



PORT of  
**vancouver**

# **PROJECT AND ENVIRONMENTAL REVIEW REPORT**

**PER NO. 17-102**

**COLUMBIA CONTAINERS PARTIAL BIGHT INFILL**

Prepared for: Director, Planning & Development

June 15, 2018

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		<b>VANCOUVER FRASER PORT AUTHORITY PROJECT AND ENVIRONMENTAL REVIEW REPORT</b>	
<b>PER No.:</b>	<b>17-102</b>		
<b>Tenant:</b>	<b>Columbia Containers Ltd.</b>		
<b>Project:</b>	<b>Columbia Containers Partial Bight Infill</b>		
<b>Project Location</b>	<b>2775 Commissioner Street, Vancouver V5K 1A1</b>		
<b>VFPA SID No.:</b>	<b>VAN047</b>		
<b>Land Use Designation:</b>	<b>Port Terminal</b>		
<b>Applicant(s):</b>	<b>Columbia Containers Ltd.</b>		
<b>Applicant Address:</b>	<b>2775 Commissioner Street, Vancouver V5K 1A1</b>		
<b>Category of Review:</b>	<b>C</b>		
<b>Recommendation:</b>	<b>That PER No. 17-102 for Columbia Containers Partial Bight Infill be approved.</b>		

## 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. 17-102: Columbia Containers Partial Bight Infill (the Project) proposed by Columbia Containers Ltd. (the Applicant).

This project and environmental review was carried out to address VFPA's responsibilities under the Canada Marine Act, and to meet the requirements of the *Canadian Environmental Assessment Act*, 2012 (CEAA 2012), as applicable. The proposed Project is not a CEAA 2012 "designated project" and an environmental assessment as described in CEAA 2012 is not required. However, VFPA authorization is required for the proposed Project to proceed and in such circumstances, where applicable, Section 67 of CEAA 2012 requires federal authorities to assure themselves that projects will not likely cause significant adverse environmental effects. The project and environmental review process is designed to provide that assurance. In addition, 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 occupies a lease area along Commissioner Street that includes an area narrowed by a marine bight on Burrard Inlet. The proposal is to extend land north by infilling a section of the intertidal area by approximately 18 m (59 ft.). The intent is to facilitate more efficient internal vehicle circulation at the Columbia Containers terminal.

The area south of the bight links the container storage portion of the terminal on the west side with the transloading area to the east. This narrow area accommodates rail cars, container trucks, forklifts, and general vehicle access for the terminal. Circulation is constrained in this area, resulting in Columbia Containers utilizing Commissioner Street to augment internal circulation requirements. This area will be further constrained once Commissioner Street is realigned to the north to facilitate construction of two new Canadian Pacific Railway tracks.

The Applicant proposes to widen this corridor to permit more efficient internal circulation, enable discontinuation of the use of Commissioner Street for internal operations, and better service the Transloading Facility and Silos project (PER 2013-123), which completed construction in early May, 2018. The expanded area is proposed to be retained by a lock-block wall. The Applicant does not propose to extend the fill or rip rap seaward beyond the low water level.

Construction activities during the proposed infill works will displace existing riparian vegetation at the site, which will be re-planted at the completion of the infill works. The existing intertidal habitat onsite is comprised of rockweed, and ulva with some bull kelp and sugar kelp. Marine invertebrates that have colonized the existing rip rap include barnacles, sea stars, sea cucumbers and anemones. Biota are typical of habitats found along the near shore areas of Burrard Inlet.

Organisms are proposed to be salvaged and re-located prior to works and are anticipated to-recolonize the new shoreline once work is complete. To mitigate effects of a loss of marine habitat from the infill works, habitat offsetting will be constructed at a nearby location fronting the VFPA truck staging area at 2901 Commissioner Street. Works proposed for the habitat offsetting area described below under Habitat Offset.

### Retaining wall and fill

- Removal of existing foreshore rip rap;
- Re-use of approximately 800 m<sup>3</sup> (28,252 ft<sup>3</sup>) of rip rap and removal of approximately 500 m<sup>3</sup> (17,657 ft<sup>3</sup>) of material;
- Construction of a lock block wall pad foundation;
- Construction of lock block wall, with geogrid support, to a design height of approximately 7 m (23 ft.) and topped with a railing;
- Replacement of rip rap armour protection seaward of lock block wall base, but not north of the low water level;
- Placement of backfill in lifts to design height, utilizing approximately 2,500 m<sup>3</sup> (88,287 ft<sup>3</sup>) of clean structural fill and 1,200 m<sup>3</sup> (42,378 ft<sup>3</sup>) of clear crushed rock;
- Grading and paving of approximately 1,600 m<sup>2</sup> (17,222 ft<sup>2</sup>) of reclaimed surface;
- Extension of a City of Vancouver combined sewer outfall by approximately 5 m (16.4 ft.);
- Installation of 100 mm (4 in) conduits to accommodate a future installation of telecommunications services; and
- Construction of two storm water catch basins and associated 150 mm (6 in) diameter pipe, designed to convey storm water to an existing outfall.

### Habitat Offset

- Placement of approximately 3,500 m<sup>3</sup> (123,601 ft<sup>3</sup>) of rip rap and 300 m<sup>3</sup> (10,594 ft<sup>3</sup>) of sand; and
- The creation of approximately 497 m<sup>2</sup> (5,350 ft<sup>2</sup>) of riparian fringe works, 480 m<sup>2</sup> (5,167 ft<sup>2</sup>) of intertidal rip rap slope works with woody debris, 953 m<sup>2</sup> (10,258 ft<sup>2</sup>) of intertidal boulders, and 670 m<sup>2</sup> (7,212 ft<sup>2</sup>) of subtidal rip rap.

Works are proposed to be undertaken from both the land and water for both the retaining wall and habitat offset areas, and will together utilize a marine derrick, ocean barge, dump trucks, and earth moving equipment such as excavators or backhoes. Large rip rap is proposed to arrive by barge, while a total of approximately 450 truck trips are expected to deliver and remove fill and materials, an average of 10-20 truck trips per day.

Besides the extension to the existing City of Vancouver combined sewer outfall, no existing utilities will be impacted by being capped, removed, or abandoned by these works. In addition, there will be no changes to throughput capacities or materials handled at the facility.

Project construction is expected to require approximately 4 months to complete and will start after August 15<sup>th</sup> so that works are completed during the fish least risk work window. However, the Applicant expects to request permission from Fisheries and Oceans Canada (DFO) to commence work prior to August 15, 2018. The Applicant will be permitted to commence work prior to August 15, 2018 if VFPA receives verification from DFO allowing an earlier start date.

All works are anticipated to be conducted during standard VFPA construction hours (7 am to 8 pm, Monday to Saturday) as much of the offsetting works and the first phase of the infill works (wall foundation) must be constructed at low tide, which occurs during daytime hours in the summer/early fall. Extended construction hours are not anticipated at this time. However, if works beyond standard hours are required, the Applicant will submit a request to at that time.

A Building Permit is not required for this project.

Project cost is approximately 1.8 Million.

### **3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS**

The following VFPA departments have reviewed the application and have the following project considerations.

#### **3.1 Planning**

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

The Project conforms to the designation of "Port Terminal" in VFPA's Land Use Plan.

##### **3.1.2 Existing Land Use Policies**

The proposed Project is within the East Vancouver Port Lands (EVPL) Area Plan and is considered to be a "Yellow" type development in the categories established by the plan. As a result, consultation with the EVPL Liaison Committee was conducted. These activities are described in Section 4.3.

The Project was reviewed against the following sections of the EVPL Plan: heights and views, noise, air quality, and lighting. In addition, land creation activities within the EVPL Plan area merit special attention, particularly since height guidelines are based on existing land configurations. Regardless

of land use category (Green, Yellow, Red), projects involving new fill require public consultation unless the Liaison Committee waives the requirement. These considerations are also addressed in Section 4.3. The Project is considered to be in conformance with the EVPL Area Plan.

The Project is not subject to the EVPL Landscape Design Guidelines, which affect development immediately along the Commissioner Street frontage.

The proposal meets Planning's requirements, based on the primary considerations of the land use designation and current land use policies.

### 3.2 Engineering

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

- Applicant shall protect all utilities, or otherwise remove them if they are abandoned.
- Submit detailed design drawings and specifications for the proposed works at least 10 days prior to the start of construction for review and approval by the VFPA.
- All development in the licence area is to respect the outfall agreement between the City of Vancouver and the VFPA (VAN047-00676F-001). The Applicant is required to consult with the City of Vancouver's Sanitary System Planning and Design department to offer them the opportunity to review the infill works and design for modifications to the existing outfall to ensure that the Project will not adversely impact or compromise the outfall in any way.

These are reflected in conditions No. 5, 22, and 30 in the Permit.

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

### 3.3 Transportation and Land Operations

The construction works proposed for the Project require coordination with VFPA Transportation and Land Operations with respect to vehicle movement in the area. Construction works for the retaining wall and fill portion of the Project will be conducted on a constrained site requiring access and egress via Commissioner Street, while the habitat offset portion of the Project requires that a portion of the VFPA truck staging area at 2901 Commissioner Street be used for construction staging operations, equipment storage and material laydown. Given the importance of Commissioner Street as a road corridor for port lands and terminals, Transportation and Land Operations require the Applicant to ensure the following:

- The Applicant shall ensure, upon completion of the Project, the existing "east" entrance to the lease area is confirmed and utilized as being closed to commercial vehicles, restricted to use by passenger vehicles as an exit only, and also restricted to use as an emergency access route into and out of the site.
- The Applicant shall submit a Construction Parking and Traffic Management Plan to the satisfaction of VFPA. If the start date of the construction works overlap with other on-going works nearby, such as the Grain Elevator Removal Project (17-092) and work associated with Commissioner Street Realignment and Expansion, the expectation is that the Applicant shall ensure that the Traffic Management Plan for this site be coordinated with the plans for other projects in the area.

These requirements are reflected in condition No. 26 in the Permit.

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

### 3.4 Marine Operations

Marine Operations reviewed the application to determine the impacts of construction and operation activities of the Project and whether they would interfere with navigation, either by obstructing areas of the port, or by interfering with existing authorized activities. While water-side operation activities on the site after Project completion will not occur, large rip rap is proposed to arrive by barge during construction. The rip rap will be placed at the retaining wall and fill site, as well as the habitat offset site. Considering this, Marine Operations requires the Applicant to ensure the following:

- The Applicant must submit a marine construction and staging plan to the satisfaction of VFPA, including the following topics:
  - Waterside staging and construction areas;
  - Dates and hours of operation;
  - Description of activities occurring;
  - Marine equipment and vessels (dimensions must be included);
  - Method of preferred communication with marine users; and
  - Special requests and/or additional information.
- Prior to the commencement of any vessel-related activities, the Applicant shall contact the appropriate Canadian Coast Guard (“CCG”) Marine Communications and Traffic Services (“MCTS”) centre regarding the issuance of a Notice to Shipping (“NOTSHIP”) to advise the marine community of potential hazards associated with the Project.

These requirements are reflected in conditions No. 28 and 29 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

VFPA determined that the Project could have potential impacts to stakeholders and the local community and required consultation activities be undertaken. 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 Project was assessed to have potential impacts to municipal interests. A referral letter was sent to the City of Vancouver on December 21, 2017 notifying them of the proposed Project.

The City of Vancouver responded with comments in an email dated January 22, 2018. 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
There is a City of Vancouver Sewer outfall located at the extension of North Slocan St. All development in the	The Applicant is required to consult with the City of Vancouver’s Sanitary System Planning and Design	Requesting the input of the City of Vancouver’s Sanitary System Planning and Design

<p>license area is to respect the outfall agreement between the City of Vancouver and the VFPA.</p>	<p>department to confirm the infill works will not adversely impact the outfall and ensure the outfall is not compromised in any way.</p> <p>Condition No. 30 of the Permit requires that the applicant solicit input from the City of Vancouver on the outfall final design, while condition No. 5 of the Permit requires the Applicant to protect all utilities.</p>	<p>department on the design of the outfall extension should mitigate the concern and effectively reduce risk to the outfall as a result of the modifications.</p>
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### 4.2 Adjacent Tenant Consultation

The proposed Project was assessed by VFPA and considered to have potential impacts to adjacent VFPA tenant operations. A referral letter was sent to Western Canada Marine Response Corporation (WCMRC) on December 21, 2017 notifying them of the proposed Project.

WCMRC holds an existing lease and a valid permit (PER 16-290) with VFPA on the site to the east of the proposed Project. The permit is for the construction of an oil spill emergency response base, though the facility has not yet been constructed.

VFPA did not receive any comments from WCMRC.

### 4.3 East Vancouver Port Lands (EVPL)

The proposed Project was assessed by VFPA and considered to be within the land area associated with the EVPL Area Plan. The Project was assessed to be a “Conditional Approval (yellow) Use”, which typically requires three presentations to the EVPL Liaison Committee as follows:

- i) A pre-application meeting to introduce the Project and receive feedback on potential issues of concern to the community;
- ii) A meeting to present the complete application, receive feedback, and receive input on community consultation strategies; and,
- iii) A final meeting to report on community consultation feedback and how any community concerns have been addressed through mitigation strategies.

As set out in the EVPL Plan, land creation activities merit special attention, particularly since height guidelines are based on existing land configurations. Regardless of land use category (Green, Yellow, Red), projects involving new fill will require public consultation unless the Liaison Committee waives the requirement. For structures placed on newly filled land, the Plan sets out that applicants are also required to provide an analysis that evaluates view impacts and considers other siting options to reduce or eliminate those impacts, unless the Liaison Committee waives the requirement.

The Applicant presented their project to the EVPL Liaison Committee on the following dates during the various stages of review:

Review Phase	Presentation Dates
Preliminary Review Phase (Applicant to solicit initial comments)	<ul style="list-style-type: none"> <li>December 8, 2015 (project introduction – fill scope approximately 5 m seaward from HWL).</li> <li>April 12, 2016 (project update – fill scope extended to 18 m, DFO involvement).</li> </ul>
Application Review Phase (Applicant to solicit comments on the complete application and to provide advice on the public consultation process)	December 4, 2017 (full application details).
Application Review Phase (Applicant to provide comments on summary consultation comments and proposed mitigations)	This meeting was waived on the recommendation from the EVPL Liaison Committee, on December 4, 2017.

The EVPL Liaison Committee was advised of potential extended construction hours works at a meeting held on December 4, 2017, though these works are not anticipated at this time.

Burrardview Community Association (BCA), an association represented at the EVPL Liaison Committee that advocates on behalf of the neighbourhood, responded to the EVPL presentation 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
EVPL Area Plan public consultation requirement.	VFPA waived the public consultation requirement (as described in Section 5).	The Applicant inquired on December 8, 2015 whether the EVPL Liaison Committee wished to waive the public consultation requirement associated with land infill projects, and the BCA agreed.
EVPL Area Plan view analysis requirement.	Condition No. 57 of the Permit requires that no buildings or structures shall be constructed and no containers shall be placed or stacked in the infill areas without VFPA authorization that includes a view analysis and public consultation is undertaken by the Applicant.	VFPA inquired on December 8, 2015 whether the Liaison Committee wished to waive the view analysis requirement associated with the land infill works.  The BCA agreed, on the understanding that no buildings or containers would be constructed, placed, or stacked in the infill area. No other comments were received from other Committee members.
Impact of construction activities during night works, including lighting, if night works are required.	Condition No. 32 of the Project Permit requires the Applicant to take all reasonable precautions to minimize light disturbance to the community	The Applicant indicated that while they are obliged to provide a safe level of construction lighting for worker safety, they will take

	and to marine users in the area if night works are required.	all reasonable efforts to direct lighting away from the community and marine user groups.
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The proposed Project is considered to be in conformance with the EVPL Area Plan.

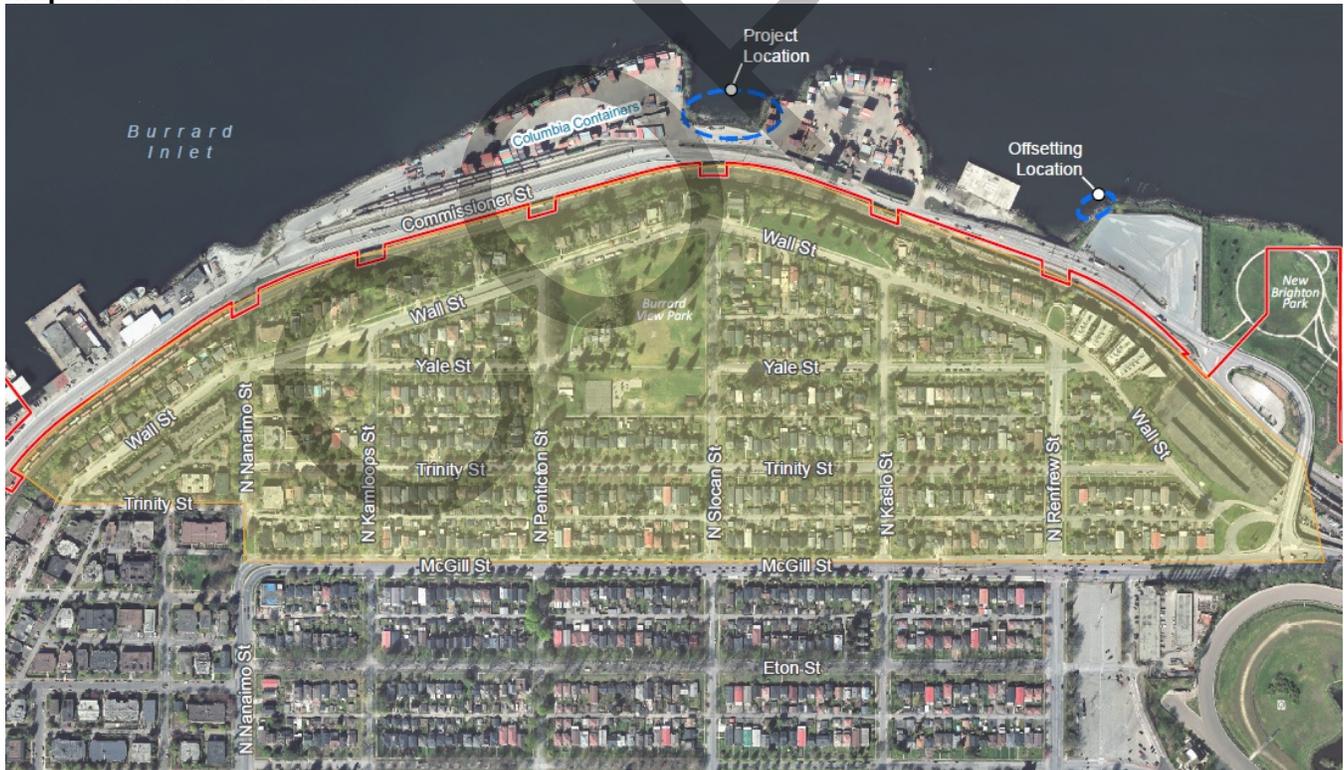
## 5 PUBLIC CONSULTATION

The Project was assessed by VFPA to have minimal or no potential impacts to community interests upon its completion. Therefore public consultation was not required to be conducted by the Applicant during the project and environmental review.

The Project was assessed by VFPA and considered to have potential impacts to community interests during construction. These include potential impacts such as noise.

As a result, the Applicant is required to send a construction notice to adjacent residents and businesses in Vancouver as shown in the map below. The notification area is within approximately four blocks of the project site. The notice must be distributed by the Applicant at least 10 business days prior to the start of construction. This is condition No. 24 in the project permit.

Map of notification area



## 6 ABORIGINAL CONSULTATION

VFPA determined that the Project may have the potential to adversely impact Aboriginal rights.

The 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
  - Cowichan Tribes
  - Lake Cowichan First Nation
  - Halalt First Nation
  - Stz'uminus First Nation
  - Penelakut Tribe
  - Lyackson First Nation
- Sto:lo Nations, as represented by the People of the River Referrals Office.

All Aboriginal groups listed above were consulted on the Project.

The following consultation activities were conducted:

- On December 14, 2017, referral packages were sent to all Aboriginal groups via email and Canada Post. Comments were requested within 40 business days, by February 12, 2018.
- On January 9, 2018, VFPA sent a follow up email to all Aboriginal groups to ensure the referral package was received.
- VFPA coordinated Aboriginal consultation meetings and responses with DFO, as this agency was also consulting with the same Aboriginal groups on their authorization for the Project.
- VFPA and DFO met with Aboriginal groups, upon request, and responded by letter and email to all comments and concerns raised during consultation.

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. Comments have been categorized under CEAA 2012 Section 5(1)(c) factors.

Issue	VFPA Considerations	Actions Required
<b>Socio-economic conditions - CEAA 2012 5(1)(c)(i)</b>		
Interest in environmental monitoring opportunities for community members.	The Applicant has committed to working with interested Aboriginal groups to provide opportunities for monitoring during construction, and during post-construction monitoring of the habitat offsetting site.	Condition No. 34 - The Applicant shall provide reasonable opportunities for interested Aboriginal groups to participate in environmental monitoring during project works.
<b>Current use of lands and resources for traditional purposes - CEAA 5(1)(c)(iii)</b>		
Introduction of contaminants and/or invasive species.	Invasive species management is outlined in the Construction Environmental Management Plan (CEMP), as well as the Invasive Species Management Plan (Appendix 2, October 2017 Supplemental Information Report).	Condition No. 23 - The Permit Holder shall submit a CEMP to VFPA's satisfaction. The Permit Holder shall carry out the Project in accordance with the CEMP, and any subsequent amendments approved by VFPA.  Condition No. 45 - Without limiting the generality of permit condition No. 2, materials

Issue	VFPA Considerations	Actions Required
	<p>Both documents have been shared with Aboriginal groups for their review.</p> <p>VFPA has also reviewed the proposed CEMP and Invasive Species Management Plan and determined the proposed invasive species management strategies to be adequate.</p>	<p>brought onto the Project site to be used for backfilling, site preparation, or other uses shall be from sources demonstrated to be clean and free of environmental contamination, invasive species and noxious weeds. The Permit Holder shall maintain records to verify this.</p>
<p>Impacts related to cement dust and runoff.</p>	<p>The proposed Project does not include works that will generate cement dust.</p> <p>The proposed Project is expected to create minimal dust overall, as any materials removed will be water laden, and new materials used in the construction will be clean and free of silts. Dust suppression via spraying and cleaning of equipment and paved surfaces, and covering of stock piles will be employed if dust is observed during construction.</p> <p>VFPA determined the Applicant's proposed dust management strategies to be adequate.</p>	<p>Condition No. 23 – (see above)</p> <p>Condition No. 47 - The Permit Holder shall not permit sediment, sediment-laden waters, or other deleterious substances to enter the water during the Project. (see Permit for full condition).</p> <p>Condition No. 53 - Air emissions from vehicle/equipment exhaust, dust and vapours shall be minimized and managed to avoid effects on and off the Project site.</p>
<p>Impacts to fish and fish habitat from washing stations and runoff.</p>	<p>As construction vehicles arriving and leaving the Project area will be driving across paved surfaces, wheel born sediments are not anticipated. No washing station for trucks is proposed.</p> <p>To manage other sources of runoff, the Applicant has prepared a Management Plan for Erosion and Sediment Control as part of the CEMP. The CEMP has been shared with Aboriginal groups for their review.</p> <p>VFPA has also reviewed the CEMP and determined the proposed storm water</p>	<p>Condition No. 23 – (see above)</p> <p>Condition No. 36 – 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(3) of the Fisheries Act; or (b) adversely affect fish or fish habitat in a manner contrary to Section 35(1) of the Fisheries Act.</p> <p>Condition No. 47 – (see above)</p>

Issue	VFPA Considerations	Actions Required
	management strategies to be adequate.	
Impacts to spawning suitability due to increased sediments and turbidity.	The Applicant has included sediment and turbidity mitigation strategies in their CEMP. VFPA has determined that the proposed strategies are adequate, and consequently, impacts to spawning suitability are not expected.	Condition No. 23 – (see above) Condition No. 36 – (see above) Condition No. 40 – There shall be no in-water works during the fisheries sensitive period from <b>March 1 to August 15</b> , inclusive, unless VFPA receives confirmation that a relaxation to this restriction has been authorized by DFO.
Changes to tidal flow and tidal flushing.	The permit application included a shoreline impact assessment. As per the assessment, hydrological changes associated with the Project are not expected to have a significant effect on the subtidal habitat in the Project area.	None.
Protection for new plants in riparian area during establishment.	The Project includes planting of riparian plants. Included in the permit application is a Planting Plan, and Invasive Species Management Plan. The Applicant has committed to remaining open to input from Aboriginal groups regarding the proposed planting and maintenance of planted areas.	None.
Impacts on existing bull kelp beds.	The Project area has been overlaid with mapped existing kelp beds; the proposed works are not expected to overlap the identified kelp beds. Construction staging/methods are also not expected to overlap existing kelp beds.  The Applicant has also committed to construction and post-construction monitoring of adjacent kelp beds.	None.
<b>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)</b>		
Impacts to potential archaeological resources.	Based on geotechnical borehole logs submitted in the permit application, a sediment layer at	To address Aboriginal groups' interests in the archaeological potential of the Project area,

Issue	VFPA Considerations	Actions Required
	-6m was identified by an Aboriginal group as having archaeological potential. The proposed Project works will not exceed -0.3m to -0.5m, therefore the Project is not expected to impact unidentified resources.	VFPA will pursue an archaeological assessment for the area, outside of the project and environmental review of the proposed Project in anticipation of and in order to inform the conduct of potential future works in the area.
<b>Health– CEAA 2012 5(1)(c) (i)</b>		
No impacts with respect to health conditions were identified.		

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 the responsibilities under the *Canada Marine Act* and CEAA 2012, VFPA must make a determination on the potential environmental effects of the 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.

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.

The temporal scope of the review includes Project construction anticipated to occur during a 4 month period.

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
<p><b>Air quality</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on air quality during construction activities from the release of air emissions from motorized equipment and from the generation of dust from excavation and installation of rip rap.</p> <p>Mitigation measures will be implemented during construction to minimize dust and air emissions from construction activities. Mitigation measures include, reducing vehicle idling times, keeping paved areas clean of debris, covering stockpiles, and using water to moisten dust laden surfaces. Mitigation measures are described in the CEMP and in Permit condition No. 53.</p> <p>With the proposed mitigation measures and permit conditions in place, residual adverse effects of the Project on air quality are predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Lighting</b></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>No permanent lights will be installed as part of this Project. Lighting during construction is not anticipated as works will be conducted during day time hours. All reasonable precautions to minimize light disturbance to the community and to marine users in the area if night works are required, as reflected in Permit Condition No. 32.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>Noise</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects of increased noise on nearby residents during Project construction. No increase in operational noise is anticipated from the Project (i.e., no changes to throughput capacity or materials handled at the facility).</p> <p>Noise will be generated from construction equipment and from placing rip rap or lock blocks. Large rip rap will be brought to the site by barge and individually placed to reduce noise. All works will be conducted during regular construction hours from Monday to Saturday between 7:00 am and 8:00 pm. Mitigation measures are reflected in Permit conditions No. 32 and 44.</p> <p>With the proposed mitigation measures and permit conditions in place, the residual adverse effects from noise are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Soils</b></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is not expected to affect soil quality because no upland/subsurface works will be conducted as part of this Project.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Sediments</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on sediments during construction of the infill site and the habitat offsetting site from placement of fill and other materials (i.e., rip rap, woody debris, gravel) and from runoff during construction activities.</p> <p>Mitigation for potential effects to sediment quality are described in "surface water and water bodies" below.</p> <p>With the proposed mitigation measures and permit conditions in place, the residual adverse effects to sediment are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Groundwater</b></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is not expected to affect groundwater quality because no upland/subsurface works will be conducted.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>Surface water and water bodies</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on water quality in Burrard Inlet during intertidal works. Project construction activities can affect water quality if sediments or contaminants enter the aquatic environment.</p> <p>The CEMP describes mitigation measures that will be applied to reduce potential adverse Project effects on water quality, including sediment and erosion control measures and spill prevention plans. Works will be conducted in the dry during low tides to reduce the impacts to marine waters. Materials brought into the site for infill purposes or for the construction of habitat (e.g., rip rap, gravel and woody debris) will be from sources demonstrated to be clean and free from environmental contamination or invasive species. The materials will be placed using clean excavator buckets. Mitigation measures are reflected in the CEMP and in Permit conditions No. 36, 45, 46, and 47.</p> <p>With the proposed mitigation measures and permit conditions in place, the residual adverse effects to surface water are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Species/habitat with special status</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p> <p>Assessed under section 79 of the Species at Risk Act, as applicable</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is not anticipated to affected species or habitats with special status.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>Terrestrial resources</b> (e.g., vegetation, wildlife, etc.)</p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p> <p>Assessed under section 79 of the Species at Risk Act, as applicable</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on terrestrial resources from vegetation removal associated with Project activities.</p> <p>To mitigate the effects of removal of riparian vegetation, riparian offsetting restoration will be conducted at both the infill site and at the habitat offsetting site. Riparian restoration is anticipated to improve the existing shorelines, native plant diversity, and marine foreshore productivity.</p> <p>Existing vegetation stands are dominated by non-native or invasive species, which will be removed following mitigation measures outlined in the Management Strategies for Invasive Species Plan. Riparian restoration areas will be planted with a variety of native species and will be monitored for success annually for a period of three years. If 80 % plant survival is not achieved contingency actions will commence including replanting. Best practices outlined in the Planting Plan will be implemented.</p> <p>With the proposed mitigation measures and permit conditions in place, the residual adverse effects to terrestrial resources are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Wetlands</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are no wetlands that will be affected by the Project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>Aquatic resources</b> (e.g., aquatic plants, fish and fish habitat, water birds, marine mammals, etc.)</p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p> <p>Assessed under section 79 of the Species at Risk Act, as applicable</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on aquatic resources from habitat loss due to infilling of the marine bight and from intertidal works. Fish, invertebrates and marine plants use the aquatic habitats adjacent to the Project site.</p> <p>Mitigation measures will be implemented to reduce the potential effects on aquatic resources. No in-water works will be conducted during the fisheries sensitive period (March 1 to August 15), unless VFPA receives confirmation that a relaxation to this restriction has been authorized by DFO, and works will be conducted in the dry at low tide. During infill works, a silt curtain will be installed across the width of the infill area to create an exclusion zone for aquatic biota. Fish and aquatic biota in the works area will be relocated to suitable habitat. The CEMP describes mitigation measures that will be applied to reduce adverse Project effects on aquatic resources. During construction activities a Sediment and Erosion Control Plan will be implemented to mitigate the deposition of sediment or sediment-laden water into the marine environment.</p> <p>Habitat offsetting will be conducted to mitigate the loss of habitat from the bight infill. DFO has reviewed the Project information and confirmed that the measures described in the Habitat Offsetting Plan would conform to the Fisheries Productivity Investment Policy as a habitat restoration project.</p> <p>The mitigation measures are reflected in Permit conditions No. 20, 21, 23 and in the CEMP.</p> <p>With the proposed mitigation measures and permit conditions in place, the residual adverse effects to aquatic resources are expected to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<p><b>Health and socio-economic conditions</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Based on the low magnitude of residual effects on air quality and noise, the Project is not expected to cause adverse effects on the health of people, including Aboriginal People.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Archaeological, physical, and cultural</b></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Project is not anticipated to affect archaeological, physical, and cultural heritage resources. See Section 6, Aboriginal Consultation for further detail.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p><b>heritage resources</b></p> <p>Assessed as required under subsection 5(1) and 5(2) of CEAA 2012</p>					
<p><b>Current use of lands and resources for traditional purposes by Aboriginal peoples</b></p> <p>Assessed as required under subsection 5(1) of CEAA 2012</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Project is not anticipated to affect current use of lands and resources for traditional purposes by aboriginal peoples. See Section 6, Aboriginal Consultation for further detail.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p><b>Accidents and malfunctions</b></p> <p>Assessed as required by the <i>Canada Marine Act</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on marine water from accidental equipment leaks or spills during construction activities.</p> <p>Mitigation measures outlined in the CEMP will be in place to reduce the potential for adverse, project-related effects from accidents or malfunctions.</p> <p>With the proposed mitigation measures and permit conditions in place, the effects of an accident or malfunction on the environment, if it were to 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, noise, sediment, surface water and water bodies, terrestrial resources and aquatic resources.

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

- Low in magnitude due to impacts on noise and surface water during temporary construction. The highest magnitude residual effect will be from noise generated during construction and from surface water quality during near-water works.
- On-site in geographic extent because adverse environmental effects will be limited to the Project site.

- Short-term in duration because residual adverse effects will occur only during temporary construction activities.
- Continuous in frequency during construction activities.
- Reversible because residual adverse effects of the Project would be reversible once the Project is decommissioned.

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 Other Environmental Considerations

Follow-up programs will be completed by Columbia Containers to confirm the effectiveness of the environmental mitigation measures. This includes a follow-up programs that monitor the effectiveness of the riparian vegetation planting and the productivity of the habitat offsetting design.

Riparian restoration areas will be planted with a variety of native species and will be monitored for success annually for a period of three years. If 80 % plant survival is not achieved contingency actions will commence including replanting.

Habitat offsetting productivity monitoring will commence in the same year of construction and will be monitored for a total of five years. In year 1, 3 and 5 of the monitoring program will focus on Surf Smelt spawning presence/absence and assess intertidal and subtidal attachment of biota and overall structural stability of installed components. Year 2 and 4 of the monitoring program will focus on assessment of biota colonization and structural stability of installed components.

### 7.4 Environmental Review Decision

In completing the environmental review, VFPA has reviewed and taken into account relevant information available on the Project, proposed mitigations provided by the Applicant, and additional technically and economically feasible mitigation measures. In accordance with section 67 of CEEA 2012, VFPA concludes that 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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June 15, 2018

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**CHRIS BARLOW**  
**MANAGER, ENVIRONMENTAL PROGRAMS**

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**DATE OF DECISION**

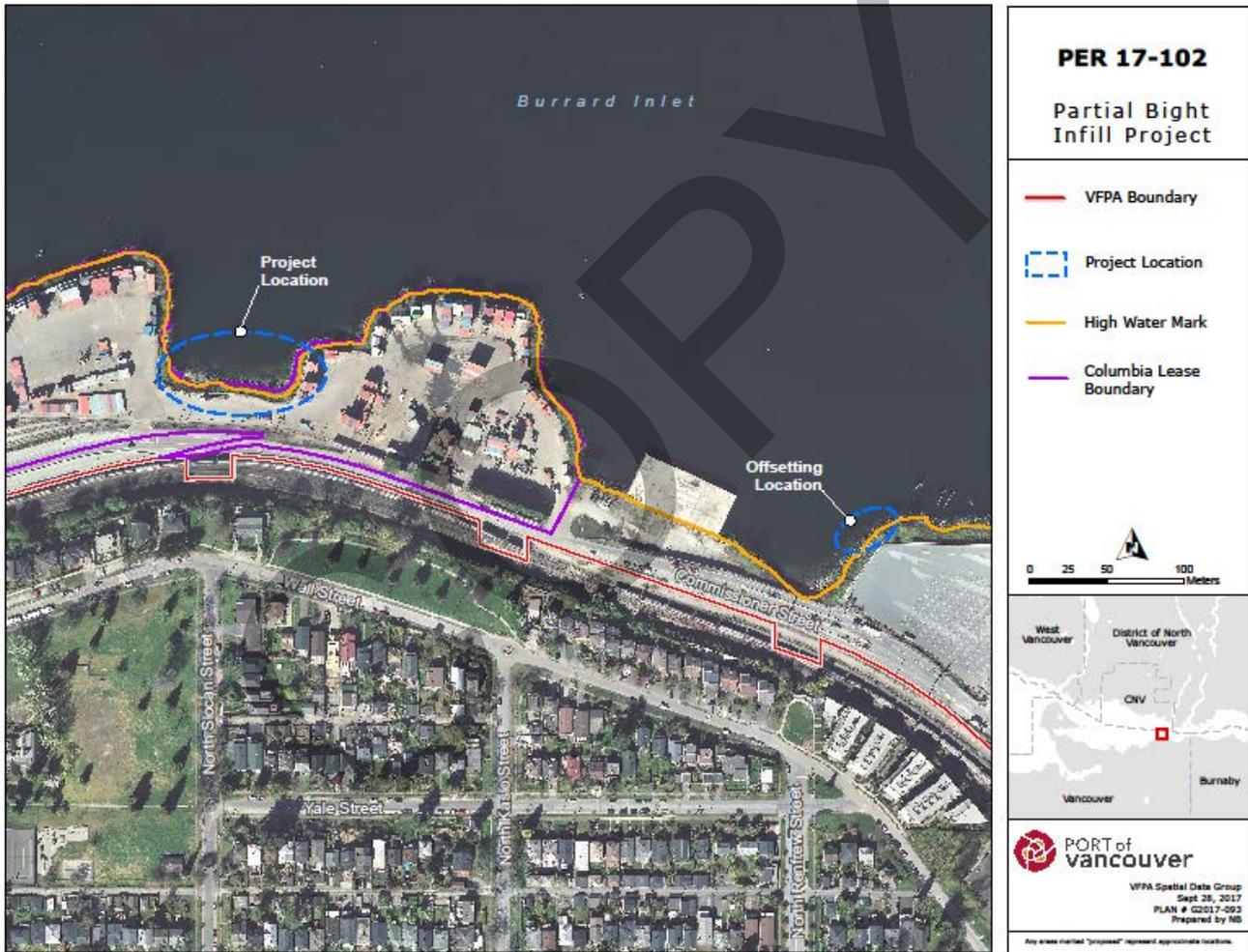
## 8 RECOMMENDATION

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. 17-102**.

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## APPENDIX A Location Plan



## **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 behalf of the tenant on dates as follows:
  - Preliminary application materials: November 2, 2015
  - Revised submission materials: April 21, 2017
  - PER application and revised submission materials: October 24, 2017
  - Revised materials: November 27, 2017
- All Project correspondence from October 14, 2015 to June 3, 2018.
- All plans and drawings labelled PER No.17-102-A to I

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