ANEWR

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

Your reference:

Our reference: HKWSD201/50/107682

Date: 3 December 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.39

We refer to emails of 26 November, 1 and 2 December 2021 attaching Monthly EM&A Report No.39 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/lsmt

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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. 39
(Period from 1 to 31 October 2021)

November 2021
(Rev. 0)

	Prepared by:	Certified by:
Name	Charlene Lai	Jacky Leung
Position	Environmental Team	Environmental Team Leader
Signature		
Date:	14/11/2021	14/11/2021

Revision History

0	1st Submission	14 November 2021
Rev.	**DESCRIPTION OF MODIFICATION**	**DATE**

CONTENT

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 39th 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 October 2021 to 31 October 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	• TBM pipe jacking works were completed.
Portion J of the Project Site	Wan Po Rd – Workfront 1	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 2	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 3	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 4	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Pit A	• Pit excavation and ELS works were in-progress.
	Wan Po Rd – Pit B	• Preparation works for TBM pipe jacking were conducted.
	Wan Po Rd – Pit D	• Pit excavation and ELS works were in-progress.
	Landfill Stage 1 – Area A	• Pipe trench excavation and pipe laying were in-progress.
	Pet Garden's Road	• Pipe trench excavation and pipe laying were in-progress.
	Landfill Stage 1 – Area B	• Trench excavation and pipe laying were in-progress.

Location	Location	Works Conducted in the reporting month
	Pung Loi Road – Pit WPR1	• Tree felling works were conducted.
	Roundabout – Pit G1A	• Pit excavation and ELS works
	Roundabout – Pit J1A	• Trenchless works by hand-shield were conducted.
	Velodrome – Pit L-M	• Trench excavation and pipe laying works were conducted.
	Velodrome – Pit M	• Hand-shield pipe jacking works were conducted.
	Velodrome – Pit P	• TBM pipe jacking works were conducted.
	Mau Wu Tsai – Workfront 1	• Trench excavation and pipe laying works were conducted. • Construction works of Washout Chamber were conducted.
	Mau Wu Tsai – Workfront 2	• Laying of branch pipe was conducted.
	Ling Hong Road - Pit Y	• Pipe laying works in-between Pit R to Pit Y were conducted.
	Ling Hong Road - Pit R	• Pipe laying works in-between Pit R to Pit Y were conducted.
	Po Lam Road (A1)	• Trench backfilling and reinstatement works were conducted.
	TKO Primary Service Reservoir	• Trench excavation and pipe laying 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, construction works, 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, construction works, 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 scheduled in the reporting month for NSR4 Creative Secondary School on 8*, 13*, 21 and 29 October 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**.

Remark*: The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.

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 November 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	• Site clearance for pipe jacking works will be conducted.
Portion J of the Project Site	Wan Po Rd – Workfront 1	• Trench excavation and pipe laying will be conducted.
	Wan Po Rd – Workfront 2	• Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 3	• Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 4	• Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Pit A	• Excavation and ELS works will be conducted.
	Wan Po Rd – Pit B	• Preparation works for TBM pipe jacking will be conducted.
	Wan Po Rd – Pit D	• Preparation works for TBM pipe jacking will be conducted.
	Landfill Stage 1 – Area A	• Trench excavation and pipe laying works will be conducted. • Plate load test will be conducted.

Location	Location	Forecast Works in Next Reporting Month
	Pet Garden's Road	• Trench excavation and pipe laying works will be conducted.
	Landfill Stage 1 – Area B	• Trench excavation and pipe laying works will be conducted.
	Pung Loi Road – Pit WPR1	• Sheetpile driving works for pit ELS will be conducted.
	Roundabout – Pit G1A	• Pit excavation and ELS works will be conducted.
	Roundabout – Pit J1A	• Trenchless works by hand-shield will be continued.
	Velodrome – Pit L-Pit M	• Trench excavation and pipe laying works will be conducted.
	Velodrome – Pit M	• Hand-shield pipe jacking works will be conducted.
	Velodrome – Pit P	• TBM pipe jacking will be continued.
	Ling Hong Road - Pit Y	• Pipe laying in-between Pit R to Pit Y will be conducted.
	Ling Hong Road - Pit R	• Pipe laying in-between Pit R to Pit Y will be conducted.
	Mau Wu Tsai – Workfront 1	• Trench excavation and pipe mainlaying works will be conducted. • Construction of Washout Chamber will be conducted.
	Mau Wu Tsai – Workfront 2	• Laying of branch pipe will be conducted.
	TKO Primary Service Reservoir	• Trench excavation and pipe laying 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, sheetpiling works 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, TBM break through, sheetpiling works 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 39th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 October 2021 to 31 October 2021.

1.3 Project Organization

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

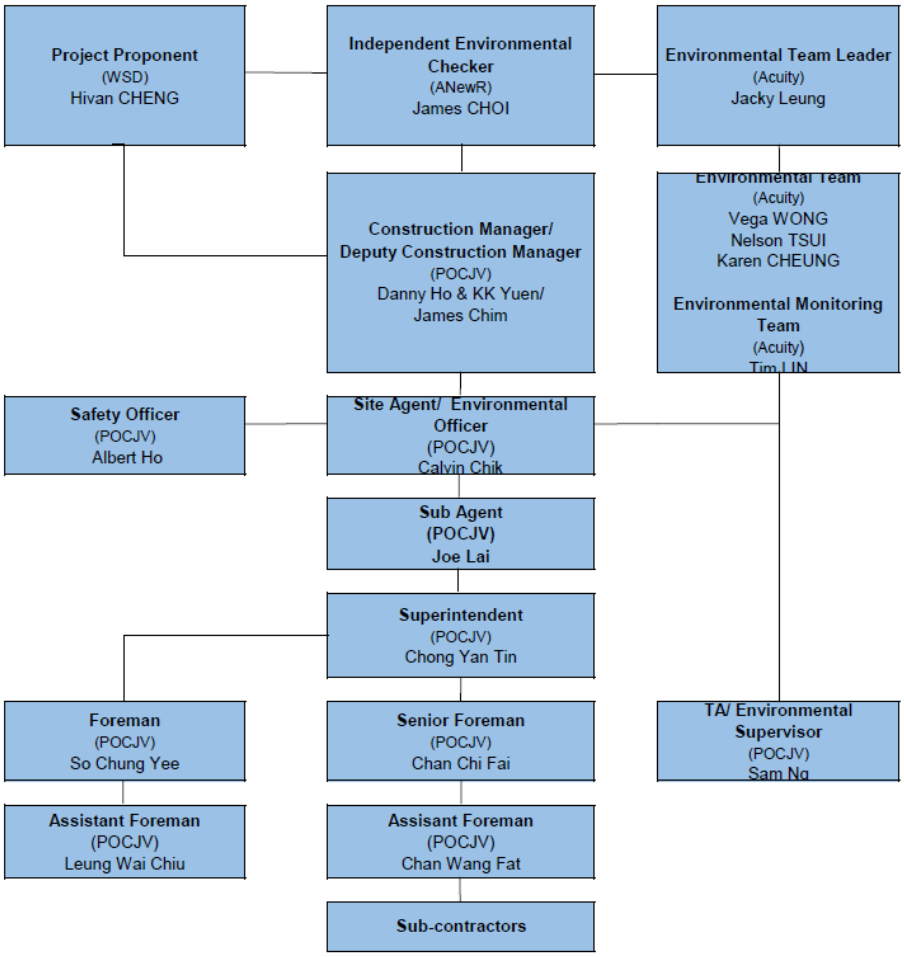


Figure 1.1 Project Organization Chart

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	• TBM pipe jacking works were completed.
Portion J of the Project Site	Wan Po Rd – Workfront 1	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 2	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 3	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Workfront 4	• Pipe trench excavation and pipe laying were in-progress.
	Wan Po Rd – Pit A	• Pit excavation and ELS works were in-progress.
	Wan Po Rd – Pit B	• Preparation works for TBM pipe jacking were conducted.
	Wan Po Rd – Pit D	• Pit excavation and ELS works were in-progress.
	Landfill Stage 1 – Area A	• Pipe trench excavation and pipe laying were in-progress.
	Pet Garden's Road	• Pipe trench excavation and pipe laying were in-progress.
	Landfill Stage 1 – Area B	• Trench excavation and pipe laying were in-progress.
	Pung Loi Road – Pit WPR1	• Tree felling works were conducted.
	Roundabout – Pit G1A	• Pit excavation and ELS works
	Roundabout – Pit J1A	• Trenchless works by hand-shield were conducted.
	Velodrome – Pit L-M	• Trench excavation and pipe laying works were conducted.
	Velodrome – Pit M	• Hand-shield pipe jacking works were conducted.
	Velodrome – Pit P	• TBM pipe jacking works were conducted.
	Mau Wu Tsai – Workfront 1	• Trench excavation and pipe laying works were conducted. • Construction works of Washout Chamber were conducted.

Location	Location	Works Conducted in the reporting month
	Mau Wu Tsai – Workfront 2	• Laying of branch pipe was conducted.
	Ling Hong Road - Pit Y	• Pipe laying works in-between Pit R to Pit Y were conducted.
	Ling Hong Road - Pit R	• Pipe laying works in-between Pit R to Pit Y were conducted.
	Po Lam Road (A1)	• Trench backfilling and reinstatement works were conducted.
	TKO Primary Service Reservoir	• Trench excavation and pipe laying 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 (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 21 and 29 October 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 $L_{eq\ 5min}$/$L_{eq\ 30min}$ (average of 6 consecutive $L_{eq\ 5min}$)	L_{eq}, 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

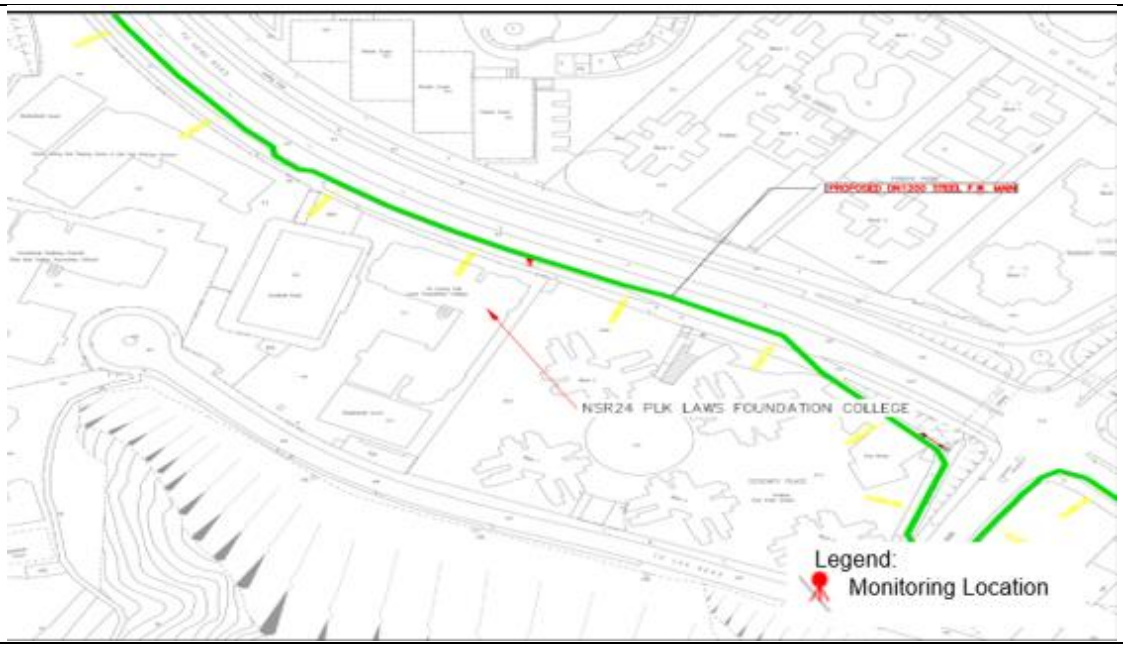


Figure 2.2 NSR24 PLK Laws Foundation College

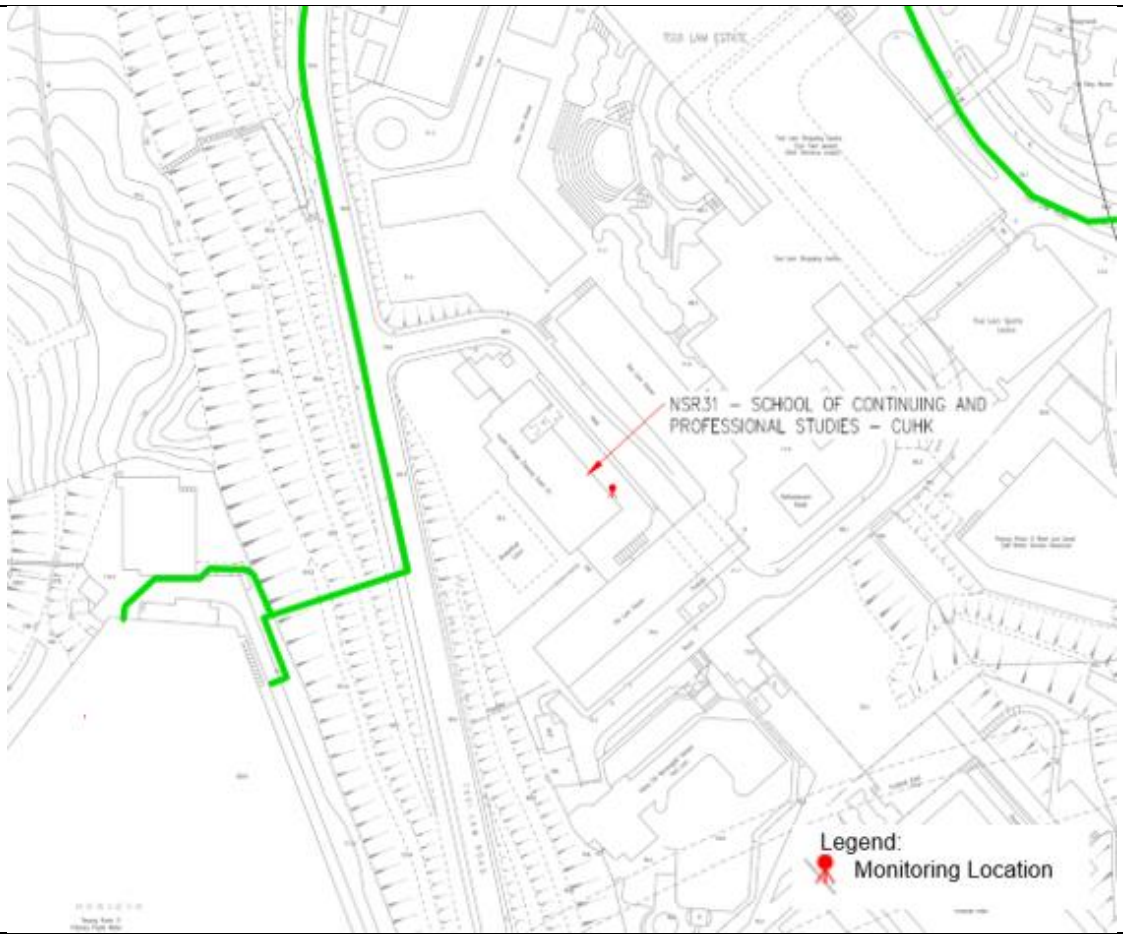


Figure 2.3 NSR31 School of Continuing and Professional Studies - CUHK

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 was 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-13548-E0	12/12/2020	11/12/2021	30-130 dB(A)
Sound Level Meter	Lutron SL-4033SD	I491835	07/12/2020	06/12/2021	30-130 dB(A)
Sound Level Meter	Svantek 971	77731	09/02/2021	08/02/2022	15-140 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	• 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 scheduled in the reporting month for NSR4 – Creative Secondary School on 8*, 13*, 21 and 29 September 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.**

Remark*: The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.

No construction works were conducted within 300m radius of NSR24 and NSR31. Thus, no monitoring works was 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 '000m3)	Chemical Waste (in '000kg)	Non-inert C&D Materials			
			Others, e.g. General Refuse disposed at Landfill (in '000m3)	Recycled materials		
				Paper/card board (in '000kg)	Plastics (in '000kg)	Metals (in '000kg)
October-21	1.857	0.000	0.002	0.042	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, 480 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.**

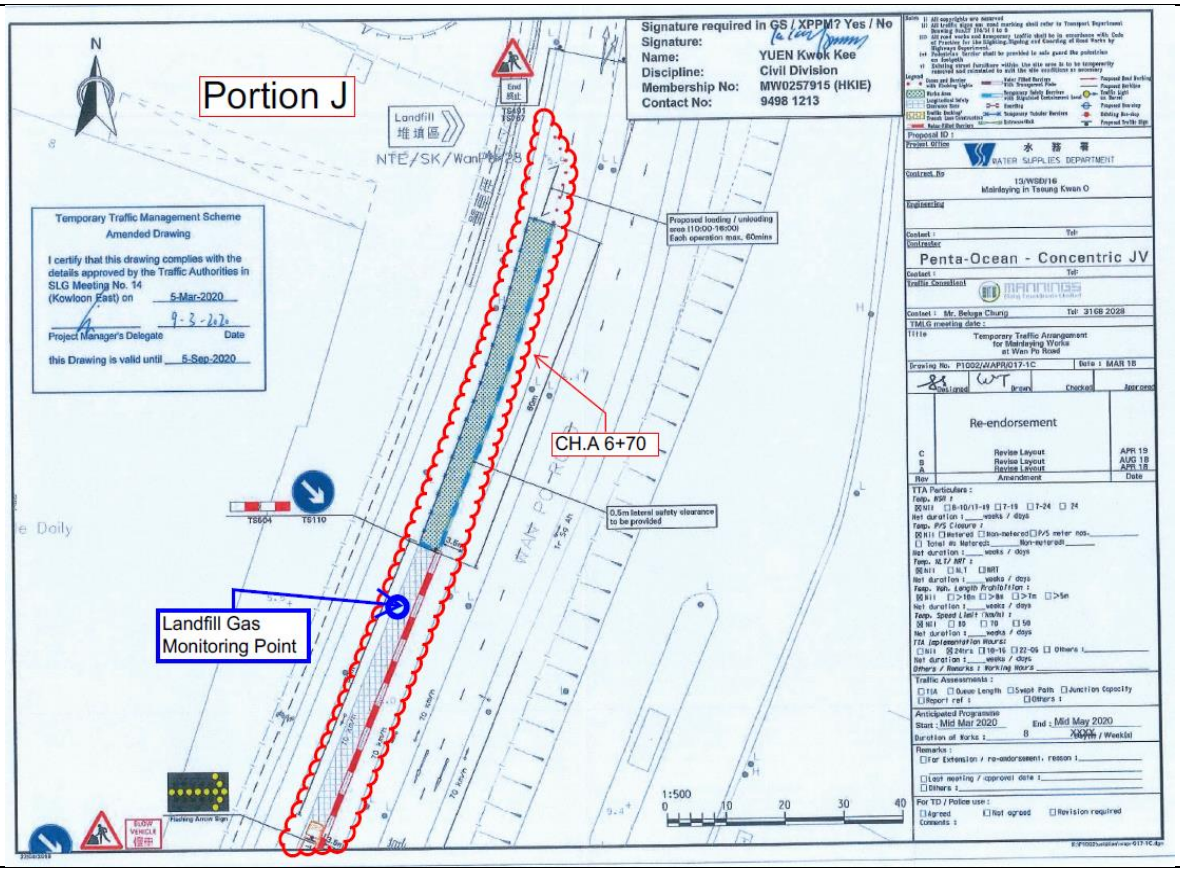


Figure 4.1 Monitoring Location - CH.A 6+70

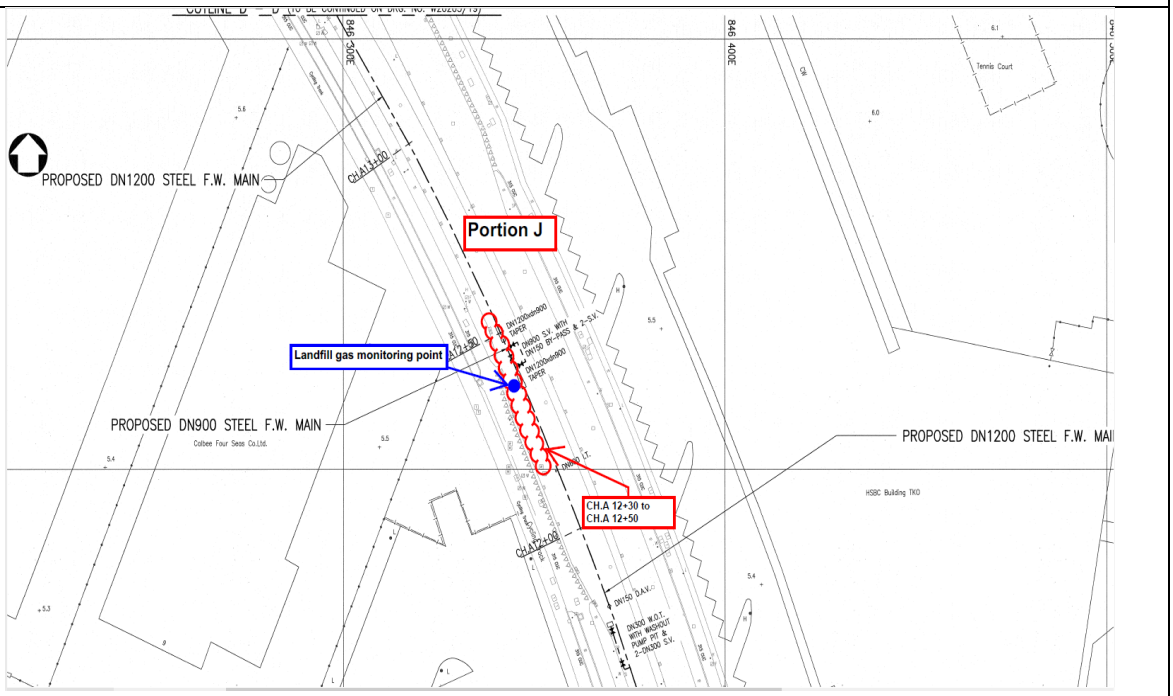


Figure 4.2 Monitoring Location – CH.A 12+30 ~ 12+50

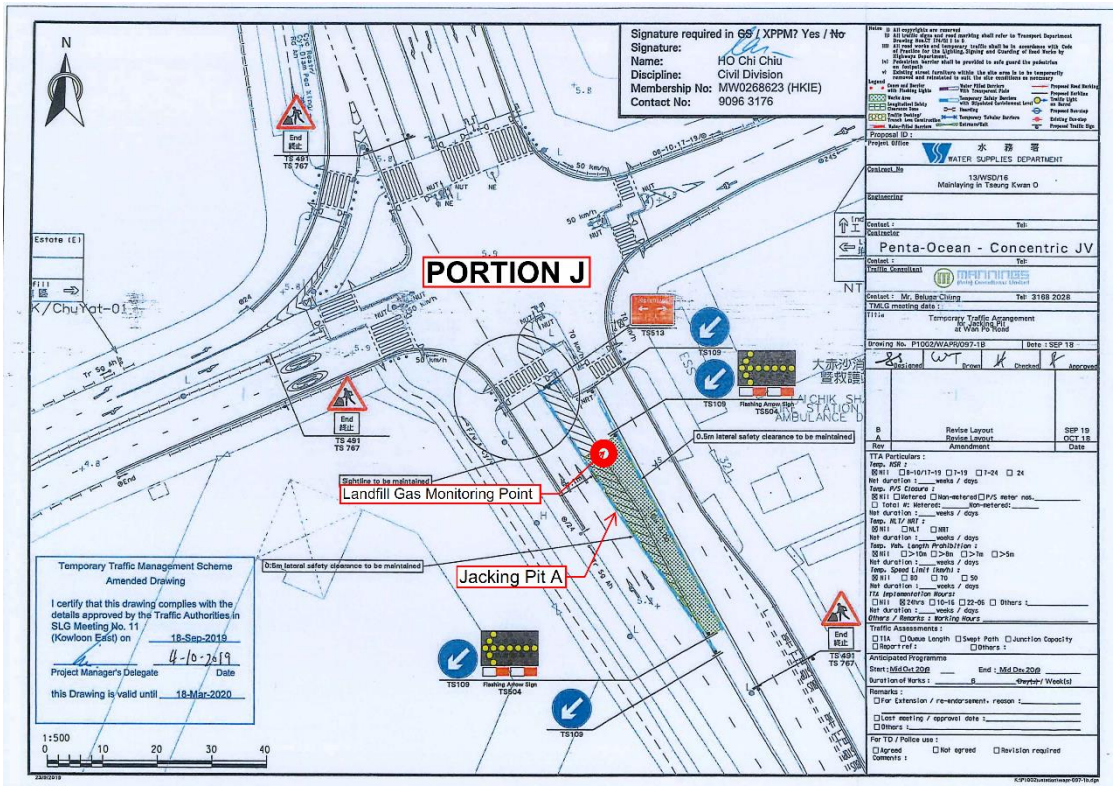


Figure 4.3 Monitoring Location – CH.A 13+50 ~ 14+00 (Pit A)

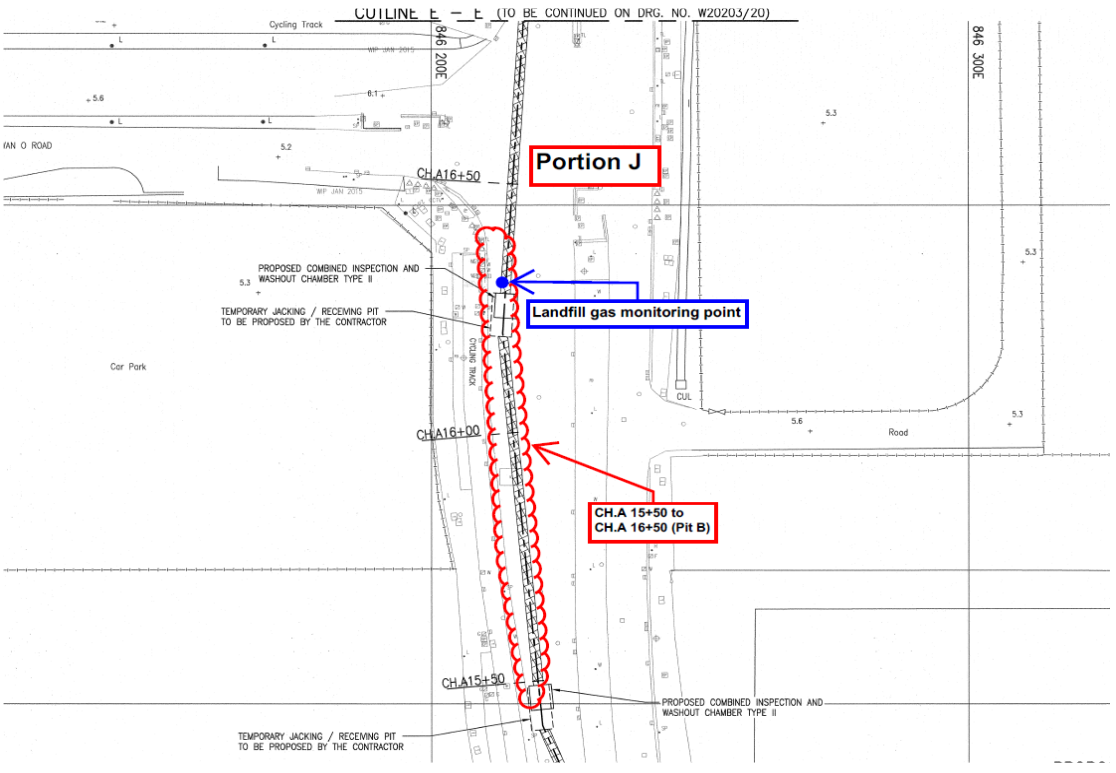


Figure 4.4 Monitoring Location – CH.A 15+50 ~16+50 (Jacking Pit B)

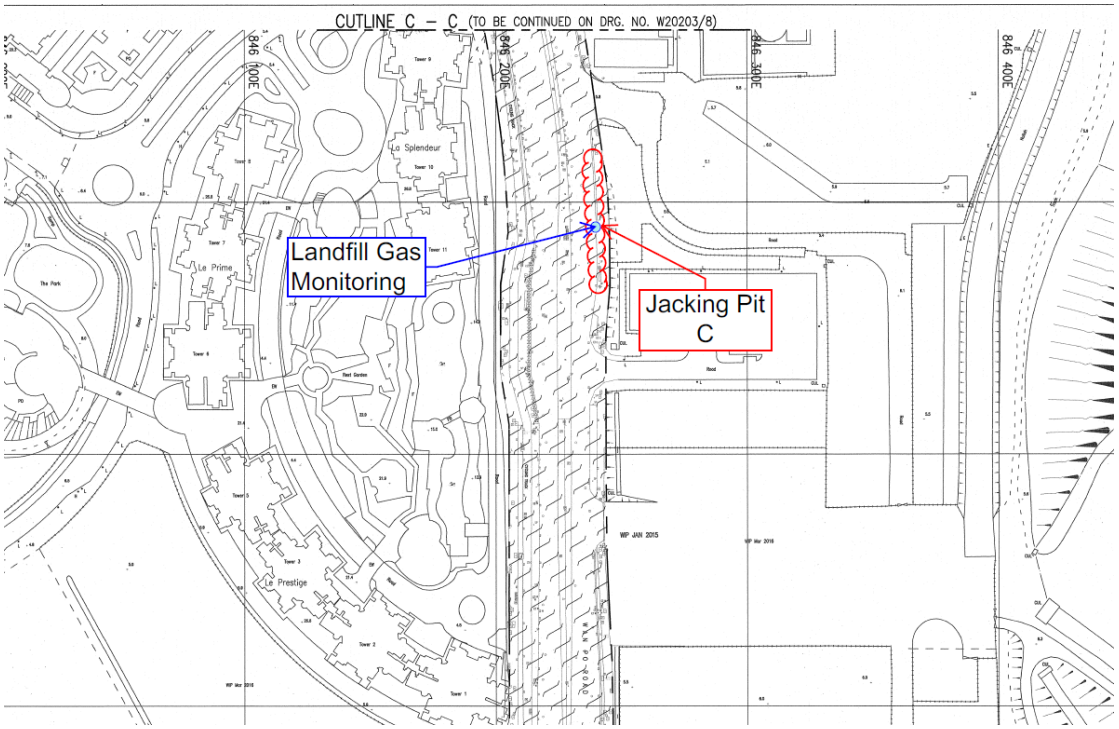


Figure 4.5 Monitoring Location – CH.A 19+15 ~19+50 (Pit C)

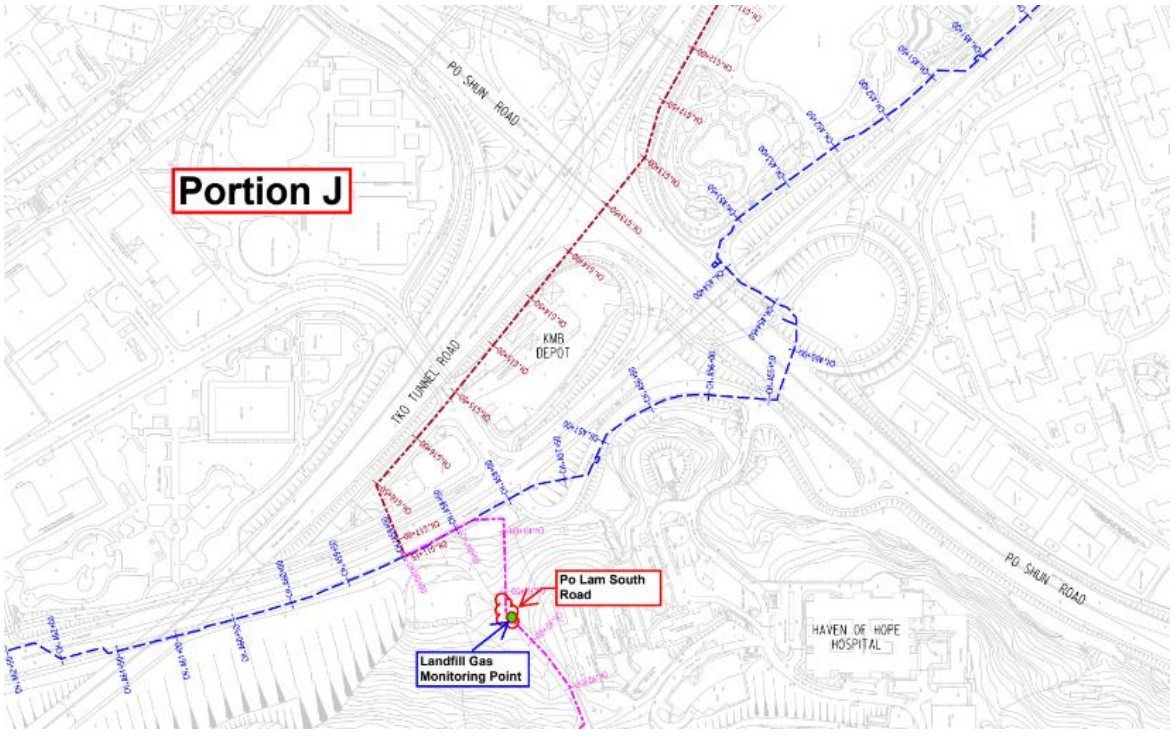


Figure 4.6a Monitoring Location – Mau Wu Tsai 1

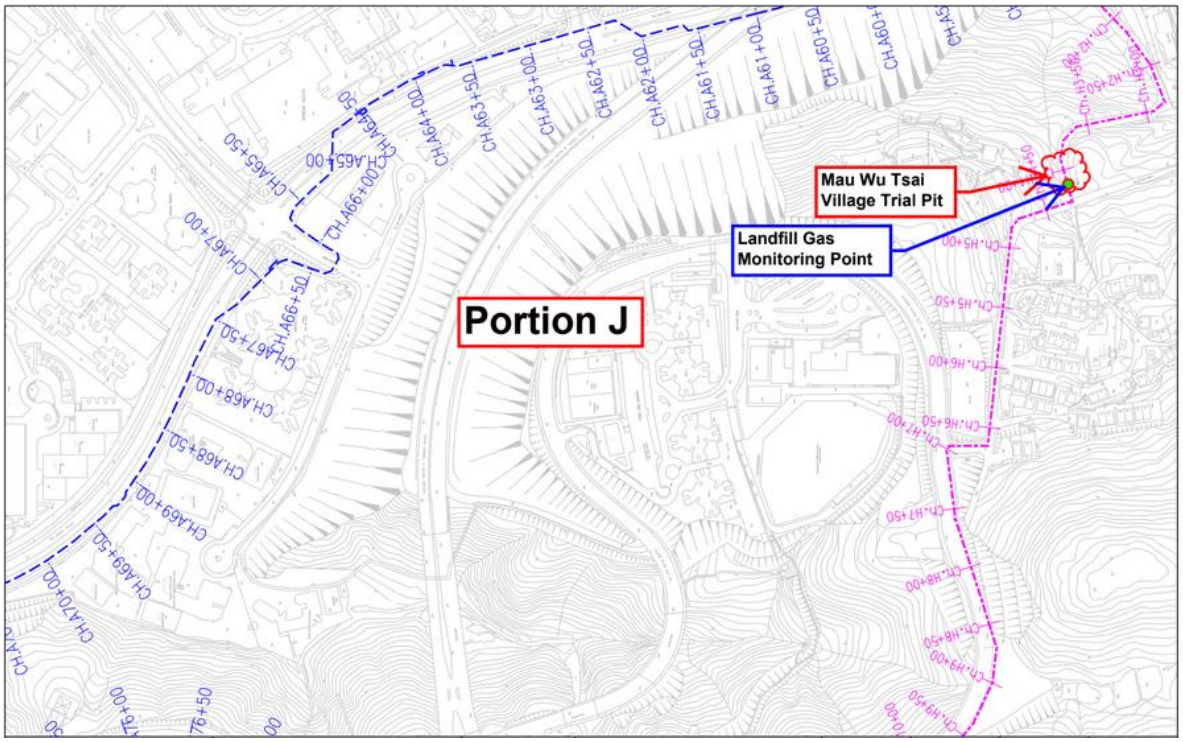


Figure 4.6b Monitoring Location – Mau Wu Tsai 2

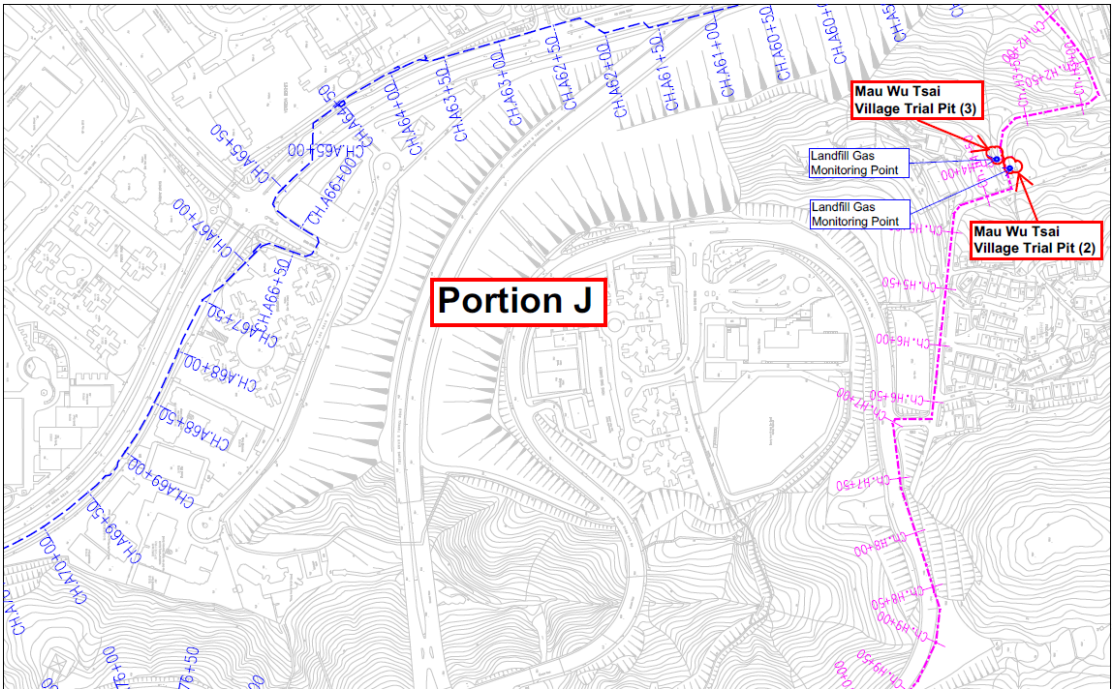


Figure 4.6c Monitoring Location – Mau Wu Tsai 3

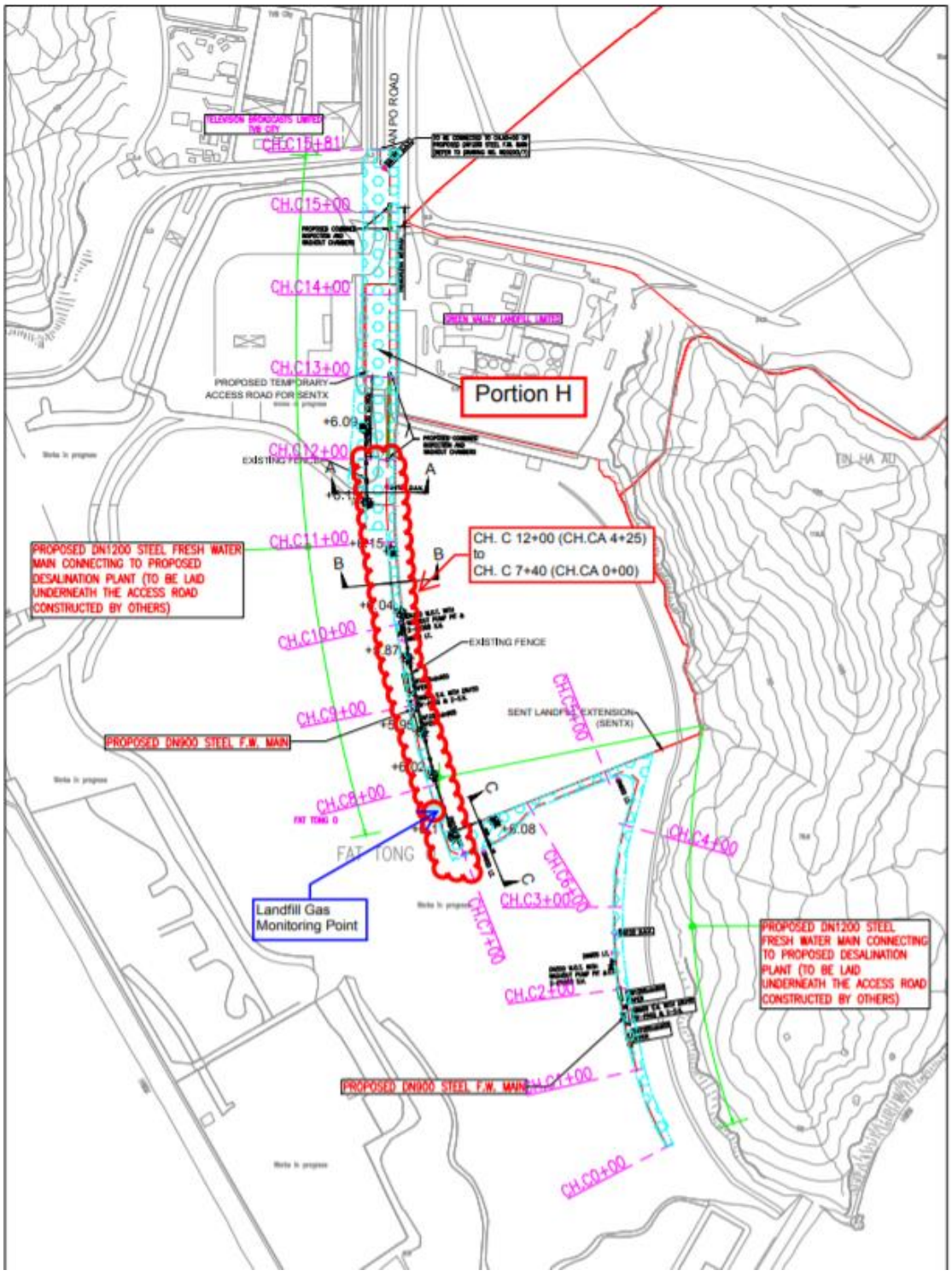


Figure 4.7 Monitoring Location –CH.CA 0+00 to CH.CA 04+25 (CH.C 7+40 ~ 12+00)

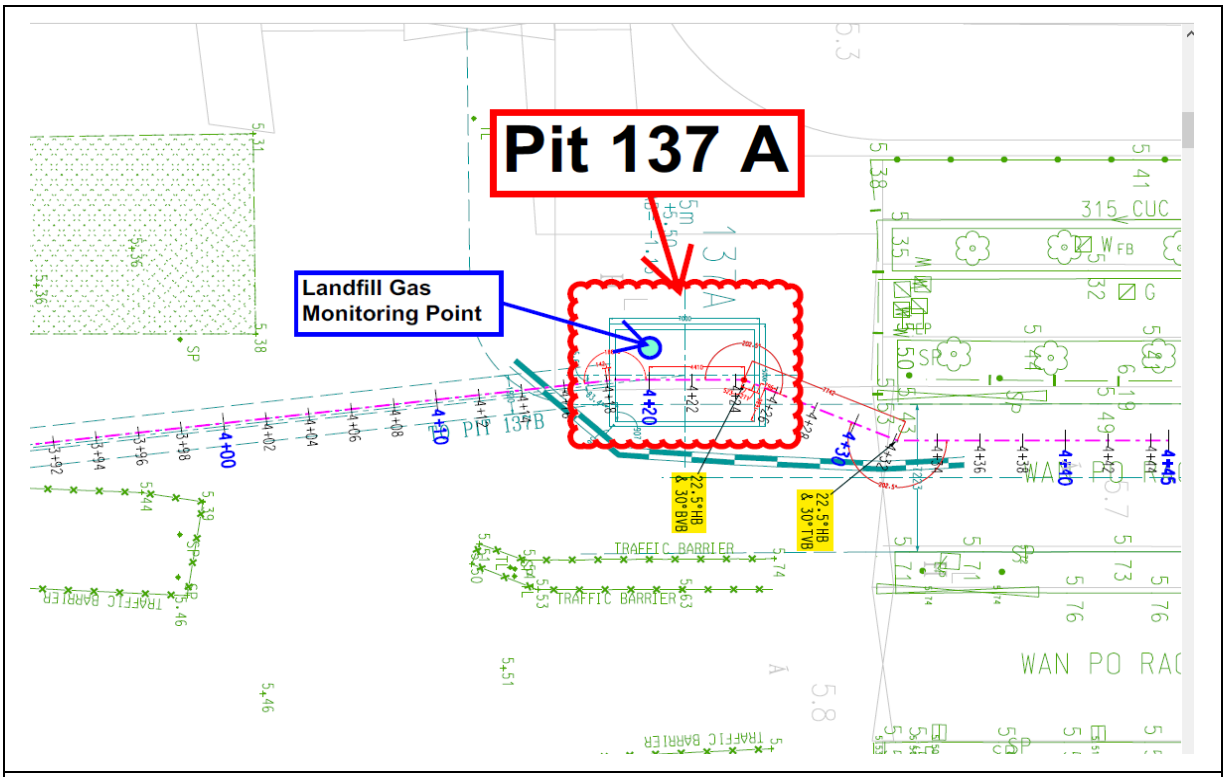


Figure 4.8a Monitoring Location – Pit 137A (137 Pit A)

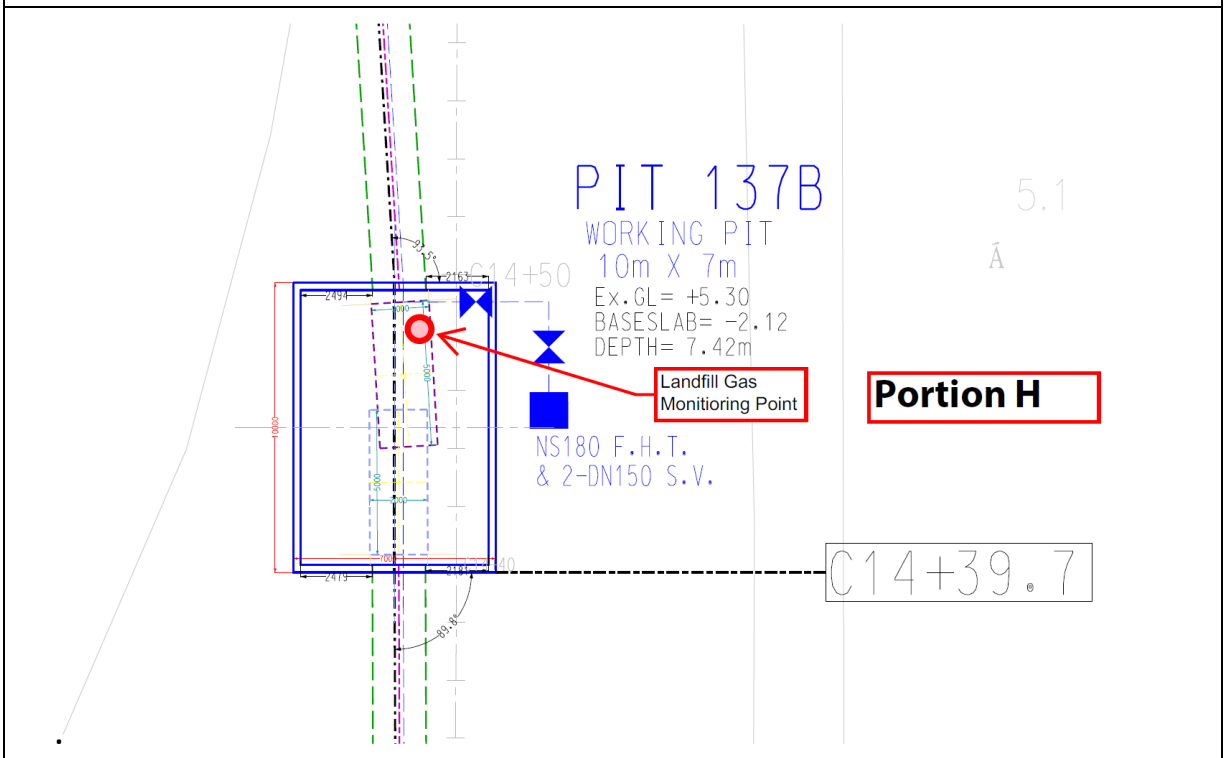


Figure 4.8b Monitoring Location – Pit 137B (137 Pit B)

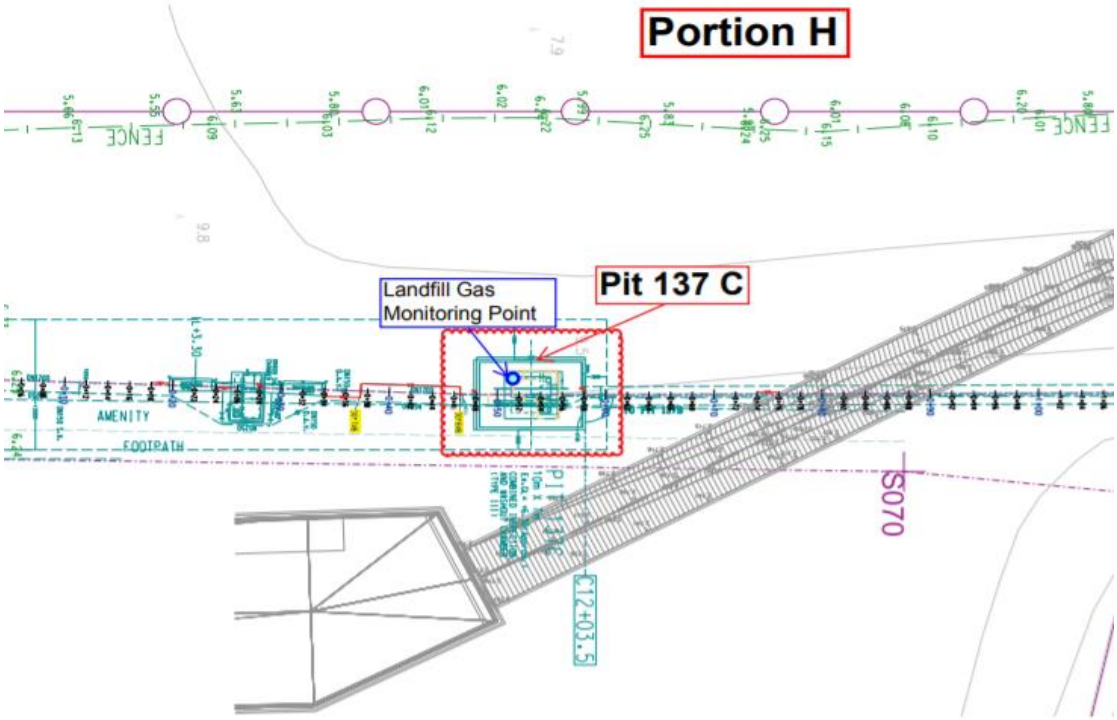


Figure 4.8c Monitoring Location – Pit 137C (137 Pit C)

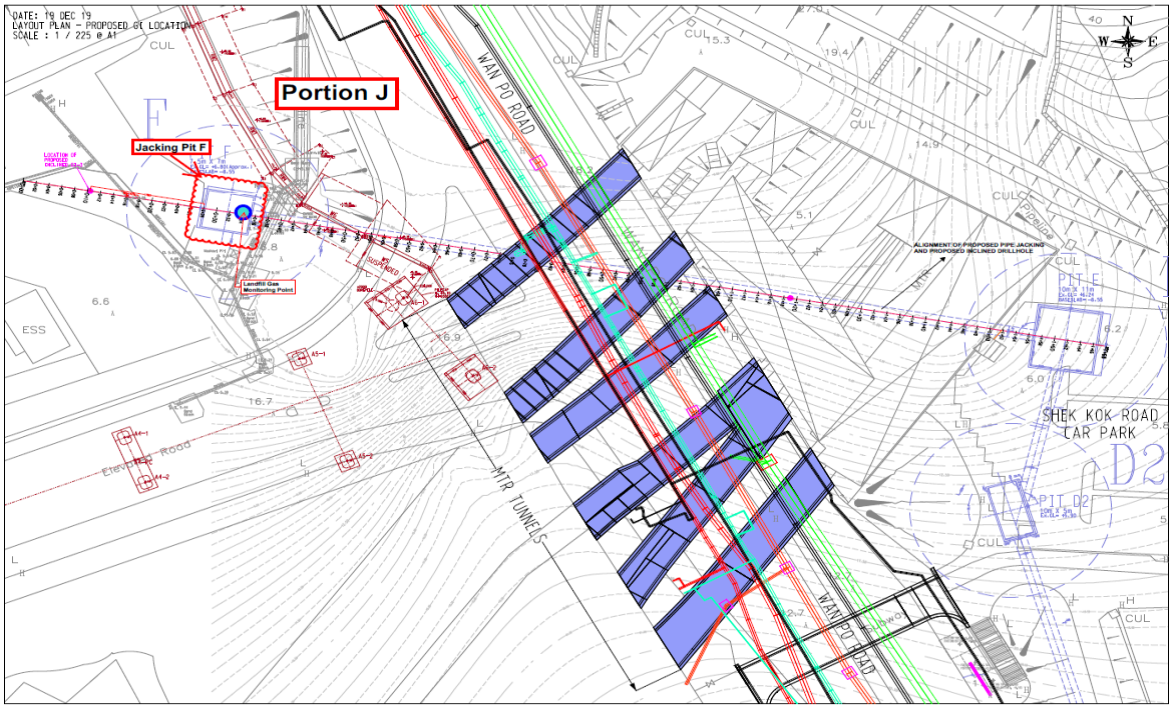


Figure 4.9 Monitoring Location – Jacking Pit F

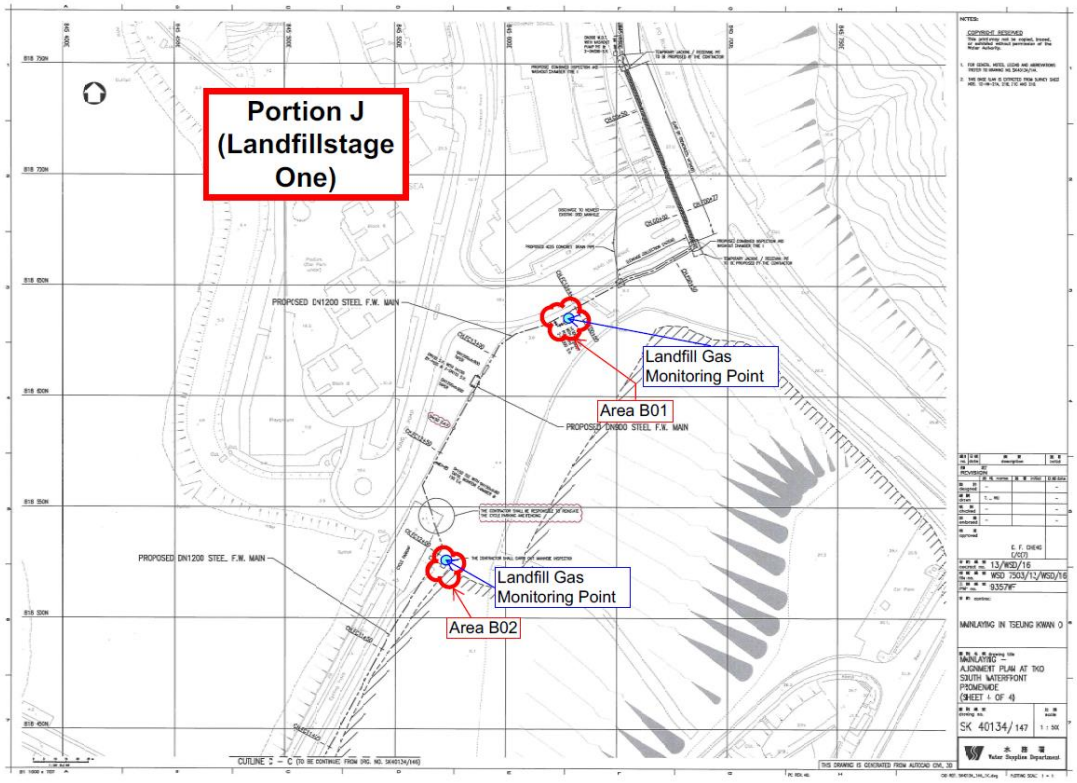


Figure 4.10a Monitoring Location – Landfill Stage 1 (Area B01-B02)

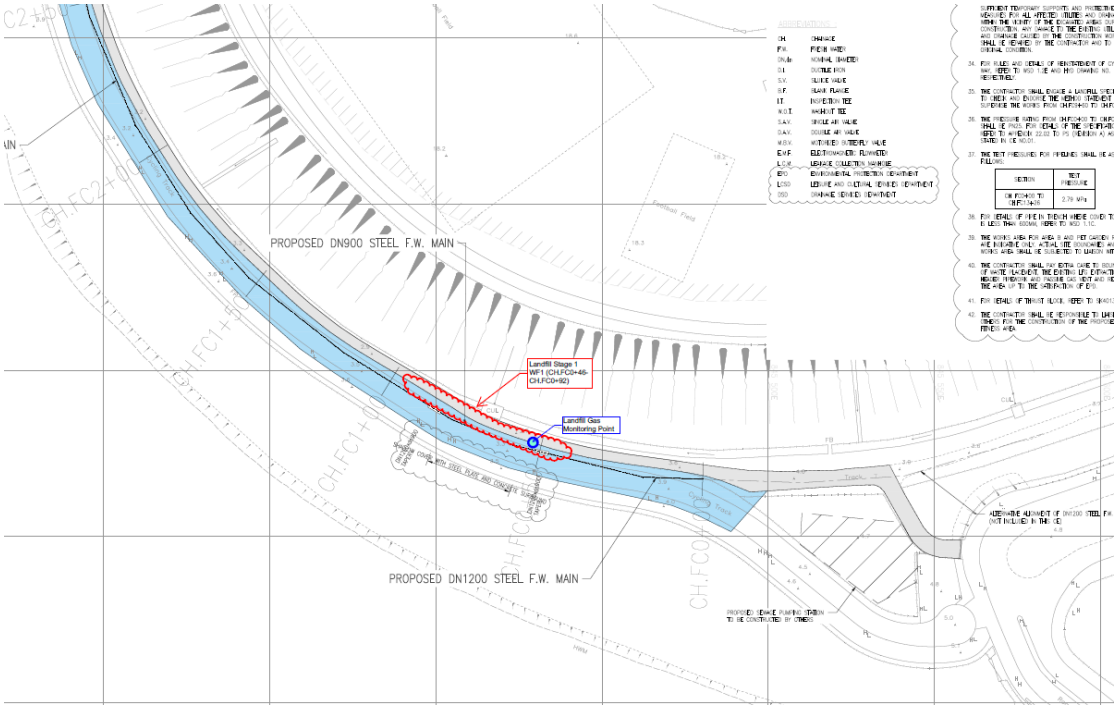


Figure 4.10b Monitoring Location – Landfill Stage 1 (FC0+64-FC0+92)

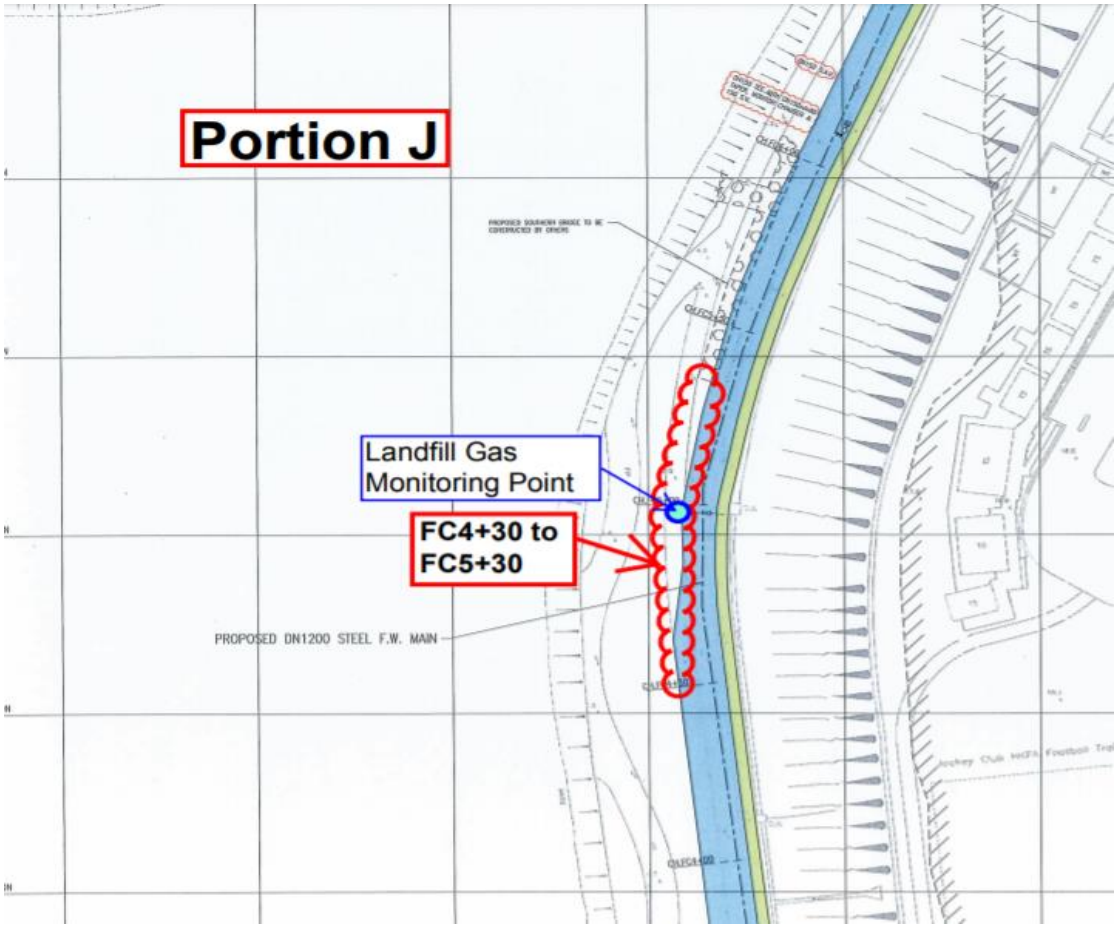


Figure 4.10c Monitoring Location – Landfill Stage 1 (FC4+30-FC5+30)

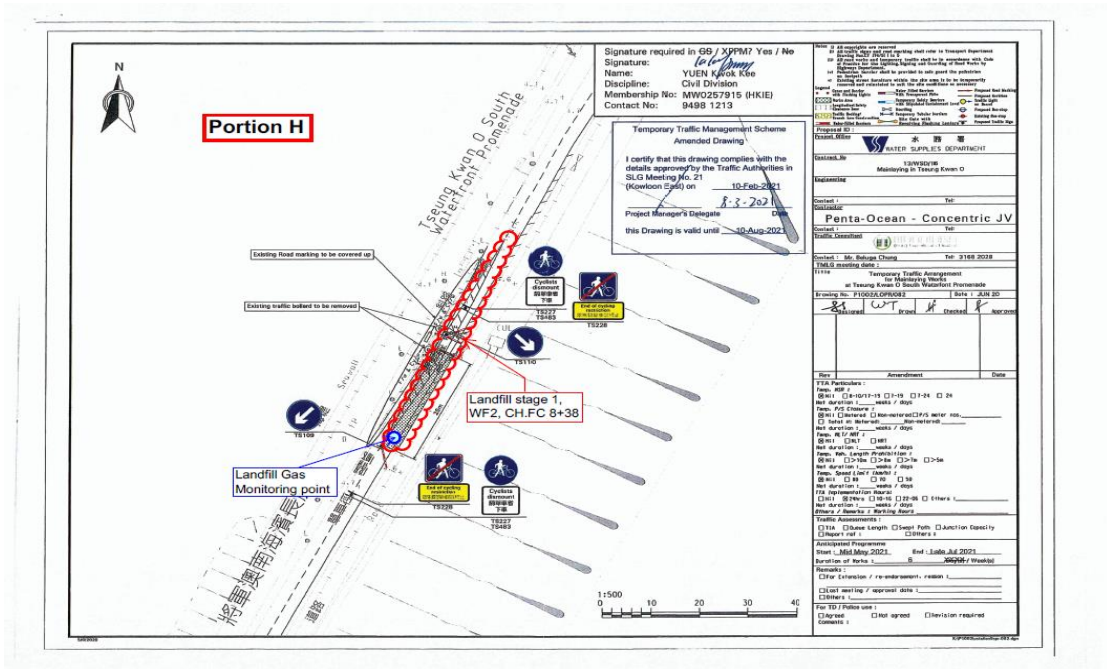


Figure 4.10d Monitoring Location – Landfill Stage 1 (FC8+38)

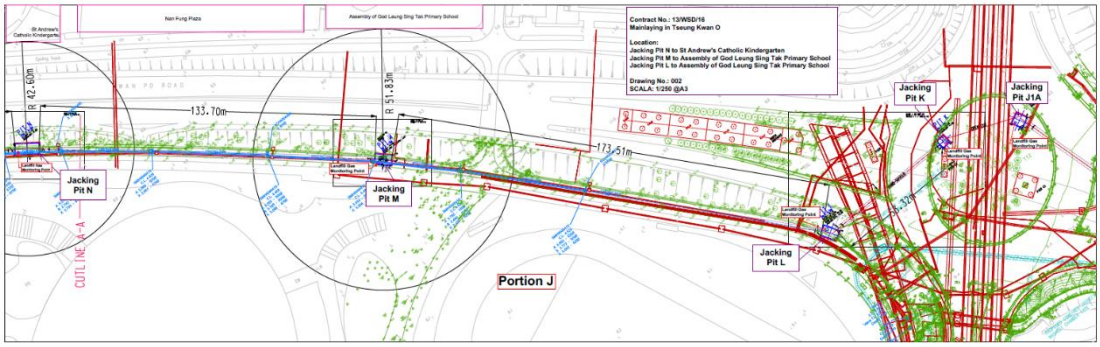


Figure 4.11a Monitoring Location – Pit L-M-N, J1A, K

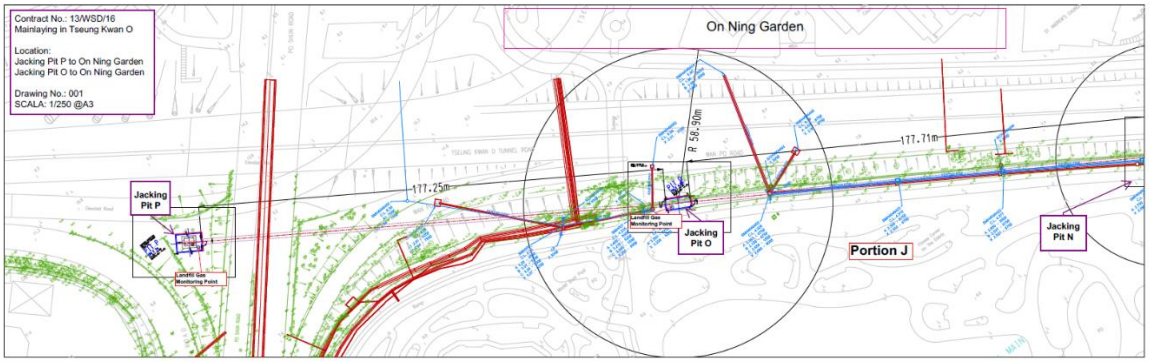


Figure 4.11b Monitoring Location – Pit N-O-P

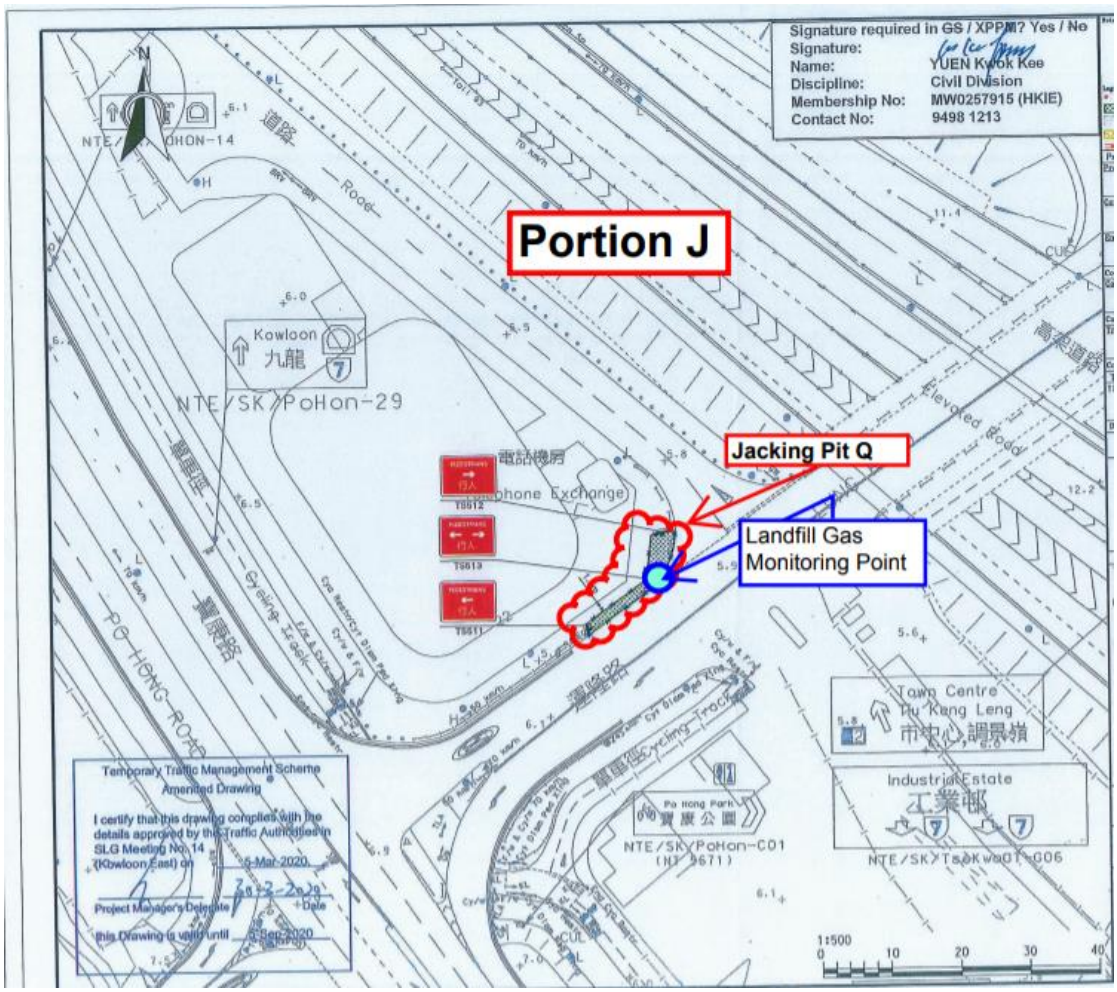


Figure 4.11c Monitoring Location – Pit Q

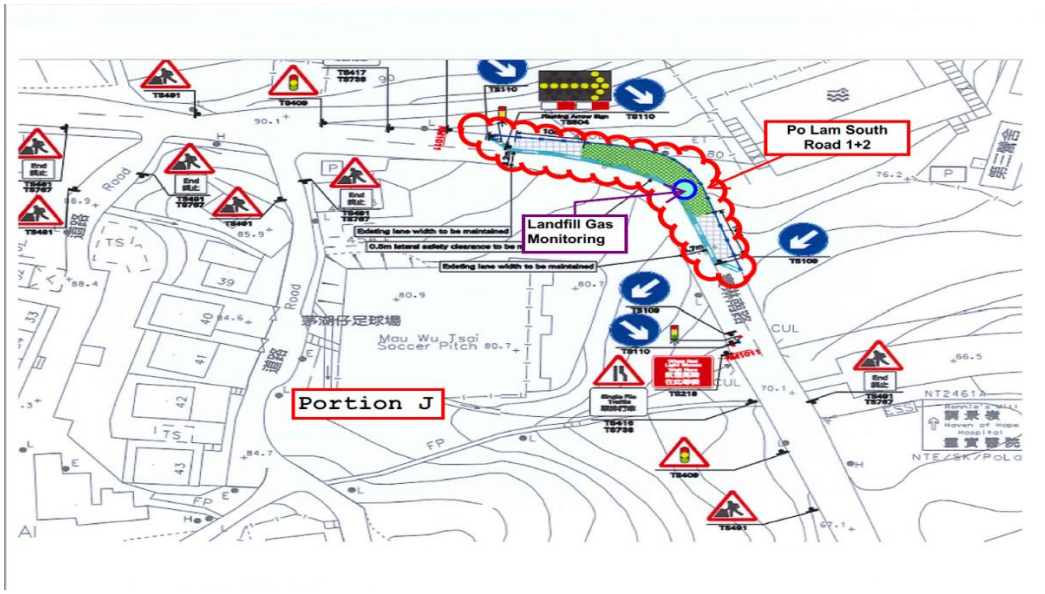


Figure 4.12 Po Lam South Road

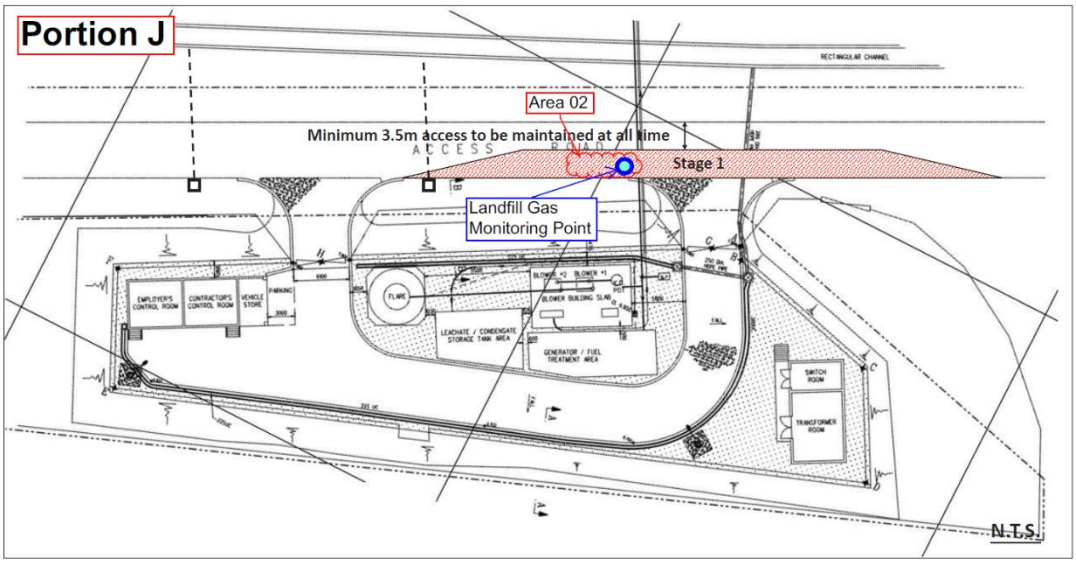


Figure 4.13 Monitoring Location – Area A02

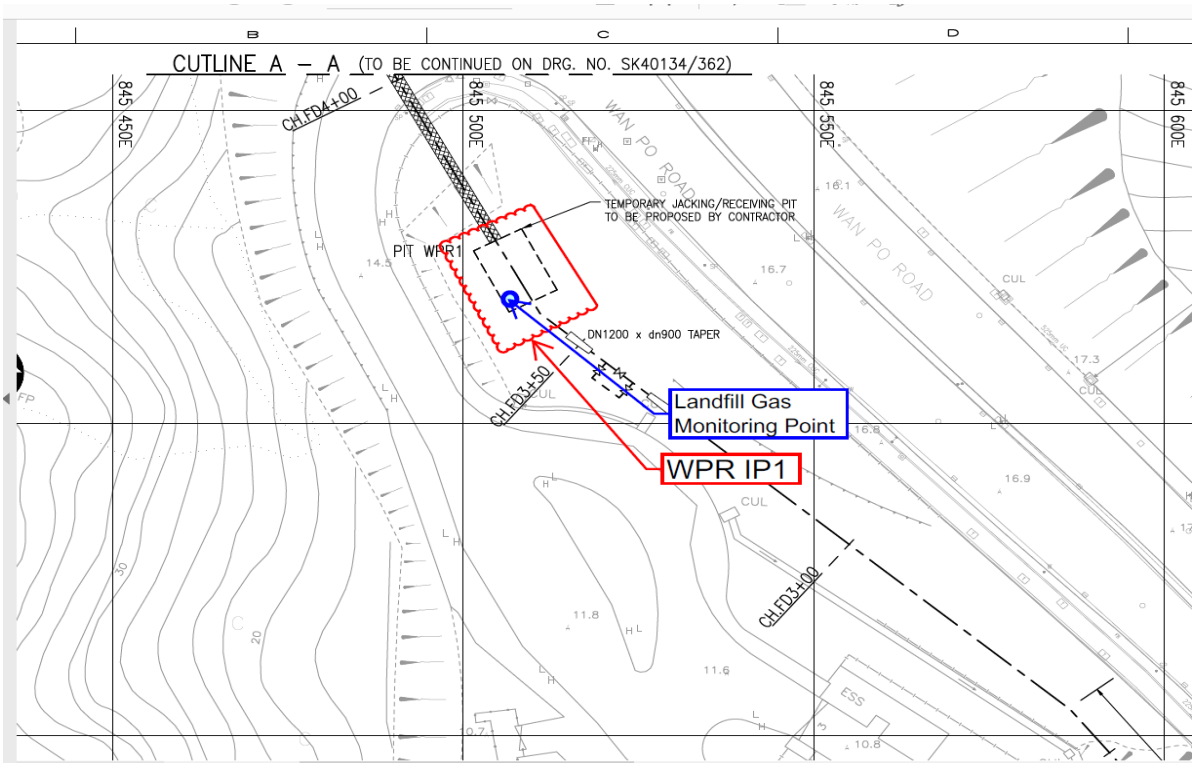


Figure 4.14 Monitoring Location – WPR IP1

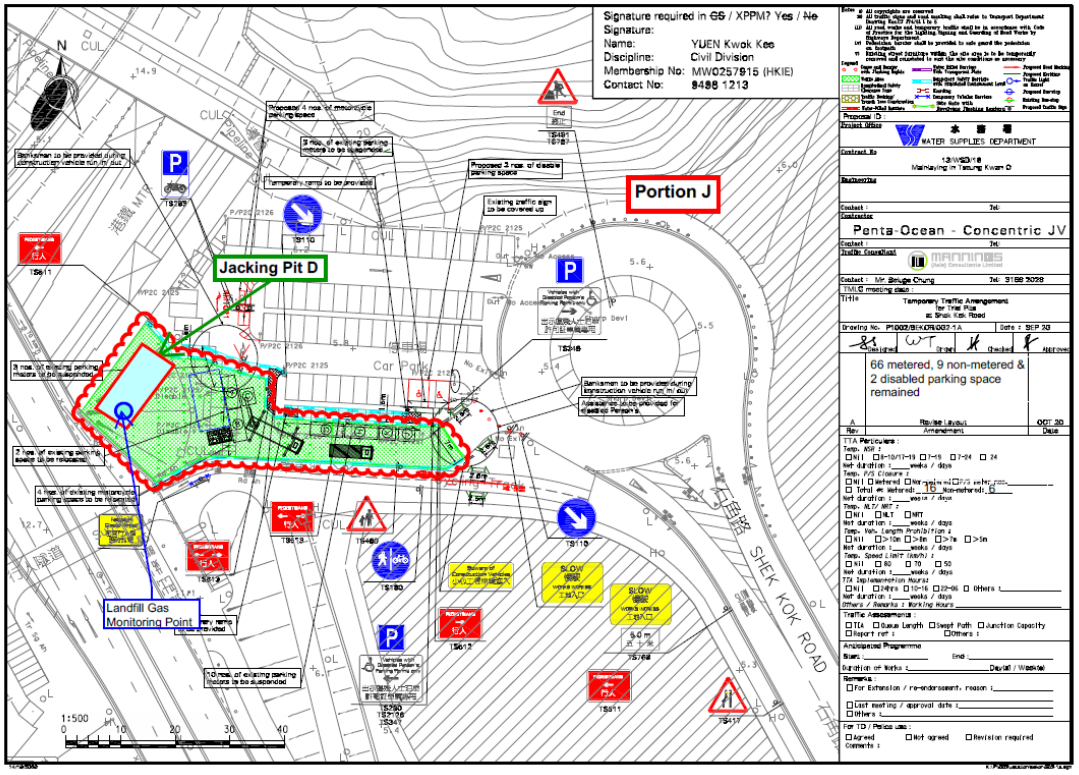


Figure 4.15 Monitoring Location – Jacking Pit D

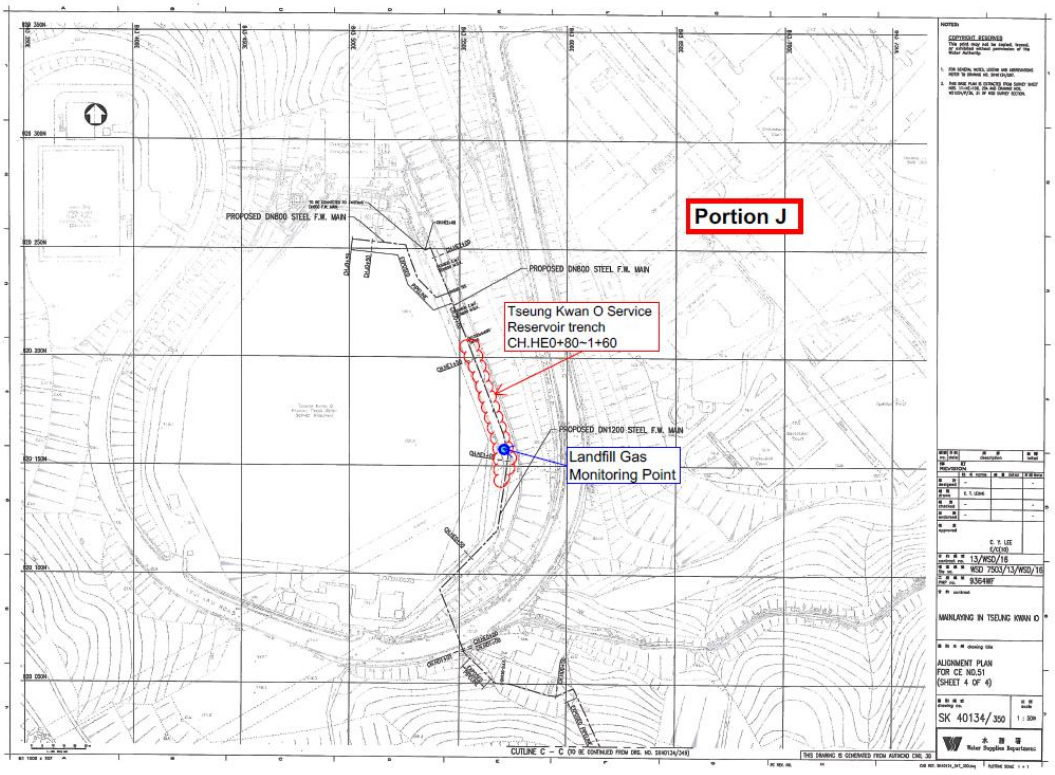


Figure 4.16 Monitoring Location – CH.HE0+80-1+60

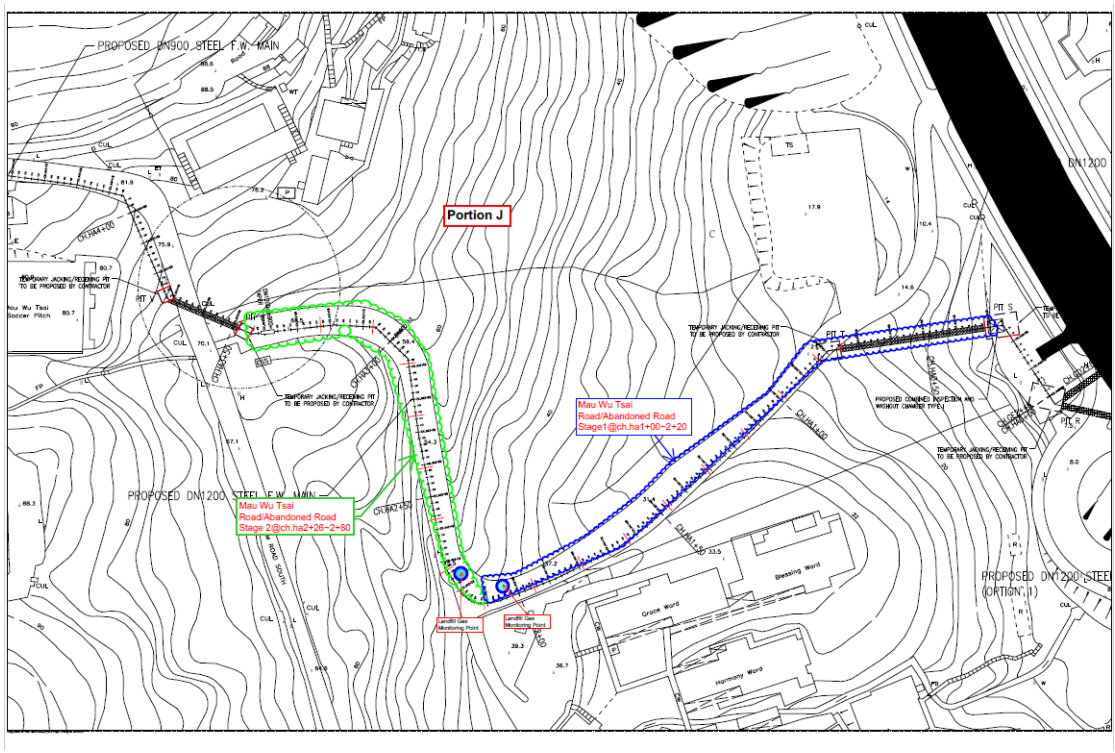


Figure 4.17 Monitoring Location – Mau Wu Tsai Abandoned Road

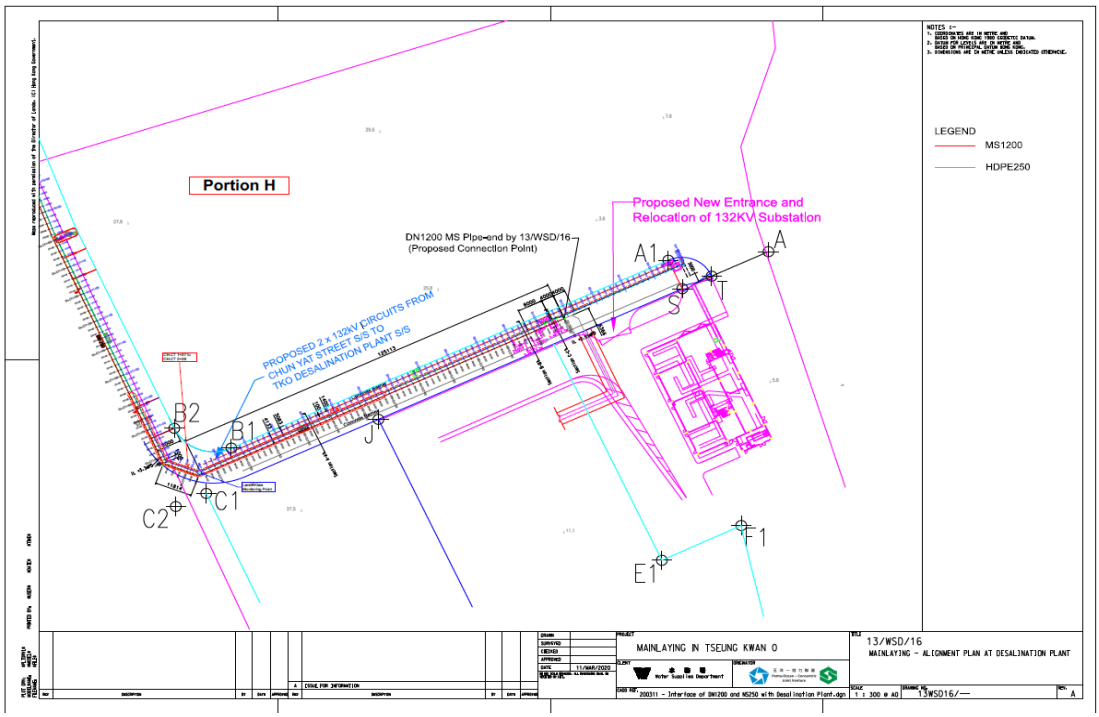


Figure 4.18a Monitoring Location - CH.CT 0+07 ~ 2+58

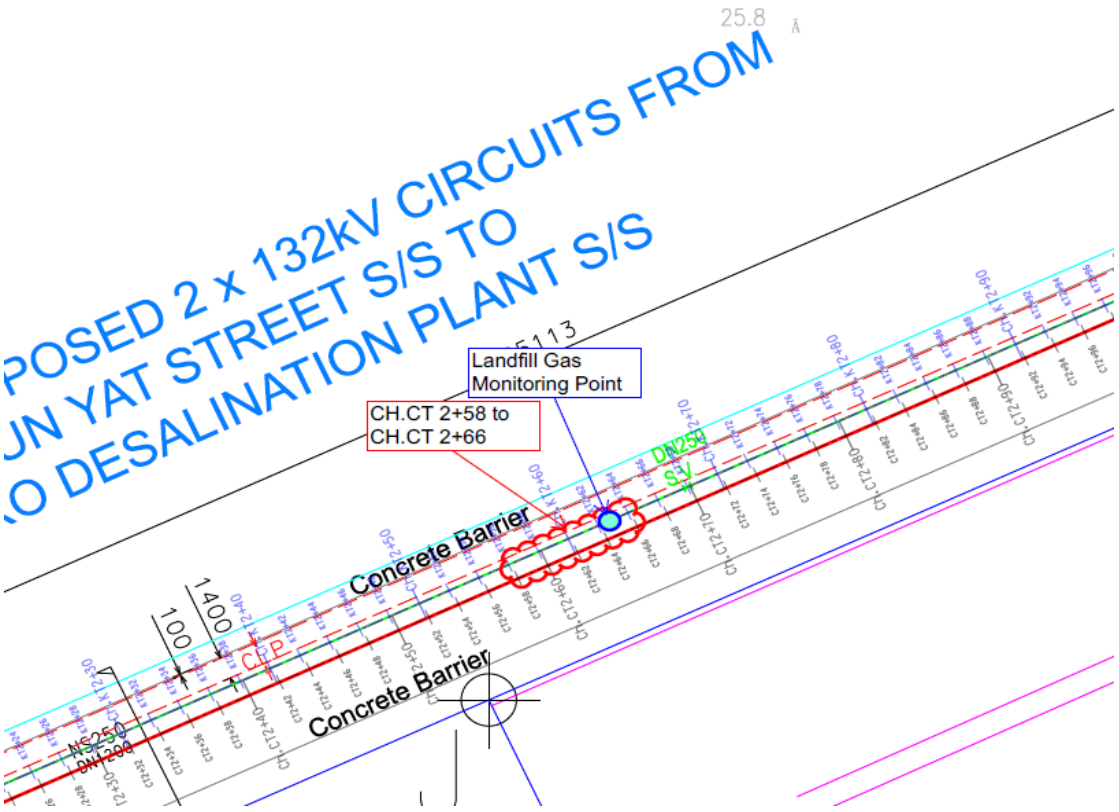


Figure 4.18b Monitoring Location - CH.CT 2+58 ~ 2+66

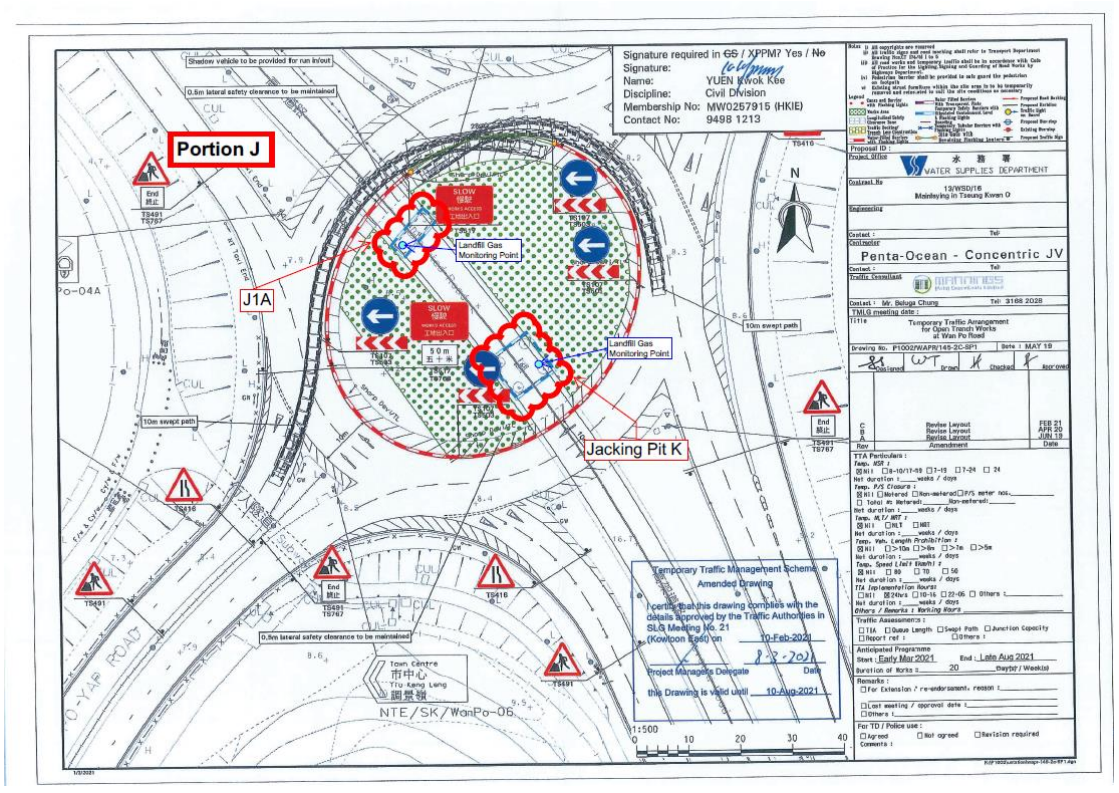


Figure 4.19 Monitoring Location – Pit K

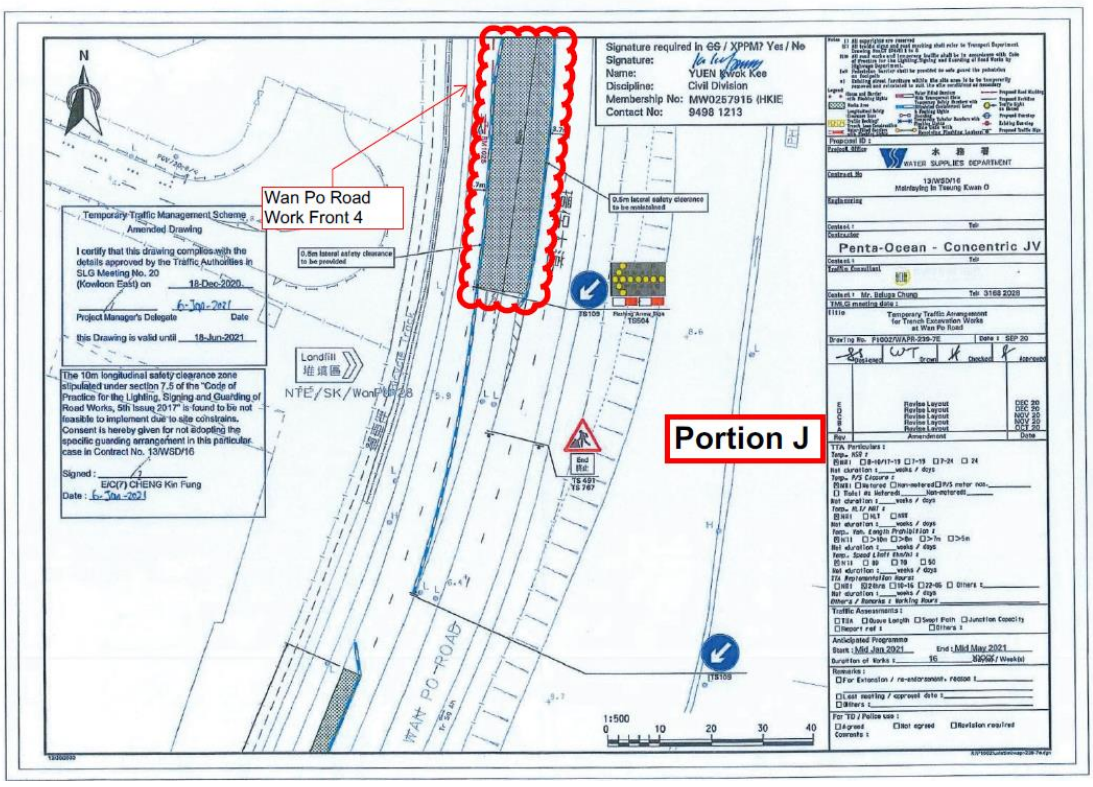


Figure 4.20a Monitoring Location – Wan Po Road 4

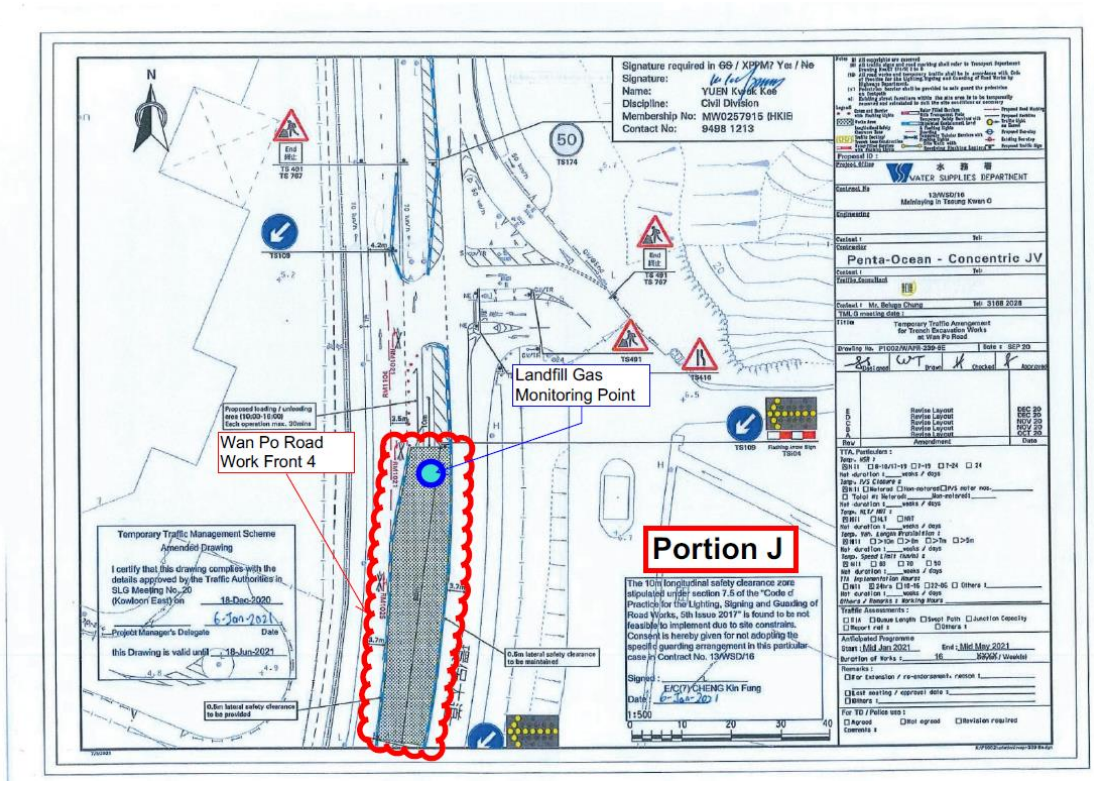


Figure 4.20b Monitoring Location – Wan Po Road 4

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 (O2)	<19% O2	<19% O2
Methane (CH4)	>10% LEL	>80% LEL
Carbon Dioxide (CO2)	>0.5% CO2	>1.5% CO2

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
Portable Gas Detector	XT-XWHM-Y-OR	08 June 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 480 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**:

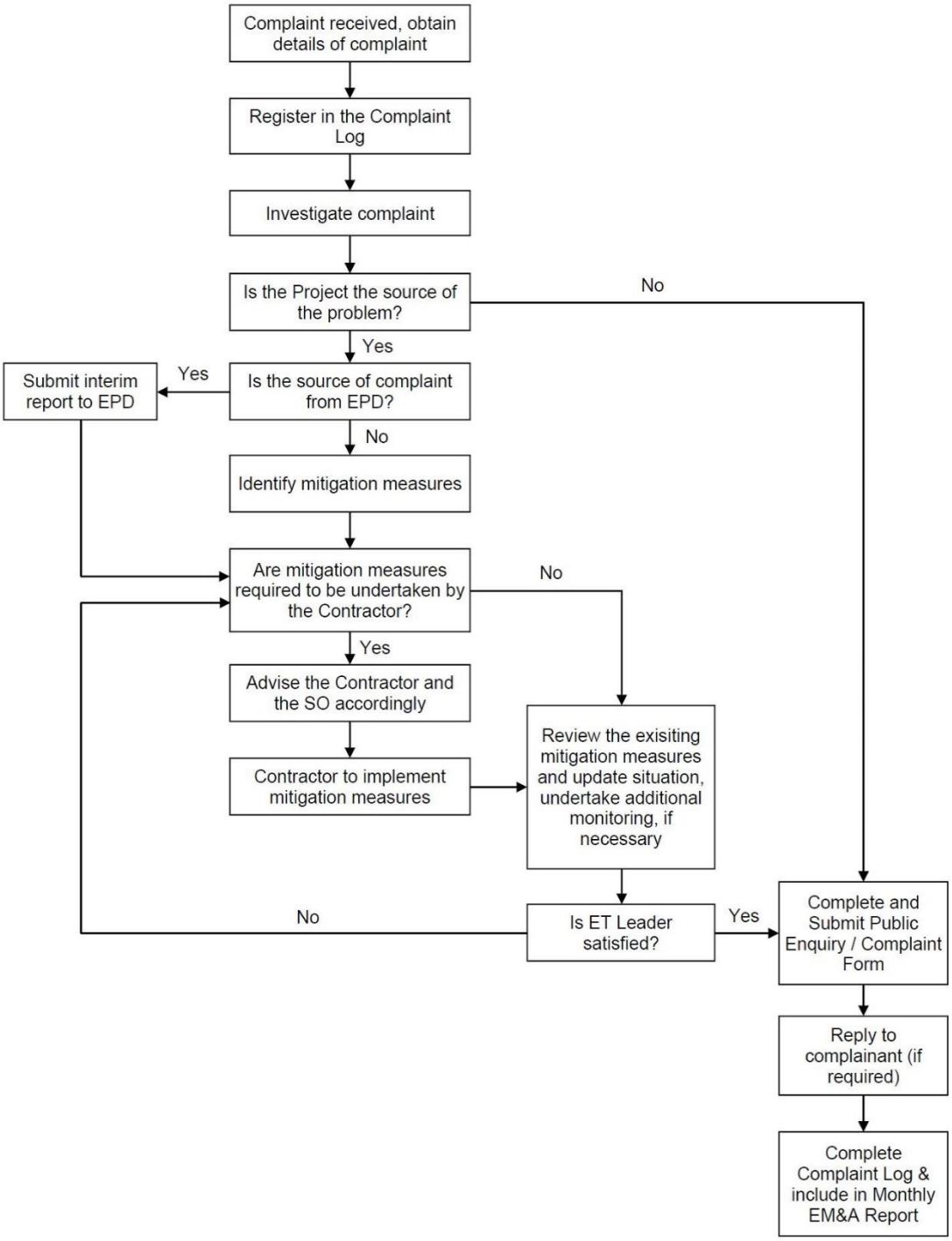


Figure 5.1 Environmental Complaint Handling Procedure

5.2 Impact monitoring for noise impact was scheduled in the reporting month for NSR4 – Creative Secondary School on 8*, 13*, 21 and 29 October 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**.

Remark*: The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.

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 8, 15, 21 and 27 October 2021 at the site portions list in **Table 6.1** below.

Table 6.1 Site Inspection Record

Date	Inspected Site Portion	Time
08 October 2021	Portion J	9:45am – 11:30am
15 October 2021	Portion J	10:00am – 12:00pm
21 October 2021	Portion J	9:15am – 11:30am
27 October 2021	Portion J	10:00am – 11:00am

6.2 One joint site inspection with IEC was carried out on 21 October 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
08 October 2021	1. Chemical stain was observed at Pit X.	1. Chemical stain was cleaned.
15 October 2021	1. NRMM was not observed with NRMM label at Hong Kong Velodrome (Pit L). 2. Chemical should be placed on a drip tray at Pit P.	1. NRMM was added with NRMM label. 2. Chemical was removed.
21 October 2021	1. No major observations were noted on the reporting day.	
27 October 2021	1. The Main Contractor was reminded to consider to implement dust suppression mitigation measures to limit dust emission at CH.HE 1+80~ 2+00. 2. NRMM label was not observed at the NRMM at CH.HE1+80~ 2+00. 3. Chemical was found not placed on a drip tray at Hong Kong Velodrome Pit L.	1. These materials were cleaned. 2. The Excavator and NRMN label were changed to a new one. 3. Chemical was removed.

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	• Site clearance for pipe jacking works will be conducted.
Portion J of the Project Site	Wan Po Rd – Workfront 1	• Trench excavation and pipe laying will be conducted.
	Wan Po Rd – Workfront 2	• Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 3	• Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Workfront 4	• Trench excavation and pipe laying works will be conducted.
	Wan Po Rd – Pit A	• Excavation and ELS works will be conducted.
	Wan Po Rd – Pit B	• Preparation works for TBM pipe jacking will be conducted.
	Wan Po Rd – Pit D	• Preparation works for TBM pipe jacking will be conducted.
	Landfill Stage 1 – Area A	• Trench excavation and pipe laying works will be conducted. • Plate load test will be conducted.
	Pet Garden's Road	• Trench excavation and pipe laying works will be conducted.
	Landfill Stage 1 – Area B	• Trench excavation and pipe laying works will be conducted.
	Pung Loi Road – Pit WPR1	• Sheetpile driving works for pit ELS will be conducted.
	Roundabout – Pit G1A	• Pit excavation and ELS works will be conducted.
	Roundabout – Pit J1A	• Trenchless works by hand-shield will be continued.
	Velodrome – Pit L-Pit M	• Trench excavation and pipe laying works will be conducted.
	Velodrome – Pit M	• Hand-shield pipe jacking works will be conducted.
	Velodrome – Pit P	• TBM pipe jacking will be continued.
	Ling Hong Road - Pit Y	• Pipe laying in-between Pit R to Pit Y will be conducted.
	Ling Hong Road - Pit R	• Pipe laying in-between Pit R to Pit Y will be conducted.

Location	Location	Forecast Works in Next Reporting Month
	Mau Wu Tsai – Workfront 1	• Trench excavation and pipe mainlaying works will be conducted. • Construction of Washout Chamber will be conducted.
	Mau Wu Tsai – Workfront 2	• Laying of branch pipe will be conducted.
	TKO Primary Service Reservoir	• Trench excavation and pipe laying 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, sheetpiling works 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, sheetpiling works 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 39th monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during the period from 1 October 2021 to 31 October 2021, in accordance with the EM&A Manual and the requirement under EP-503/2015/A.

8.2 Impact monitoring for noise impact was scheduled in the reporting month for NSR4 – Creative Secondary School on 8*, 13*, 21 and 29 October 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.

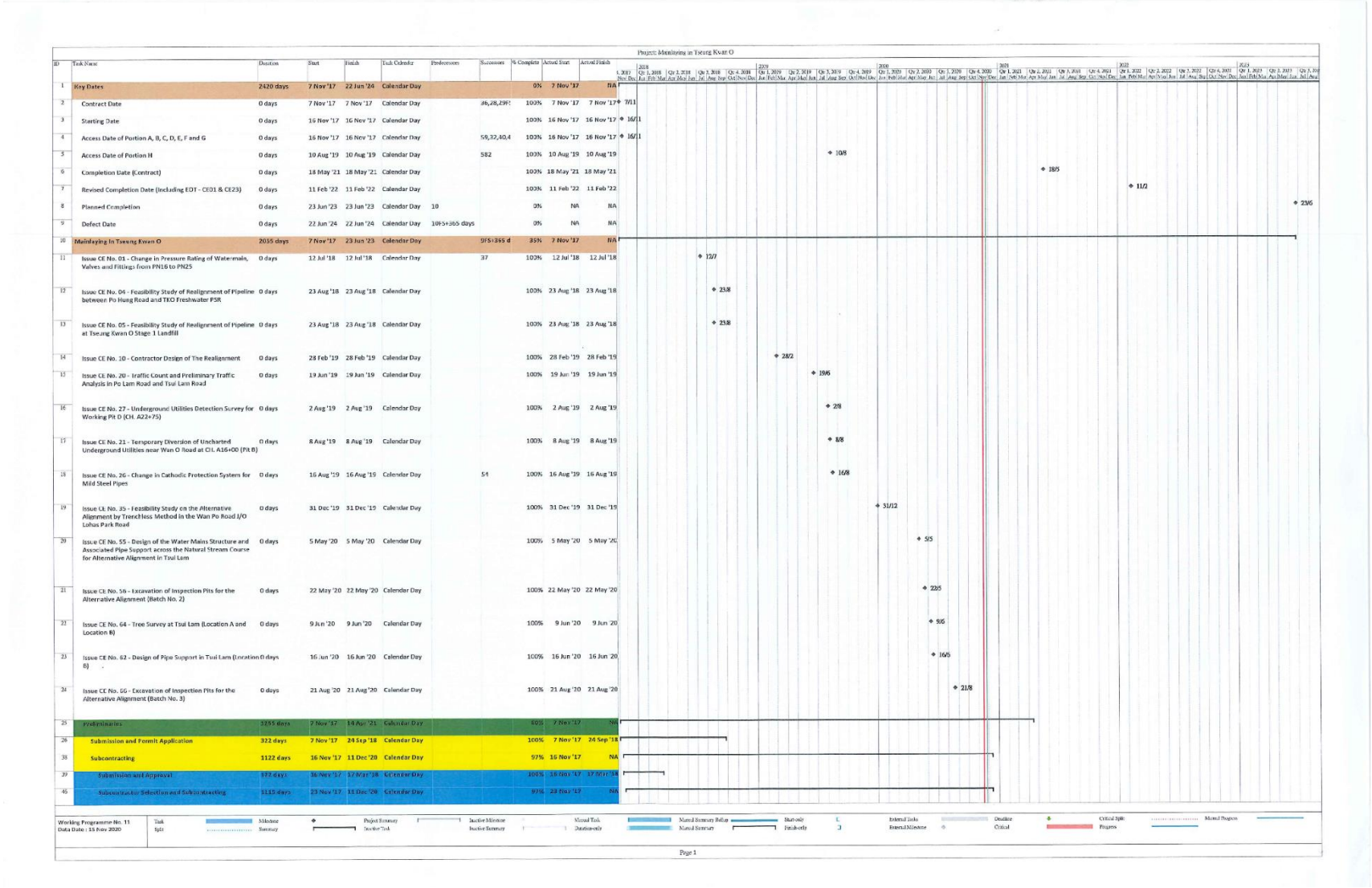
8.8 No notification of summons or prosecution was received since the commencement of the Contract.

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.

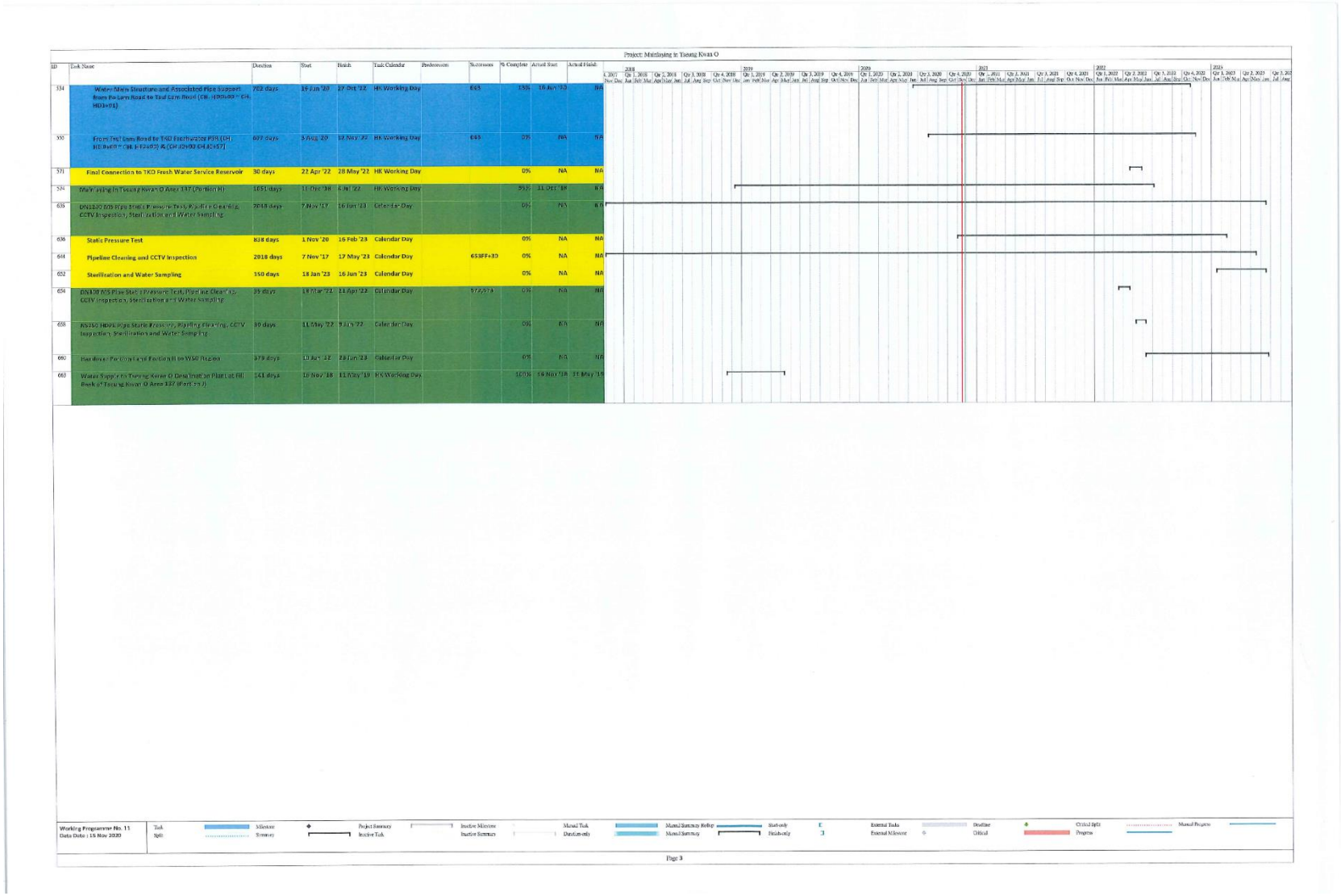
Remark*: The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.

Appendix A

Construction Programme



ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish
1	Key Dates	2420 days	7 Nov '17	22 Jun '24	Calendar Day			0%	7 Nov '17	NA
2	Contract Date	0 days	7 Nov '17	7 Nov '17	Calendar Day		46,28,29[illegible]	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		59,32,40,4	100%	16 Nov '17	16 Nov '17
5	Access Date of Portion H	0 days	10 Aug '19	10 Aug '19	Calendar Day		582	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 - CE01 & 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	10FS+365 days		0%	NA	NA
10	Mainlaying in Tseung Kwan O	2055 days	7 Nov '17	23 Jun '23	Calendar Day		9FS+365 d	35%	7 Nov '17	NA
11	Issue CE No. 01 - Change in Pressure Rating of Watermain, Valves and Fittings from PN16 to PN25	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 The 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 CH. A16+00 (Pit 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		54	100%	16 Aug '19	16 Aug '19
19	Issue CE 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. 58 - Excavation of Inspection Pits for the Alterrative 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 - Excavation 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	1255 days	7 Nov '17	14 Apr '21	Calendar Day			86%	7 Nov '17	NA
26	Submission and Permit Application	322 days	7 Nov '17	24 Sep '18	Calendar Day			100%	7 Nov '17	24 Sep '18
38	Subcontracting	1122 days	16 Nov '17	11 Dec '20	Calendar Day			97%	16 Nov '17	NA
39	Submission and Approval	122 days	16 Nov '17	17 Mar '18	Calendar Day			100%	16 Nov '17	17 Mar '18
46	Subcontractor Selection and Subcontracting	1115 days	23 Nov '17	11 Dec '20	Calendar Day			99%	23 Nov '17	NA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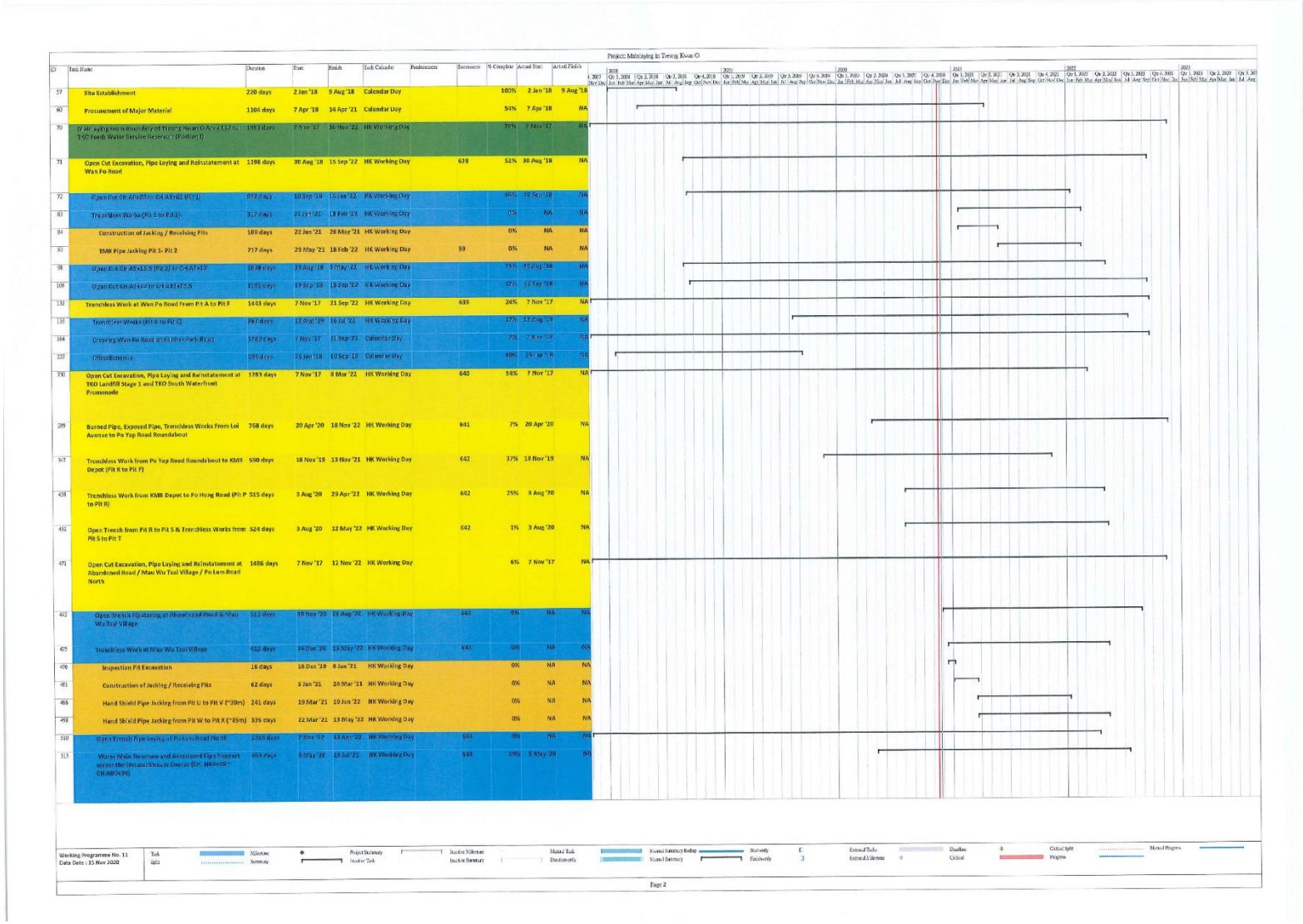
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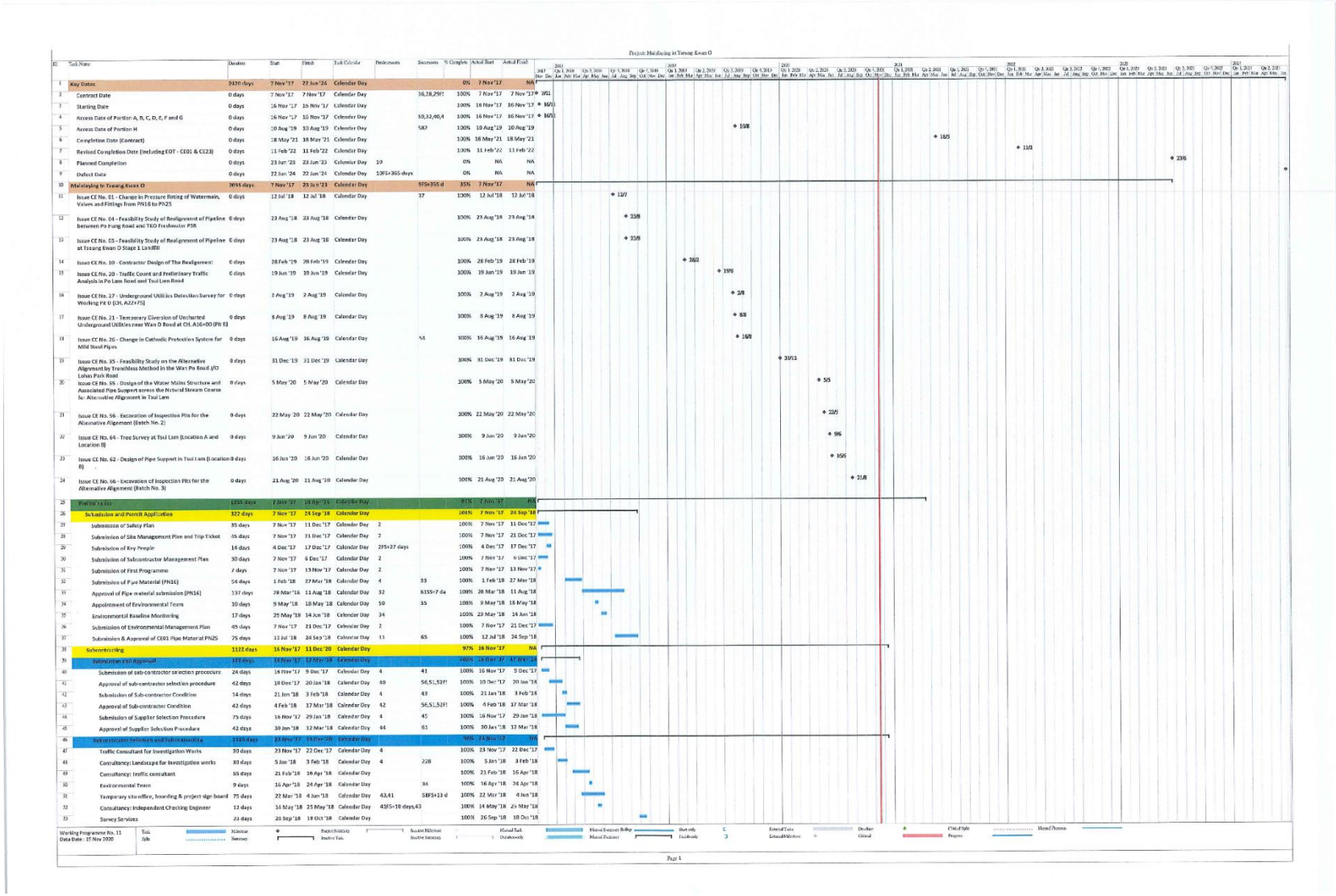
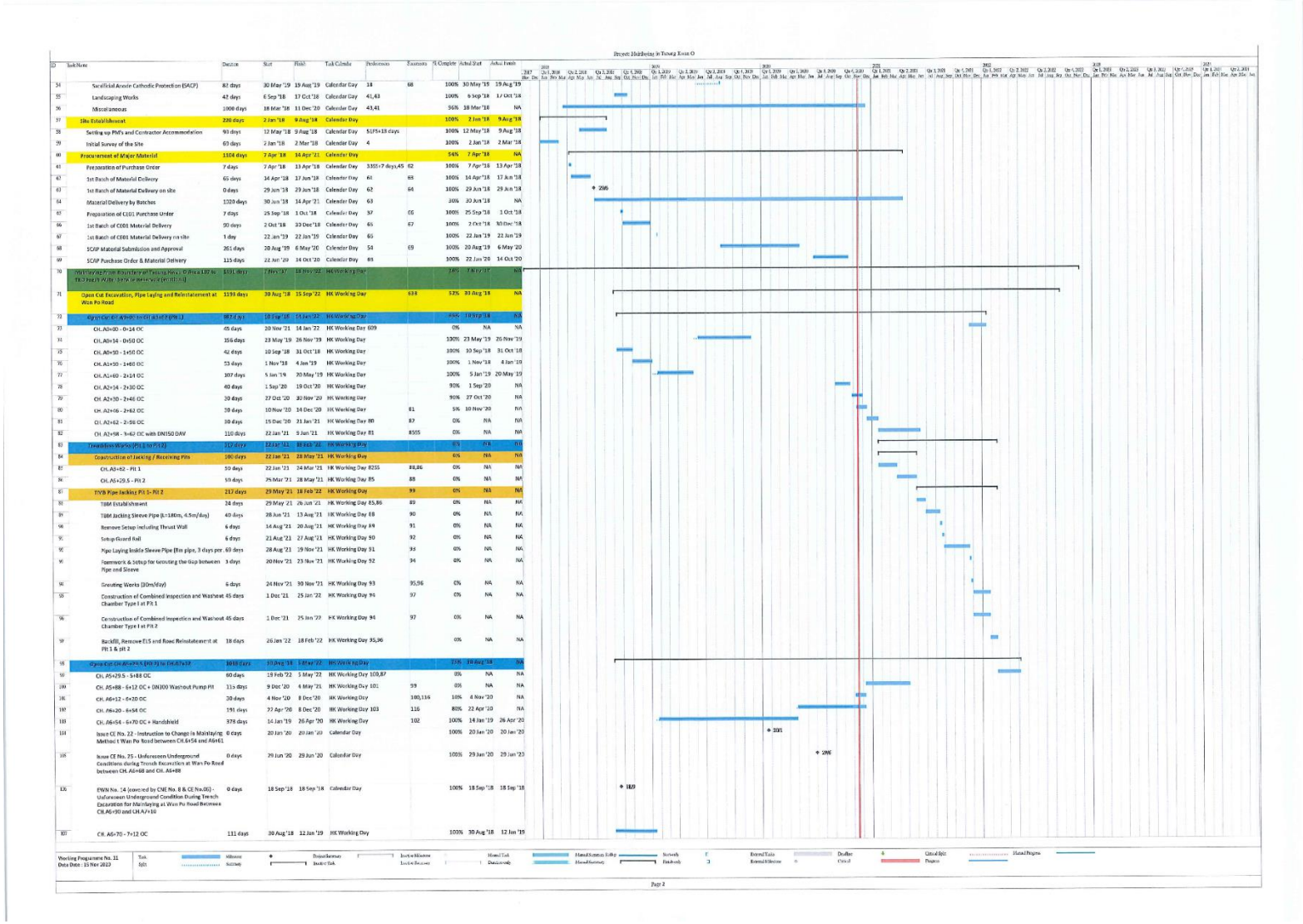
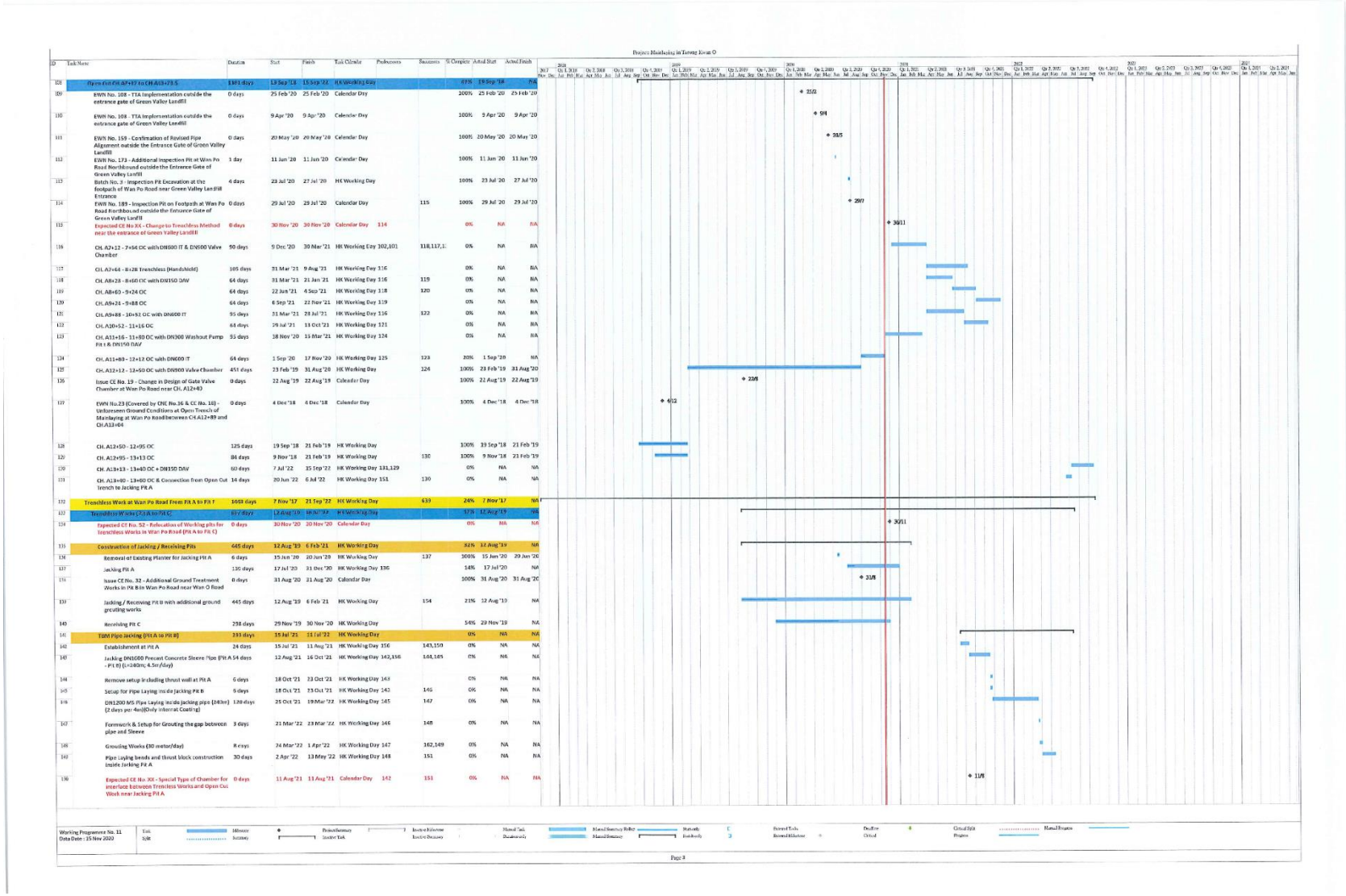
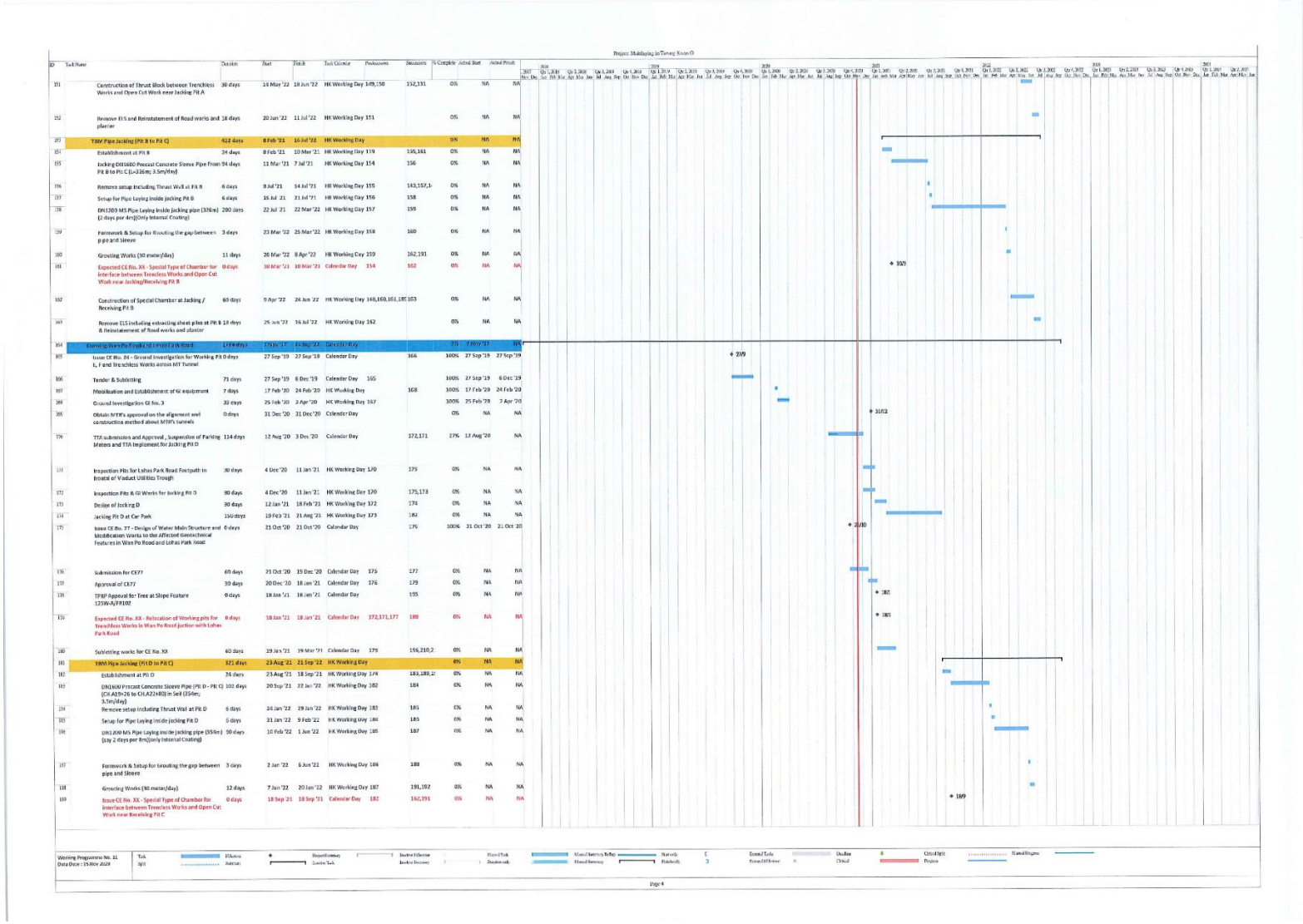
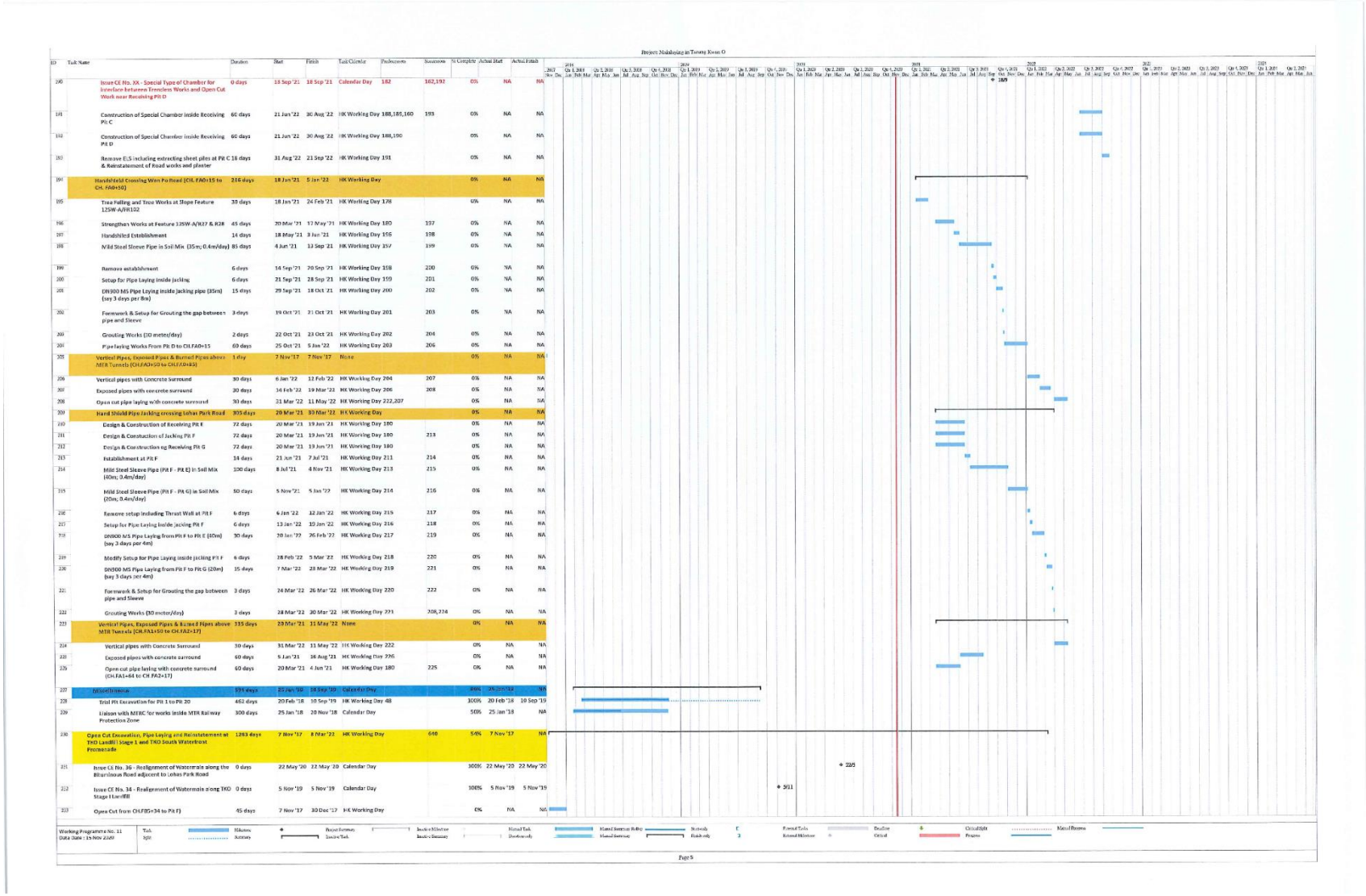


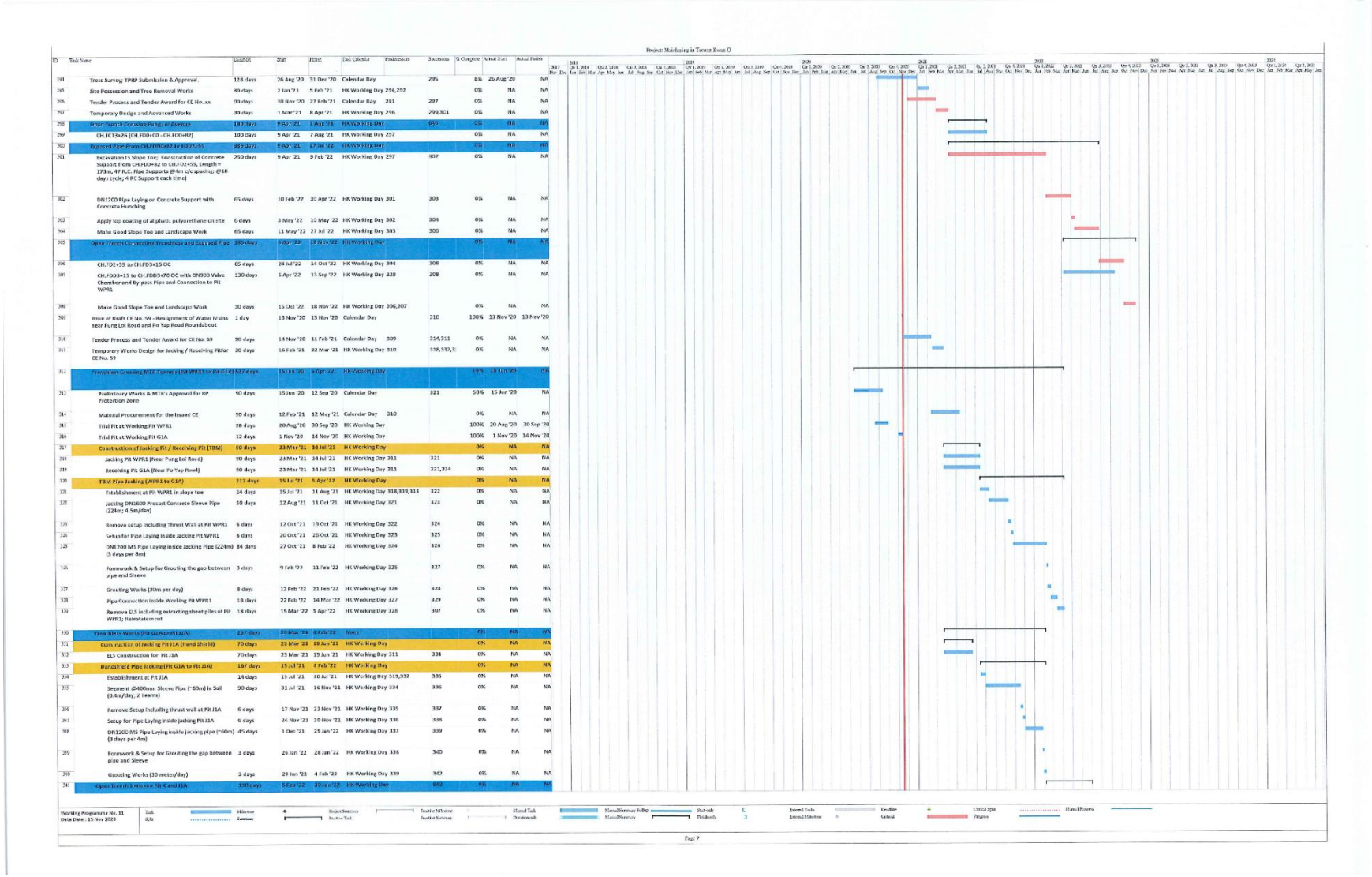




ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish
108	Pipes from CH AP+17 to CH AG3+73.5	1161 days	19 Sep '18	15 Sep '22	HK Working Day			49%	19 Sep '18	NA
109	EWN No. 108 - TTA Implementation outside the entrance gate of Green Valley Landfill	0 days	25 Feb '20	25 Feb '20	Calendar Day			100%	25 Feb '20	25 Feb '20
110	EWN No. 108 - TTA Implementation outside the entrance gate of Green Valley Landfill	0 days	9 Apr '20	9 Apr '20	Calendar Day			100%	9 Apr '20	9 Apr '20
111	EWN No. 159 - Confirmation of Revised Pipe Alignment outside the Entrance Gate of Green Valley Landfill	0 days	20 May '20	20 May '20	Calendar Day			100%	20 May '20	20 May '20
112	EWN No. 173 - Additional Inspection Pit at Wan Po Road Northbound outside the Entrance Gate of Green Valley Landfill	1 day	11 Jun '20	11 Jun '20	Calendar Day			100%	11 Jun '20	11 Jun '20
113	Batch No. 3 - Inspection Pit Excavation at the footpath of Wan Po Road near Green Valley Landfill Entrance	4 days	23 Jul '20	27 Jul '20	HK Working Day			100%	23 Jul '20	27 Jul '20
114	EWN No. 189 - Inspection Pit on Footpath at Wan Po Road Northbound outside the Entrance Gate of Green Valley Landfill	0 days	29 Jul '20	29 Jul '20	Calendar Day	115		100%	29 Jul '20	29 Jul '20
115	Expected CE No.35 - Change to Trenchless Method near the entrance of Green Valley Landfill	0 days	30 Nov '20	30 Nov '20	Calendar Day	114		0%	NA	NA
116	CH. A7+12 - 7+54 OC with DN500 IT & DN500 Valve Chamber	50 days	9 Dec '20	30 Mar '21	HK Working Day	102,101	118,117,1	0%	NA	NA
117	CH. A7+64 - 8+28 Trenchless (Handshield)	105 days	31 Mar '21	9 Aug '21	HK Working Day	116		0%	NA	NA
118	CH. A8+28 - 8+60 OC with DN150 DAV	64 days	31 Mar '21	21 Jun '21	HK Working Day	116	119	0%	NA	NA
119	CH. A8+60 - 9+24 OC	64 days	22 Jun '21	4 Sep '21	HK Working Day	118	120	0%	NA	NA
120	CH. A9+24 - 9+88 OC	64 days	6 Sep '21	22 Nov '21	HK Working Day	119		0%	NA	NA
121	CH. A9+88 - 10+52 OC with DN600 IT	95 days	31 Mar '21	28 Jul '21	HK Working Day	116	122	0%	NA	NA
122	CH. A10+52 - 11+16 OC	64 days	29 Jul '21	13 Oct '21	HK Working Day	121		0%	NA	NA
123	CH. A11+16 - 11+80 OC with DN300 Washout Pump Pit & DN150 DAV	95 days	18 Nov '20	15 Mar '21	HK Working Day	124		0%	NA	NA
124	CH. A11+80 - 12+12 OC with DN600 IT	64 days	1 Sep '20	17 Nov '20	HK Working Day	125	123	20%	1 Sep '20	NA
125	CH. A12+12 - 12+50 OC with DN900 Valve Chamber	451 days	23 Feb '19	31 Aug '20	HK Working Day		124	100%	23 Feb '19	31 Aug '20
126	Issue CE No. 19 - Change in Design of Gate Valve Chamber at Wan Po Road near CH. A12+40	0 days	22 Aug '19	22 Aug '19	Calendar Day			100%	22 Aug '19	22 Aug '19
127	EWN No.23 (Covered by CNE No.16 & CC No. 16) - Unforeseen Ground Conditions at Open Trench of Mainlaying at Wan Po Road between CH.A12+89 and CH.A13+04	0 days	4 Dec '18	4 Dec '18	Calendar Day			100%	4 Dec '18	4 Dec '18
128	CH. A12+50 - 12+95 OC	125 days	19 Sep '18	21 Feb '19	HK Working Day			100%	19 Sep '18	21 Feb '19
129	CH. A12+95 - 13+13 OC	86 days	9 Nov '18	21 Feb '19	HK Working Day		130	100%	9 Nov '18	21 Feb '19
130	CH. A13+13 - 13+40 OC + DN150 DAV	60 days	7 Jul '22	15 Sep '22	HK Working Day	131,129		0%	NA	NA
131	CH. A13+40 - 13+60 OC & Connection from Open Cut Trench to Jacking Pit A	14 days	20 Jun '22	6 Jul '22	HK Working Day	151	130	0%	NA	NA
132	Trenchless Work at Wan Po Road From Pit A to Pit F	1668 days	7 Nov '17	21 Sep '22	HK Working Day		133	24%	7 Nov '17	NA
133	Trenchless Works (Pit A to Pit C	867 days	12 Aug '19	16 Jul '22	HK Working Day			57%	12 Aug '19	NA
134	Expected CE No. 52 - Relocation of Working pits for Trenchless Works in Wan Po Road (Pit A to Pit C)	0 days	30 Nov '20	30 Nov '20	Calendar Day			0%	NA	NA
135	Construction of Jacking / Receiving Pits	445 days	12 Aug '19	6 Feb '21	HK Working Day			32%	12 Aug '19	NA
136	Removal of Existing Planter for Jacking Pit A	6 days	15 Jun '20	20 Jun '20	HK Working Day		137	100%	15 Jun '20	20 Jun '20
137	Jacking Pit A	136 days	17 Jul '20	31 Dec '20	HK Working Day	136		14%	17 Jul '20	NA
138	Issue CE No. 32 - Additional Ground Treatment Works in Pit B in Wan Po Road near Wan O Road	0 days	31 Aug '20	31 Aug '20	Calendar Day			100%	31 Aug '20	31 Aug '20
139	Jacking / Receiving Pit B with additional ground grouting works	445 days	12 Aug '19	6 Feb '21	HK Working Day		154	21%	12 Aug '19	NA
140	Receiving Pit C	298 days	29 Nov '19	30 Nov '20	HK Working Day			54%	29 Nov '19	NA
141	TBM Pipe Jacking (Pit A to Pit B)	393 days	15 Jul '21	15 Jul '22	HK Working Day			0%	NA	NA
142	Establishment at Pit A	24 days	15 Jul '21	11 Aug '21	HK Working Day	156	143,150	0%	NA	NA
143	Jacking DN1000 Precast Concrete Sleeve Pipe (Pit A - Pit B) (L=240m; 4.5m/day)	54 days	12 Aug '21	16 Oct '21	HK Working Day	142,156	144,145	0%	NA	NA
144	Remove setup in cluding thrust wall at Pit A	6 days	18 Oct '21	23 Oct '21	HK Working Day	143		0%	NA	NA
145	Setup for Pipe Laying ins de Jacking Pit B	6 days	18 Oct '21	23 Oct '21	HK Working Day	143	146	0%	NA	NA
146	DN1200 MS Pipe Laying inside jacking pipe (240m) (2 days per 4m)(Daily Interval Coating)	120 days	25 Oct '21	19 Mar '22	HK Working Day	145	147	0%	NA	NA
147	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	21 Mar '22	23 Mar '22	HK Working Day	146	148	0%	NA	NA
148	Grouting Works (80 meter/day)	4 days	24 Mar '22	1 Apr '22	HK Working Day	147	162,149	0%	NA	NA
149	Pipe Laying bends and thrust block construction inside Jacking Pit A	30 days	2 Apr '22	13 May '22	HK Working Day	148	151	0%	NA	NA
150	Expected CE No. 30 - Special Type of Chamber for interface between Trenchless Works and Open Cut Work near Jacking Pit A	0 days	11 Aug '21	11 Aug '21	Calendar Day	142	151	0%	NA	NA







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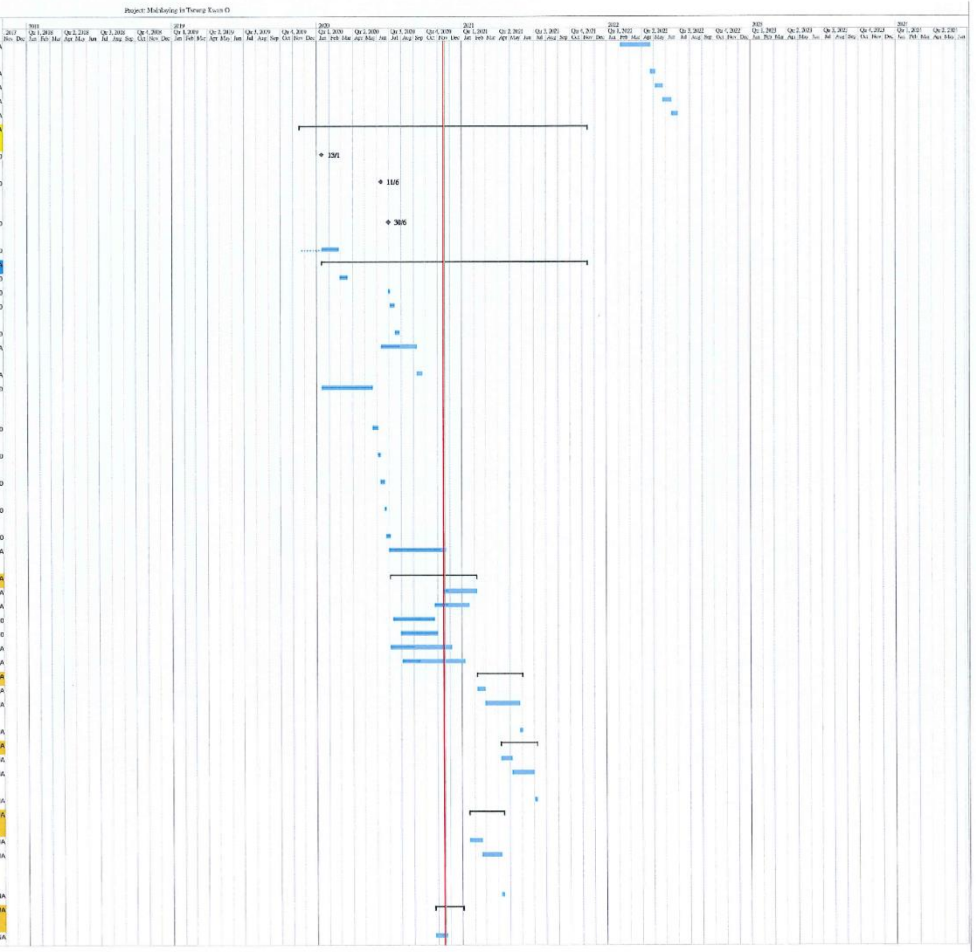
ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish
342	Excavation and ELS Installation from Pit K to Pit J1A (62m)	62 days	5 Feb '22	22 Apr '22	HK Working Day	340	343	0%	NA	NA
343	Pipe Laying From Pit K to Pit J1A	9 days	23 Apr '22	4 May '22	HK Working Day	342	344	0%	NA	NA
344	Construction of Thrust Block from Pit K to Pit J1A	15 days	5 May '22	23 May '22	HK Working Day	343	345	0%	NA	NA
345	Backfill Trench and Remove ELS	18 days	24 May '22	14 Jun '22	HK Working Day	344	346	0%	NA	NA
346	Reinstatement of Plant and Shrubs in Roundabout	14 days	15 Jun '22	30 Jun '22	HK Working Day	345		0%	NA	NA
347	Trenchless Work from Po Yap Road Roundabout to KMB Depot (Pit K to Pit P)	590 days	18 Nov '19	13 Nov '21	HK Working Day		642	37%	18 Nov '19	NA
348	Issue CE No. 28 - Realignment of Water Mains along Po Yap Road and Po Hong Road	0 days	13 Jan '20	13 Jan '20	Calendar Day		351,359	100%	13 Jan '20	13 Jan '20
349	Issue CE No. 50 - Realignment of Watermain at the Junction of Wan Po Road and Po Yap Road and the Junction of Po Hong Road and Po Shun Road.	0 days	11 Jun '20	11 Jun '20	Calendar Day			100%	11 Jun '20	11 Jun '20
350	Issue CE No. 28A - Affected Trees along Cycle Track next to Hong Kong Velodrome and Tseung Kwan O Sport Ground	0 days	30 Jun '20	30 Jun '20	Calendar Day		365	100%	30 Jun '20	30 Jun '20
351	Tender and Subletting for CE No. 28	99 days	18 Nov '19	24 Feb '20	Calendar Day	348		100%	18 Nov '19	24 Feb '20
352	Trenchless Works (Pit K to Pit O)	595 days	13 Jan '20	13 Nov '21	HK Working Day			34%	13 Jan '20	NA
353	Inspection Pit Excavation at Pit K	16 days	28 Feb '20	17 Mar '20	HK Working Day			100%	28 Feb '20	17 Mar '20
354	Inspection Pit Excavation at Pit P	3 days	29 Jun '20	2 Jul '20	HK Working Day		355	100%	29 Jun '20	2 Jul '20
355	Review and change the pipe jacking from Pit P to Pit R	12 days	3 Jul '20	14 Jul '20	Calendar Day	354		100%	3 Jul '20	14 Jul '20
356	Forming temporary Vehicle Access for Pit P	10 days	16 Jul '20	27 Jul '20	HK Working Day		372	100%	16 Jul '20	27 Jul '20
357	MTR's Approval for Trenchless Works from Pit I to Pit K	75 days	11 Jun '20	8 Sep '20	HK Working Day		358	50%	11 Jun '20	NA
358	TTA Implement for Po Yap Load Roundabout	14 days	9 Sep '20	22 Sep '20	Calendar Day	357	367	0%	NA	NA
359	TTA preparation, SLG meetings, obtain RA and TPRP Approval for Temporary Vehicular Access at HK Velodrome	128 days	13 Jan '20	19 May '20	Calendar Day	348	360	100%	13 Jan '20	19 May '20
360	Coordination with LCSD and Notification to District Councillors	14 days	20 May '20	2 Jun '20	Calendar Day	359	361	100%	20 May '20	2 Jun '20
361	Form Temporary Vehicle Access at TKO Sport Ground	5 days	1 Jun '20	8 Jun '20	HK Working Day	350	362	100%	1 Jun '20	8 Jun '20
362	Tree Transplanting Working & Tree Removal Works at TKO Sport Ground (CE No. 28)	10 days	9 Jun '20	19 Jun '20	HK Working Day	361	363	100%	9 Jun '20	19 Jun '20
363	Tree Pruning Working for driving Sheetpile at Pit M, Pit N & Pit O	3 days	20 Jun '20	23 Jun '20	HK Working Day	362	364	100%	20 Jun '20	23 Jun '20
364	Mobilization of Sheet-piles and Driving Machines	7 days	24 Jun '20	3 Jul '20	HK Working Day	363	371,369	100%	24 Jun '20	3 Jul '20
365	Tree Survey along Cycle Track; TPRP Approval; Tree Removal Works along Cycle Tracks (Ce No. 28A)	120 days	30 Jun '20	20 Nov '20	HK Working Day	350		90%	30 Jun '20	NA
366	Construction of Jacking Pit & Receiving Pit	181 days	4 Jul '20	6 Feb '21	HK Working Day			52%	4 Jul '20	NA
367	Receiving Pit K	70 days	14 Nov '20	6 Feb '21	HK Working Day	358	374	15%	14 Nov '20	NA
368	Jacking Pit L	70 days	24 Oct '20	18 Jan '21	HK Working Day	369	374,382	39%	24 Oct '20	NA
369	Jacking Pit M	88 days	11 Jul '20	23 Oct '20	HK Working Day	364	368,386,3	100%	11 Jul '20	23 Oct '20
370	Receiving Pit N	77 days	30 Jul '20	30 Oct '20	HK Working Day		386FS-14	100%	30 Jul '20	30 Oct '20
371	Jacking / Receiving Pit O + additional Grouting	130 days	4 Jul '20	5 Dec '20	HK Working Day	364	378,390	40%	4 Jul '20	NA
372	Jacking Pit P + additional Grouting	130 days	3 Aug '20	7 Jan '21	HK Working Day	356	378	30%	3 Aug '20	NA
373	Hand Shield Jacking (Pit K to Pit L)	90 days	8 Feb '21	2 Jun '21	HK Working Day		394	0%	NA	NA
374	Establishment at Pit L	14 days	8 Feb '21	26 Feb '21	HK Working Day	367,368	375	0%	NA	NA
375	Segment @400mm Sleeve Pipe (Pit L to Pit K)(~56m) in Soil (0.8m/day)	70 days	27 Feb '21	26 May '21	HK Working Day	374	376	0%	NA	NA
376	Remove setup including thrust wall at Pit L	6 days	27 May '21	2 Jun '21	HK Working Day	375		0%	NA	NA
377	TBM Pipe Jacking (Pit P to Pit O)	75 days	8 Apr '21	8 Jul '21	HK Working Day		424,443	0%	NA	NA
378	Establishment at Pit P	24 days	8 Apr '21	6 May '21	HK Working Day	372,371,389	379	0%	NA	NA
379	DN1600 Precast Concrete Sleeve Pipe (Pit P - Pit O) (200m) in Soil (4.5m/day)	45 days	7 May '21	30 Jun '21	HK Working Day	378	380	0%	NA	NA
380	Remove setup including thrust wall at Pit P	6 days	2 Jul '21	8 Jul '21	HK Working Day	379		0%	NA	NA
381	TBM Pipe Jacking (Pit M to Pit L) (5 Days a week, 4 trip per days)	68 days	19 Jan '21	15 Apr '21	HK Working Day		400	0%	NA	NA
382	Establishment at Pit M	24 days	19 Jan '21	18 Feb '21	HK Working Day	385,368,369	383	0%	NA	NA
383	DN1600 Precast Concrete Sleeve Pipe (Pit M - Pit L) (CH.GA0+09 to CH.GA1+80) in Soil (171m; 4.5m/day)	38 days	15 Feb '21	8 Apr '21	HK Working Day	382	384	0%	NA	NA
384	Remove setup including thrust wall at Pit M	6 days	9 Apr '21	15 Apr '21	HK Working Day	383		0%	NA	NA
385	TBM Pipe Jacking (Pit M to Pit N) (5 Days a week, 4 trip per days)	57 days	24 Oct '20	2 Jan '21	HK Working Day		382,407,3	0%	NA	NA
386	Establishment at Pit M	24 days	24 Oct '20	21 Nov '20	HK Working Day	369,370FS-14 da	387	0%	NA	NA



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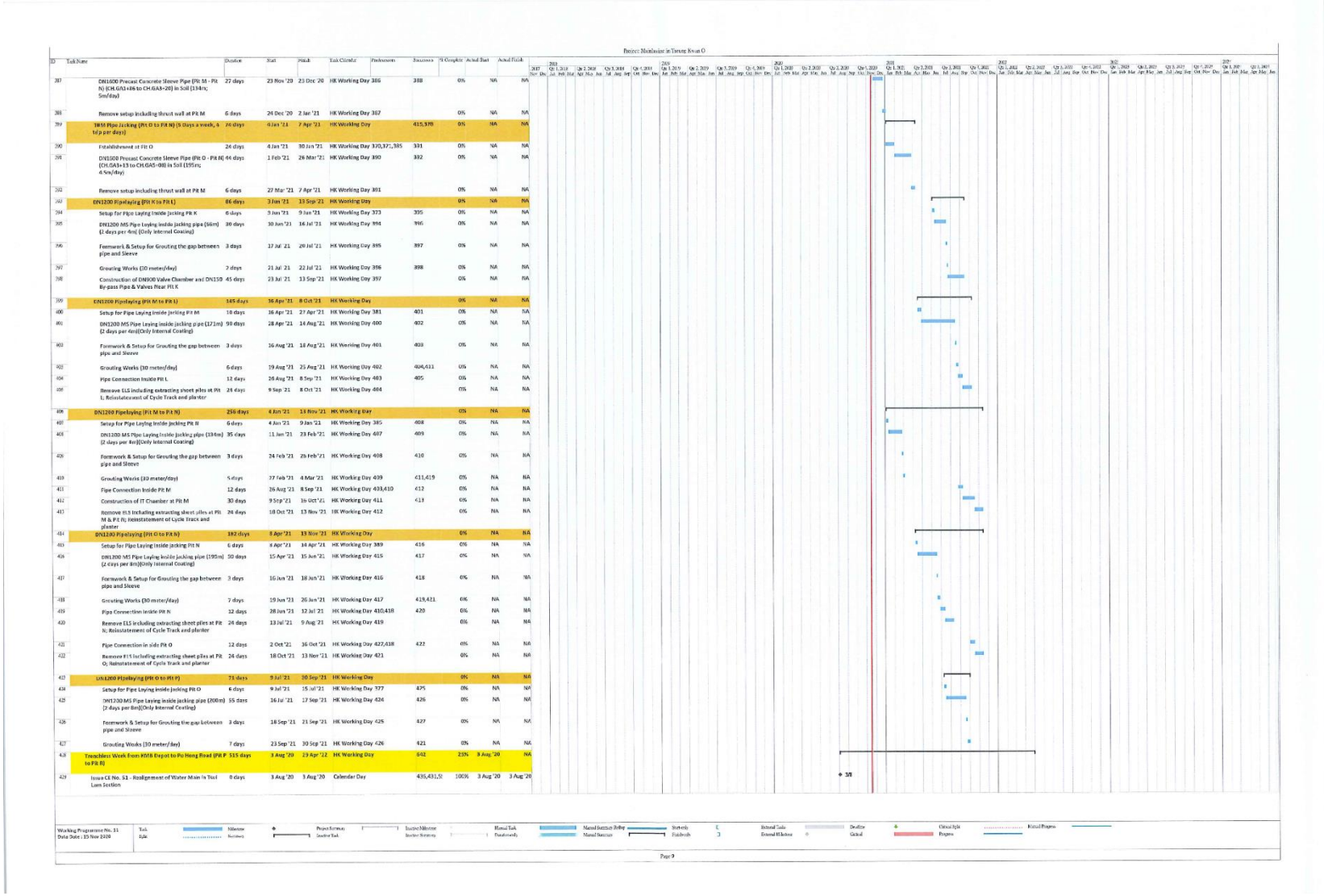
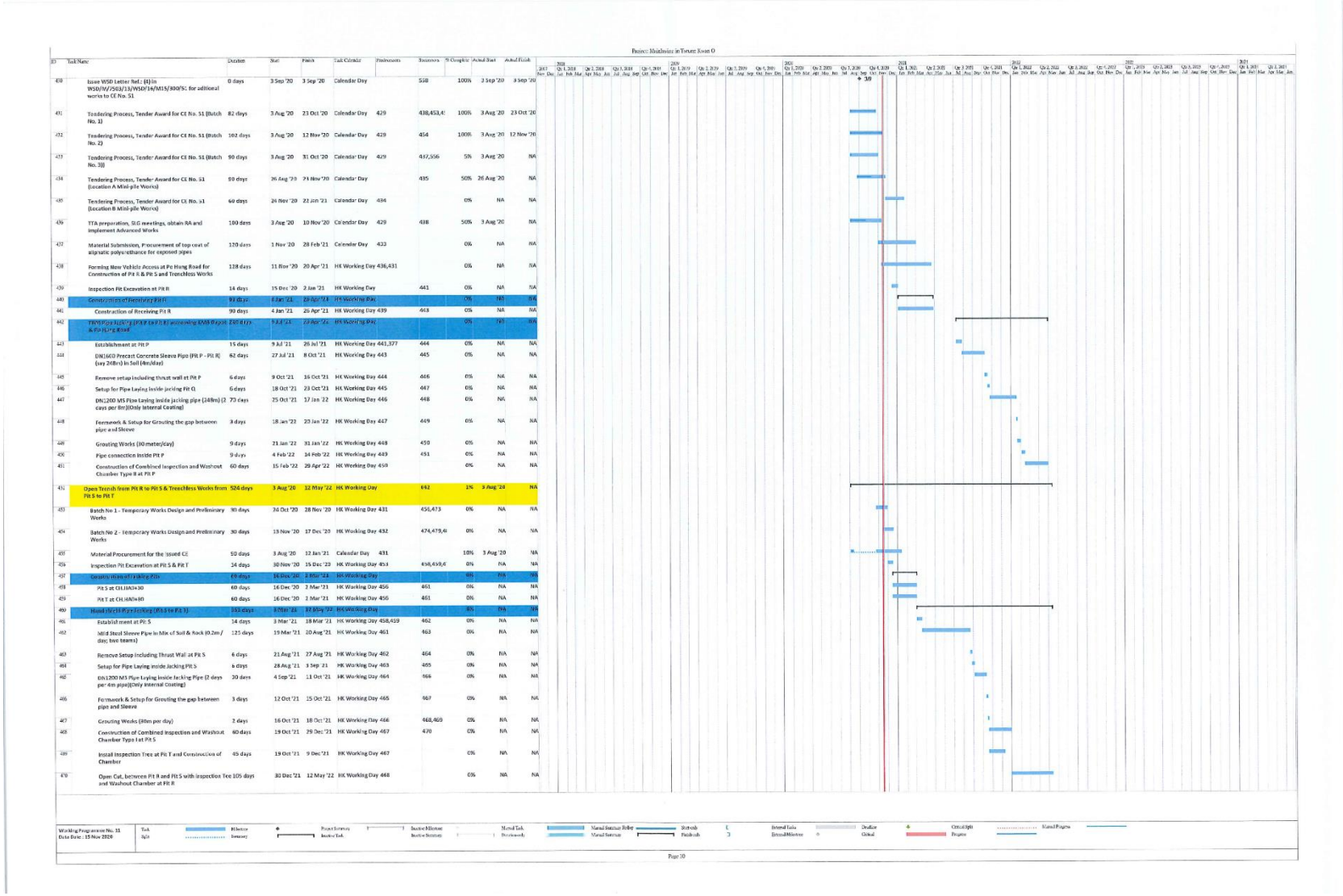
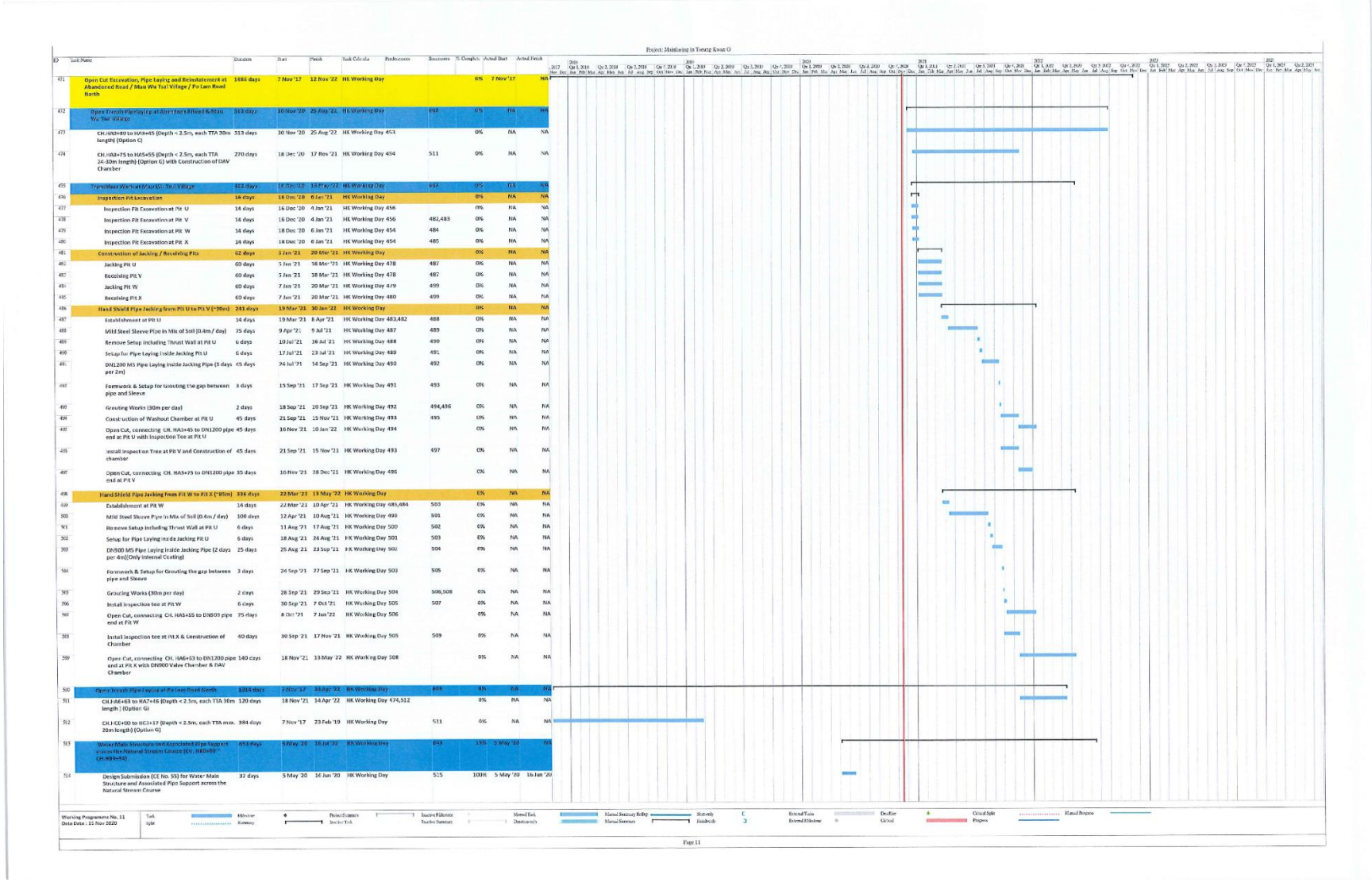
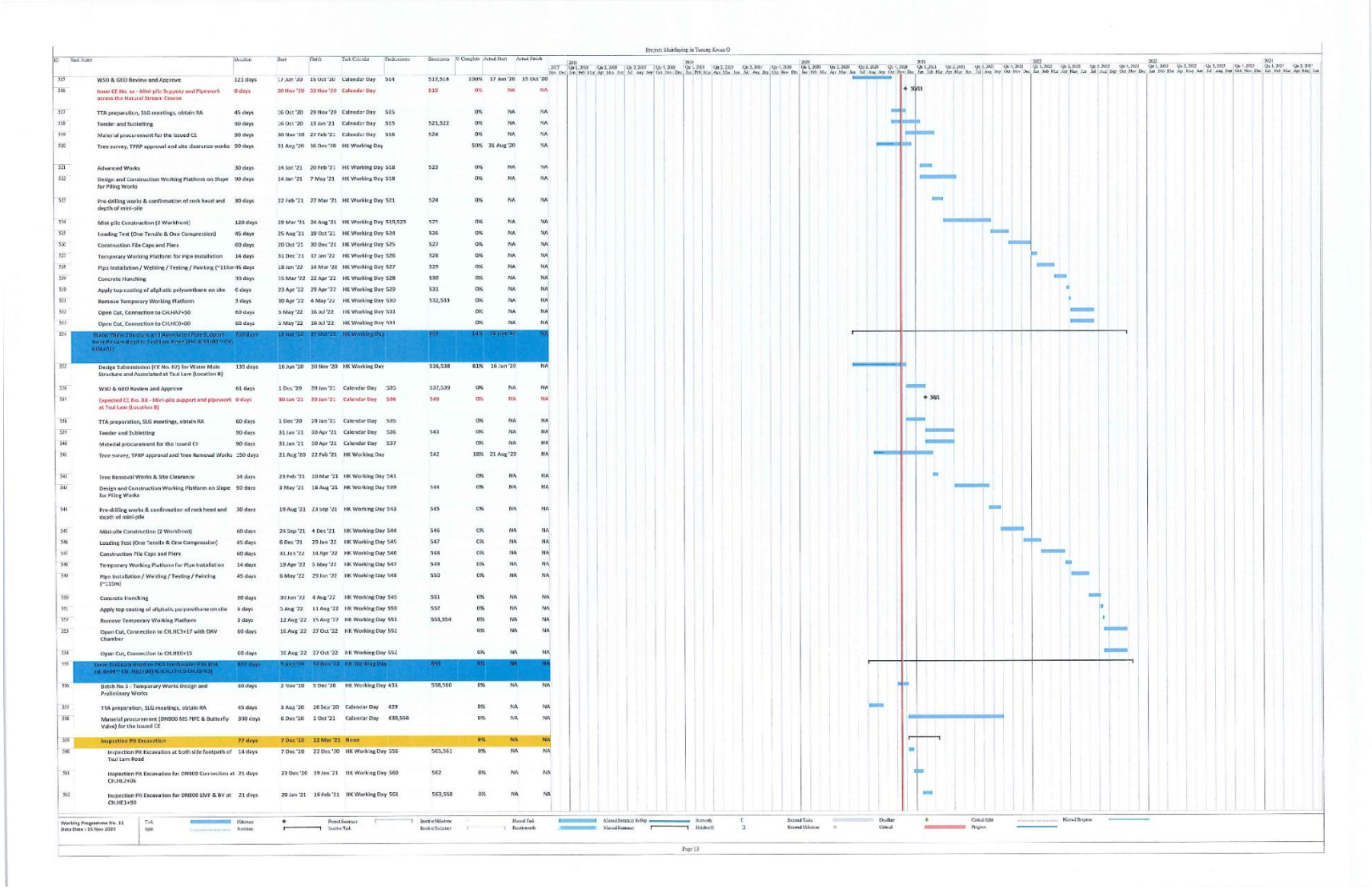


ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish
387	DN1600 Precast Concrete Sleeve Pipe (Pit M - Pit N) (CH.GA3+86 to CH.GA5+20) in Soil (134m; 5m/day)	27 days	23 Nov '20	23 Dec '20	HK Working Day	386	388	0%	NA	NA
388	Remove setup including thrust wall at Pit M	6 days	24 Dec '20	2 Jan '21	HK Working Day	387		0%	NA	NA
389	1850 Pipe Jacking (Pit O to Pit N) (5 Days a week, 4 to 6 p per day)	26 days	4 Jan '21	7 Apr '21	HK Working Day		415,370	0%	NA	NA
390	Establishment at Pit O	24 days	4 Jan '21	30 Jan '21	HK Working Day	370,371,385	391	0%	NA	NA
391	DN1500 Precast Concrete Sleeve Pipe (Pit O - Pit N) (CH.GA3+13 to CH.GA5+08) in Soil (195m; 4.5m/day)	44 days	1 Feb '21	26 Mar '21	HK Working Day	390	392	0%	NA	NA
392	Remove setup including thrust wall at Pit M	6 days	27 Mar '21	7 Apr '21	HK Working Day	391		0%	NA	NA
393	DN1200 Pipelaying (Pit K to Pit L)	86 days	3 Jun '21	13 Sep '21	HK Working Day			0%	NA	NA
394	Setup for Pipe Laying Inside Jacking Pit K	6 days	3 Jun '21	9 Jun '21	HK Working Day	373	395	0%	NA	NA
395	DN1200 MS Pipe Laying inside jacking pipe (56m) (2 days per 4m) (Only Internal Coating)	30 days	10 Jun '21	16 Jul '21	HK Working Day	394	396	0%	NA	NA
396	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	17 Jul '21	20 Jul '21	HK Working Day	395	397	0%	NA	NA
397	Grouting Works (30 meter/day)	2 days	21 Jul '21	22 Jul '21	HK Working Day	396	398	0%	NA	NA
398	Construction of DN900 Valve Chamber and DN150 By-pass Pipe & Valves Near Pit K	45 days	23 Jul '21	13 Sep '21	HK Working Day	397		0%	NA	NA
399	DN1200 Pipelaying (Pit M to Pit L)	145 days	16 Apr '21	8 Oct '21	HK Working Day			0%	NA	NA
400	Setup for Pipe Laying Inside Jacking Pit M	10 days	16 Apr '21	27 Apr '21	HK Working Day	381	401	0%	NA	NA
401	DN1200 MS Pipe Laying inside jacking pipe (171m) (2 days per 4m)(Only Internal Coating)	90 days	28 Apr '21	14 Aug '21	HK Working Day	400	402	0%	NA	NA
403	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	16 Aug '21	18 Aug '21	HK Working Day	401	403	0%	NA	NA
404	Grouting Works (30 meter/day)	6 days	19 Aug '21	25 Aug '21	HK Working Day	402	404,411	0%	NA	NA
404	Pipe Connection Inside Pit L	12 days	26 Aug '21	8 Sep '21	HK Working Day	403	405	0%	NA	NA
405	Remove ELS including extracting sheet piles at Pit L; Reinstatement of Cycle Track and planter	24 days	9 Sep '21	8 Oct '21	HK Working Day	404		0%	NA	NA
406	DN1200 Pipelaying (Pit M to Pit N)	256 days	4 Jan '21	13 Nov '21	HK Working Day			0%	NA	NA
407	Setup for Pipe Laying Inside Jacking Pit N	6 days	4 Jan '21	9 Jan '21	HK Working Day	385	408	0%	NA	NA
408	DN1200 MS Pipe Laying inside jacking pipe (134m) (2 days per 4m)(Only Internal Coating)	35 days	11 Jan '21	23 Feb '21	HK Working Day	407	409	0%	NA	NA
409	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	24 Feb '21	26 Feb '21	HK Working Day	408	410	0%	NA	NA
410	Grouting Works (30 meter/day)	5 days	27 Feb '21	4 Mar '21	HK Working Day	409	411,419	0%	NA	NA
411	Pipe Connection Inside Pit M	12 days	26 Aug '21	8 Sep '21	HK Working Day	403,410	412	0%	NA	NA
412	Construction of IT Chamber at Pit M	30 days	9 Sep '21	16 Oct '21	HK Working Day	411	413	0%	NA	NA
413	Remove ELS including extracting sheet piles at Pit M & Pit N; Reinstatement of Cycle Track and planter	26 days	18 Oct '21	13 Nov '21	HK Working Day	412		0%	NA	NA
414	DN1200 Pipelaying (Pit O to Pit N)	182 days	8 Apr '21	13 Nov '21	HK Working Day			0%	NA	NA
415	Setup for Pipe Laying Inside Jacking Pit N	6 days	6 Apr '21	14 Apr '21	HK Working Day	389	416	0%	NA	NA
416	DN1200 MS Pipe Laying inside jacking pipe (195m) (2 days per 4m)(Only Internal Coating)	50 days	15 Apr '21	15 Jun '21	HK Working Day	415	417	0%	NA	NA
417	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	16 Jun '21	18 Jun '21	HK Working Day	416	418	0%	NA	NA
418	Grouting Works (30 meter/day)	7 days	19 Jun '21	26 Jun '21	HK Working Day	417	419,421	0%	NA	NA
419	Pipe Connection Inside Pit N	12 days	28 Jun '21	12 Jul '21	HK Working Day	410,418	420	0%	NA	NA
420	Remove ELS including extracting sheet piles at Pit N; Reinstatement of Cycle Track and planter	24 days	13 Jul '21	9 Aug '21	HK Working Day	419		0%	NA	NA
421	Pipe Connection in side Pit O	12 days	2 Oct '21	16 Oct '21	HK Working Day	427,418	422	0%	NA	NA
422	Remove ELS including extracting sheet piles at Pit O; Reinstatement of Cycle Track and planter	24 days	18 Oct '21	13 Nov '21	HK Working Day	421		0%	NA	NA
423	DN1200 Pipelaying (Pit O to Pit P)	71 days	9 Jul '21	30 Sep '21	HK Working Day			0%	NA	NA
424	Setup for Pipe Laying Inside Jacking Pit O	6 days	9 Jul '21	15 Jul '21	HK Working Day	377	425	0%	NA	NA
425	DN1200 MS Pipe Laying inside jacking pipe (200m) (2 days per 8m)(Only Internal Coating)	55 days	16 Jul '21	17 Sep '21	HK Working Day	424	426	0%	NA	NA
426	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	18 Sep '21	21 Sep '21	HK Working Day	425	427	0%	NA	NA
427	Grouting Works (30 meter/day)	7 days	23 Sep '21	30 Sep '21	HK Working Day	426	423	0%	NA	NA
428	Trenchless Work from 8008 Depot to Po Hong Road (Pit P to Pit R)	515 days	3 Aug '20	29 Apr '22	HK Working Day		642	25%	3 Aug '20	NA
429	Issue CE No. 51 - Realignment of Water Main in Tsui Lam Section	0 days	3 Aug '20	3 Aug '20	Calendar Day	435,431,52		100%	3 Aug '20	3 Aug '20






Project: Mainlaying in Tseung Kwan O
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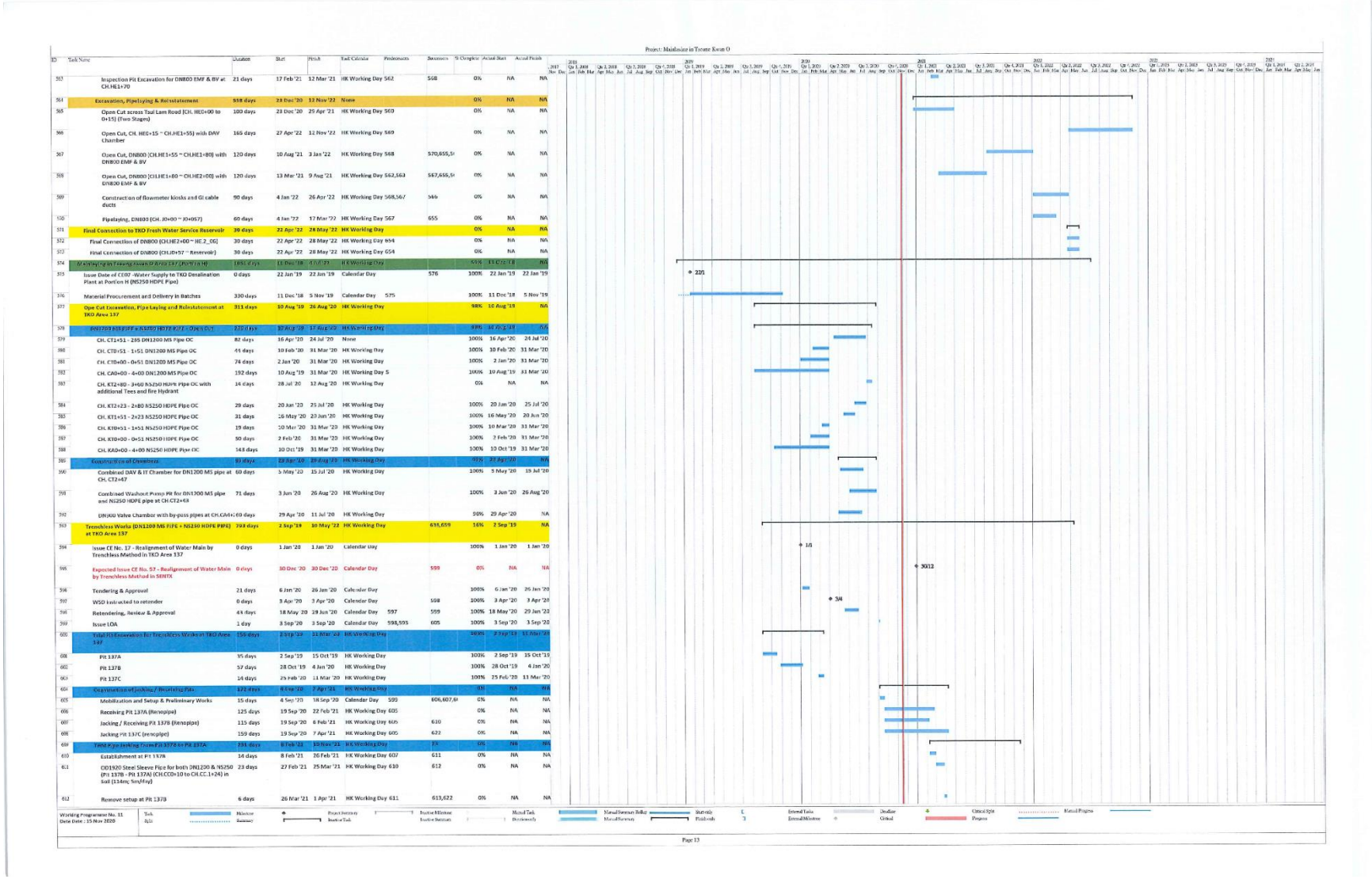

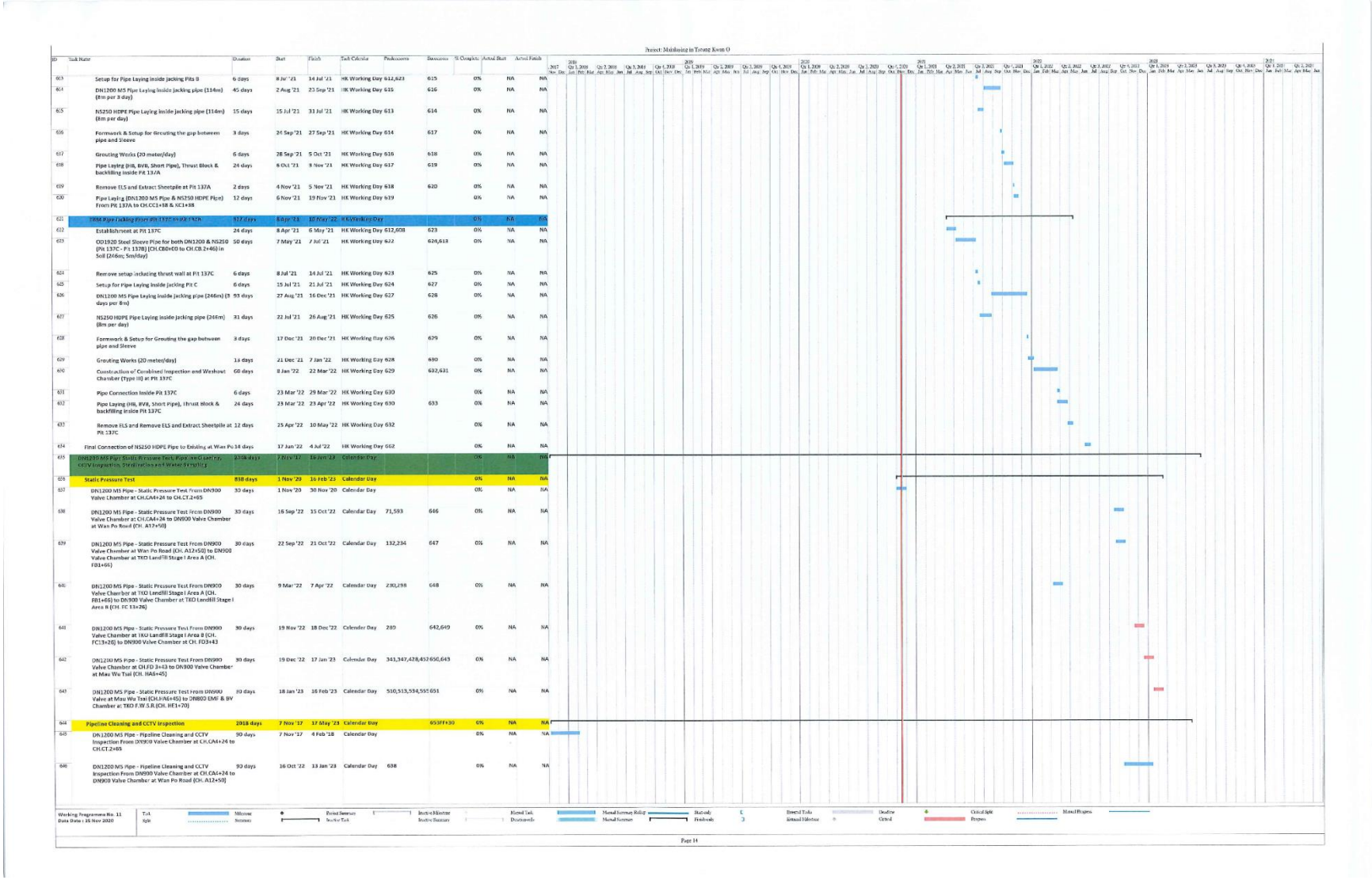

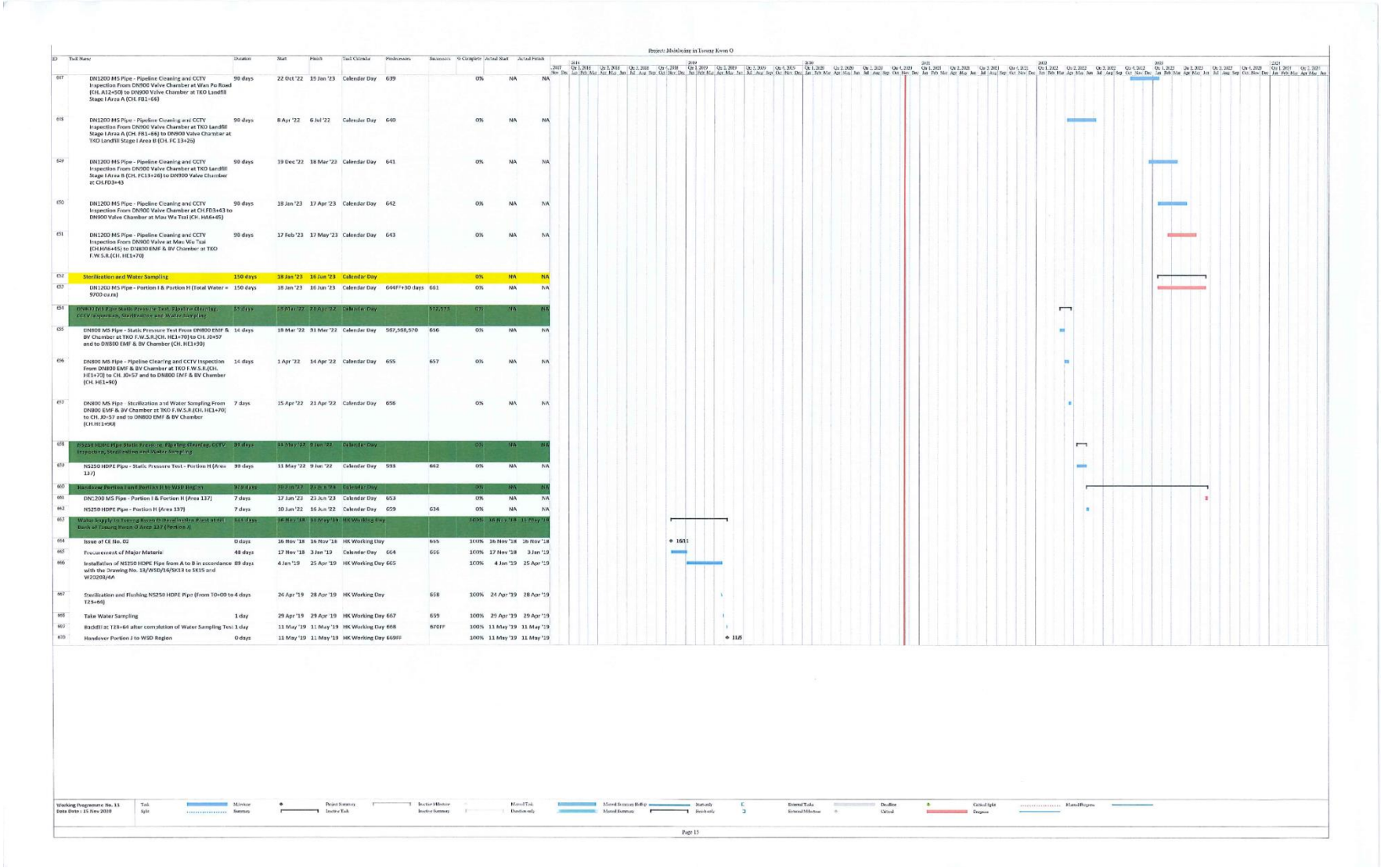

Appendix B

Overview of Mainlaying in Tseung Kwan O

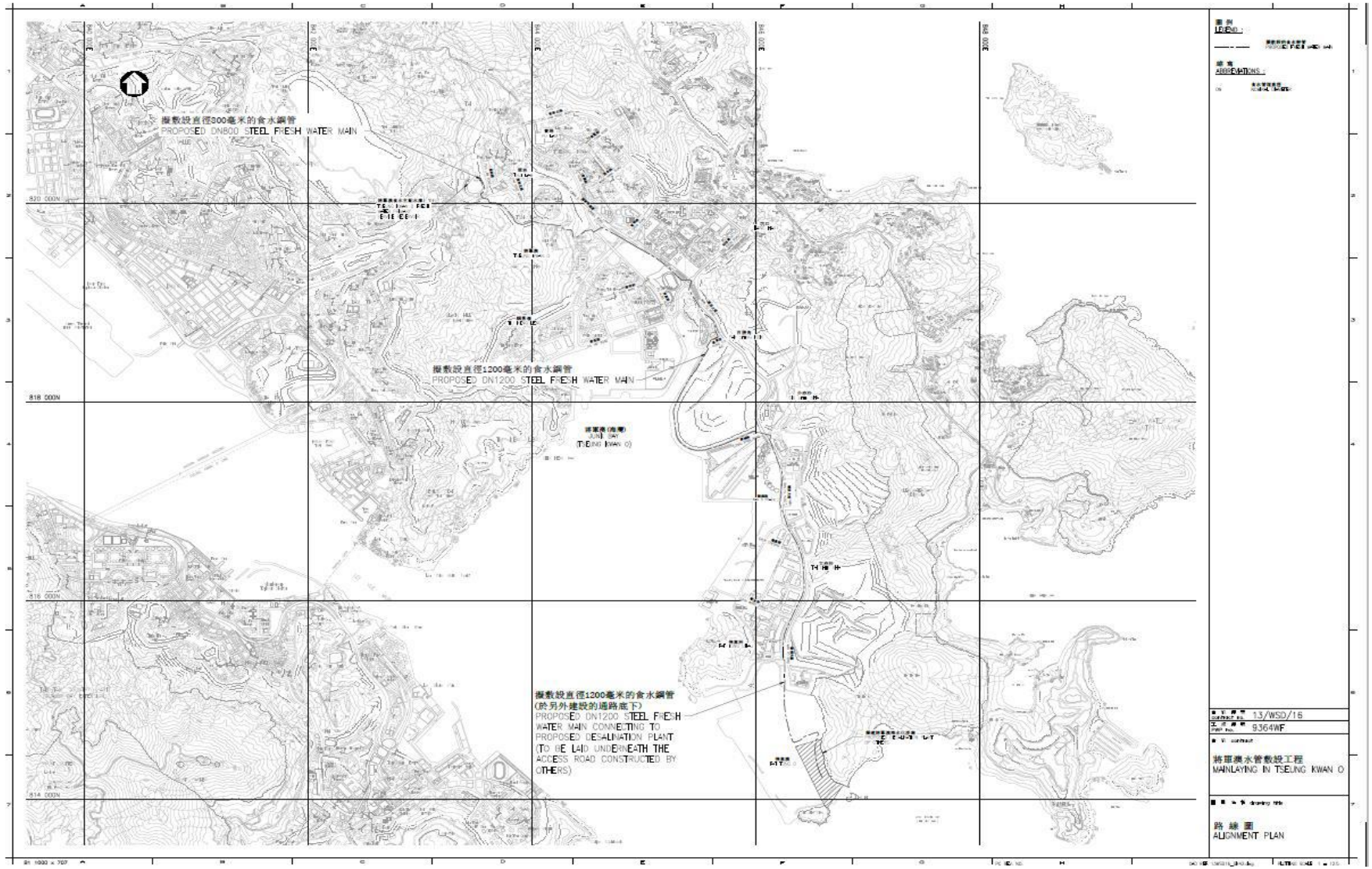

Figure B1. Overview of Mainlaying in TKO

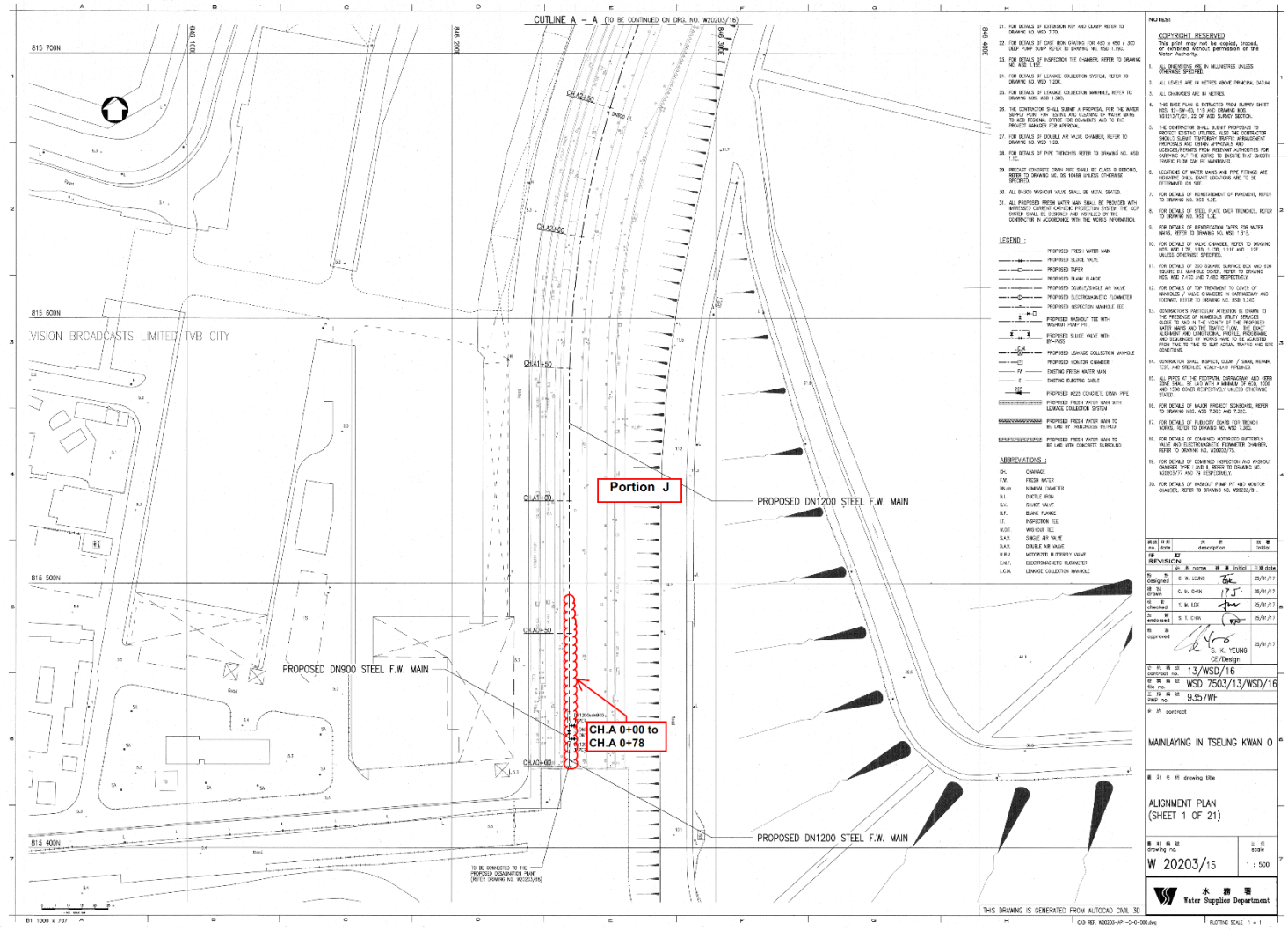

Figure B2. Location Plan for Portion J - CH.A 0+00 to CH.A 0+78

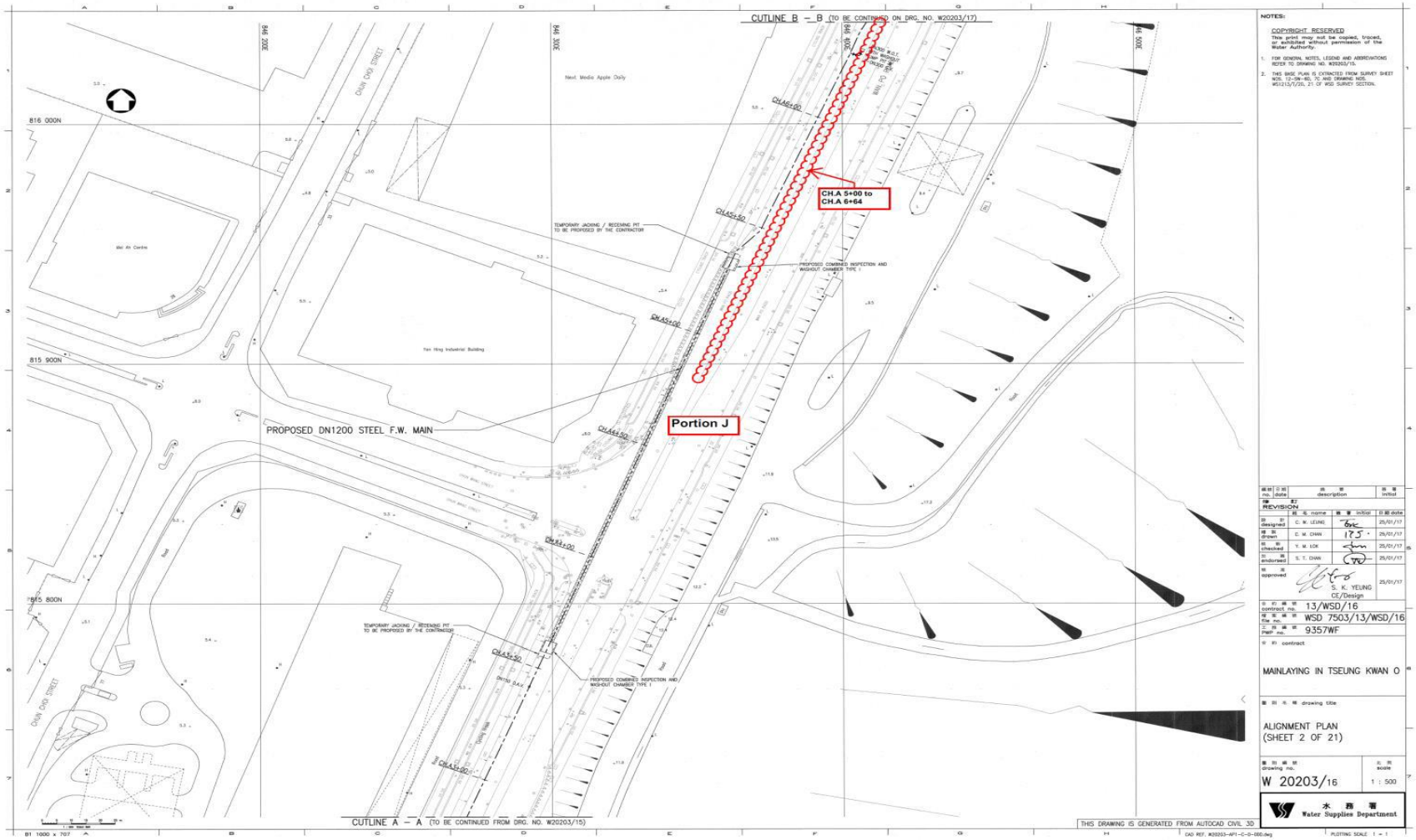

Figure B3a. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64

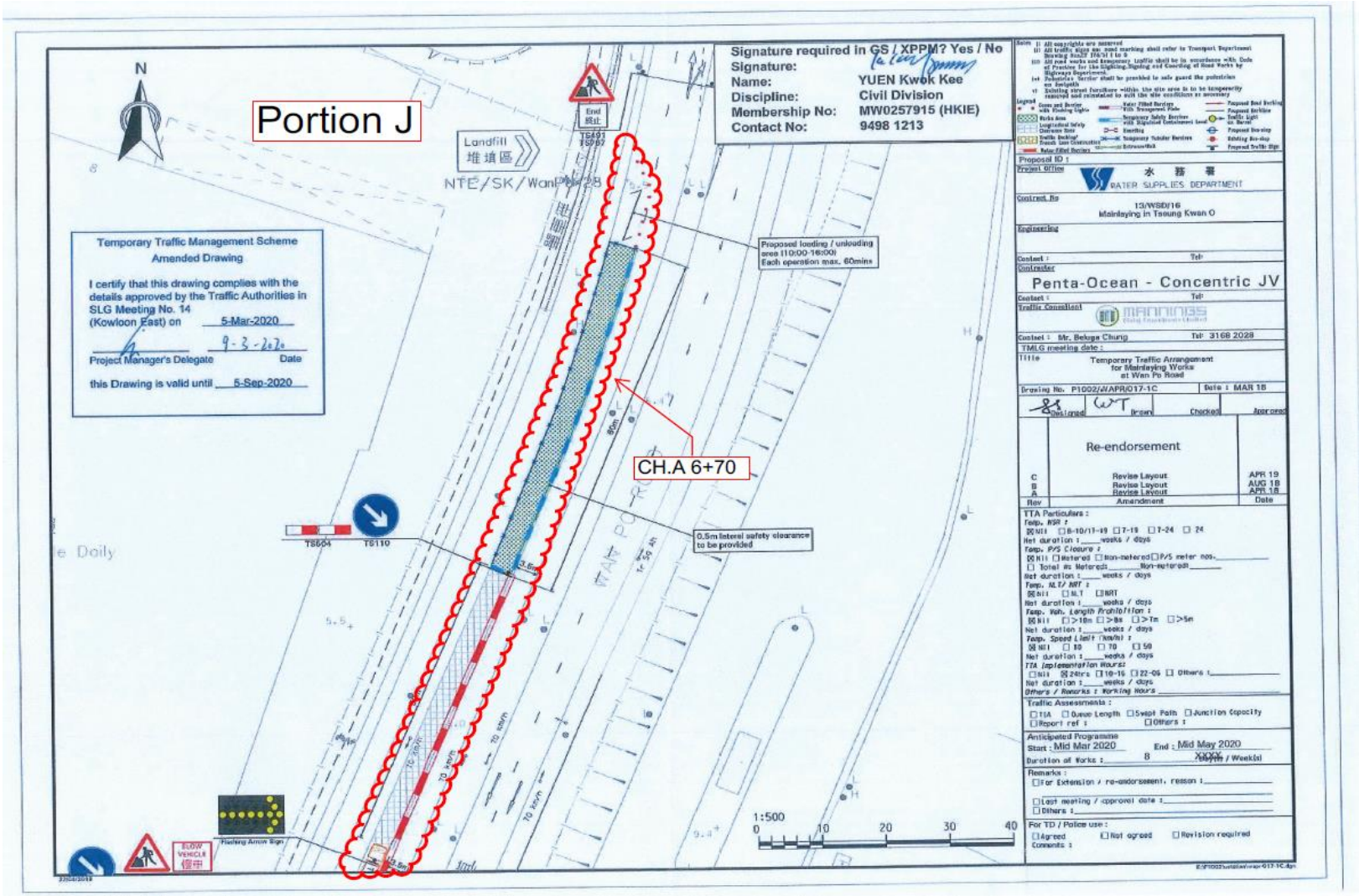

Figure B3b(i). Location Plan for Portion J - CH.A 6+70

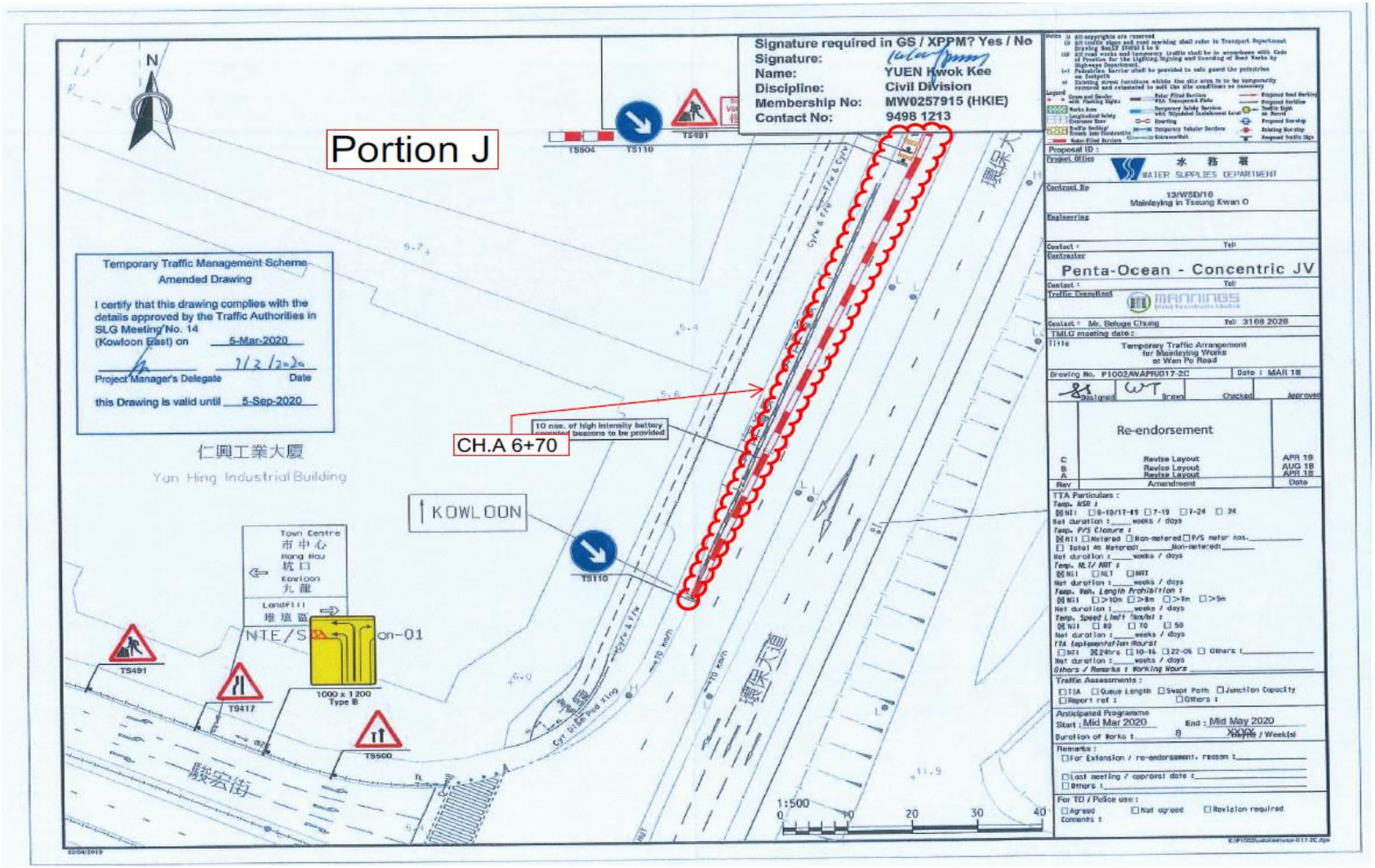

Figure B3b(ii). Location Plan for Portion J - CH.A 6+70

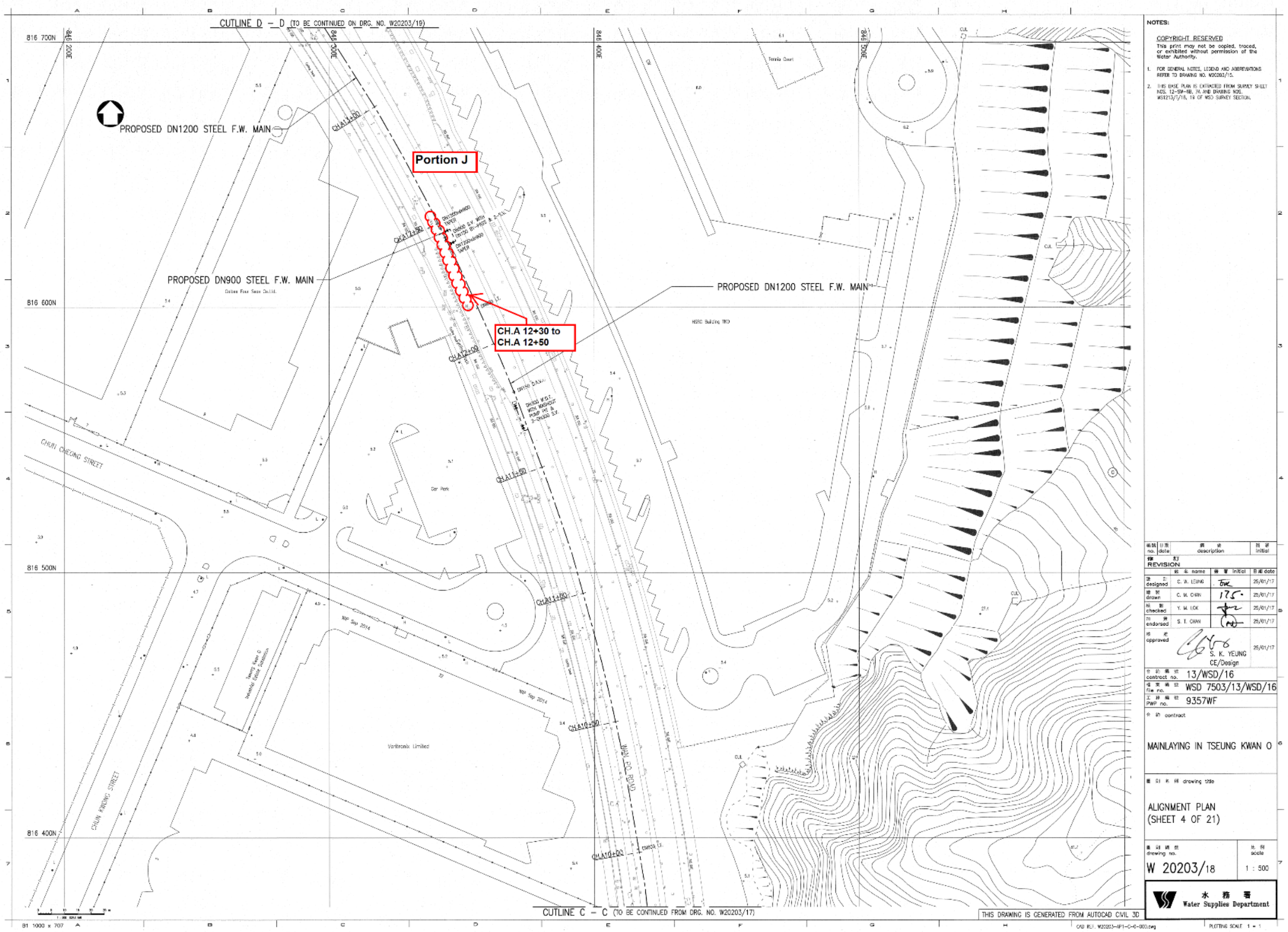

Figure B4. Location Plan for Portion J - CH.A 12+30 to CH.A 12+50

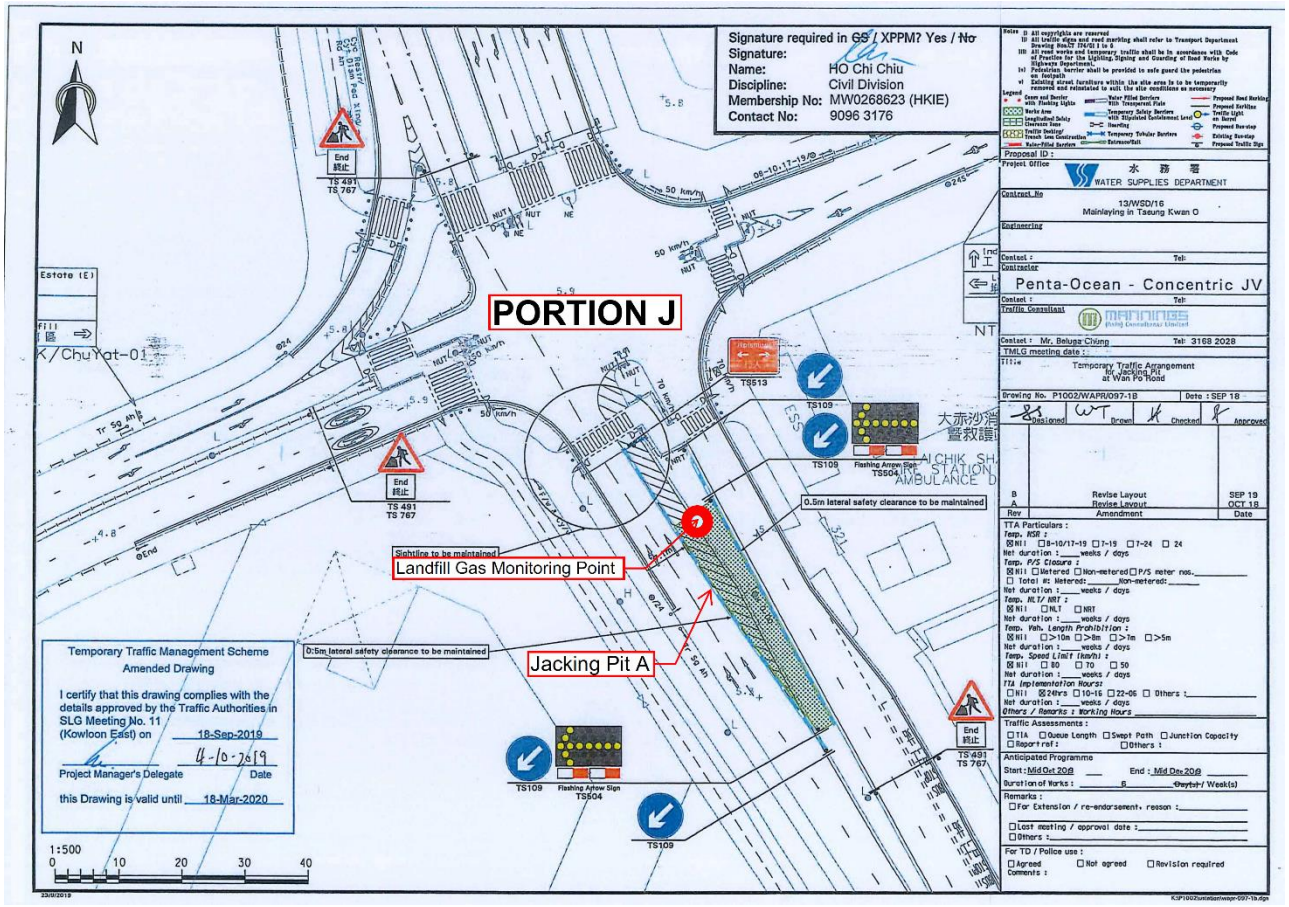

Figure B5. Location Plan for Portion J – CH. A13+50 to CH.A 14+00 (Pit A)

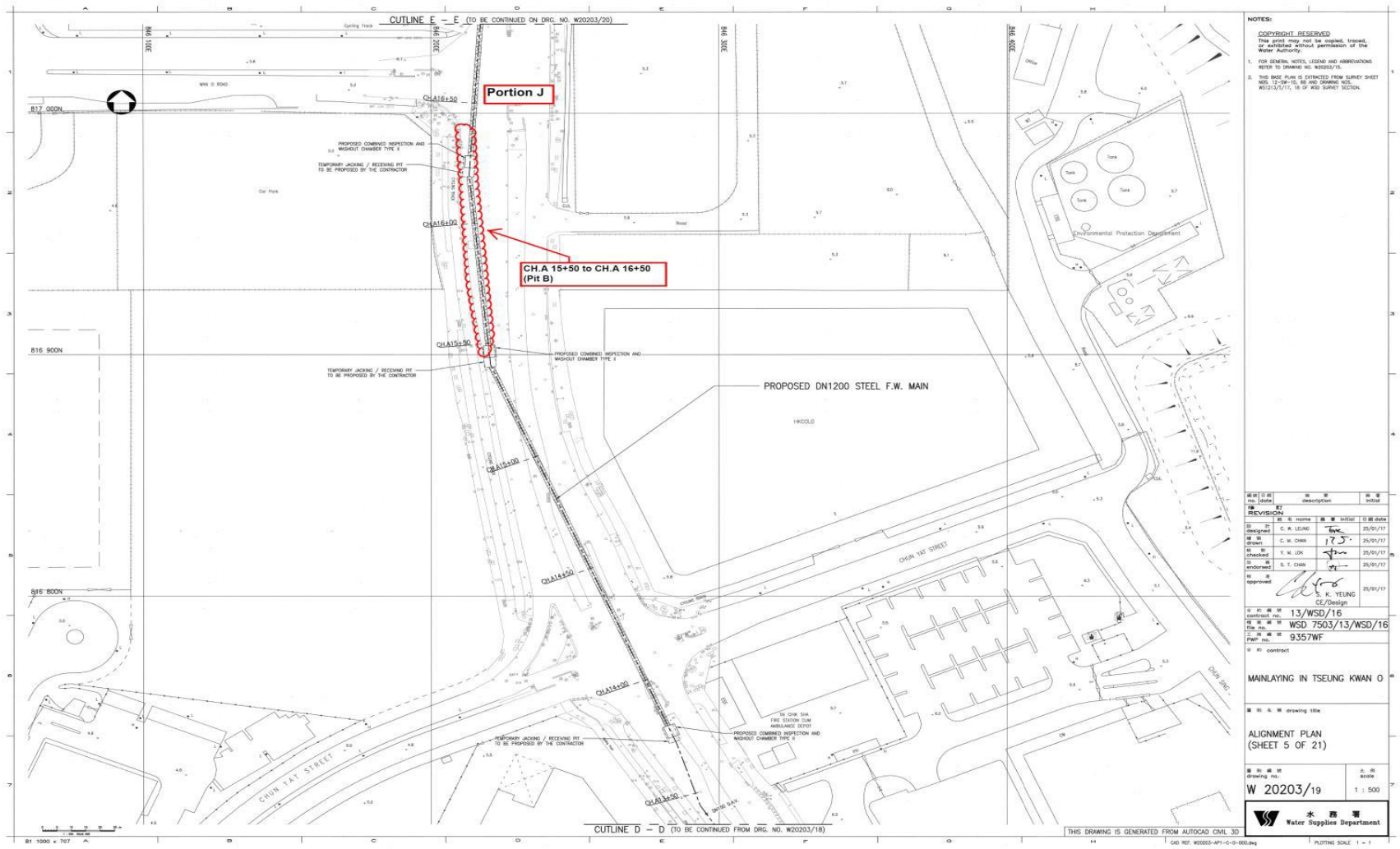

Figure B6. Location Plan for Portion J – CH. A15+50 to CH.A 16+50 (Pit B)

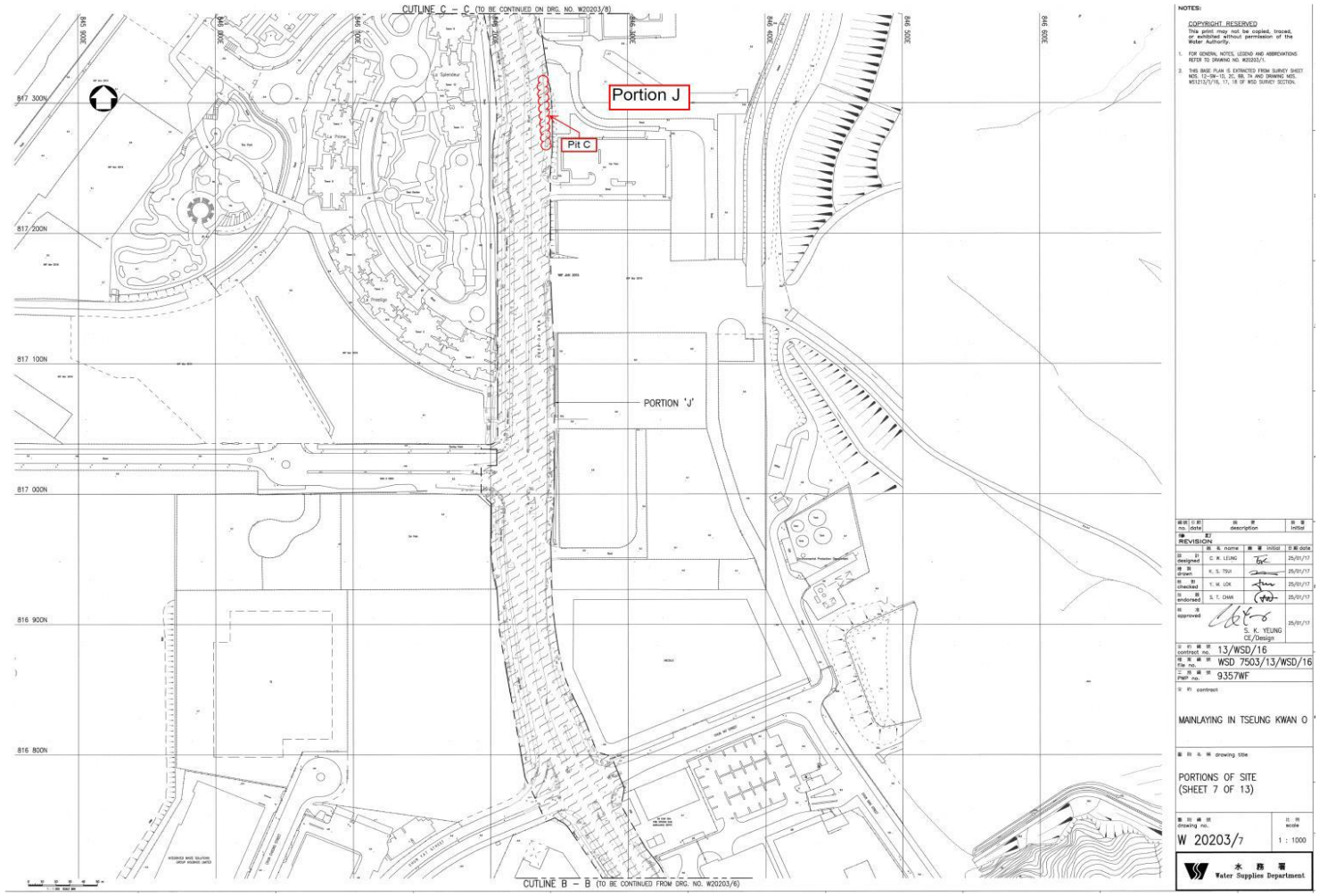

Figure B7. Location Plan for Portion J – CH.A 19+15 to CH.A 19+50 (Pit C)

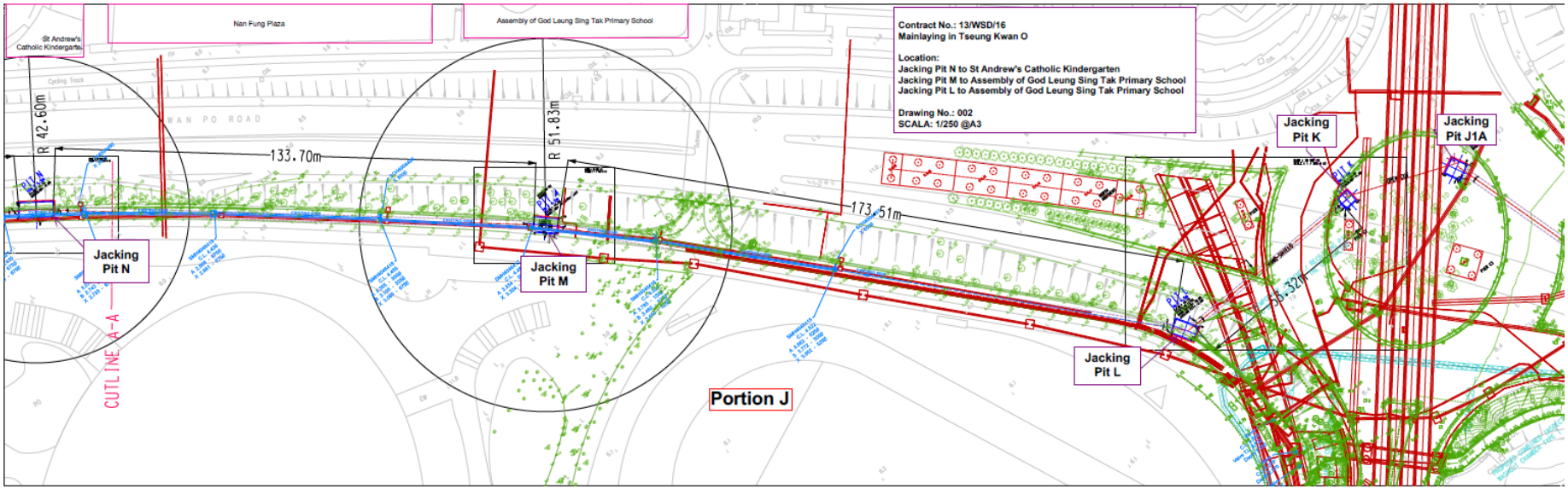

Figure B8a. Location Plan for Portion J – Pit L-M-N, K, J1A

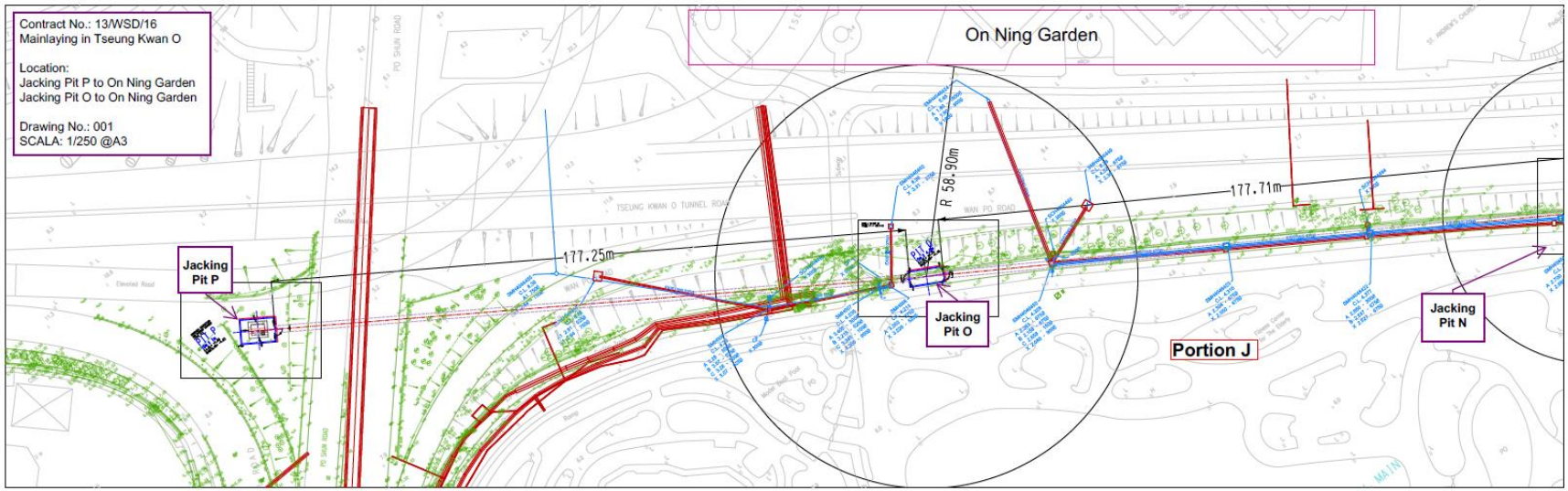

Figure B8b. Location Plan for Portion J – Pit N-O-P

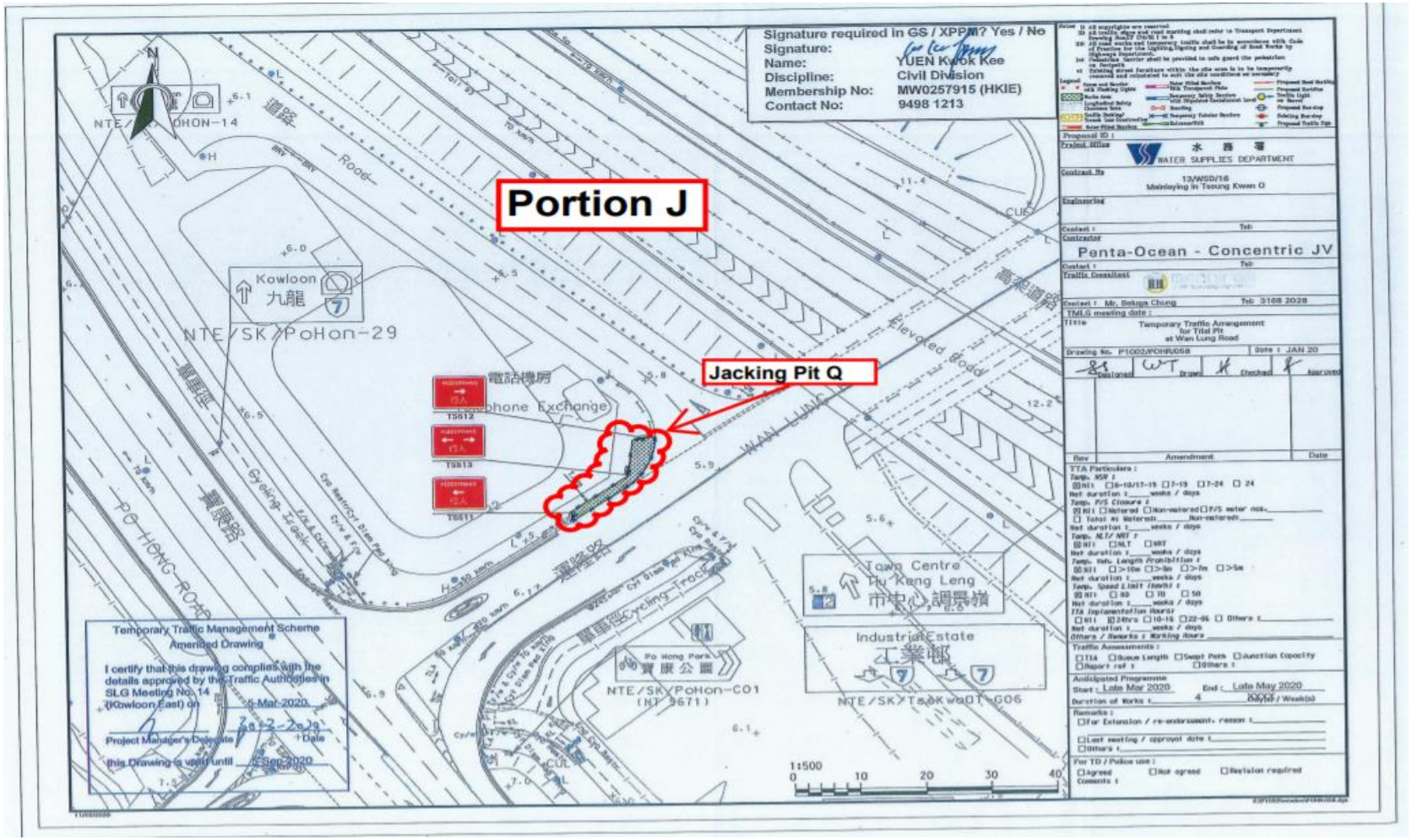

Figure B8c. Location Plan for Portion J – Pit Q

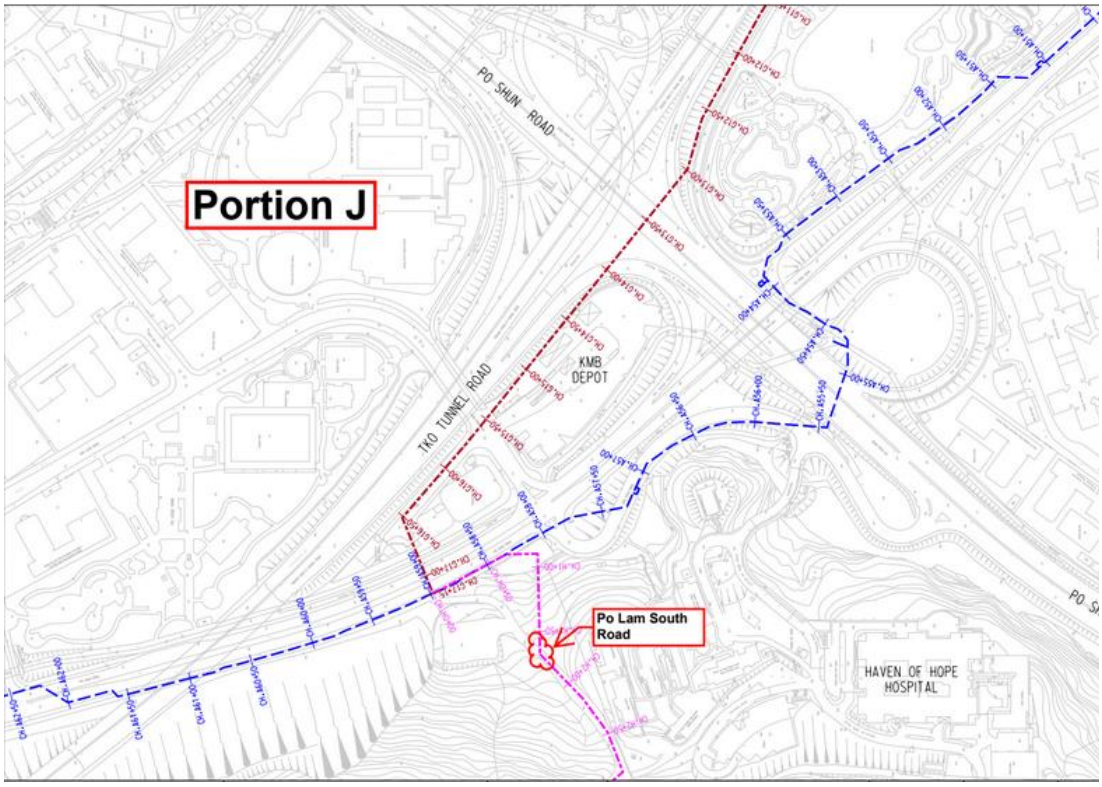

Figure B9a. Location Plan for Mau Wu Tsai 1

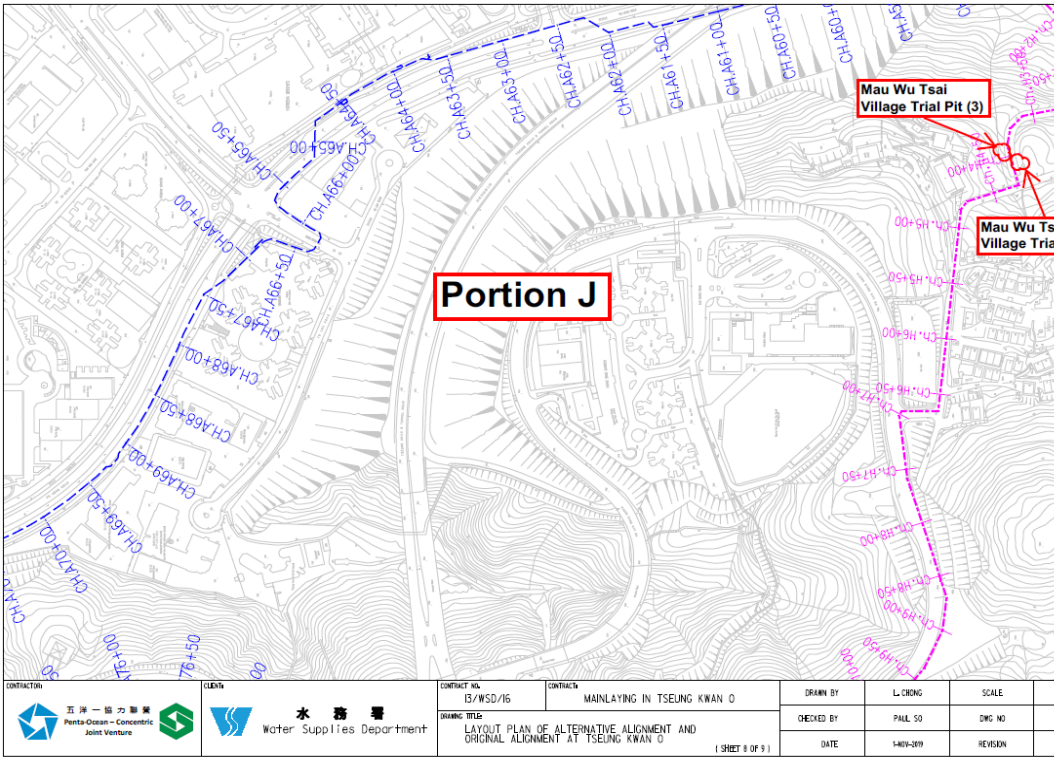

Figure B9b. Location Plan for Mau Wu Tsai 2 & 3

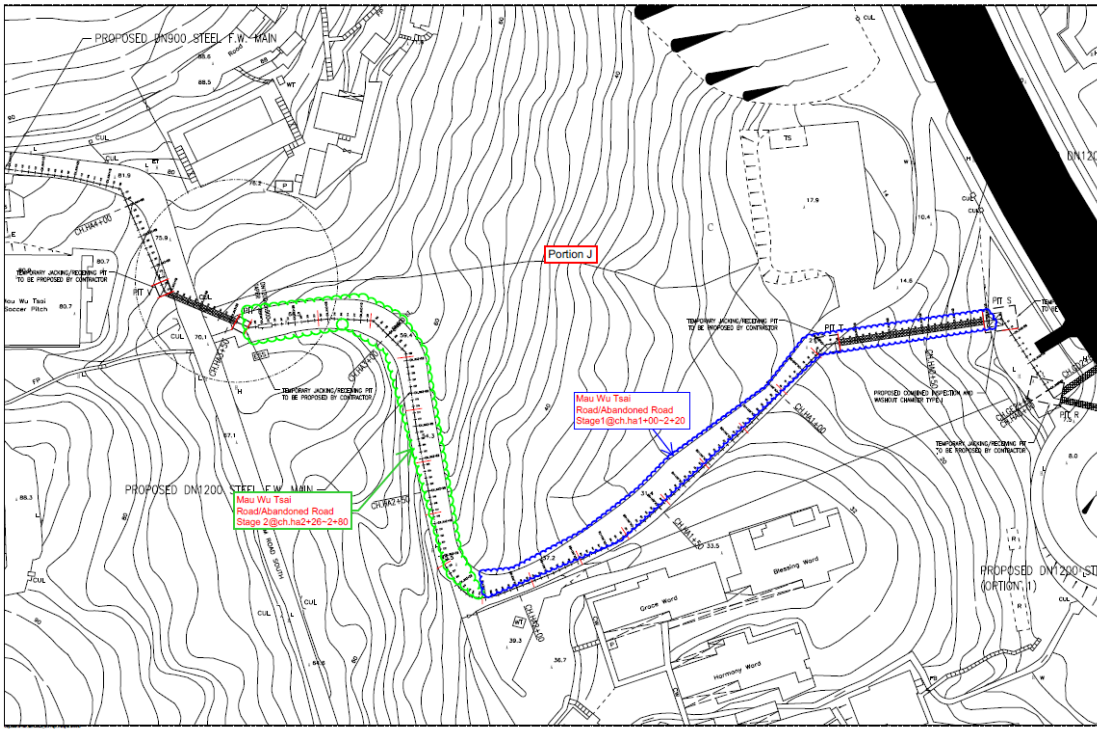

Figure B9c. Abandoned Mau Wu Tsai Road

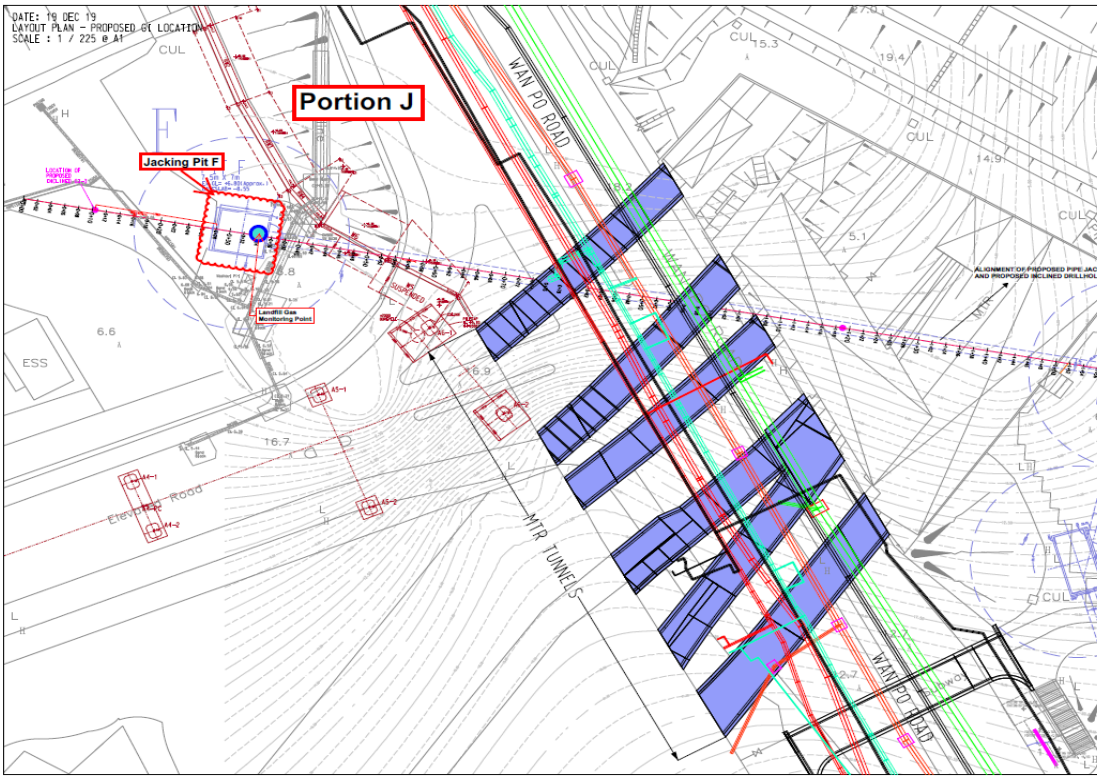

Figure B10. Location Plan for Jacking Pit F

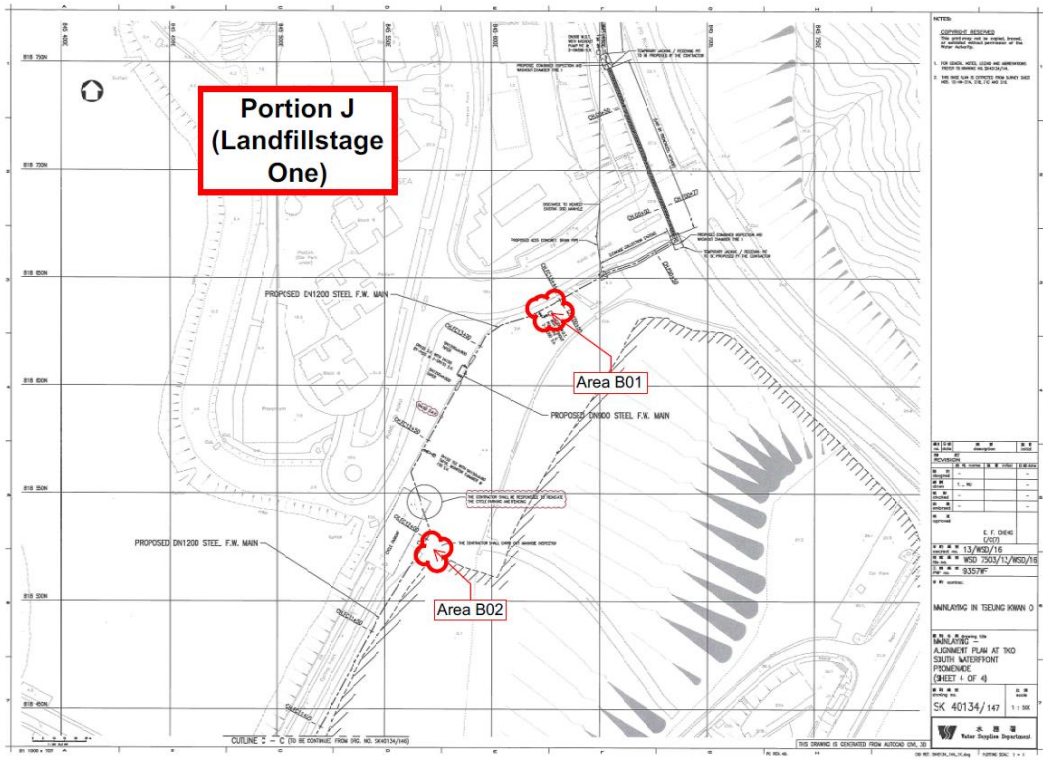

Figure B11a. Location Plan – Landfill Stage 1 (Area B01-B02)

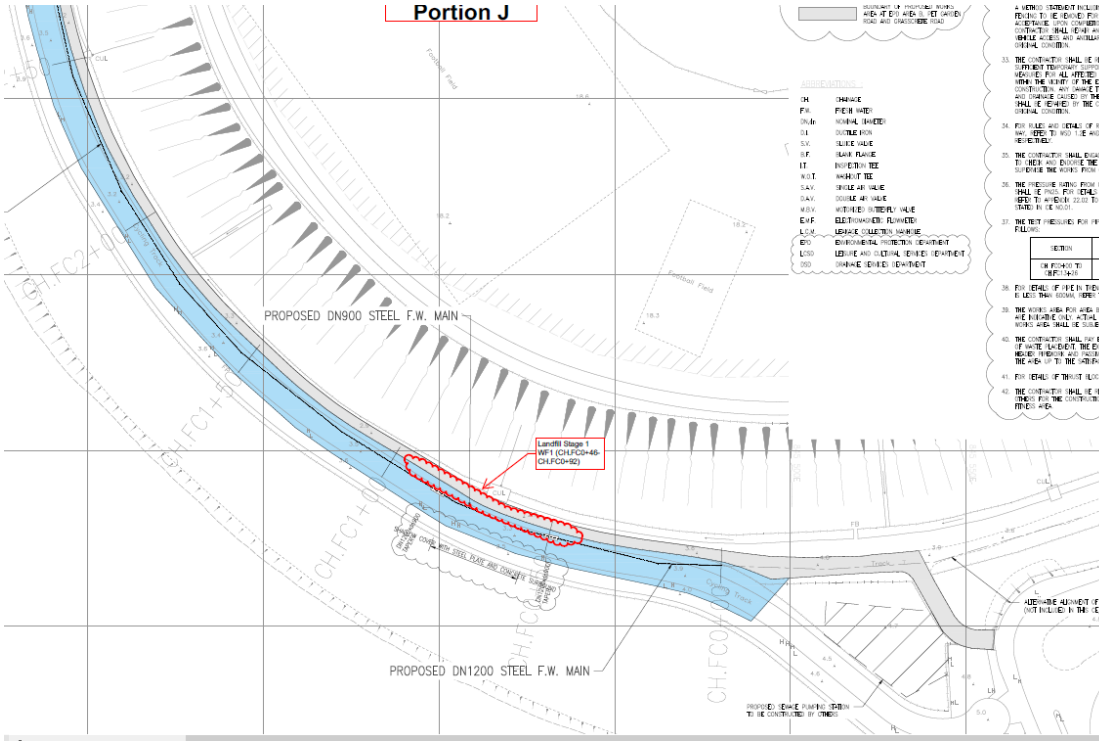

Figure B11b. Location Plan – Landfill Stage 1 (Area FC0+42 -FC0+92)

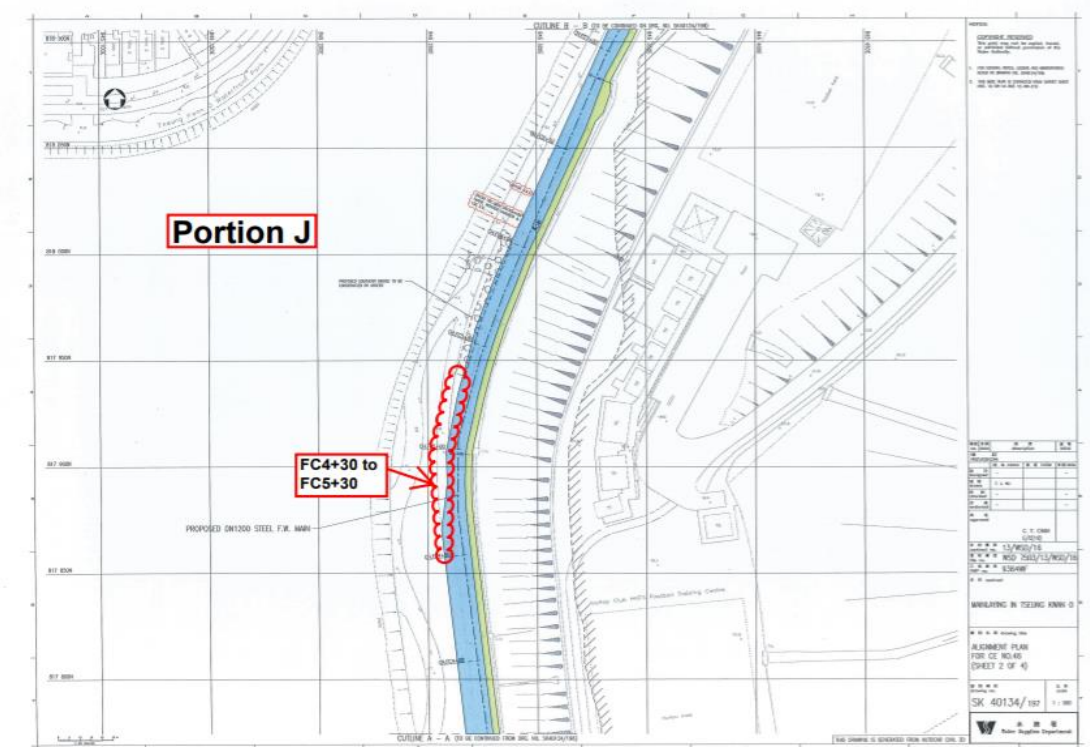

Figure B11c. Location Plan – Landfill Stage 1 (Area FC4+30 -FC5+30)

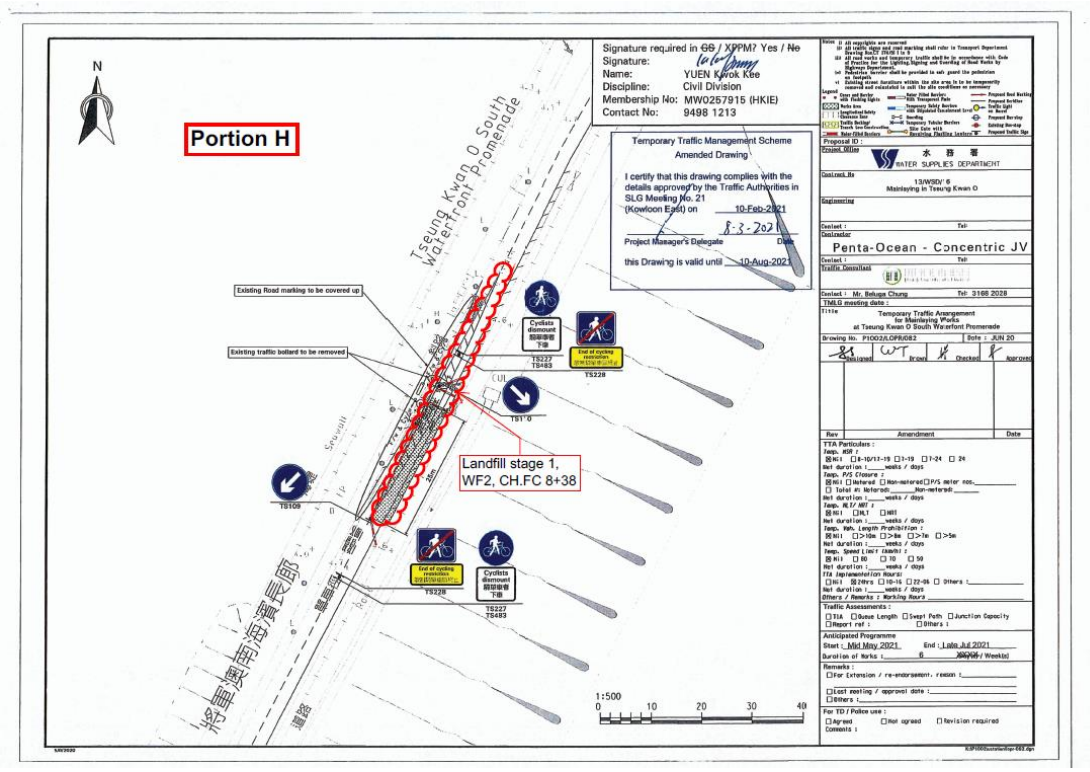

Figure B11d. Location Plan – Landfill Stage 1 (Area FC8+38)

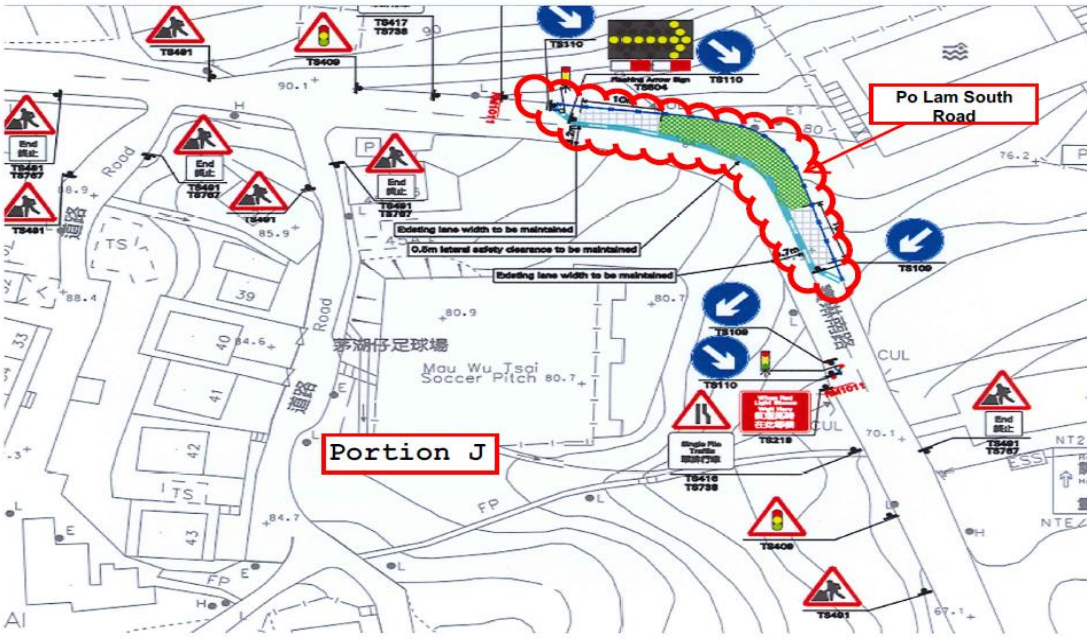

Figure B12. Monitoring Location – Po Lam South Road

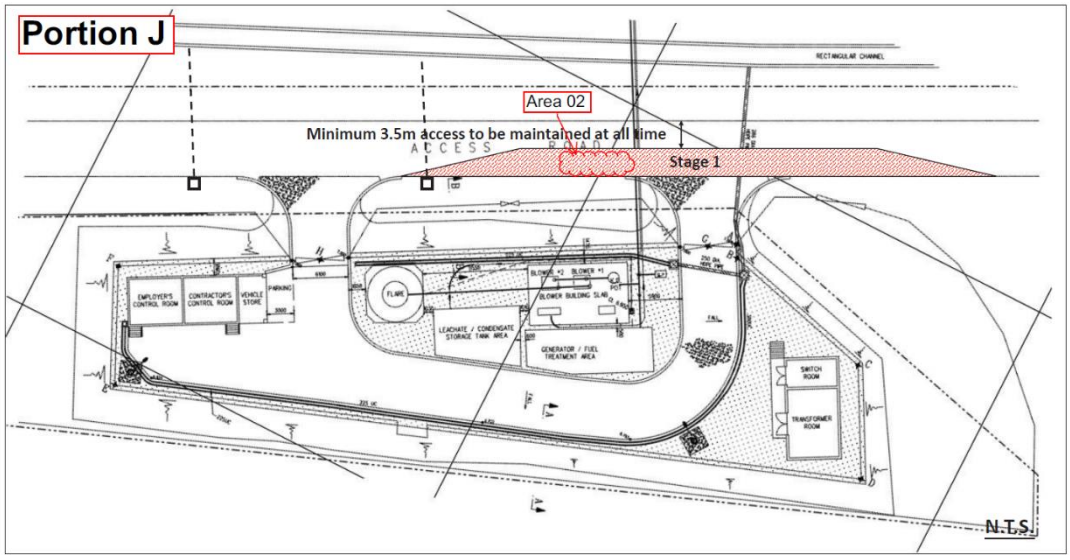

Figure B13. Monitoring Location – Area A02

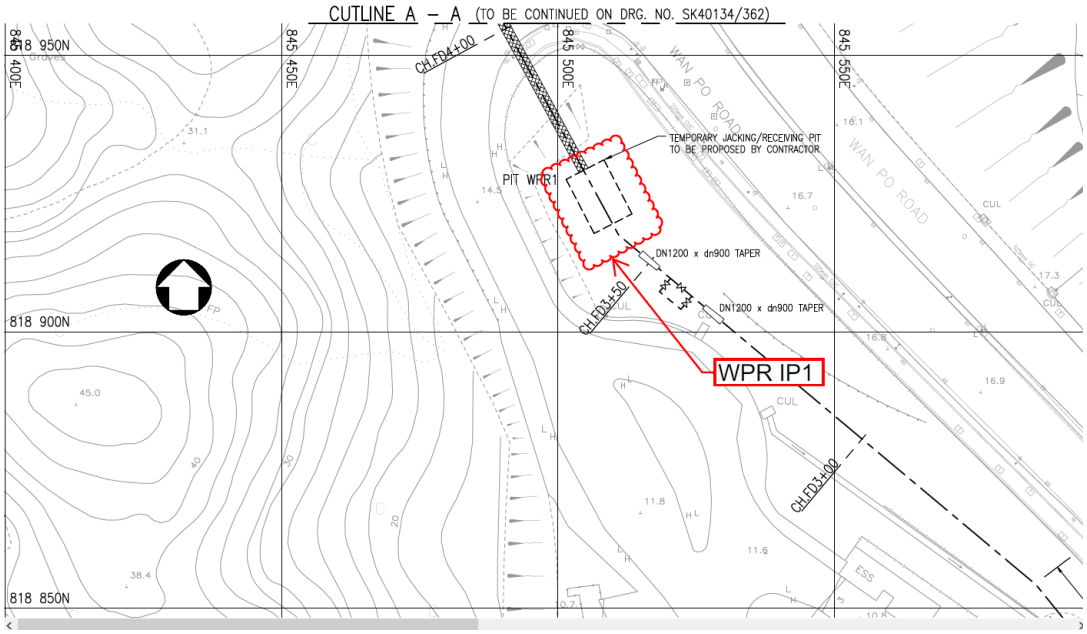

Figure B14. Location Plan for WPR IP1

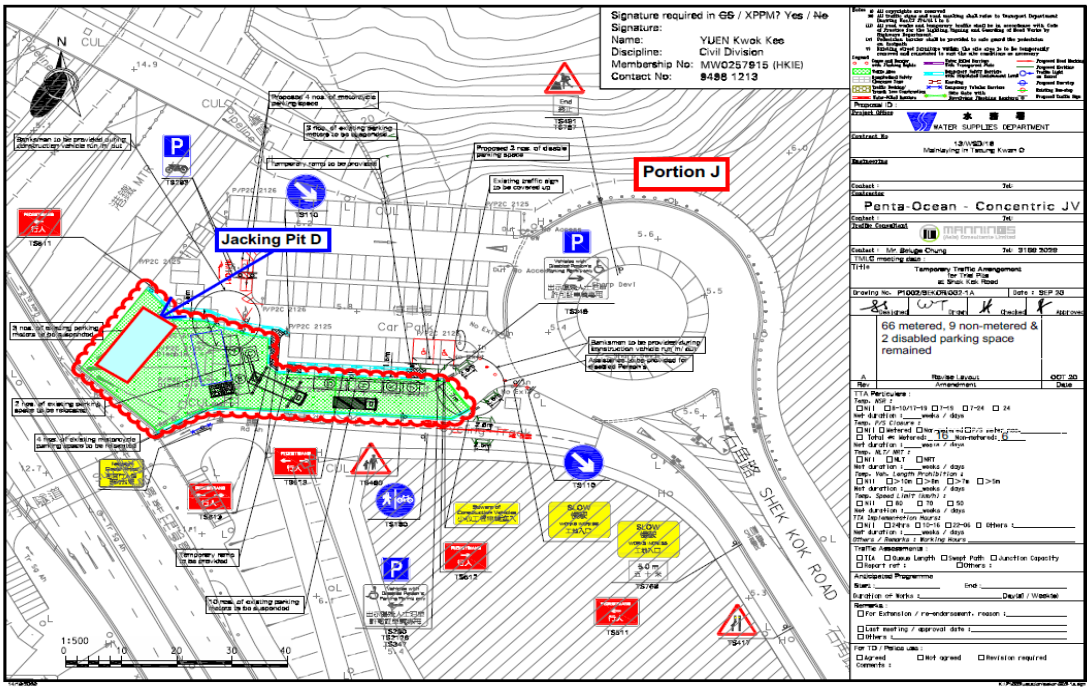

Figure B15. Location Plan for Jacking Pit D

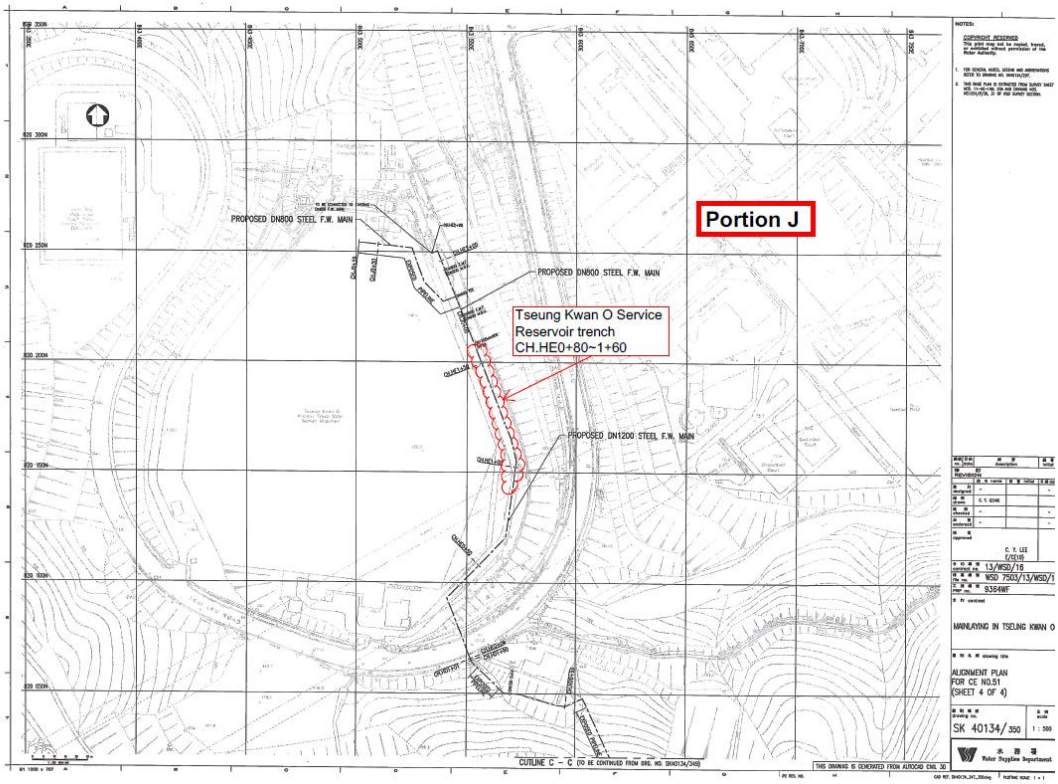

Figure B16. Location Plan for CH.HE0+80-1+60

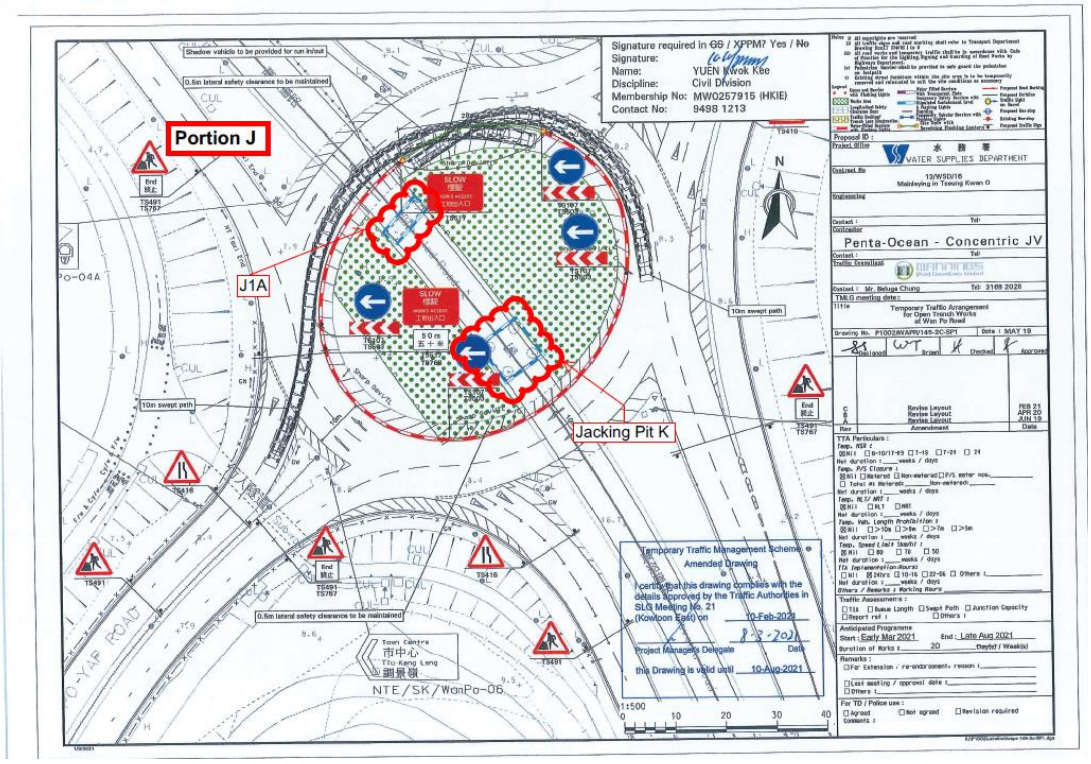

Figure B17. Location Plan for Pit K

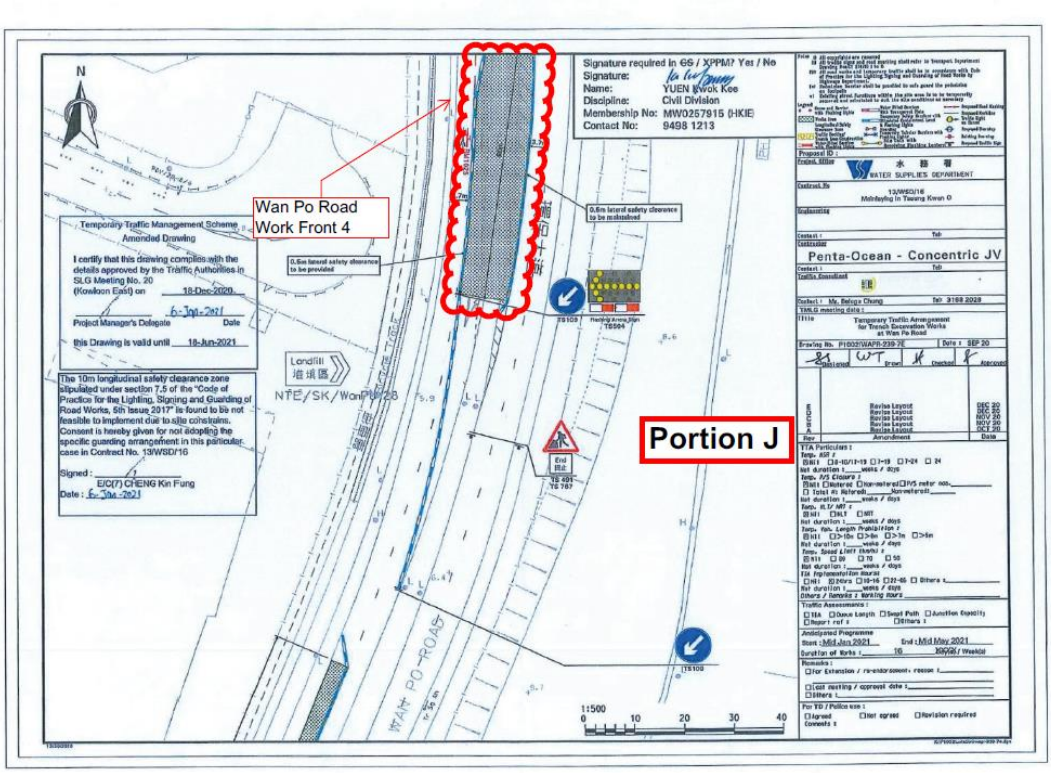

Figure B18a. Location Plan for Wan Po Road 4

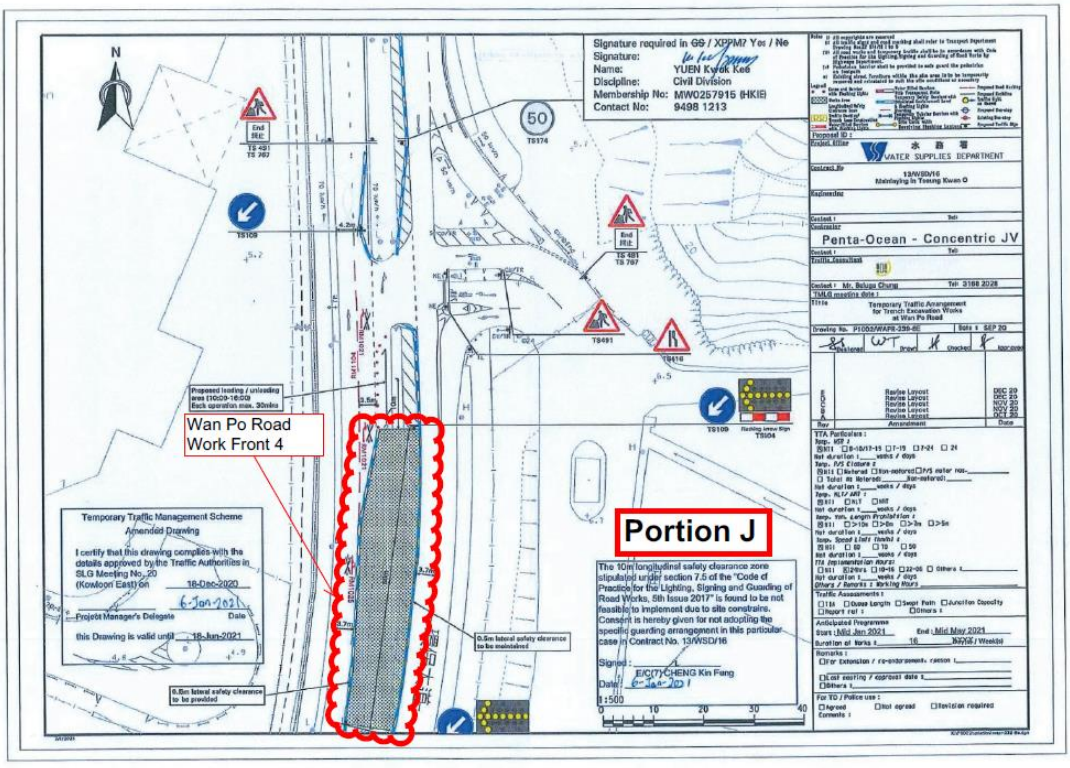

Figure B18b. Location Plan for Wan Po Road 4

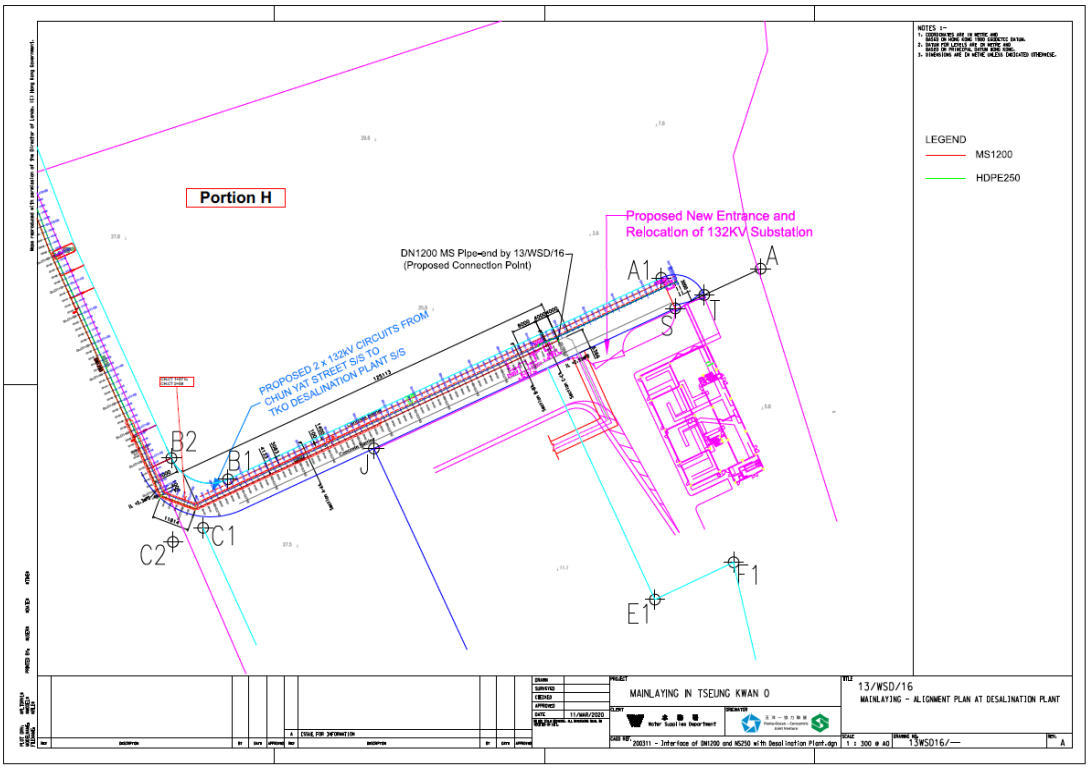

Figure B19a. Location Plan for CH.CT 0+07 – 2+58

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

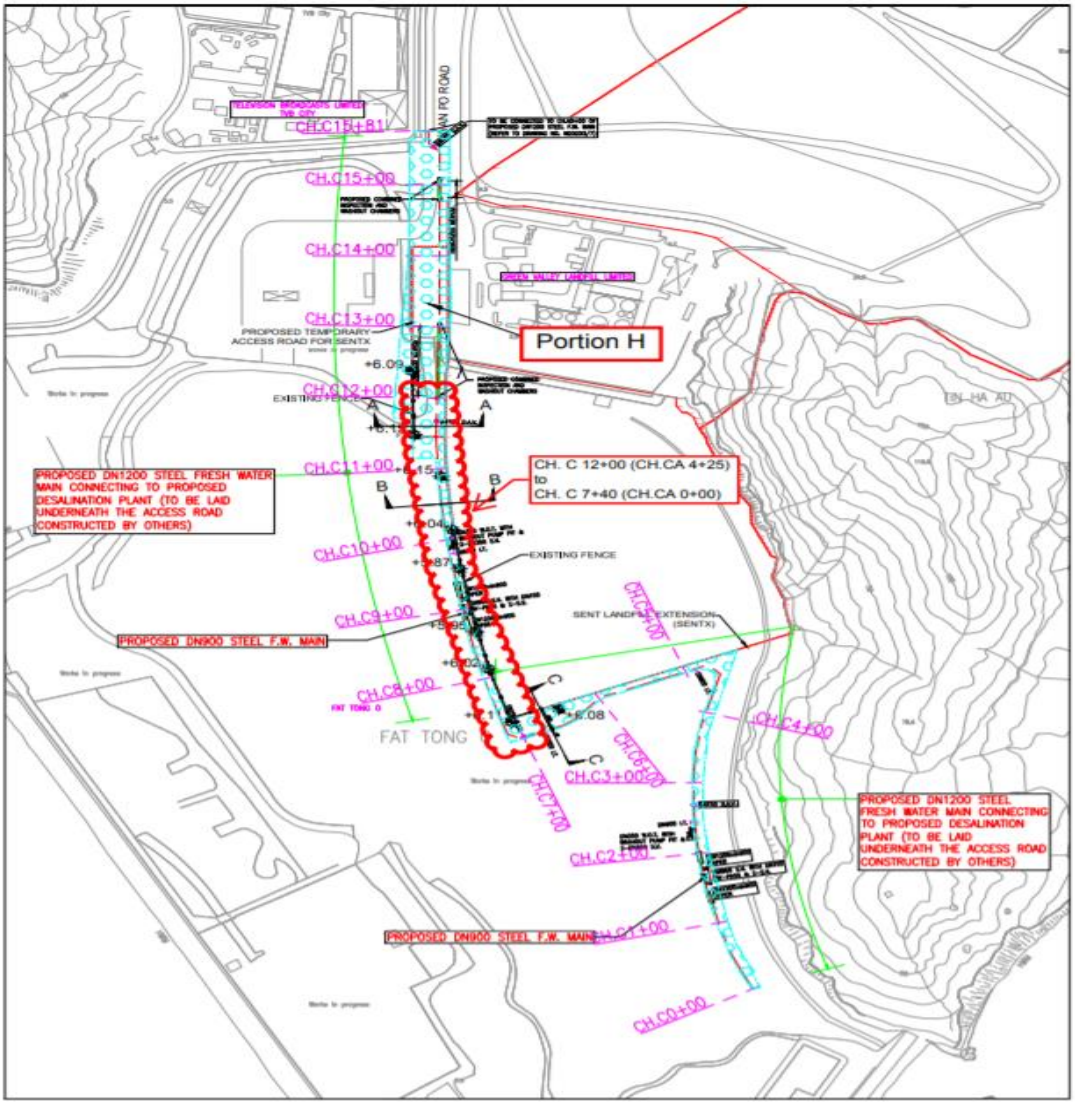

Figure B20. Location Plan for Portion H– CH.C 7+40~CH.C 12+00 (CH.CA 0+00 ~ CH.CA4+25)

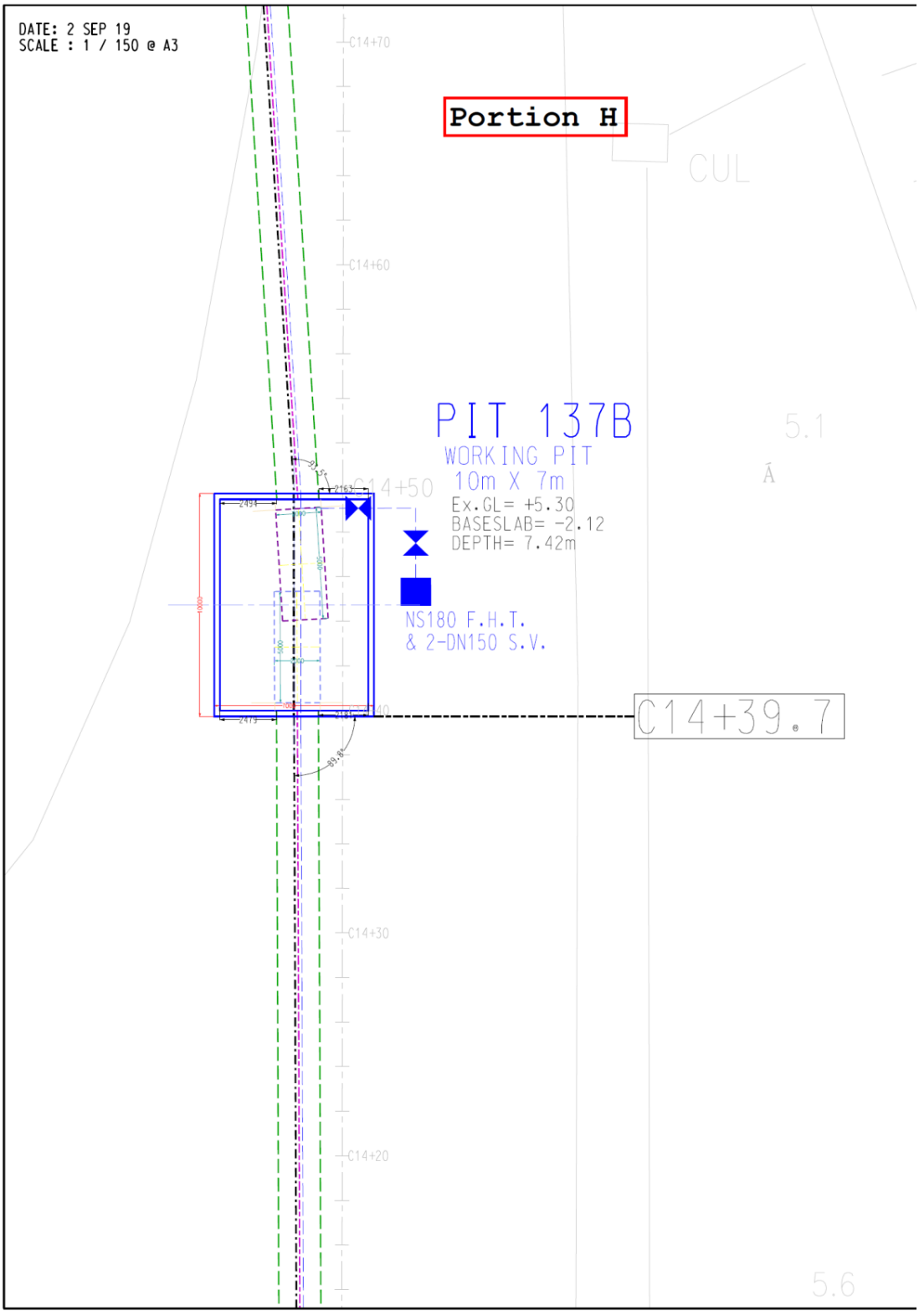

Figure B21a. Location Plan for Portion H– Pit 137B

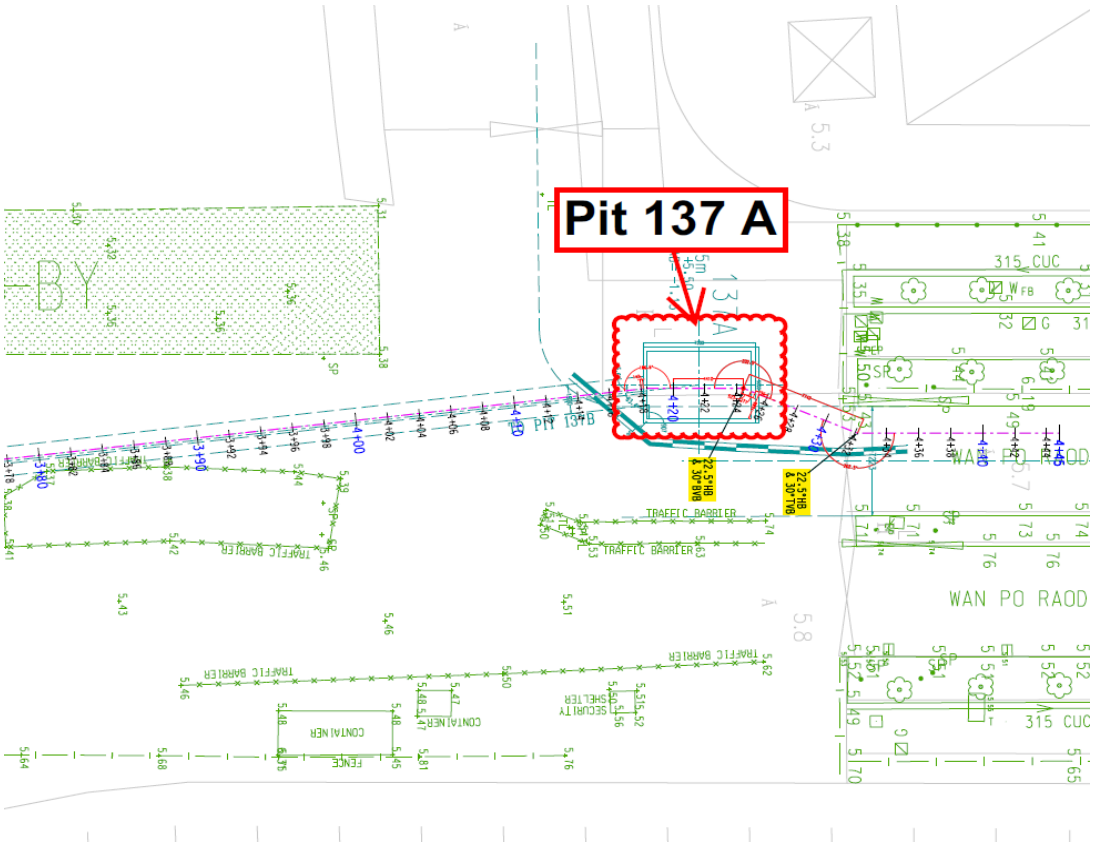

Figure B21b. Location Plan for Portion H– Pit 137A

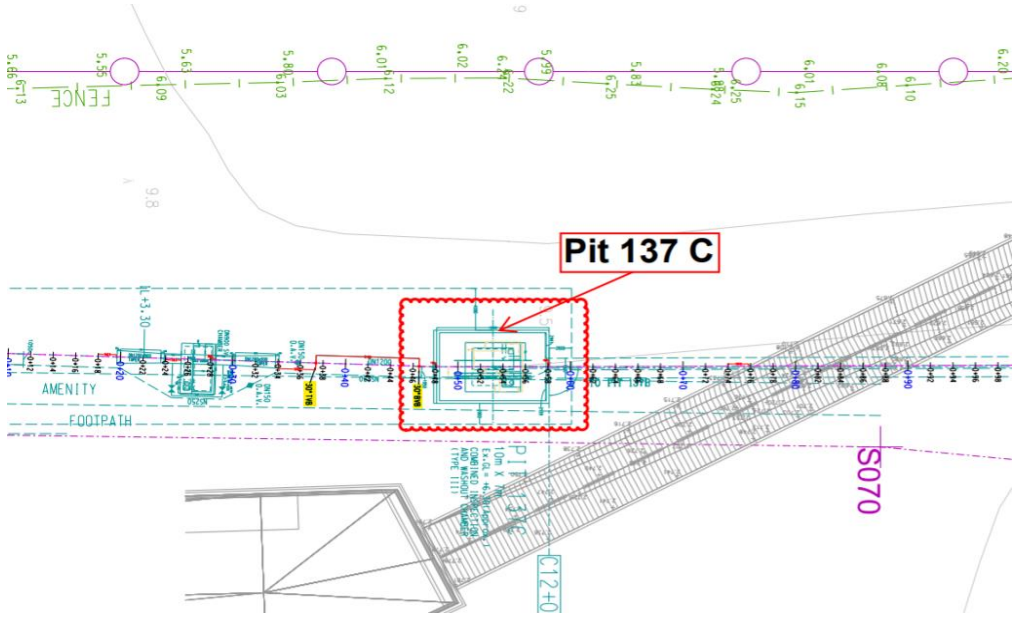

Figure B21c. Location Plan for Portion H– Pit 137C

Appendix C

Summary of Implementation Status of Environmental Mitigation

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)		✓		Reminder and observation issued. Rectified after observation.	
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)		✓		Reminder and observation issued. Rectified after observation.	
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	

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)		✓		Reminder and observation issued. Rectified after observation.	
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)		✓		N/A	
S4.8.1	All exposed areas will be kept wet always to minimise dust emission.	Land site/ During construction	Contractor(s)		✓		Reminder and observation issued. Rectified after observation.	
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

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 implemented.	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

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 Quite 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 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.	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
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	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works

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		
	PME proposed for these activities will not be operated simultaneously.							
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	
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	-

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		
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	-

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		
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, reminder issued.	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	-

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		
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. Observation and reminder issued. Rectified after observation.	-

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		
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

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		
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)		✓		Reminder issued.	Chapters 2 & 3 Code of Practice on the Packaging, Labelling & Storage of Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for	Land site/ During construction	Contractor(s)		✓		Implemented.	Waste Disposal Ordinance

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		
	drainage systems, sumps and oil interceptors.						Reminder issued.	(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.	-
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)

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	The management of dredged/ excavated sediment management requirement from *ETWB TC(W) No. 34/2002* 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 (IEC)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
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	All area/ During construction	Contractor(s)		✓		Observation issued. Rectified after	Air Pollution Control (Construction Dust)

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		
	quickly as possible to the extent practice after filling.						observation.	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 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	All area/ During construction/	Contractor(s)/		✓	✓	Implemented	Waste Disposal (Chemical

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		
	ventilation.	During operation	WSD					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
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	-

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	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 management, a waste inspection and audit programme will be implemented throughout the construction phase.	All facilities/ During construction	ET/ IEC		✓		Implemented	-

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

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 *Marsdenia lachnostoma* within the slope mitigation areas shall be retained *in-situ*, 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 *Marsdenia lachnostoma* 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 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.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-

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 and S9.10	A specification for fencing and demarcating individuals of *Marsdenai lachnostoma* (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	-
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

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 departments. A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	DEVB TC(W) No. 10/2013

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		
	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

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	
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	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	

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		
	of methane. carbon dioxide and oxygen.							
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 pathway for landfill gas and hence grilled metal covers should be used.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	
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	All area/ Detailed design/ During construction/ During	Contractor(s)	✓	✓	✓	Implemented	

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		
	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.	operation						
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

Oct-21						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8 Noise Impact Monitoring was Cancelled as no Construction Works at Pung Loi Road – Pit WPR1	9
10	11	12	13 Noise Impact Monitoring was Cancelled as no Construction Works at Pung Loi Road – Pit WPR1	14	15	16
17	18	19	20	21 Noise Impact Monitoring	22	23
24	25	26	27	28	29 Noise Impact Monitoring	30
31						

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

Appendix E

Noise Monitoring Equipment Calibration Certificate

MAXLAB

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	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

* 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 號保盈工業大廈 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 6480 Email: info@maxlab.com.hk

MAXLAB

Certificate No. MLCN203081S

Calibration Data

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., Boldwin Industrial Bldg., 16-18 Wah Sing Street, Kwai Chung, N.T., Hong Kong Tel: (852) 2116 1380 Fax: (852) 2264 6480 Email: info@maxlab.com.hk

SCARLET | TECH

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:

SCARLET TECH CO., LTD 聲佳科技有限公司

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 4231

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	0.1	12500	-4.5	-6.4	-0.7
250	-8.6	-0.1	0.1	16000	-9.6	-11.5	-1.3
500	-3.2	-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(Z)

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_{AFmax}-L_A	L_{ASmax}-L_A	L_{AE}-L_A	L_{Aeq}-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
LCpeak-LC(dB)	3.5	3.5	2.3	2.4	2.3	2.4

11. Overload indication: Pass

12. Statistical analysis function:

Sweep signal maximum indicated sound level: 112.8 dB

Sweep amplitude: 40 dB

Scan cycle time 60 S; Measurement period: 180 S

Items	Measured value/dB	Theoretical calculated value/dB	Error/dB
LAeq,T	103.2	103.2	0.0

(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:	*NTi Audio*
Type No.:	*XL2 (Serial No.: A2A-13548-E0)*
Microphone:	*ACO 7052 (Serial No.:73780)*
Preamplifier:	*NTi Audio M2211 MA220 (Serial No.:5235)*

Submitted by:

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

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: 10 December 2020

Date of calibration: 12 December 2020

Calibrated by: _____ *Calibration Technician*

Certified by: _____ *Mr. Ng Yan Wa*
Laboratory Manager

Date of issue: 12 December 2020

Certificate No.: APJ20-144 CC001

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

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

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:	23.7 °C
Air Pressure:	1006 hPa
Relative Humidity:	61.8 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	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	±0.3

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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	Fast	94	31.5	94.1	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.1	±1.4
				1000	94.0	Ref
				2000	93.8	±1.6
				4000	93.4	±1.6
				8000	92.7	+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	Fast	94	31.5	54.7	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	95.0	+1.2 ±1.6
				4000	94.4	+1.0 ±1.6
				8000	91.6	-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	dBC SPL	Fast	94	31.5	91.1	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.7	-0.2 ±1.6
				4000	92.6	-0.8 ±1.6
				8000	89.7	-3.0 +2.1; -3.1

Certificate No.: AP120-1474-CC001

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5. *Calibration Results Applied*

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

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.15
	125 Hz	± 0.10
	250 Hz	± 0.10
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
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.

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A) *L

Certificate No.: AP120-1424-CC001 *Page 4 of 4*

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(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 1108, 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**

(A+A) *L ACOUSTICS AND AIR TESTING LABORATORY CO. LTD.

Certificate No.: AP/20-140/CC001 *Page 1 of 4*

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

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 4226	2288467	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
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

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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	55.4	-39.4 ±2.0
					63	67.9	-26.2 ±1.5
					125	78.0	-16.1 ±1.5
					250	85.3	-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.: AP120-140/CC001 *Page 3 of 4*

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture'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.

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(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:	*SVANTEK*
Type No.:	*971 (Serial No.: 77731)*
Microphone:	*ACO 7052E (Serial No.: 78123)*
Preamplifier:	*SV18 (Serial No.: 78763)*

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit 1908, 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: 4 February 2021

Date of calibration: 9 February 2021

Calibrated by: _____ *Calibration Technician*

Certified by: _____ *Mr. Ng Yan Wa*
Laboratory Manager

Date of issue: **9 February 2021**

Certificate No.: APJ20-172-CC001

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

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

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

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:	23.0 °C
Air Pressure:	1003 hPa
Relative Humidity:	54.5 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288167	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
34.2-136.2	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
34.2-136.2	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
34.2-136.2	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

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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
34.2-136.2	dB SPL	Fast	94	31.5	94.3	±2.0
				63	94.4	±1.5
				125	94.2	±1.5
				250	94.1	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.7	±1.6
				4000	93.0	±1.6

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
34.2-136.2	dBA SPL	Fast	94	31.5	55.9	-39.4 ±2.0
				63	68.1	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	94.9	+1.2 ±1.6
				4000	94.0	+1.0 ±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
34.2-136.2	dBC SPL	Fast	94	31.5	91.3	-3.0 ±2.0
				63	93.4	-0.8 ±1.5
				125	94.0	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.5	-0.2 ±1.6
				4000	92.2	-0.8 ±1.6

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5. *Calibration Results Applied*

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

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.10
	125 Hz	± 0.10
	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
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.: APJ20-1[illegible]-CC001

(A+A)*L ACOUSTICS AND AIR TESTING LABORATORY CO. LTD.

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Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
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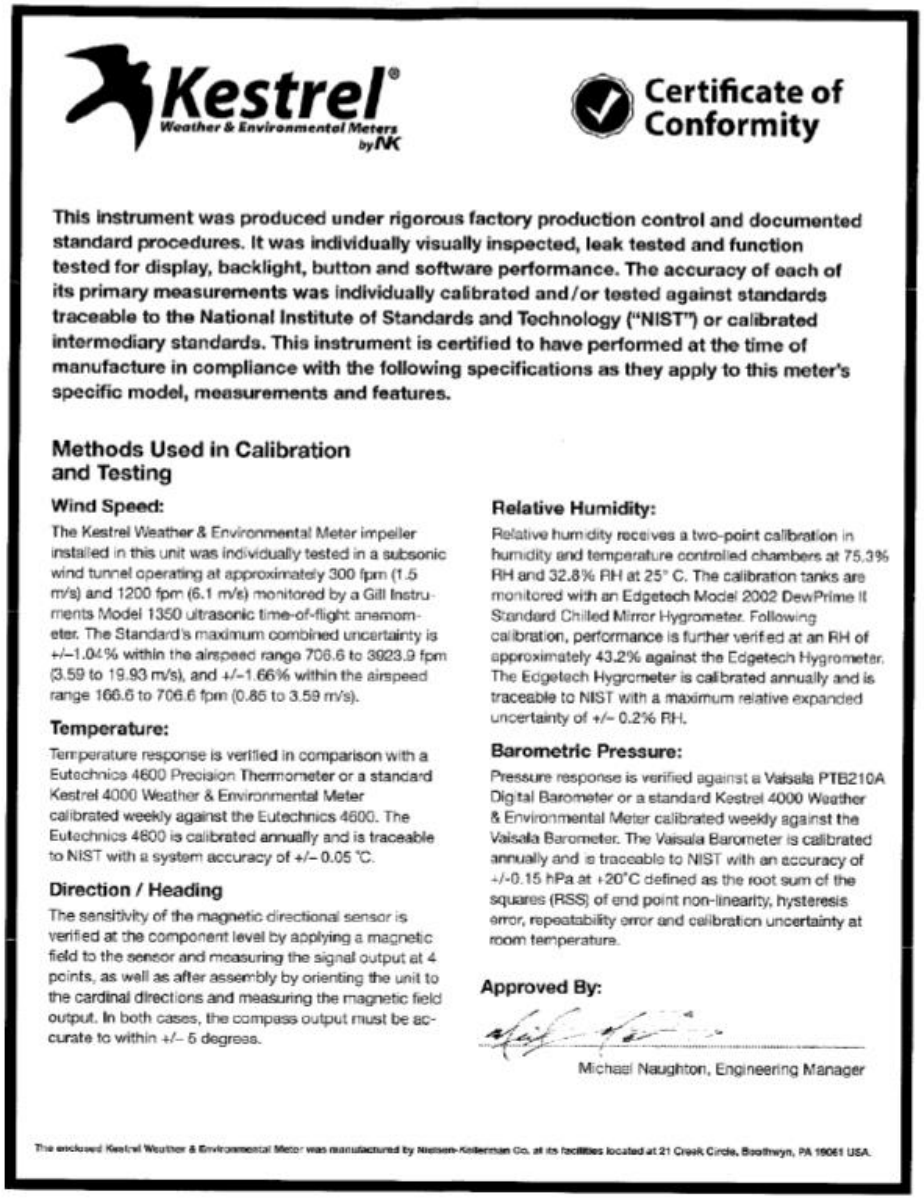

Kestrel®
Weather & Environmental Meters
by NK

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 3923.9 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 Nielsen-Kellerman Co. at its facilities located at 21 Creek Circle, Boothwyn, PA 19061 USA.

SENSORS

0	2000	2500	3000	3500	3500 DT	4000	4200	4250	4300	4500	Ballistics	ACCURACY (+/-)*	RESOLUTION	SPECIFICATION RANGE	OPERATIONAL RANGE	NOTES
	•	•	•	•	•	•	•	•	•	•	•	Larger of 3% of reading, least significant digit or 20 ft/min	0.1 m/s 1 ft/min 0.1 km/h 0.1 mph 0.1 knots 1 B* 0.1 F/S*	0.6 to 40.0 m/s 118 to 7,874 ft/min 2.2 to 144.0 km/h 1.3 to 89.5 mph 1.2 to 77.8 knots 0 to 12 B* 2-131.2*	0.6 to 60.0 m/s 118 to 11,811 ft/min 2.2 to 216.0 km/h 1.3 to 134.2 mph 1.2 to 116.6 knots 0 to 12 B* 2-196.8 F/S*	1 inch|25 mm diameter impeller with precision axle and low-friction Zytel® bearings. Startup speed stated as lower limit, readings may be taken down to 0.4 m/s | 79 ft/min | 1.5 km/h | .8 mph | .8 kt after impeller startup. Off-axis accuracy -1% @ 5° off-axis; -2% @ 10°; -3% @ 15°. Calibration drift < 1% after 100 hours use at 16 MPH | 7 m/s. Replacement impeller (NK PN-0801) field installs without tools (US Patent 5,783,753). Wind speed calibration and testing should be done with triangle on impeller located at the top front face of the Kestrel. *F/S only in Ballistics units. Beaufort not available in Ballistics units.
	•	•	•	•	•	•	•	•	•	•	•	0.9 °F 0.5 °C	0.1 °F 0.1 °C	-20.0 to 158.0 °F -29.0 to 70.0 °C	14.0 to 131.0 °F -10.0 to 55.0 °C	Hermetically sealed, precision thermistor mounted externally and thermally isolated (US Patent 5,939,645) for rapid response. Airflow of 2.2 mph|1 m/s or greater provides fastest response and reduction of insolation effect. Calibration drift negligible. Thermistor may also be used to measure temperature of water or snow by submerging thermistor portion into material -- remove impeller prior to taking submerged measurements and ensure humidity sensor membrane is free of liquid water prior to taking humidity-based measurements after submersion.
			•	•	•	•	•	•	•	•	•	3.0 %RH	0.1 %RH	5 to 95% non-condensing	0 to 100%	Polymer capacitive humidity sensor mounted in thin-walled chamber external to case for rapid, accurate response (US Patent 6,257,074). To achieve stated accuracy, unit must be permitted to equilibrate to external temperature when exposed to large, rapid temperature changes and be kept out of direct sunlight. Calibration drift +/- 2% over 24 months. Humidity sensor may be recalibrated at factory or in field using Kestrel Humidity Calibration Kit (NK PN-0802)
		•		•	•	•	•	•	•	•	•	0. 03 inHg 1.0 hPa|mbar 0.01 PSI	0.01 inHg 0.1 hPa|mbar 0.01 PSI	8.86 to 32.48 inHg 300.0 to 1100.0 hPa|mbar 4.35 to 15.95 PSI *and* 32.0 to 185.0 °F 0.0 to 85.0 °C	0.30 to 48.87 inHg 10.0 to 1654.7 hPa|mbar 0.14 to 24.00 PSI and 14.0 to 131.0 °F -10.0 to 55.0 °C	Monolithic silicon piezoresistive pressure sensor with second-order temperature correction. Pressure sensor may be recalibrated at factory or in field. Adjustable reference altitude allows display of station pressure or barometric pressure corrected to MSL. Kestrel 4200 displays station pressure on a dedicated screen. Kestrel 2500 and 3500 display continuously updating three-hour barometric pressure trend indicator: rising rapidly, rising, steady, falling, falling rapidly. Kestrel 4000 series displays pressure trend through graphing function. PSI display on Kestrel 4000 series only.
										•	•	5°	1° 1/16th Cardinal Scale	0 to 360°	0 to 360°	2-axis solid-state magnetoresistive sensor mounted perpendicular to unit plane. Accuracy of sensor dependent upon unit's vertical position. Self-calibration routine eliminates magnetic error from batteries or unit and must be run after every full power-down (battery removal or change). Readout indicates direction to which the back of the unit is pointed when held in a vertical orientation. Declination/variation adjustable for True North readout.

CALCULATED MEASUREMENTS

0	2000	2500	3000	3500	3500 DT	4000	4200	4250	4300	4500	Ballistics	ACCURACY (+/-)*	RESOLUTION	SPECIFICATION RANGE	SENSORS EMPLOYED	NOTES
								•				0.0002 lb/ft³ 0.0033 kg/m³	0.001 lbs/ft³ 0.001 kg/m³	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Mass of air per unit volume
							•					0.0671	1 cfm 1 m³/hr 1 m³/m 0.1 m³/s 1 L/s	Refer to Ranges for Sensors Employed	Air Flow User Input (Duct Shape & Size)	Volume of air flowing through an opening. Automatically calculated from Air Velocity measurement and user-specified duct shape (circle or rectangle) and dimensions (units: in, ft, cm or m). Maximum duct dimension input: 258.0 in | 21.5 ft | 655.3 cm | 6.55 m.
		•		•	•	•	•	•	•	•	•	typical: 23.6 ft 7.2 m max: 48.2 ft 14.7 m	1 ft 1 m	typical: 750 to 1100 mBar max: 300 to 750 mBar	Pressure User Input (Reference Pressure)	Height above Mean Sea Level ("MSL"). Temperature compensated pressure (barometric) altimeter requires accurate reference barometric pressure to produce maximum absolute accuracy. Both accuracy specs corresponds to a reference pressure anywhere from 850 to 1100 mBar.
		•		•	•	•	•	•	•	•	•	0.07 inHg 2.4 hPa|mbar 0.03 PSI	0.01 inHg 0.1 hPa|mbar 0.01 PSI	Refer to Ranges for Sensors Employed	Pressure User Input (Reference Altitude)	Air pressure that would be present in identical conditions at MSL. Station pressure compensated for local elevation provided by reference altitude. Requires accurate reference altitude to produce maximum absolute accuracy.
										•	•	0.071	1 mph 1 ft/min 0.1 km/h 0.1 m/s 0.1 knots	Refer to Ranges for Sensors Employed	Wind Speed Compass	Effective wind relative to a target or travel direction. Auto-switching headwind/tailwind indication.
					•							3.2 °F 1.8 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Difference between dry bulb temperature and wet bulb temperature. When spraying, indicates evaporation rate and droplet lifetime. Safe range for pesticide spraying is 4 to 16 °F | 2 to 9 °C.
						•	•	•	•	•	•	226 ft 69 m	1 ft 1 m	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Local air density converted to equivalent elevation above sea level in a uniform layer consisting of the International Standard Atmosphere.
			•	•	•	•	•	•	•	•	•	3.4 °F 1.9 °C	0.1 °F 0.1 °C	15 to 95 % RH Refer to Range for Temperature Sensor	Temperature Relative Humidity	Temperature that a volume of air must be cooled to at constant pressure for the water vapor present to condense into dew and form on a solid surface. Can also be considered to be the water-to-air saturation temperature.
									•			0.01 lb/ft²/hr 0.06 kg/m2/hr	0.01 b/ft²/hr 0.01 kg/m²/hr	Refer to Ranges for Sensors Employed	Wind Speed Temperature Relative Humidity Pressure User Input (Concrete Temperature)	The rate at which moisture is lost from the surface of curing concrete. Requires user measurement and entry of concrete temperature obtained with an accurate IR or probe thermometer (°F or °C, not included). Readings should be taken 20 inches above pour surface with the thermistor shaded, and averaged for 6-10 seconds using built-in averaging function.
			•	•		•	•	•	•	•	•	7.1 °F 4.0°C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Temperature Relative Humidity	Perceived temperature resulting from the combined effect of temperature and relative humidity. Calculated based on NWS Heat Index (HI) tables. Measurement range limited by extent of published tables.
							•	•				.3 gpp .04 g/kg	0.1 gpp 0.01 g/kg	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Mass of water vapor in a mass of air.
								•				0.0026	0.001	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	The ratio, expressed as a percentage, of measured air density to the air density of a standard atmosphere as defined by the ICAO.
				•	•	•	•	•	•	•	•	3.2 °F 1.8 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Temperature Relative Humidity Pressure	Temperature indicated by a sling psychrometer. Due to nature of the psychrometric ratio for a water-air system, this approximates the thermodynamic wet-bulb temperature. The thermodynamic wet-bulb temperature is the temperature a parcel of air would have if cooled adiabatically to saturation temperature via water evaporating into it.
	•	•	•	•		•	•	•	•	•	•	1.6 °F 0.9 °C	0.1 °F 0.1 °C	Refer to Ranges for Sensors Employed	Wind Speed Temperature	Perceived temperature resulting from combined effect of wind speed and temperature. Calculated based on the NWS Wind Chill Temperature (WCT) index, revised 2001, with wind speed adjusted by a factor of 1.5 to yield equivalent results to wind speed measured at 10 m above ground. Measurement range limited by extent of published tables.

ADDITIONAL SPECIFICATIONS

0	2000	2500	3000	3500	3500 DT	4000	4200	4250	4300	4500	Ballistics	
	•		•									Reflective 3 1/2 digit LCD. Digit height 0.36 in / 9 mm. Aviation green electroluminescent backlight. Manual activation with auto-off.
		•		•	•							Reflective 5 digit LCD. Digit height 0.36 in / 9 mm. Choice of aviation green or visible red (NV models only) electroluminescent backlight. Manual activation with auto-off.
						•	•	•	•	•	•	Multifunction, multi-digit monochrome dot-matrix display. Choice of aviation green or visible red (NV models only) electroluminescent backlight. Automatic or manual activation.
	•	•	•	•	•	•	•	•	•	•	•	All measurements except those based on relative humidity respond accurately within 1 second. Relative humidity and all measurements which include RH in their calculation may require as long as 1 minute to fully equilibrate to a large change in the measurement environment. Display updates every 1 second.
	•	•	•	•	•							One-button clear and restart of Max Wind Gust and Average Wind measurement.
						•	•	•	•	•	•	Max and average wind calculation may be started and stopped independently of data logging of other values, along with all other wind-related functions: air velocity, crosswind, headwind/tailwind, wind chill, WBGT, TWL, evaporation rate.
						• 4000 points	• 3200 points	• 3200 points	• 3600 points	• 2900 points	• 2500 points	Minimum, maximum, average and logged history stored and displayed for every measured value. Large capacity data logger with graphical display. Manual and auto data storage. Min/Max/Avg History may be reset independently. Auto-store interval settable from 2 seconds to 12 hours, overwrite on or off. Logs even when display off except for 2 and 5 second intervals (code version 4.18 and later). Data capacity shown.
						•	•	•	•	•	•	Requires optional PC interface (USB or RS-232) or Bluetooth data transfer option and provided software. Bluetooth Data Transfer Option: Adjustable power consumption and radio range from up to 30 ft | 9 meters. Individual unit ID and 4-digit PIN code preprogrammed for easy identification and data security when pairing and transmitting. Employs Bluetooth Serial Port Protocol for data transmission.
	•	•	•	•	•							Real-time hours:minutes clock.
						•	•	•	•	•	•	Real-time hours:minutes:seconds clock, calendar, automatic leap-year adjustment.
	•	•	•	•	•							After 45 minutes of no key presses.
						•	•	•	•	•	•	User-selectable -- 15 or 60 minutes with no key presses or disabled.
						•	•	•	•	•	•	English, French, German, Italian, Spanish.
	•	•	•	•	•	•	•	•	•	•	•	CE certified, RoHS and WEEE compliant. Individually tested to NIST-traceable standards (written certificate of tests available at additional charge).
	•	•	•	•	•	•	•	•	•	•	•	Designed and manufactured in the USA from US and imported components. Complies with Regional Value Content and Tariff Code Transformation requirements for NAFTA Preference Criterion B.
	•	•	•	•	•							CR2032, one, included. Average life, 300 hours. Battery life reduced by backlight use in 2000 to 3500 models.
						•	•	•	•	•	•	4000 Series Models: AAA Lithium, two, included. Average life, 400 hours of use, reduced by backlight or Bluetooth radio transmission use.
	•	•	•	•	•	•	•	•	•	•	•	MIL-STD-810g, Transit Shock, Method 516.5 Procedure IV; unit only; impact may damage replaceable impeller.
	•	•	•	•	•	•	•	•	•	•	•	Waterproof (IP67 and NEMA-6).
	•	•	•	•	•	•	•	•	•	•	•	14° F to 131° F | -10 °C to 55 °C. Measurements may be taken beyond the limits of the operational temperature range of the display and batteries by maintaining the unit within the operational range and exposing it to the more extreme environment for the minimum time necessary to take reading.
	•	•	•	•	•	•	•	•	•	•	•	-22.0 °F to 140.0 °F | -30.0 °C to 60.0 °C.
	•	•	•	•	•							4.8 x 1.9 x 1.1 in / 12.2 x 4.8 x 2.8 cm, 3.6 oz / 102 g (including slip-on cover).
						•	•	•	•	•	•	5.0 x 1.8 x 1.1 in / 12.7 x 4.5 x 2.8 cm, 3.6 oz / 102 g.
												6.5 x 2.3 x 1.1 in / 16.5 x 5.9 x 2.8 cm, 4.4 oz / 125 g.

s uncertainty of the measurement derived from statistical analysis considering the combined effects from primary sensor specifications, circuit conversions.

Appendix F

Event/Action Plan for Noise Exceedance

Event and Action Plan for Construction Noise Monitoring

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level	1. Carry out investigation to identify the source and cause of the complaint/ exceedance(s) 2. Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC 3. Discuss with the Contractor and IEC for remedial measures required 4. 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	1. Review the analyzed results submitted by the ET 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of Notification of Exceedance in writing 2. Require Contractor to propose remedial measures for the analysed noise problem 3. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals, if required, to the IEC and ER 2. Implement noise mitigation proposals.
Limit Level	1. Notify IEC, ER, EPD and Contractor 2. 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. 3. Repeat measurement to confirm findings 4. Increase monitoring frequency 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. inform IEC, ER and EPD the cause & actions taken for the exceedances 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions 2. Review Contractor's remedial actions to assure their effectiveness and advise the ER &ET accordingly 3.Supervise the implementation of the remedial measures	1. Confirm receipt of notification of exceedance in writing 2. Notify Contractor 3. Require Contractor to propose remedial measures for the analyzed noise problem 4. Ensure remedial measures are properly implemented 5. 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	1. Take immediate action to avoid further exceedance 2. Identify practicable measures to minimize the noise impact. Submit proposals for remedial actions to ER within three working days of notification 3. Implement the agreed proposals 4. Resubmit proposal if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Appendix G

Noise Monitoring Data

Date	Time	Weather	$L_{eq-5min}$, dB(A)						$L_{eq-30min}$, dB(A)	$L_{10}30_{mins}$, dB(A)	$L_{90}30_{mins}$ dB(A)	Limit Level, dB(A)*	Noise Meter
			Reading (1)	Reading (2)	Reading (3)	Reading (4)	Reading (5)	Reading (6)					
08/10/2021**	The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.												
13/10/2021**	The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.												
21/10/2021	10:46 - 11:16	Sunny	62.9	65.0	63.9	65.5	66.1	67.8	65.5	68.4	59.1	70.0	NTi XL2 13548, Svantek 971
29/10/2021	14:50 - 15:20	Sunny	67.9	66.8	66.5	68.7	67	68.5	67.6	71.6	58.3	70.0	NTi XL2 13548

Remarks:
*No examinations were scheduled for NSR4 Creative Secondary School in the reporting month. Academic School Calendar can be found in Appendix O.
** The impact noise monitoring on 8th and 13th October 2021 were cancelled as the Main Contractor confirmed that no construction works were conducted at the work portion (Pit WPR1) which located within 300 metres from NSR4 Creative Secondary School.

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 October 2021

Month	Actual Quantities of Inert 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
Sep-2021	2.584	0.097	0.911	0.000	1.673	0.746
Oct-2021	1.857	0.060	0.252	0.000	1.605	0.653
Total for 2021	21.207	1.280	2.530	0.000	19.133	7.483

Month	**Actual Quantities of Non-inert 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
Sep-2021	0.000	0.037	0.000	0.000	0.002
Oct-2021	0.000	0.042	0.000	0.000	0.002
Total for 2021	0.000	0.502	0.000	0.000	0.043

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.

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.
5. C&D materials in tonnes are converted to meter cube (m^3) on a scale of 0.5.
6. Source and types of Imported Fill in the reporting month
   i. K. Wah Quarry Company Limited: (Soil) 639.4 m^3 (1278.8 tonnes/22 cars)
   ii. K. Wah Quarry Company Limited: (Sub-base) 13.6 m^3 (25.2 tonnes/1 car)

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	58.60
	Broken Concrete	29.35
	Broken Rock	30.70
	Mixed Construction Waste (>50% inert)	0.00
	Building Debris	0.00
	Mixed Rock and Soil	876.25
	Reclaimed Asphalt Pavement	69.2
	Slurry	195.05
	Soil	346.80
	TOTAL =	***1605.95***
Non-inert	***TOTAL =***	**1.65**

Appendix I

Landfill Gas Monitoring Equipment Calibration Certificate

路達國際有限公司
ROTTER INTERNATIONAL LIMITED
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
Main: 408-952-8200

www.raesystems.com

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_2S)	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 (H2S / 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: Tsun Hang
86-05-5183593

ISO 9001 CERTIFIED

Calibration Certificate

GDJ7

Cert. Ref. No.: BW/XT/4TH/16428 Date: 2021 06 08 EXP: 08/06/2022

Customer: Victory Trenchless Engineering Co., Ltd.
Lot 1477B,
77 Ping Che,
Fanling, N.T.

Purchase Order No.: P-17-0486

Date 2017 11 09 INVOICE NO: AP

Email: emily@vtechk.com

Attn: Ms Emily Fung Tel: 3525 8826 Fax: 3525 1088 Mobile Phone

User Details:

Gas Detector Model: XT-XWHM-Y-OR Serial No.: MA217-022158 Pump S/N: 56310

Calibration Record:

Inpection before calibration	Visual inspection	Functional Test
Basic Unit - Case, Clip & Display etc.	OK	OK
Battery and charge etc.	OK	OK
Motorized Pump	OK	OK
Other items		

Type of Sensor	Expiry Date
Oxygen Sensor	
CO & H2S Sensor	
Combustible(LEL) Sensor	

Type of calibration	Date of calibration	H2S (ppm)	CO (ppm)	O2 (%)	LEL (%)
4th Calibration	2021 06 08	25	100	18	50
Result of Calibration		OK	OK	OK	OK

Calibration Cost: (As per attached invoice) F.O.C

Calibration remarks: Oxygen sensor replaced by new one
Warranty : Oxygen Sensor 1 years warranty

Next calibration date of this instrument will be : 2022 06 08

IMPORTANT NOTES TO BW GAS DETECTOR USERS

USERS MUST READ THE OPERATOR'S MANUAL THOROUGHLY BEFORE OPERATING THIS EQUIPMENT AND FOLLOW THEIR OWN SAFETY SUPERVISOR'S INSTRUCTION TO WORK.

All gas detection instrumentation on the market requires periodic calibration to accurately measure gas. Calibration is only as accurate as the test gas used. BW Technologies quality test gases are made to the highest accuracy and trace-ability to N.I.S.T. Standards.

Calibrated By: Sara Tse Service Hotline: 2592 2120 Ms. Tse - Service Dept.

Asia Pacific Industrial Safety Equipment
Unit B, 1/F., Hing Yip Centre, 31 Hing Yip Street,
Kwun Tong, Kowloon, Hong Kong
Tel:2592 2100 Fax: 3165 8960

Asia Technologies
亞洲科技

Appendix J

Landfill Gas Monitoring Data

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	2/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	30 / 1010	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	32 / 1009	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	31 / 1008	5.5
Area B	2/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	31 / 1008	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	32 / 1009	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	30 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		02/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit PCCJV RSO		02/10/21

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
XT - XWHM-Y-0R	2021/6/8

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)
~~137 Pit C~~	~~-10-2021~~		~~Rain / Fine~~					/	
137 Pit B	2-10-2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	~~-2021~~	~~12:00~~	~~Rain / Fine~~	~~0~~	~~0~~	~~0~~	~~20.9~~	~~29/1007~~	~~5.5~~
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮志強 [VTEC] CP	馮	2-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		2-10-2021

ENVIRONMENTAL RESOURCES MANAGEMENT ENVIRONMENTAL PROTECTION DEPARTMENT

13

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)
WPR 1	2 -10 -2021	10:15	Rain / Fine	0	0	0	20.9	29/ 999	2.8
		15:15		0	0	0	20.9	31 / 998	2.8
WPR 2	2 -10 -2021	10:25	Rain / Fine	0	0	0	20.9	29 /999	3.5
		15:25		0	0	0	20.9	31 / 997	3.5
WPR 3	2 -10 -2021	10:45	Rain / Fine	0	0	0	20.9	29 / 998	3.8
		15:45		0	0	0	20.9	31 / 996	3.8
Pit A	2 -10 -2021	10:55	Rain / Fine	0	0	0	20.9	30 / 999	5
		15:55		0	0	0	20.9	31 / 996	5
Pit B	2 -10 -2021	11:05	Rain / Fine	0	0	0	20.9	31 / 997	3.6
		16:05		0	0	0	20.9	30 / 998	3.6
PHD	2-10-2021	9:10	Fine	0	0	0	20.9	29 / 996	4.5
		14:10		0	0	0	20.9	30 / 997	4.5
WPR4	2-10-2021	10:35	Fine	0	0	0	20.9	29 / 998	2
		15:35		0	0	0	20.9	29 /998	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		2 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	4/10/2021	0830	Fine / Rain	O	O	O	20.9	31 / 1009	5.5
		1330	Fine / Rain	O	O	O	20.9	32 / 1010	5.5
		1700	Fine / Rain	O	O	O	20.9	30 / 1008	5.5
Area B	4/10/2021	0845	Fine / Rain	O	O	O	20.9	31 / 1009	2.5
		1345	Fine / Rain	O	O	O	20.9	32 / 1010	2.5
		1645	Fine / Rain	O	O	O	20.9	30 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		04/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit		04/10/21

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
XT-RWHM-Y-OR	2021/6/8

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	4 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	30/1008	5.5
~~137 Pit A~~	- -2021	12:00	~~Rain / Fine~~	0	0	0	20.9	31/1009	5.5
								/	
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								/	

	Name & Designation		Signature	Date
Field Operator:	梁志強	[VTEC) CP	梁	4 - 10 - 2021
Laboratory Staff:				
Checked by:	翟偉傑 Chak Wai Kit	POCJV		4 - 10 - 2021

RSD

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)
WPR 1	4-10 2021	10:15	Rain / Fine	0	0	0	20.9	29 / 996	2.8
		15:15		0	0	0	20.9	31 / 995	2.8
WPR 2	4-10 2021	10:25	Rain / Fine	0	0	0	20.9	29 / 996	3.5
		15:25		0	0	0	20.9	31 / 995	3.5
WPR 3	4-10-2021	10:45	Rain / Fine	0	0	0	20.9	29 / 995	2.8
		15:45		0	0	0	20.9	31 / 996	2.8
Pit A	4-10-2021	10:55	Rain / Fine	0	0	0	20.9	30 / 994	5
		15:55		0	0	0	20.9	31 / 995	5
Pit B	4-10-2021	11:05	Rain / Fine	0	0	0	20.9	31 / 994	3.6
		16:05		0	0	0	20.9	30 / 995	3.6
Pit D	4-10-2021	9:10	Fine	0	0	0	20.9	30 / 995	4.5
		14:10		0	0	0	20.9	29 / 996	4.5
WPR4	4-10-2021	10:35	Fine	0	0	0	20.9	29 / 995	2
		15:35		0	0	0	20.9	31 / 995	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		4-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	5/10/2021	0830	Fine / ~~Rain~~	0	0	0	20.9	30 / 1009	5.5
		1330	Fine / ~~Rain~~	0	0	0	20.9	32 / 1010	5.5
		1700	Fine / ~~Rain~~	0	0	0	20.9	31 / 1008	5.5
Area B	5/10/2021	0845	Fine / ~~Rain~~	0	0	0	20.9	31 / 1009	2.5
		1345	Fine / ~~Rain~~	0	0	0	20.9	30 / 1010	2.5
		1645	Fine / ~~Rain~~	0	0	0	20.9	32 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])	[signature]	05/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit pocTV RSO	[signature]	5/10/2021

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
XT-XWHM-Y-0K	2021/6/8

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)
~~137 Pit C~~	- -2021		Rain / Fine					/	
137 Pit B	5 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	29 / 1008	5.5
~~137 Pit A~~	- -2021	12:00	Rain / Fine	0	0	0	20.9	30 / 1007	3.0
								/	
								/	
								/	
								/	
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								/	
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	Name & Designation	Signature	Date
Field Operator:	馮志強 [VTEC) CP		5 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chek Wai Kit POCJV		5 - 10 - 2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	5 - 10 2021	10:35	Rain / Fine	0	0	0	20.9	27 / 996	2.8
		15:35		0	0	0	20.9	28 / 995	2.8
WPR 2	5 - 10 2021	10:55	Rain / Fine	0	0	0	20.9	27 / 995	3.5
		15:35		0	0	0	20.9	28 / 996	3.5
WPR 3	5 - 10 - 2021	10:45	Rain / Fine	0	0	0	20.9	28 / 996	2.8
		15:45		0	0	0	20.9	28 / 995	2.8
Pit A	5 - 10 2021	10:55	Rain / Fine	0	0	0	20.9	28 / 996	5
		15:55		0	0	0	20.9	29 / 996	5
Pit B	5 - 10 - 2021	16:05	Rain / Fine	0	0	0	20.9	28 / 996	3.6
		16:05		0	0	0	20.9	28 / 995	3.6
Pit D	5 - 10 - 2021	9:10	Fine	0	0	0	20.9	27 / 996	7
		14:10		0	0	0	20.9	28 / 996	7
WPR4	5 - 10 - 2021	10:35	Fine	0	0	0	20.9	28 / 995	2
		15:35		0	0	0	20.9	27 / 995	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		5 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	6/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	32 / 1008	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	30 / 1010	5.5
Area B	6/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	32 / 1010	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	31 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		06/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit 10:30 1150		6/10/2021

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
XT-XWHM-Y-0IR	2021/6/8

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)
~~137 Pit C~~	~~- -2021~~		~~Rain / Fine~~					/	
137 Pit B	6 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	~~- -2021~~	~~12:30~~	~~Rain / Fine~~	~~0~~	~~0~~	~~0~~	~~20.9~~	~~30/1007~~	~~5.5~~
								/	
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								/	
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								/	
								/	
								/	
								/	

	Name & Designation		Signature	Date
Field Operator:	洪志強	[VTEC) CP		6 - 16 - 2021
Laboratory Staff:				
Checked by:	翟偉傑 Chak Wai Kit	POCJV		6 - 16 - 2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	6-10-2021	10:15	Rain / Fine	0	0	0	20.9	29 / 997	7.8
		15:15		0	0	0	20.9	29 / 998	7.8
WPR 2	6-10-2021	10:25	Rain / Fine	0	0	0	20.9	29 / 997	3.5
		15:25		0	0	0	20.9	29 / 997	3.5
WPR 3	6-10-2021	10:45	Rain / Fine	0	0	0	20.9	28 / 998	2.8
		15:45		0	0	0	20.9	28 / 997	2.8
Pit A	6-10-2021	10:35	Rain / Fine	0	0	0	20.9	29 / 998	5
		15:35		0	0	0	20.9	29 / 998	5
Pit B	6-10-2021	11:05	Rain / Fine	0	0	0	20.9	28 / 997	3.6
		16:05		0	0	0	20.9	28 / 996	3.6
Pit D	6-10-2021	9:10	Fine	0	0	0	20.9	29 / 997	7
		14:10		0	0	0	20.9	28 / 997	7
WPR4	6-10-2021	10:55	Fine	0	0	0	20.9	28 / 998	2
		15:55		0	0	0	20.9	29 / 998	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		6-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

ENVIRONMENTAL RESOURCES MANAGEMENT ENVIRONMENTAL PROTECTION DEPARTMENT

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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

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

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

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	7/10/2021	0830	~~Fine~~ / Rain	0	0	0	20.9	30 / 1010	5.5
		1330	~~Fine~~ / Rain	0	0	0	20.9	31 / 1009	5.5
		1700	~~Fine~~ / Rain	0	0	0	20.9	32 / 1010	5.5
Area B	7/10/2021	0845	~~Fine~~ / Rain	0	0	0	20.9	31 / 1009	2.5
		1345	~~Fine~~ / Rain	0	0	0	20.9	30 / 1010	2.5
		1645	~~Fine~~ / Rain	0	0	0	20.9	32 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		07/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit		7/10/2021

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
XT-4WHM-Y-OR	2021/6/8

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)
~~137 Pit C~~	- - 2021		Rain / Fine					/	
137 Pit B	7 - 10 - 2021	08:30	~~Rain~~ / Fine	0	0	0	20.9	30/1008	5.5
~~137 Pit A~~	- - 2021	12:00	~~Rain~~ / Fine	0	0	0	20.9	31/1007	5.1
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								/	
								/	
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								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	湯志強 [VTEC) CP	湯	7 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		7 - 10 - 2021

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)
WPR 1	7 -10 -2021	10:15	Rain / Fine	0	0	0	20.9	29 / 1000	2.8
		15:15		0	0	0	20.9	29 / 1001	2.8
WPR 2	7 -10 -2021	10:25	Rain / Fine	0	0	0	20.9	29 / 1001	3.5
		15:25		0	0	0	20.9	30 / 1001	3.5
WPR 3	7 - 10 - 2021	10:40	Rain / Fine	0	0	0	20.9	30 / 1002	2.8
		15:45		0	0	0	20.9	30 / 1001	2.8
Pit A	7 - 10 - 2021	10:55	Rain / Fine	0	0	0	20.9	29 / 1001	5
		15:55		0	0	0	20.9	30 / 1002	5
Pit B	7 -10 - 2021	11:05	Rain / Fine	0	0	0	20.9	30 / 1001	3.6
		16:05		0	0	0	20.9	29 / 1002	3.6
RTD	7-10-2021	9:10	Fine	0	0	0	20.9	30 / 1001	7
		14:10		0	0	0	20.9	30 / 1002	7
WPR4	7-10-2021	10:35	Fine	0	0	0	20.9	29 / 1001	2
		15:35		0	0	0	20.9	30 / 1000	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		7 /0 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	8/10/2021	0830	~~Fine~~ / Rain	0	0	0	20.9	31 / 1009	5.5
		1330	~~Fine~~ / Rain	0	0	0	20.9	32 / 1008	5.5
		1700	~~Fine~~ / Rain	0	0	0	20.9	30 / 1010	5.5
Area B	8/10/2021	0845	~~Fine~~ / Rain	0	0	0	20.9	31 / 1008	2.5
		1345	~~Fine~~ / Rain	0	0	0	20.9	32 / 1010	2.5
		1645	~~Fine~~ / Rain	0	0	0	20.9	30 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		08/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV RSO		8/10/2021

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
XT - RWHM-T-OR	2021/6/8

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)
~~137 Pit C~~	- -2021		Rain / Fine					/	
137 Pit B	8 - 10 -2021	08:30	~~Rain~~ / Fine	0	0	0	20.9	3011008	5.5
~~137 Pit A~~	- -2021	12:00	Rain / Fine	0	0	0	20.9	3111007	5.5
								/	
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								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮志強 [VTEC) CP		8 -10 -2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		8 - 10 - 2021

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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)
WPR 1	8-10-2021	10:15	Rain / ~~Fine~~	0	0	0	20.9	29 / 1000	2.8
		15:15		0	0	0	20.9	29 / 1001	2.8
WPR 2	8-10-2021	10:25	Rain / ~~Fine~~	0	0	0	20.9	29 / 1002	3.5
		15:25		0	0	0	20.9	30 / 1001	3.5
WPR 3	8-10-2021	10:45	Rain / ~~Fine~~	0	0	0	20.9	30 / 1000	2.8
		15:45		0	0	0	20.9	30 / 1002	2.8
Pit A	8-10-2021	10:55	Rain / ~~Fine~~	0	0	0	20.9	30 / 1001	5
		15:55		0	0	0	20.9	30 / 1002	5
Pit B	8-10-2021	11:05	Rain / ~~Fine~~	0	0	0	20.9	30 / 1002	3.6
		16:05		0	0	0	20.9	29 / 1002	3.6
Pit D	8-10-2021	9:10	Fine	0	0	0	20.9	30 / 1001	7
		14:10		0	0	0	20.9	30 / 1002	7
WPR4	8-10-2021	10:35	Fine	0	0	0	20.9	29 / 1001	2
		15:35		0	0	0	20.9	30 / 1000	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		8-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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ENVIRONMENTAL PROTECTION DEPARTMENT

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	11/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	30 / 1008	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	33 / 1006	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	32 / 1009	5.5
Area B	11/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	30 / 1008	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	34 / 1007	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	33 / 1006	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		11/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit PCCJV RSO		11/10/2021

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
X4 - KW1MM - YOK	2021/6/18

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)
~~137 Pit C~~	- - 2021		Rain / Fine					/	
137 Pit B	11 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	30 / 1008	5.5
~~137 Pit A~~	- - 2021	12:00	Rain / Fine	0	0	0	20.9	31 / 1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	湯兆強 [VTEC) CP		11 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 POCJV Chak Wai Kit		11 - 10 - 2021

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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)
WPR 1	11 -10 - 2021	10:15	Rain / ~~Fine~~	0	0	0	20.9	29 / 1009	2.6
		15:15		0	0	0	20.9	30 / 1009	2.8
WPR 2	11 -10 - 2021	10:25	Rain / ~~Fine~~	0	0	0	20.9	29 / 1008	3.5
		15:25		0	0	0	20.9	30 / 1007	3.5
WPR 3	11 - 10 - 2021	10:45	Rain / ~~Fine~~	0	0	0	20.9	29 / 1007	2.8
		15:45		0	0	0	20.9	31 / 1008	2.8
Pit A	11 - 10 - 2021	10:55	Rain / ~~Fine~~	0	0	0	20.9	30 / 1007	5
		15:55		0	0	0	20.9	30 / 1009	5
Pit B	11 - 10 - 2021	11:05	Rain / ~~Fine~~	0	0	0	20.9	30 / 1008	3.6
		16:05		0	0	0	20.9	29 / 1007	3.6
Pit D	11-10-2021	9:10	Fine	0	0	0	20.9	30 / 1008	7
		14:10		0	0	0	20.9	30 / 1007	7
WPR4	11-10-2021	10:35	Fine	0	0	0	20.9	29 / 1007	2
		15:35		0	0	0	20.9	30 / 1009	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		11 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	12/10/2021	0830	Fine / Rain	O	O	O	20.9	30 / 1010	5.5
		1330	Fine / Rain	O	O	O	20.9	32 / 1009	5.5
		1700	Fine / Rain	O	O	O	20.9	31 / 1008	5.5
Area B	12/10/2021	0845	Fine / Rain	O	O	O	20.9	30 / 1010	2.5
		1345	Fine / Rain	O	O	O	20.9	32 / 1009	2.5
		1645	Fine / Rain	O	O	O	20.9	31 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		12/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Penc JV RSO Chek Wai Kit		12/10/2021

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
XT - KW/HM-Y-OR	2021/6/8

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)
~~137 Pit C~~	- -2021		Rain / Fine					/	
137 Pit B	12-10-2021	08:30	~~Rain~~ / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	- -2021	12:00	~~Rain~~ / Fine	0	0	0	20.9	30/1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮志強 [VTEC) CP		12-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 POCJV Chak Wai Kit		12-10-2021

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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)
WPR 1	12 - 10 - 2021	10:15	Rain / Fine	0	0	0	20.9	30 / 1009	2.8
		15:15		0	0	0	20.9	31 / 1010	2.8
WPR 2	12 - 10 - 2021	10:25	Rain / Fine	0	0	0	20.9	30 / 1008	3.5
		15:25		0	0	0	20.9	31 / 1009	3.5
WPR 3	12 - 10 - 2021	10:45	Rain / Fine	0	0	0	20.9	31 / 1010	2.8
		15:45		0	0	0	20.9	31 / 1007	2.8
Pit A	12 - 10 - 2021	10:55	Rain / Fine	0	0	0	20.9	30 / 1005	5
		15:55		0	0	0	20.9	31 / 1009	5
Pit B	12 - 10 - 2021	11:05	Rain / Fine	0	0	0	20.9	31 / 1007	3.6
		16:05		0	0	0	20.9	29 / 1010	3.6
Pit D	12 - 10 - 2021	9:10	Fine	0	0	0	20.9	30 / 1009	7
		14:10		0	0	0	20.9	30 / 1008	7
WPR4	12 - 10 - 2021	10:35	Fine	0	0	0	20.9	31 / 1009	2
		15:35		0	0	0	20.9	29 / 1007	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		12 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	15/10/2021	0830	~~Fine~~ / Rain	O	O	O	20.9	32 / 1007	5.5
		1330	~~Fine~~ / Rain	O	O	O	20.9	34 / 1006	5.5
		1700	~~Fine~~ / Rain	O	O	O	20.9	33 / 1005	5.5
Area B	15/10/2021	0845	~~Fine~~ / Rain	O	O	O	20.9	32 / 1007	2.5
		1345	~~Fine~~ / Rain	O	O	O	20.9	34 / 1006	2.5
		1645	~~Fine~~ / Rain	O	O	O	20.9	33 / 1005	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		15/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit PCC JV RSO		15/10/2021

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
XT-XW4M-Y-OR	2021/6/8

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)
~~137 Pit C~~	- - 2021		~~Rain / Fine~~					/	
137 Pit B	15 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	29 / 1008	5.5
~~137 Pit A~~	- - 2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30 / 1007	5.5
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								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮兆強 [VTEC] CP		15 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		15 - 10 - 2021

ENVIRONMENTAL RESOURCES MANAGEMENT

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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)
WPR 1	15 - 10 - 2021	10:15	Rain / Fine	0	0	0	20.9	27 / 1006	1.8
		15:15		0	0	0	20.9	27 / 1006	2.8
WPR 2	15 - 10 - 2021	10:35	Rain / Fine	0	0	0	20.9	28 / 1007	3.5
		15:35		0	0	0	20.9	27 / 1007	3.5
WPR 3	15 - 10 - 2021	10:05	Rain / Fine	0	0	0	20.9	28 / 1005	2.8
		15:05		0	0	0	20.9	27 / 1006	2.8
Pit A	15 - 10 - 2021	10:35	Rain / Fine	0	0	0	20.9	27 / 1006	0
		15:55		0	0	0	20.9	28 / 1007	0
Pit B	15 - 10 - 2021	11:05	Rain / Fine	0	0	0	20.9	28 / 1007	3.6
		16:05		0	0	0	20.9	27 / 1006	3.6
Pit D	15 - 10 - 2021	9:10	Fine	0	0	0	20.9	27 / 1007	1
		14:10		0	0	0	20.9	29 / 1006	1
WPR4	15 - 10 - 2021	10:35	Fine	0	0	0	20.9	28 / 1005	2
		15:55		0	0	0	20.9	29 / 1006	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		15 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	16/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	30 / 1009	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	32 / 1008	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	31 / 1007	5.5
Area B	16/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	30 / 1009	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	32 / 1008	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	31 / 1007	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		16/10/21
Laboratory Staff:			
Checked by:	翟偉榮 Chak Wai Kit		16/10/2021

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
XT-XWHM-T-OR	2021/6/8

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)
~~137 Pit C~~	- - 2021		~~Rain / Fine~~					/	
137 Pit B	16 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	29 / 1008	5.5
~~137 Pit A~~	16 - 10 - 2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30 / 1007	5.5
								/	
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								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮志強 [VTEC) CP	馮	16 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		16 - 10 - 2021

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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)
WPR 1	16 -10 - 2021	10:15	Rain / Fine	0	0	0	20.9	30 / 1013	2.6
		15:15		0	0	0	20.9	31 / 1011	2.8
WPR 2	16 -10 - 2021	10:25	Rain / Fine	0	0	0	20.9	30 / 1013	3.5
		15:35		0	0	0	20.9	31 / 1011	3.5
WPR 3	16 -10 - 2021	10:45	Rain / Fine	0	0	0	20.9	30 / 1013	2.8
		15:45		0	0	0	20.9	31 / 1011	2.8
Pit A	16 -10 - 2021	10:55	Rain / Fine	0	0	0	20.9	30 / 1013	5
		15:55		0	0	0	20.9	31 / 1011	5
Pit B	16 -10 - 2021	17:05	Rain / Fine	0	0	0	20.9	30 / 1013	3.6
		16:35		0	0	0	20.9	31 / 1011	3.6
Pit P	16 - 10 - 2021	9:10	Fine	0	0	0	20.9	31 / 1011	7
		14:10		0	0	0	20.9	30 / 1012	7
WPR4	16 - 10 - 2021	10:35	Fine	0	0	0	20.9	30 / 1012	2
		15:35		0	0	0	20.9	31 / 1013	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		16 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	18/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	33 / 1006	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	32 / 1007	5.5
Area B	18/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	31 / 1007	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	33 / 1006	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	32 / 1005	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		18/10/21
Laboratory Staff:			
Checked by:	翟偉倹 Chak Wai Kin		18/10/2021

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
XT-XWHM-Y-OR	2021/6/18

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	18- 10-2021	08:30	Rain / Fine	0	0	0	20.9	30/1008	5.5
~~137 Pit A~~	- -2021	12:00	~~Rain / Fine~~	0	0	0	20.9	31/1007	5.5
								/	
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								/	
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								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[VTEC) CP		18-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chek Wai Kit POCJV		18-10-2021

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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)
WPR 1	18 -10 - 2021	10:15	Rain / Fine	0	0	0	20.9	30 / 1005	2.8
		15:15		0	0	0	20.9	31 / 1007	2.8
WPR 2	18 - 10 - 2021	10:25	Rain / Fine	0	0	0	20.9	30 / 1008	3.5
		15:25		0	0	0	20.9	31 / 1007	3.5
WPR 3	18 - 10 - 2021	10:45	Rain / Fine	0	0	0	20.9	30 / 1008	4.8
		15:45		0	0	0	20.9	31 / 1007	2.8
Pit A	18 - 10 - 2021	10:55	Rain / Fine	0	0	0	20.9	30 / 1008	5
		15:55		0	0	0	20.9	31 / 1007	5
Pit B	18 - 10 - 2021	11:05	Rain / Fine	0	0	0	20.9	30 / 1008	3.6
		16:05		0	0	0	20.9	31 / 1007	3.6
Pit D	18 - 10 - 2021	9:10	Fine	0	0	0	20.9	30 / 1008	7
		14:10		0	0	0	20.9	30 / 1009	7
WPR4	18 - 10 - 2021	10:35	Fine	0	0	0	20.9	31 / 1007	2
		15:35		0	0	0	20.9	30 / 1007	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		-10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	19/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	27 / 1007	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	30 / 1010	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	29 / 1009	5.5
Area B	19/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	27 / 1011	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	30 / 1008	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	29 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		19/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chek Wai Kit		19/10/2021

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
XT-XWHM-Y-DR	2021/6/18

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	19-10-2021	08:30	Rain / Fine	0	0	0	20.9	29 / 1008	5.5
~~137 Pit A~~	- -2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30 / 1007	5.5
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								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮嘉勝 [VTEC) CP	馮	19-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		19-10-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

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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)
WPR 1	19-10-2021	10:15	Rain / Fine	0	0	0	20.9	30 / 1009	2.8
		15:15		0	0	0	20.9	31 / 1008	2.7
WPR 2	19-10-2021	10:25	Rain / Fine	0	0	0	20.9	30 / 1009	3.5
		15:25		0	0	0	20.9	31 / 1009	3.5
WPR 3	19-10-2021	10:45	Rain / Fine	0	0	0	20.9	30 / 1009	2.8
		15:45		0	0	0	20.9	31 / 1009	2.8
Pit A	19-10-2021	10:55	Rain / Fine	0	0	0	20.9	30 / 1009	5
		15:55		0	0	0	20.9	31 / 1009	5
Pit B	19-10-2021	11:05	Rain / Fine	0	0	0	20.9	31 / 1009	3.6
		16:05		0	0	0	20.9	31 / 1009	3.6
PitD	19-10-2021	9:10	Fine	0	0	0	20.9	30 / 1007	7
		14:10		0	0	0	20.9	31 / 1007	7
WPR4	19-10-2021	10:35	Fine	0	0	0	20.9	31 / 1008	2
		15:35		0	0	0	20.9	30 / 1009	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		19-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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

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

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

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	20/10/2021	0830	Fine / ~~Rain~~	0	0	0	20.9	30 / 1011	5.5
		1330	Fine / ~~Rain~~	0	0	0	20.9	32 / 1010	5.5
		1700	Fine / ~~Rain~~	0	0	0	20.9	31 / 1009	5.5
Area B	20/10/2021	0845	Fine / ~~Rain~~	0	0	0	20.9	30 / 1011	2.5
		1345	Fine / ~~Rain~~	0	0	0	20.9	32 / 1010	2.5
		1645	Fine / ~~Rain~~	0	0	0	20.9	31 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office (Renopipe))	[signature]	20/10/21
Laboratory Staff:			
Checked by:	翟偉光 Chak Wai Kwong yau SV RSO	[signature]	20/10/2021

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
XT-XW 1M-Y6K	2021/6/8

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	20 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	- -2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
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								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮志強 [VTEC) CP		20 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 POCJV Chak Wai Kir		20 - 10 - 2021

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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)
WPR 1	20 - 10 - 2021	10:15	Rain / Fine	0	0	0	20.9	28 / 1012	2.8
		15:15		0	0	0	20.9	29 / 1011	2.8
WPR 2	20 - 10 - 2021	10:25	Rain / Fine	0	0	0	20.9	27 / 1012	3.5
		15:25		0	0	0	20.9	29 / 1010	3.5
WPR 3	20 - 10 - 2021	10:26	Rain / Fine	0	0	0	20.9	27 / 1012	2.8
		15:26		0	0	0	20.9	29 / 1010	2.8
Pit A	20 - 10 - 2021	10:25	Rain / Fine	0	0	0	20.9	29 / 1012	4
		15:25		0	0	0	20.9	29 / 1011	4
Pit B	20 - 10 - 2021	11:05	Rain / Fine	0	0	0	20.9	27 / 1012	3.6
		16:05		0	0	0	20.9	29 / 1011	3.6
Pit D	20 - 10 - 2021	9:10	Fine	0	0	0	20.9	27 / 1010	7
		14:10		0	0	0	20.9	29 / 1012	7
WPR4	20 - 10 - 2021	10:35	Fine	0	0	0	20.9	29 / 1011	2
		15:35		0	0	0	20.9	29 / 1012	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		20 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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

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

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

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	21/10/2021	0830	~~Fine~~ / Rain	0	0	0	20.9	31 / 1009	5.5
		1330	~~Fine~~ / Rain	0	0	0	20.9	35 / 1008	5.5
		1700	~~Fine~~ / Rain	0	0	0	20.9	33 / 1007	5.5
Area B	21/10/2021	0845	~~Fine~~ / Rain	0	0	0	20.9	31 / 1009	2.5
		1345	~~Fine~~ / Rain	0	0	0	20.9	35 / 1008	2.5
		1645	~~Fine~~ / Rain	0	0	0	20.9	33 / 1007	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		21/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chek Wai Kit POEM RSO		21/10/2021

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
XT-XWHM-YOR	2021/6/8

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)
~~137 Pit C~~	- - 2021		~~Rain / Fine~~					/	
137 Pit B	21 - 10 - 2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	- - 2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[VTEC] CP		21 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		21 - 10 - 2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	21-10-2021	10:15	Rain / ~~Fine~~	0	0	0	20.9	27 / 1012	2.6
		15:15		0	0	0	20.9	29 / 1011	2.6
WPR 2	21-10-2021	10:25	Rain / ~~Fine~~	0	0	0	20.9	28 / 1012	3.5
		15:25		0	0	0	20.9	29 / 1010	3.5
WPR 3	21-10-2021	10:45	Rain / Fine	0	0	0	20.9	27 / 1011	2.8
		15:45		0	0	0	20.9	28 / 1010	2.6
Pit A	21-10-2021	10:55	Rain / Fine	0	0	0	20.9	29 / 1012	5
		15:55		0	0	0	20.9	27 / 1011	5
Pit B	21-10-2021	11:10	Rain / Fine	0	0	0	20.9	26 / 1011	7.6
		16:05		0	0	0	20.9	27 / 1011	8.6
PKD	21-10-2021	9:10	Fine	0	0	0	20.9	26 / 1010	7
		14:10		0	0	0	20.9	27 / 1011	7
WPR 4	21-10-2021	10:35	Fine	0	0	0	20.9	27 / 1012	2
		15:35		0	0	0	20.9	26 / 1011	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		21-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	22/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	30 / 1010	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	30 / 1010	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	30 / 1009	5.5
Area B	22/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	32 / 1008	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	33 / 1010	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		22/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit pp C/V RSC		22/10/2021

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
XT-XW HM-Y-OR	2021/6/8

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)
~~137 Pit C~~	- - 2021		~~Rain / Fine~~					/	
137 Pit B	22 - 10 - 2021	08:30	Rain / ~~Fine~~	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	- - 2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	馮兆勝 (VTEC) CP		22 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		22 - 10 - 2021

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)
WPR 1	22-10-2021	10:15	Rain / Fine	0	0	0	20.9	27 / 1012	2.6
		15:15		0	0	0	20.9	26 / 1011	2.5
WPR 2	22-10-2021	10:25	Rain / Fine	0	0	0	20.9	27 / 1012	3.5
		15:25		0	0	0	20.9	28 / 1013	3.5
WPR 3	22-10-2021	10:05	Rain / Fine	0	0	0	20.9	27 / 1011	2.8
		15:05		0	0	0	20.9	27 / 1010	2.8
Pit A	22-10-2021	10:55	Rain / Fine	0	0	0	20.9	28 / 1012	5
		15:55		0	0	0	20.9	27 / 1011	5
Pit B	22-10-2021	11:05	Rain / Fine	0	0	0	20.9	28 / 1012	3.6
		16:05		0	0	0	20.9	28 / 1012	3.6
Pit D	22-10-2021	9:10	Fine	0	0	0	20.9	27 / 1012	7
		14:10		0	0	0	20.9	28 / 1011	7
WPR4	22-10-2021	10:35	Fine	0	0	0	20.9	27 / 1012	2
		15:35		0	0	0	20.9	28 / 1012	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		22-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	23/10/2021	0830	Fine / ~~Rain~~	0	0	0	20.9	31 / 1009	5.5
		1330	Fine / ~~Rain~~	0	0	0	20.9	33 / 1010	5.5
		1700	Fine / ~~Rain~~	0	0	0	20.9	32 / 1007	5.5
Area B	23/10/2021	0845	Fine / ~~Rain~~	0	0	0	20.9	31 / 1010	2.5
		1345	Fine / ~~Rain~~	0	0	0	20.9	32 / 1008	2.5
		1645	Fine / ~~Rain~~	0	0	0	20.9	33 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		23/10/21
Laboratory Staff:			
Checked by:	Chak Wai Kit RSO		23/10/2021

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
XT-XWHM-Y-OR	2021/6/12

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	23-10-2021	08:30	Rain / Fine	0	0	0	20.9	30/1008	5.5
~~137 Pit A~~	23-10-2021	12:00	~~Rain / Fine~~	0	0	0	20.9	31/1007	5.5
								/	
								/	
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								/	
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								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	張飛勝 [VTEC] CP		23-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		23-10-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	23-10-2021	10:25	Rain / Fine	0	0	0	20.9	27/1011	2.8
		15:15		0	0	0	20.9	26/1010	2.85
WPR 2	23.10-2021	10:25	Rain / Fine	0	0	0	20.9	26/1010	3.85
		15:25		0	0	0	20.9	27/1012	3.9
WPR 3	23-10-2021	10:45	Rain / Fine	0	0	0	20.9	26/1010	2.8
		15:45		0	0	0	20.9	27/1011	2.9
Pit A	23-10-2021	10:55	Rain / Fine	0	0	0	20.9	26/1010	5
		15:55		0	0	0	20.9	26/1010	5
Pit B	23-10-2021	11:05	Rain / Fine	0	0	0	20.9	27/1012	3.6
		16:05		0	0	0	20.9	27/1010	3.6
WPR4	23-10-2021	9:10	Fine	0	0	0	20.9	27/1011	9.5
		14:10		0	0	0	20.9	26/1011	9.5
WPR4	23-10-2021	10:35	Fine	0	0	0	20.9	27/1012	3
		15:35		0	0	0	20.9	26/1009	3

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		23-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	25/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	30 / 1009	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	32 / 1010	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	31 / 1007	5.5
Area B	25/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	31 / 1008	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	32 / 1009	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	33 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		25/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit Poc SV RGO		25/10/2021

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
X1-XWHM-Y-0R	2021/6/8

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	25-10-2021	08:30	Rain / Fine	0	0	0	20.9	30/1008	5.5
~~137 Pit A~~	25-10-2021	12:00	~~Rain / Fine~~	0	0	0	20.9	31/1007	5.5
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								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[illegible] [VTEC] CP		25-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		25-10-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	25-10-2021	10:15	Rain / Fine	0	0	0	20.9	26 / 1011	2.8
		15:15		0	0	0	20.9	27 / 1012	2.8
WPR 2	25-10-2021	10:25	Rain / Fine	0	0	0	20.9	28 / 1013	3.5
		15:25		0	0	0	20.9	27 / 1012	3.5
WPR 3	25-10-2021	10:45	Rain / Fine	0	0	0	20.9	27 / 1011	2.8
		15:45		0	0	0	20.9	26 / 1012	2.8
Pit A	25-10-2021	10:55	Rain / Fine	0	0	0	20.9	26 / 1011	5
		15:55		0	0	0	20.9	27 / 1012	5
Pit B	25-10-2021	10:05	Rain / Fine	0	0	0	20.9	27 / 1012	3.6
		16:05		0	0	0	20.9	27 / 1011	3.6
PieD	25-10-2021	9:10	Fine	0	0	0	20.9	27 / 1011	9.5
		14:10		0	0	0	20.9	27 / 1012	9.5
WPR 4	25-10-2021	10:25	Fine	0	0	0	20.9	27 / 1011	2
		15:25		0	0	0	20.9	26 / 1012	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee (RenoPipe) CP		25-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	26/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	32 / 1010	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	31 / 1007	5.5
Area B	26/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	32 / 1010	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	33 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		26/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV RSO		26/10/2021

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
X1-XWHM-Y-0K	2021/6/8

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	26-10-2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	26-10-2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
								/	
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								/	
								/	
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								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[VTEC) CP		26-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chek Wai Kit POCJV RSO		26-10-2021

ENVIRONMENTAL RESOURCES MANAGEMENT ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	26-10-2021	10:15	Rain / Fine	0	0	0	20.9	24/1011	2.8
		14:15		0	0	0	20.9	24/1011	2.8
WPR 2	26-10-2021	10:25	Rain / Fine	0	0	0	20.9	27/1012	3.5
		14:25		0	0	0	20.9	27/1011	3.5
WPR 3	26-10-2021	10:39	Rain / Fine	0	0	0	20.9	26/1010	2.8
		14:43		0	0	0	20.9	26/1011	2.8
Pit A	26-10-2021	10:59	Rain / Fine	0	0	0	20.9	26/1012	5
		14:45		0	0	0	20.9	27/1012	5
Pit B	26-10-2021	11:07	Rain / Fine	0	0	0	20.9	27/1012	3.6
		16:09		0	0	0	20.9	27/1012	3.6
WPR4	26-10-2021	9:10	Fine	0	0	0	20.9	27/1011	9.5
		14:30		0	0	0	20.9	27/1011	9.5
WPR4	26-10-2021	10:35	Fine	0	0	0	20.9	26/1010	2
		15:35		0	0	0	20.9	27/1012	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoFipe) CP		26-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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 (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	27/10/2021	0830	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	5.5
		1330	Fine / ~~Rain~~	O	O	O	20.9	32 / 1010	5.5
		1700	Fine / ~~Rain~~	O	O	O	20.9	31 / 1007	5.5
Area B	27/10/2021	0845	Fine / ~~Rain~~	O	O	O	20.9	31 / 1009	2.5
		1345	Fine / ~~Rain~~	O	O	O	20.9	32 / 1010	2.5
		1645	Fine / ~~Rain~~	O	O	O	20.9	33 / 1009	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		27/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POETW RSO		27/10/2021

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
XT-XWHM-Y-OR	2021/6/8

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	27-10-2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	27-10-2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
								/	
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								/	
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	Name & Designation	Signature	Date
Field Operator:	[VTEC] CP		27-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		27-10-2021

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)
WPR 1	27-10-2021	10:15	Rain / Fine	0	0	0	20.9	27 / 1016	2.8
		13:15		0	0	0	20.9	26 / 1010	2.8
WPR 2	27-10-2021	10:25	Rain / Fine	0	0	0	20.9	28 / 1011	3.5
		15:25		0	0	0	20.9	26 / 1010	3.8
WPR 3	27-10-2021	10:40	Rain / Fine	0	0	0	20.9	27 / 1010	2.8
		15:40		0	0	0	20.9	27 / 1011	2.8
Pit A	27-10-2021	10:50	Rain / Fine	0	0	0	20.9	27 / 1011	5
		15:55		0	0	0	20.9	27 / 1010	5
Pit B	27-10-2021	11:09	Rain / Fine	0	0	0	20.9	27 / 1011	3.6
		16:05		0	0	0	20.9	26 / 1011	3.6
WPR10	27-10-2021	9:10	Fine	0	0	0	20.9	27 / 1011	11
		14:10		0	0	0	20.9	26 / 1010	11
WPR14	27-10-2021	10:35	Fine	0	0	0	20.9	26 / 1011	2
		15:35		0	0	0	20.9	27 / 1011	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		27-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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	28/10/2021	0830	Fine / Rain	O	O	O	20.9	30 / 1009	5.5
		1330	Fine / Rain	O	O	O	20.9	32 / 1010	5.5
		1700	Fine / Rain	O	O	O	20.9	31 / 1009	5.5
Area B	28/10/2021	0845	Fine / Rain	O	O	O	20.9	31 / 1009	2.5
		1345	Fine / Rain	O	O	O	20.9	34 / 1010	2.5
		1645	Fine / Rain	O	O	O	20.9	32 / 1010	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		28/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit pcsTV PSO		28/10/2021

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
XT-XWHM-Y-OR	2021/6/8

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)
~~137 Pit C~~	- - 2021		~~Rain / Fine~~					/	
137 Pit B	28 - 10 - 2021	08:30	Rain / Fine (circled)	0	0	0	20.9	29 / 1008	5.5
~~137 Pit A~~	28 - 10 - 2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30 / 1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[illegible] (VTEC) CP	[signature]	28 - 10 - 2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV	[signature]	28 - 10 - 2021

ENVIRONMENTAL RESOURCES MANAGEMENT ENVIRONMENTAL PROTECTION DEPARTMENT

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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)
WPR 1	28-10-2021	10:15	Rain / Fine	0	0	0	20.9	26 / 1009	2.6
		15:15		0	0	0	20.9	26 / 1008	2.8
WPR 2	28-10-2021	10:25	Rain / Fine	0	0	0	20.9	27 / 1010	3.5
		15:25		0	0	0	20.9	27 / 1011	3.5
WPR 3	28-10-2021	10:45	Rain / Fine	0	0	0	20.9	26 / 1010	2.8
		15:45		0	0	0	20.9	26 / 1010	2.8
Pit A	28-10-2021	10:55	Rain / Fine	0	0	0	20.9	26 / 1011	5
		15:55		0	0	0	20.9	27 / 1010	5
Pit B	28-10-2021	11:05	Rain / Fine	0	0	0	20.9	27 / 1011	3.6
		16:05		0	0	0	20.9	27 / 1010	3.6
PitD	28-10-2021	9:10	Fine	0	0	0	20.9	27 / 1012	11
		14:10		0	0	0	20.9	26 / 1011	9.11
WPR4	28-10-2021	10:35	Fine	0	0	0	20.9	26 / 1012	2
		15:35		0	0	0	20.9	27 / 1011	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee [RenoPipe) CP		28 - 10 - 2021
Laboratory Staff:			
Checked by:	POCJV		- - 2021

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	29/10/2021	0830	Fine / Rain	O	O	O	20.9	31 / 1010	5.5
		1330	Fine / Rain	O	O	O	20.9	32 / 1009	5.5
		1700	Fine / Rain	O	O	O	20.9	31 / 1010	5.5
Area B	29/10/2021	0845	Fine / Rain	O	O	O	20.9	31 / 1010	2.5
		1345	Fine / Rain	O	O	O	20.9	30 / 1008	2.5
		1645	Fine / Rain	O	O	O	20.9	28 / 1010	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		29/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POC JVC RSO		29/10/2021

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
XT-XWHM-Y-OR	2021/6/18

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)
~~137 Pit C~~	- - 2021		~~Rain / Fine~~					/	
137 Pit B	29-10-2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	29-10-2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[illegible] [VTEC] CP		29-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		29-10-2021

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)
WPR 1	29/10-2021	10:15	Rain / Fine	0	0	0	20.9	26/1011	3.5
		15:15		0	0	0	20.9	26/1012	3.5
WPR 2	29/10-2021	10:35	Rain / Fine	0	0	0	20.9	27/1011	3.5
		15:35		0	0	0	20.9	27/1012	3.5
WPR 3	29-10-2021	10:45	Rain / Fine	0	0	0	20.9	26/1011	3.5
		15:45		0	0	0	20.9	27/1012	3.5
Pit A	29-10-2021	10:55	Rain / Fine	0	0	0	20.9	26/1011	4.5
		15:55		0	0	0	20.9	27/1012	4.5
Pit B	29-10-2021	11:05	Rain / Fine	0	0	0	20.9	27/1012	3.6
		16:05		0	0	0	20.9	27/1011	3.6
PED	29-10-2021	9:10	Fine	0	0	0	20.9	26/1012	11
		14:10		0	0	0	20.9	27/1011	11
WPR 4	29-10-2021	10:35	Fine	0	0	0	20.9	26/1011	2
		15:35		0	0	0	20.9	27/1012	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee (RenoPipe) CP		29-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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

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

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

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methame %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	30/10/2021	0830	Fine / Rain	O	O	O	20.9	31 / 1010	5.5
		1330	Fine / Rain	O	O	O	20.9	32 / 1009	5.5
		1700	Fine / Rain	O	O	O	20.9	31 / 1010	5.5
Area B	30/10/2021	0845	Fine / Rain	O	O	O	20.9	31 / 1010	2.5
		1345	Fine / Rain	O	O	O	20.9	30 / 1008	2.5
		1645	Fine / Rain	O	O	O	20.9	28 / 1010	2.5

	Name & Designation	Signature	Date
Field Operator:	Dash Ip (Safety Office [Renopipe])		30/10/21
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit pp CTV RSO		30/10/2021

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
XT-XW14M-Y-0R	2021/6/8

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)
~~137 Pit C~~	- -2021		~~Rain / Fine~~					/	
137 Pit B	30-10-2021	08:30	Rain / Fine	0	0	0	20.9	29/1008	5.5
~~137 Pit A~~	30-10-2021	12:00	~~Rain / Fine~~	0	0	0	20.9	30/1007	5.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	
								/	

	Name & Designation	Signature	Date
Field Operator:	[VTEC] CP		30-10-2021
Laboratory Staff:			
Checked by:	翟偉傑 Chak Wai Kit POCJV		30-10-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

13

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)
WPR 1	30-10-2021	10:15	Rain / Fine	0	0	0	20.9	26/1009	2.5
		14:15		0	0	0	20.9	27/1010	2.8
WPR 2	30-10-2021	10:35	Rain / Fine	0	0	0	20.9	26/1009	3.5
		15:28		0	0	0	20.9	27/1011	3.5
WPR 3	30/10-2021	10:45	Rain / Fine	0	0	0	20.9	26/1010	2.5
		15:45		0	0	0	20.9	26/1011	2.5
Pit A	30-10-2021	10:55	Rain / Fine	0	0	0	20.9	26/1009	5
		15:55		0	0	0	20.9	26/1012	5
Pit B	30-10-2021	11:05	Rain / Fine	0	0	0	20.9	27/1011	3.6
		16:05		0	0	0	20.9	27/1011	3.6
P.E.D	30-10-2021	9:10	Fine	0	0	0	20.9	27/1011	11
		14:10		0	0	0	20.9	26/1011	11
WPR 4	30-10-2021	10:25	Fine	0	0	0	20.9	26/1012	2
		15:25		0	0	0	20.9	27/1012	2

	Name & Designation	Signature	Date
Field Operator:	Jock Lee (RenoPipe) CP		30-10-2021
Laboratory Staff:			
Checked by:	POCJV		- -2021

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	2 -10-2021	8:30	0.0426	5.5	
		13:30	0.0429		
		17:00	0.0442		
Area B	2 -10-2021	8:45	0.0443	2.5	
		13:45	0.0436		
		16:45	0.0417		
Pit D	2 -10-2021	9:10	0.0429	4.5	
		14:10	0.0411		
137 Pit B	2 -10-2021	9:45	0.0442	8.6	
		14:45	0.0424		
WPR 1	2 -10-2021	10:05	0.0438	3.	
		15:05	0.0421		

	Name & Designation	Signature	Date
Field Operator:			2 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	2 -10-2021	10:15	0.0429	3.5	
		15:15	0.0438		
WPR 4	2 -10-2021	10:25	0.0416	2	
		15:25	0.0429		
WPR 3	2-10-2021	10:45	0.0419	2.8	
		15:45	0.0408		
Pit A	2 -10-2021	10:55	0.0445	2.5	
		15:55	0.0448		
Pit B	2 -10-2021	11:05	0.0427	3.6	
		16:05	0.0431		

	Name & Designation	Signature	Date
Field Operator:			2 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	4 -10-2021	8:30	0.0457	5.5	
		13:30	0.0419		
		17:00	0.0418		
Area B	4 -10-2021	8:45	0.0424	2.5	
		13:45	0.0439		
		16:45	0.0414		
Pit D	4 -10-2021	9:10	0.0429	4.5	
		14:10	0.0433		
137 Pit B	4 -10-2021	9:45	0.0418	8.6	
		14:45	0.0435		
WPR 1	4 -10-2021	10:05	0.0446	3	
		15:05	0.0418		

	Name & Designation	Signature	Date
Field Operator:			4 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	4 -10-2021	10:15 15:15	0.0419 0.0436	3.5	
WPR 4	4 -10-2021	10:25 15:25	0.0428 0.0429	2	
WPR 3	4 -10-2021	10:45 15:45	0.0427 0.0414	2.8	
Pit A	4 -10-2021	10:55 15:55	0.0423 0.0421	7	
Pit B	4 -10-2021	11:05 16:05	0.0432 0.0413	3.6	

	Name & Designation	Signature	Date
Field Operator:			4 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 -10-2021	8:30	0.0429	5.5	
		13:30	0.0414		
		17:00	0.0422		
Area B	5 -10-2021	8:45	0.0419	2.5	
		13:45	0.0443		
		16:45	0.0418		
Pit D	5 -10-2021	9:10	0.0431	7	
		14:10	0.0435		
137 Pit B	5 -10-2021	9:45	0.0439	8.6	
		14:45	0.0422		
WPR 1	5 -10-2021	10:05	0.0435	3	
		15:05	0.0410		

	Name & Designation	Signature	Date
Field Operator:			5 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	5 -10-2021	10:15	0.0414	3.5	
		15:15	0.0408		
WPR 4	5 -10-2021	10:25	0.0445	2	
		15:25	0.0431		
WPR 3	5 -10-2021	10:45	0.0424	2.8	
		15:45	0.0409		
Pit A	5 -10-2021	10:55	0.0424	7	
		15:55	0.0437		
Pit B	5 -10-2021	11:05	0.0417	3.6	
		16:05	0.0411		

	Name & Designation	Signature	Date
Field Operator:			5 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	6 -10-2021	8:30	0.0416	5.5	
		13:30	0.0432		
		17:00	0.0421		
Area B	6 -10-2021	8:45	0.0409	2.5	
		13:45	0.0428		
		16:45	0.0432		
Pit D	6 -10-2021	9:10	0.0412	7	
		14:10	0.0405		
137 Pit B	6 -10-2021	9:45	0.0417	8.6	
		14:45	0.0402		
WPR 1	6 -10-2021	10:05	0.0408	3	
		15:05	0.0436		

	Name & Designation	Signature	Date
Field Operator:			6 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	6 -10-2021	10:15	0.0441	3.5	
		15:15	0.0418		
WPR 4	6 -10-2021	10:25	0.0422	2	
		15:25	0.0406		
WPR 3	6 -10-2021	10:45	0.0431	2.8	
		15:45	0.0401		
Pit A	6 -10-2021	10:55	0.0443	7	
		15:55	0.0436		
Pit B	6 -10-2021	11:05	0.0432	3.6	
		16:05	0.0417		

	Name & Designation	Signature	Date
Field Operator:			6 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	7 -10-2021	8:30	0.0402	5.5	
		13:30	0.0413		
		17:00	0.0447		
Area B	7 -10-2021	8:45	0.0422	2.5	
		13:45	0.0407		
		16:45	0.0418		
Pit D	7 -10-2021	9:10	0.0431	7	
		14:10	0.0429		
137 Pit B	7 -10-2021	9:45	0.0431	8.6	
		14:45	0.0427		
WPR 1	7 -10-2021	10:05	0.0427	3	
		15:05	0.0411		

	Name & Designation	Signature	Date
Field Operator:			7 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	7 -10-2021	10:15	0.0404	3.5	
		15:15	0.0420		
WPR 4	7 -10-2021	10:25	0.0417	2	
		15:25	0.0430		
WPR 3	7 -10-2021	10:45	0.0429	2.8	
		15:45	0.0436		
Pit A	7 -10-2021	10:55	0.0412	7	
		15:55	0.0439		
Pit B	7 -10-2021	11:05	0.0426	3.6	
		16:05	0.0444		

	Name & Designation	Signature	Date
Field Operator:			7 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	8 -10-2021	8:30	0.041	5.5	
		13:30	0.042		
		17:00	0.041		
Area B	8 -10-2021	8:45	0.0429	2.5	
		13:45	0.0417		
		16:45	0.0429		
Pit D	8 -10-2021	9:10	0.0436	7	
		14:10	0.0427		
137 Pit B	8 -10-2021	9:45	0.0404	8.6	
		14:45	0.0419		
WPR 1	8 -10-2021	10:05	0.0431	3	
		15:05	0.0419		

	Name & Designation	Signature	Date
Field Operator:			8 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	8 -10-2021	10:15	0.0416	3.5	
		15:15	0.0427		
WPR 4	8 -10-2021	10:25	0.0409	2	
		15:25	0.0410		
WPR 3	8 -10-2021	10:45	0.0422	2.8	
		15:45	0.0431		
Pit A	8 -10-2021	10:55	0.0429	7	
		15:55	0.0410		
Pit B	8 -10-2021	11:05	0.0416	3.6	
		16:05	0.0429		

	Name & Designation	Signature	Date
Field Operator:			8 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	11 -10-2021	8:30	0.0435	5.5	
		13:30	0.0429		
		17:00	0.0438		
Area B	11 -10-2021	8:45	0.0416	2.5	
		13:45	0.0404		
		16:45	0.0421		
Pit D	11 -10-2021	9:10	0.0422	7	
		14:10	0.0425		
137 Pit B	11 -10-2021	9:45	0.0439	8.6	
		14:45	0.0418		
WPR 1	11 -10-2021	10:05	0.0436	3	
		15:05	0.0439		

	Name & Designation	Signature	Date
Field Operator:			11 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	11-10-2021	10:15	0.0408	3.5	
		15:15	0.0421		
WPR 4	11-10-2021	10:25	0.0436	2	
		15:25	0.0418		
WPR 3	11-10-2021	10:45	0.0422	2.8	
		15:45	0.0416		
Pit A	11-10-2021	10:55	0.0424	7	
		15:55	0.0411		
Pit B	11-10-2021	11:05	0.0438	3.6	
		16:05	0.0446		

	Name & Designation	Signature	Date
Field Operator:			11 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	12-10-2021	8:30	0.0429	5.5	
		13:30	0.0415		
		17:00	0.0434		
Area B	12-10-2021	8:45	0.0419	2.3	
		13:45	0.0422		
		16:45	0.0425		
Pit D	12-10-2021	9:10	0.0416	7	
		14:10	0.0429		
137 Pit B	12-10-2021	9:45	0.0416	8.6	
		14:45	0.0433		
WPR 1	12-10-2021	10:05	0.0434	3	
		15:05	0.0428		

	Name & Designation	Signature	Date
Field Operator:			12 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	12 -10-2021	10:15	0.0433	3.5	
		15:15	0.0446		
WPR 4	12 -10-2021	10:25	0.0414	2	
		15:25	0.0409		
WPR 3	12 -10-2021	10:45	0.0413	2.8	
		15:45	0.0419		
Pit A	12 -10-2021	10:55	0.0408	7	
		15:55	0.0409		
Pit B	12 -10-2021	11:05	0.0413	3.6	
		16:05	0.0420		

	Name & Designation	Signature	Date
Field Operator:			12 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	15 -10-2021	8:30	0.0427	5.5	
		13:30	0.0451		
		17:00	0.0417		
Area B	15 -10-2021	8:45	0.0448	2.5	
		13:45	0.0434		
		16:45	0.0446		
Pit D	15 -10-2021	9:10	0.0419	7	
		14:10	0.0414		
137 Pit B	15 -10-2021	9:45	0.0445	8.6	
		14:45	0.0414		
WPR 1	15 -10-2021	10:05	0.0410	3	
		15:05	0.0415		

	Name & Designation	Signature	Date
Field Operator:			15 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	15 -10-2021	10:15	0.0425	3.5	
		15:15	0.0451		
WPR 4	15 -10-2021	10:25	0.0450	2	
		15:25	0.0425		
WPR 3	15 -10-2021	10:45	0.0425	2.8	
		15:45	0.0429		
Pit A	15 -10-2021	10:55	0.0418	7	
		15:55	0.0416		
Pit B	15 -10-2021	11:05	0.0403	3.6	
		16:05	0.0423		

	Name & Designation	Signature	Date
Field Operator:			15 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	16 -10-2021	8:30	0.0419	5.5	
		13:30	0.0432		
		17:00	0.0408		
Area B	16 -10-2021	8:45	0.0431	2.5	
		13:45	0.0428		
		16:45	0.0436		
Pit D	16 -10-2021	9:10	0.0429	7	
		14:10	0.0413		
137 Pit B	16 -10-2021	9:45	0.0424	0.6	
		14:45	0.0419		
WPR 1	16 -10-2021	10:05	0.0441	3	
		15:05	0.0445		

	Name & Designation	Signature	Date
Field Operator:			16 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	16 -10-2021	10:15	0.0436	3.5	
		15:15	0.0417		
WPR 4	16 -10-2021	10:25	0.0422	2	
		15:25	0.0434		
WPR 3	16 -10-2021	10:45	0.0415	2.8	
		15:45	0.0426		
Pit A	16 -10-2021	10:55	0.0433	7	
		15:55	0.0441		
Pit B	16 -10-2021	11:05	0.0437	3.6	
		16:05	0.0414		

	Name & Designation	Signature	Date
Field Operator:			16 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	18 -10-2021	8:30	0.0418	5.5	
		13:30	0.0429		
		17:00	0.0410		
Area B	18 -10-2021	8:45	0.0411	2.5	
		13:45	0.0423		
		16:45	0.0432		
Pit D	18 -10-2021	9:10	0.0431	7	
		14:10	0.0404		
137 Pit B	18 -10-2021	9:45	0.0413	8.6	
		14:45	0.0412		
WPR 1	18 -10-2021	10:05	0.0403	3	
		15:05	0.0433		

	Name & Designation	Signature	Date
Field Operator:			18 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	18-10-2021	10:15	0.0419	3.5	
		15:15	0.0430		
WPR 4	18-10-2021	10:25	0.0420	2	
		15:25	0.0407		
WPR 3	18-10-2021	10:45	0.0430	2.8	
		15:45	0.0429		
Pit A	18-10-2021	10:55	0.0431	7	
		15:55	0.0411		
Pit B	18-10-2021	11:05	0.0407	3.6	
		16:05	0.0419		

	Name & Designation	Signature	Date
Field Operator:			18 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	19-10-2021	8:30	0.041	5.5	
		13:30	0.0426		
		17:00	0.0431		
Area B	19-10-2021	8:45	0.0450	2.5	
		13:45	0.0416		
		16:45	0.0403		
Pit D	19-10-2021	9:10	0.0422	7	
		14:10	0.0417		
137 Pit B	19-10-2021	9:45	0.0413	8.6	
		14:45	0.0421		
WPR 1	19-10-2021	10:05	0.0441	3	
		15:05	0.0422		

	Name & Designation	Signature	Date
Field Operator:			19-10-2021
Laboratory Staff:			
Checked by:			

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 2	19-10-2021	10:15	0.0419	3.5	
		15:15	0.0426		
WPR 4	19-10-2021	10:25	0.0418	2	
		15:25	0.0425		
WPR 3	19-10-2021	10:45	0.0415	2.8	
		15:45	0.0417		
Pit A	19-10-2021	10:55	0.0416	7	
		15:55	0.0402		
Pit B	19-10-2021	11:05	0.0408	3.6	
		16:05	0.0411		

	Name & Designation	Signature	Date
Field Operator:			19-10-2021
Laboratory Staff:			
Checked by:			

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 -10-2021	8:30	0.0409	5.5	
		13:30	0.0414		
		17:00	0.0423		
Area B	20 -10-2021	8:45	0.0425	2.5	
		13:45	0.0450		
		16:45	0.0417		
Pit D	20 -10-2021	9:10	0.0417	7	
		14:10	0.0420		
137 Pit B	20 -10-2021	9:45	0.0439	8.6	
		14:45	0.0417		
WPR 1	20 -10-2021	10:05	0.0427	3	
		15:05	0.0423		

	Name & Designation	Signature	Date
Field Operator:			20 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	20 -10-2021	10:15	0.0414	3.5	
		15:15	0.0426		
WPR 4	20 -10-2021	10:25	0.0416	2	
		15:25	0.0437		
WPR 3	20 -10-2021	10:45	0.0434	2.8	
		15:45	0.0421		
Pit A	20 -10-2021	10:55	0.0420	7	
		15:55	0.0441		
Pit B	20 -10-2021	11:05	0.0446	3.6	
		16:05	0.0439		

	Name & Designation	Signature	Date
Field Operator:			20 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	22 -10-2021	8:30	0.0416	5.5	
		13:30	0.0412		
		17:00	0.0427		
Area B	22 -10-2021	8:45	0.0437	2.5	
		13:45	0.0422		
		16:45	0.0415		
Pit D	22 -10-2021	9:10	0.0423	7	
		14:10	0.0445		
137 Pit B	22 -10-2021	9:45	0.0429	8.6	
		14:45	0.0446		
WPR 1	22-10-2021	10:05	0.0445	3	
		15:05	0.0433		

	Name & Designation	Signature	Date
Field Operator:			22 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	22-10-2021	10:15	0.0410	3.5	
		15:15	0.0411		
WPR 4	22-10-2021	10:25	0.0413	2	
		15:25	0.0425		
WPR 3	22-10-2021	10:45	0.0437	2.8	
		15:45	0.0428		
Pit A	22-10-2021	10:55	0.0405	7	
		15:55	0.0406		
Pit B	22-10-2021	11:05	0.0417	3.6.	
		16:05	0.0426		

	Name & Designation	Signature	Date
Field Operator:			22 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	23 -10-2021	8:30	0.0422	5.5	
		13:30	0.0437		
		17:00	0.0432		
Area B	23 -10-2021	8:45	0.0436	2.5	
		13:45	0.0445		
		16:45	0.0412		
Pit D	23 -10-2021	9:10	0.0437	9.5	
		14:10	0.0420		
137 Pit B	23 -10-2021	9:45	0.0428	8.6	
		14:45	0.0438		
WPR 1	23 -10-2021	10:05	0.0413	5	
		15:05	0.0424		

	Name & Designation	Signature	Date
Field Operator:			23 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	23-10-2021	10:15	0.0430	3.5	
		15:15	0.0441		
WPR 4	23-10-2021	10:25	0.0421	2	
		15:25	0.0435		
WPR 3	23-10-2021	10:45	0.0427	2.8	
		15:45	0.0428		
Pit A	23-10-2021	10:55	0.0435	7	
		15:55	0.0431		
Pit B	23-10-2021	11:05	0.0416	3.6	
		16:05	0.0413		

	Name & Designation	Signature	Date
Field Operator:			23 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	25-10-2021	8:30	0.0429	5.5	
		13:30	0.0418		
		17:00	0.0417		
Area B	25-10-2021	8:45	0.0408	2.5	
		13:45	0.0412		
		16:45	0.0435		
Pit D	25-10-2021	9:10	0.0415	9.5	
		14:10	0.0422		
137 Pit B	25-10-2021	9:45	0.0420	2.6	
		14:45	0.0410		
WPR 1	25-10-2021	10:05	0.0424	3	
		15:05	0.0431		

	Name & Designation	Signature	Date
Field Operator:			25 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	25 -10-2021	10:15	0.416	3.5	
		15:15	0.0430		
WPR 4	25 -10-2021	10:25	0.0429	2	
		15:25	0.0431		
WPR 3	25 -10-2021	10:45	0.0414	2.8	
		15:45	0.0421		
Pit A	25 -10-2021	10:55	0.0418	7	
		15:55	0.0408		
Pit B	25 -10-2021	11:05	0.0426	2.6	
		16:05	0.0411		

	Name & Designation	Signature	Date
Field Operator:			25 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	26-10-2021	8:30	0.0431	5.5	
		13:30	0.0429		
		17:00	0.0436		
Area B	26-10-2021	8:45	0.0415	2.5	
		13:45	0.0428		
		16:45	0.0431		
Pit D	26-10-2021	9:10	0.0428	9.5	
		14:10	0.0419		
137 Pit B	26-10-2021	9:45	0.0421	8.6	
		14:45	0.0416		
WPR 1	26-10-2021	10:05	0.0423	3	
		15:05	0.0241		

	Name & Designation	Signature	Date
Field Operator:			26 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	26 -10-2021	10:15	0.0431	3.5	
		15:15	0.0444		
WPR 4	26 -10-2021	10:25	0.0422	2	
		15:25	0.049		
WPR 3	26 -10-2021	10:45	0.0418	2.8	
		15:45	0.0422		
Pit A	26 -10-2021	10:55	0.0423	7	
		15:55	0.0418		
Pit B	26 -10-2021	11:05	0.0411	2.6	
		16:05	0.0429		

	Name & Designation	Signature	Date
Field Operator:			26 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	27-10-2021	8:30	0.0418	5.5	
		13:30	0.0425		
		17:00	0.0431		
Area B	27-10-2021	8:45	0.0442	2.5	
		13:45	0.0439		
		16:45	0.0403		
Pit D	27-10-2021	9:10	0.0430	11	
		14:10	0.0401		
137 Pit B	27-10-2021	9:45	0.0438	8.6	
		14:45	0.0414		
WPR 1	27-10-2021	10:05	0.0401	3	
		15:05	0.0438		

	Name & Designation	Signature	Date
Field Operator:			27 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	27 -10-2021	10:15	0.0433	3.5	
		15:15	0.0432		
WPR 4	27 -10-2021	10:25	0.0411	2	
		15:25	0.0429		
WPR 3	27 -10-2021	10:45	0.0427	2.8	
		15:45	0.0425		
Pit A	27-10-2021	10:55	0.0416	7	
		15:55	0.0431		
Pit B	27 -10-2021	11:05	0.0459	2.6	
		16:05	0.0402		

	Name & Designation	Signature	Date
Field Operator:			27 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	28 -10-2021	8:30	0.0431	5.5	
		13:30	0.0440		
		17:00	0.0410		
Area B	28 -10-2021	8:45	0.0402	2.5	
		13:45	0.0429		
		16:45	0.0448		
Pit D	28 -10-2021	9:10	0.0413	1.1	
		14:10	0.0408		
137 Pit B	28 -10-2021	9:45	0.0450	8.6	
		14:45	0.0448		
WPR 1	28 -10-2021	10:05	0.0408	.3	
		15:05	0.0424		

	Name & Designation	Signature	Date
Field Operator:			28 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	28 -10-2021	10:15	0.0424	3.5	
		15:15	0.0413		
WPR 4	28 -10-2021	10:25	0.0416	2	
		15:25	0.0419		
WPR 3	28 -10-2021	10:45	0.0424	2.8	
		15:45	0.0403		
Pit A	28 -10-2021	10:55	0.0417	1	
		15:55	0.0429		
Pit B	28 -10-2021	11:05	0.0403	2.5	
		16:05	0.0433		

	Name & Designation	Signature	Date
Field Operator:			28 - 10 - 2021
Laboratory Staff:			
Checked by:			

Contract no. 13/WSD/16
Mainlaying in Tseung Kwan O
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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	29 -10-2021	8:30	0.0430	5.5	
		13:30	0.0414		
		17:00	0.0423		
Area B	29 -10-2021	8:45	0.0403	2.5	
		13:45	0.0421		
		16:45	0.0433		
Pit D	29-10-2021	9:10	0.0423	1.1	
		14:10	0.0413		
137 Pit B	29 -10-2021	9:45	0.0423	8.6	
		14:45	0.0418		
WPR 1	29 -10-2021	10:05	0.0491	3.	
		15:05	0.0406		

	Name & Designation	Signature	Date
Field Operator:			29 - 10 - 2021
Laboratory Staff:			
Checked by:			

Contract no. 13/WSD/16
Mainlaying in Tseung Kwan O
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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 2	29 -10-2021	10:15	0.0413	3.5	
		15:15	0.0429		
WPR 4	29 -10-2021	10:25	0.0409	2	
		15:25	0.0443		
WPR 3	29 -10-2021	10:45	0.0412	2.8	
		15:45	0.0405		
Pit A	29 -10-2021	10:55	0.0438	1	
		15:55	0.0416		
Pit B	29 -10-2021	11:05	0.0423	2.6	
		16:05	0.0411		

	Name & Designation	Signature	Date
Field Operator:			29 - 10 - 2021
Laboratory Staff:			
Checked by:			

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	30-10-2021	8:30	0.0418	5.5	
		13:30	0.0429		
		17:00	0.0431		
Area B	30 -10-2021	8:45	0.0422	2.5	
		13:45	0.0419		
		16:45	0.0418		
Pit D	30 -10-2021	9:10	0.0404	11	
		14:10	0.0418		
137 Pit B	30 -10-2021	9:45	0.0415	8.6	
		14:45	0.0422		
WPR 1	30 -10-2021	10:05	0.0426	3	
		15:05	0.0411		

	Name & Designation	Signature	Date
Field Operator:			30 - 10 - 2021
Laboratory Staff:			
Checked by:			

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 2	30 -10-2021	10:15	0.0430	3.5	
		15:15	0.0418		
WPR 4	30 -10-2021	10:25	0.0421	2	
		15:25	0.0419		
WPR 3	30 -10-2021	10:45	0.0436	2.8	
		15:45	0.0421		
Pit A	30 -10-2021	10:55	0.0418	7	
		15:55	0.0416		
Pit B	30 -10-2021	11:05	0.0427	2.6	
		16:05	0.0431		

	Name & Designation	Signature	Date
Field Operator:			30 - 10 - 2021
Laboratory Staff:			
Checked by:			

Appendix K

Complaint Log and Regulatory Compliance Proforma

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
01 October 2021 - 31 October 2021	0	3	N/A

Statistical Summary of Environmental Summons

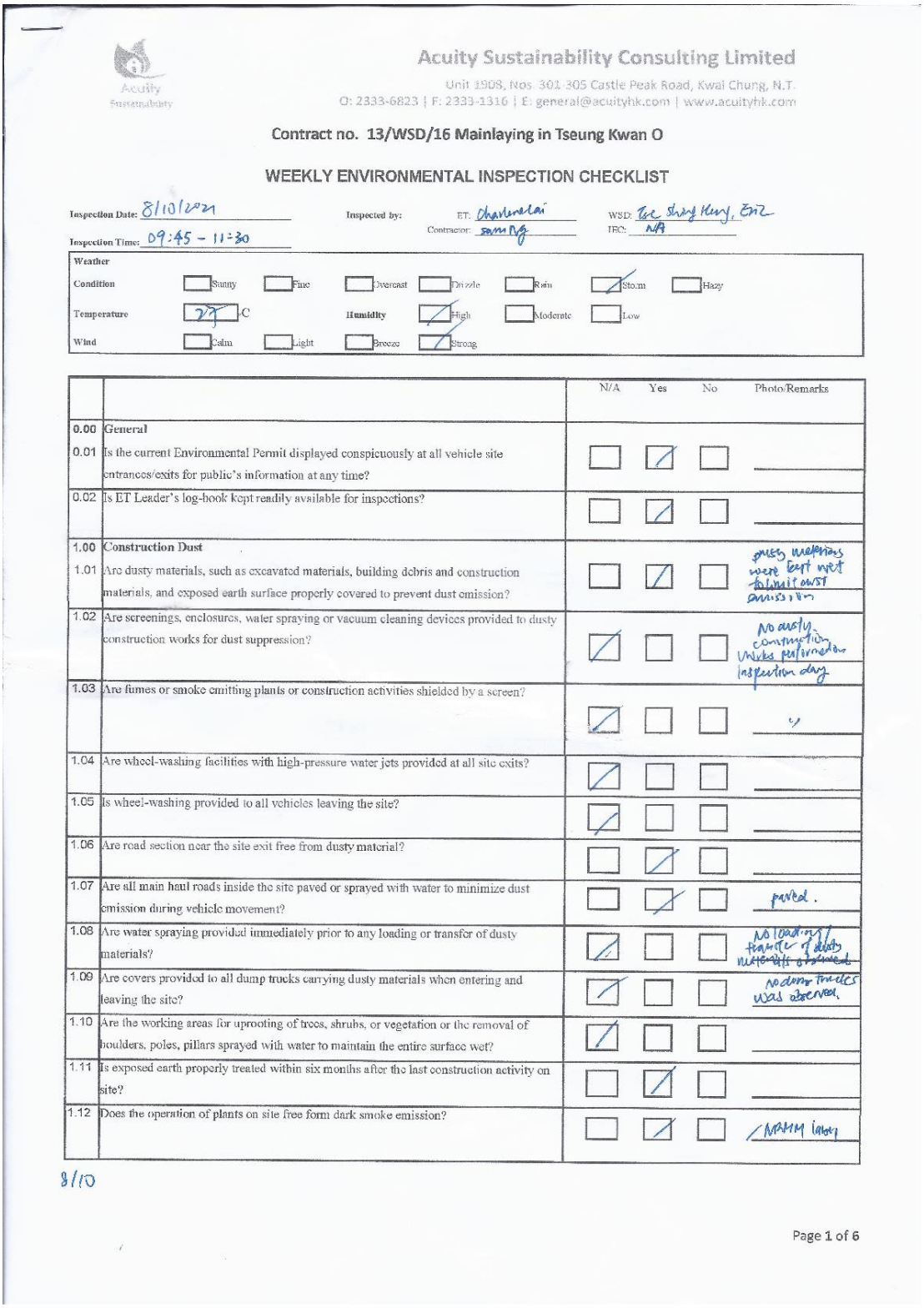
Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
01 October 2021 - 31 October 2021	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
01 October 2021 - 31 October 2021	0	0	N/A

Appendix L

Site Inspection Proforma



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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 8/10/2021 Inspected by: ET: Charlemelai WSD: Tse Shing Kung, Eric
Inspection Time: 09:45 - 11:30 Contractor: Samng IEC: NA

Weather							
Condition	☐ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☑ Storm	☐ Hazy
Temperature	27 °C		Humidity	☑ High	☐ Moderate	☐ Low	
Wind	☐ Calm	☐ Light	☐ Breeze	☑ 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?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
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?	☐	☑	☐	dusty materials were kept wet to limit dust emissions
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☑	☐	☐	No dusty construction works performed on inspection day
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	-
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☑	☐	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☑	☐	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved.
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☑	☐	☐	No loading / transfer of dusty materials observed
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	no dump trucks was 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?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	(MAHW idling)

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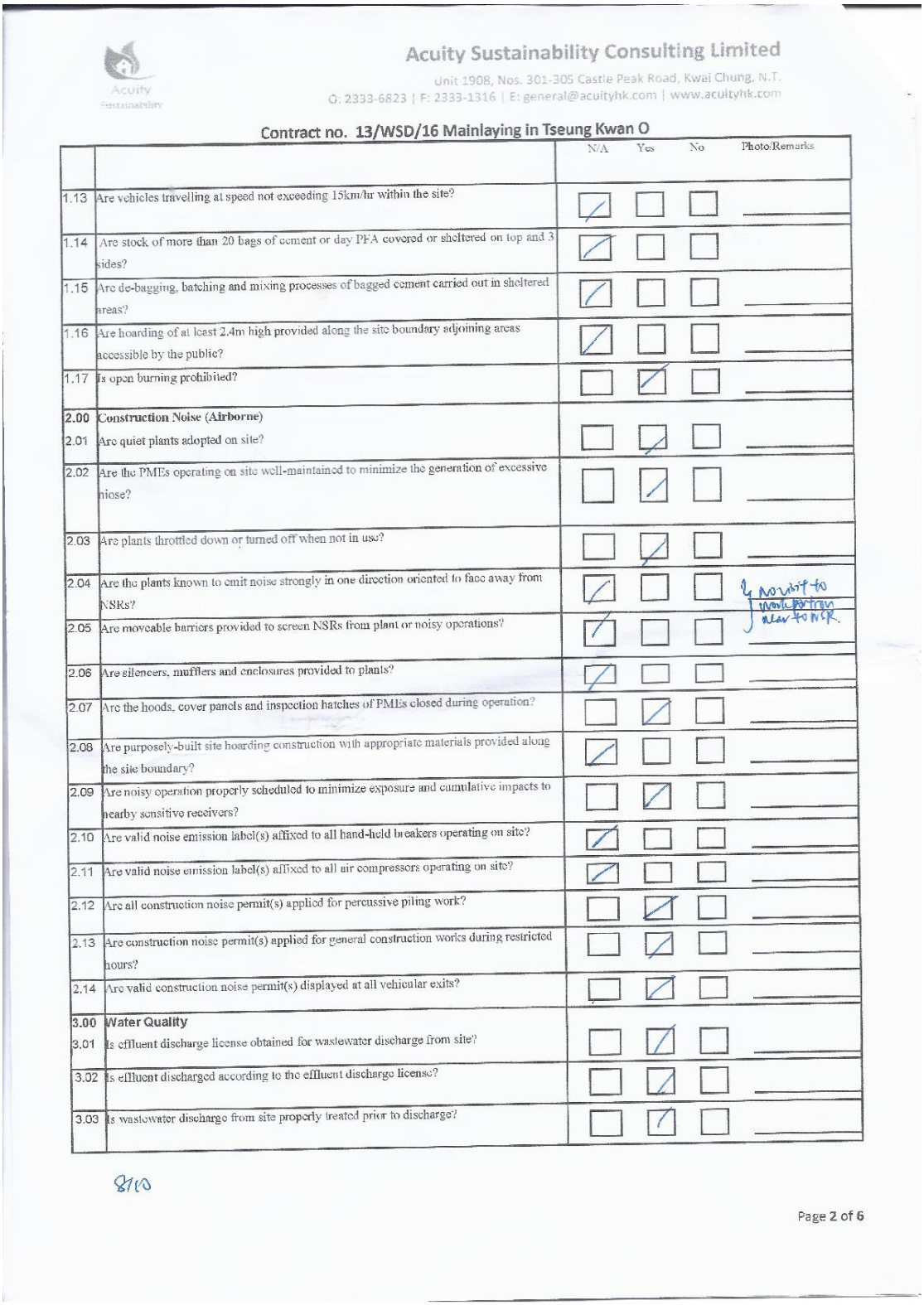

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☑	☐	☐	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☑	☐	☐	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☑	☐	☐	
1.17	Is open burning prohibited?	☐	☑	☐	
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?	☐	☑	☐	
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	☐	☑	☐	
2.03	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	4 no visit to work portion near to NSR.
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☑	☐	☐	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	Are all construction noise permit(s) applied for percussive piling work?	☐	☑	☐	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	
3.03	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	

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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?	☐	☑	☐	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	Is the drainage system properly maintained?	☐	☑	☐	reminder (1)
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	Are exposed slope surface properly protected?	☐	☑	☐	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☑	☐	
3.14	Is runoff from wheel-washing facilities avoided?	☑	☐	☐	
3.15	Is oil leakage or spillage prevented?	☐	☐	☐	Not (1)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☑	☐	~~Not~~ Not (1)
3.17	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	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?	☐	☑	☐	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	Is concrete washing water properly collected and treated prior to discharge?	☑	☐	☐	
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?	☐	☑	☐	

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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?	☐	☑	☐	
4.03	Is the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☑	☐	☐	
4.05	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
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?	☐	☑	☐	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	reminder (1)
4.13	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	Is general refuse disposed of properly and regularly?	☐	☑	☐	reminder (1)
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	Are C&D waste disposed of properly?	☐	☑	☐	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☑	☐	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	

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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 Is site hoarding provided?	☑	☐	☐	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	☑	☐	☐	
5.05	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	☐	☑	☐	
5.08	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silty runoff?	☐	☑	☐	
6.02	Are silt trap installed and well-maintained?	☑	☐	☐	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	☐	☑	☐	
6.04	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?	☐	☑	☐	

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

Pit X Abandoned Road.

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s),
(1) Chemical ~~of~~ stain was observed at ~~Abandoned Road at Nam Wu~~ Pit X

Reminder(s)
(1) Trapped debris at the drainage channel should be cleaned regularly to ~~prevent~~ facilitate efficient drainage at Abandoned Road at Nam Wu Tsai
(2) Regular collection of general wastes should be conducted at Abandoned Road at Nam Wu Tsai.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
[signature]	[signature]	[signature]	N/A
(Name: Charlene Lai)	(Name: Sam Ng)	(Name: [illegible])	(Name: N/A)

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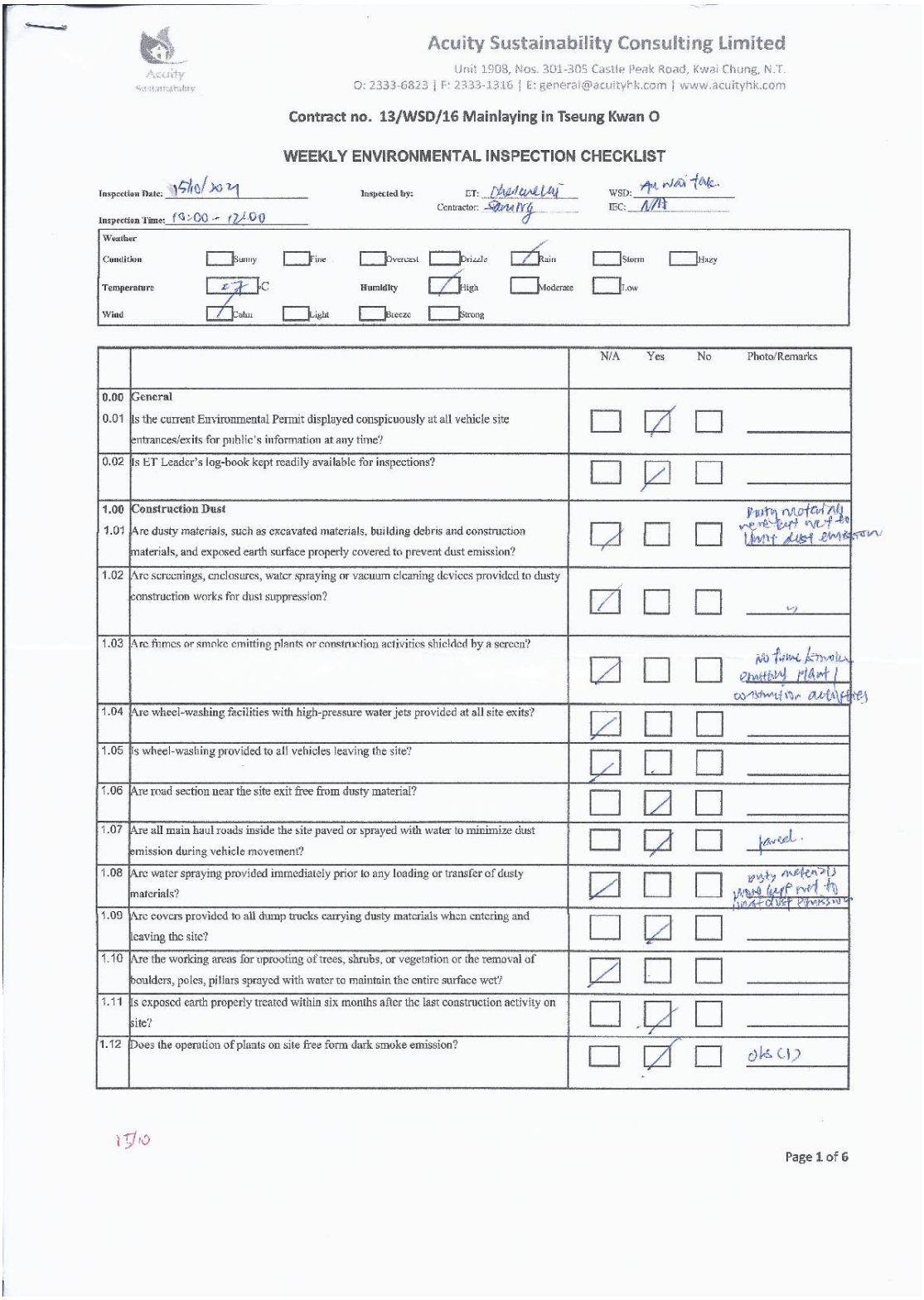

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 15/10/2024 Inspected by: ET: [illegible] WSD: Au wai tak.
Contractor: Sanying IEC: N/A
Inspection Time: 10:00 - 12:00

Weather							
Condition	☐ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☑ Rain	☐ Storm	☐ Hazy
Temperature	☑ 27 °C		Humidity	☑ High	☐ Moderate	☐ Low	
Wind	☑ Calm	☐ Light	☐ Breeze	☐ 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?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
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?	☑	☐	☐	Dusty material no exposed wet to avoid dust emission
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☑	☐	☐	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	no fume/smoke emitting plant / construction activities
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☑	☐	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☑	☐	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved.
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☑	☐	☐	dusty materials being kept wet to avoid dust emission.
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☐	☑	☐	
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?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	Obs (1)

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☐	☑	☐	
1.14	Are stock of more than 20 bags of cement or dry PFA covered or sheltered on top and 3 sides?	☑	☐	☐	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☑	☐	☐	
1.17	Is open burning prohibited?	☐	☑	☐	
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?	☐	☑	☐	noise label
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	☐	☑	☐	regular inspection
2.03	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☑	☐	☐	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	Are all construction noise permit(s) applied for percussive piling work?	☐	☑	☐	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	
3.03	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	Is the drainage system properly maintained?	☐	☑	☐	Remainder (1)
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	Are exposed slope surface properly protected?	☐	☑	☐	Completion
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☑	☐	
3.14	Is runoff from wheel-washing facilities avoided?	☑	☐	☐	
3.15	Is oil leakage or spillage prevented?	☐	☐	☐	N/A (1)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☐	☐	N/A (2)
3.17	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	(1), Laboratory (2)
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?	☐	☑	☐	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	Is concrete washing water properly collected and treated prior to discharge?	☑	☐	☐	
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?	☐	☑	☐	

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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?	☐	☑	☐	
4.03	Is the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☑	☐	☐	
4.05	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
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?	☐	☑	☐	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	reminder(1)
4.13	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	reminder(1)
4.14	Is general refuse disposed of properly and regularly?	☐	☑	☐	reminder(1)
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	Are C&D waste disposed of properly?	☐	☑	☐	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☑	☐	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	

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		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are ls site hoarding provided?	☑	☐	☐	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	☑	☐	☐	
5.05	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☐	☑	☐	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	☐	☑	☐	
5.08	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silty runoff?	☐	☑	☐	
6.02	Are silt trap installed and well-maintained?	☑	☐	☐	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	☐	☑	☐	
6.04	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?	☐	☑	☐	

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Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Obs(1)
(1) NRMM was not observed with NRMM label at HK. Velodrome (Pit L)

(2) chemical should be placed on drip tray at pit P.

Reminder(1)
(1) Drainage channels should be clean regularly to remove trapped general waste & debris at H.K. Velodrome (pit L), Pit Y, Pit R.

(2) Housekeeping was reminded at Pit Y

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
(signature)	(signature)	(signature)	N/A
(Name: Charlene Lau)	(Name: Sam Ng)	(Name: Au Wai Tak)	(Name: N/A)

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 21/10/2021 Inspected by: ET. Christine Lau WSD: CK Yip
Inspection Time: 09:15 - 18:30 Contractor: Samaig IEC: Louis Kwan

Weather							
Condition	☑ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	28 °C		Humidity	☐ High	☑ Moderate	☐ Low	
Wind	☑ Calm	☐ Light	☐ Breeze	☐ 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?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
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?	☐	☐	☐	perimeter fence
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☑	☐	☐	Mostly construction works observed during inspection
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	no fume/smoke emitting plant / construction activities
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☑	☐	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☑	☐	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved.
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☑	☐	☐	No loading/ transfer of dusty materials observed
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	No dump truck 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?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	✓

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☑	☐	☐	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☑	☐	☐	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☑	☐	☐	
1.17	Is open burning prohibited?	☐	☑	☐	
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?	☐	☑	☐	Appear to be
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	☐	☑	☐	- regular inspection
2.03	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	to remain to face away
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	to the work portions
2.06	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☑	☑	☐	No operation at present observed
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☑	☐	☐	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	Are all construction noise permit(s) applied for percussive piling work?	☐	☑	☐	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	Is effluent discharged according to the effluent discharge license?	☑	☐	☐	to no water discharge
3.03	Is wastewater discharge from site properly treated prior to discharge?	☑	☐	☐	

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☑	☑	☐	NO water discharge
3.06	Is surface runoff diverted to sedimentation facilities?	☑	☐	☐	No water discharge
3.07	Is the drainage system properly maintained?	☐	☑	☐	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	Are exposed slope surface properly protected?	☐	☑	☐	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☐	☐	reminder (7)
3.14	Is runoff from wheel-washing facilities avoided?	☑	☐	☐	
3.15	Is oil leakage or spillage prevented?	☐	☑	☐	reminder (2)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☑	☐	reminder(7)
3.17	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	reminder(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?	☐	☑	☐	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	Is concrete washing water properly collected and treated prior to discharge?	☑	☐	☐	
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?	☐	☑	☐	

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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?	☐	☑	☐	
4.03	Is the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☑	☐	☐	
4.05	Are trip tickets for chemical waste disposal available for inspection?	☑	☑	☐	
4.06	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☐	☑	☐	
4.09	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
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?	☐	☑	☐	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	
4.13	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	Is general refuse disposed of properly and regularly?	☐	☑	☐	Reminder (3)
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	Are C&D waste disposed of properly?	☐	☑	☐	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☐	☐	Reminder (1)
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	

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		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are Is site hoarding provided?	☑	☐	☐	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	☑	☐	☐	
5.05	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	☐	☑	☐	
5.08	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silly runoff?	☑	☐	☐	No water discharge
6.02	Are silt trap installed and well-maintained?	☑	☐	☐	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	☐	☐	☐	reminded
6.04	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?	☐	☑	☐	

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Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Reminder(s)

(1) The main contractor was reminded to implement dust suppression mitigations at pit R.

(2) The main contractor was reminded to place chemical waste containers to designated chemical waste storage to prevent accidental discharge or contamination to other construction materials at Pit R.

(3) The main contractor was reminded to keep the housekeeping at the site area at Pit R

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
(Name: Chan Lai)	(Name:)	(Name:)	(Name: Louis Kwan)

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 27/10/2021 Inspected by: ET: Charlene Lai WSD: Tony Kin Fai
Contractor: Sunning IEC: N/A
Inspection Time: 10:00 – 11:00

Weather Condition	☑ Sunny	☐ Fine	☐ Overcast	☐ Drizzle	☐ Rain	☐ Storm	☐ Hazy
Temperature	28 C		Humidity	☐ High	☑ Moderate	☐ Low	
Wind	☑ Calm	☐ Light	☐ Breeze	☐ 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?	☐	☑	☐	
0.02	Is ET Leader's log-book kept readily available for inspections?	☐	☑	☐	
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?	☐	☐	☐	Obs(1)
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	☐	☐	☐	Obs(1)
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	☑	☐	☐	No fume/smoke emitting plant/construction activities were observed
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site exits?	☑	☐	☐	
1.05	Is wheel-washing provided to all vehicles leaving the site?	☑	☐	☐	
1.06	Are road section near the site exit free from dusty material?	☐	☑	☐	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	☐	☑	☐	paved
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	☐	☐	☐	Obs(1)
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	☑	☐	☐	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?	☑	☐	☐	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	☐	☑	☐	
1.12	Does the operation of plants on site free form dark smoke emission?	☐	☑	☐	NRMM label Obs(2)

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	☑	☐	☐	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	☑	☐	☐	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	☑	☐	☐	
1.16	Are hoarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	☑	☐	☐	
1.17	Is open burning prohibited?	☐	☑	☐	
2.00	**Construction Noise (Airborne)**				
2.01	Are quiet plants adopted on site?	☐	☑	☐	noise label
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	☐	☑	☐	regular inspection
2.03	Are plants throttled down or turned off when not in use?	☐	☑	☐	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	☑	☐	☐	No visit to [illegible] to NSR.
2.05	Are movable barriers provided to screen NSRs from plant or noisy operations?	☑	☐	☐	
2.06	Are silencers, mufflers and enclosures provided to plants?	☑	☐	☐	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	☐	☑	☐	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	☑	☑	☐	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	☐	☑	☐	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	☑	☐	☐	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	☑	☐	☐	
2.12	Are all construction noise permit(s) applied for percussive piling work?	☐	☑	☐	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	☐	☑	☐	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	☐	☑	☐	
3.00	**Water Quality**				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	☐	☑	☐	
3.02	Is effluent discharged according to the effluent discharge license?	☐	☑	☐	
3.03	Is wastewater discharge from site properly treated prior to discharge?	☐	☑	☐	

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	☐	☑	☐	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	☐	☑	☐	
3.06	Is surface runoff diverted to sedimentation facilities?	☐	☑	☐	
3.07	Is the drainage system properly maintained?	☐	☑	☐	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	☐	☑	☐	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	☐	☑	☐	
3.10	Are temporary access roads protected by crushed gravel?	☐	☑	☐	
3.11	Are exposed slope surface properly protected?	☑	☐	☐	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	☐	☑	☐	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	☐	☐	☐	Obs (1)
3.14	Is runoff from wheel-washing facilities avoided?	☑	☐	☐	
3.15	Is oil leakage or spillage prevented?	☐	☐	☐	Obs (3)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	☐	☐	☐	Obs(3)
3.17	Are the oil interceptors/ grease traps properly maintained?	☑	☐	☐	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	☐	☑	☐	
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?	☐	☑	☐	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	☐	☑	☐	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	☐	☑	☐	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	☐	☑	☐	
3.23	Is concrete washing water properly collected and treated prior to discharge?	☑	☐	☐	
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?	☐	☑	☐	

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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?	☐	☑	☐	
4.03	Is the Contractor registered as a chemical waste producer?	☐	☑	☐	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	☑	☐	☐	
4.05	Are trip tickets for chemical waste disposal available for inspection?	☑	☐	☐	
4.06	Is chemical waste reused and recycled on site as far as practicable?	☑	☐	☐	
4.07	Are all containers for chemical waste properly labelled?	☐	☑	☐	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	☑	☑	☐	
4.09	Are incompatible chemical wastes stored in different areas?	☑	☐	☐	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	☐	☑	☐	
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?	☐	☑	☐	
4.12	Are a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	☐	☑	☐	
4.13	Are sufficient general refuse disposal/collection points provided on site?	☐	☑	☐	
4.14	Is general refuse disposed of properly and regularly?	☐	☑	☐	
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	☐	☑	☐	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	☐	☑	☐	
4.17	Are C&D wastes sorted on site?	☐	☑	☐	
4.18	Are C&D waste disposed of properly?	☐	☑	☐	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	☑	☐	☐	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	☐	☑	☐	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	☐	☐	☐	obs U/G?
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	☐	☑	☐	

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		N/A	Yes	No	Photo/Remarks
5.00	**Landscape and Visual**				
5.01	Are is site hoarding provided?	☑	☐	☐	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	☐	☑	☐	
5.03	Is construction light oriented away from the sensitive receivers?	☑	☐	☐	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	☑	☐	☐	
5.05	Are damages to trees outside site boundary due construction works avoided?	☐	☑	☐	
5.06	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	☑	☐	☐	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	☐	☑	☐	
5.08	Are surgery works carried out for damaged trees?	☑	☐	☐	
6.00	**Ecology**				
6.01	Is site runoff properly treated to prevent any silty runoff?	☐	☑	☐	
6.02	Are silt trap installed and well-maintained?	☑	☐	☐	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	☐	☐	☐	closed
6.04	Are construction works restricted to works area which are clearly defined?	☐	☑	☐	
7.00	**Overall**				
7.01	Is the EM&A properly implemented in general?	☐	☑	☐	

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Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

CH.HE 1+80 – 2+00 ↓ H.K. Velodrome

Observations

(1) The Main Contractor was reminded to consider to implement dust suppression mitigation measures to control dust emission (CH.HE 1+80 ~ 2+00)

(2) [illegible] label was not observed at the [illegible] at CH.HE 1+80 ~ 2+00

(3) Chemical was found not placed on a drip tray at H.K. Velodrome (pit 1)

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
[signature]	[signature]	[signature]	N/A
(Name: Charlene Lai)	(Name: Sam Ng)	(Name:) 27/10/2021	(Name: N/A)

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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 November 2021 - 30 November 2021	- Excavation of trench - Mainlaying of pipe - Sheetpiling - 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	- 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)

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

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

Appendix O

Academic Calendar(s)

CREATIVE SECONDARY SCHOOL CALENDAR 2021-2022

	Su	Mo	Tu	We	Th	Fr	Sa	
August	15	16	17	18	19	20	21	19-20 Orientation Day
	22	23	24	25	26	27	28	23/08 First School Day
	29	30	31					
September				1	2	3	4	
	5	6	7	8	9	10	11	
	12	13	14	15	16	17	18	17/9 Swimming Gala
	19	20	21	22	23	24	25	22/9 The following Day of Mid-Autumn Festival
	26	27	28	29	30			25/9 School Open Day 30/9 1st PD day
October						1	2	1/10 National Day of the People's Republic of China
	3	4	5	6	7	8	9	
	10	11	12	13	14	15	16	14/10 Chung Yeung Festival
	17	18	19	20	21	22	23	15-23/10 Term break
	24	25	26	27	28	29	30	
	31							
November		1	2	3	4	5	6	4/11 University Fair
	7	8	9	10	11	12	13	
	14	15	16	17	18	19	20	15/11 2nd PD Day, 19/11 Sports Day
	21	22	23	24	25	26	27	
	28	29	30					
December				1	2	3	4	
	5	6	7	8	9	10	11	11/12 Musical Performance
	12	13	14	15	16	17	18	17/12 Creative Christmas Festival
	19	20	21	22	23	24	25	25/12 Christmas Holiday. 20/12-3/1 Christmas & New Year Holiday
	26	27	28	29	30	31		27/12 The first weekday after Christmas Day
January							1	1/1 New Year's Day
	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	28/1 Creative Chinese Festival
	30	31						
February			1	2	3	4	5	1-3/2 Chinese Lunar New Year
	6	7	8	9	10	11	12	31/1-9/2 Chinese Lunar New Year Holiday
	13	14	15	16	17	18	19	
	20	21	22	23	24	25	26	
	27	28						
March			1	2	3	4	5	
	6	7	8	9	10	11	12	
	13	14	15	16	17	18	19	12-19/3 Creative Week
	20	21	22	23	24	25	26	
	27	28	29	30	31			
April						1	2	
	3	4	5	6	7	8	9	5/4 Ching Ming Festival
	10	11	12	13	14	15	16	15/4 Good Friday. 16/4 Holy Saturday
	17	18	19	20	21	22	23	18/4 Easter Monday.15/4-22/4 Easter Holiday.
	24	25	26	27	28	29	30	25/4-03/05 HKDSE Core subjects Exam
May	1	2	3	4	5	6	7	2/5 Labour Day
	8	9	10	11	12	13	14	9/5 Buddha's Birthday
	15	16	17	18	19	20	21	
	22	23	24	25	26	27	28	25/5 School Self-Evaluation Day.
	29	30	31					
				1	2	3	4	3/6 Tuen Ng Festival. 2/6 Graduation
June	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			30/6 Achievement Celebration
						1	2	01/07 HKSAR Establishment Day
July	3	4	5	6	7	8	9	4/7-14/8 Summer Holiday
	10	11	12	13	14	15	16	
	17	18	19	20	21	22	23	
	24	25	26	27	28	29	30	
	31							
August		1	2	3	4	5	6	
	7	8	9	10	11	12	13	12/08 New Staff Meeting
	14	15	16	17	18	19	20	16-17/08 Staff Meeting
	21	22	23	24	25	26	27	
	28	30	31					

School Holiday Public Holiday
Staff Development Day

Sourced from:
https://1e833fb1-5af5-4de8-901f-f9aeda4354b2.filesusr.com/ugd/611a22_fdf4f21255294bc7b73d37d2f68418fb.pdf