

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

Our reference:

HKWSD201/50/106234

Date: 15 January 2020

Attention: Mr Y M Chan

BY POST

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.17

We refer to emails of 14 and 15 January 2020 attaching Monthly EM&A Report No.17 for the captioned project prepared by the ET.

We have no further comments and hereby verify the Monthly EM&A Report No.17 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 Francis Lau on 2618 2831.

Yours faithfully ANEWR CONSULTING LIMITED

James Choi Independent Environmental Checker CPSJ/LYMA/LHYF/lhmh







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Contract No. 13/WSD/16

Mainlaying in Tseung Kwan O

Monthly EM&A Report No.17 (Period from 1 to 31 December 2019)

December 2019 (Rev. 0)

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Signature	d	h	
Date:	14 January 2020	14 January 2020	



Revision History

0	1 st Submission	14/01/2020
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EXECUTIVE SUMMARY

Introduction

- A1. Penta-Ocean Concentric Joint Venture (POCJV) is contracted to carry out the Mainlaying in Tseung Kwan O under Contract No. 13/WSD/16 (hereinafter known as "the Project").
- A2. In accordance with the Environmental Monitoring and Audit (EM&A) Manual for the Project, EM&A works should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Project.
- A3. This is the 17th 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 December 2019 to 31 December 2019.
- 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 following:

Location	Location Works Conducted in the reporting month		
	 Pipes have been laid from CH.C 11+65 (CH.CA 04+25) to CH.C 7+33 (CH.CA -0+07). 		
Portion H of the	 Backfilling of trench to the required level from CH.C 11+65 (CH.CA 04+25) to CH.C 7+33 (CH.CA -0+07) 		
Project Site	 was completed. Inspection pit for trenchless Pit 137B was in progress. 		
	• Trench excavation from CH.CT 0+07 will continue.		
Portion J of the Project Site	 2 nos. of inspection pits at an abandoned road near Mau Wu Tsai Village and Pit 137B inside TKO Area 137 were in progress for alternative alignment. Preparation works for bend block construction at CH.A 7+20 was in progress for the upcoming lane shifting from the fast lane to the slow land due to obstructions encountered. Installation of watermain was in progress. Concreting for combined thrust block at CH.A 12+45 was completed. 		
	 Remedial works were performed at the cycling track and carriageway at Pit B. Construction work at Pit C was resumed. 		



- A6. The major environmental impacts brought by the above construction works include:
 - Construction dust and noise generation from the erection of fencing and gates, ground investigation works, saw cutting of concrete surface and trial pits works
 - Waste generation from the construction activities
- A7. The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:
 - Dust suppression by regular wetting and water spraying for the erection of fencing and gates and trial pits works
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste

Summary of Exceedance & Investigation & Follow-up

A8. No noise monitoring was conducted in the reporting month due to the overly distant monitoring station from the works location. No project-related exceedance of the Action Level was recorded during the reporting period.

Complaint Handling and Prosecution

- A9. No project-related environmental complaint was received during the reporting period.
- A10. Neither notifications of summons nor prosecution was received for the Project.

Reporting Change

A11. There were no changes to be reported that may affect the on-going EM&A programme.



Summary of Upcoming Key Issues and Key Mitigation Measures

A12. Key works in January 2020 (the next reporting month) for the Project will include the followings:

Location	ocation Works Conducting in the next reporting month		
Portion H of the Project Site	 Further liaison with relevant government department/contractors for the continuation works in TKO Area 137 was on-going. Site Clearance of early possessed area and maready for return of land to WSD. Site liaison for temporary land possession for trench excavation towards SENTX (South-Earner New Territories Landfill Extension) area for mainlaying in TKO Area 137. Trial pit for 137B will continue. 		
Portion J of the Project Site	 2 nos. of work fronts implemented as scheduled for the open-trench between CH. A 6+64 to 13+70 will continue. Relocation of traffic signal light at Pit A at Wan Po Road near Chun Yat Street under arrangement with EMSD. 2 nos. of work fronts including Pit B and Pit C implemented as scheduled for pipe jacking at CH.A 16+00 and CH.A 19+26, respectively. Implement approved (temporary traffic management scheme) TTMS at Landfill Stage 1 cycle track for CE no. 34 mainlaying works. Continuation of trial pits works at rural road near Mau Wu Tsai Village (Po Lam South Road) for alternative alignment. Arrange new trial pit at Mau Wu Tsai Village (Po Lam South Road) for alternative alignment. Continue preliminary design of river crossing at Tsui Lam. Carry out site clearance at Landfill stage 1 – Area A for the conduction of 2 inspection pits to finalize the alignment of inclined drillhole to finalize the design level of the pipe jacking underneath across MTR tunnels. 		

- A13. The major environmental impacts brought by the above construction works will include:
 - Construction dust and noise generation from trial pit works and opentrench
 - Waste generation from construction activities



- A14. 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 trial pit works
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste



1. BASIC PROJECT INFORMATION

- 1.1 Background
- 1.1.1 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.
- 1.1.2 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.
- 1.1.3 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
- 1.2.1 This is the 17th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 December 2019 to 31 December 2019.
- 1.3 Project Organization
- 1.3.1 The Project Organization structure for Construction Phase is presented in **Figure 1.1**.

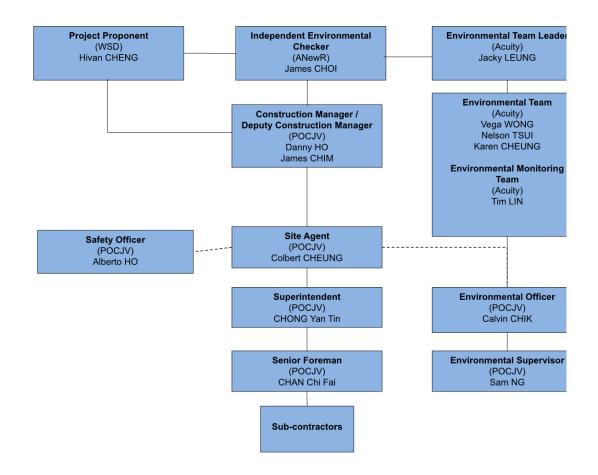


Figure 1.1 Project Organization Chart

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



Table 1.1 Contact Details of Key Personne	Table 1.1	Contact	Details	of Key	Personnel
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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
- 1.4.1 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 ReportingMonth

Location of works	Construction works undertaken	Remarks on progress
Portion H of the Project Site	 Pipe laying from CH.C 11+65 (CH.CA 4+25) to CH.C 7+33 (CH.CA 0-07) Backfilling of trench to the required level from CH.C 11+65 (CH.CA 4+25) to CH.C 7+33 (CH.CA 0-07) 	Completed
	 Inspection pit for proposed trenchless Pit 137B Trench excavation from CH.CT 0+07 	In progress
 Pipe laying from CH.A 0+00 to 0+78 Perimeter grouting between shield head and sleeve pipe was completed at CH7+20 Concreting for combined thrust block at CH.A 12+45 was completed. 		Completed



Location of works	Construction works undertaken	Remarks on progress
	 Remedial works were performed at the cycling track and carriageway at Pit B. 	
	 2 nos. of inspection pits at an abandoned road near Mau Wu Tsai Village and Pit 137B inside TKO Area 137 were in progress for alternative alignment. Preparation works for bend block construction at CH7+20 was in progress for the upcoming lane shifting from the fast lane to the slow land due to obstructions encountered. Installation of watermain was in progress. Construction work at Pit C was resumed. 	In progress

1.5 Summary of Environmental Status

1.5.1 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	GW-RE1016-19	Until 29 June 2020	-



1.5.2 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 Base Monitoring Report and submitted to EPD under VEP Condition 3				
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			

- 1.5.3 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.
- 1.5.4 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
- 2.1.1 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.
- 2.1.2 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-minutes measurements Leq, L10 and L90 levels recorded at each monitoring station between 0700 and 1900 hours on normal weekdays.
- 2.1.3 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.
- 2.1.4 No impact monitoring for noise impact was conducted in the reporting month due to the overly distant monitoring station from the works location, where they were farther than 1 km from the closet monitoring station NSR4 to the works location.
- 2.2 Noise Monitoring Parameters, Time, Frequency
- 2.2.1 Impact noise monitoring will be conducted weekly in the reporting period between 0700-1900 hours on normal weekdays. No construction works were carried out during 1900-0700 hours in all days or any time on Sundays or general holidays during the reporting period.
- 2.2.2 Construction noise level 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 hours 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**.

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

Table 2.1 Noise Monitoring Parameters, Time, Frequency and Duration

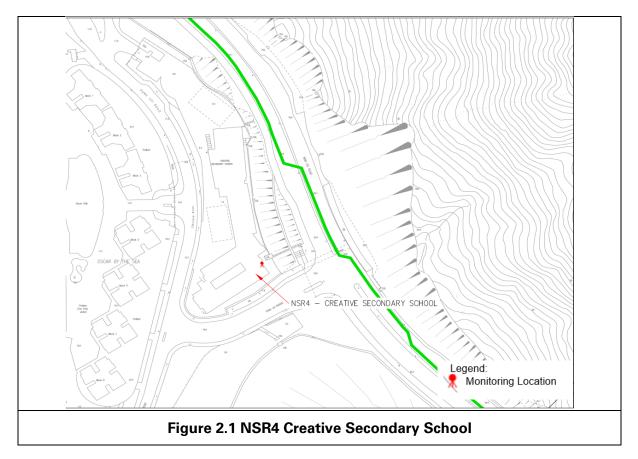


- 2.3 Noise Monitoring Locations
- 2.3.1 The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) should be made to the free-field measurements.
- 2.3.2 According to the environmental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

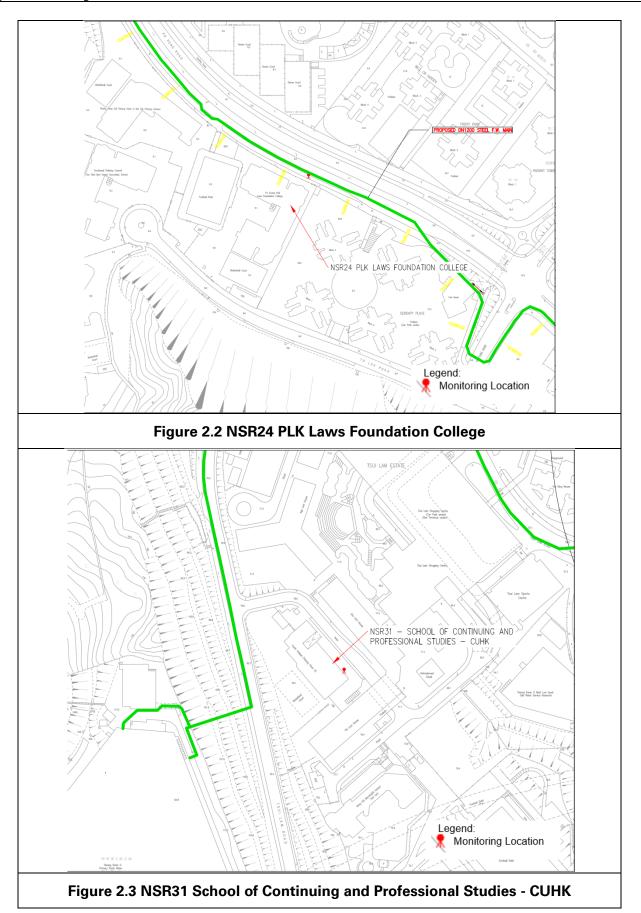
Table 2.2 Noise Monitoring Location

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

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









- 2.4 Impact Monitoring Methodology
- 2.4.1 Integrated sound level meter shall be used for the noise monitoring. The meter shall be 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 meter shall be 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. Appendix E is intentionally left blank since no impact monitoring equipment was used in the reporting month.
- 2.4.2 Noise measurements shall not be 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 shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Equipment	Brand and Model	Detection Limit
Sound Level Meter	Nti XL2	30-130 dB(A)
Sound Level Meter Calibrator	Rion NC-74	Nil
Pocket Wind Meter	Kestrel 1000 Wind	Nil
Anemometer	Meter	

Table 2.3 Impact Noise Monitoring Equipment

2.5 Action and Limit Levels

2.5.1 The Action/Limit Levels 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	Limit (dB(A))		
0700-1900 hours 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.

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



- 2.6 Monitoring Results and Observations
- 2.6.1 Referring to EM&A manual Section 4.1.2, no impact monitoring for noise impact was conducted in the reporting period.
- 2.6.2 Detailed monitoring results are presented in **Appendix G**. **Appendix G** is intentionally left blank since there is no impact monitoring for noise impact 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**.

	Quantity					
			No	n-inert C&D Mater	ials	
Reporting period	Inert C&D Materials (in '000m3)			Recycled materials		
			disposed at Landfill (in '000m3)	Paper/card board (in '000kg)	Plastics (in ′000kg)	Metals (in '000kg)
Dec-19	0.052	0.000	0.002	0.062	0.000	0.000

Table 3.1 Quantities of waste generated from the Project



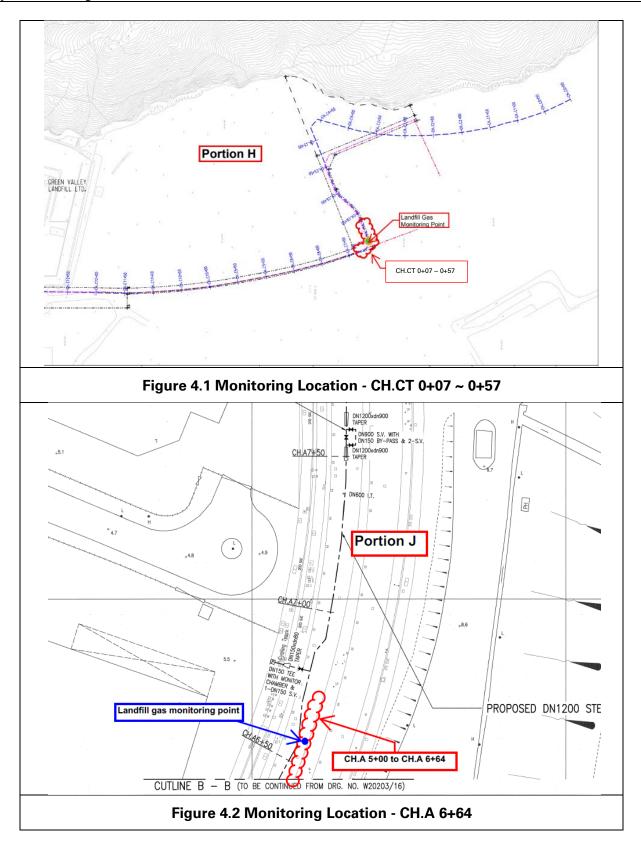
4. LANDFILL GAS MONITORING

- 4.1 Monitoring Requirement
- 4.1.1 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
- 4.2.1 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, 290 times of monitoring was recorded.
- 4.2.2 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 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:

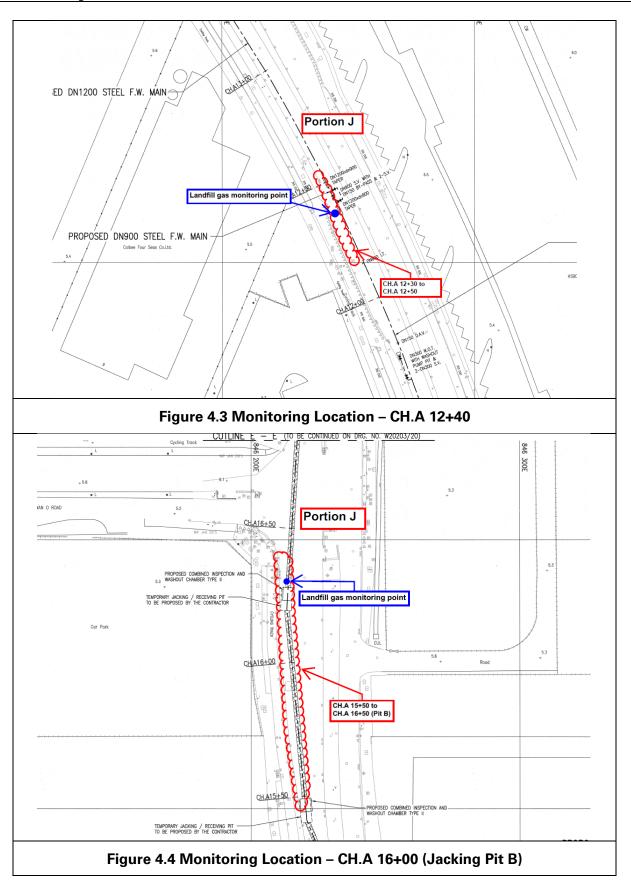
- Directly after the excavation has been completed; and
- Periodically whilst the excavation remains open.
- 4.2.3 The area required to be monitored for landfill gas in the reporting period are shown in **Figure 4.1** to **Figure 4.7**.



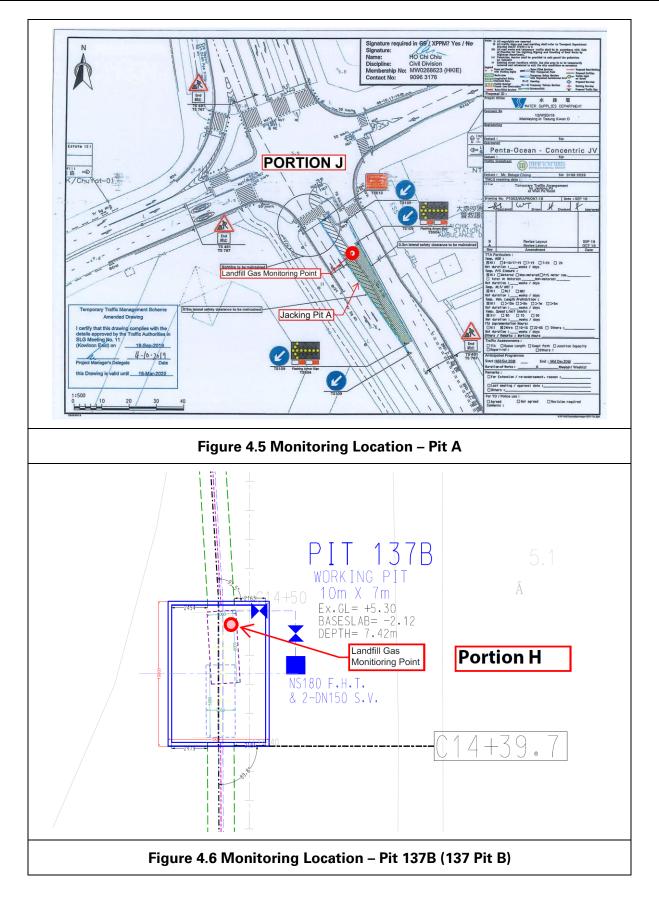


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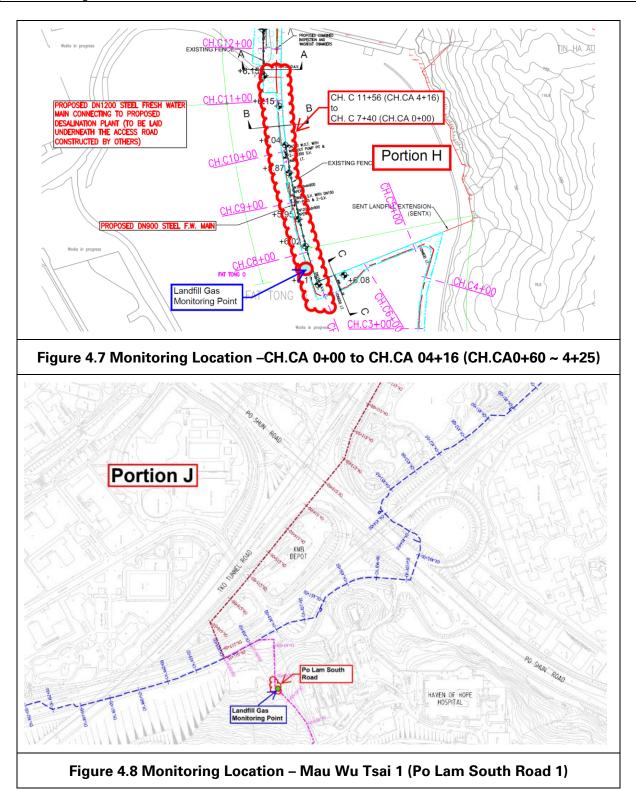




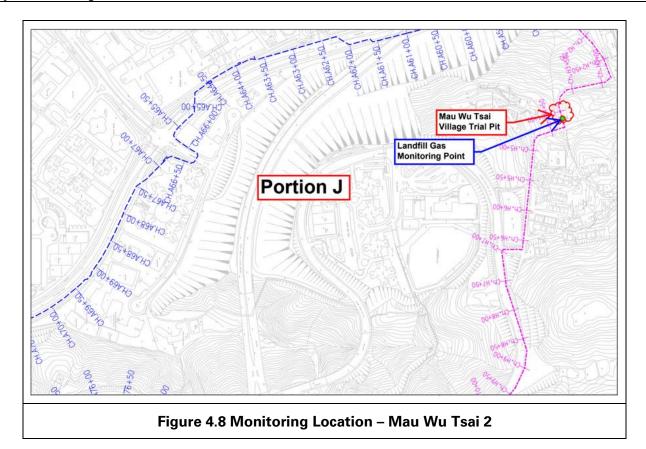












- 4.3 Monitoring Parameters
- 4.3.1 LFG monitoring was carried out to identify any migration between the landfill and the Project and to ensure the safety of the construction, operation and maintenance personnel working on-site, visitors and any other person within the Project area.
- 4.3.2 The following parameters were monitored:
 - Methane.
 - Oxygen.
 - Carbon Dioxide.
 - Barometric Pressure.
- 4.4 Action and Limit Level
- 4.4.1 Action and Limit Level is 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

- 4.5.1 Landfill Gas monitoring was carried out using intrinsically-safe, portable multi-gas monitoring instruments. The gas monitoring equipment is:
 - Comply with the Landfill Gas Hazard Assessment Guidance Note as intrinsically safe;
 - Capable of continuous barometric pressure and gas pressure measurements;
 - Normally operate in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump;
 - Have low battery, fault and over range indication incorporated;
 - Store monitoring data, and shall be capable of being down-loaded directly;

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

• Measure in the following ranges:

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

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

4.5.2 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 II	28 August 2020

4.6 Monitoring Results

4.6.1 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 by the Contractor at the excavation locations for 290 times. All the measured results were presented in **Appendix J** and 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**:

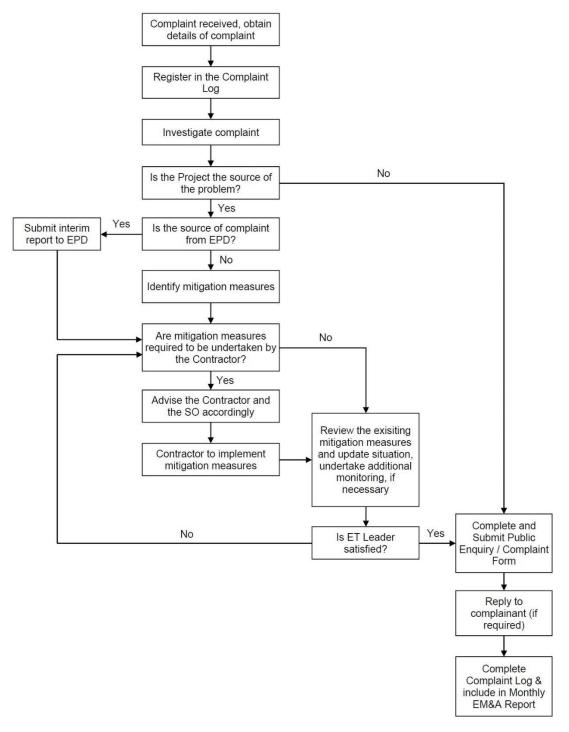


Figure 5.1 Environmental Complaint Handling Procedure



- 5.2 No noise monitoring was conducted during the reporting period since there are no project-related construction activities undertaken within a radius of 300m from the monitoring locations.
- 5.3 No project-related exceedance of the Action Level was recorded during the reporting period.
- 5.4 No notification of summons and prosecution was received in the reporting period.
- 5.5 Statistics on complaints and regulatory compliance are summarized in **Appendix K**.



6. EM&A SITE INSPECTION

6.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 5, 12, 18, 23 and 31 December 2019 at the site portions list in **Table 6.1** below.

Date	Inspected Site Portion	Time
5 December 2019	Portion F and J	9:30am – 12:00pm
12 December 2019	Portion J	9:30am – 12:00pm
18 December 2019	Portion J	9:30am – 12:00pm
23 December 2019	Portion F, H and J	9:30am – 12:00pm
31 December 2019	Portion J	9:30am – 12:00pm

Table 6.1 Site Inspection Record

- 6.2 One joint site inspection with IEC was carried out on 31 December 2019.
- 6.3 Minor deficiencies were observed during weekly site inspection. Key observations during the site inspections are summarized in **Table 6.2**.

Table 6.2 Site Observations



Data	Environmental Observations	Fallow up Statua
Date	Environmental Observations	Follow-up Status
12 December 2019	 Sandbags should be fully placed along the working boundaries. The drip tray was observed without the plug/stopper that may lead to the leakage of chemicals. Construction wastes should be properly 	 Sandbags were placed fully along the construction boundaries. The plug was added on the drip tray. Construction waste was cleaned.
18 December	treated to prevent dust emission. 1. Dust suppression	1. Mitigations were
2019	 mitigations should be implemented to prevent dust emission. 2. Accumulated mud-pile was observed directly next to the waterbarriers. The mud-pile should be treated properly to prevent it to escape from the construction site. 3. Construction wastes should be properly treated to prevent dust emission. 	 implemented to prevent dust emission. 2. The mud-pile was cleaned. 3. Construction wastes were treated.
23 December 2019	 Chemical stain on the ground should be cleaned. Chemicals should be placed properly. Construction waste should be treated properly. 	 Chemical was cleaned. Chemicals have been removed. Construction waste was treated.
31 December 2019	No major observations were recorded.	N/A

- 6.4 According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents are 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 anticipated in the next reporting period for the Project will include in **Table 7.1**.

Location	n Works Conducted in the next reporting month		
Portion H of the Project Site	 Further liaison with relevant government department/contractors for the continuation of works in TKO Area 137 was on-going. Site Clearance of early possessed area and make ready for return of land to WSD. Site liaison for temporary land possession for trench excavation towards SENTX Area for mainlaying in TKO Area 137. Trial pit for 137B will continue. Trench excavation from CH.CT 0+07 will continue. 		
Portion J of the Project Site			

Table 7.1. Key works for the next reporting month

- 7.2 The major environmental impacts brought by the above construction works will include:
 - Construction dust and noise generation from trial pits works, trench excavating works
 - Waste generation 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 trial pits works, trench excavation
 - Reduction of noise from equipment and machinery on-site
 - Sorting and storage of general refuse and construction waste
- 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 impact monitoring schedule for the next reporting month is attached in **Appendix N**. **Appendix N** is intentionally left blank since no impact monitoring will be conducted in the next reporting month.



8. CONCLUSION AND RECOMMENDATIONS

- 8.1 This 17th monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 December 2019 to 31 December 2019 in accordance with the EM&A Manual and the requirement under EP-503/2015/A.
- 8.2 No noise monitoring was conducted in the reporting period due to the over distant monitoring station from the works location.
- 8.3 No project-related exceedance of the Action Level was recorded during the reporting period.
- 8.4 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.
- 8.5 According to the environmental site inspections performed in the reporting month, the Contractor is reminded to pay attention on maintaining site tidiness, dust suppression mitigations and proper materials storage.
- 8.6 No environmental complaint was received in the reporting period.
- 8.7 No notification of summons or prosecution was received since commencement of the Contract.
- 8.8 The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.



Appendix A

Construction Programme



13/WSD/16 - Mainlaying in Tseung Kwan O

Outline Construction Programme (As on 31 Aug 2018)

YEAR		LOCATION						20	18							2	2019				Τ				2020)							20	021			
MONTH	PJ-ID	ROAD	FROM	то	1 2	3	4 5	6	7	8 9	10	11 12	2 1	2 3	4	5 6	7	8 9	9 10	11 1	2 1	2	3 4	5	6	7 8	9	10 1	1 12	1 2	3	4	5 6	7	8 9	10	1 12
																																		\square	+	\square	\square
Section A (TKO137 to Wan Po Road)																																		\square	1	\square	\square
Section A1 (Open-trench)	-	Wan Po Road	0	362																																	\square
Section A2 (Pipe-Jacking)	А	Wan Po Road	362	530																																	
Section A3 (Open-trench)	-	Wan Po Road	530	1379						#																								\square			\square
Section A4 (Pipe-Jacking)	в	Wan Po Road	1379	2268																																	\square
Section A5 (Open-trench)	-	Wan Po Road	2268	4113																																	\square
Section B (Po Yap Road to Po Hong Road)																																					
Section B1 (Pipe-Jacking)	С	Po Yap Road	4113	4200																																	
Section B2 (Open-trench)	-	Po Yap & Po Hong Rd	4200	5500																																	
Section B3 (Pipe-Jacking)	D1 & D2	Po Hong & Ling Hong Rd	5500	5600																																	
Section B4 (Open-trench)	-	Ling Hong Road	5600	5799																																	
Section B5 (Pipe-Jacking)	Е	Po Hong Road	5799	5838																																	
Section B6 (Open-trench)	-	Po Hong Road	5838	6254																																	
Section B7 (Pipe-Jacking)	F	Po Hong Road	6254	6368																																	
Section B8 (Open-trench)	-	Po Hong Road	6368	7250																																	
Section C (Po Lam Road to Tsui Lam to TKOFWPSR*)																																					
Section C1 (Open-trench)	-	Po Lam Road	7250	7740																																	
Section C2 (Pipe-Jacking)	G	Tsui Lam Road	7740	7770																																	
Section C3 (Open-trench)	-	Tsui Lam Road	7770	8300																																	
Section C4 (Slope)	-	TKOFWPSR	8300	8376																																	

Commencement of works at CH.A 720 on 30 Aug 2018.

*TKOFWPSR - Tseung Kwan O Fresh Water Primiary Service Reservoir

**Remaining 1581m within TKO137 with site possession from Nov 2019



Appendix B

Overview of Mainlaying in Tseung Kwan O



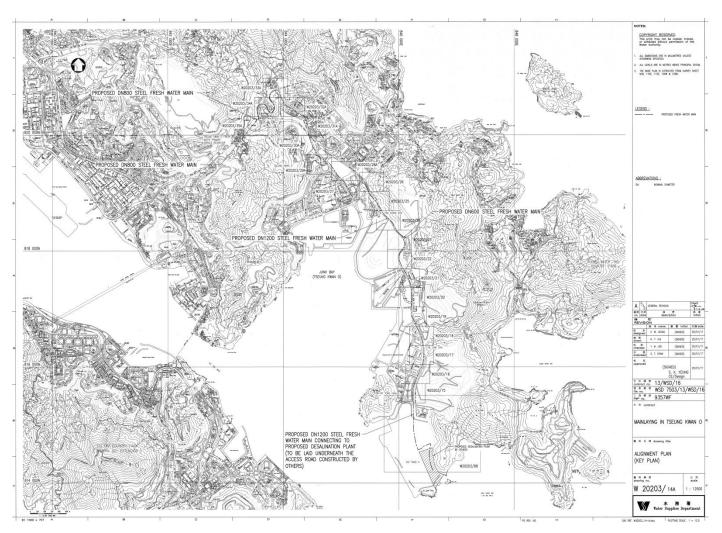


Figure B1. Overview of Mainlaying in TKO



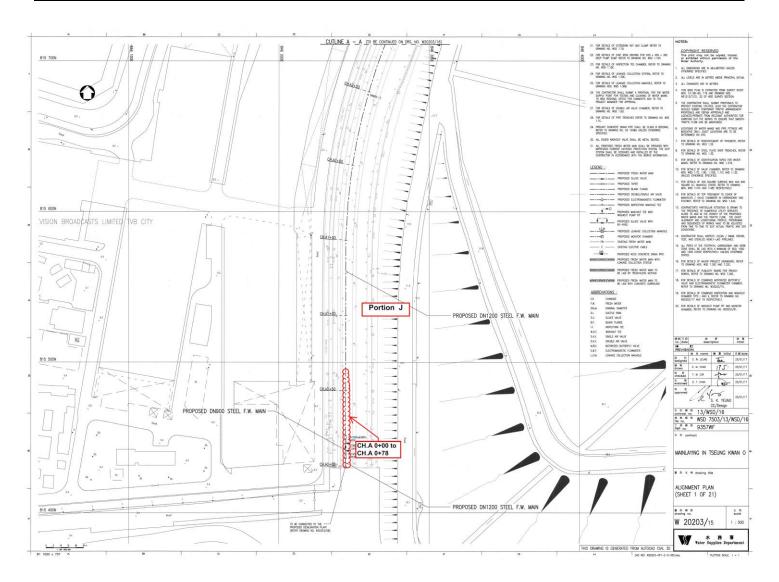


Figure B2. Location Plan for Portion J - CH.A 0+00 to CH.A 0+78



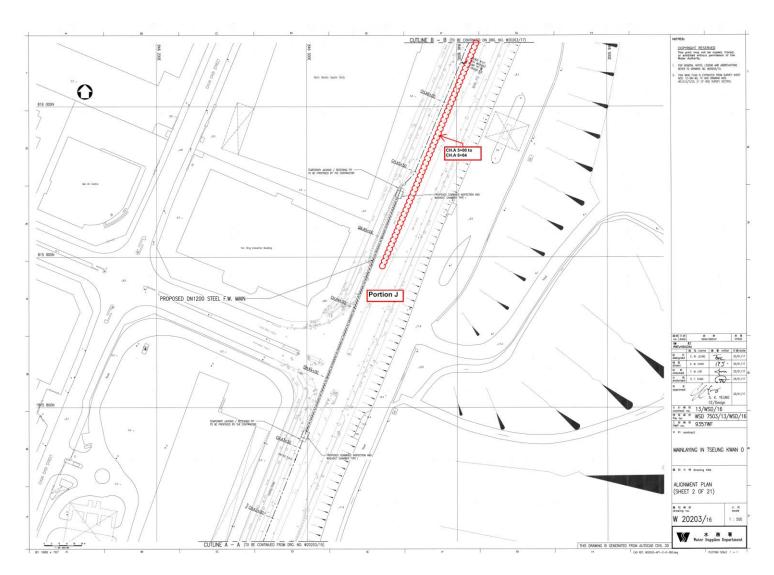


Figure B3a. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64



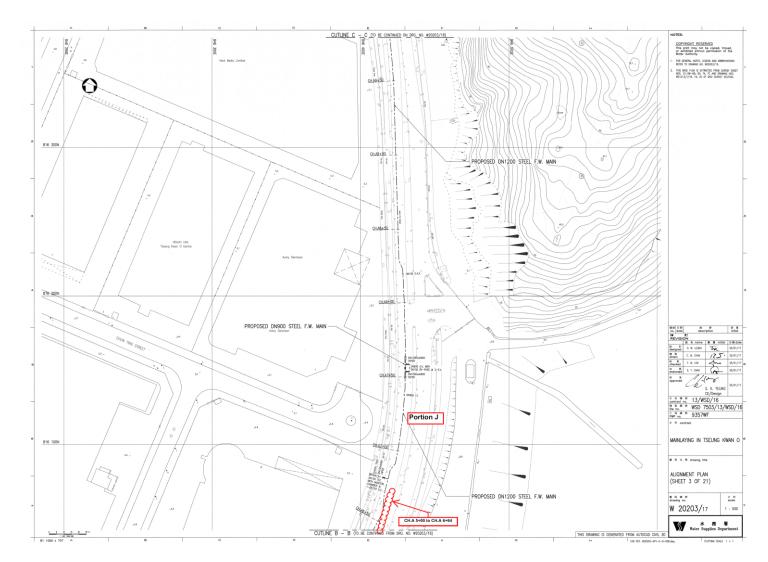


Figure B3b. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64



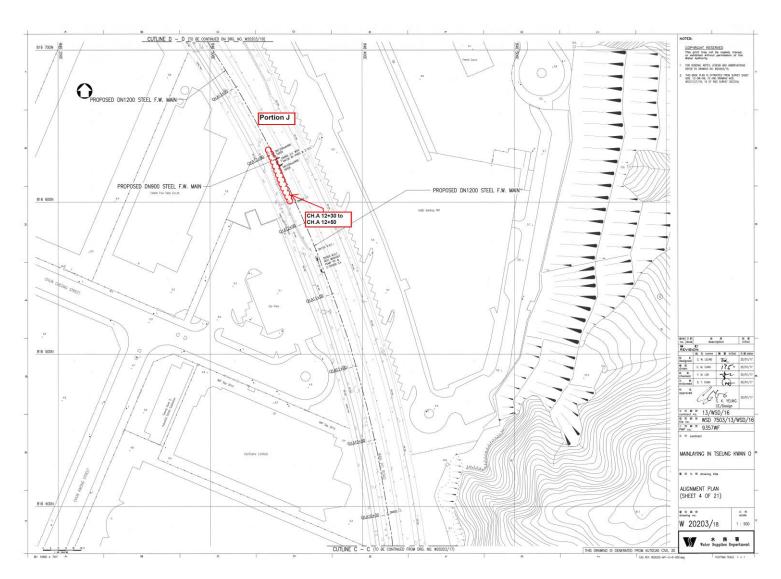


Figure B4. Location Plan for Portion J - CH.A 12+30 to CH.A 12+50



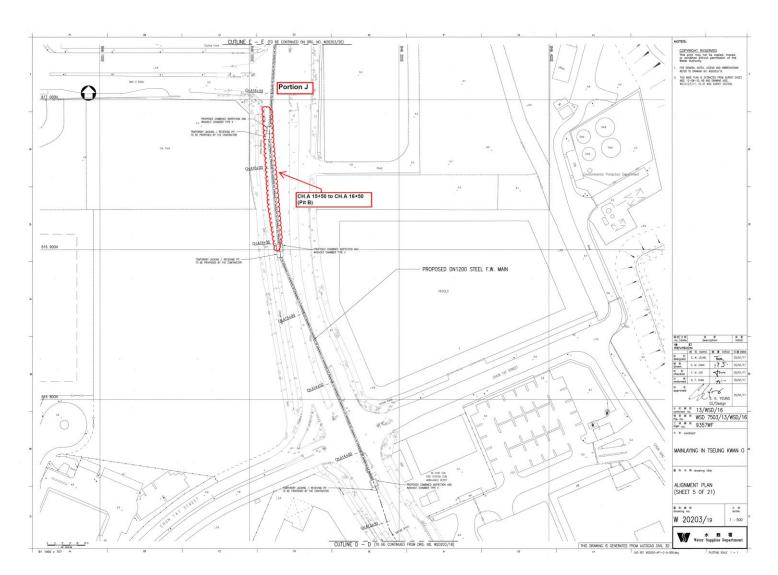


Figure B5. Location Plan for Portion J – CH. A15+50 to CH.A 16+50 (Pit B)



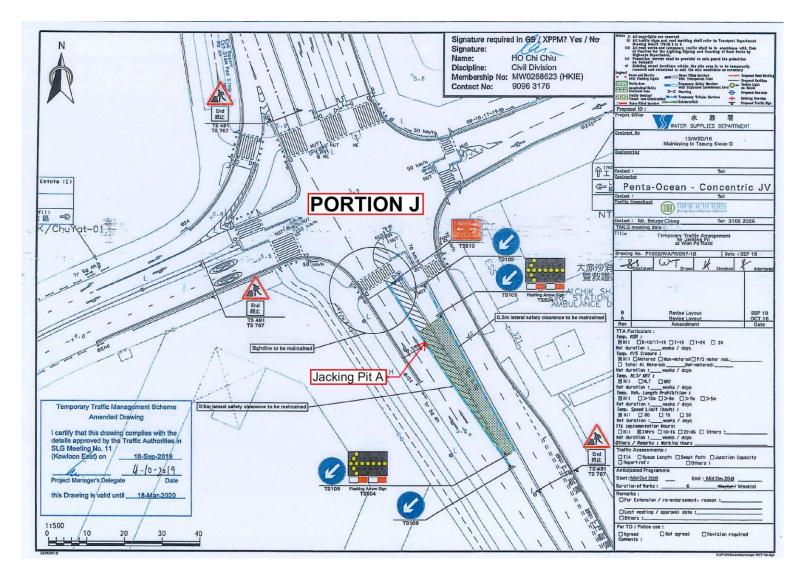


Figure B6. Location Plan for Portion J – Pit A



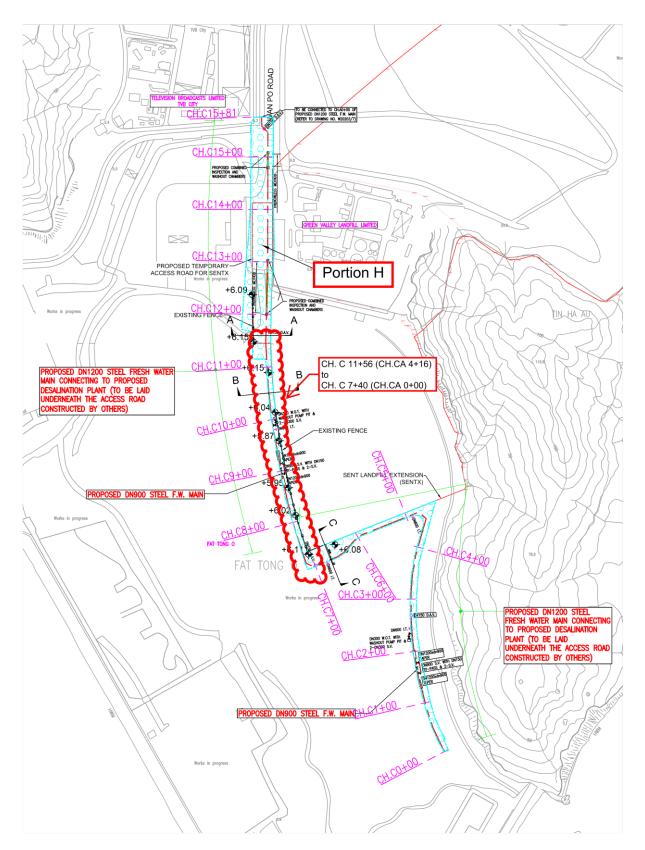


Figure B7. Location Plan for Portion H– CH.C 7+40 (CH.CA 0+00) to CH.C 11+56 (CH.CA 04+16)



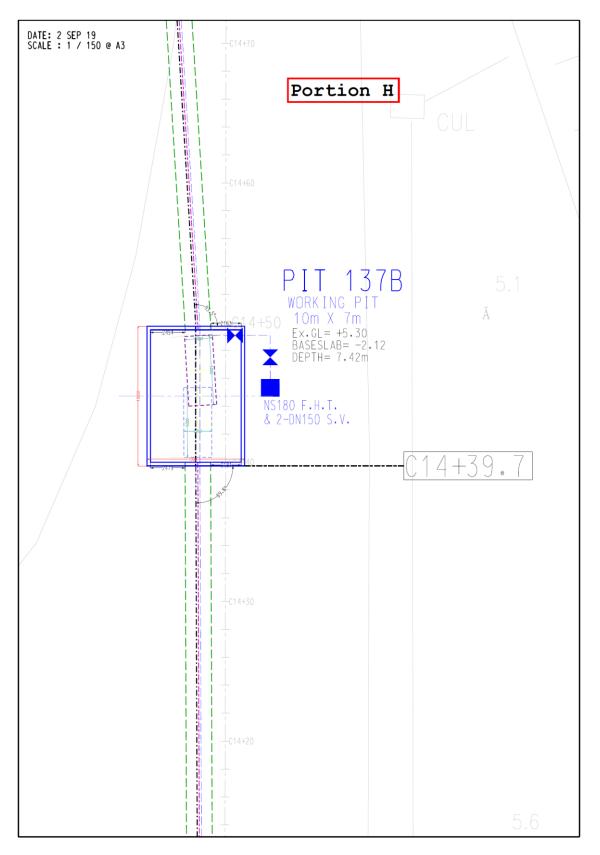


Figure B8. Location Plan for Portion H– Pit 137B



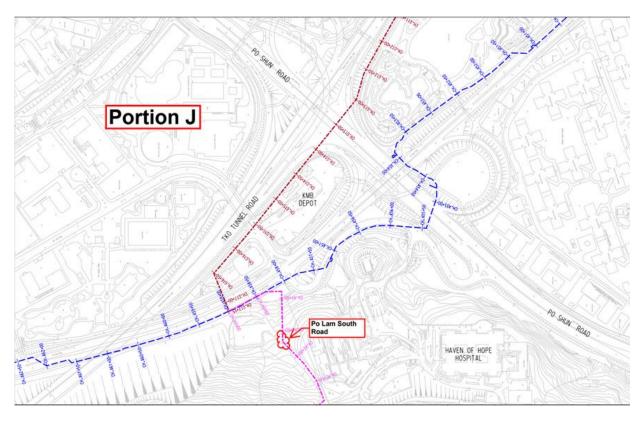


Figure B9. Location Plan for Mau Wu Tsai 1 (Po Lam South Road 1)

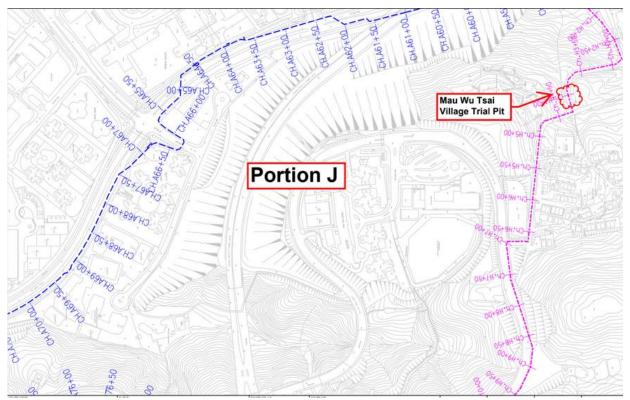


Figure B10. Location Plan for Mau Wu Tsai 2



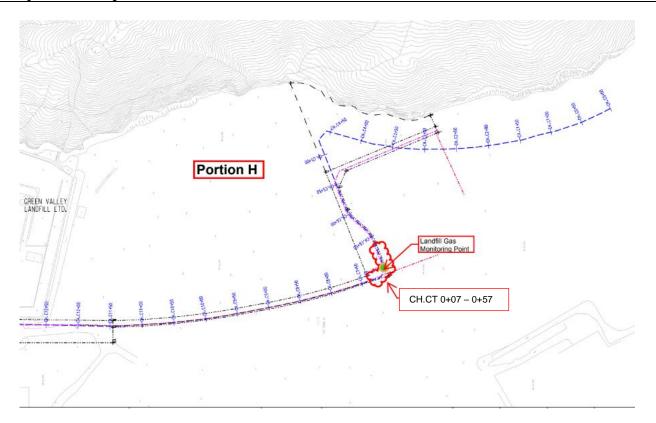


Figure B10. Location Plan for CH.CT 0+07 – 0+57



Appendix C

Summary of Implementation Status of Environmental Mitigation



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures	Implementation	Impler Stage	nentat	ion	Implementation	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	& main concerns to address	Agent	D	С	0	status	
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)		•		Implemented	
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		-		Implemented	
S4.8.1	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Land site/ During Construction	Contractor(s)		-		Implemented	
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimise the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		•		N/A	
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)		-		N/A	
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)		v		N/A	



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures	Implementation	Imple Stage	mentat	ion	Implementation	Relevant Legislation & Guidelines
LIA Reference	Measures/ Mitigation Measures	& main concerns to address	Agent	D	С	0	status	
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		-		Implemented	
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, rectified after observation.	
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)		•		Implemented, 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)		1		Implemented	
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)				Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB- TC(W)) No 19/2005 on Environmental Management on Construction Sites



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures	Implementation	Impler Stage	nentat	ion	Implementation	Relevant Legislation & Guidelines
LIA Reference	Measures/ Mitigation Measures	& main concerns to address	Agent	D	С	0	status	
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		1		Implemented	
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be	Land site/ During construction	Contractor(s)		•		N/A	Guidance Note on a Best
S4.8.1	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Land site/ During construction	Contractor(s)		•		implemented	
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmenta I Team (ET) & Independent Environmenta I Checker (IEC)		•		Implemented	



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Impler Stage	nentat	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelines
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)		•		N/A	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	Noise control/ During construction	Contractor(s)		•		N/A	A Practical Guide for the Reduction of Noise from Construction Works,



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Impleı Stage	mentat	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidelines
	than its height. The noise barrier material should have a superficial surface density of at least 7 kg m ⁻² and have no openings or gaps.							
S5.7	The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Noise control/ During construction	Contractor(s)		√		N/A	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Construction activities (e.g. excavation/shoring, reinstatement (asphalt), and pipe jacking) will be planned and carried out in sequence, such that items of PME proposed for these activities will not be operated simultaneously.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (ie the "influence area" within a radius of 40m) during school hours in order to reduce impact to the educational institutions.	Noise control / During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	Noise enclosures or acoustic sheds would be used to cover stationary PME such as generators. Portable/Movable noise enclosure made of material with superficial surface density of at least 7 kg m ⁻² may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre- construction/ During construction	Contractor(s)	~	•		N/A	
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre- construction/ During construction	Contractor(s)	-	√		N/A	



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation	Impler Stage	nentat	ion	Implementation status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	Agent	D	С	0		Guidennes
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)/ Environment al Team (ET) & Independent Environment al Checker (IEC)		•		Implemented	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementati on Agent	Implen Stage		ion	Implementation status	Relevant Legislation & Guidelines
		main concerns to address	on Agent	D	С	0		Guideimes
Water Quality		1	1			1	ſ	
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)		V		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)		1		N/A	-



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementati on Agent	Impler Stage	nentat	ion	Implementation status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	on Agent	D	С	0		Guidelines
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)		V		Implemented, rectified after observation	ProPECC PN 1/94 TM Standard under the WPCO
S6.9	Earthworks to form the final surfaces will be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.	Land site & drainage/ During construction	Contractor(s)		•		Implemented, rectified after observation	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		1		N/A	-
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)		•		Implemented, rectified after observation.	-
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	Objectives of the recommended measures &	Implementati	Imple Stage	mentat	ion	Implementation status	Relevant Legislation &
	Measures/ Mitigation Measures	main concerns to address	on Agent	D	С	0		Guidelines
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)		•	v	Implemented, rectified after observation	-



FIA Rotoronco	Recommended Environmental Protection	Objectives of the recommended measures &	Implementati	Impler Stage		ion	Implementation status	Relevant Legislation & Guidelines
	Measures/ Mitigation Measures	main concerns to address	on Agent	D	С	0		Guideimes
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)/ Environment al Team (ET) & Independent Environment al Checker (IEC)		•		Implemented	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation	Imple Stage	mentat	ion	Implementation Status	Relevant Legislation & Guidelines
	weasures/ witigation weasures	main concerns to address	Agent	D	С	0		Guidelines
Waste Manage				-				
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	-
\$8.5	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, rectified after observation	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, rectified after observation	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
\$8.5	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
\$8.5	Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre at Tsing Yi.	All area/ During construction	n Contractor(s)		•		N/A	Chapters 2 & 3 Code of Practice on the Packagir Labelling & Storage of



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation	Impler Stage	nenta	tion	Implementation Status	Relevant Legislation &
LIA Melerence		main concerns to address	Agent	D	С	0	Otatus	Guidelines
								Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		~		Implemented, rectified after observation	Waste Disposal Ordinance (Cap 354)
S8.5	A recording system for the amount of wastes generated/ recycled and disposal sites. The trip- ticket system will be included as one of the contractual requirements and implemented by the contractor(s).	Land site/ During construction	Contractor(s)		*		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	Land site/ During construction/ During operation	Contractor(s)		•		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Encourage collection of aluminium cans and waste paper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		•		Implemented	ETWB TCW No. 33/2002, Management of Construction and Demolition Material Including Rock
S8.5	Any unused chemicals and those with remaining functional capacity will be recycled as far as possible.	Land site/ During construction	Contractor(s)		~		N/A	-
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		•		N/A	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill.	All areas/ During construction	Contractor(s)		•		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Proper storage and site practices to reduce the potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		•		Implemented, rectified after observation	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Impleı Stage	nentat	tion	Implementation Status	Relevant Legislation &
			Agent	D	С	0		Guidelines
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, rectified after observation	-
S8.5	A Sediment Quality Report (SQR) for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging activities to confirm the sediment disposal method.	Marine works/ During construction	Contractor(s)		•		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The management of dredged/ excavated sediment management requirement from <i>ETWB TC(W) No.</i> <i>34/2002</i> will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		•		Implemented	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Contract mobilisation/ During construction	Contractor(s)		•		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation
S8.5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Contract mobilisation/ During construction	Contractor(s)		•		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s)/ Environmen tal Team (ET) & Independent Environmen tal Checker (IEC)		•		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Imple Stage	mentat	ion	Implementation Status	Relevant Legislation &
			Agent	D	С	0		Guidelines
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)		1		N/A	-
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)		•		N/A	-
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)		-		N/A	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		~		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		-		Implemented, rectified after observation	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
\$8.5	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



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Impler Stage	nentat	ion	Implementation Status	Relevant Legislation & Guidelines
			Agent	D	С	0		
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		•	•	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		•	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	All area/ During construction/ During operation	Contractor(s)/ WSD		•	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		•	•	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	All area/ During construction/ During operation	Contractor(s)/ WSD		•	~	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall be	All area/ During	Contractor(s)/		✓	✓	Implemented	Waste Disposal



EIA Reference	Recommended Environmental Protection	Objectives of the recommended measures & main concerns to address	Implementation	Imple: Stage	mentat	ion	Implementation Status	Relevant Legislation & Guidelines
			Agent	D	С	0		
	arranged so that incompatible materials are appropriately separated.	construction/ During operation	WSD					(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		√	•	N/A	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminium can, waste paper, glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.	All area/ During construction/ During operation	Contractor(s)/ WSD		-	√	Implemented	-
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		√		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction			~		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	All facilities/ During construction	ET/ IEC		~		Implemented	-



E	-IΔ Reference	Recommended Environmental Protection	Objectives of the recommended measures &	Implementation Agent	Implen Stage	nentati		Implementation Status	Relevant Legislation & Guidelines
		weasures/ willigation weasures	main concerns to address	Agent	D	С	0		Guidennes
		programme will be implemented throughout							
		the construction phase.							



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Impler Stage			Status	Relevant Legislation & Guidelines
				D	С	0		Guideinies
	Ecology					1	1	1
S9.7	For slope mitigation works within the Clear Water Bay Country Park, to avoid tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels can be adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical. A detailed specification describing the exact locations of the flexible barrier foundation plates, soil nails and rock dowels will be prepared to illustrate how the setback distance from existing trees would be implemented for tree avoidance.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	¥	~		Implemented	-
S9.7	Pruning of tree canopies along the alignment of the flexible barriers shall be limited to a minimum.	Slope mitigation works area/ During construction	Contractor(s)		~		Implemented	
S9.7	The alignment of flexible barriers shall be optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable. All individuals of <i>Marsdenia lachnostoma</i> within the slope mitigation areas shall be retained <i>in- situ</i> , by positioning the alignment of flexible barrier at a minimum 1.5m in a radius away from these individuals.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	•	*		Implemented	-
S9.7 and 9.10	At the detailed design stage prior to the commencement of the slope mitigation works, a vegetation survey shall be carried out at the slope mitigation areas within the Clear Water Bay Country Park to assess the condition and identify the location of each individual of <i>Marsdenia lachnostoma</i> and other flora species of conservation interest that may be directly affected by the construction works.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)		•		N/A	-
S9.7	Temporary fencing will be installed to fence off	Slope mitigation works	Contractor(s)	1	1	1	N/A	



EIA Reference	Recommended Environmental Protection	recommended measures &	Implementation Agent	Impler Stage	nentat	ion	Implementation Status	Relevant Legislation & Guidelines
			Agent	D	С	0		Guideimes
	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	area/ During construction						
S9.7 and S9.10	individuals to visualize their locations. A specification for fencing and demarcating individuals of <i>Marsdenai lachnostoma</i> (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers will be prepared to protect the species.	Slope mitigation works area/ During construction	Contractor(s)				N/A	-
S9.7	Induction training shall also be provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance.	Slope mitigation works area/ During construction	Contractor(s)		•		N/A	-
S9.7	The resident site supervisory staff will closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity.	Slope mitigation works area/ During construction	Contractor(s)		•		Implemented	-
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)		•		N/A	-
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	-



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	recommended measures N	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
	measures/ miligation measures	main concerns to address		D	С	0		Guidennes
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.		Contractor(s)		•		N/A	-



IA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Impleı Stage	nentat	ion		Relevant Legislation & Guidelines
			Agent	D	С	0		
	Landscape & Visual	•		•				
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	√	•	~	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	√	•	~	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to: - green roofs where practical (ie without equipment on the roof); - roadside planting; - aesthetic treatment of all structures; - vertical greening; screen planting along application site; and - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible, - to reduce their visual impact and blend them into the surrounding landscape. (MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	×	×		Implemented	-
S11.10 & 11.11	All trees within the Project Site or the potential slope mitigation works area will be carefully protected during construction according to DEVB TCW No. 10/2013 – Tree Preservation (MM4)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	√	•	✓ 	Implemented	ETWB TCW No. 3/2006 - Tree Preservation.
S11.10 & 11.11	No tree within the Country Park will be felled. Trees within the Site unavoidably affected by the works will be transplanted where necessary and practical. For trees that need to be felled, compensatory planting will be provided to the satisfaction of relevant Government	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	•	•		Implemented	DEVB TC(W) No. 10/2013



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation	Imple Stage	mentat	ion		Relevant Legislation & Guidelines
		main concerns to address	Agent	D	С	0		Guidelines
	departments. A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)							
S11.10 & 11.11	Any slope mitigation works necessary to address natural terrain hazards, will be minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization will aim to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species will be established, with the aim of resembling the existing vegetation. (MM6)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	•	-	-	N/A	
S11.10 & 11.11	Dredging works for the installation of intake structures and outfall diffusers should be minimized to avoid or reduce any potential environmental impacts to as low as reasonably practicable (ALARP). The intake and outfall structures (e.g. intake openings and diffuser heads) will be prefabricated and transferred to site for installation. (MM7)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	•		N/A	
S11.10 & 11.11	All night-time lighting will be reduced to a practical minimum both in terms of number of level and will be hooded and directional. (MM8)units and lux level and will be hooded and directional. (MM8)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	•	•	~	Implemented	-

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



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures &	Implementation	Impler Stage	nentat	tion		Relevant Legislation &
		main concerns to address	Agent	D	С	0		Guidelines
	Landfill Gas Hazard					<u> </u>	-	
S12.7	During all works, safety procedures should be implemented to minimise the risks of fires and explosions, asphyxiation of workers and toxicity effects resulting from contact with contaminated soil and groundwater.	All area/ Detailed design/ During construction/ During operation	Contractor(s)		×	-	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 metre.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•	•		Implemented	
S12.7	The Contractor should make the workers are aware of potential hazards of working in confined spaces (any chamber, manhole or culvert which is large enough to permit access to personnel). Such work in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Safety Guide to Working in Confined Spaces ensures compliance with the above regulations.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•	•	•	Implemented	
S12.7	Safety officers, specifically trained with regard to landfill gas and leachate related hazards and the appropriate actions to take in adverse circumstances, should be present on the site throughout the works, in particular, when works are undertaken below grade.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	-	•	~	Implemented	
S12.7	All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•	•	~	Implemented	

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation	Imple Stage	mentat	ion		Relevant Legislation & Guidelines
			Agent	D	С	0	_	
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable instrument, appropriately calibrated and capable of measuring the concentrations of methane. carbon dioxide and oxygen.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•	•	~	Implemented	
S12.7	Monitoring frequency and areas to be monitored should be specified prior to commencement of groundwork, either by the Safety Officer, or by an appropriately qualified person. All measurements should be recorded and documented.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	~	•		Implemented	
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	√	-	•	N/A	
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)	•			N/A	
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the	All area/ Detailed design/ During construction/ During operation	Contractor(s)		-	-	N/A	

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EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Impler Stage	1	ion	Implementation Status	Relevant Legislation & Guidelines
			Agent	D	С	0		Guidennes
	pathway for landfill gas and hence grilled metal covers should be used.							
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•	✓	~	N/A	
S12.7	The manholes and utility pits within the Project Site and along the fresh water mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	•		•	N/A	
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 minimised 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





Appendix E

Noise Monitoring Equipment Calibration Certificate





Appendix F

Event/Action Plan for Noise Exceedance



Event and Action Plan for Construction Noise Monitoring

Event	Act	ion						
	ET		IEC		ER		Со	ntractor
Action Level	1.	Carry out investigation to identify the source and cause of the	1.	Review the analyzed results submitted by the ET	1.	Confirm receipt of Notification of Exceedance in writing	1.	Submit noise mitigation proposals if required, to the IEC and ER
		complaint/ exceedance(s)	2.	Review the proposed remedial	2.	Require Contractor to propose	2.	Implement noise mitigation
	2.	Notify IEC, ER, and Contractor and report the results of investigation		measures by the Contractor and advise the ER accordingly		remedial measures for the analysed noise problem		proposals.
		to the Contractor, ER and the IEC	3.	Supervise the implementation of	3.	Ensure remedial measures are		
	3.	Discuss with the Contractor and		remedial measures		properly implemented		
		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						



Appendix G

Noise Monitoring Data





Appendix H

Waste Flow Table



Monthly Summary Waste Flow TableName of Department:WSDContract No. / Works Order No.:13/WSD/16Monthly Summary Waste Flow Table for December 2019

	Actual Quantities of <u>Inert</u> Construction Waste Generated Monthly										
Month	Total Quantity Generated	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					
Jan 2019	0.457	0.021	2.118	0.000	0.457	0.331					
Feb 2019	0.372	0.004	0.093	0.000	0.372	0.407					
Mar 2019	0.575	0.004	0.000	0.000	0.575	0.140					
Apr 2019	0.101	0.000	0.000	0.000	0.101	0.086					
May 2019	0.035	0.000	0.000	0.000	0.035	0.019					
Jun 2019	0.252	0.000	0.000	0.000	0.252	0.039					
Sub-total	1.792	0.029	2.211	0.000	1.792	1.022					
Jul 2019	0.176	0.000	0.000	0.000	0.176	0.074					
Aug 2019	0.359	0.005	0.000	0.000	0.359	0.133					
Sep 2019	0.030	0.000	0.000	0.000	0.030	0.421					
Oct 2019	0.078	0.009	0.000	0.000	0.078	0.542					
Nov 2019	0.033	0.000	0.000	0.000	0.033	0.504					
Dec 2019	0.052	0.000	0.000	0.000	0.052	0.504					
Total	2.520	0.043	2.211	0.000	2.520	3.200					



	Actual Quantities of <u>Non-inert</u> Construction Waste Generated Monthly									
Month	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					
Jan 2019	0.000	0.000	0.000	0.000	0.016					
Feb 2019	0.000	0.000	0.000	0.000	0.001					
Mar 2019	0.000	0.000	0.000	0.000	0.009					
Apr 2019	0.000	0.000	0.000	0.000	0.018					
May 2019	0.000	0.000	0.000	0.000	0.028					
Jun 2019	0.000	0.000	0.000	0.000	0.013					
Sub-total	0.000	0.000	0.000	0.000	0.085					
Jul 2019	0.000	0.000	0.000	0.000	0.012					
Aug 2019	0.000	0.000	0.000	0.000	0.001					
Sep 2019	0.000	0.000	0.000	0.000	0.000					
Oct 2019	0.000	0.000	0.000	0.000	0.001					
Nov 2019	0.000	0.000	0.000	0.000	0.001					
Dec 2019	0.000	0.062	0.000	0.000	0.002					
Jan 2020										
Total	0.000	0.936	0.000	0.000	0.241					

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 Road and Large Broken Concrete, 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. Source and types of Imported Fill in the reporting month
 - i. K. Wah Quarry Company Limited (Soil): 39.165 m³ (78.33 tonnes/ 3 truck-load)

6.	The amount of Hard Rock and Larg	ge Broken Concrete are dis	isposed to public fill, the breakdown of	of C&D materials disposed to	public fill is shown as below:
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Type of C&D Materials	Description of C&D Materials	C&D Waste Disposed (Volume)
		(m ³)
	Bentonite	
	Broken Concrete	
	Broken Rock	
	Mixed Construction Waste (>50% inert)	27.55
In out	Building Debris	24.4
Inert	Mixed Rock and Soil	
	Reclaimed Asphalt Pavement	
	Slurry	
	Soil	
	TOTAL =	51.95
Non-inert		1.95



Appendix I

Landfill Gas Equipment Certificate

Monitoring Calibration





香港新界葵涌葵昌路58-70號永祥工業大廈10樓B室

Unit B, 10/F., Wing Cheung Industrial Building, 58-70 Kwai Cheong Road, Kwai Chung, New Territories, HK Tel: (852) 2751 7770 Fax: (852) 2756 2051 E-mail: rotter@rotter.com.hk

Calibration Report - Gas Detector

<u> </u>		-		
Customer: Penta-Ocean	Construction Co., Ltd	Serial # : 181-14		QRAE II
		Firmware : V3.5		LEL/O2/CO/H2S
		Cal date : 29-Aug-	2019 Inspected:	Teddy
SENSOR DATA :		1	-2	
Γ	LEL sensor (ME)	O2 sensor	CO sensor (Tox1)	H2S sensor (Tox2)
Calibration dates:	29-Aug-2019	29-Aug-2019	29-Aug-2019	29-Aug-2019
After Calibration levels	50%	18.00%	50 ppm	10.2 ppm
Varm levels (Low):	10.00%	19,50%	36 ppm	10 ppm
Alarm levels (High):	20.00%	23,50%	200 ppm	20 ppm
TWA Level :			35 ppm	10 ppm
STEL Level :	=1		100 ppm	15 ppm
				1 G
<u>Status:</u>	,	·		0
Pump Speed	Low	Back Light	Manual	
Clock	Yes	Measure	Average	0
EL Gas Selection				
EL GAS Selection				
LEL Calibration Gas	Methane	LEL measurement Gas	Methane	
EL Custom Gas	LEL_custom_gas	LEL Custom Factor	1.0	

Notes:

The unit was calibrated and checked under good working condition

**Next calibration due on or before 28 August 2020

Serviced by Rotter stornate al Ltd



Appendix J

Landfill Gas Monitoring Data



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
CH. CAOt60-4+15		\$ \$ 39	Fine	ρ	0	2	20.9	(5/ (027	3.5	
	2/12/2019	1330	Fine	0	Q	0	20,4	19/ 1620	7.5	
137 PHB	2/12/2019	0900	Fire	0	0	0	20.9	15/1027	1.0	
0	2/12/2019	493	Fire	0	Q	Û	20,9	20 / 1020	[.0	
C(4, A 6+64	2/12/2019	0930	Fine		0	0	20.9	16/1022	3.3	
411 1 10 10	2/12/2019	1430	Far	6	0	0	20.2	20/1020	3.3	
CH. A 12+40		1000	Fint	0	0	0	20.9	16/1022	×.7	
12:1.0	2/12/2019	500	Fine_	0	C	0	20.9	20 / 1020	5.3	
PitA	2/12/2019	030	Finl_	0	0	O	20.9	17/1022	2.0	
The RAD	2/12/2019	\$30	End	0	0	0	20.7	20/1020	2.0	
Jauking Pit B	2/12/2019	1100	Fial	0	0	0	20.5	18/1022	0.2	
	2/12/2014	[[00	Fine	Ð	0	0	20,9	19/ 1020	0.2	
	· ·	· - · ·	···		\$			1		

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u>

2/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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Acuity Sustainability Consulting Limited



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.CA0+60~4+25		0830	Fine	0	0	0	20.9	17/1023	7.y
	3/12/2019	1330	Fire	0	0	0	20.9	17/1022	7.5
137 Pit B	3/12/2019	0400	Fire	0	Û	0	20.9	13/1023	1,0
04/ 3 / 17	3/12/2019	1400	Fine	0	C	0	20-1	18 / 1002	(.0
C11.A 6+64	3/12/2018	0930	Fire		a	Û	20.9	14/1023	7.3
	3/ 12/2019	1430	Fine	<u> </u>	0	0	204	18 / 1021	3.7
C(1. A 12+40	3/12/2019	1000	Fine	0	3	9	20.1	14 / 1024	5.3
17: - 0	3/ 12/2019	500	Eine_		0	0	20-9	18 / 1024	5-3
PITA	3/ 12/2019	1030	Fire	0	0	0	20.9	15/1924	Ζ.ρ
-1 0.0	3/ 12/2019	(530	Fine	0	0	0	20.9	18 / 1021	2.6
Jacking Pit B	3/12/2019	1100	Fine	0	0	0	20.4	16/1023	0.2
	3/12/2019	600	Fire	0	0	0	20.9	17/ 1021	0.2
		· · · · · · · ·							-
	······	L <u></u>						/	

Name & Designation <u>Signature</u>

Ken NG (Assistant Engineer)

Field Operator:

<u>Date</u>

3/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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Juz



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	· · · · · · · · · · · · · · · · · · ·	las Emission					
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.CA0+60~4+25	4/12/2019	0830	Fine	0	0	0	20.9	15/1025	7. ×
	4/12/2019	1330	Fine	0	0	0	20.9	20 / 1021	3.5
137 Pit B	4/12/2019	0900	Fine	Ð	ð	0	20.9	15/1025	1.0
	4/12/2019	1400	Fine_	0	0	. 0	20.3	20 / 1021	1.0
CH.A 6+64	4/ 12/2019	0930	Fine	0	0	0	20.9	16/1025	2,3
	4/ 12/2019	1430	Fire	ð	0	0	20.9	20/1021	3.3
CH A 12+40	4/12/2019	1041	Fine	Û	C	0	20.9	16/1025	2:3
	4/12/2019	540	Fine	ð	D	0	20.4	20 / 1821	5.3
P'7 A	4/12/2019	1030	Fire_	0	0	0	20.9	17/1025	2.0
	4/12/2019	1230	Fice	0	0	Q	20.9	Lo / 1021	2.0
Jacking Pit B	4/12/2019	1100	Fire	0	0	0	20.9	18/1024	0.2
	4/12/2019	1600	Fine	0	0	0	20.9	20/1024	0.2
								1	
								T	

Name & Designation <u>Signature</u>

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u>

luy

4/12/2019

Laboratory Staff:

Checked by:

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

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
				Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-CAO+60~4+25	5/12/2019	0830	Fire	0	0	0	20.9	15/1025	7.5	
	5/12/2019	1330	Fine	Û	Q	0	209	13/1024	3.5	
137 PHB	X/12/2019	0900	Fine	0	0	0	20.9	15/1025	- 0	
	5/12/2019	470	Fine	8	0	0	20.9	13/1024	1.0	
<u>C14.A6+64</u>	5/ 12/2019	0930	Fire	0	0	σ	2.0.9	15/1026	3.3	
	5/ 12/2019	1430	Fire	0	Û	0	20.9	13/ 1024	3.3	
CH. A 12+40	5/12/2019	1000	Fiel	0	0	0	20.9	14/1026	×.7	
	5/12/2019	500	Figh	0	0	0	20.4	13 / 1024	5.7	
Pit A	5/12/2019	1030	File		0	0	20.9	13/1026	2.0	
	5/ 12/2019	1530	Fire	0	0	0	20.9	13 / 1024	2,0	
Jacking Pit B	5/12/2019	1100	Five	0	0	0	20-9	14 / lozy	17.2	
	5/12/2019	1600	Fine	D	0	0	20.9	13/1024	0.2	
								1		
					L					

Name & Designation <u>Signature</u>

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u>

5/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13

July



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-2400P (QRAE II)	29 Aug 2019

*	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						···
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
(H.CA0160-4+25	6/12/2019	0870	Fihe	0	0	0	20.9	15/1026	3.5
	6/12/2019	1330	Fire	0	0	0	20.5	19/ 1023	3.5
137 PHB	6/12/2019	0950	Fire	0	0	0	20.9	15/1026	1.0
	6/12/2019	1400	Fire	0	0	0	20.9	17 / 1023	1.0
CH-A 6+64	6/12/2019	0930	Fire	0	ა	0	20.9	15 / 1026	3.3
	6/12/2019	47,	Fine	0	0	0	20.9	19/1023	5.3
(H.A 12+40	6/12/2019	1000	Fine	C	0	0	20.9	15/ 1026	×.3
	6/12/2019	1500	Fire	0	Ĵ	C	20.9	20/1022	5.4
PitA	6/12/2019	1030	Fire	D	0	0	20.9	16/1026	2.0
	6/12/2019	530	Fine	0	0	0	20.9	19/1022	2.0
Jacking Pit B		1100	Fine		4	0	20-9	17/ 1026	0.2
	6/12/219	1600	Fine	٥	0	0	20.9	14/1023	0.2
								1	

Name & Designation

Field Operator:

Ken NG (Assistant Engineer)

Signature <u>Date</u> 6/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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ENVIRONMENTAL PROTECTION DEPARTMENT

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

ENVIRONMENTAL PROTECTION DEPARTMENT

Sample location	Date of mcasurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
CH.CAOHOOL4+05	7/12/2019	0 8 30	Fine	0	0	0	209	15 / 1026	35	
	7/12/2019	1330	Fine	G	0	J	20.9	18/1023	3.5	
137 PHB	7/12/2019	0920	Fine	0	0	0	2.0.4	15/1027	1.0	
	7/12/2019	1400	Fire	С	0	0	20.9	18 / 1023	1.0	
CH.A 6+64	7/ 12/2019	093,	Fiaz	0	0	0	20.1	16/1026	3.3	
	7/12/2019	473,0	Fine	Ũ	0	0	20.4	18/101	2.3	
CH. A 12+40	7/12/2019	000	Fine	0	0	0	20.9	1/026	2.3	
	7/12/2019	500	1 Fial	0	Q	0	20.9	18/1022	5.7	
Pit A	7/12/2019	040	Fire	Û	0	0	Z.0.9	16/1026	20	
	7/12/2019	1230	Fine	0	0	Q	20.9	18 / 1022	z.0	
Jacking Pit B	7/12/2019	1100	Fire	0	0	Û.	20.9	17 / 1026	0.2	
- · · ·	7/12/2019	1600	Fine	0	D	0	20.9	18 / 1023	0, Z_	
			<u> </u>		ļ			/		
					_	L		/		

Name & Designation

Ken NG (Assistant Engineer)

<u>Signature</u> <u>Date</u> Jun 7/12/2019

Laboratory Staff:

Field Operator:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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Acuity Sustainability Consulting Limited



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019
]

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
(H.CAD+60~4+25	9/12/2019	0 8 30	Fine	0	0	Û	20.9	16/1024	3.5	
	9/12/2019	1330	Fine	0	0	0	20.9	21/1020	2.5	
137 PHB	9/12/2019	0900	Fine	0	Ō	0	20.0	16/1024	1.0	
	9/12/2019	459	Finz	0	0	0	20.3	21/1020	Lo	
CH.A 6+64	9/12/2019	0930	Finz	0	จ	0	20.9	17/ 1024	5.3	
	9/12/2019	1430	Fine	0	0	Q	-20.4	21/ 1019	3.3	
CHA 12440	9/12/2019	1007	Fine	0	Q	0	20.4	17/1024	2.7	
	9/12/2019	(50)	Fire	0	0	Ö	20.9	21/ 1019	5.3	
PHA	9/12/2019	1030	Fine	0	0	0	20.9	18/1024	2.0	
	9/12/2019	1530	Fige	0	0	0	20.1	21/ 1019	Z.0	
Jacking Pit B	9/12/2019	00	Fine	0	Ű	0	20.4	19/1023	0.2	
	9/12/2019	1600	Field	0	0	0	70.9	20/ 1019	0.2	
<u> </u>				_			·····-	ļ	<u> </u>	
	L			<u>_l</u>	<u> </u>]	l		ł	

Name & Designation

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u> 9 / 12/ 2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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Signature

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
CH. CAOt60~4+25	10/12/2019	0830	Fige	0	0	0	20.4	17/1020	3.5	
	10/12/2019	1 330	Fine	0	0	0	20.9	41/1017	3.5	
137 P.+B	10/12/2019	0900	Fine	0	0	0	20.9	18/1000	1.0	
	10/12/2019	[450	Fine.	C	0	0	20.9	22/1017	1.0	
CH-A 6764	10/12/2019	0930	Fire	0	G	0	20.9	19/1020	3.3	
	10/ 12/2019	1430	Fine	2	0	ð	20.4	22/107	3.3	
CH. A 12740	10/12/2019	000	Fire	0	0	0	20.9	19/1020	s.Z	
	10/12/2019	200	Fiar	0	0	0	20-9	22/1017	5.3	
PitA	10/ 12/2019	107.0	Fire	0	0	0	20.4	19/1020	2.0	
	10/12/2019	1230	File	0	9	ŭ	20.4	21/1017	2.0	
Jacking Pit B		100	Fire	0	0	0	20.9	20/1020	0.2	
	10/12/2019	(600	Fire	0	Ċ	0	Zø.9	21/1017	0.2	
								1		

Name & Designation

Signature Date

Field Operator:

Ken NG (Assistant Engineer)

10/12/2019

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Laboratory Staff:

Checked by:

ÉNVIRONMENTAL RESOURCES MANAGEMENT

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Juiz



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
CH.CA0460~4425	11/12/2019	0 } 30	Fire	0	0	0	20.9	18/1019	3.5	
	11/12/2019	1330	Fire	0	0	0	20.9	24/1017	35	
137 Pit B	11/12/2019	0900	Fine	ð	. 0	0	2.1	19/1020	1.0	
	11/12/2019	1400	Fine	Û	0	ŭ	20.9	24/1016	1.0	
CI-1.A 6764	11/12/2019	09.30	Fire	0	0	0	20.3	20/1020	7 7	
	11/12/2019	(43 <i>0</i>	Fine	0	0	0	2.0.4	24/1016	3.3	
CHI. A 12+40	11/12/2019	1000	Fire	0	0	o	20.9	20/1020	5.7	
	11/12/2019	1500	Fine	9	c	2	2.9	22/1016	×.7	
Pit A	11/12/2019	1030	Fire	D	0	0	20.9	21/1020	2.0	
	11/12/2019	1530	ENL	0	0	0	20.9	22/1017	2.2	
Jacking Pit B	11/12/2019	1100	Eine	0	0	0	20.9	22/1019	0.2	
,	11/12/2019	1600	Fine		0	0	20.9	22/ 1017	0.2	
		<u> </u>						1,	· · · · ·	
		J	1		1			1		

Name & Designation Signature

Ken NG (Assistant Engineer)

<u>Date</u>

Field Operator:

11/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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luez



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time		TTI **** 493478 •	Monitering w	/ells / Surface (Gas Emission		
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carhon dioxide (%)	Oxygen (%)	Temp (*C) / Pressure (mbar)	Remark Depth (m)
137 Pit B	12/12/2019	0 8 30	Fine	0	2	0	20.9	18/1021	1.0
	12/12/2019	1330	Fine	0	9	0	20.9	21/1020	(,0
CHA 6+64	12/12/2019	0900	Fins	0	0	0	20.3	19/1022	3.3
	12/12/2019	1400	File	0	0	Q	22.9	22/1020	7.3
CH A 12+40	12/12/2019	0430	Eine	ſ	0	0	20.9	20/1022	5.3
	12/12/2019	14 30	Fill	0	0	0	20.3	21/1020	5.3
P:+A	12/12/2019	1000	Fiae	Û	0	0	20.9	20/1022	2.0
	12/12/2019	590	Fige	0	0	0	20.9	21/1020	2.0
Jacking Pit B	12/12/2019	1030	Fine	0	1	0	20.9	21/1022	0.2
	12/12/2019	(530	Fiar	0	0	0	20.9	20 / 1020	0.2-
								<u> </u>	<u> </u>

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u>

12/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurcment	Sampling time	Monitoring weils / Surface Gas Emission						* 1.4* 5%er 0=
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
137 P.7 B	13/12/2019	0 8 70	Fire	0	0	0	20.9	18 / 1024	1.0
	17/12/2019	330	Fig2	0	Û	0	2.2.9	21/1022	1,0
(HA6+64	13/12/2019	09.00	Eal	0	0	0	20.9	19/1024	3.3
	13/12/2019	1420	Fine	0	0	0	20.4	21/1022	3.3
CH. A 12+40	13/ 12/2019	0430	Fire	0	0	0	20.2	19/1024	5.7
	13/12/2019	1430	Fial	0	0	0	20.9	20/1022	5.7
Pit A	13/12/2019	000	Fice	0	0	0	20.9	20 / 1024	2.0
	13/12/2019	1500	Fire	0	0	0	20.9	20 / 1021	20
Jacking Pit B		1=30	Fire	0	0	0	20.9	20/1024	0.2
	13/12/2019	1530	Fine	0	0	0	20.9	21/1021	0.2
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			i						

Name & Designation

<u>Signature</u>

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Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u>

13/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13



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

Sampling equipment used:	Dates calibrated		
PGM-2400P (QRAE II)	29 Aug 2019		

Monitoring wells / Surface Gas Emission							Sampling time	Date of measurement	Sample location				
Remark Depth (m)	Temp (°C) / Pressure (mbar)	Oxygen (%)	Carbon dioxide (%)	Flammable gas (methane %)	Balance gas (%)	Weather condition							
1.0	18/1024	20.3	0	0	0	Fire	0830	14/12/2019	137 PHB				
1.0	23/1021	20.9	0.	đ	0	Fire	1330	14/12/2019					
3.3	19/1024	22.9	0	0	0	Fire	0900	14/12/2019	CH.A 6+64				
3.3	23/1024	20.7	0	0	0	Fire	400	14/12/2019					
¥.3	19/1024	20.9	J	0	9 .	Fire	0930	14/12/2019	CH.A 12+40				
5.3	23/ 1020	20.9	0	0	0	Fine	1430	14/12/2019					
2.0	20/1014	20.9	0	0	0	Fire	1002	14/12/2019	P;+ A				
20	23/1014	20 g	จ	0	0	Fire	500	14/12/2-019					
o.Z.	21/1024	20.9	0	0	0	Fine	1030	14/12/2019	Jacking PitB				
0.2	22/1019	20.9	0	0	σ	Fire	(530	14/12/2019					
	/												
	/												
	//////												

Name & Designation

Ken NG (Assistant Engineer)

Signature Date

Field Operator:

14/12/2019

Laboratory Staff:

Checked by:

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

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019
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Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
137 PHB	16/12/2019	0830	Fiae	0	0	U	20.9	21/1019	1.0
 	16/12/2019	1330	Fige	6	0	0	20.9	23/1017	(.0
CH.A 6+64	16/12/2019	0900	Fire	0	0	0	20.3	21/1019	3.3
	16/12/2019	1400	Fire	0	0	0	20.9	23/1016	3.3
(H. A 12-140	16/12/2019	0930	Fire	Q	O	0	20.9	22/1000	x 7
	16/12/2019	1430	Fine	0	ð	0	20.9	23/1016	5.3
P:+ A	16/12/2019	1000	Fine	0	0	0	20.9	22/1019	20
	16/12/2019	500	Fire	G	0	0	20.9	27/1016	2.0
Jecking Tit B		1030	Fire	0	0	0	20.0	22/1019	0.2
<u> </u>	16/12/2019	1530	Fine	0	0	0	20.9	23/1016	0.2
· · · ·		<u> </u>		· · · · · · · · · · · · · · · · · · ·				/	
L <u></u>]							

Name & Designation

Ken NG (Assistant Engineer)

Signature Date 16/12/2019 ney

Field Operator: Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PH B	17/12/2019	0850	Fine	0	Ð	0	20.9	22/1019	1.0	
	17/12/2019	1330	Fine	G	0	0	20.9	26/1017	1.0	
CH.A 6+64	17/12/2019	0900	Fine	0	0	0	20.9	23/1019	3.3	
	17/12/2019	14.70	Fiel	0	C I	0	20.9	26/1016	7,3	
CH.A 12.740	11/ 12/2019	0930	Fige	0	0	0	20.9	24/ 1019	5.3	
	17/12/2019	1430	Fine	0	0	c	20.9	26/1016	5.3	
Pit A	17/12/2019	1000	Fine	0	0	0	20.9	24/ 1019	2.0	
	17/12/2019	200	Fire	0	0	0	20.9	27/1016	2.0	
Jacking Pit B	17/12/2019	1030	Fine	0	0	Q	20.9	25/ 1019	0.2	
	17/12/2019	1530	Fine	1 9	0	С	20.9	26/1016	0.2	
MVT I	17/12/2019	1100	Fine	0	Ū	0	20.9	25/ 104	.0	
	17/12/2019	1600	Fine	6	0	0	20.9	26/1016	1.0	
			<u> </u>				· · · · · · · · · · · · · · · · · · ·	1 /		

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

Date 17/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location		Date of measurement	Sampling time			Monitoring w	ells / Surface (fas Emission	<u>****a* a¥7*58 a a</u> rr	
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 PHB	18/12/2019	0 \$ 30	Fine	0	0	0	20.9	23/1019	1.0	
	18/12/2019	1530	Fine	0	Ø	0	20.9	27/1017	1.0	
CHA 6+64	18/12/2019	0900	Fine	0	. o	D	20.9	23/ 1019	7.3	
	18/12/2019	(400	Fine	0	0	ę,	20.9	27/106	3.3	
CH. A 12740	18/ 12/2019	0430	Fine	0	a	0	20.9	24/1019	3.3	
L	12/12/2019	4.17	Fine	٥	0	o	20.9	27/ 1016	x.3	
Pit A	18/12/2019	000	Fine	0	Q Q	0	20.9	24/1019	2.0	
	18/12/2019	[203	Fine	: 0	0	ð	20.9	27/ 1016	2.0	
Jacking Pit B	13/12/2019	1050	Fire	: 0	0	0	20.9	28/1019	0.2	
	18/12/2019	1520	Fine	0	C	0	20.9	26/1016	0.2	
MVT I	13/12/2019	1100	Fine	ð	0	3	20.9	25/1019	(, <i>p</i>	
	18/12/2019	1600	Fine	: 0 :	0	0	20.9	26/1016	1.0	
ř										

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u> (8/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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lity



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019
	[

Sample location	Date of measurement						Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)					
137 Pit B	19/12/2019	0 \$ 30	Fine	0	0	0	20.9	18/1021	1.0					
	19/12/2019	1330	Fine	0	0	0	20.4	22/ 1019	1.0					
CH.A 6+64	19/12/2019	0900	Fine	0	0	0	20.9	18/1022	7.3					
	19/12/2019	(400	Eine	0	0	9	20.9	24/1019	7.3					
CH. A 12+40	19/12/2019	0930	Fige	5	: 0	0	20.9	18/1023	¥-3					
	19/12/2019	(430	Fine	0	0	0	20.9	21/1018	5.7					
P:+A	19/12/2019	[000	Fine	0	0	Q	20.9	18/1023	2.0					
	19/12/2019	500	Fine	0	0	0	20.9	21/1018	2.0					
Jacking PitB		030	Fine	: 0	0	0	20.9	19/1023	Ø. Z.					
u	19/12/2019	1530	Fine	9	0	0	20.9	20/1018	0.2.					
MVTI	19/12/2019	100	Fire	J	D	0	20.9	19/1022	1.0					
	19/12/2019	1600	Fine	ិ	0	0	20.9	20/ 1013	1.0					
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								/						

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

Date 19/12/2019

r Operator.

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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Acuity Sustainability Consulting Limited



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of mcasurement	Sampling time	Monitoring wells / Surface Gas Emission							
		2 2 2	Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 Pit B	20/12/2019	0830	Fine	0	0	Ö	209	18/1021	1.0	
	20/12/2019	1330	Fine	Û	0	0	20.9	21/1018	1.0	
CH.A 6+64	20/12/2019	0400	Fine	0	0	0	2.0.9	18/1021	7.3	
	20/12/2019	140,	Fire	0	0	0	70.9	22/1018	3.3	
CH.A 12+40	20/12/2019	0930	Fial	0	O	0	20.4	19/1021	X.3	
	20/ 12/2019	1430	Fige	0	0	0	20.9	20/ 017	2.3	
Pit A	20/12/2019	(000	Fire	0	G	G	20.9	14/1021	2.0	
	20/ 12/2019	500	Fige.	D	C	0	20.9	21/1017	2.2	
Jacking Pit B	20/12/2019	1030	Finz	0	Û	C	20-9	19/1021	0.2	
4	20/12/2017	(530	Fine	0	0	D	20.9	20/1017	D-Z	
MVII	20/12/2019	1100	Fine	0	0	0	20.9	20/1021	1.9	
	20/12/2019	1600	Fine	0	Ő	0	20.9	20/1017	(. D	
	<u>↓</u>							1		
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Name & Designation

Signature Date

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Field Operator:

Ken NG (Assistant Engineer)

20/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

ENVIRONMENTAL PROTECTION DEPARTMENT

Sample location	Date of measurement	Sampling time	Monitoring wells / S			ells / Surface (ce Gas Emission			
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
137 Pit B	21/12/2019	0 8 30	Fire	0	0	0	20,8	18/1019	1.0	
	21/12/2019	330	Fine	a	0	0	20.9	22/1016	1.0	
CH A 6+64	21/12/2019	0400	Fire	0	0	0	20.9	19/1019	3.3	
ļ	21/12/2019	1400	Fial	e	Q	0	20.9	22/1016	7.7	
CH.A 12+40	Zi/12/2019	0930	Fire	0	0	G	20.9	19/1020	3.3	
	21/12/2019	1430	Fine	C	0	0	20.9	21/1016	5.3	
Pit A	21/12/2019	1000	Fine	: 0	0	0	20.9	19/1000	Z.9	
<u></u>	21/12/2019	1,204	Fine	C	Ð	0	20.9	21/1015	2.0	
Jacking PitB	21/12/2019	1030	Fine	0	0	0	20.9	19/1020	0.2	
<u> </u>	21/12/2019	1530	Fire	0	0	0	20.9	21/10/5	22	
MVTI	21/12/2019	160	Fine	0	0	0	20.9	20/1019	1.0	
	21/12/2019	600	Fire	Ç	0	0	20-9	21/ 1015	1.0	
<u>i</u>							1	/		

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

 $\frac{\text{enature}}{C_{1}} \qquad \frac{\text{Date}}{21/12/2019}$

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13

Acuity Sustainability Consulting Limited



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019
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Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emiss			3as Emission		7.9.9902.00	
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
137 P.+B	23/12/2019	0230	Fine	0	0	0	20.3	19/1018	1.0
	23/12/2019	1330	Fire	2	0	0	20.9	20/1016	1.0
CH-A 6+64	23/12/2019	0900	Fine	0	0	0	20.9	19/1018	4.3
	23/12/2019	1400	Fire	0	0	0	20.9	20/1916	3.3
CHA 1240	27/ 12/2019	0930	Fine	0	0	0	20.9	19/1018	¥.7
	23/ 12/2019	1430	Fine	٥	0	0	20.9	20/016	8.7
PitA	23/12/2019	1000	Fire	D	0	0	20.3	20/1018	2.0
	23/ 12/2019	500	Fine	C	0	0	20.9	20/1016	2.0
Jacking Rit B	23/ 12/2019	030	Fri	0	0	ø	20.9	20/1018	0.2
	23/12/2019	1530	Fine	0	0	0	20.9	20 / 1016	0.2
MVTI	27/12/2019	(100	Fine	0	C	0	20.9	21/1012	1.0
	23/12/2019	1600	Fine	0	0	o	20.9	20/ 016	(.0
MVT 2	23/12/2019	130	Fine	0	0	0	20.9	2//1017	1.2
	23/12/2019	1630	Fire	Û	0	0	20.9	20/1016	1.2

Name & Designation Signature

Field Operator:

re <u>Date</u>

iela Operator.

Ken NG (Assistant Engineer)

23/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13

City



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission					· ·	
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
137 PHB	24/12/2019	0 8 30	Eine	0	0	Ð	20.3	19/1019	1.7
	24/12/2019	350	Fine	0	Ø	0	20.9	24/1017	1.7
CH.A 6+64	24/12/2019	0900	Fire	0	0	0	20.9	19/1019	7.3
	24/12/2019	14530	Fine	0	0	0	20.9	24/1016	34.37
CH.A 12+40	24/ 12/2019	0930	Fine	0	0	0	20.9	20/1020	¥.7
	24/12/2019	1430	Fine	0	0	Ð	20.9	23/1016	x.3
Pit A	24/12/2019	1000	Eine	0	0	0	20.9	21/1000	2.0
	24/ 12/2019	1200	Fire	0	0	0	20.9	23/1016	2.0
Jacking P.+ B	24/12/2019	1030	Fine	0	0	0	209	21/1020	0,2
<u>a</u>	24/12/2019	530	FIAL	0	0	0	20.9	24/1016	0.2
MVT I	24/12/2019	1100	Fine	0	0	0	20.9	21/1020	1.0
	24/12/2019	1600	Fine	0	0	0	22.9	23 / 1016	t.a
MVT 2	24/12/2019	1130	Fine	Ø	C	0	20.9	22/1010	(.2
	24/12/2019	1630	Fine	0	Ū.	0	20-9	23/1016	1.2

Name & Designation Signature

Field Operator:

Ken NG (Assistant Engineer)

lug 24/12/2019

Date

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
137 PH B	21/12/2019	0 8 30	Fine	0	0	0	20.9	15/1021	1.7
	27/12/2019	1330	Fine	0	0	0	20.9	21/1020	1.7
CH.A 6+64	27/12/2019	09.00	Fine	Ŷ	0	0	20.9	16/1021	3.3
	27/12/2019	4.00	Fine	0	0	0	20.9	21/ 1219	33
CH. A 12+40	27/ 12/2019	0930	Fine	0	0	0	20.9	16/1021	23
www.co.co.	27/ 12/2019	1430	Fine	0	0	0	20.9	21/1014	X.7
P.+ A	27/12/2019	1000	Find	0	0	0	20.9	17/1021	2.0
	21/ 12/2019	200	Fine	0	0	0	20.1	21/1019	2.0
Jacking Pit B	27/12/2019	030	Fine	D	0	0	20.9	17/1021	0.2
-	21/12/2019	1530	Fire	0	0	0	20.9	21/1019	0.2
MVT	27/12/2019	100	Fine	0	0	0	20.9	18/1021	1.0
	27/12/2019	600	Fine	0	0	0	20.9	20/ 1019	1.0
MVT 2	27/12/2014	1130	Eine	0	0	σ	20 9	19/1021	1.2
	127/12/2019	1630	Fine	ŋ	0	0	20.9	20/1019	1.2

Name & Designation

Ken NG (Assistant Engineer)

Signature Date

Field Operator:

ally

27/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13

Acuity Sustainability Consulting Limited



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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling Monitoring wells / Surface Gas Emission nt time							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
137 PH B	23/12/2019	0 230	Fire	Q	0	9	20.9	16/1021	1.7
	23/12/2019	330	Fire	0	<u>م</u>	0	20.9	20/1019	1.7
CH.A 6+64	23/12/2019	0902	Fine	Q	0	0	20.9	17/1021	3.3
	28/12/2019	1400	Fine	9	0	0	20.9	20/1019	3,3
CH.A 12+40	23/ 12/2019	0930	Fine	0	0	0	20.9	17/1022	5.7
	23/12/2019	1430	Fire	0	0	J	20.9	20/1019	5.3
Pit A	23/12/2019	1000	Fine	Э	g	0	20.9	17/1022	2.0
	28/ 12/2019	500	Five	0	Ű	S	20.9	21/1019	2.0
Jacking Pit B	28/12/2019	1030	Fine	ũ	0	0	20.9	17/10LL	0.2
4	28/12/2019	1530	Fire	0	0	0	20.9	20/1019	0.2
MVT 2	28/12/2019	1100	Fine	0	0	o	20.9	18/1022	1.2
L	28/12/2019	1620	Fire	0	0	হ	20.9	20/ 1019	1.2
1			•					/	
<u></u>	[-						/	

Name & Designation

Field Operator:

Ken NG (Assistant Engineer)

<u>Date</u> <u>Signature</u> 28/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

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

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.CT 0407~0+57	30/12/2019	0330	Fine	0	0	0	20.9	20/1020	3.0
	30/ 12/2019	1330	Fine	0	Ö	0	20.9	22/1019	7.0
137 PitB	30/ 12/2019	09.00	Fine	0	0	0	20.9	20/1020	1.7
	30/12/2019	14-00	Fine	0	0	2	20.9	22/1019	1.7
CH.A 6+64	30/12/2019	0970	Fire	0	0	σ	20.9	21/ 1020	3.3
	30/12/2019	1430	Fine	0	0	ଚ	20.9	21/1019	3.3
(H.A 12+40	30/12/2019	1000	Fine	0	0	. 0	20.9	21/ 1020	Y.3
	30/12/2019	1200	Fire .	D	0	0	20.9.	21/1019	×.3
Pit A	3:/12/2019	1030	Fine	0	.0	D	20.9	21/104	2.0
	30/12/2019	1530	Fine	0	0	0	20.4	21/1019	2.0
Jacking Pit B	30/12/2019	1100	Fire	0	0	0	2:9	21/1021	0.2
0	30/12/2019	1600	Fine	0	0	0	20.9	21/1019	0.2
MVT 2	30/12/2019	1(30	Fine	0	0	0	20.9	21/1020	I, L
	30/12/2019	1630	Fine	0	0	0	20.9	21/1019	1.2

Name & Designation Signature

Marco Sheung (Graduated Engineer)

Field Operator:

Date

13 30/12/2019

Laboratory Staff:

Checked by:

ENVIRONMENTAL RESOURCES MANAGEMENT

13



Name of site: 13/WSD/1€ - Mainlaying in Tseung Kwan O Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2400P (QRAE II)	29 Aug 2019

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission							
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)	
CH.CT0+07-0+57	31/12/2019	0830	Fine	0	0	Û.	20.9	19/1026	3.0	
	31/ 12/2019	1330	Fine	0	0	0	20.9	18/1025	3.0	
137 PH B	31/12/2019	0900	Fine	0	c	0	20.9	19/ 1026	1.7	
	31/12/2014	1403	Fine	0	0	0	20.9	18/ 1024	1.7	
CH.1 6764	31/12/2019	0930	Fine	0	0	Ð	20.9	19/ 1027	3.3	
0.55	31/12/2019	1430	<u> </u>	0	0	0	20.9	18/ 1024	7.3	
(H.A 12+40	31/ 12/2019	1000	Fine	0	0	0	20.9	19/1027	X.7	
	31/12/2019	1200	Fine	0	0	0	20.9	18/1024	X.3	
Pit A	31/12/2019	1030	Fine	0	0	0	20.9	19/1027	2.0	
	31/12/2019	1530	Fire	0	0	0	203	18/1024	2.0	
Tacking Pit B	31/12/2019	1100	Fire	0	0	0	20.9	19/1027	0.2	
9	31/12/2019	1600	Fine	0	0	9	20.9	13/1029	0.2	
MVT 2	31/12/2019	130	Fine	0	0	Ð	20.4	19/1016	1.2	
	31/12/2019	1630	Fine	O	0	C	20.9	18/ 1024	1.2	

Name & Designation Signature

Marco Sheung (Graduated Engineer)

Field Operator:

<u>Date</u>

13

31/12/2019

Laboratory Staff:

Checked by:

FINVIRONMENTAL RESCURCES MANAGEMENT

13



Appendix K

Complaint Log and Regulatory Compliance Proforma



Statistical Summary of Environmental Complaints

Reporting Period			
	Frequency	Cumulative	Complaint Nature
1 Dec 2019 - 31 Dec 2019	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics						
	Frequency	Cumulative	Details				
1 Dec 2019 - 31 Dec 2019	0	0	N/A				

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics						
	Frequency	Cumulative	Details				
1 Dec 2019 - 31 Dec 2019	0	0	N/A				



Appendix L

Site Inspection Proforma



	Acuity Unit 1908, Nos. 301-	bility Consulting Limited 305 Castle Peak Boad, Kwai Chung, N.T. 31@acuityhk.com www.acuityhk.com
	Contract no. 13/WSD/16 Mainlaying in Ts	eung Kwan O
	WEEKLY ENVIRONMENTAL INSPECTION	
-	no Train: 05/12/20/9 torgested by ET Charling / KA+p	NSD JAN WAI TAK
inspecta Weathe	on Times 09:30 Cathaster - Mary	N. Contraction of the second s
Conditi		ikan hay
Tempo	rature <u>13</u> C Hamilday 🗹 hyp 🔤 Messaw	sLop
Wird	Brezer Brezer	
_		NiA Yes No Proto-Remarks.
_		NA 161 NO 2706-Kemarke
	Géneral	
	Is the current Environmental Permit displayed conspicuently at all vehicle site entrances-twits free public's milermation at any time?	
1. Same 2. Sec.	Is FT Leader's tog-book kept readily available for inspections?	
10.033	Construction Dust Are dusty materials, such as exervated materials, building debris and construction	
	restoristy materials, such as excerning materials, outcome dearts and consideration restorists, and exposed earth surface property covered to prevent dust emission?	
	Are serzenings, enclosures, water spraying or vseuum cleaning devices provided to dusty anotraction works for that suppressive?	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	
1.04	Are wheel washing factilities with high-pressure water_jets provided at all site axis?	
1.05	ts wheel-washing provided to all vehicles leaving the site?	
1.36	Are rand section near the site exit free from dusty insterial?	065(3)
1.27	Are all me in hour reads inside the site payed or sprayed with water to minimize dust	
-	emission during vehicle movement?	
	Are write spraying provided immediately prior to any loading or transfer of dusty materia s ²	
	Are covers provided to all damp trucks carrying dusty materials when entering and	
	lets ing the site? Are the working treas for oprioring of treas, shrubs, or vegetation or the removal of	
1245-0	rure me warking meet no uproming of nees, shows, or vegation or the relativat of hnulders, pales, pillars sprayed with water to maintain the ordino surface wol?	
	is exposed earth paperly treated within six months after the last construction retarity on size?	

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ter		its	

Acuity Sustainability Consulting Limited

Unit 1908; Nov. 301-305 Castle Peak Road, Kwal Chung, N.T. G: 2333-6823 [F: 2333-1316] E: géneral@acuityhk.com | www.acuityhk.com

Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O							
		N/A	Yes.	No	Physic-Remarks		
1.13	Are vehicles travelling at speed not exceeding, 15km/hr within the site?	\checkmark					
1.14	Ave stock of more than 20 bags of cement or day PTA covered or sheltered on top and 3 cides?	\square					
1.15	Are de-hagging, hatching and mixing processes of bagged cement carried out in scielcered areas?	1					
1.16	Are hearding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?		\Box				
1.17	Is open burning prohibited?		1				
2.00	Construction Noise (Airborne)						
2.01	Are quiet plants adupted on size?		Ø.				
2 (12	Are the PMEs operating on site well-maintained to minimize the generation of excessive niose?						
2.03	Are plants throttled down or turned off when not in use?		đ				
2.04	Are the plents known to emit noise strongly in one direction oriented in face away from NNR67	Л					
2.05	Are moveable horiers provided to screen NSRs from plant or noisy aperances?	d,					
2.06	Are silencers, mufflers and coelessores provided to plants?	1					
2.07	Are the boods, cover panels and mappenion ratelies of PMHs closed during operation?	1					
2.06	Are purposely-built site hearding construction with appropriate materials provided along	-					
	the site boundary?	V		200			
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to		-	-			
	nearby sensitive receivers)		\vee				
2.10	Are valid noise emission label(s) affixed to all hand-hold breakers operating on size?	1					
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	Ż					
2,12	Are all construction noise permit(st applied for percussive piling work?	\square					
2.13	Are construction noise pennit(s) applied for general construction works during restricted nours?	d,					
2 14	Are valid construction noise permit(s) displayed of ell vehicular exits?	\square					
3.00	Water Quality		1				
3 31	is effluent discharge license obtained for wastewater discharge from see?		\Box				
3.02	is effluent discharged seconding, to the effluent discharge license?		P				
3.03	Is wustewater discharge from site property treated polor to discharge?		1				

Page 2 of 6

5/n





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Unit 1908, Nos. 301-305 Castle Prak Road, Kwai Chung, N.T. G: 2333-6K23 | F: 2333-1336 | E: general@acuityhk.com | www.acuityhk.com

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 funoff from outside the site?		1		obsla)
2.05	Any sandhell retrieval facilities such as sambisily craps and sediment basins provided to remove sandish proticles from rangel?		Í		
3.08	Is surface runoff diverted to sedementation facilities?		d		
3.07	Is the drainage system properly maintained?		বি		
3.08	Are construction works carefully programmed to minimize soil excession works during miny seasons?		Z		
3.09	Are exposed seel surface protected by paving as soon as passible to reduce the periodial of soil crossou?		\square		
3.10	Are temporary access muds protected by cristical gravel?		Ø		
3.51	Are exposed slope surface properly protected?				-
3.12	Is trench excavation availed in the wet season as far as practicable, or if necessary, cackfilled in shart sections ofter excavation?		\square		94 <u>-</u>
3.13	Are open strekpiles of construction materials on site covered by tapaulin or similar fahne furing construction?		1		
3.14	is ranoff from wheel-washing fuelilities avoided?	\square			
3 15	Is oil leakage or spillage prevented?		\square		
3.16	Any there any measures to prevent the release of util and grease into the storm drainage system?		d,		Qbs (5)
3.17	Are the oil interceptors' gresse traps properly maintained?				
3.18	Are debris and rubhish generated on side for locied, handled and disposed of property to avoid them ensering the smearns?		\square		0bs(1)
3.19	Are all their units and storage areas previded with lacks and he sited on seeked areas, within bunds of expansity equal to 110% of the storage capacity of the largest tank?				
3.20	Are terike, containers, storage area bunded and the Incarions looked as far as possible from the senarive watercourse and stormwater drains?				
3.21	Ano sufficient elemical toilets provided en site to handle sewage from construction work face?		\checkmark		
3.22	Are sewage disposed and toilet maintenance of the portable chemical collect provided by the becaused contractors?		1		
3.23	Is concrete washing water properly collected and trended prior to discharge?	\square			
4.00	Waste Management				
4 01	Is a trip licket system implemented in monitor the disposal of C&D and solid wastes a public Elling facilities and andfills?		\square		e

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1	Acuity Sustainability Consulting Limited								
Acvity	Unit 1908, Nov. 301 305 Castle Peak Road, Kwai Ch O: 2333-6823 Fi 2333-1316 E: general@acaityhk.com www.acuit								
	Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O								
	N/A Yes No.	Photo/Rei							

		N/A.	Yes	No	Photo/Rennabs
4.02	is a recording system implemented to record the amount of wastes generated, recycled and cosposed of?		Í,		
4.03	Is the Contractor registered as a chemical waste product?				
4.04	Are coemical ware separated from other waste and collected by a licersed cherneal wave collector?	,	₫		2
4.05	Ane trip taskets for chemical wasta disposal available for ingreetien?	1			
4.06	Is chemical wastercused and ne-yellal as site as far as practicable?	Í,			
4.07	/tre all comminens for chemical waste properly label ed?				
4.08	is chemical waste storage zero used solely for storage of chemical waste and property labellee?				
4.09	Are incompatible chemical wastes stored in different areas?	\square	1		
4,40	In the chorn cut waste storage area unclosed on at lease 3 sides and adequately verificatee?	d			
4.11	In all impermeable floor and istanding, of capitely in accommandate LDPS of the volume of the largest existinger of of 20% by volume of the discussion wave standard the ansi, which ever is the greatest, provide?	Ø			
4,12	Are a mattice closning and mointerance programme implemented for drainage systems, sump pits, and ail interceptors?				abs(4)
4.13	fare sufficient general refuse disponal/collection points provided or site?		đ		
4.14	begeneral refuse disposed of property and regularly?		Í		
4.15	Are appropriate measures adopted to minimize windo own! that and dust during transporter for of waste?		\square		4 <u>6</u>
4,16	Are individual collectors for sharmour error, plustic bottles and packaging materia, and office paper provided to encourage waste segregation?				
4.17	Are C&D wattes solid in site?		1		
4.18	Are C&D waste disposed of properly?		đ		
4.18	Act unused C&D materials or themicals recycled or reused to reduce the quantity of warte?	4			
4.20	Are public fill and CAD waste cause or site as far as providable to rouid dispesal off size?		I		
4.21	Are the construction materials stored properly to minimize the potential for doinage in contamization?		1		*
4.22	ics dumping license obtained to deliver public ET to public filling areas?				

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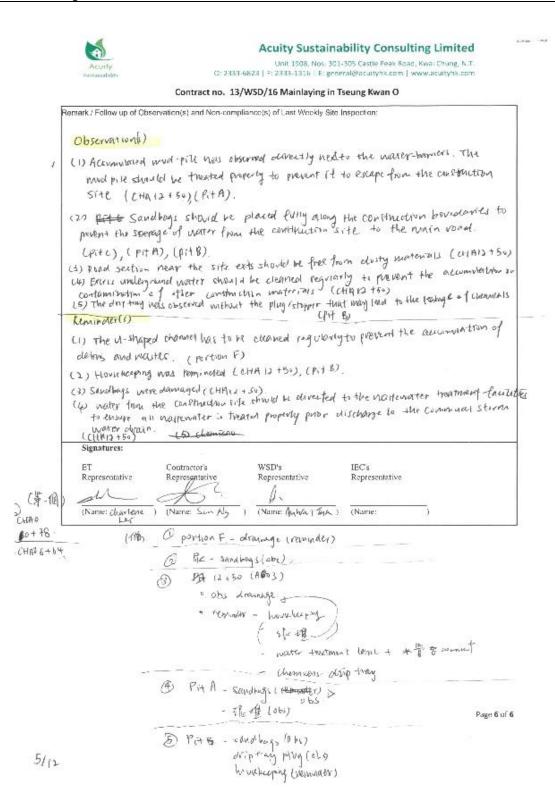
Unit 1908, Nps. 302–305 Castle Peak Road, Kwai Chung, N.T. O: 2333-6828 | F: 2333-1316 | E: general@acuityhk.com | www.acuityhk.com

and services	17/14/55/	17 Blackslands and	Tseung Kwan O

	Contract no. 13/WSD/16 Mainlaying in Tse	ung Kwa	in O		
		N/A	Yei	No	Photo-Remarks
5.00	Landscape and Visual				
5.01	Are is site insuring provided?	\checkmark			
5.02	Ant suggets for disturburse minimized or soil protected to reduce potential soil erosion?		d		
5.03	is construction light oriented away ("min the sensitive memory of?"	1			
5.04	is gross hydroseecing provided to slopes as soon as the completion of works?	6			
5.05	Are daringes to trees onlyide site begindary due construction works availed?	-	đ		-
5.08	is excerning works carried our manually instead of machinery spentium within 2.5m violatity of any preserved trees?	Ø,			
5.07	Are the associated and transformed trengs) properly proceed and in good conditions?				
5.08	Are surgery works earned out for duringed news?	C			
6.00	Echlogy	1.0-10	1000 - 1000 1000		
6.01	Is size numoff properly created to prevent any silly numrif:				. <u></u>
6.02	Are silt (hep-installed and well-usintaned?	ſ			
6.03	Site stackpilles properly cover al to avoid gamenting silly raisoff?		V	, 🗆	
6.04	Are construction works restricted to works area which are clearly defined?		ď		
7.00	Overall		7		
7.01	Is the PMA-A property implemented in general?		\square		2

Page 5 of 6







Acuity		ainability Consulting s. 305-305 Castlin Peak Road, Kw : general @acuityhk.com www	ar Chung, N.T.			
c	Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O					
50	EEKLY ENVIRONMENTAL INSPE	CTION CHECKLIST				
12/12/2019						
Inspection Date: 12/12/2019 Inspected by E. Charges was T. K. Change Inspection Univ. 09:20 Contractor. Sam ICC. NAA						
		N-A Yes N	> Peelo-Rema			
0.00 General		1				
0.01 Is the current Environmental Pear entracessievits for public's inform	nit displayed conspicuously at all vehicle site ration at any time?					
0.02 Is F1 Leader slog-book kept read	tily available for mapactions?					
1.00 Construction Dust						
- 2007년 1987년 1 1987년 1987년 1987	vated materials, building debris and construction are properly covered to prevent dust emission?		obsid			
그는 것 같은 것 같은 것 같은 것 같은 것 같은 것 같이 없다.	spraying or vacuum cleaning devices previded to	dasty	_			
construction works for dust support	080007					
1.03 Are fumes or smoke emitting plan	its or construction activities shielded by a screen?	1				
1.04 Are wheel washing facilities with	high-pressure water jets provided at all site oxits'					
1.05 Is wheel-washing provided to all a	vehicles leaving the sire?		7			
1.08 Are road section near the site out	free from dustly material 5		7			
	site payed or sprayed with water to minimize dus		7			
amission during valuele movement	80					
 Mrc water spraying provided units materials? 	adiately prior to any loading or transfer of dusty					
1.09 Are assors provided to all dump to leaving the site?	rocks carrying dusty materials when entering and					
1.10 Are the working areas for uproate	ing of trees, shrubs, or vegetation or the removal e.					
	th water to maintain the critice surface wet? within six months after the last construct on activit					
site?	A new second second second second second second					
pluc						

Page 1 of 6





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Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T. C: 2333-6823 [F: 2333-1316] F: general@acuityhk.com | www.acuityhk.com

_	Contract no. 13/WSD/16 Mainlaying in Ts	eung Kwa	an O		
		N-A	Yes	No	Photo:Kemarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	_	_	_	
23.6		V			<u>2</u>
1.14	Are stock of more then 20 bags of coment or day PFA covered or sheltered on top and 3	Th			
	sxha!	V			
1.15	Are ne-bagging, building and mixing processes of bagged content carried out in sheltered.	5			
4 4 4	areas?				<i></i>
1.16	Are hourding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	\checkmark			
1.17	Es open hursing provibited?		1		
2.00	Construction Noise (Airborne)				
2 01	Are quiet plants adopted on site ?		1		-
2 02	Are the PMEs operating or site well-maintained to minimize the generation of excessive				
	nicese?		\checkmark		
			1		
2 03	Are plants threaded down or turned off when not in use?				
2.04	Are the plants known to emit nesse strongly in one direction oriented to face away from	-			-
	NSRs!	V,			
2 05	Are movenishe barriers provided to screen NSRs from plant or ninsy operations?				
2.08	Are st enersy, mufflers and enclosures provided to plants?	A			
2.07	Are the hoods, cover ponels and inspection hotones of PMEs closed during operation?	1	Π		
2.08	Are purposely-built site hearding construction with appropriate materials provided along				
	the site boundary?	V			
2.09	Are noisy operation properly selieduled to minutive exposure and exitualitive impacts to		Th		
	hearby sensitive receivers?		<u> </u>		-
2 10	Are valid noise emission label(s) off xed to all hand-beld pressors operating on site?				
2.11	Are velid noise emission label(s) affixed to all are compressors operating on site?	7			
2.12	Are all construction noise parmit(s) applied for percessive pilmg work?	7	$\overline{\Box}$		
2.13	Are construction noise permit(a) applied for general construction works during restricted	7		-	4
	ious?	4.			
2.14	Are valid construction noise permit(s) displayed at all schoolar exits?	1			
3.00	Water Quality		/		-
3.01	Is effluent civeharge, seeuse obtained for wastewater discharge from suc?				
3.02	Is offluent discharged according to the offluent discharge Ecense?		F		
3.03	Is wastewater discharge from site properly mested prior to case surge?		=		
	and the second		V		

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Acuity Sustainability Consulting Limited

Unit 1908, Nos. 401-365 Cristle Pesik Road, Kwai Chung, N.^T. O: 2333-6823 | F: 2333-1316 | E: general@acuitylik.com | www.acuitylik.com

-	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa	Yes	he	Photo:Remarks
		N·A	F ES	D.C.	Photo:Keinarks
3.04	Are perimeter channels provided to intercept storm ranoff from outside the site?		\checkmark		arbs(1)
3.05	Ace sand/sdl removal lacitics such as sand/all traps and sedurent basins provided to remove sand/sill particles from naroff?		\checkmark		
3.06	is surface constit diverted to sed mentation facilities?		\checkmark		
3.07	Is the drainage system properly maintained?		\checkmark		
3 08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?		\square		
3 09	Are expused soil surface protected by paying as soon as possible to reduce the potential of sell-crusion?				<u>1</u>
3:10	Are semporary access mads protected by crashed gravel?		\square		
3.11	Are expased slope surface properly protected?				
3.12	is trench excavation avoided in the wet season as far as practicable, or if necessary,				
	bockfilled in short sections after excavation?				
3.13	And open stockpilles of construction instearals on site coveratility tarpaulin or sinn ar fabric				
	during construction?	Ц,	V		<u>///</u>
3.14	is runall'from wheel-washing facilities avoided?	\checkmark			<u>4.</u>
3.15	Is milleukage or spillage prevented?		\checkmark		
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?		Ø,		0bs (2)
3.17	Are the oil interceptors' grouse maps properly inclutained?				
3.18	Are debris and rubbish generated on size collected, handled and disposed of property to avail them entering the streams?				
3.19	Are all foel tanks and storage areas provided with locks and be sited on staled areas, within hunds of capacity equal to 110% of the storage capacity of the largest tank?	\square			
3.20	Are tarks, containers, storage area bunded and the lucations locked as far as possible from the sensitive watercourse and stormwater drains?				175
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 pertable chemical toilets provided by the licensed contractors?		\square		
3.23	Is concrete washing, water property collected and trental prior to discharge?	4			
4.00	Waste Management				
4.01	Is a trip-tocket system implemented to monitor the disposed of C&D and solid wastes at public filling facilities and lendfills?		Г		

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	Acuity Sustainab Acuity Unit 1908, Nos. 301-3 Sastemulatin D: 2333-6823 F: 2333-3316 F: genera	05 Castle P	eak Road	, Kwai Ch	iong, N.T.
	Contract no. 13/WSD/16 Mainlaying in Tse	eung Kwa	in O		
		N/A	Yes	No	Photo-Remarks
4 112	is a recording system implemented to record the account of wastes generated, recycled and disposed $\sigma^{\rm tr}$		1		
1 03	Is the Contractor registered vis a chemical waste producer?		1		-
4 04	Are chemical waste separated firm other waste and collected by a Leensed chemical waste policetor?		1		
4 35	Are trip tickets for elemical waste disposal available for inspection?	1			
4 36	is obtained waste neurodand racycled on site as lin as possible the?	6			
4.07	Are all containers for chemical waste properly labelled?	4			
4.08	is obemical wasse storage area used solely for storage of chemical waste and properly labelled?	\checkmark			
4.05	Are incompacible chemical wastes stored in different areas?	4			
4 10	Is the chemical wasic storage area coclessed on at least 3-sides and idecovidly ventilated?				
4 11	8 an impenneable floor and bunding, of capacity to accommodate 110% of the volume of the targest contineer in inf 20% by volume of the chemical waste stored in that true, which even is the grantest, provide?				4a
4 12	Are a rootne elsaring and maintenance programme implemented for drainage systems, sump pits, and col interceptors?		Ø		
4 13	Are sufficient general refuse dispesal collection points provided on site?		đ		4
4.14	Is general refuse disposed of properly and regularly?		1		
4 15	Are appropriate measures adopted to minimize windolown littler and dust during transportation of wind?	1			98
4 15	Are individual collessers for dummum cars, plastic bottles and packaging material and office paper reuvided to encourage waste segregation?		1		
417	An, Giêl Danstes with, nu sit. ⁹		$\overline{\Box}$	Π	
4.18	Are C&D waste disposed of properN7		T		
4 18	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	T			
4 20	Are public fill and C&D waste reporter site as far as prioriteative to avoid dispesal of Csize*		T		
4 21	Are the construct ou materials stated property to minimize the potential for duringe or contact station?		F		
4 22	is a comping license obtained to deliver public (2) to public filling areas?		7		

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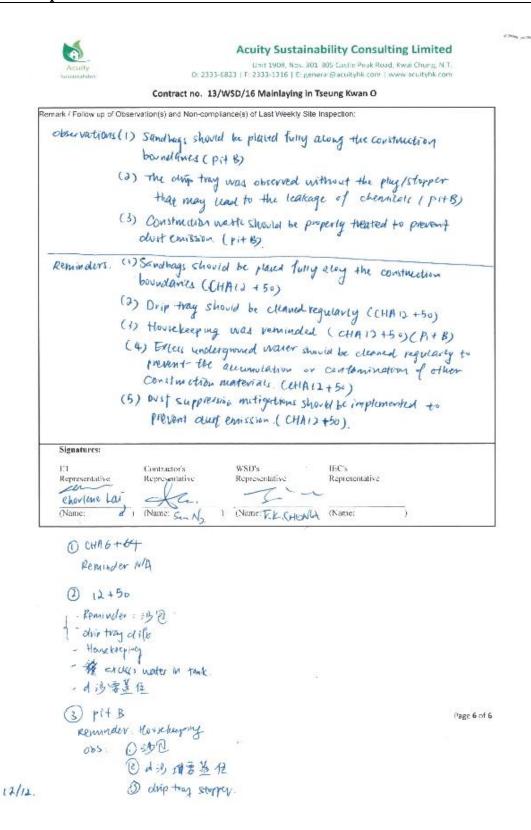
Acuity Sustainability Consulting Limited

Unit 1908, Nos. 301-365 Castle Peak Road, Kwai Chung, N.T. 0: 2333-6823 | F. 2333-1316 | E. general@acuitytk.com | www.acuitytk.com

		NA	Yes	Nu	Photo/Remarks
5.00	Lundscupe und Visual	,			
5.01	Are is see hearding provided*	5			
.02	Are vegetation custurbance itemimized or soil protected to reduce potential soil protects?	JAN 1	V		
.03	Is construction Tight or knowled away from the sensitive receivers?	1			
04	ls gross hydroseeding provided to stoppes as seen as the completion of works?	1	$\overline{\Box}$		
5.05	Are damages to trees outside site houricary due construction works avoidad?	1	1		
5.05	Is exervation works earlied out manually instead of machinery operation within 2 cm vicinity of any preserved trens?	1			
5.07	Are the retained and transplanted trac(s) properly protected and in good conditions?	1			
.03	Are surgery works carried out for damaged trees?	1			
.00	Ecology	St - 15			
5 01	is site runeff property trested to prover, any sub-runoff?		T		
1.02	Are all trap installed and well-main anna??	\checkmark			
.03	Are stockpiles properly covered to avoid generating silty rain(T)		1		
i.04	An constantion works astricted to works area which are described defined?		1		-
7.00	Overall		1		
7.01	is the EM&A property implemented in general?				

12/12.







Acuity	Unit 1908, Nos	ainability Consulting Limited 5-301-305 Castle Peak Road, Rwai Chung, N.T 5 genera @acultyhk.com www.acultyhk.com
	ntract no. 13/WSD/16 Mainlaying	
cor	macrino. 15/ WSD/16 Mainiaying	g in iseung kwan O
	EKLY ENVIRONMENTAL INSPEC	CTION CHECKLIST
Inspectan Daves <u>(87137)579</u> Inspectan Daves <u>09-30</u>	Impected In: 57. Chay 12 Contractor: 54144	
Weather Candidon Saas Temperanue QUA Wind Saat Wind	r hrs hereve Diricis Deniðhy Higs v laght Mirrer Ssoug	kun henr kius Mintenis las
		N'A Yes Ne Photo-Remarks
0.00 Central 0.01 Is the current Environmental Period entrarece/exits for public's informatio		
0.02 Is I'I Lender's log-book kept readily	available for inspections?	
그는 것에 물건을 입장하거든 것이 없는 것이 없는 것이 없는 것이 없다.	d materials, building debris and construction coperly covered to prevent dust emission?	□ I □ _ obs(1),1
1.02 Are screenings, enclosures, water spe- cunstruction works for dual suppress.	sying or vacuum cleaning nevices provided to a m ²	
1.03 Are Junies or smoke emitting plans o	r construction activities shielded by a screen?	
1.04 Are wheel-washing facilities with high	h-pressure wetter jets provided at all site exits?	
1.05. Is wheel washing provided to all vehic	cles lowing the site?	
1.06 Are road section near the side can line		
emassion during schiele movement?	payed or sympted with water to minumize dust	
1.08 Are water spraying provided innuclia materials?		
leaving the site?	s carrying dusty materials when entering hird	
boulders, poles, pillars sprayed with w	Tuces, shrubs, or vegetation or the removal of ator to insortain the entire surface wet?	
 1.11 Is exposed earth properly treated with site? 	n six months after the last construction activity	y ac

Page 1 of 6



	4	đ		
	2		k.	
2	3	J	7	
7	i.			

Acuity Sustainability Consulting Limited

Unit 1908, Nos. 301-305 Castin Peak Road, Kwai Chung, N.T. O: 2333-6823 [F: 2333-1316] E: genera @acuityhk.com _ www.acuityhk.com

	Contract no. 13/WSD/16 Mainlaying in Ts	eung Kwa	an O		
		N/A	Yet	No	Zioto Remarks
1.13	Are vehicles travelling at spred not exceeding 15km/hr within the site?	1			
1.14	Are stock of more than 30 bags of centent or day PEA eavered or shortened on top and 3 sides?	1			
1.15	Are de-hagging, hetching and mixing processes of bagged content control out in sheltered areas?	1			
1.16	Are locarding of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	1	Π	Π	
1.17	Is open burning prohibited?		1		
2.00	Construction Noise (Airborne)		7		
	Are quiet plants adopted on site?		1		
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive most?		\checkmark		s
2.03	Are plants thrattled down or formed off when not in use?		A		
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from				
2.04	vize the plants known so evan noise strongly in one an extran arterize to race away man NSRs?				-
2.05	Are moveable hurriers provided to series: NSRs from plant or powy operations?	1			
2.06	Are silencers, mufflers and enclosures privided to plants?	4			
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	1			
2.00	Are proposely-built site hearding constitution with appropriate meterials provided along the site boundary?	1			
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to pearby sensitive receivers?		1		
2.10	Are valid noise emission label(s) allixed to all hand-held breakers operating on site?	5			
2.11	Are safet noise emission label(s) affixed to all air compressors operating on snat	4			
2.12	Are all construction noise permit(s) applied for percussive pilling work?	\checkmark			
2.13	Are construction noise permit(s) applied for general construction works during restricted points?	4			
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	1			
3.00	Water Quality	S			
3 01	Is effluent discharge license obtained for wastewater discharge from site?		1		20.0.0
3.02	Is effluent discharged according to the effluent discharge license?		1		
3.03	Is wastewater discharge from site property treated price to discharge?		1		

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Acuity Sustainability Consulting Limited

Unit 1908, Nov. 301-305 Castin Pesk Road, Kwai Chung, N.T. O: 2333-5823 | F: 2333-1316 | E: general @acuityhk.com | www.acuityhk.com

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

		N/A	Yes	No	Pitoto:Remarks
3.04	Are permeter channels provided to intercept storm runaff from outside the site?		\checkmark		
3.05	Are sand/silt removal facilities such as and/silt traps and sediment basins provided to consist sand/silt particles from resolf? \rightarrow				
3.26	is surface sumplifyliverial to scalimentation facilities?		1		
3.07	Is the drainage system properly maintained?		1		
3.08	Are construction works carefully programmed to maximize soil excavation works during rainy seasons?		1		
3.09	Are exposed snil surface protected by paving as soon as possible to reduce the potential of soil exosion?		1		<u></u>
3.10	Are temporary access much protected by erisbed gravel?		1		
3.11	Ara expressed slepse surface peoperty protested?				1. 2.
3.12	Is toroch excavation avoided in the wet sensor is far as practicable, or if necessary, backfilled in short sections of or excavation?		1		-
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?		1		Constr.
3.14	Is runall from wheel-washing facilities avoided?	1			
3.15	Es nil leakage or spillage prevented?				
3.16	Are there any measures to prevent the release of col and grease into the storm drainage yster/?		d,		2000
3.17	Are the oil interceptors' grosse traps properly insuitainat?		1		
3.18	Are debris and rubbish generated on site collected, handled and disposed of property to avoid them entering the streams?				
3.18	Are all fuel tanks and storage areas provided with locks and be sized on scaled areas, within bunds of capacity secul to 110% of the storage capacity of the largest tank?	5			
3.20	Are tanks, containers, sturage area bunded and the locations looked as far as possible from the sensitive watercourse and storewater drains?		\checkmark		
3.21	Are sufficient themical tellets provided on site to handle sewage from construction work fores?		1		
3.22	Are sewage disposal and tellet maintenance of the portable chemical toilets provided by the licensed contractors?				
3.23	is concrete washing water properly collected and treated prior to discharge?	1			
1.2.2.2.2.2	Waste Management Is a inp-licker system implemented to monitor the disposal of C&D and solid wastes at public Elling Jacilities and landfills?		1		

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	Actuity	Acuity Sustainability Consulting Limited Unit 1908, Nov. 301-305 Cavite Peak Road, Kwai Chung, N.T. O: 2333-6823 (F: 2333-1316 C: general@acuityhk.com / www.acuityhk.com Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O						
	1			N/A	Yes	No	Photo-Remarks	
4.02	ls a meanling system implemen disposed off	its) to recruit the arricult of wastes generated	l, recycled and		1			
4.03	is the Contractor registered as a c	fremical waste producer?			-6			

	dispased of?	
4.63	is the Committee registered as a chemical waste producer?	
4 Ç4	And chemical waste separated from other waste and as facted by a factored 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 chebrical 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 chemicyl waste scorage area unclosed on a lease 3 sides and adequately services?	
4.11	Is an imperinciable (here and hunding, of expansive nucleon-modules) 100% of the volume of the largest can aims or of 20% by volume of the chemical wave stand in that area, which yes is the greatest, provide?	
4.12	Are a routine detailing and memorance programme implemented for draimage systems, somp ons, and oil interceptors?	
4.13	Are sull'i tent general refuse disposablection points provided on site?	
4.14	is general refuse disposed of properly and regularly?	
4 15	Are appropriate measures adopted formanic/22 would low fifter and clost during transportation of worke ⁵	
4.16	Are incredual collectors for aluminum cans, plastic bottles and packaging material and office caper provided to encourage waste segregation?	
4 17	Are CAD washes with an are?	
4.18	Are C&D waste capased of property?	
4.19	Are unused C&D materials or chemicals recycled or roused to reduce the contains of wave $^{\circ}$	
4 23	Are public (50 and CAD) wrote rense no site us far as point sublic to around dispuse! off-site?	
4.21	Are the construction materials stored property to minimize the potential for damage or content stories?	065(2)
	conten restany	

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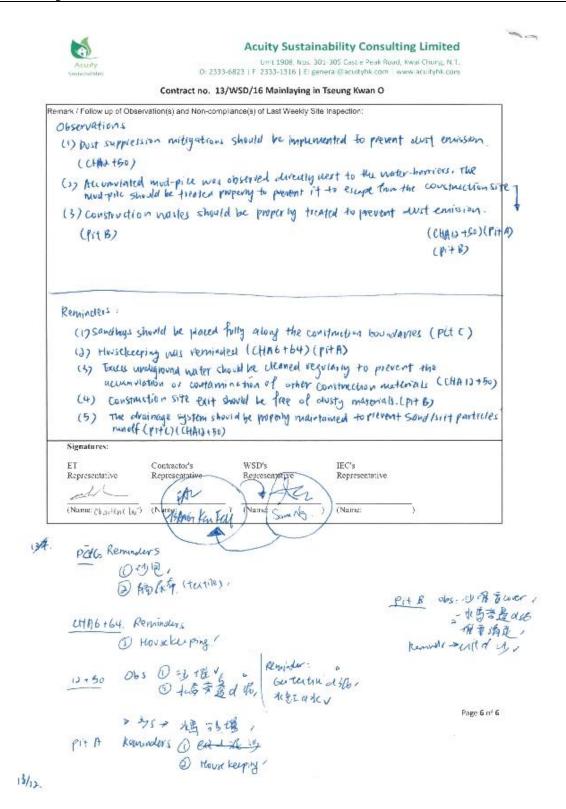
Acuity Sustainability Consulting Limited

Unit 1908, Not. 301-305 Castle Peak Road, Kwai Chung, N.T. 0: 2333-6823 | F: 2333-1316 | E: general@acuitynk.com | www.acuitynk.com

Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O Photo/Remarks N/A. Yes No. 5.00 Landscape and Visual 5.01 Are Is site hearding provided? 1 5.02 Are vegetation disturbance attornated or soil protected to reduce potential soil erasion? 5.03 Is construction light oriented away from the sensitive receivers? 5.04 is grass hydroscaling provided to slopes as soon as the completion of works? 5.05 Are damages to trees outside site boundary due construction works avoided? 1 5.06 Is each stion works carried out manually instead of machinery operation within 2.5m vicinity of V any preserved trees? Are the retained and transplanted tree(s) properly protected and in good conditions? 5.08 Are surgery works earned out for domaged the+? V 6.00 Ecology 6.01 Is site curoff property mented to prevent any silly randf? 1 8.02 Are ailt tran installed and well-main ained? 1 6.03 Are stockpiles properly covered to avoid generating silty runnit? 1 6.04 Are construction works restricted to works area which are clearly defined? 1 7.00 Overall 7.01 Is the EM&A property implemented in general? 1 Ľ

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	редила можни из 1903, New 1023 позванието 0, 2333 1823 (F 2345 1316 11) дечес	
	Contract no. 13/WSD/16 Mainlaying in Ts	eung Kwan O
	WEEKLY ENVIRONMENTAL INSPECTION	N CHECKLIST
	in Daw <u>-37/12/2019</u> Inspecial last in Time <u>9=30.010</u> Ny	wen Isang Kin For.
Weath Conda Damps Wind		s lax
-		N/A Yes No Pheto-Remarks
18.85	General Is the current Environmental Pernnt displayed conspicuously at all vehicle site entrances/ends for public's information at any tend?	
0.02	is ET Leader's log-book kept reacity available for inspections?	
155	Construction Dust Are dusty materials, such as excavated materials, building debris and construction nationals, and exposed earth surface properly covered to prevent dust emission?	
1.02	Are so comings, endosines, vater sunavirg, or vacuum eleaning devices provided to dusc- construction works for dust suppression?	
1.03	Are fumes or smake emitting plants or construction notivities shickled by a serven 2	
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 size exit free from dusty material?	
1,07	Are all main heal roads mode the site paved as sprayed with water to minimize dust, emission during vehicle movement?	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	
1.09	Are envers provided to all dump trucks carrying dusty materials when entering and caving the stud?	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of	
1.11	bookda's, poles, pillars sprayed with water to maintain the entire surface wet? It expand earth property treated within six months attac the last construction activity on	
	• Express can a projectly ocares when a sector and a construction according on site?	
1.12	Dues the operation of plants on site free form dark smoke $\mathrm{conv}_{22000}^{\mathrm{op}}$	

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	Acuity Sustainab Umit 1908, Not. 301-3 0,2233-3823 1 3130-1316 F. general	05 Costle P	eak îldel	Kagar ED	cosg, Wit
8. U	Contract no. 13/WSD/16 Mainlaying in Tse	ung Kwa	n O Yes	No	Photo:Remarks
		200210			
1.13	Are vehicles mavelling at speed net exceeding 15 ordin within the start		$\overline{\mathbf{N}}$		g
.14	Are state of more than 20 hags of cement or d_{23} PTA covered or sheltered on too and 3 sides?	\square			
1.15	Are de bagging, baching and mixing processes of bagged cement carried on, in sheltered areas?	$\overline{\mathbf{N}}$			
1.16	Are hearding of at least 2.4m high previded along the site boundary indianing areas		-	-	
	accessible by the public?	V			
1.17	Is open burning prohibited?		$\overline{\mathbf{V}}$		
2.00	Construction Noise (Airborne)	198 - 1984.	1	(18-11)X	
2 01	Are quict plants adopted on site?		V		
2 02	Are the PMEs operating on site well-maintained to minimize the generation of excessive mose?		\checkmark		
2.03	Are paints throttled down or formed off when not chase?				
2.04	Are the plants known to emit noise strangly in one direction oriented to face away from NSRs?		\square		
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?		\overline{V}		
2.06	Are siloners, multers and enclosures new ced to playts?		∇		
2.07	Are the breeds, enveryounels and inspection hatches of PMEs closed during operation?		V		
2.08	Are purposedy-built atte hearding construction with appropriate materials provided along the site boundary?		V		
2.09	And noisy opposition property scheduled to in nini ize exposure and contrativity impacts to rearby scientific reporters?		V		
2.10	Are valid noise emission label(s) affixed to all hand-beld breakers operating or site?	M			
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 parclassive pilling work?	$\overline{1}$			
2.13	Are construction noise parmit(a) applied for general construction warm during restricted bours?				
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	Ń			
3.00	Water Quality				
	Is off-perit discharge hearse obtained for waterwater discharge fram site?		\square		
3.02	Is effluent discharged according to the effluent discharge license?		\checkmark		
3.03	Is wastewater discharge from and properly treated prior to discharge?		$\overline{\mathbf{A}}$		

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Acuity Sustainability Consulting Limited

Levi 1998, Nes 301-505 Castle Fest Road, Swar Charls, N 1 0: 2213 6829 [F. 2513 5116] F. general/March McKern]. www.au. tyb.com

		N/A	Yes	No	Photo-Remarks
3.04	Are perimeter channels provided to intercept storm puroff from outside the site?		\square		0
3.05	Are sandys (premoval landitors such as sandys)lt traps and sediment basins provided to remove sandys it particles from numet? ¹²		M		1997 1997 - 1997 1997 - 1997 - 1997
2.06	is authors runall diverted to seducertation facilities :		\square		
3.07	is the drainage system property maintained?		M		
3.08	Are construction works carefully programmed to minumize soil excerning works during rang seasons?		\bigtriangledown		
3.09	Are exposed soil surface protected by paving as sum as possible to reduce the potential of soil crossion?		V,		
3.10	Are temporary access roads protected by crushed gravel?		Ń		
3.11	Are exposed slope surface properly (varietise)	$\overline{\mathbf{V}}$			N
3.12	Is trench excervation avoided in the wet seasan as far as practicable, or if necessary, backfilled in short sections after excervators?		V		
3.13	Are open stockpiles of censtruction moterials on site covored by tarpaulin or similar lident during coestruction?		V		
3.14	Is runaff from whee -washing facilities avoided?	\bigtriangledown	+		
3 15	ls eil lookage or spillage prevented?		\checkmark		<u>observation</u>
3 16	Are there any measures to prevent the release of oil and grease into the starm drainage system?		V		diservationa
3 17	Are the oil interceptors? grease maps properly maintained?		M		87
3 18	Are debris and rubbish generated on size collected, handled and disposed of properly to avoid them, entering the streams?		\checkmark		
3.19	Are all fuel tanks and storage areas provided with locks and be sited or scaled areas, within bunds of capacity equal to 110% of the storage especity of the largest tark?		\vee		0
3.20	Are tanks, containers, storage area bundled and the locations locked as the as possible from the sensitive watercourse and stor inwater drains?		V		
3.21	Are sufficient chemical todets provided on site to hondle sewage from construction work force?		Ń		
3.22	Are sewage disposal and toilet maintenance of the partiable chemical toil ers provided by the licensed cantractors?		V		
3.23	is concrete washing water properly collected and treated prior to discharge?	Ń			
4.00	Waste Management				
4.01	is a trip-licket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfill at		M		

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Acuity	Sustainability	Consulting	Limited

, int TEEK, Nov. 621 425 Lastle Peak Amil, Kaw Chang, N I (1924), i8224 (82234), 1223421210 . Coperatelelosphicycle (cm.) www.wei.utycle.to.v

	Contract no. 13/WSD/16 Mainlaying in Tse			10.	Photo/Romanke
		NA	Ϋ́њ.	No	Photo/Romarks
4.02	is a recording system implemented to record the amount of wasks generated, strayolid and disposed of?		V		
4 03	icitie Cartmeter registra ed es e chermeal waste proctuder?		\bigvee		3.
4 34	Are chemical waste separated from other waste and collected by a locurs of chemical waste collector?		\bigvee		
4 05	Are inplaces for chemical worker disposal available for cospection?	Ń			
4 06	behaminal waste roused and necycled on site as far as practicable?	$\overline{\vee}$			
4.07	Are all containers for chemical waste properly labelled?		\square		
4.08	Is chemical waste sterage area used solely for sloring of chemical waste and properly labelled?		\square		
4.09	Are incompatible chemical wasks stored in different areas?		$\overline{\vee}$		
4.10	Is the diferenced watere working area enclosed on at least 3 sides and adoptately versiloard?		\overline{V}		03 <u></u>
4.11	Is an importunable flace and bunding, of capacity to account date 11025 of the solution of the argest container or of 20% by volume of the chamical waste stored in that area, which we is the gratest, provide?		Ń		5
4.12	Are a routine dearing and maintenance programme implemented for dratage systems, sumplies, and out interceptors?		V		
4.13	Pare sull'actent general refuse disposal collection points provided on site?		V		
4.14	6 general refuse disposed of properly and regularly?		V		
4.15	Are appropriate measures adopted to minimize wind Veworl (Ser and dust during transportation of waste?		\checkmark		2
4.18	Are individual collectors for chaminum cans, plastic hottles and packaging material and office paper provided to commanye waste segregation?		\bigvee		33
4.17	Are C&J wastes somed on site?		V		
4 18	Are C&D wasts disposed of purpletly?		V		observation 13
4 19	Are unused CRD insterials or chemicals recycled or reused to reduce the quonity of wester	$\overline{\mathbf{v}}$			
4 20	Are public fill and C&D waste rease on site as practicable to need dispotal aff-site?		V		
4 21	Are the construction intererals stored property to minimize the potential for damage or extaminations $^{\circ}$		V		
4.22	is a dumping license obtained to deliver public fill to public filling second		\checkmark		

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Acuity Sustainability Consulting Limited

Le El 1908, Kris, 332-300 Coste Peak Road, Kwa Chang, N., U 2323-5423 (E-2333-3176) El general Caroling N. com - www.woungtv.com

Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O					
		N/A	Yes	No	Photo:Remarks
5.00	Landscape and Visual		,	8	
5.01	Ar , la site hearding, pre-ideal?	\Box	A		
5.02	Are vegetation disturbance minimized of soil protected in reduce patential soil eros on?		Ø		
5.03	is construction light oriented away from the sensitive receivers?		M		ā-
5.04	le grass hydrosecolong provided to slopes as soon as the completion of works?	\bigtriangledown			
5.05	Are damaget to trees outside site boundary due construction sorties avoided?		\square		
5.06	is exervation works carried our manually instead of machinery operation within 2.5m victurity of importenerved inters?	\bigvee			
5.07	Are the retained and imagelarited to: (-) preperly protocted and in good conditions?	V			(<u>1</u>
5.06	Are surgery works carried out for damaged trees?	Ń			
6.00	Ecology				
6.01	is site randiff projectly treated to preventions solly randiff		V		
6.02	Are slit trap installed and well-strainstaned?	M			
6.03	Are seek pikes preperly covered to seeid generating silty runoff		V		a <u></u>
6 04	Are construction works restricted to works area which are clearly defined?		M		
7.00	Overall		242		
7.04	Is the EM&A properly implemented in general 3		M		

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6	Acuity Sustainability Consulting Limited Unit 1928, Nos. 171, 523 Crain-Pede Relat. New Ensure, N.1 (2) 7435-5824 [3: 2: 145 13: 5: 1 Creater Medicater Science] www.acuity/ic.com
	Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O
Remark / Follow up of Ob	servation(s) and Non-compliance(s) of Last Weekly Site Inspection.
Observation	
in chamical the	ain on the ground should be cleaned. at Portion F.
(i) (isominal sh	will be placed property, at 137.
(3) construction	waste should be statisticated property at B+ B, B+A.
Reminder	n war the site exit should be free from dusty materials of CHA12-
in Braden the	King of Color # of Martin 10 is recommended
is waster she	will be cleaned regularly #. At A. Arc.
(4) stind bugs	should be fully placed along the work boundary at Pit A.
(5) Gullies 5	hvild be protected properly at Pit A
16 Excess between	lenground water should be cleaned regularly it provent the
V acumulation	not or contamination of other construction materials. at (111912+5
Signatures:	
ET Representative	Contractor's WSD's IEC's Representative Representative
· In.	fr 14m/
Named I V.	(Nume: SwerNy) (Nume:) (Name:)
forps tar	1. Smilly Weaks King Terry

- di Portan F.
- 2 PAPC
- (3) 137
- A CHR 7+20
- (5) CHA (2450
- J. BEB
- 山苏湖谷

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Accesso	0.00 1908.	stainability Consulting Limited Nos. 301-305 Correl Prok Boad, Kwar Churg, N.1. 5 Telsgeneral Statustylik.com
	Contract no. 13/WSD/16 Mainla	ving in Tseung Kwan O
224-121-220-127-2	WEEKLY ENVIRONMENTAL INS	
Inspection Date: 3//12/2	017 Inspecies by: ET Kary	polithaniane was Tsong Kin Part bane Ng. IEC Francis Low
Inspection Time: 09:30		wine rug Tranus Low
Weather	Day Downad Dines:	Nur. Stern Phas
Temperature 19		
wind then	J	
		N/A. Yes No Photo-Remar
0.00 General		
	nal Permit displayed conspicuously at all vehicle site	
	's information at any time?	
0.02 Is ET Leader's log-book l	cept readily available for inspections?	
1.00 Construction Dust		
	as excavated materials, hurlding debris and construct	
	rth surface properly covered to prevent dust unission	
	s, water spraying or vacuum cleaning devices provide	
construction works for du	sl suppression?	
1.03 Are ferries or smoke cont.	ing plants or censtraction activities shielded by a ser-	ani? /
1.04 Are wheel-washing facilit	ics with h gh-pressure water jets provided of all site ϵ	
1.05 Is wheel-washing provide	d to all vahicles leaving the site?	
2 06 Are read section near the	ate exit free from dusty minerial?	
1.07 Are all main haul roads in	side the site payed or sprayed with water to minimize	
emission during vehicle n	259 A 550	
* 08 Are water spraying provide materials?	led immediately prior to any leading, or transfer of du	
	dump trucks canying dusty materials when entering,	
caving the sto?		
State and the state of the stat	uproadurg of tracs, shruns, or vegetal on or the remo-	valar IIII
	rayed with water to monitory the entire surface wer? treated within six months after the last construction a	
site:	AND A THE REPORT OF A DAMAGE AND A DESCRIPTION OF A	
	us on site free form dark smake emission?	

Page 1 of 6



14 Are sports of more than 20 hogs of coment or day PCA covered or sheltered on up and 3 15 Are de-sugging, matching and mixing processes of bagged coment carried on in stoluered 16 Are de-sugging, matching and mixing processes of bagged coment carried on in stoluered 17 Are de-sugging, matching and mixing processes of bagged coment carried on in stoluered 18 Are developing, matching and mixing processes of bagged coment carried on in stoluered 18 Are developing, matching and mixing processes of bagged coment carried on in stoluered 19 Are developing, matching and mixing processes of an another stoluered 10 Construction Noise (Althorne) 11 Are quiter stores developed on site? 12 Are stores were in on the well maintained to minimize the generation of covers were rece? 13 Are planes throutied down or humost on use? 14 Are planes throutied down or humost on use? 15 Are planes throutied to stole a store visit of period visit or one of vestore and one one vestore period visit or vestor vestore vestore one vestore and covers were rece? 15 Are planes throutied down or humost on use? 16 Are planes throutied and material or pool vestore and covers vestore receives on the vestore vestore vestore and covers vestore and covers vestore and covers vestore receives vestore receives vestore receives vestore a		Acuity Sustainab	bility Consulting Limited
N/A Yes be Photo Remarks 13 Are weld as maximing at speed mut exceeding 19km/m within the sto?			
13 for weakle as travelling at speed nut exceeding 13%mohn who who who who who we state?		Contract no. 13/WSD/16 Mainlaying in Ts	
115 Are de-suggring, batching and it king processes of bagged cement curried out in skeltered 116 Are hearding of at least 2.4m high perivsded along the site boundary wheroing it ress 1176 Are hearding of at least 2.4m high perivsded along the site boundary wheroing it ress 1176 Are hearding of at least 2.4m high perivsded along the site boundary wheroing it ress 1177 A are hearding of at least 2.4m high perivsded along the site boundary wheroing it ress 1178 Are number operiodical adopted on alite? 1179 Are splarts adopted on alite? 1202 Are set PMHs openhing on alite well maintained to maintake the periodical of society et al. 1202 Are set PMHs openhing on alite well maintake the periodical of society et al. 1203 Are plarts throatied desso or turned off when not or one?? 1204 Are the states shower to end trobe attempty in one direction oriented to face state tom. 1205 Are mary addle homers, most heat states is NNR from plart or noisy uperations? 1206 Are mary addle homers, most heat on turned off when one oriented to face state of theme. 1207 Are mary addle homers, most heat one with appropriate materials provided doors 1208 Are mary addle homers provided to ball.s? 1209 Are maroogeneral, wheat heat boundary attemptedue and comparise origon to			N/A Yes Ne Photo:Remarks
aldes? Image: State of the sequence of the seque	13	Are vesicles mayelling at speed not expeeding 13km/to within the site?	
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sccessible by the public? s spees hursing provided? 2.00 Construction Noise (Althorne) 2.01 Are quice dama adopted on site? 2.02 Are the White operating on site well maintained to minimize the percentation of everys very incore? 2.03 Are plants throttled device number of when not incore? 2.04 Are the status showen an end noise site incore? 2.05 Are plants throttled device number of when not incore? 2.06 Are burnes incores through on the order of the plant or noise? 2.07 Are the status showen an end noise site incore? 2.08 Are plants throttled device number of the order of the plant or noise upper through in the status showen an end noise site order or noise upper through in the status of the status incore site order or noise upper through in the status of the status incore site order or noise upper through its face assay them. 3.09 Are many active through and assay that is the status of the status of the status of the indice or "PMFs costed carding operations? 3.00 Are many active through and inspection with appropriate materials provided along the status inspection theories or with appropriate materials provided along the status theories? 3.00 Are many construction noise permited to all terretury essents operating on stre? 3.01 Are valid noise emission had(s) atliaed to all terretury essents operating on stre? 3.02 Are valid noise emission had(s) atliaed to all terretury essents operating on stre? 3.01 Are valid ensurements obstrated to status operation sectors with appropriate prior of a strengt of a splited in a posterior prior spectra and and active any essent operating on stre? 3.02 Are valid noise emission had(s) applied to generative prior sectors operating on stre? 3.03 Water Quality 3.04 Kee number of applied for generative prior sectors of a splite of all explicit discharge forms of a splite of all explicit discharge forms of a splite of a splite of all explicit disc	1 15		
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3.05 Is westewater discharge from size property treated prior to discharge?	3.02	Is efficient discharged according to the effluent discharge located?	
	3.03	Is wastewater discharge from size properly treated prior to discharge?	

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	Contract no. 13/WSD/16 Mainlaying in Tse	NA NA	an O Үвэ	Nπ	Photo:Remark+
3.04	Are perimeter channels provided to intercept stear; sucoff from outside the site?		1		
3.05	Are sendball removal facilities such as sandball maps and sadiment basins provided to remove seekladt particles from runnff?		7		
3.06	surver recently proceed from funant?		d		-
3.07	Is the drainage system properly maintained?				
3.06	Are canorimetricit works earefully programmed to intriinize suit excavation works during rainy sensers?				
3 09	Taing seasons as Are expressed and surface projected by paying as seen as possible to reduce the parential of and emission?				6 <u>.</u>
3 10	Are remporing norms roads protected by crushed gravel?				
5.11	Are in much slope surface properly protected?	1			-
3.12	te tremph exervation acould in the web series as for as practicable, or if necessary trackfilled in short sectores after execvation?		7		
2.13	Are open stockpiles of construction materials on site accorded by introdulin or similar fabric doing constructure?		1		
3.14	Is runar! from wheel-washing facilities avoided?	7			
3 15	Is ini leukage or spillage prevenied?		1	$\overline{\Box}$	
3.18	Are there any measures to prevent the release of oil and grease into the store draimage system?		7		
3,17	Are the oil interceptions/ grease traps properly maintained?		7		
5.18	Are debris and mibboning enerated on sate on facted, familied and disposed of property to avoid them emergence streams?		T		
3.19	Are all fast tarks and storage areas provided with looks and be sited on seeled areas. within bands of departity equal toON of the storage captority of the largest tank?	1	$\overline{\Box}$		
3.20	Trainin ecces or experting equal to control in energy equipping on the original and Are trained, consulters, storage area bunded and the locations locked as fair as possible from the sensitive watercourse and starrawater drains?				
3.21	an security subjects as an annihilation in the Are sufficient chemical toilets provided on site to hondle sowage liter, construction work force?		T		
3.22	Are severe disposed and collect maintenance of the partiable chemical rollers provided by the license contradors?				
3.23	Is concrete withing, which properly collected and treated prior to discharge?	1			

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	Acuity Sustainal	os caster	Peak Road	t, Ksali Cl	nung N.T.
	Contract no. 13/WSD/16 Mainlaying in Ts	eung Kwa	an O		\
		1.14	Yes	No	Photo-Remarks
4 (12	Is a reasoning system implemented to record the amount of wastes generated, recorded and disposed of?		\checkmark		
4 83	is the Contractor registered as a chemical weste produce of		1		
4 04	Are channels waste separated from allos waste and collected by a licensed chemical waste collector $^{\circ}$	1			
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?"	1			2 20
4.07	Are all assistances for electrical waste properly label ed?	1			
4.06	is chemical waste storage area used ablefy for storage of chemical waste and properly labelled?	1			
4.09	Are incompatible chemical wastes stored in different areas?	1			
4.10	is the them lead waste stronge area unclosed on at kine. I substantial advantately west dated?	6			
4.11	is or impermetible floor and bunding, or capacity in accommodate 110% of the volume of the august container or of 20% by volume of the chemical works stared in first area, whichever is the postest, provide*				
1.12	Are a routine cleaning and memorance programme implemental tis dramage systems, south- pus, and oil interceptors?				
4.13	Are sufficient general refuse disposation lection points provided on site?		1		
4.14	is general refuse disposed of property and regularly?		1		
4.15	Are appropriate measures adopted to minimize windblown liner and dust during transportation of windef		1		
4.16	Are individue] collectors for aluminum cans, phasic botcles and puckaging muscrial and office caper provided to encourage waise segregation?				
4 17	Are CAD wester with an \$120				
4.19	Are U2D waste dispused of property?				~
4.18	Are unused C&D materials or cheroses's casectal in cases, to reducit the canonity of waster	\square			
4 20	Arc public fill and CAD waste resise on site as far as practicable to avoid disperal off-site 1	1			
4.2*	Are the construction materials stored properly to minimize the potential for downgo or contamination?		đ		2
4 22	Is a comping license ebiaired is deliver public (1) to public filling areas?		T		

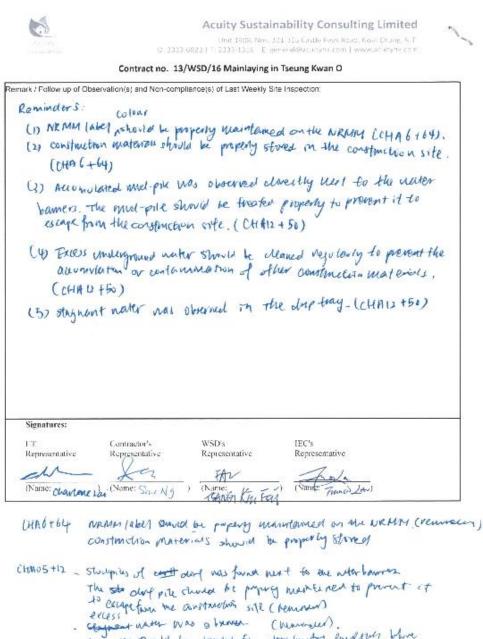
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Acuity Sustainability Consulting Limited 4 $\label{eq:constraint} Unit 1408, Not. 101.305 Castle Powe Rhan, Kwai Chum, W. (1.2534 6825) <math display="inline">\sim 2233$ 1510 - Eligene alfibera tetranot) www.scie.tetra.com Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O Photo-Remarks N/A No 5.00 Landscape and Visual 5.01 Are is site hearding provided? 1 Are segetation disturbance minimized or sol protected to reduce potential soil erosion? 5.02 5.03 Is construction light oriented away liver the sensitive receivers? J p.04. Is grass hydroseeding provided to slopes as soon as the completion of works? 1 5.05 Are damages to neck outside site boundary due construction works avoided. 5.06 is excavation works carried out monosity instead of machinery operation within 2.5m vicinity of my preserved trees? 5.07 Are the retained and transplanted tree(s) properly protected and in good wordst cosh 1 5.08 Are singlely works carried out for damaged lows? 1 6.00 Feology 6.01 is site ranoff properly treated to prevent any silly ranoff? 1 6.02 Are sit top restalled and well-maintained? 4 8.03 Are mockpoles properly covered to avoid generating tilty runoff? 6.04 Are construction works restricted to works area which are clearly defined? 1 7.00 Overall is the HM&A properly implemented in general? 7.01 1

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- chypert where was a preven (hummeler). All notes and he develop to water tweeting lowlows by me discharge
- slynger water and to open in the duit tray (reminder)

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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 January 2020 - 31 January 2020	 Excavation of trench Mainlaying of pipe Backfilling of the trench Work fronts for open trench Work fronts for pipe jacking Trial pits works 	Construction dust and noise generation	 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



Appendix N

Impact Monitoring Schedule of Next Reporting Month

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