



PORT of
vancouver

PROJECT AND ENVIRONMENTAL REVIEW REPORT

PER NO. 17-122

**2115 COMMISSIONER STREET – KLTP TEMPORARY
CONSTRUCTION STAGING, PARKING & BARGE
LOADING**

Prepared for: Director, Planning & Development

May 18, 2018

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		VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT
PER No.:	17-122	
Tenant:	Kiewit Ledcor TMEP Partnership	
Project:	KLTP Temporary Construction Staging, Parking & Barge Loading	
Project Location	2115 Commissioner Street, Vancouver	
VFPA SID No.:	VAN071	
Land Use Designation:	Port Terminal	
Applicant(s):	Kiewit Ledcor TMEP Partnership	
Applicant Address:	#310, 4350 Still Creek Drive, Burnaby, BC	
Category of Review:	C	
Recommendation:	That PER No. 17-122 for KLTP Temporary Construction Staging, Parking & Barge Loading be approved.	

1 INTRODUCTION

The Vancouver Fraser Port Authority (VFPA), 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. 17-122: KLTP Temporary Construction Staging Parking & Barge Loading (the Project) proposed by Craig Peressini working on behalf of Kiewit Ledcor TMEP Partnership (the Applicant). TMEP stands for Trans Mountain Expansion Project.

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, VFPA 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 VFPA. 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 use the site for the purposes of a marine loading/off-loading facility and laydown yard with associated employee parking and marine taxi service for a period of approximately 30 months (until December, 2020). The site is proposed to provide parking for construction workers of the Trans Mountain Expansion Project terminal construction site in Burnaby, as well as a laydown area for construction materials being staged to or from the construction site.

2115 Commissioner Street is vacant, previously developed land. It is located in a mixed industrial area, bound to the east/north by a disused wharf structure and to the west/south by a Lafarge concrete plant. The site was previously home to a cold storage facility and a fish processing plant.

The proposed Project includes site preparation, creation of a construction laydown area, including security fencing, parking stalls, office space in multiple trailers, and installation of new temporary marine structures. The Project is a support site for works associated with the construction of the Kinder Morgan Trans Mountain Expansion project, particularly the marine portion of the project at the Westridge Marine Terminal in Burnaby.

During operation it is anticipated that up to two barges would be moored at the site at any one time, with barges brought to/hailed from the site approximately once per day – i.e. one barge in and one barge out each day. A large mobile crane is proposed to be positioned on the site or trestle, which would be used to load materials on to barges. All barge moves would be handled by tugs and the anticipated draft of the barges and tugs vary between 1 and 3 meters. Construction materials will also be delivered to and hauled from the site by truck.

In addition, two to three water taxis and one to two buses would each make one trip at the start (~6:30am) and end (~5:30pm) of each shift. One of the water taxis would be on-call throughout the shift to bring supervisors, inspectors and other personnel to the construction site, as necessary. The bus drop off/pick up point is proposed to be located nearby to the east, referred to as 2115 Commissioner Street Site 2. The use of that site was the subject of a separate project permit application (17-163) approved in August 2017.

2.1 Proposed Works

- Site set up - minor site grading and upgrades to existing ground (including temporary excavation of gravel to a depth of 30cm to 90cm (12" to 35"), placement of Geotextile grids and replacement of gravel);
- Construction of a trestle located offshore at the west end of site, comprising a 11m x 44m access trestle and 14m x 44m main trestle, using 38 x 90cm (35") vertical piles, 11 x 60cm (23") batter piles and 5 x 90cm (35") dolphin piles
- Installation of small flexi-float boat dock, comprising two 24m x 3m (78' x 10') flexi-float barges and one 30m x 1.3m (98' x 4') ramp/gangway, using 3 x 60cm (23") spuds;
- Installation of 300 tonne Crane, measuring 8m x 20m x 5m (26 x 65' x 16') with max boom height of 73m (240') to load/offload barges with material – to be located on trestle and/or land;
- Installation of 13 prefabricated trailers of varying sizes for use as office space, lunch room and washroom;
- Utility connections for trailers (electrical power, communication & water service);
- Installation of secure fencing (630m of 1.8m high chain link fencing) to secure the site perimeter;
- Installation of 10 x 470W area lights;

- Placement of 55m of precast concrete barricades to delineate an adjacent wharf structure that is not proposed to be used;
- Delineation of approximately 50 parking spaces; and,
- Removal of improvements (trestle and buildings) after conclusion of lease term.

The site set-up works would take place from May 2018 for a period of 6 to 8 weeks. It is anticipated that all construction activities would take place during standard VFPA construction hours of 7:00 AM to 8:00 PM Monday to Saturday.

The pipe piles for the trestle are proposed to be installed via vibratory method where possible. Where necessary the installation will be finished using a single diesel impact hammer.

Whilst the Project scope does include the removal of equipment and the physical improvements at the conclusion of this project, this was not the subject of a full technical review by VFPA, as sufficient detail is not yet available on this phase of the Project. These activities will require further review under PER at the conclusion of the lease term, as set out in Condition 46.

3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS

The following VFPA 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.

3.1.1 Land Use Designation

The proposed use conforms to the designation of "Port Terminal" in Vancouver Fraser Port Authority's Land Use Plan. The activity can be described as Marine Support Services, which is a Primary Use in this designation.

3.1.2 Building Permit Requirements

A building permit is required for the Project and the building permit review is currently underway. It is anticipated that this will be issued shortly after the project permit.

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

3.2 Engineering

The proposed Project includes the construction of new temporary in-water marine structures at the site, as well as the installation of mobile construction trailers (e.g. site office, lunchroom, storage) upland.

The Applicant proposes to install 54 steel pipe piles and three spud piles as part of the temporary marine structures works. The piles will range from 60cm to 90cm in diameter and will be installed via vibratory method with a possible diesel finish. The submitted geotechnical report identifies a number of recommendations that the Applicant and Professional Engineer of Record have incorporated into the design and construction of the marine trestle.

The 13 mobile construction trailers and site lighting fixtures will be powered via new overhead cables connected to existing hydro service along Commissioner Street. In addition, a working surface must be constructed upland in order to accommodate a 300T Crane at the site, this will involve the temporary removal/excavation of approx. 900mm of gravel, placement of Geotextile grids and replacement of gravel.

Engineering has reviewed the application and has provided requirements to the Applicant to adhere to under permit conditions No. 14, 46 and 48.

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

3.3 Transportation Planning

The proposed Project would result in three different modes of vehicular traffic accessing/egressing the site – private employee vehicles, buses, and trucks. The vehicular traffic for the site can also be split into two phases: construction/site preparation and operations.

During site preparation, approximately 20 private/company vehicles will access/egress the site each day. The majority of the construction materials are to be delivered via water, with smaller elements to arrive via truck. Details about the management of truck traffic will be contained in a Construction Parking & Traffic Management Plan.

Once operational, the site would provide parking for 50 employee vehicles. These vehicles are anticipated to arrive between 6:00am and 7:00am, and leave the site between 3.30pm and 6:00pm, Monday through Friday. Approximately 40 vehicles per day are expected on Saturdays, arriving and leaving at similar times as during the work week. One to two buses would then be used to bring workers to the construction site, with each bus making one trip at the start (6:30am) and end (5:30pm) of each shift. Bus loading and drop-off areas are located on the adjacent site to the east, and no bus loading and drop-off activities would take place on Commissioner Street.

Construction materials stored at the site would be delivered using trucks. It is anticipated up to 10 trucks per day would access the site for this purpose.

Transportation Planning has reviewed the application and requires the Applicant to submit a Construction Parking & Traffic Management Plan for the proposed works at least 10 days prior to the start of any construction activity to the satisfaction of VFPA. This is condition No. 19 in the Permit.

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

3.4 Marine Operations

The Applicant proposes to utilize the site as a marine loading/off-loading facility and laydown yard with associated marine taxi service. The marine traffic associated with the Project can also be split into two phases.

During site preparation phase, the Applicant anticipates the delivery of large equipment such as the trestle to arrive at the site via barge.

During the operational phase, the Applicant anticipates up to two barges moored at the site at any one time. During operation it is anticipated that with barges brought to/hailed from the site

approximately once per day. In addition, two to three water taxis would each make one trip at the start (6:30am) and end (5:30pm) of each shift. One of the water taxis will be on-call throughout the shift providing construction site access to supervisors, inspectors and other personnel.

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 VFPA as part of the project and environmental review.

4.1 Municipal Consultation

The proposed Project was assessed to have potential impacts to municipal interests. A referral letter was sent to the City of Vancouver on September 14, 2017 notifying them of the proposed Project. VFPA did not receive any comments from the City.

4.2 Federal and Provincial Agency Consultation

The proposed Project was assessed to be of potential interest to a Federal agency. A referral letter was sent to Transport Canada – Navigation Protection Program on September 14, 2017 notifying them of the proposed Project.

Transport Canada responded on September, 20, 2017 advising that the proponent will need to submit a Notice of Works to the Navigation Protection Program for review and authorization for the proposed works that lie below the High Water mark. Transport Canada reviewed the Notice of Works and determined that the proposed work is regulated under the responsibility of the National Energy Board based on the "Memorandum of Understanding between Transport Canada and the National Energy Board for Pipelines and Power Lines Subject to the National Energy Board Act and the Canada Oil and Gas Operations Act." In light of that, Transport Canada determined that their authorization is not required.

4.3 Adjacent Tenant Consultation

The proposed Project was assessed to have potential impacts to adjacent VFPA tenant operations. A referral letter was sent to the following VFPA tenants on September 14, 2017 notifying them of the proposed Project:

- Saam Smit Canada Inc.
- Lafarge Canada Inc.

VFPA were contacted by both Saam Smit and Lafarge with general queries about the proposed operations but VFPA did not receive any concerns from the consulted tenants.

4.4 Marine Users Consultation

The proposed Project was assessed to have potential impacts to marine users. A referral letter was sent to the following Marine Users Groups on September 14, 2017 notifying them of the proposed Project:

- Pacific Pilotage Authority

- BC Coast Pilots
- Shipping Federation of Canada
- Chamber of Shipping BC

Marine User Groups did not provide any comments on the proposed Project.

4.5 East Vancouver Port Lands Liaison Group

The proposed Project was assessed to be within the East Vancouver Port Lands (EVPL) Area Plan. The project was initially assessed to comprise a mixture of Green (Marine Taxis) and Yellow (Works Yard) uses.

A notification letter was sent to EVPL Committee members on September 14, 2017 notifying them of the proposed Project. The Applicant also presented their project to the EVPL community liaison group on September 19, 2017 during the review phase of the application.

During discussion at the EVPL Community Liaison Group meeting on September 19, 2017, committee members agreed that the proposal could be considered a Green Use. It was agreed that no public meeting was required but that a 20 business day community notification and consultation exercise should be undertaken by the Applicant to solicit feedback.

EVPL members had a number of minor queries during the September 14 meeting relating to issues such as lighting design, equipment noise and water taxi usage. All of these queries were satisfactorily addressed by the Applicant at the meeting and VFPA did not receive any formal written comments from the liaison group.

4.6 Industry Association Consultation

The proposed Project was assessed to be of potential interest to Industry Associations. A referral letter was sent to the Council of Marine Carriers on September 14, 2017 notifying them of the proposed Project.

VFPA received one comment from the Council requesting that the trestle and boat dock be lit with marine lighting for safety purposes.

The application submission drawing "Marine Structure Site Plan" identifies that the mooring piles and temporary trestle is proposed to have navigation markers / lights. Each of the five piles will be marked with a light, as well as two corners of the trestle. Marine Operations have reviewed the proposal and consider the proposed marine structure lighting to be sufficient. A condition is proposed that required lighting be displayed in accordance with the submitted drawings. This was communicated to the Council who provided a response to confirm that they had no further concerns with the proposal.

5 PUBLIC CONSULTATION

The proposed Project was assessed to have potential impacts to community interests in the surrounding area during construction and upon completion. These include potential impacts such as traffic and view impacts. The objective of public consultation as part of the permit review, is to solicit feedback from the public on the proposed project, the completed technical studies, and proposed mitigations during construction and operation.

As noted above, the project was presented to the EVPL Liaison Group in September 2017, and the group recommended that community notification and a 20-business day comment period was

recommended. The EVPL Liaison Group was also consulted on whether an event in the community should be organized or hosted by the Applicant. The EVLP Liaison Group did not think this was warranted.

The Applicant carried out their public consultation activities (detailed below) on the proposed Project during the 20-business day consultation period. VFPA reviewed the record of public consultation, including all comments received and the Applicant's response to comments, in determining mitigation requirements and in making a decision on the proposed Project.

5.1 Summary of Public Consultation

A description of the Project and proposed works, and all supporting materials were posted to VFPA's website in August 2017 for public review and comment. Details of the Applicant's 20-business day public comment period were posted on VFPA's website and links were provided to the Applicant's website for more information.

Public consultation and engagement activities were conducted by the Applicant from September 27 to October 25, 2017 and included the following:

- A fact sheet with key information about the Project;
- Hand-delivering and mailing notification letters and the fact sheet to residents and business in the area as shown below;
- Distribution of a feedback form to collect community input;
- Providing an email address and telephone number for inquiries and submissions;
- Posting all Project-related materials on-line on the applicant's website; and
- A presentation to the EVPL Committee.

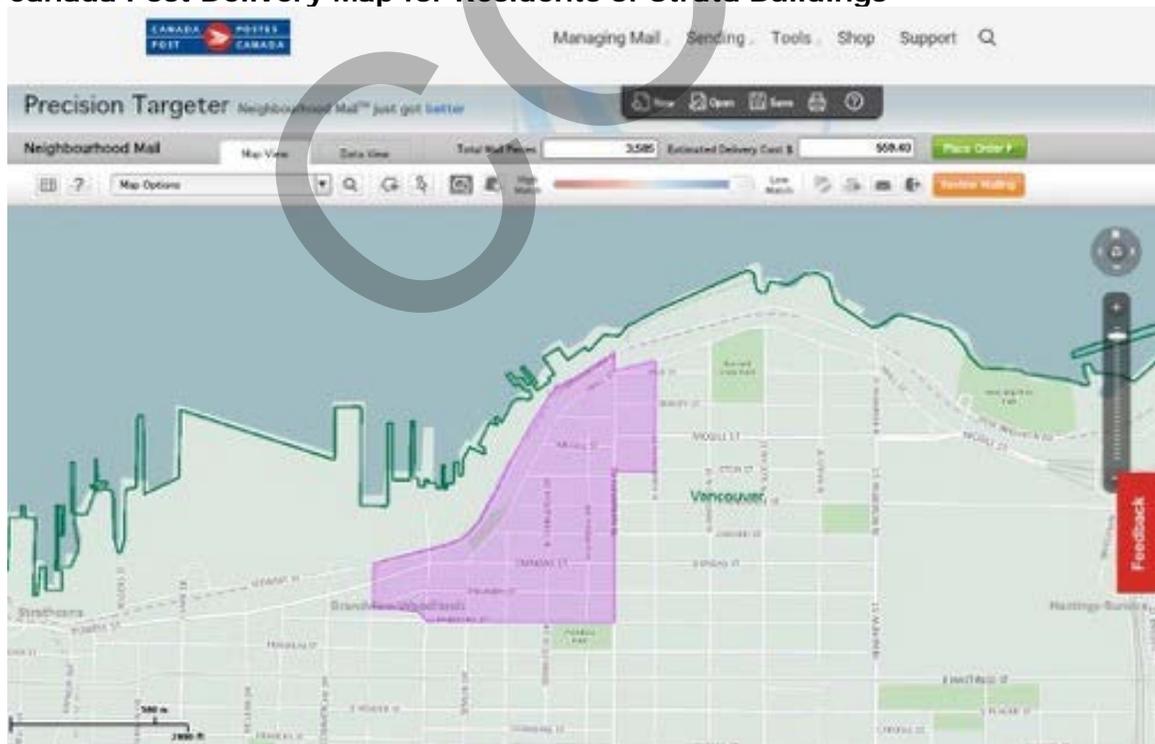
The Applicant hand-delivered information packages to all residents and businesses in a notification area provided by the VFPA between September 28 and October 2, 2017. The packages included a cover letter, information about the proposed project, information on the 20-business day public comment period, and how to provide feedback during the public comment period.

The notification area included all residents and businesses within approximately four blocks (500 m) of the project site. An additional information package was sent through Canada Post on October 5, 2017 to residents of strata buildings as there was difficulty accessing some of the buildings in this area during the first delivery of the information packages.

Mail drop area for public consultation



Canada Post Delivery Map for Residents of Strata Buildings



During the public comment period, public input received was as follows:

- The Applicant received 24 comments via email, completed feedback forms and phone calls; and
- VFPA received 1 comment via email.

Comments were related to potential impacts of construction noise from pile driving, and concern about the addition of truck and vehicle traffic to the local road network, potentially affecting residents near the VFPA access points.

The Applicant provided a detailed summary of the public consultation process and all comments received in a Consultation Summary Report dated December 8, 2017. The Applicant also provided a Consideration Report with the same date, including the Applicant’s responses to public comments received, by theme. VFPA has reviewed both documents and found them to be acceptable. These reports were posted on VFPA and the Applicant’s websites on December 14, 2017.

Below is a table summarizing issues raised by the public, and how they were considered by VFPA as part of the permit review.

Issue	Mitigations and Permit Conditions	Rationale
<p>Impact of construction and operations activities including additional truck traffic to and from the site, noise and lighting impacts.</p>	<p>Condition No. 19 of the Permit requires the Applicant to submit a Construction Parking & Traffic Management Plan to consider the impacts from construction activities, increased traffic to the site and ways to mitigate those impacts.</p> <p>Condition No. 16 of the Permit requires that the Applicant submit a Construction Communications Plan to confirm how they will keep the community informed about construction activities and potential impacts.</p> <p>Condition No. 17 of the Permit requires that the Applicant submit a construction notice.</p>	<p>The Applicant’s submitted Construction Environmental Management Plan sets out procedures for mitigating against any potential impacts. As described in Section 7.2, VFPA is satisfied with the contents of the plan.</p> <p>The Applicant’s Construction Communications Plan will set out procedures for mitigating against any potential impacts.</p> <p>The Applicant’s construction notice will set out information relating to construction hours, timeline for works, possible construction impacts and contact information.</p>

Issue	Mitigations and Permit Conditions	Rationale
Impacts to Burrard Inlet from construction activities.	Condition No. 27 requires the Applicant to submit regular environmental monitoring reports to ensure the Project is carried out in accordance with the approved CEMP.	The Applicant’s submitted Construction Environmental Management Plan sets out procedures for mitigating against any potential impacts. As described in Section 7.2, VFPA is satisfied with the contents of the plan.
Safety and emergency response.	No action required.	The submitted Spill Prevention and Emergency Response Plan and the Construction Environmental Management Plan set out measures and processes for emergency response. VFPA is satisfied with the contents of the plans.

VFPA has reviewed the record of public consultation, and provided that the mitigation measures and conditions outlined in the table above are included in the Permit, is of the view that the Project has adequately addressed the concerns raised during public consultation.

6 ABORIGINAL CONSULTATION

VFPA reviewed the proposed project, and determined that, due to the volume of in-water works and temporary disturbance of fish and fish habitat, the proposed project may have the potential to adversely impact Aboriginal rights.

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

- Tsleil-Waututh Nation
- Squamish Nation
- Musqueam Indian Band
- Hul’qumi’num Treaty Group
 - o Cowichan Tribes
 - o Penelakut Tribe
 - o Lake Cowichan First Nation
 - o Lyackson First Nation
 - o Halalt First Nation
 - o Stz’uminus First Nation
- Sto:lo First Nations, as represented by the People of the River Referrals Office

All Aboriginal groups listed above were consulted on the proposed project.

The following consultation activities were conducted:

- On October 6, 2017, VFPA sent a referral package to each of the Aboriginal groups listed above. Comments were requested from Aboriginal groups within 30 business days, by November 20, 2017.
- VFPA received comments from Aboriginal groups via letter and email.
- VFPA, together with the Applicant, responded to all comments and questions raised by Aboriginal groups via letter and email.

Below is a table summarizing comments received by VFPA from Aboriginal groups and how they were considered as part of the Project and Environmental Review.

Issue	VFPA Considerations	Action Required
Socio-economic conditions - CEAA 2012 5(1)(c)(i)		
No issues with respect to the socio-economic conditions of Aboriginal people were raised.		
Current use of lands and resources for traditional purposes - CEAA 5(1)(c)(iii)		
Vessel traffic associated with the proposed project and potential impacts to Aboriginal fishing and navigation.	All vessel traffic associated with the proposed project is not expected to pose a safety hazard to other mariners within the harbour. All vessels associated with the proposed project and all others vessels operating in the port's jurisdiction must conform to the applicable Transport Canada marine safety programs, including the Collision Regulations, Canada Shipping Act, 2001.	None.
Project effects on fish species.	As requested by the Aboriginal group, a detailed list of fish species identified within the proposed project area, as well as associated proposed mitigations to avoid impacting fish was provided to the Aboriginal group. VFPA reviewed the Applicant's proposed mitigation measures outlined in their Construction Environmental Management Plan and is of the view that adverse impacts to fish are not expected.	None.
Impacts to waterways due to erosion and sediment.	In the absence of federal guidelines for water quality, VFPA typically references provincial guidelines in its conditions.	VFPA has included the following permit conditions: <i>No. 15: The Applicant shall submit all site specific Sediment and Drainage Management Plans as</i>

Issue	VFPA Considerations	Action Required
		<p><i>specified in section 5.7 of the Construction Environmental Management Plan.</i></p> <p><i>The Permit Holder shall also provide the Sediment and Drainage Management Plans to interested Aboriginal groups.</i></p> <p><i>No. 38: The direct or indirect release or deposit of sediment or sediment laden water into the aquatic environment shall be minimized during the works. In this regard, reference should be made to the water quality criteria described in the British Columbia Water Quality Guidelines (Criteria): January 2010 Edition produced by the BC Ministry of Environment.</i></p>
<p>Impacts resulting from accidents and malfunctions, including fuel spills.</p>	<p>Mitigations are included in the Spill Prevention and Emergency Response Plan and the Stormwater Pollution Prevention Plan.</p> <p>Accidents and malfunctions are considered through VFPA's review as required by CEAA 2012. The Applicant has assessed potential impacts through the Spill Prevention and Emergency Response Plan (SPERP). The effects of accidents and malfunctions are weighted by risk, rather than worst case scenario. With the proposed mitigations in place, the risk to aquatic or terrestrial species is considered very low.</p> <p>VFPA is of the view that the level of risk associated with the proposed project does not warrant additional mitigation or action in the bio-physical assessment.</p>	<p>None.</p>

Issue	VFPA Considerations	Action Required
Physical and cultural heritage, and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance – CEAA 2012 5(1)(c)(iv) and CEAA 2012 5(1)(c)(ii)		
Impacts to unidentified archaeological resources.	The proposed project is located within an area that has been infilled and proposed works are not expected to exceed the depth of fill. The potential for the proposed project to impact unidentified archaeological resources is therefore low, and no mitigation measures are required.	None.
Impacts to unidentified underwater archaeological resources.	VFPA is of the view that, based on the level of previous disturbance to the sea bed in the project area, as well as the distance of the marine-based project works from the original shoreline, the potential of impacting unidentified archaeological resources is negligible.	None.
Involvement of interested Aboriginal groups in the event that archaeological resources are uncovered.	VFPA required that the applicant edit the Heritage Resources Discovery Contingency Plan to include notification to affected Aboriginal groups in the event that archaeological resources and/or archaeological human remains are discovered.	None.
Impacts to cultural resources as a result of a fuel spill.	<p>For the proposed project, the likelihood of a fuel spill into Burrard Inlet is considered very low for the following reasons:</p> <ul style="list-style-type: none"> - the proposed project does not include the movement of fuel and hazardous fluids by marine vessel; - all fuels and hazardous fluids (oils, lubricants and other petrochemical products) shall not be within 30m of any waterbody; - fuel containers (e.g. jerricans) should be situated within appropriate secondary containment. 	None for the proposed Project. However, VFPA is open to continuing discussions about the wider issue of cultural resource management strategies with interested Aboriginal groups outside of the PER process.

Issue	VFPA Considerations	Action Required
	<p>In consideration of the above, VFPA is of the view that a fuel spill into Burrard Inlet associated with the proposed project is unlikely, and that further spill response planning is not required.</p> <p>Notwithstanding, VFPA understands the importance of planning and protection of heritage and traditional use sites to Aboriginal groups.</p>	
<p>Lack of maps, photographs and sufficient rationale in Desktop Review of Archaeological Potential.</p>	<p>The Desktop Review of Archaeological Potential was provided to Aboriginal groups upon request, as it is referenced in the Construction Environmental Management Plan.</p> <p>VFPA did not require that an archaeological assessment be submitted by the Applicant as part of their application package. According to VFPA records, the project area was infilled in 1946, 1948, and 1973. Since that time, the site has experienced a high level of disturbance, including the construction and subsequent demolition and removal of industrial infrastructure, such as underground utilities and piles.</p> <p>Excavation associated with the proposed project is not expected to exceed the depth of fill; proposed ground disturbance is limited to the removal of 30-60cm of gravel.</p> <p>In consideration of the infill, the level of previous disturbance, and the proposed works, VFPA remains of the view that further archaeological assessment of the project area is not required, and a revision of the Applicant's Desktop Review of Archaeological Potential will not be required.</p>	<p>None.</p>

Issue	VFPA Considerations	Action Required
Health– CEEA 2012 5(1)(c)(i)		
<p>Impacts on air quality due to construction related traffic.</p>	<p>To mitigate the impact of vehicle exhaust, should the proposed project be approved, VFPA will require the Applicant to implement an idle reduction policy for all vehicles and equipment operating on the project site.</p> <p>VFPA will also require the Applicant to report on their Non-Road Diesel Emissions (NRDE) through the VFPA NRDE reporting tool.</p> <p>VFPA's NRDE program exists to reduce diesel particulate matter emissions from non-road diesel equipment in VFPA jurisdiction.</p>	<p>VFPA has included the following permit conditions:</p> <p>No. 41: <i>The Permit Holder shall participate in VFPA's Non-Road Diesel Emissions (NRDE) Program for the duration of the Project. Participation includes all aspects of the NRDE Program, including submission of annual reports, payment of any NRDE fees as described by the Program and ensuring that no Tier 0 and Tier 1 equipment is brought on port lands.</i></p> <p>No. 42: <i>An idle reduction policy shall be implemented for all vehicles and equipment operating on the project site that limits engine idling to 5 minutes. The policy shall follow the general guidance provided in the Non-Road Diesel Emissions Program fact sheet on fuel efficiency plans and idle reduction policies. An air temperature limit exception of 0°C shall only be allowed in accordance with manufacturer's requirements.</i></p>
Additional Issues		
<p>Communications with Aboriginal groups in the event of an accident or malfunction that poses serious harm to fish or the environment.</p>	<p>In the event of an emergency incident within the lands and waters managed by VFPA, VFPA implements a communications protocol in which Aboriginal groups who have an interest in the lands and waters managed by VFPA are advised of the incident, and provided regular status updates until the incident is resolved. These incidents could involve spills, hazardous material situations, security events, etc.</p>	<p>None.</p>

Issue	VFPA Considerations	Action Required
	<p>VFPA is also aware of similar communications protocols that are implemented by other federal, provincial and commercial organizations who have a role in emergency response.</p>	
Consultation/Process Issues		
<p>Absence of further studies with respect to Aboriginal interests and use, and <i>CEAA</i> 5(1)(c) assessment.</p>	<p>VFPA is of the view that information regarding Aboriginal groups' rights and interests is best gained through consultation with Aboriginal groups. VFPA encouraged the consulted Aboriginal groups to provide VFPA and the applicant with information regarding their Aboriginal rights and how they may be impacted by the proposed project.</p> <p>Under section 5(1)(c) of <i>CEAA</i> 2012, VFPA must consider, with respect to Aboriginal peoples, whether the 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.</p> <p>VFPA considers subsection 5(1)(c) of the <i>CEAA</i> 2012 through its PER process, which applies to all proposed physical works and activities on federal lands and waters partially or wholly within VFPA's jurisdiction.</p> <p>VFPA uses a variety of sources to inform the assessment of potential impacts to factors considered under subsection 5(1)(c) of <i>CEAA</i> 2012. These include project application materials from the applicant, previous project reviews in the</p>	<p>None for the proposed Project.</p> <p>However, VFPA will continue to discuss opportunities for area-wide traditional use studies for areas within the lands and waters managed by VFPA with interested Aboriginal groups outside of the PER process.</p>

Issue	VFPA Considerations	Action Required
	area, information gained through the technical review under the PER process, and information gained through consultation with Aboriginal groups.	
Absence of stand-alone cumulative effects assessment.	Consideration of cumulative effects is inherently integrated into VFPA’s environmental reviews and decisions; cumulative effects of the project on health are considered through air and noise emissions studies; potential project effects on vegetation, wildlife, and fish and fish habitat are considered in the context of the existing environment taking into account past effects and current pressures on species; and effects on the practice of Aboriginal rights and interests are considered through consultation with Aboriginal groups.	None.
Insufficient project-specific detail in Construction Environmental Management Plan (CEMP).	<p>The goal of a CEMP is to lay out management plans, mitigation, and procedures that will be used to reduce environmental impacts, as appropriate. Also, it is important to review the CEMP in conjunction with the site specific studies that were conducted to support the CEMP (i.e. the marine and terrestrial habitat assessments with site specific mitigation).</p> <p>In the case of the proposed project, VFPA is of the view that the level of information and detail provided is adequate for the scope of work and environmental risks associated with the proposed project.</p>	None.
Absence of a “net environmental gain” approach to project and environmental review.	VFPA is aware of Aboriginal groups’ interest in restoring the ecological health of the waterways within their traditional territories. VFPA has and will continue to support	None.

Issue	VFPA Considerations	Action Required
	environmental restoration initiatives led by Aboriginal groups through its community investment program, and in-kind support through the sharing of information, harbour patrol vessels and other equipment, and expert time and advice.	

VFPA has made a meaningful effort to consult with all potentially affected Aboriginal groups. Based on the record of consultation, VFPA 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, VFPA must make a determination on the potential environmental effects of a proposed project on VFPA managed lands and waters prior to authorizing those works to proceed. To make that determination, VFPA considers the residual adverse effects of the project, that is, the effects after mitigation measures have been taken into account. In addition, should a project be approved, VFPA includes additional environmental conditions in the project permit to further reduce the identified potential impacts.

This section of the project and environmental review report summarizes the environmental review conducted for the Project, and provides the environmental review decision in Section 7.3. 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.

Specific studies, along with proposed mitigation measures, included in the Application that were pertinent to the environmental review include:

- Stormwater Pollution Prevention Plan, Construction Environmental Management Plan, Spill Prevention and Emergency Response Plan, Terrestrial Biophysical Survey Memo, Marine Habitat Assessment Memo, and BC Hydro Lighting Calculator Spreadsheet.

The temporal scope of the review includes site preparation, project construction, and operations.

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

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on air quality from the Project.</p> <p>Increased vehicle traffic will likely increase emissions of greenhouse gases and diesel particulate matter.</p> <p>During construction and operation, there is potential for adverse effects on air quality. Key mitigation measures to minimize dust and air emissions are identified in the Construction Environmental Management Plan (CEMP). This includes establishing speed limits to reduce dust and anti-idling policies to reduce air pollution</p> <p>Mitigation measures are reflected in Permit conditions No. 41 and 42. Residual effects on air quality are predicted to be low in magnitude. With mitigation in place, residual adverse effects on air quality are predicted to be not 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 exterior lights at the facility.</p> <p>The exterior lights will be LED, and designed to avoid site lighting trespass in accordance with VFPA lighting guidelines. The Lighting Plan in Appendix F of the Applicant’s submission indicates the contribution of additional lighting to the surrounding area is likely minimal.</p> <p>Lighting will be limited to standard VFPA construction hours between 7:00 am and 8:00 pm. Mitigation is included in the CEMP, such as limiting light spill by directing lights downward and placing task lights as close to operations as possible.</p> <p>With mitigation in place, residual adverse effects from lighting are predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects from noise as a result of the Project.</p> <p>The Applicant completed a Noise Assessment Screening Worksheet as specified in the PER Environmental Noise Assessment Guideline.</p> <p>The noise levels anticipated from construction and operation of the site are anticipated to be low.</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>Minimal high-energy impulsive or ongoing undesirable noise is expected. The Project site is located within an industrialized and active port area, and the contribution of additional noise to the surrounding area is likely minimal. Construction activities will occur between 7:00 am and 8:00 pm. Impact pile driving will only occur during daylight.</p> <p>Based on the review of the Noise Assessment Screening Worksheet and the context of the project, there is no need for a noise assessment or project-specific noise mitigation.</p> <p>General noise mitigation measures are identified in the CEMP, such as using vibratory methods of pile installation to the extent feasible prior to impact hammers, and to operate equipment at or within load tolerances and ratings.</p> <p>With mitigation in place, residual adverse effects from noise are predicted to be not significant.</p>		
Soils	■	□	<p>There is potential for adverse effects on soil as a result of the Project.</p> <p>There are no proposed excavations. Ground disturbance will be limited to minor site grading and upgrades to existing ground (including temporary removal of gravel, placement of geotextile grid and replacement of gravel).</p> <p>The CEMP included general mitigation measures to reduce impacts to soil quality including isolating and testing soil suspected to be contaminated, and proper containment and management of potential contaminants such as hazardous materials, metal fillings, leaks, and spills.</p> <p>Mitigation measures are identified in Permit conditions No. 7, 30, 31, and 40.</p> <p>With mitigation in place, there is low likelihood of residual adverse effects on soil. If the effects occur they are predicted to be not significant.</p>	□	■

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Sediments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on sediment as a result of the Project.</p> <p>The CEMP included general mitigation measures to reduce impacts to sediment quality including isolating and testing sediments suspected to be contaminated, and proper containment and management of potential contaminants such as hazardous materials, metal fillings, and spills.</p> <p>Mitigation measures are identified in Permit conditions No. 15, 35, 36, 37 and 38.</p> <p>With mitigation in place, there is low likelihood of residual adverse effects on sediment. If the effects occur they are predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ground water	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>There is no potential for adverse effects on groundwater from the Project.</p> <p>There will be a slight increase in impermeable surfaces from ground upgrades to support the mobile cranes, and placement of trailers and precast concrete barricades. However, the slight increase in impermeable surfaces is predicted to have no effect on groundwater quality or quantity.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface water and water bodies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on the water quality in Burrard Inlet during Project construction and operations.</p> <p>Project construction activities can affect water quality if soil or contaminants enter the aquatic environment. The sediment and erosion control measures described in the CEMP, and the stormwater management measures described in the SPPP, will be implemented to reduce potential adverse effects. For example, using secondary containment for all fueling activities, limiting all metal works to greater than 30 m from waterbodies, and using magnets to collect metal fillings from metal works. All equipment will undergo daily inspection for leaks. Regular environmental monitoring will be conducted to ensure the mitigation measures are effective.</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>Erosion and sediment transportation will not be significant due to the limited ground disturbance activities.</p> <p>The Project does not include equipment repairs and fluid changes.</p> <p>Mitigation measures are identified in Permit conditions No. 7, 15, 28, 29, and 38.</p> <p>Residual effects on surface water are predicted to be low in magnitude. With mitigation in place, residual adverse effects on surface water are predicted to be not significant.</p>		
Species/habitat with special status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on species with special status. The Project is not expected to affect habitats with special status.</p> <p>A marine habitat assessment was conducted for the Project. Burrard Inlet has occasional sightings of marine mammals listed on Schedule 1 of the <i>Species at Risk Act</i>. These species could be impacted by underwater noise generated during impact hammer pile driving if no mitigation is employed. Mitigation measures are listed in the CEMP and the marine habitat assessment, including installation of bubble curtains around piles during impact hammer pile driving and underwater noise monitoring to verify that pressure levels do not harm marine mammals or fish. Impact pile driving will be limited to daylight hours and a marine mammal monitor will ensure injury or death does not occur to marine mammals or fish. A marine mammal exclusion zone will be in effect to limit underwater noise impacts to marine mammals.</p> <p>A terrestrial habitat assessment was conducted (see Terrestrial Resources below). The existing vegetation does not provide habitat for terrestrial species at risk.</p> <p>With mitigation in place, there is low likelihood of residual adverse effects to species or habitat with special status. If the effects occur, they are expected to be low in magnitude and predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Terrestrial resources (e.g., vegetation, wildlife, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on terrestrial resources as a result of the Project.</p> <p>The Applicant completed a terrestrial biophysical survey to assess existing vegetation and site</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>characteristics. The site is characterized as mostly anthropogenic with sparse vegetation of young cottonwood and Himalayan blackberry. The site also includes a vegetation compensation area (60m²) that was established by the previous tenant, Versacold, on the western portion of the lot up-slope from Burrard Inlet.</p> <p>The Applicant indicated that there will be no removal of vegetation for the Project. Works occurring near the Versacold vegetation compensation site are limited to parking. Snow fencing will be used to isolate the Versacold compensation site and to ensure Project activities do not encroach.</p> <p>Mitigation measures to further reduce risk for terrestrial resources are included in the CEMP and Permit conditions No. 8 and 31.</p> <p>With mitigation measures in place, there are no predicted residual effects for terrestrial resources.</p>		
Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are no wetlands in the vicinity of the Project that will be affected by the development.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Aquatic resources (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on aquatic resources from marine construction of the trestle, pile driving, and shading of aquatic and riparian vegetation from the Project. All marine infrastructure will be removed after Project completion.</p> <p>A marine habitat assessment was conducted for the Project.</p> <p>No clearing of riparian vegetation is anticipated during marine activities. Impacts to aquatic vegetation will be limited to shading for a period of approximately 3 years.</p> <p>Marine mammals could be impacted by underwater noise generated during impact hammer pile driving if no mitigation is employed. Mitigation measures listed in the CEMP and the marine habitat assessment include installation of bubble curtains around piles during impact hammer pile driving, and underwater noise monitoring to verify that pressure levels do not harm marine mammals or fish. Impact pile driving will be limited to daylight hours and a marine mammal monitor will restrict activity during the presence of marine mammals. Impact pile driving may occur during the fisheries sensitive period for Burrard Inlet which is March 1 to August 15. For all pile driving during this period additional bubble curtains may be installed and a more conservative underwater sound threshold will be used to ensure no harm to juvenile fish.</p> <p>Mitigation measures to further reduce risk for aquatic resources are included in the CEMP, the marine habitat assessment, and Permit conditions No. 7, 15, 27, 29, 32, 33, 34, 35, 36, 37 and 38.</p> <p>A Letter of Advice was provided by Fisheries and Oceans Canada on January 17, 2018 stating that with the proposed mitigation in place the project would not result in serious harm to fish. A <i>Fisheries Act</i> authorization is not required for the Project.</p> <p>With mitigation in place, residual effects on aquatic resources are predicted to be low magnitude, short duration, and reversible. If the effects occur they are predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Archaeological, physical, and	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>There is no potential for adverse effects on archaeological, physical, and cultural heritage resources 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
cultural heritage resources					
Aboriginal Group interests (health and socio-economic conditions, current use of lands and resources for traditional purposes)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>VFPA reviewed the proposed works and determined that adverse impacts on Aboriginal People as set out in subsection 5(1)(c) of CEEA 2012 are not expected, including:</p> <ul style="list-style-type: none"> • health and socio-economic conditions • physical and cultural heritage; • the current use of lands and resources for traditional purposes; • any structure, site or thing that is of historical, archaeological, paleontological or architectural significance). <p>Section 6 of this report provides additional information on Aboriginal consultation.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Recreational interests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is no potential for adverse effects on recreational interests from the Project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Accidents and malfunctions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The potential adverse environmental effects from accidents and malfunctions was considered as part of the review.</p> <p>Mitigation measures described in the Construction Environmental Management Plan and the Spill Prevention and Emergency Response Plan will be put in place to reduce potential effects from accidents and spills during construction.</p> <p>These mitigation measures are reflected in Permit conditions No. 7, 27, 28, 29, and 31.</p> <p>With mitigation measures in place, the likelihood of residual adverse effects on the environment are low and if they do occur are 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
- Surface water and water bodies
- Aquatic resources

The residual adverse effects of the project on the environmental components are characterized as:

- Low in magnitude due to predicted effects on air quality and noise during construction, and potential effects on aquatic resources will have sufficient mitigation;
- Local in geographic extent because effects will be limited to the Project site;
- Temporary in duration because impacts are limited to the life of the project;
- Daily in frequency because effects will occur throughout the life of the project; and
- Reversible because the majority of the residual effects of the project would be reversible once the project is complete and decommissioned.

Taking into consideration all of the above, and with the implementation of the proposed mitigation measures and 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, VFPA 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.

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ANDREA MACLEOD
MANAGER, ENVIRONMENTAL PROGRAMS

May 1, 2018

DATE OF DECISION

8 RECOMMENDATION

In completing the project and environmental review, VFPA 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. 17-122**.

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**APPENDIX A
Location Plan**



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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 July, 24, 2017.
- All Project correspondence from July, 24, 2017 to April 30, 2018
- All plans and drawings labelled PER No.17-122 - A to F
- The January, 2018 Letter of Advice by Fisheries and Oceans Canada

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