

**AECOM**

**Chapter 1**

**Introduction**

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# 1. Introduction

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The Centerm Container Terminal (Centerm) on the south shore of Vancouver's Inner Harbour (Figure 1-1) is one of three primary container terminals in the Vancouver area and handles approximately one-fifth of the container goods shipped through Vancouver. DP World Vancouver (DPWV) operates the terminal on federal lands and waters that are leased from the port authority.

The Vancouver Fraser Port Authority (port authority) is a non-shareholder, financially self-sufficient entity, established by the Government of Canada in January 2008 pursuant to the *Canada Marine Act* (S.C. 1998, c. 10) (CMA) and is subject to the provision of the CMA, the Regulations and Letters Patent issued pursuant thereto.

The port authority is responsible for the stewardship of port lands and waters in and around the Port of Vancouver. The port authority's mandate is to facilitate Canada's trade objectives, ensuring goods are moved safely, while protecting the environment and considering local communities. Centerm is within federal lands and waters managed by the port authority.

DP World Limited is one of the largest marine terminal operators in the world, with 77 terminals across 6 continents, of which container handling generates around 80 percent of its revenue. In 2015, DP World Limited handled around 62 million twenty-foot equivalent units (TEU) across its portfolio from the Americas to Asia—a record achievement for the company. With anticipated expansion and development projects in key growth markets, including India, China, and the Middle East, capacity is expected to rise to around 95 million TEUs over the next 10 years.

DPWV is the Vancouver division of DP World (Canada) Inc., located in Vancouver, British Columbia. It operates the Centerm container terminal and provides stevedoring services for many of the world's shipping lines and marine consortia. Operating from 16 ports in British Columbia, the DPWV Stevedoring Division is British Columbia's oldest established stevedoring company, with offices and personnel located up and down the west coast of Canada. In 2015, DPWV employed 157 staff and the equivalent of 320 full-time international Longshore and Warehouse Union workers at Centerm.

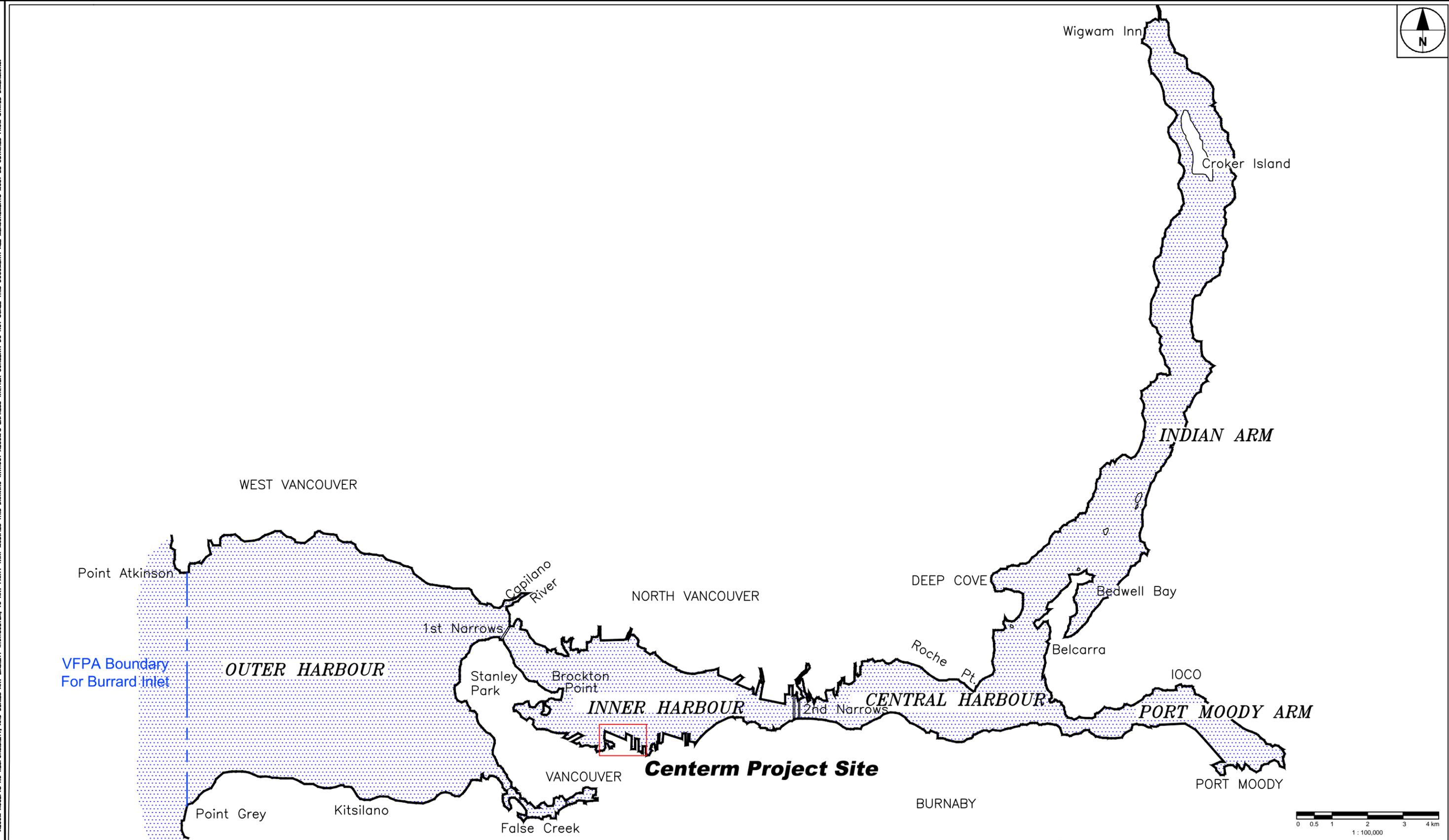
The port authority is proposing to increase the movement of goods through the Port of Vancouver by expanding Centerm and improving transportation connections in the south shore port area.

The proposed Centerm Expansion Project (CEP) was established to identify, develop, and deliver modifications to Centerm to facilitate the desired terminal capacity increase. This proposed Project is being led by the port authority's Centerm Expansion Project Team (Project Team) working with DPWV. The Project Team is made up of staff from the port authority's Infrastructure Delivery Group and subject matter experts.

The proposed CEP is a series of improvements to Centerm. The proposed infrastructure improvements would increase the number of containers that can be handled at Centerm by approximately two-thirds, from a current maximum annual capacity of 900,000 TEUs to 1.5 million TEUs. During peak operations, the number of containers that can be handled at the Centerm would increase from an annual sustainable capacity of 750,000 TEUs to 1.3 million TEUs. To increase the container capacity of Centerm by 67 percent, the proposed terminal improvements include an expansion of the terminal footprint by 15 percent and reconfiguration of the terminal.

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 2016 / 06 / 21

**Klohn Crippen Berger**  
**PBX ENGINEERING**

LEAD CONSULTANT  
**AECOM**

**DP WORLD**  
 Vancouver

**PORT of vancouver**

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**CENTERM EXPANSION PROJECT**  
**PROJECT LOCATION WITHIN BURRARD INLET**  
 Figure 1-1

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The proposed off-terminal works, collectively referred to as the South Shore Access Project (SSAP), includes a new Centennial Road Overpass and an extension to Waterfront Road. The proposed off-terminal works would complete the port authority's long-term objective of providing a contiguous port road along the entire south shore port area to increase efficiency and access. The proposed work addresses road congestion issues for port users by effectively eliminating three at-grade rail crossings for Centerm container trucks and other port vehicles.

Collectively, the proposed CEP and SSAP are to be delivered together and are referred to throughout this report as "the proposed Project."

## 1.1 Project Overview and Rationale

Two trends are influencing the need to expand both short-term and long-term containerized shipping/handling capacity in the Port of Vancouver. Trade of containerized goods shipped through Canada's west coast is increasing. In 2015, container terminals on the west coast of Canada (including Vancouver and Prince Rupert) handled more than 3.8 million TEUs, with nearly 3.1 million TEUs handled by container terminals in the Port of Vancouver. The Port of Vancouver's container terminals (Vanterm, Deltaport, Fraser Surrey Docks, and Centerm) are currently able to handle an estimated 3.9 million TEU/year.

Independent forecasts completed for the port authority by international experts in transportation and trade indicate that container traffic through the west coast of Canada will increase by approximately 3.5 million TEUs by 2035. This growth is driven primarily by the growing demand between Canada and Asian markets for imported products such as clothing, food, electronics and manufacturing inputs, such as car parts, and exports of Canadian products such as pulp, paper, lumber, and specialty grains.

Along with increasing demand, the container shipping industry is moving towards the use of larger vessels. The Lions Gate Bridge at the entrance to Burrard Inlet limits the size of vessels that can enter the Inner Harbour, with vessels up to 14,000 TEUs in capacity expected to call at Centerm in the future regardless of the proposed expansion.

Increasing the capacity and efficiency of existing container terminals like Centerm will ensure timely delivery of required marine and land-based infrastructure to meet the predicted growth in the container sector. Sustainable capacity is when the terminal is operating efficiently at high throughput and under ideal operating conditions. Maximum capacity is when the terminal achieves maximum throughput; however, it stretches the effectiveness of operations and equipment and is generally only achieved for short periods of time. Terminal operating volumes vary widely depending on the goods moving through the terminal. Larger terminals attract larger ships, which in turn exchange larger volumes of containers.

The proposed Project has been developed using the proposed sustainable annual capacity (considered to be 85 percent of maximum annual capacity), as this represents the typical peak operating conditions. The current sustainable container capacity at Centerm is approximately 750,000 TEU/year (maximum capacity 900,000 TEU/year) and its 646 metre (m) berth can accommodate two small- or medium-sized vessels simultaneously (i.e., two vessels of up to 6,000 TEUs or a single vessel 9,000 TEUs or larger). The proposed Project would increase Centerm's container capacity by approximately two-thirds to a sustainable capacity of 1.3 million TEU/year (maximum capacity of 1.5 million TEU/year) and accommodate larger vessels of up to 14,000 TEU.

When the largest vessels are berthed at Centerm on Berth 6, the stern of the vessel overhangs the end of the wharf and utilizes the mooring dolphin to tie up. As a result, containers on the stern of the vessels in this position cannot be accessed. Accessing these containers requires the vessel to be repositioned before loading activities can be completed. The extension of the wharf would allow containers to be accessed on all sections of a vessel without repositioning.

The mooring layout for container vessels at the Centerm berths would not change as a result of the proposed Project. The current mooring dolphin would be replaced by a bollard located on the western end of the extended wharf.

The footprint of the proposed Project is shown on Figure 1-2. The proposed improvements included in the Project are summarized in Table 1-1 and shown on Figure 1-2, Figure 1-3, and Figure 1-4. The proposed Project includes expansion and upgrades to the Site (On-Terminal) and improvements to adjacent road and rail access that are within the port authority’s transportation corridor (Off-Terminal). All of the proposed Project components are within the port authority’s jurisdiction, with the exception of the Heatley Avenue Overpass. A detailed description of the improvements proposed is provided in Chapter 2.

**Table 1-1: Terminal and Off-Terminal Improvements**

<b>Terminal Improvements</b>	
<b>Westward Expansion of Centerm</b>	Expansion of the terminal footprint to accommodate an extension of the container yard and intermodal yard to the west. This would include a larger wharf structure, dredging, rock dykes, and earth fill.
<b>Eastward Expansion of Centerm</b>	Expansion of the terminal footprint to accommodate additional container storage, a new terminal gate, parking, and a new administrative building (Container Operations Facility). This would include the removal and replacement of the existing Ballantyne Pier with rock dykes and earth fill following dredging.
<b>Expansion of the Terminal Intermodal Yard</b>	Expansion of the intermodal yard through the addition of a fifth rail track and rail track extensions to the west and east, to increase intermodal yard capacity. Introduction of rail-mounted gantry cranes to improve the efficiency of rail operations.
<b>Removal of the Heatley Avenue Overpass</b>	Removal of the Heatley Avenue Overpass to accommodate the eastern extension of the intermodal yard. The functionality of this overpass would be replaced with the Centennial Road Overpass.
<b>Reconfiguration of the Container Yard</b>	Increased capacity and efficiency for container yard operations, including space for loaded containers, empties, and refrigerated container stacks.
<b>Modernized Truck Gate System</b>	Reconstruction of the truck gate and exit gates using modern gate technologies to increase container truck throughput.
<b>New Container Operations Facilities Building and Parking</b>	Construction of a new Container Operations Facility and additional parking for staff and terminal vehicles. Remediation of the existing Ballantyne Heritage Building to form the Container Operations Facility.
<b>Terminal Outfitting</b>	Upgrades to control systems and yard equipment to complement the physical changes to the terminal. Introduction of new operational activities.
<b>Navigational Turning Basin for Cruise Ship Berth</b>	Dredging to enhance a navigational turning basin in the area between the westward extension of Centerm and the SeaBus terminal.
<b>Off-Terminal Improvements</b>	
<b>Waterfront Road Extension and Vehicle Access Control Gates</b>	Extension of Waterfront Road to Centennial Road, providing a connection to the Main Street overpass and creating a continuous roadway through port lands between downtown Vancouver and Highway 1. Installation of new vehicle access control gates on Waterfront Road under Main Street Overpass.
<b>Construction of Centennial Road Overpass</b>	Construction of a grade-separated access to the Centerm truck gate area, from Clark Drive via Centennial Road. The overpass would span the multiple at-grade rail crossings along Centennial Road. Container trucks would continue to access the terminal via Centennial Road from port access points at Clark Drive and Commissioner Street.



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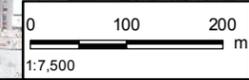
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**On Terminal**

- Centerm Expansion Project
- Proposed Dyke Fill Slope

**Off Terminal**

- Centennial Road Overpass
- Navigational Dredge Footprint
- Heatley Overpass
- Waterfront Road Extension



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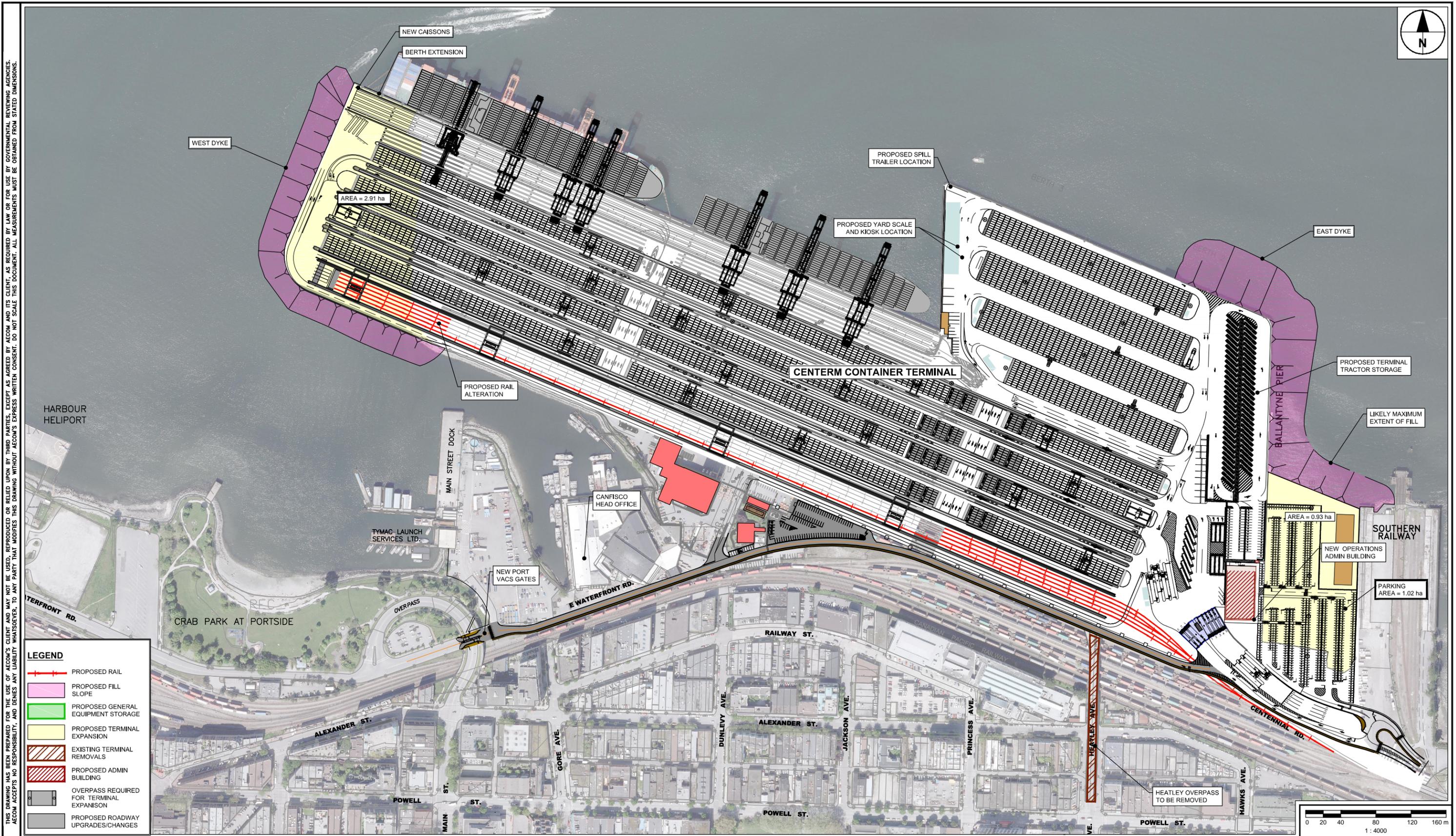
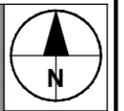
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**CENTERM EXPANSION PROJECT**  
**ENVIRONMENTAL STUDY**  
**PROJECT FOOTPRINT**

Figure 1-2

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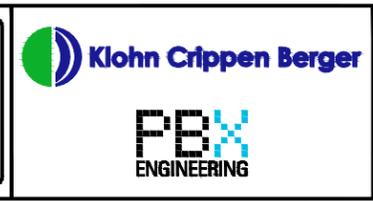
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- +—+ PROPOSED RAIL
- PROPOSED FILL SLOPE
- PROPOSED GENERAL EQUIPMENT STORAGE
- PROPOSED TERMINAL EXPANSION
- EXISTING TERMINAL REMOVALS
- PROPOSED ADMIN BUILDING
- OVERPASS REQUIRED FOR TERMINAL EXPANSION
- PROPOSED ROADWAY UPGRADES/CHANGES

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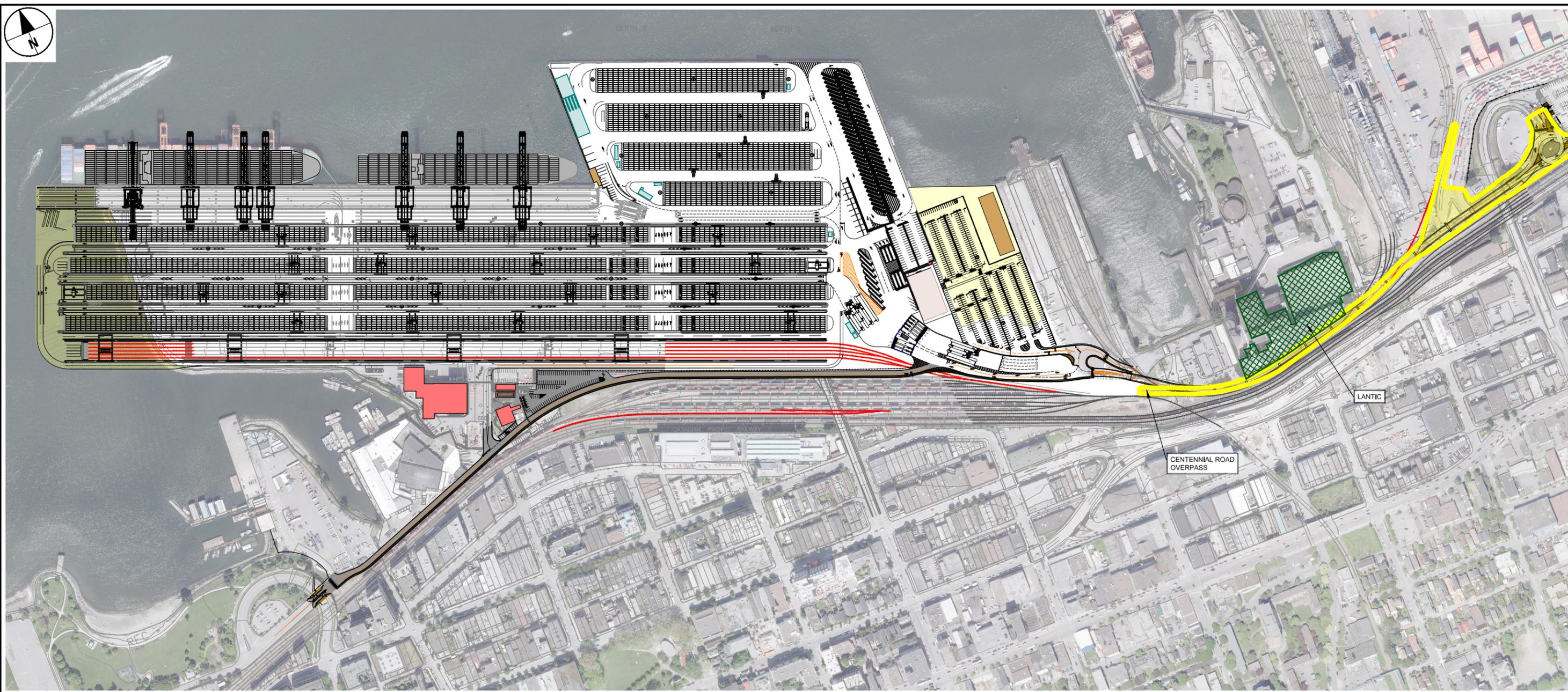
**CENTERM EXPANSION PROJECT  
PROJECT OVERVIEW  
PROPOSED DESIGN**

Figure 1-3

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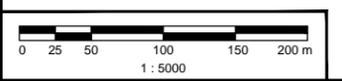


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- CENTENNIAL ROAD OVERPASS
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**CENTENNIAL ROAD OVERPASS**

CENTENNIAL ROAD OVERPASS

Figure 1-4

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## 1.2 Report Purpose and Context

The proposed Project is subject to review and approval by the port authority under the Project and Environmental Review (PER) process before it can proceed. This Environmental Study Report (Report) contains the results of environmental studies and the identification and characterization of environmental effects associated with the proposed Project to support the port authority's review under the PER process. The Report has been written to meet the project-specific PER Application Submission Requirements (Submission Requirements) issued by the port authority on October 21, 2016, following the PER Team's review of the *Preliminary Comment Period Summary Report* (Kirk & Co. Consulting Ltd. 2016). The Submission Requirements take into account feedback received by the port authority from the public and engagement with Aboriginal groups. The Submission Requirements stipulate the management plans, drawings, and studies that must be submitted as part of the PER Application for the proposed Project.

Table 1-2 contains a list of the studies and plans that support the identification and characterization of environmental effects and other impacts. These studies and plans are integrated into the body and appendices of this Report. The other technical studies that must be submitted as part of the PER Application will be submitted to the port authority as separate stand-alone reports. The management plans in this Report are draft for the port authority review and outline the key measures that will be implemented to mitigate effects. Management plans will be updated prior to construction (or operation depending on the plan) based on feedback during the port authority application review and updated as the engineering design progresses.

## 1.3 Project Location and Setting

The proposed Project is located within Vancouver Inner Harbour, the area between the First and Second Narrows, on the south shore of the Burrard Inlet (Figure 1-1). The Project footprint is shown on Figure 1-2. The Terminal site (the Site) is bounded by East Waterfront Road, Centennial Road, and the Canadian National Railways (CNR) yard to the south and extends into the Burrard Inlet to the north to a maximum distance of 500 m from the shore. The Site is designated as a Port Terminal under the port authority's *Land Use Plan* (Port Metro Vancouver [PMV] 2014a). Centerm currently covers approximately 31 hectares (ha) of port authority land from Hawks Avenue in the east to Main Street in the west. The Site occupies 2 kilometres (km) along the south shore of Burrard Inlet and is located east of Canada Place and the SeaBus terminal, northeast of CRAB Park at Portside, and west of Lantic (Rogers Sugar) and the Vanterm Terminal. The coordinates of the approximate centre of the Site are 49°17'14" N, 123°05'34" W.

Immediately adjacent to Centerm, the transportation corridor comprises a complex network of roads and railway tracks serving the industrial operations on the south shore. This transportation corridor stretching from Main Street to Clark Drive (Figure 1-3) and beyond serves not only Centerm, but also adjacent terminals including Lantic (Rogers Sugar), Alliance Grain Terminal, Vanterm Container Terminal Main Street Docks, and the Canadian Fishing Company (Canfisco). The road network is split either side of Centerm, with East Waterfront Road terminating at Dunlevy Avenue, and Centennial Road connecting the Centerm entrance gates to Stewart Street and Clark Drive. Between these roadways, a large railway yard is operated by CNR. The geographic coordinates of this area of the transportation corridor are 49°16'59.5" N, 123°04'50" W.

**Table 1-2: Environmental Studies and Plans**

Environmental Studies and Plans	Environmental Study Report Reference	Notes
<b>Environmental Studies</b>		
Mitigation Summary	Executive Summary	Environmental mitigations are summarized in the Executive Summary of this Environmental Study Report.
Environmental Noise Assessment	Chapter 4 Acoustic Environment <ul style="list-style-type: none"> <li>▪ Appendix A Noise Assessment Supplemental Information</li> </ul>	
Environmental Air Assessment	Chapter 5 Atmospheric: Air Quality <ul style="list-style-type: none"> <li>▪ Appendix B Air Assessment Dispersion Modelling</li> <li>▪ Appendix C Air Dispersion Modelling Isoleths</li> </ul> Chapter 6 Atmospheric: Greenhouse Gas Emissions	
Biophysical Survey Report	Chapter 7 Marine Water and Sediment Quality <ul style="list-style-type: none"> <li>▪ Appendix D Sediment Sampling Program Methods</li> <li>▪ Appendix E Marine Sediment and Water Quality Laboratory Results and Analysis</li> <li>▪ Appendix F Residence Time, Turbidity, and Dispersion Modelling</li> </ul> Chapter 8 Marine Resources <ul style="list-style-type: none"> <li>▪ Appendix G Foreshore Technologies, Inc., Biophysical Assessments</li> </ul> Chapter 9 Terrestrial Resources <ul style="list-style-type: none"> <li>▪ Appendix H Listed Bird and Mammal Species within Metro Vancouver Regional District, Coastal Western Hemlock Zone</li> </ul>	
Species at Risk Assessment	Chapter 8 Marine Resources Chapter 9 Terrestrial Resources	
Invasive Species Assessment	Chapter 9 Terrestrial Resources	
Archaeological Potential/Overview Assessment	Chapter 10 Archaeological Resources <ul style="list-style-type: none"> <li>▪ Appendix I Archaeological Overview Assessment</li> </ul>	
Heritage Impact Assessment	Chapter 11 Heritage Resources <ul style="list-style-type: none"> <li>▪ Appendix J Heritage Impact Assessments</li> </ul>	
Vegetation Plan	Chapter 9 Terrestrial Resources – Vegetation Assessment	Vegetation management is covered in Section 5.14 of the Construction Environmental Management Plan.
Nesting Bird Survey	Chapter 9 Terrestrial Resources - Nest survey completed as part of the biophysical assessment	Breeding bird surveys will be conducted if site preparation or demolition takes place during the breeding bird period,
<b>Supporting Stand Alone Reports and Management Plans</b>		
Construction Environmental Management Plan		
Stormwater Pollution Prevention Plan		
Soil Management Plan		
Hazardous Materials Site Assessment		

# 1.4 Sustainability at the Port Authority

The port authority’s 2050 strategic visioning process developed the port authority’s definition of sustainability structured around three themes: economic prosperity through trade, a healthy environment, and thriving communities (PMV 2016a). The port authority further developed focus areas under the three themes. Table 1-3 is a list of the sustainability focus areas that apply to the proposed Project.

**Table 1-3: Sustainability Focus Areas**

Theme	Focus Area
Economic prosperity through trade	<ul style="list-style-type: none"> <li>▪ Optimizes the use of land and infrastructure</li> <li>▪ Anticipates and delivers infrastructure to meet capacity needs in a timely manner</li> </ul>
Healthy environment	<ul style="list-style-type: none"> <li>▪ Takes a holistic approach to protecting and improving air, land, and water quality to promote biodiversity and human health</li> <li>▪ Is a leader among ports in energy conservation and alternative energy to minimize greenhouse gas emissions</li> <li>▪ Improves the environmental, social, and economic performance of infrastructure through design, construction, and operational practice</li> </ul>
Thriving communities	<ul style="list-style-type: none"> <li>▪ Proactively considers effects on communities in planning and managing operations</li> <li>▪ Identifies and responds to community interests and issues</li> <li>▪ Respects Aboriginal groups’ traditional territories and values traditional knowledge</li> <li>▪ Upholds safety and security to protect port users and neighbouring communities</li> <li>▪ Promotes a culture of emergency preparedness that supports rapid restoration of essential community services and business activities</li> </ul>

With these themes in mind, the Project Team established the following sustainability targets for the proposed Project:

- Passive House EnerPHit certification for the Container Operations Facility, which will house the majority of the administration and operations functions. Passive House is a low energy building design standard founded in Germany that focusses solely on optimizing the building envelope to minimize the amount of energy required to heat and cool the building and provide optimum indoor comfort.
- Envision Gold certification for the balance of the proposed Project. The Envision Institute for Sustainable Infrastructure rating system is an objective framework of criteria and performance achievements used in the planning, design, construction, and operation of infrastructure projects. The goal of the rating system is to improve the sustainable performance of infrastructure projects in terms of technical performance and from a social, environmental, and economic perspective.

A few of the initiatives required to achieve certification targets include:

- appointing a sustainability lead to the project management team to advise on sustainable practices and to document the sustainability initiatives as required to obtain certification
- conducting sustainability workshops during design development to incorporate sustainability practices into the design, including consideration of long-term maintenance and life-cycle costs
- executing a hazard assessment and documenting the resiliency of the terminal to natural hazards such as earthquakes, high winds, heavy rainfall, storm surges, and future sea level rise
- implementing a consultation program that provides real opportunities for Aboriginal groups to provide input into the proposed Project
- implementing a consultation program that provides real opportunities for the public and key project stakeholders to provide input into the proposed Project
- providing a community amenity that provides meaningful benefit to the local community, improves park space or recreational facilities, and/or enhances active transportation corridors

- providing training and employment opportunities to residents of the Downtown Eastside and/or local Aboriginal groups, and subcontracting opportunities for local business
- implementing measures to reduce noise and light impacts on the surrounding community
- preserving and protecting historic buildings including the Ballantyne Pier building, Lantic (Rogers Sugar), and Mission to Seafarers
- finding innovative ways to reuse crushed concrete, materials from Shed 3, and dredgeate (e.g., exploring use of clean dredgeate to create habitat)
- implementing monitoring systems for water and electricity usage
- going beyond habitat compensation by facilitating restoration within the harbour (e.g., cleaning up contamination and working with local Aboriginal groups to restore habitat)

In addition to advancing its goal of being a leader among ports in energy conservation and alternative energy to minimize greenhouse gas (GHG) emissions, The port authority (separately from the proposed Project) is also expanding access to shore power for the container ships berthed at Centerm. This will reduce GHG emissions from marine vessels while at berth by switching from diesel (approximately 690 tonnes CO<sub>2</sub>e/GWh) to BC Hydroelectricity (10 tonnes CO<sub>2</sub>e/GWh).

## 1.5 Regulatory Framework

### 1.5.1 Environmental Review - Jurisdictional Responsibility

The proposed Project is located on federal land under the jurisdiction of the port authority. Under the *Canada Marine Act*, the port authority is responsible for the administration, management, and control of land and water within its jurisdiction. Section 67 of the *Canadian Environmental Assessment Act, 2012* (S.C. 2012, c. 19, s. 52) (CEAA 2012) requires federal authorities to determine that projects will not likely cause significant adverse environmental effects (or, if a project is likely to cause significant adverse environmental effects, requires the Governor in Council to decide whether those effects are justified in the circumstances). The PER process provides that assurance. The port authority also considers other interests, impacts, and mitigation measures through the PER process.

Other federal agencies have regulatory oversight and permitting responsibility for some components and activities associated with the proposed Project, as discussed in Chapters 4 through 11. These federal agencies may also provide technical review support to the port authority on components and activities associated with the proposed Project that fall within their regulatory mandate and may be required to make a section 67 determination pursuant to CEAA 2012.

### 1.5.2 Port Authority Project and Environmental Review Permit

To effectively manage its responsibility under the *Canada Marine Act* and CEAA 2012, the port authority administers several permitting processes to ensure all developments and activities meet applicable standards and minimize environmental and community impacts. The port authority developed the PER process to ensure that proposed works and activities within the port authority's jurisdiction are carefully considered before determining whether they should proceed. The proposed Project is subject to the port authority's PER process.

#### 1.5.2.1 CEAA 2012 Context

The proposed Project does not trigger an Environmental Assessment (EA) under CEAA 2012 and is not subject to review by the Canadian Environmental Assessment Agency (CEA Agency). Only designated projects listed in the

schedule to the *Regulations Designating Physical Activities* (SOR/2012-147) passed under CEAA 2012 are subject to an EA. Under section 24 of the Regulations, the construction, operation, decommissioning, and abandonment of marine terminals designed to handle ships larger than 25,000 dead weight tonnes (DWT) are designated projects unless they are located on lands that are routinely and have been historically used as a marine terminal. The proposed Project is on lands that have routinely and historically been used as a marine terminal. Other components of the Project, including the rail or road upgrades, do not trigger any of the thresholds in the Regulations.

While the proposed Project does not trigger an EA under CEAA 2012 and is not subject to review by the CEA Agency, the port authority as a federal authority has a responsibility under section 67 of CEAA 2012 to conduct an environmental review. This obligation arises when a federal authority proposes to carry out a project or before it exercises a power or performs a duty or function that could permit a project to proceed on federal lands. Under section 67, the port authority is required to determine that the project will not likely cause significant adverse environmental effects (or, if the port authority determines the project is likely to cause significant adverse environmental effects, requires the Governor in Council to decide whether those effects are justified in the circumstances). While the port authority must take into account the environmental effects set out in section 5 of CEAA 2012 in making its determination of the likelihood of significant adverse environmental effects, CEAA 2012 leaves the approach of how to make this determination up to the port authority.

### 1.5.2.2 PER Process and the Proposed Project

The PER process is divided into four categories of review, A to D, based on level of complexity, with Category A being the least complex and D being the most complex. The proposed Project is a Category D project because of the complexity of activities to be undertaken, including expansion of the terminal footprint, demolition and rebuilding of the wharf and buildings and other terminal infrastructure, infilling of the marine environment, and modifications to road and rail access.

The PER process for a Category D project begins with the submission of a Preliminary Project Inquiry document and supporting information. The Preliminary Project Inquiry review is used by the port authority to confirm the category of review and scope of the additional information, studies, and consultation required for a complete PER Application. The Project Team submitted the Preliminary Project Inquiry documentation for the proposed Project in November 2015.

Initial engagement with Aboriginal groups and the public is undertaken during the Preliminary Project Inquiry review period, and the results are documented. The Project Team solicited early feedback on the proposed Project from the public, stakeholders, and Aboriginal groups. The Project Team also conducted a preliminary public comment period between January 18 and February 12, 2016, to solicit early feedback on the proposed Project and the scope of technical studies. Feedback received as part of the preliminary comment period is summarized in the *Preliminary Comment Period Summary Report* (Kirk & Co. Consulting Ltd. 2016). The feedback received as part of these early engagement activities was considered by the port authority in finalizing the scope of technical and environmental studies and by the Project Team in advancing the design and planning of the proposed Project.

The port authority issues PER Application Submission Requirements for each project. The Project Submission Requirements define the studies, reports, and plans that must be completed to support the PER Application. The initial Project Submission Requirements for the proposed Project were issued on April 7, 2016, and take into account feedback received from the public comment period and engagement with Aboriginal groups. The final PER Submission Requirements were issued on October 21, 2016.

The Project Team will undertake completion of the drawings, studies, plans, and consultation activities outlined in the Project Submission Requirements. This Report has been prepared in accordance with the Project Submission Requirements, including requirements to identify and characterize environmental effects. The complete Project Permit Application and supporting documents, including this Report, will be submitted to the port authority. Following submission of the Project Permit Application and supporting documents, the port authority will check that the documentation is complete and satisfies the Project Submission Requirements and then complete a technical

review. The port authority and the Project Team will then undertake a second round of consultation with stakeholders and the public. The Project Team plans to engage with Aboriginal groups throughout the design, permitting, and construction of the proposed Project.

Following the technical review and additional consultation, further information may be required. The Project Team will submit any revised technical reports, consultation summaries, mitigation measures, and any other documents required. The port authority will then complete the technical review and consider all information provided regarding the proposed Project.

The port authority will then make a decision on the PER Permit Application. If the proposed Project is approved, the port authority will issue a PER Permit with conditions. The port authority will make its CEAA section 67 determination following completion of the PER review.

### 1.5.3 Other Approvals and Regulatory Requirements

Federal and provincial authorities that administer regulatory requirements that may apply to the proposed Project and that may make decisions, or have input to decisions, regarding permits, licences, approvals, and authorizations for the proposed Project include:

#### Port Authority

- Building and Occupancy Permits
- Marine Event Permits

#### Fisheries and Oceans Canada

- *Fisheries Act* Authorization
- *Species at Risk Act* (SARA)

#### Environment and Climate Change Canada (ECCC)

- *Disposal at Sea Regulations*
- *Fisheries Act*
- *Migratory Birds Convention Act*
- *Species at Risk Act* (SARA)

#### Transport Canada

- *Navigation Protection Act* (NPA)
- *Railway Safety Act*

#### BC Ministry of Environment (MOE)

- *BC Environmental Management Act* (EMA)
  - *BC Contaminated Site Regulation* (CSR)
  - *BC Hazardous Waste Regulation* (HWR)

DPWV will be procuring the terminal operating systems and equipment, and may be required to obtain permits for major terminal operating systems and equipment.

#### 1.5.3.1 Port Authority Approvals

##### *Building and Occupancy Permits*

Building and occupancy permits will be required from the port authority for any new buildings and structures to ensure structures meet the National Building Code of Canada and the National Fire Code of Canada. The port authority retains an accredited building code consultant to advise the port authority on the issuance of building permits, inspections, and building suitability for occupancy. All supporting design drawings must be reviewed by the accredited code consultant. Building permits must be in place prior to the commencement of construction.

### Marine Event Permits

Port users conducting certain land and marine activities occurring within the port authority's jurisdiction are required to apply for a permit in advance of the start of that activity. These permits are applied for through the port authority's Pacific Gateway Portal and would be acquired by the contractor as part of the scheduling and delivery of the associated construction activities. Each application is examined by the port authority so that any safety and operational concerns can be addressed. Specific conditions on an activity may accompany a marine event permit.

### **1.5.3.2 Fisheries and Oceans Canada**

Fisheries and Oceans Canada (DFO) has the lead federal role in managing Canada's fisheries and safeguarding those waters that support the fisheries. DFO administers several pieces of legislation, including most provisions of the federal *Fisheries Act* (R.S.C. 1985, c. F-14) and the provisions of the *Species at Risk Act* (SARA) pertaining to aquatic species.

DFO will provide support to the port authority during the environmental review of the proposed Project on matters related to fisheries and aquatic species and determine any necessary authorizations under the *Fisheries Act*.

Under section 35(2) of the *Fisheries Act*, an authorization from DFO is required to carry out any work, undertaking, or activity that could result in serious harm to fish that are part of a commercial, recreational, or Aboriginal (CRA) fishery or to fish that support such a fishery. Project components and activities that may require authorization include:

- Dredging and filling
- Placement of material or structures in the water
- Removal of existing structures in the water
- Wastewater management

Under section 6 of the *Fisheries Act*, the Minister must consider four factors before issuing an authorization:

- a. the contribution of the relevant fish to the ongoing productivity of CRA fisheries
- b. fisheries management objectives
- c. whether there are measures and standards to avoid, mitigate, or offset serious harm to fish that are part of a CRA fishery or that support such a fishery
- d. the public interest

### **1.5.3.3 Environment and Climate Change Canada**

The role of ECCC in the environmental oversight of the proposed Project is related to the following areas: disposal at sea of any dredged materials, pollution of the marine environment, protection of migratory birds, and protection of endangered species on federal Crown land.

#### Disposal at Sea Regulations (SOR/2001-275)

Section 125(1) of the *Canadian Environmental Protection Act*, 1999 (CEPA) prohibits the discharge of any waste or other matter into Canadian waters except in accordance with a permit. The proposed Project will require a permit to dispose of, at sea, dredge material from any dredging for the terminal.

The *Disposal at Sea Regulations* under the Act set out requirements for a permit to dispose of materials at sea. Only substances listed in CEPA may be considered for disposal at sea, including dredged material, fisheries waste, ships, inert matter, uncontaminated organic matter, and bulky substances.

#### Fisheries Act (R.S.C. 1985, c. F-14)

ECCC is responsible for administering the sections of the *Fisheries Act* that deal with water pollution, specifically section 36, which prohibits the deposit of deleterious substances into water frequented by fish unless authorized by regulation under the *Fisheries Act*. No activities associated with the proposed Project are covered by regulations under the *Fisheries Act*. Activities not covered by regulations under the *Fisheries Act* that discharge into the aquatic environment must ensure that discharges will not be deleterious to fish. Discharges that meet Canadian Council of Ministers of the Environment (CCME) *Canadian Water Quality Guidelines for Protection of Aquatic Life* will not normally be considered by ECCC to be deleterious (CCME 2003).

#### Migratory Birds Convention Act (S.C. 1994, c. 22)

The *Migratory Birds Convention Act* has the purposes of protecting and conserving migratory birds, as individuals and populations, and their nests. The Act prohibits killing, injuring, taking, or disturbing migratory birds or damaging, destroying, removing, or disturbing nests of migratory birds without a permit. The Act also prohibits deposit of materials on land or into water that may be harmful to migratory birds.

Currently no anticipated Project activities would trigger the need for a permit under the Act. Construction activities will be planned to avoid any impact on migratory birds during the nesting season.

#### Species at Risk Act (S.C. 2002, c. 29)

SARA has the purposes of protecting plant and animal species in Canada that are under threat of being extirpated (no longer exist in the wild in Canada), endangered, or threatened as a result of human activity, and managing species of special concern to prevent them from becoming endangered or threatened. SARA currently applies to federal lands, which include lands under jurisdiction of the port authority. Once a species is listed under the Act, it becomes illegal to kill, harass, capture, or harm it in any way. Critical habitats are also protected from destruction.

SARA is directly applicable to any portion of the project on federal lands where listed species are identified. If members of listed species are identified, mitigation measures will be negotiated with ECCC to minimize project effects. DFO is responsible for aquatic species listed under SARA.

### **1.5.3.4 Transport Canada**

The role of Transport Canada is ensuring air, marine, rail, and road safety and the safe transportation of dangerous goods.

#### Navigation Protection Act (R.S.C. 1985, c. N-22)

The *Navigation Protection Act* (NPA) authorizes and regulates interferences with the public right of navigation. A primary purpose of the NPA is to regulate works and obstructions that risk interfering with navigation in the navigable waters listed in the schedule to the Act. Notice of proposed works affecting these waters must be provided to Transport Canada who will determine whether the works substantially interfere with navigation. The NPA also prohibits the depositing or throwing of materials that risk affecting navigation in navigable waters and the dewatering of navigable waters. As it consists of marine waters directly connected to the Pacific Ocean, Burrard Inlet falls under the coverage of the NPA. The activities associated with the construction of marine works for the proposed Project, including dredging, infilling, and berth construction, will trigger a Notice of Works.

However, Burrard Inlet lies within the jurisdiction of the port authority, which, as a Federal Port Authority operating under Part 2 of the *Port Authorities Operation Regulations* under the *Canada Marine Act*, is exempted from a Ministerial review under the NPA. A Notice of Works is still required to be submitted to the Minister via Transport Canada.

*Railway Safety Act (R.S.C. 1985, c. 32 (4th Supp.))*

Under section 8 of the *Railway Safety Act*, anyone who proposes modifications to railway works must give notice of the works in accordance with the *Notice of Railway Works Regulations*. This notice is to be given at least 60 days prior to construction and must include a period of not less than 60 days during which objections, pursuant to the *Railway Safety Act* (subsection 8(2)) may be filed. The required work may proceed if no safety objections from concerned parties are received. If objections are received, Transport Canada may intervene if parties cannot resolve the matters of concern.

### **1.5.3.5 BC Ministry of Environment**

Early soils investigations conducted on the terminal identified areas of contamination. It is anticipated that most of these soils will be managed on the Site. However, if these soils cannot be managed on the Site and must be removed for disposal on provincial lands, then provincial law will apply.

The provincial law that governs contaminated soils and soil disposal is the BC *Environmental Management Act* (SBC 2003, c. 53) (EMA), which came into force in 2004. The two associated regulations that govern contaminated soil disposal in BC are the *BC Contaminated Sites Regulation* (BC Reg. 375/96) (CSR) and the *BC Hazardous Waste Regulation* (BC Reg. 63/88) (HWR).