TDK METRO TERMINALS UPGRADE PROJECT DRAFT CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Prepared for:

TDK METRO TERMINALS
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MOTT11659
VERSION 4.0

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LIST OF ACRONYMS

BC	British Columbia
WQG-FAL	Water Quality Guidelines for the Protection of Freshwater Aquatic Life
BMP	Best Management Practice
CANUTEC	Canadian Transport Emergency Centre
CCME	Canadian Council of Ministers of the Environment
CEMP	Construction Environmental Management Plan
CFS	Container Freight Station
CSR	Contaminated Sites Regulation
DFO	Department of Fisheries and Oceans
EH&S	Site Environment, Health & Safety
EMA	*Environmental Management Act*
EM	Environmental Monitor
EMBC	Emergency Management British Columbia
EPP	Environmental Protection Plan
ESC	Erosion and Sediment Control
HCA	*Heritage Conservation Act*
IAA	*Impact Assessment Act*
PER	Project and Environmental Review
QEP	Qualified Environmental Professional
SARA	*Species at Risk Act*, S.C. 2002, c.29
SDS	Safety Data Sheets
TEU	Twenty-foot equivalent units
TDG	*Transportation of Dangerous Goods Act*
TDK	TDK Logistics Ltd.
VFPA	Vancouver Fraser Port Authority
WHMIS	Workplace Hazardous Materials Information System

DISTRIBUTION LIST

The following individuals/firms have received this document:

Name	Firm	Email
Tish Kumar	TDK Logistics Ltd.	✓
Tegan Smith	Channel Consulting	✓
Andrew Wells	Mott Macdonald Group	✓
Stuart Riddick	Mott Macdonald Group	✓

AMENDMENT RECORD

This report has been issued and amended as follows:

Issue	Description	Date	Approved by	
1	First version of TDK Metro Terminals Project – Draft Construction Environmental Management Plan	20230131	Stewart Wright on behalf of Angus Johnston	Lianne Leblond Project Manager
2	Second version of TDK Metro Terminals Project – Draft Construction Environmental Management Plan	20230317	Angus Johnston Project Director	Lianne Leblond Project Manager
3	Third version of TDK Metro Terminals Project – Draft Construction Environmental Management Plan	20230526	Angus Johnston Project Director	Angus Johnston Project Director
4	Forth version of TDK Metro Terminals Project – Draft Construction Environmental Management Plan	20230707	Angus Johnston Project Director	Lianne Leblond Project Manager

1.0 INTRODUCTION

TDK is requesting a permit from the Vancouver Fraser Port Authority (VFPA) under the Project and Environmental Review (PER) process for a terminal expansion (the Project) at 480 Audley Boulevard on Annacis Island in Delta BC (the Project site). The PER process applies to all proposed physical works and activities on federal lands and waters that are partially or wholly within VFPA's jurisdiction.

The Project comprises upgrades to their existing container storage and transport facility to accommodate increasing market demand for goods transport and container storage including the addition of rail service and agricultural transloading. Once approved and constructed, the Project will allow TDK to intensify and diversify their operations on the existing industrial site, allowing TDK to service more people and improve efficiencies.

TDK currently operates on 6.5 acres and the proposed expansion will increase the operational area to 15.75 acres. Upon completion, the Project will allow the facility to accommodate a greater number of trucks per day, and increase the annual throughput. The addition of rail infrastructure will also allow for the transload of agricultural products.

The proposed Project consists of:

- The demolition of one (1) existing warehouse;
- Reconfiguration of the existing container yard and truck gate;
- Two new tracks to accommodate rail operations; and
- Agricultural transload and related infrastructure.

This Construction Environmental Management Plan (CEMP) fulfills a requirement under the VFPA PER process (PER Permit 21-098) and will support environmental compliance by providing environmental mitigations and monitoring to facilitate the Contractor's implementation of appropriate measures. It has been prepared following the VFPA CEMP Guidelines (VFPA 2021).

2.0 PROJECT DESCRIPTION

2.1 LOCATION AND JURISDICTION

The Site is located entirely on VFPA managed federal lands and TDK has an existing lease agreement for the Project site for container storage and goods transportation operations. VFPA is responsible for the administration, management, and control of land and water within its jurisdiction.

A Location Plan (1:5,000) is provided in Figure 1.

2.2 PROJECT DESCRIPTION

Located on the south of Annacis Island, the current Project site consists of a container yard and warehouse that allow movement of goods on and off the site. At the container yard, shipping containers are stored either full or empty, after being unloaded by inbound trucks and before being loaded onto outbound trucks. Additionally, TDK's facility includes a Container Freight Station (CFS) Warehouse, allowing for additional services such as bulk commodity loading/unloading activities and CFS stuffing and de-stuffing services. Container yard services (e.g., customs sufferance bonded container yard storage, refrigerated container storage and reefer plugs, etc.) are also available at the Project site. Existing operations have been ongoing for 23 years.

To accommodate increasing market demand for goods transportation and container storage, TDK is planning to upgrade the existing facility and are proposing an import and export distribution hub. The proposed Project will expand the site's existing container yard operation.

The proposed Project consists of:

- The demolition of one (1) existing warehouse;
- Reconfiguration of the existing container yard and truck gate;
- Two new tracks to accommodate rail operations; and
- Agricultural transload and related infrastructure.

An Overview Site Plan is provided in Figure 2.

Figure 1 Location plan.

Legend

- Project Site
- VFPA Boundary

Data Sources:
a) Proposed work limit, Mott MacDonald 2022.
b) VFPA boundary, Port of Vancouver 2018.
c) 10 cm image, 13 April 2021, Esri Online Service.

0 50 100 150 m N

Scale: 1:5,000

Projection: NAD 1983 UTM Zone 10N

Hatfield

TDK Metro Terminals Expansion Project

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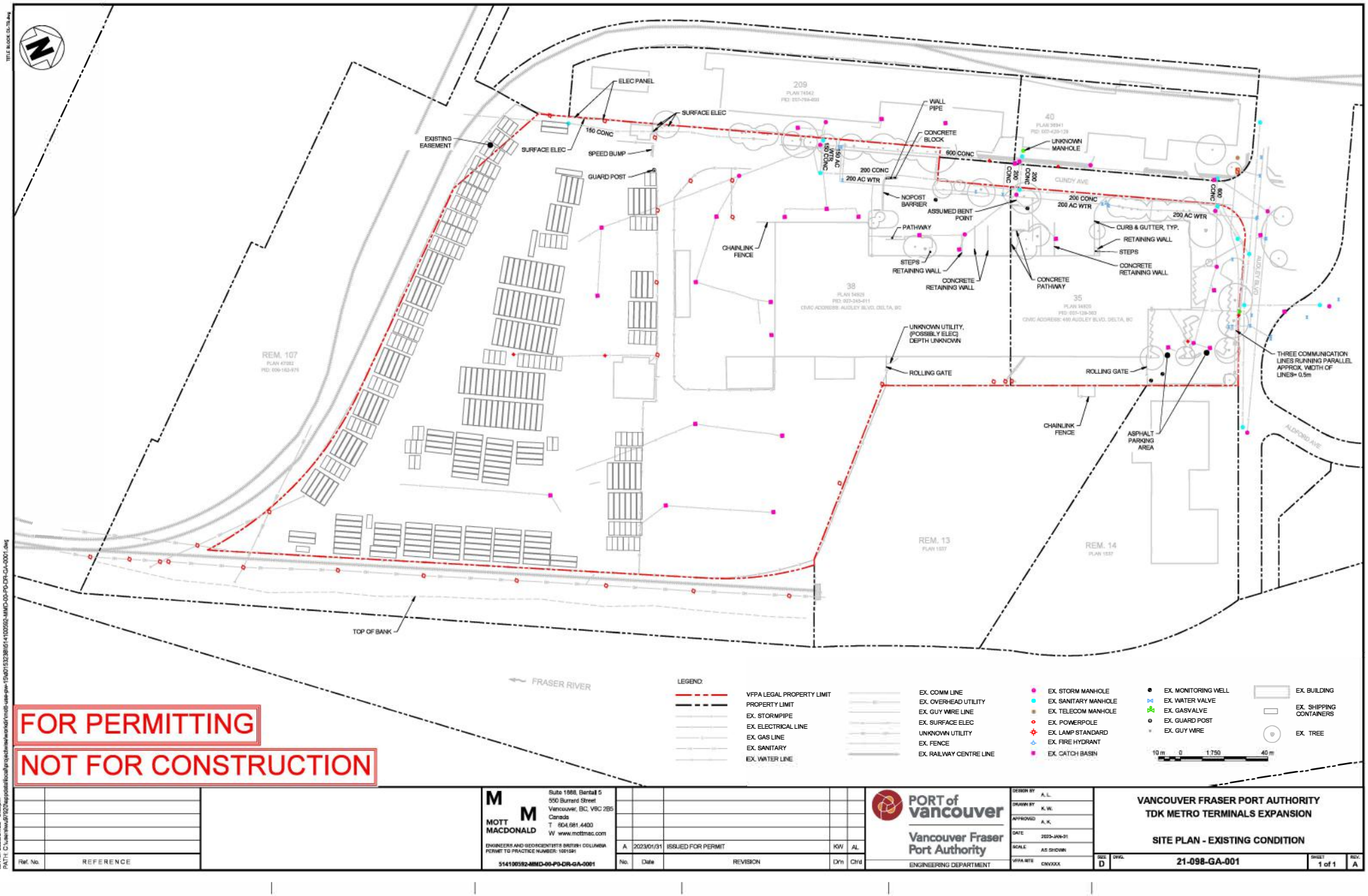
Figure 2 Overview site plan.



2.3 SITE DESCRIPTION

Land use on Annacis Island is predominantly industrial.

The Project site is flat, with the highest point approximately 3 m above sea level. It consists primarily of paved and gravel substrate. Little to no vegetation is present in the main container yard where operations are concentrated. Vegetation onsite is dominated by invasive species, however, black cottonwood (*Populus trichocarpa*) and willow species (*Salix spp*.) also were observed growing around the perimeter of the Project site and along internal fence lines. Vegetation along Cundy Avenue and Audley Boulevard include a mix of planted native tree species and ornamental species including Douglas-fir (*Pseudotsuga menziesii*), oak species (*Quercus sp*.), pine species (*Pinus sp*.), and common snowberry (*Symphoricarpos albus*). This vegetation is surrounded by either manicured lawn or pavement (see Appendix A1 for representative photos). Invasive species observed include Himalayan blackberry (*Rubus armeniacus*) and Scotch broom (*Cytisus scoparius*) which are dominant throughout the Project site in low to high density patches. Common tansy (*Tanacetum vulgare*) and other herbaceous weedy species are present throughout. A bald eagle nest was observed approximately 15 m east of the eastern fence line at the south end of the Project site.

Representative site photos are in Appendix A1.

2.4 PROJECT SCHEDULE

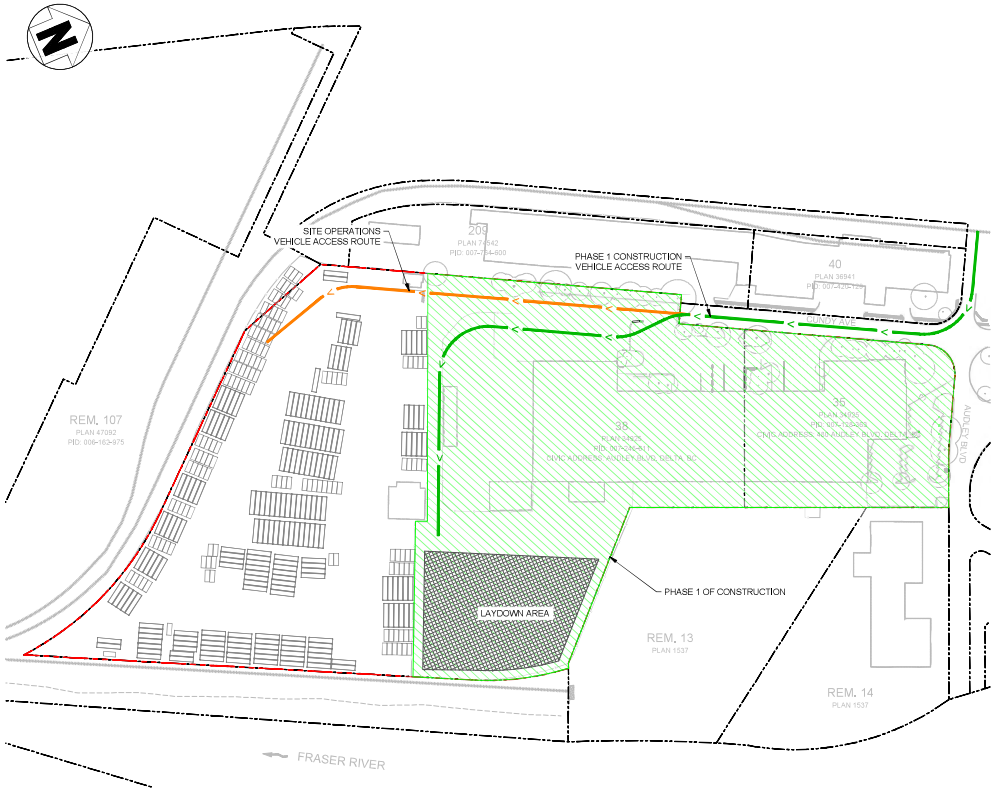
The overall construction timeline will be confirmed once materials are procured, but the tentative start date is July 2025. The current anticipated construction duration is 12 to 18 months, with the first 9 months for building decommissioning and demolition.

The Contractor will prepare a detailed Demolition Plan, and Construction Plan prior to the commencement of the work. The detailed phased Demolition Plan and Construction Plan will be consistent with VFPA Demolition Guidelines and approved by a British Columbia registered professional engineer. A two-phased Project schedule will be developed which will involve shutting down the east side of the property's operations to prepare the Project site and to continue operating on the west side. Once the east side is complete the operations on the west side of the Project site will stop, and construction will start on the west side of the Project site.

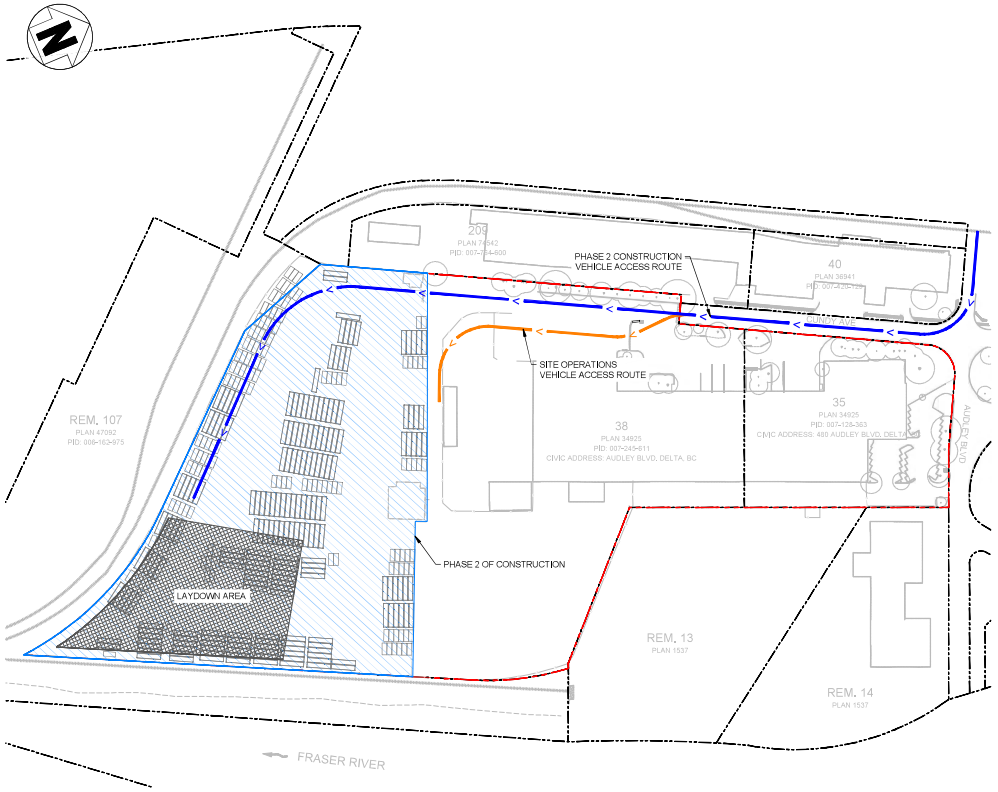
The Project is expected to be operating at full capacity by 2026.

The Construction Phasing, Vehicle Access, and Laydown Areas Plan is provided in Figure 3.

Figure 3 Construction phasing, vehicle access, and laydown areas plan.



PHASE 1 OF CONSTRUCTION



PHASE 2 OF CONSTRUCTION

LEGEND:

- VFPA LEGAL PROPERTY LIMIT
- PROPERTY LIMIT
- EX. RAILWAY CENTRE LINE
- EX. SHIPPING CONTAINERS
- PHASE 1 CONSTRUCTION VEHICLE ACCESS ROUTE
- PHASE 2 CONSTRUCTION VEHICLE ACCESS ROUTE
- SITE OPERATIONS VEHICLE ACCESS ROUTE

10 m 0 1:1250 50 m

FOR PERMITTING

NOT FOR CONSTRUCTION

Ref. No.	REFERENCE

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ENGINEERS AND GEOSCIENTISTS BRITISH COLUMBIA PERMIT TO PRACTICE NUMBER: 1001591
514100592-MMD-00-P0-DR-GA-0005

No.	Date	REVISION	Dr'n	Ch'd
A	2023/03/10	ISSUED FOR PERMIT	CA	AW

PORT of vancouver
Vancouver Fraser Port Authority
ENGINEERING DEPARTMENT

DESIGN BY	A. L.
DRAWN BY	C.A.
APPROVED	A.W.
DATE	2023-MAR-10
SCALE	AS SHOWN
VFPA SITE	CNVXXX

VANCOUVER FRASER PORT AUTHORITY
TDK METRO TERMINALS EXPANSION
TDK CONSTRUCTION PHASING
VEHICLE ACCESS & LAYDOWN AREAS

SIZE	DWG.	SHEET	REV.
D	21-098-GA-005	1 of 1	A

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2.5 CONTACTS AND RESPONSIBILITIES

TDK shall be responsible for verifying that the Project is constructed in compliance with environmental legislation and regulations, permitting requirements, Best Management Practices (BMPs) and other Project environmental documents. TDK's Project Manager(s) or delegates will oversee construction supported by consultants, as required.

The selected Contractor shall be responsible for conducting works in accordance with conditions provided in permits, contract specifications, and this CEMP.

A Qualified Environmental Professional (QEP) will be contracted by TDK to assume the role of Environmental Monitor (EM) and be responsible for environmental monitoring during Project construction. EMs shall demonstrate a working knowledge of the Project site, be knowledgeable of the status of the Project work, and all environmental issues and conditions associated with the Project.

Contact details for key Project personnel are provided in Table 1.

Table 1 Primary contact list.

Name	Company	Role	Phone Number
Project Team			
Tish Kumar	TDK Metro Terminals	Vice President	604-515-4806
Neil Kumar	TDK Metro Terminals	Site Environment, Health & Safety (EH&S) Supervisor	604-515-4864
Sean Clayton	Humphrey Construction	Civil Works Contractor	604-888-2335
Lianne Leblond	Hatfield Consultants	Environmental Consultant	604-722-2615
Stuart Riddick	Mott MacDonald	Engineering Consultant	604-628-0139

2.6 RESPONSIBILITIES OF TDK OR THEIR REPRESENTATIVE

- Review the Contractor EPP and Work Plans prepared by the Contractor and Environmental Monitoring Reports;
- Provide TDK Health and Safety training to the Contractor;
- Engage VFPA, other regulators and Indigenous communities, as required; and
- Oversight to verify the Contractor is conforming to and complying with permit conditions, legislation, regulations, and the requirements of this CEMP.

2.7 RESPONSIBILITIES OF THE ENVIRONMENTAL MONITOR

- Verify that all works are carried out in compliance with the environmental obligations, environmental legislation, and permit conditions and in conformance with this CEMP;
- Oversee preparation and submission to VFPA of environmental monitoring reports required under this CEMP and all other reports required under permits and approvals;

- The EM shall have the authority to halt construction activity and issue a Stop Work Order, if works fail to meet environmental requirements, or are, in their professional judgment, representing a significant or unacceptable risk to the environment. Recommendations to resume work shall be made once the causes leading to the Stop Work Order have been identified, addressed, controlled, and the environmental risks have been acceptably reduced or eliminated. Work will be allowed to resume once conditions detrimental to the environment have been rectified to the satisfaction of the EM and TDK;
- Liaise with TDK and the Contractor and provide technical advice to resolve situations that may impact the environment as they arise;
- Oversee the successful implementation of the CEMP and environmental compliance;
- Review the Contractor and sub-Contractor work procedures to verify functionality and compliance with the CEMP and applicable regulations, standards and BMPs;
- Complete monitoring tasks as outlined in Section 5.1;
- Facilitate resolution of any identified environmental issues; and
- The permit holder or EM will notify VFPA immediately in the event of non-compliance.

2.8 RESPONSIBILITIES OF THE CONTRACTOR

- The Contractor shall prepare a site-specific EPP based on this CEMP, to be reviewed and approved by TDK prior to the initiation of works;
- The Contractor shall comply with the VFPA PER permit and any other permit or licence issued for the Project as well as all other applicable federal, provincial, and municipal laws, statutes, by-laws, regulations, orders, and policies;
- The Contractor shall cooperate with the EM appointed for the work. The Contractor shall comply with written or verbal instructions with respect to conducting activities in compliance with mitigation measures outlined in the CEMP;
- The Contractor shall prioritize the correction of deficiencies and any non-compliance issues. Corrections shall be made as soon as reasonably possible, ideally within 24 hours; and
- The Contractor shall provide an environmental orientation to all staff and sub-contractors and provide a copy of this CEMP and/or the associated EPP for review prior to working on the Project.

3.0 RELEVANT LEGISLATION

Table 2 describes relevant environmental legislation for the Project works.

Table 2 Relevant environmental legislation.

Legislation	Agency	Description	Applicability
Federal			
Impact Assessment Act (IAA)	VFPA	The IAA governs the environmental assessment of certain activities and the prevention of significant adverse environmental effects. IAA regulations identify the physical activities that may require an Environmental Assessment. The requirements for projects on federal land are also defined in the IAA (Sections 82 to 89).	The VFPA must determine that the Project is not likely to result in significant adverse effects before allowing the Project to proceed. This responsibility is covered by the PER process.
Species at Risk Act (SARA), S.C. 2002, c.29	Fisheries and Oceans Canada, Environment and Climate Change Canada, and Parks Canada	Provides protection of wildlife species to prevent them from becoming extinct and to secure the necessary actions for their recovery.	SARA listed plants and terrestrial wildlife have the potential to occur, although there are no known occurrences on the Project site. If these species occur, the removal/relocation of the federally listed plants, wildlife, or habitat are required.
Fisheries Act	Fisheries and Oceans Canada	The *Fisheries Act* is the main federal legislation providing protection for fish and fish habitat in Canada. Section 36 of the *Fisheries Act* prohibits the deposit of deleterious substances to water that may impact fish.	Contamination of stormwater could present deleterious substances with adverse effects on fish and fish habitat.
Canada Marine Act	Transport Canada/ Vancouver Fraser Port Authority	Site development will occur on lands owned and managed by the VFPA and are therefore subject to the Project and Environmental Review (PER) process.	PER in process.
Wildlife Act, (RSBC 1996, c. 488)	Ministry of Forests and Ministry of Water, Land and Resource Stewardship	Provides for the conservation and management of wildlife populations (including fish). Protection of raptor, owl, and heron nests.	Permits pursuant to the *Wildlife Act* may be required, depending on project design and timing. Any activities that may cause harm or require handling of wildlife requires a permit. Best Management Practices available to mitigate impacts. If raptor nests are found within the Project area, any activities that may disturb or destroy the nest should be avoided or postponed. If the species receives year-round protection, activities that may destroy the nest are prohibited without a *Wildlife Act* permit.
Wildlife Act/Migratory Birds Convention Act (S.C. 1994, c. 22)	Environment and Climate Change Canada	Site development could impact nesting migratory bird habitats.	Contains regulations to protect migratory birds, their eggs, and their nests from destruction by wood harvesting, hunting, trafficking and commercialization. Bird surveys must be completed prior to any clearing of vegetation during the nesting window for songbirds (March 15 to August 31).

Table 2 (Cont'd.)

Legislation	Agency	Description	Applicability
Provincial			
Spill Reporting Regulations of the *Environmental Management Act* (EMA)	Ministry of Environment and Climate Change Strategy	The regulation establishes procedures for reporting the unauthorized release of substances into the environment as well as outlining details of reportable amounts for certain substances for sites having Provincial jurisdiction.	Spills of Hazardous Substances (e.g., hydrocarbons) that may be used during construction of the Project may require reporting to the province, depending on volume and location of spill.
BC Weed Control Act (RSBC 1996, c.487),	Ministry of Agriculture and Food	The Project site has potential for invasive and noxious weeds.	Removal and management of noxious weeds are required if they are identified.
Heritage Conservation Act (HCA)	Ministry of Forests	The Project site has potential for Heritage resources. This will be dealt with through the PER process VFPA lands.	Heritage Inspection/Investigation Permit(s).
Municipal			
Delta Noise Control Bylaw No. 1906	City of Delta	The bylaw regulates noise or sound and prohibits any construction work, reconstruction, alteration, repair or demolition of a building or structure, the operation of machinery, or works in connection with any excavation or highway before 7:00 am or after 7:00 pm any day of the week from Monday to Friday, inclusive, before 9:00 am or after 5:00 pm on Saturday, or at any time on Sunday or a holiday.	The Project falls under VFPA jurisdiction, thus hours of work and noise levels will be determined through VFPA processes. Reasonable efforts to limit noise emissions during Project construction will be taken. Mitigation measures to minimize noise emissions resulting from construction activities are outlined in Section 4.5.

4.0 MITIGATION MEASURES AND ENVIRONMENTAL SPECIFICATIONS

4.1 GENERAL PRACTICES

TDK will continue to be operational during Project construction by completing construction activities in two phases. The TDK team will continue to implement their Emergency Contingency Program as it relates to operations. The requirements and mitigation measures below will be implemented by the Contractor.

The following general mitigation measures will be implemented to minimize impacts to environmental resources or members of the surrounding community resulting from Project works:

- The EM will provide Project personnel with training on how to properly implement environmental protection measures for which they are responsible;
- The EM will conduct environmental awareness talks on a regular basis to confirm workers are aware of potential construction-related effects of works, and the mitigation measures to be employed during works, as outlined in the CEMP; and
- The EM will remain in contact with Contractor crews to review environmental constraints and any additional measures that may require implementing, such as in-water environmental mitigations, or ongoing opportunities for corrective and/or preventive actions.

4.2 SITE ACCESS, MOBILIZATION, AND LAYDOWN AREAS

Site access will be through the Project site entrance on Audley Boulevard. Laydown areas will be located within the active portion of the construction site, while the operational side remains active.

The Project does not require any modifications to existing roads within the City of Delta.

4.3 TRAFFIC MANAGEMENT

Trucks will be used to transport materials to the Project site. All trucks will enter the Project site through the entrance on Audley Boulevard. In order to minimize impacts, general traffic management mitigations will include:

- Truck movements will be restricted to standard VFPA working hours (07:00 to 20:00 Monday to Saturday);
- Truck movements will be planned to avoid busy times of day;
- Truck movements will be further planned to spread the movements across the day and minimize the number of trips to and from the Project site per hour; and
- Track out of vehicles from the Project site will be managed (i.e., sweeping of roadways and the use of large gravel at the road access points) to reduce dispersion of sediment and material offsite.

4.4 AIR QUALITY

Potential exposure pathways include air pollution from trucks, machinery and equipment. Air quality issues, if apparent, are expected to be limited in duration to working hours.

The following mitigation measures shall be implemented to reduce air emissions resulting from the Project site activities:

- No burning of any materials shall be permitted at the Project site;
- The Contractor will verify that all equipment, vehicles, and stationary emission sources shall be well-maintained and used at optimal loads to minimize emissions. A preventative maintenance program shall be implemented for all diesel and gasoline-powered equipment (as required by the manufacturer). Any parts showing excessive signs of wear or malfunction shall be promptly repaired or replaced;
- Electric equipment shall be used where practical;
- The Contractor will ensure that all equipment shall be fitted with standard emission control devices in compliance with federal, provincial, regional district, and municipal regulations and standards;
- The Contractor shall ensure that equipment is in compliance with the VFPA's Non-Road Diesel Emissions program (VFPA 2015);
- Vehicle and equipment idling time shall be minimized during construction to the greatest practical and safe extent. Employees shall be required to turn off vehicles or heavy equipment when not in use;
- Stationary emission sources (e.g., portable diesel generators, compressors, etc.) shall be used only as necessary and turned off when not in use; and
- Roadways will be swept, and dust controlled with the use of water, to minimize fugitive dust during vehicle movement.

4.5 NOISE AND VIBRATION

The following mitigation measures and BMPs shall be implemented to minimize noise and vibration emissions resulting from Project construction:

- Construction will be restricted to VFPA standard work hours of 07:00 to 20:00 Monday to Saturday. No work is planned for Sundays or holidays;
- The Contractor shall verify that all equipment is properly maintained to limit noise emissions to the extent practical and fitted with functioning exhaust and muffler systems. Machinery covers and equipment panels shall be well fitted and remain in place to muffle noise. Bolts and fasteners shall be tight to avoid rattling;
- The Contractor shall verify that engines are turned off when not in use. Vehicle and equipment idling time shall be minimized during construction;
- The Contractor shall verify that machinery and equipment shall only be operated within specification and capacity (e.g., machines shall not be overloaded); and
- TDK's website provides phone and email contact information for communication. In addition, the Project website provides information as a means to identify and address any potential noise or other complaints during construction, as described in the Construction Communication Plan. Records of any complaints shall be kept for a minimum of six months.

4.6 LIGHTING

Temporary lighting may be used during construction works to illuminate construction areas and provide for worker safety and security. Potential adverse effects of poorly managed temporary construction lighting could occur to wildlife and people. The EM shall monitor illuminated areas to check that shields are operating as intended and that light is constrained to Project areas and light pollution is minimized.

- Illumination of Project areas shall be minimized (while still achieving safety and security objectives);
- Light spill shall be reduced by pointing lights downward and placing task lighting as close to the work area as possible; and
- Each lighting fixture shall have a shield to prevent side casting light and prevent light from being visible from beyond the Project footprint to the extent practical.

4.7 ELECTRICAL ENERGY SHALL BE CONSERVED, WHERE PRACTICAL. MACHINERY AND EQUIPMENT

Prior to the start of Project construction, the Contractor is required to provide a list of all equipment and machinery to be used onsite during construction, identifying equipment type, fuel type, year of manufacture, and engine power rating.

The following mitigation measures will be implemented to avoid or minimize impacts resulting from operation and storage of equipment during construction activities:

- Offsite maintenance of construction-related equipment should be prioritized before onsite repairs. No onsite equipment maintenance will occur without TDK's prior approval;
- Mobile equipment (e.g., vehicles, concrete trucks, haul trucks) will be refueled, lubricated, and serviced at designated locations, equipped with secondary containment;
- Equipment and machinery shall be in good operating condition and maintained free of leaks, excess oil and grease, invasive species, and noxious weeds;
- Stationary equipment shall be operated on top of a drip tray, and drip trays shall have the capacity to contain any spills or leakage during set-up, operation, and dismantling. Rainfall and hose connections/disconnections shall be taken into consideration when determining the required capacity of drip trays. Total capacity of drip trays shall be a minimum of 110% of potential spill volume;
- Light spill shall be reduced by pointing lights downward, where the direction does not impact safety, and placing task lighting as close to the work area as possible;
- Site refueling procedures will be posted in a visible place where they can be viewed by all operators;
- All operators and designated site personnel shall receive training on proper fuel handling and refueling procedures; and
- Spill containment kits shall be readily accessible both onsite near active works and on each piece of equipment in the event of a release of a deleterious substance to the environment. All members of the Contractor's team shall be trained in the use of spill containment equipment. Any spill of a substance that is toxic, polluting, or deleterious to aquatic life shall be reported as per the reporting procedures described in Section 5.2.

4.8 SURFACE WATER PROTECTION AND EROSION AND SEDIMENT CONTROL

The potential release of sediment and other deleterious substances could lead to water quality, and fish and fish habitat concerns.

Where Erosion and Sediment Control (ESC) measures are required, regular inspections shall verify their proper functioning and compliance with applicable legislation, BMPs and site requirements. The EM shall be responsible for inspecting and reporting on ESC measures installed during construction. Inspection frequencies shall reflect the level of risk, nature, location, and seasonality of the work. ESC measures shall be installed and left in place until disturbed areas have been stabilized. Once work is completed in the area and provided the risk to the environment due to potential release of sediment and other deleterious substances is no longer present, non-biodegradable ESC measures shall be dismantled and removed from site.

Inspections of ESC measures shall occur within 24 hours of heavy and/or prolonged rainfall such as an extreme weather event (defined as >25 mm precipitation within any 24-hour period). If ESC measures are undermined by these such events, the Contractor shall prioritize their maintenance and repair.

Activities that have the potential to cause adverse environmental impacts through surface water runoff and erosion include:

- Site preparation;
- Excavation and grading;
- Handling, transfer, and storage of excavated materials; and
- Accidental releases of hazardous products.

The following mitigation measures to prevent erosion and surface runoff shall be implemented:

- Installation of site-specific ESC measures shall be completed prior to starting works and maintained throughout construction until works are completed;
- Clean surface water shall be diverted around disturbed construction areas, stockpiles and lay down areas (e.g., by installing temporary curbs or swales). Diversion shall avoid significant alteration of pre-existing down slope drainage;
- Site discharge will not exceed the British Columbia Water Quality Guidelines for the Protection of Freshwater Aquatic Life (BCWQG-FAL) and/or Canadian Council of Ministers of the Environment (CCME) Guidelines;
- Erodible soils stockpiled onsite shall be placed so that erosion into the stormwater system is prevented. Methods to prevent erosion may include covering stockpiles with polyethylene tarps and/or placing silt fence around the toe of the stockpile as necessary;
- Roads shall be kept clear of sediment and swept as required to prevent offsite track-out;
- Catch basin protection shall be installed in catch basins on, and adjacent to site where there is the potential for them to be affected by Project works;
- ESC measures shall be inspected, maintained, and updated to account for changing site conditions;
- Appropriate quantities of ESC contingency supplies (e.g., sediment fence, filter cloth, rock, drain rock, staking, matting, polyethylene) shall be readily available onsite to implement and repair ESC mitigation measures as required; and
- Supervisors shall be trained in the use, installation, and maintenance of ESC measures. During activities or periods with high erosion and sedimentation risk, monitoring shall be increased and as necessary, resources shall be diverted for immediate maintenance of the ESC measures.

A site-specific ESC plan shall be developed prior to the commencement of construction.

4.9 SOIL MANAGEMENT

All excavated material will be retained temporarily onsite to be sampled and managed accordingly for re-use onsite or for offsite disposal.

At a minimum, in all areas where soil will be excavated, the Contractor shall use the following measures to manage contamination:

- Excavated soils will be segregated and stockpiled according to anticipated soil contaminant classifications;
- Soil stockpiles stored for an extended period of time will be covered with plastic in an appropriate temporary soil storage area, which has a continuous impermeable surface and appropriate grading to assist in managing run-off during periods of rainfall. The Project will not include any permanent stockpiles;
- Temporary soil storage will be bermed, covered with poly or have sediment fence installed around the perimeter to control any run-off, and have appropriate water control needed as necessary (i.e., pumps and tanks available if needed);
- Stockpiles will be tested to verify soil quality and determine management options (e.g., potential for reuse or offsite disposal); and
- Once soil is classified, soils will be either disposed offsite at an appropriate disposal location (i.e., a permitted site for soils exceeding CCME and/or Contaminated Sites Regulation (CSR) standards, or reused as appropriate based on analytical results, and under the direction of an appropriately trained QEP).

4.10 GROUNDWATER MANAGEMENT

The average depth of the excavation is ~1 m and it is not expected to encounter groundwater. Therefore, no dewatering or discharge of groundwater is expected during excavation.

If groundwater is encountered during utility excavation, it shall be tested to confirm it meets BC WQG-FAL and CCME Guidelines prior to discharge.

4.11 VEGETATION AND WILDLIFE MANAGEMENT

A site survey determined that approximately 8% of the Project site is covered with vegetation, predominantly invasive species, however, no noxious invasive species were observed (i.e., Japanese knotweed). Vegetation is primarily restricted to the perimeter of the site and along fences. No flora or fauna species at risk were observed.

During the field assessment, a bald eagle (*Haliaeetus leucocephalus*) nest was observed approximately 15 m east of the eastern fence line at the south end of the Project site, and a pair of bald eagles were observed perched approximately 80 m southwest from the nest.

The active nests of all raptors are legally protected in BC, and the inactive nests of the bald eagle, golden eagle, peregrine falcon, gyrfalcon, osprey, and burrowing owl are also protected year-round. Prior authorization is required to alter or remove a protected raptor nest tree.

For bald eagles, it is recommended to retain undisturbed natural vegetation within a minimum of 1.5 tree lengths and a 100 m buffer free of human disturbance during the active breeding season (January 1 to August 31) (BC MOE 2013; Develop with Care 2014). If construction occurs within the active breeding season the nest should be surveyed by a Qualified Environmental Professional (QEP) to determine if the

nest is active. A mitigation plan will be prepared if the nest is active, and works are to occur within the buffer during the breeding season.

Potential effects on vegetation and wildlife include the following:

- Wildlife sensory disturbance;
- Wildlife mortality during vegetation clearing; and
- The unintended introduction or spreading of invasive plant species.

4.11.1 Vegetation

Vegetation removal will occur where necessary for works to proceed. Twelve trees are to be removed all within either manicured or paved matrices (i.e., ground cover is mowed lawn or pavement; see Appendix A1 for representative photos). Tree felling will be conducted by a certified arborist. Trees to be removed are primarily pine species (*Pinus sp.)*, western redcedar (*Thuja plicata*) and ornamental species. Mature trees outside of the eastern perimeter (the riparian area of the Fraser River) and along the west side of Cundy Avenue shall be preserved. The following general mitigation measures will be followed in an effort to mitigate disturbance to wildlife and risk of spreading invasive plants during construction:

- Machinery will be inspected and be clean of mud/debris, invasive seeds, and plant material prior to arriving on the Project area;
- Vehicles will be washed at an approved location outside of the Project area, as required;
- Minimize clearing widths by delineation of work areas and site access/egress;
- Avoid or minimize grubbing and use close-cut clearing of temporary workspace to preserve root mats and expedite restoration/revegetation of temporarily cleared areas;
- Machinery will be parked and staged on designated routes to reduce damage to surrounding vegetation; and
- Delineation of construction work areas and access/egress routes to establish “no-go” areas;

4.11.1.1 Invasive Species

Care will be taken to prevent the introduction and spread of invasive species at the Project site, however, no noxious invasives were identified. The following measures will be implemented to control the introduction and spread of invasive species:

- Invasive plants will not be brought onto the Project site from non-Project work sites and equipment will be thoroughly cleaned and inspected prior to mobilization;
- TDK personnel will be trained in the identification of invasive plants, and will report sightings of noxious invasive species to the EM or designate;
- Buffer zones, delineation and protection will be established around noxious invasive plants, such as Japanese knotweed, if observed;

- If noxious weeds are observed, a management plan shall be prepared for review and approval by VFPA;
- All invasive plants and any soil containing invasive weed seeds will be removed from vehicles, equipment and personnel that encounter such materials, prior to leaving the areas where such contact occurred, so that invasive weeds and any soil containing invasive weed seeds are not transported from one area containing invasive weed populations to any other area;
- Control of noxious species shall follow Metro Vancouver's Best Management Practices;
- All identified areas of excavation containing invasive species (i.e., Himalayan blackberry, Scotch broom) will be segregated and transported offsite to an approved facility; and
- Wash water from equipment and vehicles will be contained to prevent seed dispersion.

4.11.2 Wildlife

Project construction could potentially result in human-wildlife interactions through the improper management of wildlife attractants, such as food scraps and garbage. Given the relative absence of wildlife habitat within the Project site, impacts are expected to be minimal provided the mitigation measures described herein are followed:

- Clearing will be planned to occur outside the general songbird nesting season (March 15 – August 31). If clearing during that period is unavoidable, nesting bird activity surveys will be conducted especially in small trees and shrubs (e.g., Himalayan blackberry (*Rubus armeniacus)* and scotch broom (*Cytisus scoparius*)*)*. Should an active nest be discovered, a buffer will be established around the nest to protect the nest and allow construction activities to proceed outside the buffer. As determined by a wildlife biologist QEP, the appropriate buffer will be established and maintained until the nest is no longer active.
- Surveys will be conducted January 5 to August 31 as per the Guidelines for Raptor Conservation to assess activity at the bald eagle nest located approximately 15 m east of the eastern fence line at the south end of the Project site (MFLNRO 2013). Specifics about identifying occupancy and buffers are provided in section 4.11.4Food, food wastes and other wildlife attractants shall be stored in a manner that is not readily accessible to wildlife in a wildlife-proof container or inside a trailer or seacan.
- Feeding of wildlife will be prohibited onsite.
- Should a rare or sensitive species be identified at the Project site at any time during the Project, the EM should be notified immediately for further direction.
- Environmental incident reporting will be carried out for incidents that pose or may pose a threat to disruption or destruction of wildlife.

4.11.3 Barn Owl

Barn owl (*Tyto alba*) feed on small mammals, particularly voles, and require open habitats including grasslands, meadows, agricultural land, and grassy marshes that will support a healthy small mammal

population (BC CDC 1995; BC MoE 2013; BC MoE 2014). Barn owl are heavily associated with agricultural lands and predominantly nest in human-made structures like barns, silos, hangars, and water towers (BC CDC 1995; BC MoE 2013; BC MoE 2014). Natural nesting sites include cracks in cliffs, as well as cavities in dead or live black cottonwood, Douglas-fir, bigleaf maple (*Acer macrophyllum*), and western redcedar (BC MoE 2014).

The Western Population of barn owl is listed as threatened on SARA Schedule 1 and is provincially blue-listed (BC CDC 2022). The Project site occurs within a detailed unit polygon within which critical habitat is found (ECCC 2022).

In the barn owl western population recovery strategy Environment and Climate Change Canada (2022) defines barn owl critical habitat as:

- Foraging habitat (Merkens 2004 and S. Hindmarch, pers. comm. 2013 as cited in ECCC 2022):
    - Grass fields and/or naturalized meadow habitat;
    - Foreshore and marshland habitat;
    - Open fields associated with agriculture (ideally rough pasture, non – intensively managed hayfields);
    - Grassy ditches/margins between fields, and along pre-existing roads and railway tracks;
    - Remnant linear strips (i.e., minimum 3 m wide) or patches of grass and/or green space in semi-urban to turban landscapes[1]; and
    - Availability of small mammal prey.
- Nesting and roosting habitat (Andrusiak 1994, COSEWIC 2010, S. Hindmarch, pers. comm. 2013; and Huang et al. 2016 as cited in ECCC 2022):
    - Structures that have an elevated cavity or partially-enclosed space that is accessible through an entry hole at least 15 cm in diameter, including:
        - Natural structures, including but not limited to: dead trees and live trees with existing cavities (Marti et al. 2005 as cited in ECCC 2022), including live and dead black cottonwood, live and dead Douglas-fir, live bigleaf maple, and dead western redcedar; and, the area within 25 m of the base of the tree in order to maintain its function (e.g., protect the roots of the tree to maintain its stability); and
        - Anthropogenic (human-made) structures that support known nest site locations, including but not limited to: nest boxes, platforms in barns, silos, hangars, water towers, bridges/overpasses, attics, crevices between stacked hay bales, and behind insulation in buildings.

Areas within delineated critical habitat polygons which do not the attributes defined above are excluded from identification as critical habitat. “Excluded areas include (but are not limited to): running surfaces of existing roads, parking lots and gravel pits, permanent waterbodies, and active aerodrome areas that are,

[1] Not including mowed lawn.

and will continue to be, actively managed to dissuade the Barn Owl for aviation and public safety purposes" (ECCC 2022).

The Project site is primarily paved and gravel with some lawn along the roads but little to no vegetation present in the main container yard. These areas would be excluded from identification as critical habitat as defined in the recovery strategy. Anthropogenic structures on the Project site do not possess features needed for roosting or nesting (see Appendix A1 for representative photos). Mature trees which include black cottonwood and Douglas-fir that are present along Cundy Avenue and outside of the Project Site along the Fraser River that may provide roosting habitat are not being impacted by the Project. Barn owl require habitats suited for their hunting strategy. This species flies low (1 to 2 m above the ground) and requires open habitats (ECCC 2022). Blackberry bushes, which are a dominant species on the Project site, are considered a hindrance to barn owl's ability to hunt (ECCC 2022). Most of the site has obstructions such as buildings, fences, and stacked containers (see Appendix A1 for representative photos). These obstacles along with the presence of dense blackberry along site margins makes the Project site unsuitable for hunting.

Project works are unlikely to result in the destruction of critical habitat as areas where works will occur do not include the biophysical attributes associated with suitable barn owl foraging, nesting, or roosting habitat. However, a permit under SARA will be submitted in order to confirm whether the Project works will result in the destruction of critical habitat.

4.11.4 Eagle Nest

In the Lower Mainland, bald eagles build and repair their nests in January and begin egg-laying in February and March. Incubation takes approximately 35 days, and the chicks fledge after approximately 12 weeks (MFLNRO 2013). Adults oversee and defend flying eaglets for an additional week or two before abandoning their young. In urban areas, bald eagle nests may be active until the end of August.

Although bald eagles have moderate-high tolerance of human activity, they are particularly sensitive to disturbance during the courtship and nest initiation stage (MFLNRO 2013). The BMPs recommend establishing a permanent no-disturbance buffer (1.5 tree lengths) around the nest site, with an additional 100 m quiet buffer during the breeding season (i.e., January 05 – August 31). This buffer should be established by a QEP to minimize the risk of nest abandonment and the death of eggs and/or eaglets.

To assess occupancy status, bi-weekly surveys should be conducted as of January 5. Each survey will consist of a two-hour standwatch starting ½ hour before sunrise, followed by a nest tree inspection for indirect evidence of eagle use if no adults were observed. A nest is considered active when egg-laying has been initiated. Indirect evidence of nesting includes the presence of new nesting materials, fresh whitewash below the nest, and/or prey remains. Once occupancy has been confirmed, and the 100 m quiet buffer implemented, surveys can be concluded. If direct or indirect evidence of nesting is not documented by the end of March, the nest can be considered inactive for the season and surveys concluded.

If the bald eagle nest is considered active and the established buffer cannot be avoided during the breeding season, the QEP may develop and implement a site-specific management plan. This should include, but not be limited to, the following measures:

- Determine baseline noise levels prior to construction;
- Identify works that will exceed baseline noise levels;
- Monitor the bald eagle nest on construction days, at least three days a week from onset of nesting behaviour through the fourth week post-hatching;
- Monitor the bald eagle nest on construction days, at least one day a week from the fifth week post-hatching;
- Always monitor on days when proposed works are anticipated to exceed baseline noise levels;
- Monitor for a four-hour standwatch starting ½ hour before sunrise;
- Identify bald eagle responses that indicate agitation; and
- The QEP has the authority to pause works that are causing disturbance.

4.12 CONCRETE MANAGEMENT

The following mitigation measures will be used to manage construction affected water (contact water) during construction at the Project site:

- Works involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials will not deposit (directly or indirectly) sediments, debris, concrete, concrete fines, wash or contact water into or about any watercourse.
- Containment facilities will be constructed for the wash-down water from concrete pumping equipment, and other tools and equipment if applicable (use of wash pits should be avoided).
- Concrete truck wash water will not be discharged directly to ground. Chutes will be washed through truck wash systems and washings put back into the truck.
- High pH water that could flow from areas where pours, green cuttings, and other concrete works are recent or ongoing will be collected and treated and, as required prior to discharge.
- In the event of spills of sediments, debris, concrete fines, wash or contact water, the Contractor shall remove the materials, and implement emergency mitigation and clean-up measures as per the Spill Response Plan (refer to Section 6.3).
- Uncured concrete will be covered with polyethylene sheeting or tarps to protect it from the rain.
- Raw or uncured cementitious materials will be properly disposed in a manner that does not affect watercourses.
- Waste concrete will be disposed at an approved offsite facility.

4.13 WASTE MANAGEMENT

Hazardous and non-hazardous wastes potentially generated by the Project include:

- Garbage (e.g., waste food, paper and other garbage produced by the Project site workers);

- Other non-hazardous solid waste;
- Waste petroleum products (engine oils, lubricants, filters, etc.) from machinery and equipment;
- Batteries and battery fluid; and
- Oily rags or sorbents containing flammable liquids.

4.13.1 General

The following mitigation measures will be implemented to reduce the effects of waste materials generated onsite:

- Applicable legislation with respect to the handling, transportation, and/or disposal of materials related to the Project works shall be adhered to. These regulations may include (but not be limited to) the BC Hazardous Waste Regulations, Spill Reporting Regulations, Workers Compensation Board Regulations, Transportation of Dangerous Goods Regulations, etc.;
- Properly labeled separate containers for hazardous wastes shall be provided, such as for oily rags and hydrocarbon absorbing pads;
- Hydrocarbon products and other hazardous wastes potentially present during project activities should be identified, and the associated Workplace Hazardous Materials Information System (WHMIS) and Safety Data Sheets (SDS) made available to all construction team members;
- Hazardous waste shall be disposed of at appropriately licenced offsite facilities;
- Recyclable or compostable materials shall be collected separately from general waste as per Metro Vancouver Regional District requirements;
- Debris and waste materials resulting from the Project will be contained in the immediate working area and will be removed in a timely manner;
- Specific locations for waste collection and sorting will be identified by the Contractor before the start of construction and communicated to employees;
- Waste material will be stored in a manner that is secure and protected from the elements;
- Any refuse containers that are damaged or leaking will be repaired or replaced;
- No burning of wastes will be conducted onsite;
- All temporary sanitary facilities will be self-contained with no septic fields. Portable sanitary facilities will be located away from the aquatic environment, on flat ground, in an area that is protected from damage resulting from construction activities, vandalism, or environmental factors. Sanitary facilities will be regularly maintained by an approved operator for disposal (e.g., vac truck) offsite; and
- Records of offsite waste disposal shall be maintained. Records shall indicate volumes and dates of waste materials removed from the Project site and will be kept onsite.

4.13.2 Non-Hazardous Waste

Project construction may generate non-hazardous waste. The following mitigation measures are recommended to reduce the potential for the release of non-hazardous waste materials to the environment:

- Littering shall be prohibited on the Project site. Measures shall be implemented to prevent and control litter;
- All recyclable or compostable materials shall be collected separately from general waste as per City of Delta requirements;
- Designated areas and repositories shall be labeled for all recyclable and non-recyclable wastes. Construction personnel shall be trained in determining whether wastes can be recycled onsite, offsite or must be disposed of as wastes. Labeling of waste containers shall include a description of what materials are and are not accepted in each container;
- Cigarettes shall be discarded in an appropriate receptacle in designated smoking areas and not be left or buried on the Project site, as per existing TDK requirements;
- Food and food wastes shall be stored in a manner that is not readily accessible to wildlife. All food and other wildlife attractants, which may contain any substance with a strong smell, shall be stored appropriately in a wildlife-proof container or building and removed from the Project site at the end of each day. Feeding of wildlife shall be prohibited on Project site;
- Regular disposal or recycling shall be carried out at a frequency sufficient to prevent accumulating large quantities of waste. All solid waste shall be handled in accordance with applicable municipal, provincial, and federal regulations and disposed of at an authorized receiving facility. All materials shall be transported in accordance with the Transportation of Dangerous Goods Act and regulations and the BC Hazardous Waste Regulations; and
- Records indicating volumes and dates of non-hazardous waste materials removed from the Project site and sent to offsite disposal facilities shall be kept on the Project site. Waste materials generated that do not pose a risk to contamination of the Project site shall be reused where possible. Non-hazardous waste materials generated on the Project site that cannot be reused shall be recycled at an approved facility, where practicable.

4.13.3 Hazardous Waste

Project construction may generate hazardous waste including concrete and concrete-laden water, waste oils, chemical wastes, and used absorbent materials and filters.

The following mitigation measures are recommended to reduce the potential for the release of hazardous waste materials to the environment:

- Workers handling hazardous wastes shall be appropriately trained in handling, storage, and disposal methods;

- Hazardous wastes shall be managed, transported, labeled, stored, and disposed of according to the BC Hazardous Waste Regulations via licensed transportation and disposal facilities;
- Hazardous wastes shall be segregated from non-hazardous wastes and stored and transported in a manner that prevents incompatible materials from being mixed. Wastes contaminated with flammable liquid shall not be mixed with wastes contaminated with oil;
- Each container or area used to store hazardous waste shall be clearly labeled as containing hazardous waste and shall be equipped with adequate secondary containment that holds 110% of the volume of the largest tank or container, or 110% of the total volume of all containers, whichever is greater. Hazardous waste containers shall be kept closed except when being filled or emptied;
- Hydrocarbon products and other hazardous wastes potentially present during Site activities shall be identified and the associated WHMIS and SDS made available to the construction crew;
- Hazardous waste containers shall be labeled and stored in accordance with all requirements of the *Transportation of Dangerous Goods Act* and *Workers Compensation Act* (WHMIS and SDS labeling requirements);
- Waste rags and sorbents shall be stored in containers with self-closing lids, with the bottom of the container raised and vented;
- Used oil and antifreeze shall be collected by the BC Used Oil Management Association;
- If necessary, hazardous waste shall be temporarily stored in designated, secure areas with secondary containment and protected from the weather. The storage areas shall be located at least 30 m away from the Fraser River; and
- Spills of hazardous materials shall be cleaned up and immediately reported to the EM and appropriate regulatory agencies as required.

4.14 FUEL MANAGEMENT

The Contractor will be responsible for fuel and fuel management in regard to their scope and activities for the Project. The following mitigation measures are recommended to reduce the risk and potential environmental effects from the handling, transportation, and storage of fuels:

- All fuel dispensers shall be designed to meet the statutory regulations and recommended practices described in *A Field Guide to Fuel Handling, Transportation and Storage* (BC MOWLAP 2002);
- Specific locations for equipment re-fueling shall be identified before the start of construction and should be located as far as possible from the Fraser River and communicated to employees in the pre-work environmental orientation training session;
- All operators shall stay with the fuel nozzle while refueling. Ignition shall be turned off while the vehicle, equipment, or machinery is being refueled. The operator shall immediately shut off the source if a spill occurs;
- Fuel storage tanks shall include secondary containment capable of containing 110% of the volume of the largest tank. Containment areas shall be designed so that containment shall remain effective

in all weather conditions. Precipitation shall be prevented from accumulating within fuel containment areas. Tanks shall be physically protected from collision;

- All fuel storage tanks shall be Canadian Standards Association approved and shall comply with the statutory regulations and recommended practices described in *A Field Guide to Fuel Handling, Transportation and Storage* (BC MOWLAP 2002);
- Container materials and the hazardous materials shall be made of compatible materials. The container material must not react with the hazardous substance. Only containers that are in good condition shall be used;
- All necessary equipment to clean and mitigate spills, including fire prevention equipment, shall be stored in or near the storage area;
- Fuel and chemical storage locations shall be inspected daily for leaks, spills, and obvious abnormal conditions. Any leakage shall be repaired immediately;
- Smoking shall be prohibited in and around explosive, oxidizing, reactive, or flammable hazardous materials handling areas;
- Fire-fighting equipment shall be kept at oxidizing, reactive, or flammable hazardous substance handling areas;
- All servicing and refueling areas shall be kept tidy, with materials stored appropriately in accordance with all environmental laws and guidelines;
- Containers for the transportation of fuel shall be labeled to communicate the hazard the material represents, made of a material that is compatible with the transported fuel, and in good condition;
- Vehicles for the transportation of fuels shall be labeled to communicate the hazard the material represents. Hazardous materials shall be transported by appropriately licensed transporters;
- Fuels shall be transported separately from other hazardous or non-compatible materials; and
- Transport containers shall be properly secured and sufficiently spaced to allow safe access and handling of containers.

4.15 FIRE SAFETY

The Contractor will be responsible for providing a detailed construction fire safety plan.

Emergency access points to the Project site during construction will depend on the phasing of construction and may change during the sequencing of Project works. The Contractor will need to note site access for emergency vehicles and internal routing within the phased Work Plans.

4.16 ARCHAEOLOGICAL RESOURCES

On behalf of TDK, Terra Archaeology conducted an Archaeological Overview Assessment of the Project site.

A pre-construction Archaeological Impact Assessment (AIA) in the form of archaeological monitoring concurrent with ground-altering activities was recommended by Terra Archaeology where disturbances

would extend beyond the depth of fill. Before ground disturbance begins the area shall be surveyed and works monitored by a professional archaeologist.

Terra Archaeology will develop an Archaeological Chance Find Procedure as per the VFPA guidance (2021). If a suspected archaeological or heritage resource or site is found, the person who made the find will immediately stop work and report it to the professional archaeologist and/or site supervisor. If a site is found it will be staked or flagged immediately, and no further work is to proceed in this area, to prevent additional disturbance. TDK will also communicate the find to VFPA.

Any found artifact must not be removed from the Project site until proper procedures have been implemented by a professional archaeologist. Should suspected human remains be discovered, procedures would follow the Archaeology Branch Policy Statement “Found Human Remains” (Archaeology Branch 1999). Local law enforcement will also be informed in the event of found human remains.

5.0 ENVIRONMENTAL MONITORING AND REPORTING

5.1 ENVIRONMENTAL MONITORING

Environmental monitoring is essential for effective implementation of the CEMP. Environmental monitoring will be carried out on a regular basis by the EM, at a frequency suited to the level of environmental risk of the work being completed. Environmental risk will be assessed by considering such factors as: type of construction (e.g., type of equipment, scale, intensity), and weather. The EM will check, evaluate, and report on the onsite implementation of environmental mitigation measures, throughout Project construction.

Examples of activities or facilities to be monitored by the EM during construction include but are not limited to:

- Erosion and Sediment Control – Check mitigation measures used to remove, handle and store soil and other construction-related aggregates;
- Surface water quality monitoring – Check water quality prior to discharge from site;
- Materials Storage and Handling – Check activities relating to the handling, storage, transportation and disposal of waste, Hazardous Waste, fuels, and chemicals. Check that all onsite personnel are aware of the potential environmental impacts associated with spills of hazardous or harmful substances and of regulatory requirements under the *Environmental Management Act's* Spill Reporting Regulation, Hazardous Waste Regulation, and other applicable regulations. Periodically check onsite spill response materials and equipment and evaluate the Contractor's spill response readiness;
- Air Quality and Noise and Vibration Levels – Conduct qualitative monitoring of dust, exhaust systems and noise and vibration levels associated with the operation of construction machinery and equipment; and
- Construction Vehicles and Equipment – Conduct visual checks to ensure that all machinery used onsite is maintained in good repair, free of external oil and grease and that any spills or leaks from machinery are immediately cleaned up and the clean-up materials removed offsite to an approved disposal facility. Periodically inspected construction vehicles and equipment to ensure that they are equipped with spill kits and that the operators know how to respond in the event of a spill.

At a minimum, the EM will make at least weekly site visits to the Project site during active construction. Monitoring intensity will increase following a rainfall event, or if there is a suspected non-compliance. Site inspections will verify proper functioning of the mitigation measures and compliance with applicable legislation and regulation, the CEMP, and other requirements.

Monitoring of the efficacy of Erosion and Sediment Control (ESC) measures will occur immediately following a heavy and/or prolonged rainfall such as a severe rainfall event (defined as ≥25 mm precipitation within any 24-hour period). If ESC measures are undermined by such events, construction personnel will prioritize their maintenance and repair.

Key responsibilities of the EM, as relating to water quality monitoring are:

- If water discharge is to occur, monitor water quality through in-situ sampling for turbidity and pH of site run-off or other construction affected discharge into the stormwater system;

- Sample for and analyze Total Suspended Solids, as required based on visual observation or high turbidity readings of site run-off or other construction affected discharge; and
- Sample for and analyze hydrocarbons as required if observations of hydrocarbon sheen(s) are observed or following an accidental spill of hydrocarbons.

5.2 REPORTING

Environmental monitoring reports will be completed and submitted, as required by permit and contractual requirements. Routine environmental monitoring reports, completed by the EM, will include, at a minimum, the following information:

- Name(s) of Environmental Monitor(s);
- Period covered by the report;
- Contractor(s) undertaking work during the reporting period;
- Overall weather conditions during the reporting period;
- Description, photos, and status of Project work activities;
- List of meetings and any other material communications (both those that occurred during the reporting period and any that are scheduled or anticipated in future reporting periods) and a summary of key issues discussed or expected to be discussed;
- A summary of environmental incidents that occurred during the reporting period;
- A description of environmental issues and/or non-compliance with environmental laws, permits, or other environmental obligations and corrective actions taken or planned;
- A summary of any environmental monitoring data collected, and all results received during the reporting period, including water and sediment sampling; and
- An organized checklist or table of key mitigation requirements of the CEMP – including those of VFPA and other agencies – to verify implementation and effectiveness at the relevant stages of the Project.

5.3 INCIDENT REPORTING

Environmental incident reporting shall be carried out for incidents that pose or may pose a threat to the environment, such as spills, death of fish, or disruption or destruction of fish habitat. Spills may be reportable to EMBC under the Spill Reporting Regulation and/or the Transportation of Dangerous Goods Act. In addition, spills of any volume to fish-bearing waters must be reported to Fisheries and Oceans Canada (DFO). Spills must be reported to the TDK EH&S Supervisor or designate.

An Environmental Incident Report shall be generated for any of the following occurrences:

- Spills reportable to EMBC;
- Spills of any amount that has the potential to reach the Fraser River through the stormwater system;
- Any incident that poses a safety or health risk, including but not limited to vehicle collisions and fire;
- Any repetitive occurrence of an environmental non-conformance;
- Adverse publicity with respect to the environment; and
- Alteration or damage to archaeological resources.

6.0 EMERGENCY RESPONSE

6.1 EMERGENCY COMMUNICATION

Clear and rapid communication is essential during emergency situations. Table 3 contains contact information for all parties who are responsible for the project or are critical to the response or reporting of accidents or environmental emergencies.

Table 3 Emergency response contact numbers.

Nature of Incident/Emergency	Authority/Company Name	Contact
Emergency Services	Emergency Services	911
	RCMP	911 / 604-946-4411
	Royal Columbian Hospital	911 / 604-520-4253
	Local Fire Department-Delta Fire Department	911/ 604-946-8541
	Ambulance	911
	Delta Emergency Management Office	604-946-8541
TDK's Emergency Contacts	Security	WG Security / 604-617-7020
	First Aid	Kevin Irwin / 604-515-4864
	Operations	Neil Kumar / 604-515-4864
	Maintenance	Neil Kumar / 604-515-4864
	Environment	Tish Kumar / 604-515-4806
Reportable Spills under EMA and Spills to Water	Emergency Management BC	1-800-663-3456
Spills to Water Having Potential to cause Death of Fish or HADD	DFO	1-866-845-6776
Spills to the Aquatic Environment	Canadian Coast Guard	1-800-889-8852
Spills of Hazardous Material or environmental emergency	EMBC	1-800-663-3456
	Emergency Services	911
	Canadian Transport Emergency Centre (CANUTEC)	613-996-6666 or *666 on a cell phone
Chance Find of Archaeological Materials	VFPA PER Hotline	604-665-9047 PER@portvancouver.com
	Project Archaeologist	Terra Archaeology 604-271-0182
Environmental Incidents	Tsleil-Waututh	referrals@twnation.ca
	Musqueam referrals	referrals@musqueam.bc.ca
Operations Centre	VFPA	604-665-9086

6.2 EMERGENCY RESPONSE PLAN

Emergency response equipment shall be stored in clearly signed, easily accessible and identified locations. Spill containment and clean-up supplies shall always be made available onsite including during non-operating hours. Details of reportable volumes of substances and agency reporting procedures, along with a list of emergency contacts, are outlined in the Spill Response Plan (Section 6.3).

The EM must be notified of all environmental emergencies, including spills, releases, or compliance incidents. The EM will assess and record all incidents and determine appropriate action. All significant spills will be reported to EMBC and the VFPA Operations Centre. All environmental incidents must be immediately reported to TDK.

Emergency response equipment shall be appropriate to the situation and could include, but is not limited to:

- Emergency kits (e.g., spill kits, earthquake kits, first-aid, etc.) and hazard-specific personal protection equipment (e.g., flame resistant clothing, rubber gloves for electrical work, fall arrest harness, respirators, etc.);
- Fire alarm systems, gas detectors, and firefighting equipment;
- Emergency backup generators, as required, located at critical facilities that require power to prevent injury to workers and impact to property and the environment (e.g., pumps, communications systems etc.);
- First aid equipment, attendants, and supplies. Minimum levels of first aid equipment, first-aid attendants, supplies, services, and facilities in accordance with WorkSafe BC guidelines; and
- Clean-up materials and equipment.

Procedures and schedules for the maintenance and replacement of emergency equipment (e.g., fire extinguishers, ladders, emergency earthquake kit, etc.) shall also be provided.

6.3 SPILL RESPONSE PLAN

The following spill response procedures have been developed to be undertaken for the construction of the Project. All spills, regardless of type or volume, are to be reported to the EM and TDK immediately.

6.3.1 Spill Prevention and Contingency

The following mitigation measures shall be implemented to avoid or reduce the potential for spills because of Project construction activities:

- Potentially hazardous materials shall be identified onsite, including fuels, oils, lubricants, and other harmful substances. SDSs shall be kept onsite and made available to construction personnel;
- Work shall be planned to reduce the potential for spills to land, or the aquatic environment;
- TDK personnel and sub-contractors shall be trained in environmental awareness, spill containment, response, and reporting procedures;
- Pre-job meetings shall be held to identify materials of a deleterious nature that could be spilled and the locations of spill response materials onsite;

- An environmental reporting and emergency contact list with up-to-date contact numbers and emergency/spill response procedures shall be posted at the Project site offices and be accessible to personnel. Locations of additional fuel oil recovery, cleanup, restoration, and disposal equipment shall be posted at the Project site office in case of a spill emergency;
- Appropriate spill contingency and response material shall be available onsite and specified in Work Plans based on type and location of works;
- Spill kits shall be properly stocked and located near active work areas and where hazardous substances are stored or in use for ready deployment in the case of spills of hydrocarbon products;
- Construction equipment shall be equipped with easily accessible spill kits, and operators trained on how to use them;
- Drip trays shall be placed under all inactive equipment left unattended for greater than 24 hours;
- Fuelling of equipment, including storage and handling of petroleum products (e.g., fuel, oil, lubricants), shall be conducted in an appropriate manner and in compliance with applicable guidelines, legislation, and BMPs to avoid spills to the environment; and
- If contaminated or sediment-laden water escapes from a containment area, spill containment measures shall be undertaken. Runoff shall be diverted away from the failed structure and the affected area. An emergency berm shall be constructed to trap the flow. The impact of the event shall be assessed, and remedial actions may be required.

6.3.2 Spill Response Procedures

Spill prevention and response procedures will vary based on the quantity, type, and location of the substance and/or spill. Spills of flammable liquids, hydrocarbons, and oils >100 L are reportable to EMBC. Reportable volumes to EMBC under the EMA and/or the *Transportation of Dangerous Goods Act* (TDG) for various substances are outlined in Table 4. Spills may result from ruptures or malfunctions of diesel or oil storage tanks used during construction, leaking equipment, and other sources.

Table 4 Hazardous Substances and Quantities Reportable to EMBC under the BC *Environmental Management Act* and/or the *TDG Act.*

	Substance Spilled	Specified Amount
1	Class 1, Explosives as defined in section 2.9 of the Federal Regulations	Any quantity that could pose a danger to public safety or 50 kg
2	Class 2.1, Flammable Gases, other than natural gas, as defined in section 2.14 (a) of the Federal Regulations	10 kg
3	Class 2.2 Non-Flammable and Non-Toxic Gases as defined in section 2.14 (b) of the Federal Regulations	10 kg
4	Class 2.3, Toxic Gases as defined in section 2.14 (c) of the Federal Regulations	5 kg
5	Class 3, Flammable Liquids as defined in section 2.18 of the Federal Regulations	100 L
6	Class 4, Flammable Solids as defined in section 2.20 of the Federal Regulations	25 kg

Table 4 (Cont'd.)

Substance Spilled		Specified Amount
7	Class 5.1, Oxidizing Substances as defined in section 2.24 (a) of the Federal Regulations	50 kg or 50 L
8	Class 5.2, Organic Peroxides as defined in section 2.24 (b) of the Federal Regulations	1 kg or 1 L
9	Class 6.1, Toxic Substances as defined in section 2.27 (a) of the Federal Regulations	5 kg or 5 L
10	Class 6.2, Infectious Substances as defined in section 2.27 (b) of the Federal Regulations	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
11	Class 7, Radioactive Materials as defined in section 2.37 of the Federal Regulations	Any quantity that could pose a danger to public safety and an emission level greater than the emission level established in section 20 of the "Packaging and Transport of Nuclear Substances Regulations"
12	Class 8, Corrosives as defined in section 2.40 of the Federal Regulations	5 kg or 5 L
13	Class 9, Miscellaneous Products, Substances or Organisms as defined in section 2.43 of the Federal Regulations	25 kg or 25 L
14	Waste containing dioxin as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
15	Leachable toxic waste as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
16	Waste containing polycyclic aromatic hydrocarbons as defined in section 1 of the hazardous Waste Regulation	5 kg or 5 L
17	Waste asbestos as defined in section 1 of the Hazardous Waste Regulation	50 kg
18	Waste oil as defined in section 1 of the Hazardous Waste Regulation	100 L
19	Waste containing a pest control product as defined in section 1 of the Hazardous Waste Regulation	5 kg or 5 L
20	PCB Wastes as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
21	Waste containing tetrachloroethylene as defined in section 1 of the Hazardous Waste Regulation	50 kg or 50 L
22	Biomedical waste as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
23	A hazardous waste as defined in section 1 of the Hazardous Waste Regulation and not covered under items 1 – 22	25 kg or 25 L
24	A substance, not covered by items 1 to 23, that can cause pollution	200 kg or 200 L
25	Natural gas	10 kg, if there is a breakage in a pipeline or fitting operated above 100 psi that results in a sudden and uncontrolled release of natural gas

6.3.2.1 For Spills Above Spill Reporting Regulations, Reportable Under EMA

1. Make the area safe;
2. Call for assistance from co-workers / Supervisor / Safety Department or TDK;
3. Stop the flow (where possible and safe to do so);
4. Contain the spill; and
5. Clean-Up:
    - The details of the spill are to be reported to the EM, TDK, and EM;
    - The Contractor the EM, and TDK shall coordinate spill clean-up;
    - Additional assistance on clean-up procedures and residue sampling shall be available from the EM as required;
    - Clean the affected area(s), including confirmatory testing of the cleaned area(s);
    - Remove impact/debris and decontaminate any equipment or tools used during clean-up;
    - Dispose of waste materials at an approved disposal facility in compliance with the BC EMA and Hazardous Waste Regulations;
    - Dispose of all materials used in the clean-up (e.g., used sorbents, oil containment materials, etc.) in accordance with the above regulatory requirements; and
    - Treat and dispose of contaminated material in compliance with the BC EMA, CSR and Hazardous Waste Regulations.

6.3.2.2 For Spills Below Spill Reporting Regulations, that are Non-Reportable under EMA

All spills, regardless of type or volume are to be reported to the EM, TDK Project Manager, and TDK EH&S Supervisor. The EM shall provide recommendations on appropriate clean-up and disposal of potentially contaminated materials.

Remove contaminants by implementing the following measures:

- Remove the impact/debris; decontaminate any equipment or tools used in the cleanup;
- Clean up the affected area, including confirmatory testing on the cleaned area; and
- Dispose of waste materials at an approved disposal site.

6.3.3 Spill and Incident Reporting

Spills are reportable to EMBC under the EMA Spill Reporting Regulation and/or the *Transportation of Dangerous Goods Act*, as outlined in Table 4. Spills of hazardous substances of any volume to a waterbody are also reportable to EMBC and DFO. The requirement to report a spill of a harmful substance of any quantity also includes those that enter a ditch that is not self-contained and connects to a body of water. Contact numbers for spill reporting are in Table 3.

A detailed environmental report shall be filed with Provincial and/or Federal government and regulatory agencies as required by the BC Spill Reporting Regulation and Federal regulations, following cleanup of an environmental incident that warrants contact with the government.

7.0 REFERENCES

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Appendix A1

Photos

Photo 1 The corner of Cundy Avenue and Audley Boulevard observed with manicured lawn and trees. (2022-10-18)

Photo 2 Trees surrounded by paved substrate adjacent to the warehouse along Cundy Avenue that are slated for removal. (2022-10-18)

Photo 3 Young trees and shrubs observed growing along an interior fence line on the east side of the property. Mature black cottonwood in background will be preserved. (2022-10-18)

Photo 4 Trees adjacent to Cundy Avenue will be preserved. (2022-10-18)

Photo 5 Anthropogenic structures on the property. No evidence of nesting birds was observed. (2022-10-18)

Photo 6 Interior of main warehouse on the property. No evidence of nesting birds was observed. (2022-10-18)

Photo 7 Representative conditions within the container yard. (2022-10-18)

Photo 8 Scotch broom and Himalayan blackberry observed growing along the southern exterior fence line. (2022-10-18)