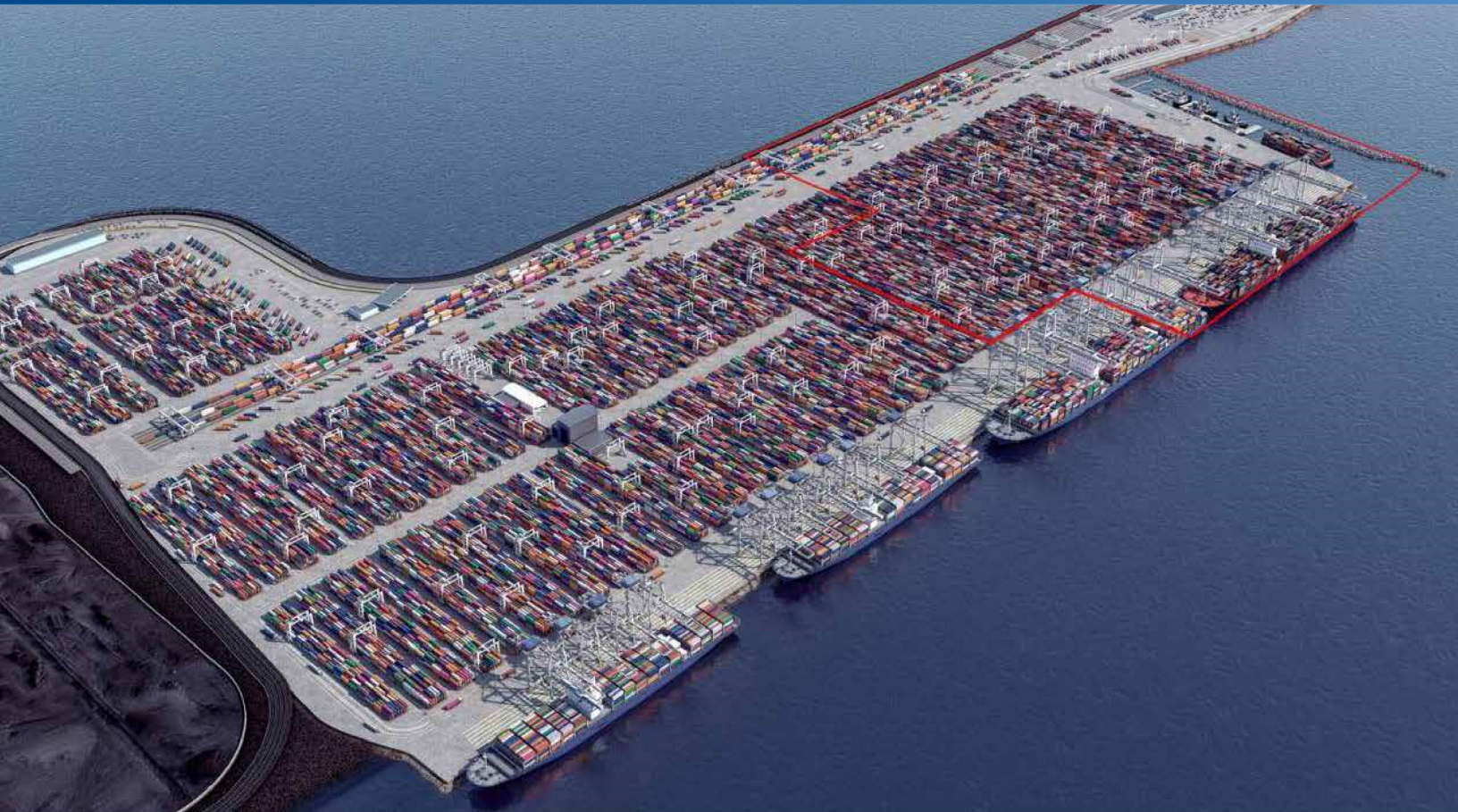


GLOBAL CONTAINER TERMINALS DELTAPORT EXPANSION BERTH FOUR PROJECT (DP4)



Summary of the Initial Project Description

September 18, 2020

Joint Submission to the Impact Assessment Agency of Canada and
the BC Environmental Assessment Office



Submitted by GCT with expert input provided by its advisors.

ACRONYMS AND ABBREVIATIONS

ACRONYM/ ABBREVIATION	DEFINITION
BC	British Columbia
BCEAO	BC Environmental Assessment Office
BMP	Best Management Practices
CAC	Criteria Air Contaminants
DFO	Fisheries and Oceans Canada
DP3	Deltaport Third Berth Project
DP4	Deltaport Expansion Berth Four Project (the Project)
ECCC	Environment Climate Change Canada
FLNRO	BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development
GCT	GCT Canada Limited Partnership
GCT Deltaport	Global Container Terminals Deltaport Container Terminal
GHG	Greenhouse Gas
IBA	Important Bird Area
IAAC	Impact Assessment Agency of Canada
RBT2	Roberts Bank Terminal 2 Project
SRKW	Southern Resident Killer Whale
TFN	Tsawwassen First Nation
ULCV	Ultra Large Container Vessel
USA	United States of America
VFPA	Vancouver Fraser Port Authority
WMA	Wildlife Management Area

SYMBOLS AND UNITS OF MEASURE

SYMBOL/ UNIT OF MEASURE	DEFINITION
%	percent
cm	centimetre
FTE	full-time equivalent jobs
Ha	hectare
km	kilometre
m	metre
m ²	square metre
TEU	twenty-foot equivalent unit

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1 INTRODUCTION

1.1 Project and Proponent Overview

The Deltaport Expansion, Berth Four Project (DP4 or the Project) is being proposed by Global Container Terminals (“GCT”), the long-term operator of GCT Deltaport Terminal. The Project is a further expansion of the existing GCT Deltaport Container Terminal to increase capacity by 2 million twenty-foot equivalent units (TEU) per annum.

The Project involves the expansion of the existing terminal container storage and handling area and addition of a fourth berth on the east side of the Roberts Bank Causeway (within what is known as the inter-causeway area), expansion of the intermodal rail yard along the causeway (Roberts Bank Way) and dredging to provide safe access for ships. The Project will also require the relocation of the existing tug basin to the north-east corner of the expanded terminal. Consideration is also being given to a new short sea shipping berth to support the movement of goods along the west coast, and a new marina, in response to feedback from Tsawwassen First Nation (TFN).

GCT Deltaport is within the City of Delta. The proposed DP4 expansion is approximately 3 km southwest of TFN Lands and 2 km north of the international border with the United States of America (USA). The coordinates for the center of the DP4 expansion are approximately 49°01’25’’ N 123°09’10’’ W (Figure 1). The coordinates for the proposed endpoint of the marine shipping route (Buoy J) that is incidental to the Project is 48°29’45’’N, 124°59’29’’W (Figure 2).

GCT, a majority Canadian-owned and operated company with headquarters in Vancouver, has operated on the west coast of Canada since 1907. GCT is responsible for operating both GCT Vanterm and GCT Deltaport and is currently one of the largest maritime employers in Canada. GCT holds all required permits, tenures, and approvals to operate at the GCT Deltaport Terminal. The Project is intended to be funded entirely by GCT and private investment, and operated by GCT thereby ensuring that the assessment, approval, funding, development, and operation of the Project are fully integrated.

Table 1: Proponent Information.

PROJECT	
Proposed Project Name	GCT Deltaport Expansion, Berth Four Project (DP4)
Project Location	Roberts Bank, Delta, BC, Canada
Project industrial sector and type	Marine Shipping
Proponent Name	GCT Canada Limited Partnership 1285 Franklin Street, Vancouver, BC, Canada V6A 1J9
PRIMARY CONTACT INFORMATION	
Name	Mike McLellan, Vice President, Project Development
Mailing Address	Suite 610, The Landing, 375 Water Street, Vancouver, BC, Canada
Phone	604 267 5195
Email	mmclellan@globalterminals.com
Website	https://globalterminalsCanada.com/

Table 1: (Cont'd.)

SECONDARY CONTACT INFORMATION	
Name	Marko Dekovic, Vice President, Public Affairs
Mailing Address	Suite 610, The Landing, 375 Water Street, Vancouver, BC, Canada
Phone	604 267 5276
Email	mdekovic@globalterminals.com
Website	https://globalterminalsCanada.com/

GCT is a member of Green Marine, a voluntary, environmental certification program for the North American Marine Industry and the Vancouver Fraser Port Authority (VFPA) endorsed Climate Smart program, aimed at achieving reductions in greenhouse gas emissions. GCT is committed to supporting and protecting the communities where the company operates and continuously evaluates initiatives that will contribute to sustainability.

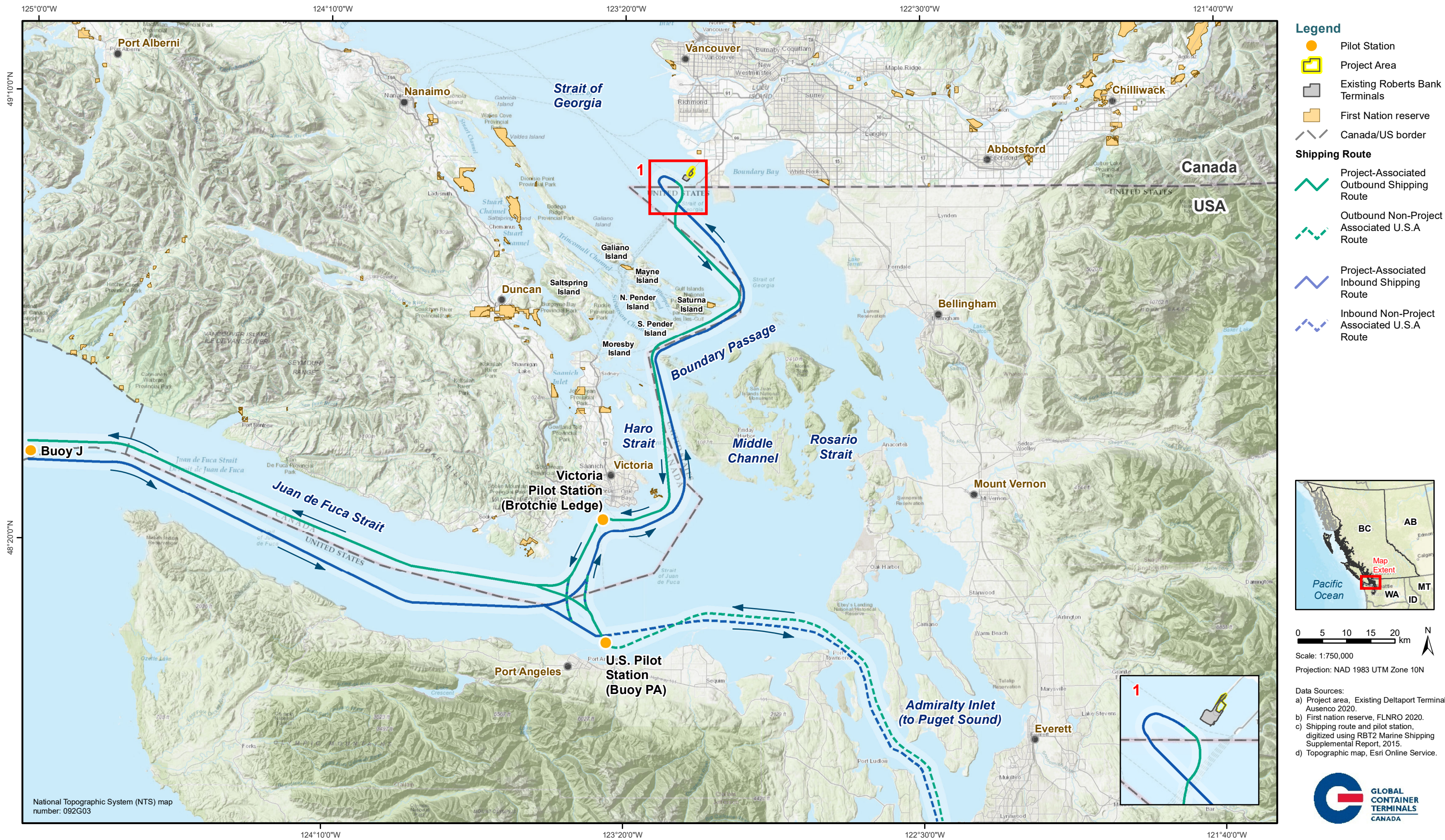
Figure 1 GCT Deltaport Expansion, Berth Four Project Area.



GCT Deltaport Expansion Berth Four Project

K:\Data\Project\GCT10314-NVA_MXD\IPD_Summary\GCT10314_Project_Components_20200831_v1_0_TD.mxd

Figure 2 Marine Shipping Routes for Container Ships.



1.2 Project Purpose, Need and Benefits

The purpose of DP4 is to provide timely container handling capacity to Canadian exporters and importers based on historical and projected demand growth on the west coast of Canada.

DP4 represents an incremental expansion of west coast container terminal capacity aimed at efficiently and competitively serving Canadian exporters, consumers, and supply chains, as well as those dependent on USA destined gateway cargo. The development of DP4 is timed to meet forecasts for growth in container terminal demand and is designed to effectively accommodate increasing vessel size and volumes. Global marine shipping industry consolidation is resulting in fewer, but larger vessels, and greater competition. DP4 is positioned to respond to meet Canada's and our trading partners' needs.

GCT commissioned an independent study of demand for container capacity on the west coast of Canada (Black Quay Consulting 2019). Low, medium, and high growth scenarios were developed to 2050. These scenarios were then compared to existing and anticipated capacity at the five west coast container terminals: GCT Deltaport, Centerm, GCT Vanterm and Fraser Surrey Docks in Greater Vancouver and Fairview in Prince Rupert.

GCT has used the medium-growth scenario as its base case Project rationale, which is the industry standard used for project planning and the generally accepted port planning principle of ensuring new capacity is available once 85% capacity utilization is achieved. A comparison of capacity and demand is provided in Figure 3. The analysis demonstrates a potential requirement for additional capacity by 2030.

GCT will provide an independent and objective assessment of the Project's economic impacts as part of the Project's assessment, including measures of economic activity such as GDP, employment, labour income, and government tax revenues. Based on Project information known to date and current and anticipated GCT Deltaport operations, the following is anticipated for the DP4 Project:

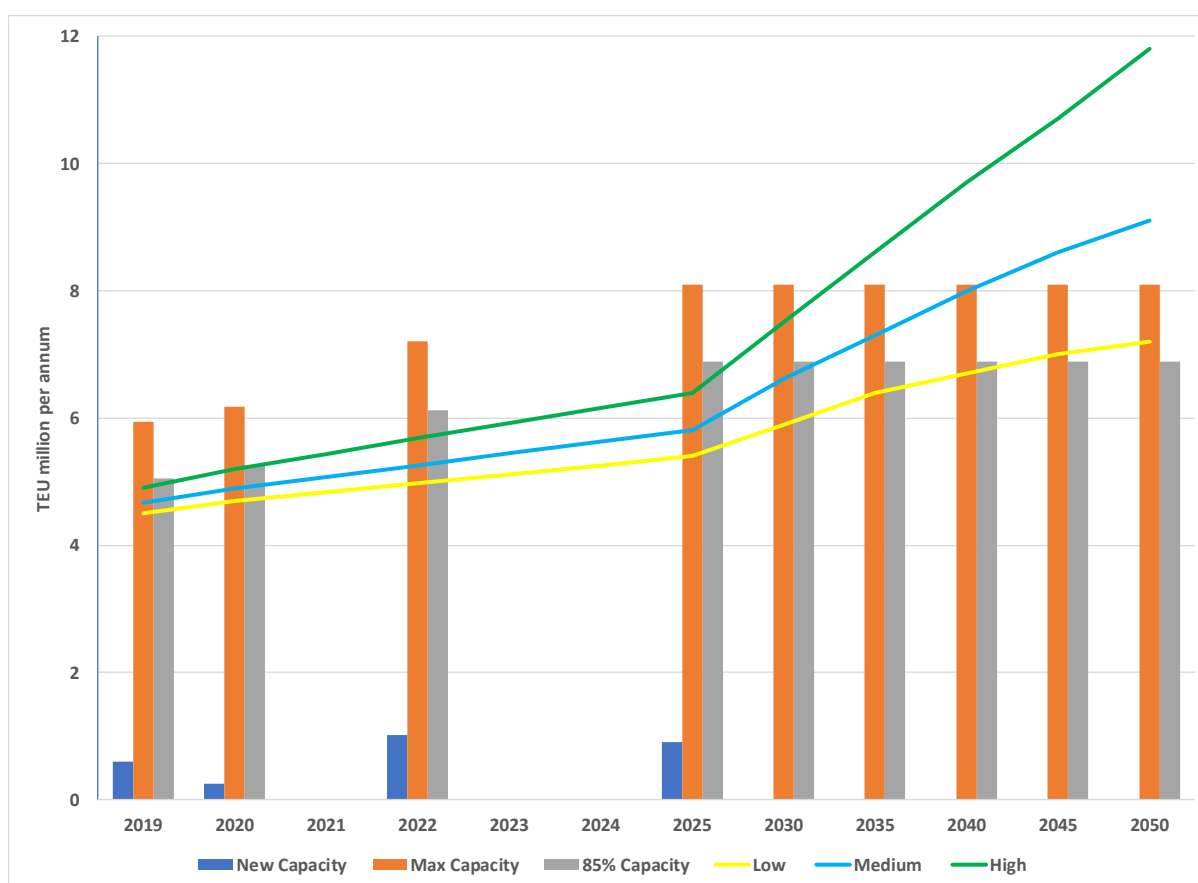
- Construction of DP4 is estimated to create total employment of 10,000 full-time equivalent jobs in Canada, consisting of direct employment of 4,700 FTEs in B.C., indirect and induced employment of 3,700 FTEs in B.C. and indirect and induced employment of 1,600 FTEs in the rest of Canada over the approximately 4 years of construction. The operation of DP4 is expected to require an increase in the current GCT Deltaport workforce of approximately 1,000 additional permanent jobs when at capacity.
- In 2018 GCT paid an estimated \$300M towards annual wages and benefits and this is projected to double by the time DP4 is operating at its additional capacity.

In addition, the proposed Project's benefits and attributes also include:

- New container terminal capacity to meet the future needs of Canadian trade.
- Consistent with the objectives of the VFPA Port 2050 Plan, to accommodate Canada's trade needs, but at the same time maintaining a healthy environment and enabling thriving communities.
- A cost-effective and timely way to address near-term container demand on the west coast.
- New investment in a physical area of operation where there are precedents of successful and recent container terminal development.

- Financing by institutional investor capital, thus removing financial risk to or demand upon the VFPA's Federal financial capacity.
- Involvement of an experienced terminal operator with a track-record in operating similar infrastructure at Roberts Bank.
- Scalable delivery design that reflects changing industry trends and preserves optionality.
- Leverage of GCT Deltaport's existing footprint and infrastructure to build upon strong working relations with labour, customers, railways, and beneficial cargo owners as well as employment and economic benefits shared with the surrounding Indigenous groups, communities, and stakeholders.

Figure 3: Predicted Demand vs Capacity of West Coast Canada Container Ports.



1.3 Environmental Assessment Requirements

Under the federal *Impact Assessment Act* (IAA), the Project meets the criteria for a designated project in the Physical Activities Regulations, as a permanent expansion of an existing marine terminal designed to handle ships larger than 25,000 dead-weight tonnage (DWT). Under the British Columbia (BC) *Environmental Assessment Act*, the Project meets the criteria for a reviewable project within the Reviewable Projects Regulation; under transportation projects due to the area of direct physical disturbance of foreshore or submerged land. The Project has not been previously assessed by either provincial or federal government.

Under the Impact Assessment Cooperation Agreement between Canada and BC is the principle of "one-project, one-assessment" that will be followed by provincial and federal agencies for projects subject to assessment by both jurisdictions, such as DP4.

The TFN Final Agreement (the Treaty) provides TFN with certain rights and benefits regarding land and resources, and self-government over its lands and resources and its members (AECOM 2009). It provides certainty with respect to ownership and management of lands and resources and the exercise of federal, provincial and Tsawwassen governmental powers and authorities, including requirements for the assessment of proposed projects that could adversely affect TFN lands and rights.

2 PROJECT DESCRIPTION

2.1 Project Components and Activities

The DP4 Project is located to the northeast of the existing GCT Deltaport Container Terminal in Roberts Bank, on the shore of the municipality of Delta, BC. The proposed expansion of the total terminal footprint is approximately 56 ha to achieve the increase in capacity. This equates to a terminal footprint approximately two thirds larger than existing. To provide the fourth berth and access for the larger container ships that are expected to call at the terminal, the berth face will be extended by approximately 560 m.

The independent study of demand for container capacity on the west coast of Canada commissioned by GCT (Black Quay Consulting 2019), included a preliminary study of vessel calls at the expanded GCT Deltaport, including DP4. The results are provided in Table 2. While DP4 will result in an increase in capacity of 2 million TEU per annum at GCT Deltaport, there will only be a small increase in the number of vessels calling. This is due to the expected increase in the size of vessels, which will be facilitated by GCT Deltaport's four contiguous berths, and a greater proportion of containers loaded/unloaded at GCT Deltaport from each vessel. Currently, seven shipping services are calling at GCT Deltaport each week. This is predicted to increase to eight following the construction of DP4. GCT Deltaport is currently able to handle vessels up to the size of Ultra Large Container Vessel (ULCV) but current vessels calling are predominantly Post-Panamax. It is expected by 2035, the mix of shipping service vessels is projected to be 75% Post Panamax size and 25% ULCV size.

Table 2 GCT Deltaport Vessel Calls and Size.

Year	Smallest Vessel Size	Largest Vessel Size	Calls per annum
Current 2020	~4,500 TEU – Panamax	~10,000 TEU – Post Panamax	364
DP4 at Capacity	~10,000 TEU – Post Panamax	~18,000 TEU – ULCV	416

The Project includes an expansion of approximately 12 ha of the 56 ha along the causeway to increase rail handling capacity in the existing intermodal rail yard and to provide for other infrastructure. Due to the current layout of road and rail on the causeway to the terminal, the design has this expansion on the west side of the causeway. Dredging will be required to access the additional fourth berth in line with the existing dredge pocket. It is expected that upgraded crest protection will be required to mitigate against the development of dendritic channels and other geomorphological changes that may result.

A new tug basin will be required to support operations. The existing tug basin would be temporarily relocated during the process of dredging and landfilling so as to be accessible directly from the Roberts Bank causeway in the vicinity of the future TFN marina. Ultimately, the new tug basin would be permanently located at the north end of berth four and the area temporarily used as a tug basin converted to a new TFN marina.

Based on GCT's engagements with TFN, a marina has been incorporated into the Project design that may include floating dock facilities for crabbing and fishing boats, a boat ramp for trailer launching, a floating dock for temporary mooring of launched boats, and parking for vehicles and trailers. This is in line with GCT's commitment to work in collaboration with Indigenous groups and to find opportunities for mutual benefit.

A short sea shipping berth has also been included in the Project, in anticipation that governments may mandate alternatives to trucking in the future, or that dynamics in the market may change. Short sea shipping would increase the sustainable movement of containers through the Port of Vancouver (VFPA 2020) and is supported by federal funding received from Transport Canada through the National Trade Corridors fund in 2019. If there is a delay in the implementation of short-sea shipping beyond the construction of DP4, such that the short sea shipping berth cannot be used for its intended purpose, the area of the terminal will be used for container operations.

Construction activities include preparation of the existing site to accommodate the expansion, fabrication and installation of concrete components and equipment, and handling of material, including rock, sand and sediment via dredging and filling.

There are activities that are incidental to the Project since they fall outside of GCT's care and control. These may include shipping, short sea shipping and road and rail activities that take place outside of GCT's lease boundary. These incidental physical activities may be considered part of the Project for the purposes of the assessment and Ministerial decisions as they could result in adverse effects.

The spatial boundaries associated with the assessment of the Project, including the local and regional study areas specific to each valued component will be defined in the Detailed Project Description, following the implementation of the GCT Engagement Plan, and formal consultation administered by the IAAC and BCEAO on the DP4 Initial Project Description. GCT will leverage this opportunity to continue advancing engagement activities in order to clearly identify key Project issues and concerns, and appropriate assessment boundaries specific to the Project.

DP4 operational activities will be a continuation and expansion of existing GCT Deltaport operations. DP4 operations are planned for efficiency, including green infrastructure, while supporting quality well-paying jobs and community benefits. Operations will be planned in consultation with labour unions and local Indigenous groups.

GCT's Environmental Management System has been designed to capture, organize, and manage vessel, rail, yard, gate, and maintenance operations so that environmental risks are controlled and environmental management is integrated into daily terminal operations. GCT Deltaport is Green Marine certified, earning "Excellence & Leadership" in nearly every category.

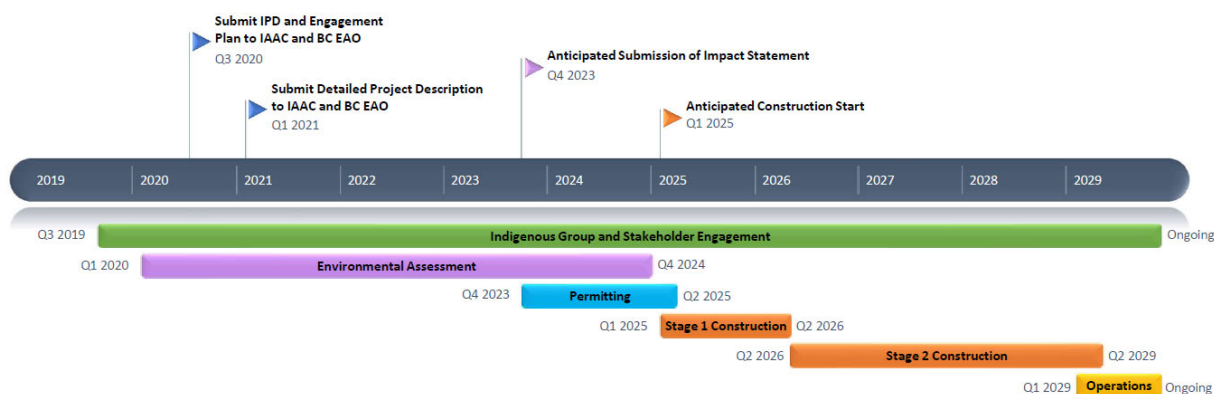
The DP4 Project infrastructure will be designed for 100+ year service life. Similar to GCT's other terminals, plans include ongoing refurbishment and maintenance to ensure the assets will continue to function in perpetuity. Therefore, there is no intention to decommission and abandon the Project. The land will remain in perpetuity and its future use will be subject to applicable permitting and regulatory requirements.

GCT will conduct additional marine traffic studies to support the environmental assessment process to build on the preliminary study of shipping traffic that Black Quay completed for GCT. These studies will be developed in collaboration with the local Indigenous groups who have expressed interest in better understating expected marine traffic.

There will also be increases in truck and rail traffic. Since GCT does not have care and control over the roads or rail, GCT will be collaborating with municipal government, Indigenous groups, the BC Ministry of Transportation and Infrastructure, and the rail companies, notably through the Gateway Transportation Collaboration Forum, to estimate traffic volumes and confirm any improvements that are required to the network as a result of the Project.

Figure 4 provides the preliminary schedule for the Project. This schedule is contingent on Indigenous group consultations and regulatory approvals.

Figure 4: Preliminary Project Schedule.



2.2 Project Alternatives and Alternative Means

Alternatives to the Project involve the expansion of other existing or the development of a new marine terminal on the west coast of Canada. GCT has reviewed the analysis of government agencies and agrees that the demand cannot be met by expansion at the other existing container terminals. GCT considered a further expansion at the GCT Vanterm terminal in Burrard Inlet of 1 million TEU. However, GCT has undertaken additional analysis and determined that DP4 is preferable for reasons of road and rail accessibility, limitations of vessel size imposed by the Lions Gate Bridge and increased tanker traffic associated with Westridge Terminal. Based on this assessment, the expansion of GCT Deltaport or the development of a new terminal are the only Project alternatives.

The VFPA is proposing the construction of the Roberts Bank Terminal 2 Project (RBT2), which has a planned capacity of 2.4 million TEU per annum. The proposed RBT2 project could meet the predicted demand in container capacity should it receive approvals, establish a sustainable business case, and identify a terminal operator. However, the DP4 Project can achieve a similar increase in capacity through the addition of only one berth, compared to the new construction of three berths for RBT2, and approximately 56 ha of land reclamation: one third the size of RBT2. Even with the dredging footprint that will be required, DP4 will have a much smaller footprint. The development of DP4 is also to the southeast side of the causeway, in the inter-causeway area where previous development has occurred. DP4 is an efficient and effective use of the existing GCT Deltaport infrastructure that provides the fullest optimization of the entire port complex. GCT believes this location and design will result in a lower overall impact on the environment compared to RBT2.

The following factors were considered when analyzing alternative means of carrying out the Project during the development of the concept design for DP4:

- Use of best available technologies;
- Technical feasibility;
- Economic feasibility; and
- Potential effects, risks, and uncertainties of alternatives.

The Project design utilized information from the Analysis of Alternatives that was prepared as part of the previous DP3 environmental assessment. A detailed Analysis of Alternatives assessment will be prepared specifically for DP4 once further engagement and baseline studies have taken place.

Alternative means of carrying out the Project considered within the Project design process include marine terminal configuration, construction methods, dredge pocket configuration and configuration of the short sea shipping berth and tug basin. These alternatives are linked to required environmental constraints and mitigations. To date, the following alternative means have been considered:

- Orientation and configuration of container storage and handling area;
- Alternative construction methodologies;
- Alternatives to intermodal rail yard configuration;
- Dredge pocket configuration and extent; and
- Short sea shipping, tug basin and marina inclusion and configuration.

GCT continues to assess Best Available Technologies for container storage and handling configuration to maximize terminal operating efficiency. GCT is also aiming to minimize expansion to the west of the causeway, due to environmental concerns expressed by some local community based environmental organizations, and the dredging required.

3 LAND AND WATER USE

GCT holds a lease from the VFPA for the GCT Deltaport terminal and the DP4 expansion will be within federal lands and waters. The federal lands are purported to be managed lands by the VFPA and within their purported navigational jurisdiction.¹ Based on the Project design, the required dredging will extend into provincial aquatic crown land. TFN has two water lot leases, as set out in the TFN Final Agreement, and a Memorandum of Agreement with VFPA, which would provide TFN with additional water lots on either side of the Roberts Bank Causeway. DP4 is expected to extend into two of these water lots, depending on the final design. Activities associated with the expansion of the intermodal railyard will extend into land on the causeway that is held by the BC Railway Company.

DP4 is contained within Planning Area 6 (Roberts Banks) of the VFPA's Land Use Plan. The VFPA's Land Use Plan purports to designate the Roberts Bank terminal for use as a Port Terminal (Port Metro Vancouver 2014). The VFPA has stated that in planning for future capacity within the guidelines of the Land Use Plan, one of the principles includes increasing capacity and efficiency of existing container terminals. DP4 meets this principle.

The existing GCT Deltaport and therefore a portion of the area planned for DP4 is designated as Industrial under the Metro Vancouver Regional Growth Strategy (Metro Vancouver 2017). The remaining area of DP4 is not covered by the plan and is therefore not designated. Similarly, much of DP4 would fall within land designated industrial within the City of Delta Official Community Plan, with the remainder not designated (The Corporation of Delta 2019). All of these plans are consistent with the objective to preserve industrial lands.

The TFN Land Use Plan covers the water lots that are under lease or Memorandum of Understanding to TFN. It describes the importance of the tidal marsh and water lots to TFN, for traditional and recreational use, and to wildlife (AECOM 2009).

The Project is within 15 km of a range of protected areas. This includes three regional parks, the Roberts Bank and other provincial Wildlife Management Areas, an Important Bird Area, and the Southern Resident Killer Whale (SRKW) Critical Habitat.

¹ The VFPA's administrative, permitting and other powers with respect to the DP4 Project, including those related to port operations, are currently the subject of judicial review.

4 REGULATORY CONTEXT

In addition to the federal and provincial environmental assessment regulatory requirements of the Project described in Section 1.3, the following key permits and approvals may be required for Project construction.

- *Fisheries Act* authorization – Fisheries and Oceans Canada (DFO)
- *Species at Risk Act* permit – DFO for aquatic Species at Risk
- *Canadian Navigable Waters Act* approval – Transport Canada
- Disposal at Sea permit – Environment and Climate Change Canada
- Wildlife Management Area authorization under the *Wildlife Act* – Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRO)

5 ENVIRONMENTAL AND SOCIAL SETTING

5.1 Environmental Setting

The Project is located on Roberts Bank, which is a complex ecosystem that consists of intertidal and subtidal mudflats formed by the delta of the Fraser River. Marine shipping will occur through the southern Georgia Strait and Juan de Fuca Strait, within the Salish Sea.

In the Salish Sea, there are an estimated 37 species of mammals, 172 species of birds, 253 species of fish, and more than 3,000 species of invertebrates (Gaydos and Brown, 2011). Of these 113 species are listed as threatened, endangered or are candidates for listing (Gaydos and Brown, 2011).

The history of development at Roberts Bank dates to the late 1950s with the construction of the Tsawwassen Ferry Terminal and subsequent construction of the Roberts Bank coal terminal and container terminal expansions over several decades.

The Fraser River estuary has been the subject of numerous environmental studies over the past few decades, and the Project is therefore supported by a large body of contemporary information that will inform the environmental assessment. Relevant studies have been undertaken for the Environmental Assessments of DP3, RBT2 and other marine terminal projects and by organizations, such as Lower Fraser Fisheries Alliance, the Pacific Salmon Foundation and historically under the now disbanded Fraser River Estuary Management Program. TFN has also undertaken independent studies, such as the Dungeness Crab Abundance and Movement Study in the Roberts Bank Terminal 2 Project Area (LGL 2017). The City of Delta and other municipalities have developed coastal flooding and climate change adaptation studies and strategies that are relevant to this Project. Habitat offsetting projects such as the VFPA's Tsawwassen Eelgrass Project will also provide useful data and information for the environmental assessment.

The Project is not located in an area that has been subject to a regional assessment under the Canadian Environmental Assessment Act 2012, or the IAA. The Government of Canada's Strategic Assessment of Climate Change (Government of Canada, 2020) guidance document has informed the approach adopted by GCT to estimate the Project's GHG emissions (in Co2 equivalent units) as described in Section 6.2.

GCT has also established a \$200,000 fund in 2020, to support Indigenous-led initiatives aimed at increasing both participation and collaboration in the cumulative-effects assessment of the south Salish Sea off BC's coast.

The marine and terrestrial environments in Delta are widely acknowledged for having rich ecological significance that includes marine mammals, fish, and migratory birds. The Project is located on Roberts Bank, which is a complex ecosystem formed by the delta of the Fraser River. Roberts Bank consists of salt marshes, near the high-tide level, that gives way to gently sloping mudflats divided by tidal channels and hydraulic bedforms. Outside of the bedforms, marine vegetation and other habitats have developed. Roberts Bank, including the inter-causeway area, supports extensive native eelgrass beds (Hemmera 2015).

On the mud surface of Roberts Bank, a biofilm is produced as diatoms and bacteria settle out of the seawater and bind to the mud, providing nutrient-rich forage for shorebirds, particularly sandpipers. The biofilm is predominantly located to the west of the causeway closer to the mouth of the Fraser River, with minimal biofilm in the inter-causeway area (Hemmera 2014).

The Project falls within the migratory Pacific Flyway and the Fraser River Estuary Important Bird Area (IBA). The IBA forms one of the richest and most important ecosystems for migrant and wintering waterbirds in Canada (IBA Canada 2020).

Roberts Bank neighbours one of the main entry channels into the Fraser River for the largest salmon run in BC. All five species of pacific salmon use the tidal marshes for food, shelter, and acclimatization to saltwater. Other fish drawn to Roberts Bank include white sturgeon, green sturgeon, steelhead, and anadromous cutthroat trout.

Marine mammals such as orca, harbour seals, California sea-lions, and other whale species also frequent the area (Government of BC 2020). The Project is within the SRKW Critical Habitat.

Previous studies have demonstrated that water and sediment quality within the Project area are within the range of levels expected in an estuarine environment. Coal dust has been introduced to the marine environment as a result of activities at Westshore Terminals, however, past studies have shown that there are no appreciable sediment contamination issues in the Project area (Review Panel 2020). PCBs are also known to exist in the upper layers of sediment around GCT Deltaport. Elevated copper, cadmium, and inorganic arsenic concentrations greater than the Canadian Interim Sediment Quality Guidelines (ISQG) have been detected and are attributed to naturally occurring conditions at Roberts Bank (Review Panel 2020).

5.2 Social Setting

Delta has a population of just over 102,000 people (Statistics Canada 2016) almost half of whom live in one of the two main town centers, either Ladner (pop. 22,193) or Tsawwassen (population 21,588). Delta has one of the fastest rates of industrial growth in the Greater Vancouver Area (Delta 2020; Statistics Canada 2016). The City of Delta is bordered by the Fraser River to the North and the Canada-US border to the South. Land use in Delta is a mixture of urban and industrial (28%), conservation and recreation (21%), and agricultural land (51%) (Metro Vancouver 2020).

A healthy community is a priority identified in the City's Community Development Plan and includes the allocation of funds and support to services, including mental health, drug use and addiction, poverty, and food security. Access to recreational facilities, parks and trails are also seen as essential to wellbeing (City of Delta 2017).

Air quality is generally good in Delta as the area is flat and is exposed to ocean breezes from the Strait of Georgia but there are existing air emissions from trucks, trains, ships, and equipment associated with the operation of the Roberts Bank and BC Ferries terminals. Noise and vibration from ships, machinery, and existing road and rail traffic entering and exiting the terminal have long been a concern for Tsawwassen and Delta residents (City of Delta 2019).

TFN is the closest community occupying the foreshore and lands between the GCT Deltaport causeway on Roberts Bank and the BC Ferries Tsawwassen Terminal causeway. The terminal is approximately 3.5 km away from the nearest residence. Section 7 provides a preliminary list of other Indigenous groups with a reasonable possibility for their Nation or their rights under Section 35 of the *Constitution Act*, 1982 to be affected by the Project.

While outside of GCT's care and control, the Projects marine shipping may affect the communities located within the Southern Gulf Islands and the coast of Vancouver Island. These communities include Sidney, Victoria, Sooke and Port Renfrew.

A desktop assessment of publicly available documents revealed no existing seasonal or temporary residencies in the vicinity of the Project, such as seasonal trappers' cabins, wilderness resorts or housing for seasonal farmworkers.

There have been several archaeological studies over the decades in the area (Arcas, 2008; Vancouver Port Authority, 2005; Millennia Research Limited, 2004), but, in general, archaeological finds have been quite limited. An archaeological overview assessment, conducted as part of the RBT2 environmental assessment, recorded three archaeological sites within the proximity of the RBT2 project area.

6 POTENTIAL EFFECTS OF THE PROJECT

6.1 Potential Environmental Effects

Potential effects that relate to IAA requirements have been identified based on the past environmental studies described in Section 5.1. As a result of the biological setting in the marine environment at Roberts Bank, the potential effects described in Table 3 below are expected to be at the core of the Project's environmental assessment.

Table 3: Potential Effects in Relation to Impact Assessment Requirements.

Component	Potential Effect	Activities and Anticipated Pathway of Effect	Potential Mitigation and Offsetting
Fish Habitat	Changes in fish habitat (Harmful Alteration, Disruption or Destruction), e.g., eelgrass and intertidal marsh, although no intertidal marsh identified within the DP4 footprint (Hemmera 2015)	Terminal and railyard expansion construction, dredging, infilling, disposal at sea and associated marine transportation, leading to direct destruction or secondary effects, e.g., change in water quality, leading to alteration of fish habitat. During operations direct effects, e.g., propeller wash or dendritic channel formation, or secondary effects, e.g., changes in water quality due to an increase in wastewater discharge and propeller wash.	Expansion of an existing terminal to minimize footprint. Scour protection and control structures to reduce the risk of dendritic channels. Minimizing dredging footprint within engineering design Habitat offsetting. Reuse of dredged material.
Fish	Effects on fish, e.g., crab	Terminal construction and railyard expansion, dredging and infilling, disposal at sea and associated marine transportation leading to underwater noise, burial/crushing, increased reduced water quality, effects on migration. Changes in water quality or underwater noise during operations, including marine shipping.	Construction timing windows to avoid key fish life stages and migrations. Operational requirements of ships at berth to avoid discharge of deleterious substances. Stormwater management upgrades.

Table 3: (Cont'd.)

Component	Potential Effect	Activities and Anticipated Pathway of Effect	Potential Mitigation and Offsetting
Aquatic Species at Risk	Harm or disturbance of listed species, e.g., southern resident killer whale, stellar sea-lion Changes in critical habitat	Terminal construction and railyard expansion, dredging and infilling leading to underwater noise, reduced water quality, destruction of critical habitat. Shipping leading to underwater noise or vessel strike. Reduction in prey species.	Construction timing windows to avoid species-at-risk. Mitigations and offsetting for fish habitat. Voluntary ship speed restrictions and routing to reduce vessel noise and risk of marine mammal strike (outside GCT care and control). Implementing measures that result from the Section 11 Conservation Agreement to support the recovery of SRKW (outside GCT care and control) (A <i>Species at Risk Act</i> Section 11 Conservation Agreement 2019).
Migratory Birds	Disturbance during construction and operations. Changes in habitat, e.g., eelgrass, biofilm, although minimal coverage of biofilm in the inter-causeway area (Hemmera 2015).	Terminal construction and railyard expansion, dredging and infilling, leading to physical disturbance, noise, and light, change in habitat or mortality due to collisions. Disturbance due to increased noise and light during operations. Disturbance or mortality risk from increased traffic (road, rail, and shipping).	Avoidance of biofilm Construction timing windows to avoid bird nesting and migrations. Habitat offsetting. Measures to reduce light, such as the continued installation of LED technology. Further information is provided in Section 6.3.

Although outside the care and control of GCT, there is potential for upgrades to the railway that could affect the Agricultural Land Reserve, specifically the Province of BC's Option Lands that have been designated for a future rail right-of-way. The rail and road upgrades required to support DP4 have not yet been assessed. GCT will continue to liaise with the rail companies, who would be responsible for the construction and operation of any upgrades.

The Project footprint is predominantly on federal lands. No changes to the environment are anticipated in a province other than the province of BC, in which the Project is proposed. Other potential Project effects that may occur within or outside of federal lands are presented in Table 4.

Table 4: Other Potential Effects of the Project.

Component	Potential Effect	Activities and Anticipated Pathway of Effect	Potential Mitigation and Offsetting
Wetlands	Changes in wetland habitat, although no intertidal marsh identified within the DP4 footprint (Hemmera 2015)	Terminal construction, dredging leading to direct destruction or secondary effects, e.g., change in water quality, leading to effects of wetlands. During operations secondary effects, e.g. changes in water quality	Expansion of the existing terminal to minimize footprint. Scour protection and control structures to reduce the risk of dendritic channels. Habitat offsetting.
Wildlife	Effects on terrestrial wildlife	Terminal construction and operations, e.g., noise, light, increased road traffic.	Shore Power. Continued installation of LED lighting. Use of electric and/or high-efficiency cranes and other equipment. Auto decoupling tractor-trailers. Short sea shipping.

The Project is approximately 2 km from the border of the USA, and ancillary activities associated with marine shipping will transit through USA waters. Table 5 below provides a list of changes that, as a result of carrying out the Project may occur outside of Canada. These potential changes will be further explored through the assessment process.

Table 5: Changes that May Occur Outside of Canada Due to the Project.

Component	Potential Project Related Changes Outside of Canada
Air Quality	Increases in some criteria air contaminants during operations due to marine shipping.
Noise and Vibration	Increases in perceptible noise levels during construction and operations due to material handling and shipping.
Light	Minimal increases in light trespass and sky glow levels.
Marine Sediment and Water Quality	Temporary increase in turbidity and sediment deposition during construction following sediment re-suspension (dredging and disposal at sea).
Underwater Noise	Increased underwater noise during operations due to marine shipping.

6.2 Wastes and Atmospheric Emissions

Project activities associated with the construction and operations phases of the Project have the potential to produce solid, liquid, and hazardous wastes, as well as emit criteria air contaminants (CACs), GHGs, and change levels of light, noise and vibration.

During the construction of the Project, wastes produced will either be disposed of in accordance with applicable regulations or will be reused or recycled where feasible. GCT has an Environmental Management System for its operations at Deltaport specifically for the management of wastes. A list of wastes that are likely to be generated during various phases of the Project is summarized in Table 6, including potential mitigations measures.

Table 6: Potential Solid, Liquid and Hazardous Waste for the Project.

Waste Type	Waste Examples	Potential Mitigation
Solid Waste	<ul style="list-style-type: none"> Packing materials from the shipping of Project components for construction. Construction waste, including wood, metal, and concrete. Municipal waste, including paper, plastics and glass during both construction and operations. 	<p>Waste management plan for segregation and recycling schemes during construction.</p> <p>Waste management requirements under existing GCT Deltaport EMS.</p>
Liquid Waste	<ul style="list-style-type: none"> Wastewater during terminal operations. 	<p>Treated and effluent discharged under the existing <i>Environmental Management Act</i> waste discharge permit, that will be amended for an increase in flow, as required.</p> <p>Management of ship wastes at berth under existing EMS and GCT Canada Vessel Manual.</p>
Hazardous Waste	<ul style="list-style-type: none"> Waste oils, petroleum products and solvents. Batteries. Oil filters. Chemical cleaning fluids. Paints. Antifreeze. 	<p>Hazardous waste management within GCTs existing Waste Management Plan for construction, including storage, transportation, and disposal requirements.</p>
Stormwater	<ul style="list-style-type: none"> Discharges of stormwater resulting from precipitation. 	<p>Upgrades to the existing stormwater management system and discharge as per the existing EMS, which will be amended for an increase in flow, as required.</p>

Project activities associated with the construction and operations phases also have the potential to produce and emit criteria air contaminants (CACs), GHGs, as well as change levels of light, noise, and vibration. The Project falls under Metro Vancouver's Integrated Air Quality and Greenhouse Gas Management Plan, which aims to protect public health and the environment, improve visual air quality, and minimize the region's contribution to global climate change through an adaptive management approach. Potential atmospheric emissions that are likely to result from the Project are described in Table 7, along with proposed mitigation measures.

Table 7: Potential Atmospheric Emissions.

Atmospheric Emissions	Potential Effect	Activities and Anticipated Pathway of Effect	Potential Mitigation
CACs	Change in air quality, including sulphur dioxide, nitrogen oxides and dust.	Construction: Increased emissions associated with fossil fuel-powered vehicles and equipment. Dust through soil transfer, infilling and wind erosion from stockpiles of fill material. Operations: Increased emissions associated with fossil-fuel-powered equipment, shipping, road, and rail.	Shore Power. Adherence to GCT's EMS, regulatory requirements and BMPs Use of electric and/or high-efficiency cranes and other equipment. Auto decoupling tractor-trailers.
GHGs	Change in GHGs contributing to climate change	Increased emissions from fossil fuel-powered vehicles and equipment (including non-road diesel engines, generators, and light plants).	Short-sea shipping. Equipment maintenance
Light	Change in light trespass and sky glow levels	Increased lighting to support Project activities, primarily during nighttime operations.	
Noise and Vibration	Change in noise and vibration in the upland and over marine surfaces	Construction: Increased noise and vibration resulting from activities, such as pile driving and compaction. Operations: rail operations, container handling adjacent to the Project. Increased noise from shipping, road, and rail activities.	

GCT has a track record of sustainability excellence and greenhouse gas (GHG) emissions reductions which will extend to the DP4 Project design and operations. GCT's achievements include achieving top levels in the Green Marine certification system for all its terminals and achieving an annual reduction of 3.3% in GHG emissions intensity (per TEU) across its Canadian operations. GCT also measures its carbon footprint and calculates emission as per the GHG Protocol Corporate Accounting and Reporting Standard.

The Government of Canada's Strategic Assessment of Climate Change (Government of Canada 2020) guidance document has informed GCT's approach to estimating the Project's GHG emissions (in CO₂ equivalent units) for this Initial Project Description, as described in Table 8.

The assessment estimates emissions from the Project and net emissions, or avoided relative to what would occur in the absence of the Project (i.e. a base case or business as usual scenario). As described in section 1.2, the expansion in terminal capacity provided by the Project is necessary to meet growing demand in western Canada. In the absence of the Project, this capacity would need to be met by another project. For the base case, we assume the replacement project is an expansion of an existing port, acknowledging, as identified in Section 2.2, existing port expansion at other terminals is not feasible at this time. This selection is conservative, as it is the most economical and lowest emission

method of adding terminal capacity. Base case emissions are modelled using actual GHG emissions from the existing Deltaport facilities, including forecasted emissions reductions. Choosing this modelling approach aligns with GHG quantification principles: conservativeness by using a modern, efficient site for the base case; accuracy by using real, not estimated data; and consistency, by aligning conditions and boundaries of the Project and base case.

The approach used to establish the Project and base case boundaries and emissions estimates are consistent with the Climate Lens¹ the guidance referred to in the Strategic Assessment of Climate Change, ISO 14064-2:2019², and the GHG Protocol for Project Accounting³. GHG emission sources, sinks and reservoirs include direct emissions (scope 1) and indirect energy emissions (scope 2). The GHGs considered in the process include carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), converted into CO₂ equivalent units (tCO₂e). The approach follows the principles of GHG Project Accounting as recommended by the Climate Lens, which is used to guide the GHG quantification of the Project, and ensure the inventory represents a faithful, true and fair account of total and net GHG emissions.

Emissions or removals that are of consequence to the Project but occur at GHG sources or sinks not owned or controlled by GCT, including marine shipping, truck and rail locomotives emissions, are not included in the scope of the GHG quantification specified by the Strategic Assessment of Climate Change.

The Project will aim to avoid or reduce emissions by investigating and considering efficient operations and management systems in design. Initial estimates from these measures have been included in the Project's GHG emissions profile, including:

- Electrified yard cranes;
- Hybrid, or alternative fuel container handlers; and
- Hybrid, electric or battery-powered light-duty vehicles.

While not included in the scope of this assessment, the Project is also forecasted to reduce indirect emissions from the following activities.

- Provide ships access to shore power, reducing the need to burn fuel while at berth;
- Accommodate larger ships to use the terminal, reducing the number of ships needed to transport goods;
- Ability to move containers via lower-emitting short sea shipping instead of road or rail;
- Layout and configuration improvements to reduce travel distances for support equipment;
- Market greater capacity to load containers onto rail as opposed to road, thereby reducing emissions required to transport goods from the terminal;
- Reduce truck idling time by improving truck flows and travel distances and managing an improved and robust container reservation system; and
- Adding ship capacity through the fourth berth will further optimize the rail yard and will be an attractive proposition to global shipping alliances (bigger ships, fewer calls).

¹ <https://www.infrastructure.gc.ca/pub/other-autre/cl-occ-eng.html>

² ISO 14064-2:2019 – Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements

³ The Greenhouse Gas Protocol for Project Accounting (World Resources Institute/World Business Council - Revised Edition)

Table 8 shows the preliminary GHG estimates for the Project and base case and the net GHG emissions between them. Net GHG emissions are the emissions reduced by the Project relative to the base case. In this assessment, all emissions from the Project and base case occur within Canada.

Table 8: Estimated GHG Emissions for Direct (Scope 1) and Indirect Energy (Scope 2).

Phase	Duration	Base case emissions	Project scenario emissions	Net GHG emissions
Construction	4 years	42,778 tCO ₂ e/y	42,778 tCO ₂ e/y	0 tCO ₂ e/y
Operation and maintenance	> 50 years ⁺	12,884 tCO ₂ e/y	5,214 tCO ₂ e/y	-7,669 tCO ₂ e/y
Decommissioning	N/A	N/A	N/A	0 tCO ₂ e
Total	> 50 years⁺	17,483 tCO₂e/y	10,993 tCO₂e/y	-6,489 tCO₂e/y

⁺ Annual average emissions are based on construction from 2025-2028 (4 years) and operations from 2029-2050 (22 years). Note the project is anticipated to operate well beyond 2050.

Table 9 below presents the estimated GHG emission intensity for the operation and maintenance phase, and the annual GHG emissions average.

Table 9: Estimated GHG Emission Intensity.

	Container shipments (TEU/yr)	Base case (kgCO ₂ e/TEU)	Project scenario (kgCO ₂ e/TEU)	Net or relative difference (kgCO ₂ e/TEU)
Operation and maintenance, excluding construction	1,324,210	9.7	3.9	-5.8
Operation and maintenance, including construction	1,324,210	15.6	9.8	-5.8

Note: Production and emissions intensities are based on construction from 2025-2028 (4 years) and operations from 2029-2050 (22 years). Note the project is anticipated to operate well beyond 2050.

Based on the initial estimate above and in alignment with the Strategic Assessment of Climate Change, the Project is anticipated to:

- Generate 285,827 tCO₂e total emissions including construction, operations and decommissioning, equivalent to 10,993 tCO₂e per year over the life of the Project up to 2050.
- Produce 168,723 tCO₂e less total emissions relative to an alternative project required to meet increasing container terminal demand among Canadian west coast ports, equivalent to 6,489 tCO₂e per year over the life of the Project up to 2050.

This assessment presents initial GHG estimates. GCT will continue to refine and report on the Projects GHG estimates in the Detailed Project Description and assessment process.

6.3 Potential Effects on Indigenous Peoples

Table 10 lists key potential Project-related effects to Indigenous groups resulting from Project activities compiled during Project engagement activities and also informed by previous environmental assessments and regulatory processes undertaken by other projects in the vicinity of DP4. GCT is committed to continued engagement and consultation with Indigenous groups to better understand how they may be affected by the Project.

Table 10: Potential Effects on Indigenous Peoples.

Component	Potential Effects	Activities and Anticipated Pathway of Effect
Physical and cultural heritage	<ul style="list-style-type: none"> Disturbance, loss or alteration to a structure, site, heritage resources or thing that is of historical, archaeological, paleontological, or architectural significance. Change in access to features of cultural importance. 	<p>Terminal construction dredging activities may impact the integrity of archaeological and cultural resources.</p> <p>Terminal construction activities may temporarily restrict access to features of cultural importance.</p> <p>Incidental physical activities, such as marine activities associated with shipping, short sea shipping and increased road and rail transportation may increase the risk of accidents and malfunctions, thus increasing the risk of damage, disturbance, or destruction of physical and cultural heritage resources.</p>
Current and traditional use of lands and resources	<ul style="list-style-type: none"> Changes to or infringements on areas of traditional land use Effects and changes in practicing traditional or subsistence food collection including hunting, fishing, and gathering, e.g., crab. Changes to and effects on preferred harvested species, e.g., crab, and habitat, in particular, marine resources, e.g., biofilm, intertidal marshes, eelgrass. 	<p>Terminal footprint and construction and operational activities, including marine shipping, overlapping with areas of traditional use or limiting the ability to practice food collection. GCT will work with indigenous community to limit the impact to crab fishing and changes to no-float zones are expected to be minor.</p> <p>Terminal construction, dredging, leading to physical disturbance or change in habitat.</p> <p>Incidental project activities associated with short sea shipping, disposal at sea, and road and rail transportation may further contribute to cumulative effects (e.g., congestion, noise) and affect access to and availability and integrity of resources.</p>

Table 10: (Cont'd.)

Component	Potential Effects	Activities and Anticipated Pathway of Effect
Any structure, site or thing that is of historical, archaeological, paleontological, or architectural significance	<ul style="list-style-type: none"> Damage, disturbance, or destruction of a structure, site, or thing of significance. 	Construction activities (e.g., excavation or dredging) may impact the integrity of structures, sites, or things of importance.
Health, social or economic conditions	<ul style="list-style-type: none"> Changes to or potential interference with marine fisheries and shoreline harvesting, e.g., crab fishing. Interference with marine tourism and recreation. Changes that result in effects on diet and nutrition. Potential environmental and safety risks due to accidents or spills both on land and at sea. Change in air quality due to construction and operational activities. Sensory disturbance due to associated Project light, noise, and vibration. Presence of employment, training and/or business opportunities. 	<p>Construction-induced navigational and access restrictions may temporarily limit access to land and marine areas used for recreational and commercial activities.</p> <p>Changes in navigational closures for operations, although these are expected to be minor.</p> <p>During Terminal construction and operations phase there will be some emissions and dust released into the air. Exposure to these contaminants may affect human health and a general sense of well-being.</p> <p>Fuel or other spill or leak during construction or operations that occurs on land or enters the marine environment.</p> <p>Increased levels of noise and vibration may cause disturbance and disrupt rest and sleep. Interrupted or lack of sleep may cause stress. Stress can have implications for both mental and physical wellness.</p> <p>Opportunity for employment and contracting during the construction and operation phase will result in increased levels of local employment and income.</p>
Indigenous rights, title, or other interests	<ul style="list-style-type: none"> Changes to accessibility and quality of traditional lands, waters, and resources Changes to traditional economic and cultural activities Effects on established and asserted Aboriginal and Treaty rights, including the right to fish. 	Terminal design, construction or operations activities which alter accessibility and quality of traditional land, water and resources which results in infringement on rights, title, or other interests

Continued urbanization and increased trade, the driving forces behind the global expansion in container port activity, may place health pressures on Indigenous groups. Sources of diet and access to traditional subsistence foods could be placed under increased stress if not properly managed. Only by working with Indigenous groups can GCT identify these effects and work to minimize the effects on the communities. From an economic perspective, the TFN, as holders of one of Canada's more recent and modern treaties, have turned property ownership and business acumen into strong advantages. Commercial development within and near their treaty lands has increased householder incomes, employment levels and educational outcomes. If this is to continue GCT will need to work closely with TFN and other Indigenous groups to identify a progressive share of opportunity flows to the Indigenous groups that the Project most effects.

7 INDIGENOUS ENGAGEMENT

GCT is committed to working meaningfully with the Indigenous groups with an interest in the proposed Project. As currently defined, the Project falls within or near the traditional territories, lands ratified by treaty, or other recognized areas of various Indigenous groups.

A review of the Consultative Areas Database, and a review of Indigenous groups identified in other recent environmental assessments has resulted in the preliminary identification of the following Indigenous groups (in alphabetical order; estimated distance from administrative office to the Project provided in brackets after each group) with a reasonable possibility for their Nation or their rights under Section 35 of the *Constitution Act, 1982* to be affected by the Project: Beecher Bay (Sc'ianew) First Nations (84 km), Cowichan Tribes (45 km), Ditidaht First Nation (125 km), Esquimalt Nation (68 km), First Nations of Maa-Nulth (127 km), Halalt First Nation (46 km), Katzie First Nation (40 km), Kwantlen First Nation (46 km), Kwikwetlem Nation (35 km), Lake Cowichan First Nation (Ts'uubaa-asatx Nation) (70 km), Leq'á:mel First Nation (85 km), Lyackson First Nation (42 km), Malahat First Nation (53 km), Matsqui First Nation (60 km), Métis Nation of British Columbia (27 km), Musqueam Indian Band (23 km), Pacheedaht First Nation (105 km), Pauquachin First Nation (50 km), Penelakut Tribe (37 km), People of the River Referral Office (87 km), Popkum First Nation (87 km), Seabird Island Band (107 km), Semiahmoo First Nation (28 km), Shxw'ow'hamel First Nation (120 km), Songhees Nation (65 km), Sq'ewlets First Nation (87 km), Squamish Nation (34 km), Stz'uminus First Nation (45 km), Tsartlip First Nation (55 km), Tsawout First Nation (51 km), Tsawwassen First Nation (<5 km), Tseycum First Nation (45 km), Tsleil-Waututh Nation (34 km), T'Sou-ke Nation (82 km).

Each of the groups identified has or asserts claims of rights and title to the lands, water, and resources within their traditional territories, consultative boundaries, or proximity to the Project area with identified interest. GCT will continue to work with each of these groups through the early engagement phase to identify specific interests and further understand and characterize each group's rights, titles, or other interests. Preliminary information is provided in the Initial Project Description and will be updated in the Detailed Project Description.

GCT began early engagement with Indigenous groups, government agencies, and community stakeholders in 2016 and is continuing to undertake early engagement activities on the Project through the development of the Initial Project Description. GCT acknowledges that due to the challenges created by the COVID-19 pandemic and the number of projects in the region for consideration by each Indigenous group, capacity may continue to be a concern, even after many of their offices formally re-open. GCT is committed to providing capacity funding when requested and meets the needs of each Indigenous group.

The preliminary engagement undertaken by GCT included meetings and presentations with TFN administration and Executive Council in 2016 and 2017. A tour of GCT Deltaport and discussions on the proposed DP4 Project took place with TFN in 2018. In early 2019, presentations and discussions about the DP4 Project were held with TFN, Musqueam Indian Band and Semiahmoo First Nation. Further Project discussions were held with Semiahmoo First Nation in August 2019. Tsleil-Waututh Nation had an initial presentation of DP4 from GCT in June 2019 followed by a subsequent meeting and introduction of the Project in August 2019. A further update on the Project was provided to TFN in a meeting in October 2019 and a meeting with TFN council in April 2020. An overview of the Project was provided to Matsqui First Nation in March 2020, to Seabird Island Band and Kwantlen First Nation in May 2020, and to the First Nations of Maa-Nulth in a meeting in June 2020 with a subsequent follow-up meeting in July 2020. In July 2020, GCT also had meetings to provide an overview of the Project with the following groups: Esquimalt Nation,

Katzie First Nation, Pauquachin First Nation, Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation. Discussions were held in August 2020 with Penelakut Tribe, Halalt First Nation, Stz'uminus First Nation, Cowichan Tribes, and Lyackson First Nation. In August 2020, a Project overview was provided to Malahat Nation.

Engagement via email and phone to each Indigenous group identified in the Initial Project Description occurred between February 24, 2020, and August 2020. Follow up phone calls were conducted to ensure receipt of the information and to answer any preliminary questions.

Preliminary engagement has focused primarily on information sharing about the Project, the next steps in regulatory review will be responding to questions and recording concerns. And, more importantly, using that input to shape the engagement process through the life of the Project. The intention of these activities was to support the Indigenous groups in understanding the proposed Project at an early stage and ensuring fulsome input and participation by those groups. Further details are provided in the GCT DP4 Early Engagement Plan.

The following is a summary of the key issues or interests identified to date by Indigenous groups as a result of early engagement:

Environmental

- Need for a robust cumulative effects study;
- Understanding of the impact of invasive species to Roberts Bank as a result of port activity;
- Analysis of which specific habitats would be affected by DP4;
- Impacts to crabbing “no float zones” at Roberts Bank;
- Habitat offsetting required and available options;
- Amount of dredging required;
- Impacts on crabs and eelgrass;
- Human health impact assessment;
- Project siting;
- Treatment of cultural values;
- Aboriginal rights and title over-simplified; and
- Spatial and temporal scales.

Economic and Procedural

- Employment opportunities;
- Lack of shared decision-making;
- Information collection;
- Reporting style; and
- Capacity funding.

GCT expects to carry out the following activities during the early engagement phase:

- Continuous engagement with Indigenous groups during and beyond the regulatory agencies' review of the Initial Project Description and GCT DP4 Early Engagement Plan;
- Solicit further and ongoing feedback on the Project through follow up phone calls, emails, correspondence, topic-specific workshops, in-person presentations (if possible), or video presentations with interested Indigenous groups;
- Development of additional engagement tools as requested or directed by Indigenous groups;
- Schedule site tours of GCT Deltaport with interested Indigenous groups, if possible; and
- Understand and support the capacity required for all Indigenous groups to allow for robust participation in the EA process.

Local and traditional knowledge is critical to the development of the Initial Project Description. GCT will continue to seek feedback on topics of interest, point-of-contact and identify group-specific consultation policies, protocols or preferences to better inform our engagement efforts. To support this work, GCT will ensure an appropriate level of internal resourcing and capacity funding is provided to Indigenous groups when requested.

8 ENGAGEMENT AND CONSULTATION WITH GOVERNMENTS, THE PUBLIC AND OTHER PARTIES

GCT has been operating in Delta for more than 20 years and the company is focused on continuing to be a responsible neighbour by being open and engaged when responding to community requests and concerns. Since 2015, GCT has been proactively meeting with the City of Delta, its neighbouring municipalities, the provincial government of BC, the Government of Canada, and others in relation to the Project.

GCT has conducted multiple in-person meetings and presented to the Mayor and Council as a whole to provide updates on the Project over the years. GCT hosted the Mayor and senior staff at an in-person briefing at Deltaport on March 6, 2019, followed by a tour of the terminal which allowed for an open dialogue on the Project location, environmental and community effects, and engagement opportunities. On April 8, GCT emailed a formal letter to the City of Delta in relation to the development of the IPD and Engagement Plan to gather additional feedback and met with the City of Delta via videoconferencing on May 13, 2020.

By incorporating feedback from these agencies during the past 23 years in operations at Roberts Bank, GCT has established strong lines of communication and understand the capacity and needs of these municipalities, provincial and federal government agencies.

GCT has been actively engaging with provincial and federal officials, relevant Ministries, department staff and agencies, including the Impact Assessment Agency of Canada (IAAC) and the BC Environmental Assessment Office (BCEAO) to formally initiate discussions about the Project and to obtain feedback on the GCT DP4 Early Engagement Plan and Initial Project Description. GCT has also engaged with DFO.

To date, engagement activities have generally been well received and GCT holds regular informal and formal meetings with community groups and stakeholders through the development of the Initial Project Description and GCT DP4 Early Engagement Plan. Specific early engagement activities include the development of a Project website (<https://globalterminalsCanada.com/projectupdates/>), newsletters to all Delta, Ladner and TFN residents regarding GCT's yearly activities and providing an update on the Project, individual and group meetings with local and provincial environmental groups, and emails to stakeholder groups to solicit feedback on preferred frequency and method of engagement. GCT has also carefully considered feedback about previous port expansion projects.

Overall topic areas of engagement and feedback included the following:

- Human Health: light, noise, air quality, truck traffic, access to fisheries, and transportation infrastructure.
- Environment: biofilm, eelgrass, marine conservation and conservation areas, migratory birds, shorebirds, barn owls, appropriate habitat offsetting, marine invertebrates, Pacific Salmon, SRKW, marine traffic, and underwater noise.
- Economy: container capacity requirements, Project funding, and mode of operations.

To support further engagement on the Initial Project Description, GCT is considering the following planned public and stakeholder engagement activities:

- Update the Project website with engagement opportunities.

- Advertise public engagement opportunities with the local media and social media channels.
- Deliver a virtual community newsletter with information about the Project, a link to the Project website (<https://globalterminalscanada.com/projectupdates/>) and any government resources for engagement.
- Schedule several in-person or virtual town hall meetings to discuss the Project and allow for public feedback.
- Schedule smaller in-person or virtual meetings by issue such as human health, the environment, and the economy.

Future consultation activities will continue to consider potentially impacted populations that may be underrepresented by traditional engagement methods, such as town halls, through the following measures:

- Provide a variety of in-person and virtual engagement methods and locations.
- Multiple times of day for in-person and virtual engagement methods.
- All public locations will be as close as possible to public transit for increased accessibility.
- Any news releases will be distributed to relevant in-language media.
- Project materials will be in digital and print form.
- All public venues chosen will be wheelchair accessible locations.

9 REFERENCES

- A Species at Risk Act Section 11 Conservation Agreement to Support the Recovery of the Southern Resident Killer Whale. 2019. [Cited June 18, 2020]. Available from: https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/Ca-SrkwErs-v00-2019May-Eng.pdf
- AECOM. January 2009. Tsawwassen First Nation Land Use Plan; [Cited March 10, 2020]. Available from: http://www.tsawwassenfirstnation.com/pdfs/TFN-About/Information-Centre/Strategic-Planning/TFN_Land_Use_Plan.pdf
- Arcas Consulting Archaeologists Ltd., 2008. Lehigh Richmond Distribution Centre – Area Fronting Lot K Archaeological Overview Assessment. In: Project Description, Lehigh Construction Materials Terminal Phase 1 Aggregates, 2012; [Cited March 18, 2020]. Available from: <https://www.portvancouver.com/wp-content/uploads/2015/03/view-the-application1.pdf>
- Black Quay Consulting. 2019. Analysis of Capacity Options on the West Coast of Canada. Prepared for Global Container Terminals, Vancouver, BC.
- City of Delta. 2019. Comments on Supplementary Information Received After July 6, 2018. Letter to C. Parker, Panel Manager, Roberts Bank Terminal 2 Project, Canadian Environmental Assessment Agency. [Cited March 23, 2020]. Available from: <https://aeic-iaac.gc.ca/050/documents/p80054/126645E.pdf>
- City of Delta. 2017. Delta's Social Profile- 2017; [Cited March 19, 2020]. Available from: <http://delta.ca/docs/default-source/human-resources-and-corporate-planning/delta-social-profile.pdf?sfvrsn=8>
- Gaydos, J. K. and N.A. Brown. 2011. Species of Concern within the Salish Sea: Changes from 2002 to 2011. Proceedings of the 2011 Salish Sea Ecosystem Conference, October 25-27, 2011, Vancouver, BC: 1-12.
- GCT Canada Limited Partnership. April 2019. Project Brief: GCT Deltaport Berth 4. Prepared for PCLP; [Cited March 18, 2020]. Available from: <https://www.portvancouver.com/wp-content/uploads/2019/07/April-23-2019-Presentation-GCT-Brief-and-DP4-PCLC-FINAL.pdf>
- Government of BC. 2020. Roberts Bank Wildlife Management Area. About this Wildlife Management Area; [Cited March 10, 2020]. Available from: <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wmas-list/roberts-bank>
- Government of Canada. 2020. Strategic Assessment of Climate Change [Cited July 30, 2020]. Available from: <https://www.strategicasessmentclimatechange.ca/15112/widgets/61020/documents/36886>
- Hemmera Envirochem Inc. 2014. Roberts Bank Terminal 2 Technical Data Report. Marine Vegetation Intertidal Marsh, Foreshore Habitat and Invertebrate, Eelgrass, Ulva, and Biomat Survey Results. Prepared for Port of Vancouver. May 2014. <https://iaac-aeic.gc.ca/050/documents/p80054/107589E.pdf>

- Hemmera Envirochem Inc. 2015. Adaptive Management Strategy 2014 Annual Report Deltaport Third Berth, Delta, BC. Hemmera, NHC, Precision Identification Biological Consultants. Prepared for Port of Vancouver. July 2015; [Cited March 8, 2020]. Available from: <https://www.portvancouver.com/wp-content/uploads/2015/10/AMS-2014-Final-Annual-Report1.pdf>
- IBA Canada. 2020. Boundary Bay- Roberts Bank- Sturgeon Bank (Fraser River Estuary) Delta, Richmond, Surrey, White Rock, British Columbia; [Cited March 11, 2020]. Available from: <https://www.ibacanada.ca/site.jsp?siteID=BC017>
- LGL Environmental Research Associates. 2017. [Cited March 30, 2020]. Available from: <https://iaac-aeic.gc.ca/050/documents/p80054/121286E.pdf>
- Metro Vancouver. July 2017 (Updated to). Regional Growth Strategy Bylaw No. 1134, 2010. Metro Vancouver 2040 Shaping our Future. Adopted by the GVRD Board on July 29, 2011 and updated to July 28, 2017; [Cited March 7, 2020]. Available from: <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/RGSAadoptedbyGVRDBoard.pdf>
- Metro Vancouver. 2020. [Cited March 23, 2020] Available from: <http://www.metrovancouver.org/metro2040/land-use-designation/Pages/default.aspx>.
- Millennia Research Limited. November 2004. Roberts Bank Archaeological Overview Assessment and Archaeological Impact Assessment Permit 2004-100. Prepared for Vancouver Port Authority, Vancouver, BC; [Cited March 17, 2020]. Available from: https://www.portvancouver.com/wp-content/uploads/2015/03/techvols_tv12_roberts_bank_aoa_aia_nov13_04.pdf
- Port Metro Vancouver. October 2014. Land Use Plan; [Cited March 8, 2020]. Available from: <https://www.portvancouver.com/wp-content/uploads/2015/06/port-metro-vancouver-land-use-plan-english.pdf>
- Review Panel. March 2020. Federal Review Panel Report for the Roberts Bank Terminal 2 Project (Cited April 7, 2020) Available from: <https://iaac-aeic.gc.ca/050/evaluations/proj/80054>
- Statistics Canada. 2016. Statistics Canada Census Profile 2016 Census. Delta; [Cited March 18, 2020]. Available from: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=5915011&Geo2=CD&Code2=5915&Data=Count&SearchText=Delta&SearchType=Begins&SearchPR=01&B1=All&TABID=1>.
- The Corporation of Delta. March 2019. City of Delta Official Community Plan. Bylaw No. 2950, 1985 [Cited March 23, 2020]. Available from: <https://delta.civicweb.net/filepro/documents/37999?preview=39403>
- Vancouver Fraser Port Authority (VFPA), 2020. Short sea shipping June 2020 update (Cited July 28, 2020). Available from: <https://www.portvancouver.com/wp-content/uploads/2020/07/VFPA-Short-Sea-Shipping-June-2020-Update.pdf>
- Vancouver Port Authority. January 2005. Environmental Assessment Application for the Deltaport Third Berth Project. Vancouver, BC. [Cited March 8, 2020]. Available from: <https://projects.eao.gov.bc.ca/p/588510a1aaecd9001b813339/documents;currentPage=1;pageSize=40;sortBy=;type=5cf00c03a266b7e1877504d4;ms=1585332729897>