
British Columbia Ferry Services Inc.

Supplemental Filing with the
British Columbia Ferries Commissioner

Pursuant to
Section 55 (2) of the *Coastal Ferry Act*

For the

Fleet Maintenance Unit Site Redevelopment Project

April 28, 2023



Note: in this copy of the application information of a confidential and commercially sensitive nature has been redacted.

CONTENTS

Section 1 - Introduction	2
Section 2 – Project Background	4
2.1 Current FMU Facility	4
2.2 Project Overview	4
2.3 Summary	5
Section 3 - Procurement and Schedule Update	6
3.1 Overview	6
3.2 Procurement Process	6
3.3 Project Schedule	8
Section 4 – Project Cost Update	10
4.1 Overview	10
4.2 Project Cost Update	10
4.3 Impact on Price Caps	11
4.4 Scenarios for Reducing Capital Expenditures	12
Section 5 –Options Analysis Update	13
5.1 Overview	13
5.2 Updated Financial Analysis	13
Section 6 - Risk Mitigation Update	15
6.1 Overview	15
6.2 Risk Update	15
Section 7 – Conclusion and Order Sought	17

Section 1 - Introduction

On August 15, 2022, British Columbia Ferry Services Inc. ("BC Ferries" or the "Company") submitted an application (the "Original Application") under section 55(2) of the *Coastal Ferry Act* (the "Act") seeking the British Columbia Ferries Commissioner's (the "Commissioner") approval of a proposed major capital expenditure for the redevelopment of the Fleet Maintenance Unit (the "FMU" and the "Project") located in Richmond, B.C.

On October 14, 2022, the Commissioner issued Order 22-02 approving the Original Application with conditions. Concurrently, the Commissioner set a maximum amount of capital expenditure for the Project (the "Approved Amount") in confidential Order 22-02A.¹

Since receiving the Commissioner's Orders, BC Ferries has continued with the procurement process as described in the Original Application. A construction tender was issued to trades by the General Contractor in October 2022, and closed on January 19, 2023. This was an open tender with bid transparency reviews by BC Ferries. The pricing received is higher and the time to complete contract negotiations has been longer than was anticipated at the time of the Original Application. The Company has also taken the opportunity to revise other elements of the capital budget for the Project to reflect current information. As a result of these developments, an upward adjustment to the Approved Amount will be required in order for BC Ferries to proceed with the Project.

The scope of this Project has not changed from what was included in the Company's 12-year capital plan submitted to the Commissioner. All things being equal, the impact of the upward adjustment to the Approved Amount results in a small increase of 0.009 percent to the price caps over the expected life of the assets.

The higher forecast cost has not changed BC Ferries' views on the merits of proceeding with the Project, or that it meets the requirements of section 55 of the Act. For all the reasons described in the Original Application, the Company continues to believe that the Project is reasonable and prudent. It will help to achieve objectives set out in BC Ferries' *Ship Repair Strategy 2016–2026* by increasing internal repair capacity, while protecting valuable assets and positioning the FMU to provide increased fleet support into the future. It will also ensure that BC Ferries continues to serve the public interest by delivering safe, reliable and cost-effective service that meets both the needs of customers and communities, and the terms of the Coastal Ferry Services Contract (the "Contract").

In summary, BC Ferries seeks an order permitting it to proceed with the Project based on a revised forecast total cost for the Project of \$ < > million, of which \$ < > million is for capital expenditures

¹ Order 22-02 and Confidential Order 22-02A: *In the Matter of Approval of a Major Capital Expenditure for Fleet Maintenance Unit Site Redevelopment Project Proposed by British Columbia Ferry Services Inc. Pursuant to Section 55(2) of the Coastal Ferry Act*, October 14, 2022.

inclusive of contingency of \$< > million, \$< > million is for interest during construction ("IDC") and \$< > million is for operating costs inclusive of \$< > million of contingency.

As this filing is part and parcel of the Original Application process, it should be considered in conjunction with the details filed as part of the Original Application. This filing focusses principally on the differences that have resulted from the construction tender process. In particular, this filing provides updated analysis based on the construction tender results that demonstrate the Project continues to be reasonable, affordable, prudent, and in the public interest.

Section 2 – Project Background

The FMU is BC Ferries' primary vessel maintenance and refit facility. The Original Application describes the challenges with the current FMU facility, as well as the various components of the Project. Some highlights are provided below for reference.

2.1 Current FMU Facility

The FMU presents issues that affect the Company's ability to service its vessel fleet, such as:

- An outdated, inefficient aging facility that has fallen well behind the pace of change, with buildings that have a wide range of structural, seismic and hazardous-material deficiencies and that are organized in a fragmented and ad hoc manner;
- Inadequate and undersized shop spaces that are insufficient or inadequate for ship repair and maintenance activities including for new large thrusters and life rafts;
- Storage of valuable assets in unsuitable locations and conditions; and
- A facility site that does not meet current seismic codes and is susceptible to inundation during future sea level rise.

2.2 Project Overview

The Project will help to position the FMU to provide increased fleet support and increased internal repair capacity by:

- Replacing or extending the life of buildings on the site, increasing indoor working areas, modernizing maintenance infrastructure, consolidating work spaces and organizing areas for appropriate use and efficiency component flow;
- Improving covered outdoor storage to protect high-value assets from weather conditions;
- Addressing seismic and flooding issues; and
- Providing the infrastructure needed to service existing and future vessel thrusters and life safety appliances.

The following specific improvements are planned:

New Multi-purpose Machine Shop Building

Select buildings on the FMU site will be replaced with one new, consolidated building that will include a multi-purpose machine shop, welding/fabricating shop, covered storage area and site administration offices.

Building Tenant Improvements

Five buildings will receive tenant improvements including life-extension renovations and will be repurposed for new uses.

Permanent Off-site Lease Space for Supply Chain Management ("SCM") Warehouse

The SCM warehouse will relocate permanently to a 20,000 square foot off-site facility located in Delta, B.C. BC Ferries has secured a long-term lease for the facility and the facility is in a prime location being only 15 minutes away from the FMU facility in Richmond.

2.3 Summary

BC Ferries is an essential transportation link that connects coastal communities and facilitates the movement of people, goods and services. As BC Ferries modernizes its fleet and introduces standardized vessels, it needs to maintain its internal ship repair capability to support fleet resiliency, flexibility and interoperability, while reducing reliance on external ship repair facilities.

The Project will allow the FMU to focus on delivering core repair and maintenance services, while reducing operating costs. The redevelopment will help to reduce upward pressure on fares across the coastal ferry system through realized efficiencies, and it will help to ensure that coastal ferry service remains safe, reliable and sustainable for many years to come.

Section 3 - Procurement and Schedule Update

3.1 Overview

BC Ferries' Original Application preceded the completion of the procurement processes for the Project. The procurement processes have resulted in higher pricing for the Project and this outcome forms the underlying basis of this filing.

The main reasons for this cost escalation relate to material and labour price increases. The pricing received during the bid tender process was higher than forecast at the time of the Original Application.

Accordingly, the Project requires a total budget increase of \$ < > million (< > percent), inclusive of IDC. This amount captures the bid prices negotiated with the General Contractor and its lead vendors through a construction tender bid review, as well as a value engineering exercise < > (see Confidential Appendix "A") < > . The Company has also taken the opportunity to revise other elements of the capital budget for the Project to reflect current information

There is no significant change to Project scope. The timeline to complete the Project has been adjusted, as described below.

3.2 Procurement Process

BC Ferries pre-qualified early contractor involvement ("ECI") General Contractor completed an open bid construction tender from October 18, 2022 to January 19, 2023.

3.2.1. Open Bid Construction Tender

The General Contractor put out a public construction tender on October 18, 2022 with an anticipated tender close date of December 15, 2022. The tender close date was then extended to January 19, 2023 due to the complexity and size of the Project, as well as to allow for the seasonal holidays and to give the bidders ample time to provide competitive detailed bids.

The General Contractor proceeded over the next six weeks to verify the compliance of the bid prices and to complete interviews with the sub-trades. Part of the compliance process was to ensure the bids were binding for 120 days to allow the appropriate bid review process to take place. < >

The detailed sub-trade bids and the General Contractor's trade reconciliation sheets (sub-trade base bids with General Contractors' costs covering sub-trade exclusions) were provided to BC Ferries for a detailed review of the bids on March 2, 2023.

3.2.2. Value Engineering Process

A value engineering process was initiated to determine the origins of the high costs and opportunities for potential cost savings. Value engineering strives to maximize the benefits received by BC Ferries while minimizing costs. BC Ferries completed the value engineering analysis with the General Contractor, low bid proponents (i.e., those with the lowest bids who were technically qualified), and the design consultant to understand the significant variances between the bids and the Company's construction budget estimate. As a result:

- Reductions were found in material costs, specified material properties (e.g., painted steel versus stainless steel, etc.), process efficiencies, construction methods, risks, labour estimates and contractor clarified assumptions; and
- Reductions were also found in some inflated numbers for work that is not scheduled to be implemented for two to three years. These items were moved to a cash allowance budget (see below) and will be re-tendered closer to the time of implementation to allow for a more accurate and competitive pricing process.

The value engineering process took five weeks to complete. The participants in this process were very cognisant not to change the scope of the Project, to reduce the comfort and reliability of the original design intent, and/or to complete reductions required by building codes and or by asset design life. While the process resulted in a significant reduction of \$ < > million, the bids were still over the Approved Amount and the budget approved by the Board of Directors of BC Ferries.

3.2.3. Cash Allowances

Cash Allowances were determined through the value engineering process for certain high bid costs that will be re-tendered or re-priced closer to the time of implementation to allow for a more accurate and competitive pricing process:

- Project scope items with a scheduled implementation that is one to three years in the future; and
- Project scope items requiring additional site clarification to provide a reasonable budget.

The General Contractor has included the cash allowances in its budget. Once fixed pricing is received through re-tendering or when more site information has been received in the field, the General Contractor will be required through the change order process to obtain BC Ferries' approval prior to using the cash allowances. The cash allowance budget of \$ < > million is based off firm tender bid pricing received in January 2023 with tax and escalation added.

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3.3 Project Schedule

The revised phasing schedules are provided in the table below. The construction tender, bid review, value engineering and additional approvals required based on the increased Project costs have delayed the start of construction by three months, but the overall Project closeout and 'Available for Use' ("AFU") date has not changed.

Table 3-1: Current Milestone Dates

Activity	Dates Indicated in Original Application		Current Application	
	Start	Completion	Start	Completion
Commissioner Approval -Section 55 Application	Jul 2022 [Original Application was filed Aug 15, 2022]	Sep 2022 [decision was received Oct 14, 2022]	N/A	
Secured Offsite Warehouse Lease	Oct 2022	Dec 2022 [completed Jan 4, 2023]	N/A	
Construction Tender and Value Engineering	Oct 2022	Dec 2022	Oct 2022	Apr 2023
Commissioner Approval – Supplemental Section 55 Application	N/A	N/A	Apr 28, 2023	May 14, 2023 (anticipated)
Construction Contracts Awarded	Jan 2023	Mar 2023	Apr 2023	May 15, 2023
Phase 1: SCM off-site lease facility tenant improvements	Mar 2023	Jun 2023	Jun 2023	Nov 2023
Phase 2: SCM-A, SCM-B, and SCM-G tenant improvements	Jul 2023	Jan 2024	Dec 2023	Jun 2024
Phase 3: Select building demolition and new Multi-purpose Machine Shop construction	Feb 2024	Aug 2025	Jul 2024	Oct 2025
Phase 4: Outfitting trades and heavy shop tenant improvements	Sep 2025	Feb 2026	Nov 2025	Apr 2026
Phase 5: Remaining building demolition and civil works	Mar 2026	Sep2026	May 2026	Sep 2026

Activity	Dates Indicated in Original Application		Current Application	
	Start	Completion	Start	Completion
Project Available for Use (AFU)	N/A	Mar 2027	N/A	Mar 2027
Project Close-out	N/A	Mar 2027	N/A	Mar 2027
Warranty period	Sep 2026	Sep 2027	Sep 2026	Sep 2027

Section 4 – Project Cost Update

4.1 Overview

Having progressed in the procurement process for the Project, BC Ferries has now determined the Project forecast cost exceeds the Approved Amount set by the Commissioner in Order 22-02A. BC Ferries has considered scope reductions as a means to offset the forecast increase in the cost of the Project, but is of the view that no material reductions can be made without compromising the achievement of the objectives of the Project and, accordingly, no changes to the original Project scope are proposed.

4.2 Project Cost Update

The forecast cost of the Project is higher than the Approved Amount set by the Commissioner due primarily to the pricing received during the bid tender process being higher than forecast at the time of the Original Application. The variance in the forecast cost of the Project to that previously approved by the Commissioner is set out in the table below:

Table 41: Project Cost Update

	Original Application	Current Forecast	Variance
Total Project Expenditure (including IDC)	\$ < > Million	\$ < > Million	-\$ < > Million
40-Year NPV (7% discount)	-\$ < > Million	-\$ < > Million	-\$ < > Million

4.2.1. Contributing Factors to the Increase in Project Cost

A detailed breakdown of budget adjustments is provided in Confidential Appendix "A".

4.2.1.1. Capital Cost

FMU Onsite

The capital cost estimate for the onsite FMU redevelopment portion of the Project included in the Original Application was partly based on assumed competitive non-binding indicative quotes in March 2022 using a completed tender drawing package to develop a Class A pre-tender estimate. A < > percent pricing risk escalation was added to the Class A estimate to capture market risk and uncertainty (e.g., inflation) until firm tender pricing in December 2022. Despite this considerable risk escalation amount, it was not sufficient to address general price increases resulting from increased commodity, material and labour costs.

Offsite SCM Warehouse

As the offsite SCM warehouse was the critical first phase in the Project, securing the offsite warehouse was pivotal in maintaining the overall Project schedule.

The capital cost estimate included in the Original Application for the offsite warehouse was based on cosmetic fit-out requirement upgrades. However, due to extremely low inventory of suitable warehouse lease space, the only available unit (now leased by the Company) was a shell unit with no interior build-out; therefore, capital cost estimates have increased from cosmetic upgrades to construction of a full new fit-out of offices, lunch room, washrooms and change rooms.

This is an increase in effort and was determined not to be a change from the original scope.

4.2.1.2. Contingency (Capital / Operating)

The Project contingency remains at < > percent as determined with the < > percent confidence calculation identified in the Original Application. Due to the complexity of the Project and the significant required tenant improvement renovations, the < > percent contingency remains a modest contingency amount. < >

The price increases are related to supply and escalation and therefore do not reduce the required level of contingency.

4.2.1.3. Interest During Construction

The Project IDC of \$< > million included in this Supplemental filing reflects a \$< > million (< > percent) increase from the \$< > million IDC identified in the Original Application. The increase is mainly due to the higher Project capital cost and timing of cash flows. In addition, the Original Application only included forecast IDC and incorrectly omitted approximately \$< > million actual IDC incurred on the Project to date.

The IDC assumes a < > percent annual rate applied against projected cash flows, inclusive of contingency applied proportionately.

4.3 Impact on Price Caps

Upon Project completion, with all other things held constant, BC Ferries' analysis indicates an increase of 0.026 percent per annum to required average annual regulated tariff revenue over the 42 years from fiscal 2025 through fiscal 2066 (an increase of 0.009 percent from the Original Application). Starting in PT6 through fiscal 2032 (the end of Performance Term 7) an annual price cap increase of approximately 0.173 percent will be required. Following fiscal 2032, and for the remaining life of the FMU assets through fiscal 2066, an annual price cap increase of approximately 0.021 percent will be required. The price cap implication presented in the Original Application is provided below:

Table 4-2: Price Cap Impact Comparison

Price Cap Impact	Original Application	Current Analysis
Fiscal 2025 – Fiscal 2066	0.017%	0.026%
Fiscal 2025 – Fiscal 2032 (Performance Terms 6 and 7)	0.135%	0.173%
Fiscal 2033 – Fiscal 2066	0.013%	0.021%

4.4 Scenarios for Reducing Capital Expenditures

BC Ferries understands the importance of affordability of this Project both to the Company and ultimately, to its customers. As noted in the Original Application, BC Ferries’ large-scale de-scoping exercise carried out in 2020 represents approximately a 50 percent total cost reduction from the original Option 1 budget while retaining the majority of the benefits. BC Ferries, the third-party consultant and the General Contractor have worked together to maximize design and construction efficiencies (a prime benefit of the ECI approach), while carefully planning the building life extensions to maintain lower costs and avoid expensive upgrades. BC Ferries believes any additional set scope reductions would reduce its ability to achieve the intended benefits of the preferred Project option. Given this, BC Ferries believes that the proposed capital expenditure would not reasonably be considered excessive.

Section 5 – Options Analysis Update

5.1 Overview

The following options were presented in the Original Application with Option 2 being selected as the preferred and approved in Order 22-02:

- Option 1: Major Redevelopment involved replacing most of the buildings scattered around the FMU site with three new consolidated buildings, and adding a tower crane and access trestle between Berths 2 and 3. This option was removed from consideration due to the desire to further reduce capital costs while maximizing the potential Project benefits.
- Option 2: Minor Redevelopment involves replacing select buildings at the FMU site with one new, consolidated building (a multi-purpose machine shop, welding/fabricating shop, covered storage area and site administration building), performing tenant improvements to five buildings to extend their lives and fitting them to new purposes, relocating the SCM warehouse to a leased permanent off-site location and eliminating off-site third-party storage.

As outlined in the Original Application, the preferred Option 2 yielded a 40-year NPV that was favourable to Option 1 by approximately \$ < > million, primarily driven by the lower up front investment due to narrower scope, while still retaining ongoing benefits.

Table 5-1: Original Project Expenditure and NPV Comparison

	Option 1: Major Redevelopment	Option 2: Minor Redevelopment and Life Extension
Project capital expenditures	\$ < > million	\$ < > million
Project operating expenditures	\$ < > million	\$ < > million
Total managed Project budget (not including (IDC))*	\$ < > million	\$ < > million
40-year NPV	-\$ < > million	-\$ < > million

* Note: IDC relates to financing which forms part of the seven percent discount rate and is therefore not treated as a cash flow in the NPV analysis.

5.2 Updated Financial Analysis

BC Ferries re-performed the lifecycle financial analysis for Option 2 to reflect the increased budget and minor changes to ongoing cash flows, including the timing of when incremental costs and benefits are realized to align with the current phasing schedule (see Table 3-1), and a ~\$ < > thousand increase in annual lease for the off-site warehouse based on the signed contract.

The revised 40 year NPV for Option 2 is $-\$ < >$ million, approximately $\$ < >$ million favourable to the 40 year NPV for Option 1 *included in the Original Application*.

While BC Ferries did not re-perform the lifecycle financial analysis for Option 1, the Project would involve similar construction products, methods and materials, resulting in a comparable level of escalation that would only further increase in the NPV delta in favour of Option 2.

Table 52: Updated Financial Analysis

	Original Application		Current Forecast
	Option 1	Option 2	Option 2
40-Year NPV	$-\$ < >$ Million	$-\$ < >$ Million	$-\$ < >$ Million
<i>NPV Variance to Option 1</i>	-	$-\$ < >$ Million	$-\$ < >$ Million

Section 6 - Risk Mitigation Update

6.1 Overview

The Company has a rigorous process in place to identify, monitor and address the risks of the Project. A detailed risk matrix and methodology has been developed as part of Project planning.

The Original Application reviewed a number of key risks associated with the Project, and detailed the mitigation measures to be undertaken to monitor and proactively reduce them. The following risks were identified:

- Affordability;
- Cost Escalation and Market Conditions;
- Offsite Warehouse Lease Space Availability;
- Regulatory Requirements;
- Project Complexity;
- Project Duration/Schedule;
- Schedule Risks due to Supply Chain Delivery Delays;
- Project Management;
- Labour Availability;
- Operational Impacts;
- Unanticipated Geological Finds; and
- Archeological Finds

The Company will continue to take proactive measures as needed to address these risks. The following provides an update with regard to any changes to the risks as described in the Original Application.

6.2 Risk Update

Affordability

In the context of managing risk, “affordability” is defined as the ability of BC Ferries to undertake the Project while adhering to its debt covenants. As noted in the Original Application, the Company has in place a financing plan that ensures that the capital expenditures can be accommodated within the constraints of its key lending agreements.

Financing

Consistent with the Original Application, BC Ferries intends to finance the Project through a combination of cash flow generated from operations, draws on its credit facility and/or the issuance of additional debt.

Price Escalation

The Original Application described how a < > percent escalation risk was planned to address unforeseen cost pressures. Subsequently, it was determined during the construction tender process that this level of escalation would not be sufficient. As noted above, the Company has explored options for reducing capital expenditure (see Section 4.4), but believes that further cost reductions, through reduction in scope or other strategies, are limited for the preferred option.

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Offsite SCM Warehouse Lease Space Availability

This risk has been removed from the Project as the Offsite SCM Warehouse long-term lease has been secured.

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Section 7 – Conclusion and Order Sought

BC Ferries respectfully requests that the Commissioner issue an order supplemental to Order 22-02 and Order 22-02A approving a revised major capital expenditure for the FMU Redevelopment Project of up to \$ < > million, of which \$ < > million is for capital expenditures inclusive of contingency of \$ < > million, \$ < > million is for IDC and \$ < > million is for operating costs inclusive of \$ < > million of contingency.

The justification for the Project has not changed since the Original Application. It is consistent with BC Ferries' 12-year Capital Plan and its *Ship Repair Strategy 2016–2026*. It is essential to BC Ferries' ability to service and refit its vessel fleet, and will enable BC Ferries to maintain resilient and reliable ferry service in accordance with the Coastal Ferry Services Contract, while at the same time reducing upward pressure on fares.

The Project has been comprehensively researched and prudently planned, and has appropriate governance and project management in place. Of the viable options described in the Original Application, the proposed Project, arrived at after thousands of hours of consultation, discussion and engagement, has the least negative NPV for the benefits identified.

The Company continues to believe in the merits of the Project and that once completed, it will position the FMU to support the fleet into the future by enhancing productivity, reducing costs, protecting valuable assets and adding new capabilities with respect to large thruster repair and life safety appliance service. The internal repair capacity of the modernized FMU is expected to increase to between 45 and 50 percent of total vessel repair, refit, modification and maintenance services.

Accordingly, BC Ferries submits that this expenditure, inclusive of the higher forecast amount, is in the public interest. It is prudent, represents a wise use of resources, is reasonably required and is affordable.