



Water Supplies Department
New Works Branch
Construction Division
11 Tai Yip Lane
Kowloon Bay
Kowloon
Hong Kong

Your reference:

Our reference: HKWSD201/50/107583

Date: 5 October 2021

Attention: Mr Y M Chan

BY POST

Dear Sirs

Quotation No.: WQ/17/A071
Independent Environmental Checker for Water Supplies Department
– Proposed Desalination Plant in TKO Area 137 for Contract No. 13/WSD/16
Verification of Monthly EM&A Report No.37

We refer to emails of 23 September and 4 October 2021 attaching Monthly EM&A Report No.37 for the captioned project prepared by the ET.

We have no further comment and hereby verify the captioned report in accordance with Clause 3.5 of the Environmental Permit no. EP-503/2015/A.

Should you have any queries regarding the above, please do not hesitate to contact the undersigned or our Mr Louis Kwan 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/KSYL/lsm



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水務署

Water Supplies Department

Contract No. 13/WSD/16

Mainlaying in Tseung Kwan O

Monthly EM&A Report No. 37
(Period from 1 to 31 August 2021)

August 2021

(Rev. 0)

	Prepared by:	Certified by:
Name	Charlene Lai	Jacky Leung
Position	Environmental Team	Environmental Team Leader
Signature		
Date:	14/09/2021	14/09/2021

Revision History

0	1 st Submission	14 September 2021
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EXECUTIVE SUMMARY

Introduction

- A1. Penta-Ocean - Concentric Joint Venture (POCJV) is contracted to carry out the Mainlaying in Tseung Kwan O under Contract No. 13/WSD/16 (hereinafter known as “the Project”).
- A2. In accordance with the Environmental Monitoring and Audit (EM&A) Manual for the Project, EM&A works should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Project.
- A3. This is the 37th Monthly EM&A Report, prepared by ASCL, for the Project summarizing the monitoring results and audit findings of the EM&A programme at and around Tseung Kwan O (TKO) during the reporting period from 1 August 2021 to 31 August 2021.
- A4. The EM&A programme for this contract has covered environmental monitoring on construction noise level at selected NSRs and Contractor’s environmental performance auditing in the aspects of construction dust, construction noise, water quality, waste management, Landscape and Visual and Ecology.

Summary of Main Works Undertaken & Key Mitigation Measures Implemented

- A5. Key works carried out in this reporting period for the Project included the followings:

Location	Location	Works Conducted in the reporting month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> Remedial works for TBM pipe jacking were conducted.
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> Pit excavation and ELS works were in-progress.
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> Pit excavation works were conducted.
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> Pit excavation and ELS works were in-progress.
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> Construction works for 900HSV chamber were conducted.

Location	Location	Works Conducted in the reporting month
	Landfill Stage 1 – Area B	• Trench excavation and pipe laying were in-progress.
	Cycle Track – Workfront 1	• Trench excavation and pipe laying were in-progress.
	Cycle Track – Workfront 2	• Trench excavation and pipe laying were in-progress.
	Roundabout – Pit G1A	• Demolishing works for road planter were conducted.
	Roundabout – Pit J1A	• Trenchless works by hand-shield were conducted.
	Velodrome – Pit M	• Rescue pit construction works were conducted.
	Velodrome – Pit P	• Pipe jacking preparation works were conducted.
	Mau Wu Tsai – Workfront 1	• Trench excavation and pipe laying works were conducted.
	Ling Hong Road - Pit Y	• Excavation and ELS works for pit Construction were conducted.
	Ling Hong Road - Pit R	• Excavation and ELS works for pit Construction were conducted.
	Po Lam Road South Stage-1	• Trench excavation and pipe laying works were conducted.
	Po Lam Road (A0)	• Concrete carriageway reinstatement works were conducted.
	Po Lam Road (D1)	• Trench backfilling and reinstatement works were conducted.
	Po Lam Road (B5)	• Trench excavation and pipe laying works were conducted.
	TKO Primary Service Reservoir	• Trench excavation and pipe laying works were conducted. • Trai pit works were conducted.

A6. The major environmental impacts brought by the above construction works include:

- Construction dust and noise generation from saw cutting of concrete surface, mainlaying of pipes, TBM break through, excavation and drilling works
- Waste generation from the construction activities
- Impact on water quality from construction activities

A7. The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:

- Reduction of construction dust generation from saw cutting of concrete surface, mainlaying of pipes, TBM break through, excavation and

drilling works through regular water spraying and covering dusty materials with tarpaulin sheet

- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste
- Treatment of wastewater through water treatment facilities before discharge

Summary of Exceedance & Investigation & Follow-up

- A8. Noise monitoring was conducted in the reporting month for NSR4 Creative Secondary School on 4, 13, 19 and 25 August 2021 as construction works were conducted within 300m to the noise sensitive receiver. No project-related exceedance of the Action and Limit Level was recorded during the reporting period.
- A9. No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.

Complaint Handling and Prosecution

- A10. No project-related environmental complaint was received in the reporting month.
- A11. Neither notifications of summons nor prosecution was received for the Project in the reporting month.

Reporting Change

- A12. There were no changes reported that may affect the on-going EM&A programme.

Summary of Upcoming Key Issues and Key Mitigation Measures

- A13. Key works in September 2021 (the next reporting month) for the Project will include the followings:

Location	Location	Forecast Works in Next Reporting Month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> • Remedial works for TBM pipe jacking will be conducted.
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> • Trench excavation and pipe laying will be conducted.
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> • Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> • Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> • Trench excavation and pipe laying works will be conducted.

Location	Location	Forecast Works in Next Reporting Month
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> Excavation and ELS works will be conducted.
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> Pit excavation works will be continued. Preparation works for pipe jacking will be conducted.
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> Excavation and ELS works will be conducted.
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> 900HSV Chamber construction works will be conducted.
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Roundabout – Pit G1A	<ul style="list-style-type: none"> Demolishing works for road planter will be conducted.
	Roundabout – Pit J1A	<ul style="list-style-type: none"> Trenchless works by hand-shield will be continued.
	Velodrome – Pit L	<ul style="list-style-type: none"> Trial trench works for alternative method will be continued.
	Velodrome – Pit M	<ul style="list-style-type: none"> Rescue pit construction works will be continued.
	Velodrome – Pit O	<ul style="list-style-type: none"> Trial trench works for alternative method will be continued.
	Velodrome – Pit P	<ul style="list-style-type: none"> MTBM pipe jacking will be commenced.
	Ling Hong Road - Pit Y	<ul style="list-style-type: none"> Excavation & ELS works for pit construction will be continued.
	Ling Hong Road - Pit R	<ul style="list-style-type: none"> Trenchless hand-shield pipe jacking works will be conducted.
	Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> Trench excavation and pipe mainlaying works will be conducted. Construction of Washout Chamber will be conducted.
	Mau Wu Tsai – Workfront 2	<ul style="list-style-type: none"> Laying of branch pipe will be conducted.
	Po Lam Road South Stage-1	<ul style="list-style-type: none"> Trench backfilling and reinstatement will be continued.
	Po Lam Road (D1)	<ul style="list-style-type: none"> Trench backfilling and reinstatement will be continued.
	Po Lam Road (B5)	<ul style="list-style-type: none"> Trench backfilling and reinstatement will be continued.
	Po Lam Road (A0)	<ul style="list-style-type: none"> TTA works will be shifted to next section A1.
	Tsui Lam Road	<ul style="list-style-type: none"> Trial pit works will be conducted.
	TKO Primary Service Reservoir	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted. Trial pit works will be conducted.

- A14. The major environmental impacts brought by the above construction works will include:
- Construction dust and noise generation of saw cutting of concrete surface, mainlaying of pipes, drilling activities, TBM break through and excavation works.
 - Waste generation from construction activities
 - Impact on water quality from construction activities
- A15. The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:
- Reduction of construction dust generation of saw cutting of concrete surface, mainlaying of pipes, drilling activities and excavation works by regular water spraying and covering of dusty materials with screenings
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste
 - Treatment of wastewater through water treatment facilities before discharge

1. BASIC PROJECT INFORMATION

1.1 Background

The proposed Desalination Plant at Tseung Kwan O (DPTKO) will produce potable water with an initial capacity of 135 million liters per day (MLD), expandable to an ultimate capacity of 270 MLD in the future to provide a secure and alternative fresh water resource complying with the World Health Organization (WHO) standards. The plant will adopt the Seawater Reverse Osmosis (SWRO) technology, which dominates the market due to its reliability and progressive reduction in cost as the technology advances.

Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Variation of Environmental Permit (No. EP-503/2015/A) to Water Supplies Department (WSD) for the Project on 26 January 2018.

The scope of the Contract may be considered in brief, to consist of the laying of about 10km long 1200mm diameter fresh water mains and the associated works along the alignment of the Project as shown with the overall view in **Appendix B**.

1.2 The Reporting Scope

This is the 37th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 August 2021 to 31 August 2021.

1.3 Project Organization

The Project Organization structure for Construction Phase is presented in **Figure 1.1**.

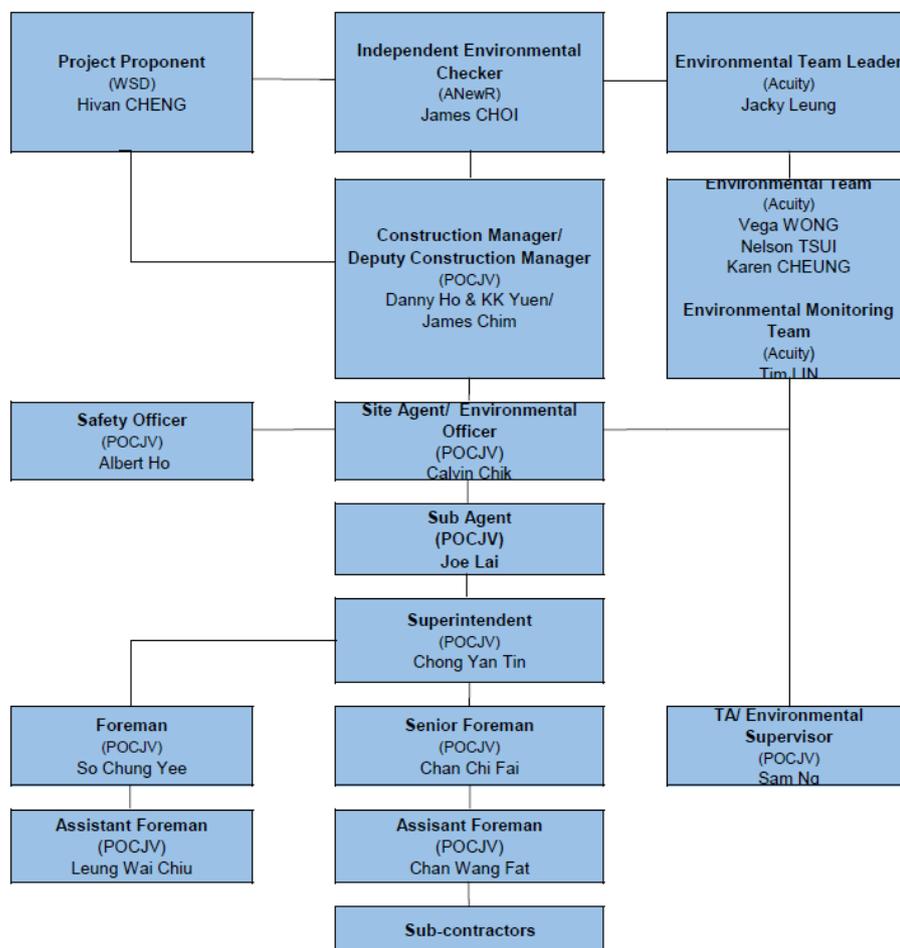


Figure 1.1 Project Organization Chart

Contact details of the key personnel are presented in **Table 1.1** below:

Party	Position	Name	Telephone no.
Penta-Ocean Concentric Joint Venture	Environmental Officer	Calvin Chik	9863 5630
Acuity Sustainability Consulting Limited	Environmental Team Leader	Jacky Leung	2698 6833
ANewR Consulting Limited	Independent Environmental Checker	James Choi	2618 2831

1.4 Summary of Construction Works

Details of the major construction works undertaken in this reporting period are shown in **Table 1.2** and the construction works locations are shown in **Appendix B**. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of the Construction Works Undertaken during the Reporting Month

Location	Location	Works Conducted in the reporting month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> Remedial works for TBM pipe jacking were conducted.
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> Pit excavation and ELS works were in-progress.
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> Pit excavation works were conducted.
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> Pit excavation and ELS works were in-progress.
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> Construction works for 900HSV chamber were conducted.
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> Trench excavation and pipe laying were in-progress.
	Cycle Track – Workfront 1	<ul style="list-style-type: none"> Trench excavation and pipe laying were in-progress.
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> Trench excavation and pipe laying were in-progress.
	Roundabout – Pit G1A	<ul style="list-style-type: none"> Demolishing works for road planter were conducted.
	Roundabout – Pit J1A	<ul style="list-style-type: none"> Trenchless works by hand-shield were conducted.
	Velodrome – Pit M	<ul style="list-style-type: none"> Rescue pit construction works were conducted.
	Velodrome – Pit P	<ul style="list-style-type: none"> Pipe jacking preparation works were conducted.
	Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> Trench excavation and pipe laying works were conducted.
Ling Hong Road - Pit Y	<ul style="list-style-type: none"> Excavation and ELS works for pit Construction were conducted. 	

Location	Location	Works Conducted in the reporting month
	Ling Hong Road - Pit R	<ul style="list-style-type: none"> Excavation and ELS works for pit Construction were conducted.
	Po Lam Road South Stage-1	<ul style="list-style-type: none"> Trench excavation and pipe laying works were conducted.
	Po Lam Road (A0)	<ul style="list-style-type: none"> Concrete carriageway reinstatement works were conducted.
	Po Lam Road (D1)	<ul style="list-style-type: none"> Trench backfilling and reinstatement works were conducted.
	Po Lam Road (B5)	<ul style="list-style-type: none"> Trench excavation and pipe laying works were conducted.
	TKO Primary Service Reservoir	<ul style="list-style-type: none"> Trench excavation and pipe laying works were conducted. Trai pit works were conducted.

A summary of the valid permits, licences, and or notifications on environmental protection for this Project is presented in **Table 1.3**.

Table 1.3 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Variation of Environmental Permit	EP no.: EP-503/2015/A	Throughout the Contract	-
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref no.: 423775	Throughout the Contract	-
Chemical Waste Producer Registration	WPN: 5213-839-P3287-01	Throughout the Contract	-
Billing Account for Disposal of Construction Waste	A/C no.: 7029491	Throughout the Contract	-
Water Discharge Licence	WT00032336-2018	Until 31 Dec 2023	-
Construction Noise Permit (Wan Po Road, Wan O Road and Chun Yat Street)	GW-RE0277-21	Until 30 Sep 2021	-
Construction Noise Permit (Tseung Kwan O Area 137, N.T.)	GW-RE0383-21	Until 30 Sep 2021	-
Construction Noise Permit (Hong Kong Velodrome)	GW-RE0494-21	Until 16 Nov 2021	-

The status for all environmental aspects is presented **Table 1.4**.

Table 1.4 Summary of Status for Key Environmental Aspects under the EM&A Manual

Parameters	Status
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under VEP Condition 3.4.
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Landfill Gas	
Impact Monitoring	On-going
Environmental Audit	
Site Inspection	On-going

Other than the EM&A works by ET, regular environmental management meetings were conducted in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.

The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix C**.

2. NOISE MONITORING

2.1 Monitoring Requirements

To ensure no adverse noise impact, noise monitoring is recommended to be carried out within 300m radius from the nearby noise sensitive receivers (NSRs), during construction phase. The NSRs selected as monitoring station are (i) NSR4 – Creative Secondary School, (ii) NSR24 – PLK Laws Foundation College, and (iii) NSR31 – School of Continuing and Professional Studies – CUHK respectively.

In accordance with the EM&A Manual, baseline noise level at the noise monitoring stations were established as presented in the Baseline Monitoring Report. Impact noise monitoring will be conducted once per week in the form of 30-minute measurements Leq, L10 and L90 levels recorded at each monitoring station between 0700 and 1900 on normal weekdays.

Referring to EM&A manual Section 4.1.2, the impact noise monitoring should be carried out at all the designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

Impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 4, 13, 19 and 25 August 2021 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.

No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.

2.2 Noise Monitoring Parameters, Time, Frequency

Impact noise monitoring was conducted weekly in the reporting period between 0700-1900 on normal weekdays. Construction works would follow the requirements as stipulated in the valid CNPs if works have to be conducted during 1900-0700 in all days or any time on Sundays or general holidays.

Construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (LAeq). Leq_{30min} was used as the monitoring parameter for the time period between 0700 and 1900 on normal weekdays. **Table 2.1** summarizes the monitoring parameters, frequency and duration of the impact noise monitoring. The monitoring schedule is provided in **Appendix D**.

Table 2.1 Noise Monitoring Parameters, Time, Frequency and Duration

Time	Frequency	Duration	Parameters
Daytime: 0700-1900	Once per week	Continuously in Leq _{5min} /Leq _{30min} (average of 6 consecutive Leq _{5min})	Leq, L ₁₀ & L ₉₀

2.3 Noise Monitoring Locations

The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) should be made to the free-field measurements.

According to the environmental findings detailed in the EIA report and Baseline Monitoring Report, the designated locations for the construction noise monitoring are listed in **Table 2.2** below.

Table 2.2 Noise Monitoring Location

NSR ID	Noise Sensitive Receivers	Monitoring Location	Position
NSR 4	Creative Secondary School	Roof Floor	1 m from facade
NSR 24	PLK Laws Foundation College	Pedestrian Road on Ground Floor	Free-field
NSR 31	School of Continuing and Professional Studies - CUHK	Roof Floor	1 m from facade

Three noise monitoring locations for impact monitoring at the nearby sensitive receivers are shown in **Figure 2.1-2.3**.

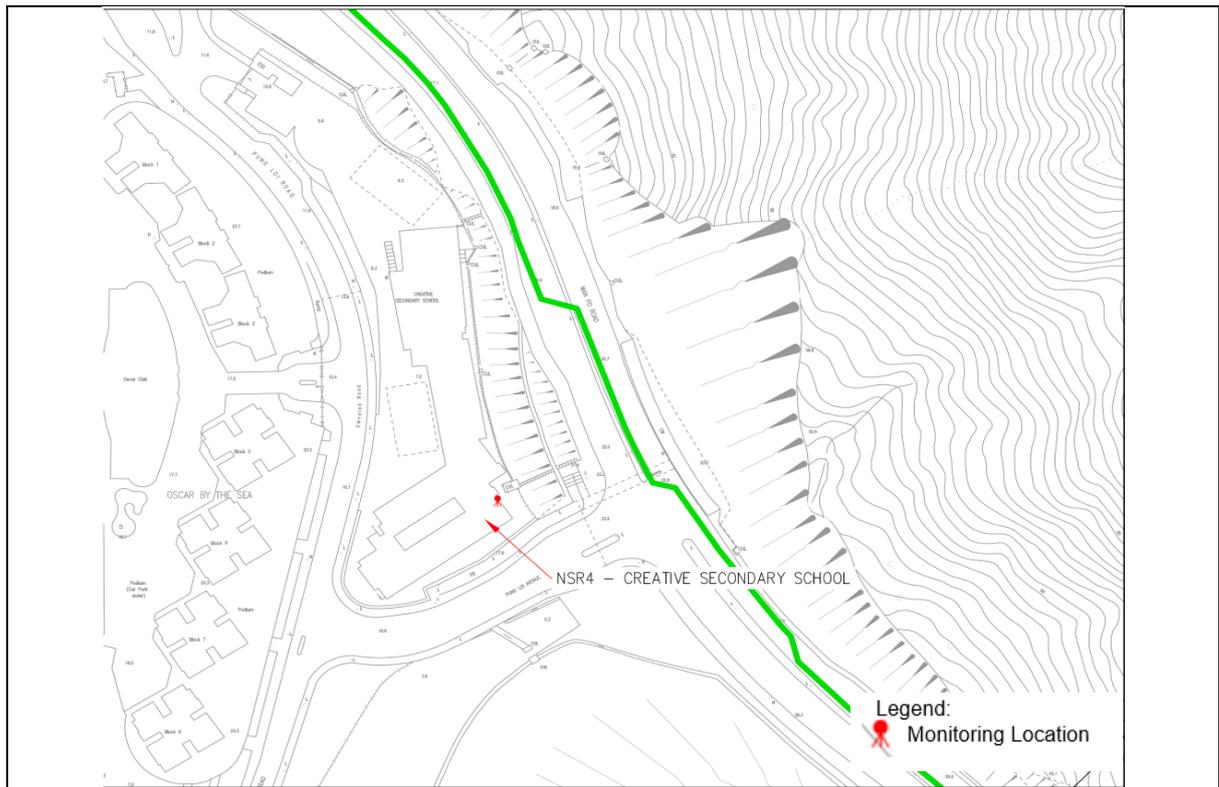


Figure 2.1 NSR4 Creative Secondary School

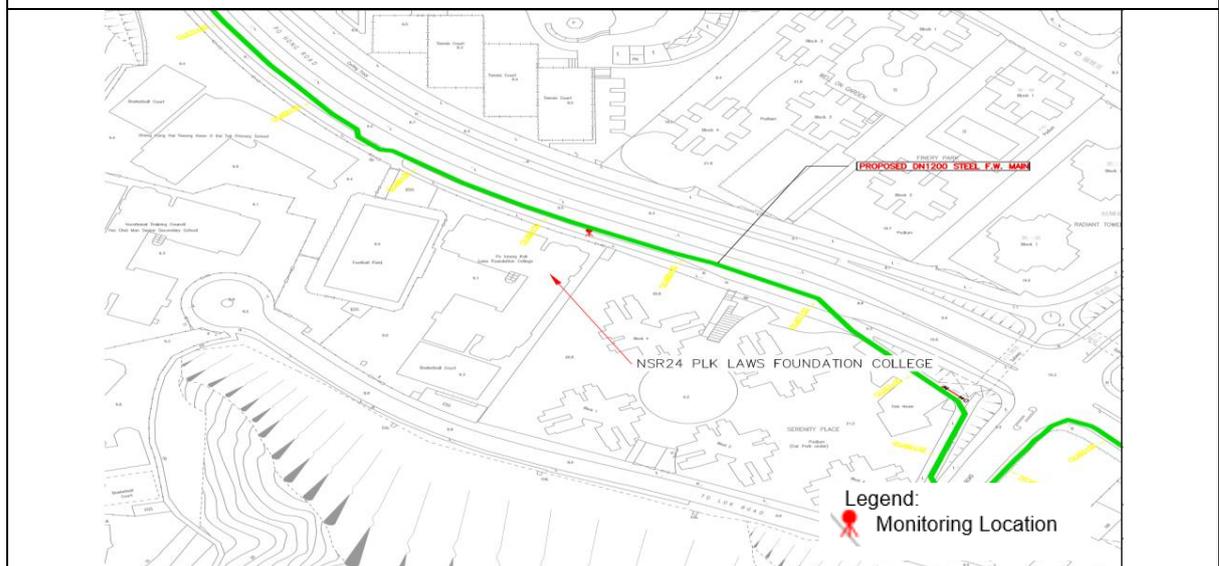
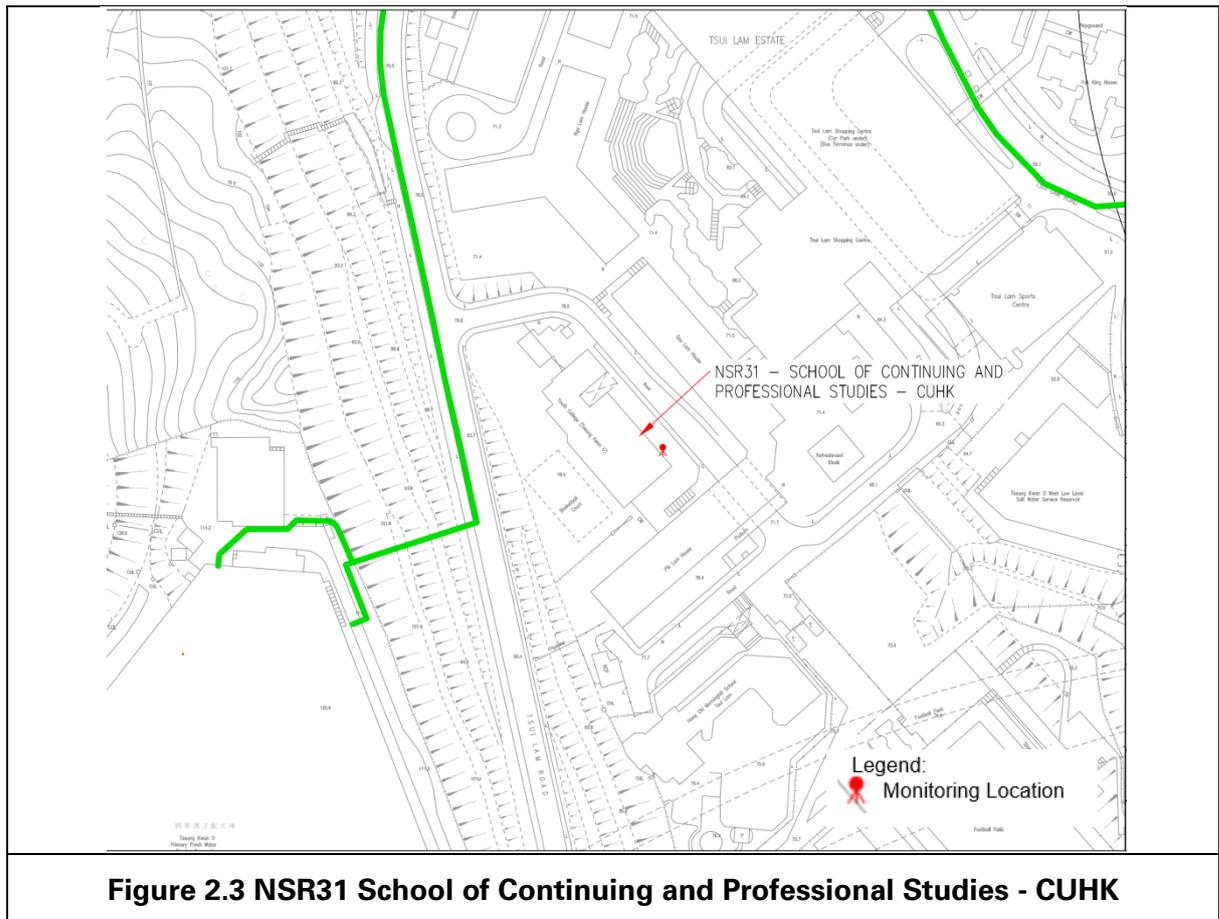


Figure 2.2 NSR24 PLK Laws Foundation College



2.4 Impact Monitoring Methodology

Integrated sound level meters were used for the noise monitoring. The meters were in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications. Immediately prior to and following each noise measurement the accuracy of the sound level meters were checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level before and after the noise measurements agree to within 1.0 dB(A). Calibration certificates of the instruments used are presented in **Appendix E**. Noise measurements were not made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed would be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Table 2.3 Impact Noise Monitoring Equipment

Equipment	Brand and Model	Serial Number	Date of Calibration	Calibration Certificate Expiry Date	Detection Limit
Sound Level Meter	Scarlet ST-11D	820200	18/01/2021	17/01/2022	27-140 dB(A)
Sound Level Meter	NTi XL2	A2A-13663-E0	09/09/2020	08/09/2021	30-130 dB(A)
Sound Level Meter	Lutron SL-4033SD	1491835	07/12/2020	06/12/2021	30-130 dB(A)
Sound Level Meter Calibrator	Rion NC-74	34504770	17/11/2020	16/11/2021	Nil
Pocket Wind Meter Anemometer	Kestrel 1000 Wind Meter	Nil	Nil	Nil	Nil

2.5 Action and Limit Levels

The Action/Limit Levels are in line with the criteria of Practice Note for Professional Persons (ProPECC PN 2/93) "Noise from Construction Activities – Non-statutory Controls" and Technical Memorandum on Environmental Impact Assessment Process issued by HKSAR Environmental Protection Department ["EPD"] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 are presented in **Table 2.4**.

Table 2.4 Action and Limit Levels for Noise

Time Period	Action Level	Limit Level (dB(A))
0700-1900 on normal weekdays	When one documented complaint is received from any one of the noise sensitive receivers	<ul style="list-style-type: none"> 70 dB(A) for school and 65 dB(A) during examination period
Notes: (a) Limits specified in the GW-TM and IND-TM for construction and operation noise, respectively.		

If exceedances are found during noise monitoring, the actions in accordance with the Event and Action Plan will be carried out according to **Appendix F**.

2.6 Monitoring Results and Observations

Referring to EM&A manual Section 4.1.2, impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 4, 13, 19 and 25 August 2021. Detailed monitoring results are presented in **Appendix G**.

No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.

No construction works were conducted within 300m radius of NSR24 and NSR31. Thus, no monitoring works carried at these two locations in the reporting month.

3. WASTE MANAGEMENT

3.1 The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 3.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix H**.

Table 3.1 Quantities of waste generated from the Project

Reporting period	Quantity					
	Inert C&D Materials (in '000m ³)	Chemical Waste (in '000kg)	Non-inert C&D Materials			
			Others, e.g. General Refuse disposed at Landfill (in '000m ³)	Recycled materials		
				Paper/card board (in '000kg)	Plastics (in '000kg)	Metals (in '000kg)
August-21	1.223	0.000	0.000	0.048	0.000	0.000

4. LANDFILL GAS MONITORING

4.1 Monitoring Requirement

In accordance with Section 11 of the EM&A Manual, monitoring of landfill gas is required for construction works within the 250m Consultation Zone. Part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone; and part of the 1,200 mm diameter fresh water mains along Wan Po Road falls within the SENT Landfill and SENT Landfill Extension Consultation Zones, TKO Stage II/III Restored Landfill and TKO Stage I Restored Landfill Consultation Zones.

4.2 Monitoring Location

Monitoring of oxygen, methane, carbon dioxide and barometric pressure was performed for excavations at 1m depth or more within the consultation Zone. In this reporting period, 780 times of monitoring was recorded.

During construction of works within the consultation zones, excavations of 1m depth or more was monitored:

- At the ground surface before excavation commences;
- Immediately before any worker enters the excavation;
- At the beginning of each working day for the entire period when the excavation remains open; and
- Periodically through the working day whilst workers are in the excavation.

For excavations between 300mm and 1m deep, measurements should be carried out:

- Directly after the excavation has been completed; and
- Periodically whilst the excavation remains open.

The area required to be monitored for landfill gas in the reporting period are shown in **Figure 4.1** to **Figure 4.20**.

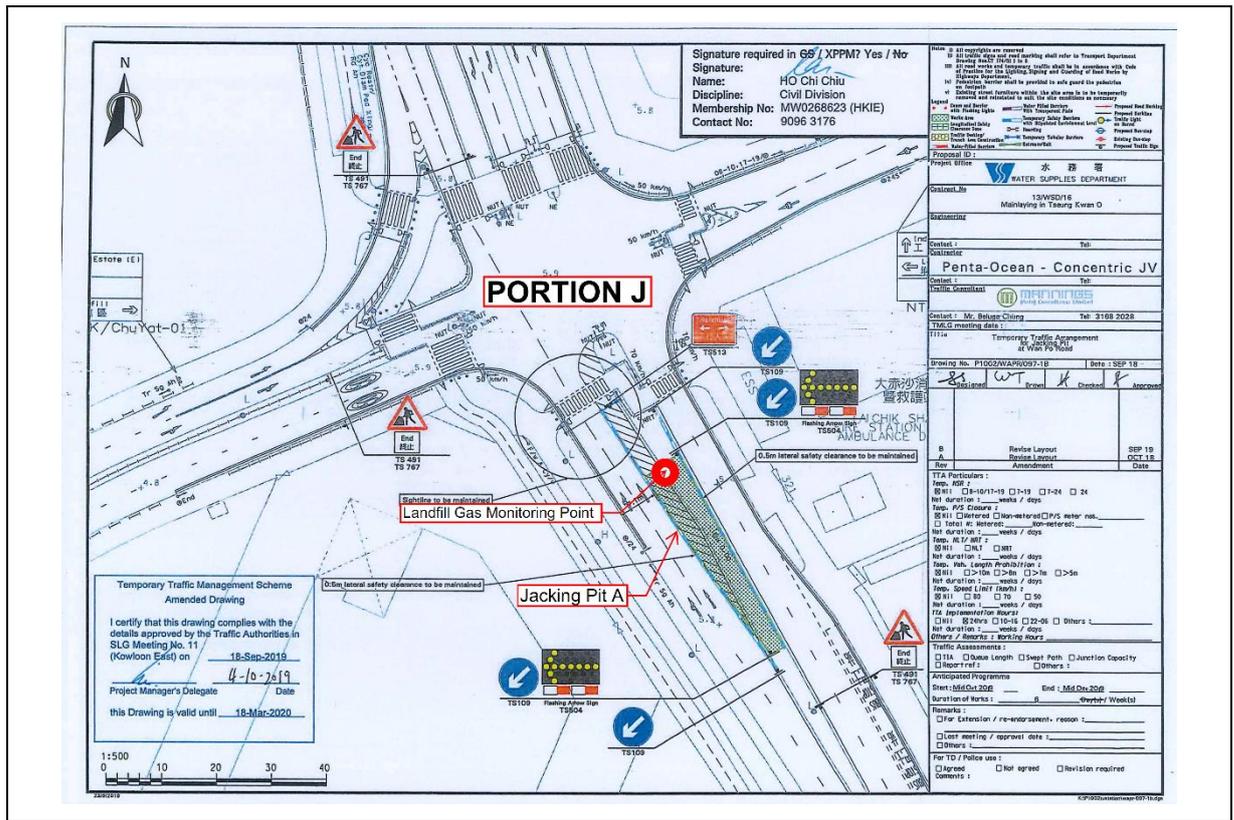


Figure 4.3 Monitoring Location – CH.A 13+50 ~ 14+00 (Pit A)

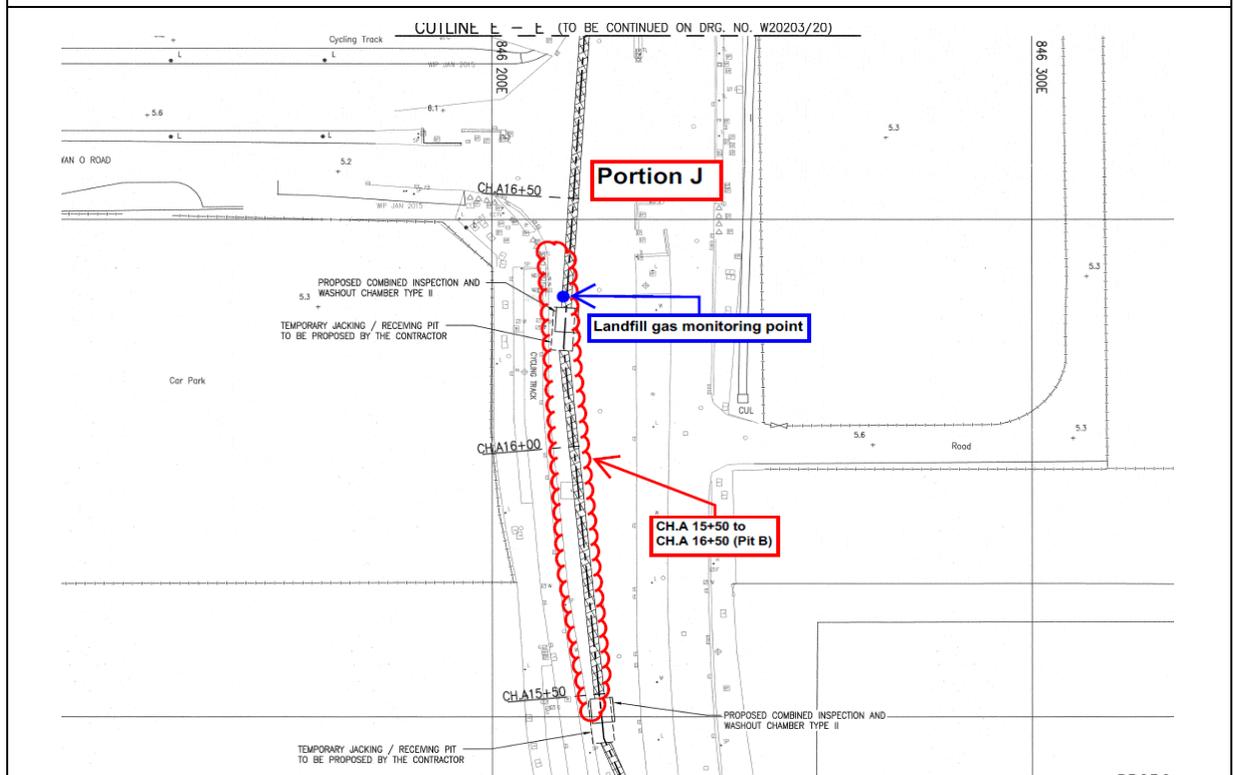


Figure 4.4 Monitoring Location – CH.A 15+50 ~ 16+50 (Jacking Pit B)

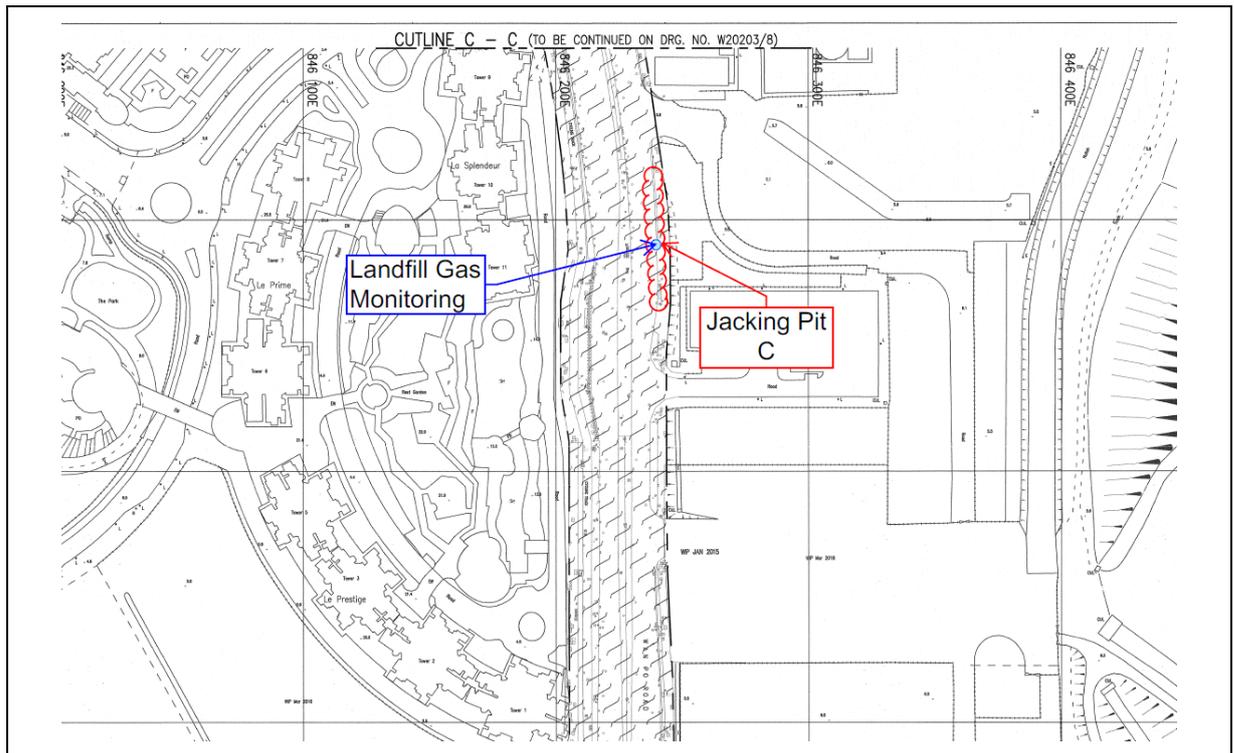


Figure 4.5 Monitoring Location – CH.A 19+15 ~19+50 (Pit C)

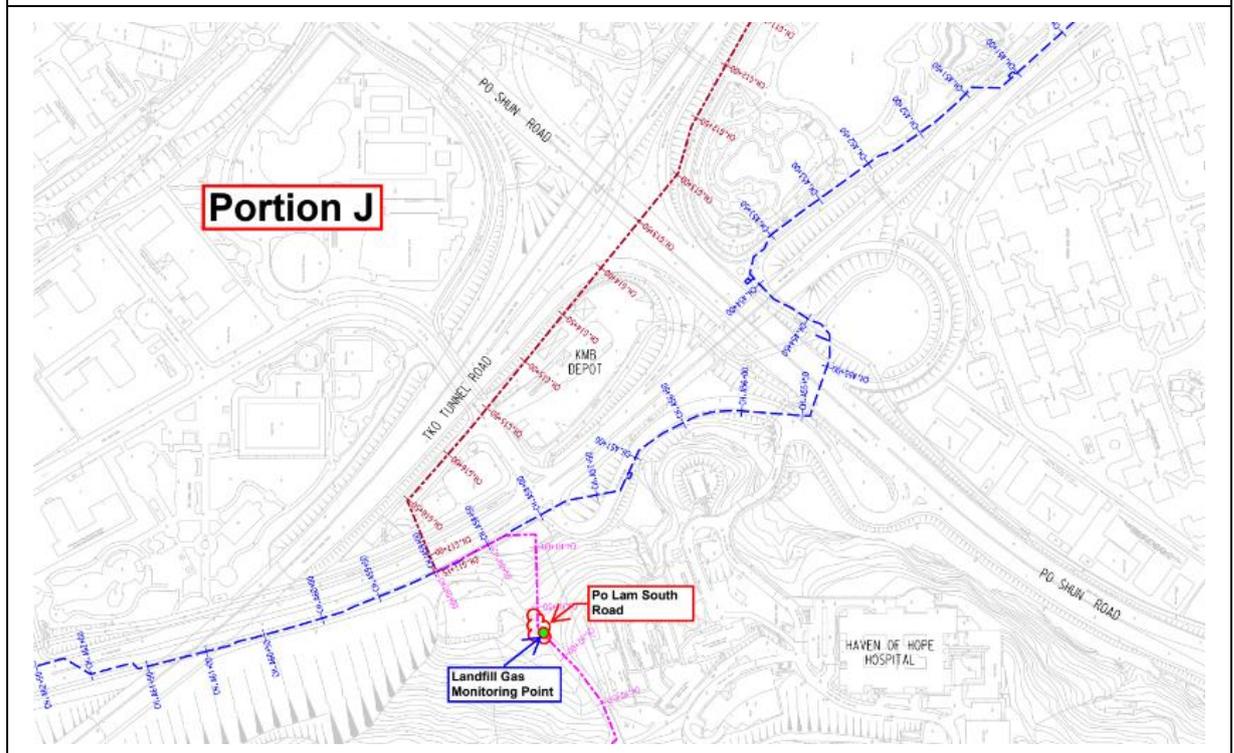


Figure 4.6a Monitoring Location – Mau Wu Tsai 1

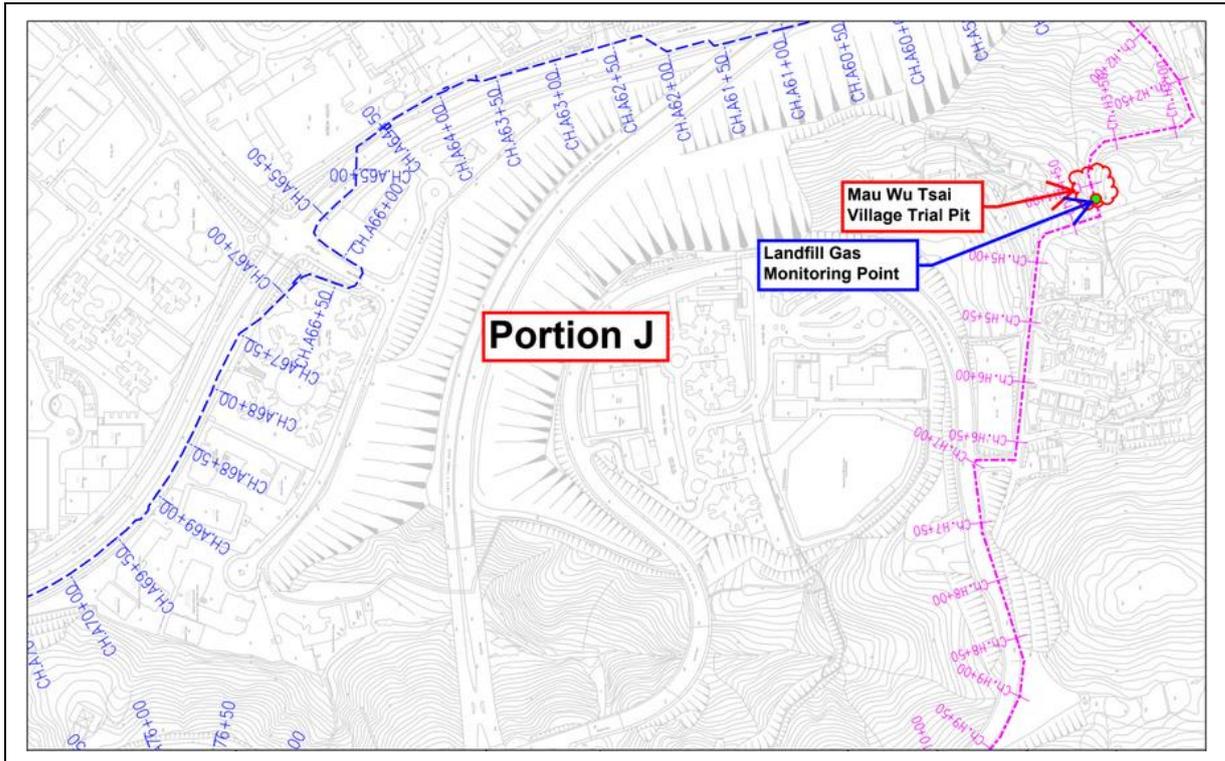


Figure 4.6b Monitoring Location – Mau Wu Tsai 2

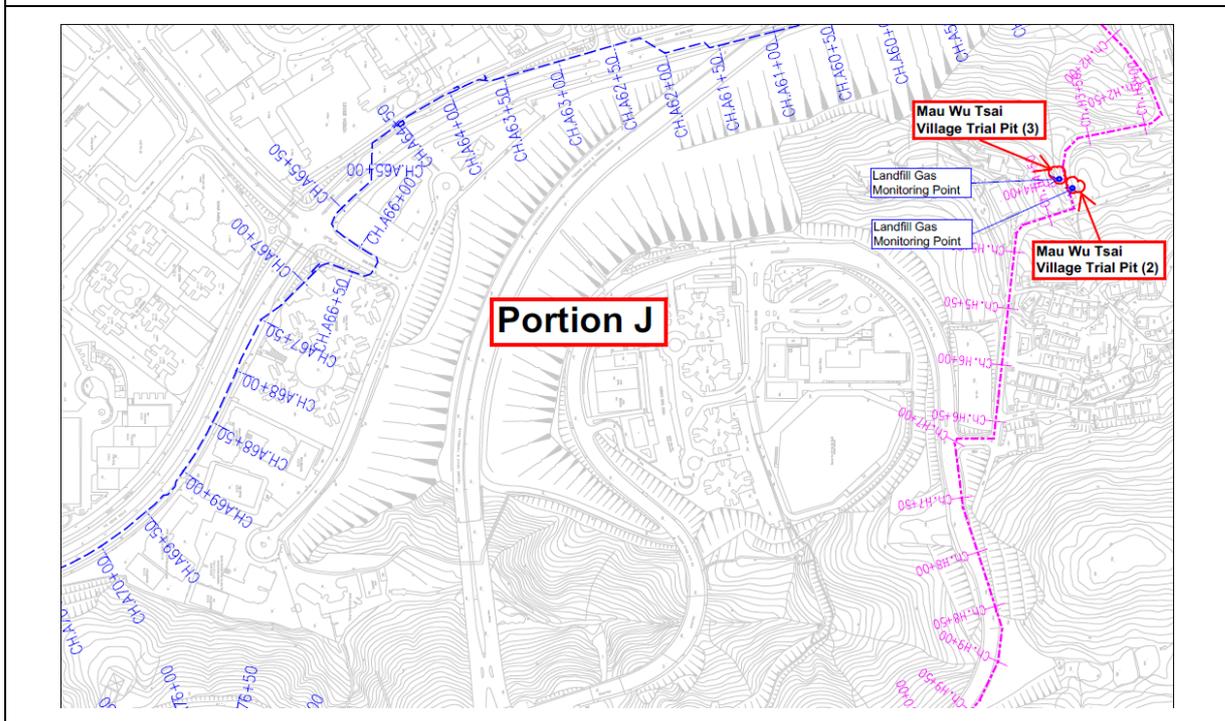


Figure 4.6c Monitoring Location – Mau Wu Tsai 3

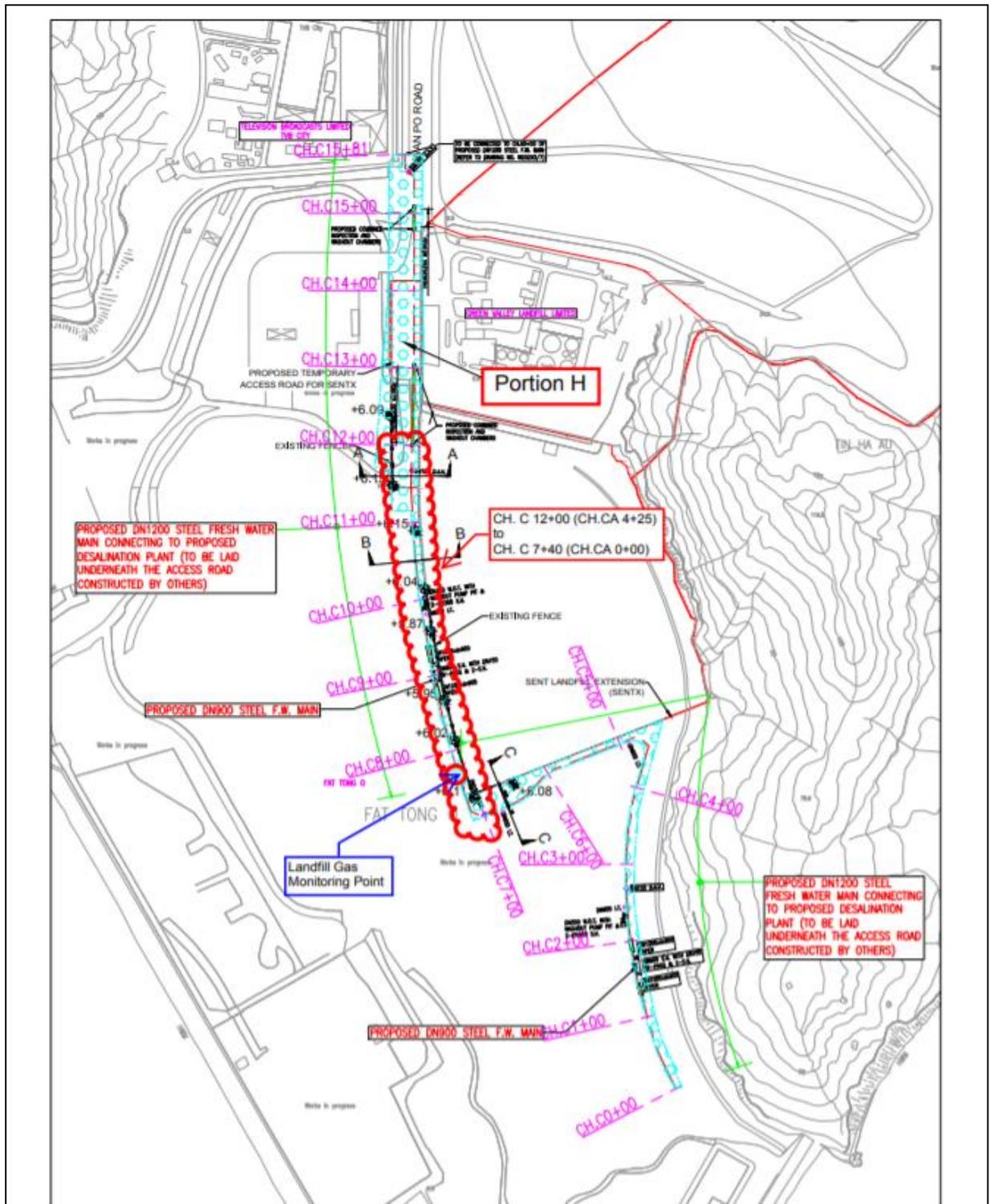


Figure 4.7 Monitoring Location –CH.CA 0+00 to CH.CA 04+25 (CH.C 7+40 ~ 12+00)

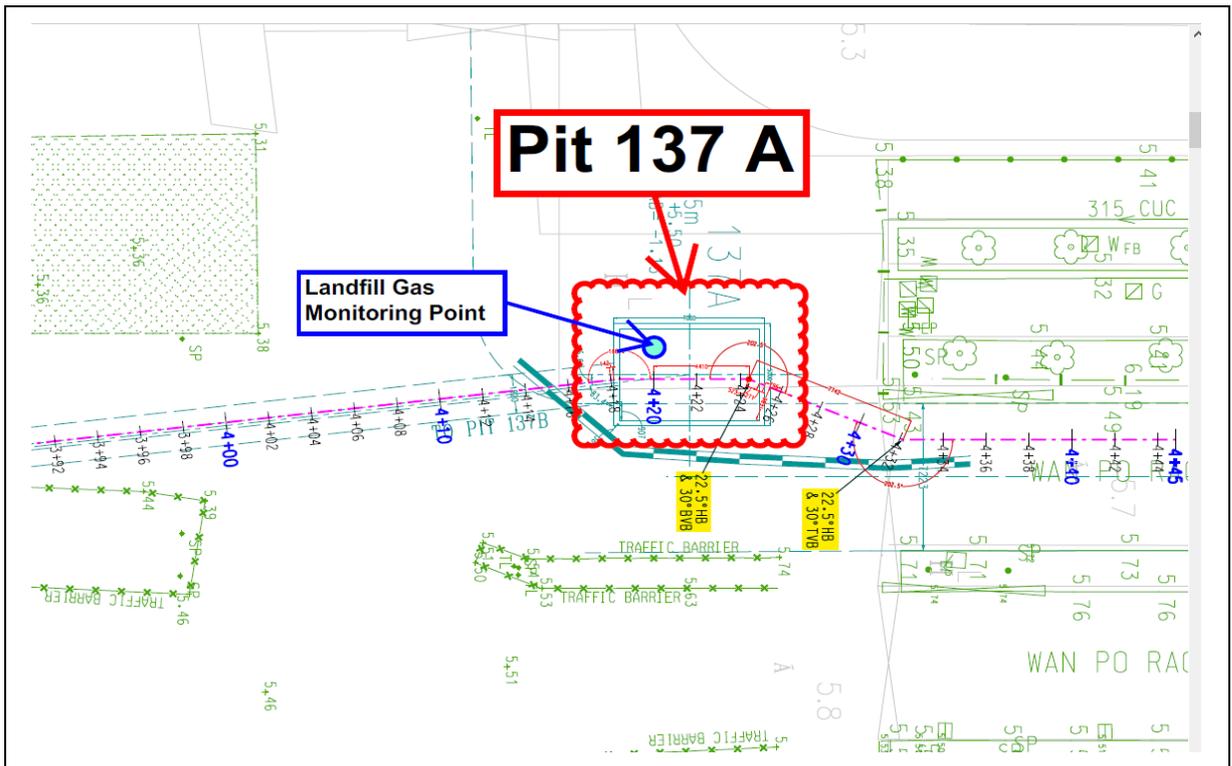


Figure 4.8a Monitoring Location – Pit 137A (137 Pit A)

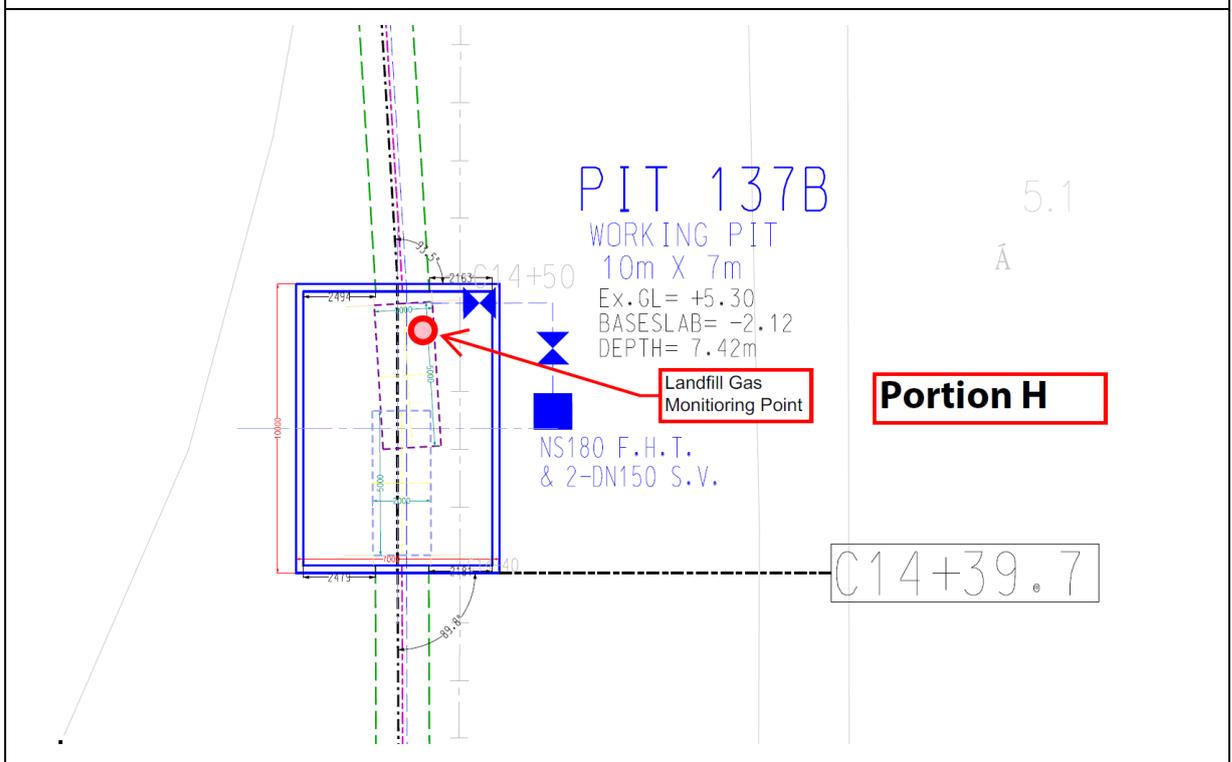


Figure 4.8b Monitoring Location – Pit 137B (137 Pit B)

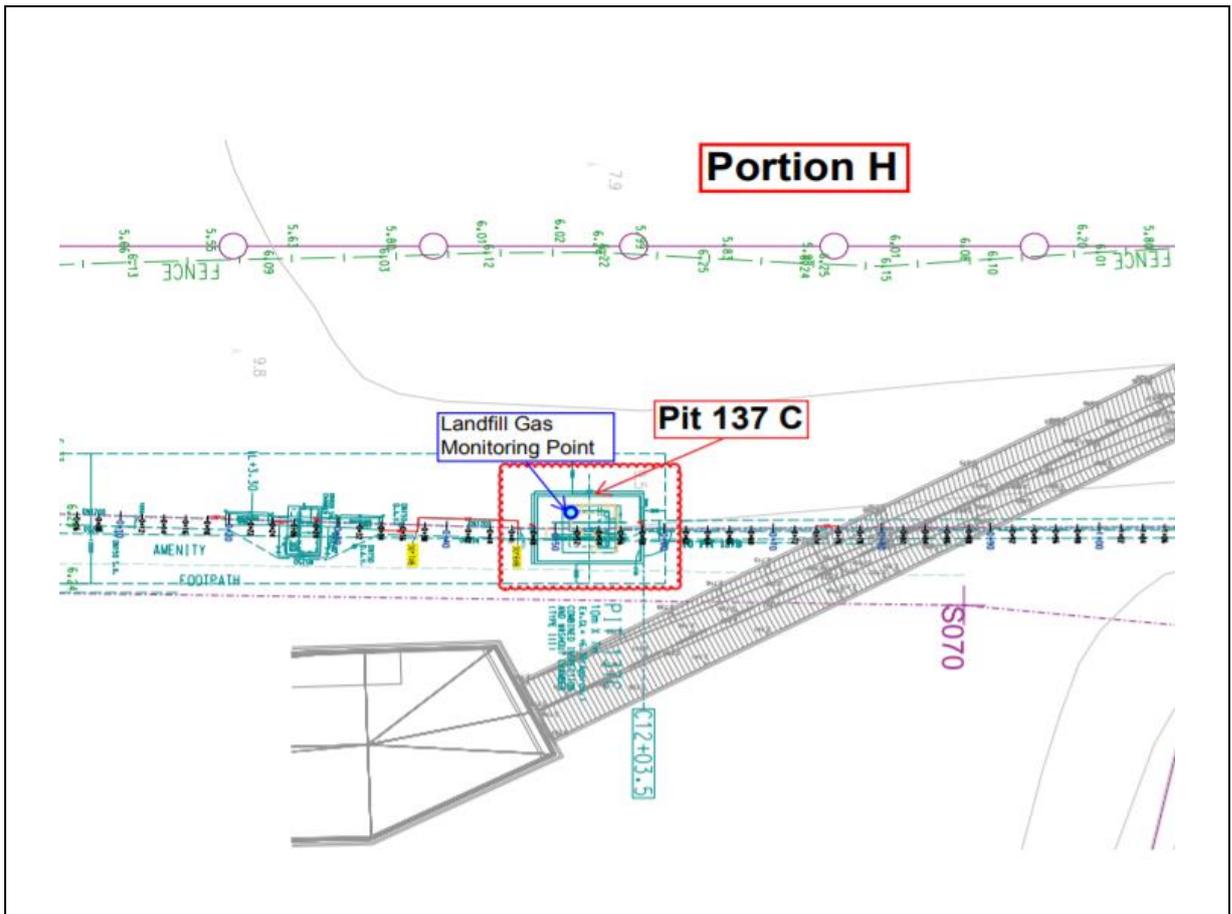


Figure 4.8c Monitoring Location – Pit 137C (137 Pit C)

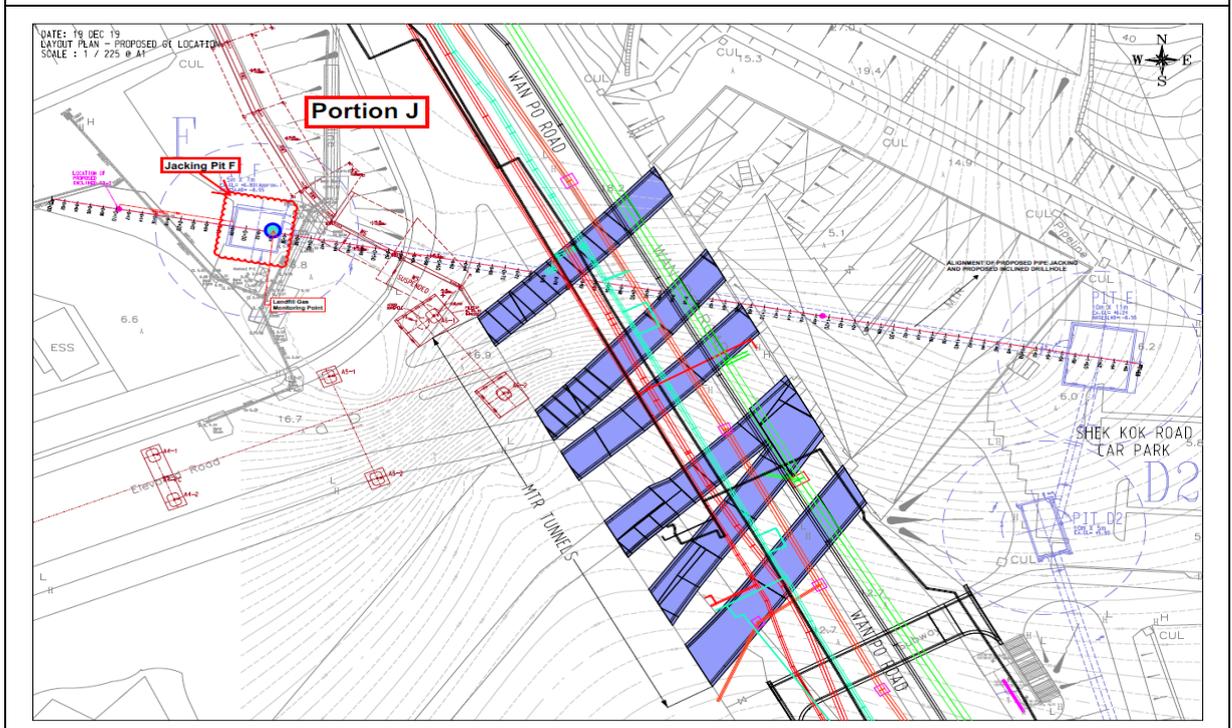


Figure 4.9 Monitoring Location – Jacking Pit F

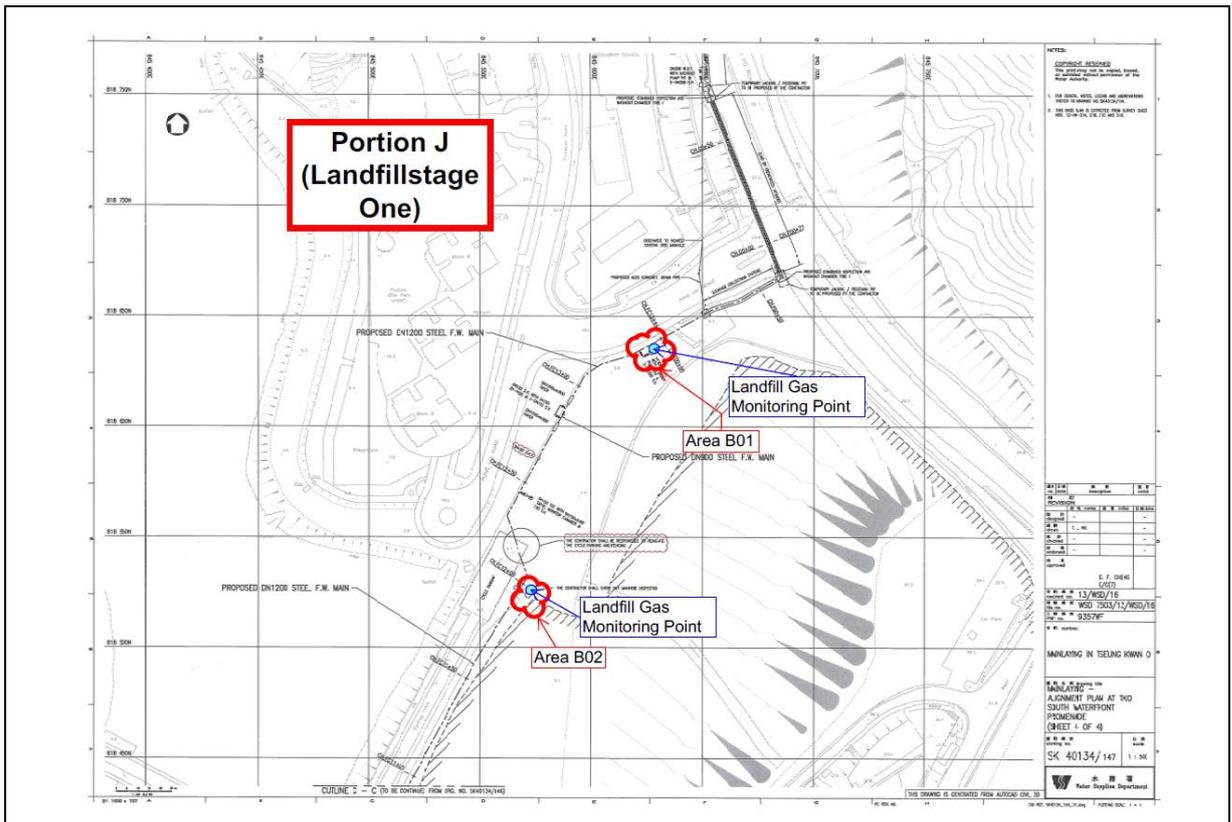


Figure 4.10a Monitoring Location – Landfill Stage 1 (Area B01-B02)

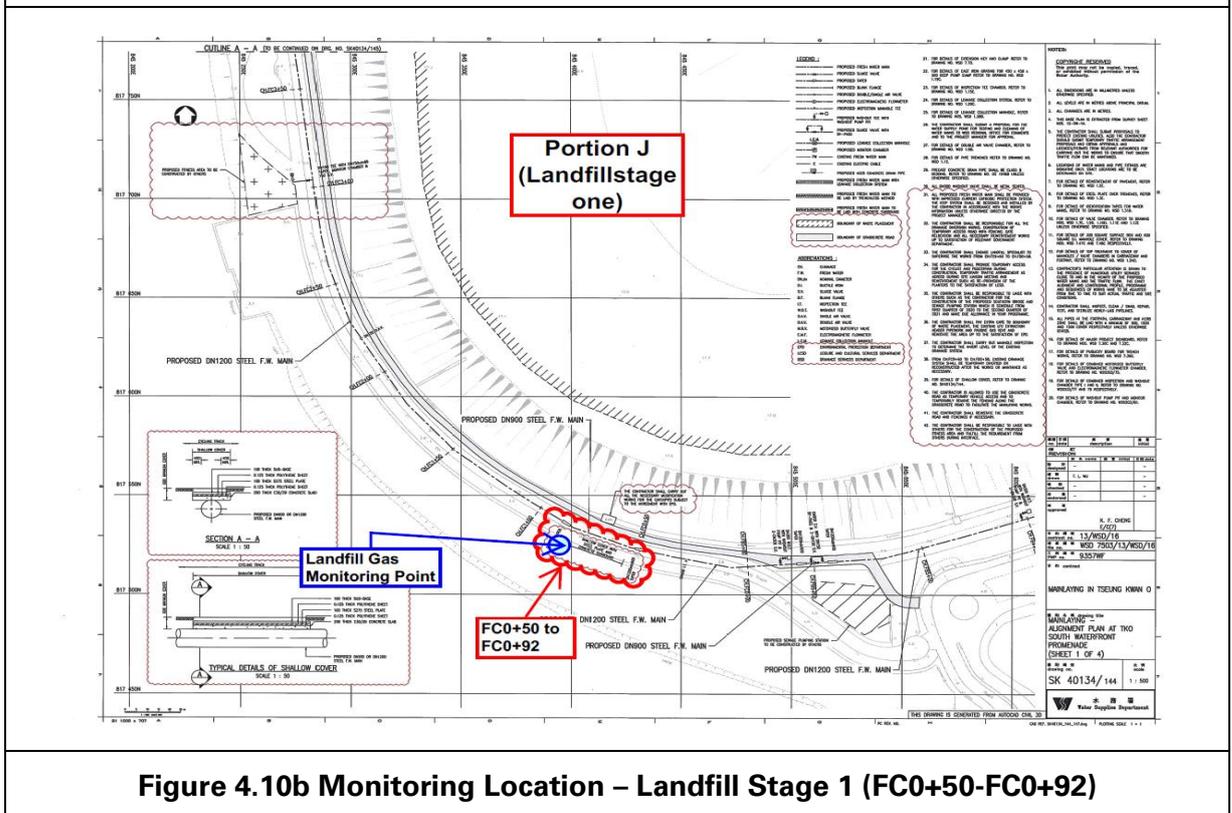


Figure 4.10b Monitoring Location – Landfill Stage 1 (FC0+50-FC0+92)

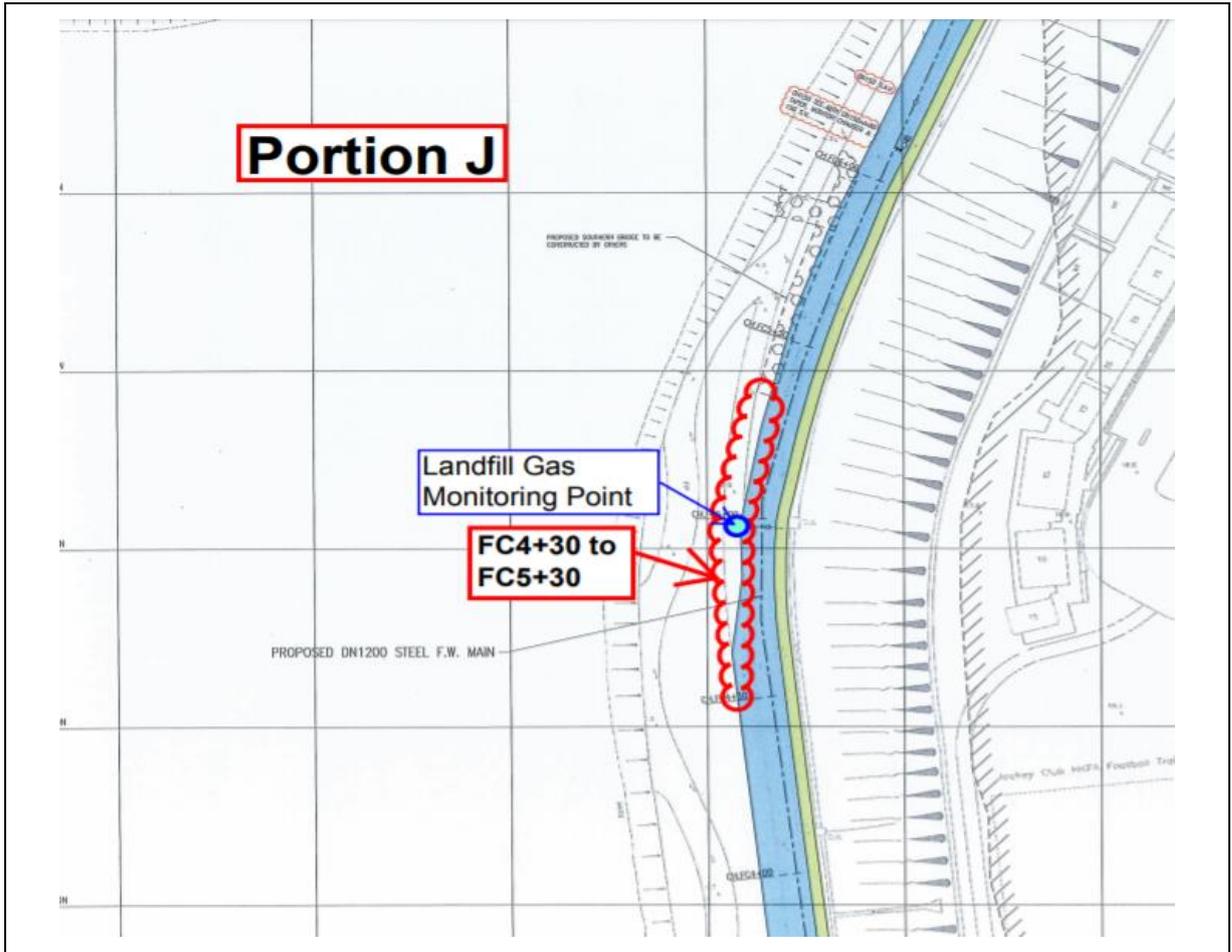


Figure 4.10c Monitoring Location – Landfill Stage 1 (FC4+30-FC5+30)

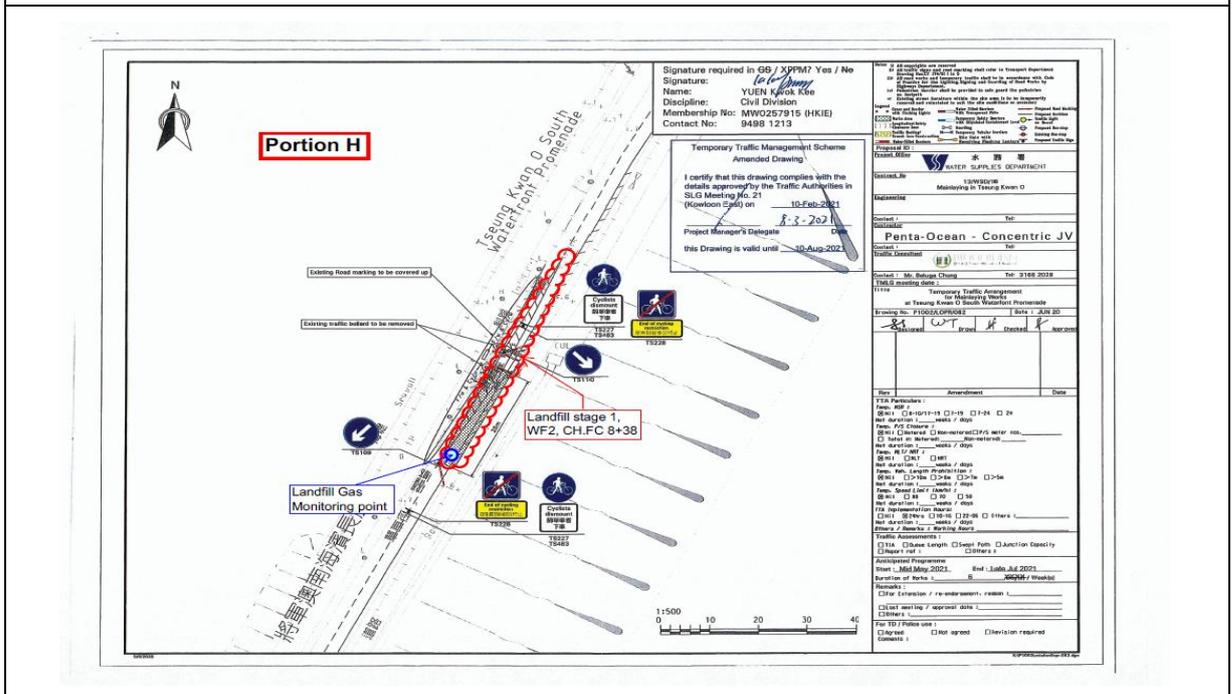


Figure 4.10d Monitoring Location – Landfill Stage 1 (FC8+38)

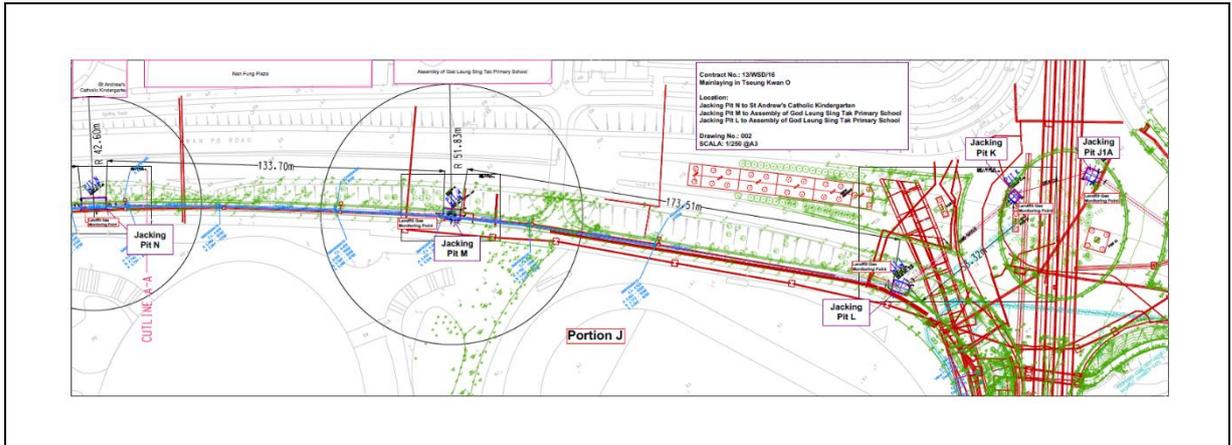


Figure 4.11a Monitoring Location – Pit L-M-N, J1A, K

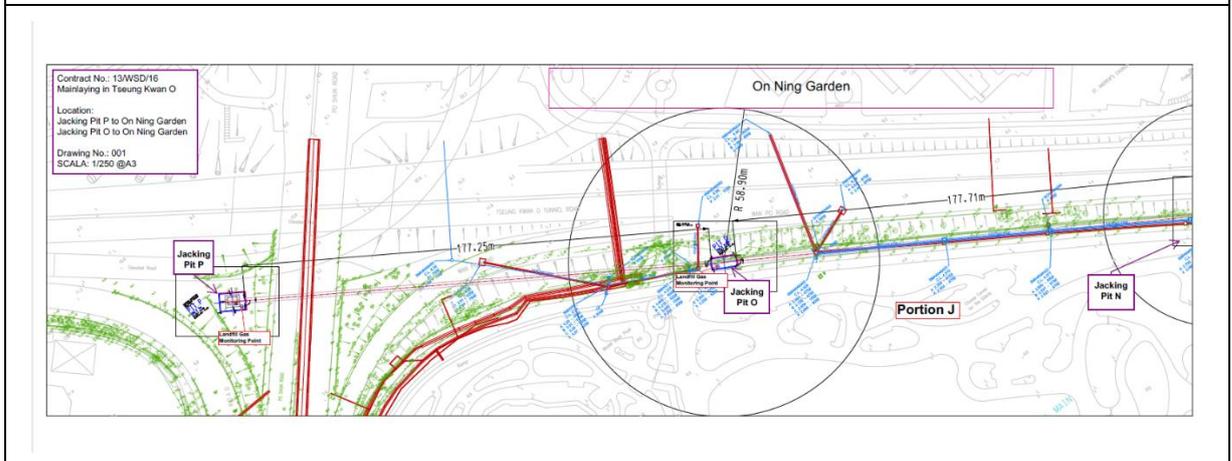


Figure 4.11b Monitoring Location – Pit N-O-P

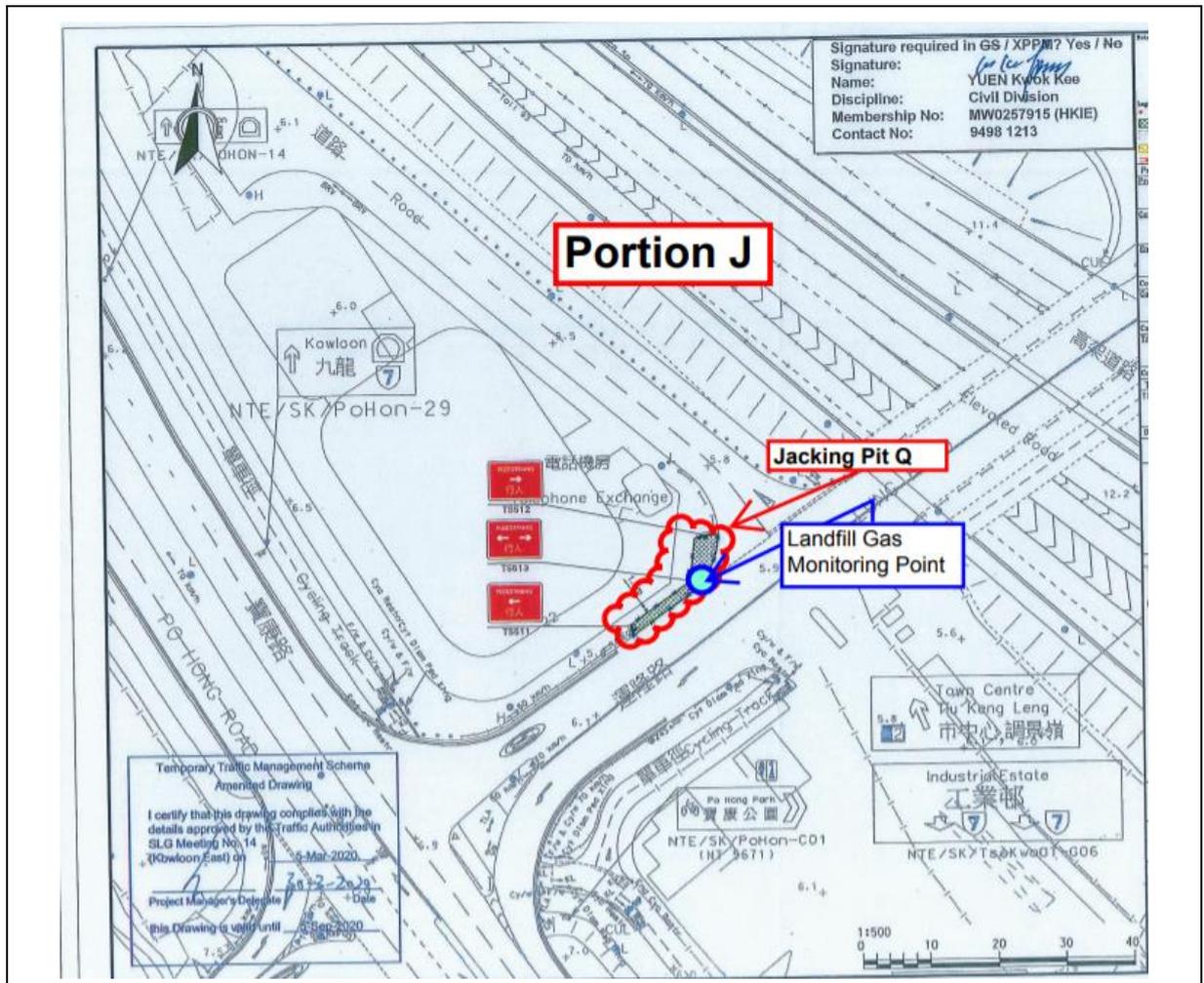


Figure 4.11c Monitoring Location – Pit Q

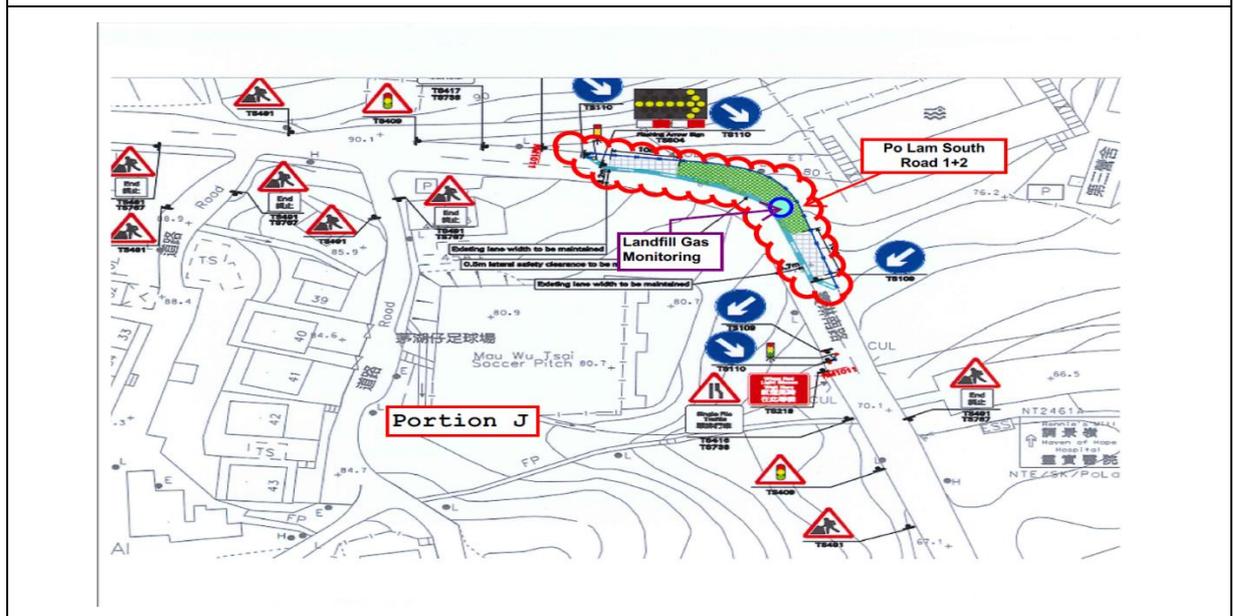


Figure 4.12 Po Lam South Road

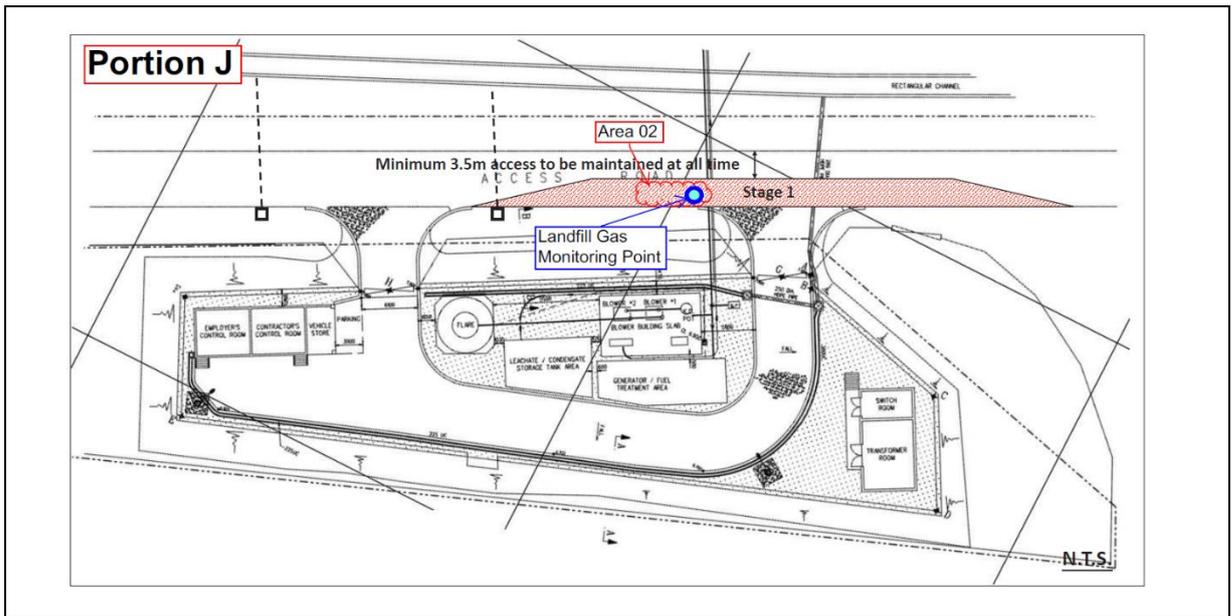


Figure 4.13 Monitoring Location – Area A02

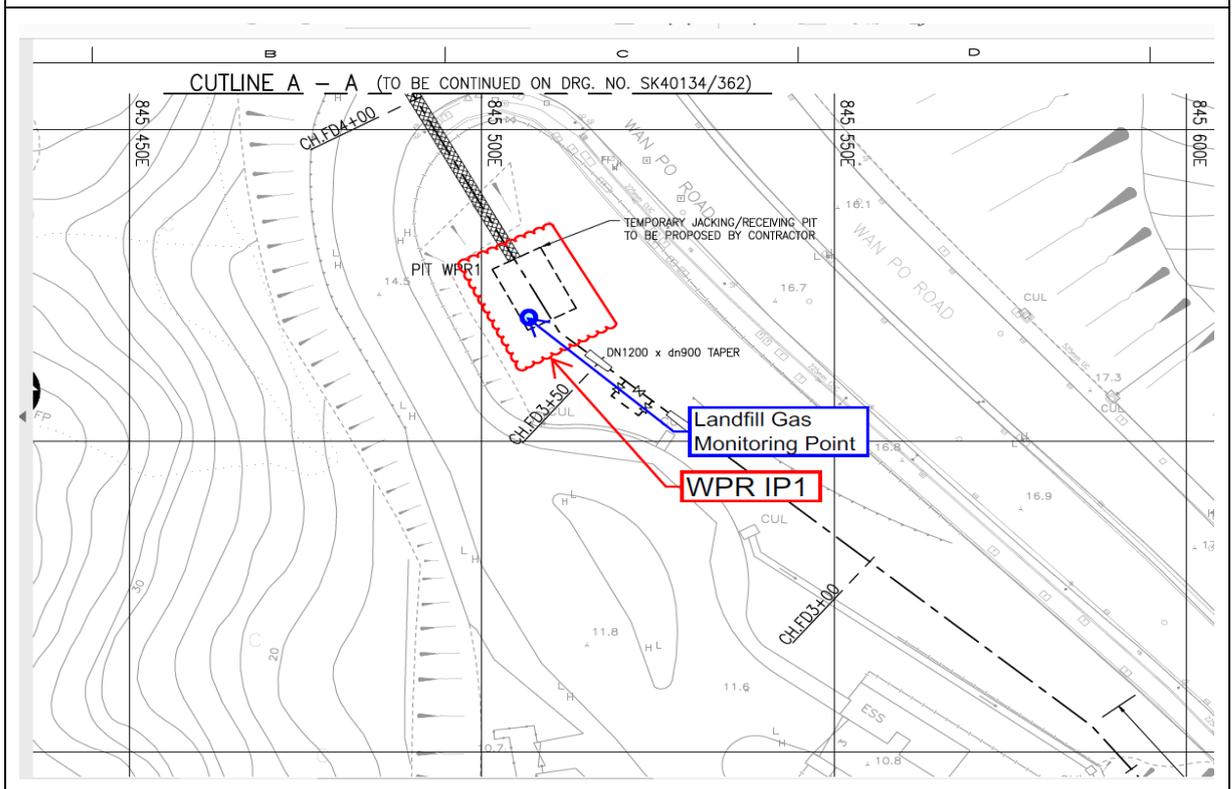


Figure 4.14 Monitoring Location – WPR IP1

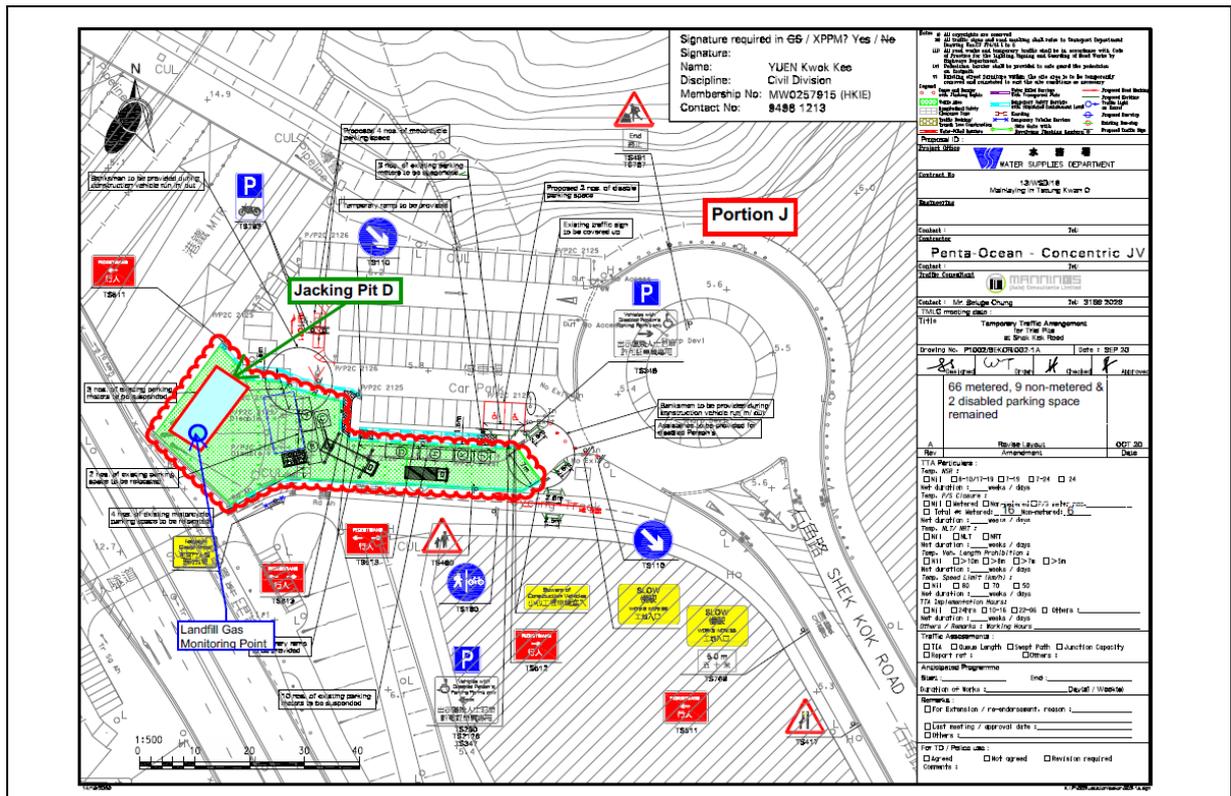


Figure 4.15 Monitoring Location – Jacking Pit D

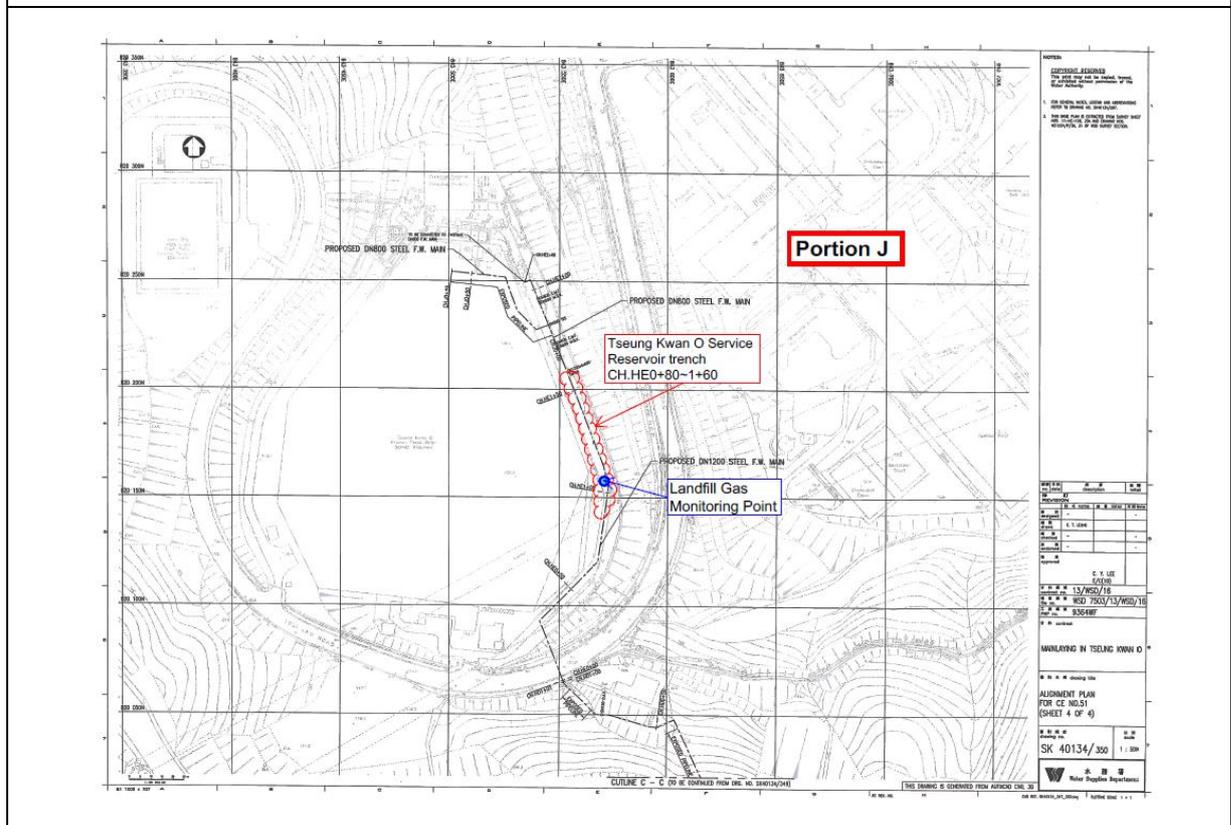


Figure 4.16 Monitoring Location – CH.HE0+80-1+60

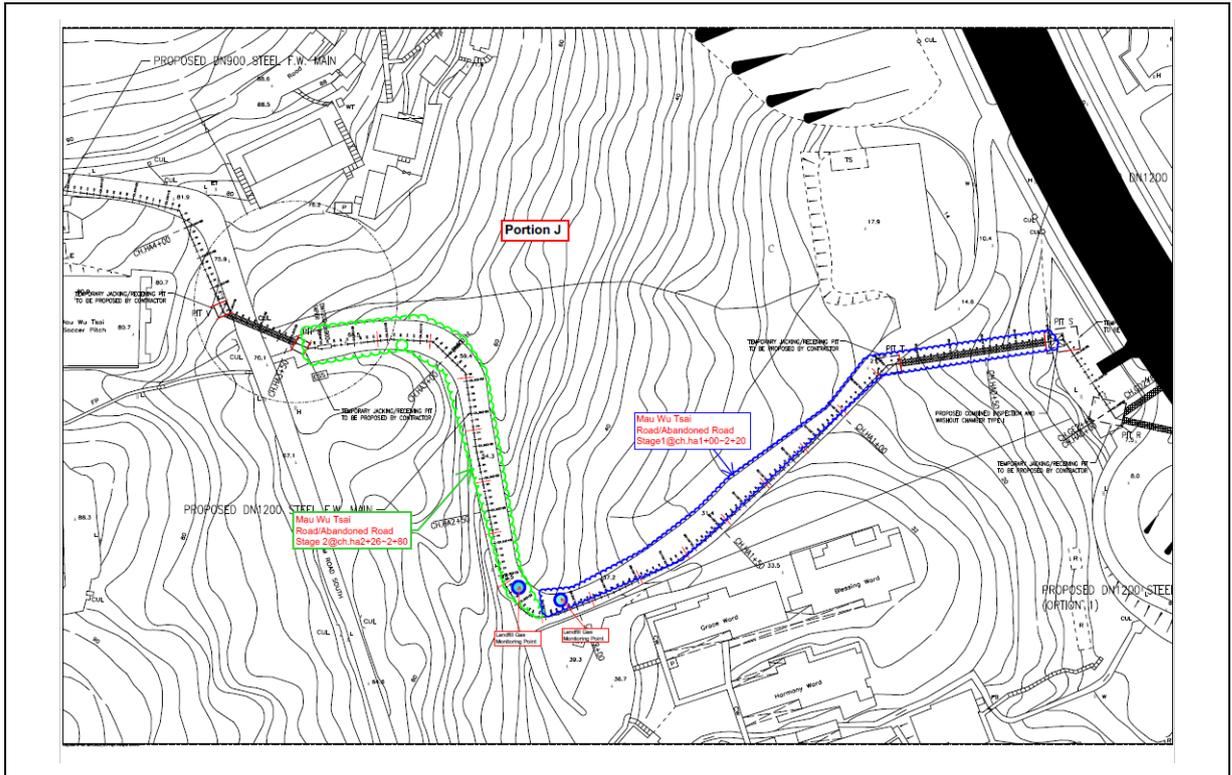


Figure 4.17 Monitoring Location – Mau Wu Tsai Abandoned Road

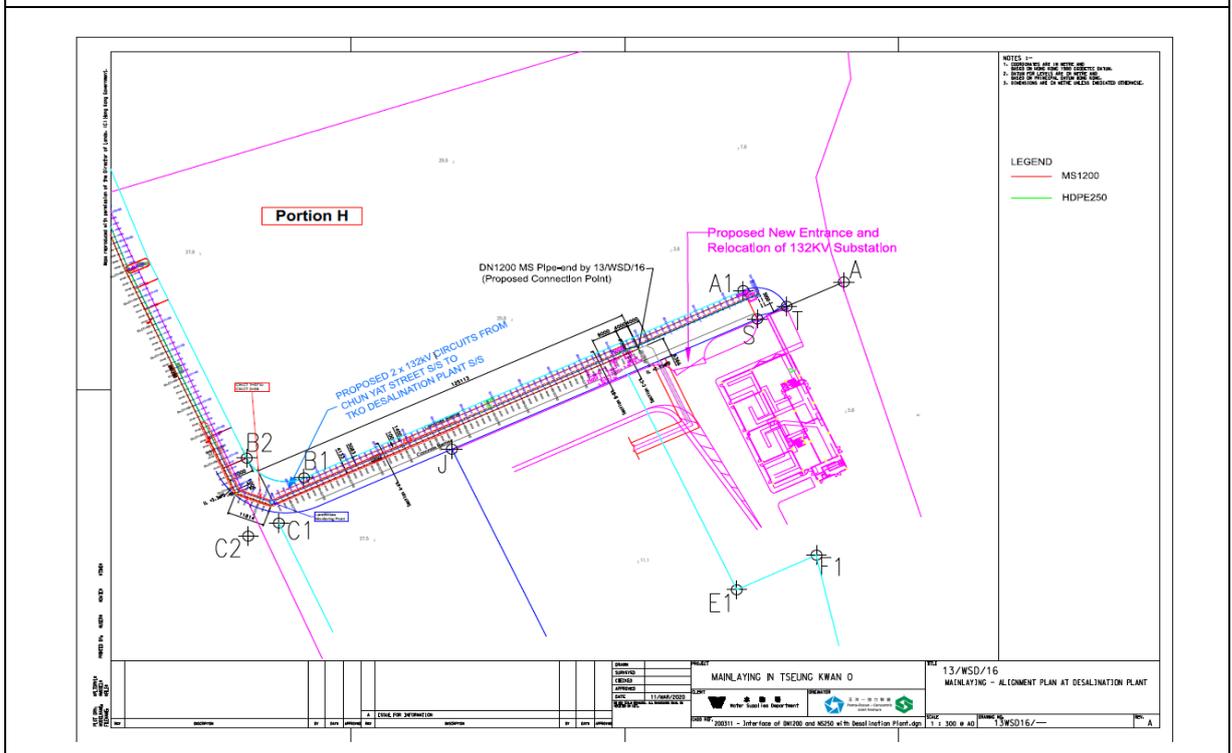


Figure 4.18a Monitoring Location - CH.CT 0+07 ~ 2+58

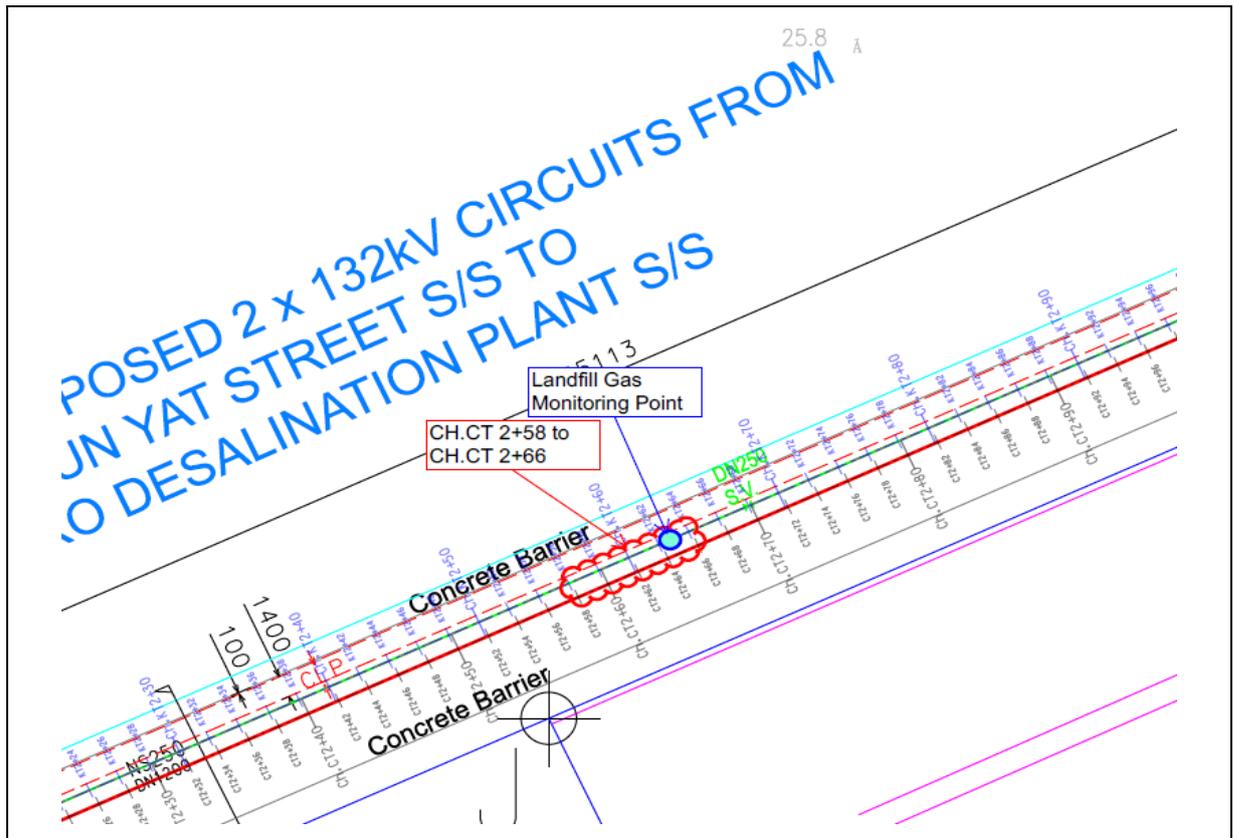


Figure 4.18b Monitoring Location - CH.CT 2+58 ~ 2+66

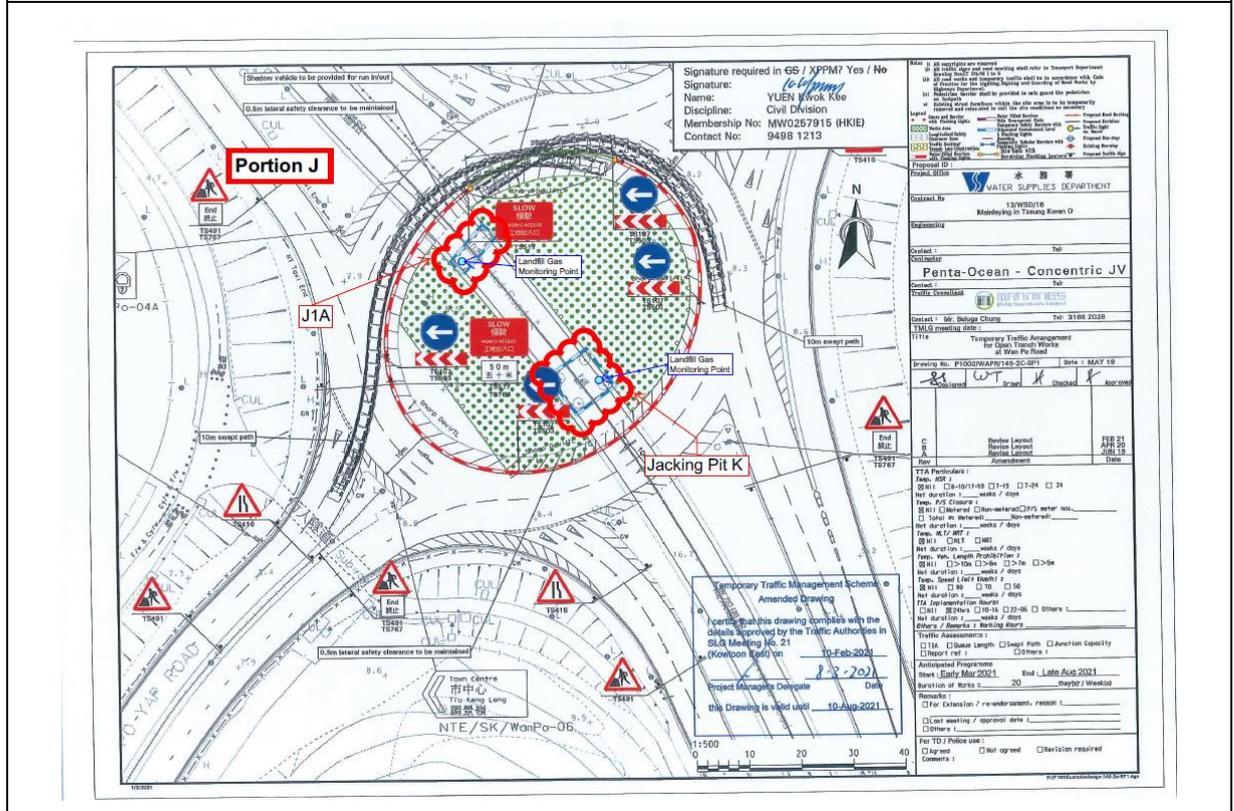
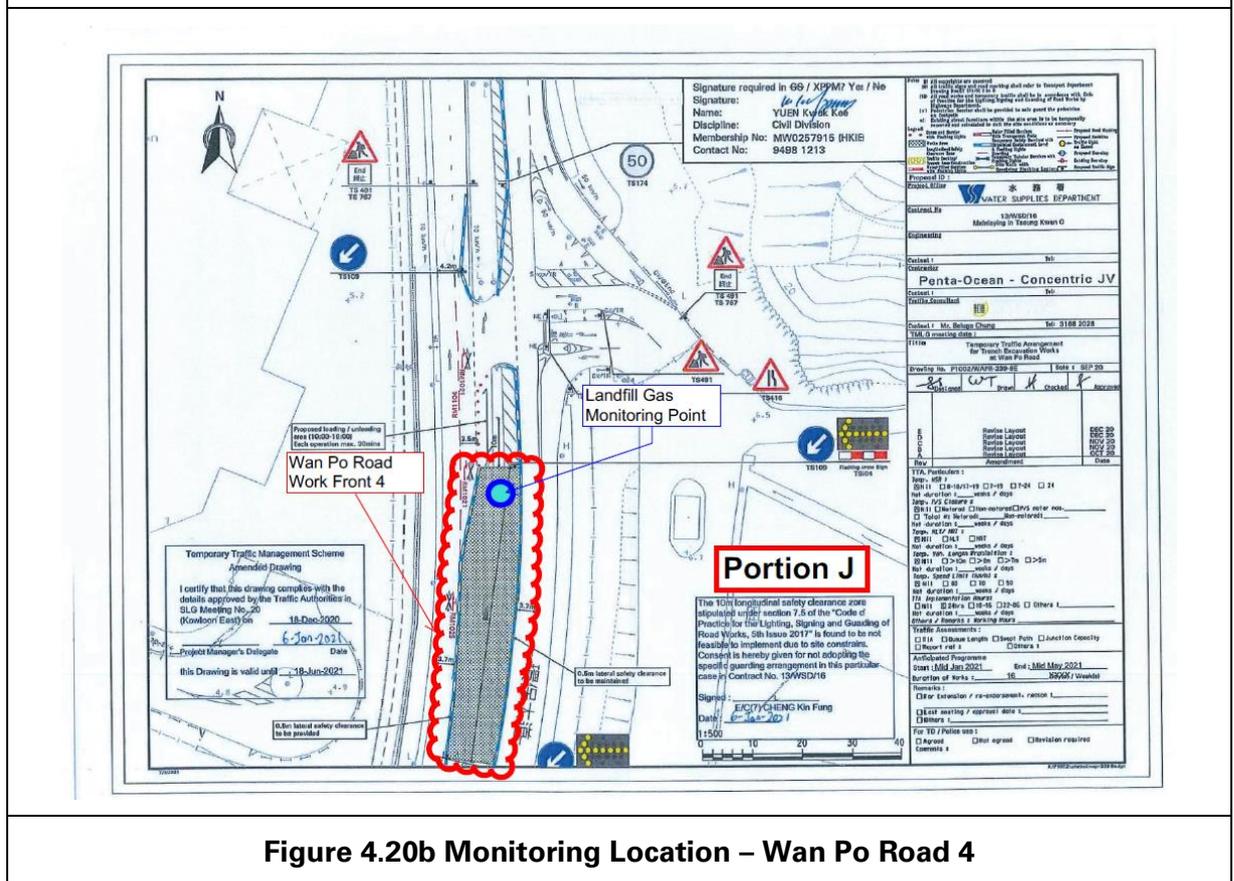
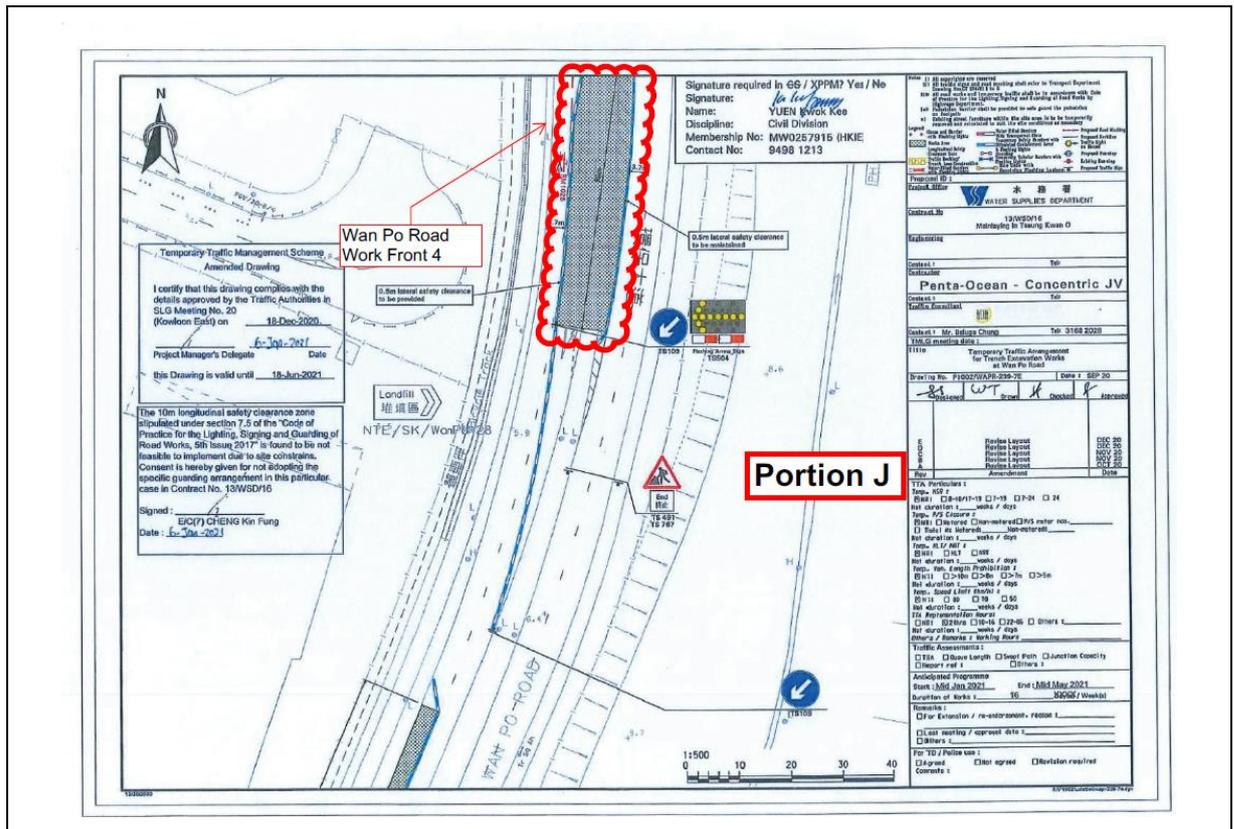


Figure 4.19 Monitoring Location - Pit K



4.3 Monitoring Parameters

LFG monitoring was carried out to identify any migration between the landfill and the Project and to ensure the safety of the construction, operation and maintenance personnel working on-site, visitors and any other person within the Project area.

The following parameters were monitored:

- Methane.
- Oxygen.
- Carbon Dioxide.
- Barometric Pressure.

4.4 Action and Limit Level

Action and Limit Level are provided in **Table 4.1**.

Table 4.1 Action and Limit Level for Landfill Gas Monitoring Equipment

Parameters	Action Level	Limit Level
Oxygen (O ₂)	<19% O ₂	<19% O ₂
Methane (CH ₄)	>10% LEL	>80% LEL
Carbon Dioxide (CO ₂)	>0.5% CO ₂	>1.5% CO ₂

4.5 Monitoring Equipment

Landfill Gas monitoring was carried out using intrinsically-safe, portable multi-gas monitoring instruments. The gas monitoring equipment is:

- Complying with the Landfill Gas Hazard Assessment Guidance Note as intrinsically safe;
- Capable of continuous barometric pressure and gas pressure measurements;
- Normally operated in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump;
- Having low battery, fault and over range indication incorporated;
- Capable of storing monitoring data, and shall be capable of being down-loaded directly;
- Measure in the following ranges:

methane	0-100% Lower Explosion Limit (LEL) and 0-100% v/v;
oxygen	0-25% v/v;
carbon dioxide	0-5% v/v; and
barometric pressure	mBar (absolute)

- alarm (both audibly and visually) in the event that the concentrations of the following are exceeded:

methane	>10% LEL;
oxygen	<19% by volume; and
carbon dioxide	>0.5% by volume
barometric pressure	mBar (absolute)

Monitoring Equipment used in the reporting period are summarised in **Table 4.2**. The Landfill Gas monitoring equipment calibration certificate is presented in **Appendix I**.

Table 4.2 Landfill Gas Monitoring Equipment

Equipment	Brand and Model	Calibration Expiry Date
Portable Gas Detector	QRAE III	27 July 2022
MultiRAE Lite	PGM-6208	06 April 2022

4.6 Monitoring Results

In the reporting period, construction works within the consultation zones, excavations of 1m depth or more was monitored. Landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations for 780 times. All the measured results were presented in **Appendix J** and were within the Action and Limit Levels.

5. SUMMARY OF MONITORING EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

5.1 The Environmental Complaint Handling Procedure is shown in below **Figure 5.1:**

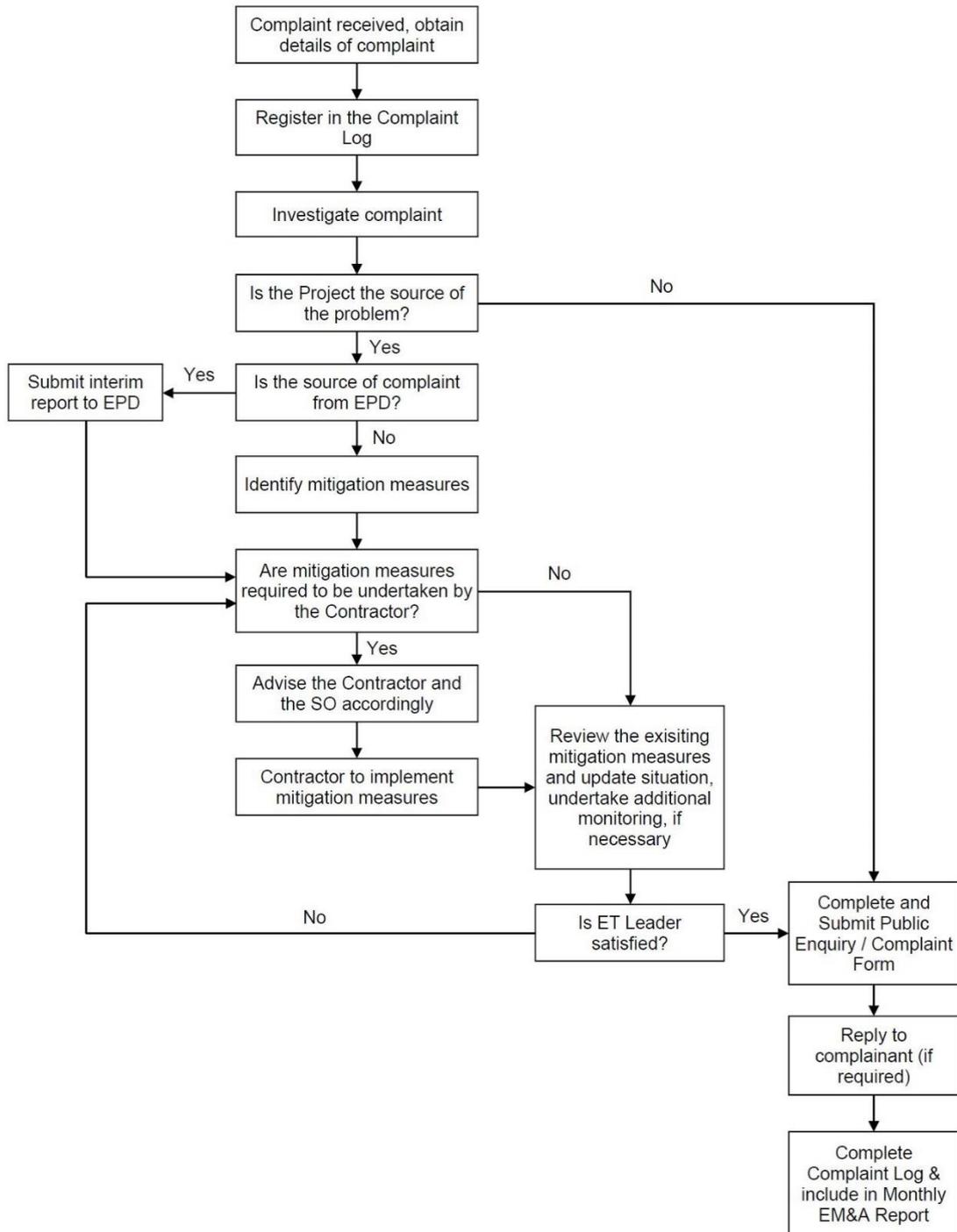


Figure 5.1 Environmental Complaint Handling Procedure

- 5.2 Impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 4, 13, 19 and 25 August 2021 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.
- 5.3 No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.
- 5.4 No project-related exceedance of the Action Level was recorded during the reporting period.
- 5.5 No project-related environmental complaint was received in the reporting month.
- 5.6 No notification of summons and prosecution was received in the reporting period.
- 5.7 Statistics on complaints and regulatory compliance are summarized in **Appendix K**.

6. EM&A SITE INSPECTION

- 6.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 5, 13, 20 and 27 August 2021 at the site portions list in **Table 6.1** below.

Table 6.1 Site Inspection Record

Date	Inspected Site Portion	Time
05 August 2021	Portion F and J	9:35am – 11:30am
13 August 2021	Portion J	9:30am – 12:00pm
20 August 2021	Portion J	9:30am – 12:00pm
27 August 2021	Portion J	9:20am – 12:00pm

- 6.2 One joint site inspection with IEC was carried out on 27 August 2021.
- 6.3 Minor deficiencies were observed during weekly site inspections. Key observations during the site inspections are summarized in **Table 6.2**.

Table 6.2 Site Observations

Date	Environmental Observations	Follow-up Status
05 August 2021	<ol style="list-style-type: none"> 1. Gully was not protected by sandbags and geo-textile at Wan Po Road 1 and Wan Po Road 4. 2. The Main Contractor was reminded that all wastewater should be properly treated before discharge to drainage systems at Wan Po Road 1 and Wan Po Road 2. 3. Construction boundary was not protected by sandbags fully at Wan Po Road 4. 4. Environmental permit was not observed at Wan Po Road 4. 	<ol style="list-style-type: none"> 1. Gully was protected by sandbags and geo-textile. 2. There was no wastewater being discharged from the site. 3. Construction boundary was protected by sandbags fully. 4. Environmental permit was Added.
13 August 2021	<ol style="list-style-type: none"> 1. Construction boundary was not protected by sandbags at Wan Po Road 1. 2. Dusty materials were found directly next to the water barriers at Wan Po Road 1. These materials should be removed to prevent the escape of the materials to the area outside boundary at Wan Po Road. 3. Gully was not protected by geo-textile and sandbags at Wan Po Road 1. 4. The Main Contractor was reminded that all wastewater should be treated before discharge at Wan Po Road 1. 	<ol style="list-style-type: none"> 1. Construction boundary was protected by sandbags. 2. Dusty materials were cleaned. 3. Gully was protected by geo-textile and sandbags 4. There was no wastewater being discharged from the site.
20 August 2021	<ol style="list-style-type: none"> 1. Chemicals were observed not placed in a drip tray at Hong Kong Velodrome (Pit P). 	<ol style="list-style-type: none"> 1. Chemicals were removed in a drip tray.
27 August 2021	No major observations were reported.	

- 6.4 According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents should be implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix C**.
- 6.5 Site inspection proforma of the reporting period is provided in **Appendix L**.

7. FUTURE KEY ISSUES

7.1 Key works that will be anticipated in the next reporting period for the Project are shown in **Table 7.1**.

Table 7.1. Key works for the next reporting month

Location	Location	Forecast Works in Next Reporting Month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> Remedial works for TBM pipe jacking will be conducted.
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> Trench excavation and pipe laying will be conducted.
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> Excavation and ELS works will be conducted.
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> Pit excavation works will be continued. Preparation works for pipe jacking will be conducted.
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> Excavation and ELS works will be conducted.
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> 900HSV Chamber construction works will be conducted.
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted.
	Roundabout – Pit G1A	<ul style="list-style-type: none"> Demolishing works for road planter will be conducted.
	Roundabout – Pit J1A	<ul style="list-style-type: none"> Trenchless works by hand-shield will be continued.
	Velodrome – Pit L	<ul style="list-style-type: none"> Trial trench works for alternative method will be continued.
	Velodrome – Pit M	<ul style="list-style-type: none"> Rescue pit construction works will be continued.
	Velodrome – Pit O	<ul style="list-style-type: none"> Trial trench works for alternative method will be continued.
	Velodrome – Pit P	<ul style="list-style-type: none"> MTBM pipe jacking will be commenced.
	Ling Hong Road - Pit Y	<ul style="list-style-type: none"> Excavation & ELS works for pit construction will be continued.
	Ling Hong Road - Pit R	<ul style="list-style-type: none"> Trenchless hand-shield pipe jacking works will be conducted.
Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> Trench excavation and pipe mainlaying works will be conducted. 	

Location	Location	Forecast Works in Next Reporting Month
		<ul style="list-style-type: none"> Construction of Washout Chamber will be conducted.
	Mau Wu Tsai – Workfront 2	<ul style="list-style-type: none"> Laying of branch pipe will be conducted.
	Po Lam Road South Stage-1	<ul style="list-style-type: none"> Trench backfilling and reinstatement will be continued.
	Po Lam Road (D1)	<ul style="list-style-type: none"> Trench backfilling and reinstatement will be continued.
	Po Lam Road (B5)	<ul style="list-style-type: none"> Trench backfilling and reinstatement will be continued.
	Po Lam Road (A0)	<ul style="list-style-type: none"> TTA works will be shifted to next section A1.
	Tsui Lam Road	<ul style="list-style-type: none"> Trial pit works will be conducted.
	TKO Primary Service Reservoir	<ul style="list-style-type: none"> Trench excavation and pipe laying works will be conducted. Trial pit works will be conducted.

7.2 The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation of saw cutting of concrete surface, mainlaying of pipes, drilling activities, TBM break through and excavation works.
- Waste generation from construction activities
- Impact on water quality from construction activities

7.3 The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Dust suppression by regular wetting and water spraying for saw cutting of concrete surface, mainlaying of pipes, drilling activities, TBM break through and excavation works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste
- Treatment of wastewater with water treatment facilities before discharge

7.4 The proactive environmental protection proforma for the next reporting month is listed in **Appendix M**.

7.5 Referring to EM&A Manual Section 4.1.2, the impact noise monitoring should be carried out at all the designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

7.6 The tentative impact monitoring schedule for the next reporting month is attached in **Appendix N**.

8. CONCLUSION AND RECOMMENDATIONS

- 8.1 This is the 37th monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during the period from 1 August 2021 to 31 August 2021, in accordance with the EM&A Manual and the requirement under EP-503/2015/A.
- 8.2 Impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 4, 13, 19 and 25 August 2021 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.
- 8.3 No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.
- 8.4 No project-related exceedance of the Action Level was recorded during the reporting period.
- 8.5 Weekly environmental site inspection was conducted during the reporting period. Minor deficiencies were observed during site inspection and were rectified. The environmental performance of the project was therefore considered satisfactory.
- 8.6 According to the environmental site inspections performed in the reporting month, the contractor is reminded to pay attention on maintaining site tidiness, water treatment facilities, dust suppression mitigations and proper materials storage.
- 8.7 No project-related environmental complaint was received in the reporting month.
- 8.8 No notification of summons or prosecution was received since the commencement of the Contract.
- 8.9 The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A

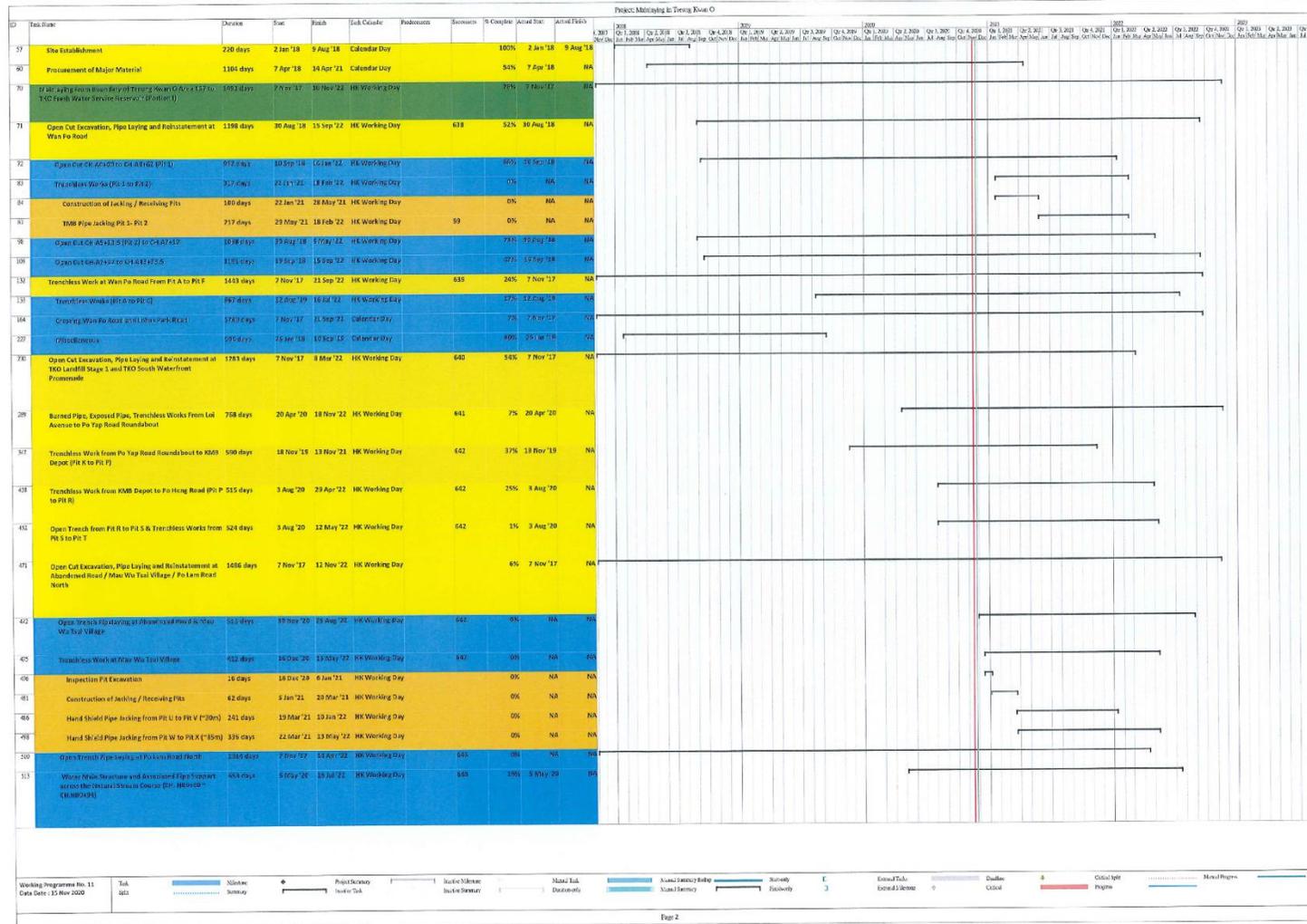
Construction Programme

Contract No. 13/WSD/16 Mainlaying in Tseung Kwan O Monthly EM&A Report No.37

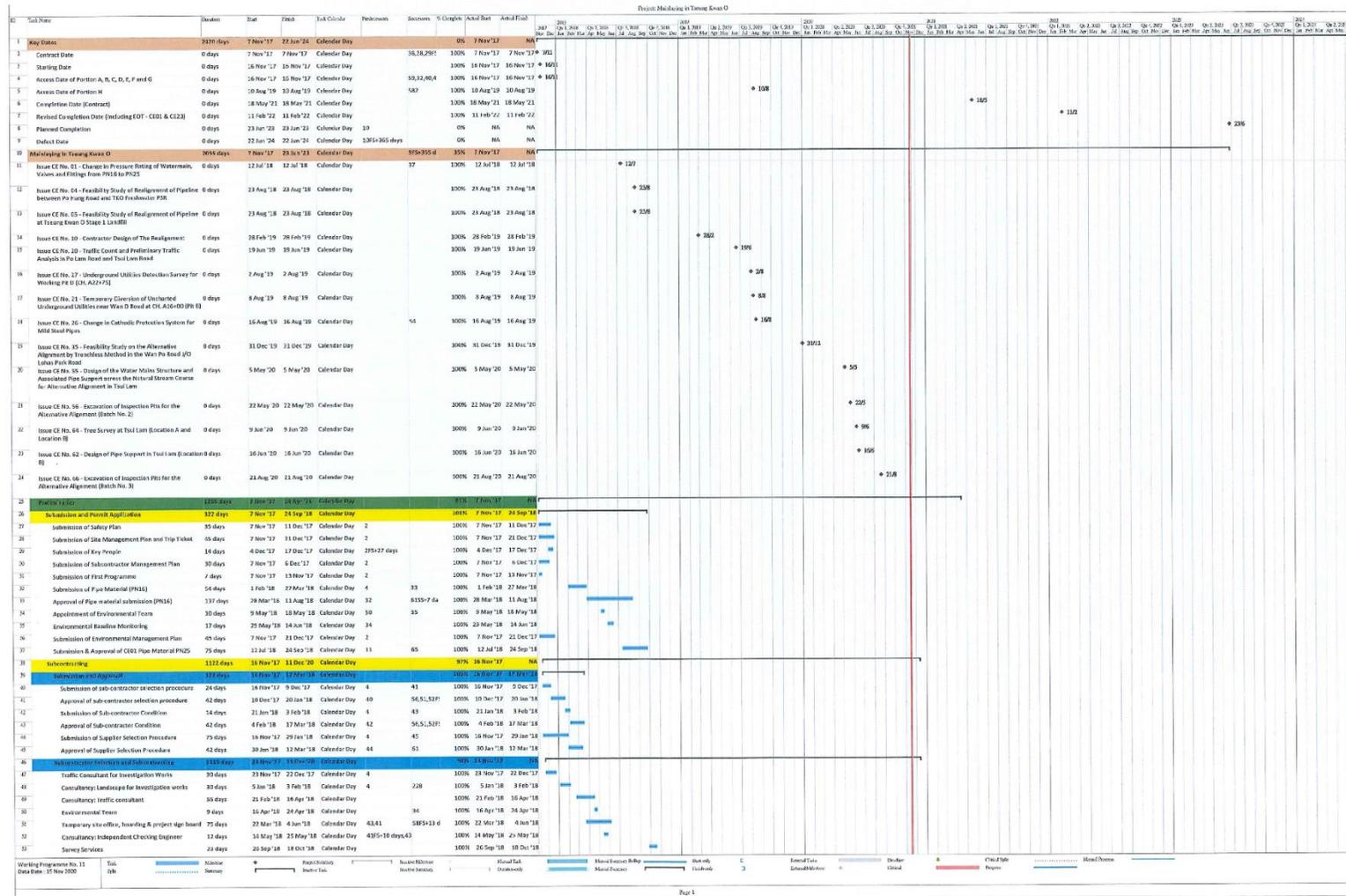


Project: Mainlaying in Tseung Kwan O									
Task Name	Duration	Start	Finish	Task Category	Predecessors	Successors	% Complete	Actual Start	Actual Finish
1 Key Dates	2420 days	7 Nov '17	22 Jun '24	Calendar Day			0%	7 Nov '17	N/A
2 Contract Date	0 days	7 Nov '17	7 Nov '17	Calendar Day		46,28,29F	100%	7 Nov '17	7 Nov '17
3 Starting Date	0 days	16 Nov '17	16 Nov '17	Calendar Day			100%	16 Nov '17	16 Nov '17
4 Access Date of Portion A, B, C, D, E, F and G	0 days	16 Nov '17	16 Nov '17	Calendar Day		59,72,40,4	100%	16 Nov '17	16 Nov '17
5 Access Date of Portion H	0 days	10 Aug '19	10 Aug '19	Calendar Day		382	100%	10 Aug '19	10 Aug '19
6 Completion Date (Contract)	0 days	18 May '21	18 May '21	Calendar Day			100%	18 May '21	18 May '21
7 Revised Completion Date (Including EOT - CE21 & CE23)	0 days	11 Feb '22	11 Feb '22	Calendar Day			100%	11 Feb '22	11 Feb '22
8 Planned Completion	0 days	23 Jun '23	23 Jun '23	Calendar Day	10		0%	NA	NA
9 Defect Date	0 days	22 Jun '24	22 Jun '24	Calendar Day		10F+365 days	0%	NA	NA
10 Mainlaying in Tseung Kwan O	2055 days	7 Nov '17	23 Jun '23	Calendar Day		315,365 d	35%	7 Nov '17	N/A
11 Issue CE No. 03 - Change in Pressure Rating of Watermain, Valves and Fittings from P100 to P162	0 days	12 Jul '18	12 Jul '18	Calendar Day		37	100%	12 Jul '18	12 Jul '18
12 Issue CE No. 04 - Feasibility Study of Realignment of Pipeline between Po Hung Road and TKO Freshwater PSR	0 days	23 Aug '18	23 Aug '18	Calendar Day			100%	23 Aug '18	23 Aug '18
13 Issue CE No. 05 - Feasibility Study of Realignment of Pipeline at Tseung Kwan O Stage 1 Landfill	0 days	23 Aug '18	23 Aug '18	Calendar Day			100%	23 Aug '18	23 Aug '18
14 Issue CE No. 10 - Contractor Design of Trench Realignment	0 days	28 Feb '19	28 Feb '19	Calendar Day			100%	28 Feb '19	28 Feb '19
15 Issue CE No. 20 - Traffic Count and Preliminary Traffic Analysis in Po Lam Road and Tsui Lam Road	0 days	19 Jun '19	19 Jun '19	Calendar Day			100%	19 Jun '19	19 Jun '19
16 Issue CE No. 27 - Underground Utilities Detection Survey for Working Pit D (CH A22+75)	0 days	2 Aug '19	2 Aug '19	Calendar Day			100%	2 Aug '19	2 Aug '19
17 Issue CE No. 21 - Temporary Diversion of Uncharted Underground Utilities near Wan O Road at CL A16+00 (P18 B)	0 days	8 Aug '19	8 Aug '19	Calendar Day			100%	8 Aug '19	8 Aug '19
18 Issue CE No. 26 - Change in Cathodic Protection System for Mild Steel Pipes	0 days	16 Aug '19	16 Aug '19	Calendar Day		51	100%	16 Aug '19	16 Aug '19
19 Issue CL No. 35 - Feasibility Study on the Alternative Alignment by Trenchless Method in the Wan Po Road I/O Lohas Park Road	0 days	31 Dec '19	31 Dec '19	Calendar Day			100%	31 Dec '19	31 Dec '19
20 Issue CE No. 55 - Design of the Water Mains Structure and Associated Pipe Support across the Natural Stream Course for Alternative Alignment in Tsui Lam	0 days	5 May '20	5 May '20	Calendar Day			100%	5 May '20	5 May '20
21 Issue CE No. 56 - Examination of Inspection Pits for the Alternative Alignment (Batch No. 2)	0 days	22 May '20	22 May '20	Calendar Day			100%	22 May '20	22 May '20
22 Issue CE No. 64 - Tree Survey at Tsui Lam (Location A and Location B)	0 days	9 Jun '20	9 Jun '20	Calendar Day			100%	9 Jun '20	9 Jun '20
23 Issue CE No. 62 - Design of Pipe Support in Tsui Lam (Location B)	0 days	16 Jun '20	16 Jun '20	Calendar Day			100%	16 Jun '20	16 Jun '20
24 Issue CE No. 66 - Examination of Inspection Pits for the Alternative Alignment (Batch No. 3)	0 days	21 Aug '20	21 Aug '20	Calendar Day			100%	21 Aug '20	21 Aug '20
25 Preliminaries	355 days	7 Nov '17	19 Aug '18	Calendar Day			100%	7 Nov '17	19 Aug '18
26 Submission and Permit Application	321 days	7 Nov '17	24 Sep '18	Calendar Day			100%	7 Nov '17	24 Sep '18
28 Subcontracting	1122 days	16 Nov '17	11 Dec '20	Calendar Day			97%	16 Nov '17	NA
29 Submission and Approval	177 days	16 Nov '17	17 Nov '18	Calendar Day			100%	16 Nov '17	17 Nov '18
46 Subcontractor Selection and Subcontracting	1153 days	23 Nov '17	11 Dec '20	Calendar Day			97%	23 Nov '17	NA

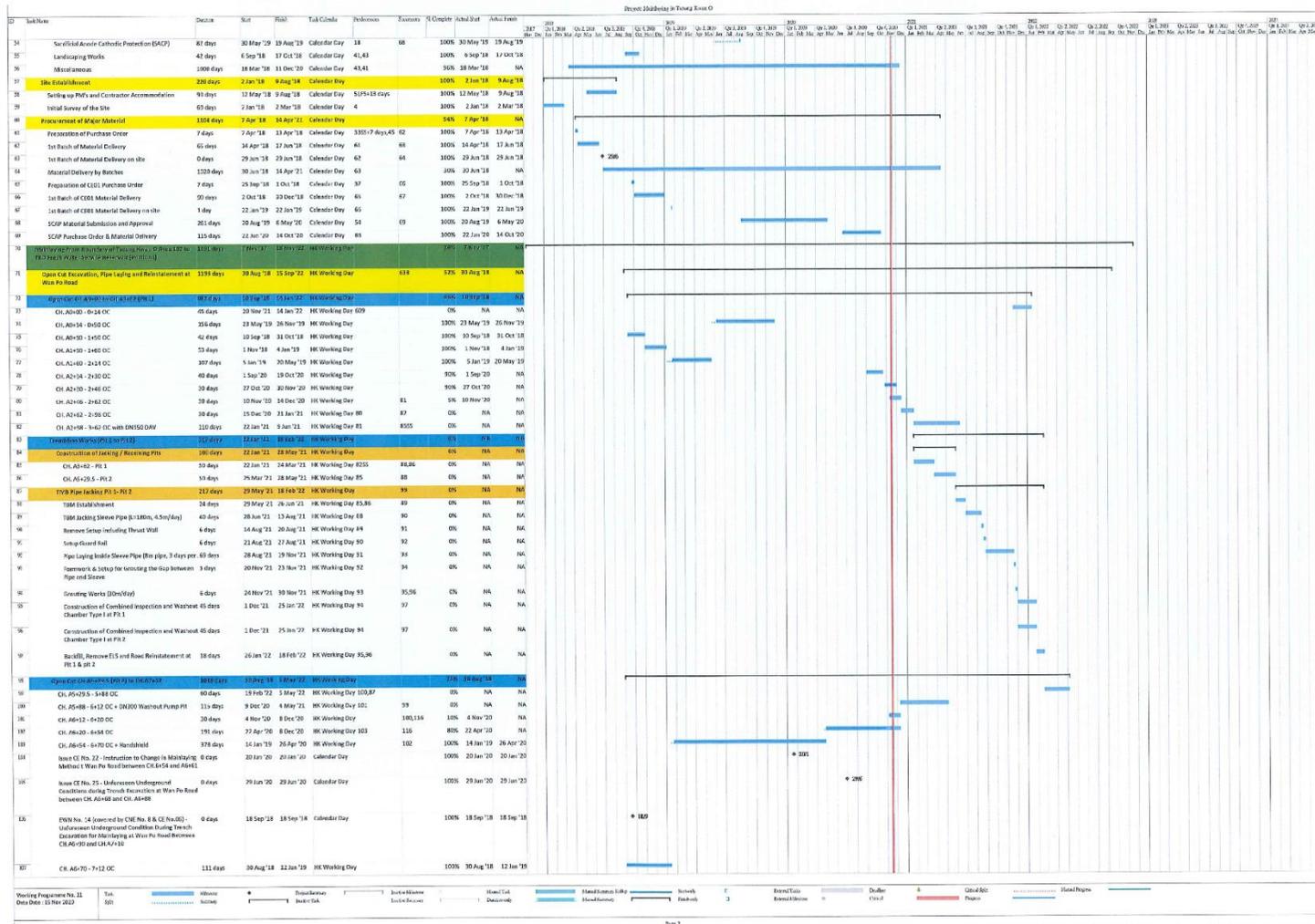
**Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37**



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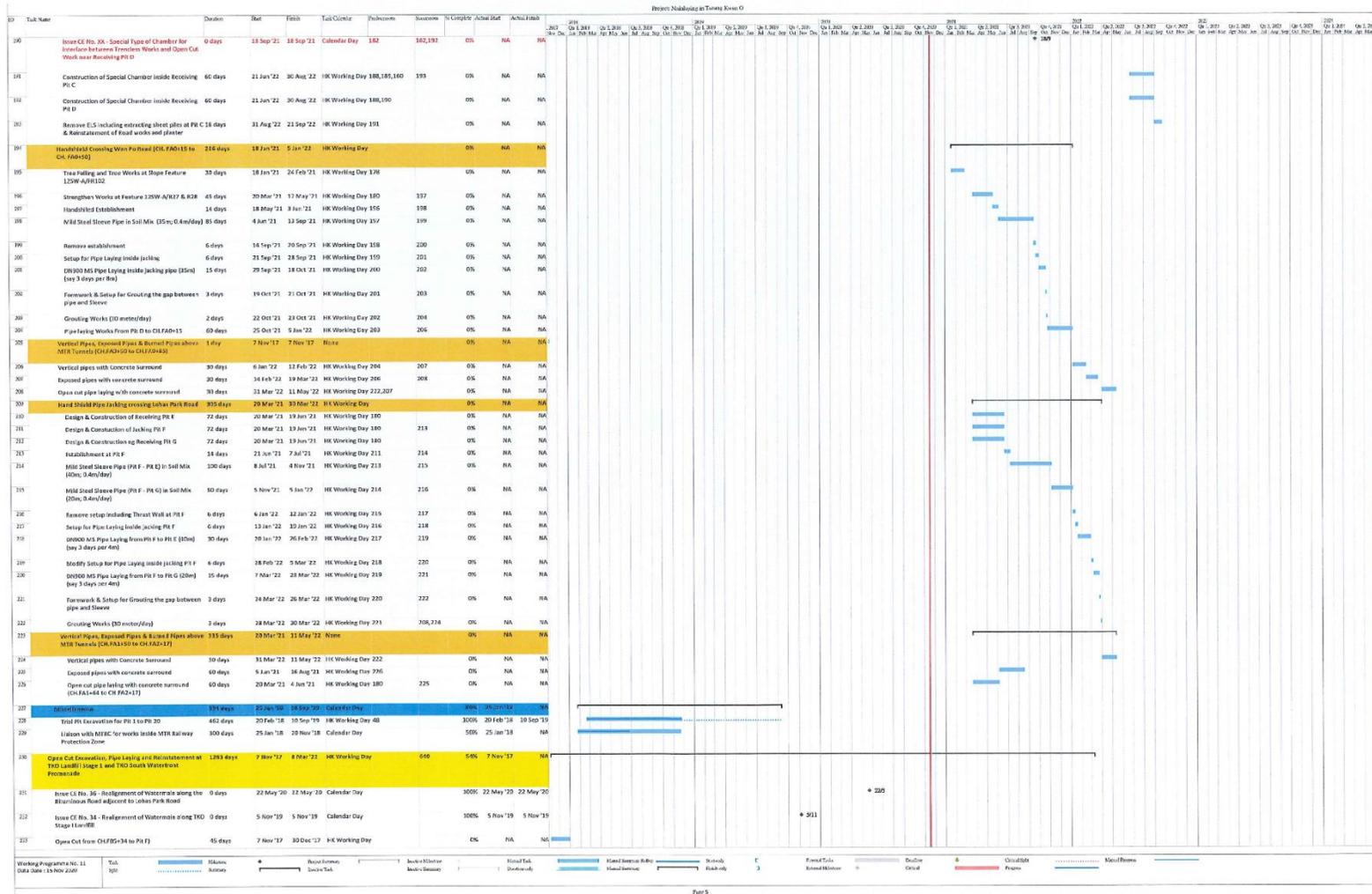
Contract No. 13/WSD/16 Mainlaying in Tseung Kwan O Monthly EM&A Report No.37



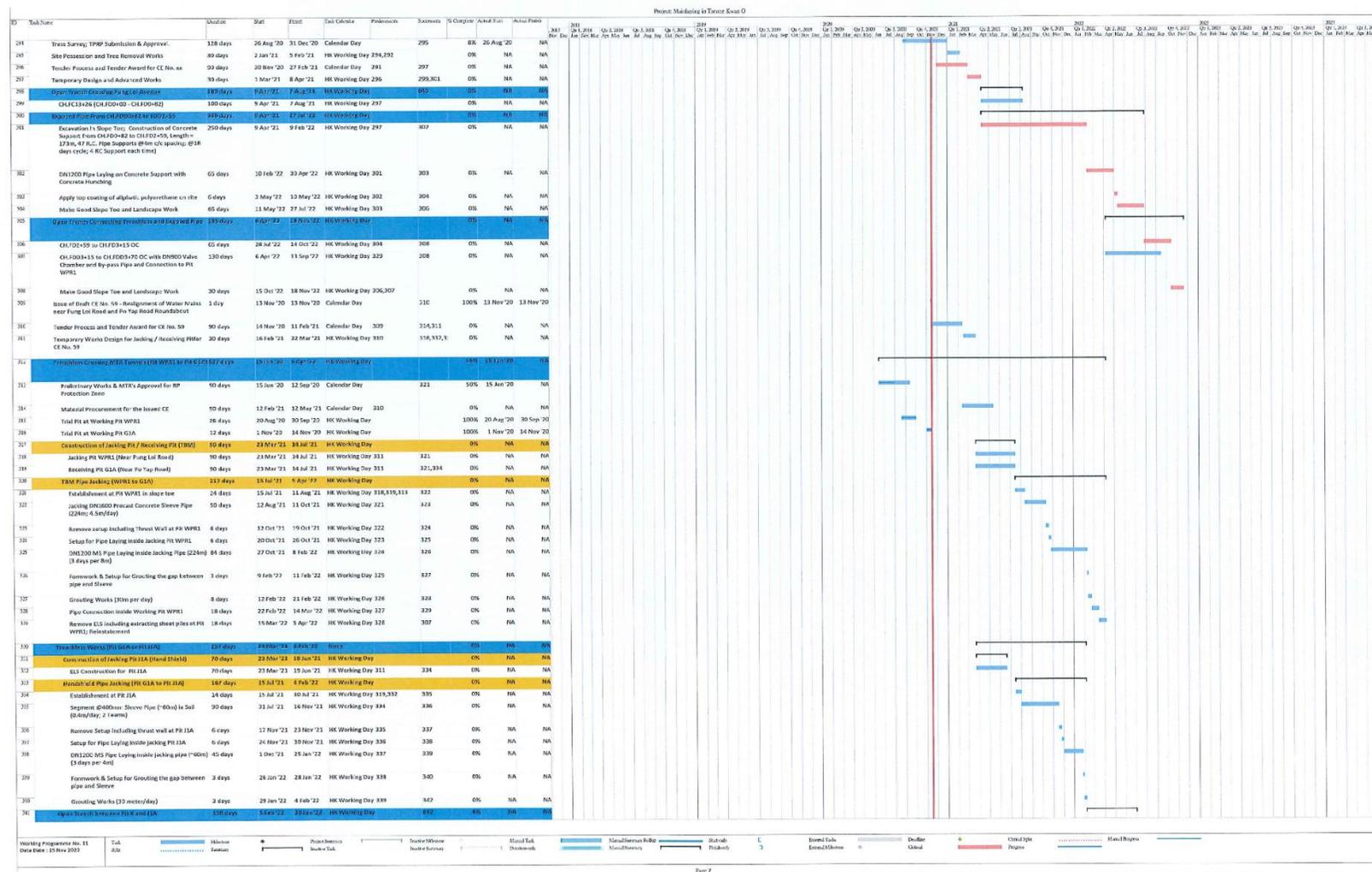
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Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



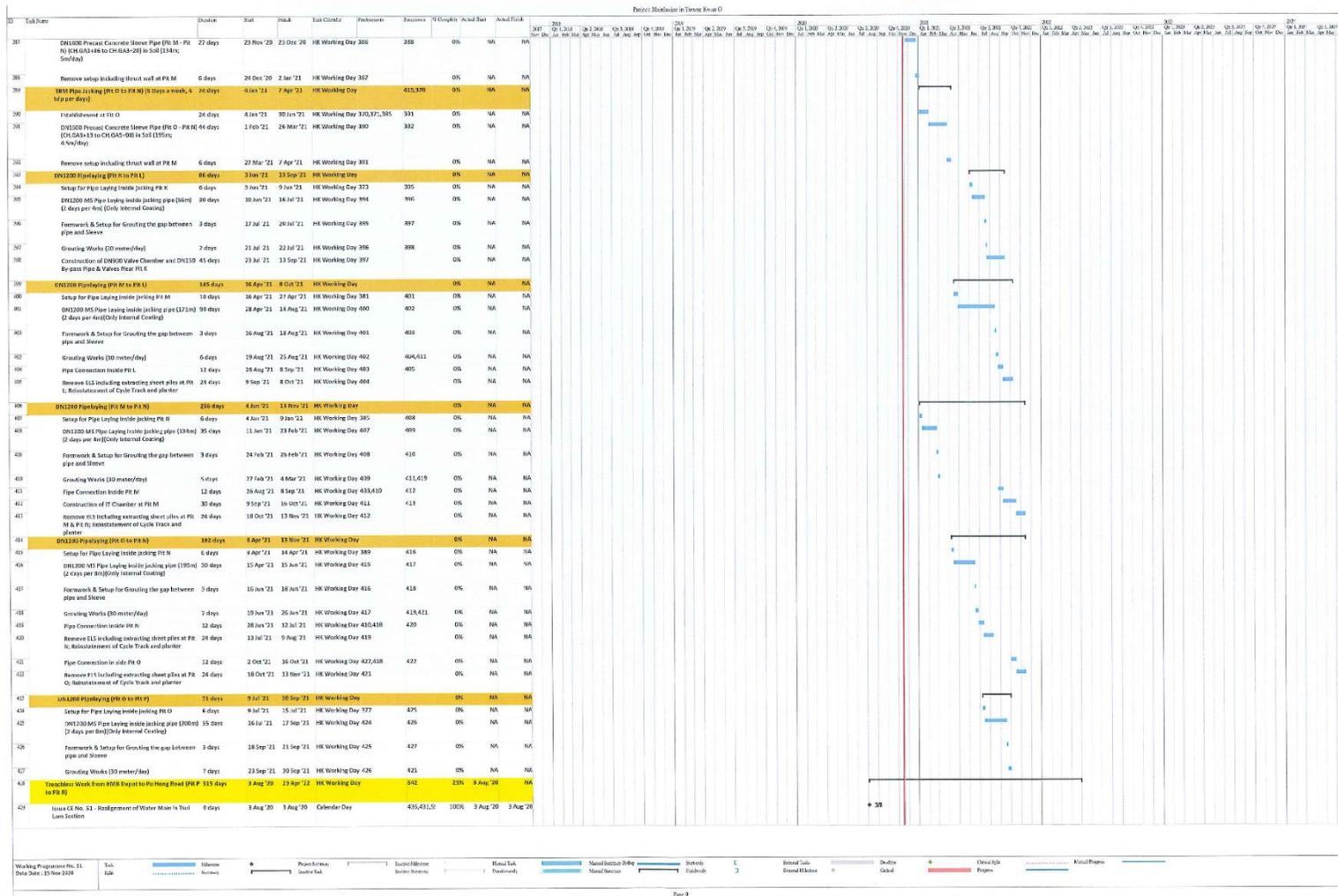
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Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



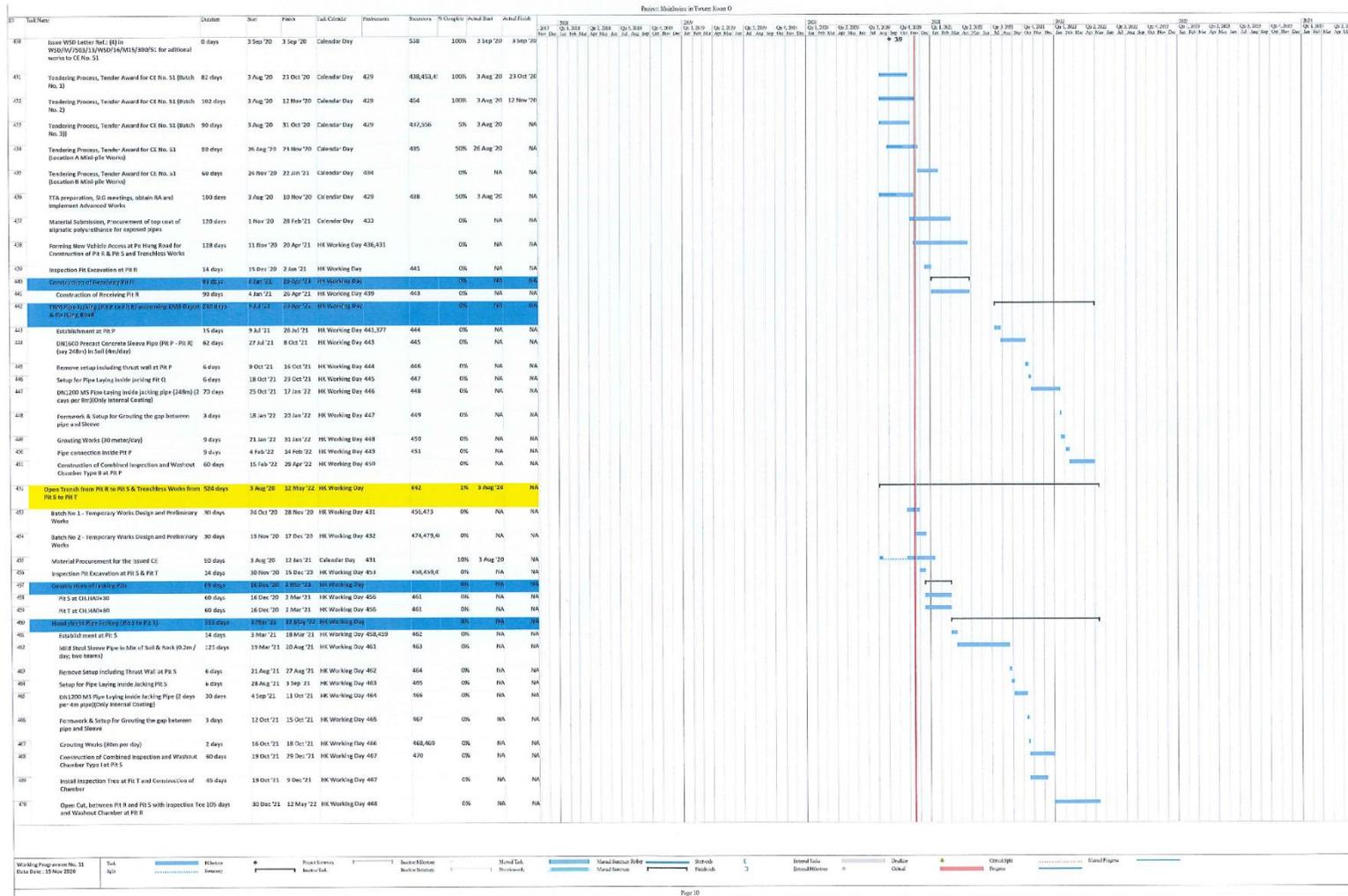
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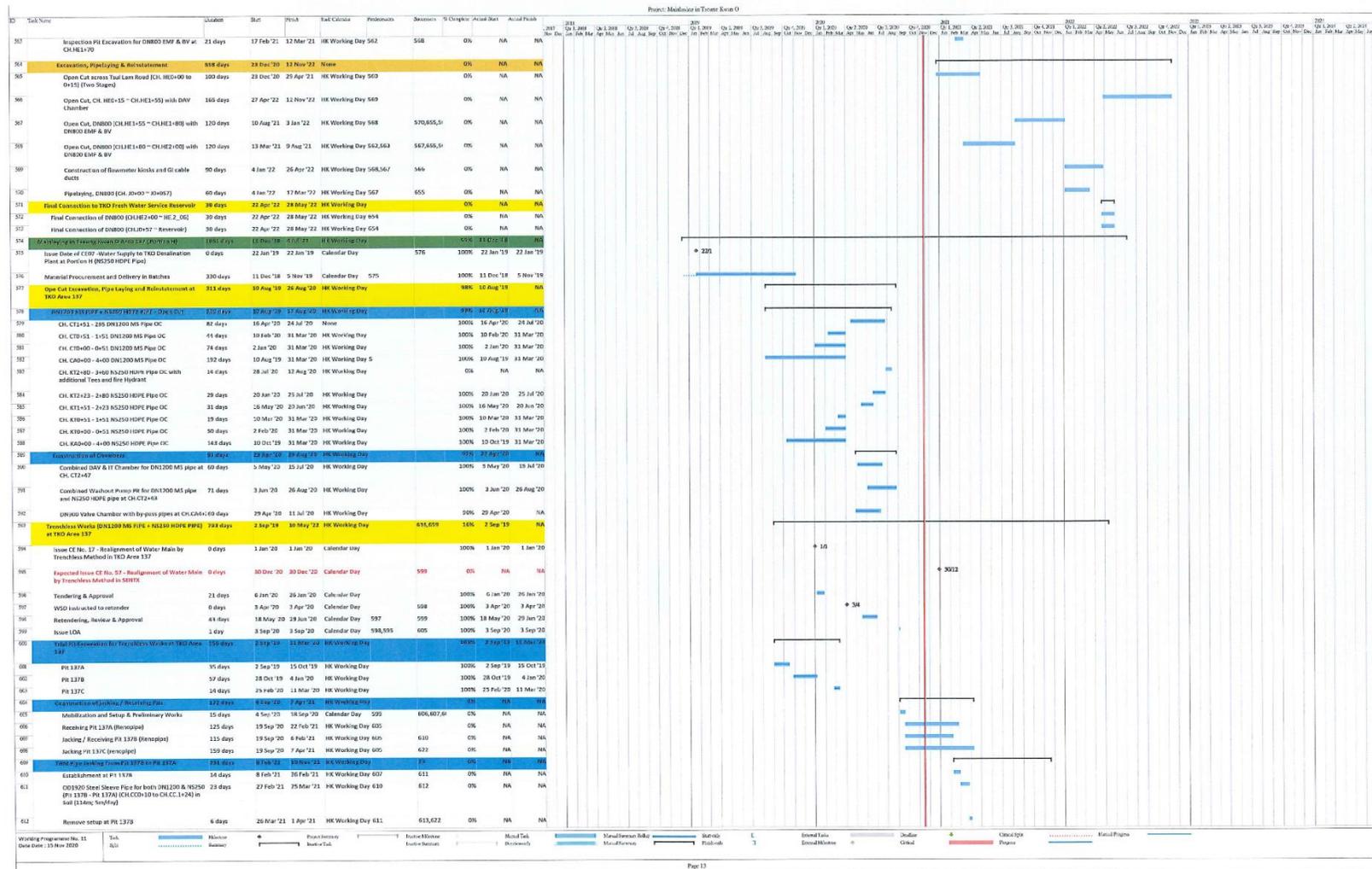
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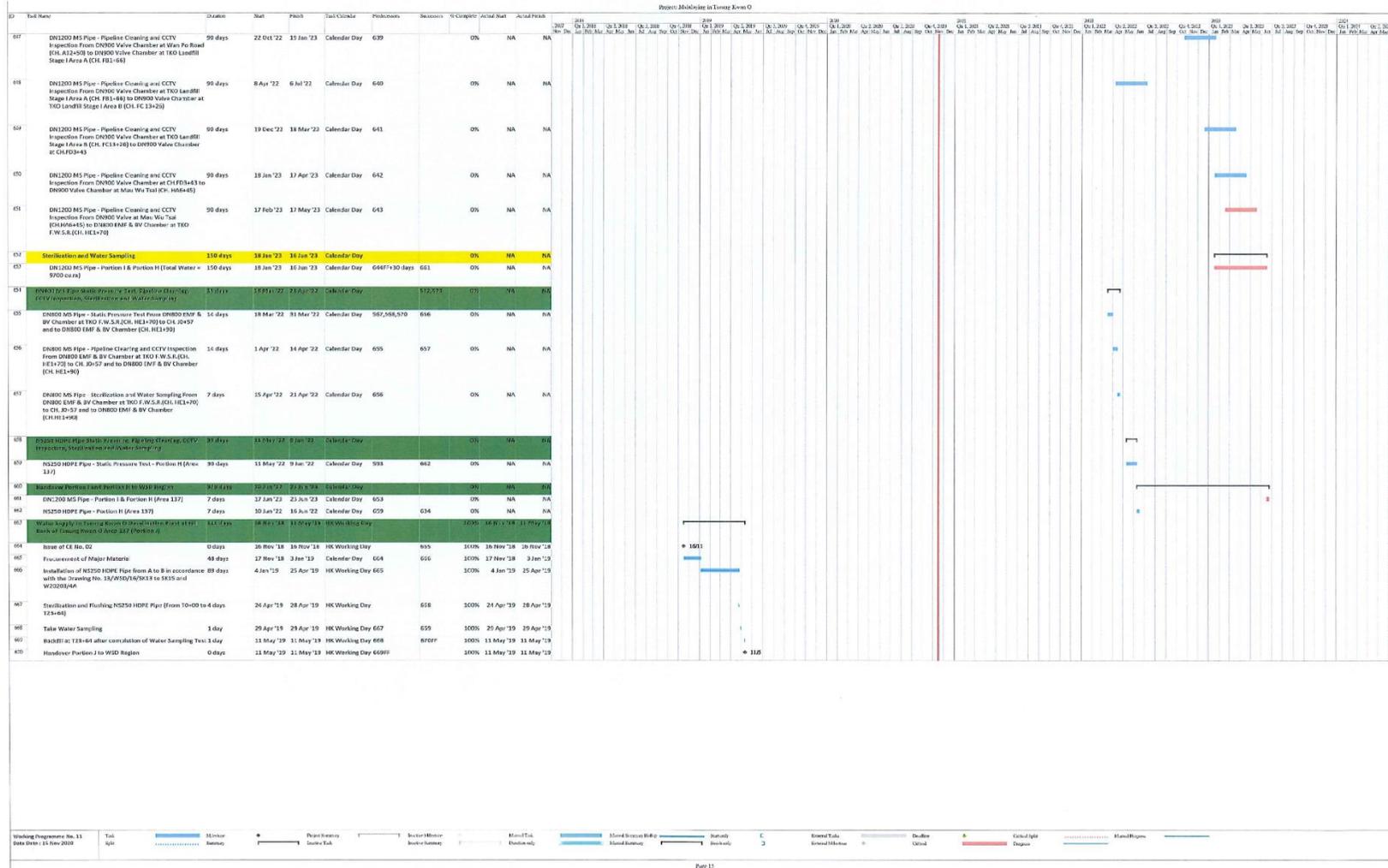
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Appendix B

Overview of Mainlaying in Tseung Kwan O

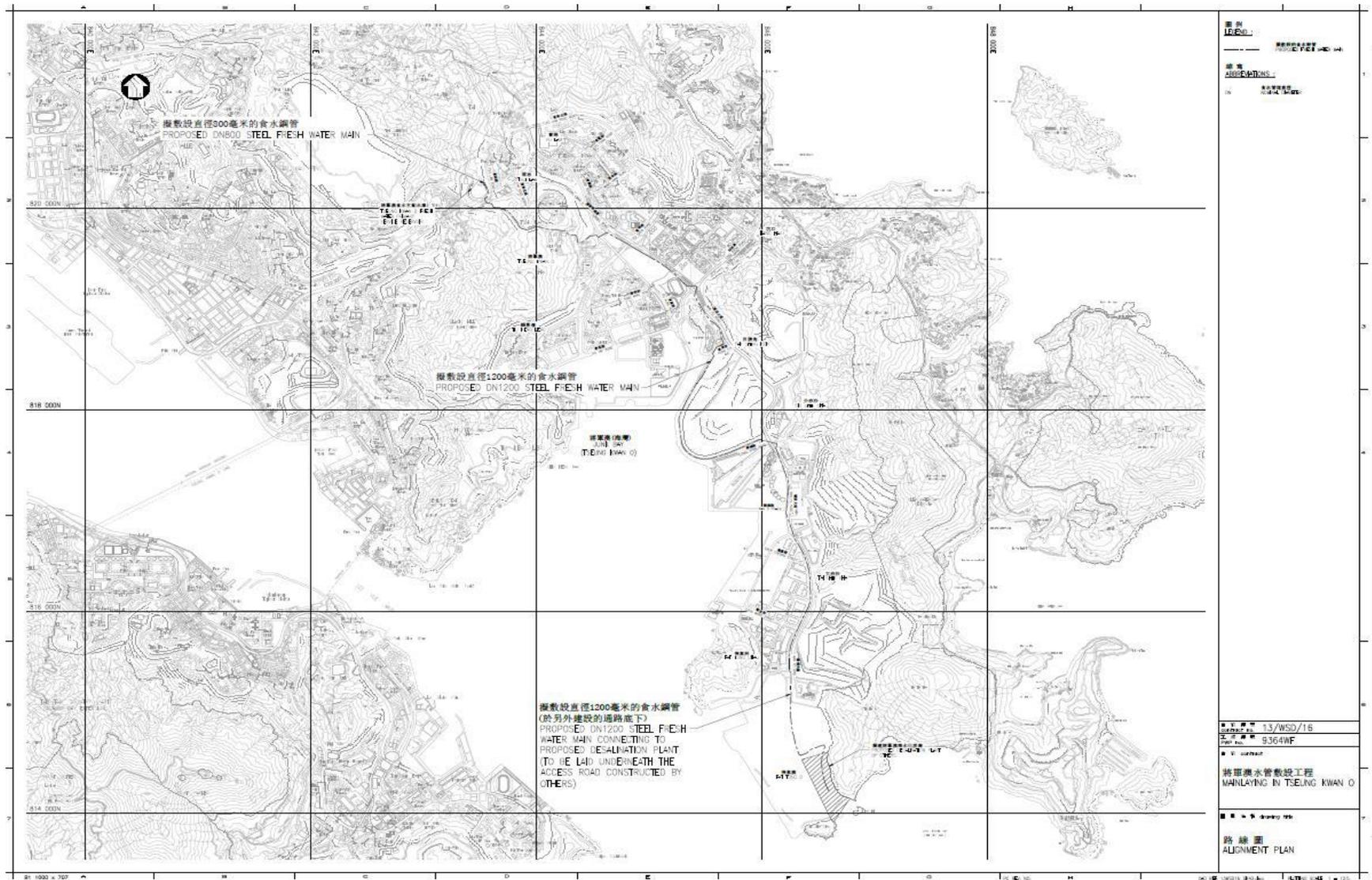


Figure B1. Overview of Mainlaying in TKO

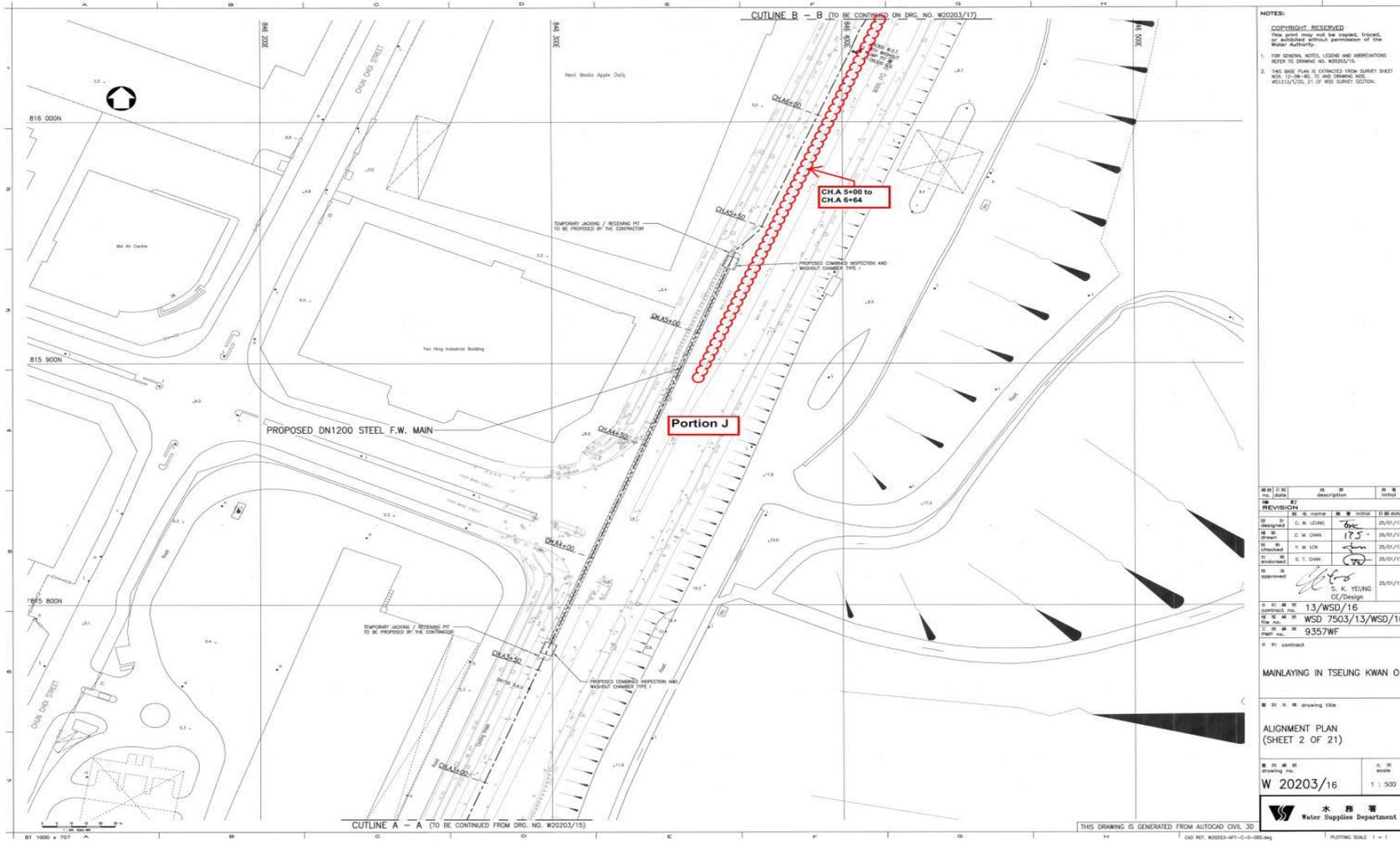


Figure B3a. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64

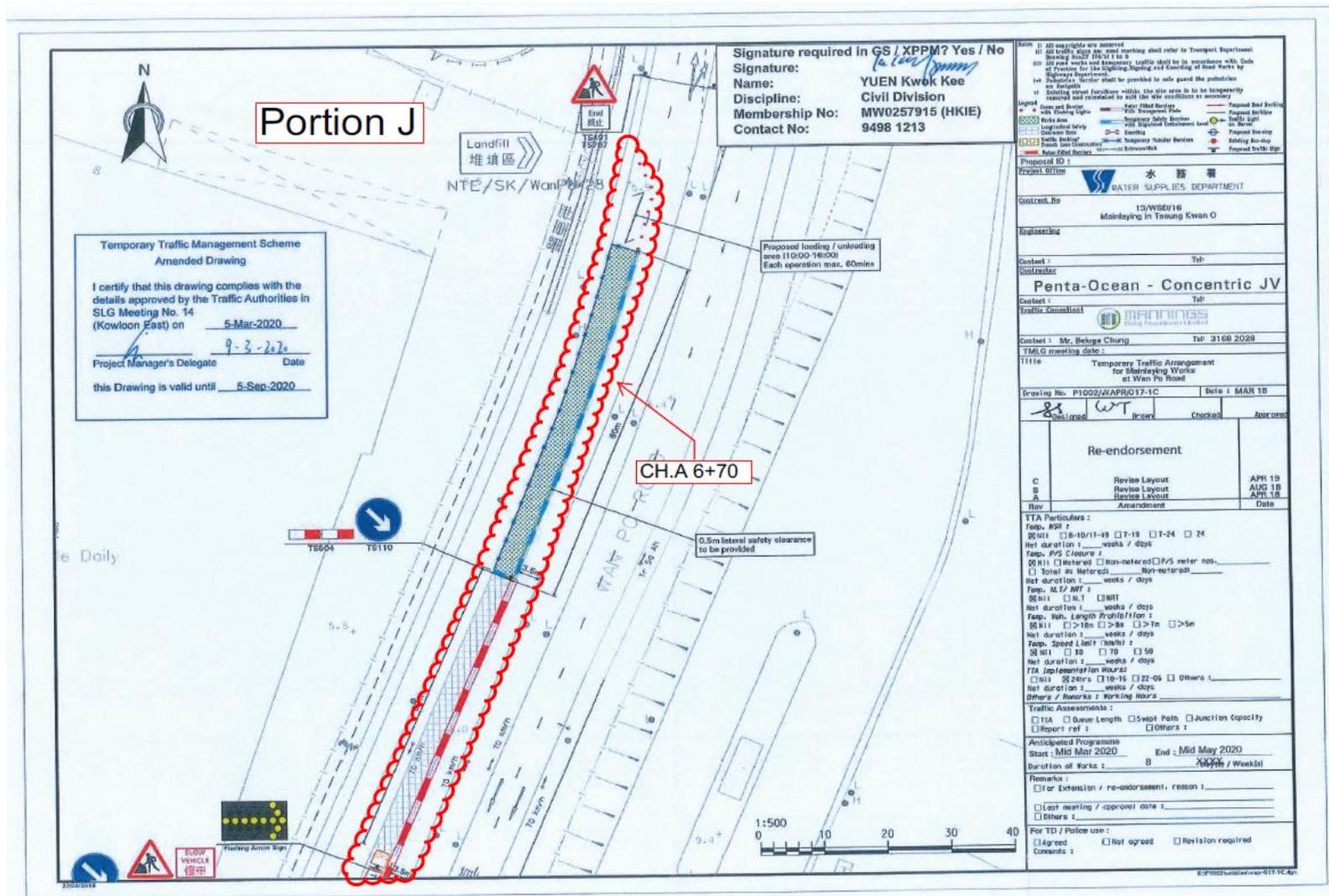


Figure B3b(i). Location Plan for Portion J - CH.A 6+70

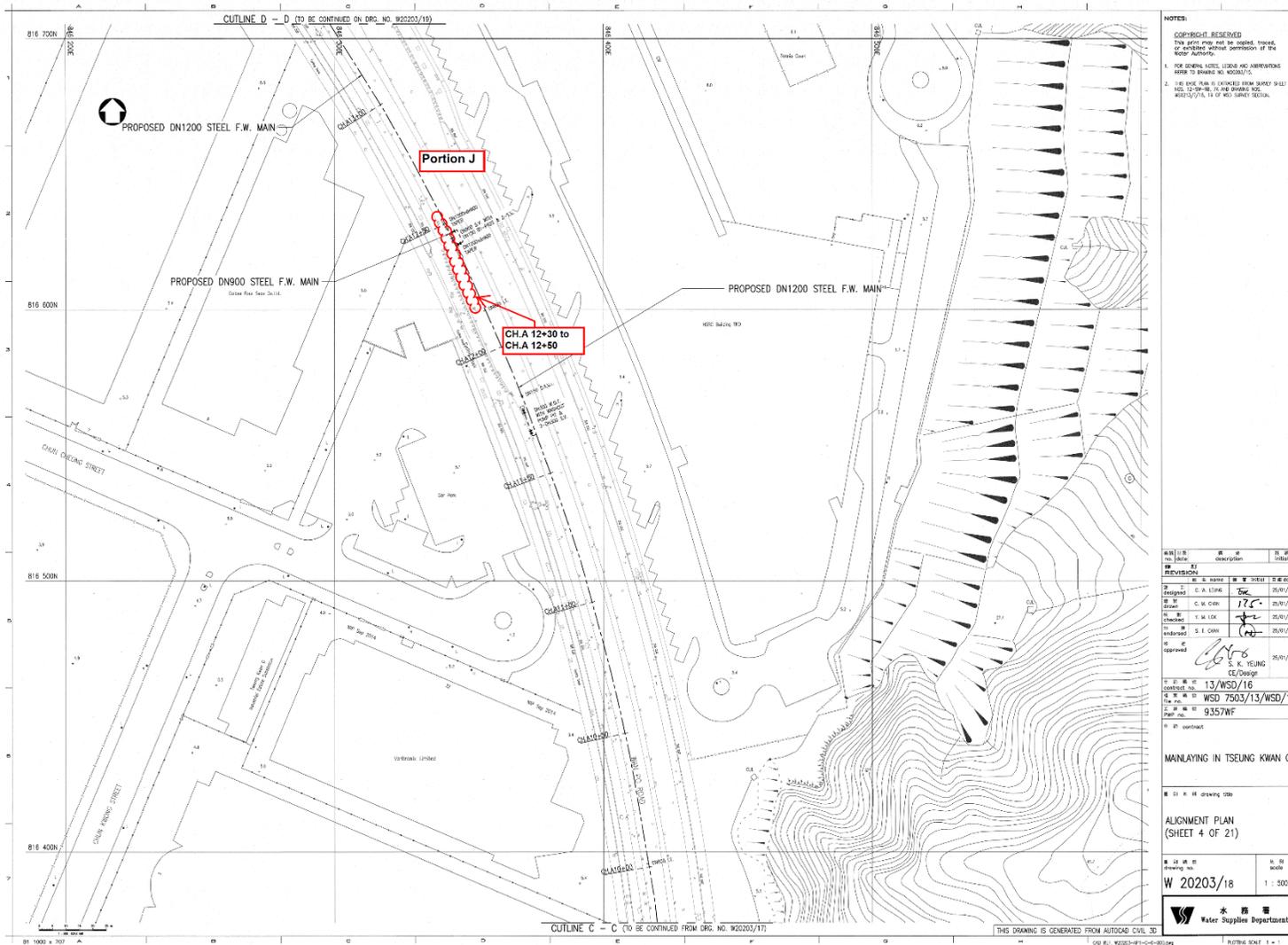


Figure B4. Location Plan for Portion J - CH.A 12+30 to CH.A 12+50

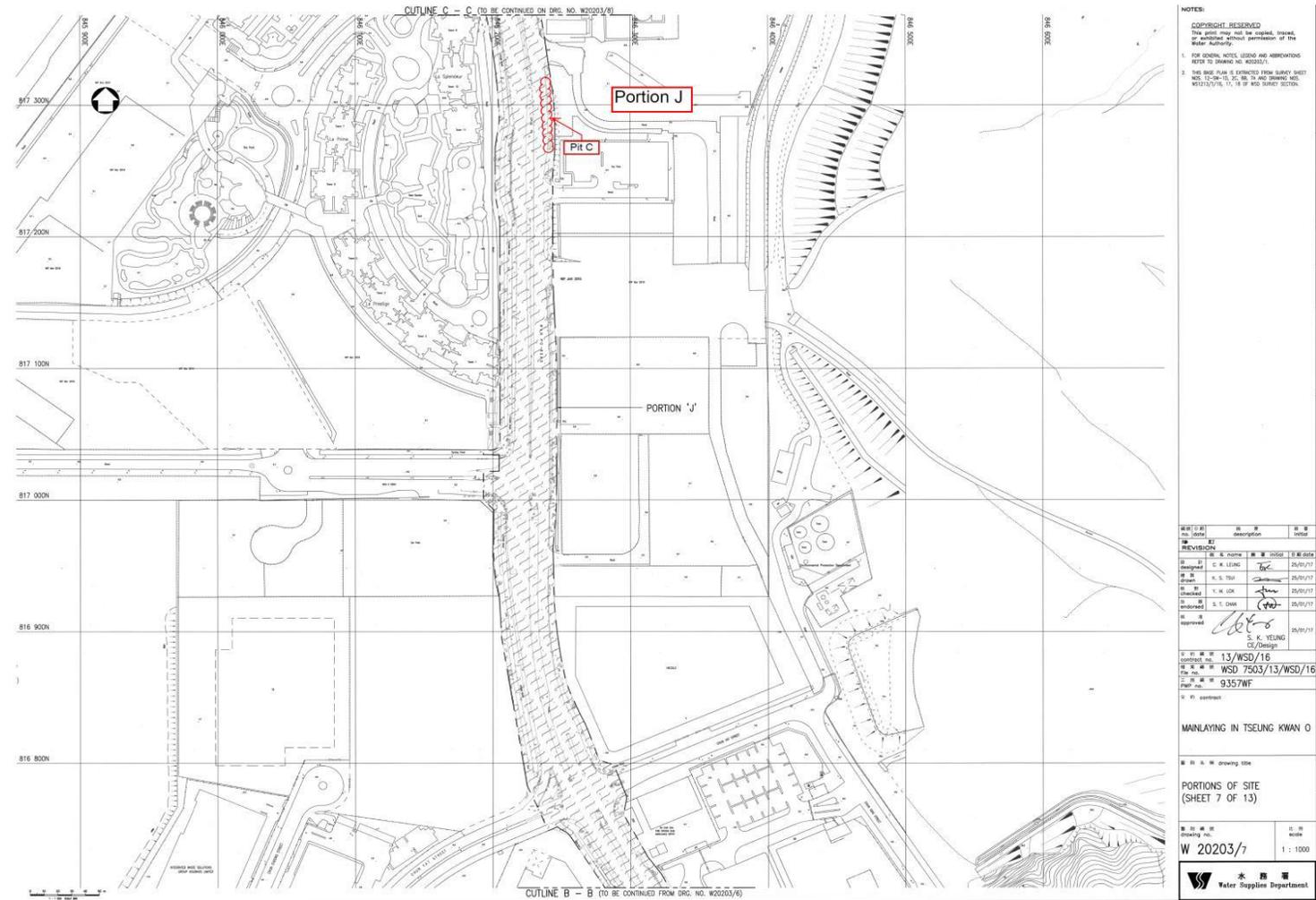


Figure B7. Location Plan for Portion J – CH.A 19+15 to CH.A 19+50 (Pit C)

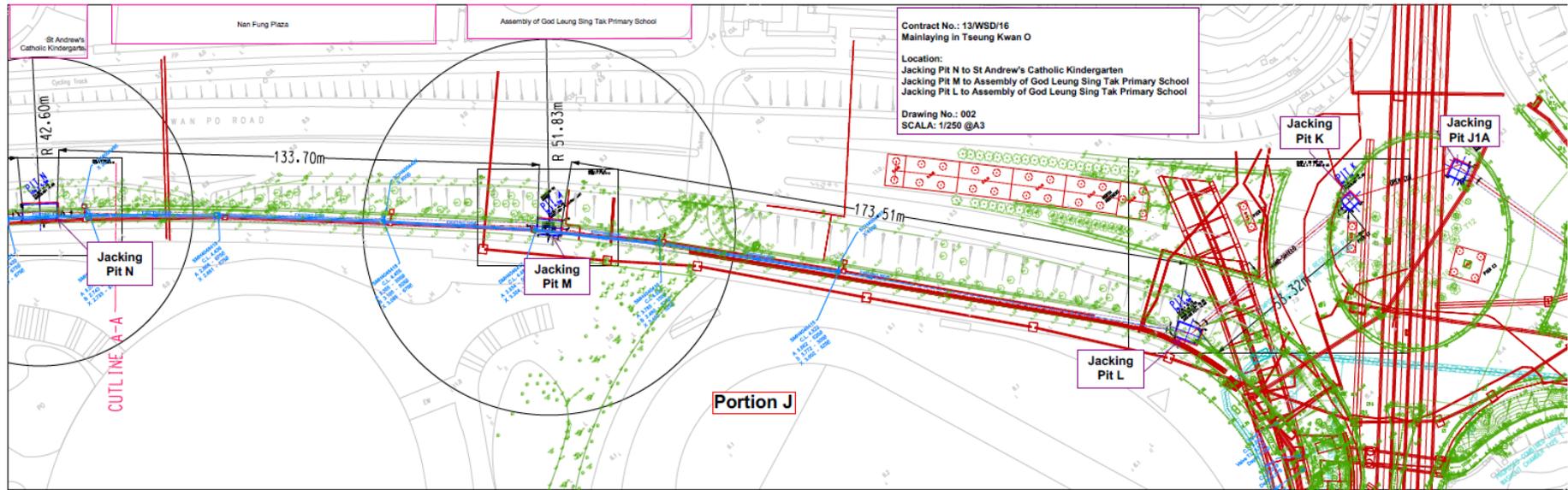


Figure B8a. Location Plan for Portion J – Pit L-M-N, K, J1A

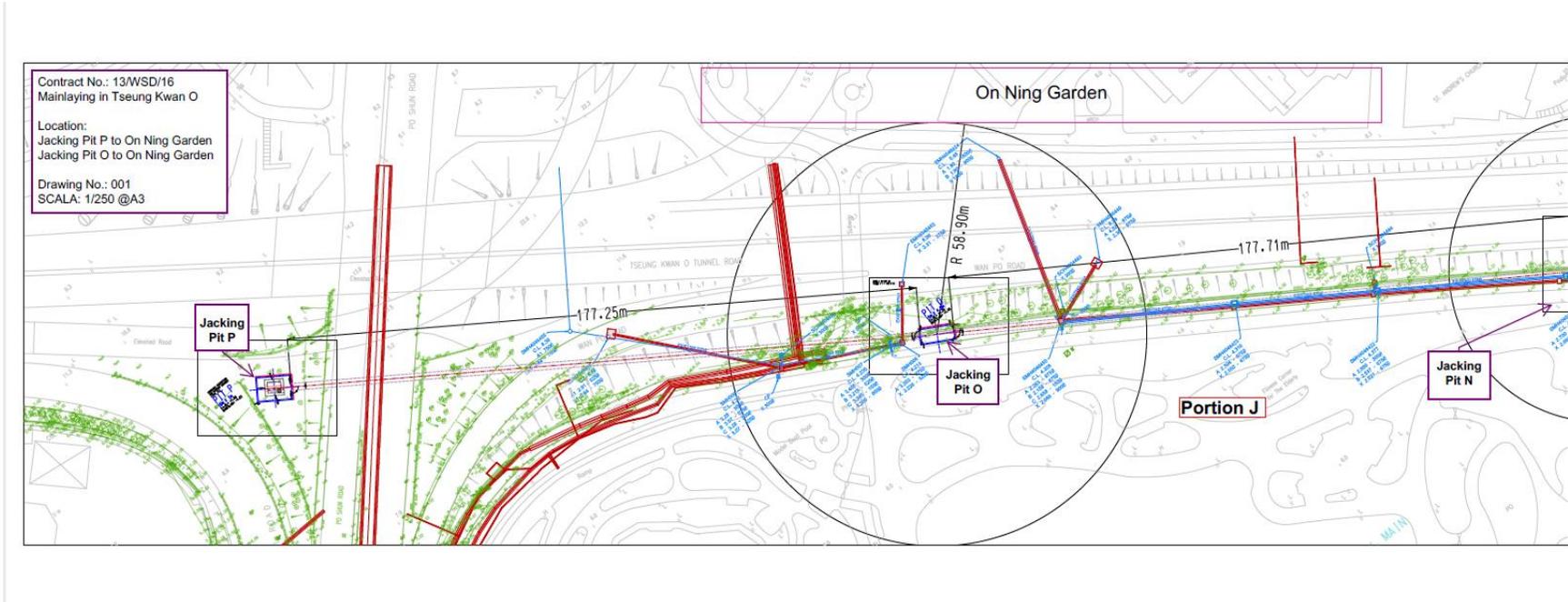


Figure B8b. Location Plan for Portion J – Pit N-O-P

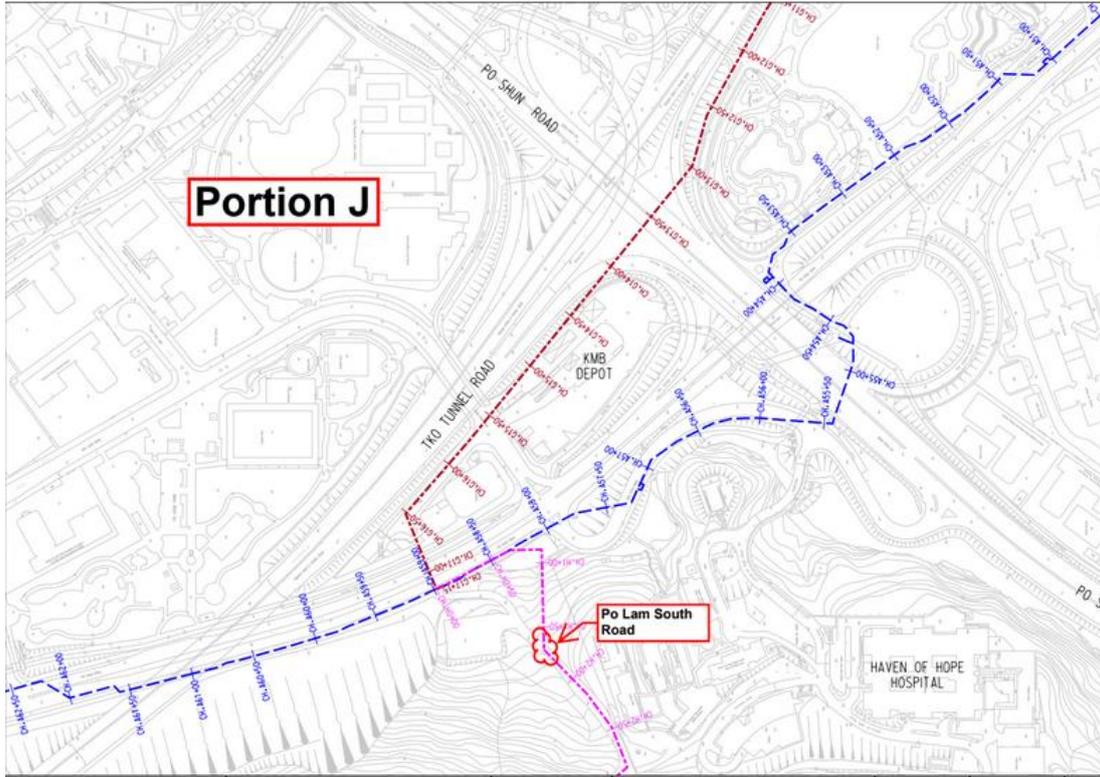


Figure B9a. Location Plan for Mau Wu Tsai 1

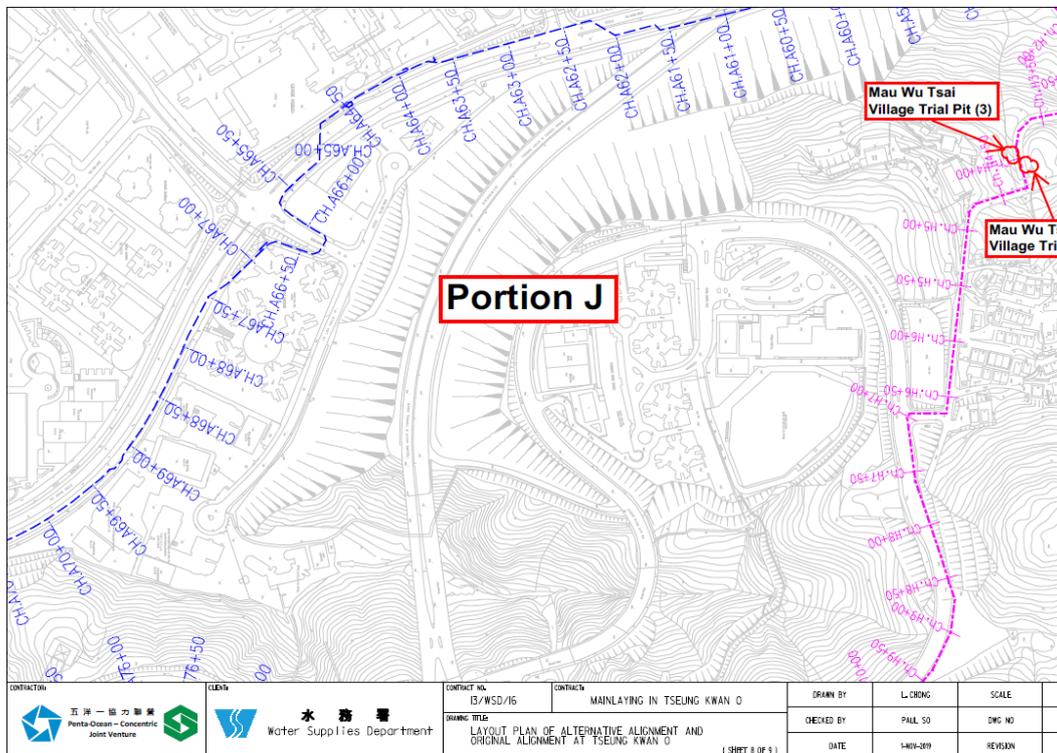


Figure B9b. Location Plan for Mau Wu Tsai 2 & 3

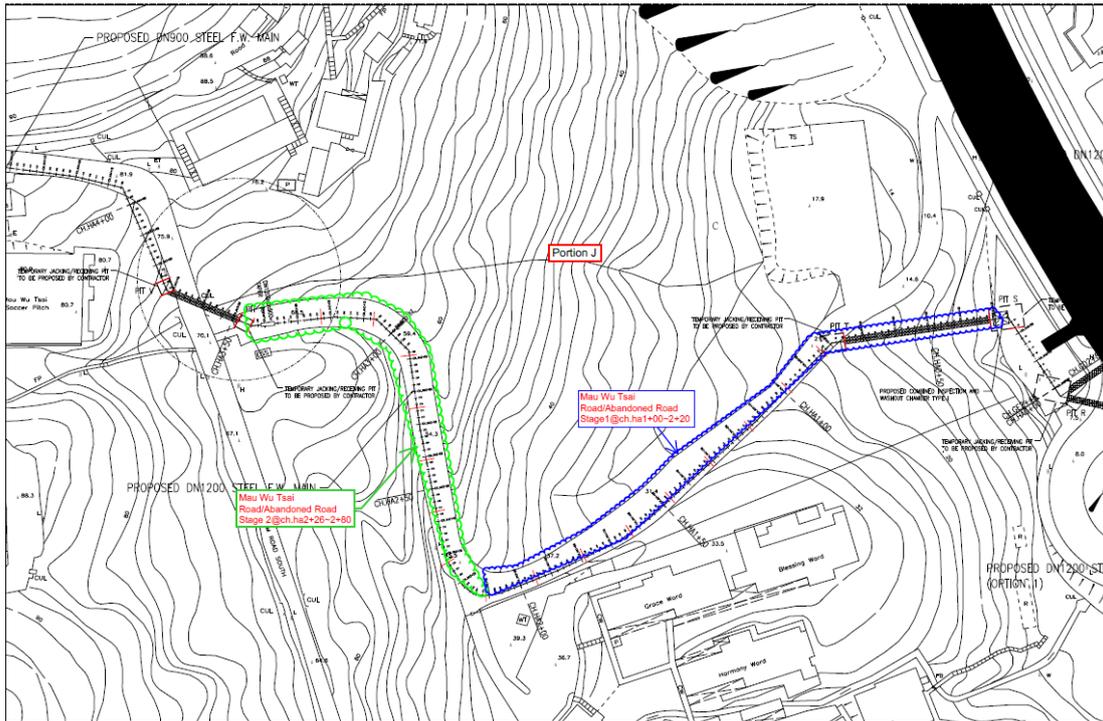


Figure B9c. Abandoned Mau Wu Tsai Road

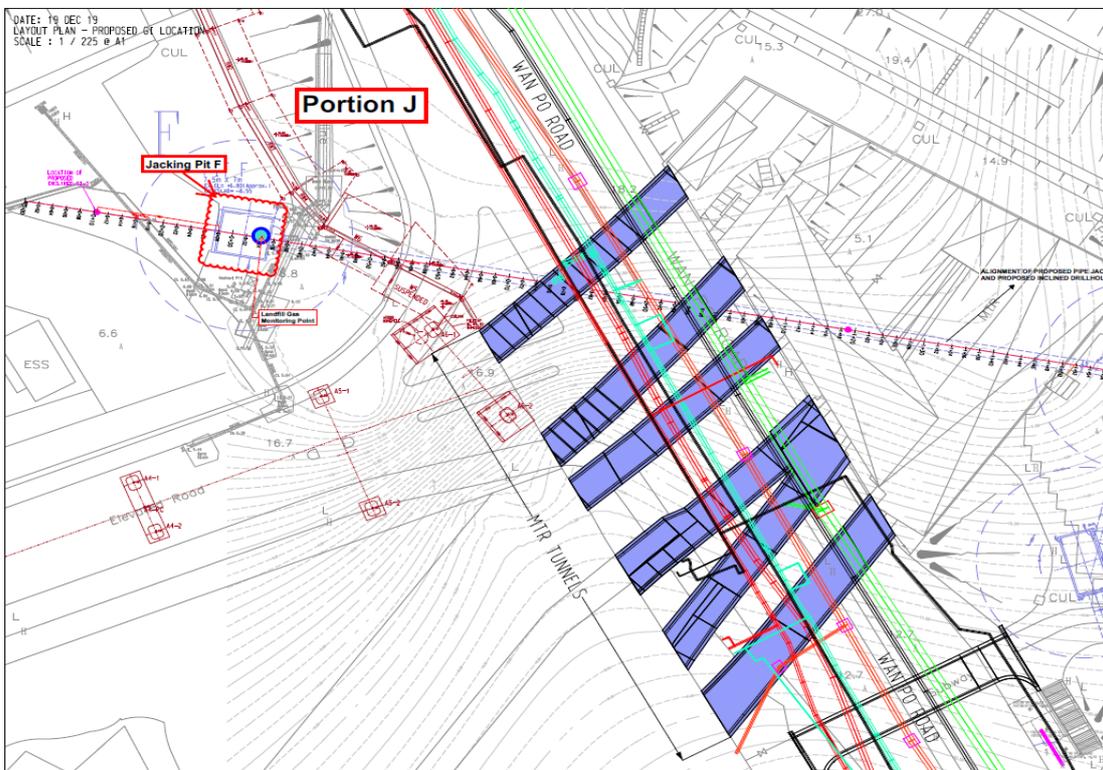


Figure B10. Location Plan for Jacking Pit F

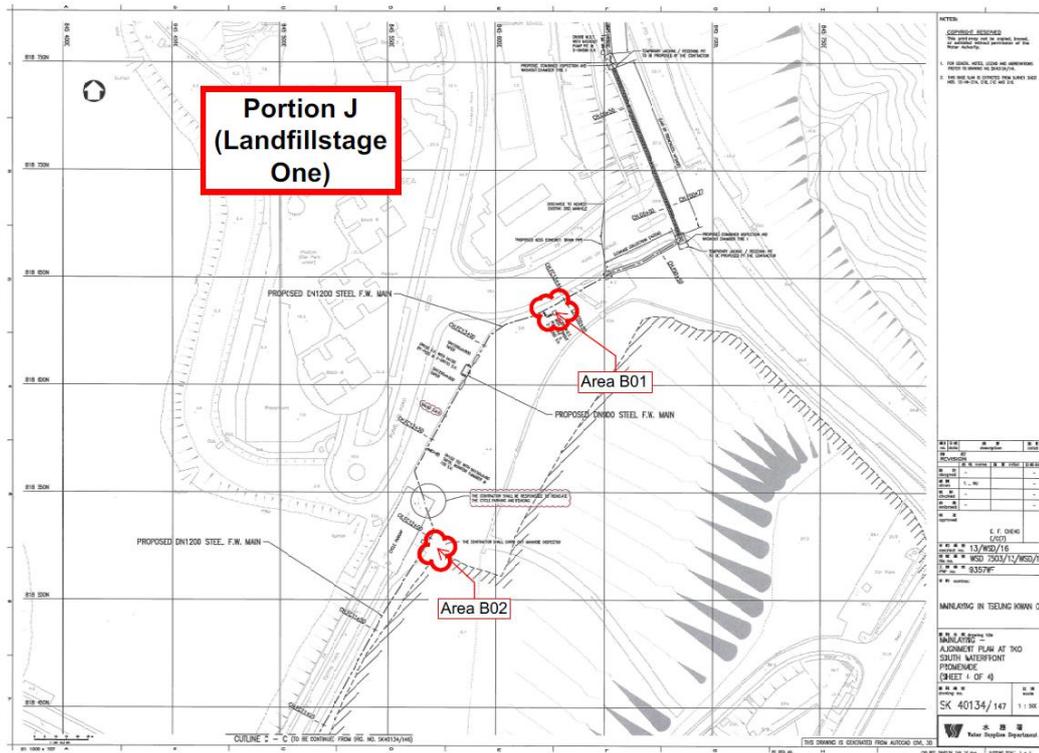


Figure B11a. Location Plan – Landfill Stage 1 (Area B01-B02)

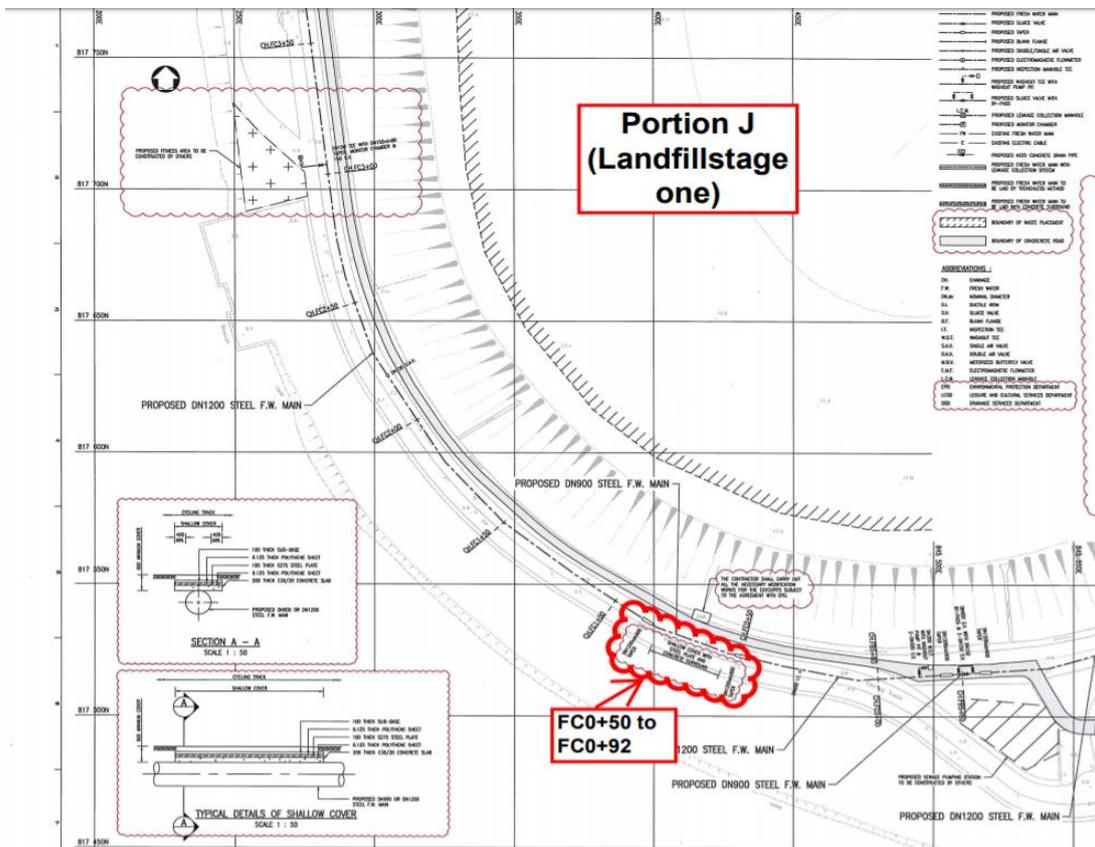


Figure B11b. Location Plan – Landfill Stage 1 (Area FC0+50 -FC0+92)

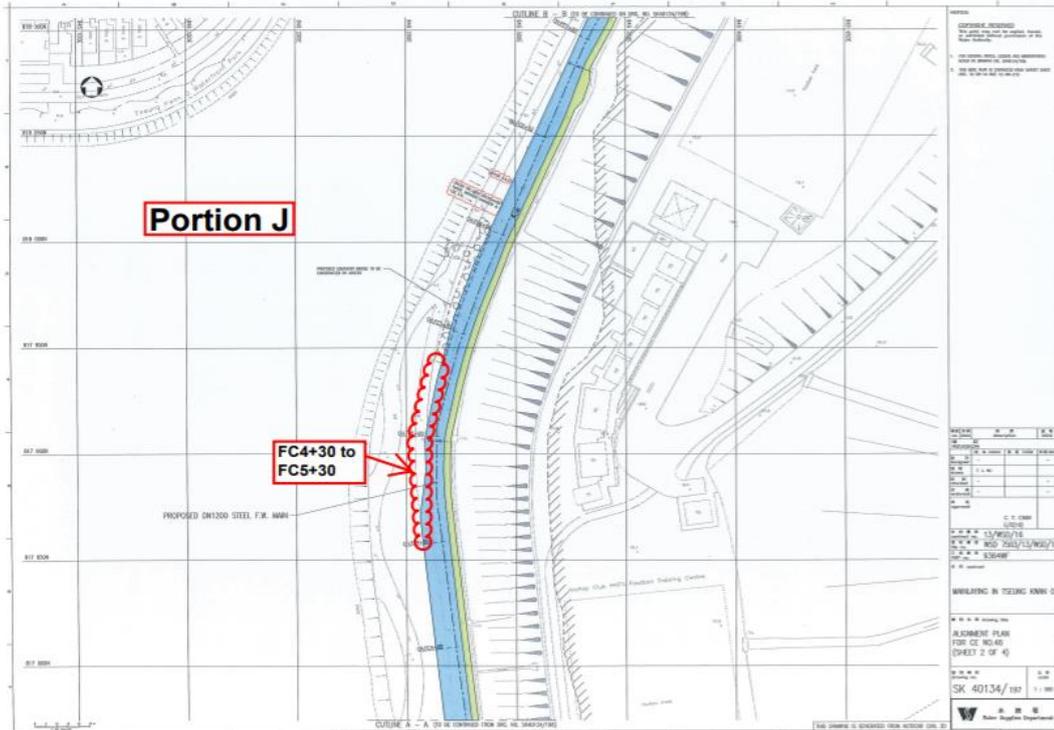


Figure B11c. Location Plan – Landfill Stage 1 (Area FC4+30 -FC5+30)

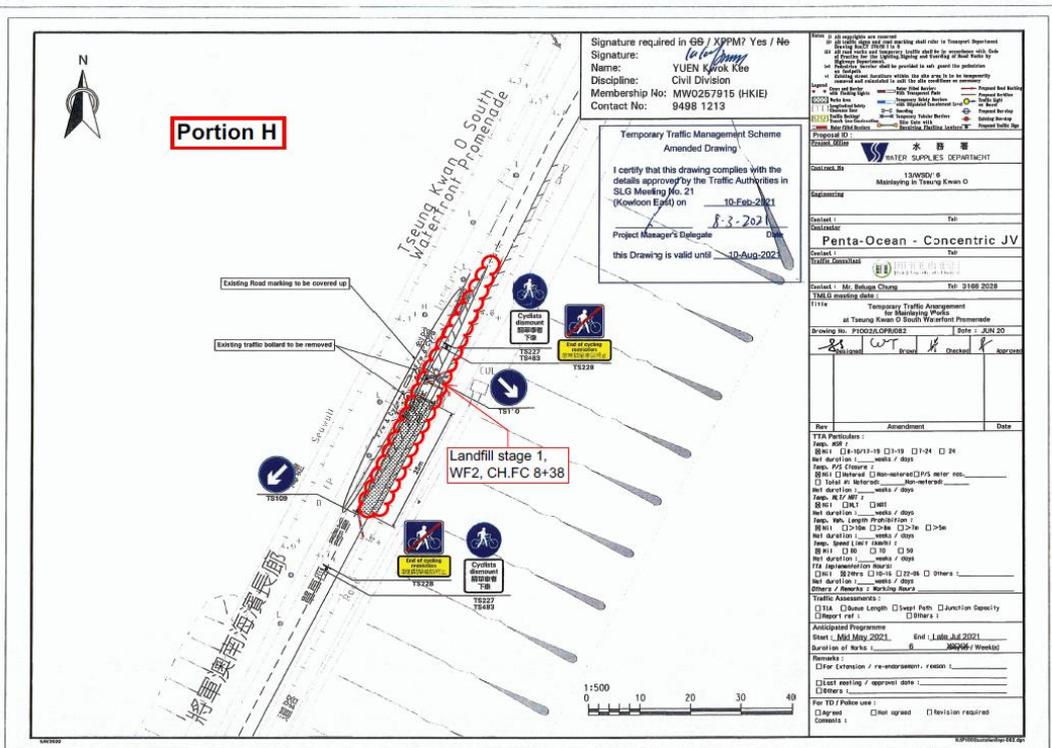


Figure B11d. Location Plan – Landfill Stage 1 (Area FC8+38)

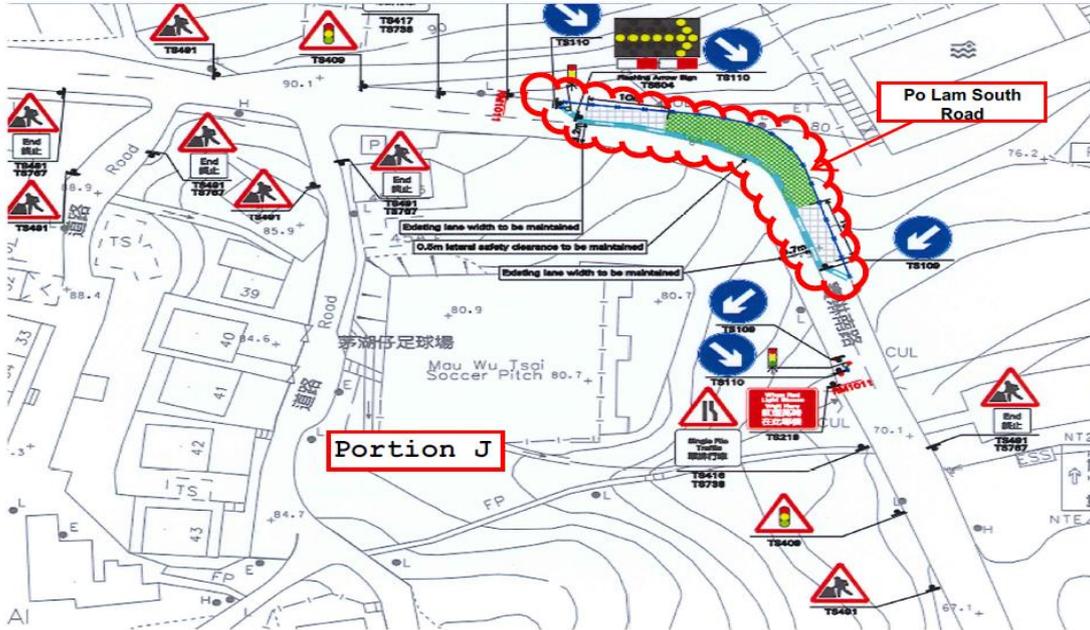


Figure B12. Monitoring Location – Po Lam South Road

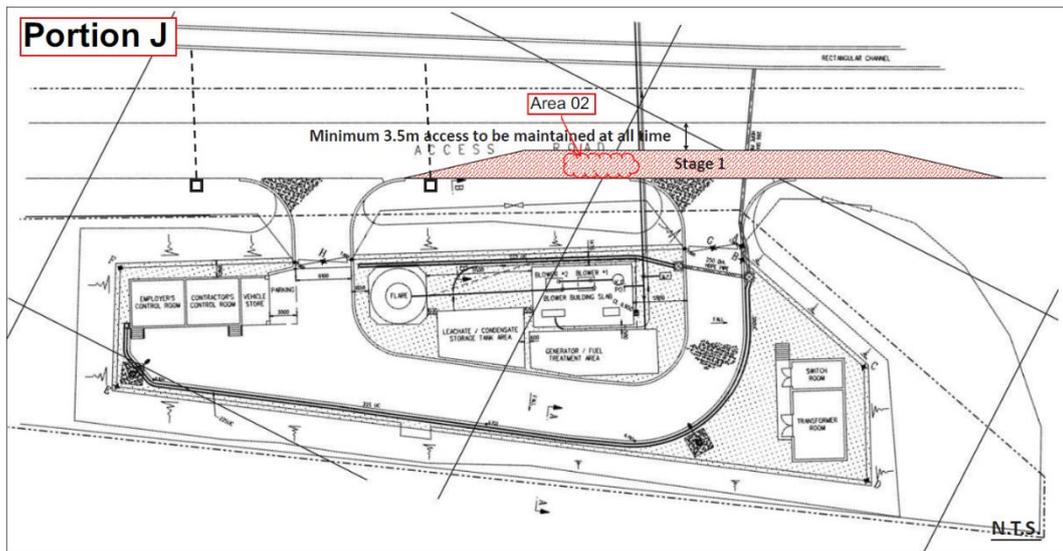


Figure B13. Monitoring Location – Area A02

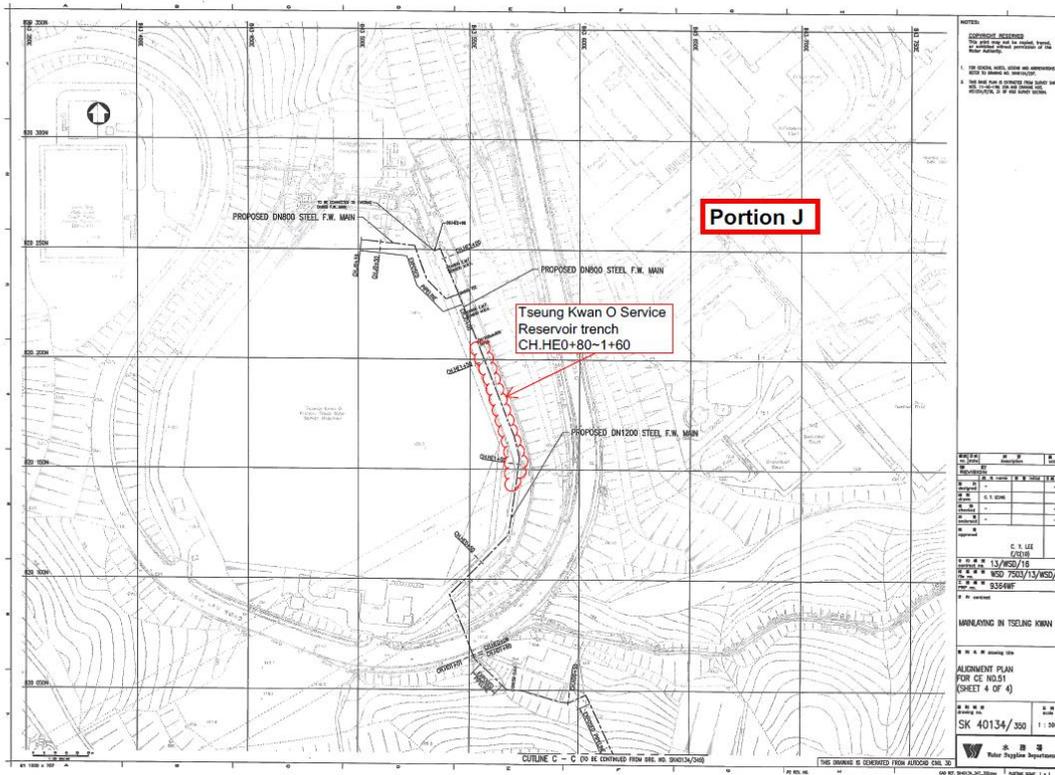


Figure B16. Location Plan for CH.HE0+80-1+60

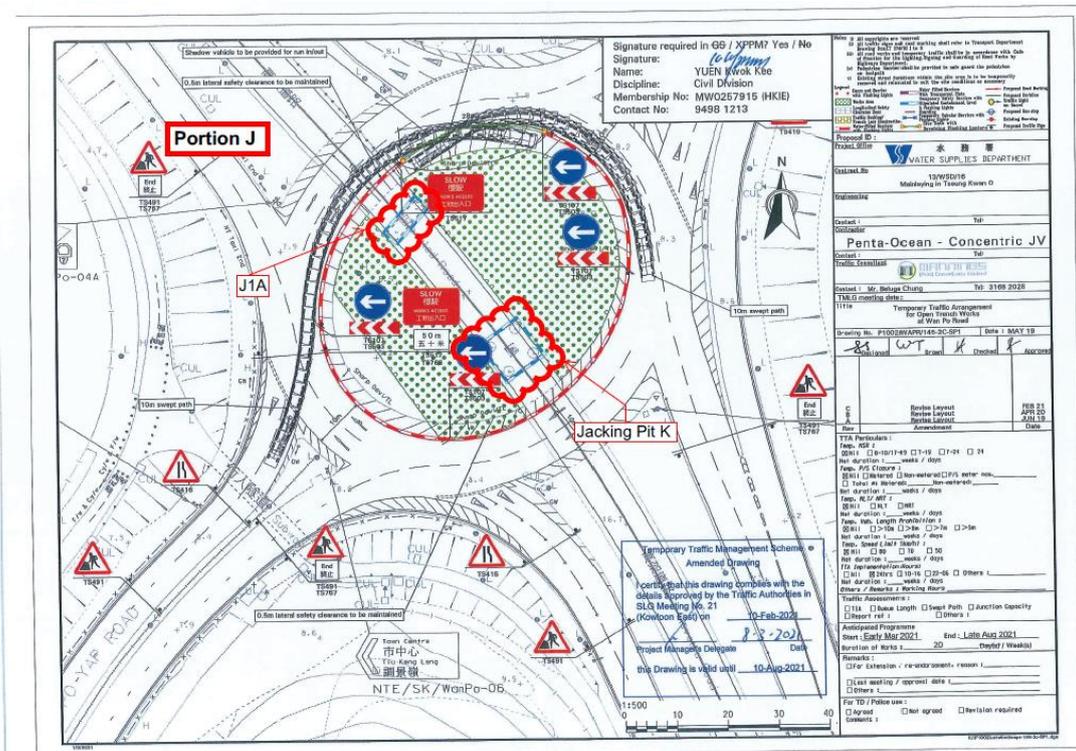


Figure B17. Location Plan for Pit K

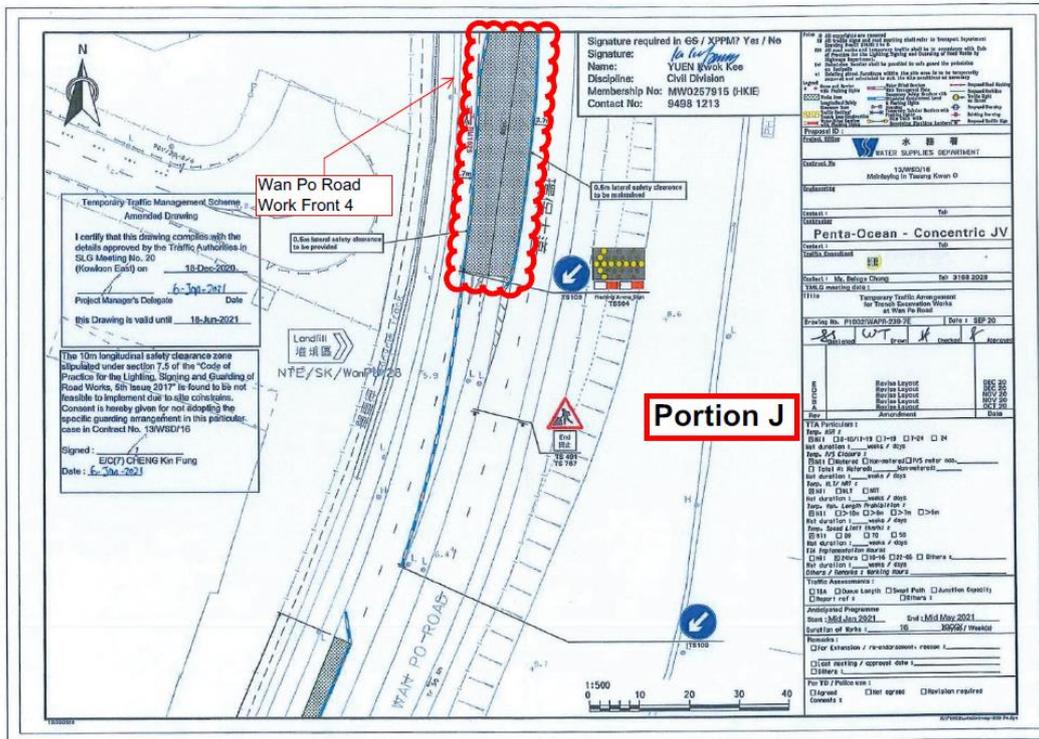


Figure B18a. Location Plan for Wan Po Road 4

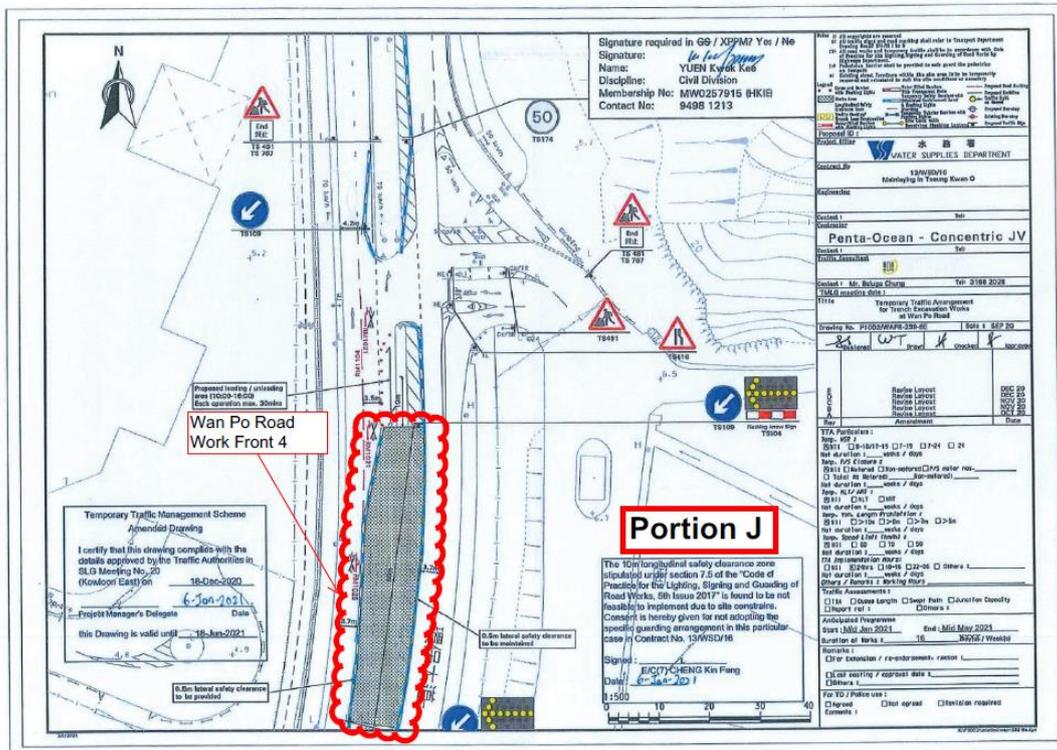


Figure B18b. Location Plan for Wan Po Road 4

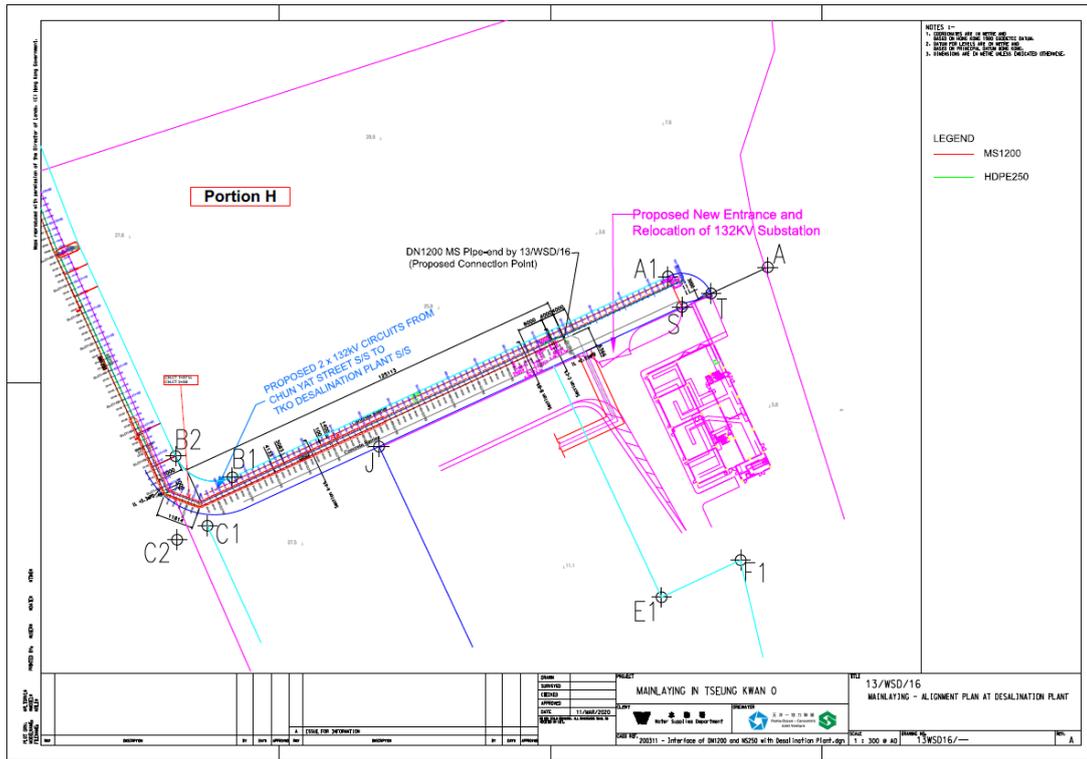


Figure B19a. Location Plan for CH.CT 0+07 – 2+58

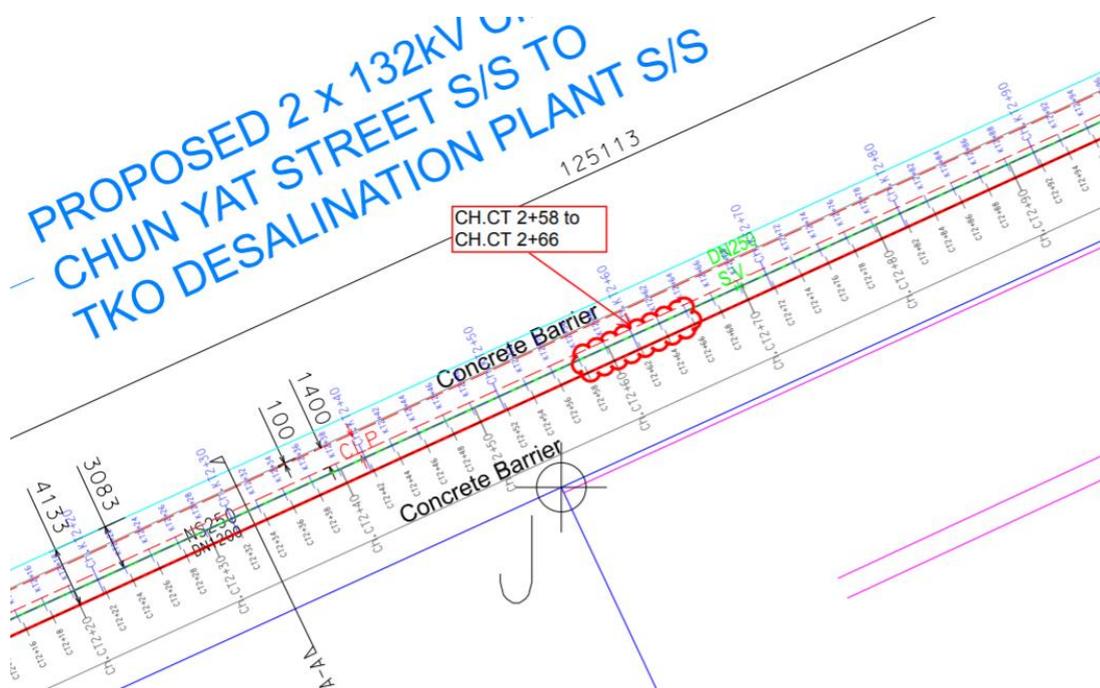


Figure B19b. Location Plan for CH.CT 2+58 – 2+66

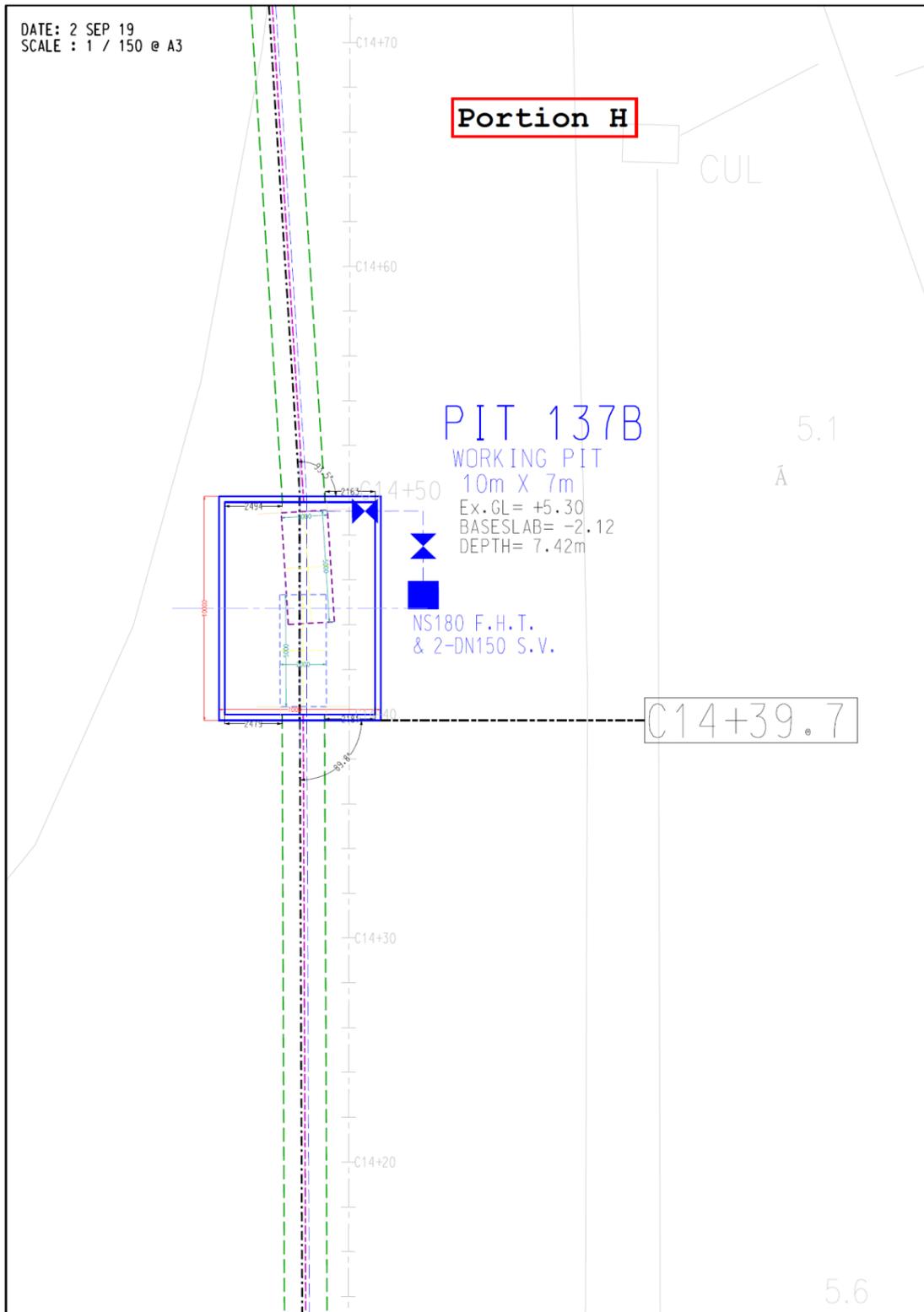


Figure B21a. Location Plan for Portion H- Pit 137B

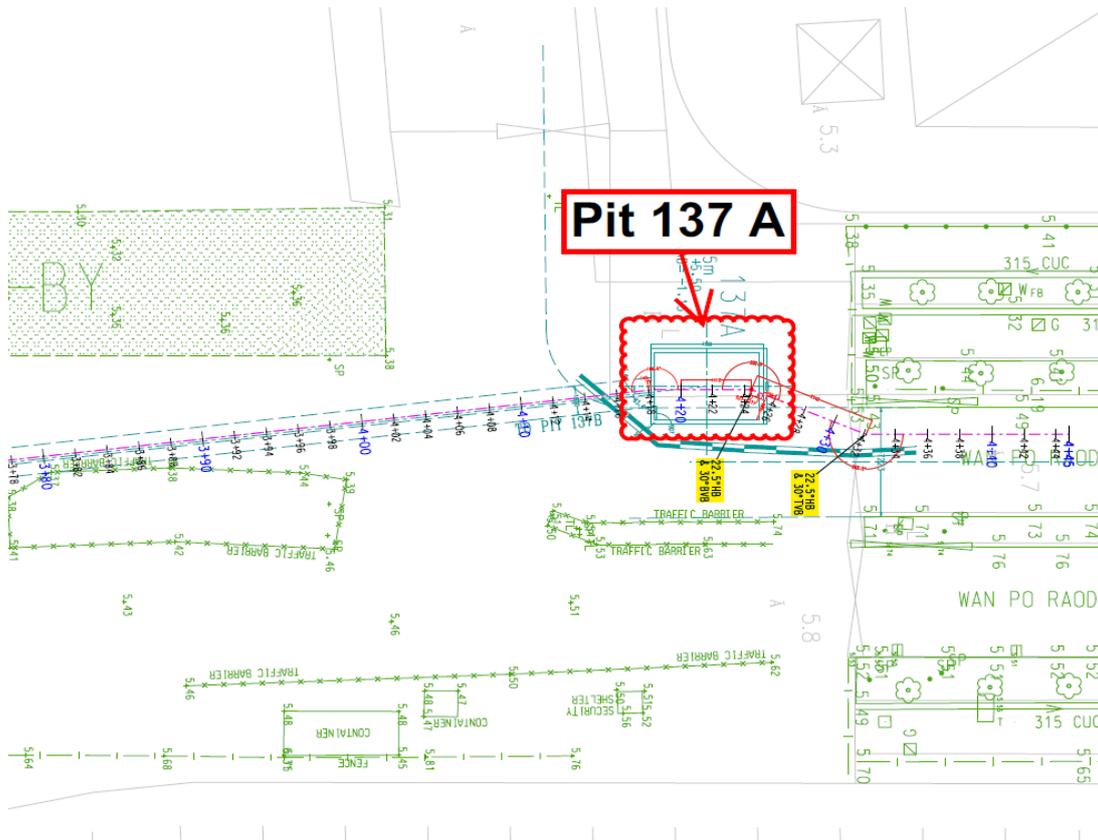


Figure B21b. Location Plan for Portion H- Pit 137A

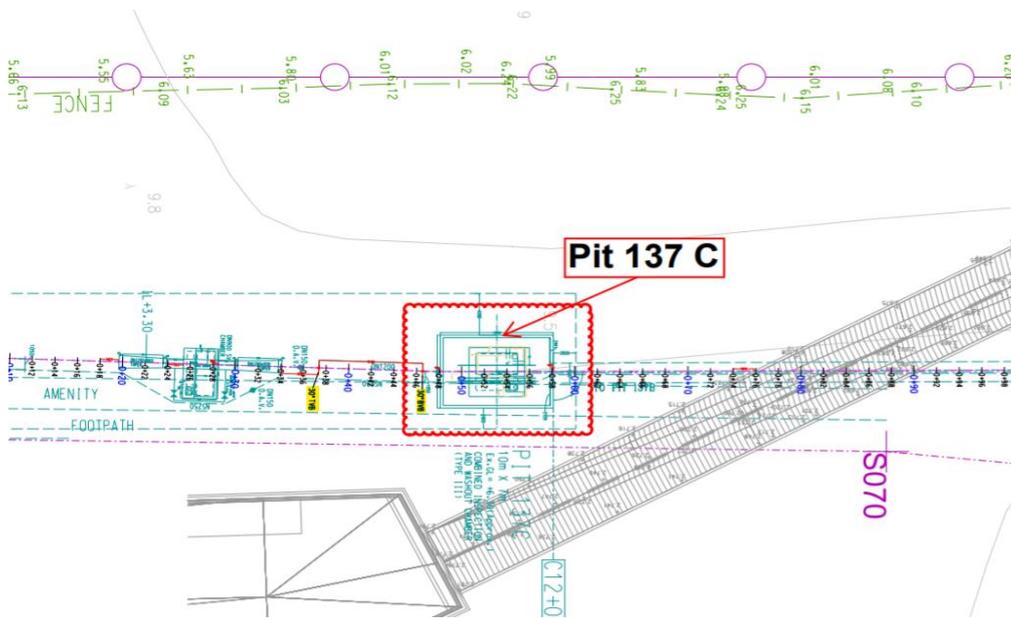


Figure B21c. Location Plan for Portion H- Pit 137C

Appendix C

Summary of Implementation Status of Environmental Mitigation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Air Quality								
S4.8.1	Impervious dust screen or sheeting will be provided to enclose scaffolding from the ground floor level of building for construction of superstructure of the new buildings.	Land site/ During Construction	Contractor(s)		✓		N/A	Air Pollution Control (Construction Dust)
S4.8.1	Impervious sheet will be provided for skip hoist for material transport.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		NA	
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented, reminder issued.	
S4.8.1	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Land site/ During Construction	Contractor(s)		✓		Implemented, reminder issued.	
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimize the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable.	Land site/ During Construction	Contractor(s)		✓		N/A	

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		✓		N/A	
S4.8.1	Hoarding of not less than 2.4m high from ground level will be provided along the length of the Project Site boundary.	Land site/ During construction	Contractor(s)	✓	✓		N/A	
S4.8.1	Haul roads will be kept clear of dusty materials and will be sprayed with water so as to maintain the entire road surface wet at all times.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time.	Land site/ During construction	Contractor(s)		✓		Rectified after observed.	
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	All exposed areas will be kept wet always to minimise dust emission.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)		✓	✓	Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be	Land site/ During construction	Contractor(s)		✓		N/A	Guidance Note on a Best
S4.8.1	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Land site/ During construction	Contractor(s)		✓		Implemented	
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Noise								
S5.7	Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Mobile plant, if any, will be sited as far away from NSRs as possible.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Plants known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Use of Quiet Powered Mechanical Equipment (QPME).	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Movable noise barriers of 3m in height with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers. The length of the barrier should be at least five times greater	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
	than its height. The noise barrier material should have a superficial surface density of at least 7 kg m ⁻² and have no openings or gaps.							
S5.7	The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Construction activities (e.g. excavation/shoring, reinstatement (asphalt), and pipe jacking) will be planned and carried out in sequence, such that items of PME proposed for these activities will not be operated simultaneously.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (ie the "influence area" within a radius of 40m) during school hours in order to reduce impact to the educational institutions.	Noise control / During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	Noise enclosures or acoustic sheds would be used to cover stationary PME such as generators. Portable/Movable noise enclosure made of material with superficial surface density of at least 7 kg m ⁻² may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		Implemented	

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				D	C	O		
S5.9	In view the duration of noise exceedance at Creative Secondary School, PLK Laws Foundation College, TKO Kei Tak Primary School and School of Continuing and Professional Studies-CUHK is limited to 8 weeks, the construction work in the influence areas near the four schools shall be scheduled during long school holidays (eg summer holiday, Easter holiday or Christmas holiday, etc) as far as practicable. Scheduling the construction work for the four schools.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		Implemented	
S5.10	A noise monitoring programme shall be implemented for the construction phase.	Designated monitoring stations as defined in EM&A Manual/During construction phase	Environmental Team (ET)		✓		Implemented	
S5.10	The effectiveness of on-site control measures could also be evaluated through the regular site audits.	All facilities/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementati on Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Water Quality								
S6.9	Dredged marine sediment will be disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO).	Marine Dredging/ During construction	Contractor(s)		✓		N/A	Dumping at Sea Ordinance (DASO)
S6.9	Disposal vessels will be fitted with tight bottom seals in order to prevent leakage of material during transport.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	Barges will be filled to a level, which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	After dredging, any excess materials will be cleaned from decks and exposed fittings before the vessel is moved from the dredging area.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	All vessels must have a clean ballast system.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	No discharge of sewage/grey wastewater should be allowed. Waste water from potentially contaminated area on working vessels should be minimized and collected. These kinds of wastewater should be brought back to port and discharged at appropriate collection and treatment system.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	No soil waste is allowed to be disposed overboard.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-

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				D	C	O		
S6.9	Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented, rectified after observation	ProPECC PN 1/94 TM Standard under the WPCO
S6.9	Earthworks to form the final surfaces will be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	ProPECC PN 1/94
S6.9	Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-

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				D	C	O		
S6.9	The temporary diverted drainage, if any, will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9 and S6.12	The sterilization water should be dechlorinated with total residual chlorine (TRC) level below 1 mg/L before discharge to public sewer. In situ testing of TRC should also be conducted for the discharge of chlorinated water for pipeline disinfection to ensure sufficient dechlorination before discharge to public sewer.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
S6.9	The cleaning and flushing water should also be treated and desilted to the relevant discharge requirement stipulated in TM-DSS before discharging.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
S6.9	Site drainage should be well maintained and good construction practices should be observed to ensure that oil, fuels, solvents and other chemicals are managed, stored and handled properly and do not enter the nearby water streams.	Land site & drainage/ During construction/ During operation	Contractor(s)		✓	✓	Implemented, rectified after observation	-

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				D	C	O		
S6.12	Regular site inspections will be carried out in order to confirm that regulatory requirements are being met and that contractors are implementing the standard site practice and mitigation measures as proposed to reduce potential impacts to water quality.	During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

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				D	C	O		
Waste Management								
S8.5	Nomination of approved personnel to be responsible for standard site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Training of site personnel in proper waste management and chemical handling procedures. Training will be provided to workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the construction works.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Provision of sufficient waste disposal points and regular collection for disposal.	All area/ During construction/ During operation	Contractor(s)		✓	✓	Implemented	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	All area/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A waste management plan (WMP) as stated in the "ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites" for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	All area/ During construction	Contractor(s)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre at Tsing Yi.	All area/ During construction	Contractor(s)		✓		N/A	Chapters 2 & 3 Code of Practice on the Packaging Labelling & Storage of

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
								Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented. Reminder issued.	Waste Disposal Ordinance (Cap 354)
S8.5	A recording system for the amount of wastes generated/ recycled and disposal sites. The trip-ticket system will be included as one of the contractual requirements and implemented by the contractor(s).	Land site/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	Land site/ During construction/ During operation	Contractor(s)		✓		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		✓		Implemented	ETWB TCW No. 33/2002, Management of Construction and Demolition Material Including Rock
S8.5	Any unused chemicals and those with remaining functional capacity will be recycled as far as possible.	Land site/ During construction	Contractor(s)		✓		N/A	-
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		✓		N/A	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill.	All areas/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Proper storage and site practices to reduce the potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		✓		Implemented, rectified after observation.	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
							Reminder issued.	
S8.5	Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.	All areas/ During construction	Contractor(s)		✓		Implemented	-
S8.5	A Sediment Quality Report (SQR) for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging activities to confirm the sediment disposal method.	Marine works/ During construction	Contractor(s)		✓		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The management of dredged/ excavated sediment management requirement from <i>ETWB TC(W) No. 34/2002</i> will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		✓		Implemented	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation
S8.5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s) / Environmental Team (ET) & Independent Environmental Checker		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
			(IEC)					
S8.5	A recording system (similar to summary table as shown in Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005
S8.5	Inert C&D materials (public fill) will be reused within the Project as far as practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		✓		Implemented, reminder issued.	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		Rectified after observation.	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
S8.5	Chemical waste container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Chemical waste container shall have a capacity of less than 450 L unless the specifications have been approved by the EPD.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
								Chemical Wastes
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S8.5	Storage areas for chemical waste shall be arranged so that incompatible materials are appropriately separated.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	General refuse will be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Adequate number of waste containers will be provided to avoid over-spillage of waste.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimise odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminium can, waste paper, glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste	All facilities/ During construction	ET/ IEC		✓		Implemented	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	management, a waste inspection and audit programme will be implemented throughout the construction phase.							

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Ecology								
S9.7	For slope mitigation works within the Clear Water Bay Country Park, to avoid tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels can be adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical. A detailed specification describing the exact locations of the flexible barrier foundation plates, soil nails and rock dowels will be prepared to illustrate how the setback distance from existing trees would be implemented for tree avoidance.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7	Pruning of tree canopies along the alignment of the flexible barriers shall be limited to a minimum.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	
S9.7	The alignment of flexible barriers shall be optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable. All individuals of <i>Marsdenia lachnostoma</i> within the slope mitigation areas shall be retained <i>in-situ</i> , by positioning the alignment of flexible barrier at a minimum 1.5m in a radius away from these individuals.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		N/A	-
S9.7 and 9.10	At the detailed design stage prior to the commencement of the slope mitigation works, a vegetation survey shall be carried out at the slope mitigation areas within the Clear Water Bay Country Park to assess the condition and identify the location of each individual of <i>Marsdenia lachnostoma</i> and other flora species of conservation interest that may be directly affected by the construction works.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7	Temporary fencing will be installed to fence off	Slope mitigation works	Contractor(s)		✓		N/A	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
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	the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction. A sign identifying the site shall be attached to the fence and flagging tape shall be attached to the individuals to visualize their locations.	area/ During construction						
S9.7 and S9.10	A specification for fencing and demarcating individuals of <i>Marsdenia lachnostoma</i> (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers will be prepared to protect the species.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Induction training shall also be provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	The resident site supervisory staff will closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Erect fences along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Regularly check the work site boundaries to ensure that they are not breached and that damage does not occur to surrounding areas.	All area/ During construction	Contractor(s)/ Environmental Team (ET)		✓		Implemented	-
S9.7	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting. The tree/shrub species will be chosen with reference to those in the surrounding area.	All area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Affected habitats within the Clear Water Bay Country Bay shall be reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works.	All area/ During construction	Contractor(s)		✓		N/A	-

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Landscape & Visual								
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to: - green roofs where practical (ie without equipment on the roof); - roadside planting; - aesthetic treatment of all structures; - vertical greening; screen planting along application site; and - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible, - to reduce their visual impact and blend them into the surrounding landscape. (MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	All trees within the Project Site or the potential slope mitigation works area will be carefully protected during construction according to DEVB TCW No. 10/2013 – Tree Preservation (MM4)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	ETWB TCW No. 3/2006 - Tree Preservation.
S11.10 & 11.11	No tree within the Country Park will be felled. Trees within the Site unavoidably affected by the works will be transplanted where necessary and practical. For trees that need to be felled, compensatory planting will be provided to the satisfaction of relevant Government	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	DEVB TC(W) No. 10/2013

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				D	C	O		
	departments. A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)							
S11.10 & 11.11	Any slope mitigation works necessary to address natural terrain hazards, will be minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization will aim to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species will be established, with the aim of resembling the existing vegetation. (MM6)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	Dredging works for the installation of intake structures and outfall diffusers should be minimized to avoid or reduce any potential environmental impacts to as low as reasonably practicable (ALARP). The intake and outfall structures (e.g. intake openings and diffuser heads) will be prefabricated and transferred to site for installation. (MM7)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	All night-time lighting will be reduced to a practical minimum both in terms of number of level and will be hooded and directional. (MM8)units and lux level and will be hooded and directional. (MM8)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-

Note: D – Design stage C – Construction O – Operation

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Landfill Gas Hazard								
S12.7	During all works, safety procedures should be implemented to minimise the risks of fires and explosions, asphyxiation of workers and toxicity effects resulting from contact with contaminated soil and groundwater.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 metre.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	The Contractor should make the workers are aware of potential hazards of working in confined spaces (any chamber, manhole or culvert which is large enough to permit access to personnel). Such work in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Safety Guide to Working in Confined Spaces ensures compliance with the above regulations.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Safety officers, specifically trained with regard to landfill gas and leachate related hazards and the appropriate actions to take in adverse circumstances, should be present on the site throughout the works, in particular, when works are undertaken below grade.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the concentrations of methane, carbon dioxide and oxygen.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Monitoring frequency and areas to be monitored should be specified prior to commencement of groundwork, either by the Safety Officer, or by an appropriately qualified person. All measurements should be recorded and documented.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Prior to the commencement of the site works, the drilling contractor should devise a 'method-of-working' statement covering all normal and emergency procedures (including but not limited to number of operatives, experience and special skills of operatives, normal method of operations, emergency procedures, supervisors responsibilities, storage and use of safety equipment, safety procedures and signs, barriers and guarding). The site supervisor and all operatives must be familiar with this statement.	All area/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	pathway for landfill gas and hence gridded metal covers should be used.							
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	
S12.7	The manholes and utility pits within the Project Site and along the fresh water mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	
S12.7	All construction, operation and maintenance personnel working on-site as well as visitors should be made aware of the hazards of landfill gas and its possible presence on-site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on landfill gas hazards and the designs and procedural means by which these hazards are being minimized on-site.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

Note: D – Design stage C – Construction O – Operation

Appendix D

Impact Monitoring Schedule of the Reporting Month

Aug-21						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4 Noise Impact Monitoring	5	6	7
8	9	10	11	12	13 Noise Impact Monitoring	14
15	16	17	18	19 Noise Impact Monitoring	20	21
22	23	24	25 Noise Impact Monitoring	26	27	28
29	30	31				

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Appendix E

Noise Monitoring Equipment Calibration Certificate



CALIBRATION CERTIFICATE

Certificate Information																
Date of Issue	17-Nov-2020															
Certificate Number	MLCN203081S															
Customer Information																
Company Name	Acuity Sustainability Consulting Limited															
Address	Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.															
Equipment-under-Test (EUT)																
Description	Sound Level Calibrator															
Manufacturer	Rion															
Model Number	NC-74															
Serial Number	34504770															
Equipment Number	--															
Calibration Particular																
Date of Calibration	17-Nov-2020															
Calibration Equipment	4231(MLTE008) / AV200063 / 23-Jun-23 1357(MLTE190) / MLEC20/05/02 / 26-May-21															
Calibration Procedure	MLCG00, MLCG15															
Calibration Conditions	<table border="1"> <tr> <td>Laboratory</td> <td>Temperature</td> <td>23 °C ± 5 °C</td> </tr> <tr> <td></td> <td>Relative Humidity</td> <td>55% ± 25%</td> </tr> <tr> <td>EUT</td> <td>Stabilizing Time</td> <td>Over 3 hours</td> </tr> <tr> <td></td> <td>Warm-up Time</td> <td>Not applicable</td> </tr> <tr> <td></td> <td>Power Supply</td> <td>Internal battery</td> </tr> </table>	Laboratory	Temperature	23 °C ± 5 °C		Relative Humidity	55% ± 25%	EUT	Stabilizing Time	Over 3 hours		Warm-up Time	Not applicable		Power Supply	Internal battery
Laboratory	Temperature	23 °C ± 5 °C														
	Relative Humidity	55% ± 25%														
EUT	Stabilizing Time	Over 3 hours														
	Warm-up Time	Not applicable														
	Power Supply	Internal battery														
Calibration Results	Calibration data were detailed in the continuation pages. Calibration result was within EUT specification.															
Approved By & Date																
	 K.O. Lo 17-Nov-2020															
Statements																
<ul style="list-style-type: none"> * Calibration equipment used for this calibration are traceable to national / international standards. * The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement. * MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT. * The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited. 																

Page 1 of 2

萬儀校正中心有限公司
MaxLab Calibration Centre Limited

香港新界葵涌華星街 16-18 號保潔工業大廈 9 樓 B 室
Unit B, 9/F., Boldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6460 Email: info@maxlab.com.hk



Certificate No. MLCN203081S

<i>Calibration Data</i>				
EUT Setting	Standard Reading	EUT Error from Setting	Calibration Uncertainty	EUT Specification
94 dB	94.0 dB	0.0 dB	0.20 dB	± 0.3 dB

- END -

Calibrated By : Dan
Date : 17-Nov-20

Checked By : K.O. Lo
Date : 17-Nov-20

Page 2 of 2

萬儀校正中心有限公司
MaxLab Calibration Centre Limited
香港新界葵涌華星街16-18號保盈工業大廈9樓B室

Unit B, 9/F., Baldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2284 6480 Email: info@maxlab.com.hk



CERTIFICATE OF CALIBRATION

NO. 20200519040

Name of Product:	Sound Level Meter
Model:	ST-11D
Serial Number:	820200
Specification:	Class 1
Conclusion:	Pass
Date of calibration:	2021-01-18
Due Date:	2022-01-17



Calibrated by:

- I. This report certifies that all calibration equipment used in the test is traceable with the internal ISO9001 procedures and meet all specification given in the Manual(s) or respectively surpass them and applies only to the unit identified above.
- II. This certificate is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
- III. This certificate of calibration shall not be reproduced except in full, without written permission of the Scarlet Tech Co Ltd Taiwan.

- 1. Preliminary inspection: OK
- 2. Type & serial No. of Microphone: AWA14425-27998
- 3. Adjustments to indicated sound levels:
 Type of Calibrator B&K 4211
 Sound Pressure Level 93.8 dB
 Equivalent Free-field Sound Level (reference environment conditions) 93.8 dB
- 4. Measuring up limit: 140 dBA
- 5. Frequency weightings (Acoustic signal tests for Z weighting, other electric signal tests.)

Nominal frequency /Hz	Frequency weighting / dB			Nominal frequency /Hz	Frequency weighting / dB		
	A	C	Z		A	C	Z
10	-71.0	-14.4	-0.9	1000	0.0	-0.1	-0.3
20	-50.4	-6.1	-0.1	2000	1.2	-0.2	0.2
31.5	-39.8	-3.1	0.0	4000	1.0	-0.9	0.3
63	-26.2	-0.9	0.3	8000	-1.0	-3.2	-0.5
125	-16.0	-0.3	0.4	12500	-4.5	-6.4	-0.7
250	-8.6	-0.1	0.1	16000	-9.6	-11.5	-1.3
500	-3.7	-0.1	0.1	20000	-23.9	-25.9	-0.8

6. Self-generated noise

Microphone replaced by electrical input signal device

8.9 dB(A)	16.6 dB(C)	19.8 dB(F)
-----------	------------	------------

7. F&S Weighting

Rate of the F weighting decrease (dB/s)	35.2
Rate of the S weighting decrease (dB/s)	4.4
Deviation of F&S	0.0

8. Level Linearity (A-weighting at frequency 1 kHz)

Reference sound level 90.0 dB

Max error at 10dB steps upper reference sound level -0.1 dB

Max error at 1dB steps within 5dB of the upper limit linear operating range 0.0 dB

Max error at 10dB steps below reference sound level 0.1 dB

Max error at 1dB steps within 5dB upper the lower limit linear operating range 0.2 dB

9. Tone burst response (A Weighting) :

Single Toneburst duration /ms	Toneburst response /dB			
	$L_{Amax}-L_A$	$L_{Aonset}-L_A$	L_A-L_A	$L_{Aend}-L_A$
500	0.0	-4.0	-2.9	-7.0
200	-1.0	-7.4	-6.9	-7.0
50	-18.0	-26.9	-26.9	-7.0
10	-27.2	-	-36.0	-7.0

10. Peak C sound level (500Hz)

Cycle	One cycle	nominal value	Positive half	nominal value	Negative half	nominal value
$L_{Cpeak-LC}(dB)$	3.5	3.5	2.3	2	2.3	2.4

11. Overload indication: Pass

12. Statistical analysis function:

Sweep signal maximum indicated sound level: 112.0 dB

Sweep amplitude: 40 dB

Scan cycle time: 60 S; Measurement period: 180 S.

Items	Measured value/dB	Theoretical calculated value/dB	Error/dB
$L_{Aeq,T}$	103.2	103.2	0.0



Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *NTi Audio*
Type No.: *XL2 (Serial No.: A2A-13663-E0)*
Microphone: *ACO 7052 (Serial No.: 73912)*
Preamplifier: *NTi Audio MA220 (Serial No.: 5735)*

Submitted by:

Customer: *Acuity Sustainability Consulting Limited*
Address: *Unit C, 11/F, Ford Giory Plaza, No. 37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon, Hong Kong*

Upon receipt for calibration, the instrument was found to be:

- Within
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: *08 September 2020*

Date of calibration: *09 September 2020*

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: *09 September 2020*

Certificate No.: *AP120-104-CC001*



Page 1 of 4



1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 23.8°C
 Air Pressure: 1008 hPa
 Relative Humidity: 62.5%

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2388467	AV200041	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	1000	94.0	±0.4

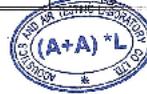
Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
				104		104.0	±0.3
				114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
			Slow			94.0	

Certificate No.: APJ20-104-CU001



Page 2 of 4

Room 422, Leader Industrial Centre, 57-59 Au Pui Wan Street, Fo Tan, Sha Tin, N.T., Hong Kong
 Tel: (852) 2668 3423 Fax: (852) 2668 6946
 Homepage: <http://www.aalab.com> E-mail: info@aalab.com



Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB	SPL	94	31.5	94.2	±2.0
				63	94.3	±1.5
				125	94.3	±1.5
				250	94.2	+1.4
				500	94.1	+1.4
				1000	94.0	Ref
				2000	93.8	-1.6
				4000	93.6	±1.6
			8000	93.4	-2.1; -3.1	

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA	SPL	94	31.5	54.8	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.1	-16.1 ±1.5
				250	85.5	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	95.0	+1.2 ±1.6
				4000	94.6	+1.0 ±1.6
			8000	92.3	-1.1 ±2.1; -3.1	

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB	SPL	94	31.5	91.2	-3.0 ±2.0
				63	93.4	-0.8 ±1.5
				125	94.1	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.6	-0.2 ±1.6
				4000	92.8	-0.8 ±1.6
			8000	90.4	-3.0 ±2.1; -5.1	

Certificate No.: APJ20-104-CC001



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Homepage: <http://www.aat-lab.com> E-mail: inquiry@aat-lab.com



5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacturer's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 cB	31.5 Hz	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	+ 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	+ 0.05
104 dB	1000 Hz	± 0.05
	2000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

Certificate No.: APJ20-104-CC001



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 Tel: (852) 2668 5423 Fax: (852) 2668 6946

(A+A)*L Acoustics and Air Testing Laboratory Co. Ltd. 
聲學及空氣測試實驗室有限公司

Certificate of Calibration

for

Description: Sound Level Meter
Manufacturer: Lutron
Type No.: SL-4033SD (Serial No.: I491835)
Submitted by:
Customer: Acuity Sustainability Consulting Limited
Address: Unit 108, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.

Upon receipt for calibration, the instrument was found to be:

- Within
 Outside

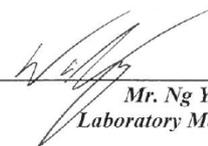
the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 02 December 2020

Date of calibration: 07 December 2020

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 07 December 2020

Certificate No.: APJ20-140-CC001



Page 1 of 4

Room 422, Leader Industrial Centre, 57-59 Au Pui Wan Street, Fo Tan, Shatin, N.T., Hong Kong
Tel: (852) 2668 3423 Fax: (852) 2668 6946
Homepage: <http://www.aa-lab.com> E-mail: inquiry@aa-lab.com

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 23.5 °C
 Air Pressure: 1006 hPa
 Relative Humidity: 62.5 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4225	2288467	AV200041	HOKI A5

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	1000	94.0	Ref
				104		104.0	±0.3
				114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	1000	94.0	Ref
			Slow			94.0	±0.3

Certificate No.: AP/20-170-CC001





Frequency Response

A-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	31.5	55.1	-39.4±2.0
					63	67.9	-26.2±1.5
					125	78.0	-16.1±1.5
					250	85.5	-8.6±1.4
					500	91.1	-3.2±1.4
					1000	94.0	Ref
					2000	94.3	+1.2±1.6

C-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBC	SPL	Fast	94	31.5	91.7	-3.0±2.0
					63	94.0	-0.8±1.5
					125	94.7	-0.2±1.5
					250	94.9	-0.0±1.4
					500	94.5	-0.0±1.4
					1000	94.0	Ref
					2000	92.3	-0.2±1.6

Certificate No.: AP/20-140/CC001



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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacturer's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

Certificate No.: APJ20-140-CC001



Page 4 of 4

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Tel: (852) 2668 3423 Fax: (852) 2668 6946
Homepage: <http://www.aa-lab.com> E-mail: inquiry@aa-lab.com



 **Certificate of Conformity**

This instrument was produced under rigorous factory production control and documented standard procedures. It was individually visually inspected, leak tested and function tested for display, backlight, button and software performance. The accuracy of each of its primary measurements was individually calibrated and/or tested against standards traceable to the National Institute of Standards and Technology ("NIST") or calibrated intermediary standards. This instrument is certified to have performed at the time of manufacture in compliance with the following specifications as they apply to this meter's specific model, measurements and features.

Methods Used in Calibration and Testing

Wind Speed:

The Kestrel Weather & Environmental Meter impeller installed in this unit was individually tested in a subsonic wind tunnel operating at approximately 300 fpm (1.5 m/s) and 1200 fpm (6.1 m/s) monitored by a Gill Instruments Model 1350 ultrasonic time-of-flight anemometer. The Standard's maximum combined uncertainty is +/-1.04% within the airspeed range 706.6 to 3023.9 fpm (3.59 to 19.93 m/s), and +/-1.66% within the airspeed range 166.6 to 706.6 fpm (0.85 to 3.59 m/s).

Temperature:

Temperature response is verified in comparison with a Eutechnics 4600 Precision Thermometer or a standard Kestrel 4000 Weather & Environmental Meter calibrated weekly against the Eutechnics 4600. The Eutechnics 4600 is calibrated annually and is traceable to NIST with a system accuracy of +/- 0.05 °C.

Direction / Heading

The sensitivity of the magnetic directional sensor is verified at the component level by applying a magnetic field to the sensor and measuring the signal output at 4 points, as well as after assembly by orienting the unit to the cardinal directions and measuring the magnetic field output. In both cases, the compass output must be accurate to within +/- 5 degrees.

Relative Humidity:

Relative humidity receives a two-point calibration in humidity and temperature controlled chambers at 75.3% RH and 32.8% RH at 25° C. The calibration tanks are monitored with an Edgetech Model 2002 DewPrime II Standard Chilled Mirror Hygrometer. Following calibration, performance is further verified at an RH of approximately 43.2% against the Edgetech Hygrometer. The Edgetech Hygrometer is calibrated annually and is traceable to NIST with a maximum relative expanded uncertainty of +/- 0.2% RH.

Barometric Pressure:

Pressure response is verified against a Vaisala PTB210A Digital Barometer or a standard Kestrel 4000 Weather & Environmental Meter calibrated weekly against the Vaisala Barometer. The Vaisala Barometer is calibrated annually and is traceable to NIST with an accuracy of +/-0.15 hPa at +20°C defined as the root sum of the squares (RSS) of end point non-linearity, hysteresis error, repeatability error and calibration uncertainty at room temperature.

Approved By:


Michael Naughton, Engineering Manager

The enclosed Kestrel Weather & Environmental Meter was manufactured by Neisen-Kotlerman Co. at its facilities located at 21 Creek Circle, Boothwyn, PA 19061 USA.

Appendix F

Event/Action Plan for Noise Exceedance

Event and Action Plan for Construction Noise Monitoring

Event	Action	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> Carry out investigation to identify the source and cause of the complaint/ exceedance(s) Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC Discuss with the Contractor and IEC for remedial measures required If the complaint is related to the Project, conduct additional monitoring for checking mitigation effectiveness and report the findings and results to the IEC, ER and the Contractor 	<ol style="list-style-type: none"> Review the analyzed results submitted by the ET Review the proposed remedial measures by the Contractor and advise the ER accordingly Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> Confirm receipt of Notification of Exceedance in writing Require Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> Submit noise mitigation proposals, if required, to the IEC and ER Implement noise mitigation proposals. 	

Limit Level	<ol style="list-style-type: none"> Notify IEC, ER, EPD and Contractor Identify the source(s) of impact by reviewing all the relevant monitoring data and the corresponding construction activities. Exceedances should also be confirmed by immediate verification in the field as far as practical. Repeat measurement to confirm findings Increase monitoring frequency Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. inform IEC, ER and EPD the cause & actions taken for the exceedances Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Discuss amongst ER, ET, and Contractor on the potential remedial actions Review Contractor's remedial actions to assure their effectiveness and advise the ER & ET accordingly Supervise the implementation of the remedial measures 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing Notify Contractor Require Contractor to propose remedial measures for the analyzed noise problem Ensure remedial measures are properly implemented If exceedance continuous, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is aborted 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance Identify practicable measures to minimize the noise impact. Submit proposals for remedial actions to ER within three working days of notification Implement the agreed proposals Resubmit proposal if problem still not under control Stop the relevant portion of works as determined by the ER until the exceedance is abated
-------------	---	--	---	---

Appendix G

Noise Monitoring Data

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Date	Time	Weather	Leq-5min, dB(A)						Leq-30min, dB(A)	L1030mins, dB(A)	L9030mins, dB(A)	Limit Level, dB(A)	Noise Meter
			Reading (1)	Reading (2)	Reading (3)	Reading (4)	Reading (5)	Reading (6)					
04/08/2021	11:15 - 11:45	cloudy	67.8	67.1	68.2	69.9	67.2	69.1	68.3	71.3	59.7	70.0	NTi XL2 13663
13/08/2021	11:01 - 11:31	sunny	68.6	69.6	68.7	68.3	69.0	65.2	68.4	71.8	59.4	70.0	NTi XL2 13663
19/08/2021	11:30 - 12:00	sunny	68.6	67.7	65.5	67.6	65.1	62.7	66.6	69.7	60.8	70.0	NTi XL2 13663
25/08/2021	11:10 - 11:40	cloudy	66.9	68.2	68.3	68.8	67.0	66.7	67.7	70.7	59.6	70.0	NTi XL2 13663

Remarks:

*No examinations were scheduled for NSR4 Creative Secondary School in the reporting month. Academic School Calendar can be found in Appendix O.

Appendix H

Waste Flow Table

Monthly Summary Waste Flow Table

Name of Department: WSD **Contract No. / Works Order No.:** 13/WSD/16

Monthly Summary Waste Flow Table for August 2021

Month	Actual Quantities of <u>Inert</u> Construction Waste Generated Monthly					
	Total Quantity Generated (see Note 4)	Hard Rock and Large Broken Concrete (see Note 3)	Reused in the Contract	Reused in other Projects	Disposed of as Public Fill	Imported Fill (see Note 1)
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)
2018	1.157	0.063	0.000	0.000	1.157	0.518
2019	5.178	0.043	2.211	0.000	2.520	3.200
2020	13.173	1.506	0.291	0.000	12.878	1.323
Jan 2021	2.438	0.120	0.000	0.000	2.438	0.127
Feb-2021	1.702	0.224	0.000	0.000	1.702	0.537
Mar-2021	2.780	0.163	0.000	0.000	2.780	1.361
Apr-2021	2.338	0.271	0.222	0.000	2.116	0.629
May-2021	2.265	0.125	0.360	0.000	1.906	0.340
Jun-2021	2.017	0.135	0.221	0.000	1.796	1.148
Jul-2021	2.003	0.059	0.109	0.000	1.894	1.352
Aug-2021	1.223	0.026	0.455	0.000	1.223	0.590
Total for 2021	16.766	1.123	1.367	0.000	15.855	6.084

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Month	Actual Quantities of <u>Non-inert</u> Construction Waste Generated Monthly				
	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. General Refuse disposed at Landfill
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
2018	0.000	0.417	0.000	0.000	0.139
2019	0.000	0.062	0.000	0.000	0.102
2020	0.000	0.606	0.000	0.000	0.043
Jan 2021	0.000	0.065	0.000	0.000	0.006
Feb-2021	0.000	0.058	0.000	0.000	0.012
Mar-2021	0.000	0.055	0.000	0.000	0.002
Apr-2021	0.000	0.045	0.000	0.000	0.008
May-2021	0.000	0.049	0.000	0.000	0.006
Jun-2021	0.000	0.051	0.000	0.000	0.000
Jul-2021	0.000	0.052	0.000	0.000	0.005
Aug-2021	0.000	0.048	0.000	0.000	0.000
Total for 2021	0.000	0.423	0.000	0.000	0.039

Notes:

1. The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2. Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
3. Broken concrete for recycling into aggregate.

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4. "Total Quantity Generated" only refers to the actual quantities of inert C&D materials generated monthly excluding those that will be recycled (Hard Rock and Large Broken Concrete, Reused in the Contract, Reused in other Projects). Imported fill will not be included in "Total Quantity Generated" as those C&D materials are not generated from this project. "Total Quantity Generated" also includes non-inert general wastes.
5. C&D materials in tonnes are converted to meter cube (m³) on a scale of 0.5.
6. Source and types of Imported Fill in the reporting month
 - i. K. Wah Quarry Company Limited: (Soil) 557.51 m³ (1115.02 tonnes/18 cars)
 - ii. K. Wah Quarry Company Limited: (Sub-base) 32.68 m³ (65.36 tonnes/1 cars)

7. Hard Rock and Large Broken Concrete are disposed to public fill, the breakdown of C&D materials disposed to public fill is shown as below:

Type of C&D Materials	Description of C&D Materials	C&D Waste Disposed (Volume) (m ³)
Inert	Bentonite	18.00
	Broken Concrete	18.30
	Broken Rock	7.55
	Mixed Construction Waste (>50% inert)	7.05
	Building Debris	--
	Mixed Rock and Soil	850.65
	Reclaimed Asphalt Pavement	71.00
	Slurry	61.60
	Soil	189.05
	TOTAL =	1223.20
Non-inert	TOTAL =	0.00

Appendix I

**Landfill
Equipment
Certificate**

Gas

**Monitoring
Calibration**



香港新界葵涌葵昌路58-70號永祥工業大廈10樓B室
 Unit B, 10/F., Wing Cheung Industrial Building, 58-70 Kwai Cheong Road, Kwai Chung, New Territories, HK.
 Tel: (852) 2751 7770 Fax: (852) 2756 2051 E-mail: rotter@rotter.com.hk

Calibration Report - Gas Detector

PGM-2500 (QRAE III) --- LEL/O2/CO/H2S

UNIT INFORMATION :

Customer:	Penta Ocean Construction Co Ltd	Serial #:	M02A001708	Model:	QRAE III
		Firmware:	V2.12	Sensor:	LEL/O2/CO/H2S
		Cal date:	28-Jul-2021	Inspected:	Teddy

SENSOR DATA :

	LEL sensor (ME)	O2 sensor	CO sensor (Tox1)	H2S sensor (Tox2)
Calibration dates:	28-Jul-2021	28-Jul-2021	28-Jul-2021	28-Jul-2021
After Calibration levels	50%	17.90%	50 ppm	10.1 ppm
Alarm levels (Low):	10.00%	19.50%	35 ppm	10 ppm
Alarm levels (High):	20.00%	23.50%	200 ppm	20 ppm
TWA Level:	--	--	35 ppm	10 ppm
STEL Level:	--	--	100 ppm	15 ppm

Status:

Pump Speed	Low	Back Light	Manual
Clock	Yes	Measure	Average

LEL Gas Selection

LEL Calibration Gas	Methane	LEL measurement Gas	Methane
LEL Custom Gas	LEL_custom_gas	LEL Custom Factor	1.0

Gas types used : 4-Gas Mix: (18% O2, 50ppm CO, 10ppm H2S, 50% LEL CH4, BAL N2) Gas lot #1412983 Cyl# 15

*** Fresh Air Calibration is highly recommended to proceed prior for measurement each time.

Replaced Parts:

Notes:

The unit was calibrated and checked under good working condition

**Next calibration due on or before 27 July 2022

Serviced by  Teddy Wong
 Rotter International Ltd

Honeywell Protection Through Detection 1349 Moffett Park Drive,
 Sunnyvale, CA 94089 USA
 www.raesystems.com Main: 408-952-8200

Calibration and Test Certificate

Product Name: MultiRAE Lite
Model Number: PGM-6208
Serial Number: M01C031772
Calibration/Inspection Date: 6/4/2021

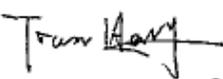
Calibration Gases:

#	Gas	Concentration	Balance	Lot#
1	Hydrogen Sulfide(H ₂ S)	10ppm	Nitrogen(N ₂)	20210508
2	Carbon Monoxide(CO)	50ppm		
3	Oxygen(O ₂)	18%		
4	Methane(CH ₄)	50%LEL		
5	Sulfur Dioxide(SO ₂)	5ppm	Nitrogen(N ₂)	20210114
6	Carbon Dioxide(CO ₂)	5000ppm	Nitrogen(N ₂)	20201203

Test Results:

#	Sensor	Span	UOM
1	LEL	51	%LEL
2	SO ₂	5.2	ppm
3	COSH (H ₂ S / CO)	10.1 / 51	ppm
4	Pb O ₂	17.8	%
5	CO ₂	4900	ppm

This instrument has been calibrated using valid calibration gases and instrument manual operation procedures. Test and calibration data is on file with the manufacturer, RAE Systems.

Approved By: 
 86-05-51832593



Appendix J

Landfill Gas Monitoring Data

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (GRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	2-8-2021	0830	Fine	0	0	0	20.9	29/999	5.5
	2-8-2021	1330	Fine	0	0	0	20.9	31/997	5.5
	2-8-2021	1700	Fine	0	0	0	20.9	31/996	5.5
Area B	2-8-2021	0845	Fine	0	0	0	20.9	29/999	2.5
	2-8-2021	1345	Fine	0	0	0	20.9	31/997	2.5
	2-8-2021	1645	Fine	0	0	0	20.9	31/996	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TOM HOI KUNG	<i>[Signature]</i>	2-8-2021
Laboratory Staff:			
Checked by:	C.F. Chan (Foreman)	<i>[Signature]</i>	2-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH FC 8+38	2-8-2021	8:55	Fine	0	0	0	20.9	/	2.5
		13:55	Fine	0	0	0	20.9	/	2.5
CH FC 0764	2-8-2021	9:00	Fine	0	0	0	20.9	/	2.5
		14:00	Fine	0	0	0	20.9	/	2.5
Pit D	2-8-2021	9:15	Fine	0	0	0	20.9	/	2.5
		14:15	Fine	0	0	0	20.9	/	2.5
Pit C	2-8-2021	9:25	Fine	0	0	0	20.9	/	8
		14:25	Fine	0	0	0	20.9	/	8
157 Pit C	2-8-2021	9:45	Fine	0	0	0	20.9	/	7
		14:45	Fine	0	0	0	20.9	/	7
157 Pit B	2-8-2021	9:55	Fine	0	0	0	20.9	/	8.6
		14:55	Fine	0	0	0	20.9	/	8.6
157 Pit A	2-8-2021	10:05	Fine	0	0	0	20.9	/	8.3
		15:05	Fine	0	0	0	20.9	/	8.3

	Name & Designation	Signature	Date
Field Operator:	Tom Ho Kin		2-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)		2-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	2-8-2021	10:15	Fine	0	0	0	20.9	29 / 999	2.8
		15:15	Fine	0	0	0	20.9	31 / 998	2.8
WPR 2	2-8-2021	10:25	Fine	0	0	0	20.9	29 / 999	3.5
		15:25	Fine	0	0	0	20.9	31 / 997	3.5
WPR 3	2-8-2021	10:45	Fine	0	0	0	20.9	29 / 998	2.8
		15:45	Fine	0	0	0	20.9	31 / 996	2.8
Pit A	2-8-2021	10:55	Fine	0	0	0	20.9	30 / 999	5
		15:55	Fine	0	0	0	20.9	31 / 996	5
Pit B	2-8-2021	11:05	Fine	0	0	0	20.9	31 / 997	3.6
		16:05	Fine	0	0	0	20.9	30 / 998	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kwun	<i>[Signature]</i>	2-8-2021
Laboratory Staff:			
Checked by:	Sam Ng	<i>[Signature]</i>	2-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	3-8-2021	0830	Fine	0	0	0	20.9	27 / 997	5.5
	3-8-2021	1330	Fine	0	0	0	20.9	28 / 996	5.5
	3-8-2021	1700	Fine	0	0	0	20.9	27 / 997	5.5
Area B	3-8-2021	0845	Fine	0	0	0	20.9	27 / 997	2.5
	3-8-2021	1545	Fine	0	0	0	20.9	28 / 996	2.5
	3-8-2021	1645	Fine	0	0	0	20.9	27 / 997	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TOM HOI KANG	<i>[Signature]</i>	3-8-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)	<i>[Signature]</i>	3-8-2021

**Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37**



Contract no. 13/WSD/16
Mainlaying in Tseung Kwan O
Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC B+SB	3-8-2021	8:55	Fine	0	0	0	20.9	21 / 997	2.5
		13:55	Fine	0	0	0	20.9	28 / 997	2.5
CH.FC A+B+C	3-8-2021	9:00	Fine	0	0	0	20.9	28 / 996	2.5
		14:00	Fine	0	0	0	20.9	21 / 997	2.5
Pt.D	3-8-2021	9:15	Fine	0	0	0	20.9	26 / 995	2.5
		9:19:15	Fine	0	0	0	20.9	27 / 996	2.5
Pt.C	3-8-2021	9:25	Fine	0	0	0	20.9	27 / 996	8
		14:25	Fine	0	0	0	20.9	28 / 997	8
137 Pt.C	3-8-2021	9:45	Fine	0	0	0	20.9	28 / 995	7
		14:45	Fine	0	0	0	20.9	28 / 996	7
137 Pt.B	3-8-2021	9:55	Fine	0	0	0	20.9	21 / 996	8.6
		14:55	Fine	0	0	0	20.9	28 / 997	8.6
137 Pt.A	3-8-2021	10:05	Fine	0	0	0	20.9	21 / 995	8.3
		17:05	Fine	0	0	0	20.9	21 / 995	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG	<i>TAM</i>	3-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>Sam Ng</i>	3-8-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	3-8-2021	10:15	Fine	0	0	0	20.9	27 / 997	2.8
		15:15	Fine	0	0	0	20.9	28 / 996	2.8
WPR 2	3-8-2021	10:25	Fine	0	0	0	20.9	27 / 996	3.5
		15:25	Fine	0	6	0	20.9	28 / 998	3.5
WPR 3	3-8-2021	10:45	Fine	0	0	0	20.9	27 / 997	2.8
		15:45	Fine	0	0	0	20.9	28 / 997	2.8
Pt. A	3-8-2021	10:55	Fine	0	0	0	20.9	28 / 996	5
		15:55	Fine	0	0	0	20.9	28 / 996	5
Pt. B	3-8-2021	11:05	Fine	0	0	0	20.9	28 / 998	3.6
		16:05	Fine	0	0	0	20.9	27 / 997	3.6

Field Operator: Name & Designation Signature Date
 TAM HUI KEUNG  3-8-2021

Laboratory Staff:

Checked by: Name & Designation Signature Date
 Sam Ng (T.A.)  3-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	4-8-2021	0830	Fine	0	0	0	20.9	24 / 996	5.5
	4-8-2021	1330	Fine	0	0	0	20.9	31 / 994	5.5
	4-8-2021	1700	Fine	0	0	0	20.9	28 / 993	5.5
Area B	4-8-2021	0845	Fine	0	0	0	20.9	29 / 996	2.5
	4-8-2021	1345	Fine	0	0	0	20.9	31 / 994	2.5
	4-8-2021	1645	Fine	0	0	0	20.9	28 / 993	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>Tam</i>	4-8-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)	<i>CF</i>	4-8-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8F8	4-8-2021	8:55	Fine	0	0	0	20.9	30 / 994	2.5
CH.FC 0H4	4-8-2021	13:55	Fine	0	0	0	20.9	31 / 995	2.5
		9:00	Fine	0	0	0	20.9	28 / 996	2.5
PFD	4-8-2021	14:00	Fine	0	0	0	20.9	31 / 995	2.5
		9:15	Fine	0	0	0	20.9	29 / 995	2.5
PFC	4-8-2021	14:15	Fine	0	0	0	20.9	31 / 994	2.5
		9:25	Fine	0	0	0	20.9	30 / 994	8
137 PFC	4-8-2021	14:25	Fine	0	0	0	20.9	31 / 995	8
		9:45	Fine	0	0	0	20.9	30 / 995	7
137 PFC B	4-8-2021	14:45	Fine	0	0	0	20.9	31 / 994	7
		9:55	Fine	0	0	0	20.9	30 / 994	8.6
137 PFC A	4-8-2021	14:55	Fine	0	0	0	20.9	30 / 995	8.6
		10:05	Fine	0	0	0	20.9	30 / 996	8.3
		15:05	Fine	0	0	0	20.9	30 / 995	8.3

Field Operator: Name & Designation Signature Date
 TAM HOI KEUNG 4-8-2021

Laboratory Staff:

Checked by: Name & Designation Signature Date
 Sam Ng (TR) 4-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
NPR 1	4-8-2021	10:15	Fine	0	0	0	20.9	29 / 996	2.8
		15:15	Fine	0	0	0	20.9	31 / 995	2.8
NPR 2	4-8-2021	10:25	Fine	0	0	0	20.9	29 / 996	3.5
		15:25	Fine	0	0	0	20.9	31 / 995	3.5
NPR 3	4-8-2021	10:45	Fine	0	0	0	20.9	29 / 995	2.8
		15:45	Fine	0	0	0	20.9	31 / 996	2.8
PH A	4-8-2021	10:55	Fine	0	0	0	20.9	30 / 994	5
		15:55	Fine	0	0	0	20.9	31 / 995	5
PH B	4-8-2021	11:05	Fine	0	0	0	20.9	31 / 994	3.6
		16:05	Fine	0	0	0	20.9	30 / 995	3.6

Field Operator: Name & Designation TAM Hoi Kwan, Signature [Signature], Date 4-8-2021

Laboratory Staff:

Checked by: Name & Designation Sam Ho (T.A.), Signature [Signature], Date 4-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	5-8-2021	0830	Fine	0	0	0	20.9	27/996	5.5
	5-8-2021	1330	Fine	0	0	0	20.9	28/995	5.5
	5-8-2021	1700	Fine	0	0	0	20.9	27/995	5.5
Area B	5-8-2021	0845	Fine	0	0	0	20.9	27/996	2.5
	5-8-2021	1345	Fine	0	0	0	20.9	28/995	2.5
	5-8-2021	1645	Fine	0	0	0	20.9	27/995	2.5
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								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>TAM</i>	5-8-2021
Laboratory Staff:			
Checked by:	C. Fok (Foreman)	<i>CF</i>	5-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (GRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC SH8	5-8-2021	8:55	Fine	0	0	0	20.9	28 / 995	2.5
		10:55	Fine	0	0	0	20.9	28 / 996	2.5
CH.FC OH4	5-8-2021	9:00	Fine	0	0	0	20.9	28 / 996	2.5
		14:00	Fine	0	0	0	20.9	28 / 996	2.5
PRD	5-8-2021	9:15	Fine	0	0	0	20.9	27 / 995	2.5
		14:15	Fine	0	0	0	20.9	27 / 994	2.5
PRC	5-8-2021	9:25	Fine	0	0	0	20.9	28 / 995	8
		14:25	Fine	0	0	0	20.9	27 / 996	8
13T PRC	5-8-2021	9:45	Fine	0	0	0	20.9	28 / 996	7
		14:45	Fine	0	0	0	20.9	27 / 996	7
13T PRB	5-8-2021	9:55	Fine	0	0	0	20.9	27 / 995	8.6
		14:55	Fine	0	0	0	20.9	28 / 994	8.6
13T PCA	5-8-2021	10:05	Fine	0	0	0	20.9	28 / 996	8.3
		15:05	Fine	0	0	0	20.9	28 / 995	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KWAN	<i>[Signature]</i>	5-8-2021
Laboratory Staff:			
Checked by:	Sun Ng (T.O.)	<i>[Signature]</i>	5-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	5-8-2021	10:15	Fine	0	0	0	20.9	27 / 996	2.8
		15:15	Fine	0	0	0	20.9	28 / 995	2.8
WPR 2	5-8-2021	10:25	Fine	0	0	0	20.9	27 / 995	3.5
		15:25	Fine	0	0	0	20.9	28 / 996	3.5
WPR 3	5-8-2021	10:45	Fine	0	0	0	20.9	28 / 996	2.8
		15:45	Fine	0	0	0	20.9	28 / 995	2.8
Pit A	5-8-2021	10:55	Fine	0	0	0	20.9	28 / 995	5
		15:55	Fine	0	0	0	20.9	28 / 996	5
Pit B	5-8-2021	11:05	Fine	0	0	0	20.9	27 / 996	3.6
		16:05	Fine	0	0	0	20.9	28 / 995	5.6

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KAREN	<i>[Signature]</i>	5-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (7A)	<i>[Signature]</i>	5-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	6-8-2021	0838	Fine	0	0	0	20.9	28/995	5.5
	6-8-2021	1936	Fine	0	0	0	20.9	29/997	5.5
	6-8-2021	1733	Fine	0	0	0	20.9	28/996	5.5
Area B	6-8-2021	0848	Fine	0	0	0	20.9	28/998	2.5
	6-8-2021	1348	Fine	0	0	0	20.9	29/997	2.5
	6-8-2021	1648	Fine	0	0	0	20.9	28/996	2.5

Field Operator: Name & Designation TAM HOI KEUNG Signature Date 6-8-2021

Laboratory Staff:

Checked by: C. F. Chan (Foreman) Signature Date 6-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE II)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 8+38	6-8-2021	8:55	Fine	0	0	0	20.9	28 / 996	2.5
CHFC 2+64	6-8-2021	13:55	Fine	0	0	0	20.9	29 / 997	2.5
		9:00	Fine	0	0	0	20.9	27 / 996	2.5
PHE D	6-8-2021	14:00	Fine	0	0	0	20.9	29 / 996	2.5
		9:15	Fine	0	0	0	20.9	28 / 997	2.5
PHE E	6-8-2021	14:15	Fine	0	0	0	20.9	29 / 997	2.5
		9:25	Fine	0	0	0	20.9	27 / 996	8
137 PHE C	6-8-2021	14:25	Fine	0	0	0	20.9	29 / 997	8
		9:45	Fine	0	0	0	20.9	28 / 996	7
137 PHE B	6-8-2021	14:45	Fine	0	0	0	20.9	28 / 997	7
		9:55	Fine	0	0	0	20.9	28 / 997	8.6
137 PHE A	6-8-2021	14:55	Fine	0	0	0	20.9	29 / 996	8.6
		10:05	Fine	0	0	0	20.9	27 / 996	8.3
		15:05	Fine	0	0	0	20.9	29 / 996	8.3

	Name & Designation	Signature	Date
Field Operator:	Zora Mei Kwan O	<i>[Signature]</i>	6-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (TA)	<i>[Signature]</i>	6-8-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	6-8-2021	10:15	Fine	0	0	0	20.9	29 / 997	2.8
		15:15	Fine	0	0	0	20.9	29 / 998	2.8
WPR 2	6-8-2021	10:25	Fine	0	0	0	20.9	29 / 997	3.5
		15:25	Fine	0	0	0	20.9	29 / 997	3.5
WPR 3	6-8-2021	10:45	Fine	0	0	0	20.9	28 / 998	2.8
		15:45	Fine	0	0	0	20.9	28 / 997	2.8
PTE A	6-8-2021	10:55	Fine	0	0	0	20.9	29 / 998	5
		15:55	Fine	0	0	0	20.9	29 / 998	5
PTE B	6-8-2021	11:05	Fine	0	0	0	20.9	28 / 997	3.6
		16:05	Fine	0	0	0	20.9	28 / 996	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TANA HOI KEUNG	<i>Tana Hoi Keung</i>	6-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (SA)	<i>Sam Ng</i>	6-8-2021

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Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean -Concentric Joint Venture
Landfill Gas Monitoring --Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE II)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	7-8-2021	0830	Fine	0	0	0	20.9	28 / 100	2.5
	7-8-2021	1330	Fine	0	0	0	20.9	29 / 100	2.5
	7-8-2021	1700	Fine	0	0	0	20.9	29 / 100	2.5
Area B	7-8-2021	0845	Fine	0	0	0	20.9	28 / 100	2.5
	7-8-2021	1345	Fine	0	0	0	20.9	29 / 100	2.5
	7-8-2021	1645	Fine	0	0	0	20.9	29 / 100	2.5
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								/	
								/	
								/	
								/	
								/	
								/	

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HUI KUNG	<i>[Signature]</i>	7-8-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)	<i>[Signature]</i>	7-8-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dares calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 8158	7-8-2021	8:55	Fine	0	0	0	20.9	28 / 1005	2.5
		13:55	Fine	0	0	0	20.9	27 / 1001	2.5
CHFC 0164	7-8-2021	9:00	Fine	0	0	0	20.9	28 / 1001	2.5
		14:00	Fine	0	0	0	20.9	27 / 1001	2.5
P1C D	7-8-2021	9:15	Fine	0	0	0	20.9	28 / 1000	2.5
		14:15	Fine	0	0	0	20.9	27 / 1000	2.5
P1C C	7-8-2021	9:25	Fine	0	0	0	20.9	28 / 1001	8
		14:25	Fine	0	0	0	20.9	27 / 1000	8
137 P1C	7-8-2021	9:45	Fine	0	0	0	20.9	28 / 1001	7
		14:45	Fine	0	0	0	20.9	27 / 1001	7
137 P1C B	7-8-2021	9:55	Fine	0	0	0	20.9	28 / 1001	8.6
		14:55	Fine	0	0	0	20.9	27 / 1001	8.6
137 P1C A	7-8-2021	10:05	Fine	0	0	0	20.9	27 / 1000	8.3
		15:05	Fine	0	0	0	20.9	27 / 1002	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Mei Kwan	<i>[Signature]</i>	7-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A)	<i>[Signature]</i>	7-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	7-8-2021	10:15	Fine	0	0	0	20.9	27 / 1002	2.8
		15:15	Fine	0	0	0	20.9	28 / 1001	2.8
WPR 2	7-8-2021	10:25	Fine	0	0	0	20.9	29 / 1001	3.5
		15:25	Fine	0	0	0	20.9	30 / 1001	3.5
WPR 3	7-8-2021	10:45	Fine	0	0	0	20.9	30 / 1000	2.8
		15:05	Fine	0	0	0	20.9	30 / 1001	2.8
P.A.	7-8-2021	10:55	Fine	0	0	0	20.9	29 / 1001	5
		15:55	Fine	0	0	0	20.9	30 / 1002	5
P.B.	7-8-2021	11:05	Fine	0	0	0	20.9	30 / 1001	3.6
		16:05	Fine	0	0	0	20.9	29 / 1000	3.6

	Name & Designation	Signature	Date
Field Operator:	TIM HOI KEUNG	<i>[Signature]</i>	7-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>[Signature]</i>	7-8-2021

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Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	9-8-2021	0830	Fine	0	0	0	20.9	29 / 1006	5.5
	9-8-2021	1330	Fine	0	0	0	20.9	30 / 1004	5.5
	9-8-2021	1700	Fine	0	0	0	20.9	30 / 1004	5.5
Area B	9-8-2021	0845	Fine	0	0	0	20.9	29 / 1006	2.5
	9-8-2021	1345	Fine	0	0	0	20.9	30 / 1004	2.5
	9-8-2021	1645	Fine	0	0	0	20.9	30 / 1004	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	AM HOI KEUNG	<i>[Signature]</i>	9-8-2021
Laboratory Staff:			
Checked by:	Y. T. CHONG (Site superintendent)	<i>[Signature]</i>	9-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 3138	9-8-2021	8:55	Fine	0	0	0	20.9	29 / 1005	2.5
CH.FC 0164	9-8-2021	13:55	Fine	0	0	0	20.9	30 / 1006	2.5
		9:00	Fine	0	0	0	20.9	29 / 1005	2.5
Pte D	9-8-2021	14:00	Fine	0	0	0	20.9	30 / 1006	2.5
		9:15	Fine	0	0	0	20.9	30 / 1004	2.5
Pte C	9-8-2021	14:15	Fine	0	0	0	20.9	30 / 1006	2.5
		9:25	Fine	0	0	0	20.9	29 / 1004	8
137 Pte C	9-8-2021	14:25	Fine	0	0	0	20.9	29 / 1005	8
		9:45	Fine	0	0	0	20.9	20 / 1005	7
137 Pte B	9-8-2021	14:45	Fine	0	0	0	20.9	30 / 1006	7
		9:55	Fine	0	0	0	20.9	30 / 1004	8.6
137 Pte A	9-8-2021	14:55	Fine	0	0	0	20.9	30 / 1005	8.6
		10:05	Fine	0	0	0	20.9	27 / 1005	8.3
		15:05	Fine	0	0	0	20.9	30 / 1005	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KOUNG	<i>Tam</i>	9-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>Sam Ng</i>	9-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	9-8-2021	10:15	Fine	0	0	0	20.9	30 / 1005	2.8
		15:15	Fine	0	0	0	20.9	30 / 1005	2.8
WPR 2	9-8-2021	10:25	Fine	0	0	0	20.9	30 / 1004	3.5
		15:25	Fine	0	0	0	20.9	30 / 1006	3.5
WPR 3	9-8-2021	10:45	Fine	0	0	0	20.9	30 / 1006	2.8
		15:45	Fine	0	0	0	20.9	30 / 1004	2.8
PFA	9-8-2021	10:55	Fine	0	0	0	20.9	30 / 1004	5
		15:55	Fine	0	0	0	20.9	30 / 1005	5
PFB	9-8-2021	11:05	Fine	0	0	0	20.9	30 / 1005	3.6
		16:05	Fine	0	0	0	20.9	29 / 1004	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM HUI KEUNG	<i>Tam</i>	9-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>Sam Ng</i>	9-8-2021

Contract No. 13/WSD/16
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE II)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	10-8-2021	0830	Fine	0	0	0	20.9	29 / 1006	5.5
	10-8-2021	1330	Fine	0	0	0	20.9	29 / 1005	5.5
	10-8-2021	1700	Fine	0	0	0	20.9	30 / 1005	5.5
Area B	10-8-2021	0845	Fine	0	0	0	20.9	29 / 1006	2.5
	10-8-2021	1345	Fine	0	0	0	20.9	29 / 1005	2.5
	10-8-2021	1645	Fine	0	0	0	20.9	30 / 1005	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Edwin Hui Kinshing	[Signature]	10-8-2021
Laboratory Staff:			
Checked by:	Y. T. CHONG (site superintendent)	[Signature]	10-8-2021

Contract No. 13/WSD/16
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Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (GRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8+38	10-8-2021	8:55	Fine	0	0	0	20.9	29 / 1005	2.5
		13:55	Fine	0	0	0	20.9	29 / 1005	2.5
CH.FC 0464	10-8-2021	9:00	Fine	0	0	0	20.9	29 / 1005	2.5
		14:00	Fine	0	0	0	20.9	29 / 1006	2.5
P&D	10-8-2021	9:15	Fine	0	0	0	20.9	30 / 1006	2.5
		13:15	Fine	0	0	0	20.9	29 / 1007	2.5
P&C	10-8-2021	9:25	Fine	0	0	0	20.9	30 / 1006	8
		14:25	Fine	0	0	0	20.9	30 / 1006	8
1ST P&C	10-8-2021	9:45	Fine	0	0	0	20.9	31 / 1005	7
		14:45	Fine	0	0	0	20.9	29 / 1005	7
1ST P&B	10-8-2021	9:55	Fine	0	0	0	20.9	29 / 1005	8.6
		14:55	Fine	0	0	0	20.9	30 / 1006	8.6
1ST P&A	10-8-2021	10:05	Fine	0	0	0	20.9	30 / 1006	8.3
		15:05	Fine	0	0	0	20.9	27 / 1005	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>TAM</i>	10-8-2021
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	<i>Sam Ng</i>	10-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	10-8-2021	10:15	Fine	0	0	0	20.9	30 / 1006	2.8
		15:15	Fine	0	0	0	20.9	30 / 1005	2.8
WPR 2	10-8-2021	10:15	Fine	0	0	0	20.9	30 / 1006	3.5
		15:25	Fine	0	0	0	20.9	30 / 1004	3.5
WPR 3	10-8-2021	10:45	Fine	0	0	0	20.9	20 / 1005	2.8
		15:45	Fine	0	0	0	20.9	30 / 1004	2.8
PFA	10-8-2021	10:55	Fine	0	0	0	20.9	30 / 1005	5
		15:55	Fine	0	0	0	20.9	30 / 1005	5
PFB	10-8-2021	11:05	Fine	0	0	0	20.9	30 / 1006	3.6
		16:05	Fine	0	0	0	20.9	29 / 1006	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG	<i>[Signature]</i>	10-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (TA)	<i>[Signature]</i>	10-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	11-8-2021	0830	Fine	0	0	0	20.9	28 / 1014	5.5
	11-8-2021	1330	Fine	0	0	0	20.9	30 / 1008	5.5
	11-8-2021	1700	Fine	0	0	0	20.9	31 / 1006	5.5
Area B	11-8-2021	0845	Fine	0	0	0	20.9	28 / 1004	2.5
	11-8-2021	1345	Fine	0	0	0	20.9	30 / 1008	2.5
	11-8-2021	1645	Fine	0	0	0	20.9	31 / 1006	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	YAM HOI KUN	[Signature]	11-8-2021
Laboratory Staff:			
Checked by:	Y. T. CHONG (Site Superintendent)	[Signature]	11-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8432	11-8-2021	8:55	Fine	0	0	0	20.9	28 / 1008	2.5
CH.FC 0764	11-8-2021	13:55	Fine	0	0	0	20.9	29 / 1007	2.5
		9:00	Fine	0	0	0	20.9	28 / 1008	2.5
PFD	11-8-2021	14:00	Fine	0	0	0	20.9	28 / 1008	2.5
		9:15	Fine	0	0	0	20.9	28 / 1006	2.5
PFC	11-8-2021	14:15	Fine	0	0	0	20.9	29 / 1006	2.5
		9:25	Fine	0	0	0	20.9	28 / 1008	8
137 PFC	11-8-2021	11:25	Fine	0	0	0	20.9	28 / 1007	8
		9:45	Fine	0	0	0	20.9	28 / 1007	7
137 PFCB	11-8-2021	14:45	Fine	0	0	0	20.9	29 / 1007	7
		9:55	Fine	0	0	0	20.9	28 / 1008	8.6
137 PFC A	11-8-2021	14:55	Fine	0	0	0	20.9	29 / 1009	8.6
		10:05	Fine	0	0	0	20.9	28 / 1009	8.3
		15:05	Fine	0	0	0	20.9	27 / 1008	8.3

	Name & Designation	Signature	Date
Field Operator:	Tom Ho Kin	<i>[Signature]</i>	11-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A)	<i>[Signature]</i>	11-8-2021

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Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring --Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	11-8-2021	10:15	Fine	0	0	0	20.9	29 / 100°	2.8
		15:15	Fine	0	0	0	20.9	30 / 100°	2.8
WPR 2	11-8-2021	10:25	Fine	0	0	0	20.9	29 / 100°	3.5
		15:25	Fine	0	0	0	20.9	30 / 100°	3.5
WPR 3	11-8-2021	10:45	Fine	0	0	0	20.9	29 / 100°	2.8
		15:45	Fine	0	0	0	20.9	31 / 100°	2.8
Pt. A	11-8-2021	10:55	Fine	0	0	0	20.9	30 / 100°	5
		15:55	Fine	0	0	0	20.9	30 / 100°	5
Pt. B	11-8-2021	11:05	Fine	0	0	0	20.9	30 / 100°	3.6
		16:05	Fine	0	0	0	20.9	29 / 100°	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG		11-8-2021
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)		11-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	12-8-2021	0830	Fine	0	0	0	20.9	29 / 1010	2.5
	12-8-2021	1330	Fine	0	0	0	20.9	31 / 1008	2.5
	12-8-2021	1700	Fine	0	0	0	20.9	29 / 1007	2.5
Area B	12-8-2021	0845	Fine	0	0	0	20.9	29 / 1010	2.5
	12-8-2021	1345	Fine	0	0	0	20.9	31 / 1008	2.5
	12-8-2021	1645	Fine	0	0	0	20.9	29 / 1007	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	JAM Hoi KEUNG	<i>JAM Hoi KEUNG</i>	12-8-2021
Laboratory Staff:			
Checked by:	Y. T. CHONG (Site Superintendent)	<i>Y. T. CHONG</i>	12-8-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 0138	12-8-2021	8:35	Fine	0	0	0	20.9	29 / 1009	2.5
		13:55	Fine	0	0	0	20.9	31 / 1009	2.5
OKFC 0164	12-8-2021	9:00	Fine	0	0	0	20.9	29 / 1008	2.5
		14:00	Fine	0	0	0	20.9	31 / 1009	2.5
Pt6D	12-8-2021	9:15	Fine	0	0	0	20.9	29 / 1010	2.5
		14:15	Fine	0	0	0	20.9	31 / 1008	2.5
Pt6C	12-8-2021	9:25	Fine	0	0	0	20.9	29 / 1007	8
		14:25	Fine	0	0	0	20.9	31 / 1009	8
15Pt6C	12-8-2021	9:45	Fine	0	0	0	20.9	30 / 1008	7
		14:45	Fine	0	0	0	20.9	31 / 1010	7
157 Pt6B	12-8-2021	9:55	Fine	0	0	0	20.9	30 / 1009	8.6
		14:55	Fine	0	0	0	20.9	31 / 1010	8.6
157 Pt6A	12-8-2021	10:05	Fine	0	0	0	20.9	30 / 1009	8.3
		15:05	Fine	0	0	0	20.9	31 / 1008	8.3

	Name & Designation	Signature	Date
Field Operator:	JAM HOI KEUNG	<i>[Signature]</i>	12-8-2021
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	<i>[Signature]</i>	12-8-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	12-8-2021	10:15	Fine	0	0	0	20.9	30 / 1009	2.8
		15:15	Fine	0	0	0	20.9	31 / 1010	2.8
WPR 2	12-8-2021	10:25	Fine	0	0	0	20.9	30 / 1008	3.5
		15:25	Fine	0	0	0	20.9	31 / 1008	3.5
WPR 3	12-8-2021	10:45	Fine	0	0	0	20.9	31 / 1010	2.8
		15:45	Fine	0	0	0	20.9	31 / 1007	2.8
Pt A	12-8-2021	10:55	Fine	0	0	0	20.9	30 / 1008	5
		15:55	Fine	0	0	0	20.9	31 / 1009	5
Pt B	12-8-2021	11:05	Fine	0	0	0	20.9	31 / 1007	3.6
		16:05	Fine	0	0	0	20.9	29 / 1010	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HOI KUNG	<i>Tam</i>	12-8-2021
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	<i>Sam Ng.</i>	12-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	13-8-2021	0830	Fine	0	0	0	20.9	29 / 1007	5.5
	13-8-2021	1530	Fine	0	0	0	20.9	28 / 1008	5.5
	13-8-2021	1700	Fine	0	0	0	20.9	28 / 1004	5.5
Area B	13-8-2021	0845	Fine	0	0	0	20.9	29 / 1007	2.5
	13-8-2021	1545	Fine	0	0	0	20.9	28 / 1008	2.5
	13-8-2021	1645	Fine	0	0	0	20.9	28 / 1004	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	JAM HOI KUN	<i>Jam Hoi Kun</i>	13-8-2021
Laboratory Staff:			
Checked by:	Y. T. (KONG) (Site superintendent)	<i>Y. T. (KONG)</i>	13-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8138	15-8-2021	2:55	Fine	0	0	0	20.9	29 / 1006	2.5
		13:55	Fine	0	0	0	20.9	28 / 1007	2.5
CH.FC 0+44	13-8-2021	9:00	Fine	0	0	0	20.9	29 / 1005	2.5
		14:00	Fine	0	0	0	20.9	28 / 1006	2.5
Pit D	13-8-2021	9:15	Fine	0	0	0	20.9	29 / 1004	2.5
		14:15	Fine	0	0	0	20.9	28 / 1007	2.5
Pit C	13-8-2021	9:25	Fine	0	0	0	20.9	29 / 1005	8
		14:25	Fine	0	0	0	20.9	29 / 1006	8
137 Pit C	13-8-2021	9:45	Fine	0	0	0	20.9	28 / 1007	?
		14:45	Fine	0	0	0	20.9	29 / 1006	7
137 Pit B	13-8-2021	9:55	Fine	0	0	0	20.9	29 / 1007	8.6
		14:55	Fine	0	0	0	20.9	28 / 1004	8.6
137 Pit A	13-8-2021	10:05	Fine	0	0	0	20.9	28 / 1005	8.3
		15:05	Fine	0	0	0	20.9	29 / 1005	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi KEUNG	<i>TAM</i>	15-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.T.)	<i>Sam Ng</i>	15-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	13-8-2021	10:15	Fine	0	0	0	20.9	29 / 1006	2.8
		15:15	Fine	0	0	0	20.9	30 / 1005	2.8
WPR 2	13-8-2021	10:25	Fine	0	0	0	20.9	30 / 1007	3.5
		15:25	Fine	0	0	0	20.9	30 / 1007	3.5
WPR 3	13-8-2021	10:45	Fine	0	0	0	20.9	30 / 1005	2.8
		15:45	Fine	0	0	0	20.9	29 / 1006	2.8
Pit A	13-8-2021	10:55	Fine	0	0	0	20.9	30 / 1005	5
		15:55	Fine	0	0	0	20.9	29 / 1006	5
Pit B	13-8-2021	11:05	Fine	0	0	0	20.9	31 / 1006	3.6
		16:05	Fine	0	0	0	20.9	29 / 1007	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG	<i>Tam</i>	13-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.A)	<i>Sam Ng</i>	13-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	14-8-2021	0830	Fine	0	0	0	20.9	26 / 1006	5.5
	14-8-2021	1330	Fine	0	0	0	20.9	27 / 1006	5.5
	14-8-2021	1700	Fine	0	0	0	20.9	27 / 1005	5.5
Area B	14-8-2021	0845	Fine	0	0	0	20.9	26 / 1006	2.5
	14-8-2021	1345	Fine	0	0	0	20.9	27 / 1006	2.5
	14-8-2021	1645	Fine	0	0	0	20.9	27 / 1005	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HOI KUN	<i>Tam</i>	14-8-2021
Laboratory Staff:			
Checked by:	Y. T. HONG (site superintendent)	<i>Y. T. Hong</i>	14-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE II)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 8738	14-8-2021	8:55	Fine	0	0	0	20.9	27 / 1006	2.5
		13:55	Fine	0	0	0	20.9	26 / 1006	2.5
CHFC 0464	14-8-2021	9:00	Fine	0	0	0	20.9	27 / 1005	2.5
		14:00	Fine	0	0	0	20.9	26 / 1006	2.5
PFA	14-8-2021	9:15	Fine	0	0	0	20.9	27 / 1006	2.5
		14:15	Fine	0	0	0	20.9	26 / 1005	2.5
PFC	14-8-2021	9:25	Fine	0	0	0	20.9	27 / 1006	8
		14:25	Fine	0	0	0	20.9	26 / 1006	8
137 PFC	14-8-2021	9:45	Fine	0	0	0	20.9	27 / 1005	7
		14:45	Fine	0	0	0	20.9	26 / 1006	7
137 PFB	14-8-2021	9:55	Fine	0	0	0	20.9	27 / 1005	8.6
		14:55	Fine	0	0	0	20.9	27 / 1005	8.6
137 PFA	14-8-2021	10:05	Fine	0	0	0	20.9	26 / 1006	8.3
		15:05	Fine	0	0	0	20.9	27 / 1005	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>TAM</i>	14-8-2021
Laboratory Staff:			
Checked by:	Sam Ng (T.O.)	<i>Ng</i>	14-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	14-8-2021	10:15	Fine	0	0	0	20.9	27 / 1006	2.8
		15:15	Fine	0	0	0	20.9	27 / 1006	2.8
WPR 2	14-8-2021	10:25	Fine	0	0	0	20.9	28 / 1007	2.5
		15:25	Fine	0	0	0	20.9	27 / 1007	3.5
WPR 3	14-8-2021	10:45	Fine	0	0	0	20.9	28 / 1005	2.9
		15:45	Fine	0	0	0	20.9	27 / 1006	2.9
PTE A	14-8-2021	10:55	Fine	0	0	0	20.9	27 / 1006	5
		15:55	Fine	0	0	0	20.9	28 / 1007	5
PTE B	14-8-2021	11:05	Fine	0	0	0	20.9	29 / 1007	3.6
		16:05	Fine	0	0	0	20.9	27 / 1006	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hon Kin	<i>TAM</i>	14-8-2021
Laboratory Staff:	Sam Ng (T.A.)	<i>Sam Ng</i>	14-8-2021
Checked by:			

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-25COP (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	16-8-21	0830	Rain	0	0	0	20.9	29/10/3	5.5
		1330	Rain	0	0	0	20.9	31/10/1	5.5
		1700	Rain	0	0	0	20.9	30/10/0	5.5
Area B	16-8-21	0845	Rain	0	0	0	20.9	29/10/3	2.5
		1345	Rain	0	0	0	20.9	32/10/2	2.5
		1645	Rain	0	0	0	20.9	30/10/1	2.5
							/		
							/		
							/		
							/		
							/		
							/		

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kei AB	Tam	16-8-21
Laboratory Staff:			
Checked by:	Y. T. Kwok (site superintendent)	Y. T.	16-8-21

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 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC8728	16-8-21	0855	Rain	0	0	0	20.9	29 / 1013	2.5
CH.FC0464	16-8-21	1355	Rain	0	0	0	20.9	31 / 1012	2.5
		1400	Rain	0	0	0	20.9	29 / 1013	2.5
P1D	16-8-21	1400	Rain	0	0	0	20.9	31 / 1011	2.5
		0915	Rain	0	0	0	20.9	29 / 1013	2.5
P1C	16-8-21	1415	Rain	0	0	0	20.9	31 / 1011	2.5
		0925	Rain	0	0	0	20.9	29 / 1013	8
B7F+C	16-8-21	1425	Rain	0	0	0	20.9	31 / 1012	8
		0945	Rain	0	0	0	20.9	29 / 1013	7
137P+B	16-8-21	1445	Rain	0	0	0	20.9	31 / 1011	7
		0955	Rain	0	0	0	20.9	29 / 1013	8.6
137P+A	16-8-21	1455	Rain	0	0	0	20.9	31 / 1012	8.6
		1505	Rain	0	0	0	20.9	29 / 1013	8.3

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kwan	<i>TAM</i>	16-8-21
Laboratory Staff:			
Checked by:	Sam Ng (TA)	<i>SN</i>	16-8-2021

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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	16-8-21	1015	Rain	0	0	0	20.9	30 / 1013	2.8
		1515	Rain	0	0	0	20.9	31 / 1011	2.8
WPR2	16-8-21	1025	Rain	0	0	0	20.9	30 / 1013	3.5
		1525	Rain	0	0	0	20.9	31 / 1011	3.5
WPR3	16-8-21	1045	Rain	0	0	0	20.9	30 / 1013	2.8
		1545	Rain	0	0	0	20.9	31 / 1011	2.8
PFA	16-8-21	1055	Rain	0	0	0	20.9	30 / 1013	5
		1555	Rain	0	0	0	20.9	31 / 1011	5
PFB	16-8-21	1105	Rain	0	0	0	20.9	30 / 1013	3.6
		1605	Rain	0	0	0	20.9	31 / 1011	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HOI KUNGA	Tam	16-8-21
Laboratory Staff:			
Checked by:	Sam Ng. (TAD)	[Signature]	16-8-2021

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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	17-8-21	0830	Fine	0	0	0	20.9	29 / 1011	5.5
		1330	Fine	0	0	0	20.9	33 / 1010	5.5
		1700	Fine	0	0	0	20.9	21 / 1008	5.5
Area B	17-8-21	0845	Fine	0	0	0	20.9	20 / 1011	2.5
		1345	Fine	0	0	0	20.9	33 / 1009	2.5
		1645	Fine	0	0	0	20.9	31 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KUAN	<i>Tam</i>	17-8-21
Laboratory Staff:			
Checked by:	Y. T. CHONG (Site Superintendent)	<i>Y.T. Chong</i>	17-8-21

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 2708	17-8-21	0855	Fine	0	0	0	20.9	31 / 1011	2.5
		1355	Fine	0	0	0	20.9	33 / 1010	2.6
CH.FC 0764	17-8-21	1900	Fine	0	0	0	20.9	21 / 1011	2.5
		1400	Fine	0	0	0	20.9	33 / 1009	2.5
Pit D	17-8-21	0915	Fine	0	0	0	20.9	31 / 1011	2.5
		1415	Fine	0	0	0	20.9	33 / 1010	2.5
Pit C	17-8-21	0925	Fine	0	0	0	20.9	31 / 1011	8
		1425	Fine	0	0	0	20.9	33 / 1010	8
137Pit C	17-8-21	0945	Fine	0	0	0	20.9	31 / 1011	7
		1445	Fine	0	0	0	20.9	33 / 1010	7
137Pit B	17-8-21	0955	Fine	0	0	0	20.9	31 / 1011	8.6
		1455	Fine	0	0	0	20.9	33 / 1009	8.6
137Pit A	17-8-21	1005	Fine	0	0	0	20.9	31 / 1011	8.3
		1505	Fine	0	0	0	20.9	33 / 1009	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KAM'S	<i>Tam</i>	17-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>Sam Ng</i>	17-8-21

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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Landfill Gas Monitoring --Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	17-8-21	1015	Fine	0	0	0	20.9	31 / 101	2.8
		1515	Fine	0	0	0	20.9	33 / 1010	2.8
WPR2	17-8-21	1025	Fine	0	0	0	20.9	31 / 1011	3.5
		1525	Fine	0	0	0	20.9	33 / 1009	3.5
WPR3	17-8-21	1045	Fine	0	0	0	20.9	31 / 1011	2.8
		1345	Fine	0	0	0	20.9	33 / 1010	2.8
Pit A	17-8-21	1055	Fine	0	0	0	20.9	31 / 1011	5
		1555	Fine	0	0	0	20.9	33 / 1010	5
Pit B	17-8-21	1105	Fine	0	0	0	20.9	31 / 1011	3.6
		1605	Fine	0	0	0	20.9	33 / 1009	3.6
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KWING	Tam	17-8-21
Laboratory Staff:			
Checked by:	Sam Ng (E.A.)	[Signature]	17-8-2021

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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Dcpth (m)
Area A	18-8-21	0830	Fine	0	0	0	20.9	30 / 1007	5.5
		1330	Fine	0	0	0	20.9	33 / 1007	5.5
		1700	Fine	0	0	0	20.9	31 / 1007	5.5
Area B	18-8-21	0845	Fine	0	0	0	20.9	20 / 1007	2.5
		1345	Fine	0	0	0	20.9	32 / 1007	2.5
		1645	Fine	0	0	0	20.9	31 / 1006	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Keung	Tam	18-8-21
Laboratory Staff:			
Checked by:	Y. T. CHONG (Site superintendent)	T	18-8-21

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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH. FC 8f28	18-8-21	0855	Fine	0	0	0	20.9	30 / 1009	2.5
		1355	Fine	0	0	0	20.9	31 / 1001	2.5
CH. FC 0+64	18-8-21	0900	Fine	0	0	0	20.9	30 / 1009	2.5
		1600	Fine	0	0	0	20.9	31 / 1007	2.5
P+D	18-8-21	0915	Fine	0	0	0	20.9	30 / 1009	2.5
		1415	Fine	0	0	0	20.9	31 / 1007	2.5
P+C	18-8-21	0925	Fine	0	0	0	20.9	30 / 1009	8
		1425	Fine	0	0	0	20.9	31 / 1007	8
137P+C	18-8-21	0945	Fine	0	0	0	20.9	30 / 1009	7
		1445	Fine	0	0	0	20.9	31 / 1007	7
137P+B	18-8-21	0955	Fine	0	0	0	20.9	30 / 1009	8.6
		1455	Fine	0	0	0	20.9	31 / 1007	8.6
137P+A	18-8-21	1005	Fine	0	0	0	20.9	30 / 1009	8.3
		1505	Fine	0	0	0	20.9	31 / 1007	8.3

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi KENNETH	<i>[Signature]</i>	18-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>[Signature]</i>	18-8-21

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Dcpth (m)
WPR1	18-8-21	1015	Fine	0	0	0	20.9	30 / 1008	2.8
		1315	Fine	0	0	0	20.9	31 / 1007	2.8
WPR2	18-8-21	1025	Fine	0	0	0	20.9	30 / 1008	3.5
		1325	Fine	0	0	0	20.9	31 / 1007	3.5
WPR3	18-8-21	1045	Fine	0	0	0	20.9	30 / 1008	2.8
		1345	Fine	0	0	0	20.9	31 / 1007	2.8
Pit A	18-8-21	1055	Fine	0	0	0	20.9	30 / 1008	5
		1505	Fine	0	0	0	20.9	31 / 1007	5
Pit B	18-8-21	1105	Fine	0	0	0	20.9	30 / 1008	3.6
		1605	Fine	0	0	0	20.9	31 / 1007	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kwai	Tam	18-8-21
Laboratory Staff:			
Checked by:	Sam Ng (IA)	[Signature]	18-8-2021

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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	19-8-21	0830	Rain	0	0	0	20.9	30 / 1007	5.5
		1330	Rain	0	0	0	20.9	32 / 1007	5.5
		1700	Rain	0	0	0	20.9	30 / 1006	5.5
Area B	19-8-21	0845	Rain	0	0	0	20.9	29 / 1009	2.5
		1345	Rain	0	0	0	20.9	32 / 1008	2.5
		1645	Rain	0	0	0	20.9	30 / 1008	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HOI KUNG	Tam	19-8-21
Laboratory Staff:			
Checked by:	Y. T. ANON (site superintendent)	T	19-8-21

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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC0138	19-8-21	0855	Rain	0	0	0	20.9	29 / 100.9	2.5
		1355	Rain	0	0	0	20.9	31 / 100.7	2.5
CHFC0164	19-8-21	0900	Rain	0	0	0	20.9	29 / 100.9	2.5
		1400	Rain	0	0	0	20.9	31 / 100.8	2.5
P+D	19-8-21	0915	Rain	0	0	0	20.9	29 / 100.9	2.5
		1415	Rain	0	0	0	20.9	31 / 100.8	2.5
P+C	19-8-21	0925	Rain	0	0	0	20.9	29 / 100.8	8
		1425	Rain	0	0	0	20.9	31 / 100.8	8
137P+C	19-8-21	0945	Rain	0	0	0	20.9	29 / 100.9	7
		1445	Rain	0	0	0	20.9	31 / 100.8	7
137P+B	19-8-21	0955	Rain	0	0	0	20.9	29 / 100.9	8.6
		1455	Rain	0	0	0	20.9	31 / 100.7	8.6
137P+A	19-8-21	1005	Rain	0	0	0	20.9	29 / 100.9	8.3
		1505	Rain	0	0	0	20.9	31 / 100.8	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	TAM	19-8-21
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	[Signature]	19-8-21

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Dcpth (m)
WPR1	19-8-21	1015	Rain	0	0	0	20.9	30 / 1009	2.7
WPR2	19-8-21	1515	Rain	0	0	0	20.9	31 / 1008	2.8
		1025	Rain	0	0	0	20.9	20 / 1009	3.5
WPR3	19-8-21	1525	Rain	0	0	0	20.9	31 / 1007	3.5
		1045	Rain	0	0	0	20.9	20 / 1009	2.8
Pit A	19-8-21	1545	Rain	0	0	0	20.9	31 / 1007	2.8
		1055	Rain	0	0	0	20.9	30 / 1009	5
Pit B	19-8-21	1555	Rain	0	0	0	20.9	31 / 1007	5
		1105	Rain	0	0	0	20.9	20 / 1009	3.6
		1605	Rain	0	0	0	20.9	31 / 1007	3.6

	Name & Designation	Signature	Date
Field Operator:	ZAM Hoi KEUNG	<i>[Signature]</i>	19-8-21
Laboratory Staff:			
Checked by:	Sam Ho (ZAD)	<i>[Signature]</i>	19-8-2021

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	20-8-21	0830	Fine	0	0	0	20.9	30 / 1010	5.5
		1330	Fine	0	0	0	20.9	33 / 1008	5.5
		1700	Fine	0	0	0	20.9	31 / 1007	5.5
Area B	20-8-21	0845	Fine	0	0	0	20.9	30 / 1011	2.5
		1345	Fine	0	0	0	20.9	33 / 1008	2.5
		1645	Fine	0	0	0	20.9	31 / 1006	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KUAN	Ten.	20-8-21
Laboratory Staff:			
Checked by:	Y. T. CHONG (site superintendent)	T	20-8-21

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Tcmp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC038	20-8-21	0855	Fine	0	0	0	20.9	31 / 1010	2.5
		1355	Fine	0	0	0	20.9	33 / 1008	2.5
CHFC044	20-8-21	0900	Fine	0	0	0	20.9	31 / 1010	2.5
		1400	Fine	0	0	0	20.9	33 / 1008	2.5
P1+D	20-8-21	0915	Fine	0	0	0	20.9	31 / 1010	5
		1415	Fine	0	0	0	20.9	33 / 1008	5
P1+C	20-8-21	0925	Fine	0	0	0	20.9	31 / 1010	8
		1425	Fine	0	0	0	20.9	33 / 1008	8
137P+C	20-8-21	0945	Fine	0	0	0	20.9	31 / 1010	7
		1445	Fine	0	0	0	20.9	33 / 1008	7
137P+B	20-8-21	0955	Fine	0	0	0	20.9	31 / 1010	8.6
		1455	Fine	0	0	0	20.9	33 / 1008	8.6
137P+A	20-8-21	1005	Fine	0	0	0	20.9	31 / 1010	8.3
		1505	Fine	0	0	0	20.9	33 / 1008	8.3

	Name & Designation	Signature	Date
Field Operator:	TARA HOI KENNETH...	<i>[Signature]</i>	20-8-21
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	<i>[Signature]</i>	20-8-21

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Contract no. 13/WSD/16
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 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	20-8-21	1015	Fine	0	0	0	20.9	32 / 1010	2.8
		1515	Fine	0	0	0	20.9	33 / 1009	2.8
WPR2	20-8-21	1025	Fine	0	0	0	20.9	32 / 1010	3.5
		1525	Fine	0	0	0	20.9	33 / 1009	3.5
WPR3	20-8-21	1045	Fine	0	0	0	20.9	32 / 1010	2.8
		1545	Fine	0	0	0	20.9	33 / 1009	2.8
Pit A	20-8-21	1055	Fine	0	0	0	20.9	32 / 1010	5
		1555	Fine	0	0	0	20.9	33 / 1009	5
Pit B	20-8-21	1105	Fine	0	0	0	20.9	32 / 1010	3.6
		1605	Fine	0	0	0	20.9	33 / 1009	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kin	TAM	20-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.R.)	★	20-8-2021

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Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	21-8-21	0830	Fine	0	0	0	20.9	30 / 1009	5.5
		1330	Fine	0	0	0	20.9	33 / 1008	5.5
		1700	Fine	0	0	0	20.9	32 / 1007	5.5
Area B	21-8-21	0845	Fine	0	0	0	20.9	30 / 1009	2.5
		1345	Fine	0	0	0	20.9	33 / 1008	2.5
		1645	Fine	0	0	0	20.9	31 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG	<i>Tam</i>	21-8-21
Laboratory Staff:			21-8-21
Checked by:	Y. T. CHONG (site superintendent)	<i>Y.T. Chong</i>	

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 8B8	21-8-21	0855	Fine	0	0	0	20.9	31 / 1009	2.5
		1355	Fine	0	0	0	20.9	33 / 1009	2.5
CHFC 074	21-8-21	0900	Fine	0	0	0	20.9	31 / 1009	2.5
		1400	Fine	0	0	0	20.9	33 / 1007	2.5
P+D	21-8-21	0915	Fine	0	0	0	20.9	31 / 1009	5
		1415	Fine	0	0	0	20.9	33 / 1009	5
P+C	21-8-21	0925	Fine	0	0	0	20.9	31 / 1009	8
		1425	Fine	0	0	0	20.6	33 / 1008	8
137P+C	21-8-21	0945	Fine	0	0	0	20.9	31 / 1009	7
		1445	Fine	0	0	0	20.9	33 / 1007	7
137P+B	21-8-21	0955	Fine	0	0	0	20.9	31 / 1009	8.6
		1455	Fine	0	0	0	20.9	33 / 1008	8.6
137P+A	21-8-21	1005	Fine	0	0	0	20.9	31 / 1009	8.3
		1505	Fine	0	0	0	20.7	33 / 1007	8.3

	Name & Designation	Signature	Date
Field Operator:	TRM HOI KUAN	<i>[Signature]</i>	21-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>[Signature]</i>	21-8-21

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	21-8-21	1015	Fine	0	0	0	20.9	31 / 1009	2.8
		1515	Fine	0	0	0	20.9	32 / 1008	2.8
WPR2	21-8-21	1025	Fine	0	0	0	20.9	31 / 1008	3.5
		1525	Fine	0	0	0	20.9	32 / 1008	3.5
WPR3	21-8-21	1045	Fine	0	0	0	20.9	31 / 1009	2.8
		1545	Fine	0	0	0	20.9	32 / 1008	2.8
Pit A	21-8-21	1055	Fine	0	0	0	20.9	31 / 1009	5
		1555	Fine	0	0	0	20.9	32 / 1008	5
Pit B	21-8-21	1105	Fine	0	0	0	20.9	31 / 1009	3.6
		1605	Fine	0	0	0	20.9	32 / 1008	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	Tam	21-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	[Signature]	21-8-2021

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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE II)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	23-8-21	0830	Fine	0	0	0	20.9	30 / 1007	5.5
		1330	Fine	0	0	0	20.9	34 / 1006	5.5
		1700	Fine	0	0	0	20.9	32 / 1006	5.5
Area B	23-8-21	0845	Fine	0	0	0	20.9	30 / 1007	2.5
		1345	Fine	0	0	0	20.9	34 / 1006	2.5
		1645	Fine	0	0	0	20.9	32 / 1006	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TOM Hoi Kwan	Tan	23-8-2021
Laboratory Staff:			
Checked by:	Y. F. GING (site superintendent)	T	23-8-21

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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE II)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC8+33	23-8-21	0855	Fine	0	0	0	20.9	31 / 1007	2.5
		1355	Fine	0	0	0	20.9	27 / 1005	2.5
CH.FC0+64	23-8-21	0900	Fine	0	0	0	20.9	31 / 1007	2.5
		1400	Fine	0	0	0	20.9	33 / 1005	2.5
PrtD	23-8-21	0915	Fine	0	0	0	20.9	31 / 1007	5
		1415	Fine	0	0	0	20.9	33 / 1005	5
PrtC	23-8-21	0925	Fine	0	0	0	20.9	31 / 1007	8
		1425	Fine	0	0	0	20.9	33 / 1005	8
137P+C	23-8-21	0945	Fine	0	0	0	20.9	31 / 1007	7
		1445	Fine	0	0	0	20.9	33 / 1005	7
137P+B	23-8-21	0955	Fine	0	0	0	20.9	31 / 1007	8.6
		1455	Fine	0	0	0	20.9	33 / 1005	8.6
137P+A	23-8-21	1005	Fine	0	0	0	20.9	31 / 1007	8.3
		1505	Fine	0	0	0	20.9	33 / 1005	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan		23-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)		23-8-21

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	23-8-21	1015	Fine	0	0	0	20.9	32 / 1007	2.8
		1515	Fine	0	0	0	20.9	33 / 1006	2.8
WPR2	23-8-21	1025	Fine	0	0	0	20.9	32 / 1007	3.5
		1525	Fine	0	0	0	20.9	33 / 1006	3.5
WPR3	23-8-21	1045	Fine	0	0	0	20.9	32 / 1007	2.8
		1545	Fine	0	0	0	20.9	33 / 1006	2.8
P+A	23-8-21	1055	Fine	0	0	0	20.9	32 / 1007	5
		1555	Fine	0	0	0	20.9	33 / 1006	5
P+B	23-8-21	1105	Fine	0	0	0	20.9	32 / 1007	3.6
		1605	Fine	0	0	0	20.9	33 / 1006	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi KEUNG	<i>Tam</i>	23-8-21
Laboratory Staff:			
Checked by:	Sam Ho (TAM)	<i>Star</i>	23-8-2021

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Contract no. 13/WSD/16
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	24-8-21	0830	Rain	0	0	0	20.9	30 / 1008	5.5
		1330	Rain	0	0	0	20.9	32 / 1005	5.5
		1700	Rain	0	0	0	20.9	31 / 1004	5.5
Area B	24-8-21	0845	Rain	0	0	0	20.9	30 / 1008	2.5
		1345	Rain	0	0	0	20.9	32 / 1007	2.5
		1645	Rain	0	0	0	20.9	31 / 1006	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM Ho KANG	<i>Tam</i>	24-8-21
Laboratory Staff:			
Checked by:	Y. T. CHONG (site superintendent)	<i>Y</i>	24-8-21

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Contract no. 13/WSD/16
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC8+38	24-8-21	0855	Rain	0	0	0	20.9	30 / 1008	2.5
		1355	Rain	0	0	0	20.9	32 / 1007	2.5
CH.FC0+64	24-8-21	0900	Rain	0	0	0	20.9	30 / 1008	2.5
		1400	Rain	0	0	0	20.9	32 / 1007	2.5
P+D	24-8-21	0915	Rain	0	0	0	20.9	30 / 1008	2.5
		1415	Rain	0	0	0	20.9	32 / 1007	2.5
P+C	24-8-21	0925	Rain	0	0	0	20.9	20 / 1008	8
		1425	Rain	0	0	0	20.9	32 / 1007	8
137P+C	24-8-21	0945	Rain	0	0	0	20.9	30 / 1008	7
		1445	Rain	0	0	0	20.9	32 / 1007	7
137P+B	24-8-21	0955	Rain	0	0	0	20.9	30 / 1008	8.6
		1455	Rain	0	0	0	20.9	32 / 1007	8.6
B7P+A	24-8-21	1005	Rain	0	0	0	20.9	30 / 1008	8.3
		1505	Rain	0	0	0	20.9	32 / 1007	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hei Kuen	<i>TAM</i>	24-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>Sam Ng</i>	24-8-21

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Contract no. 13/WSD/16
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Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	24-8-21	1015	Rain	0	0	0	20.9	31 / 1008	2.8
		1515	Rain	0	0	0	20.9	32 / 1006	2.8
WPR2	24-8-21	1025	Rain	0	0	0	20.9	31 / 1008	3.5
		1525	Rain	0	0	0	20.9	32 / 1006	3.5
WPR3	24-8-21	1045	Rain	0	0	0	20.9	31 / 1008	2.8
		1545	Rain	0	0	0	20.9	32 / 1006	2.8
Pit A	24-8-21	1055	Rain	0	0	0	20.9	31 / 1008	5
		1555	Rain	0	0	0	20.9	32 / 1006	5
Pit B	24-8-21	1105	Rain	0	0	0	20.9	31 / 1008	3.6
		1605	Rain	0	0	0	20.9	32 / 1006	3.6

	Name & Designation	Signature	Date
Field Operator:	TOM HOI KUNH	<i>[Signature]</i>	24-8-21
Laboratory Staff:			
Checked by:	Sam Ng. (I.A.)	<i>[Signature]</i>	24-8-2021

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Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
Area A	25-8-21	0830	Rain	0	0	0	20.9	32 / 1009	5.5
		1330	Rain	0	0	0	20.9	35 / 1007	5.5
		1700	Rain	0	0	0	20.9	33 / 1006	5.5
Area B	25-8-21	0845	Rain	0	0	0	20.9	32 / 1009	2.5
		1345	Rain	0	0	0	20.9	34 / 1008	2.5
		1645	Rain	0	0	0	20.9	32 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG	Tam	25-8-21
Laboratory Staff:			
Checked by:	Y. T. HONG (Site superintendent)	Yc	25-8-21

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PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	25-8-21	1015	Rain	0	0	0	20.9	33 / 1009	2.8
		1515	Rain	0	0	0	20.9	35 / 1007	2.8
WPR2	25-8-21	1025	Rain	0	0	0	20.9	34 / 1008	3.5
		1525	Rain	0	0	0	20.9	35 / 1007	3.5
WPR3	25-8-21	1045	Rain	0	0	0	20.9	34 / 1008	2.8
		1545	Rain	0	0	0	20.9	35 / 1007	2.8
PitA	25-8-21	1055	Rain	0	0	0	20.9	34 / 1008	5
		1555	Rain	0	0	0	20.9	35 / 1007	5
PitB	25-8-21	1105	Rain	0	0	0	20.9	34 / 1009	3.6
		1605	Rain	0	0	0	20.9	35 / 1007	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KUNG	<i>Tam</i>	25-8-21
Laboratory Staff:			
Checked by:	Sam Ng (IA)	<i>Sam Ng</i>	25-8-2021

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8+38	25-8-21	0855	Rain	0	0	0	20.9	32 / 1009	2.5
		1355	Rain	0	0	0	20.9	35 / 1008	2.5
CH.FC 0+64	25-8-21	0900	Rain	0	0	0	20.9	32 / 1009	2.5
		1400	Rain	0	0	0	20.9	25 / 1008	2.5
P+D	25-8-21	0915	Rain	0	0	0	20.9	32 / 1009	5
		1415	Rain	0	0	0	20.9	35 / 1008	5
P+C	25-8-21	0925	Rain	0	0	0	20.9	32 / 1009	8
		1425	Rain	0	0	0	20.9	35 / 1008	8
137P+C	25-8-21	0945	Rain	0	0	0	20.9	32 / 1009	7
		1445	Rain	0	0	0	20.9	35 / 1008	7
137P+B	25-8-21	0955	Rain	0	0	0	20.9	32 / 1009	8.6
		1455	Rain	0	0	0	20.9	35 / 1008	8.6
137P+A	25-8-21	1005	Rain	0	0	0	20.9	32 / 1009	8.3
		1505	Rain	0	0	0	20.9	35 / 1008	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KONG	<i>Tam</i>	25-8-21
Laboratory Staff:		<i>[Signature]</i>	25-8-21
Checked by:	Sam Ng. (T.A.)	<i>[Signature]</i>	

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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	26-8-21	0830	Rain	0	0	0	20.9	30 / 1011	5.5
		1330	Rain	0	0	0	20.9	33 / 1009	5.5
		1700	Rain	0	0	0	20.9	31 / 1007	5.5
Area B	26-8-21	0845	Rain	0	0	0	20.9	30 / 1012	2.5
		1345	Rain	0	0	0	20.9	33 / 1009	2.5
		1645	Rain	0	0	0	20.9	31 / 1008	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi KEUNG	Tam	26-8-21
Laboratory Staff:			
Checked by:	Y. T. CHONG (Site superintendent)	T	26-8-21

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Contract no. 13/WSD/16
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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 0438	26-8-21	0855	Rain	0	0	0	20.9	30 / 1011	2.5
		1355	Rain	0	0	0	20.9	33 / 1009	2.5
CH.FC 0464	26-8-21	0900	Rain	0	0	0	20.9	30 / 1011	2.5
		1400	Rain	0	0	0	20.9	33 / 1010	2.5
P+D	26-8-21	0915	Rain	0	0	0	20.9	30 / 1011	5
		1415	Rain	0	0	0	20.9	33 / 1010	5
P+C	26-8-21	0925	Rain	0	0	0	20.9	30 / 1011	8
		1425	Rain	0	0	0	20.9	33 / 1009	8
137P+C	26-8-21	0945	Rain	0	0	0	20.9	30 / 1011	7
		1445	Rain	0	0	0	20.9	33 / 1010	7
137P+B	26-8-21	0955	Rain	0	0	0	20.9	30 / 1011	8.6
		1455	Rain	0	0	0	20.9	33 / 1009	8.6
137P+A	26-8-21	1005	Rain	0	0	0	20.9	30 / 1011	8.3
		1505	Rain	0	0	0	20.9	33 / 1010	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KEUNG	<i>Tam</i>	26-8-21
Laboratory Staff:			
Checked by:	Sam Ng (JK)	<i>Sam Ng</i>	26-8-21

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	26-8-21	1015	Rain	0	0	0	20.9	32 / 1011	2.8
		1515	Rain	0	0	0	20.9	33 / 1009	2.8
WPR2	26-8-21	1025	Rain	0	0	0	20.9	32 / 1011	3.5
		1625	Rain	0	0	0	20.9	33 / 1009	3.5
WPR3	26-8-21	1045	Rain	0	0	0	20.9	32 / 1011	2.8
		1545	Rain	0	0	0	20.9	33 / 1009	2.8
Pit A	26-8-21	1055	Rain	0	0	0	20.9	32 / 1011	5
		1555	Rain	0	0	0	20.9	33 / 1010	5
Pit B	26-8-21	1105	Rain	0	0	0	20.9	32 / 1011	3.6
		1605	Rain	0	0	0	20.9	33 / 1010	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi King	<i>Tam</i>	26-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A)	<i>Sam Ng</i>	26-8-2021

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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	27-8-21	0830	Rain	0	0	0	20.9	27 / 1012	5.5
		1330	Rain	0	0	0	20.9	29 / 1010	5.5
		1700	Rain	0	0	0	20.9	28 / 1008	5.5
Area B	27-8-21	0845	Rain	0	0	0	20.9	27 / 1011	2.5
		1345	Rain	0	0	0	20.9	29 / 1010	2.5
		1645	Rain	0	0	0	20.9	28 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>TAM</i>	27-8-21
Laboratory Staff:			
Checked by:	Y. T. CHONG (site superintendent)	<i>Y.T.</i>	27-8-21

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Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC8438	27-8-21	0855	Rain	0	0	0	20.9	27 / 1012	2.5
		1355	Rain	0	0	0	20.9	29 / 1011	2.5
CHFC0664	27-8-21	0900	Rain	0	0	0	20.9	29 / 1012	2.5
		1400	Rain	0	0	0	20.9	29 / 1011	2.5
Pit D	27-8-21	0915	Rain	0	0	0	20.9	27 / 1012	5
		1415	Rain	0	0	0	20.9	29 / 1010	5
Pit C	27-8-21	0925	Rain	0	0	0	20.9	28 / 1017	8
		1425	Rain	0	0	0	20.9	29 / 1011	8
137Pit C	27-8-21	0945	Rain	0	0	0	20.9	27 / 1012	7
		1445	Rain	0	0	0	20.9	29 / 1010	7
137Pit B	27-8-21	0955	Rain	0	0	0	20.9	28 / 1012	8.6
		1455	Rain	0	0	0	20.9	29 / 1010	8.6
137Pit A	27-8-21	1005	Rain	0	0	0	20.9	28 / 1012	8.3
		1505	Rain	0	0	0	20.9	29 / 1010	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Keung	<i>TAM</i>	27-8-21
Laboratory Staff:			
Checked by:	Sam Ng (TA)	<i>Sam Ng</i>	27-8-21

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	27-8-21	1015	Rain	0	0	0	20.9	28 / 1012	2.8
		1515	Rain	0	0	0	20.9	29 / 1011	2.8
WPR2	27-8-21	1025	Rain	0	0	0	20.9	27 / 1012	3.5
		1525	Rain	0	0	0	20.9	29 / 1010	3.5
WPR3	27-8-21	1045	Rain	0	0	0	20.9	27 / 1012	2.8
		1545	Rain	0	0	0	20.9	29 / 1010	2.8
Pit A	27-8-21	1055	Rain	0	0	0	20.9	29 / 1012	5
		1555	Rain	0	0	0	20.9	29 / 1011	5
Pit B	27-8-21	1105	Rain	0	0	0	20.9	27 / 1012	3.6
		1605	Rain	0	0	0	20.9	29 / 1011	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kwan	<i>Tam</i>	27-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	<i>Sam Ng</i>	27-8-2021

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 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	28-8-21	0830	Rain	0	0	0	20.9	28 / 1011	5.5
		1330	Rain	0	0	0	20.9	30 / 1009	5.5
		1700	Rain	0	0	0	20.9	28 / 1011	5.5
Area B	28-8-21	0845	Rain	0	0	0	20.9	29 / 1008	2.5
		1345	Rain	0	0	0	20.9	30 / 1011	2.5
		1645	Rain	0	0	0	20.9	28 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM HO KEUNG	<i>[Signature]</i>	28-8-21
Laboratory Staff:			
Checked by:	Suen Ng	<i>[Signature]</i>	28-8-2021

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8+38	28-8-21	0855	Rain	0	0	0	20.9	28 / 1010	2.5
		1355	Rain	0	0	0	20.9	30 / 1011	2.5
CH.FC 0+64	28-8-21	0900	Rain	0	0	0	20.9	28 / 1011	2.5
		1400	Rain	0	0	0	20.9	30 / 1012	2.5
P+D	28-8-21	0915	Rain	0	0	0	20.9	28 / 1012	5
		1415	Rain	0	0	0	20.9	30 / 1012	5
P+C	28-8-21	0925	Rain	0	0	0	20.9	28 / 1012	8
		1425	Rain	0	0	0	20.9	30 / 1010	8
137P+C	28-8-21	0945	Rain	0	0	0	20.9	28 / 1009	7
		1445	Rain	0	0	0	20.9	30 / 1009	7
137P+B	28-8-21	0955	Rain	0	0	0	20.9	28 / 1011	8.1
		1455	Rain	0	0	0	20.9	30 / 1012	8.1
137P+A	28-8-21	1005	Rain	0	0	0	20.9	28 / 1010	8.3
		1505	Rain	0	0	0	20.9	30 / 1011	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>Tam</i>	28-8-21
Laboratory Staff:			
Checked by:	Sam Ho (IA)	<i>Sam Ho</i>	28-8-2021

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	29 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR1	28-8-21	1015	Rain	0	0	0	20.9	28 / 1011	2.8
		1515	Rain	0	0	0	20.9	30 / 1010	2.8
WPR2	28-8-21	1025	Rain	0	0	0	20.9	28 / 1011	3.5
		1525	Rain	0	0	0	20.9	30 / 1009	3.5
WPR3	28-8-21	1045	Rain	0	0	0	20.9	28 / 1017	2.8
		1545	Rain	0	0	0	20.9	30 / 1009	2.8
Pit A	28-8-21	1055	Rain	0	0	0	20.9	28 / 1012	5
		1555	Rain	0	0	0	20.9	30 / 1009	5
Pit B	28-8-21	1105	Rain	0	0	0	20.9	28 / 1011	3.6
		1605	Rain	0	0	0	20.9	30 / 1010	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KUNG	<i>Tam</i>	28-8-21
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	<i>Sam Ng</i>	28-8-2021

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Contract no. 13/WSD/16
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	30-8-21	0830	Fine	0	0	0	20.9	29 / 1011	5.5
		1330	Fine	0	0	0	20.9	33 / 1009	5.5
		1700	Fine	0	0	0	20.9	31 / 1008	5.5
Area B	30-8-21	0845	Fine	0	0	0	20.9	29 / 1011	2.5
		1345	Fine	0	0	0	20.9	33 / 1009	2.5
		1645	Fine	0	0	0	20.9	31 / 1008	2.5

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM Hoi Kwan		30-8-21
Laboratory Staff:			
Checked by:	Y. F. ARNG (site superintendent)		30-8-21

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Contract no. 13/WSD/16
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
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Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 8+38	30-8-21	0855	Fine	0	0	0	20.9	29 / 1011	2.5
		1355	Fine	0	0	0	20.9	32 / 1009	2.5
CH.FC 0+64	30-8-21	0900	Fine	0	0	0	20.9	29 / 1011	2.5
		1400	Fine	0	0	0	20.9	33 / 1008	2.5
Pit D	30-8-21	0915	Fine	0	0	0	20.9	26 / 1011	5
		1415	Fine	0	0	0	20.9	33 / 1008	5
Pit C	30-8-21	0925	Fine	0	0	0	20.9	29 / 1010	8
		1425	Fine	0	0	0	20.9	33 / 1008	8
137 Pit C	30-8-21	0945	Fine	0	0	0	20.9	29 / 1011	7
		1445	Fine	0	0	0	20.9	33 / 1004	7
137 Pit B	30-8-21	0955	Fine	0	0	0	20.9	29 / 1010	8.6
		1455	Fine	6	0	0	20.9	33 / 1007	8.6
137 Pit A	30-8-21	1005	Fine	0	0	0	20.9	29 / 1011	8.3
		1505	Fine	0	0	0	20.9	33 / 1008	8.3

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwan	<i>TAM</i>	30-8-21
Laboratory Staff:			
Checked by:	Sam Ng. (T.A.)	<i>Sam Ng</i>	30-8-2021

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
NPR 1	30-8-21	1015	Fine	0	0	0	20.9	30 / 1011	2.8
		1515	Fine	0	0	0	20.9	33 / 1009	2.8
NPR 2	30-8-21	1025	Fine	0	0	0	20.9	30 / 1011	3.5
		1525	Fine	0	0	0	20.9	23 / 1010	3.5
NPR 3	30-8-21	1045	Fine	0	0	0	20.9	30 / 1012	2.8
		1545	Fine	0	0	0	20.9	33 / 1008	2.8
Pit A	30-8-21	1055	Fine	0	0	0	20.9	30 / 1011	5
		1555	Fine	0	0	0	20.9	33 / 1007	5
Pit B	30-8-21	1105	Fine	0	0	0	20.9	30 / 1011	3.6
		1605	Fine	0	0	0	20.9	33 / 1009	3.6

	Name & Designation	Signature	Date
Field Operator:	TAM Hoi Kwong	Tam	30-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A.)	Ng	30-8-2021

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	31-08-2021	0830	Rain	0	0	0	20.9	28 / 1011	5.5
	31-08-21	1330	Rain	0	0	0	20.9	29 / 1010	5.5
	31-8-21	1700	Rain	0	0	0	20.9	28 / 1008	5.5
Area B	31-8-21	0845	Rain	0	0	0	20.9	28 / 1011	2.5
		1345	Rain	0	0	0	20.9	29 / 1010	2.5
		1645	Rain	0	0	0	20.9	28 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	TAM HOI KUNG	<i>Tam</i>	31-8-21
Laboratory Staff:			
Checked by:	Y. T. CHAN (site superintendent)	<i>Y.T. Chan</i>	31-8-21

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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 838	31-8-21	0855	Rain	0	0	0	20.9	28 / 1011	2.5
		1355	Rain	0	0	0	20.9	30 / 1009	2.5
CHFC044	31-8-21	0900	Rain	0	0	0	20.9	28 / 1011	2.5
		1400	Rain	0	0	0	20.9	30 / 1008	2.5
P+D	31-8-21	0915	Rain	0	0	0	20.9	28 / 1011	5
		1415	Rain	0	0	0	20.9	30 / 1009	5
P+C	31-8-21	0925	Rain	0	0	0	20.9	28 / 1010	8
		1425	Rain	0	0	0	20.9	30 / 1009	8
137 P+C	31-8-21	0945	Rain	0	0	0	20.9	28 / 1011	7
		1445	Rain	0	0	0	20.9	30 / 1009	7
137 P+B	31-8-21	0955	Rain	0	0	0	20.9	28 / 1011	8.6
		1455	Rain	0	0	0	20.9	30 / 1009	8.6
137 P+A	31-8-21	1005	Rain	0	0	0	20.9	28 / 1011	8.5
		1505	Rain	0	0	0	20.9	30 / 1008	8.3

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HOI KONG	<i>TAM</i>	31-8-21
Laboratory Staff:			
Checked by:	Sam Ng (T.A)	<i>Sam Ng</i>	31-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500P (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	31-8-21	1015	Rain	0	0	0	20.9	29 / 1011	2.8
		1515	Rain	0	0	0	20.9	30 / 1010	2.8
WPR 2	31-8-21	1025	Rain	0	0	0	20.9	29 / 1011	3.5
		1525	Rain	0	0	0	20.9	30 / 1009	3.5
WPR 3	31-8-21	1045	Rain	0	0	0	20.9	29 / 1011	2.8
		1545	Rain	0	0	0	20.9	30 / 1008	2.8
Pit A	31-8-21	1055	Rain	0	0	0	20.9	29 / 1011	5
		1555	Rain	0	0	0	20.9	30 / 1010	5
Pit B	31-8-21	1105	Rain	0	0	0	20.9	29 / 1011	3.6
		1605	Rain	0	0	0	20.9	30 / 1009	3.6

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	TAM HOI KEUNG	Tam	31-8-21
Laboratory Staff:			
Checked by:	Sun Ng (J.A.)	[Signature]	31-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	2-8-2021	8:30	0.0421	5.5	
		13:30	0.0422		
		17:00	0.0431		
Area B	2-8-2021	8:45	0.0429	2.5	
		13:45	0.0433		
		16:45	0.0412		
CH.FC 8+38	2-8-2021	8:55	0.0459	2.5	
		13:55	0.0462		
CH.FC 0+64	2-8-2021	9:00	0.0417	2.5	
		14:00	0.0432		
Pit D	2-8-2021	9:15	0.0437	2.5	
		14:15	0.0445		
Pit C	2-8-2021	9:25	0.0452	8	
		14:25	0.0463		
137 Pit C	2-8-2021	9:45	0.0451	7	
		14:45	0.0413		
137 Pit B	2-8-2021	9:55	0.0409	8.6	
		14:55	0.0432		
137 Pit A	2-8-2021	10:05	0.0433	8.3	
		15:05	0.0451		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 2-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	2-8-2021	10:15	0.0439	2.8	
		15:15	0.0436		
WPR 2	2-8-2021	10:25	0.0442	3.5	
		15:25	0.0459		
WPR 3	2-8-2021	10:45	0.0471	2.8	
		15:45	0.0462		
Pit A	2-8-2021	10:55	0.0472	5	
		15:55	0.0456		
Pit B	2-8-2021	11:05	0.0456	3.6	
		16:05	0.0490		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 2-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	3-8-2021	8:30	0.0431	5.5	
		13:30	0.0451		
		17:00	0.0447		
Area B	3-8-2021	8:45	0.0456	2.5	
		13:45	0.0461		
		16:45	0.0432		
CH.FC 8+38	3-8-2021	8:55	0.0431	2.5	
		13:55	0.0429		
CH.FC 0+64	3-8-2021	9:00	0.0432	2.5	
		14:00	0.0444		
Pit D	3-8-2021	9:15	0.0452	2.8	
		14:15	0.0463		
Pit C	3-8-2021	9:25	0.0472	8	
		14:25	0.0463		
137 Pit C	3-8-2021	9:45	0.0456	7	
		14:45	0.0481		
137 Pit B	3-8-2021	9:55	0.0479	8.6	
		14:55	0.0468		
137 Pit A	3-8-2021	10:05	0.0477	8.3	
		15:05	0.0461		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 3-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	3-8-2021	10:15	0.0479	2.8	
		15:15	0.0454		
WPR 2	3-8-2021	10:25	0.0431	3.5	
		15:25	0.0450		
WPR 3	3-8-2021	10:45	0.0455	2.8	
		15:45	0.0471		
Pit A	3-8-2021	10:55	0.0491	5	
		15:55	0.0465		
Pit B	3-8-2021	11:05	0.0471	2.6	
		16:05	0.0466		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 3-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	4-8-2021	8:30	0.0422	5.5	
		13:30	0.0437		
		17:00	0.0419		
Area B	4-8-2021	8:45	0.0433	2.5	
		13:45	0.0444		
		16:45	0.0452		
CH.FC 8+38	4-8-2021	8:55	0.0439	2.5	
		13:55	0.0460		
CH.FC 0+64	4-8-2021	9:00	0.0448	2.5	
		14:00	0.0430		
Pit D	4-8-2021	9:15	0.0410	2.5	
		14:15	0.0451		
Pit C	4-8-2021	9:25	0.0403	3	
		14:25	0.0429		
137 Pit C	4-8-2021	9:45	0.0430	7	
		14:45	0.0442		
137 Pit B	4-8-2021	9:55	0.0454	8.6	
		14:55	0.0479		
137 Pit A	4-8-2021	10:05	0.0491	8.3	
		15:05	0.0451		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe]) Signature: Date: 4-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	4 -8-2021	10:15	0.0451	2.8	
		15:15	0.0452		
WPR 2	4 -8-2021	10:25	0.0453	3.5	
		15:25	0.0413		
WPR 3	4 -8-2021	10:45	0.0421	2.8	
		15:45	0.0431		
Pit A	4 -8-2021	10:55	0.0452	5	
		15:55	0.0469		
Pit B	4 -8-2021	11:05	0.0477	3.6	
		16:05	0.0474		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 4 -8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	5 -8-2021	8:30	0.0466	5.5	
		13:30	0.0457		
		17:00	0.0458		
Area B	5 -8-2021	8:45	0.0412	2.5	
		13:45	0.0439		
		16:45	0.0451		
CH.FC 8+38	5 -8-2021	8:55	0.0437	2.5	
		13:55	0.0455		
CH.FC 0+64	5 -8-2021	9:00	0.0449	2.5	
		14:00	0.0451		
Pit D	5 -8-2021	9:15	0.0431	2.5	
		14:15	0.0472		
Pit C	5 -8-2021	9:25	0.0457	2	
		14:25	0.0458		
137 Pit C	5 -8-2021	9:45	0.0412	7	
		14:45	0.0463		
137 Pit B	5 -8-2021	9:55	0.0457	8.6	
		14:55	0.0441		
137 Pit A	5 -8-2021	10:05	0.0472	8.3	
		15:05	0.0430		

Name & Designation
 Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 5 -8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	5-8-2021	10:15	0.0421	2.8	
		15:15	0.0408		
WPR 2	5-8-2021	10:25	0.0469	3.5	
		15:25	0.0437		
WPR 3	5-8-2021	10:45	0.0433	2.8	
		15:45	0.0421		
Pit A	5-8-2021	10:55	0.0451	5	
		15:55	0.0426		
Pit B	5-8-2021	11:05	0.0457	3.6	
		16:05	0.0426		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 5-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	6-8-2021	8:30	0.0471	5.5	
		13:30	0.0443		
		17:00	0.0452		
Area B	6-8-2021	8:45	0.0431	2.5	
		13:45	0.0442		
		16:45	0.0456		
CH.FC 8+38	6-8-2021	8:55	0.0412	2.5	
		13:55	0.0443		
CH.FC 0+64	6-8-2021	9:00	0.0456	2.5	
		14:00	0.0471		
Pit D	6-8-2021	9:15	0.0431	2.5	
		14:15	0.0464		
Pit C	6-8-2021	9:25	0.0451	8	
		14:25	0.0467		
137 Pit C	6-8-2021	9:45	0.0431	7	
		14:45	0.0471		
137 Pit B	6-8-2021	9:55	0.0431	8.6	
		14:55	0.0412		
137 Pit A	6-8-2021	10:05	0.0451	8.3	
		15:05	0.0459		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date
6-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	6-8-2021	10:15	0.0451	2.8	
		15:15	0.0466		
WPR 2	6-8-2021	10:25	0.0411	3.5	
		15:25	0.0432		
WPR 3	6-8-2021	10:45	0.0421	2.8	
		15:45	0.0459		
Pit A	6-8-2021	10:55	0.0421	5	
		15:55	0.0422		
Pit B	6-8-2021	11:05	0.0431	3.6	
		16:05	0.0431		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 6-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penia-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	7-8-2021	8:30	0.0421	5.5	
		13:30	0.0417		
		17:00	0.0449		
Area B	7-8-2021	8:45	0.0424	2.5	
		13:45	0.0431		
		16:45	0.0459		
CH.FC 8+38	7-8-2021	8:55	0.0427	2.5	
		13:55	0.0410		
CH.FC 0+64	7-8-2021	9:00	0.0422	2.5	
		14:00	0.0481		
Pit D	7-8-2021	9:15	0.0492	2.5	
		14:15	0.0485		
Pit C	7-8-2021	9:25	0.0457	8	
		14:25	0.0489		
137 Pit C	7-8-2021	9:45	0.0433	7	
		14:45	0.0421		
137 Pit B	7-8-2021	9:55	0.0466	8.6	
		14:55	0.0474		
137 Pit A	7-8-2021	10:05	0.0487	8.5	
		15:05	0.0432		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 7-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	7-8-2021	10:15	0.0462	2.8	
		15:15	0.0479		
WPR 2	7-8-2021	10:25	0.0463	3.5	
		15:25	0.0459		
WPR 3	7-8-2021	10:45	0.0466	2.8	
		15:45	0.0467		
Pit A	7-8-2021	10:55	0.0471	5	
		15:55	0.0460		
Pit B	7-8-2021	11:05	0.0438	3.6	
		16:05	0.0457		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date
 7-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	9 -8-2021	8:30	0.0462	5.5	
		13:30	0.0407		
		17:00	0.0439		
Area B	9 -8-2021	8:45	0.0481	2.5	
		13:45	0.0470		
		16:45	0.0449		
CH.FC 8+38	9 -8-2021	8:55	0.0491	2.5	
		13:55	0.0421		
CH.FC 0+64	9 -8-2021	9:00	0.0470	2.5	
		14:00	0.0421		
Pit D	9 -8-2021	9:15	0.0419	2.5	
		14:15	0.0421		
Pit C	9 -8-2021	9:25	0.0462	8	
		14:25	0.0445		
137 Pit C	9 -8-2021	9:45	0.0463	7	
		14:45	0.0453		
137 Pit B	9 -8-2021	9:55	0.0421	8.6	
		14:55	0.0421		
137 Pit A	9 -8-2021	10:05	0.0459	8.3	
		15:05	0.0436		

Name & Designation
 Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 9 -8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture

Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	9 -8-2021	10:15	0.0439	2.8	
		15:15	0.0462		
WPR 2	9 -8-2021	10:25	0.0433	3.5	
		15:25	0.0462		
WPR 3	9 -8-2021	10:45	0.0470	2.8	
		15:45	0.0431		
Pit A	9 -8-2021	10:55	0.0459	5	
		15:55	0.0420		
Pit B	9 -8-2021	11:05	0.0415	3.6	
		16:05	0.0465		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 9 -8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	10-8-2021	8:30	0.0422	5.5	
		13:30	0.0445		
		17:00	0.0416		
Area B	10-8-2021	8:45	0.0493	2.5	
		13:45	0.0420		
		16:45	0.0436		
CH.FC 8+38	10-8-2021	8:55	0.0462	2.5	
		13:55	0.0441		
CH.FC 0+64	10-8-2021	9:00	0.0430	2.5	
		14:00	0.0426		
Pit D	10-8-2021	9:15	0.0459	2.5	
		14:15	0.0424		
Pit C	10-8-2021	9:25	0.0433	8	
		14:25	0.0459		
137 Pit C	10-8-2021	9:45	0.0456	7	
		14:45	0.0444		
137 Pit B	10-8-2021	9:55	0.0424	8.6	
		14:55	0.0479		
137 Pit A	10-8-2021	10:05	0.0462	8.3	
		15:05	0.0461		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Signature
 Date

10-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	10-8-2021	10:15	0.0410	2.8	
		15:15	0.0421		
WPR 2	10-8-2021	10:25	0.0467	3.5	
		15:25	0.0440		
WPR 3	10-8-2021	10:45	0.0451	2.8	
		15:45	0.0454		
Pit A	10-8-2021	10:55	0.0423	5	
		15:55	0.0422		
Pit B	10-8-2021	11:05	0.0459	3.6	
		16:05	0.0406		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 10-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	11-8-2021	8:30	0.0485	5.5	
		13:30	0.0413		
		17:00	0.0417		
Area B	11-8-2021	8:45	0.0445	2.5	
		13:45	0.0435		
		16:45	0.0416		
CH.FC 8+38	11-8-2021	8:55	0.0455	2.5	
		13:55	0.0435		
CH.FC 0+64	11-8-2021	9:00	0.0490	2.5	
		14:00	0.0440		
Pit D	11-8-2021	9:15	0.0495	2.5	
		14:15	0.0445		
Pit C	11-8-2021	9:25	0.0462	8	
		14:25	0.0481		
137 Pit C	11-8-2021	9:45	0.0475	7	
		14:45	0.0414		
137 Pit B	11-8-2021	9:55	0.0495	8.6	
		14:55	0.0419		
137 Pit A	11-8-2021	10:05	0.0410	8.5	
		15:05	0.0455		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Signature
 Date

11-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	11-8-2021	10:15	0.0411	2.8	
		15:15	0.0451		
WPR 2	11-8-2021	10:25	0.0402	3.5	
		15:25	0.0452		
WPR 3	11-8-2021	10:45	0.0445	2.8	
		15:45	0.0454		
Pit A	11-8-2021	10:55	0.0430	5	
		15:55	0.0455		
Pit B	11-8-2021	11:05	0.0410	3.6	
		16:05	0.0460		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 11-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	12-8-2021	8:30	0.0483	5.5	
		13:30	0.0433		
		17:00	0.0410		
Area B	12-8-2021	8:45	0.0458	2.5	
		13:45	0.0434		
		16:45	0.0461		
CH.FC 8+38	12-8-2021	8:55	0.0485	2.5	
		13:55	0.0443		
CH.FC 0+64	12-8-2021	9:00	0.0409	2.5	
		14:00	0.0441		
Pit D	12-8-2021	9:15	0.0419	2.5	
		14:15	0.0451		
Pit C	12-8-2021	9:25	0.0429	8	
		14:25	0.0425		
137 Pit C	12-8-2021	9:45	0.0469	7	
		14:45	0.0450		
137 Pit B	12-8-2021	9:55	0.0434	8.6	
		14:55	0.0415		
137 Pit A	12-8-2021	10:05	0.0418	8.3	
		15:05	0.0450		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 12-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	12-8-2021	10:15	0.0410	2.8	
		15:15	0.0452		
WPR 2	12-8-2021	10:25	0.0424	3.5	
		15:25	0.0455		
WPR 3	12-8-2021	10:45	0.0404	2.8	
		15:45	0.0454		
Pit A	12-8-2021	10:55	0.0415	5	
		15:55	0.0465		
Pit B	12-8-2021	11:05	0.0463	3.6	
		16:05	0.0472		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature  Date 12-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	13-8-2021	8:30	0.0439	5.5	
		13:30	0.0438		
		17:00	0.0447		
Area B	13-8-2021	8:45	0.0454	2.5	
		13:45	0.0436		
		16:45	0.0465		
CH.FC 8+38	13-8-2021	8:55	0.0457	2.5	
		13:55	0.0429		
CH.FC 0+64	13-8-2021	9:00	0.0466	2.5	
		14:00	0.0478		
Pit D	13-8-2021	9:15	0.0432	2.5	
		14:15	0.0467		
Pit C	13-8-2021	9:25	0.0425	8	
		14:25	0.0462		
137 Pit C	13-8-2021	9:45	0.0438	7	
		14:45	0.0445		
137 Pit B	13-8-2021	9:55	0.0473	8.6	
		14:55	0.0420		
137 Pit A	13-8-2021	10:05	0.0462	8.3	
		15:05	0.0431		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
Ting Wai Kin (Safety Officer [Renopipe])

Signature
[Signature]

Date
13-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	13-8-2021	10:15	0.0452	2.8	
		15:15	0.0426		
WPR 2	13-8-2021	10:25	0.0422	3.5	
		15:25	0.0438		
WPR 3	13-8-2021	10:45	0.0439	2.8	
		15:45	0.0445		
Pit A	13-8-2021	10:55	0.0450	5	
		15:55	0.0421		
Pit B	13-8-2021	11:05	0.0468	3.6	
		16:05	0.0412		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date
 13-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	14 -8-2021	8:30	0.0402	5.5	
		13:30	0.0459		
		17:00	0.0422		
Area B	14 -8-2021	8:45	0.0404	2.5	
		13:45	0.0452		
		16:45	0.0418		
CH.FC 8+38	14 -8-2021	8:55	0.0457	2.5	
		13:55	0.0433		
CH.FC 0+64	14 -8-2021	9:00	0.0432	2.5	
		14:00	0.0419		
Pit D	14 -8-2021	9:15	0.0427	2.5	
		14:15	0.0470		
Pit C	14 -8-2021	9:25	0.0420	8	
		14:25	0.0469		
137 Pit C	14 -8-2021	9:45	0.0453	7	
		14:45	0.0422		
137 Pit B	14 -8-2021	9:55	0.0479	8.6	
		14:55	0.0406		
137 Pit A	14 -8-2021	10:05	0.0475	8.3	
		15:05	0.0413		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 14-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	14-8-2021	10:15	0.0462	2.8	
		15:15	0.0472		
WPR 2	14-8-2021	10:25	0.0420	3.5	
		15:25	0.0468		
WPR 3	14-8-2021	10:45	0.0479	2.8	
		15:45	0.0406		
Pit A	14-8-2021	10:55	0.0477	5	
		15:55	0.0403		
Pit B	14-8-2021	11:05	0.0470	3.6	
		16:05	0.0421		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 14-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	16-8-2021	8:30	0.0446	5	
		13:30	0.0422		
		17:00	0.0429		
Area B	16-8-2021	8:45	0.0459	2.5	
		13:45	0.0463		
		16:45	0.0416		
CH.FC 8+38	16-8-2021	8:55	0.0420	2.5	
		13:55	0.0472		
CH.FC 0+64	16-8-2021	9:00	0.0431	2.5	
		14:00	0.0426		
Pit D	16-8-2021	9:15	0.0459	2.5	
		14:15	0.0447		
Pit C	16-8-2021	9:25	0.0462	8	
		14:25	0.0420		
137 Pit C	16-8-2021	9:45	0.0427	7	
		14:45	0.0439		
137 Pit B	16-8-2021	9:55	0.0466	8.6	
		14:55	0.0421		
137 Pit A	16-8-2021	10:05	0.0437	8.3	
		15:05	0.0427		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation

Signature

Date

✍

16-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	16 -8-2021	10:15	0.0495	2.8	
		15:15	0.0401		
WPR 2	16 -8-2021	10:25	0.0427	3.5	
		15:25	0.0476		
WPR 3	16 -8-2021	10:45	0.0408	2.8	
		15:45	0.0429		
Pit A	16 -8-2021	10:55	0.0462	5	
		15:55	0.0417		
Pit B	16 -8-2021	11:05	0.0429	3.6	
		16:05	0.0444		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Laboratory Staff: Signature


Checked by: Date
 16 -8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	17-8-2021	8:30	0.0429	5.5	
		13:30	0.0439		
		17:00	0.047		
Area B	17-8-2021	8:45	0.0450	2.5	
		13:45	0.0422		
		16:45	0.0423		
CH.FC 8+38	17-8-2021	8:55	0.0430	2.5	
		13:55	0.0443		
CH.FC 0+64	17-8-2021	9:00	0.0432	2.5	
		14:00	0.0461		
Pit D	17-8-2021	9:15	0.0430	2.5	
		14:15	0.0405		
Pit C	17-8-2021	9:25	0.0408	8	
		14:25	0.0426		
137 Pit C	17-8-2021	9:45	0.0437	7	
		14:45	0.0429		
137 Pit B	17-8-2021	9:55	0.0404	8.6	
		14:55	0.0426		
137 Pit A	17-8-2021	10:05	0.0442	8.3	
		15:05	0.0449		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation

Signature

Date

✍

17-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	17-8-2021	10:15	0.0422	2.8	
		15:15	0.0431		
WPR 2	17-8-2021	10:25	0.0447	3.5	
		15:25	0.0452		
WPR 3	17-8-2021	10:45	0.0442	2.8	
		15:45	0.0403		
Pit A	17-8-2021	10:55	0.0419	5	
		15:55	0.0422		
Pit B	17-8-2021	11:05	0.0418	3.6	
		16:05	0.0430		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 17-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	18-8-2021	8:30	0.0427	5.5	
		13:30	0.0430		
		17:00	0.0432		
Area B	18-8-2021	8:45	0.0418	2.5	
		13:45	0.0423		
		16:45	0.0420		
CH.FC 8+38	18-8-2021	8:55	0.0427	2.5	
		13:55	0.0412		
CH.FC 0+64	18-8-2021	9:00	0.0437	2.5	
		14:00	0.0425		
Pit D	18-8-2021	9:15	0.0439	2.5	
		14:15	0.0424		
Pit C	18-8-2021	9:25	0.0414	8	
		14:25	0.0411		
137 Pit C	18-8-2021	9:45	0.0439	7	
		14:45	0.0420		
137 Pit B	18-8-2021	9:55	0.0428	8.6	
		14:55	0.0411		
137 Pit A	18-8-2021	10:05	0.0414	8.3	
		15:05	0.0405		

Field Operator: Ting Wai Kin (Safety Officer [Renopipel])
 Laboratory Staff:
 Checked by:

Signature

Date
 18-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	18-8-2021	10:15	0.0424	2.8	
		15:15	0.0436		
WPR 2	18-8-2021	10:25	0.0447	3.5	
		15:25	0.0452		
WPR 3	18-8-2021	10:45	0.0426	2.8	
		15:45	0.0439		
Pit A	18-8-2021	10:55	0.0470	5	
		15:55	0.0412		
Pit B	18-8-2021	11:05	0.0413	3.6	
		16:05	0.0406		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 18-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	19-8-2021	8:30	0.0445	5.5	
		13:30	0.0437		
		17:00	0.0452		
Area B	19-8-2021	8:45	0.0460	2.5	
		13:45	0.0450		
		16:45	0.0449		
CH.FC 8+38	19-8-2021	8:55	0.0426	2.5	
		13:55	0.0427		
CH.FC 0+64	19-8-2021	9:00	0.0422	2.5	
		14:00	0.0446		
Pit D	19-8-2021	9:15	0.0427	2.5	
		14:15	0.0427		
Pit C	19-8-2021	9:25	0.0433	8	
		14:25	0.0415		
137 Pit C	19-8-2021	9:45	0.0406	7	
		14:45	0.0408		
137 Pit B	19-8-2021	9:55	0.0450	3.6	
		14:55	0.0427		
137 Pit A	19-8-2021	10:05	0.0460	8.3	
		15:05	0.0413		

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [Renopipe])	<i>[Signature]</i>	17-8-2021
Laboratory Staff:			
Checked by:			

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	19-8-2021	10:15	0.0463	2.8	
		15:15	0.0425		
WPR 2	19-8-2021	10:25	0.0437	3.5	
		15:25	0.0426		
WPR 3	19-8-2021	10:45	0.0447	2.8	
		15:45	0.0429		
Pit A	19-8-2021	10:55	0.0472	5	
		15:55	0.0414		
Pit B	19-8-2021	11:05	0.0438	3.6	
		16:05	0.0437		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Laboratory Staff: Signature

Checked by: Date
 19-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	20-8-2021	8:30	0.0444	5.5	
		13:30	0.0438		
		17:00	0.0417		
Area B	20-8-2021	8:45	0.0463	2.5	
		13:45	0.0423		
		16:45	0.0430		
CH.FC 8+38	20-8-2021	8:55	0.0441	2.5	
		13:55	0.0424		
CH.FC 0+64	20-8-2021	9:00	0.0451	2.5	
		14:00	0.0428		
Pit D	20-8-2021	9:15	0.0438	5	
		14:15	0.0443		
Pit C	20-8-2021	9:25	0.0439	8	
		14:25	0.0415		
137 Pit C	20-8-2021	9:45	0.0426	7	
		14:45	0.0450		
137 Pit B	20-8-2021	9:55	0.0449	8.6	
		14:55	0.0434		
137 Pit A	20-8-2021	10:05	0.0450	8.5	
		15:05	0.0420		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date
 20-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
WPR 1	20-8-2021	10:15	0.0442	2.8	
		15:15	0.0457		
WPR 2	20-8-2021	10:25	0.0477	3.5	
		15:25	0.0416		
WPR 3	20-8-2021	10:45	0.0457	2.8	
		15:45	0.0435		
Pit A	20-8-2021	10:55	0.0438	5	
		15:55	0.0404		
Pit B	20-8-2021	11:05	0.0459	3.6	
		16:05	0.0412		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 20-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	21 -8-2021	8:30	0.0447	5.5	
		13:30	0.0427		
		17:00	0.0439		
Area B	21 -8-2021	8:45	0.0411	2.5	
		13:45	0.0430		
		16:45	0.0404		
CH.FC 8+38	21 -8-2021	8:55	0.0424	2.5	
		13:55	0.0439		
CH.FC 0+64	21 -8-2021	9:00	0.0445	2.5	
		14:00	0.0409		
Pit D	21 -8-2021	9:15	0.0419	5	
		14:15	0.0439		
Pit C	21 -8-2021	9:25	0.0444	8	
		14:25	0.0432		
137 Pit C	21 -8-2021	9:45	0.0439	7	
		14:45	0.0440		
137 Pit B	21 -8-2021	9:55	0.0424	8.6	
		14:55	0.0434		
137 Pit A	21 -8-2021	10:05	0.0445	8.3	
		15:05	0.0424		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation

Signature

Date

21 -8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	21-8-2021	10:15	0.0431	2.6	
		15:15	0.0439		
WPR 2	21-8-2021	10:25	0.044	3.5	
		15:25	0.0454		
WPR 3	21-8-2021	10:45	0.044	2.8	
		15:45	0.0451		
Pit A	21-8-2021	10:55	0.0441	5	
		15:55	0.0415		
Pit B	21-8-2021	11:05	0.0419	3.6	
		16:05	0.0429		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation

Signature

Date

21-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	23-8-2021	8:30	0.0424	5.5	
		13:30	0.0418		
		17:00	0.0425		
Area B	23-8-2021	8:45	0.0432	2.5	
		13:45	0.0416		
		16:45	0.0421		
CH.FC 8+38	23-8-2021	8:55	0.0442	2.5	
		13:55	0.0412		
CH.FC 0+64	23-8-2021	9:00	0.0446	2.5	
		14:00	0.0448		
Pit D	23-8-2021	9:15	0.0462	5	
		14:15	0.0429		
Pit C	23-8-2021	9:25	0.0436	8	
		14:25	0.0418		
137 Pit C	23-8-2021	9:45	0.0445	7	
		14:45	0.0407		
137 Pit B	23-8-2021	9:55	0.0423	8.6	
		14:55	0.0462		
137 Pit A	23-8-2021	10:05	0.0421	8.3	
		15:05	0.0404		

Field Operator: Ting Wai Kin (Safety Officer [Renopipel])
 Laboratory Staff:
 Checked by:

Signature

Date
 23-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	23-8-2021	10:15	0.0424	2.8	
		15:15	0.0438		
WPR 2	27-8-2021	10:25	0.0414	3.5	
		15:25	0.0429		
WPR 3	27-8-2021	10:45	0.0438	2.8	
		15:45	0.0430		
Pit A	23-8-2021	10:55	0.044	5	
		15:55	0.0432		
Pit B	23-8-2021	11:05	0.0430	3.6	
		16:05	0.0427		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 23-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	24-8-2021	8:30	0.448	5.5	
		13:30	0.439		
		17:00	0.442		
Area B	24-8-2021	8:45	0.439	2.5	
		13:45	0.405		
		16:45	0.416		
CH.FC 8+38	24-8-2021	8:55	0.426	2.5	
		13:55	0.426		
CH.FC 0+64	24-8-2021	9:00	0.427	2.5	
		14:00	0.442		
Pit D	24-8-2021	9:15	0.45	5	
		14:15	0.429		
Pit C	24-8-2021	9:25	0.419	8	
		14:25	0.425		
137 Pit C	24-8-2021	9:45	0.418	7	
		14:45	0.439		
137 Pit B	24-8-2021	9:55	0.427	8.6	
		14:55	0.450		
137 Pit A	24-8-2021	10:05	0.429	8.3	
		15:05	0.445		

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [Renopipe])	<i>T</i>	-8-2021
Laboratory Staff:			
Checked by:			

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	24-8-2021	10:15	0.0425	2.8	
		15:15	0.0429		
WPR 2	24-8-2021	10:25	0.0426	3.5	
		15:25	0.0474		
WPR 3	24-8-2021	10:45	0.0426	2.8	
		15:45	0.0431		
Pit A	24-8-2021	10:55	0.0429	5	
		15:55	0.0437		
Pit B	24-8-2021	11:05	0.0447	3.6	
		16:05	0.0425		

Field Operator: Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 24-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean – Concentric Joint Venture

Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	25-8-2021	8:30	0.0407	5.5	
		13:30	0.0439		
		17:00	0.0412		
Area B	25-8-2021	8:45	0.0408	2.5	
		13:45	0.0440		
		16:45	0.0411		
CH.FC 8+38	25-8-2021	8:55	0.0419	2.5	
		13:55	0.0420		
CH.FC 0+64	25-8-2021	9:00	0.0426	2.5	
		14:00	0.0450		
Pit D	25-8-2021	9:15	0.0444	5	
		14:15	0.0434		
Pit C	25-8-2021	9:25	0.0439	8	
		14:25	0.0416		
137 Pit C	25-8-2021	9:45	0.0437	7	
		14:45	0.0417		
137 Pit B	25-8-2021	9:55	0.0424	8.6	
		14:55	0.0436		
137 Pit A	25-8-2021	10:05	0.0429	8.3	
		15:05	0.0447		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 25-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	25-8-2021	10:15	0.0416	2.8	
		15:15	0.0435		
WPR 2	25-8-2021	10:25	0.0425	3.5	
		15:25	0.0438		
WPR 3	25-8-2021	10:45	0.0458	2.8	
		15:45	0.0428		
Pit A	25-8-2021	10:55	0.0463	5	
		15:55	0.0435		
Pit B	25-8-2021	11:05	0.0426	3.6	
		16:05	0.0462		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 25-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	26-8-2021	8:30	0.0427	5.5	
		13:30	0.0447		
		17:00	0.0413		
Area B	26-8-2021	8:45	0.0409	2.5	
		13:45	0.0418		
		16:45	0.0437		
CH.FC 8+38	26-8-2021	8:55	0.0425	2.5	
		13:55	0.0422		
CH.FC 0+64	26-8-2021	9:00	0.0437	2.5	
		14:00	0.0439		
Pit D	26-8-2021	9:15	0.0427	5	
		14:15	0.0410		
Pit C	26-8-2021	9:25	0.0405	8	
		14:25	0.0425		
137 Pit C	26-8-2021	9:45	0.0462	7	
		14:45	0.0402		
137 Pit B	26-8-2021	9:55	0.0415	8.6	
		14:55	0.0427		
137 Pit A	26-8-2021	10:05	0.0419	8.3	
		15:05	0.0441		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
Ting Wai Kin (Safety Officer [Renopipe])

Signature
✍

Date
26-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	26-8-2021	10:15	0.0427	2.8	
		15:15	0.0447		
WPR 2	26-8-2021	10:25	0.0443	3.5	
		15:25	0.0419		
WPR 3	26-8-2021	10:45	0.0420	2.8	
		15:45	0.0428		
Pit A	26-8-2021	10:55	0.0446	5	
		15:55	0.0422		
Pit B	26-8-2021	11:05	0.0412	3.6	
		16:05	0.0429		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature  Date 26-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	27-8-2021	8:30	0.0466	5.5	
		13:30	0.0426		
		17:00	0.0405		
Area B	27-8-2021	8:45	0.0412	2.5	
		13:45	0.0433		
		16:45	0.0440		
CH.FC 8+38	27-8-2021	8:55	0.0429	2.5	
		13:55	0.0441		
CH.FC 0+64	27-8-2021	9:00	0.0430	2.5	
		14:00	0.049		
Pit D	27-8-2021	9:15	0.0415	5	
		14:15	0.0426		
Pit C	27-8-2021	9:25	0.0450	8	
		14:25	0.0417		
137 Pit C	27-8-2021	9:45	0.0429	7	
		14:45	0.0422		
137 Pit B	27-8-2021	9:55	0.0439	8.6	
		14:55	0.0436		
137 Pit A	27-8-2021	10:05	0.0447	8.3	
		15:05	0.048		

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [Renopipe])		27-8-2021
Laboratory Staff:			
Checked by:			

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultirAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	27-8-2021	10:15	0.0429	2.8	
		15:15	0.0438		
WPR 2	27-8-2021	10:25	0.0437	3.5	
		15:25	0.0421		
WPR 3	27-8-2021	10:45	0.0422	2.8	
		15:45	0.0410		
Pit A	27-8-2021	10:55	0.0427	5	
		15:55	0.0416		
Pit B	27-8-2021	11:05	0.0439	3.6	
		16:05	0.0444		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date
 27-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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 Penta-Ocean - Concentric Joint Venture
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 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	28-8-2021	8:30	0.0448	5.5	
		13:30	0.0430		
		17:00	0.0447		
Area B	28-8-2021	8:45	0.0448	2.5	
		13:45	0.0439		
		16:45	0.0436		
CH.FC 8+38	28-8-2021	8:55	0.0495	2.5	
		13:55	0.0431		
CH.FC 0+64	28-8-2021	9:00	0.0409	2.5	
		14:00	0.0414		
Pit D	28-8-2021	9:15	0.0424	5	
		14:15	0.0417		
Pit C	28-8-2021	9:25	0.0408	8	
		14:25	0.0432		
137 Pit C	28-8-2021	9:45	0.0440	7	
		14:45	0.0429		
137 Pit B	28-8-2021	9:55	0.0427	8.6	
		14:55	0.0431		
137 Pit A	28-8-2021	10:05	0.0432	8.3	
		15:05	0.0421		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 28-8-2021

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet
 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	28-8-2021	10:15	0.0447	2.8	
		15:15	0.0419		
WPR 2	28-8-2021	10:25	0.0418	3.5	
		15:25	0.0407		
WPR 3	28-8-2021	10:45	0.047	2.8	
		15:45	0.0437		
Pit A	28-8-2021	10:55	0.0439	5	
		15:55	0.0428		
Pit B	28-8-2021	11:05	0.0437	3.6	
		16:05	0.0442		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 28-8-2021
 Laboratory Staff:
 Checked by:

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Contract no. 13/WSD/16
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 Penta-Ocean - Concentric Joint Venture
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 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultirAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	30-8-2021	8:30	0.0438	5.5	
		13:30	0.0431		
		17:00	0.0417		
Area B	30-8-2021	8:45	0.0445	2.5	
		13:45	0.0435		
		16:45	0.0437		
CH.FC 8+38	30-8-2021	8:55	0.0435	2.5	
		13:55	0.0413		
CH.FC 0+64	30-8-2021	9:00	0.0409	2.5	
		14:00	0.0434		
Pit D	30-8-2021	9:15	0.0415	5	
		14:15	0.0411		
Pit C	30-8-2021	9:25	0.0449	8	
		14:25	0.0425		
137 Pit C	30-8-2021	9:45	0.0429	7	
		14:45	0.0443		
137 Pit B	30-8-2021	9:55	0.0449	8.6	
		14:55	0.0434		
137 Pit A	30-8-2021	10:05	0.0433	8.3	
		15:05	0.0435		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Signature

Date
 30-8-2021

Contract No. 13/WSD/16
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Contract no. 13/WSD/16
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 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	30-8-2021	10:15	0.0407	2.8	
		15:15	0.0428		
WPR 2	30-8-2021	10:25	0.0416	3.5	
		15:25	0.0402		
WPR 3	30-8-2021	10:45	0.0431	2.8	
		15:45	0.0431		
Pit A	30-8-2021	10:55	0.0408	5	
		15:55	0.0419		
Pit B	30-8-2021	11:05	0.0491	3.6	
		16:05	0.0426		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date
 30-8-2021

Contract No. 13/WSD/16
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Contract no. 13/WSD/16
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 Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	31-8-2021	8:30	0.0421	5.5	
		13:30	0.0436		
		17:00	0.0421		
Area B	31-8-2021	8:45	0.0448	2.5	
		13:45	0.0427		
		16:45	0.0452		
CH.FC 8+38	31-8-2021	8:55	0.0449	2.5	
		13:55	0.0411		
CH.FC 0+64	31-8-2021	9:00	0.0425	2.5	
		14:00	0.0433		
Pit D	31-8-2021	9:15	0.0438	5	
		14:15	0.0449		
Pit C	31-8-2021	9:25	0.0428	8	
		14:25	0.0403		
137 Pit C	31-8-2021	9:45	0.0431	7	
		14:45	0.0437		
137 Pit B	31-8-2021	9:55	0.0421	8.6	
		14:55	0.0433		
137 Pit A	31-8-2021	10:05	0.0419	8.3	
		15:05	0.0428		

	<u>Name & Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [Renopipe])		31-8-2021
Laboratory Staff:			
Checked by:			

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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Sampling equipment used:	Dates calibrated
MultirAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 1	31-8-2021	10:15	0.0434	2.8	
		15:15	0.0437		
WPR 2	31-8-2021	10:25	0.0423	3.5	
		15:25	0.0418		
WPR 3	31-8-2021	10:45	0.0407	2.3	
		15:45	0.0428		
Pit A	31-8-2021	10:55	0.0442	5	
		15:55	0.0414		
Pit B	31-8-2021	11:05	0.0457	3.6	
		16:05	0.0413		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])
 Laboratory Staff:
 Checked by:

Name & Designation

Signature

Date

31-8-2021

Appendix K

Complaint Log and Regulatory Compliance Proforma

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
01 August 2021 - 31 August 2021	0	3	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
01 August 2021 - 31 August 2021	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
01 August 2021 - 31 August 2021	0	0	N/A

Appendix L

Site Inspection Proforma



Acuity Sustainability Consulting Limited

Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.
 O: 2333-6823 | F: 2333-1316 | E: general@acuityhk.com | www.acuityhk.com

Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 05/08/2022 Inspected by: ET: Charlene Lo WSD: Tsang Kin Fai
 Contractor: Sima Ng IEC: N/A

Inspection Time: 09:35 - 11:20

Weather	<input type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input checked="" type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<u>29</u> C	Humidity	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low		
Wind	<input checked="" type="checkbox"/> Palm	<input type="checkbox"/> Light	<input type="checkbox"/> Breeze	<input type="checkbox"/> Strong			

		N/A	Yes	No	Photo/Remarks
0.00 General					
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Obs (4)</u>
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00 Construction Dust					
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Dusty materials were kept wet. have operation in progress</u>
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>water spraying used to control dust emission</u>
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>No fumes/smoke emitting plant/construction</u>
1.04	Are wheel-washing facilities with high pressure water jets provided at all site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>paved</u>
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Dusty materials were kept wet to limit dust emission</u>
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free from dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>MRMMA label</u>

05/08



Acuity Sustainability Consulting Limited

Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.
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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or dry PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	noise label
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	regular inspection
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no visit to fraction plant to NSR
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no visit to fraction plant to NSR
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (1)
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (2)

05/07



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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	obs (3)
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (2)
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ok (1)
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(drifting membrane (1))
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	membrane (3)
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction workforce?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a tip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

25/08



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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed or at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Reminder (1) (13)
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminium cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

05/08

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Acuity Sustainability Consulting Limited

Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.
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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
5.00	Landscape and Visual				
5.01	Are site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs'n
6.02	Are silt trap installed and well-maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	# obs'n
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Portion F
 ↓
 WPR1
 ↓
 WPR2
 ↓
 WPR4

Observation(s)

- (1) Gully was not protected by sandbags in the ~~WPR1~~ WPR1, WPR4
- (2) The Main Contractor was reminded that all wastewater should be properly treated before discharge to drainage systems at WPR1, 2
- (3) Construction boundary was not protected by sandbags between WPR2
- (4) Environmental permit was not observed at WPR4.

Reminders(s)

- (1) Regular cleaning of drip tray should be conducted at Portion F.
- (2) Construction materials shall not be placed on the planter rack at WPR1
- (3) Housekeeping was reminded at WPR4.

Signatures:

ET Representative



(Name: Charlene Lam)

Contractor's Representative



(Name: Sam Ho)

WSD's Representative



(Name: Frank Kwok)

IEC's Representative

N/A

(Name: N/A)

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WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 13/08/2021 Inspected by: ET Charlene Law WSD: C.K. Choy
 Inspection Time: 09:30 - 12:00 Contractor: Sum Ng IEC: N/A

Weather	<input type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input checked="" type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<u>29</u> °C	Humidity	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low		
Wind	<input type="checkbox"/> Calm	<input checked="" type="checkbox"/> Light	<input type="checkbox"/> Breeze	<input type="checkbox"/> Strong			

		N/A	Yes	No	Photo/Remarks
0.00 General					
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0.02	Is ET Leacer's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00 Construction Dust					
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Compaction / compaction with pulverised fuel ash.
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	screening.
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No fume / smoke emitting plant / construction activity.
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	paved.
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	dusty materials were kept wet to prevent dust emission.
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No dump trucks observed.
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free from dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRMM label.

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement, or dry PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	QMG/OK
2.02	Are the PMFs operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Regular inspection
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	to avoid to noise
2.05	Are movable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	to avoid to noise
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PMFs closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (4)
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (4)

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (1)
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (16)
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (13)
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (2)
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
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		N/A	Yes	No	Photo/Remarks
5.00	Landscape and Visual				
5.01	Are site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (4)
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (2)
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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WPK1
 ↓
 PPK

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observations

(1) Construction boundary was not protected by sandbags at WPK1

(2) Dirty materials were found directly next to the water barrier at WPK1.
 These materials shall be removed to prevent the ~~contamination~~ ^{escape of the material} to the area outside boundary. Lumps

(3) Gully was not protected by geotextile & sandbags at WPK1

(4) ~~the main contractor~~
 The main contractor was reminded that all wastewater should be treated before discharge at WPK1.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			
(Name: _____)	(Name: Sam Ng.)	(Name: F. K. Siu)	(Name: _____)



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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 20/08/2021 Inspected by: ET: Charmie Lai WSD: AU WAI TAE
 Inspection Time: 09:30-12:00 Contractor: Sam Ng IFC: N/A

Weather Condition	<input checked="" type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<u>31</u> °C	Humidity	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low		
Wind	<input checked="" type="checkbox"/> Light	<input type="checkbox"/> Breeze	<input type="checkbox"/> Strong				

		N/A	Yes	No	Photo/Remarks
0.00	General				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	Construction Dust				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Screenings, enclosures</u>
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>paved</u>
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Dusty materials were kept wet to limit dust emission</u>
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>no empty trucks observed</u>
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free form dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>NO DARK SMOKE</u>

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or dry PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	COMME label
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	regular inspection
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. no unit to face NSR
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	near to work partition
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ok (1)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ok (1)
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	reminder (1)
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	remember
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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		N/A	Yes	No	Photo/Remarks
5.00	Landscape and Visual				
5.01	Are site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observations

Hk Velodrome
pit Y
pit R
 (1) Chemicals were observed not placed in a chip tray at Hk Velodrome (pit P)

Reminders

- (1) Dusty materials should be sprayed with dust suppression materials to curb dust emission at Hk Velodrome (pit P)
- (2) Housekeeping was reminded at pit Y.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			<i>N/A</i>
(Name: <i>Charlene Lai</i>)	(Name: <i>Sun H.S.</i>)	(Name: <i>Au Wai Zik</i>)	(Name: <i>N/A</i>)

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 27/08/2024 Inspected by: ET: Cherlene Lau WSD: Alex Wah
 Contractor: Sammy IFC: Louis Ewan
 Inspection Time: 09:20 - 12:00

Weather							
Condition	<input type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input checked="" type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<input checked="" type="checkbox"/> 27 C		Humidity	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Moderate	<input type="checkbox"/> Low	
Wind	<input type="checkbox"/> Calm	<input type="checkbox"/> Light	<input checked="" type="checkbox"/> Breeze	<input type="checkbox"/> Strong			

		N/A	Yes	No	Photo/Remarks
0.00	General				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	Construction Dust				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	dusty materials were kept wet to limit dust emission
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No dusty construction work observed
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No fume/smoke emitting plant/construction activity observed
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	paved
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	water spraying were kept wet to limit dust emission
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No dump trucks observed
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free form dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRMM (grey)

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	noise label
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	regular inspection
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no unit to NSR
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NSR
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no water discharge
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No water discharge
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Gravel is provided
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Reminder (10)
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reminder (10)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reminder (10)
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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		N/A	Yes	No	Photo/Remarks
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	remainder 2/3
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	remainder 2/3
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Acuity Sustainability Consulting Limited

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
5.00	Landscape and Visual				
5.01	Are site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Minimize C3
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No water discharge
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Pit D
 ↓
 mainlaying stage 1 area A

Reminders/CS

- (1) Chemicals should be stored in admb tray to prevent oil leakage at Pit D
- (2) The Main Contractor was reminded to consider machinery storage in the construction site (clipped) - (Pit D)
- (3) Housekeeping was reminded and the main contractor was reminded not to place materials on natural slopes/vegetation covered area (Pit D)

Observation/D

- (1) No major observations were reported on the reporting day

Signatures:

ET Representative

Contractor's Representative

WSD's Representative

IEC's Representative






(Name: Charles Lee)

(Name: Sam Ho)

(Name: Alex Wai)

(Name: Louis Kuen)

E/CS, WSD.

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Appendix M

Proactive Environmental Protection Proforma

Proactive Environmental Protection for the Next Reporting Month

Reporting Period	Activity	Major Environmental Impact	Environmental Mitigation Measure
1 September 2021 - 30 September 2021	<ul style="list-style-type: none"> - Excavation of trench - Mainlaying of pipe - Backfilling of the trench - Work fronts for open trench - Work fronts for pipe jacking 	Construction dust and noise generation; construction wastes; impact of water quality	<ul style="list-style-type: none"> - Dust suppression by regular wetting and water spraying - Reduction of noise from equipment and machinery on-site - Sorting and storage of general refuse and construction waste - Treatment of water with water treatment facilities before discharge

Appendix N

Impact Monitoring Schedule of Next Reporting Month (Tentative)

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



Sep-21						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 Noise Impact Monitoring	3	4
5	6	7	8	9	10 Noise Impact Monitoring	11
12	13	14	15	16 Noise Impact Monitoring	17	18
19	20	21	22	23 Noise Impact Monitoring	24	25
26	27	28	29	30 Noise Impact Monitoring		

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Appendix O

Academic Calendar(s)

Contract No. 13/WSD/16
Mainlaying in Tseung Kwan O
Monthly EM&A Report No.37



CREATIVE SECONDARY SCHOOL CALENDAR 2020-2021									
Month	Day	Su	Mo	Tu	We	Th	Fr	Sa	
August	2								
		9	10	11	12	13	14	15	
		16	17	18	19	20	21	22	
		23	24A	25B	26C	27D	28E	29	
	30	31F							
								19/8 First School day	
September	2			1A	2B	3C	4D	5	
	3	6	7E	8F	9A	10B	11C	12	
		13	14D	15E	16F	17A	18B	19	
	4	20	21C	22D	23E	24F	25A	26	
	5	27	28B	29C	30				
								28/9 F1/MY1 3-Way Conference, 30/9 Staff Development Day 1 1/10 National Day, 2/10 The Day following Mid-Autumn Festival	
October	4	5D	6E	7F	8A	9B	10		
	6	11	12C	13D	14E	15F	16A	17	
		18	19	20	21	22	23	24	
	7	25	26	27B	28C	29D	30E	31	
								13/10 F6 3-Way Conference 19-24 Term Break 26/10 Chung Yeung Festival Holiday.	
November	8	1	2F	3A	4B	5C	6D	7	
		8	9	10E	11F	12A	13B	14	
	9	15	16C	17D	18E	19F	20A	21	
	10	22	23B	24C	25D	26E	27F	28	
	11	29	30A						
								9/11/2020 Staff Development Day 2, 10/11 F5 3-Way Conference	
December	12	6	7E	8F	9A	10B	11C	12	
		13	14D	15E	16F	17A	18B	19	
		20	21	22	23	24	25	26	
		27	28	29	30	31			
									15/12 F4 3-Way Conference 25/12 Christmas Day 16/12 The First Weekday after Christmas Day 21/12-2/1 Christmas & New Year Holiday
January	13	3	4C	5D	6E	7F	8A	9	
	14	10	11B	12C	13D	14E	15F	16	
	15	17	18A	19B	20C	21D	22E	23	
	16	24	25F	26A	27B	28C	29D	30	
		31							
									1/1 New Year's Day 7/1 F3 3-Way Conference, 6-19/1 F6 HKDSE & IBDP Mock Exams
February	17		1E	2F	3A	4B	5C	6	
		7	8D	9E	10	11	12	13	
		14	15	16	17	18	19	20	
	18	21	22F	23A	24B	25C	26D	27	
	28								
								12-15 New year Holiday, 10-20/2 Chinese New Year Holiday	
March	19		1E	2F	3A	4B	5C	6	
		7	8D	9E	10F	11A	12B	13	
	20	14	15C	16D	17E	18F	19A	20	
		21	22	23	24	25	26	27	
	21	28	29B	30C	31D				
								4/3 F2 3-Way Conference, 5/3 Last school day for F6 HKDSE students	
April									
		4	5	6	7	8	9	10	
	22	11	12E	13F	14A	15B	16C	17	
		18	19D	20E	21F	22A	23B	24	
	23	25	26C	27D	28E	29F	30A		
									01/04-10/04 Easter Holiday, 02/04 Good Friday, 03/04 The Day following Good Friday 04/04 Ching Ming Festival, 05/04 Easter Monday, 9-19/4 F6 HKDSE Exams-CSS Hall 16/4 Last school day for F6 IBDP students
May	24	2	3B	4C	5D	6E	7F	8	
	25	9	10A	11B	12C	13D	14E	15	
	26	16	17F	18A	19B	20C	21D	22	
	27	23	24D	25E	26F	27A	28B	29	
		30	31C						
									27/4 F1/MY1 3-Way Conference 30/4-19/5 F6 IBDP May Exams 1/5 Labour Day 4-17/5 F5 HKDSE Final Exams
June	28	6	7B	8C	9D	10E	11F	12	
	29	13	14	15A	16B	17C	18D	19	
	30	20	21E	22F	23A	24B	25C	26	
		27	28D	29E	30F				
								14/06 Tuen Ng Festival	
July									
		4	5	6	7	8	9	10	
		11	12	13	14	15	16	17	
		18	19	20	21	22	23	24	
		25	26	27	28	29	30	31	
		1	2	3	4	5	6	7	
		8	9	10	11	12	13	14	
	15	16	17	18	19	20	21		
	22	23	24	25	26	27	28		
	29	30	31						
								01/07 HKSAR Establishment Day, 2/7-14/8 Summer Holiday	
August									
		1	2	3	4	5	6	7	
		8	9	10	11	12	13	14	
		15	16	17	18	19	20	21	
		22	23	24	25	26	27	28	
	29	30	31						

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