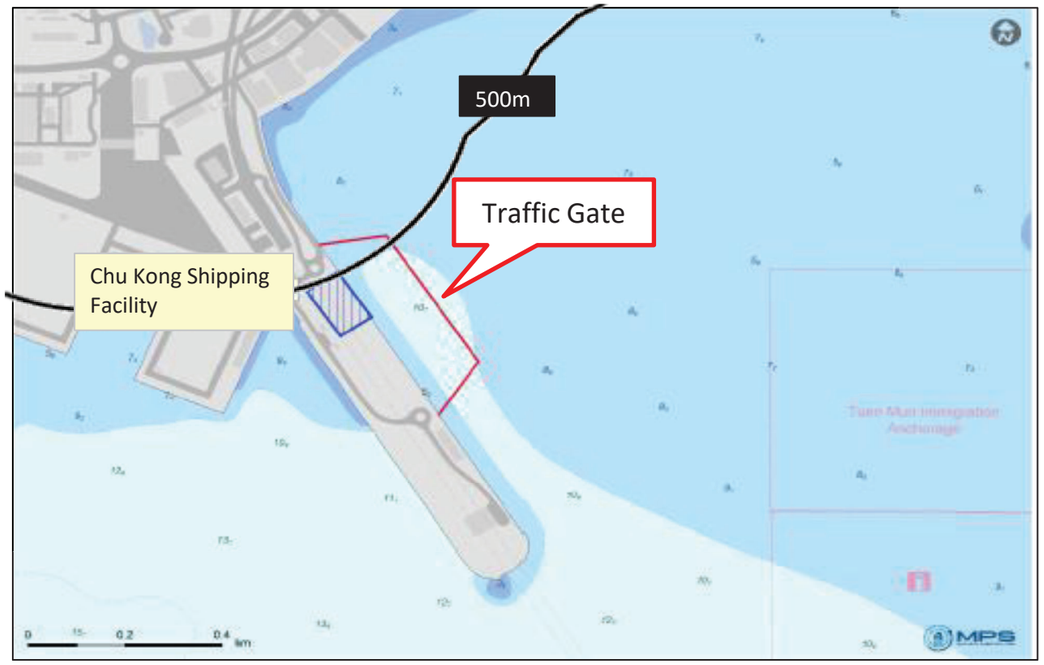
Marine Traffic Information

Assessment Year 2048

Assessed Vessel Type River Trade Vessels

Location Chu Kong Shipping Facility



Marine Traffic Information from Marine Traffic Consultants

Location	Monthly Vessel Count in Aug for Maneuvering [1]	Travelling Speed (knots)[2]	Length of Sailing Route within Assessment Area(m) [3]
Chu Kong Shipping Facility	2,212	3	1,000

Notes

[1] Monthly vessel count for manevuering is advised by Marine Traffic Consultant and accepted by Marine Department.

[2] Average speed of 3 knot is provided by Marine Traffic Consultant. The hotelling location is beyond 500m Assessment area and not included in the assessment.

[3] Possible maximum length of sailing route within assessment area is estimated for conservative assessment.

[4] As advised by Marine Traffic Consultant, the RTVs include container vessel, local lighter/barge/cargo junk, local bunker vessel, and tug and tow.

Marine Emission Inventory during Maneuvering

Total Emission Rate

Group [1]	Vessel Type	Emission Rate per Trip (g/s) [2]			Annual No. of Vessel Arrivals in Year 2019 [3]	Composite Emission Rate per Trip (g/s) [4]		
		NO_X	RSP	FSP		NOx	RSP	FSP
1	Fully Cellular Container Vessel	8.93E-02	2.86E-03	2.77E-03	34718	8.78E-02	2.82E-03	2.73E-03
	Semi-container Vessel	8.25E-02	2.66E-03	2.58E-03	9943			
2	Conventional Cargo Vessel	8.22E-02	2.65E-03	2.57E-03	-	8.22E-02	9.61E-03	9.34E-03
3	Dry Bulk Carrier	8.62E-02	2.77E-03	2.68E-03	-	8.62E-02	2.77E-03	2.68E-03
4	Tug	2.75E-01	1.47E-02	1.43E-02	-	2.75E-01	1.47E-02	1.43E-02
5	Chemical Carrier	2.18E-01	9.56E-03	9.29E-03	247	2.20E-01	9.62E-03	9.35E-03
	Gas Carrier	2.21E-01	9.65E-03	9.37E-03	134			
	Oil Tanker	2.21E-01	9.65E-03	9.37E-03	419			
6	Mechanised Lighter/Barge/Cargo Junk	9.75E-02	3.18E-03	3.08E-03	-	9.75E-02	3.18E-03	3.08E-03

Engine in Operation

Engine	On (1) or Off (0) [2]
ME	1
AE	1

Notes:

[1] The vessel type is grouped according to the modelling parameter (i.e. stack height, exit temperature, exit velocity etc). Vessel types with the identical modelling parameters will be grouped.

[2] Main and auxiliary engine are assumed in operation during maneuvering for conservative assessment with reference to Table 3-25 of Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012). The emission rate per trip considers the emission from the engine in operation as indicated in the table "Engine in Operation", and the calculation is documented in the "Technical Notes on Marine Emission for Pillar Point Area" submitted to EPD.

[3] Marine Traffic Consultant has provided the total number of RTVs but without breakdown into different vessel types. Hence, reference has been made to Marine Department's Vessels Arrivals by Ship Type and Ocean/River (https://www.mardep.gov.hk/en/fact/pdf/portstat_2_y_a2.pdf). Due to the pandemic situation, there was a significant change in marine traffic from Year 2020 to Year 2022. In view of this, the monthly profile of Year 2019 is considered the most appropriate and therefore adopted and assumed the same for future years.

[4] The emission rate per trip is calculated based on the following equation. Breakdown is provided and documented in "Technical Notes on Marine Emission for Pillar Point Area" submitted to EPD and emission rates are evenly apportioned into point sources in the model as shown in subsequent pages of this Appendix.

Engine Emission Rate per Trip = (i)Time-in-mode x (ii)Engine Load Factors x (iii) Engine Power x (iv) Emission Factor, where

(i) Time-in-mode is calculated from the average speed and possible maximum length of sailing route within assessment area provided by Marine Traffic Consultant.

(ii) Engine Load Factors are made reference to Table 4-7, Table 4-10 and Table 3-24 of Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012).

(iii) The average engine powers are made reference to Table 4-5 and Table 4-6 of the Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012).

(iv) The emission factor is made reference to Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012) Table 4-16. Under the Air Pollution Control (Fuel for Vessels) Regulation, all vessels assumed to use MGO due to requirement to fuel switch to compliant fuel (sulphur content <=0.5%) within Hong Kong waters.

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
											NOx	RSP	FSP
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)
Chu Kong Shipping Facility	1	CK_RM1_001	POINT	812875.6	824841.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_002	POINT	812854.5	824886.7	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_003	POINT	812833.4	824932	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_004	POINT	812812.4	824977.4	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_005	POINT	812795	825024.2	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_006	POINT	812778.3	825071.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_007	POINT	812761.5	825118.5	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_008	POINT	812744.8	825165.6	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_009	POINT	812731	825204.5	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_010	POINT	812979.4	824910.6	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_011	POINT	813008.7	824951.1	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_012	POINT	813036.3	824992.6	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_013	POINT	813056.4	825038.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_014	POINT	813076.5	825084.1	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_015	POINT	813096.6	825129.9	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_016	POINT	813113.5	825176.8	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_017	POINT	813128	825224.6	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_018	POINT	813148.3	825270.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_019	POINT	813172.9	825313.6	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_020	POINT	813201.6	825354.6	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_021	POINT	813237.5	825389.2	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_022	POINT	813274.2	825423.2	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_023	POINT	813310.8	825457.2	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_024	POINT	813357.1	825473.9	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_025	POINT	813405.3	825487.1	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_026	POINT	813453.5	825500.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_027	POINT	813479.2	825507.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_028	POINT	812905.2	824857.8	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_029	POINT	812912.2	824907.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_030	POINT	812919.2	824956.8	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_031	POINT	812924.8	825006.4	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_032	POINT	812927.5	825056.4	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_033	POINT	812930.1	825106.3	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_034	POINT	812932.8	825156.2	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_035	POINT	812935.4	825206.1	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_036	POINT	812938.1	825256.1	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_037	POINT	812940.7	825306	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_038	POINT	812943.4	825355.9	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	1	CK_RM1_039	POINT	812945.2	825389.4	0	34.2	537	24.6	1.9	2.25E-03	7.22E-05	7.00E-05
Chu Kong Shipping Facility	2	CK_RM2_001	POINT	812875.6	824841.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_002	POINT	812854.5	824886.7	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_003	POINT	812833.4	824932	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_004	POINT	812812.4	824977.4	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_005	POINT	812795	825024.2	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_006	POINT	812778.3	825071.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_007	POINT	812761.5	825118.5	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_008	POINT	812744.8	825165.6	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_009	POINT	812731	825204.5	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_010	POINT	812979.4	824910.6	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
											NOx	RSP	FSP
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)
Chu Kong Shipping Facility	2	CK_RM2_011	POINT	813008.7	824951.1	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_012	POINT	813036.3	824992.6	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_013	POINT	813056.4	825038.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_014	POINT	813076.5	825084.1	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_015	POINT	813096.6	825129.9	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_016	POINT	813113.5	825176.8	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_017	POINT	813128	825224.6	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_018	POINT	813148.3	825270.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_019	POINT	813172.9	825313.6	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_020	POINT	813201.6	825354.6	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_021	POINT	813237.5	825389.2	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_022	POINT	813274.2	825423.2	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_023	POINT	813310.8	825457.2	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_024	POINT	813357.1	825473.9	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_025	POINT	813405.3	825487.1	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_026	POINT	813453.5	825500.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_027	POINT	813479.2	825507.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_028	POINT	812905.2	824857.8	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_029	POINT	812912.2	824907.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_030	POINT	812919.2	824956.8	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_031	POINT	812924.8	825006.4	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_032	POINT	812927.5	825056.4	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_033	POINT	812930.1	825106.3	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_034	POINT	812932.8	825156.2	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_035	POINT	812935.4	825206.1	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_036	POINT	812938.1	825256.1	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_037	POINT	812940.7	825306	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_038	POINT	812943.4	825355.9	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	2	CK_RM2_039	POINT	812945.2	825389.4	0	11	555	25	0.8	2.11E-03	2.46E-04	2.39E-04
Chu Kong Shipping Facility	3	CK_RM3_001	POINT	812875.6	824841.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_002	POINT	812854.5	824886.7	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_003	POINT	812833.4	824932	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_004	POINT	812812.4	824977.4	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_005	POINT	812795	825024.2	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_006	POINT	812778.3	825071.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_007	POINT	812761.5	825118.5	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_008	POINT	812744.8	825165.6	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_009	POINT	812731	825204.5	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_010	POINT	812979.4	824910.6	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_011	POINT	813008.7	824951.1	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_012	POINT	813036.3	824992.6	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_013	POINT	813056.4	825038.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_014	POINT	813076.5	825084.1	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_015	POINT	813096.6	825129.9	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_016	POINT	813113.5	825176.8	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_017	POINT	813128	825224.6	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_018	POINT	813148.3	825270.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_019	POINT	813172.9	825313.6	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_020	POINT	813201.6	825354.6	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
											NOx	RSP	FSP
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)
Chu Kong Shipping Facility	3	CK_RM3_021	POINT	813237.5	825389.2	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_022	POINT	813274.2	825423.2	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_023	POINT	813310.8	825457.2	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_024	POINT	813357.1	825473.9	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_025	POINT	813405.3	825487.1	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_026	POINT	813453.5	825500.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_027	POINT	813479.2	825507.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_028	POINT	812905.2	824857.8	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_029	POINT	812912.2	824907.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_030	POINT	812919.2	824956.8	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_031	POINT	812924.8	825006.4	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_032	POINT	812927.5	825056.4	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_033	POINT	812930.1	825106.3	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_034	POINT	812932.8	825156.2	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_035	POINT	812935.4	825206.1	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_036	POINT	812938.1	825256.1	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_037	POINT	812940.7	825306	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_038	POINT	812943.4	825355.9	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	3	CK_RM3_039	POINT	812945.2	825389.4	0	8	555	25	0.8	2.21E-03	7.10E-05	6.88E-05
Chu Kong Shipping Facility	4	CK_RM4_001	POINTHOR	812875.6	824841.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_002	POINTHOR	812854.5	824886.7	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_003	POINTHOR	812833.4	824932	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_004	POINTHOR	812812.4	824977.4	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_005	POINTHOR	812795	825024.2	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_006	POINTHOR	812778.3	825071.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_007	POINTHOR	812761.5	825118.5	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_008	POINTHOR	812744.8	825165.6	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_009	POINTHOR	812731	825204.5	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_010	POINTHOR	812979.4	824910.6	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_011	POINTHOR	813008.7	824951.1	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_012	POINTHOR	813036.3	824992.6	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_013	POINTHOR	813056.4	825038.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_014	POINTHOR	813076.5	825084.1	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_015	POINTHOR	813096.6	825129.9	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_016	POINTHOR	813113.5	825176.8	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_017	POINTHOR	813128	825224.6	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_018	POINTHOR	813148.3	825270.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_019	POINTHOR	813172.9	825313.6	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_020	POINTHOR	813201.6	825354.6	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_021	POINTHOR	813237.5	825389.2	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_022	POINTHOR	813274.2	825423.2	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_023	POINTHOR	813310.8	825457.2	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_024	POINTHOR	813357.1	825473.9	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_025	POINTHOR	813405.3	825487.1	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_026	POINTHOR	813453.5	825500.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_027	POINTHOR	813479.2	825507.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_028	POINTHOR	812905.2	824857.8	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_029	POINTHOR	812912.2	824907.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_030	POINTHOR	812919.2	824956.8	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
											NOx	RSP	FSP
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)
Chu Kong Shipping Facility	4	CK_RM4_031	POINTHOR	812924.8	825006.4	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_032	POINTHOR	812927.5	825056.4	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_033	POINTHOR	812930.1	825106.3	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_034	POINTHOR	812932.8	825156.2	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_035	POINTHOR	812935.4	825206.1	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_036	POINTHOR	812938.1	825256.1	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_037	POINTHOR	812940.7	825306	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_038	POINTHOR	812943.4	825355.9	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	4	CK_RM4_039	POINTHOR	812945.2	825389.4	0	4	694.7	8	0.2	7.06E-03	3.77E-04	3.66E-04
Chu Kong Shipping Facility	5	CK_RM5_001	POINT	812875.6	824841.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_002	POINT	812854.5	824886.7	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_003	POINT	812833.4	824932	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_004	POINT	812812.4	824977.4	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_005	POINT	812795	825024.2	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_006	POINT	812778.3	825071.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_007	POINT	812761.5	825118.5	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_008	POINT	812744.8	825165.6	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_009	POINT	812731	825204.5	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_010	POINT	812979.4	824910.6	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_011	POINT	813008.7	824951.1	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_012	POINT	813036.3	824992.6	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_013	POINT	813056.4	825038.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_014	POINT	813076.5	825084.1	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_015	POINT	813096.6	825129.9	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_016	POINT	813113.5	825176.8	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_017	POINT	813128	825224.6	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_018	POINT	813148.3	825270.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_019	POINT	813172.9	825313.6	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_020	POINT	813201.6	825354.6	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_021	POINT	813237.5	825389.2	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_022	POINT	813274.2	825423.2	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_023	POINT	813310.8	825457.2	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_024	POINT	813357.1	825473.9	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_025	POINT	813405.3	825487.1	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_026	POINT	813453.5	825500.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_027	POINT	813479.2	825507.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_028	POINT	812905.2	824857.8	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_029	POINT	812912.2	824907.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_030	POINT	812919.2	824956.8	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_031	POINT	812924.8	825006.4	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_032	POINT	812927.5	825056.4	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_033	POINT	812930.1	825106.3	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_034	POINT	812932.8	825156.2	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_035	POINT	812935.4	825206.1	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_036	POINT	812938.1	825256.1	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_037	POINT	812940.7	825306	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_038	POINT	812943.4	825355.9	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	5	CK_RM5_039	POINT	812945.2	825389.4	0	20	555	25	0.8	5.65E-03	2.47E-04	2.40E-04
Chu Kong Shipping Facility	6	CK_RM6_001	POINT	812875.6	824841.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
											NOx	RSP	FSP
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	(g/s)	(g/s)	(g/s)
Chu Kong Shipping Facility	6	CK_RM6_002	POINT	812854.5	824886.7	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_003	POINT	812833.4	824932	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_004	POINT	812812.4	824977.4	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_005	POINT	812795	825024.2	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_006	POINT	812778.3	825071.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_007	POINT	812761.5	825118.5	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_008	POINT	812744.8	825165.6	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_009	POINT	812731	825204.5	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_010	POINT	812979.4	824910.6	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_011	POINT	813008.7	824951.1	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_012	POINT	813036.3	824992.6	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_013	POINT	813056.4	825038.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_014	POINT	813076.5	825084.1	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_015	POINT	813096.6	825129.9	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_016	POINT	813113.5	825176.8	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_017	POINT	813128	825224.6	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_018	POINT	813148.3	825270.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_019	POINT	813172.9	825313.6	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_020	POINT	813201.6	825354.6	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_021	POINT	813237.5	825389.2	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_022	POINT	813274.2	825423.2	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_023	POINT	813310.8	825457.2	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_024	POINT	813357.1	825473.9	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_025	POINT	813405.3	825487.1	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_026	POINT	813453.5	825500.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_027	POINT	813479.2	825507.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_028	POINT	812905.2	824857.8	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_029	POINT	812912.2	824907.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_030	POINT	812919.2	824956.8	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_031	POINT	812924.8	825006.4	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_032	POINT	812927.5	825056.4	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_033	POINT	812930.1	825106.3	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_034	POINT	812932.8	825156.2	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_035	POINT	812935.4	825206.1	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_036	POINT	812938.1	825256.1	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_037	POINT	812940.7	825306	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_038	POINT	812943.4	825355.9	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05
Chu Kong Shipping Facility	6	CK_RM6_039	POINT	812945.2	825389.4	0	11	588	8	0.2	2.50E-03	8.14E-05	7.89E-05

Notes:

[1] Modelling parameters are referred to "Generating an Hour-By-Hour Model-Ready Marine Emission Inventory, RWDI Air Inc. and Environment Canada, US EPA 17th International Emission Inventory Conference, 2-5 June 2008, Portland, Oregon", approved EIA of Tuen Mun South Extension (AERIAR-236/2022), and approved EIA of Lei Yue Mun Waterfront Enhancement Project (AERIAR-219/2018).

Calculation of Multiplying Factor for Total Vessel Count

Monthly Vessel Count for Year 2048

Location	Monthly Vessel Count in Aug for Maneuvering [1]
Chu Kong Shipping Facility	2,212

Notes:
[1] The marine traffic data for August is provided by Marine Traffic Consultant.

Monthly Multiplying Factor dervied from Marine Traffic in Year 2019

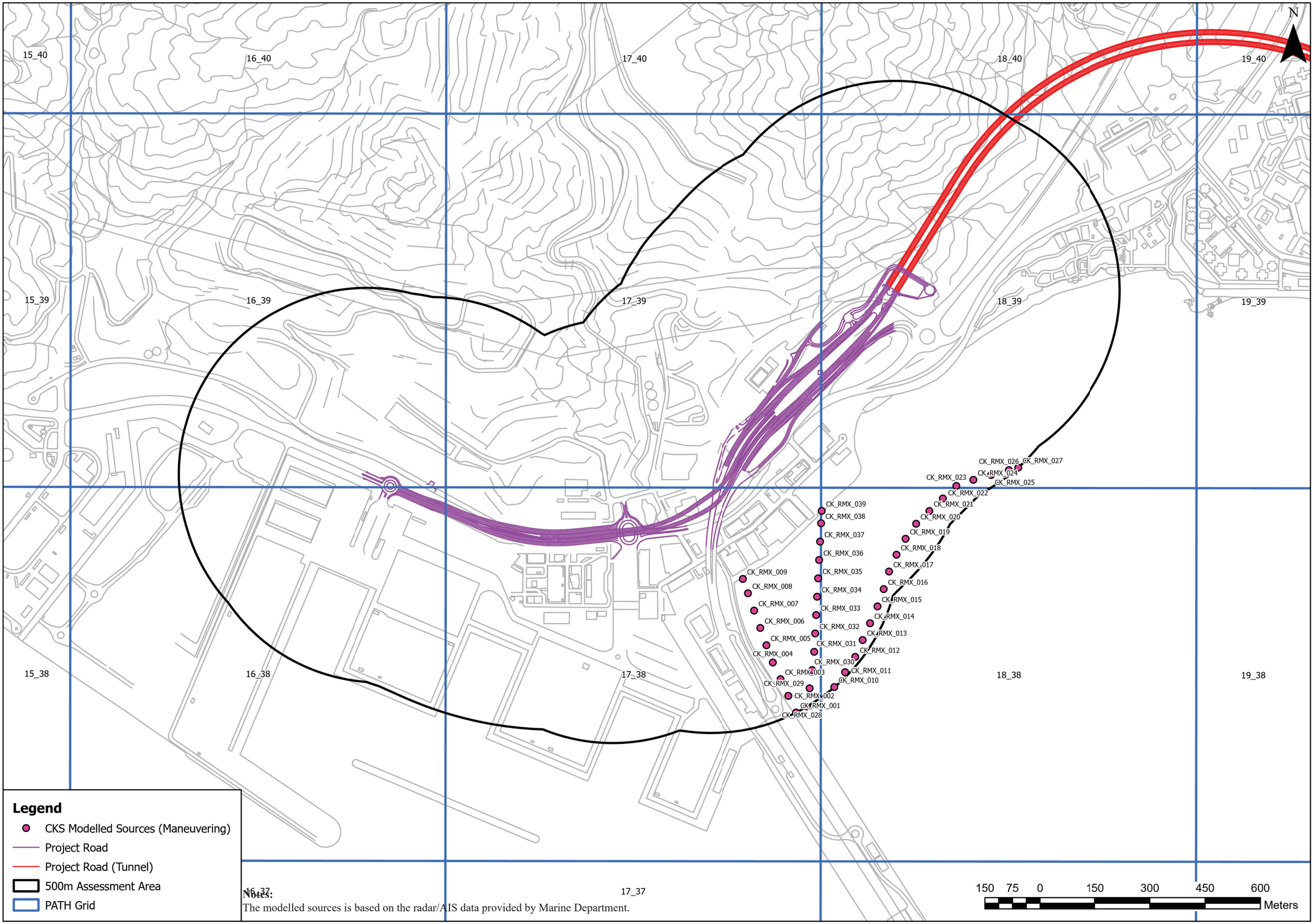
Month	Total No. of Arrivals by RTVs [1]	Monthly Multiplying Factor
Jan-19	5,820	1.03
Feb-19	3,401	0.60
Mar-19	5,783	1.02
Apr-19	5,411	0.96
May-19	5,766	1.02
Jun-19	5,456	0.96
Jul-19	5,645	1.00
Aug-19	**5,659**	**1.00**
Sep-19	5,382	0.95
Oct-19	5,160	0.91
Nov-19	5,534	0.98
Dec-19	5,632	1.00

Notes:
[1] Since no monthly profile is available from Marine Traffic Consultant, the annual vessel count is calculated based on monthly profile in "Monthly Vessel Arrivals by Ocean/River and Cargo/Passenger Vessels" published by Marine Department (https://www.mardep.gov.hk/en/fact/pdf/portstat_2_m_a1.pdf). Due to the pandemic situation, there was a significant change in marine traffic from Year 2020 to Year 2022. In view of this, the monthly profile of Year 2019 is considered the most appropriate and therefore adopted and assumed the same for future years.

Hourly Multiplying Factor derived from Marine Traffic in August 2048

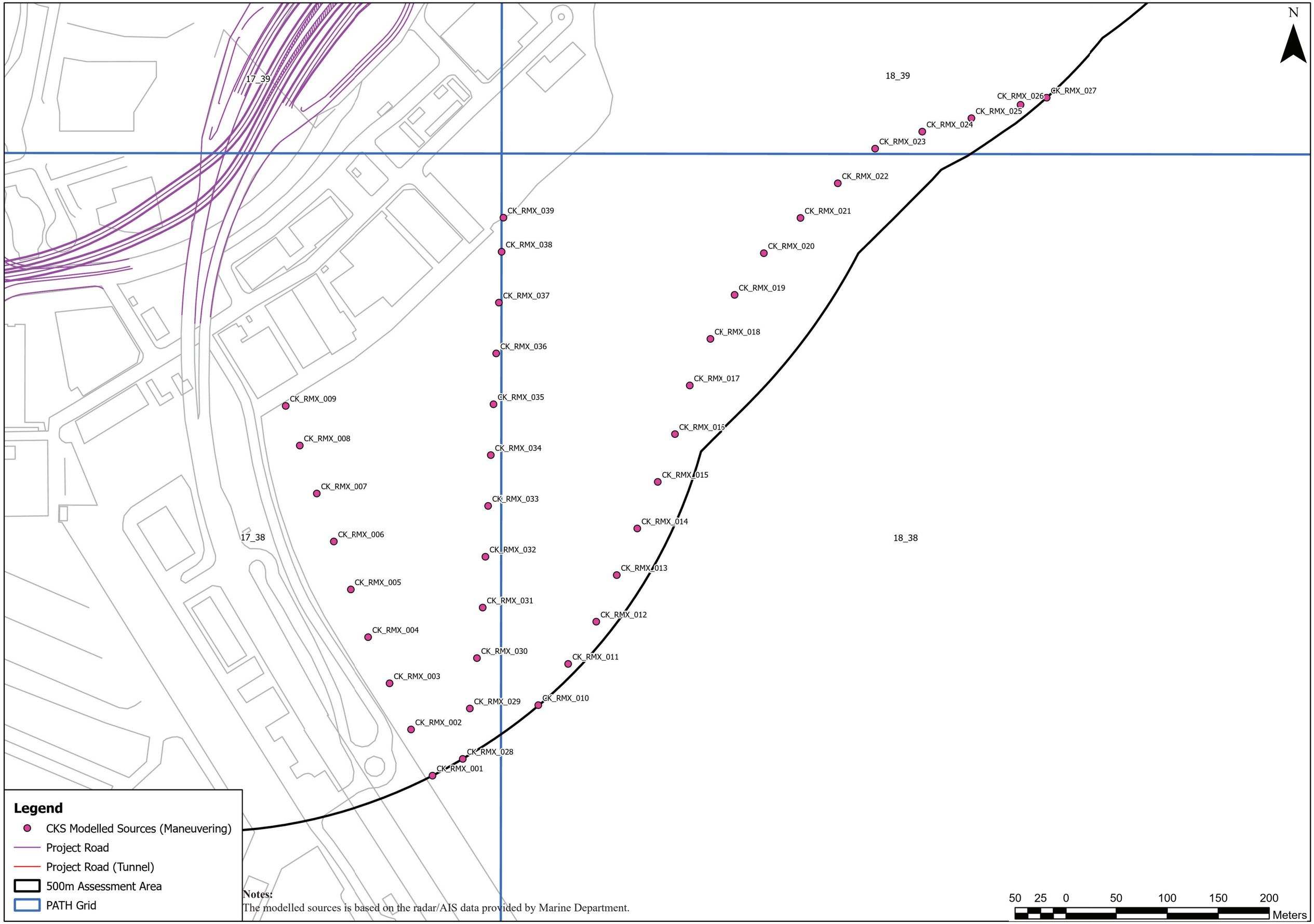
Hour		Chu Kong Shipping Facility	
Start	End	No. of Marine Vessels for Maneuvering [1]	Monthly-Hourly Multplying Factor
0	1	93	4.2%
1	2	124	5.6%
2	3	90	4.1%
3	4	81	3.7%
4	5	93	4.2%
5	6	68	3.1%
6	7	90	4.1%
7	8	31	1.4%
8	9	47	2.1%
9	10	68	3.1%
10	11	84	3.8%
11	12	81	3.7%
12	13	65	2.9%
13	14	96	4.3%
14	15	93	4.2%
15	16	115	5.2%
16	17	78	3.5%
17	18	112	5.1%
18	19	105	4.7%
19	20	136	6.1%
20	21	130	5.9%
21	22	149	6.7%
22	23	115	5.2%
23	24	68	3.1%

Notes:
[1] The number of hourly marine vessels for Aug 2048 is provided by Marine Traffic Consultant. It contains the total number of marine vessels for the 31 days in Aug in Year 2048 for each hour. For example, from Hour 0 to Hour 1 (i.e. first hour of 1 Aug + first hour of 2 Aug, ... 1st hour of 31 Aug), there are total 93 marine vessels manevuering for the first hour during the whole August.



Notes:

The modelled sources is based on the radar/AIS data provided by Marine Department.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CK_RMX_038
CK_RMX_039
Legend
CKS Modelled Sources (Maneuvering)
Project Road
Project Road (Tunnel)
500m Assessment Area
PATH Grid
Notes:
The modelled sources is based on the radar/AIS data provided by Marine Department.
50 25 0 50 100 150 200
Meters