



WASTE DISCHARGE PERMIT NO. SC-100010-VSA

Pursuant to:

Greater Vancouver Sewerage & Drainage District Sewer Use Bylaw No. 299, 2007, as amended (the "Bylaw")
and the BC Environmental Management Act, S.B.C. 2003, c.53

Issued to:

Parkland Refining (B.C.) Ltd.
(the "Permittee")

To Authorize:

the discharge of Wastewater to Sewer from
a petroleum refinery

Located at

5201 Penzance Drive, Burnaby, BC V5C 1L7

Effective Period:

The terms and conditions set out in the Permit apply to the existing or planned works on
October 01, 2026

All previous versions of this Waste Discharge Permit are hereby rescinded and rendered null and void as of the
start of the effective period stated above.

Issued: July 31, 1995
Amended: September 29, 2026

A handwritten signature in blue ink, appearing to read 'Maari Hirvi Mayne'.

Maari Hirvi Mayne, M.Eng., P.Eng.
Deputy Sewage Control Manager

GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT

SCHEDULE A

This Schedule sets out requirements for the quantity and quality of the discharge to Sewer.

1. AUTHORIZED RATE OF DISCHARGE

The Permittee must not exceed the following:

Sample Point: 1

- Maximum daily discharge flow rate: **2592.00 m³/d**
- Maximum instantaneous peak flow rate: **30.00 L/s**

2. AUTHORIZED DISCHARGE CRITERIA

- a) The Permittee must not discharge Restricted Waste or other Waste, as defined in the Bylaw, including but not limited to the following (regardless of sample type):

Parameter	Authorized Limit	Notes
Benzene	0.1 mg/L	
Phenols	1 mg/L	
Polycyclic Aromatic Hydrocarbons	0.05 mg/L	
Total BETX	1 mg/L	
Lead - total	1 mg/L	

- b) The Permittee must not discharge Restricted Waste or other Waste, as defined in the Bylaw, with the following exceptions (regardless of sample type):

Parameter	Authorized Limit	Notes
pH	6 - 10.5 pH Units	
Biochemical Oxygen Demand	100 mg/L	
Total Suspended Solids	100 mg/L	October 1 – March 31
Total Suspended Solids	60 mg/L	April 1 – September 30
Total Suspended Solids	40 mg/L	Average concentration/month
Oil & Grease Hydrocarbon	20 mg/L	
Oil & Grease Hydrocarbon	10 mg/L	Average concentration/month

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GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT

SCHEDULE A

Parameter	Authorized Limit	Notes
Ammonia as N	20 mg/L	
Ammonia as N	10 mg/L	Average concentration/month
Chlorine (free)	5 mg/L	
Cyanide	0.3 mg/L	
Cyanide	0.1 mg/L	Average concentration/month
Sulphide	0.7 mg/L	
Sulphide	0.3 mg/L	Average concentration/month
Temperature	50 degrees Celsius	
Phenols	0.5 mg/L	Average concentration/month
Chromium - total	0.3 mg/L	
Zinc - total	1 mg/L	

- c) The Permittee shall not discharge Prohibited Waste, Storm Water or Uncontaminated Water, as defined in the Bylaw, with the exception of storm water collected within the process area collection system or contaminated storm water from outside the process area.
- d) The Permittee must not discharge Hazardous Waste, or effluent from the treatment of Hazardous Waste which exceeds the Effluent Standards for Hazardous Waste Facilities, as stipulated in Schedule 1.2, Column 3, of the BC Environmental Management Act Hazardous Waste Regulation.

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GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT

SCHEDULE B

This Schedule sets out requirements and locations for the approved sample points, waste sources, and works and procedures to treat or control the discharges to Sewer.

1. SAMPLE POINTS, WASTE SOURCES, WORKS & PROCEDURES

SAMPLE POINT: 1

This sample point is considered to be a point of discharge to Sewer. The approved sample point location is described and is illustrated in the photo(s) below.

Description: 1(a) Grab samples: The effluent discharge line downstream of the sodium hypochlorite injection system.

1 (c) Composite samples: The effluent discharge line downstream of the secondary wastewater treatment system (deep shaft), sodium hypochlorite injection system and the wastewater pumps. Samples are obtained from the sample line located in the composite sampler cabinet stored next to the wastewater pumps.

Source: All Plant Sources

Process area
Process area storm water collection
Tank water bottoms
Oily water returns
Contaminated storm water from outside the process area
Waste treatment bio beds
Reformer catalyst regeneration
Sodium hypochlorite injection
Remote Impound Basins (RIB Cells A, B, C)

Type: Continuous

Works and Procedures	Completion Date
Sour water stripper (may not be in continuous operation)	Completed
API forebay and separator	Completed
Retention ponds # 1, 2 & 3 (may not be in continuous operation)	Completed
Dissolved air flotation units	Completed
Carbon adsorption (reformer catalyst regeneration only)	Completed

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GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT

SCHEDULE B

Works and Procedures	Completion Date
Continuous monitoring of the discharge temperature, recorded and logged once every 4 hours during discharge to sewer	Completed
Secondary wastewater treatment system (deep shaft)	Completed
Sodium hypochlorite injection system (notification to Metro Vancouver if maintenance required)	Completed
Continuous flow monitoring and recording	Completed
Continuous pH monitoring and recording	Completed
RIB Cells A, B & C (may not be in continuous operation)	Completed
Good operating practices	Completed
Granular Activated Carbon (GAC) filter with sand pre-filter (as required)	Completed

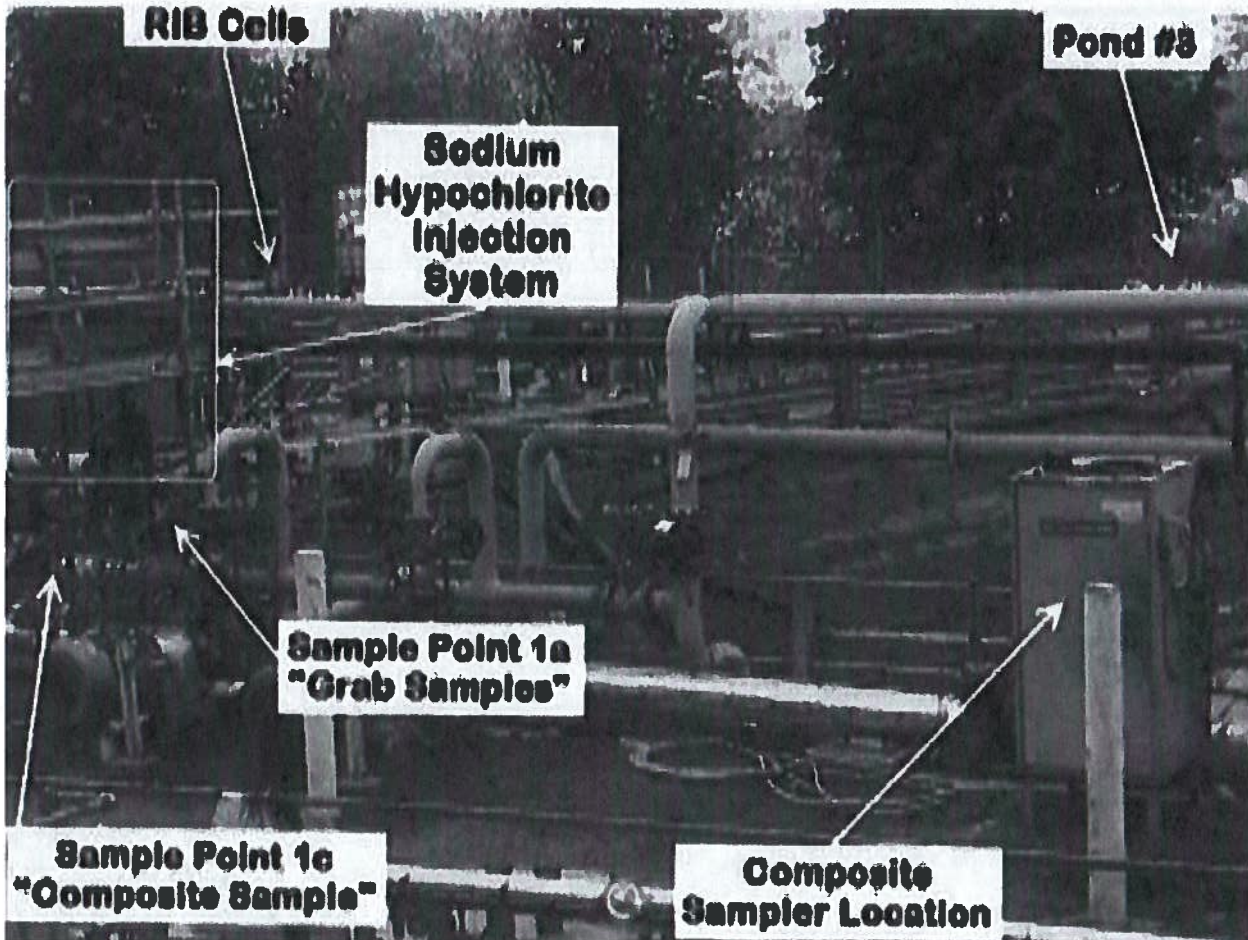
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SCHEDULE B

Photograph of Sample Point 1:



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SCHEDULE B

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SCHEDULE C

This Schedule sets out standard conditions and requirements for emergency notification.

1. STANDARD CONDITIONS

- a) Except as otherwise provided in this Permit, all terms, conditions and definitions stipulated in the Bylaw also apply to this Permit.
- b) Pursuant to the Bylaw, the Sewage Control Manager (the Manager) may amend the terms and conditions of this Permit.
- c) All records required by this permit must be kept available for inspection for a minimum period of five years, and be made available for inspection within three business days of a request by an Officer.

2. WORKS AND PROCEDURES

- a) All authorized works, procedures and requirements must be used at all times during any discharge to sewer. As applicable, all authorized works must be inspected and calibrated regularly according to manufacturer's instructions and maintained in good working condition.
- b) The Manager may require that additional works be installed if the existing works do not provide an acceptable level of treatment. The Manager may authorize new works or alterations to existing works. The Manager may authorize new waste sources.

3. EMERGENCY NOTIFICATION

The Permittee must immediately report to Metro Vancouver by phone: 8:00 AM -11:30 PM at 604-436-6777, 11:30 PM – 8:00 AM at 604-643-8488 and by email: EREnotifications@metrovancover.org:

- a) Spills with the potential to be discharged to the Sanitary Sewer.
- b) Failure of authorized works or conditions or failure to carry out authorized procedures that will or have the potential to result in an Authorized limit being exceeded.
- c) Discharge pH less than 2 or greater than 12.5.

Notification must include the name and contact information of the reporter, the company name and waste discharge permit number, the location, date and time of the incident, and any other pertinent information such as the estimated quantity of a spill and corrective actions taken to mitigate impact.

4. BY-PASSES

The discharge of Wastes that by-pass any authorized works or that is not in accordance with procedures designated by the Permit is prohibited, unless prior authorization has been obtained and confirmed in writing from the Manager.

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SCHEDULE C

5. DISCHARGE MONITORING

- a) All sampling and sample handling of wastewater discharges, including sample containers, storage, preservation and hold time requirements must be carried out in accordance with all prescribed requirements in the latest edition of the "British Columbia Environmental Laboratory Manual" published by the Ministry of Environment and Parks, Province of British Columbia or "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, or an alternate standard authorized by the Manager.
- b) With the exception of pH measurements, all samples must be analyzed by an independent laboratory accredited through the latest version of ISO/IEC 17025 unless otherwise authorized by the Manager.
- c) Laboratories used by the Permittee must also be accredited by the Canadian Association for Laboratory Accreditation or the Standards Council of Canada for all parameters analyzed and must participate in relevant proficiency testing programs for each parameter.
- d) Any changes in method or location of monitoring must be authorized by the Manager.
- e) Additional monitoring and/or reporting must be undertaken by the Permittee when required by the Manager.

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SCHEDULE D

This Schedule sets out the requirements for the monitoring, sampling and analysis of the discharge to Sewer.

DISCHARGE SAMPLING AND ANALYSES: Effective October 01, 2026

1. FLOW MEASUREMENTS

The Permittee must record the discharge flow to sanitary sewer during each day of discharge using the method(s) authorized in Schedule B, and record for reporting purposes the following:

- Total discharge volume (m^3) for each day of the calendar month for sample point(s) 1
- Total discharge volume (m^3) for the calendar month for sample point(s) 1
- Number of days of discharge to sanitary sewer during each calendar month for sample point(s) 1
- Maximum daily discharge flow rate (m^3/d) during each calendar month for sample point(s) 1
- Maximum instantaneous flow rate (L/s) during each calendar month for sample point(s) 1

2. CONTINUOUS MEASUREMENTS

The Permittee must continuously measure the discharge pH during the period of discharge to sewer for sample point(s) 1 and record for reporting purposes the following:

- The total number of hours of discharge below the authorized pH range and the total number of hours of discharge above the authorized pH range during each calendar month of operation.
- Total number of hours of discharge during the calendar month.

3. SAMPLING PROGRAM

Continuous Discharge Sampling:

The Permittee must record for reporting purposes for each sample the following:

- Sample date
- Sample collection time or sample collection start and stop time(s) if applicable
- Total daily discharge volume (m^3) on the date of sampling

SAMPLE POINT: 1

Continuous Discharges:

On one normal operating day once per month collect 1 set of grab samples (*see below) and analyze

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SCHEDULE D

for:

- Total BETX

On one normal operating day once per month collect 1 set of composite samples from Sample Point 1(c) and analyze for:

- Total Metals by ICP Scan including:
Aluminum, Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead,
Manganese, Molybdenum, Nickel, Selenium, Silver, Zinc

On one normal operating day once per week collect 1 set of grab samples from Sample Point 1(a) and analyze for:

- pH
- Oil & Grease Hydrocarbon
- Ammonia as N
- Cyanide
- Sulphide
- Phenols

On one normal operating day once per week collect 1 set of composite samples from Sample Point 1(c) and analyze for:

- Biochemical Oxygen Demand
- Total Suspended Solids
- Sulphate

On one normal operating day once per quarter collect 1 set of grab samples from Sample Point 1(a) and analyze for:

- Polycyclic Aromatic Hydrocarbons

Grab sample pH analysis must be conducted immediately upon sampling.

Unless otherwise specified, composite samples must consist of equal portions of grab samples, collected at a frequency of at least one per hour during discharge to sewer.

If composite sampling is specified, grab samples must be taken during the period of composite sampling unless noted otherwise in this Schedule.

Unless otherwise specified, all samples should be taken during normal discharge.

*Total BETX samples shall be collected from Sample Point 1(a)

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SCHEDULE E

This Schedule sets out reporting requirements for this Permit.

1. REPORTING REQUIREMENTS

By January 31, 2027 and quarterly thereafter for the term of this permit:

The Permittee must submit a report for the previous calendar quarter which includes:

- the results of the discharge sampling and analyses program, as specified
- continuous pH monitoring data;
- all lab reports; and
- daily discharge flow reports.

This information must be submitted electronically using the supplied password-enabled web based application.

Should a violation of any term or condition of the Permit be noted, the report must include a summary of the investigation into the cause of the violation and the corrective actions taken or proposed to prevent future violations. This does not preclude the immediate notification requirements specified in Schedule C.

2. ADDITIONAL REPORTING

Report Type	Requirements	Due Date	Frequency
Sampling Methodology	Written report outlining the methods used for the sampling and analysis program contained in this Permit. The report shall include: sampling schedule; sample handling including sampling methods, preservation, storage, and transportation; analytical methods references; potential interferences / results bias; laboratory quality assurance / control programs in place; identification of the laboratory responsible for conducting analyses (in-house or consultant).	September 30, 2027	Yearly thereafter
Equipment Maintenance	Written report describing: the procedures, frequency, and record keeping for inspections and maintenance of equipment listed in Schedule B, under Works and Procedures; procedures for inspection and calibration of in-situ monitoring equipment listed in Schedule B, under Works and	September 30, 2027	Yearly thereafter

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SCHEDULE E

Report Type	Requirements	Due Date	Frequency
	Procedures; and a description of the training, duties and responsibilities of personnel maintaining and operating these works.		
Other	Written report detailing the results of the Dissolved Organic Halides sampling and analyses program for the preceding calendar year. The sampling program shall consist of three set of grab samples, consisting of pre and post chlorinated effluent, during one normal operating day once per annum. The grab samples shall be taken on the same day that the weekly composite sample described in Schedule D, Section 3 is taken, with a minimum sample frequency of once every 15 minutes.	September 30, 2027	Yearly thereafter

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