



PORT of
vancouver

Vancouver Fraser
Port Authority

PROJECT AND ENVIRONMENTAL REVIEW REPORT

**PER NO. 17-113
COAL HARBOUR MARINA EXPANSION**

Prepared for: Director, Project and Environmental Review

Table of Contents

Table of Contents	i
1 INTRODUCTION	1
2 PROJECT DESCRIPTION	1
2.1 Proposed Works	1
2.2 Proposed Construction Methods	2
2.3 Application History	3
3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS	5
3.1 Planning	5
3.2 Engineering	5
3.3 Transportation	6
3.4 Marine Operations	6
3.4.1 Waterway/Channel	6
3.4.2 Marina Layout	8
3.4.3 Vessel Traffic and Marine Safety	8
4 STAKEHOLDER CONSULTATION	9
4.1 Municipal Consultation	9
4.2 Federal, Provincial, Regional Agency Consultation	10
4.3 Adjacent Tenant Consultation	10
4.4 Marine Users Consultation	11
4.5 Stakeholder Consultation Conclusions	11
5 PUBLIC ENGAGEMENT	11
5.1 Summary of Public Engagement	12
5.2 Vancouver Rowing Club’s Additional Input	13
6 INDIGENOUS CONSULTATION	14
7 ENVIRONMENTAL AND SOCIAL EFFECTS REVIEW	14
7.1 Scope of Review and Assessment Methodology	14
7.2 Environmental Effects and Mitigation Summary	15
8 Analysis and Recommendation	15
APPENDIX A Location Plan	17
APPENDIX B	18
Key Sources of Information	18
APPENDIX C	19
City of Vancouver – Stakeholder Consultation Table	19
APPENDIX D Vancouver Board of Parks and Recreation – Stakeholder Consultation Table	21
APPENDIX E	22
Adjacent Tenant – Stakeholder Consultation Table	22
APPENDIX F	26
Public Engagement – Consultation Table	26
APPENDIX G	34
Environmental Effects Table	34

1 INTRODUCTION

This project and environmental review report (the “**PER Report**”) relates to the application submitted by the Royal Vancouver Yacht Club (the “**RVYC**” or the “**Applicant**”) to expand and upgrade its existing marina facilities in Coal Harbour (the “**Proposed Project**”). In order for RVYC to undertake the Proposed Project, it requires approval from the Vancouver Fraser Port Authority (the “**port authority**”). The port authority manages the lands and waters as described in its Letters Patent. The port authority makes such decisions pursuant to the powers and responsibilities conferred upon it by the *Canada Marine Act* and supporting regulations, in particular the *Port Authorities Operations Regulations and Impact Assessment Act*.

Operationally, the port authority carries out these review functions through the application of its project and environmental review process (the “**PER Process**”). The purpose of the PER Process is for the port authority to ensure all developments and activities meet the applicable standards and minimize environmental and community impacts. Reviews of proposed projects under the PER Process are broadly separated into four project categories (A,B,C,D), that range in complexity from a Category A being the least complex and Category D being the most complex. The steps of the PER Process are dependant on the categorization of the application. The Proposed Project was determined to be a “Category C” project, indicating that it is a larger and more complicated project that would likely require additional studies and specialized mitigations.

This PER Report provides a summary of the review process applied, the analysis undertaken and the recommendation to the decision-maker. A copy of this report is being provided to the RVYC, and the RVYC is being afforded the opportunity to respond. The decision-maker will be asked to consider this report, the supporting documents set out in Appendix B, and the RVYC response in reaching a decision.

2 PROJECT DESCRIPTION

The Proposed Project site is in Vancouver, British Columbia, immediately to the west of Deadman’s Island and east of the Vancouver Rowing Club, with Stanley Park immediately to the north. Vehicular and pedestrian access to the facility is through Stanley Park, and water access is through a waterway to the south of the marina, which is open to the east, connecting to Burrard Inlet.

The Proposed Project is primarily to expand the marina through an increase to the water lot lease area by 13.3% to accommodate additional vessel slips. The Proposed Project also contemplates upgrades to the existing marina structures. The total project area is 76,930 m², which includes the proposed water lot expansion area of 9,040 m² and the existing water lot of 67,890 m². The expansion is proposed for the south side of the existing marina, and much of the north half of the marina is not proposed to be changed. The expansion on the south would extend the existing marina footprint into the current shared waterway in Coal Harbour.

The proposed expansion would facilitate the addition of 47 new boat slips, the replacement of existing boat sheds (floating weather shelters), and improve the layout of the south half of the marina. This is suggested to make the marina more functional for members, while replacing many floats and piles with those that use newer, more environmentally sustainable materials. This is characterized as an upgrade. For example, the project proposes the removal of many existing creosote treated piles to be replaced with steel piles, which have less of an environmental impact.

The revised marina layout proposes to limit vessel ingress and egress from the adjacent shared waterway channel to two specific points. The Applicant states that the revised marina design has been based on the design guidelines contained in B.O. Tobiasson and R.C. Kollmeyer, *Marinas and Small Craft Harbours*, 2nd edition, 2000, to ensure adequate turning radii, finger widths and lengths.

2.1 Proposed Works

The work proposed to effect the Project includes the:

- Removal of 132 piles, including:

- 85 creosote-treated wood;
- 23 H steel ; and
- 24 cylindrical steel (these would be reused on site)
- Installation of 129 piles driven with either a vibratory or drop hammer, including:
 - 48 16-inch cylindrical steel (new);
 - 24 12.75-inch cylindrical steel (reused);
 - 35 12.75-inch cylindrical steel (new)
 - 22 10.75-inch cylindrical steel (new)
- Re-positioning of certain existing floats, fingers and boat sheds;
- Installation of new concrete floats, fingers and corners in the expansion area;
- Upgrading of float utilities and safety features including upgrades to plumbing, electrical and lighting systems;
- Relocation of 52 existing boat sheds;
- Removal of 37 existing boat sheds and replacement installation of 37 new prefabricated boat sheds of various sizes;
- Upgrading of electrical service in accordance with current standards required by 2015 *Canadian Electrical Code*; and
- Upgrading of marina lighting.

The Applicant has prepared an Emergency Response Plan, and a Fire and Life Safety Report, based on its final design layout and the accompanying mechanical, water, fire protection, and electrical design drawings. The existing water supply and fire protection plan is proposed to be updated in accordance with current regulations established by the City of Vancouver.

2.2 Proposed Construction Methods

All construction activities are proposed to be conducted from the water and would not require any upland staging/laydown area. The following table describes the proposed method for each proposed construction activity:

Activity	Proposed Construction Method
Replacing Old Floats and Boat Sheds	The old floats and boat sheds that are proposed to be replaced would be dismantled and the removed structures would be loaded onto a support barge for off-site disposal.
Removal of Timber and Steel piles	Existing timber piles, cylindrical steel piles, and H steel piles are proposed to be removed either by vibratory extraction or direct pull and loaded on a support barge. The cylindrical steel piles would be stored for subsequent reuse on site, and the timber and H steel piles would be sent for off-site disposal.
Transport of new and reused piles	All new and reused piles would be transported from a barge with either a vibratory or a drop hammer.
Existing Components	The repositioning of existing components would involve limited movement of each to its new location.
New Concrete Works	All new concrete floats, fingers and corners are to be constructed off-site, brought to the Proposed Project’s site by barge and installed at their proposed locations. No concrete works would be conducted on-site.
Boat Sheds	All new boat sheds would be constructed off-site, and towed to the marina by water.
Dock Utilities and Safety Features	The upgrading and reconfiguration of dock utilities and safety features would be phased in with construction.

An 8-phase construction plan has been proposed, as detailed in the below table. *Note: areas/floats within the marina are denoted by letter, as shown on the submitted site plans.*

Construction Phase	Key Activities
Phase 1	Install new K float, specific to the expansion of the marina into the new water lot.
Phase 2	Remove all south side floats that do not meet current marina standards.
Phase 3	Shift existing G float to the east. Install new G float. Add new concrete corner to the end of D float and two new concrete fingers at the end of G float. Relocate existing J boat sheds to the end of G float.
Phase 4	Add new concrete float to the end of E float. Relocate existing H boat sheds to end of E float. Add new concrete fingers to the east of E float.
Phase 5	Remove old G float boat sheds. Add new J float and tow in new replacement J boat sheds. Install new concrete fingers on east side of K float. Install new float to connect south end of D float to K float.
Phase 6	Shift existing fingers east on D float. Tow in new replacement G float boat sheds. Install new H float. Relocate existing B boat sheds to new H float.
Phase 7	Tow in new replacement H boat sheds and install new concrete finger on H float. Install new fingers.
Phase 8	Install new concrete fingers on the existing B float and add new one on the south end of B float. Tow in new replacement boat sheds on the south side of E float. Tow in new replacement boat sheds on the north side of E float. Place new fingers on the expansion area.

Construction works are proposed to be completed between 8:00 a.m. and 5:00 p.m., Monday to Friday with no work on weekends or public holidays. The proposed construction hours are within the port authority's standard construction hours of Monday to Saturday 7:00 a.m. to 8:00 p.m., excluding statutory holidays. If work is proposed outside of these hours approval by the port authority would be required.

2.3 Application History

The Proposed Project, in its various iterations, has been under discussion and consideration for some time and the process has been lengthy and complex. Some delays were due to concerns expressed by third parties, some delays were due to awaiting information from RVYC, and some delays were due to application processing and associated deliberations by the port authority.

The following is a chronology of the key events in the application history:

- **November 2011:** The Applicant submitted a preliminary proposal document detailing a proposed marina expansion and a rationale for the need for expansion (the "**Preliminary Proposal**"). The Preliminary Proposal included the following:
 - Feasibility and proposed criteria document for determining a channel¹ width;
 - A proposal for a narrowing of the adjacent waterway to the following dimensions:
 - 35m wide, 2-way navigational channel,
 - Two one-way rowing channels at 13.5m wide (one on each side),
 - A 6m wide maneuvering lane (one on the south, or outbound side), and
 - Total Channel width of 68m
 - An analysis of the type and volume of marine users, including rowing activities, commercial operators, pleasure craft and the existence of a seaplane base located to the east of the subject area; and

¹ The port authority designs navigational channels within its jurisdictional areas to ensure safe and unimpeded access to port terminals. The shared waterway immediately adjacent to the RVYC marina was designated by the port authority as a navigational channel in 2020.

- Results of preliminary consultation with stakeholders about the conceptual marina expansion and proposed Channel design.
- **May 2012:** Following an initial review of the Preliminary Proposal, the port authority confirmed in principle that the proposed 68m width of the Channel could be considered acceptable. Although, no official approval or acceptance of the proposed channel width was provided, the port authority confirmed the recommended minimum channel design consisted of the following:
 - 38m wide navigational channel,
 - 2 rowing lanes at 13.5m each, and
 - A total Channel width of 65m
- **January 2016:** The Applicant submitted an updated preliminary application and the port authority's Harbour Master informed the Applicant that there had been changes to national and international channel design guidelines, specifically the 2014 revisions to the PIANC² "Harbour Approach Channel Design Guidelines" (the "**PIANC Guidelines**"), that may effect the channel design included in the Preliminary Proposal. The port authority provided the Applicant with a checklist of materials that would be required as a result of the guideline changes.
- **March 2016:** Following communication with the port authority's Harbour Master, the Applicant conducted a navigational review and prepared a resubmission of the Preliminary Proposal to address the updated PIANC Guidelines (the "**Revised Proposal**").
 - The Revised Proposal had updated the proposed channel design to the following dimensions:
 - 36.4m wide, 2-way navigational channel
 - Two one-way rowing channels at 13.5 m wide (one on each side)
 - A total width of 63.4m.
- **November 2017:** The Harbour Master confirmed that the updated channel design being proposed met recognized industry guidelines under the 2014 PIANC Guidelines and the 2010 FISA³ "Minimum Guidelines for the Safe Practice of Rowing" (the "**FISA Guidelines**"), and was likely to be safe and suitable for the intended combination of commercial and recreational use.
 - The Harbour Master proposed the inclusion of a designated manoeuvring area to address remaining safety concerns, and provided an updated checklist to formally request additional information in order to commence the preliminary stages of the review.
- **December 2018:** The Applicant submitted an application that was accepted as complete (the "**Initial Application**").
- **February 2019:** The Applicant submitted a new proposed design for the Project that addressed an issue found in the design layout included in the Initial Application. Specifically, that the original vessel circulation plan had vessels crossing through a neighbouring tenant's lease area.
- **September 2019:** In response to the port authority's request, the Applicant resubmitted an application with updated materials that addressed inconsistencies in the submitted documentation (the "**Revised Application**", or the "**Application**"). The Revised Application:
 - addressed concerns with the layout design, including the issue of the original design crossing neighbouring tenant's lease area;
 - removed a safety lane that had previously been included in the drawings; and
 - updated the supporting documents in the application to reflect the layout changes, including project information, design package, construction staging plan, etc.
- **March 2020:** Formal review of the application under the PER Process began after the submission of additional supporting documentation including public consultation materials, revised lighting plan, updated Construction Environmental Plan.
- **October 2020:** The PER Process was placed on a 6 month hold by the port authority to allow the Applicant additional opportunity to engage with stakeholders to determine how they may address outstanding stakeholder concerns and accordingly revise the project.

² **PIANC** is the World Association for Waterborne Transport Infrastructure (previously known as the Permanent International Association of Navigation Congresses), which is an international, non-governmental organization that creates guidelines and technical advice for sustainable waterborne transport infrastructure to ports, marinas and waterways. The guidelines are not legally binding but are typically applied internationally to assist in marine channel design and are used by the port authority when designing channels in its jurisdiction.

³ The World Rowing Federation, FISA (from the French, Fédération Internationale des Sociétés d'Aviron) is the governing body of the sport of rowing.

- **April 2021:** The hold was lifted and the review process continued.

3 VANCOUVER FRASER PORT AUTHORITY INTERNAL REVIEWS

The Proposed Project's application was reviewed by departments within the port authority. The following subsections provide a summary of each of the department's perspectives following a review.

3.1 Planning

All project applications must be consistent with the port authority's Land Use Plan, which contains goals, objectives, policy directions, and land use designations to guide the physical development of port lands and waters. The Planning Department relied on the Vancouver Fraser Port Authority Land Use Plan (the "**Land Use Plan**") in reviewing this application.

The Planning Department reviewed the application for the Proposed Project and provided the following perspectives/comments:

- All properties managed by the port authority receive a designation under the Land Use Plan specifying intent and uses. The Proposed marina use conforms to the designation of a "Commercial" property under the Land Use Plan. All properties managed by the port authority receive a designation that has a specific intent and list of associated uses. A Commercial designation in this case indicates that the area will be primarily designated for commercial activities related to the use of the marina and supporting ancillary uses.
- The application for the Proposed Project met the submission requirements that were provided to the Applicant.
- Lands and waters within the port authority's jurisdiction are organized into seven "planning areas" based on geography and port related activities. Under the Land Use Plan, the location of the Coal Harbour Marina is situated in the "Planning area 1: Burrard Inlet South Shore." The port authority designs "navigational channels" in some areas to ensure safe and unimpeded navigation, and marine access to port terminals or other tenures. Navigational channels are illustrated on the planning area maps in the Land Use Plan and will include details on the type of channel and how it can be used. In the 2020 version of the Land Use Plan relied on for this review, a navigational channel was added to the Planning area 1 map in Coal Harbour. However, the Land Use Plan did not include any details as to the definition of the type of channel or the confirmed width. The Planning Department identified the new navigational channel while referring to the Land Use Plan in its review, however the Marine Operations Department discuss the relevancy of the presence of the navigational channel in more detail below at section 3.4.
- The location of the Proposed Project is not subject to any land use policies in place at the time of review.
- The proposed replacement and relocation of boat sheds were found to have a visual impact due to the large size, boxy dimensions and proposed locations. Due to the location of the marina, the proposed relocation of the boat sheds would cause them to be visible to the public from Stanley Park and the Seawall. The visual impact of the boat sheds was not considered to be significant.
- The Applicant would be required to obtain a port authority Building Permit prior to proceeding with the construction of the replacement boat sheds. This would require a review under the 2015 *National Building Code* and the 2015 *National Fire Code of Canada*. Prior to the boat sheds being used or occupied the Applicant would have to obtain a port authority Building and Occupancy permit.

3.2 Engineering

The Engineering Department reviewed the application for the Proposed Project and provided the following perspectives/comments:

- The proposed layout and materials appear to be typical in construction and orientation for a marina, and are considered acceptable subject to the submission of drawings issued for construction purposes, prior to the start of construction.

- Geotechnical advice with respect to pile driving depth would be required prior to construction.
- Confirmation of the proposed handling of hazardous materials generated as part of the project would be required, primarily around the disposal of creosote piles.

3.3 Transportation

The Transportation Department reviewed the application for the Proposed Project and provided the following perspectives/comments:

- The Applicant was not required to submit a formal Traffic Impact Study or parking assessment as part of the application, as parking and traffic were deemed to be outside of the formal scope of review for the Proposed Project;
- The increase in vessel numbers resulting from the Proposed Project could have the potential to impact local road demand, as all access to the facility is through Stanley Park;
- The extent to which staff or other on-site amenities might drive traffic to the facility, or affect parking demand, are not known or discussed in the application materials; and
- The main parking used by the marina is all located within Stanley Park (other than 6 parking spaces located on the pier that are reserved for loading), which is outside of the port authority's jurisdiction. Concerns with parking and land traffic were identified by upland stakeholders, including the City of Vancouver. The City of Vancouver has confirmed that it would not approve the increase of parking available to the marina, and the expansion could result in an increased need for parking that could not be addressed.

3.4 Marine Operations

The Marine Operations Department reviewed the Proposed Project's application and had three main areas of concern which are discussed in more detail in the following subsections.

3.4.1 Waterway/Channel

As discussed in section 3.1, a navigational channel was added to the Coal Harbour area in the Land Use Plan. The port authority distinguishes the different types of navigational channels into categories that define the types of users. The port authority considers the local navigation channel to be a "Local Channel", which is understood to mean that it is a portion of a waterway that is used mainly by smaller marine operators, but not maintained to serve ocean-going vessels or large commercial vessels. The Marine Operations Department's main concerns regarding the local navigation channel relate to the Proposed Project's narrowing of the existing channel and the implications that arise from this.

The local navigation channel is not anticipated to be published in navigational charts, nautical publications or in the Port Information Guide, because it is an administrative tool for the port authority only. As a result, this means that there are no rights, obligations, or navigational status associated with it and users of the channel are not required to stay within any navigational lines, follow any prescribed traffic pattern or follow any vessel priority. It does not imply clear passage in the same way that a Traffic Control Zone does in other locations of the port authority's jurisdiction. Although the Port Information Guide does not recognize a channel in Coal Harbour, there are speed restrictions in place in the area.

The creation and categorization of navigational channels is typically undertaken to assist the port authority in determining safe navigation on the waters, and is used as a tool to consider proposed lease boundary amendments, changes to traffic patterns, calculating where dredging might be required, establishing vessel speed guidance or in considering other proposed developments such as the Proposed Project. The existence of a channel does not imply or guarantee the ability of local leaseholders or other marine users to develop infrastructure without restriction up to the edges of the channel. An expansion request must be evaluated under the PER Process and is assessed on its merit and suitability given the local context.

The port authority conducted an administrative review of the local navigation channel design put forward by the Applicant as part of the preliminary review of the Proposed Project in order to assess if it met international guidelines and if anticipated

activities would be considered safe under these guidelines. In November, 2017, the port authority confirmed that the channel put forward by the Applicant in the Revised Proposal was acceptable under the 2014 PIANC Guidelines, while considering the 2010 FISA Guidelines. These guidelines are not the only factor to be considered by the port authority, but because the local navigation channel is used primarily for recreational navigation, the initial assessment process for this Application focused on ensuring general or shared user safety under these guidelines.

The Applicant submitted a Navigational Channel Design Document and a Rowing Technical Memorandum in support of its Application that provided the following information:

- A technical analysis of the count, classification, and categorization of users and vessel volumes in the Coal Harbour; and
- A proposed total channel width of 63.4 meters, which would comprise the narrowest part on the south side of the marina measuring 36.4 meters for the middle of the main channel, and an additional 27 meter allowance for rowing (FISA standard for the rowing lanes – 2 x 13.5m). The rowing lanes were assumed to be one lane on each side of the central channel.

Upon further review, the Marine Operations Department had the following comments or concerns regarding the proposed channel:

- There is no proposed differentiation between the vessel and rowing channels on the water. In operation it would be one large open waterway. The different channels and measurements provided are simply for calculation or administrative purposes only. Actual users of the local navigation channel would be expected to maneuver depending on their size, speed, destination and the volume of other traffic present.
- The concept of trialing the narrowing of the local navigation channel through installation of temporary buoys was considered by staff during the review, but was not advanced as it was deemed to be an unsuitable tool to assess the potential impacts of channel narrowing on marine traffic in the waterway, due in part to difficulty in accurate placing of buoys as they would move around and cause confusion to users of the local navigation channel and requiring an extensive accompanying information program for potentially little to no utility in making such an assessment.
- The proposed channel width appeared technically acceptable for combined power boating and rowing uses. However, although compliant with relevant international guidelines, other considerations are also important when contemplating whether a reduction in available water space is appropriate. Other considerations that are relevant to this review include the type of user, experience levels of users, existing aids to navigation in the local navigation channel, and vessel management. The Marine Operations Department found that not all of these additional factors have been appropriately considered in the Application.
- The calculation of an appropriate channel width is complicated by the breadth of user types. Rowers are frequent users of the local navigation channel and their needs and use patterns are not consistent with those of other vessels.
- The single most referenced concern was the safety implications of narrowing the channel. Specifically, because the spectrum of users of the local navigation channel is described as novice or not keenly familiar with navigational standards or practices.
- Safety concerns related to vessels entering or leaving the channel:
 - “K-Float” which is proposed to be included on the south-side of the marina facing outwards to the shared waterway would have the effect of extending the marina area beyond the physical infrastructure due to vessels mooring along the south side of this float;
 - The analysis of the channel dimensions is not fully predictable due to the potential for vessels of varying sizes and shapes parking on the south side of the K-Float. This varying factor could change the size of the available waterway each day, depending on what vessels are parked; and
 - The size and shape of vessels parked at the K-Float would also affect visibility for passing vessels, access/egress to slips along the K-Float, or access to the marina on either end of the K-float. The potential for different boats every day means there could be more or less impacts on the use of the channel because of changing use patterns of vessels tied to the floats.

Due to the many variables at play, there is no definitive way to measure or predict the potential adverse effects of the marina expansion on channel use. The Proposed Project would likely result in some additional crowding and navigational constraints resulting from increases in vessel traffic, increased conflict between existing users in a narrower area during peak times, and safety concerns for users, including rowers. As the navigational channel is only used as an administrative tool, it is unknown how these concerns could be adequately mitigated.

3.4.2 Marina Layout

The Marine Operations Department had the following comments or concerns related to the proposed marina layout:

- The current marina layout includes multiple entry points for vessels from the channel. The Proposed Project lessens the number of entry points and forces traffic down to two points of entry to the channel (one at the east end and one at the west end).
- The Proposed Project would increase the number of vessels moored at the marina by 47, but decreases the number of vessel slips that have direct access to their slip from the channel, potentially resulting in less risk.
- Vessels that would be parking in the slips on the south side of the proposed K-Float would need to access slips in a “parallel parking” maneuver directly from the local navigation channel. Vessel operators would need to maneuver their vessels directly from this channel, which elevates risk.
- The Applicant had proposed additional warning lights and mirrors as a mitigation for the safety of approaching vessels in the channel, but no further details were provided.
- The Applicant did rectify an existing trespass situation and asserted that it was a mitigation put forward to lessen potential impacts of the Proposed Project on the Vancouver Rowing Club’s marina

The potential for channel narrowing, access hazards and waterway access by others would vary depending on the frequency of use of the K-Float slips, and the skill of individual users. The port authority does not monitor or manage the size or ownership of particular vessels or the use of particular slips in the marina. Marine Operations considers the location of the 12 proposed vessel slips on the south side of the K-Float to present a new risk for passing vessels, in particular smaller ones such as rowing shells. This concern was not adequately mitigated in the materials provided by the Applicant.

3.4.3 Vessel Traffic and Marine Safety

The Marine Operations Department had the following comments or concerns related to vessel traffic and marine safety:

- The port authority aims to ensure the navigational safety and security for all users of the port – both recreational and commercial. The local navigation channel is mostly travelled by recreational vessels of varying sizes and vessel operators of varying abilities and experience;
- Few navigational aids exist in Coal Harbour. Those that do exist are only for marking shallow areas of the channel. Currently, no aids for course keeping exist;
 - A navigational light and radar reflector were proposed by the Applicant at both ends of the K-Float. These aids would be passive and serve to mark hazards to navigation only.
 - As mentioned above, the installation of mirrors or lights at key access points were put forward by the Applicant but the details of how these would be implemented and how they might effectively mitigate risk were not provided.
- Marine traffic in the area is not regulated beyond the Port Information Guide. If an urgent marine safety issue is reported to the Operations Center, a patrol vessel is dispatched to assess and assist. The port authority is not in a position to patrol the areas regularly and if it were, surveillance would not guarantee the safety of all users; and
- There may be recent changes to recreational traffic volumes and an increased demand for water access from the public since the time of the original analysis. A traffic flow simulation model may be useful in determining the changes and anticipated increase in danger levels on the waterway.

The Marine Operations Department has outstanding concerns related to vessel traffic and marine safety under the proposed expansion. The lack of study had affected the ability to fully analyze the topic of current use levels, interests of the public, or the potential effects of the proposed channel narrowing on users including safety.

4 STAKEHOLDER CONSULTATION

It was determined that consultation activities would be required in order to evaluate the potential impacts of the Proposed Project on stakeholders and the local community. The following sections describe the stakeholder and public consultation activities that were undertaken by the Applicant and the port authority as part of the PER Process.

4.1 Municipal Consultation

Due to the proximity of the Proposed Project to the City of Vancouver's jurisdictional boundaries and infrastructure (seawall and roadways), the port authority determined it could have a potential impact on municipal interests. Therefore, the port authority engaged the City of Vancouver and the Vancouver Board of Parks and Recreation (the "**Parks Board**") to seek comments on the Proposed Project.

Referral letters were provided to the City of Vancouver and the Parks Board on May 28, 2020. The City of Vancouver responded by letters dated July 8, 2020 and May 19, 2021. In the May 2021 letter, the City of Vancouver expressed a number of concerns with the current proposal and advised that it could not reach an opinion on whether or not the Proposed Project should proceed until the concerns were addressed. The Parks Board responded by letters of July 17, 2020 and May 18, 2021, ultimately expressing its view that the Proposed Project should not proceed at that time. In addition to these letters, the consultation process with the City of Vancouver included the exchange of information through multiple meetings, calls and correspondence.

In addition, by letter dated October 31, 2019, the Mayor of Vancouver provided notice of a motion to Council in which City of Vancouver Council had stated support for the Vancouver Rowing Club, and the use of Coal Harbour as a multiuse waterway that benefits the entire Harbour and safety of users, including consideration for equally accessible public and private recreational facilities. This letter was received by the port authority prior to the formal commencement of the consultation with the City of Vancouver.

The City of Vancouver and the Parks Board noted concerns including: the competing demands of the shared-use waterway, safety, accessibility, environmental impacts, building permits, Indigenous consultation and archaeology. The City of Vancouver's key concerns were an increase in traffic and demand for parking, which are reviewed in more detail below. A table outlining the comments provided by the City of Vancouver is included at Appendix C, and a table outlining the comments provided by the Parks Board is included at Appendix D.

For the reasons noted above, the City of Vancouver did not support the Project, as it found the current proposal was incompatible with its following mission objectives:

- To expand opportunities and participation,
- To increase physical access to the water, and
- To improve safety.

Traffic.

All land access to the marina requires vehicles to travel through the Stanley Park road network which consists of a one-way road through Stanley Park that is primarily accessed from Georgia Street, in downtown Vancouver. This road network is relied on by users other than just those trying to access the marina. The City of Vancouver expressed concerns that the proposed increase in the number of marina berths expected with the expansion would result in an increase of car traffic through an already constrained road network.

The City of Vancouver expressed concerns that the increase in the number of proposed berths would increase water traffic and negatively impact physical access to the water, user safety and opportunities for participation (especially for

beginners). The City of Vancouver was concerned that the current shared right of way on the water is already very congested by water traffic and is currently 91 meters at the narrowest point. They noted that the expansion proposed would further increase this congestion by reducing the channel width to only 71 meters.

Parking.

The City of Vancouver raised concerns that the increase in the number of berths was likely to result in an increase in the demand for parking. The parking used by the facility is all located outside of the jurisdiction of the port authority, within Stanley Park. The City of Vancouver stated that they would not be able to accommodate a request for additional marina dedicated parking if the expansion were to occur. The Applicant subsequently provided a response to this issue, asserting that there are sufficient parking stalls within Stanley Park – although this was not substantiated with a third party Traffic Impact Study or other parking-specific study to the satisfaction of the City of Vancouver.

The City of Vancouver also mentioned concerns that in the marina's current state the Applicant already was not meeting the City of Vancouver's parking bylaw requirements, and that the additional proposed berths in the marina would only further exacerbate this issue. Under the City of Vancouver bylaws, the existing marina currently requires approximately 163 upland parking spaces, of which the current lease arrangement with the Parks Board provides for approximately 75 land parking stalls. The expansion would require an additional 24 parking stalls in order to rectify the deficiency and satisfy bylaws. The City of Vancouver has indicated that it would not provide additional parking to the Applicant at this time.

4.2 Federal, Provincial, Regional Agency Consultation

The port authority determined that the Proposed Project could have a potential impact on the interests of government agencies. The port authority engaged Transport Canada and the HMCS Discovery Naval Reserve to seek reviews on the Proposed Project.

A referral letter was sent to Transport Canada – Navigation Protection Program on May 28, 2020 notifying it of the Proposed Project. Transport Canada did not provide any comments.

The Applicant consulted independently with HMCS Discovery Naval Reserve ("**HMCS**"), which is a section of the Department of National Defence ("**DND**") installation, located on Deadman's Island immediately to the east of the existing marina. The DND also maintains a small float adjacent to the RVYC. The Applicant included a letter dated March 20, 2012, in which HMCS advised that the HMCS and the DND were not opposed to the Proposed Project.

The Applicant consulted independently with Fisheries and Oceans Canada – Pacific Region ("**DFO**"), to solicit input on whether the Project was likely to result in the death of fish by means other than fishing; the harmful alteration, disruption, or destruction of fish habitat; and for effects to listed aquatic species at risk or their habitat. The applicant provided a letter, dated September 17, 2020, in which DFO provided measures to limit impacts, and concluded that provided these measures are implemented, the proposal would not be likely to result in the contravention of relevant prohibitions.

4.3 Adjacent Tenant Consultation

The Proposed Project was assessed to have potential impacts to adjacent port authority tenant operations. The following port authority tenants received a referral letter on May 28, 2020, notifying them of the Proposed Project and requesting comments:

- Vancouver Rowing Club;
- Harbour Cruises Ltd.; and
- Concord Pacific (Westin Bayshore Hotel).
(collectively, the "**Adjacent Tenants**").

The Adjacent Tenants provided comments that are captured in a table at Appendix E. The Adjacent Tenants' key concerns were:

- Safety concerns resulting from an increase in the volume and types of vessel traffic;
- Safety concerns for other marine users resulting from the narrowing of the channel;
- Safety concerns resulting from the visual impairment that could be caused by the expansion;
- The increase in marine vehicle accidents that are already present in the area;
- The need for a vessel management scheme to allow for various users to be better managed;
- The negative impacts to rowing that occurs in the area; and
- Potential deficiencies in the consultation or public engagement process conducted by the Applicant.

As a result of these concerns, it was the Adjacent Tenants' position that the Proposed Project should not proceed.

The Vancouver Rowing Club, in addition to the feedback provided through the stakeholder consultation process, engaged in its own independent consultation process that is reviewed in more detail below at section 5.2.

4.4 Marine Users Consultation

The Proposed Project was assessed to have potential impacts to marine users. However, as there are few commercial operations in Coal Harbour, the interests of marine users were addressed through public engagement activities, and the stakeholder consultation, specifically that of the Adjacent Tenants. (See section 4.3 above). Other marine user stakeholders such as the Council of Marine Carriers were not consulted as it was determined the Proposed Project should not effect these operations because large commercial carriers and their operation partners (such as the BC Coast Pilots) do not operate vessels in the surrounding marine area. Some of the groups that were indirectly consulted include rowing bodies and elected officials.

4.5 Stakeholder Consultation Conclusions

The port authority reviewed a large amount of stakeholder feedback through those directly consulted and others who provided input over the course of the PER Process. Key concerns that were raised through the stakeholder consultation were over-crowding, marine and land traffic, environmental issues, and varying safety concerns. In particular, the City of Vancouver, Parks Board, and Adjacent Tenants were all in opposition of the Proposed Project.

While parking issues are outside of the port authority's jurisdiction and the PER Process at this location, the increased pressure on public accessibility to the park is considered an adverse effect of the Proposed Project. This is due to the current demands on parking in Stanley Park and the additional vehicle traffic that can be expected from the proposed expansion. Despite this issue being raised numerous times by the City of Vancouver and the Parks Board, the Applicant did not provide any satisfactory mitigation strategy to address the upland parking issues.

5 PUBLIC ENGAGEMENT

To meet the requirements of section 86 of the *Impact Assessment Act*, the port authority posted a description of the Proposed Project and notice of public participation to the *Canadian Impact Assessment Registry*. This provided the public with 30 days to comment on the Proposed Project and provide any community knowledge. The comment period ran from June 17, 2020 to July 16, 2020. Two comments were received during this period. These comments were also sent to the Applicant and formed part of their public engagement summary and consideration report.

In addition to the process described above, the port authority required the Applicant to host a public information session and conduct further public engagement activities. The public engagement period for this was increased from 20 to 25 business days as a result of the COVID-19 pandemic and in order to provide the community with additional opportunities and time to provide feedback in the pandemic environment. The Applicant carried out their public engagement activities on the Proposed Project between June 2, 2020 and July 7, 2020.

The objective of public engagement as part of the PER Process is to solicit feedback from the public on the Proposed Project, the completed technical studies, and any proposed mitigations during construction and

operation project. The port authority reviewed the record of public engagement, including all comments received and the Applicant's response to comments, as part of forming this report.

5.1 Summary of Public Engagement

A description of the Proposed Project and proposed works, and all supporting materials was posted to the port authority's website in December 2018 for public review and comment. In March 2020, a number of supporting documents were updated after revisions were made by the Applicant, at the direction of the port authority. The details of the Applicant's public sessions were posted to the port authority's website in May 2020, and links were provided to the Applicant's website. Subsequently, a notice of public participation was posted to the *Canadian Impact Assessment Registry* from June 17 to July 16, 2020.

The Applicant's public engagement period was from June 2 to July 7, 2020, and the public was invited to provide feedback via telephone, mail, or online. Public engagement activities conducted by the Applicant included the following:

- **Informational Materials:** A discussion guide and Power Point presentation was created with key information about the Proposed Project;
- **Public Information Sessions:** Two online public information sessions were hosted on June 16 and 24, 2020:
 - Sessions were conducted virtually via GoToWebinar technology due to the COVID-19 pandemic and related restrictions;
 - On June 16, 2020, 71 people attended and a total of 121 questions or comments were submitted, and
 - On June 24, 2020, 91 people attended and a total of 140 questions and comments were submitted;
- **Notification Letters:** Notification letters were sent by mail on May 25, 2020, to all residents and businesses within 500 meters of the Proposed Project location, which included approximately 1,890 local residents and businesses;
 - Notification Letters were also sent to elected officials who expressed interest;
- **Efforts to Promote Awareness:**
 - A request was sent to the Coal Harbour Residents' Association (the "CHRA") that resulted in a notification of the public engagement period, project details, and notification letter being shared to CRHA's members in its June 2020 News email;
 - Advertisements were placed in the Vancouver Sun (June 2, 2020) and Georgia Straight (June 4, 2020) newspapers regarding details of the Proposed Project, public information sessions, and a request to participate in the engagement period; and
 - A notice of public participation was posted to the *Canadian Impact Assessment Registry* from June 17 to July 16, 2020:
 - Two comments were received from this post;
- **Feedback Form:**
 - A feedback form was created to collect community input (both online and hard copy);
 - 1,734 people completed and submitted feedback forms;
- **Creation of Communication Channels:** An email address and telephone number were created for comments, inquiries and submissions of the form;
 - 32 people submitted questions or comments through email or phone;
- **Online Activities:**
 - A social media advertising campaign was launched to promote the engagement period and online information sessions on Facebook and Instagram;
 - A total of 5 posts were advertised on Facebook and 4 on Instagram;
 - A dedicated webpage was created for the Proposed Project to inform the public and accept online feedback: https://www.royalvan.com/default.aspx?p=.NET_ArticleView&tview=0&plugid=1026754&ssid=315555&qfilter=RSC22012&itemID=314558; and
 - All Project-related materials were posted on the Applicant's website.

During the online public information sessions, the Applicant presented information about the scope, design, environmental and other technical assessments, construction activities and construction management. The Applicant had project and technical consultants available to answer written questions received from the public via a chat feature. Staff from the port authority were also in attendance to answer any port or process related questions. Links were provided to an online feedback form, which was also available as a printable PDF, in order to collect public comments and feedback.

The responses received during the public engagement process included both support of, and opposition to the Project.

The majority of concerns raised by the public reflect similar concerns that were raised by the Adjacent Tenant stakeholders. Comments from the public related to the following areas: channel design, including the potential for channel congestion and safety hazards arising from the channel narrowing; construction, including community impacts and the impacts to current marina members during construction works; the engagement process itself (stakeholder, Indigenous and public); environmental concerns; marina design, including marine navigational concerns, blind spots, access/egress, and overall safety; perceived impacts and effects on rowing; overall safety; and, view and shade issues. Community knowledge was also provided about rowing in a busy urban waterway environment, and mainly consisted of concerns regarding channel congestion and safety hazards.

A summary of the comments and concerns provided by the public is included at Appendix F.

The Applicant provided an Engagement Summary Report dated September 2020 and a Consideration Report dated October 2020 with the Applicant's responses to the public comments received. The port authority has reviewed the documents and posted the reports on its website. These have also been posted on the Applicant's website.

5.2 Vancouver Rowing Club's Additional Input

The port authority received additional input collected by the Vancouver Rowing Club. In relation to the Proposed Project, the Vancouver Rowing Club had engaged in the following activities:

- Created a website and informational video in opposition of the project:
 - The website (<https://savestanleyparkwaters.ca/>) was widely advertised.
- Collected public comments:
 - 160 emails or letters with public comments were collected;
 - 153 of those comments were collected prior to the formal engagement period commencing, or the application materials being updated and rereleased; and
 - After review, the comments collected did not raise any new themes or information which was not already included in the consultation tables at Appendix E and F.
- Launched an online petition:
 - Located at: <https://www.change.org/p/port-of-vancouver-keep-stanley-park-s-waters-public>;
 - Petition went live in July 2019 and had received 12,562 virtual signatures in opposition of the Proposed Project by September 2020;
 - The description suggested the Proposed Project was connected to the sale of public waters and the commercialization of Stanley Park; and
 - A link to the Vancouver Rowing Club's opposing website was included, but no direct link to the Applicant's project website was available for additional information.
- Released a survey for public response:
 - Accessed by 1,406 people, and responses were submitted by 774; and
 - The results indicated that the vast majority (approximately 620) of respondents opposed the Project, a minority (approximately 28) supported it, and several expressed no opinion. Some of the submitted surveys were incomplete or data may not have been readily accessible; these results are approximate only but do indicate that most responses were in opposition.

The key concerns raised by the Vancouver Rowing Club included impacts to the historical rowing tradition that is practiced in the area, safety concerns arising from the narrowing of the shared waterway and the increase in vessel traffic without any navigational safety measures in place.

6 INDIGENOUS CONSULTATION

The port authority reviewed the proposed works and determined that the Proposed Project may have the potential to adversely impact Aboriginal or Treaty rights for the following groups:

- Musqueam Indian Band;
- S'ólhTéméxw Stewardship Alliance;
- Squamish Nation; and
- Tseil-Waututh Nation.

The following consultation activities were conducted with the above-noted Indigenous groups:

- Consultation letters were sent with an online link to information and documents on the project and a request for comments;
- Participation funding agreements were provided;
- Multiple follow-up and reminder emails to the initial consultation letter were sent;
- A notification letter was sent explaining the project was going on hold; and
- A notification letter was sent explaining that the project was coming off of hold and would be moving to decision.

The key concerns raised by the Indigenous groups were as follows:

- Protecting archaeological and cultural heritage resources
- Enhancing the biodiversity of native species in the project area
- Mitigating adverse environmental effects on the local marine environment
- Increase in vessel traffic contributing to underwater noise impacts to marine mammals and disrupting ongoing hydroacoustic monitoring
- Deleterious substances entering the environment

As the Proposed Project is not expected to have any material impact on the exercise of Aboriginal rights, the port authority considers that the duty to consult has been met in this process.

7 ENVIRONMENTAL EFFECTS REVIEW

This section summarizes the environmental effects review conducted for the Proposed Project.

7.1 Scope of Review and Assessment Methodology

The port authority considered the Proposed Project's potential for adverse environmental effects on 14 environmental components. As part of the review, each potential adverse effect was reviewed in connection with proposed mitigation measures that could avoid or reduce those effects. The components considered are aspects of the biophysical and socio-economic environment that are considered to have an ecological, economic, social, cultural, archaeological, or historical importance.

The review considered the potential effects of the Proposed Project and Proposed Works described in Section 2 of this report. Each of the components was evaluated for potential adverse effects that could be present at the time of construction or during the operation of the Proposed Project. The environmental review also considered the information provided in the previous sections of this report.

The information relied on and considered pertinent to the environmental effects review included:

- A subtidal marine biophysical dive survey that was conducted in and around the RVCY between March 6 and 7, 2018, to assess and characterize the marine environment potentially affected by the Project;

- A Construction Environmental Management Plan (“CEMP”) that was submitted by the Applicant as part of the application that identified mitigation measures to be implemented during the Proposed Project;
- A review response provided by Fisheries and Oceans Canada (“DFO”) with recommended mitigations to be implemented to reduce potential impacts to fish and fish habitat; and
- Feedback received through the consultation of stakeholders, Indigenous groups, and the public.

Section 7.2 summarizes the results of the environmental effects review and mitigation measures.

7.2 Environmental Effects and Mitigation Summary

A more detailed summary of the potential environmental effects, mitigation measures and the port authority’s analysis are set out in a table at Appendix G.

The key issues and findings from the environmental effects review were as follows:

- Based on the project scope, no adverse impacts to the following five components are anticipated and were not assessed further: soils; ground water; terrestrial resources; wetlands; and archaeological, physical, and cultural heritage resources;
- Potential adverse effects were assessed for the following nine components and as summarized in Appendix G below: air quality; lighting; noise; sediments; surface water and water bodies; species/habitat with special status; aquatic resources; health and socio-economic conditions; and accidents and malfunctions;
- For the majority of environmental components assessed, with mitigation measures in place, significant adverse environmental impacts are not anticipated; and
- In assessing the effects on health and socio-economic conditions, the port authority was unable to conclude with sufficient certainty whether the Proposed Project would or would not result in a significant adverse effect on health and socio-economic conditions including community interest and safety. The Proposed Project has the potential to impact community interests in the surrounding area, including the restriction of the channel width resulting from the expansion and potential impacts to rowing and safety of other water users in a more constrained channel. In addition, numerous stakeholders expressed concerns for safety with the Proposed Project. It is difficult to determine if the proposed mitigation measures would adequately address any potential risk to safety. Overall, because the Proposed Project would result in an increased number of marine vessels, and narrower constraints for marine traffic, it is considered to increase safety risks, though the extent is difficult to ascertain. The Proposed Project has the potential to cause serious harms from increased risk of collisions (especially, but not only, involving rowers), on an ongoing basis.

8 Analysis and Recommendation

This has been a substantial and complex review process and corresponding analysis by staff. There is no single factor that determines if the Proposed Project should be approved or denied.

Factors in support of approving the Proposed Project are the following:

- Additional moorage/boat storage in the Coal Harbour area;
- The Applicant has spent a considerable amount of time, energy and resources pursuing the application and amendments thereto;
- Initial discussions with the Harbour Master suggest, that at least with respect to the channel layout, no significant concerns would exist;
- No Federal agencies expressed concern;
- With the application of mitigation measures, adverse environmental effects, with the exception of socio-economic effects (which are dealt with below), were not found to be significant; and

- It does not adversely impact the exercise of Aboriginal rights.

Factors against approving the Proposed Project are the following:

- Strong opposition by the stakeholders, including most notably, the Vancouver Rowing Club;
- Feedback received from stakeholders and the public raised important concerns that arise from the narrowing of the water channel, including concerns for the safety of regular water users in a more constrained channel;
- The port authority was unable to conclude with sufficient certainty that the Proposed Project would or would not result in a significant adverse effect on health and socio-economic conditions including community interest and, in particular, overall safety.
- The Proposed Project, if it were to proceed, would not significantly advance the port authority's mandate under the *Canada Marine Act*, in terms of responsibly facilitating trade through the Port of Vancouver.

On balance, the port authority's staff recommendation is that the Proposed Project be denied. The port authority considered a wide range of factors, including, national and international standards and guidelines, community and marine user input, environmental and socio-economic impacts, internal mandates and principles, and the many factors that are at play within the Coal Harbour area. With regard to all of the relevant factors, but most notably the community concerns and potential risks to safety arising from a more tightly constrained and busy waterway, the port authority finds that the general level of safety that has existed with the status quo should not be lightly displaced.

The decision maker may decide to adopt the recommendation in this report and deny the Proposed Project. The decision maker may also decide not to adopt the recommendation in this report and to approve the Proposed Project. If the decision maker decides to approve the Proposed Project, he or she must first make a decision as to whether or not the carrying out of the project is likely to cause significant adverse environmental effects, and if it is, would be required to receive a determination by the Governor in Council that the effects are justified in the circumstances⁴. This is a requirement under section 82 of the *Impact Assessment Act*, which states:

Project carried out on federal lands

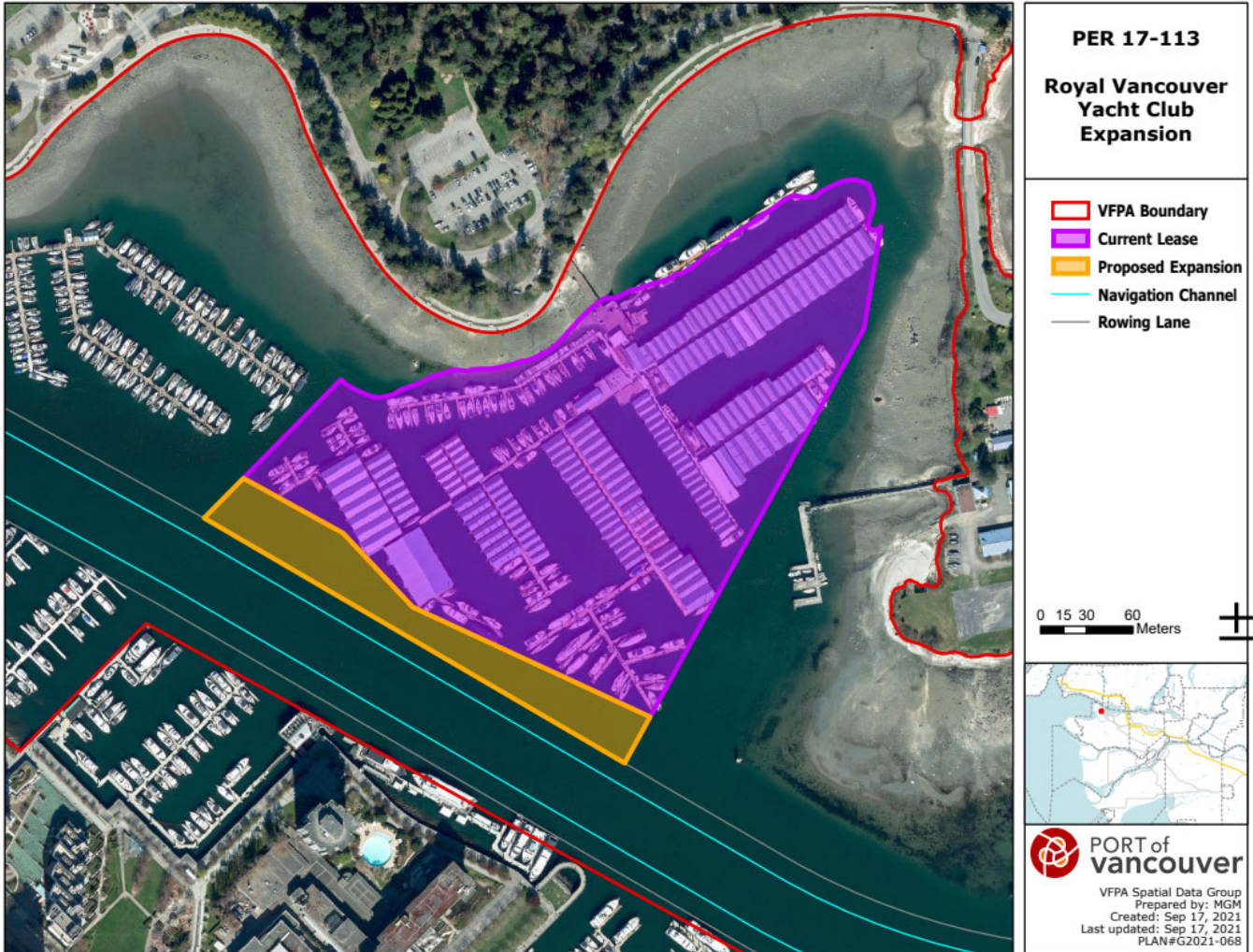
82 An authority must not carry out a project on federal lands, exercise any power or perform any duty or function conferred on it under any Act of Parliament other than this Act that could permit a project to be carried out, in whole or in part, on federal lands or provide financial assistance to any person for the purpose of enabling that project to be carried out, in whole or in part, on federal lands, unless

(a) the authority determines that the carrying out of the project is not likely to cause significant adverse environmental effects; or

(b) the authority determines that the carrying out of the project is likely to cause significant adverse environmental effects and the Governor in Council decides, under subsection 90(3), that those effects are justified in the circumstances.

⁴ Any determination under section 82 of the *Impact Assessment Act* would need to apply the definitions used in that legislation which may differ from those used in this report.

APPENDIX A Location Plan



APPENDIX B

Key Sources of Information

The following list includes the key sources of information provided by the Applicant that were considered and relied upon by the port authority's staff in preparing this report:

- Application form and materials submitted by Applicant on behalf of the tenant on September 16, 2019, at various dates following, and accepted as complete on March 11, 2020;
- All Proposed Project correspondence from December 12, 2018, to August 23, 2021;
- All plans and drawings as part of a complete application for PER No. 17-113;
- “Coal Harbour Marina Expansion Project – Master Plan”, January, 2012, TyPlan Planning and Management;
- “Navigation Channel Design – Coal Harbour”, July 17, 2019, TyPlan Planning and Management;
- “Royal Vancouver Yacht Club Coal Harbour Expansion Project – Rowing Technical Memorandum”, February 10, 2020, TyPlan Planning and Management;
- “Emergency Response Plan”, January 17, 2020, TyPlan Planning and Management; and
- “Fire and Life Safety Report”, March 2019, Sokulski Engineering Ltd.

APPENDIX C

City of Vancouver – Stakeholder Consultation Table

Issue Raised	Submitted Materials	Port Authority Analysis
<p>Archaeology – A recommendation to engage with Indigenous groups, and to follow the requirements of the <i>BC Heritage Conservation Act</i> (the “HCA”).</p>	<p>N/A</p>	<p>The port authority did engage with Indigenous groups on the project.</p> <p>The <i>HCA</i> does not apply to federally managed lands. While the port authority does not administer the <i>HCA</i>, we do consider the <i>HCA</i> as a system of standards and best practices. The port authority has drawn from the <i>HCA</i> as well as federal legislation, in developing our own approach to archeological management that is applied in the PER Process and the guidelines document.</p> <p>As the work activities for the Proposed Project are in-water at a depth of approximately 3-5m, the potential to impact unidentified archaeological resources was assessed as low and no further archaeological studies were recommended for the Proposed Project.</p>
<p>The City of Vancouver would like to work with the port authority on a water use plan for the area.</p>	<p>N/A</p>	<p>The scope and timeline of this planning exercise is unknown, but is anticipated to be a much broader scope than what would affect a single marina.</p> <p>The port authority is not positioned to commence this exercise at this time, however has taken this request under advisement, and may proceed to initiate or participate in such a plan at a future date.</p>
<p>Numerous comments with respect to future building permits and the Vancouver Building Bylaw, some of which are identified as serious nonconforming bylaw issues.</p>	<p>N/A</p>	<p>The Proposed Project is not located within the jurisdictional boundaries of the City of Vancouver, and City of Vancouver bylaws such as the Vancouver Building Bylaw do not apply.</p> <p>The port authority would not require the Applicant to achieve a Building Permit from the City of Vancouver, but administers a separate Building Permit process, which would be employed to review any buildings proposed to be added or modified as part of the Proposed Project, such as boat sheds.</p>

Issue Raised	Submitted Materials	Port Authority Analysis
		For further discussion on this topic, see Section 3.1.
Impact of the Proposed Project on the waterway – competing demands on the shared-use area.	The Applicant developed a Navigational Channel Design document as part of its Revised Proposal, which reviewed the design vessel, area traffic levels, vessel maneuverability, channel width, water depth, winds, and multiple other factors to establish an appropriate channel width that should be maintained.	The port authority has confirmed that the channel design as proposed is technically feasible. However, practical concerns remain regarding the overall proposed constraint to the channel given the number of vessels which use the area, the proposed narrowing of the waterway, the unregulated nature of the waterway, and the vulnerability of users. For further discussion on this, see Section 3.4.
Concern with respect to the width of the waterway and the narrowing effect that the project would have.	The Applicant developed a Navigational Channel Design document as part of its Revised Proposal, which reviewed the design vessel, area traffic levels, vessel maneuverability, channel width, water depth, winds, and multiple other factors to establish an appropriate channel width that should be maintained.	The port authority has confirmed that the channel design as proposed is technically feasible. However, practical concerns remain regarding the overall proposed constraint to the channel given the number of vessels which use the area, the proposed narrowing of the waterway, the unregulated nature of the waterway, and the vulnerability of users. For further discussion on this, see Section 3.4.
Concerns with the existing inland parking deficiency, and the number of parking spaces that are leased to the Applicant, and the effect that the expansion might have on traffic and parking availability (public parking generally) in Stanley Park.	N/A	The port authority shares this concern with respect to parking, but not with respect to traffic. For further discussion on this, see Sections 4.1.
Request that the port authority lead the development of a comprehensive strategy to address the safety of all water users, public or private.	N/A	The port authority is not positioned to commence a long-range planning exercise such as this at this time, however has taken this request under advisement, and may initiate or participate in such a plan at a future date.

APPENDIX D

Vancouver Board of Parks and Recreation – Stakeholder Consultation Table

Issue Raised	Submitted Materials	Port Authority Analysis
Request for an archaeological assessment of the project.	N/A	All work proposed that would impact the sea bed (pile driving) is at a water depth of -5m and as such an archaeological study is not something that would be required for the Proposed Project.
Requested that a traffic and parking impact study be completed for the proposed expansion. Noted that parking for the marina is accommodated in Stanley Park through a licence system for RVYC members. Also referenced recent Park Board motion directing staff to explore overall decreases in vehicle traffic in Stanley Park.	None provided.	<p>The port authority confirmed that a traffic and parking impact study would not be a requirement under PER.</p> <p>The Applicant was provided a copy of the Park Board comments, and advised that the concerns around traffic and parking could be addressed directly with them, through their contractual arrangement with the Park Board – the parking pass system.</p> <p>The port authority supports our community stakeholders (the City of Vancouver and the Park Board), and their interests in managing automobile traffic and parking issues in Stanley Park.</p> <p>For further discussion on this, see Section 4.1.</p>
Referenced a long-term study underway relating to the potential reconnection of Lost Lagoon to Coal Harbour, and requested that the project take the results of this study into consideration.	N/A	The port authority is unaware of the status of this study, but remains interested in the results of the investigation, when it completes.

APPENDIX E

Adjacent Tenants – Stakeholder Consultation Table

Issue Raised	Submitted Materials	Port Authority Analysis
Concerns around the proposed narrowing of the channel for other users, including rowers.	<p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. 36.4 m for recreational and commercial vessels, and 27 m for rowing (13.5m on each side).</p> <p>The Applicant utilized the following national and international technical guidelines to aid the design of the marina and channel:</p> <ul style="list-style-type: none"> • FISA – Rules of Racing and related Bylaws • PIANC – Harbour Approach Channels – Design Guidelines (2014) 	<p>The port authority has confirmed that the channel design as proposed is technically feasible. However, there are outstanding practical concerns about the overall proposed constraint to the channel given the number of vessels which use the area, the proposed narrowing of the waterway, the unregulated nature of the waterway, and the vulnerability of users.</p> <p>For further discussion on this, see Section 3.4.</p>
Perceived impacts to rowing as a result of the project.	<p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. 36.4 m for recreational and commercial vessels, and 27 m for rowing (13.5m on each side).</p> <p>The Applicant committed to develop a general education and awareness program. As well as implement a rowing traffic scheme, should the Proposed Project proceed.</p>	<p>The Applicant has an existing campaign to promote awareness of and safety for rowing sculls. This program was proposed to be expanded, should the Proposed Project be approved.</p> <p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing.</p> <p>The port authority has confirmed that the design channel width, which would be a result of the Proposed Project, for combined power boating and rowing use, is technically acceptable. It was derived through application of two guidelines for channel design, one relating to vessel traffic, and the other related to rowing. However, while compliant with relevant international guidelines,</p>

Issue Raised	Submitted Materials	Port Authority Analysis
		<p>numerous other considerations remain when contemplating whether a reduction in available water space is appropriate.</p> <p>For further discussion on this, see Section 3.4.</p>
<p>Concern that the expansion is driven by financial motivations, i.e. to help finance the infrastructure replacement that is deemed to be required by the RVYC to maintain its facilities to an acceptable standard.</p>	<p>N/A</p>	<p>This topic is not applicable to the decision.</p>
<p>Concern that the volume and types of vessel traffic in the waterway are approaching dangerous levels, and that the expansion would facilitate additional traffic.</p>	<p>The Applicant developed a Navigational Channel Design document as part of its Revised Proposal, which reviewed the design vessel, area traffic levels, vessel maneuverability, channel width, water depth, winds, and multiple other factors to establish an appropriate channel width that should be maintained.</p>	<p>Lack of study has affected the port authority's ability to fully analyze the topic of current use levels, including all potential effects of the proposed channel narrowing on users including relative safety or perceived safety.</p> <p>For further discussion on this, see Section 3.4.3.</p>
<p>Concern that rowing governing bodies were not consulted on the Proposed Project.</p>	<p>N/A</p>	<p>Specialist groups such as this are not considered stakeholders under the PER Process. Their interests are typically captured under public engagement conducted by the Applicant.</p> <p>The Vancouver Rowing Club was consulted as part of the Adjacent Tenant Consultation Process, see Section 4.3.</p> <p>The additional input provided by the Vancouver Rowing Club was considered through the Public Engagement Process. For further discussion on this, see Sections 5.0 and 5.2.</p>
<p>Interest in being able to turn rowing shells at a mid-point along the waterway, and the size of rowing shells and underlining the inexperience of the users, making this dangerous (and requiring a wider area to safely turn while accommodating other traffic).</p>	<p>No materials were submitted on this topic specifically.</p> <p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways.</p>	<p>The interest in turning rowing shells at mid-point was not specifically considered, although it is recognized that rowers are a particularly vulnerable user, and have been active in Coal Harbour waterway over the long term.</p>

Issue Raised	Submitted Materials	Port Authority Analysis
Concerns with the public engagement conducted by the Applicant.	The Applicant conducted public engagement during 2020, in keeping with port authority guidelines.	The public engagement scope and process conducted by the Applicant was in keeping with published port authority guidelines on this topic. For further discussion on this, see Section 5.0.
Concern with the vessel traffic numbers provided as part of the Application – that they are outdated, or incomplete.	The Applicant developed a Navigational Channel Design document, which reviewed the design vessel, area traffic levels, vessel maneuverability, channel width, water depth, winds, and multiple other factors to establish an appropriate channel width that should be maintained.	The port authority has confirmed that the channel design as proposed is technically feasible. The Applicant has not provided a traffic flow simulation model to determine the capacity of the shared waterway as a whole that can represent the present and future traffic streams and their likely interactions. The output of traffic flow modeling could be used to further refine the channel design and determine maximum traffic density for shared waterways. This was not required to be submitted at the time of Application.
The access route proposed at the west end of the RVYC water lot would create a “blind channel” entrance to the waterway.	None provided.	The access route at the west end of the RVYC is existing currently, and would not be significantly impacted by the Proposed Project. It would experience slightly higher traffic levels.
Width of the proposed rowing lane is inappropriate, as it is compared to a rowing race course which uses buoys to delineate the channel, and is not immediately next to berthed vessels.	The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways.	The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. The calculation of appropriate channel width is complicated by the breadth of user types – rowers are a frequent user of the channel, and their needs and use patterns are not entirely consistent with those of other vessels. A simple calculation of appropriate width is not necessarily possible. For further discussion on this, see Section 3.4.
Lack of meaningful consultation, or engagement that may lead to reasonable discussion or project modifications.	The Applicant consulted directly with stakeholders during the preliminary review, as well as during the course of the Application review. The key stakeholder groups were each consulted on multiple occasions.	The PER Process includes consultation with stakeholders. For more details on this topic, see Section 4. The Applicant undertook a public engagement process in line with the port authority’s public engagement guidelines and public engagement guidelines during COVID-19. For further discussion on this, see Section 5.
View that rowing channels should accommodate two	None submitted on this topic specifically.	The interest in side by side rowing was not specifically considered.

Issue Raised	Submitted Materials	Port Authority Analysis
vessels side by side (rowing shells).	The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways.	
Need for a vessel management scheme, which would allow for the various users of the waterway to be more closely managed.	N/A	<p>There is no marine traffic management currently in place in the area.</p> <p>For further discussion on this, see Section 3.4.</p>

APPENDIX F

Public Engagement – Consultation Table

The issues raised are listed here in alphabetical order.

Issue Raised	Submitted Materials	Port Authority Analysis
Channel design		
<p>Concerns were raised regarding:</p> <ul style="list-style-type: none"> • Channel congestion, • Narrowing of the channel, and • Safety of navigation 	<p>The Applicant developed a Navigational Channel Design document, which reviewed the design vessel, area traffic levels, vessel maneuverability, channel width, water depth, winds, and multiple other factors to establish an appropriate channel width that should be maintained in Coal Harbour.</p> <p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. 36.4 m for recreational and commercial vessels, and 27 m for rowing (13.5m on each side).</p> <p>Additional warning lights and mirrors were proposed (as a mitigation) to be installed to assist in the identification of approaching vessels in the channel, however, no further detail was provided.</p>	<p>The port authority has confirmed that the channel design as proposed is technically feasible. However, there are outstanding practical concerns about the overall proposed constraint to the channel given the number of vessels which use the area, the proposed narrowing of the waterway, the unregulated nature of the waterway, and the vulnerability of users.</p> <p>For further discussion on this, see Section 3.4.</p>
Construction		
<p>Community impacts, specifically noise during construction.</p>	<p>The Applicant developed a Construction Environmental Management Plan (the “CEMP”) which detailed best management practices, mitigation measures and environmental specifications for:</p> <ul style="list-style-type: none"> • Site access and mobilization • Noise and air quality • Pile driving • All in-water works 	<p>A CEMP was provided.</p> <p>The port authority reviewed the CEMP and concluded that with the implementation of pile driving best practices and other mitigation measures during construction, impacts to the community would be limited should construction occur. The likelihood for prolonged use of impact hammers to drive or set piles is limited.</p> <p>Restrictions on the hours when pile driving activity could occur would also reduce impacts on the surrounding community.</p>

Issue Raised	Submitted Materials	Port Authority Analysis
	The Applicant proposes to drive piles using a vibratory hammer until use of an impact hammer was necessary to set the piles.	
Marina members raised concerns over impacts to members during construction.	The Applicant committed to providing a detailed program of construction sequencing and timing to members of the marina, should the Proposed Project proceed.	This topic is not applicable to the decision.
Engagement		
Indigenous consultation - whether Indigenous groups had been consulted.	None provided – the port authority undertakes this.	Indigenous consultation was undertaken by the port authority as part of the PER Process. For further discussion on this, see Section 6.
Public engagement <ul style="list-style-type: none"> • Engagement process • Strata Council communication 	None	The Applicant undertook a public engagement process in line with the port authority’s public engagement guidelines and public engagement guidelines during COVID-19. For further discussion on this, see Section 5. The Applicant also provided advance notice of the engagement process to the Coal Harbour Residents’ Association and requested that they distribute the notice to their membership. The engagement undertaken by the Applicant met port authority standards and was considered sufficient.
Stakeholder engagement - whether stakeholder engagement had been undertaken, and the level of engagement with the following stakeholders: <ul style="list-style-type: none"> • City of Vancouver, • Vancouver Board of Parks and Recreation, and • Vancouver Rowing Club 	The Applicant consulted directly with stakeholders, including specifically the three mentioned in the concern. Each were consulted on multiple occasions. The Applicant also engaged directly with stakeholders beyond what was required by the port authority. This included four meetings with the Vancouver Rowing Club, and three joint meetings between the Vancouver Rowing Club, the RVYC and the port authority.	The port authority implemented a robust stakeholder engagement process during the PER Process. The City of Vancouver and Parks Board, as well as other stakeholders in the Coal Harbour basin, were consulted. Written communication between the Vancouver Rowing Club, the RVYC and the port authority also occurred several times during the PER Process. The engagement undertaken by the port authority, as well as that undertaken by the Applicant, was considered sufficient.
Environmental impacts		

Issue Raised	Submitted Materials	Port Authority Analysis
<p>Environmental concerns were raised regarding the process of electrolysis.</p>	<p>The Applicant requires that all vessels docked in the marina are properly maintained by qualified professionals to ensure electrolysis does not occur. Testing for the effects of electrolysis are performed on a regular basis and are part of RVYC's yearly safety boat check program.</p>	<p>This topic is not applicable to the decision.</p>
<p>Boat sheds shading of the seabed.</p>	<p>The Applicant proposed that replacement boat sheds have Plexiglass (transparent) roof panels to allow daylight in, and reduce shading on the seabed.</p>	<p>The proposed boat sheds are a replacement for existing boat sheds, which do not include transparent roof panels, and therefore this may be considered an improvement from a shading perspective. However, the location of the proposed sheds is in water of a depth that precludes shading of the seabed being a concern.</p>
<p>Marine and wildlife:</p> <p>Concerns during construction and operations especially in relation to:</p> <ul style="list-style-type: none"> • Increased traffic (marine and vehicle) • Potential for oil spills 	<p>A CEMP was provided.</p> <p>The Applicant has indicated that no sensitive habitat or endangered wildlife were identified inside the proposed project boundary.</p> <p>The Applicant calculated that additional slips would result in an average increase of 2.5 return transits per day during the high season, with smaller increases during the low season.</p> <p>The application materials include the statement that the marina encourages members to minimize vehicle access to Stanley Park, including the use of taxis, when members are departing on multi-day trips.</p> <p>The Applicant has an emergency response plan and trained staff to deal with oil spills on site. Spill kits are strategically located around the existing marina. An updated emergency response plan was developed for the proposed marina design.</p>	<p>The port authority has reviewed the Applicant's Emergency Response Plan as well as the CEMP and is satisfied that there would be minimal risk for oil spills, impacts to wildlife or the marine environment during construction given the best practices and measures set out in these documents.</p>
<p>Pollution - during operations especially, in relation to:</p>	<p>The Applicant referenced the following:</p>	<p>The port authority has reviewed the Applicant's Emergency Response Plan and additional information provided by the Applicant during the public engagement</p>

Issue Raised	Submitted Materials	Port Authority Analysis
<ul style="list-style-type: none"> • Contaminants entering the water due to operations (paint, fuel, oil spills) • Human waste 	<ul style="list-style-type: none"> • An Emergency Response Plan was submitted. • They maintain strict rules for members regarding the discharge of deleterious materials into the water. • All vessels docked in the marina are required to be properly maintained by qualified professionals. • Vessel safety checks are conducted regularly. • Vessels must pass inspections in order to remain in the marina. • Vessels with toilets are required to have functioning holding tanks which are checked regularly. <p>The marina currently has a holding tank pump out facility for the use of members, is part of the Clean Marine BC program, follows specific sanding and painting protocols to ensure contaminants do not enter the waterway, and have also confirmed that major vessel work is not permitted within the marina.</p>	<p>process (answers to specific questions raised by the public), and is satisfied that the Applicant has procedures in place and staff are adequately trained to deal with accidental pollution incidents.</p> <p>The Applicant has provided details relating to policies and rules members must adhere to regarding vessel maintenance and septic tanks. These policies, which are already in place, are considered satisfactory.</p>
Light pollution		
<ul style="list-style-type: none"> • Call for Dark sky principles to be used in the design • Effects on night navigation • Light spill 	<p>The Applicant developed a lighting plan which incorporated energy efficient LED lights, and lights facing downward to illuminate docks and reduce unwanted light spill. The upgraded lighting system was expected to have less impact than the system used today.</p> <p>The Applicant consulted with the Canadian Coast Guard Marine Communication and Traffic Services to determine the required navigational lighting for the marina, and the lighting plan accounted for low lighting to aid nighttime navigation.</p>	<p>The Applicant developed a lighting plan which incorporated energy efficient LED lights, and lights facing downward to illuminate docks and reduce unwanted light spill. The upgraded lighting system would be expected to have less impact than the system used today.</p> <p>The proposed lighting plan accounted for low lighting to aid nighttime navigation. This is considered satisfactory.</p> <p>The port authority has reviewed the Lighting Plan and confirmed that it meets applicable guidelines for lighting. The planned upgrades to the lighting system would result in less light pollution than the current lighting system in place now due to the installation of newer equipment.</p>

Issue Raised	Submitted Materials	Port Authority Analysis
Marina Design		
<p>Access and egress.</p>	<p>The Applicant asserts that the proposed marina redesign would improve safety in Coal Harbour ensuring safer entry and exit points, and eliminating the need for vessels to reverse out of the marina.</p>	<p>Relocated and replaced boat sheds can be considered an improvement for visibility for vessels that currently access these sheds directly from the channel, as the sheds would no longer be located immediately adjacent to the channel. However, the location of approximately 12 proposed vessel slips along the south side of K float cannot be considered an improvement for passing vessels, in particular smaller ones such as rowing shells.</p>
<p>Blind spots.</p>	<p>The Applicant asserts that the proposed relocation of the larger boat sheds and reconfiguration of the marina would reduce existing blind spots.</p> <p>Additional warning lights and mirrors were proposed (as a mitigation) to be installed to assist in the identification of approaching vessels in the channel.</p>	<p>The proposed layout and relocation of boat sheds does have some net positive effect on the number and location of blind spots.</p>
<p>Expansion into the channel.</p>	<p>The Applicant is of the view that the expansion would allow them to make best use of the available space, while also responding to the demand of members for an increase in the number of recreational moorage slips. They also reference in the Application that they considered a number of different marina layouts to utilize the space in an efficient manner.</p>	<p>The port authority has confirmed that the channel design as proposed is technically feasible. However, there are outstanding practical concerns about the overall proposed constraint to the channel given the number of vessels which use the area, the proposed narrowing of the waterway, the unregulated nature of the waterway, and the vulnerability of users.</p> <p>For further discussion on this, see Section 3.4.</p>
<p>Design criteria</p> <ul style="list-style-type: none"> • Concerns with the use of the FISA Guidelines to design the channel when the existing use of the waterway by rowing shells is not in a race environment. • Wind, tide and debris 	<p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. 36.4 m for recreational and commercial vessels, and 27 m for rowing (13.5m on each side).</p> <p>The Applicant utilized the following national and international technical guidelines to aid the design of the marina and channel:</p>	<p>The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. For further discussion on this, see Section 3.4.</p> <p>Wave and storm surge were determined using state-of-the-art computer programming and Small Craft Harbours Directorate guidelines from Fisheries and Oceans Canada. Water level from tides and sea-level rise were also evaluated and considered in the design.</p>

Issue Raised	Submitted Materials	Port Authority Analysis
	<ul style="list-style-type: none"> • FISA – Rules of Racing and related Bylaws • PIANC – Harbour Approach Channels – Design Guidelines (2014) <p>The Applicant has an existing campaign to promote awareness of, and safety for, rowing sculls. This program is proposed to be expanded, should the project be successful.</p>	
<p>K-floats</p> <ul style="list-style-type: none"> • Access/egress • Navigational lights • Size of vessels • Visiting vessels 	<p>The Applicant developed a Navigational Channel Design document, which reviewed the design vessel, area traffic levels, vessel maneuverability, channel width, water depth, winds, and multiple other factors to establish an appropriate channel width that should be maintained.</p> <p>Additional warning lights and mirrors were proposed (as a mitigation) to be installed to assist in the identification of approaching vessels in the channel.</p>	<p>The Applicant consulted with the Canadian Coast Guard Marine Communication and Traffic Services to determine the required navigational lighting for K-float, as well as the rest of the marina.</p> <p>Additional warning lights and mirrors are proposed (as a mitigation) to be installed to assist in the identification of approaching vessels in the channel.</p> <p>The Applicant proposed that the maximum size of vessels moored on the outside of K-float would be 24.3m in length, with a maximum beam of 7m.</p> <p>The Applicant indicated during the consultation process that K-float would not be used for visiting moorage and that visiting vessels would be moored within the marina. In practice however, the size, moorage arrangement, and ownership of vessels is not regulated by the port authority.</p> <p>For further discussion on this, see Section 3.4.</p>
<p>Marine traffic (increase).</p>	<p>The Applicant undertook marine traffic studies and determined that the additional 47 slips would result in an average increase of 2.5 return transits per day during the high season, with smaller increases during the low season.</p>	<p>This calculation may not be representative of the peaks in marine traffic experienced in this region.</p>
<p>Vehicle traffic (increase).</p>	<p>The Applicant calculates that the proposed expansion would add approximately 1,814.2 trips to the facility per year, which is</p>	<p>The additional road traffic generated by the 47 additional proposed slips and resulting 5 vehicle trips per day is low relative to the overall traffic volumes that enter and exit Stanley Park, no matter the distribution.</p>

Issue Raised	Submitted Materials	Port Authority Analysis
	approximately 5 trips per day if evenly distributed.	For further discussion on this, see Section 3.3 and 4.1.
Noise		
Concerns of increased noise once operational.	The Applicant anticipates that noise levels for day-to-day operations at the marina to be consistent with current levels, which are low.	Recreational marinas are not known to be generators of significant noise.
Public space		
No community benefit from the project.	The Applicant is of the view that the Proposed Project would address a shortage of available recreational moorage in the region.	This is not required or expected of a project of this scale.
Private use of a public resource. Concerns raised specifically regarding: <ul style="list-style-type: none"> • Selling off public space, or conversion to marina use • Commercialization of Stanley Park 	None	The port authority has management jurisdiction of the federal lands and waters comprising the Coal Harbour basin – below the high water mark in most locations. Should the project be approved, RVYC’s lease area would be required to be expanded. No federal land or water would be sold as a result, but it would be under lease for private use, at current market rates (subject to negotiation).
Rowing		
Safety of rowing, specifically in relation to the: <ul style="list-style-type: none"> • Narrowing of the channel • Increase in marine traffic 	The Applicant developed a Rowing Technical Memo which reviewed similar multiuse waterways. The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. The Applicant has an existing campaign to promote awareness of and safety for rowing sculls. This program was proposed to be expanded, should the project be successful.	The memo concluded that a channel of 63.4 m would support the continued use of Coal Harbour for rowing. Lack of study has affected our ability to fully analyze the topic of current use levels, the interests of the public in shared-use of this space, or all potential effects of the proposed channel narrowing on users including relative safety or perceived safety. For further discussion on this, see Section 3.4.3.
Safety		
Marina access and egress.	The Applicant indicated that the marina redesign would improve safety in Coal Harbour ensuring safer entry and exit points, and eliminating the need for vessels to reverse out of the marina.	Relocated and replaced boat sheds can be considered an improvement for visibility for vessels that currently access these sheds directly from the channel, as the sheds would no longer be located be immediately adjacent to the channel. However, the location of approximately 12 proposed vessel slips along the south side of K float

Issue Raised	Submitted Materials	Port Authority Analysis
	<p>Additional warning lights and mirrors were proposed (as a mitigation) to be installed to assist in the identification of approaching vessels in the channel, however, no further detail was provided.</p>	<p>cannot be considered an improvement for passing vessels, in particular smaller ones such as rowing shells.</p> <p>For further discussion on this, see Section 3.4.</p>
View and Shade		
<p>Boat sheds</p> <ul style="list-style-type: none"> Impacted views, including those from Stanley Park 	<p>The Applicant provided several renderings with the application material, which show the impact of the relocated and replacement boat sheds on views from the public realm at several locations.</p>	<p>The Proposed Project does not propose to change that number, however several sheds are proposed to be relocated within the marina footprint, and several replacement sheds (of the 37 replacements) are proposed to be replaced with larger sheds.</p> <p>Proposed replacement boat sheds would be consistent in design, colour and size with existing sheds. These view impacts are not considered to be significant.</p> <p>For further discussion on this, see Section 3.1.</p>

APPENDIX G

Environmental Effects Table

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>During construction, there may be a temporary release of air emissions from construction equipment. Mitigation measures described in the CEMP would be implemented during the work including turning off emission sources when not in use, adhering to the Non-Road Diesel Engine Program requirements and ensuring all equipment is well maintained.</p> <p>The increase in mooring capacity may also result in the release of additional air emissions from motorized recreational vessels operating from and mooring at the facility. Any increases in air emissions are not anticipated to be significant given the existing and historical use of the area by recreational watercraft.</p> <p>By implementing the proposed mitigation measures, residual adverse effects of the Proposed Project 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>During construction, a total of 67 new lights consisting of 28 standard lights along the K-float, 21 internal lights to illuminate the marina, and 18 flood lights would be installed to illuminate the existing dock and walkway.</p> <p>Although construction would be undertaken during daylight hours between 7 a.m. and 8 p.m. Monday to Saturday, artificial light as part of operating the marina has the potential to cause adverse effects.</p> <p>Given the project location is over-water, the Applicant would be required to provide a full-light design rendering which includes a visual representation of lighting distribution around the marina location. This rendering would be used to assess how sharply lights cut off in the vicinity of the floats and to assess the effects of the lights around the marina. The light renderings would undergo additional review and approval by the port authority before installation.</p> <p>Once renderings and lighting plans are approved and suggested mitigations are implemented, lighting is not expected to cause significant residual adverse effects at the project location.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Noise	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>An increase in noise levels during construction activities, including pile installation and removal is anticipated. Construction works are proposed to be limited to between 8 a.m. and 5 p.m. Monday to Friday with no work on weekends or public holidays. If work is proposed outside of these hours approval by the port authority would be required.</p> <p>Boat sheds and docks would be prefabricated offsite and thus contribute minimal noise during construction.</p> <p>Increases in noise levels during operations from increased vessel traffic is consistent with the existing use of the area as a marina and is therefore not anticipated to cause significant adverse impacts.</p> <p>With the implementation of proposed mitigation measures in the CEMP including noise monitoring, the residual effects of the Proposed Project on noise are predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Soils	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Proposed Project is not anticipated to affect soils. All project activities are proposed to be undertaken below the low-water mark.</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
Sediments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The biophysical survey showed that substrate in the project area was mostly unconsolidated fine grained sediments which are easily suspended when disturbed. Activities such as pile removal and pile installation have the potential to cause adverse impacts through sediment disturbance and suspension.</p> <p>These activities are temporary in nature and would be mitigated in accordance with the measures proposed in the CEMP. A qualified Environmental Monitor will be on site during in-water works to monitor for turbidity. If suspended sediment is above water quality guidelines, additional mitigation measures such as a floating silt curtain would be deployed around the work area.</p> <p>There is also potential for contaminated sediments to be encountered during the removal of creosote treated wood piles. Mitigation measures would be implemented in accordance with Best Management Practices for pile driving and related operations by the BC Marine and Pile Driving Contractors. Installation of a silt curtain will also be used to contain and isolate any contaminated sediments that are suspended during removal activities.</p> <p>By implementing the proposed mitigation measures, residual adverse effects of the project on sediments are predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ground water	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Proposed Project is located entirely within the subtidal marine environment. Groundwater is not anticipated to be affected by the Proposed Project.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
Surface water and water bodies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>In water construction activities including the removal and installation of piles may temporarily impact water quality through an increase in total suspended solids (TSS) concentrations. An Environmental Monitor would be on site during in-water works to monitor for turbidity. If turbidity levels are above water quality guidelines additional mitigation measures would be implemented (e.g. silt curtain). A spill prevention, containment and clean-up plan would be implemented prior to works.</p> <p>A floating surface boom would be installed prior to pile removal to capture any floating debris. The boom would be equipped with absorbent pads to contain any potential oil sheens released from removal of creosote piles. All work involving creosote piles would be undertaken within the boomed area to mitigate any contaminant release.</p> <p>The replacement of creosote-treated piles with steel piles would minimize the potential for any future impacts of creosote to the surrounding environment and water quality. All pile driving and removal activities would be undertaken in accordance with Best Management Practices for Pile-Driving and Related Operations.</p> <p>With the mitigation measures in place, the Proposed Project is not anticipated to result in significant residual adverse effects on surface and water bodies.</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
Species/habitat with special status	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Some federally listed bird species were identified within the site location including the great blue heron (<i>fannini</i> subspecies) and the double crested cormorant. No critical and/or sensitive fish habitat was observed within the project area.</p> <p>Mitigation measures would be in place to reduce noise to wildlife. The Applicant would be required to cover any steel pipe piles that are not being worked on to prevent wildlife entrapment.</p> <p>Visual monitoring for marine mammals would be maintained throughout pile driving and removal activities. Activities would be halted if marine mammals are observed within the Proposed Project site or adjacent areas. Underwater noise monitoring would also be undertaken throughout the duration of the project.</p> <p>With the mitigation measures in place, the Proposed Project is not anticipated to result in significant residual adverse effects on species or habitats with special status.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Terrestrial resources (e.g., vegetation, wildlife, etc.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Proposed Project is not anticipated to affect terrestrial resources. All Proposed Project activities would be undertaken below the low water mark. No works would be conducted from land and mitigation measures would be in place to reduce noise to wildlife. No upland staging would be required.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The Proposed Project is located entirely within the subtidal marine environment. Wetland habitat is not anticipated to be affected by the Proposed Project.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Component	Potential Adverse Effects?		Overview of Potential Adverse Effects, Mitigation Measures, and Residual Adverse Effects	Significant Residual Adverse Effects?	
	Yes	No		Yes	No
<p>Aquatic resources (e.g., aquatic plants, fish and fish habitat, waterbirds, marine mammals, etc.)</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>No sensitive habitats were identified inside the Proposed Project boundaries. Marine substrate consisted predominantly of unconsolidated fine grained sediments and mud as well as waste materials such as glass bottles and wood fragments.</p> <p>A marine fauna survey was undertaken and showed low densities of fish and marine invertebrates within the project area. A total of 85 old creosote-treated piles would be removed as part of the project and replaced with steel piles. All in-water work would be undertaken during the least-risk fisheries window for Burrard Inlet, which is between August 16 to February 28. Additional mitigations outlined in the CEMP would also be implemented including vibratory pile driving, underwater noise monitoring, marine mammal monitoring and the use of bubble curtains during pile driving activities, if required.</p> <p>An eelgrass patch (5 x 5 m) was observed within the existing marina but located outside of the proposed expansion area. Proposed pile replacement and removal may temporarily re-suspend sediments potentially causing deposition on the eelgrass bed. These impacts would be mitigated through the use of a silt curtain to contain sediments within the Proposed Project area.</p> <p>With the mitigation measures in place, the Proposed Project is not anticipated to result in significant residual adverse effects on aquatic resources.</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>Health and socio-economic conditions</p> <p><i>Includes community knowledge and comments received from the public.</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Based on community knowledge and comments received from numerous stakeholders and the public, the Proposed Project has the potential to impact community interests in the surrounding area. These include the restriction to channel width resulting from the expansion of the water lot and perceived impacts to rowing and safety of other water users in a more constrained channel. There is significant opposition by the City of Vancouver, the Parks Board and all Adjacent Tenants, including the Vancouver Rowing Club.</p> <p>Feedback received from stakeholders and the public raised significant concerns that arise from the narrowing of the water channel, including concerns for the safety of regular water users in a more constrained channel.</p> <p>The port authority has outstanding concerns related to vessel traffic and marine safety under the proposed expansion. The lack of study had affected the ability to fully analyze the topic of current use levels, interests of the public, or the potential effects of the proposed channel narrowing on users including safety.</p> <p>As a result, the port authority was unable to conclude with sufficient certainty that the Proposed Project would or would not result in a significant adverse effect on health and socio-economic conditions including community interest and safety.</p>	<p>(unable to conclude with sufficient certainty that the Proposed Project would or would not result in a significant adverse effect)</p>	
<p>Archaeological, physical, and cultural heritage resources</p> <p><i>Includes the rights and knowledge of Indigenous groups</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>Construction activities do not include digging, excavation or planting at freshwater or marine riparian zones, nor intertidal zone nor shallow subtidal zones. Impacts to archaeological, physical, and cultural heritage resources are not anticipated.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>Accidents and malfunctions</p> <p><i>Assessed as required by the Canada Marine Act</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>There is potential for adverse effects on surface water from accidental equipment leaks or spills.</p> <p>Mitigation measures would be in place to reduce the potential for adverse, project-related effects due to accidents, by implementing the measures outlined in the CEMP as well as the spill response plan.</p> <p>With mitigation measures in place, the effect of an accident or malfunction on the environment, if it were to occur, is predicted to be not significant.</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

