



COMMISSIONER STREET RAIL EXPANSION



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1.0 Introduction

Canadian Pacific (CP) is proposing to expand their existing railway infrastructure to improve capacity and fluidity on the south shore of the Port of Vancouver in the vicinity of the Columbia Containers Terminal. This expansion is being undertaken as part of the Commissioner Street Road and Rail Realignment Project (Burrard Inlet Road and Rail Improvement Program). The widening and realignment of Commissioner Street, between Nanaimo Street and Renfrew Street (City of Vancouver), is being undertaken by the Port Authority to accommodate CP's expansion project. The proposed addition of two new yard tracks (1,300m and 2,400m in length) on the north side of CP's existing "Commissioner Street Rail Expansion" (i.e., the Project) will increase storage capacity and improve operations for existing Port customers.

CP has engaged a multidisciplinary team to consider potential adverse effects of the Project on the environment during construction and mitigation measures to reduce, minimize and avoid those potential impacts. This Construction Environmental Management Plan (CEMP) describes potential Project-specific effects and how environmental risk will be mitigated through proper planning, work management and reporting. In the event of an environmental incident, this CEMP provides guidance that will reduce potential effects to the environment. This CEMP should be viewed as a 'guidance' document used to identify and appropriately manage environmental values before, during and after construction within the Project site.

1.1 Purpose of the Construction Environmental Management Plan

The CEMP describes the environmental performance standards and responsibilities of the Contractor(s) in executing the Project. This CEMP describes the site-specific mitigation measures and Best Management Practices (BMPs) which should be implemented by CP and any Contractors on site.

The following sections are contained within this CEMP:

- Project background including location, scheduling, and contact information;
- Environmental features and values in the area that could be potentially affected by Project construction;
- Environmental regulatory requirements;
- BMPs and/or work procedures that will be followed to minimize environmental risks;
- Protocol to respond during emergency situations or spills;
- Direction regarding post-construction follow-up and conclusion; and
- Environmental spill response planning and incident reporting procedures.

CP is responsible for compliance with the requirements of applicable environmental legislation and other applicable legal requirements and the practices and procedures identified in the CEMP. CP is

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responsible for ensuring that all staff and sub-contractors working on-site are familiar with, and comply with, the contents of this document and Environmental BMPs. CP's Environmental Representative for the Project is Kiley Gibson, Environmental Permitting Specialist.

CP's Contractor(s) selected for the construction work will review and familiarize themselves with the CEMP prior to the initiation of construction and will:

- Ensure that appropriate environmental safeguards are executed in the course of performing the work;
- Comply with any applicable federal, provincial and municipal laws, regulations or policies;
- Keep environmental disturbances to the minimum necessary for accomplishing the proposed Project activities;
- Comply with any written or verbal direction given by CP's Environmental Representative or delegate;
- Take every precaution to avoid unnecessary impacts to the environment, both within and adjacent to the Project footprint; and
- Report environmental incidents to the CP Environmental Representative immediately.

Note that the CEMP is not intended to address health and safety issues during construction. All work completed by CP and their Contractors on-site will be conducted in accordance with CP safety requirements and WorkSafe BC Standards. Further, the CEMP does not address the locating of existing above and below ground utilities. CP and its Contractors are responsible for identifying utility locations, notifying utility owners, and for assessing compliance with applicable railway requirements for utility crossings.

1.2 Project Location and Scope

The proposed Commissioner Street Rail Expansion Project is located between Mile 125.37 and Mile 127.00 of CP's Cascade Subdivision in the City of Vancouver (see **Figure 1-1**). The proposed rail tracks will be situated north of the existing mainline tracks on lands vacated by the realignment of Commissioner Street to the north. Portions of the new rail alignment will be situated on CP's right-of-way (ROW) as well as lands under the jurisdiction of the Vancouver Fraser Port Authority (VFPA) and will connect with Columbia Containers private trackage. The Project does not require any works within Burrard Inlet.



FIGURE 1-1. PROJECT LOCATION

1.3 Project Description

The proposed new yard tracks and railway infrastructure will extend from Mile 125.37 to Mile 127.00 of the Cascade Subdivision on the north side of CP's existing Commissioner Street Rail Expansion and will include the following elements:

- Installation of two new yard tracks – L30 and L31 (approximately 2,400 m and 1,300 m in length, respectively);
- Adjustment of the existing Columbia Containers lead track to connect to the proposed L31 track;
- A track shift below the Commissioner St overpass to maintain five (5) tracks through the corridor;
- Installation of a retaining wall along New Brighton Road;
- Installation of a small locomotive storage track within CP property at the Williston Yard office;
- Derail equipment (switch point and sliding); and
- Turnouts and crossovers connecting the CP mainline with the yard tracks and private customer trackage.

All new track will be constructed with continuous-welded rail, timber track ties, and other standard track materials including cut spikes, rail anchors, ballast, sub-ballast, etc. The new tracks will be governed as yard tracks with a maximum operating speed of 15 miles per hour.

1.4 Project Schedule

Construction of the proposed Project will begin following completion of the Commissioner Street realignment project being undertaken by the VFPA, and subsequent issuance of Project approvals from the VFPA (currently anticipated for early 2022). Mobilization, site facilities and temporary working areas will be established prior to the initiation of construction. CP is anticipating mobilization/start of construction to occur in April 2022 and be completed by the end of October 2022 (i.e., construction duration of 7 months). CP anticipates 4 months of grading, drainage, and structural work, followed by 3 months of track construction and crossing modifications.

1.5 Roles and Responsibilities

1.5.1 Proponent Responsibilities

CP is responsible for compliance with the requirements of applicable environmental legislation and other applicable legal requirements and the practices and procedures identified in the CEMP. CP is responsible for ensuring that all staff and sub-contractors working on-site are familiar and comply with the contents of the CEMP and environmental BMPs and that their employees, the Contractor and their subcontractors have appropriate environmental training including:

- Environmental Legislation and Regulations Awareness; and
- Spill Prevention and Response.

Prior to the start of any construction activities, CP will confirm that the CEMP has been fully reviewed and checked, and complies with the requirements of the Contract and applicable laws. **Table 1-1** identifies the responsibilities of key personnel on the Project. For the duration of construction activities and following Project completion, CP will:

- Ensure that all appropriate environmental safeguards are planned and executed in the course of performing the work. This includes the timely acquisition and handling of any required permits, licenses, and notifications as required and executing the requirements of those permits appropriately;
- Keep environmental disturbances to the minimum necessary for accomplishing the proposed Project activities in compliance with BMPs outlined in the CEMP;
- Comply with any written or verbal directions to protect the environment as outlined in the CEMP or as deemed otherwise necessary;
- Take every precaution to avoid unnecessary impacts to the environment, both within and adjacent to the Project footprint;
- Ensure that good housekeeping practices are implemented for the duration of the Project; and
- Leave the job site in a safe and environmentally-stable condition.

TABLE 1-1. RESPONSIBILITIES OF KEY PERSONNEL

Role	Responsibility	Name	Organization
CP's Representative	<ul style="list-style-type: none"> Promotes and supports adherence to the requirements set out in the CEMP and other applicable legislation. Communicates environmental responsibilities and requirements of the CEMP to CP staff and contractors and their subcontractors. Ensures that applicable CP staff and contractors and their subcontractors are appropriately trained to prevent or mitigate environmental impacts. Addresses deficiencies and any non-compliance items raised through CP staff and contractors and their subcontractors. 	Kiley Gibson (Environmental Permitting Specialist)	CP
Construction Contractor	<ul style="list-style-type: none"> Provides oversight on day-to-day implementation of the CEMP. Ensures environmental protection through effective implementation of CEMP mitigation and by responding to non-conformances that may arise. Coordinates appropriate response in the event of a spill or environmental incident. 	To be determined	To be determined

1.5.2 Contractor Responsibilities

Prior to the start of any construction activities, the Contractor(s) will review and familiarize themselves and any sub-contractors with the CEMP. For the duration of construction activities and following Project completion, Contractor(s) will:

- Ensure that all appropriate environmental safeguards are executed in the course of performing the work;
- Comply with any applicable federal, provincial and municipal laws, regulations or policies;
- Keep environmental disturbances to the minimum necessary for accomplishing the proposed Project activities in compliance with environmental BMPs outlined in the CEMP;
- Comply with any written or verbal directions to protect the environment as outlined in the CEMP or as deemed otherwise necessary;
- Correct any deficiencies and non-compliances issues, as soon as reasonably possible, ideally within 24 hours of written or verbal instruction;
- Take every precaution to avoid unnecessary impacts to the environment, both within and adjacent to the Project footprint;
- Ensure that good housekeeping practices are implemented for the duration of the Project; and
- Leave the job site in a safe and environmentally-stable condition.

1.5.3 Communication

Communication between all parties involved during all phases of construction is paramount to timely and effective implementation of the CEMP. The following communication measures will be implemented:

- The CEMP will be made available to key representatives of the Project/Construction team prior to commencement of the proposed work and will be available at all times at the work site during construction;
- A construction meeting(s) will be convened between CP and those undertaking the construction of the Project to review the CEMP and to outline the roles and responsibilities of each party; and
- The construction lead and contractors and their subcontractors will ensure that the CEMP is accessible to their employees at all times over the duration of the construction period.

Construction reports outlining site activities will be prepared at an agreed upon frequency and forwarded to the appropriate CP Representatives.

A Project contact list will be maintained and circulated to key personnel throughout the construction phase of the Project. It will include relevant project contacts. A preliminary Project contact list has been prepared below (Table 1-2) and will be finalized and circulated before construction begins.

TABLE 1-2. PROJECT CONTACT LIST

Name	Company	Role	Contact Information
Titilayo Fatigun	CP	Project Manager - Engineering	Titilayo_Fatigun@cpr.ca 403-813-6588
John Wachowich	CP	Manager – Industrial Development BC	John_Wachowich@cpr.ca 778-228-8733
Kiley Gibson	CP	Environmental Representative	Kiley_Gibson@cpr.ca 403-319-6234
Paul Schaap	Dillon Consulting	Environmental Contractor Lead	PSchaap@dillon.ca 604-351-1174
To be determined	Construction Foreman	Construction Foreman	-
Deborah Renn	VFPA	Project Lead	Deborah.Renn@portvancouver.com 604-665-9561

Environmental incidents will be reported to CP's Environmental Representative immediately so that appropriate notifications can be made and site management personnel can ensure that incidents are handled appropriately. For response to spill emergencies, refer to **Appendix B (General Emergency Spill Response Plan)**. Spills will be promptly cleaned up and reported in accordance with regulatory agency requirements.

CP will notify appropriate regulators, Indigenous communities and stakeholders immediately in the event of a spill, accident or malfunction potentially affecting the environment.

2.0 Environmental and Cultural Features of the Project Footprint

The proposed Project area is heavily disturbed by a long history of industrial land use and supports limited environmental or cultural features or values. Natural areas supporting vegetation have long since been replaced with pavement and compacted surfaces. Key environmental features that remain are situated well beyond the Project footprint to the north (Burrard Inlet) and to the south (vegetated slopes). No work is Project work is proposed in either of these areas.

The Project area is indirectly connected to Burrard Inlet via the area's buried stormwater management network of pipes and culverts. Burrard Inlet lies approximately 100 metres north of CP's ROW and supports regionally-significant environmental values. There are no open channels or riparian areas in the Project area.

There are only infrequent and isolated small trees and shrubs and patches of herbaceous ground cover found within the Project footprint. Typically they are found immediately adjacent to Commissioner Street on unpaved areas separating the road from adjacent industrial properties. The vegetated slopes located south of CP's existing yard tracks (i.e., well beyond the Project footprint) have been heavily altered and influenced by adjacent industrial, commercial and residential land uses but continue to provide ecological value to the local area. Vegetation communities of scattered trees, shrubs and forbs on these slopes provide marginal quality habitat for wildlife species habituated to and tolerant of urban environs. No Species at Risk (SAR) or other rare ecological communities or species were observed during the field investigations and no known occurrences of sensitive or rare wildlife species were identified from a search of the BC Conservation Data Centre database. No environmentally sensitive areas have been designated in the Project area.

The Project area's long history of industrial land use includes the importation of fill to accommodate infrastructure such as existing roads and rail, as well as the extent of industrial area on the south shore of Burrard Inlet. An Archaeological Overview Assessment (AOA) was completed by Terra Archaeology (Terra) in June 2020 under assessment permits issued by the Musqueam, Squamish and Tsleil-Waututh Nations as part of the environmental screening phase of the Project. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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3.0 Regulatory Background and Requirements

As a federally-regulated entity, CP is required to comply with applicable federal environmental legislation. Due to the expected timing of construction (i.e., April through December) the range of applicable legislation is limited to the following:

Fisheries Act

The *Fisheries Act* is the primary federal legislation providing protection for Canada's fish, fish habitat, and water quality and is administered by DFO and Environment Canada. Section 36 of the *Act* is the key pollution prevention provision and prohibits the deposit of deleterious substances into waters frequented by fish. Discharges (e.g., spills, leaks, releases) of deleterious substances originating within the Project Footprint during construction and transported through the stormwater drainage network to Burrard Inlet would be in violation of the *Act* and potentially subject to significant penalties.

Species at Risk Act

The federal *Species at Risk Act* (SARA) prohibits the killing, harming, harassing, capturing or taking of species at risk, or destruction of their critical habitats. Background review and site assessments of the area have indicated that there is a low risk for rare and/or endangered species to be present within the Project Footprint.

Migratory Birds Convention Act

The *Migratory Birds Convention Act* prohibits the taking or killing of migratory bird nests and eggs, and the deposition of harmful substances in areas frequented by migratory birds. The removal of trees, shrubs and ground cover used by birds and other wildlife must be avoided while they are breeding, nesting, roosting and/or rearing young. The paucity of vegetated areas within the Project Footprint supports the very a low risk for potential adverse effects to migratory birds.

Other Guidance Documents

Other applicable federal and other environmental standards, guidelines and BMPs are available for application during the proposed yard expansion project.

Table 3-1 provides an overview of the federal environmental legislation potentially relevant to the construction activities of the Project.

TABLE 3-1: SUMMARY TABLE OF RELEVANT ENVIRONMENTAL LEGISLATION

Federal Legislation	Applicability	Approval or Permit in Place/Forthcoming
Fisheries Act	<p>Burrard Inlet, located well beyond the Project Footprint, represents fish habitat and is the downstream receiving waterbody for surface water drainage from the site.</p> <p>Potential indirect effects to fish habitat may occur as a result of accidental releases/ discharges of deleterious substances during construction.</p>	<p>No approval or permit anticipated at this time.</p> <p>Qualified Environmental Professionals have developed appropriate BMPs and mitigation measures for this CEMP to address Section 36 concerns during construction.</p>
Species at Risk Act	<p>No species at risk have been identified for the Project Footprint or adjacent area.</p> <p>Highly unlikely that species at risk will occur on-site however there is always a potential.</p>	<p>No approval or permit anticipated at this time.</p> <p>Qualified Environmental Professionals have developed appropriate BMPs and mitigation measures for this CEMP should their presence in the Project Footprint be reported.</p>
Migratory Bird Convention Act	<p>Extremely limited presence of vegetation within the Project Footprint.</p> <p>Unlikely that migratory birds will be nesting within the Project Footprint.</p>	<p>No approval or permit anticipated at this time.</p> <p>All vegetation clearing will take place during the window of least risk to migratory birds.</p>

Although not required, CP has considered other provincial and municipal legislation and regulations when developing this CEMP document and has developed the associated BMPs to reduce potential adverse environmental effects of the Project and as a measure of good faith to comply with other stakeholder guidance. This includes:

- *BC Environmental Management Act;*
- *BC Wildlife Act;*
- *BC Weed Control Act;*
- *BC Heritage Conservation Act;* and
- Relevant City of Vancouver Bylaws.

4.0 Best Management Practices for Construction Activities

Potential adverse environmental effects resulting from Project construction activities may occur however many impacts can be mitigated through appropriate implementation of BMPs. This section of the CEMP outlines the impact mitigation measures and BMPs that are recommended for application during construction activities to minimize, reduce or avoid potential Project effects.

4.1 General Practices

The following general measures and best practices should be implemented during construction activities:

- Contractors on site should be familiar with the CEMP and associated BMPs and ensure appropriate equipment and personnel are in place to execute the recommendations herein;
- Contractors must be able to properly install any protection measures and understand BMPs used on the Project. If measures are not properly installed, they will not provide the necessary environmental protection; therefore, the measures will not be in compliance with this document and potentially subject CP to liability risk;
- Contractors will undertake regular maintenance of the implemented BMPs to ensure that they remain in compliance with this document;
- Appropriate supplies (e.g., staking, fencing, silt fencing) required to execute BMPs (e.g., work limits, erosion and sediment control measures) must be readily available on site in sufficient quantities for the site and proposed activities;
- Project activities with the potential to cause environmental harm will be scheduled for dry or fair weather whenever possible to minimize the environmental impact. Project works that will not cause environmental harm may be permitted during times of extreme precipitation (i.e., storms events of 25 mm of rain within a 24-hour period); and
- Site managers and contractors will be prepared to change existing mitigation measures and BMPs should they fail or be deemed inadequate by the Environmental Representative or a regulatory agency representative. The Environmental Representative will be notified of the changes to ensure they are adequately addressing the environmental concerns.

4.2 Site Access, Mobilization and Laydown Areas

Prior to the initiation of construction activities, plans for access to the site, mobilization of equipment, equipment laydown areas, and re-fueling stations will be developed. These plans should consider:

- Measures to minimize the number of trips to and from the Project site;
- Current access/egress of Port tenants; and
- Flat, stable areas located away (>30m) from the Burrard Inlet.

4.3 Air Quality

Equipment to be utilized during the construction activities can cause adverse impacts to local air quality. The following mitigation measures will be implemented during the construction work to mitigate concerns regarding the potential degradation of local air quality during construction:

- Mechanical equipment that is required on-site will be in good working order and will comply with local emissions standards;
- Idling of vehicles and equipment will be kept to a minimum and follow idle reduction protocols;
- Low-sulphur fuels will be used for on-site machinery;
- CP's Contractor(s) will visually inspect all vehicles and equipment on a regular basis. Vehicles or equipment producing excessive exhaust pollution will be repaired or replaced at their cost prior to being used on the Project; and
- Dust-generating activities will be minimized as much as possible during windy periods to minimize airborne dust emissions. Water or some other environmentally acceptable dust suppressant and appropriate application equipment will be available to be used as needed. Chemical dust suppressants will not be used.

4.4 Noise

Noise assessment and management planning work is on-going.

Short-term noise generation will result from construction activities and equipment. The following general measures will minimize the potential for noise effects from construction activities:

- All equipment will be properly maintained to limit noise generation and fitted with functioning exhaust and muffler systems;
- Equipment and machinery will be turned off when not in use;
- As much as possible, construction activities will be coordinated with daytime periods;
- CP will abide by VFPA regular working hours and will, if necessary, apply to the VFPA for an extension of working hours; and
- Noise monitoring will be conducted if required on a case by case basis.

4.5 Machinery and Equipment

It is anticipated that heavy equipment and machinery will be used during construction activities and can impact the environment through accidents and malfunctions. The Contractor(s) shall provide a list of equipment and machinery to be used on site during construction and identify the equipment type, fuel type, year of manufacture and engine power rating for each piece of equipment. This list will be provided to CP. Mitigation measures in place to reduce the impact of machinery and equipment on site are as follows:

- Equipment will be properly maintained and in good working order to prevent leaks of noxious fumes and/or fluids;
- Equipment will be inspected daily and immediately serviced when necessary;

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- A spill containment kit will be readily accessible on each piece of equipment and at a central location within the site (See **Section 6.3**); and
- Equipment will be operated at optimum rated loads and turned off when not in use.

Project construction will involve the operation of vehicles, equipment and machinery using petroleum products (*i.e.*, fuels, hydraulic fluids, lubricants). There is, therefore, the potential for environmental damage to occur from accidental spills of petroleum to the surrounding environment with the resulting potential for soil or waterbody contamination. To minimize the likelihood and potential environmental impact of a spill event, BMPs specific to fuel management to be implemented during construction include:

- On-site fuel and lubricant storage, if present, will adhere to applicable regulations and technical specifications (e.g., appropriate containment, areas away from drainage pathways, etc.), will not be stored within 30 meters of a waterbody where possible, and will be stored within appropriate secondary containment (an impermeable containment facility capable of holding 110% of storage tank contents);
- Vehicle and equipment refueling, lubrication and maintenance will be conducted on flat surfaces in designated areas using appropriate spill prevention procedures;
- Refueling equipment and tanks will be clean and in good working order;
- A controlled containment structure (e.g., drip tray) will be used when refueling/servicing equipment, as appropriate. Refueling hoses will be equipped with safety nozzles and automatic shut-off valves. An on-site supply of synthetic absorbent material and/or spill kit on-site at all fueling locations will be retained; and
- Work areas will be inspected following construction for the visual presence of potentially contaminated soil (e.g., fuel or oil stains on the ground).

4.6 Soil Management

Areas of soil will be managed during the proposed construction activities. Where necessary, unsuitable soils may be excavated by machinery, removed from the site by truck and disposed of at an approved facility. While contaminated soil is not anticipated to occur on-site, an assessment has been completed and results will be made available to the Contractor as soon as this work is complete.

4.7 Erosion and Sediment Control

CP and its Contractor(s) will address erosion and sediment control (ESC) issues as outlined in this CEMP throughout the duration of the Project to prevent the mobilization and deposition of sediment to any surrounding areas. The following mitigation measures have been developed:

- Erosion and sediment control equipment and devices will be readily available and in sufficient quantity on-site. Construction team members will be trained in the appropriate installation and use of ESC equipment;

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- Exposed soil on site will be minimized through phasing of construction activities and areas of disturbed soils will be covered with temporary materials (e.g., plastic sheeting or filter cloth) as necessary;
- Areas of disturbed soil remaining at the end of construction will be stabilized to minimize soil erosion;
- Project activities with the potential to cause environmental harm during inclement weather will be scheduled for dry or fair weather, whenever possible, to minimize erosion and sediment transport concerns; and
- Site grading activities with the potential to cause environmental harm, will not be completed during periods of inclement weather.

4.8 Vegetation Management

There are only small, scattered areas of vegetation within the Project Footprint. Removal of vegetation will be limited only to what is required to construct and accommodate the proposed infrastructure and to provide adequate safe working space. In addition, the following mitigation measures have been developed for vegetation management:

- Vegetation clearing will be completed in a manner to minimize the dispersal of noxious and/or invasive weed species, where possible;
- Visible work area boundaries will be maintained for the duration of construction activities; and
- Equipment will be maintained in a clean and weed-free condition.

4.9 Wildlife Species Management

Wildlife habitat in and around the Project site is limited. Some nesting opportunities for bird species may be available in limited shrub and ground cover vegetation. The nesting “window” for birds extends from March 16th to August 17th. As such, clearing of vegetation during this window is restricted unless a nest sweep is completed by a Qualified Environmental Professional following standard procedures to ensure that no active nests occur in the area identified for clearing.

Construction personnel will not feed, harass or otherwise interact with wildlife species at the Project site. Organic and food waste will be managed to avoid attracting wildlife to the site.

4.10 Storage of Petroleum Products

Petroleum products (i.e., fuels, hydraulic fluids and lubricants) will be used during construction activities. Effective mitigation will be required to ensure that these materials are stored and managed appropriately and are not accidentally discharged to the environment. The following BMPs will be applied during construction activities:

- If on-site storage is required, petroleum products will be stored in a designated location that poses no risk of soil or surface water contamination. The designated storage area will be secure and clearly labelled and managed in accordance with local safety regulations;

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- Impervious containment structures able to contain 110% of the maximum capacity of storage vessels will be installed and maintained around the storage vessels;
- Petroleum products will be handled in such a manner as to minimize leakage and spillage and to ensure containment and recovery in the event of a spill. Petroleum products no longer required during construction will be removed from the site;
- Containers will be appropriately labelled and designated to be used for the temporary storage of used petroleum products. These containers will not be used for disposal of garbage or construction debris;
- The site will be inspected on a regular basis by the Contractor(s) to ensure that all waste petroleum products and waste materials (e.g., oil cans, grease tubes, oily rags) are collected and properly disposed of at a location approved by regulatory authorities; and
- Storage areas for petroleum products, if present on site, will be inspected and monitored on an on-going basis during construction by the Site Engineer.

4.11 Spill Prevention and Readiness

Project construction will involve the operation of vehicles, equipment and machinery using petroleum products (*i.e.*, fuels, hydraulic fluids, lubricants) and other substances that may be deleterious if released into the surrounding environment. There is, therefore, the potential for environmental damage to occur from accidental spills of petroleum or other products to the surrounding environment with the potential to contaminate site soils. To minimize the likelihood and potential environmental impact of a spill event, BMPs to be implemented during construction include:

- Review and approval of the Contractor's Project-specific Emergency and Spill Response Plan by CP or their Representative prior to commencement of construction activities to ensure compliance with Project-specific environmental protection measures and commitments;
- Materials of a deleterious nature that could be spilled will be identified during the construction meeting;
- Contractor's Emergency and Spill Response Plan must identify all hazardous materials and products that will be used on site and include their Material Safety Data Sheets on site and make them available to all construction team members;
- The names and contact information of all persons responsible for the implementation of the Emergency and Spill Response Plan (See **Section 6.0**) shall be made available to all workers on-site including the CP Environmental Representative;
- Contractor personnel will be trained in proper spill containment and remediation procedures;
- All on-site storage areas, if present on site, will be monitored throughout the construction period for signs of spillage or leakage of stored product; and
- Inspection and monitoring of equipment, storage, refueling/maintenance and construction areas will be regularly completed by the CP Environmental Representative and/or the Site Engineer.

4.12 Concrete Works and Grouting

Concrete work is anticipated for select project components. Concrete works and grouting will employ the following BMPs to prevent and minimize the potential for impacts on the receiving environment:

- Concrete will be carefully poured and distributed to minimize spillage;
- Uncured or wet concrete will not be permitted to come in contact with precipitation;
- Recently poured concrete will be kept covered for a minimum period of 72 hours if in contact with water or if precipitation is anticipated; and
- Appropriate spill cleanup materials will be readily available, easily accessible, and in sufficient quantity on site.

4.13 Solid Waste Management

Solid waste generated during the Project will be removed from the site for recycling, where possible, or disposal. CP's contractor will adhere to applicable legislation/regulation with respect to the handling, transportation, and/or disposal of all Project materials including waste by implementing the following measures:

- Garbage will be removed from site of a regular basis;
- All recyclable or compostable materials will be collected separately from general waste according to City of Vancouver requirements;
- Contractors will adhere to all applicable legislation with respect to the handling, transportation, and/or disposal of all materials related to the Project. Regulations include, but are not limited to the *BC Hazardous Waste Regulations*, *Spill Reporting Regulations*, *Workers Compensation Board Regulations*, *Transportation of Dangerous Goods Regulations*, etc.;
- CP's Contractor(s) will provide portable sanitary facilities on-site for workers' use during the duration of the construction activities. The facilities will be serviced regularly by a qualified supplier; and
- The Contractor(s) will provide properly labeled separate container(s) for potentially hazardous waste such as oily rags and hydrocarbon absorbent pads. Absorbent materials or soils contaminated with oil (greater than 3% by weight) or any quantity of gasoline will be handled and transported as Hazardous Waste. Any contaminated soils will be excavated and hauled off-site to an authorized treatment/disposal area in accordance to the *BC Hazardous Waste Regulations*.

Upon completion of the construction activities, CP will inspect the site to ensure that all waste material has been removed and managed as described above.

4.14 Lighting

No new lighting is proposed for the Project, however the temporary use of lighting for construction may be required to maintain safe work site operations. Temporary lighting established in the immediate proximity of construction activity and will be pointed on the work site to reduce light-spill to roadways and residential areas.

5.0 Discoveries of Archaeological and Cultural Resources

██████████ in the event that these resources are encountered, the Contractor(s) will immediately stop construction, notify CP's Environmental Representative and comply with the procedures identified below. Any item of particular archaeological, cultural or scientific interest found on the Project site will be the property of CP until further notice. CP will work with the Project Archaeologist and appropriate authorities having jurisdiction to properly manage and protect such resources.

5.1 Archeological/Cultural Sites Chance Find Guidelines

For land-altering activities outside of known site areas it is important to note that work in the area of the discovery must stop immediately no matter what type of archeological material or feature has been encountered by the proponent or their contractors. The following emergency impact management guidelines apply to archaeological and cultural sites. Emergency management procedures for suspected human burial sites are presented separately below.

Initial Action by Proponent and Contractors

- **Step 1: Stop Work** – If archeological materials are believed to have been encountered, all work in the area of the discovery should cease and the site area safely secured. Do not move any soil from the vicinity of the site, including any spoil material.
- **Step 2: Contact the CP Environmental Representative** – Once notified, CP's Environmental Representative will immediately contact the Project Archeologist. If possible, e-mail notification of chance finds should include photographs of the finds from several angles, from close-up (with an everyday object, such as a pen, for scale), and from a short distance away.
- **Step 3: Seek Guidance from the Project Archeologist** – The Project Archeologist will provide guidance on further action. Where possible a solution will be arrived at over the phone, perhaps supplemented by digital images of the find forwarded to the archeologist's office. If the archeologist cannot determine the exact nature of the discovery, and/or cannot be satisfactorily resolved over the telephone or by e-mail, a visit will be arranged so the site can be assessed and mapped. Prior to visiting the area of the discovery, the Archeology Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development will be notified of the discovery.

Archeological Site Management Options

If the Project Archaeologist confirms that an archaeological site has been discovered, there are several management options. Proponents should work collaboratively with Indigenous communities and the

archaeologist to determine a management plan if a conflict with an archaeological site is identified. If a Heritage Conservation Act inspection, investigation, or alteration permit is not in place either for the development, or in connection with a known archaeological site, this must first be applied for and obtained. The Project Archaeologist can prepare the application for the appropriate permit which must be signed by an individual representing the development prior to submission. Once the permit has been granted by the Archaeology Branch there are three main archaeological site management options:

Chance Find Impact Management for Burial Sites

- **Avoid:** If the boundaries of the site have been delineated, an attempt will be made to redesign the proposed development to avoid the site. It will likely be necessary to have a Heritage Inspection Permit in place to properly delineate site boundaries. Site avoidance is normally the fastest and most cost-effective management option for archaeological sites.
- **Mitigate:** If it is not feasible to avoid the site through development redesign, it will be necessary to effectively sample it utilizing a systematic data collection program prior to its loss. This could include a systematic surface collection and/or excavation. Mitigation work is normally the most expensive and time-consuming management option.
- **Protect:** It may be possible to protect the site through the installation of barriers during the time of the development and possibly for a longer term. This could include the erection of high visibility fencing around the site or covering the site area with a geotextile and then capping it with fill. The exact prescription would be site-specific.

5.2 Possible Human Remains Identified

Procedures in the event of the discovery of human remains during development are covered in depth by an Archaeology Branch Policy Statement (see **Appendix B**). A summary of these procedures is presented below.

Initial Action by Proponent and Contractors

If definite or possible human remains are encountered:

- **Step 1: Stop Work** – Immediately cease all development activities in the area of the suspected human remains.
- **Step 2: Contact the Project Archaeologist** – The Project Archaeologist should be contacted as soon as possible.
- **Step 3: Seek Action from the Archaeologist** – The Project Archaeologist will provide guidance regarding further action.

Initial Action by Archaeologist

- **Step 1: Contact Authorities** – The Project Archaeologist will contact the Archaeology Branch, and if warranted, municipal police or RCMP, and/or the Office of the Coroner.
- **Step 2: Contact Indigenous communities** – The Project Archaeologist will contact local First Nation community and inspect the site.

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- **Step 3: Plan Site Management** – If the remains are deemed to be archaeological, the Project Archaeologist will begin negotiations to appropriately manage them.

Human Remains Management Options

The handling of human remains believed to be archaeological in nature requires communication with, and cooperation of, the relevant Indigenous communities. Generally, there are two possible courses of action that are followed. More detailed information with respect to the **Appendix B**.

- **Avoid:** The development project is redesigned to completely avoid the found human remains. An assessment should be made as to whether the remains may be affected by residual or accumulative impacts associated with the development, and properly addressed by a comprehensive management plan.
- **Exhume:** Exhume the remains in a manner considered appropriate by the First Nation groups. This will involve the predetermination of a site suitable for the reburial of the remains. Certain ceremonies or procedures may need to be followed before development activities can resume in the area of the discovery.

Indigenous Peoples' ancestral remains are of the utmost importance to descendant communities. Indigenous communities expect all developers and their contractors to follow specific cultural protocols any time ancestral remains are identified in development areas. In cases where no specific protocols exist, local Indigenous communities should be involved in the development of a culturally appropriate and respectful ancestral remains management plan.

6.0 Environmental Emergency Response

In the event of an emergency, the contractor is to follow the procedures and protocols outlined in CP's Integrated Contingency Plan (ICP) Emergency Preparedness and Response (i.e., Section 2: Core Plan), as well as any applicable Annexes (Section 3).

6.1 Emergency Communication

Clear and rapid communication is essential to reduce the impact of an emergency situation on personnel and/or the surrounding environment. The following table identifies the key personnel that should be contacted in the event of an emergency.

TABLE 6-1: EMERGENCY COMMUNICATION PHONE NUMBERS

Agency	Contact Number
Emergency Services	911
Vancouver Police Department Non-emergency	604-717-3321
Vancouver Fire Department Non-emergency (Hall No. 14 – 2804 Venables Street)	604-665-6041
Emergency Management BC Program (24-hour Report a Spill)	1-800-663-3456
CP Network Management Centre (NMC)	1-800-795-7851

6.2 Environmental Emergency Plan

Environmental emergencies that might occur during Project construction or on the Project site may include, but are not limited to:

- Reportable fuel spills;
- Sediment-laden water leaving the site;
- Negative wildlife interactions; and
- Observation of a previously unidentified sensitive environmental feature.

In the event of one of these events, CP's Environmental Representative and appropriate regulatory authorities should be notified as quickly as possible. CP's Environmental Representative will assess and record all incidents and determine appropriate action.

6.3 Spill Response Plan

There is the low potential for environmental damage to occur from the accidental spillage of hazardous substances to the surrounding environment. Regardless, adequate spill response measures must be in place at all times during Project construction activities (see Appendix A). To minimize the potential environmental impact and ensure the proper management of a spill event, BMPs to be implemented during construction include:

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- In the event of an accidental spill, initial response will be by the Contractor's designated on-site personnel and will follow these steps:
 1. Ensure safety;
 2. Stop the flow;
 3. Secure the area;
 4. Contain the spill (identification of product, equipment involved, affected area(s) and spill status);
 5. Clean up the spill; and
 6. Record and report the spill (See **Appendix A**).
- Initial response will focus on minimizing the saturation of spilled material into the soils by using appropriate absorbent materials (*e.g.*, pads);
- **All spills, regardless of quantity, are required to be reported to the CP Network Management Centre at 1-800-795-7851 as well as CP's Environmental Representative;**
- CP staff will liaise with the appropriate government agencies as required;
- **Any spill of a substance that is toxic, polluting or deleterious to aquatic life of reportable quantities must be immediately reported to the Emergency Management BC Program 24-hour phone line at 1-800-663-3456;**
- The Contractor will have the appropriate equipment available on-site to clean up the contamination and properly manage its removal and disposal;
- Monitoring will be undertaken during regular environmental monitoring visits by CP's Environmental Representative. Additional monitoring will be required if a spill occurs on-site to verify reporting and clean-up methods. Compliance with this directive will be monitored during site visits; and
- Each large piece of equipment must carry a 45L Spill Kit having the contents (or equivalent) described below. A 240L Rolling Bin Spill Kit having the contents (or equivalent) described below must be available at the designated equipment refueling location.

TABLE 6-2. SPILL SUPPLIES NECESSARY FOR EQUIPMENT KIT AND ON SITE ROLLING BIN SPILL KIT

TSKO/U Oil/Universal 45 Litre Truck Spill Kit Contents:	SRK 240 Litre Medium Rolling Bin Spill Kit Contents:
<ul style="list-style-type: none"> • 1 only Zippered Yellow All Weather Bag Part#: S46. • 15 only Oil Only White Perforated Pads Part#: WPB 100GL. • 15 only Universal Grey Perforated Pads Part#: GB100H. • 1 only 3" x 4' Oil Only Socks Part#: WSO 430. • 1 only 3" x 8' Oil Only Socks Part#: WSO 815. • 1 only 3" x 4' Grey Socks Part#: GSO 430. • 1 only Orange Disposal Bag Part#: OB3550. • 1 only Epoxy Stick for Metal Repair Part#: P1500. 	<ul style="list-style-type: none"> • 1 only Yellow rolling bin c/w lid Part#: GMT-240. • 1 only Large White Spill Kit Label Part#: A-KITLABEL. • 50 only Oil Only White Perforated Pads Part#: WPB 100ML. • 50 only Universal Grey Perforated Pads Part#: GB100H • 2 only 3" x 4' Oil Only Socks Part#: WSO 440. • 2 only 3" x 8' Oil Only Socks Part#: WSO 815. • 2 only 3" x 4' Universal Socks Part#: GSO 440. • 2 only 3" x 8' Universal Socks Part#: GSO 815. • 1 only Orange Disposal Bag Part#: OB3550. • 2 only White Oil Only Pillows Part#: WPIL818. • 1 pair Green Nitrile Gloves Part#: 316. • 1 only Solid-A-Sorb Granular Sorbent, 2 lbs. Bag Part#: 715-2. • 1 only Epoxy Stick for Metal Repair Part#: P1500. • 1 only Plug N Dyke Plug Pattie, 10 oz. Part#: P2. • 1 only Chemical Splash Goggles Part#: 315. • 1 only Nitrile drain cover Part#: NDC36.

7.0 Post Construction Follow Up

Upon completion of construction activities, CP will leave all areas of the Project site stable and free of waste materials. As appropriate, disturbed areas outside of the Project footprint will be stabilized through seeding or another form of surface protection, as required.

8.0 Conclusion

Information presented in this CEMP is based on information provided in discussions between CP and Dillon Representatives, and the knowledge and experience of Dillon staff. Should additional information become available that is relevant to environmental protection during the construction of the proposed Commissioner Street Rail Expansion Tracks, the recommendations and findings of this CEMP will be revised.

Appendix A

Spill Response Plan (General)



General Spill Response Plan

If a spill of fuel, oils, lubricants, or other harmful substances occurs, the following procedures will be implemented:

1. Ensure safety.
2. Stop/contain the flow (when possible).
3. Secure the area.
4. Contain the spill.
5. Clean up the spill.
6. Record and report the spill.

1. Ensure Safety

1. Ensure personal/public, electrical, and environmental safety.
2. Wear appropriate Personal Protective Equipment and consult Material Safety Data Sheets.
3. Never rush in; always determine the product spilled before taking action.
4. Warn people in the immediate vicinity.
5. Ensure no ignition sources are present if spill may be a flammable material.
6. Only appropriately trained personnel should be responsible for cleaning up and managing the spill.

2. Stop the Flow (When Possible and Safe to Do So)

1. Act quickly to reduce the risk of environmental impacts.
2. Close valves, shut off pumps or plug holes/leaks, set containers upright.
3. Stop the flow of the spill at its source.

3. Secure the Area

1. Limit access to the spill area.
2. Prevent unauthorized entry onto the site.

4. Contain the Spill

1. Block off and protect drainage pathways. In the event of a spill onto the ground, a spill boom will be placed on the downslope side. The containment boom will be placed downstream where there is a spill to water. If on water, place booms around the spill to prevent the spread.
2. Prevent spilled material from entering drainage structures (*i.e.*, local watercourses).
3. Use spill absorbent material to contain the spill.
4. If necessary, use a constructed dam or other method to prevent any discharge off-site.
5. Make every effort to minimize contamination.
6. Contain as close to the source as possible.

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5. Clean Up

1. Use appropriate equipment to clean-up the spill based on the material spilled.
2. Technical assistance is available from CP's Environmental Representative on clean-up procedures and residue sampling.
3. All equipment and/or material used in clean-up (*e.g.*, used absorbent, oil containment materials, etc.) will be disposed of in accordance with regulatory requirements.
4. Accidental spills may produce hazardous wastes (*e.g.*, material with >3% oil) and contaminated soil. All waste disposals must comply with the *Environmental Protection and Enhancement Act* Waste Control Regulation.
5. Contaminated soil will be treated and dealt with as required on a site-specific basis.

6. Notify / Report

All spills, regardless of quantity, are required to be reported to the CP Network Management Centre (NMC) at 1-800-795-7851 as well as the CP's Environmental Representative.

For spills in amounts requiring external notification, the person who had possession, charge or control of a substance immediately before its spill will immediately report details of the spill to CP's Environmental Representative who will subsequently contact Emergency Management BC (EMBC) (24-hour Report a Spill) at 1-800-663-3456.

Spill reports to EMBC must include:

- Name and contact phone number of the person reporting the spill;
- Name and phone of the person(s) responsible for the spill;
- Location, time, and date of spill;
- Material spilled and quantity;
- Cause and effect of the spill;
- Action taken to contain the spill;
- Description of spill location and surrounding area;
- Duration of occurrence;
- Weather conditions;
- Planned follow-up;
- Government agencies on the scene; and
- Persons or agencies advised or to be advised.

Environmental "*Near Misses*" are also to be reported to the CP's Environmental Representative.

Appendix B

Archaeology Branch Found Human Remains Policy



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Issued: September 22, 1999

The following is the Found Humans Remains Policy released by the Archaeology Branch in 1999. It should be noted, this policy is currently under review.

Purpose

The purpose of this directive on found human remains is to provide guidelines to Archaeology Branch staff, archaeologists, other agencies and the public as to branch procedures for handling human remains that may be protected under the Heritage Conservation Act (1996, RSBC, Chap. 187), and to facilitate the respectful treatment of these remains.

Mandate

Pursuant to section 13(2)(b) of the Heritage Conservation Act, a permit is required under section 12 or 14 before a person can undertake any actions affecting a burial place of historical or archaeological value, human remains or associated heritage objects.

Authority

The Director of the Archaeology Branch and the Manager, Permitting and Assessment Section, have been authorized to exercise the powers of the Minister to issue permits under sections 12(2) and 14(2), as well as ministerial orders under section 14(4) where necessary for emergency conservation purposes.

Policy Statement

Upon notification of the discovery of human remains that are not of forensic concern, the Archaeology Branch will take steps to facilitate the respectful handling and disposition of those remains within the limits of existing funds and program priorities.

Procedures

The following procedures will normally apply in cases where human remains are discovered fortuitously through various land altering activities such as house renovations, road construction or natural erosion; or during archaeological studies conducted under a Heritage Conservation Act permit:

1. Fortuitous Discoveries

In cases where the branch has been notified that human remains have been discovered by chance, the following procedures should normally apply:

- The Coroner's Office and local policing authority should be notified as soon as possible.
- The Coroner's Office should determine whether the matter is of contemporary forensic concern. The branch may provide information and advice that may assist in this determination.
- If the Coroner's Office determines the reported remains are not of forensic concern, the branch will attempt to facilitate disposition of the remains.
- If a cultural affiliation for the remains can be reasonably determined, the branch will attempt to contact an organization representing that cultural group.

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- If remains are determined to be of aboriginal ancestry, the branch will attempt to contact the relevant First Nation(s).
- Generally, if remains are still interred and are under no immediate threat of further disturbance, they will not be excavated or removed.
- If the remains have been partially or completely removed, the branch will facilitate disposition.
- If removal of the remains is determined to be appropriate, they will be removed under authority of a permit issued pursuant to section 12 or 14, or an order under section 14 of the Heritage Conservation Act, respecting the expressed wishes of the cultural group(s) represented to the extent this may be known or feasible.
- If circumstances warrant, the branch may arrange for a qualified physical anthropologist or an archaeologist with training in human osteology to provide an assessment of the reported remains in order to implement appropriate conservation measures.
- Analysis should be limited to basic recording and in-field observations until consultation between the branch and appropriate cultural group(s) has been concluded.

2. Permitted Archaeological Projects

In cases where human remains are encountered in the course of a permitted project, the Archaeology Branch should be contacted as soon as possible.

- The remains are to be handled in accordance with the methods specified in the permit, respecting the expressed wishes of the cultural group(s) represented, to the extent that these may be known or feasible.
- If the permit does not specify how remains are to be handled and if the cultural affiliation of the remains can be reasonably determined, the field director or permit-holder should attempt to contact an organization representing that group. The permit-holder or field director should advise the branch of the organization contacted, and any wishes expressed by that organization.
- The branch, in consultation with the appropriate cultural group(s), will determine disposition of the remains.
- Analysis should be limited to basic recording and in-field observations, until consultation between the branch and appropriate cultural group(s) has been concluded.