 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
Surface water and water bodies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on surface water and water bodies from spills during marine construction activities and suspension of sediments during dredging.</p> <p>Potential adverse effects will be reduced through the implementation of mitigation measures outlined in the construction environmental management plan and dredge management plan, including isolating the work area using floating silt curtains, dredging contaminated sediment using an environmental clamshell bucket to limit sediment suspension in the water column, sequencing dredging to first remove contaminated sediments followed by dredging material intended for disposal at sea, monitoring for turbidity during in-water works, and implementing a spill prevention, containment and clean-up plan.</p> <p>During operation, surface water on the new pier will be directed to the upland and incorporated into the existing upland stormwater management system.</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 checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on species with special status during construction activities. Federally-listed fish and marine mammal species have the potential to be found in the Project area. None of these species were identified at the site during the biophysical survey.</p> <p>Mitigation measures to reduce the potential for adverse effects will be implemented as detailed in the construction environmental management plan, including: visual monitoring for marine mammals and adherence to a cetacean exclusion zone, hydroacoustic monitoring during impact pile driving to monitor underwater sound, and use of an effective sound attenuation device (e.g., bubble curtain) to reduce peak sound pressure levels to below 206 dB re: 1 µPa and a SELcum of 186 dB re: µPa2s outside of the sound attenuation device to protect fish and pinnipeds.</p> <p>With mitigation in place, residual adverse effects on species/habitat with special status are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Terrestrial resources (e.g., vegetation, wildlife, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is located within subtidal and intertidal areas in Burrard Inlet and the surrounding area is predominantly industrial land. No disturbance or removal of terrestrial vegetation is proposed as part of the Project.</p> <p>Terrestrial resources are not anticipated to be affected by the Project.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is located within subtidal and intertidal areas in Burrard Inlet. Wetland habitat is not anticipated to be affected by the Project.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aquatic resources (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Project-related activities have the potential to disturb aquatic species and fish habitat (e.g., through induced turbidity and other changes to water quality, underwater noise, displacement of species during construction, and accidental spills).</p> <p>Potential adverse effects will be reduced through the implementation of mitigation measures outlined in the construction environmental management plan and dredge management plan, including: environmental monitoring by a qualified professional, isolating the work area using floating silt curtains, visual monitoring for marine mammals and adherence to a cetacean exclusion zone, hydroacoustic monitoring during impact pile driving to monitor underwater sound, use of an effective sound attenuation device (e.g., bubble curtain) to reduce peak sound pressure levels to below 206 dB re: 1 µPa and a SELcum of 186 dB re: µPa2s outside of the sound attenuation device to protect fish and pinnipeds, dredging contaminated sediment using an environmental clamshell bucket, and salvaging and relocating crabs outside of the Project area prior to pile driving and dredging.</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"/>
Health and socio-economic conditions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Based on the very low magnitude of residual effects on air and noise, the Project is not expected to cause adverse effects on health or socio-economic conditions of people, including Indigenous people.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Archaeological, physical, and cultural heritage resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Project is located within an area of historical fill and disturbance. An archaeological review determined that the risk of impact to archaeological or protected historical resources is very low. Adverse effects on archaeological, physical, and cultural heritage resources are not anticipated.	<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 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
- Sediment
- Surface water and waterbodies
- Species or habitat with special status
- Aquatic resources
- Accidents and malfunctions

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

- Low in magnitude, because impacts are anticipated to be not significant with mitigations in place
- Local in geographic extent, because effects will be limited to the Project area and immediate vicinity
- Short-term in duration because Project construction will be intermittent and temporary for approximately 18 months and unlikely to result in ongoing effects on water quality or aquatic resources once construction is complete
- Continuous (daily to weekly) in frequency during Project construction
- Reversible/temporary because residual adverse effects of the Project would cease once 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 Effects Review Decision

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

ORIGINAL COPY SIGNED

LISA MCCUAIG
MANAGER, ENVIRONMENTAL PROGRAMS

October 14, 2021

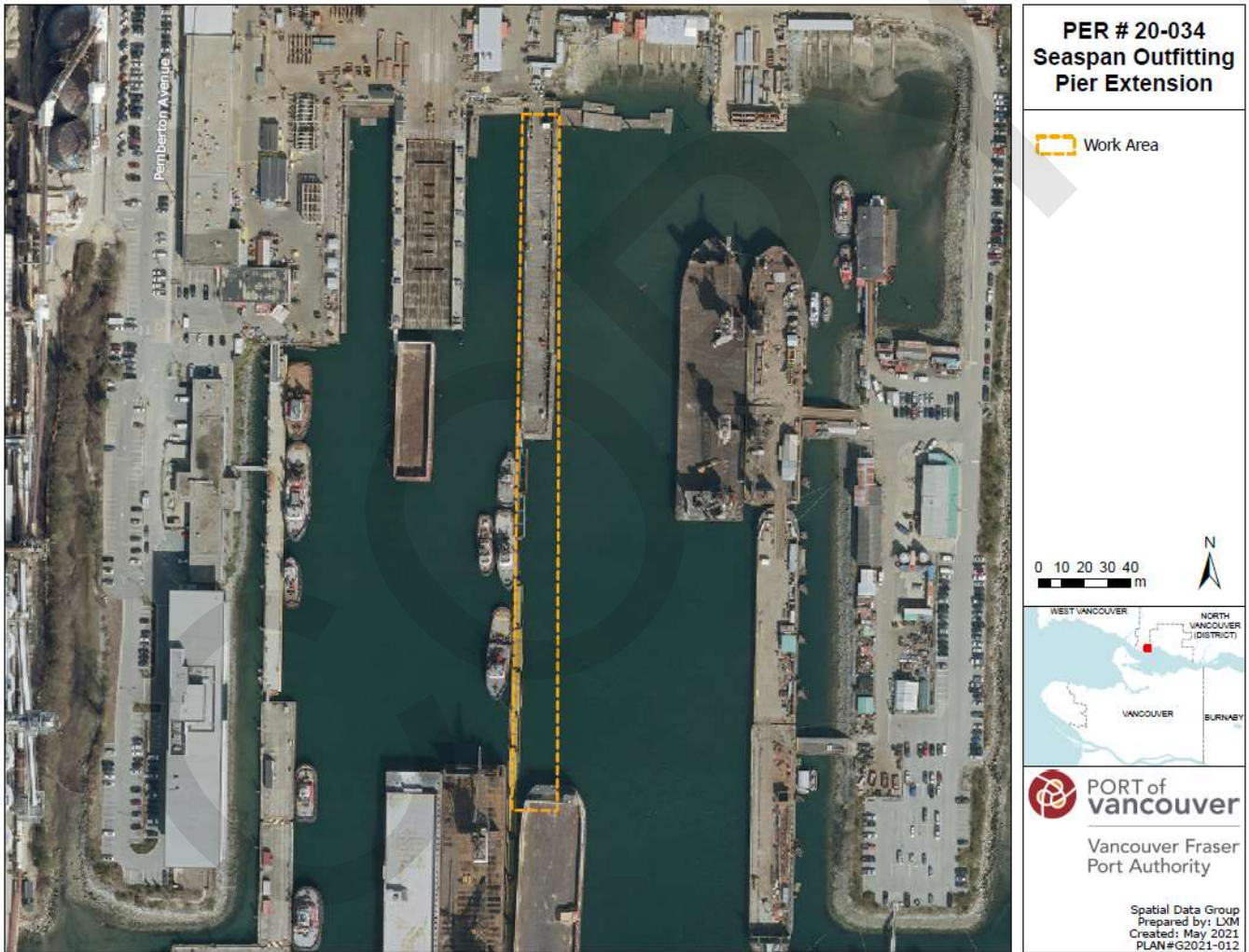
DATE OF DECISION

8 CONCLUSION

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

It is the recommendation of staff that this application be approved subject to conformance with the project and environmental conditions listed in project permit **PER No. 20-034**.

APPENDIX A Location Plan



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 Applicant on behalf of the tenant on November 19, 2020;
- All Project correspondence from November 19, 2020 to September 16, 2021;
- All plans and drawings labelled PER No.20-034-A to I;
- “Construction Fire Safety Plan – Outfitting Pier Extension Project”, November 19, 2020, Seaspan;
- “Pre-Demolition Hazardous Building Materials Assessment – T-dock Outfitting Pier”, October 5, 2020, Stantec Consulting Ltd.;
- “Preliminary Geotechnical Design Report - Seaspan Outfitting Pier Expansion”, October 16, 2020, Stantec Consulting Ltd.;
- “Seaspan Shipyard: T-dock Outfitting Pier Subtidal SCUBA Survey – Biophysical Subtidal SCUBA Survey Results”, August 10, 2020, Stantec Consulting Ltd.;
- “Dredge Sediment Report Samplien and Analysis Plan - Seaspan Vancouver Shipyard Outfitting Pier”, November 6, 2020, Stantec Consulting Ltd.