

## Fraser Surrey Canola Oil Transload Facility

Project Environmental Review (PER) Application for a S.82 *Impact Assessment Act* Permit  
Vancouver Fraser Port Authority PER No. 22-017



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## **APPENDIX J – Stormwater Pollution Prevention Plan**



**Stormwater Pollution Prevention  
Plan**  
Fraser Surrey Canola Oil Transload  
Facility

October 4, 2022

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# STORMWATER POLLUTION PREVENTION PLAN

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**Geoff Rousseau**, B.Sc., P.Ag.

# STORMWATER POLLUTION PREVENTION PLAN

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## **ACRONYMS / ABBREVIATIONS**

API	American Petroleum Institute
BC	British Columbia
BMP	Best Management Practice
CSD	Crude Super Degummed grade canola oil
DP World	DP World Canada Inc.
RBD	Refined, Bleached, and Deodorized grade canola oil
Stantec	Stantec Consulting Ltd.
SPPP	Stormwater Pollution Prevention Plan
TSS	Total Suspended Solids



# STORMWATER POLLUTION PREVENTION PLAN

Introduction  
October 4, 2022

## 1.0 INTRODUCTION

DP World Canada Inc. (DP World) is proposing to develop a canola oil transload facility (the Project) at DP World's Fraser Surrey Terminal (Figure 1) located at 11060 Elevator Road, Surrey, British Columbia (the site). The Project includes development of new marine infrastructure to support vessel mooring and loading at the existing Berth 10, and the development of canola storage facilities and supporting transfer infrastructure on a parcel of land within the leased DP World Fraser Surrey terminal area. The Project site is fully located on federal lands and waters managed by the Vancouver Fraser Port Authority (VFPA).

The Project is subject to a full application review under VFPA's Project Environmental Review (PER No 22-017) process intended to satisfy Section 82 of the *Impact Assessment Act*. DP World has prepared this Application submission and accompanying drawings, supporting studies and reports in accordance with the PER Application Submission Requirements (draft) issued by VFPA on April 19, 2022. This management plan has been updated to address comments provided by VFPA through a review of the application.

Stantec Consulting Ltd. (Stantec) was retained by DP World Ltd. (DP World) to prepare the following Stormwater Pollution Prevention Plan (SPPP) to support the planning and permitting process for the Project.

The SPPP provides DP World and the Project Contractor with guidance on best management practices (BMPs) to maintain regulatory compliance and to avoid or limit potential adverse environmental effects. The SPPP is a living document and is intended to be updated and refined with input from the Contractor and as the Project work activities and schedule are further defined.

The purpose of this SPPP is to minimize the discharge of pollutants by stormwater runoff during construction and operation of the Project.

## 2.0 PROJECT OVERVIEW

### 2.1 PROJECT LOCATION

The Project is located within the Vancouver Fraser Port Authority Fraser River Central Planning Area 5<sup>1</sup>, on the south shore of the Fraser River in Surrey, BC (Figure 1).

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<sup>1</sup> <https://www.portvancouver.com/wp-content/uploads/2018/12/Planning-Area-5-2018.pdf>



# STORMWATER POLLUTION PREVENTION PLAN

Project Overview  
October 4, 2022

## 2.2 PROJECT DESCRIPTION

DP World Canada Inc. (DP World) is proposing to develop a canola oil transload facility (the Project) at DP World's Fraser Surrey Terminal (Figure 1) located at 11060 Elevator Road, Surrey, BC (the Site). The Project includes development of new marine infrastructure to support vessel mooring and loading at the existing Berth 10, and the development of canola storage facilities and supporting transfer infrastructure on a parcel of land within the leased DP World Fraser Surrey terminal area.

The Project will be developed to support an initial annual throughput capacity of 300,000 tonnes per year with a gradual ramp-up to 1,000,000 tonnes per year. Key in-water and over-water components of the Project at Berth 10 to support vessel loading include:

- Construction of a concrete loading berthing platform at Berth 10
- Loading access trestle
- Catwalk connection between Berth 9 and Berth 10

Additionally ancillary infrastructure above water at Berth 10 will include:

- On-deck articulating marine loading arms
- Upgraded marine bollards and fenders
- Equipment supported on foundations and supports

Key components of the Project that are not in water or over water include:

- Development of a storage tank and rail offload area adjacent to Timberland Road, consisting of:
  - Rail receiving facilities including:
    - o Two rail spurs from the existing intermodal yard branch
    - o Railcar bottom offloading stations, unloading pumps, piping, and control cables
    - o 32 rail car unloading capacity
  - Storage tank area:
    - o Three 15,000 MT capacity tanks
    - o Tank foundations including required ground improvements
    - o Vessel loading pumps including required piping and controls
    - o Containment area including liners, precast walls, and associated foundations
    - o Fire water loop with approximately three hydrants
- Below grade canola oil transmission and recycle lines connecting the storage tanks to the marine trestle.
- A new canola operation building with critical spares storage.
- Motor Control Centre building
- Ten site vehicle parking spaces

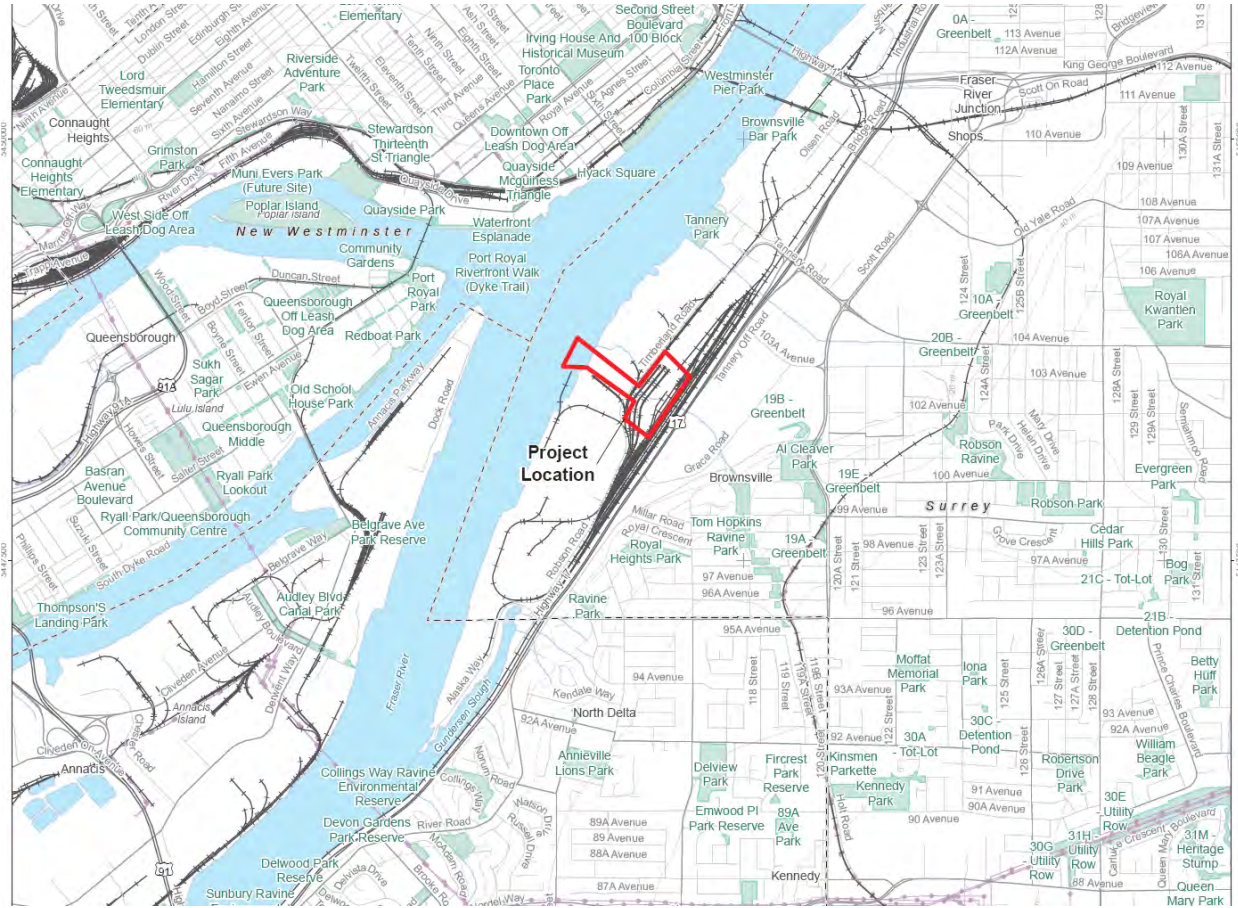




# STORMWATER POLLUTION PREVENTION PLAN

Site Inventory  
October 4, 2022

**Figure 1 Project Location**



## 3.0 SITE INVENTORY

### 3.1 ACTIVITIES

#### 3.1.1 Construction

Construction staging plans have been developed which consider the continued operation of the terminal during construction. Construction is expected to start in Q1 2023 and be complete by Q4 2024. A detailed schedule is included the Project's construction environmental management plan (CEMP) provided separately.



## STORMWATER POLLUTION PREVENTION PLAN

Site Inventory  
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### 3.1.1.1 Terminal Construction

The general sequence and activities for construction of the storage tank facility and offload area includes:

1. Site preparation including establishing laydown areas and installation of erosion and sediment control measures
2. Pre-construction clearing and grading areas
3. Tank foundations installation, including excavation and required ground improvement tank foundations
4. Installation of the tanks, including containment areas and associated foundations
5. Installation of ancillary infrastructure, including vessel loading pumps, required piping and controls, fire water loop, and below grade canola transmission and recycle lines connecting the storage tanks
6. Construction of a new operations building and MCC building to support electrical distribution

### 3.1.1.2 Marine Construction

The general activities and sequence for construction of marine components includes:

1. Site preparation comprising establishing laydown areas, installation of erosion and sediment control measures and silt curtains around the in-water work area, establishment of upstream and downstream water quality monitoring sites, and demolition of one existing steel dolphin pile
2. Vegetation removal including selective tree and vegetation removal to provide safe clearance along the first 30 meters of the access trestle from terminal lands
3. Abutment excavation and installation of new steel piles using pile driving equipment
4. Installation of concrete pile caps, precast concrete panels, and girders
5. Installation of concrete cast in place deck topping slab and concrete approach slab
6. Installation of fender panels, bollards, and berth accessories
7. Installation of the canola loading arms, loading and recycle lines, sump tank, pressure recovery vessel, and ancillary infrastructure

### 3.1.2 Terminal Operations

As referenced, the Project has been designed to support an initial annual throughput capacity of 300,000 tonnes per year ramping up to 1,000,000 tonnes of canola oil per year. The facility is designed to support the storage, transfer, and loading of two specific grades of canola, including:

- Crude Super Degummed (CSD) grade canola oil
- Refined, Bleached, and Deodorized (RBD) grade canola oil



# STORMWATER POLLUTION PREVENTION PLAN

Site Inventory  
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Both CSD and RBD grade canola oil will be received in rail tank cars; intermediate storage tanks will only be constructed for CSD grade oil. The facility will include the ability for direct transfer RBD from rail tank cars to marine vessels via an underground loading pipeline to the marine loading arms. CSD grade canola oil will be unloaded and pumped from rail cars to the new tanks for intermediate storage before being pumped to marine vessels for export, but the CSD grade canola oil can also be loaded directly to ship (i.e., bypassing intermediate storage if this option is required).

The railcar unloading system will provide the capacity to unload up to 32 cars per 8-hour shift via unloading piping from the bottom of each car.

### 3.1.3 Marine operations

When a docked vessel is ready to load, three marine loading pumps will draw canola oil from the storage tank facility and pump the oil to the marine loading arms located on the loading platform at Berth 10. Canola oil will be pumped from the storage tanks to the marine vessel through piping under the terminal ground level.

## 3.2 MATERIALS AND EQUIPMENT

Terminal construction equipment is expected to include excavators, articulated loaders, cranes, and haul trucks. Marine construction equipment will include barges, cranes, pile driving equipment, concrete pump trucks air compressors and welding equipment. The abutment construction will be completed using an excavator and a roller.

The above listed equipment has the potential to leak or discharge harmful chemical into the environment, such as hydraulic fluid or fuel. This SPPP is intended to address management of spill material if this occurs.

## 3.3 WATER QUALITY EVENT AND STORM DRAINAGE EVENT

The engineering design used local data on predicted storm events (Intensity, Duration, Frequency (IDF) curves, ECCC, 2022). The design also assumed proposed surfaces will be near-level and 100% impermeable (i.e., paved) with slight grade to facilitate gravity drainage. The drawing attached in Attachment A (drawing 7704-C-110) emphasizes the catchment areas that are directed to an oil-water separator and connection points to existing terminal stormwater infrastructure. A detailed hydrological assessment will be provided during detailed design and prior to the start of construction that considers the contractor's design of the proposed works and phased construction.



# STORMWATER POLLUTION PREVENTION PLAN

Site Inventory  
October 4, 2022

## 3.3.1 Storm Drainage Event

### 3.3.1.1 Containment

The design basis of the common American Petroleum Institute (API) separator as well as the sump pumps associated with each of the containment areas for the site (see sections 5.1.5 and 5.1.6 below) is as follows:

- A one in ten-year storm of duration one hour was used to determine the maximum rainfall rate that would be expected as being required to be handled by these facilities. For this location, the rainfall rate for a one in ten-year storm of duration one hour is 18 mm/h.
- The sump pumps for each of the containment areas were then sized based on:
  - The total surface area of that containment
  - The volume of water expected to be captured in that area per hour i.e., the area multiplied by the rainfall rate of 18 mm/h
  - A design margin was then applied to arrive at the required sump pump capacity for each containment area, typically 25% for the large containment areas and much larger for the very small containment areas (e.g., around pump sets, etc.) to arrive at a practical sump pump capacity for these smaller containment areas
- The API separator was sized based on:
  - The total of all sump pumps running at capacity was used as the basis of the maximum feed rate to the API separator
  - The required cross-sectional area for the API separator was determined i.e., width x depth to achieve a linear velocity through the API separator of less than 3 feet per minute (0.918 m/min) while maintaining a reasonable width to depth ratio
  - A width of 6 m and a depth of 1.8 m were selected which yields a linear velocity of 0.56 m/min which is substantially below the maximum recommended value of 0.918 m/min i.e., the design is conservative in this regard as well
  - A length of 30 m was selected, this is the minimum length/width ratio recommended (5:1) but as mentioned above the cross-sectional area is already conservative, the actual required cross-sectional area and therefore actual required width is lower than 6 m, so the actual effective length to width ratio is more than the actual 5:1 ratio, which is again conservative
  - The water outlet pumps from the API separator are sized for the full water inflow rate to the API separator, which is again conservative.



## STORMWATER POLLUTION PREVENTION PLAN

Site Inventory  
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### 3.3.1.2 Contact Water

The design basis for the storm system for contact water (non-containment areas shown on drawing 7704-C-110) as well as the storm water piping is as follows:

- A one in ten-year storm of duration one hour was used to determine the maximum rainfall rate that would be expected as being required to be handled by these facilities. For this location, the rainfall rate for a one in ten-year storm of duration one hour is 18 mm/h.
- The stormceptor for the system was selected and sized based on:
  - The total surface area of paving (100 % impermeable)
  - The volume of water expected to be captured in that area per hour i.e., the area multiplied by the rainfall rate of 18 mm/hr
  - A stormceptor provides TSS and oil/grit removal from stormwater flows and is designed for small and frequent storm events that represent most of the rainfall received in the area (Langley Concrete, 2022).

Like the existing wharf at Fraser Surrey, DP World Fraser Surrey does not intend to collect the rainfall runoff from the access trestle or loading platform. The piping to the loading arm along the trestle will be double-walled and the only time canola oil could be released from the system would be during maintenance activities where temporary local containment will be applied. Based on this, there is no stormwater drawing being produced for this area. A detailed hydrological assessment will be provided during detailed design.

### 3.3.1.3 100 Year Storm Event

The rainfall rate for a 1 in 100-year storm event is 26 mm/hr (ECCC, 2022). While this exceeds the 10-year design event by 44%, it is expected that this would result in minor, temporary puddling that would dissipate following the rain event. The containment areas will be designed with water-tight containment walls that are approximately 2.4 m in height; higher than required to accommodate a 100-year storm event. The canola oil piping system is closed loop in its entirety and no contact water contamination is anticipated.

### 3.3.2 WATER QUALITY EVENT

The expected water quality event is based on a one in two-year storm of duration two hours, which for this location is expected to be a rainfall rate of 7.5 mm/h (ECCC, 2022). This is 40% of the storm drainage event rainfall rate of 18 mm/h that the system has been designed with capacity for, with an assumed 100% impervious surface. The use of the Stormceptor in the design for contact water area will remove built up pollutants such as TSS, oil and grit (Langley Concrete, 2022) prior to stormwater entry into the DP World Fraser Surrey stormwater system. The model of this utility will be determined in the detail design.



# STORMWATER POLLUTION PREVENTION PLAN

Issues identification  
October 4, 2022

## 4.0 ISSUES IDENTIFICATION

### 4.1 APPLICABLE STANDARDS, ACTS AND REGULATIONS

The following legislations and standards are applicable to the Project's construction and operational phases:

- *BC Environmental Management Act*, SBC 2003, c. 53 (current to June 1, 2022)
- Waste Discharge Regulation (BC Reg. 320/2004) (current to March 29, 2022)
- BC Workers' Compensation Act, RSBC 1996, c. 492, (current to June 1, 2022)
- *Canada Environmental Protection Act*, 1999, SC 1999, c. 33 (current to June 1, 2022)
- *Canada Shipping Act*, 2001, SC 2001, c. 26 (current to June 1, 2022, and last amended on July 30, 2019)
- National Spill Response Protocol (last updated February 2, 2019)
- Canadian Council of Ministers of the Environment, Canadian Environmental Quality Guidelines, (CCME 2022).
- *Fisheries Act*, RSC 1985, c. F-14 (current to June 1, 2022, and last amended on August 28, 2019)
- Port Authorities Operations Regulations (SOR/2000-55) (current to June 1, 2022, and last amended on October 6, 2020),
- *Transportation of Dangerous Goods Act*, 1992, SC 1992, c. 34 (current to June 1, 2022, and last amended on August 28, 2019)

### 4.2 POTENTIAL POLLUTANT SOURCES

Project-related activities during construction and operations were assessed to determine materials and practices that could lead to measurable pollutants entering stormwater. Potential events that could result in contamination to stormwater during Project operation include:

- Spilled canola oil
- Grit and dust from surrounding paved surfaces
- Fuel, oil, or coolant from spilled or damaged service or personal vehicles
- Hydraulic oil spilled during maintenance activities
- Fuel, oil, or coolant spilled due to improper storage

### 4.3 POTENTIAL SENSITIVE RECEPTORS

Given that the Project area is mostly paved, with curbs and catch basins, the destination for stormwater will be the Fraser River to the west of the Project. Utility drawings provided in application package (drawing 7704-C-110) the shows the existing stormwater drainage system, updates to the infrastructure required for this project, and the identified sensitive receptors.



## **STORMWATER POLLUTION PREVENTION PLAN**

Stormwater Pollution Prevention Plan  
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The Fraser River shoreline and open water west of Project Site could be affected by a potential change to stormwater, due to a spill to this waterbody via ship loader, conveyor system spills, or from site-wide drainage.

### **4.4 IDENTIFIED ISSUES**

The storage of small amounts of fuel, lubricants, and coolants on Site for maintenance will be in accordance with the Project's Spill Prevention and Emergency Response Plan (Attachment A). Any bulk fuel storage required on Site during Project construction will be stored in secondary containment that is sized to contain fuel and in accordance with regulations (e.g., Federal Storage Tank requirements).

### **4.5 IDENTIFIED POLLUTANT PATHWAYS**

The stormwater drainage network is shown on the utility drawings provided in application package (drawing 7704-C-110) includes the culverted Berth 10 drainage culvert. This culvert is most likely to be affected by the canola storage facility at the Project Site. Although this is a covered culvert, it is the main drainage from the canola storage facility and could become a pathway for Project stormwater off Site.

## **5.0 STORMWATER POLLUTION PREVENTION PLAN**

### **5.1 MANAGEMENT STRATEGY**

#### **5.1.1 Drawings**

Existing utilities, stormwater drainage system, updates to the infrastructure required for this project are provided in the application package (drawing 7704-C-110).

#### **5.1.2 Housekeeping Practices**

Good housekeeping practices will be the most effective management practice for pollution prevention at the Project site. Exposed areas of the Project site will be maintained in a clean and orderly manner. Waste will be regularly removed from the Project site, and routine inspections will be conducted to monitor the quality of housekeeping protocols.

#### **5.1.3 Preventative Maintenance**

The machinery working on Site must be in good working order. The Project will include a preventative maintenance program that includes the regular inspection, maintenance, and repair of equipment.

#### **5.1.4 Spill Prevention and Response Procedure**

Spill kits will be readily available on Site in centralized locations. Spill Prevention and Emergency Response Procedures are outlined in Attachment A.



## STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan  
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Isolation valves have been provided at multiple locations in the process at the points where it is sound engineering practice to do so, which will be reviewed via a Hazard and Operability Analysis which will be conducted during detailed engineering. The current isolation valve locations include (but are not limited to) the following:

- Each railcar outlet connection to the unloading arm
- Each railcar unloading arm to the main railcar offloading manifold
- Inlet and outlet of railcar unloading pumps
- Railcar offloading pump discharge manifold split between CSD storage, direct hit transfer to marine loading pumps, and recycle line
- Inlet of each CSD storage tank has two valves:
  - Isolation valve that opens or closes to direct flow to that tank, this valve also trips closed on LAHH in the tank to prevent overflow of the tank
  - Isolation valve at tank shell which is opened or closed to isolate tank for maintenance
- Outlet of each CSD storage tank has two valves:
  - Isolation valve at tank shell which is opened or closed to isolate tank for maintenance
  - Isolation valve that opens or closes to direct flow from that tank, this valve also trips closed on LALL in the tank to prevent pump cavitation
- Marine loading pump suction split between CSD storage and direct hit
- Inlet and outlet of marine loading pumps
- Pig launcher
- Pig receiver
- Land to jetty border

### 5.1.5 SITE CONTAINMENT AND COLLECTION SYSTEMS

The site will include multiple containment areas with associated sumps as described below and shown on drawing 7704-C-110. Each of these sealed containment areas will not permit water to flow naturally to the surrounding environment either by surface runoff or by percolation. A system of drainage sumps located either within or adjacent to the containment areas will collect runoff (precipitation and any spilled canola oil) and transfer it to a common API separator (apart from the sump for the marine loading pipeline pig receiver at the jetty which will be emptied by road tanker, which will then also transfer this stream to the common API separator). It is anticipated that the common API separator will serve the areas containing the following:

- Railcar unloading stations via sump and sump pumps
- Railcar unloading pumps via sump and sump pumps
- CSD storage tanks via sump and sump pumps
- Marine loading pumps via sump and sump pumps





## **STORMWATER POLLUTION PREVENTION PLAN**

Stormwater Pollution Prevention Plan  
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- Marine loading pipeline pig launcher via sump and sump pumps
- Marine loading pipeline pig receiver (at jetty) via road tanker

### **5.1.5.1 Railcar Unloading Stations Area Sump System**

The pans underneath the loading area are anticipated to collect small volumes of canola oil. The collected water and oil will be routed to a sump. The sump pumps will transfer this stream to the common API separator.

### **5.1.5.2 Railcar Unloading Pumps Area Sump System**

This area is anticipated to be potentially contaminated with canola oil due to any potential failures of pump seals that may occur over time. The collected water and oil will be routed to a sump. The sump pumps will transfer this stream to the common API separator. Depending on the final railcar unloading pump set location it may be possible to combine this with either the railcar unloading stations area sump or the marine loading pumps sump.

### **5.1.5.3 CSD Storage Tanks Area Sump System**

This area is anticipated to be relatively clean. The collected water and oil will be routed to a sump. The sump pumps will transfer this stream to the common API separator.

### **5.1.5.4 Marine Loading Pumps Area Sump System**

This area is anticipated to be potentially contaminated with canola oil due to any failures of pump seals that may occur over time. The collected water and oil will be routed to a sump. The sump pumps will transfer this stream to the common API separator. Depending on the final railcar unloading pump set location it may be possible to combine this with the railcar unloading pumps sump.

### **5.1.5.5 Marine Loading Pipeline Pig Launcher Area Sump System**

This area is anticipated to be potentially contaminated with canola oil due to pigging activities. The collected water and oil will be routed to a sump. The sump pumps will transfer this stream to the common API separator. It will likely be possible to combine this sump with the marine loading pumps sump.

### **5.1.5.6 Marine Loading Pipeline Pig Receiver Area Sump System**

This area is anticipated to be potentially contaminated with canola oil due to pigging activities. The water and oil collected will be discharged to a sump which will be periodically emptied by truck and taken to the common API separator for further processing.

### **5.1.6 Treatment – COMMON API SEPARATOR**

The water collected by the sump systems described above will be directed to a common gravimetric API separator.

The separator will remove the oil from the feed stream and will produce two liquid streams as follows:

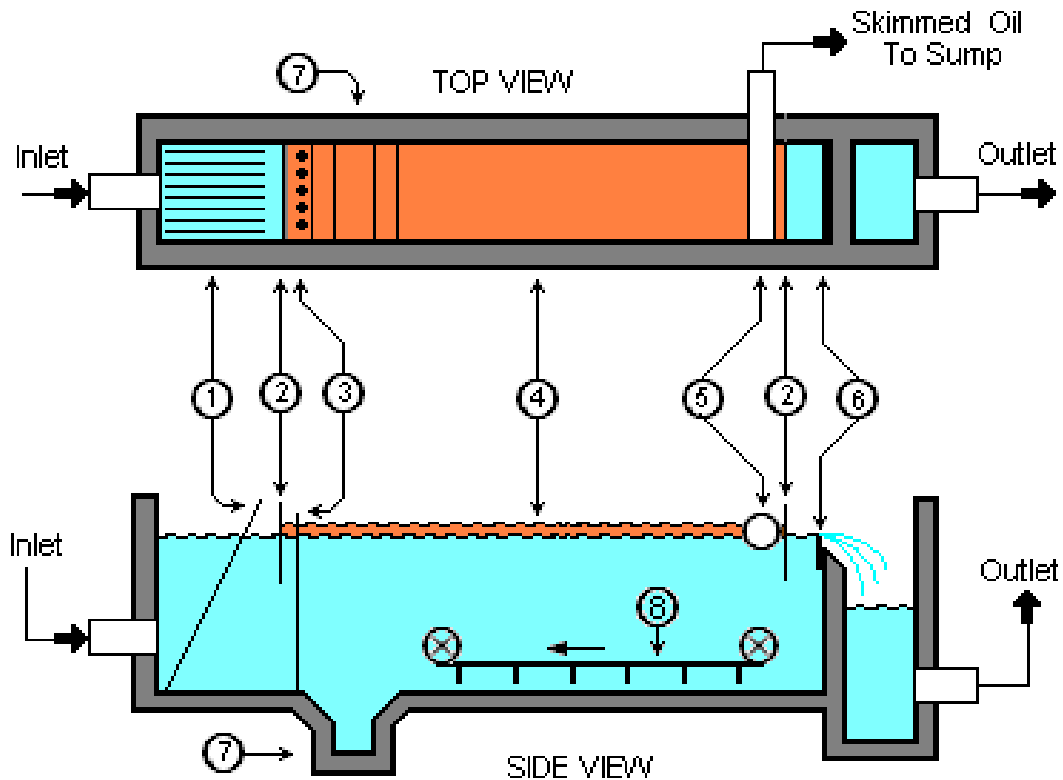


## STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan  
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- An oil stream – this will be skimmed off and pumped to an oil holding tank, which will be periodically emptied by truck.
- An outflow stream – this will be routed to the existing stormwater network

Figure 2 Typical gravimetric API separator (Beychok, 1971).



- 1 Trash trap (inclined rods)
- 2 Oil retention baffles
- 3 Flow distributors (vertical rods)
- 4 Oil layer
- 5 Slotted pipe skimmer
- 6 Adjustable overflow weir
- 7 Sludge sump
- 8 Chain and flight scraper



# STORMWATER POLLUTION PREVENTION PLAN

Canola Oil MANAGEMENT  
October 4, 2022

## 6.0 CANOLA OIL MANAGEMENT

### 6.1 OVERVIEW

During facility operations canola oil spill prevention and control will be managed in line with regulatory requirements and best management practices identified in the VFPA Vegetable Oil Marine Terminal Operational Practices Study (SNC 2012). For the commissioning phase, when Canola Oil may begin arriving at the Terminal, a section on the spill prevention and preparedness has been included in the Project construction environmental management plan (CEMP). An operational canola oil management plan will be developed that references the following topic areas:

- Facility maintenance, including tanks, piping, pump stations, rail tank car unloading, tank truck loading and unloading, marine loading, spill containment and runoff collection, fire prevention and protection, utilities
- Operating procedures and safe work practices
- Land and marine spill prevention, preparedness, and response

## 7.0 ROLES AND RESPONSIBILITIES

Key roles and responsibilities involved with planning and implementation of the SPPP during construction are outlined in Table 1 below. Once the facility is operational the facility manager will be responsible for site housekeeping, maintenance, spill response, and BMPs.

Further details, including responsibilities are provided in the Construction Environmental Management Plan for the Project.

**Table 1 Key Roles and Responsibilities**

Role	Organization	Responsibilities	Contact
Environmental Manager	Stantec	<ul style="list-style-type: none"><li>• Ensure implementation</li><li>• Monitor the Contractor and provide direction and compliance</li><li>• Assess potential risks during pre-construction planning and construction</li><li>• Review and update the SPPP as needed</li></ul>	mark.johannes@stantec.com 604-418-1095
Environmental Monitor	TBD	<ul style="list-style-type: none"><li>• Monitor construction for compliance with the SPPP</li><li>• Coordinate with the Contractor staff in the implementation and maintenance of mitigation measures</li></ul>	TBD



# STORMWATER POLLUTION PREVENTION PLAN

Implementation and Monitoring  
October 4, 2022

**Table 1 Key Roles and Responsibilities**

<b>Role</b>	<b>Organization</b>	<b>Responsibilities</b>	<b>Contact</b>
Construction Manager	TBD	<ul style="list-style-type: none"><li>• Ensure compliance with the SPPP during completion of the contract</li><li>• Responsible for housekeeping and spill response procedures</li><li>• Responsible for training and overseeing employees, suppliers, and subcontractors consistent with requirements</li></ul>	TBD
Senior Manager Infrastructure	DP World	<ul style="list-style-type: none"><li>• Overall responsibility for the protection of the environment and public health and safety, including direction to contractors during construction, and input on design of facilities</li></ul>	Hamish.Fairweather@dpworld.com 604-803-5678
Canola Operations Manager	DP World	<ul style="list-style-type: none"><li>• Overall responsibility for the protection of the environment, good housekeeping, and public health &amp; safety during operations</li></ul>	TBD

## 8.0 IMPLEMENTATION AND MONITORING

### 8.1 TRAINING

Construction and operations staff will receive training on the contents of this plan to properly identify conditions and activities that could affect stormwater quality. The training will outline the requirement to report ineffective stormwater BMPs to their supervisor or site management. Training will be documented in Visitor and New Employee Orientations and in Crew Safety Talks.

### 8.2 ADAPTIVE MANAGEMENT AND CONTINUOUS IMPROVEMENT

Adaptive management is a planned and systemic process for continuously improving environmental practices by learning about their outcomes. If current BMPs are ineffective and additional mitigation is required, the SPPP will be updated and reissued.



## STORMWATER POLLUTION PREVENTION PLAN

Closure

October 4, 2022

### 8.3 PLAN REVISION

The SPPP will be reviewed and potentially revised or updated in the following instances:

- Changes to Port requirements for SPPPs
- Changes to Site infrastructure
- If the plan proves to be inefficient
- Significant changes to the Project operations

### 9.0 CLOSURE

This SPPP has been created to protect valued features within and adjacent to the Project site during construction, and to comply with Project and Environmental Review conditions and approvals and with legislative requirements and regulations. The SPPP will be updated as Project conditions, execution plans, and schedules are implemented or revised. The SPPP will also be reviewed as required to address updates or potential changes in the Project and permit conditions, prior to mobilization of the Contractor and throughout the construction phase of the Project.



## STORMWATER POLLUTION PREVENTION PLAN

Attachment A **Stormwater Utility Drawing #7704- C- 110**

October 4, 2022

### 10.0 REFERENCES

Beychok, Milton R. "*Wastewater treatment*". Hydrocarbon Processing: 109–112. December 1971.

Environment and Climate Change Canada (ECCC). 2022. Engineering Climate Datasets. Available at: [Engineering Climate Datasets - Climate - Environment and Climate Change Canada \(weather.gc.ca\)](https://weather.gc.ca/EngineeringClimateDatasets-Climate-EnvironmentandClimateChangeCanada); accessed May 2022.

Langley Concrete. 2022. Stormceptor. Available at: <https://www.langleyconcretegroup.com/products/stormceptor-products>; accessed May 2022.



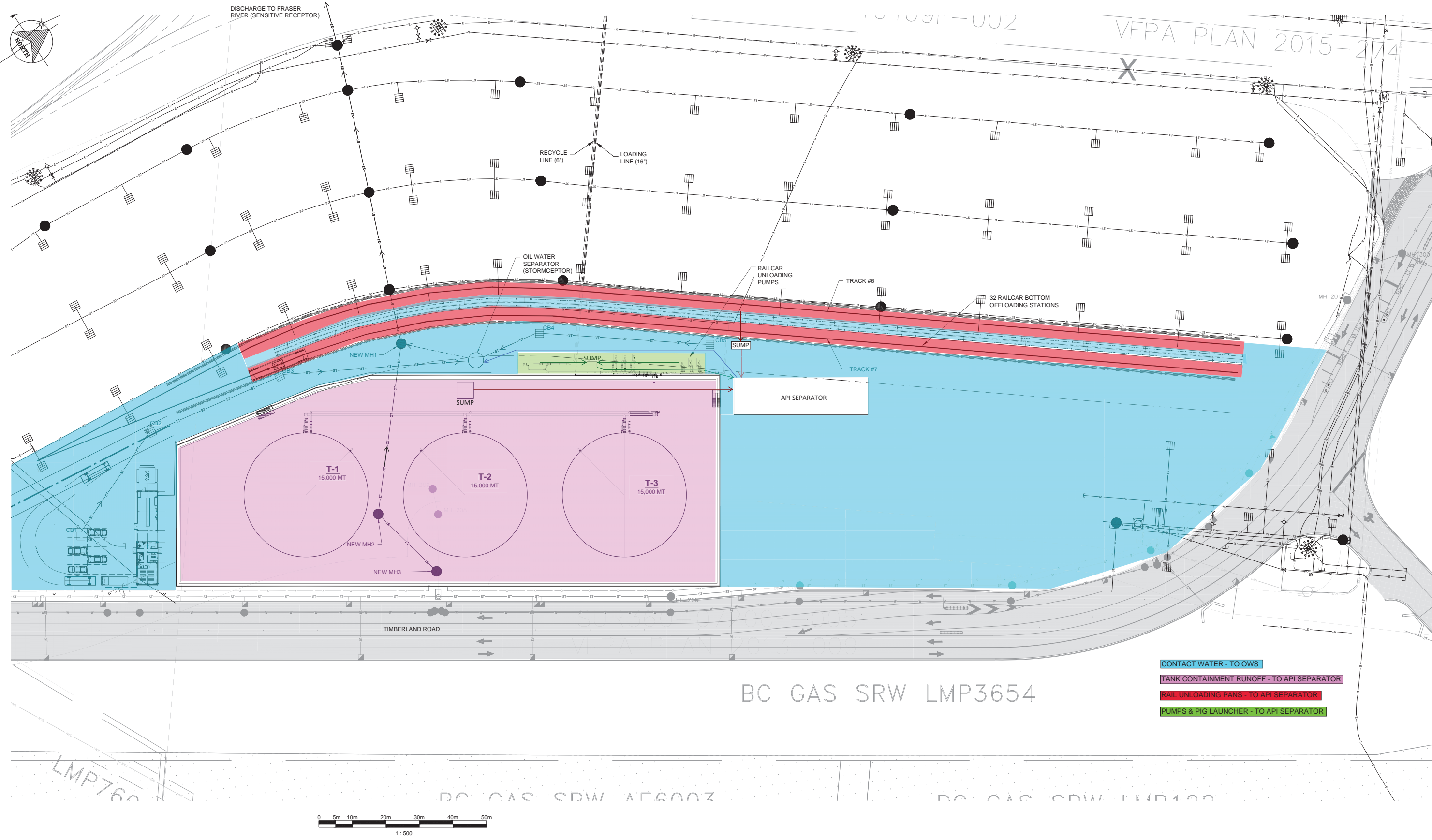
**STORMWATER POLLUTION PREVENTION PLAN**

Attachment A **Stormwater Utility Drawing #7704- C- 110**

October 4, 2022

**Attachment A      STORMWATER UTILITY DRAWING  
#7704- C- 110**





BC GAS SRW LMP3654

- CONTACT WATER - TO OWS
- TANK CONTAINMENT RUNOFF - TO API SEPARATOR
- RAIL UNLOADING PANS - TO API SEPARATOR
- PUMPS & PIG LAUNCHER - TO API SEPARATOR

No.	DATE	DESCRIPTION	ISSUE / REVISIONS	DRAWN	CHK'D	DESIGN	CHK'D	APP'D	No.	DATE	DESCRIPTION	ISSUE / REVISIONS	DRAWN	CHK'D	DESIGN	CHK'D	APP'D	

No.	DATE	DESCRIPTION	ISSUE / REVISIONS	DRAWN	CHK'D	DESIGN	CHK'D	APP'D
D	SEP28/22	ISSUED FOR INFORMATION (CONCEPTUAL DESIGN)		DP	KS	KS		
C	AUG31/22	ISSUED FOR REVIEW		TM	KS	KS		
B	JUL06/22	RE-ISSUED FOR PERMIT		SN	KS	KS		
A	JUN30/22	ISSUED FOR PERMIT		TM	KS	KS		



CONSULTANT			
TITLE			
CANOLA OIL TRANSLOAD STORM WATER MANAGEMENT			
DRAWING SCALE	PROJECT NUMBER	DRAWING NUMBER	REV.
1:500	7704	7704-C-110	D