

APPENDIX 8-A
Valued Component Selection Rationale

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A list of candidate VCs was compiled based on issues identified through the scoping process described in **Section 8.1.2 Effects Assessment Methods, Selection of Valued Components**.

The selection of VCs followed a three-step selection process, as summarised in **Figure 8-1**. **Table 8-A1** describes the results of the three-step selection process with respect to each candidate VC.

The process had four potential outcomes:

- 1) **Selection as Valued Component.** The candidate VC satisfied the criteria set out in each step of the selection process and was determined to be a receptor component in an effects pathway. The candidate VC was selected as a VC for the purposes of the effects assessment.
- 2) **Selection as Intermediate Component.** The candidate VC satisfied the criteria set out in each step of the selection process and was determined to be an intermediate component in an effect pathway. The candidate VC was selected as an IC for the purposes of the effects assessment.
- 3) **Exclusion from the Effects Assessment.** The candidate VC did not satisfy the criteria set out in one or more steps of the selection process for varying reasons explained in **Table 8-A2**, and was not selected as an IC or a VC for the purposes of the effects assessment.
- 4) **Assigned "Other" Status.** The candidate VC satisfied the criteria set out in each step of the selection process, was determined to be relevant within the scope of the assessment but, for varying reasons explained in **Table 8-A2**, was not selected as an IC or a VC for the purposes of the effects assessment.

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Table 8-A1 Three-Step Selection Process and Outcomes

Step	Valued Component Selection Process Questions	Candidate Components																																						
		Air Quality	Noise and Vibration	Light	Hydrology	Groundwater	Coastal Geomorphology	Surficial Geology	Marine Sediment	Marine Water Quality	Underwater Noise	Terrestrial Wildlife (non-avian species)	Terrestrial Vegetation	Freshwater Fish and Fish Habitat	Wetlands Above High Water	Marine Vegetation	Marine Invertebrates	Marine Fish	Marine Mammals	Coastal Birds	Roberts Bank Ecosystem	Ongoing Productivity of CRA Fisheries	Population Demographics	Transportation	Labour Market	Economic Development	Marine Commercial Use	Local Government Finances	Housing and Temporary Accommodation	Services and Infrastructure	Outdoor Recreation	Visual Resources	Land and Water Use	Physical and Cultural Heritage	Human Health	Current Use of Land and Resources for Traditional Purposes				
1	A. Does the candidate VC occur in the geographic area proximal to the Project?	•	•	•	•	•	•	•	•	•	•	x	•	x	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	B. If so, could an interaction occur between the candidate VC and a Project component or activity?	•	•	•	x	x	•	•	•	•	•		x		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	C. If yes to both of the above questions: Is the candidate VC of interest to the public, Aboriginal groups or government? OR	•	•	•	NA	NA	•	•	•	•	•	x	NA	NA	NA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Is the candidate VC particularly sensitive or vulnerable to disturbance (i.e. species at risk)?	NA	NA	NA			NA	NA	NA	NA	NA	NA				x	NA	NA	NA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	Could the Project result in an effect on the candidate VC?	•	•	•	NA	NA	•	•	•	•	•	NA	NA	NA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
3	Will the candidate VC be a receptor (i.e., occur at the end of an effects pathway) of potential environmental, economic, social, heritage, or health effects of the Project?	x	x	x			x	x	x	x	x				NA	NA	NA	NA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Outcome: VC = Selected as a Valued Component IC = Selected as an Intermediate Component O = Other (see Rationale in table 8A-2 for O ¹ to O ³) E = Excluded (see Rationale in table 8A-2 for E ¹ to E ⁶)		IC 1	IC 2	IC 3	E1	E2	IC 4	IC 5	IC 6	IC 7	E3	E4	E5	E6	VC 1	VC 2	VC 3	VC 4	VC 5	O1	VC 6	IC 8	O2	VC 7	VC 8	VC 9	VC 10	VC 11	VC 12	VC 13	VC 14	VC 15	VC 16	O3						

• = Yes, x = No, NA = Not Applicable

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Key to Intermediate Components	#
Air Quality	1
Noise and Vibration	2
Light	3
Coastal Geomorphology (Note: <i>Includes Hydrology</i>)	4
Surficial Geology and Marine Sediment	5
Marine Water Quality	6
Underwater Noise	7
Population	8

Key to Valued Components	#
Marine Vegetation	1
Marine Invertebrates	2
Marine Fish	3
Marine Mammals	4
Coastal Birds	5
Ongoing Productivity of Commercial, Recreational and Aboriginal Fisheries	6
Labour Market	7
Economic Development	8
Marine Commercial Use	9
Local Government Finances	10
Services and Infrastructure (Note: <i>Includes Housing and Temporary Accommodation</i>)	11
Outdoor Recreation	12
Visual Resources	13
Land and Water Use	14
Archaeological and Heritage Resources	15
Human Health	16

Table 8-A2 Rationales for Candidate Component Exclusion Decisions and Other Considerations

		Decision Rationale
#	Excluded Candidate Components	
E ¹	Hydrology	There are no freshwater hydrological features (e.g., drainage ditches) within the Project area. No interactions are anticipated between an adjacent upland drainage ditch that is located near the east end of the causeway and Project components and activities. Estuarine and marine hydrological conditions are included in the Coastal Geomorphology IC
E ²	Groundwater	No interactions are anticipated between adjacent groundwater features and Project components and activities.
E ³	Terrestrial Wildlife (non-avian species)	Non-avian terrestrial wildlife species that occur within the Project area include non-native species and species that are common and widely distributed throughout the Lower Mainland, and therefore not vulnerable to disturbance. Terrestrial birds are considered in the Coastal Birds VC .
E ⁴	Terrestrial Vegetation	Terrestrial vegetation on the Roberts Bank causeway to the track tie-in location (a less than 1 ha area within the British Columbia Rail (BCR) right-of-way) is characteristic of highly disturbed sites. Terrestrial vegetation of ecological value does not occur proximal to the Project.
E ⁵	Freshwater Fish and Fish Habitat	The Project area does not contain any freshwater fish habitat. No interactions are anticipated between an adjacent upland drainage ditch with limited fish values (i.e. habitat for three-spined stickleback) that is located near the east end of the causeway.
E ⁶	Wetlands Above High Water	The Project area does not contain any wetlands above the high water level. Wetlands below high water level are included in the Marine Vegetation VC .
#	Other Candidate Components	
O ¹	Roberts Bank Ecosystem	Roberts Bank Ecosystem is not a unique receptor or independent entity. Selected biophysical VCs allow for the assessment of potential effects on all major ecosystem components (i.e., receptors), from primary producers (Marine Vegetation VC) to secondary producers (Marine Invertebrates VC), tertiary producers (Marine Fish VC, Coastal Birds VC), and top predators (Coastal Birds VC, Marine Mammals VC).
O ²	Transportation	The changes to the environment due to transportation within the Project area and PMV jurisdiction are considered in the Air Quality IC and the Noise and Vibration IC assessments. Effects of these changes on biophysical and social VCs are considered in the Coastal Birds VC, Marine Commercial Use VC, Outdoor Recreation VC, and Human Health VC assessments, as well as the assessment of Current Use of Land and Resources for Traditional Purposes. All IC and VC assessments considered future incremental changes in road, rail, and marine vessel traffic associated with RBT2, travelling outside PMV jurisdiction, as part of the assessment of cumulative effects.
O ³	Current Use of Land and Resources for Traditional Purposes	The effects of the Project on 1) access to preferred current use locations; 2) availability and quality of preferred current use resources; and 3) quality of current use experience are assessed in S. 32.2 Current Use of Land and Resources for Traditional Purposes .

APPENDIX 8-B
Project Interaction Matrix

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