



**PORT of
vancouver**

Vancouver Fraser
Port Authority

**VANCOUVER FRASER PORT AUTHORITY
PROJECT AND ENVIRONMENTAL REVIEW
REPORT AND PERMIT**

PER No.:	20-084
Tenant:	Vancouver Pile Driving Ltd.
Project:	Vancouver Pile Driving Graving Dock Rehabilitation
Project Location:	20 Brooksbank Avenue, North Vancouver
Vancouver Fraser Port Authority SID No.:	CNV133
Land Use Designation:	Industrial
Applicant/Permit Holder:	Vancouver Pile Driving Ltd.
Category of Review:	B
Date of Approval:	January 18, 2022
Date of Expiry:	February 28, 2024

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 and project permit (the “Permit”) documents the Port Authority’s project and environmental review of PER No. 20-084: Vancouver Pile Driving Graving Dock Rehabilitation (the “Project”) proposed by Vancouver Pile Driving 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 considered 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. This review provides 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 the following pages of this report.

This Permit is the authorizing document allowing the Applicant to proceed with the Project subject to the listed project and environmental conditions.

2 PROJECT DESCRIPTION

In this project permit, the Project means the physical activities authorized by the Port Authority to be carried out pursuant to **PER No. 20-084**, as described below.

The Applicant proposes to replace the walls and expand their graving dock facility located on the north side of Burrard Inlet adjacent to 20 Brooksbank Avenue, North Vancouver. The new walls will increase the graving dock's footprint westwards by approximately 8.0 metres (m), eastwards by approximately 1.5 m and northwards by approximately 5.5 m. The excavation footprint of the Project will be approximately 950 m². The depth of the graving dock will not change, and the increased footprint will be predominantly on previously disturbed upland areas.

The Project will be undertaken primarily from land, with marine works limited to the southern boundary of the graving dock. Marine works will include the reconstruction of the access gate to suit the new width of the graving dock and placement of subtidal riprap slope protection at the base of the new gate.

Installation of the expanded graving dock's walls will be completed in isolation from the marine environment by use of a temporary cofferdam. The cofferdam will extend approximately 2 m south of the existing graving dock access gate, running east to west for the entire length of the expanded graving dock footprint (approximately 28 m).

After Project completion, the graving dock will continue to be used predominantly for the production of concrete caissons and floating concrete structures.

2.1 Proposed Works

The proposed Project works include:

- Installation of upland sheet pile walls and tie backs outside of the existing graving dock footprint to create the expanded area
- Upland excavation of the expanded footprint
- Installation of a temporary cofferdam around the graving dock gate expansion area
- Demolition of the existing graving dock sheet pile, concrete base slab and access gate
- Reconstruction of the access gate and reinstatement of the adjacent sheet and timber pile walls
- Cast-in-place concrete pour of the graving dock's expanded concrete base slab
- Installation of subtidal riprap armouring
- Decommissioning of the temporary cofferdam

The Project will take approximately three months and will be completed during a total shutdown of graving dock operations.

2.2 Environmental Effects Summary

In-water works will consist of the installation of the cofferdam and subtidal riprap slope protection, and will be limited to the southern boundary of the graving dock and the wingwalls to the east and west of the graving dock's gate. Demolition and installation of the graving dock's walls, including excavation works, sheet piling, tie back installations, and cast-in-place concrete pours will occur in an isolated dry environment within the temporary cofferdam. A construction environmental management plan submitted as part of the Project application identified specific mitigation measures to be implemented, including scheduling activities to occur within the least-risk work windows for aquatic species, undertaking environmental monitoring by a qualified professional, implementing a spill prevention plan, and developing a Project-specific environmental protection plan for sheet pile installation.

Riprap slope protection will be required at the base of the expanded gate structure as well as to the east and west to support the wingwalls. A habitat assessment determined that the Project would not impact wildlife species or their habitat. Fish mortality during construction was determined to be avoidable through the application of appropriate, well-established best management practices. In addition, the Applicant submitted a Request for Review to Fisheries and Oceans Canada (DFO). DFO provided advice, in the form of mitigation measures, to reduce potential impacts to fish and fish habitat. The Port Authority in determining its Project-specific conditions considered these mitigation measures.

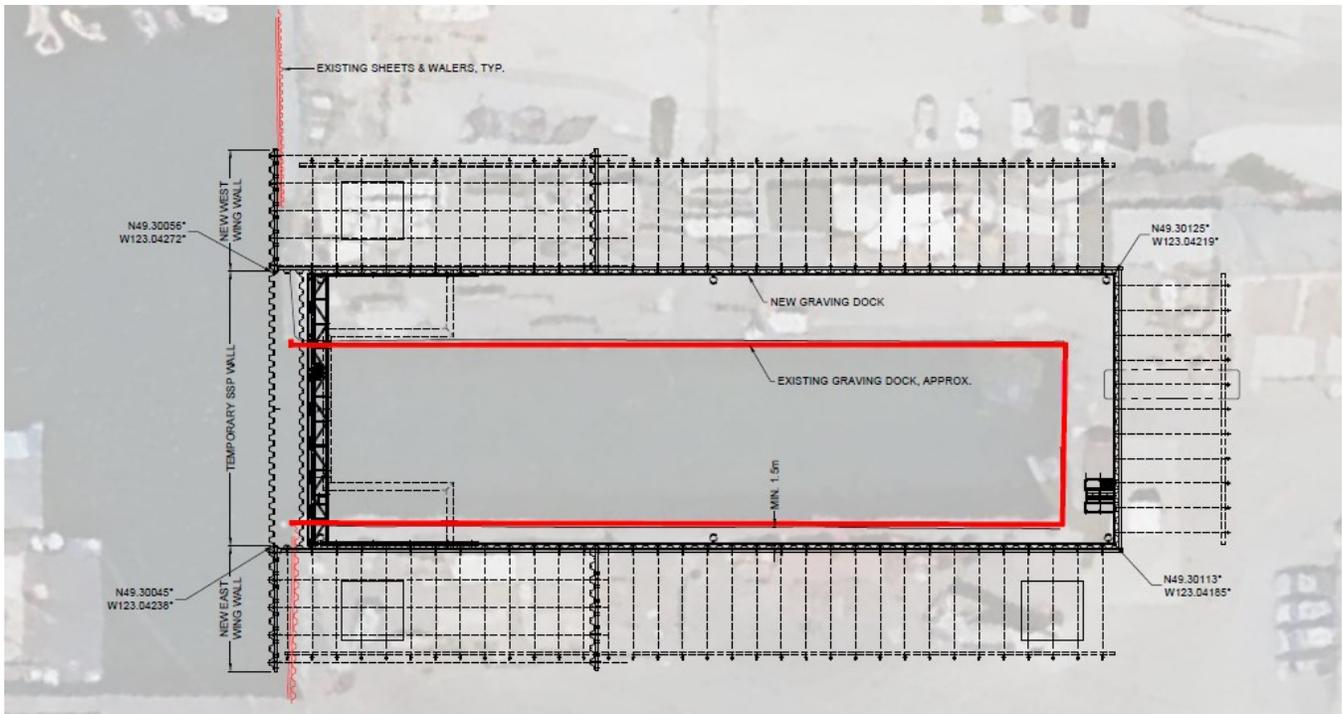


Figure 1. New graving dock location

3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS

The following Port Authority departments have undertaken and completed a review of these works and confirm that the proposal meets their requirements, subject to the listed project and environmental conditions.

- Planning
- Environmental Programs
- Engineering
- Marine Operations
- Project Consultation

4 INDIGENOUS CONSULTATION

The Port Authority has reviewed the proposed works and determined that adverse impacts to Aboriginal or Treaty rights are not expected.

5 EXISTING POLICIES OR GUIDELINES

The Project area is designated as “Industrial” in the Port Authority Land Use Plan (2020). The Project is compliant with the Land Use Plan.

6 NOTIFICATIONS

6.1 Municipal Notification

The proposed Project was assessed by the Port Authority to have no potential impacts to municipal interests. Consequently, municipal notification was not conducted.

6.2 Adjacent Tenant Notification

The proposed Project was assessed by the Port Authority to have potential impacts to adjacent tenant interests. A notification letter was sent to G3 on January 10, 2022, notifying them of the proposed Project. G3 did not provide comments on the proposed Project.

6.3 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 19 to December 18, 2021. At the close of the 30-calendar day public comment period, no comments were received.

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 generated during sheet pile installation, pile extraction and demolition. As a result, the Applicant is required to send a construction notification to adjacent businesses within approximately 400 m 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. This is condition No.16 in the permit.

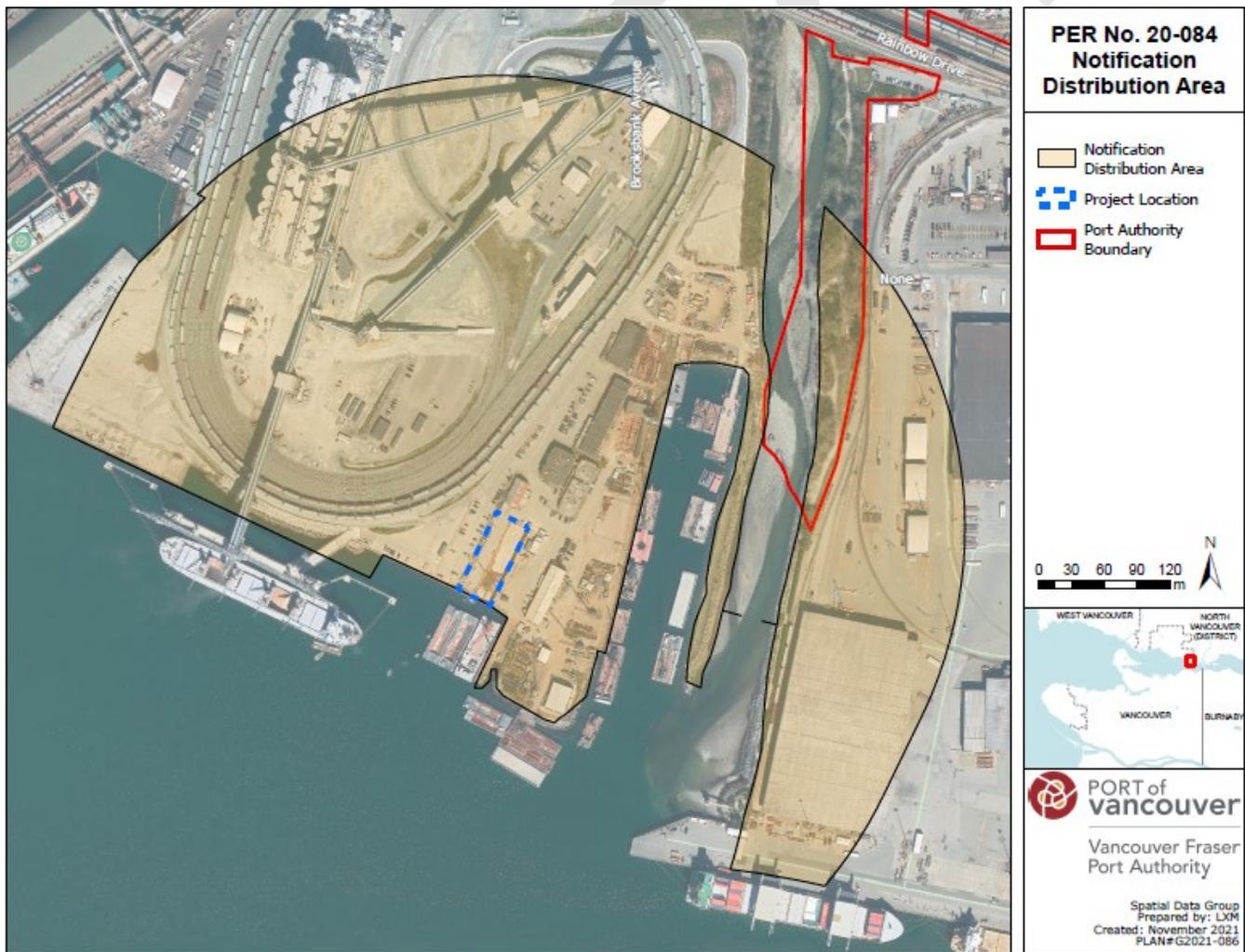


Figure 2. Map of notification area

7 INFORMATION SOURCES

The Port Authority has relied upon the following sources of information in its review of the Project.

- Application form and materials submitted by the Applicant on June 6, 2021
- Project correspondence from June 8, 2020 to January 5, 2022

8 ENVIRONMENTAL REVIEW DECISION

In completing the project and environmental 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 conditions described in the project and environmental conditions section below, the Project is not likely to cause significant adverse environmental effects.

ORIGINAL COPY SIGNED

LISA McCUAIG
MANAGER, ECOSYSTEM MANAGEMENT AND
ENVIRONMENTAL PROGRAMS

January 17, 2022

DATE OF DECISION

9 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 project and environmental conditions section below, the Project has appropriately addressed all identified concerns.

PROJECT AND ENVIRONMENTAL REVIEW DECISION

Project Permit PER No. 20-084 is approved by:

ORIGINAL COPY SIGNED

CHRIS BISHOP
MANAGER, PROJECT AND ENVIRONMENTAL
REVIEW

January 17, 2022

DATE OF APPROVAL

10 PROJECT AND ENVIRONMENTAL CONDITIONS

The Port Authority has undertaken and completed a review of the Project in accordance with the *Canada Marine Act* and Section 5 of the *Port Authorities Operations Regulations* and, as applicable, Section 82 of the *Impact Assessment Act*.

If at any time Vancouver Pile Driving Ltd. (the "Permit Holder") fails to comply with any of the project and environmental conditions set out in the project permit (the "Permit") below, or if the Port Authority determines that the Permit Holder has provided any incomplete, incorrect or misleading information in relation to the Project, the Port Authority may, in its sole and absolute discretion, cancel its authorization for the Project or change the project and environmental conditions to which such authorization is subject.

Pursuant to Section 29 of the *Port Authorities Operations Regulations*, the Port Authority may also cancel its authorization for the Project, or change the project and environmental conditions to which such authorization is

subject, if new information is made available to the Port Authority at any time in relation to the potential adverse environmental and other effects of the Project.

The following are the minimum conditions that must be followed by the Permit Holder to mitigate potential or foreseeable adverse environmental and other effects.

Port Authority Guidelines and Record Drawing Standards referenced in this document can be located at:

<https://www.portvancouver.com/permitting-and-reviews/per/project-and-environment-review-applicant/guidelines/>.

No.	GENERAL CONDITIONS
1.	The Permit Holder must have a valid lease, licence, or access agreement for the Project site prior to accessing the Project site or commencing construction or any other physical activities on the Project site. This Permit shall in no way limit any of the Permit Holder's obligations, or the Port Authority's rights, under such lease, licence, or access agreement.
2.	The Permit Holder shall at all times and in all respects, comply with and abide by all applicable statutes, laws, regulations and orders from time to time in force and effect, including all applicable environmental, labour and safety laws and regulations.
3.	This Permit in no way endorses or warrants the design, engineering, or construction of the Project and no person may rely upon this Permit for any purpose other than the fact that the Port Authority has permitted the construction of the Project, in accordance with the terms and conditions of this Permit.
4.	The Permit Holder shall indemnify and save harmless the Port Authority in respect of all claims, losses, costs, fines, penalties or other liabilities, including legal fees, arising out of: (a) any bodily injury or death, property damage or any loss or damage arising out of or in any way connected with the Project; and (b) any breach by the Permit Holder of its obligations under this Permit.
5.	The Permit Holder is responsible for locating all existing site services and utilities including any located underground. The Permit Holder is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of the Port Authority, that result from construction and operation of the Project.
6.	The Permit Holder shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with applicable standards and specifications set out in the sections above entitled Project Description and Information Sources. The Permit Holder shall not carry out any other physical activities unless expressly authorized by the Port Authority.
7.	The Permit Holder shall cooperate fully with the Port Authority in respect of any review by the Port Authority of the Permit Holder's compliance with this Permit, including providing information and documentation in a timely manner, as required by the Port Authority. The Permit Holder is solely responsible for demonstrating the Permit Holder's compliance with this Permit.
8.	The Permit Holder shall review the Permit with all employees, agents, contractors, licensees and invitees working on the Project site, prior to such parties participating in any construction or other physical activities on the Project site. The Permit Holder shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with this Permit.
9.	The Permit Holder shall make available upon request by any regulatory authority (such as a Fishery Officer) a copy of this Permit.
10.	Unless otherwise specified, the Permit Holder shall provide plans, documents, and notices required under this Permit to the following email address: per@portvancouver.com and referencing PER No.20-084 .

11.	Unless otherwise specified, all plans, schedules, and other Project-related documentation that the Permit Holder is required to provide under this Permit, and any subsequent updates, must be to the Port Authority's satisfaction.	
12.	The Port Authority shall have unfettered access to environmental compliance documentation and the Project site at all times during construction without notice.	
13.	The Permit Holder must maintain and retain any records associated with, or produced by, actions or activities undertaken to achieve compliance or that indicate non-compliance with project permit conditions. These records must be made available at the request of the Port Authority.	
	CONDITIONS – PRIOR TO COMMENCING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES	SUBMISSION TIMING (business days)
14.	The Permit Holder shall submit Issued For Construction Drawings for proposed works in accordance with the Port Authority's Record Drawing Standards. These drawings shall be signed and sealed and approved for construction by a professional engineer licensed to practice in the Province of British Columbia. In addition, these drawings shall be submitted in both AutoCAD and PDF format and shall be named according to the record drawing index numbering system set out at Section 2.10 of the Port Authority's Record Drawing Standards.	5 business days before commencing construction or any physical activities
15.	The Permit Holder shall provide a draft construction notification to the Port Authority's satisfaction in accordance with the Port Authority's Public Engagement Guidelines.	20 business days before commencing construction or any physical activities
16.	The Permit Holder shall distribute a construction notification to residents and businesses within 400 metres of the Project site. This shall be completed to the Port Authority's satisfaction. The Permit Holder shall notify the Port Authority when such distribution has been completed.	10 business days before commencing construction or any physical activities
17.	The Permit Holder shall have in place a spill prevention, containment and clean-up plan for hydrocarbon products (including fuel, oil and hydraulic fluid) and any other deleterious substances. Appropriate spill containment and clean-up supplies shall be available on the Project site at all times and all personnel working on the Project shall be trained on the spill prevention, containment and clean-up plan. The Permit Holder shall carry out the Project in accordance with the spill prevention, containment and clean-up plan.	Before commencing construction or any physical activities
18.	Prior to the commencement of any vessel-related activities, the Permit Holder shall contact Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS), (email: NAVWARN.MCTSPRinceRupert@innav.gc.ca ; Phone: 250-627-3070) regarding the issuance of a Navigational Warning (NAVWARN) to advise the marine community of potential hazards associated with the Project.	As per Coast Guard requirements

19.	<p>The Permit Holder shall submit an updated marine construction and staging plan to the Port Authority's satisfaction, which includes:</p> <ul style="list-style-type: none"> a) Identification of navigation related hazards and risk mitigation measures b) Staging and construction areas c) Dates and hours of operations d) Description of activities taking place e) Participating equipment and vessels (dimensions must be included) f) Method of preferred communication with marine users g) Special requests and/or additional information <p>The Permit Holder shall carry out the Project in accordance with the marine construction and staging plan, including any subsequent updates made to the Port Authority's satisfaction.</p>	15 business days prior to commencing construction activities
CONDITIONS – DURING CONSTRUCTION OR ANY PHYSICAL ACTIVITIES		
20.	The Permit Holder shall notify the Port Authority upon commencement of construction, or any physical activities (e.g., mobilization to the Project site).	
21.	All general construction and physical activities related to the Project shall be conducted from Monday to Saturday between the hours of 7:00 a.m. and 8:00 p.m. No construction and physical activities shall take place on Sundays or holidays. These hours shall not be modified without prior approval of the Port Authority. To request permission to conduct activities outside these hours, the Permit Holder must submit a written request no less than 30 business days prior to the desired start date.	
22.	The Permit Holder shall notify the Port Authority within two business days of any complaints received from the community and stakeholders during construction and indicate how the Permit Holder has responded to such complaints.	
23.	Without limiting the generality of permit condition #2, the Permit Holder shall not, directly or indirectly: (a) deposit or permit the deposit of a deleterious substance of any type in water frequented by fish in a manner contrary to Section 36 of the <i>Fisheries Act</i> ; or (b) adversely affect fish or fish habitat in a manner contrary to Section 35 of the <i>Fisheries Act</i> .	
24.	The Permit Holder shall carry out the Project in accordance with the construction environmental management plan and marine habitat assessment report provided by the Permit Holder, and any subsequent updates made to the Port Authority's satisfaction.	
25.	The Permit Holder shall engage a qualified environmental professional to monitor the Project in order to ensure that the works are carried out in compliance with this Permit. Monitoring events shall take place as required by the environmental monitor, the construction environmental management plan, or the Port Authority, provided that monitoring will be full time when works are under way that have the potential to adversely affect fish or fish habitat.	
26.	The Permit Holder shall provide environmental monitoring reports to the Port Authority's satisfaction as specified in the construction environmental management plan or more frequently if the Port Authority requires.	
27.	The Permit Holder shall conduct all activities involving the use of concrete, cement, mortars and other Portland cement or lime-containing construction materials in a manner that shall not deposit sediments, debris, concrete (cured or uncured), and concrete fines to the aquatic environment, either directly or indirectly. Water that has contacted uncured or partly cured concrete or Portland cement or lime-containing construction materials (such as the water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing) shall not be permitted to enter the aquatic environment. The Permit Holder shall provide containment facilities at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment, as required.	

28.	Rip rap shall be clean and free of fines and shall be lowered through the water column and deposited on the seabed and not dumped or deposited from above or near the water surface.
29.	The Permit Holder shall use an environmentally clean clamshell bucket. The bucket and any portion of the cables that will be in contact with or near the water shall be cleaned of any residual hydrocarbons or other contaminants prior to the start of works.
30.	<p>If piles are installed using the vibratory hammer method, the following mitigation measures shall be implemented during in-water pile installation:</p> <ul style="list-style-type: none"> a) Conduct hydroacoustic monitoring during pile driving to monitor underwater sound at approximately 10 m away from the sound source b) Install and use 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, if necessary c) If hydroacoustic monitoring indicates sound levels in excess of the abovementioned thresholds, pile driving shall cease and only resume after additional mitigation measures are implemented to effectively reduce sound levels below the above-mentioned thresholds
31.	<p>Vibratory pile installation is recommended as the primary method used for pile installation works. If impact pile driving is necessary, the following additional mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> a) Conduct hydroacoustic monitoring during impact pile driving to monitor underwater sound at approximately 10 m away from the sound source b) Install and use 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 c) Establish a cetacean exclusion zone (e.g., perimeter around the noise source) prior to impact pile driving where sound levels are not to exceed 160 dB RMS re: 1 μPa at the edge of the cetacean exclusion zone during impact pile driving. Monitor for cetaceans within the cetacean exclusion zone for at least 30 minutes prior to the start of impact pile driving. If a cetacean enters the cetacean exclusion zone, temporarily suspend impact pile driving until the individual has left the exclusion zone or has not been sighted for 30 minutes d) The use of a soft start procedure shall be implemented where the impact energy is gradually increased over a 10 minute period. The soft start procedure shall also be implemented any time after there is a break of 30 minutes or more during impact pile driving e) If hydroacoustic monitoring indicates sound levels in excess of the abovementioned thresholds, impact pile driving shall cease and only resume after additional mitigation measures are implemented to effectively reduce sound levels below the above-mentioned thresholds
32.	There shall be no in-water works during the fisheries sensitive period from March 1 to August 15, inclusive, unless otherwise approved in writing by DFO. The Port Authority shall be notified of any DFO exemptions allowing works within the fisheries sensitive period.
33.	The Permit Holder shall immediately cease work and notify the Port Authority if the Permit Holder has reasonable grounds to believe that the Project has harmed fish or fish habitat, including observation of distressed, injured, or dead fish. The Permit Holder shall not resume work until authorized by the Port Authority.
34.	The Permit Holder shall not disturb the seabed outside the Project site.
35.	The Permit Holder shall contain and collect debris and waste material in the immediate working area within the Project site. The Permit Holder shall dispose of waste material at suitable upland locations and maintain records of off-site disposal.

36.	The Permit Holder shall dispose of all soils excavated from the Project site at appropriate off-site facilities and maintain records of off-site disposal.	
37.	The Permit Holder shall maintain equipment in good mechanical condition and free of fluid leaks, invasive species, and noxious weeds.	
38.	During any vessel-related activities, the Permit Holder shall: <ul style="list-style-type: none"> a) Position vessels and equipment associated with the Project in such a manner so as not to obstruct line of sight to navigational aids or markers b) Exhibit the appropriate lights and day shapes at all times c) Monitor the VHF channel used for MCTS communications in the respective area at all times and participate as necessary d) Be familiar with vessel movements in areas affected by the Project e) Plan and execute the Project in a manner that will not impede navigation or interfere with vessel operations f) During night hours, unless working 24 hours per day, ensure that the rig and associated equipment is moored outside the navigation channel and lit in accordance with all applicable regulations 	
CONDITIONS – UPON COMPLETION		SUBMISSION TIMING (Business Days)
39.	The Permit Holder shall notify the Port Authority upon completion of the Project.	Upon substantial completion
40.	The Permit Holder shall provide record drawings, including a Project site plan that clearly identifies the location of works, in both AutoCAD and PDF format (with an Engineers stamp where applicable) in accordance with the Port Authority's Record Drawing Standards. All drawings shall be named according to the record drawing index numbering system set out at Section 2.10 of the Port Authority's Record Drawing Standards.	Within 40 business days of completion
41.	The Permit Holder shall contact the Database Information Office of the Canadian Hydrographic Service (CHS) at (250) 363-6360 or chsdatacentre@dfo-mpo.gc.ca to arrange for the relevant CHS charts to be updated, if required.	Within 30 business days of completion
The Port Authority reserves the right to rescind or revise these conditions at any time that new information warranting this action is made available to the Port Authority.		
LENGTH OF PERMIT VALIDITY		
The Project must be completed no later than February 28, 2024 (the "Expiry Date").		
AMENDMENTS		
<ul style="list-style-type: none"> • Details of any material proposed changes to the Project, including days and hours when construction and any physical activities will be conducted, must be submitted to the Port Authority for consideration of an amendment to this Permit. • For an extension to the Expiry Date, the Permit Holder must apply in writing to the Port Authority no later than 40 business days prior to that date. <p>Failure to apply for an extension as required may, at the sole discretion of the Port Authority, result in termination of this Permit.</p>		

CONTACT INFORMATION

Vancouver Fraser Port Authority
100 The Pointe, 999 Canada Place
Vancouver BC V6C 3T4 Canada

Project & Environmental Review
Tel.: 604-665-9047
Fax: 1-866-284-4271
Email: PER@portvancouver.com
Website: www.portvancouver.com

After normal business hours:

In the event of any land or marine construction incidents or concerns related to works carried out on-site under this permit, please contact the 24/7 Port Operations Centre 604-665-9086. In the event of an emergency requiring 'First Responders', please call 911 first.

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