PORT METRO vancouver

PROJECT PERMIT NUMBER 2013-091

DATE OF APPROVAL	**April 24, 2014**
APPLICANT	**Pacific Coast Terminals Co. Ltd.**
ADDRESS OF APPLICANT	**2300 Columbia Street, Port Moody**
PROJECT LOCATION	**2300 Columbia Street, Port Moody**
PROJECT TITLE	**Wastewater Treatment Facility**

PROJECT DESCRIPTION

For the purposes of this Permit, the Project is understood to include the following "Works" on Vancouver Fraser Port Authority property:

- The construction of a 15 m diameter x 5.5 m tall recycled water treatment clarifier;
- The construction of a 13 m long x 10 m wide x 5 m tall single-story building (approx. 130 square metres) that will house electrical equipment, water treatment equipment and sludge handling equipment;
- The construction of pump stations:
  - A pump station with two 25 HP pumps that will pump wastewater from an existing wastewater treatment basin to the clarifier.
  - A pump station with two 50 HP pumps that will pump wastewater from the clarifier to two existing wastewater storage tanks for either recycling or disposal to the Metro Vancouver sanitary sewer;
  - A stormwater pump station with two 3.4 HP pumps;
- The construction of above-ground and underground wastewater piping;
- The relocation of underground fire-water piping and underground recycled water piping;
- Power and instrumentation cabling for the works described above.

GENERAL CONDITIONS OF APPROVAL:

1. This Permit is conditional on a valid tenure agreement with respect to the subject premises being in place. NO CONSTRUCTION MAY COMMENCE IN THE ABSENCE OF A VALID TENURE AGREEMENT;

2. This Permit is granted subject to the fulfillment of all other requirements of the Vancouver Fraser Port Authority (VFPA), doing business as Port Metro Vancouver, relating to the Project, and subject to all applicable laws and other necessary approvals being obtained. Prior to commencing construction the Applicant shall ensure that it has complied with all necessary legal requirements and that all necessary regulatory approvals have been obtained. Furthermore, the issuance of the VFPA Project Review Permit does not preclude compliance with the regulatory processes and requirements of any other applicable agencies;

3. This Permit in no way endorses or warrants the design, engineering, or construction of the construction works contemplated under this Permit and no person may rely upon this Permit for any purpose other than the fact that VFPA has permitted the contemplated construction works to commence, subsequent to the issuance of this Permit, in accordance with the terms and conditions of this Permit;

4. In consideration of the granting of this Permit by VFPA the Applicant agrees to indemnify and save harmless VFPA against any and all actions, claims, loss, damages or other expenses in any way arising or following from or caused by the granting of this Permit or the construction of any works as contemplated by this Permit;

5. Development shall be generally in accordance with the application submitted by Mr. Kent Smith of Pacific Coast Terminals Ltd. on July 8, 2013, including the attached drawings titled, numbered and dated:
   - "Recycled Water Upgrade – General Scope of Work" No. G-1001 Unrevised, by Kerr Wood Leidal, dated January 28, 2014;
   - "Recycled Water Upgrade – Architectural Plan" No. A501 Revision 2, by Kerr Wood Leidal, dated September 23, 2013; and
   - "Recycled Water Upgrade – Building Elevations" No. S192 Revision 1, dated July 24, 2013

6. The Applicant shall adhere to the conditions listed on the attached VFPA Schedule of Environmental Conditions numbered 13-091;

7. No works shall create any cross-connections or backflows that could potentially introduce contaminants into the City of Port Moody's public drinking water system. Prior to commencement of any new water services which connect to the City system, the Applicant shall install a Reduced Pressure Principle Backflow (RP) preventer and provide the City with a testing and inspection report issued by a certified tester. Installation and certification shall be in compliance with CSA B64.10-07/B64.10.1-07 *(Selection and Installation of Backflow Preventers/Maintenance and Field Testing of Backflow Preventers)*;

8. The Applicant is responsible for locating all existing site services and utilities including any located underground and the Applicant shall ensure that these services and utilities are protected during construction and operation of the Project. The Applicant is responsible to employ best practices and meet applicable code requirements with respect to protection of existing site services and clearance between existing and proposed site services. The Applicant is responsible for repair or replacement of any damage to existing site services and utilities, to the satisfaction of VFPA, that result from construction and operation of the Project;

9. Details of any significant proposed changes to the Project or relating to the application must be submitted to VFPA for consideration of an amendment to this Permit;

10. Prior to commencement of construction, the Applicant shall submit signed and sealed drawings and professional letters of assurance approved for construction by a professional engineer licensed to practice in the Province of British Columbia, and shall obtain a VFPA Building Permit;

11. The Applicant shall notify VFPA upon commencement of construction of the approved works and upon completion of the Project;

12. All noise levels resulting from construction activities shall not exceed maximum levels

stated in the City of Port Moody Sound Level Bylaw, 1980, No. 1399, without prior approval from VFPA;

13. The Applicant may place temporary construction trailers on site while this permit remains in effect, provided that the Applicant shall not connect such trailers to any underground utilities without the prior written consent of VFPA which may include, without limitation and at VFPA's discretion, a VFPA Building Permit;

14. The Applicant shall provide as-built drawings, in both AutoCAD and Adobe (PDF) format, within 60 days of completion of all works; and,

15. The approved works must commence by April 30, 2015 (the "Commencement Date") and be complete no later than April 30, 2016 (the "Completion Date"). For an extension to the Commencement Date, the Applicant must apply to VFPA in writing no later than 30 days following that date. For an extension to the Completion Date, the Applicant must apply in writing to VFPA no later than 30 days prior to that date. Failure to apply for an extension as required may, at the sole discretion of VFPA, result in termination of this approval.

Peter Xotta
Vice President, Planning and Operations

VANCOUVER FRASER PORT AUTHORITY

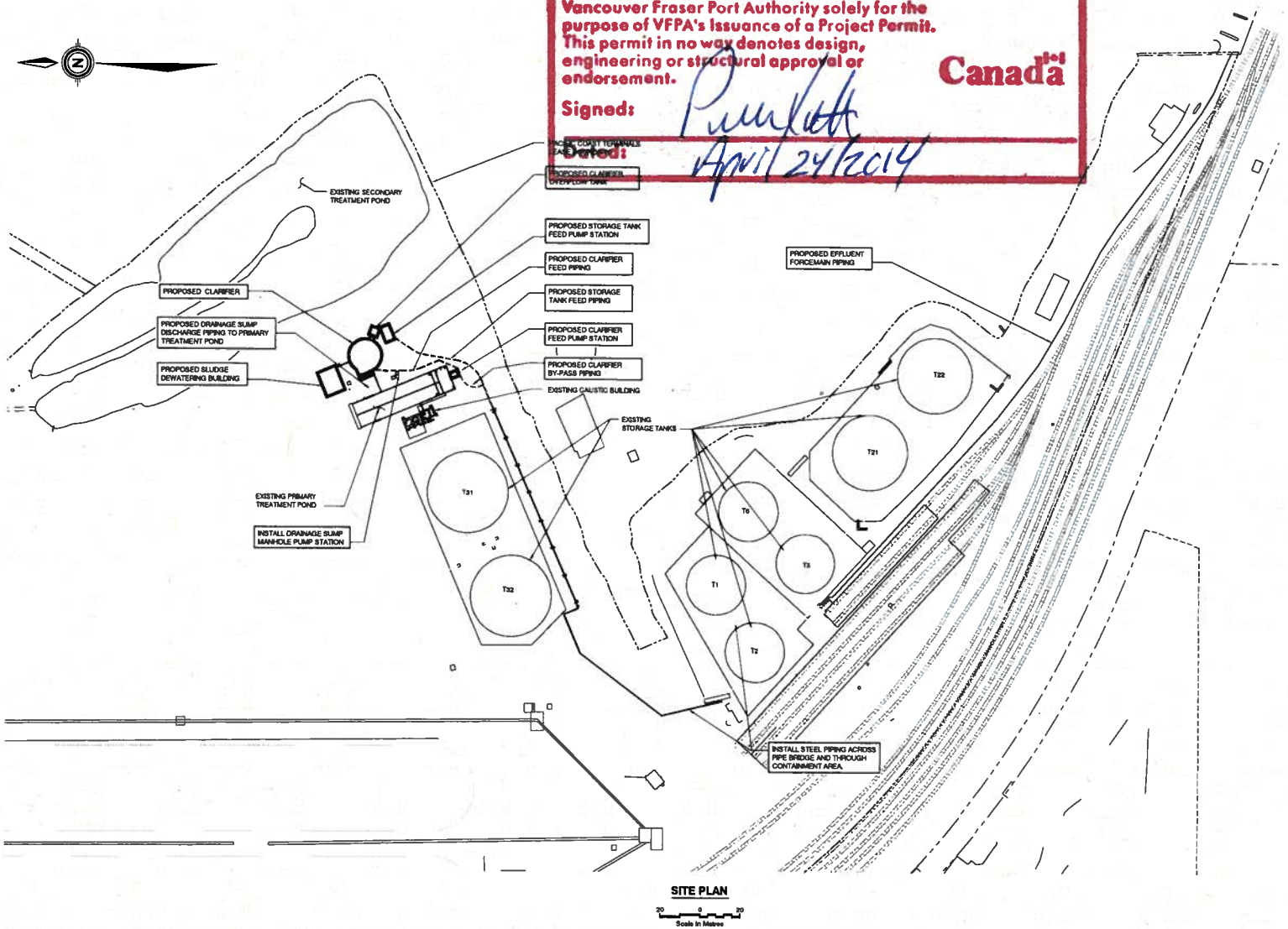
PROJECT PERMIT 2013-091

This drawing has been reviewed by the Vancouver Fraser Port Authority solely for the purpose of VFPA's issuance of a Project Permit. This permit in no way denotes design, engineering or structural approval or endorsement.

Signed:

Dated: April 24/2014

Canada



SITE PLAN

20 0 20

Scale in Metres

Issued for	Issue	Date	Issued By
Reference			
Approvals			
Tender			
Permits	P0	Jan.28/14	DCL
Construction			
Record Drawings			

Rev. No.	Date	Designed	Drawn	Checked	Description of Revision
0	Jan. 28/14	KZ	DHA	DCL	ISSUED FOR APPROVAL

Rev. No.	Date	Designed	Drawn	Checked	Description of Revision

PRELIMINARY

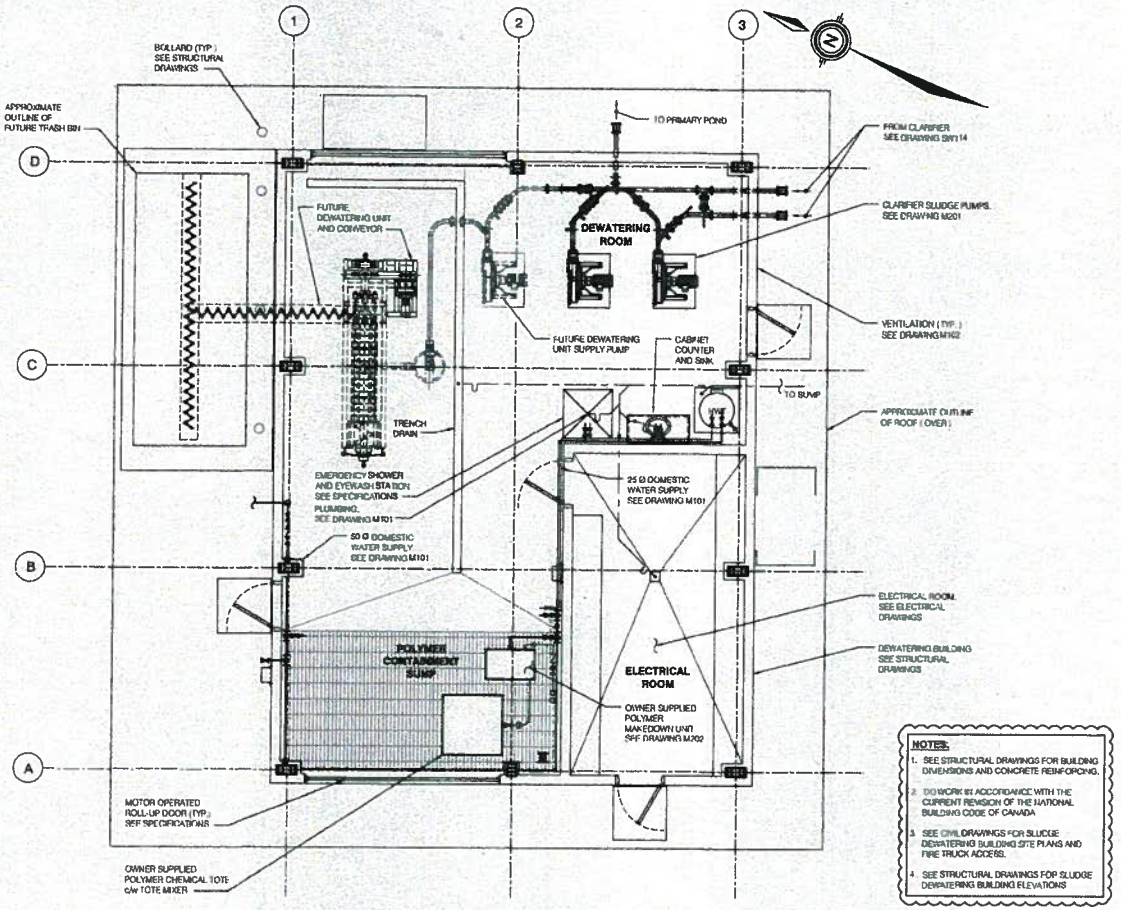
KERR WOOD LEIDAL consulting engineers

PACIFIC COAST TERMINALS CO. LTD.

PACIFIC COAST TERMINALS CO. LTD.
RECYCLED WATER UPGRADE
GENERAL
SCOPE OF WORK

Scale	KWL Project No.	Discipline	Drawing Number	Rev.
SHOWN	711-106	GENERAL	G1001	0

Client: Pacific Coast Terminals Ltd. Sheet 2 of 2



PLAN
SCALE 1:50

NOTES:
1. SEE STRUCTURAL DRAWINGS FOR BUILDING DIMENSIONS AND CONCRETE REINFORCING.
2. DO WORK IN ACCORDANCE WITH THE CURRENT REVISION OF THE NATIONAL BUILDING CODE OF CANADA
3. SEE CIVIL DRAWINGS FOR SLUDGE DEWATERING BUILDING SITE PLANS AND FIRE TRUCK ACCESS.
4. SEE STRUCTURAL DRAWINGS FOR SLUDGE DEWATERING BUILDING ELEVATIONS

VANCOUVER FRASER PORT AUTHORITY
PROJECT PERMIT 2013-091
This drawing has been reviewed by the Vancouver Fraser Port Authority solely for the purpose of VFPA's issuance of a Project Permit. This permit in no way denotes design, engineering or structural approval or endorsement.
Signed:
Dated: April 24/2014

Canada

Pacific Coast Terminals
2300 Columbia Street
Port Moody, British Columbia
V3H 4J9

Issued for	Issue	Date	Issued By
Reference			
Approvals	A0	May 03/13	NJ
Tender	T0	May 16/13	NJ
Permits			
Construction	C1	Sep 23/13	
Record Drawings			

Rev. No.	Date	Designed	Drawn	Checked	Description of Revision
0	May 03/13	YS	AU	DCL	ISSUED FOR CLIENT REVIEW
1	May 16/13	YS	AU	DCL	ISSUED FOR TENDER
2	Sep.23/13	NJ	AU		NOTES

Rev. No.	Date	Designed	Drawn	Checked	Description of Revision

KERR WOOD LEIDAL consulting engineers

PACIFIC COAST TERMINALS CO. LTD.

PACIFIC COAST TERMINALS CO. LTD.
RECYCLED WATER UPGRADE
ARCHITECTURAL
GENERAL ARRANGEMENT PLAN, SECTIONS

Scale	KWL Project No.	Discipline	Drawing Number	Rev.
SHOWN	711-106A	ARCH	A501	2

Client: Pacific Coast Terminals Co. Ltd. Sheet of

C:\5700-5799\5711-106\500-Drawings\711106A501-Rev2.dwg
PLOT DATE: Sep 24/13 01:08 PM BASE DATE: Sep 23/13 12:14 PM AT FULL SIZE THIS BAR MEASURES 100mm. ALL SCALES ENFORCED TO FULL SIZE

VANCOUVER FRASER PORT AUTHORITY

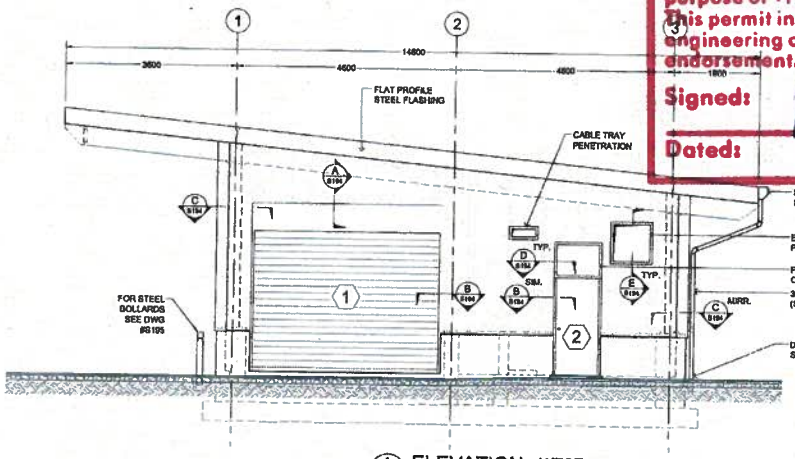
PROJECT PERMIT 2013-091

This drawing has been reviewed by the Vancouver Fraser Port Authority solely for the purpose of VFPA's issuance of a Project Permit. This permit in no way denotes design, engineering or structural approval or endorsement.

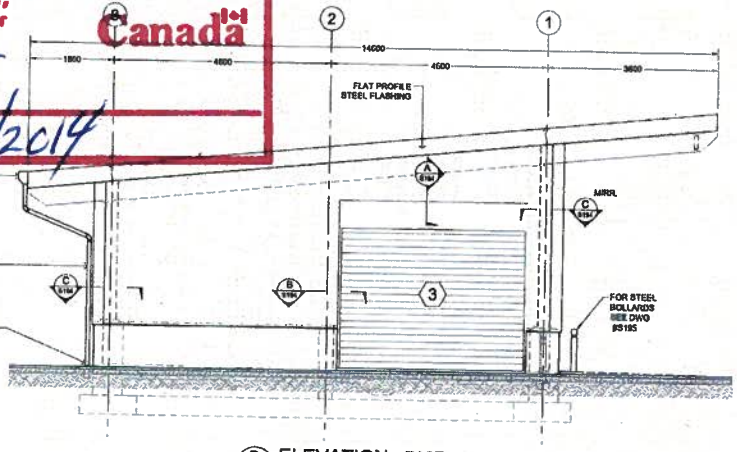
Signed:

Dated: April 24/2014

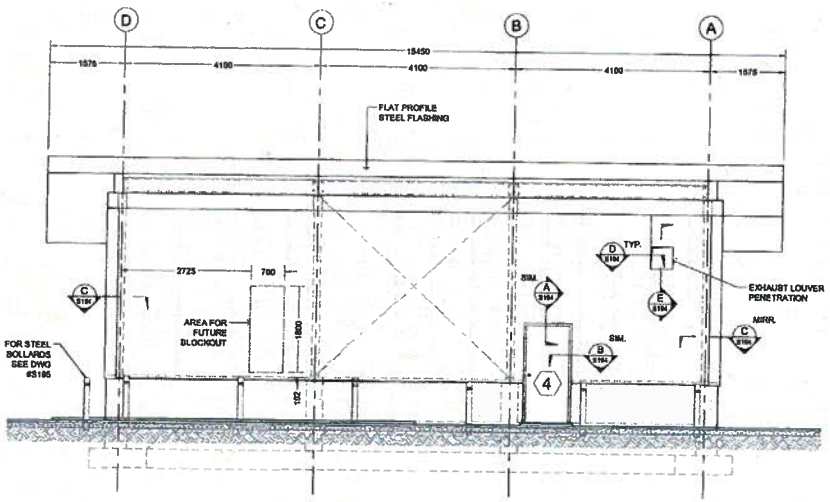
Canada



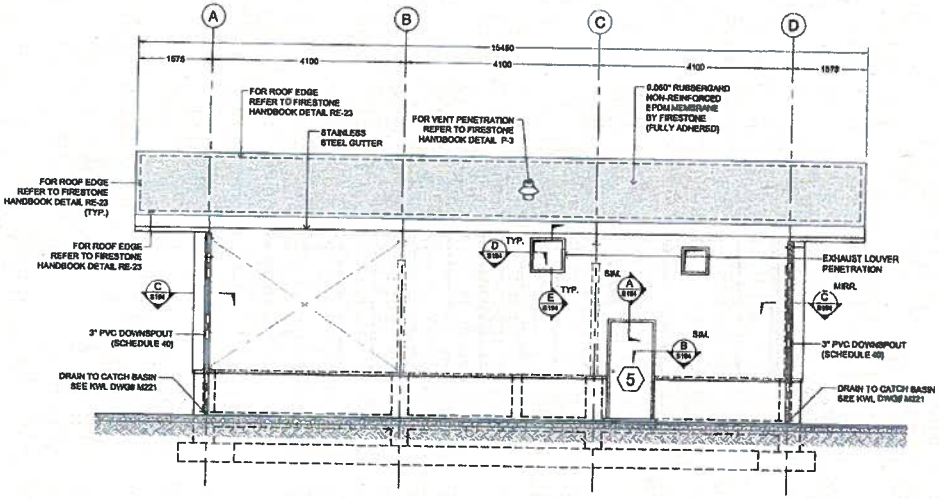
A S191 ELEVATION - WEST
SCALE: 1:50



B S191 ELEVATION - EAST
SCALE: 1:50



C S191 SECTION - NORTH
SCALE: 1:50



D S191 SECTION - SOUTH
SCALE: 1:50

NOTES:
1.1 REFER TO DRAWING S101 FOR COMPLETE STRUCTURAL NOTES.

1:50 0 4.9 m

Issued for	Issue	Date	Issued By
Reference			
Approvals	A	03MAY13	TL
Tender	0	15MAY13	TL
Permits			
Construction	1	24JUL13	TL
Record Drawings			

Rev. No.	Date	Designed	Drawn	Checked	Description of Revision
A	03MAY13	TL	AGO	GY	ISSUED FOR REVIEW
0	15MAY13	TL	AGO	GY	ISSUED FOR TENDER
1	24JUL13	TL	AGO	GY	ISSUED FOR CONSTRUCTION

Rev. No.	Date	Designed	Drawn	Checked	Description of Revision

PROFESSIONAL ENGINEER K.A. GYGAX #21...

PACIFIC COAST TERMINALS CO. LTD.

GEA Gygax Engineering Associates Ltd.

KERR WOOD LEIGHAL

T-RAY

JUL 24 2013

PACIFIC COAST TERMINALS CO. LTD.
RECYCLED WATER UPGRADE
NON-STRUCTURAL COMPONENTS
SLUDGE DEWATERING BUILDING ELEVATIONS

Scale	KWL Project No.	Discipline	Drawing Number	Rev.
SHOWN	711-106	STRUC	S192	1

Client: Pacific Coast Terminals Co. Ltd. Sheet #### of ####

Project Description

In this Schedule, "Project" means the physical activities authorized by VFPA to be carried out pursuant to Review Number 13-091, as described below.

- Pacific Coast Terminals (PCT) proposes to upgrade the wastewater treatment and recycling systems at the PCT site located in Port Moody, BC.
- Both the existing wastewater treatment system and the proposed upgraded system are contained systems that discharge to sanitary sewer permitted by Metro Vancouver, or recycle water for dust suppression or as wash water at the site. If used for dust suppression or as wash water, that water is again captured by the wastewater management system for continued recycling or discharge to sanitary sewer. There is no discharge of the water collected to Burrard Inlet.
- The proposed structures include a sludge dewatering building, a clarifier and clarifier overflow tank, the construction of pump stations on pump pads, and the construction of new piping from the clarifier to the existing T-5 and T-6 storage tanks. The total plan area for these structures is approximately 400 m^2. More detail on these structures is provided below.
- The only potentially occupied structure will be the sludge dewatering building. This building will be 13 m long x 10 m wide x 5 m tall, and will house electrical equipment and sludge handling equipment. Occupancy will be of a temporary nature limited to maintenance personnel on a sporadic basis.
- The tallest proposed structure, the clarifier, will be approximately 5.5 metres high and will be 15 m in diameter. The clarifier will replace the treatment role of the existing Secondary Settling Pond. The storage role of the Secondary Settling Pond will be replaced by utilizing the storage capacity of the existing recycled water tanks T-5 and T-6, and the facility's ability to manage large storm events will remain unchanged.
- There are three pump stations proposed, as follows:
    - A pump station with two 25 HP pumps that will pump wastewater from an existing wastewater treatment basin to the clarifier;
    - A pump station with two 50 HP pumps that will pump wastewater from the clarifier to two existing wastewater storage tanks for either recycling or disposal to the Metro Vancouver sanitary sewer; and
    - A storm water pump station with two 3.4 HP pumps.
- The construction of new piping from the clarifier to tanks T-5 and T-6 will include both above-ground and underground piping.
- The project also includes power and instrumentation cabling for the works described above.
- Also included within the scope of the wastewater project is the relocation of underground pipelines that are needed to be relocated in order to accommodate the proposed canola tanks. (Note: the core work of the Canola Project has been reviewed and Permitted under a separate project application: 13-104). The pipelines that are being relocated are two wastewater pipelines, one fire-water pipe line, and one recycled water pipeline.
- Following the upgrades to the wastewater treatment systems, the treated water will continue to be discharged to the Metro Vancouver Sanitary sewer under the conditions of their existing wastewater discharge permit SC-1151. The anticipated change in volume of wastewater treated at the terminal is

estimated to be approximately a 0.7% increase, or 2,000 m^3/yr. This increase is based on the addition of approximately 2,100 m^2 of asphalt surfaces proposed around the sludge dewatering building and clarifier.

- The clarifier is expected to improve the quality of the wastewater at the site, which will improve the quality of the water being recycled, and will lower the quantity of solids in the wastewater that is discharged with a resulting reduction of the treatment demands on Metro Vancouver's wastewater treatment plant.
- The clarifier will result in an improvement over the existing system in the ability to collect and reclaim the sludge that is generated in this final step of the treatment process.
- The replacement of the Secondary Settling Pond with the clarifier will remove the environmental risk of potential failure of the Secondary Settling Pond during a seismic event.
- The replacement of the Secondary Settling Pond with the clarifier will remove the environmental risks and safety risks of a 25-year-old pH adjustment system and sodium hydroxide storage tank.
- The decommissioning of the Secondary Settling Pond will be reviewed as a separate application, and is not included in this review.
- In late September 2013, VFPA became aware that PCT had begun works on the canola handling facilities and the waste water treatment system upgrade project prior to receiving a Project Permit or environmental Authorization from VFPA. PCT immediately stopped works at the request of VFPA. The review for the waste water treatment system upgrade project as a whole, represented by this document, does not include a review of potential environmental impacts from the unauthorized works already completed.

Information Sources

VFPA has relied upon the following sources of information in its assessment of the potential adverse environmental effects of the Project:

- A completed Port Metro Vancouver Project Review Application Form, dated July 8, 2013 and signed by August Sheldon of Kerr Wood Leidal Associates (KWL) and Kent Smith of Pacific Coast Terminals.
  - KWL Drawing G101, "Pacific Coast Terminals Co. Ltd., Recycled Water Upgrade, General, Location Plan and Key Plan", dated July 26, 2013, attached to the Project Review Application.
  - KWL Drawing G103, "Pacific Coast Terminals Co. Ltd., Recycled Water Upgrade, General, General Scope of Work" dated July 26, 2013, attached to the Project Review Application.
- A series of KWL drawings, as follows:
  - Drawing G1000, "Pacific Coast Terminals Co. Ltd., Recycled Water Upgrade, General, Site Plan", dated January 28, 2014.
  - Drawing G1001, "Pacific Coast Terminals Co. Ltd., Recycled Water Upgrade, General, Scope of Work", dated January 28, 2014.
  - Drawing SW112, "Pacific Coast Terminals Co. Ltd., Recycled Water Upgrade, Sitework, Sludge Discharge Piping Plan and Profile", dated May 15, 2013.

  - Drawing SW102, "Pacific Coast Terminals Co. Ltd., Recycled Water Upgrafe, Sitework, Site Grading and Paving Plan – Final", dated August 14, 2013.
  - Un-numbered drawing, "PCT Drainage Map: January 2012", dated January 16, 2012.
- The VFPA Environmental Report and Schedule of Environmental Conditions issued for the PCT Rapid Impact Compaction Works (associated with Canola and Wastewater Projects), dated November 20, 2013.
- Email correspondence from August Sheldon of KWL to Kevin Key of VFPA with the subject line "RE: PCT (Pt. Moody) schedule", dated September 11, 2013.
- A document titled "Canola and Water Treatments Systems, Construction Environmental Management Plan", prepared by Envirochem Services Inc., dated November 28, 2013.
- Email correspondence from Andre Olivier of Pacific Coast Terminals (PCT) to Kevin Key and Carolina Eliasson of VFPA with the subject line "PCT Waste Water Treatment – PMV Environmental Questions – October 28, 2013", dated November 6, 2013.
  - A document titled "RE: PCT Waste Water Project – PMV environmental Questions – Dated October 28, 2013, attached to the November 6, 2013 email.
  - A document titled "Water Treatment Upgrades – Sediment and Erosion Control Plan", prepared by KWL, dated October 2013, attached to the November 6, 2013 email.
  - A figure showing areas of vegetation removal, attached to the November 6, 2013 email.
- Email correspondence from Andre Olivier of Pacific Coast Terminals (PCT) to Carolina Eliasson of VFPA with the subject line "PMV Canola Project Environmental Questions – October 23, 2013", dated November 5, 2013.
  - A document titled "RE: PCT Canola Project – PMV Environmental Questions – Dated October 23, 2013", prepared by PCT, dated November 5, 2013", attached to the November 5, 2013 email.
- A document titled "Re: Geotechnical Investigation Report for the Proposed Terminal Facility Upgrading, 2300 Columbia Street, Port Moody, BC", prepared by GeoPacific Consultants Ltd., dated August 28, 2012.
- A Metro Vancouver Waste Discharge Permit No. SC-100085-FSA.
- A letter report with the subject line "RE: Soil Quality Characterization, Canola Handling Facility Construction and Water Treatment Upgrade Projects", prepared by Envirochem Services Inc., dated October 22, 2013.
- A document titled "Growing Business, Terminal Expansion Projects, Input Consideration Memo", prepared by Pacific Coast Terminals Co. Ltd., dated January 2014.
- Email correspondence from David Lumb of KWL to Kevin Key of VFPA with the subject line "FW: PMV – PCT Permit documents – Wastewater", dated February 3, 2014.
- Email correspondence from Lisa-Marie Gagne of VFPA to Carolina Eliasson of VFPA with the subject line "PCT community and municipal consultation", dated February 12, 2014.
- Email correspondence from Erin Hanson of Tsleil-Waututh Nation to Judy Kitts of VFPA with the subject line "PCT Recycled Water Treatment Upgrade", dated March 4, 2014.
- A letter from the City of Port Moody to James Crandles of VFPA with the subject line "Pacific Coast Terminals: Canola Handling (PP, 2013-104) and Wastewater Treatment (PP, 2013-091) Projects",

dated February 17, 2014.

Environmental Effects Summary

Referrals to Government Agencies and Responses

- No government agencies were identified that had germane information or expertise that was not already otherwise available to the assessment.

First Nations Engagement

- Project information was provided to Tsleil-Waututh Nation, Squamish Nation, Musqueam Indian Band, and Sto:lo Nation via the People of the River Referrals Office. Tsleil-Waututh Nation provided a response.
- Tsleil-Waututh Nation (TWN) provided VFPA with questions related to water quality output from the clarifier. VFPA responded to these concerns on March 10, 2014. No outstanding issues remain.
- On February 11, 2014, the People of the River Referrals Office deferred the project to TWN and the Musqueam Indian Band.
- No other issues or concerns were identified.

Referrals to Community and Public, and Responses

- PCTs community consultation and engagement activities on the Wastewater Treatment Upgrade Project have been extensive. PCT undertook a series of consultation activities throughout 2012 and 2013 to provide information on the project to the Port Moody community, elected officials, community organizations and businesses, and other stakeholders.
- VFPA consulted with the City of Port Moody (CPM) on the Wastewater Treatment Upgrade Project. As part of the Project Review process, VFPA sent a referral letter to the City of Port Moody on February 4, 2014 informing them of the Project and seeking their comments.
- The CPM provided VFPA with comments related to emergency response, the projects compatibility with the CPM's water systems, CPM's guidelines and Bylaws, traffic impacts, code compliance, emissions, climate change, and foreshore and Schoolhouse Creek enhancement opportunities. VFPA responded to these comments on March 10, 2014.
- No outstanding issues or concerns are expected that may affect the outcome of this review.

Environmental Effects Summary

The following table summarises the potential environmental effects the project could have on the identified environmental components.

Environmental Component	Potential Adverse Effects?			Residual Effects?		Mitigation Measures / Comments
	Yes	No	Unc	Yes	No	

Project: **Wastewater Treatment System Upgrade**

Location: **Port Moody, BC**

VFPA Site/Area No.: **PTM101**

Proponent(s): **Pacific Coast Terminal**

Environmental Component	Potential Adverse Effects?			Residual Effects?		Mitigation Measures / Comments
	Yes	No	Unc	Yes	No	
Species/habitat with special status	☐	■	☐	☐	■	Species with special status are not found in the project area.
Vegetation	■	☐	☐	☐	■	Some vegetation removal will be required to construct the project. Vegetation removed includes non-native ornamental species and recruited local species planted by PCT in the 1990s, including pine, alder, birch, cottonwood and shrubs such as scotch broom and salmonberry. Suitable mitigation, acceptable to VFPA, is required as a condition of approval for the PCT canola handling project (13-104). That mitigation must also consider the vegetation loss due to this wastewater treatment upgrade project.
Wildlife / wildlife habitat	☐	■	☐	☐	■	None were identified that were susceptible to project-related effects.
Aquatic species / fish habitat	☐	■	☐	☐	■	All works will be conducted above the high water mark. Mitigation measures will be employed during construction to prevent potential adverse impacts to fishery resources. Heavy construction equipment will be regularly inspected for hydrocarbon leaks and a spill prevention and response plan implemented. In addition, all equipment will be operated from above the top of bank. No equipment or machinery will operate from the intertidal foreshore of Burrard Inlet. An appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products (e.g., fuel, oil, hydraulic fluid, etc.) and other deleterious substances will be put in place prior to work commencing.
Other marine resources	☐	■	☐	☐	■	None were identified that were susceptible to project-related effects.
Soils	■	☐	☐	☐	■	An appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products (e.g., fuel, oil, hydraulic fluid, etc.) and other deleterious substances will be put in place prior to work commencing. Any soils excavated during construction will be handled in a manner that will prevent their release into the aquatic environment, either directly or indirectly as silt in storm runoff. Water that has contacted uncured or partly cured concrete will be contained and will not be discharged to the aquatic environment. Materials brought onto the property for use as fill, backfill, or for site preparation must be from sources known to be clean and free of contamination. Contaminated soils that may be encountered during project excavation will be segregated and disposed of in an appropriate manner. A soil and groundwater management plan will be in place prior to construction and will address this issue.

Project: **Wastewater Treatment System Upgrade**

Location: **Port Moody, BC**

VFPA Site/Area No.: **PTM101**

Proponent(s): **Pacific Coast Terminal**

Environmental Component	Potential Adverse Effects?			Residual Effects?		Mitigation Measures / Comments
	Yes	No	Unc	Yes	No	
Sediments	☐	■	☐	☐	■	No works will be conducted that could impact sediments.
Ground water	■	☐	☐	☐	■	An appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products (e.g., fuel, oil, hydraulic fluid, etc.) and other deleterious substances will be put in place prior to work commencing. Should groundwater be encountered during excavation works, contaminated groundwater will be collected and disposed of in an appropriate manner. A soil and groundwater management plan will be in place prior to construction and will address this issue.
Surface water and water bodies	■	☐	☐	☐	■	The proposed works will include removing vegetation and soils from the Project area, placing fill, pouring cast in place concrete, and paving. The work will be carried out above the high water mark and care will be taken to prevent any materials from entering Burrard Inlet. Any soils excavated during construction will be handled in a manner that will prevent their release into the aquatic environment, either directly or indirectly as silt in storm runoff. Water that has contacted uncured or partly cured concrete will be contained and will not be discharged to the aquatic environment. Discharges of substances deleterious to aquatic life will not be permitted. A soil and groundwater management plan will be implemented during construction. An appropriate spill prevention, containment, and clean-up contingency plan for hydrocarbon products (e.g., fuel, oil, hydraulic fluid, etc.) and other deleterious substances will be put in place prior to work commencing. Care will be taken to prevent the release of deleterious substances to the receiving environment. Heavy construction equipment will be regularly inspected for hydrocarbon leaks and a spill prevention and response plan implemented.
Wetlands	☐	■	☐	☐	■	No wetlands were identified in the project area.
Air quality	■	☐	☐	☐	■	There is potential for dust to be generated during construction. Dust mitigation measures will be implemented prior to the start of the Project.
Lighting	☐	■	☐	☐	■	Lighting impacts are not anticipated.

Project: **Wastewater Treatment System Upgrade**

Location: **Port Moody, BC**

VFPA Site/Area No.: **PTM101**

Proponent(s): **Pacific Coast Terminal**

Environmental Component	Potential Adverse Effects?			Residual Effects?		Mitigation Measures / Comments
	Yes	No	Unc	Yes	No	
Noise	■	□	□	□	■	Significant noise issues are not anticipated to result from this project. However, during construction, activities will be scheduled to minimize disruption of nearby residences, where possible. PCT sets targets to reduce the number of noise complaints received throughout the year. Controls include active noise monitoring and routine preventative maintenance to keep sound levels as low as possible. In order to minimize effects on nearby residents, construction will be scheduled between 7:00 am and 8:00 pm in compliance with the City of Port Moody's "Sound Level Bylaw". Any work outside these hours will be limited as much as possible, and will not occur without advising local citizens and businesses. Noise impacts are anticipated to be low or insignificant provided that noise mitigation measures are put in place and proven to be effective.
Archaeological/heritage resources	□	□	■	□	■	There are no known archaeological resources at risk from the project. Nevertheless, in the event that unanticipated archaeological remains or resources are encountered during construction, the construction will halt and the Archaeology Branch and an individual with appropriate archaeological qualifications shall be contacted immediately.
First Nations interests	■	□	□	□	■	First Nations concerns regarding the project include comments related to discharge water quality from the proposed clarifier. These concerns are being mitigated through either conditions in the Project Permit or through operational practices by the proponent. No outstanding issues remain.
Recreational interests	□	■	□	□	■	The project area is an industrial zone and recreational interests are not expected to be impacted by the proposed project.
Accidents and malfunctions	□	■	□	□	■	Mitigation measures to address impacts from accidents and malfunctions were considered during the review. The project has been designed to meet appropriate standards and environmental management plans and accident and spill response plans will be in place during project implementation.

Effects of the Environment on the Project

In addition to evaluating the effects of the proposed Project on the environment, changes to the proposed Project that may arise as a result of the environment have also been considered. The assessment of the effects of the environment on the Project included identifying the environmental factors deemed to have possible consequences on the proposed Project, the likelihood and severity of their occurrence and mitigation measures planned to minimize their impact.

The Project is not expected to create adverse environmental events beyond those that will be addressed with mitigation.

Cumulative Effects Summary

This environmental assessment has determined that residual adverse environmental effects are unlikely if readily available and practical mitigation measures are applied during the implementation of the project.

Follow-up Program

It has been determined that a follow-up monitoring program will not be required for this Project.

Conditions for the Mitigation of Adverse Environmental Effects

In addition to the mitigation measures designed into the project (as indicated in the documents listed in the "Information Sources" section above), the Proponent is required to apply the following conditions to the project:

1. The Proponent shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with the applicable standards and specifications set out in the sections above entitled "Project Description" and "Information Sources". The Proponent shall not carry out any other physical activities unless expressly authorized by VFPA.
2. The Proponent shall at all times and in all respects comply with and abide by all applicable federal, provincial and municipal laws, statutes, by-laws, regulations, orders and policies from time to time in force and effect including, without limiting the generality of the foregoing, all rules and directions established by VFPA from time to time (collectively, "Applicable Law"). Any reference below to a specific law, statute, by-law, regulation, order or policy is for clarity only and in no way limits the generality of the foregoing.
3. The Proponent shall not, directly or indirectly: (i) deposit or permit the deposit of a deleterious substance of any type in water frequented by fish in a manner contrary to Section 36(3) of the Fisheries Act; or (ii) adversely affect fish or fish habitat in a manner contrary to Section 35(1) of the Fisheries Act.
4. The Proponent shall contain in the immediate working area all debris and waste materials resulting from the Project and remove such debris and waste material as soon as possible. The Proponent shall remove any submerged debris and waste material by means of a diver or other non-intrusive method. The Proponent shall not use a grappling hook or clamshell bucket to remove submerged debris or waste material unless such use is reviewed and approved by VFPA's Environmental Programs Department.
5. The Proponent shall ensure that debris and waste material resulting from the Project are contained, collected, and disposed of at suitable upland locations using standards, practices, methods and procedures to a good commercial standard, conforming to Applicable Law and using that degree of skill and care, diligence, prudence and foresight which would be reasonably and ordinarily expected

from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances. The Proponent shall have due regard for the applicable prohibitions and restrictions for burning a wide range of materials in British Columbia, such as creosote-treated wood.

6. All applicable legislation, guidelines, and best management practices shall be followed with respect to the application of wood preservatives and any other paints or coatings. Where practicable timber preservatives are to be applied upland in the dry prior to installation to allow the preservative to completely absorb and prevent leaching into the aquatic environment. A minimum of 45 days or compliance with wood treatment industry Best Management Practices (BMPs) is generally required to satisfy this criterion. This condition applies to initial construction and to subsequent maintenance. The applicant may wish to refer to the DFO Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in Aquatic Environments in the Pacific Region (Hutton, K.E. and S.C. Samis. 2000. Can. Tech. Rep. Fish. Aquat. Sci. 2314: vi + 34 p) for information concerning the BMPs.
7. All work associated with the project involving the use of concrete, cement, mortars and other Portland cement or lime-containing construction materials must be conducted in a manner that prevents sediments, debris, concrete (cured or uncured), and concrete fines from being deposited into any aquatic environment, either directly or indirectly. Water that has contacted uncured or partly cured concrete or Portland cement or lime-containing construction materials, such as the water that may be used for exposed aggregate wash-off, wet curing, equipment and truck washing, etc. must be prevented from entering any aquatic environment. Containment facilities should be provided at the site for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment as required.
8. If cast-in-place rather than precast construction methods are used, the Proponent must use concrete-tight forms to isolate the concrete from the receiving aquatic environment, and must take appropriate steps to ensure that uncured concrete, concrete fines or water that has been in contact with uncured concrete do not enter the receiving aquatic environment.
9. Prior to commencing any physical activities, the Proponent shall establish a spill prevention, containment and clean-up plan for hydrocarbon products (including fuel, oil and hydraulic fluid) and any other deleterious substances using standards, practices, methods and procedures to a good commercial standard, conforming to Applicable Law and using that degree of skill and care, diligence, prudence and foresight which would be reasonably and ordinarily expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances. The Proponent shall ensure that appropriate spill containment and clean-up supplies are available on site at all times and that all personnel working on the Project are familiar with the spill prevention, containment and clean-up plan.
10. All equipment working on the project site must be regularly inspected to ensure that it is in good mechanical condition and free from visible evidence of fuel, oil, coolant, solvents or hydraulic leaks. Equipment that is found to be other than in good condition should be removed from the job site immediately
11. The Proponent shall not operate machinery or equipment on the intertidal foreshore.

12. Prior to commencing any physical activities, the Proponent shall establish a soil and groundwater management plan for the Project. A copy of the plan shall be provided to VFPA Environmental Programs. Any soils excavated from the site during the proposed works shall be handled in a manner that will prevent their release into the aquatic environment, either directly or indirectly as silt in storm runoff.
13. Excavations shall not be dewatered unless a dewatering plan has been reviewed and authorized by VFPA Environmental Programs.
14. Should contaminated materials be encountered, the Proponent shall ensure that all contaminated materials are removed, contained, and disposed of at appropriate offsite upland locations in accordance with all applicable legislation, guidelines, and best management practices.
15. Any materials brought onto the property to be used for backfilling, site preparation, or other uses shall be from sources documented to be clean and free of contamination.
16. Storm water and surface runoff shall be managed using best available practices and in compliance with all applicable legislation, guidelines, and best management practices.
17. For heavy duty diesel powered road licensed vehicles, every effort should be made to use a model year 2007 or newer. For diesel powered nonroad or offroad equipment, every effort should be made to use Tier 3 equipment or better.
18. Dust and air emissions shall be managed to avoid health and safety issues on site and those other impacts offsite, as well as to prevent adverse effects on regional and local air quality. In this regard, dust control measures during construction shall be implemented as required, including but not limited to the following:
    - No visible dust beyond the property line;
    - Tracked out material should not exceed eight (8) metres;
    - A wheel washing facility to reduce track out should be established where appropriate;
    - Vehicles used to transport bulk fine materials should be covered;
    - Stockpiles of soil or aggregate should be stabilized with water;
    - Paved sections subject to dust accumulations should be cleaned/wetted on a regular basis; and,
    - Unpaved sections should be wetted on a regular basis.
19. The Proponent shall not permit sediment, sediment-laden waters, or other deleterious substances to enter the water during the Project. The Proponent shall carry out all physical activities in a manner that prevents induced sedimentation of foreshore and near shore areas and induced turbidity of local waters, and the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment. All physical activities shall be in compliance with the following water quality criteria:

- When background is less than or equal to 50 nephelometric turbidity units (NTU) or 100 milligrams per litre (mg/L) non-filterable residue (NFR), induced turbidity should not exceed 5 NTU or 10 mg/L NFR above the background values.
- When background is greater than 50 NTU or 100 mg/L NFR, induced turbidity should not exceed the background values by more than 10% of the background value.

For the purposes of this Section, "background" means the level at an appropriate adjacent reference site (as determined to the satisfaction of VFPA) that is affected neither by physical activities at the site, nor sediment-laden or turbid waters resulting from physical activities at the site.

20. The Proponent shall have due regard to the potential application of the Migratory Birds Convention Act and/or the Wildlife Act of British Columbia. To reduce the risk of Project-related harm to birds and/or their active nests and eggs, the Proponent may wish to avoid certain physical activities during the general bird breeding season, which falls between April 1 and July 31. If potentially harmful activities must be undertaken during this period, the Proponent shall exercise all due diligence to avoid causing harm to birds and/or their active nests and eggs. The Proponent shall also have due regard to nests of those species of birds protected by Applicable Law at all times of the year, regardless of the time of year or whether or not the nests are occupied. The Proponent should, where circumstances warrant, retain the services of qualified environmental professionals to assist in developing and undertaking appropriate bird nest surveys immediately before, during and after the general bird breeding season.
21. Within three months of the Canola Handling Project Permit issuance, PCT will submit to VFPA Environmental Programs for approval a stand-alone, vegetation removal mitigation plan. That plan must include mitigation that addresses the vegetation loss from both the Canola Handling Project and the Wastewater Treatment Upgrade Project. The plan content shall be determined in consultation with VFPA. Within three months of plan approval, the PCT shall implement the mitigation plan.
22. The Proponent shall be solely responsible for reviewing DFO's Projects Near Water website (http://www.pac.dfo-mpo.gc.ca/habitat/know-savoir-eng.htm) to assess whether the Project requires DFO's involvement. Responsibility for submitting any necessary information through DFO's Project Review Process rests solely with the Proponent.
23. The Proponent shall cooperate fully with VFPA in respect of any review by VFPA of the Proponent's compliance with these conditions including, without limitation, providing any information or documentation required by VFPA.
24. The Proponent shall provide a copy of this Schedule to all employees, agents, contractors, licensees and invitees prior to commencing any physical activities. The Proponent shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees contractors, comply with these conditions.

The above conditions are based solely upon VFPA's review of the Project and in no way limits the authority of, or constitutes any form of permit, authorization or approval by, any other governmental authority

having jurisdiction. The Proponent is solely responsible for obtaining any and all required permits, authorizations and approvals from any other governmental authority having jurisdiction.

Assessment Determination

In completing this federal environmental review, PMV has reviewed and taken into account relevant information available on the proposed Project, has considered the information and proposed mitigations provided by Pacific Coast Terminal and other information as listed elsewhere in this document, and concludes that with the implementation of proposed mitigation measures and conditions (as described in this Environmental Review Report and Schedule of Environmental Conditions), the Project is not likely to cause significant adverse environmental effects.