

Parkland Burnaby Refinery

A PROJECT NOTIFICATION SUBMITTED TO THE ENVIRONMENTAL ASSESSMENT OFFICE UNDER SECTION 10 OF THE *ENVIRONMENTAL ASSESSMENT ACT (2018)*

NUMBER:

PN-002

SUBMITTED ON:

JUNE 29, 2020

SUBMITTED BY:

PARKLAND REFINING (B.C.) LTD., A DIVISION OF PARKLAND CORPORATION

PUBLISHED BY THE EAO ON:

JULY 7, 2020, UPDATED JULY 28, 2020

Parkland Burnaby Refinery

PROJECT NOTIFICATION

The Chief Executive Assessment officer (CEAO) has required that the information in the categories in this document is the information that must be included in a project notification pursuant to Section 10(1) of the [Environmental Assessment Act \(2018\)](#) (the Act) and as defined in the Environmental Assessment Office's (EAO) [Project Notification Policy](#).

The information was submitted by Parkland Refining (B.C.) Ltd., a division of Parkland Corporation (PRBC), the proponent for the Parkland Burnaby Refinery Project (PBR), on June 29, 2020 (see Appendix B).

INTRODUCTION

Under Section 10 of the Act, the CEAO must review the notification and within 60-days of receiving the notification, must do one of the following: 1) refer the notification to the Minister of Environment and Climate Change Strategy for consideration to designate the project as a reviewable project; 2) require further review under Section 10; or 3) determine that no further review is required. For more information on the Project Notification process, please refer to the [Project Notification Policy](#).

The purpose of this document is to provide the public with information about the proposed project. A public comment period on the notification for the proposed project opens on July 13, 2020 at 9:00 AM PST and closes on August 14, 2020 at midnight PST. Comments may be submitted on the EAO's Project Information & Collaboration website ([EPIC](#)). All comments received that meet the [Public Comment Policy](#) will be posted on EPIC. The comments received will be considered by the CEAO when making a decision under Section 10.

SUMMARY OF PROJECT INFORMATION

Project Name	Parkland Burnaby Refinery (PBR)		
Project Description Summary	Parkland Refining (B.C.) Ltd., a division of Parkland Corporation, is proposing the construction of eight storage tanks at the Parkland Burnaby Refinery.		
Proponent Name	Parkland Refining (B.C.) Ltd., a division of Parkland Corporation	Project Type	Energy – Petroleum and Natural Gas
Project Nature	Modification to existing project	Project Sub-Type	Oil Refinery
Region	Lower Mainland	Location	North Burnaby, B.C.

TRIGGER FOR NOTIFICATION

The Parkland Burnaby Refinery Project is not a reviewable project under the [Reviewable Project Regulation](#) (RPR) but has triggered notification under Section 5(3). Under this section, the proponent of a project must notify the EAO if:

- An existing project, as modified, that emits 125,000 tonnes per year or more of one or more greenhouse gases (GHG) directly from project facilities determined in accordance with [Part 3 of the Greenhouse Gas Emission Reporting Regulation](#).

DETAILED PROJECT INFORMATION

Proposed on and off-site facilities	<p>PBR is divided into two parts: Area 2 which primarily includes the refining processing equipment and Area 1, which includes other infrastructure such as:</p> <ul style="list-style-type: none"> • a tank farm; • rail loading/offloading facilities; • truck loading and offloading facilities; and • marine loading and unloading facilities (wharf). <p>The two portions of the facility are connected through a pipeline system running through Confederation Park.</p>
Location description	See Section 3 of Appendix B.
Proposed activities	PRBC is proposing the development of eight additional storage tanks in Area 2.
Associated projects	See Section 4 of Appendix B.
Work completed	See Section 4 of Appendix B.
Duration of the project	See Section 4 of Appendix B.

PROJECT AUTHORIZATIONS

Existing permits or tenure in place.	See Section 5 of Appendix B.
Required permits, licenses, tenures or other authorizations and their status, if they've been applied for.	See Section 5 of Appendix B.

NOTIFICATION THRESHOLD INFORMATION

Greenhouse Gases (Section 5(3))	
Estimated amount of GHG emissions in tonnes/year measured in carbon dioxide equivalents.	<p>The Parkland Burnaby Refinery reported 493,298 tonnes of GHG emissions in 2019.</p> <p>With the addition of the planned storage tanks at the facility, GHG emissions would increase by 153.4 tonnes per year or 0.3%.</p>
Brief description of the primary source(s) of GHG emissions.	<p>The eight proposed storage tanks would emit 153.4 tonnes of GHGs per year.</p>

APPENDIX A – PROJECT MAPS

See Section 7 of Appendix B.

APPENDIX B – SUPPLEMENTAL INFORMATION



EAO Project Notification

June 29, 2020

Modification of an Existing Project: Addition of Storage Tanks to the Parkland Burnaby Refinery

1.0 Proponent Information and Contacts

1.1. Proponent Name

Parkland Refining (B.C.) Ltd., a division of Parkland Corporation

1.2. Mailing Address

1000 - 2025 Willingdon Avenue
Burnaby, BC V5C 0J3
604-668-5300

Website: www.parkland.ca

1.3. Primary Contacts

Nick Middleton – Director Health, Safety and Environment
Phone: 604-257-4021
E-mail: nick.middleton@parkland.ca

Peter Turner – Director Strategic Growth Projects
Phone: 604-644-8110
E-mail: pete.turner@parkland.ca

2.0 Project Information

2.1. Project Name

Parkland Burnaby Refinery

2.2. Project Industrial Type/Subtype

Project Type: Oil Refinery
NAIC Code: 324110 Petroleum Refineries

2.3. Project Location within Province and Region

North Burnaby, BC

2.4. Latitude/Longitude

49.29444 , -122.98888



3.0 Existing Project Description

The Parkland Burnaby Refinery, owned and operated by Parkland Refining BC (PRBC) in Burnaby, British Columbia, Canada, refines up to 55,000 bbl/day of conventional and synthetic crude as well as renewable bio-feed stocks into gasoline, diesel, jet fuels, asphalts, heating fuels, heavy fuel oils, butanes, and propane.

The refinery has operated in North Burnaby since 1936. The facility is divided into two parts: Area 2 which primarily includes the refining processing equipment and Area 1, which includes other infrastructure such as:

- a tank farm
- rail loading/offloading facilities,
- truck loading and offloading facilities
- marine loading and unloading facilities (wharf)

The two portions of the facility are connected through a pipeline system running through Confederation Park.

The Refinery is located within the community of North Burnaby, on the south shore of Burrard Inlet, and is adjacent to Burnaby's Confederation Park and the Trans-Canada Trail. The region is on the traditional unceded territory of the Musqueam, Squamish and Tsleil-Waututh Nations. The refinery is located across from Tsleil-Waututh Nation Reserve Lands, located on the north side of the Burrard Inlet.

Parkland is committed to ongoing engagement with key stakeholders on the development of this project.

4.0 Planned Project Modification Description

On November 25, 2019, PRBC applied for an interim amendment to the facility's Air Permit with Metro Vancouver. The purpose of this amendment was to bring into effect a reduction of permitted SO_x and NO_x emissions from the facility by 38% and 16%, respectively. This amendment was the result of a multi-year effort to reduce facility emissions.

The permit amendment also included the addition of up to eight new storage tanks to the facility, to be located in Area 2, to store advanced bio-feedstocks to meet BC's Low Carbon Fuels Requirements and to allow for increased flexibility to support required ongoing tank maintenance. These tanks are considered new emissions sources, as they will be marginally adding to the facility's overall Greenhouse Gas emissions (an increase of 0.3%). As the Parkland Burnaby Refinery emits above the 125,000 tonnes per year Greenhouse Gas emissions threshold listed in the Reviewable Projects Regulation, the addition of these new emissions sources triggers the notification requirements. A summary of the Greenhouse Gas emissions from the new tanks in is attached to this notification as Appendix 1.

There are two types of tanks included in the application, described below. The tanks in scope for this project will be built on existing refinery property, in Area 2. No land that is not already part of the refinery will be affected by this modification.

4.1. Fixed Roof Tanks (Emission Source 34R in GVA0117)

Six new storage tanks with fixed roofs discharging through fixed roof vents, restricted to the storage of materials with a vapour pressure that shall not exceed 10 kPa. These tanks will provide storage for the refinery's co-processing initiatives to meet requirements under BC's Renewable and Low Carbon Fuels Requirements (LCFR) Regulations. These tanks will adhere to the Canadian Council of Ministers of the Environment (CCME) Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (PN1180).



These storage tanks are required to store conventional and advanced bio-feedstocks to be processed by the Burnaby Refinery into renewable fuels. The Burnaby Refinery is an industry leader in the production of low-carbon liquid fuels. Using a technique called co-processing, conventional crude oil feedstock is processed simultaneously with renewable feedstock to create fuels with a lower carbon intensity. By leveraging existing refinery infrastructure and expertise, the Burnaby Refinery is able to produce renewable gasoline and diesel that require no shift in consumer behavior.

More information on the development of bio-fuels in Burnaby is available at:
<http://www.parklandcap.ca/wp/wp-content/uploads/2019/03/Parkland-News-SPR19web.pdf>.

The development of these storage tanks is a part of a larger strategy for co-processing renewable feedstocks and the production of renewable fuels at the Refinery. As these projects are developed, they will likely include additional scope such as expanded truck and/or rail offloading facilities, marine facility upgrades, new dedicated interconnecting pipeline(s) between Refinery Area 1 and Area 2, and new processing and utilities equipment within the existing oil refinery. As these scopes are developed, permitting processes will be followed with the appropriate regulatory authorities (see **Additional Authorizations** section).

The timeline for the construction of new fixed roof tanks will be driven by the overall co-processing and renewable fuels strategy. The project(s) will follow a staged-gate process for development and approval. The first of these tanks are currently in **Phase 2 – Alternative Selection and Development** of Parkland's development process. The project is next anticipated to proceed through **Front-End Engineering and Design** in 2021 and **Detailed Engineering and Construction** in 2022/2023. The timeline may change based on the pace of project development and the availability of funding.

4.2. Floating Roof Tanks (Emission Source 33R in GVA0117)

Provision for two future tanks constructed with primary and secondary seals maintained in good repair, together with good operating practices. The vapour pressure of materials stored in these tanks will not exceed 76 kPa. The first of these multi-service tanks would be used to provide the flexibility to perform maintenance on existing tank infrastructure without reducing operating rates. The intended use of the second tank is still under assessment at this time. These tanks will adhere the Canadian Council of Ministers of the Environment (CCME) Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (PN1180).

These storage tanks would integrate with the existing infrastructure of the refinery and would be used for storage of material already stored elsewhere in the facility to allow for increased maintenance flexibility or other potential purposes. As such, the addition of these tanks does not materially change associated activities such as increasing processing capacity, storage or shipping of refinery feedstock or products.

The two floating roof tanks will be developed as individual projects and will follow a staged-gate process for project development and approval. The first of these two tanks is currently in **Phase 2 – Alternative Selection and Development** of Parkland's development process. The project is next anticipated to proceed through **Front-End Engineering and Design** in 2021 and **Detailed Engineering and Construction** in 2022/2023. This timeline may change based on the pace of project development and the availability of funding.

The second floating roof tank is currently in **Phase 1 – Business Case Assessment** and does not have a timeline for further development at this stage.



5.0 Authorizations

5.1. Relevant Authorization for Project Modification

The Parkland Burnaby Refinery operates under a Metro Vancouver Regional Air Quality Management Permit GVA0117 to authorize “the discharge of air contaminants from a Petroleum Refinery and Tank Farm.” Parkland applied for an amendment to this permit to include the emissions limits reductions and additional tankage on November 25, 2019. This permit amendment has not yet been approved, however the application was accepted as ‘complete’ by Metro Vancouver on April 14, 2020 upon the issuance of a draft Air Permit for Parkland’s approval.

In addition to the Air Permit listed above, the additional tanks will require a Preliminary Plan Approval (PPA) from the City of Burnaby which considers the community and environmental impacts of the construction and operation of new facilities. The project will also require Building Permits from the City of Burnaby. These permits have not yet been applied for.

5.2. Additional Authorizations for Existing Facility

The Burnaby Refinery operates under a number of other permits and authorizations, including:

- Metro Vancouver Regional District Air Quality Management Permit
- Metro Vancouver Waste Discharge Permits
- BC Ministry of the Environment Effluent Discharge to Burrard Inlet Permit
- Technical Safety BC Plant Operating Permit
- Technical Safety BC Operating Permits for High Pressure Steam Boilers and Unfired Pressure Vessels
- Technical Safety BC Alternate Safety Approach
- Technical Safety BC Contractor License
- BC OGC Pipeline Permits
- City of Burnaby Electrical Permits

6.0 Notification Threshold Information

This Project Notification is triggered under the Notification Category **Greenhouse Gases** (section 5(3) of the Reviewable Projects Regulation). As outlined in the EAO Project Notification Policy document:

A modification to an existing project that emits **125,000 tonnes per year or more** is required to notify the EAO, *only for the first time an expansion of a given project exceeds this threshold.*

For the 2019 reporting year the Burnaby Refinery reported emissions of 493,298 tonnes of GHGs.

With the addition of the planned storage tanks at the facility, GHG emissions will increase by 153.4 tonnes per year – a marginal increase of 0.3%.

With respect to timing of the notification, Section 5(5) of the Reviewable Projects Regulation refers to the table in the Appendix to the Reviewable Projects Transition Regulation and states: “The period prescribed for the purposes of section 10 (1) of the Act is the period ending... (b) if the proponent has made, before the date this section comes into force, all applications for applicable approvals set out in the table, but no approvals have been obtained by the date this section comes into force, 90 days after the date this section comes into force.”

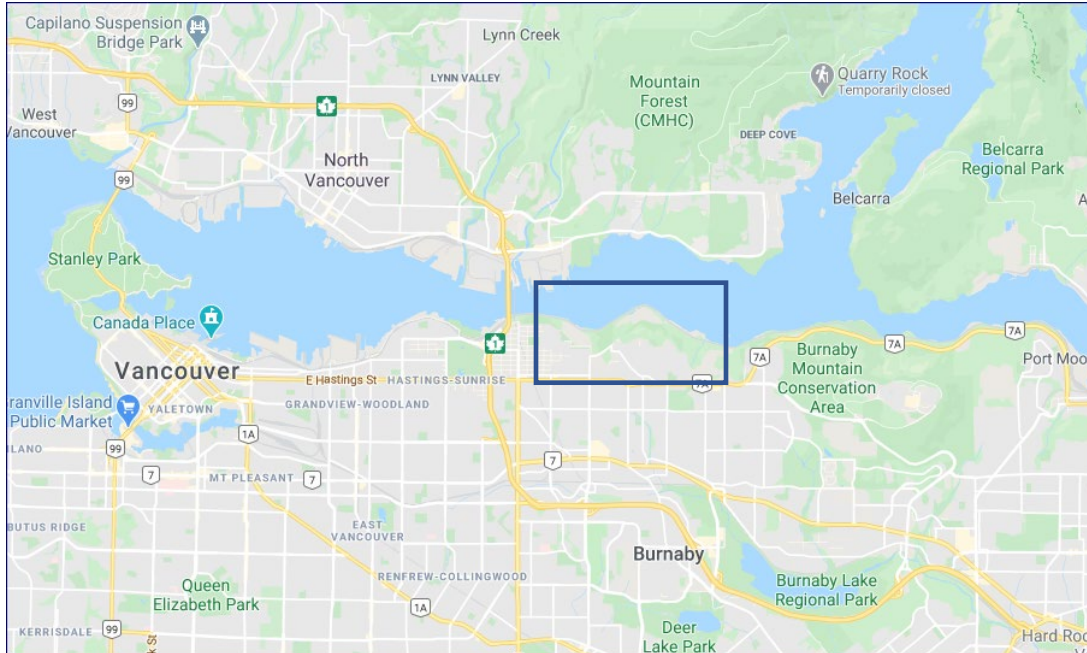
The applicable table in the Reviewable Projects Transition Regulation refers to Section 31 of the *Environmental Management Act*, which states in subsection (1): “...the Metro Vancouver Regional District may provide the service of air pollution control and air quality management and, for that purpose, the board of the regional district may, by bylaw, prohibit, regulate and otherwise control and prevent the discharge of air contaminants”.



Metro Vancouver's jurisdiction with respect to the facility's Air Permit is derived from this provision, and therefore we have determined that we must submit this notification within 90 days after Section 5 of the Reviewable Projects Regulation came into force. This 90-day period ends on June 29, 2020.

7.0 Maps

Attached is an image from Google Maps showing the location of the Burnaby Refinery in the region:





A second image from the same source showing the refinery location on Burrard Inlet and identifying the subsections of the facility Area 1 and Area 2.



The planned new tanks will be built on existing refinery property, in Area 2. No land that is not already part of the refinery will be affected by this modification.

The legal description of Area 2 is:

Parcel Identifier: 030-826-926

Legal Description:

LOT 1 DISTRICT LOTS 188 AND 189 GROUP 1 NEW WESTMINSTER DISTRICT
PLAN EPP90647.

The site plan of Burnaby Refinery Area 2 with potential tank locations highlighted is attached as Appendix 2.

8.0 Appendices

1 – Greenhouse Gas Emissions Summary (Proposed Modification)

2 – Site Plan of Parkland Burnaby Refinery (Area 2)

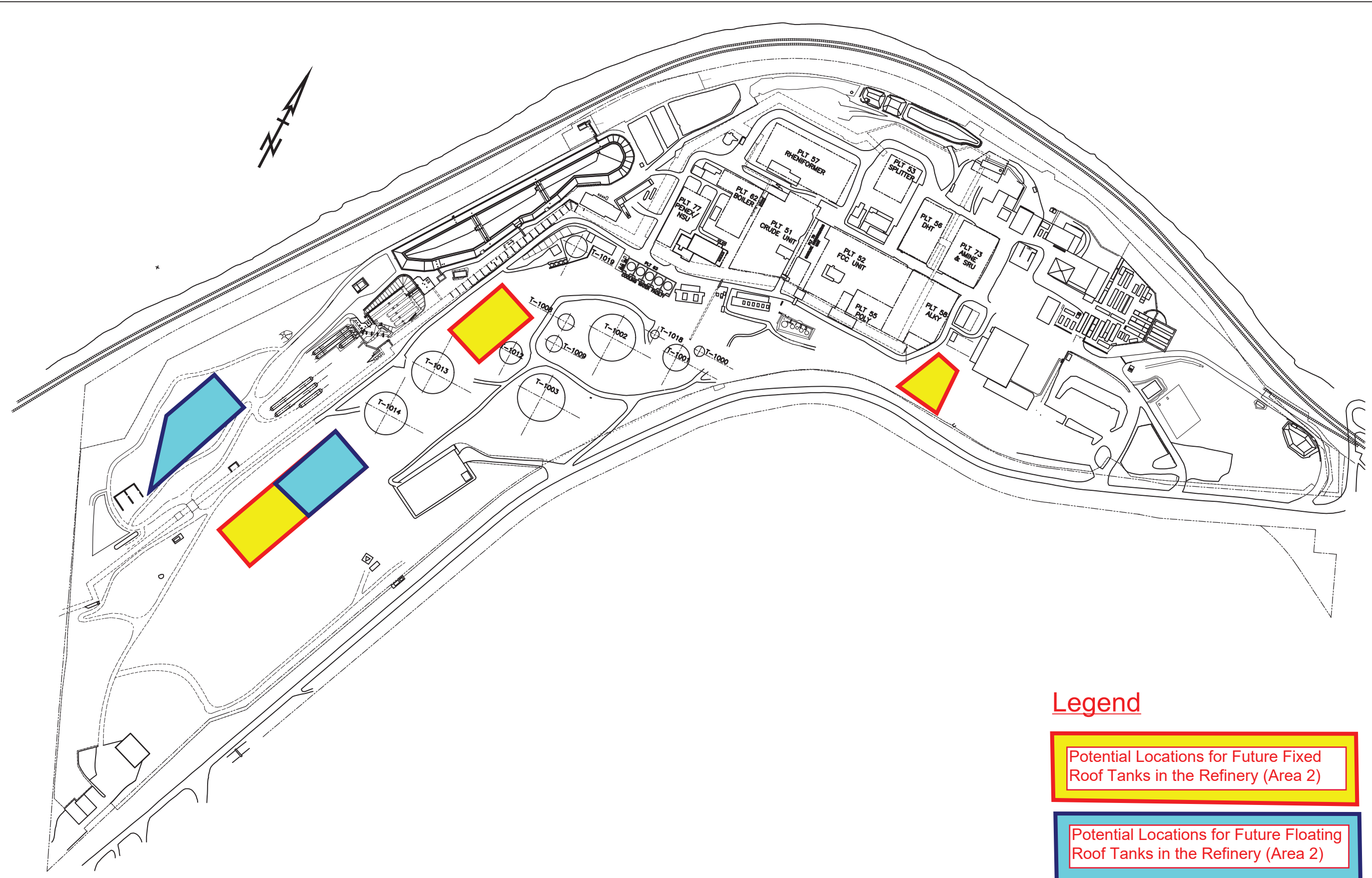


APPENDIX 1 - Greenhouse Gas Emissions Summary

Tank	Diameter (ft)	Height (ft)	Roof Type	Service	Tank Capacity (MBBL)	Annual Throughput (MBBL/y)	GHG Emissions (tonnes/y)
1	70	60	Fixed Roof	Lipids	40	7,300	19
2	70	60	Fixed Roof	Lipids	40	7,300	19
3	26	16	Fixed Roof	Advanced Feedstocks	1.5	274	0.7
4	26	16	Fixed Roof	Advanced Feedstocks	1.5	274	0.7
5	34	32	Fixed Roof	Advanced Feedstocks	5	913	2
6	34	32	Fixed Roof	Advanced Feedstocks	5	913	2
7	120	50	Floating Roof	Hydrocarbon	100	18,250	55
8	120	50	Floating Roof	Hydrocarbon	100	18,250	55
						TOTAL	153.4



APPENDIX 2 – Site Plan of Parkland Burnaby Refinery (Area 2)



Legend

Potential Locations for Future Fixed Roof Tanks in the Refinery (Area 2)

Potential Locations for Future Floating Roof Tanks in the Refinery (Area 2)

REFERENCE DRAWINGS				REVISIONS				SCALE: NTS	
								DATE: 12OCT2019	DR: GH, CK
								DR APPR: ENG: JULIA D.	
								OPR'G. DEPT.:	APPROVED:
								ENG'R. DEPT.:	



PLOT PLAN - AREA 2	
PLOT PLAN - AREA 2 SITE PLAN	
METRO VAN AIR PERMIT GVA-0117	
PLANT 50 - GENERAL PLANT LAYOUT	
c.c.:	B50-F-38937-0
s.o.:	