

JOB NO.: TCS00881/18 & TCS00944/18

SITE FORMATION AND ASSOCIATED INFRASTRUCTURAL WORKS FOR DEVELOPMENT OF COLUMBARIUM, CREMATORIUM AND RELATED FACILITIES AT SANDY RIDGE CEMETERY

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (NO.25) – AUGUST 2020

PREPARED FOR HSIN CHONG TSUN YIP JOINT VENTURE & SANG HING CIVIL CONTRACTORS CO., LTD

Date	<b>Reference No.</b>	<b>Prepared By</b>	Certified By
11 September 2020	TCS00881/18/600/R0456v2	Anh	Am

Nicola HonTam Tak Wing(Environmental Consultant)(Environmental Team Leader)

Version	Date	Remarks
1	10 September 2020	First Submission
2	11 September 2020	Amended according to the IEC's comments on 11 September 2020



## Our Ref: TCS00881/18/300/L0459

**Civil Engineering and Development Department** 2/F, Civil Engineering and Development Building, 101 Princess Margaret Rd, Homantin, Kowloon

Attn: Mr. SHUM Ngai Hung, Steven

14 September 2020 By e-mail

Dear Sirs,

## Re: Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Monthly Environmental Monitoring & Audit Report (No.25) – August 2020

We confirmed that the captioned report has complied with the requirement set out in the EM&A Manual, we hereby certify the captioned report pursuant to Specific Condition 3.4 of the Environmental Permit No. FEP-01/534/2017/A and EP-534/2017/A.

Should you have any queries, please feel free to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079 or Email: twtam@fordbusiness.com.

Yours sincerely, For and on Behalf of Action-United Environmental Services & Consulting (AUES)

T. W. Tam Environmental Team Leader TW/nh

cc ARUP (RE of Contract 1) ARUP (RE of Contract 2)
. HCTY-JV (Contractor of Contract 1) Sang Hing (Contractor of Contract 2) Acuity (IEC) Mr. Steven Tang Mr. Anthony Lau Mr. Ho Man To Mr. Elvin Lam Mr. Jacky Leung by e-mail by e-mail by e-mail by e-mail by e-mail

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Our ref: IECL20200911-4

Hsin Chong Tsun Yip Joint Venture (CV/2016/10) Hsin Chong Centre 107-109 Wai Yip Street Kwun Tong, Kowloon Hong Kong

Attention: Mr. HO Man-to

11 September 2020

Dear Sir,

Site formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery Monthly Environmental Monitoring and Audit Report (No. 25) August 2020

I refer to the email of the ET regarding the captioned Monthly Report. We have no adverse comment on the Monthly Environmental Monitoring and Audit Report (No. 25) August 2020 (Version 2) dated 11 September 2020 with reference No. TCS00881/18/600/R0456v2 after verification.

Yours faithfully,

CH Leung

Ir Leung CH Jacky Independent Environmental Checker

cc. CEDD-DPTL/Land Works – Mr. SHUM Steven ARUP – Mr. LEE Davis ET Leader – Mr. TAM



## **EXECUTIVE SUMMARY**

ES.01. This is the 25<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report summarizing the monitoring results and inspection findings under the Project for the period from 1<sup>st</sup> to 31<sup>st</sup> August 2020 (the Reporting Month).

#### **ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES**

ES.02. In the Reporting Month, the major construction works under the Project included Contract CV/2016/10 (hereinafter named "Contract 1") and Contract CV/2017/02 (hereinafter named "Contract 2"). Environmental monitoring activities under the EM&A programme in this Reporting Month are summarized in the following table.

Issues	Environmental Monitoring	Monitorin	Total	
155065	Parameters / Inspection	CV/2016/10	CV/2017/02	Occasions
Ain Quality	1-hour TSP	ASD 1	ASR-2	45
Air Quality	24-hour TSP	ASR-1	ASR-3	15
Construction Noise	L <sub>eq (30min)</sub> Daytime	CN-1 CN-2	CN-3 CN-4	16
Water Quality	In-situ measurement and Water sampling	M3	M1, M2 and M4	13
Ecology	Sensitive Habitat	Transect within site area of CV/2016/10	Transect within site area of CV/2017/02	1
Landscape & Visual	Site Inspection	Site area of CV/2016/10	Site area of CV/2017/02	1
Inspection	Environmental Team (ET) Regular Environmental Site Inspection		Site area of	4
& Âudit	Independent Environmental Checker (IEC) Monthly Environmental Site Audit		CV/2017/02	1

 Table ES-1
 Summary of EM&A Programme in the Reporting Month

#### **BREACH OF ACTION AND LIMIT (A/L) LEVELS**

ES.03. In the Reporting Month, no exceedance of air quality, noise monitoring was recorded. For water quality monitoring, 2 Action Level and 34 Limit level non-project related exceedances were recorded. The statistics of environmental exceedance, Notification of Exceedance (NOE) issued and investigation of exceedance are summarized in the following table.

Table ES-2Breach of Action and Limit (A/L) Levels in the Reporting Month

Tuble LS 2 Detects of Action and Emilt (A/L) Devels in the Reporting Month						
Environmental	Monitoring	Action	Limit	Event & Action		
Issues	Parameters	Level	Level	Investigation Findings	<b>Corrective Actions</b>	
Air Quality	1-hour TSP	0	0	-	-	
Air Quality	24-hour TSP	0	0	-	-	
Construction Noise	Leq <sub>30min</sub> Daytime	0	0	-	-	
	DO	0	0	-	-	
Water Quality	Turbidity	1	17	Not project related		
	SS	1	17	Not project related		

*Note: NOE* – *Notification of Exceedance* 

- ES.04. Monthly ecological monitoring for sensitive habitat for area of Contract 1 and Contract 2 were undertaken on  $6^{th}$  August 2020. In the Reporting Month, there was no precautionary check for the presence of nesting birds carried out for Contract 1 and Contract 2 outside the breeding season.
- ES.05. Landscape and visual inspection at both Contracts were undertaken on 24<sup>th</sup> August 2020. The Contractor was reminded to prevent the construction material pile within Tree Protection Zone and ensure no works is allowed within the TPZ.



## ENVIRONMENTAL COMPLAINT

ES.06. No environmental complaint was recorded or received in this Reporting Month. The statistics of environmental complaint are summarized in the following table.

Table ES-3Environmental Complaint Summaries in the Reporting Month

Reporting Month		Environmental Complaint Statistics		
		Frequency	Cumulative	<b>Complaint Nature</b>
1 21 August 2020	Contract 1	0	0	NA
1 – 31 August 2020	Contract 2	0	0	NA

ES.07. In addition, no complaint and emergency event relating to violation of environmental legislation for illegal dumping and landfilling was received.

## NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.08. No environmental summons or successful prosecution was recorded in this Reporting Month. The statistics of summons or successful prosecutions are summarized in the following tables.

## Table ES-4Environmental Summons Summaries in the Reporting Month

Reporting Month		<b>Environmental Summons Statistics</b>		
		Frequency	Cumulative	Summons Nature
1 – 31 August 2020	Contract 1	0	0	NA
1 - 51 August 2020	Contract 2	0	0	NA

## Table ES-5 Environmental Prosecution Summaries in the Reporting Month

Reporting Month		<b>Environmental Prosecution Statistics</b>			
		Frequency	Cumulative	<b>Prosecution Nature</b>	
1 21 August 2020	Contract 1	0	0	NA	
1 – 31 August 2020	Contract 2	0	0	NA	

#### **REPORTING CHANGE**

ES.09. No reporting change was made in the Reporting Month.

#### SITE INSPECTION

ES.010. In the Reporting Month, joint site inspections for Contract 1 to evaluate the site environmental performance were carried out by the Resident Engineer (RE), ET and the Contractor of the Contract 1 on 6<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup> and 27<sup>th</sup> August 2020. Moreover, joint site inspections for Contract 2 by the RE, ET and the Contractor of Contract 2 were carried out on 6<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup> and 27<sup>th</sup> August 2020. IEC attended the both Contract joint site inspection on 14<sup>th</sup> August 2020. No non-compliance was noted during the site inspections.

## FUTURE KEY ISSUES

- ES.011. During wet season, the Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent surface runoff and other pollutants from flowing to local stream and Conservation Area.
- ES.012. Air quality mitigation measures such as wheel wash facilities, watering of haul roads, loose soil construction surface and covering of dusty materials with tarpaulin sheet should be implemented as far as practicable.
- ES.013. Construction noise mitigation measures such as use of movable noise barriers and Quality Powered Mechanical Equipment should be properly provided to reduce construction noise impact, where appropriate.
- ES.014. The Contractors should properly maintain the cleanliness and tidiness of the site. In addition, mosquito control should be performed to prevent mosquito breeding on site.



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# 1. INTRODUCTION

# 1.1 **PROJECT BACKGROUND**

1.1.1 Civil Engineering and Development Department (CEDD) is the Project Proponent for the Project "Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery". The Project is a Designated Project to be implemented under Environmental Permit No. EP-534/2017/A and FEP-01/534/2017/A. The layout plan of the Project is shown in Appendix A. Major works to be executed under the Project shall include to the following:

A Designated Works under EP-534/2017/A

- (i) Site formation of about 8 hectares of land and associated drainage, sewerage and landscape works for development of Columbarium and Crematorium facilities at the Sandy Ridge Cemetery;
- (ii) Construction of a new road (about 600m) including a section of viaduct connecting the platform for Crematorium and Man Kam To Road and the pick-up/drop-off point at Man Kam To Road;
- (iii) Widening of about 900m of the existing Sha Ling Road;
- (iv) Widening of about 1.4km of the existing Lin Ma Hang Road; and
- (v) Improvement works to the existing barging point at Siu Lam

## Non-Designated Works

- (i) Construction of a sewage detention tank complete with odour and septicity control mechanism;
- (ii) Construction of noise barriers along Sha Ling Road;
- (iii) Construction of a new Refuse Collection Point (RCP) near the junction between Man Kam To Road and Sha Ling Road;
- (iv) Landscaping works (including both hard and soft landscape works);
- (v) Associated tree felling, transplanting and compensatory planting works;
- (vi) Associated street lighting, street furniture and road marking, etc.; and
- (vii) Other works which are specified in PS of the Contract.
- 1.1.2 To facilitate the Project management, the Project works were separated into three Contracts to be executed which are described in below sub-sections.
- 1.1.3 Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery (hereinafter named "Contract 1"):-
  - Site formation of about 1.77 ha of land for the proposed pick-up and drop-off area for shuttle bus operation;
  - Upgrading of a section of 900m existing Sha Ling Road from 3m wide carriageway to 7.3m wide carriageway with footpath at both sides;
  - Construction of one EVA with a total length of about 160m;
  - Construction of noise barriers along Sha Ling Road;
  - Modification of junction between Man Kam To Road and Sha Ling Road;
  - Construction of a new pick up / drop off point at Man Kam To Road;
  - Relocation and construction of a new refuse collection point near junction between Man Kam To Road and Sha Ling Road;
  - Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures;
  - Associated drainage, sewerage and waterworks along Sha Ling Road; and
  - Associated landscaping works.
- 1.1.4 Contract No. CV/2017/02 Infrastructural Works at Man Kam To Road and Lin Ma Hang Road for Development of Columbarium at Sandy Ridge Cemetery (hereinafter named "Contract 2"):-
  - Construction of a new road connecting Columbarium site to Crematorium site;
  - Construction of one EVA with a total length of about 300m;
  - Widening of a section of 1.4 km long Lin Ma Hang Road (between Man Kam To Road and Ping Yuen River) from 6m wide carriageway to 7.3m with 2m width footpath on both sides;
  - Provision of a pair of lay-by at Lin Ma Hang Road;
  - Construction of a new vehicular access connecting the Sheung Shui Landmark North PTI and Lung Sum Avenue;



- Construction of covered walkway along Fanling Station Road;
- Removal of planters and central divider along Fanling Station Road and San Wan Road;
- Associated drainage, sewerage, waterworks and utility works along Man Kam To Road and Lin Ma Hang Road;
- Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures; and
- Associated landscaping works.
- 1.1.5 CEDD Contract No. (to be confirmed):-
  - Site Formation for the platform of the columbarium site;
  - Construction of two 2 at-grade access roads;
  - Construction of road junction between Man Kam To Road and the new access road;
  - Associated drainage, sewerage and waterworks along the two new access roads;
  - Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures; and
  - Associated landscaping works
- 1.1.6 Hsin Chong Tsun Yip Joint Venture (hereafter referred as "HCTYJV") has been awarded Contract 1 on 5 December 2017. According to the Contract requirement, HCTYJV shall take over the responsibility for part of the Environmental Permit No. EP-534/2017 for ease of management, therefore application for Further Environmental Permit was submitted by HCTYJV to EPD on 26 January 2018 and Further Environmental Permit No. FEP-01/534/2017 was granted to HCTYJV by EPD on 23 February 2018. Furthermore, EPD issued Environmental Permit No. FEP-01/534/2017/A on 24 December 2018.
- 1.1.7 Sang Hing Civil Contractors Company Limited (hereinafter referred as "Sang Hing") was awarded Contract 2 on 23 May 2018. The Contract Works is a Designated Project as under Environmental Permit (EP) No. EP-534/2017. Furthermore, EPD issued Environmental Permit No. EP-534/2017/A on 24 December 2018.
- 1.1.8 Action-United Environmental Services & Consulting (AUES) has been commissioned by the Contractors as an Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme in accordance with the approved EM&A Manual as well as the associated duties. As part of the EM&A programme, baseline monitoring to determine the ambient environmental conditions was completed before construction work commencement. The Baseline Monitoring Report (air, noise and water) certified by ET Leader (ETL) and verified by Independent Environmental Checker (IEC) was submitted to Environmental Protection Department (EPD) and it was approved by EPD on 25 October 2018.
- 1.1.9 Major construction work of Contract 1 and Contract 2 was commenced on 16 August 2018 and 5 November 2018 respectively.
- 1.1.10 This is the 25<sup>th</sup> Monthly EM&A Report summarizing the monitoring results and inspection findings for the period from 1<sup>st</sup> to 31<sup>st</sup> August 2020.

## **1.2 REPORT STRUCTURE**

- 1.2.1 The Monthly EM&A Report is structured into the following sections:-
  - Section 1 Introduction Section 2 **Project Organization and Construction Progress** Section 3 Summary of Monitoring Requirements Section 4 Air Quality Monitoring Results Noise Monitoring Results Section 5 Water Quality Monitoring Results Section 6 Section 7 Ecology Monitoring Results Section 8 Landscape & Visual Section 9 Waste Management Section 10 Site Inspections



Section 11 Environmental Complaints and Non-Compliance

- Section 12 Implementation Status of Mitigation Measures
- Section 13 Conclusions and Recommendation



## 2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

#### 2.1 CONSTRUCTION CONTRACT PACKAGING

- 2.1.1 To facilitate the project management and implementation, the Project was divided by the following contracts:
  - Contract 1 (Contract No. CV/2016/10)
  - Contract 2 (Contract No. CV/2017/02)
  - Contract 3 (Contract No. TBA)
- 2.1.2 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in *Appendix B*.

#### 2.2 CONSTRUCTION PROGRESS

2.2.1 The three-month rolling construction programme for Contract 1 and Contract 2 are enclosed in *Appendix C*. Construction activities of the Contract 1 and Contract 2 undertaken in the Reporting Month are presented below.

#### Contract 1 (CV/2016/10)

- General site housekeeping
- Bulk excavation
- Construction of cut slope, installation of soil nailing and construction of surface channel and planter wall
- Construction of fill slope and surface channel
- Construction of pick-up and drop-off Point near Man Kam To Road
- Construction of storm/ sewer drain
- Construction of noise barrier

#### Contract 2 (CV/2017/02)

- Construction of manhole, gullies, drainage pipe at Lin Ma Hang Road between CH565-675 Northbound & CH1265-1365 Southbound.
- Man Kam To Road DN800 DI Sewerage Pipe FM4.18-4.19(50m)
- Reinstatement for Man Kam To Road DN800 DI Sewerage Pipe Trench FM4.21-FM4.23 (50m)
- Soil Nail Works at Lin Ma Hang Road Slope C225 & C231
- Filling Works and drainage works for slope FS18 (Part A1).
- Backfilling of Retaining Wall 13
- Piling Works for Retaining Wall 14

## 2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.3.1 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project in this Reporting Month is presented in *Tables 2-1 and 2-2*.

Item	Description	License/ Permit ref no.	License/ Permit Status
1	Air Pollution Control	Ref. no. 428909	Valid
	(Construction Dust) Regulation	Acknowledged by EPD on 20/12/2017	
2	Chemical waste Producer	WPN: 5231-641-H3937-01	Valid
	Registration	Issued by EPD on 27/03/2018	
3	Water Pollution Control	License no. WT00030795-2018	Valid
	Ordinance	Issued date: 9/5/2018	
		Expire Date: 31/5/2023	
4	Billing Account for Disposal of	Account no.: 7029769	Valid
	Construction Waste		
5	Construction Noise Permit	GW-RN0222-20 (expired on 30 Sep	Valid
		2020)	



Item	Description	License/ Peri	mit ref no.	License/ Permit Status
1	Air Pollution Control (Construction Dust) Regulation	Ref. no. 440406 Acknowledged by EPD on 14/12/2018	Man Kam To Road (near Sha Ling Road to Kong Nga Po Road	Valid
		Ref. no. 440405 Acknowledged by EPD on 14/12/2018	Fanling Station Road	Valid
		Ref. no. 440404 Acknowledged by EPD on 14/12/2018	Sa Ling Road (Sandy Ridge Cemetery)	Valid
		Ref. no. 440401 Acknowledged by EPD on 14/12/2018	Lin Ma Hang Road (San Uk Ling – Muk Wu Nga Yiu)	Valid
		Ref. no. 440402 Acknowledged by EPD on 14/12/2018		Valid
2	Chemical waste Producer Registration	WPN: 5213-641-S4151-01 Issued by EPD on 04/02/2019		Valid
3	Water Pollution Control Ordinance	License no: WT00032936-2018 Issued date: 16/01/2019 Expire Date: 31/01/2024	Man Kam To Road & Lin Ma Hang Road, Man Kam To	Valid
		License no: WT00033335-2019 Issued date: 29/03/2019 Expire Date: 31/03/2024	Columbarium at Sandy Ridge Cemetery	Valid
		License no: WT00034717-2019 Issued date: 9/10/2019 Expire Date: 31/10/2024	Fanling Station Road	Valid
4	Billing Account for Disposal of Construction Waste	Account no.: 7031098		Valid

## Table 2-2Status of Environmental Licenses and Permits for Contract 2

## 2.4 SUMMARY OF SUBMISSION UNDER THE ENVIRONMENTAL PERMIT REQUIREMENTS

2.4.1 *Tables 2-3 to 2-4* summarized the submission status under the EP and/or FEP stipulation in the Reporting Month.

Table 2-3Status of Submission as under FEP

Item	EP and / or FEP Stipulation	Description	Status
1	Condition 2.10 of FEP	Management organization of : i) the main construction companies; ii) ET; and iii) IEC and the supporting team	Submitted on 11 April 2018
2	Condition 2.11 of FEP	i) Detailed phasing programme of all construction works; and ii) Location plan of all construction works	Submitted on 12 April 2018
3	Condition 2.12 of FEP	Contamination Assessment Plan (CAP)	Approved by EPD on 27 May 2019
4	Condition 2.13 of FEP	Grassland Reinstatement Plan	Re-submitted on 31 May 2019
5	Condition 2.14 of FEP	Vegetation Survey Report for Contract 1	Approved by EPD on 12 October 2018
6	Condition 2.15 of FEP	Vegetation Transplantation Proposal Contract 1	Approved by EPD on 12 October 2018
7	Condition 2.17 of FEP	Woodland Compensation Plan (Rev.05)	Approved by EPD on 30 Jun 2020



Item	EP and / or FEP Stipulation	Description	Status
8	Condition 2.18 of FEP	Monitoring and Survey Plan for	Approved by EPD on 22 Oct
		Golden-headed Cisticola for Contract 1	2019
		(Rev.02)	
9	Condition 2.20 of FEP	Landscape & Visual Mitigation and Tree	Re-submitted on 17 Apr 2020
		Preservation Plan(s) Contract 1 (Rev.04)	_
10	Condition 2.22 of FEP	Traffic Noise Mitigation Plan Contract 1	Re-submitted on 10 Nov 2019
		(Rev. 4)	
11	Condition 3.3 of the FEP	Baseline Monitoring Report (Air, Noise	Approved by EPD on 25
		and Water)	October 2018
12	Condition 4.2 of the FEP	The Contract Internet website	Internet website address has
			notified EPD on 15 Jun 2018

#### Table 2-4Status of Submission as under EP

Indic	able 2-4 Status of Subilitission as under El					
Item	EP and / or FEP Stipulation	Description	Status			
1a	Condition 2.10 of EP	Management organization of : i) the	Submitted on 24 September 2018			
		main construction companies; ii) ET;	_			
		and iii) IEC and the supporting team				
2a	Condition 2.11 of EP	i) Detailed phasing programme of all	Submitted on 26 September 2018			
		construction works; and ii) Location				
		plan of all construction works				
3	Condition 2.13 of EP	Contamination Assessment Plan (CAP)	Approved by EPD on 27 May 2019			
4	Condition 2.14 of EP	Grassland Reinstatement Plan	Re-submitted on 31 May 2019			
5	Condition 2.15 of EP and	Vegetation Survey Report Contract 2	Re-submitted on 30 Oct 2019			
6	Condition 2.16 of EP	Vegetation Transplantation Proposal	Re-submitted on 30 Oct 2019			
		Contract 2				
7	Condition 2.18 of EP	Woodland Compensation Plan (Rev.05)	Approved by EPD on 30 Jun 2020			
8	Condition 2.19 of EP	Monitoring and Survey Plan for	Re-submitted on 30 Oct 2019			
		Golden-headed Cisticola Contract 2				
9	Condition 2.22 of EP	Landscape & Visual Mitigation and	Re-submitted on 25 Mar 2019			
		Tree Preservation Plan(s) Contract 2				
10	Condition 2.24 of EP	Traffic Noise Mitigation Plan Contract	Re-submitted on 12 Aug 2019			
		2	_			
11	Condition 3.3 of the EP	Baseline Monitoring Report (Air, Noise	Approved by EPD on 25 October			
		and Water)	2018			
12	Condition 4.2 of the EP	The Contract Internet website	Internet website address has			
			notified EPD on 15 June 2018			



## 3. SUMMARY OF IMPACT MONITORING REQUIREMENT

## 3.1 GENERAL

- 3.1.1 The EM&A requirements are set out in the Approved EM&A Manual. Environmental issues such as air quality, construction noise, water quality and ecology were identified as the key issues during the construction phase of the Project.
- 3.1.2 A summary of construction phase EM&A requirements are presented in the sub-sections below.

#### **3.2** MONITORING PARAMETERS

- 3.2.1 The EM&A impact monitoring shall cover the following environmental aspect:
  - Air quality;
  - Construction noise;
  - Water quality;
  - Ecology; and
  - Landscape and visual

## 3.2.2 A summary of the monitoring parameters is presented in *Table 3-1* below

## Table 3-1Summary of EM&A Requirements

<b>Environmental Issue</b>	Parameters
Air Quality	<ul><li>1-hour TSP;</li><li>24-hour TSP</li></ul>
Noise	<ul> <li>Leq<sub>(30min)</sub> during normal working hours.; and</li> <li>Leq<sub>(15min)</sub> during the construction works undertaken in Restricted Hours</li> </ul>
Water Quality	<ul> <li>In-situ Measurements</li> <li>Dissolved Oxygen Concentration (mg/L) &amp; Saturation (%);</li> <li>Temperature (°C);</li> <li>Turbidity (NTU);</li> <li>Salinity (ppm)</li> <li>pH unit;</li> <li>Water depth (m); and</li> <li>Stream Flow Velocity (m/sec).</li> </ul> Laboratory Analysis <ul> <li>Suspended Solids (mg/L)</li> </ul>
Ecology	Ecologically sensitive habitats (wetland habitats and non-wetland habitats)

#### **3.3** MONITORING LOCATIONS

- 3.3.1 According to the Approved EM&A Manual of the Project *Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery*, the designated monitoring locations for air quality, noise, water quality and ecology under the monitoring programme, is shown in *Appendix D*.
- 3.3.2 Since the Project was divided into three Works Contracts and all Contracts will be commenced at different time, the construction phase impact monitoring will only be performed at the Contract-related monitoring stations upon commencement of each Contract Works.

#### Air Quality

3.3.3 There were three (3) designated air quality monitoring stations recommended in the Approved EM&A Manual Section 5.6.1.1. There was proposed relocation of air quality monitoring location ASR-3 in October 2018 since the landlord refused to set up the HVS at his premises and nearby Conservation Area due to noise nuisance and Muk Wu Nga Yiu House No. 2A was proposed as alternative location ASR-3a. The proposal dated on 9 November 2018 which verified by IEC was submitted to EPD for approval. Based on rationale in Section 3.3.2, the Contract-related air quality monitoring location for construction phase were summarized in *Table 3-2* and illustrated in *Appendix D*.



Location ID	Description in EM&A Manual	Location	Related Work Contract
ASR-1	Village House along Man Kam To	Sha Ling Village House No.6	Contract 1
	Road		
ASR-2	Village House at San Uk Ling	San Uk Ling Village House No.1	Contract 2
ASR-3	Village House at Muk Wu Nga Yiu	Muk Wu Nga Yiu House No.28	Contract 2
ASR-3a (#)	Village House at Muk Wu Nga Yiu	Muk Wu Nga Yiu House No.2A	Contract 2

 Table 3-2
 Designated Air Quality Monitoring Location under the Project

Remark: (#)

There was proposed relocation of air quality monitoring location ASR-3 in October 2018. The proposal dated on 9 November 2018 after verified by IEC was submitted to EPD for approval.

- i) Be at the site boundary or such locations close to the major dust emission source;
- ii) Close to the sensitive receptors;
- iii) Take into account the prevailing meteorological conditions;
- iv) For monitoring location located in the vicinity of the ASRs, care shall be taken to cause minimal disturbance to the occupants during monitoring.
- v) When positioning the HVS, the following points shall be noted:
  - a. a horizontal platform with appropriate support to secure the samples against gusty wind shall be provided;
  - b. no two samplers shall be placed less than 2m apart;
  - c. the distance between the HVS and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the HVS;
  - d. a minimum of 2 m separation from walls, parapets and penthouses is required for HVS at the rooftop;
  - e. a minimum of 2 m separation from any supporting structure, measures horizontally is required;
  - f. no furnace or incinerator flue is nearby;
  - g. airflow around the sampler is unrestricted;
  - h. the HVS is more than 20 m from the dripline;
  - i. any wire fence and gate to protect the HVS, shall not cause any obstruction during monitoring;
  - j. permission must be obtained to set up the HVS and to obtain access to the monitoring stations; and
  - k. a secured supply of electricity is needed to operate the HVS.

## **Construction Noise**

3.3.5 There were four (4) designated noise monitoring locations recommended in the Approved EM&A Manual Section 6.5.1.1. Based on rationale in Section 3.3.2, the Contract-related noise quality monitoring location for construction phase were summarized in *Table 3-3* and illustrated in *Appendix D*.

 Table 3-3
 Designated Construction Noise Monitoring Location under the Project

Locatio n ID	Description in EM&A Manual	Location	Related Work Contract
CN-1	Village house to the west of	6	Contract 1
	Sha Ling Road	Road (free field condition)	
CN-2	Village house to the north of	Sha Ling Village House No. 25 (free	Contract 1
	Man Kam To Road	field condition)	& 3
CN-3	Village house near San Uk	San Uk Ling Village House No. 18 (free	Contract 2
	Ling	field condition)	
CN-4	Village house of Muk Wu	Muk Wu Village House No. 267 (1m	Contract 2
		façade from the building)	

<sup>3.3.4</sup> If the designated monitoring location is required to relocate, alternative monitoring location shall agree with IEC and seek for EPD approval which shall meet the following criteria:



## Water Quality

3.3.6 There were four (4) water quality monitoring locations recommended in the Approved EM&A Manual Section 7.6.1.2. The locations and coordinates of water quality monitoring were listed in *Table 3-4*. Based on rationale in Section 3.3.2, the Contract-related water quality monitoring location for construction phase were summarized in *Table 3-4* and illustrated in *Appendix D*.

Proposed	Co-ore	linates	Description	<b>Related Work</b>
Location ID	North	East	Description	Contract
M1	843 431	831 308	Midstream of Nam Hang Stream	Contract 2
M2	843 840	831 101	Downstream of Nam Hang Stream	Contract 2
M3	843 509	830 040	Wetland in the Conservation Area near Yuen Leng Chai	Contract 1
M4	843 997	831 783	Watercourse across Lin Ma Hang Road, running from east of San Uk Ling to Man Kam To Boundary Control Point	Contract 2

Table 3-4Designated Water Quality Monitoring Stations under the Project

## 3.4 MONITORING FREQUENCY AND PERIOD

3.4.1 The requirements of impact monitoring were stipulated in *Sections 5.8.1.1, 6.7.1.1* and *7.8.1.4* of the approved *EM&A Manual* and presented as follows.

## Air Quality Monitoring

- 3.4.2 Monitoring frequency for air quality impact monitoring is as follows:
  - 1-Hour TSP 3 sets of 1-hour TSP monitoring shall be carried out once every six days during construction periods
  - 24-Hour TSP 24-hour TSP monitoring shall be carried out every six days during construction periods

## **Noise Monitoring**

3.4.3 Noise impact monitoring shall be carried out once per week during construction periods. The noise measurement for the time period between 0700 and 1900 hours shall be measured in terms of  $L_{eq}$  (30 minutes) or 6 sets of  $L_{eq}$  (5mins).

## Water Quality Monitoring

3.4.4 The monitoring frequency shall be 3 days per week during construction phase and the interval between two sets of monitoring shall not be less than 36 hours.

## 3.5 MONITORING EQUIPMENT

3.5.1 The monitoring equipment using for the EM&A program as proposed by the ET shall be verified by the IEC.

## Air Quality Monitoring

- 3.5.2 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.* If ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to IEC for approval.
- 3.5.3 The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.
- 3.5.4 All equipment used by ET for air quality monitoring is listed in *Table 3-5*.

## Table 3-5Air Quality Monitoring Equipment

Equipment	Model			
24-hour TSP				
High Volume Air Sampler (HVAS)	TISCH High Volume Air Sampler, HVS Model TE-5170			
Calibration Kit	TISCH Model TE-5025A			
1-Hour TSP				
Portable Dust Meter	Sibata LD-3 Laser Dust monitor Particle Mass Profiler &			



Equipment	Model
	Counter

#### Wind Data Monitoring Equipment

- 3.5.5 According to the approved EM&A Manual, wind data monitoring equipment shall also be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:
  - 1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
  - 2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
  - 3) The wind data monitoring equipment should be re-calibrated at least once every six months.
  - 4) Wind direction should be divided into 16 sectors of 22.5 degrees each.
- 3.5.6 ET has liaised with the premises owners/ landlords to grant the permission for the HVS installation. However, they rejected to set up wind data monitoring equipment installation in their premises.
- 3.5.7 Under this situation, the ET proposed to obtain representative wind data from the Hong Kong Observatory Ta Kwu Ling Weather Station. Ta Kwu Ling Station is located near the Project site which situated at the sea level above 15mPD and the wind data monitoring equipment is installed 10 m above the existing ground.

## **Noise Monitoring**

- 3.5.8 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in ms<sup>-1</sup> before each noise monitoring event. Noise measurements should not be made in fog, rain, wind with a steady speed exceeding 5 m s<sup>-1</sup> or wind with gusts exceeding 10 m s<sup>-1</sup>.
- 3.5.9 Noise monitoring equipment used for impact monitoring is listed in *Table 3-6*.

Equipment	Model
Integrating Sound Level Meter	Rion NL-52 Sound Level Meter
Calibrator	Rion NC-73 Acoustical Calibrator
Portable Wind Speed Indicator	Testo Anemometer

Table 3-6Noise Monitoring Equipment

3.5.10 Sound level meters listed above comply with the *International Electrotechnical Commission Publications 651: 1979 (Type 1)* and *804: 1985 (Type 1)* specifications, as recommended in TM issued under the NCO.

#### Water Quality Monitoring

3.5.11 Water quality parameters include dissolved oxygen, water temperature & depth, turbidity, salinity, pH and stream flow velocity shall be measured *in-situ*, and suspended solids shall be analyzed by a HOKLAS-accredited testing laboratory.

#### Dissolved Oxygen and Temperature Measurement

- 3.5.12 The dissolved oxygen (DO) measuring instruments should be portable and weatherproof. The equipment should also complete with cable and sensor, and DC power source. It should be capable of measuring:
  - A DO level in the range of 0 20 mg/L and 0 200% saturation; and
  - A temperature of 0 45 degree Celsius.



- 3.5.13 The equipment should have a membrane electrode with automatic temperature compensation complete with a cable.
- 3.5.14 Should salinity compensation not be built-in to the DO equipment, in-situ salinity should be measured to calibrate the DO measuring instruments prior to each measurement.

#### Turbidity Measurement

3.5.15 The turbidity measuring instruments should be a portable and weatherproof with DC power source. It should have a photoelectric sensor capable of measuring turbidity level between 0–1000 NTU (for example, Hach model 2100Q or an approved similar instrument).

#### Salinity Measurement

3.5.16 A portable salinometer capable of measuring salinity in the range of 0–40 parts per thousand (ppt) should be provided for measuring salinity of the water at each monitoring location.

#### pH Measurement

3.5.17 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions accordingly to the APHA Standard Methods.

#### Water Depth Measurement

3.5.18 A portable, battery-operated echo sounder or an approved similar instrument should be used for water depths determination at each designated monitoring station.

#### Stream Flow Velocity Equipment

3.5.19 Since the EM&A Manuals do not specified instrument to use stream flow velocity measurement, the monitoring of stream flow velocity is therefore proposed to be conducted by using a flow probe which is a digital water velocity meter.

#### Water Sampling Equipment

- 3.5.20 A water sampler is required for suspended solid (SS) monitoring. A water sampler e.g. Kahlsico Water Sampler, which is a transparent PVC cylinder with capacity not less than 2 litres, will be used for water sampling if water depth over than 0.5m.
- 3.5.21 For sampling from very shallow water depths e.g. <0.5 m, water sample will be collected from water surface below 100mm using plastic bottle to avoid inclusion of bottom sediment or humus. Moreover, Teflon/stainless steel bailer or self-made sampling buckets maybe used for water sampling. The equipment used for sampling will be depended the sampling location and depth situations.

#### Sample Containers and Storage

- 3.5.22 Water samples for suspended solid should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory within 24 hours of collection and be analyzed as soon as possible after collection.
- 3.5.23 Analysis of suspended solids should be carried out in a HOKLAS or other accredited laboratory. Water samples of about 1L should be collected at the monitoring stations for carrying out the laboratory suspended solids determination. The SS determination work should start within 24 hours after collection of the water samples. The SS analyses should follow the *APHA Standard Methods 2540D* with Limit of Reporting of 2 mg/L.
- 3.5.24 Details of the equipment used for water quality monitoring are listed in *Table 3-7* below.

#### Table 3-7Water Quality Monitoring Equipment

Equipment	Model
Water Depth Detector	Tape measures
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or Teflon/stainless steel bailer or self-made sampling bucket



Equipment	Model
Thermometer & DO meter	YSI Professional DSS/ YSI 550A
pH meter	AZ8685 pH meter / YSI Professional DSS
Turbidimeter	Hach 2100Q/ YSI Professional DSS
Salinometer	Atago refractometer Atago S Salinity Meter / YSI Professional DSS
Stream Flow Velocity	FP211 Global Flow Probe
Sample Container	High density polythene bottles (provided by laboratory)
Storage Container	'Willow' 33-litter plastic cool box with Ice pad

3.5.25 Furthermore, Suspended solids (SS) analysis was carried out by *ALS Technichem (HK) Pty Ltd*. Which is one a local HOKLAS-accredited laboratory

## **3.6 EQUIPMENT CALIBRATION**

- 3.6.1 The HVAS is operated and calibrated on a regular basis in accordance with the manufacturer's instruction using Tisch Calibration Kit Model TE-5025A. Calibration would carry out at fortnightly interval. The calibration data are properly documented and the records are maintained by ET for future reference. Furthermore, Tisch Calibration Kit will be calibrated by the manufacturer in yearly basis.
- 3.6.2 The 1-hour TSP meter calibrated by a local HOKLAS-accredited laboratory would be undertaken in yearly basis. Zero response of the equipment was checked before and after each monitoring event.
- 3.6.3 The sound level meter and acoustic calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.
- 3.6.4 The multi-parameter Water Quality Monitoring System is calibrated by HOKLAS accredited laboratory of three month intervals.
- 3.6.5 All updated calibration certificates of the monitoring equipment used for the impact monitoring program in this Reporting Month are attached in *Appendix E*.

#### 3.7 DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.7.1 The impact monitoring data are handled by the ET's systematic data recording and management, which complies with in-house Quality Management System. Standard Field Data Sheets (FDS) are used in the impact monitoring program.
- 3.7.2 The monitoring data recorded in the equipment e.g. 1-hour TSP meter, noise meter and Multi-parameter Water Quality Monitoring System are downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data are input into a computerized database properly maintained by the ET. The laboratory results are input directly into the computerized database and QA/QC checked by personnel other than those who input the data. For monitoring activities require laboratory analysis, the local laboratory follows the QA/QC requirements as set out under the HOKLAS scheme for all laboratory testing.

#### 3.8 DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

3.8.1 The baseline monitoring results form the basis for determining the environmental acceptance criteria for the impact monitoring. The air quality, construction noise and water quality criteria, namely Action and Limit levels were established according to Approved EM&A Manual, and they are listed in *Tables 3-8, 3-9* and *3-10* below.

Monitoring Station	Action 1	Level (µg /m <sup>3</sup> )	Limit Level (µg/m <sup>3</sup> )		
Monitoring Station	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP	
ASR-1	331	181	500	260	
ASR-2	316	165	500	260	
ASR-3	307	160	500	260	

Table 3-8Action and Limit Levels for Air Quality Monitoring



Table 3-9	Action and Limit Levels for Construction Noise
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Monitoring Logotion	Action Level Limit Level in dB(A)			
Monitoring Location	Time Period: 0700-1900 hours on normal weekdays			
CN-1,CN-2, CN-3, CN-4	When one or more documented complaints are received	75 dB(A)		

*Note:* \* *Reduces to* 70 dB(A) *for schools and* 65 dB(A) *during the school examination periods.* 

#### Table 3-10 Action and Limit Levels for Water Quality

Description	Performance	Monitoring Location					
Parameter	criteria	M1	M2	M3	M4		
DO (mg/L)	Action Level	3.03	4.99	4.58	3.62		
	Limit Level	2.97	4.90	4.49	3.52		
Turbidity	Action Level	7.1	39.7	5.6	5.4		
(NTU)	Limit Level	7.6	42.2	5.9	5.9		
SS(ma/I)	Action Level	8.5	29.0	9.3	4.8		
SS (mg/L)	Limit Level	10.1	31.0	9.5	5.0		

Notes:

For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits
For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher

than the limits.

3.8.2 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan enclosed in *Appendix F*.



## 4. AIR QUALITY

## 4.1 MONITORING RESULTS

- 4.1.1 In the Reporting Month, air quality monitoring was performed at all designated locations. Impact monitoring schedule provided to all relevant parties was shown in *Appendix G*.
- 4.1.2 In this Reporting Month, there were 5 sessions of 24-hour TSP and 15 sessions of 1-hour TSP undertaken at each designated station for air quality monitoring. The air quality monitoring results are summarized in *Tables 4-1* to 4-3. The database of 24-hour TSP is shown in *Appendix H* and the graphical plots of monitoring result are shown in *Appendix I*.

Table 4-1	Summary of Air Oua	lity Monitoring Result	s at ASR-1 under Contract 1
		mey monitoring result	s at more a unace a contract i

	24-hour	1-hour TSP (µg/m³)					
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> hour measured	2 <sup>nd</sup> hour measured	3 <sup>rd</sup> hour measured	
3-Aug-20	7	4-Aug-20	13:14	57	64	68	
8-Aug-20	48	10-Aug-20	9:28	57	61	59	
14-Aug-20	34	15-Aug-20	10:58	76	81	75	
20-Aug-20	43	21-Aug-20	9:30	77	76	71	
26-Aug-20	25	27-Aug-20	9:21	70	73	80	
Average	32	Average		70			
(Range)	(7 - 48)	(Range)		(57 – 81)			

Table 4-2	Summary of Air Quality Monitoring Results at ASR-2 under Contract 2
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	24-hour	1-hour TSP (µg/m <sup>3</sup> )					
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> hour measured	2 <sup>nd</sup> hour measured	3 <sup>rd</sup> hour measured	
3-Aug-20	17	4-Aug-20	9:28	48	52	55	
8-Aug-20	16	10-Aug-20	9:34	42	48	44	
14-Aug-20	21	15-Aug-20	10:23	74	76	78	
20-Aug-20	20	21-Aug-20	9:35	81	77	80	
26-Aug-20	20	27-Aug-20	9:17	61	64	71	
Average	19	Avera	Average 63				
(Range)	(16 - 21)	(Range) (42 – 81)					

	24-hour	1-hour TSP (µg/m <sup>3</sup> )				
Date	TSP (µg/m <sup>3</sup> )	Date	Start Time	1 <sup>st</sup> hour measured	2 <sup>nd</sup> hour measured	3 <sup>rd</sup> hour measured
3-Aug-20	18	4-Aug-20	9:44	47	50	52
8-Aug-20	22	10-Aug-20	9:38	44	47	41
14-Aug-20	22	15-Aug-20	10:58	72	73	75
20-Aug-20	25	21-Aug-20	9:39	72	70	68
26-Aug-20	25	27-Aug-20	9:12	66	68	75
Average	23	Avera	Average 61			
(Range)	(18 – 25)	(Rang	(Range) (41 – 75)			

## 4.2 AIR MONITORING EXCEEDANCE

4.2.1 As shown in *Tables 4-1 to 4-3*, the monitoring results of 24-hour and 1-hour TSP monitoring in the Reporting Month were below the Action/ Limit Level. No Notification of Exceedance (NOE) of air quality monitoring criteria was issued and therefore corrective action was not required. The meteorological data during the impact monitoring days are summarized in *Appendix J*.



## 5. CONSTRUCTION NOISE

#### 5.1 MONITORING RESULTS

- 5.1.1 In the Reporting Month, noise monitoring was performed at all designated locations. Impact monitoring schedule provided to all relevant parties was shown in *Appendix G*.
- 5.1.2 In this Reporting Month, *4* sessions of noise monitoring were undertaken at each designated noise monitoring location. The sound level were set in a free field situation for CN1, CN2 and CN3 and therefore a façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines. The monitoring result of noise monitoring is show in *Tables 5-1 and 5-2* and the graphical plots are shown in *Appendix I*.

 Table 5-1
 Summary of Construction Noise Monitoring Results under Contract 1

Construction Noise Level (L <sub>eq30min</sub> ), dB(A)							
Date	Start Time	CN1(*)	Start Time	CN2(*)			
4-Aug-20	13:17	65	10:55	66			
10-Aug-20	9:32	70	10:09	68			
21-Aug-20	9:30	68	10:15	68			
27-Aug-20	15:27	74	14:50	66			
Limit Level	75 dB(A)						

(\*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

	Table 5-2	<b>Summary of Construction</b>	Noise Monitoring F	Results under Contract 2
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Construction Noise Level (L <sub>eq30min</sub> ), dB(A)						
Date	Start Time	<b>CN3</b> <sup>(*)</sup>	Start Time	CN4		
4-Aug-20	10:14	58	9:37	58		
10-Aug-20	10:50	60	11:26	55		
21-Aug-20	10:48	62	11:21	59		
27-Aug-20	10:27	61	11:04	60		
Limit Level	75 dB(A)					

(\*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

5.1.3 Prior and after noise monitoring, the accuracy of the sound level meter has been checked by an acoustic calibrator to ensure the measurement within acceptance range of  $\pm 0.5$ dB. Moreover, wind speed checked by portable wind speed meter has been performed before noise monitoring. No noise measurement was performed in fog, rain, wind with a steady speed exceeding 5 m s<sup>-1</sup> or wind with gusts exceeding 10 m s<sup>-1</sup>.

## 5.2 NOISE MONITORING EXCEEDANCE

5.2.1 As shown in *Tables 5-1 and 5-2*, no Limit Level exceedance for noise monitoring exceedance was recorded in the Reporting Month. Moreover, no noise complaint (which triggered Action Level) was received. No Notification of Exceedance (NOE) of construction noise criterion was issued and no corrective action was therefore required.



## 6. WATER QUALITY

#### 6.1 MONITORING RESULTS

- 6.1.1 In the Reporting Month, water quality monitoring was performed at all designated locations. Impact monitoring schedule provided to all relevant parties was shown in *Appendix G*.
- 6.1.2 In the Reporting Month, a total of 13 monitoring days were carried out for water quality impact monitoring. The monitoring result of key parameters including Dissolved Oxygen, Turbidity and Suspended Solids are summarized in *Tables 6-1* and 6-2. Detailed monitoring results including in-situ measurements and laboratory analysis data are shown in *Appendix H* and graphical plots for monitoring result are shown in *Appendix I*.

		Parameters	
Date	DO (Averaged)	Turbidity (Averaged)	Suspended Solids (Averaged)
	( <b>mg/L</b> )	(NTU)	( <b>mg/L</b> )
3-Aug-20	7.09	5.5	7.5
5-Aug-20	6.21	<u>15.7</u>	<u>12.5</u>
7-Aug-20	6.25	15.2	<u>10.5</u>
10-Aug-20	7.01	5.4	6.5
12-Aug-20	6.20	<u>11.8</u>	<u>11.0</u>
14-Aug-20	6.28	<u>12.1</u>	9.0
17-Aug-20	6.89	5.5	5.0
19-Aug-20	6.55	5.5	9.0
21-Aug-20	6.97	4.8	6.5
24-Aug-20	6.47	5.0	6.5
26-Aug-20	6.58	4.8	5.5
28-Aug-20	6.87	4.6	6.0
31-Aug-20	6.83	5.4	6.0

Table 6-1Summary of Water Quality Monitoring Results – M3 under Contract 1

Table 6-2	Summary of Water	<b>Quality Monitoring Results</b>	(M1, M2 and M4) under Contract 2
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		Parameters							
Date		(Average (mg/L)	d)	Turbid	ity (Ave (NTU)	raged)	-	pended S craged) (	
	M1	M2	M4	M1	M2	M4	M1	M2	M4
3-Aug-20	8.44	8.21	8.80	36.8	344.5	37.8	36.5	536.5	46.0
5-Aug-20	7.77	#	7.85	21.8	#	15.7	34.0	#	39.5
7-Aug-20	6.85	#	6.97	19.8	#	16.9	39.5	#	37.0
10-Aug-20	7.17	#	5.82	14.8	#	13.4	23.0	#	19.0
12-Aug-20	7.22	#	6.41	6.9	#	11.0	7.5	#	37.5
14-Aug-20	7.03	#	6.09	15.0	#	14.8	17.0	#	24.0
17-Aug-20	6.56	#	6.34	4.5	#	5.8	3.0	#	19.0
19-Aug-20	6.65	6.45	6.78	4.6	560.5	5.1	4.0	529.0	3.5
21-Aug-20	6.77	#	6.98	3.2	#	5.2	4.0	#	3.0
24-Aug-20	6.45	#	6.20	3.3	#	3.9	3.5	#	4.0
26-Aug-20	6.49	#	6.58	3.4	#	3.8	3.0	#	2.5
28-Aug-20	6.81	#	6.97	4.1	#	2.9	3.5	#	2.5
31-Aug-20	6.67	#	6.98	2.9	#	3.8	3.5	#	5.0

*Remarks: (#) During the water monitoring, the channel of M2 was observed dried up and water sampling was unable be carried out;* 

*Note: Bold and underlined value indicated Limit Level exceedance Italic and bold value indicated Action Level exceedance.* 

6.1.3 During the Reporting Month, field measurements including temperature of stream water, salinity concentrations, pH values and the stream flow velocity for all monitoring locations are summarized in *Table 6-3*.



		Parameters of field measurements						
Monitoring	pH (Ave		Salinity (Av	veraged)	Temp (Ave	raged)	Water 1	
Location	(ur	nit)	(ppt	t)	(°C)		(Averaged	l) (m/s)
	min	max	min	max	min	max	min	max
M1	7.4	8.7	0.05	0.06	25.2	27.9	< 0.1	< 0.1
M2	7.4	8.3	0.05	0.07	26.1	27.3	< 0.1	< 0.1
M3	7.2	8.7	0.02	0.05	25.9	28.5	< 0.1	< 0.1
M4	7.0	8.3	0.04	0.10	26.3	28.6	< 0.1	< 0.1

#### Table 6-3 Summary of Field Measurements for Water Quality

## 6.2 WATER QUALITY MONITORING EXCEEDANCE

6.2.1 In this Reporting Month, 2 Action Level and 34 Limit Level water quality exceedances were recorded. The non-compliance of water quality performance is summarized in *Table 6-4*.

 Table 6-4
 Action and Limit (A/L) Levels Exceedance Record

Station	D	0	Turb	idity	S	S	To Excee	tal dance	Project excee	Related dance
	Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit
M1	0	0	0	5	0	5	0	10	0	0
M2	0	0	0	2	0	2	0	4	0	0
M3	0	0	0	4	0	3	0	7	0	0
M4	0	0	1	6	1	7	2	13	0	0

6.2.2 Notification of Exceedance (NOE) and the investigation for exceedance in the Reporting Month is summarized in *Table 6-5*.

	Table 6-5	Summary of Investigation of Water Quali	ty Exceedance in the Reporting Month
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Date of	Exceeded	Exceeded	Cause of Water Quality Exceedance
Exceedance	Location	Parameter	
3, 5 &7 Aug 2020	M1, M2&M4	Turbidity & SS	According to the work programme and as observed during water quality monitoring on 3, 5 and 7 August 2020, no construction activities were carried out near locations M1, M2 and M4 and no discharge made into adjacent stream. According to the weather data from HKO, there was heavy rainstorm on 3 and 5 August 2020. Under the impact of rainstorm, the water quality of the watercourse was deteriorated by the stirred up sediment and runoff from the surrounding environment. Based on the above investigation, it was concluded that the exceedances were related to the impact from rainstorm and not caused by the works under the project.
10, 12, 14 &17 Aug 2020	M1 & M4	Turbidity & SS	According to the work programme and as observed during water quality monitoring on 10, 12, 14 and 17 August 2020, no construction activities were carried out near locations M1, M2 and M4 and no discharge made into adjacent stream. According to the site photo taken by the monitoring team, very shallow water was observed at M1 and the flowing water was visually clear. Moreover, some dead leaves, algae and debris were observed in the pond of M4 that may affect the visibility of the water quality. In our investigation, the Contractor had implemented water quality mitigation measures. In view of the implementation of water quality mitigation measures, the site was observed, it is considered that the exceedances were likely caused by impact of rain and not related to the works under the Project.



19 Aug 2020	M2	Turbidity & SS	According to the weather data from HKO, there was heavy rainstorm on 19 August 2020. Under the impact of rainstorm, the water quality of the watercourse was deteriorated by the stirred up sediment and runoff from the surrounding environment. Based on the above investigation, there was no construction site of the project at upstream of M2. For the active construction site on Sandy Ridge and Lin Ma Hang Road, the sites were generally order without adverse water quality impact. It was concluded that the exceedances were related to the impact from rainstorm and not caused by the works under the project.
31 Aug 2020	M4	SS	According to the work programme and as observed during water quality monitoring on 31 August 2020, no construction activities were carried out near location M4.According to the site photo taken by the monitoring team on 31 August 2020, the water quality was visually clear. However, some leaves were observed at the channel that may affect the visibility of the water quality. In our investigation, the Contractor had implemented water quality mitigation measures. it was concluded that the exceedance was not caused by the work under the project.
5&7 Aug 2020	М3	Turbidity & SS	According to the photo taken by the monitoring team on 5 August 2020, it was a raining day and the water quality at M3 was affected by rainfall. Under the impact of rainstorm, the water quality of the watercourse and pond was highly deteriorated by the stirred up sediment and runoff from the surrounding environment. In our investigation, HCTY-JV had implemented water quality mitigation measures. In view of the implementation of water quality mitigation measures, the site was generally in good order and no water quality impact was observed, it is considered that the exceedances were likely caused by impact of rain and not related to the works under the Project.
12 & 14 Aug 2020	М3	Turbidity & SS	According to the site photo taken by the monitoring team 12 and 14 August 2020, the water quality at M3 was slightly turbid. Moreover, some dead leaves, algae and debris were observed in the pond of M3 that may affect the visibility of the water quality According to the weather data from Observatory, there were successive heavy rainstorms on 12 to 14 August 2020. Under the influence of rain, the water quality of seasonal watercourse was inevitably be affected by the stirred up sediment and erosion from the surrounding environment even outside the construction site. In our investigation, HCTY-JV had implemented water quality mitigation measures. In view of the implementation of water quality mitigation measures, the site was generally in good order and no water quality impact was observed, it is considered that the exceedances were likely caused by impact of rain and not related to the works under the Project



## 7. ECOLOGY MONITORING

## 7.1 REQUIREMENT

- 7.1.1 According to approved EIA report (AEIAR-198/2016), habitat types within project boundary comprise of watercourse, grassland, upland grassland, plantation, woodland and developed area. Natural habitats were of moderate ecological value in terms of species diversity, species rarity, species abundance, ecological linkage as well as nursery. Moreover, 0.3ha of wet woodland on the northern side of Sandy Ridge was deemed habitat with high ecological value. Four types of habitats were regarded as ecologically sensitive habitats, namely wet woodland, watercourses, upland grassland and woodland. Considering human disturbance in upcoming construction and operation phases, ecologically sensitive habitats shall be monitored in accordance with EM&A Manual.
- 7.1.2 The objective of ecologically sensitive habitats monitoring is to evaluate the effectiveness of measures to minimize impacts on concerned habitats from disturbance and pollution. In order to monitor the effectiveness of the measures to the minimize impact on ecologically sensitive habitats from disturbance and pollution, monthly monitoring during construction and operation phases is required as specified in EM&A Manual. Standard faunal transect and sampling surveys cover both wetland habitats (*wet woodland and watercourse*) and non-wetland habitats (*upland grassland and woodland*).

## 7.2 METHODOLOGY

7.2.1 Wetland habitats include wet woodland and watercourses. Monitoring surveys using standardized quantitative methodology will conduct at fixed points. For seasonal watercourse, the survey will be conducted whenever the habitat appears. Measures to respond to decreases in numbers of aquatic fauna using the wetland habitats and Action/Limit levels to trigger these measures are detailed in *Table 7-1*.

Action Level	Response	Limit Level	Response
	Investigate cause and if cause identified as related to the project instigate remedial action to remove or reduce source of disturbance.	taxa diversity by	Investigate cause and if cause identified as related to the project instigate remedial action.

 Table 7-1
 Action and Limit Levels for Wet Woodland Habitats Monitoring

Remarks: Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

7.2.2 Non-wetland habitats consist of upland grassland and woodland. Monthly quantitative surveys of non-aquatic fauna will be conducted using standard route transect counts. Measures to respond to decreases in numbers of non-aquatic fauna using the non-wetland habitats and Action/Limit levels to trigger these measures are detailed in *Table 7-2*.

Table 7-2Action and Limit Levels for Non-Wet Woodland Habitats Monitoring

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction in species diversity	Investigate cause and if cause identified as related to the project instigate remedial action.

Remarks: Action and Limit Levels and Responses to Evidence of Declines in Non-Aquatic Fauna

7.2.3 The ecological survey includes all taxa being investigated in accordance with EIA report. Schedule of faunal surveys in each year during construction phase is presented in *Table 7-3*.

Table 7-3         Schedule of Faunal Surveys in each year During Construction Phase							)						
	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Mammala	2	2	2	2	2	2	2	2	1	2	2	2



Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Birds (day)	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$				$\checkmark$
Birds (night)												
Herpetofauna				$\checkmark$								
Dragonflies				$\checkmark$								
Butterflies				$\checkmark$								
Aquatic fauna			$\checkmark$	$\checkmark$			$\checkmark$	$\checkmark$				$\checkmark$

## <u>Mammal Survey</u>

7.2.4 Mammal surveys will be conducted along the proposed transects (shown in Appendix D of the survey report) during both daytime and night time periods. Along with direct observations, other field signs, such as scats and tracks, will be searched and recorded if present.

## Bird Survey

7.2.5 Bird surveys will be conducted along the transects (shown in Appendix D of the survey report) during the surveys, species and their vocalizing individuals recorded will be enumerated and recorded according to the habitat(s) they are utilizing.

## Herpetofauna Survey

7.2.6 Reptile and amphibian surveys will be conducted along transects (shown in Appendix D of the survey report) during surveys careful searches of appropriate microhabitats and refugia for reptiles and their vocalizing individuals will be undertaken and all reptiles observed will be identified and counted.

## Dragonfly and Butterfly Survey

7.2.7 Dragonfly and Butterfly surveys will be conducted along transects (shown in Appendix D of the survey report) during surveys all dragonflies and Butterflies seen will be identified and counted as accurately as possible.

#### Aquatic Fauna Survey

- 7.2.8 Freshwater fishes and macro-invertebrates will be recorded by direct observation. All species trapped/recorded will be enumerated and identified (to the lowest taxonomic level possible), and the species of conservation importance photographed.
- 7.2.9 After each ecological monitoring survey, a monthly report of the survey result and data collected will be provided with reference to EM&A Manual. An annual analysis of data will be carried out in order to study if there is any significant reduction in taxa diversity and abundance.

## 7.3 ECOLOGICAL MONITORING SURVEY FINDINGS (CONTRACT 1)

7.3.1 In the Reporting Month, ecological monitoring was undertaken on 6<sup>th</sup> August 2020 at work area of Contract 1. A sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed points. All species seen will be identified and counted as accurately as possible. Results of the monitoring survey are presented below:

## Monitoring Result for Contract 1

<u>Mammal</u>

7.3.2 There was one mammal recorded in the monitoring area

Birds

7.3.3 There were total of 20 bird individuals from 12 species recorded in the monitoring area. Four species of conservation interests were recorded in the monitoring area: *Centropus sinensis*, Greater Coucal (褐翅鴉鵑), *Centropus bengalensis*, Lesser Coucal (小鴉鵑) *Falco Subbuteo* Eurasian Hobby (燕隼) and *Garrulax canorus* Chinese Hwamei(畫眉).

<u>Herpetofauna</u>



7.3.4 There was no reptile recorded in the monitoring area. There was two amphibian species recorded in the monitoring area.

#### **Butterfly**

7.3.5 There were a total of 12 butterfly individuals from 4 species recorded in the monitoring area.

#### <u>Dragonfly</u>

7.3.6 There were a total of 2 odonate individual from 2 species recorded in the monitoring area.

#### Aquatic Fauna Survey (Freshwater communities)

- 7.3.7 There was no freshwater community recorded in the monitoring area.
- 7.3.8 The summaries of faunal survey result are shown in *Tables 7-4 and 7-5*.

## Table 7-4Result of Faunal Survey under Contract 1

Scientific Name	Common / Engineer Name	Chinese Name	Conservation Status	Non- wetland	Wetland
Mammal Survey				Ī	
Herpestes javanicus	Small Asian Mongoose	紅頰獴			1
Avifauna Survey Centropus sinensis	Greater Coucal	褐翅鴉鵑	Class 2 Protected Animal of China; China Red Data Book Status: (Vulnerable)	1	
Centropus bengalensis	Lesser Coucal	小鴉鵑	Class 2 Protected Animal of China; China Red Data Book Status: (Vulnerable)	1	
Apus nipalensis	House Swift	小白腰雨燕		4	
Falco subbuteo	Eurasian Hobby	燕隼	Class 2 Protected Animal of China; Fellowes et al. (2002): LC; Appendix 2 of CITES	1	
Lanius schach	Long-tailed Shrike	棕背伯勞			1
Dicrurus macrocercus	Black Drongo	黑卷尾			1
Pycnonotus aurigaster	Sooty-headed Bulbul	白喉紅臀鵯			3
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯			2
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		1	
Garrulax canorus	Chinese Hwamei	畫眉	Appendix 2 of CITES		2
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥			2
Myophonus caeruleus	Blue Whistling Thrush	紫嘯鶇			1
Reptile Survey					
Amphibian Survey Polypedates megacephalus	Brown Tree Frog	斑腿泛樹蛙			+
Bufo melanostictus	Asian Common Toad	黑眶蟾蜍			+
Butterfly Survey					
Pelopidas assamensis	Great Swift	印度穀弄蝶		1	
Abisara echerius	Plum Judy	蛇目褐蜆蝶		2	4



Scientific Name Common Engineer Na		Chinese Name	Conservation Status	Non- wetland	Wetland
Papilio polytes	Papilio polytes         Common Mormon			1	
Catopsilia pomona Lemon Emigrant		遷粉蝶		2	2
<b>Odonate Survey</b>					
Trithemis festiva	Indigo Dropwing	慶褐蜻			1
Urothemis signata	Scarlet Basker	赤斑曲鈎脈 蜻	Fellowes et al. (2002): LC		1

+: Species appeared but uncountable.

#### Table 7-5 Result of Freshwater Communities Survey under Contract 1

		Chinese		6- Aug-20	
Scientific Name	Common Name	Name	Conservation Status	Non- wetland	Wetland

#### 7.4 ECOLOGICAL MONITORING SURVEY FINDINGS (CONTRACT 2)

7.4.1 In the Reporting Month, ecological monitoring was undertaken on 6<sup>th</sup> August 2020 at work area of Contract 2. A sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed point. All species seen will be identified and counted as accurately as possible. Results of the monitoring survey are presented below:

## Monitoring Result for Contract 2

<u>Mammal</u>

7.4.2 There was no mammal recorded in the monitoring area

#### <u>Birds</u>

7.4.3 There were a total of 18 bird individuals from 7 species recorded in the monitoring area.

#### <u>Herpetofauna</u>

7.4.4 There was one reptile recorded in the monitoring area. There were two amphibian recorded in the monitoring area.

#### <u>Butterfly</u>

7.4.5 There were total 9 butterfly individuals from 7 species recorded in the monitoring area.

#### **Dragonfly**

7.4.6 There were total 7 odonate individuals from 3 species recorded in the monitoring area.

#### Aquatic Fauna Survey (Freshwater communities)

7.4.7 There were two species of freshwater fish were recorded in the monitoring area.

## 7.4.8 The summaries of faunal survey result are shown in *Tables 7-6* and 7-7.

#### Table 7-6Result of Faunal Survey under Contract 2

Scientific Name Common / Engineer Na		Chinese Name	Conservation Status	Non- wetland	Wetland
Mammal Survey					
Avifauna Survey					
Spilopelia chinensis	Spotted Dove	珠頸斑鳩			2
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯			2
Hirundo rustica	Barn Swallow	家燕		3	2
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯			2



Scientific Name	Common / Engineer Name	Chinese Name	Conservation Status	Non- wetland	Wetland
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯			1
Garrulax perspicillatus	Masked Laughingthrush	黑臉噪鶥		4	
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		2	
<b>Reptile Survey</b>					
Enhydris chinensis	Chinese Water Snake	中國水蛇			1
Amphibian Survey					
Bufo melanostictus	Asian Common Toad	黑眶蟾蜍			+
Kaloula pulchra	Asiatic Painted Frog	花狹口蛙			+
<b>Butterfly Survey</b>	_			_	_
Notocrypta curvifascia	Restricted Demon	曲紋袖弄蝶			1
Faunis eumeus	Large Faun	串珠環蝶		2	
Mycalesis mineus	Dark Brand Bush Brown	小眉眼蝶		2	
Papilio polytes	Common Mormon	玉帶鳳蝶		1	
Papilio protenor	Spangle	藍鳳蝶		1	
Catopsilia pomona	Lemon Emigrant	遷粉蝶		1	
Delias pasithoe	Red-base Jezebel, Common Black Jezebel	報喜斑粉蝶		1	
<b>Odonate Survey</b>					
Brachydiplax chalybea	Blue Dasher	藍額疏脈蜻			1
Copera marginipes	Yellow Featherlegs	黃狹扇蟌			2
Pantala flavescens	Wandering Glider	黃蜻			4

#### Table 7-7 Result of Freshwater Communities Survey under Contract 2

Scientific Name	Common Name	Chinese Name	Conservation Status	6-Aug-20
Gambusia affinis	Mosquito fish	食蚊魚		+
Puntius semifasciolatus	Chinese Barb	五線無鬚鰓		+

+: Species appeared but uncountable.

- 7.4.9 The detailed survey reports of Contract 1 and Contract 2 are attached in *Appendix K*.
- 7.4.10 The tentative ecology inspection and monitoring in the next Reporting Month (September 2020) is scheduled on **3<sup>rd</sup> September 2020**.

#### 7.5 MEASURE FOR PROTECTION OF NESTING BIRD

- 7.5.1 Pursuant to FEP-01/534/2017/A condition 2.19 and EP-534/2017/A condition 2.20, precautionary checks for the presence of nesting birds shall be carried out in the breeding season (February to July) before vegetation clearance.
- 7.5.2 In the Reporting period, there was no precautionary check for the presence of nesting birds carried out for Contract 1 and Contract 2 outside the breeding season.



## 8. LANDSCAPE AND VISUAL

#### 8.1 REQUIREMENT

- 8.1.1 The EIA has recommended EM&A for landscape and visual resources to be undertaken during the design, construction and operational stages of the project. The design, implementation and maintenance of landscape mitigation measures is a key aspect of this and should be checked to ensure that they are fully realized and that potential conflicts between the proposed landscape measures and any other project works let its are resolved at the earliest possible date and without compromise to the intention of the mitigation measures. In addition, implementation of the mitigation measures recommended by the EIA will be monitored through the site audit programme.
- 8.1.2 A number of mitigation measures to ameliorate the landscape and visual impacts of the Project implementation is summarized in the EMIS of *Appendix 13.1* of the EIA Report.
- 8.1.3 The landscape and visual mitigation measures proposed should be incorporated in the landscape and engineering design. Mitigation measures to be implemented during construction should be adopted from the start of construction and be in place throughout the entire construction period. Mitigation measures to be implemented during operation should be integrated into the detailed design and built as part of the construction works so that they are in place on commissioning of the Project. Tree transplantation and compensatory planting should be carried out as early as possible in the Project with transplantation carried out prior to construction starting in any particular area.
- 8.1.4 During construction phase, Landscape & Visual Monitoring of the contractor's operations should be conducted monthly and reported by ET, and countersigned by IEC.

#### 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH

8.2.1 In the Reporting Month, landscape & Visual inspection was carried out by the Registered Landscape Architect (RLA) for works area of Contract 1 and Contract 2 on 24<sup>th</sup> August 2020. The findings / reminders recorded during the inspection are presented in *Tables 8-1 and 8-2.3* 

	Lanuscape & visual inspection Finding for C						
Date	Findings and Reminder	Follow-Up Status					
24 <sup>th</sup> August 2020	1. The Contractor is reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ.	Reminder was noted by the Contractor.					
	2. Transplanted trees T2465, T2468 and T2928 were in fair health condition with normal foliage color and density. Contractor is reminded to provide proper maintenance according to approved method statement.	• Reminder was noted by the Contractor.					

Table 8-1	Landscape	&	Visual	Inspection	Finding	for	Contract 1
	Lanuscape	~	v ibuui	mopection	I muma	101	Contract

#### Table 8-2Landscape & Visual Inspection Finding for Contract 2

Date	Findings and Reminder	Follow-Up Status
24 <sup>th</sup> August 2020	1. The Contractor is reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ	5
	2. Proper TPZ should be set up according to approved method statement.	• Reminder was noted by the Contractor.

8.2.2 Inspection checklist of Landscape & Visual signed by RLA is attached in *Appendix L*.



## 9. WASTE MANAGEMENT

#### 9.1 GENERAL WASTE MANAGEMENT

9.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time in accordance with the Waste Management Plan (WMP).

#### 9.2 **RECORDS OF WASTE QUANTITIES**

- 9.2.1 All types of waste arising from the construction work are classified into the following:
  - Construction & Demolition (C&D) Material;
  - Chemical Waste;
  - General Refuse; and
  - Excavated Soil.
- 9.2.2 The quantities of waste for disposal in this Reporting Month are summarized in *Table 9-1* and *9-2* and the Monthly Summary Waste Flow Table is shown in *Appendix M*. Whenever possible, materials were reused on-site as far as practicable.

	Cont	ract 1	Contract 2		
Type of Waste	Quantity	Disposal Location	Quantity	Disposal Location	
Total generated C&D Materials (Inert) ('000m <sup>3</sup> )	3.361		353.240 (#)		
Reused in this Contract (Inert) ('000m <sup>3</sup> )	1.567	Within Contract area	0		
Reused in other Projects (Inert) ('000m <sup>3</sup> )	0		0		
Disposal as Public Fill (Inert) ('000m <sup>3</sup> )	1.794	Tuen Mun Area 38	353.240 (#)	Tuen Mun Area 38	

## Table 9-1Summary of Quantities of Inert C&D Materials

Remark: the unit is '000kg

#### Table 9-2Summary of Quantities of C&D Wastes

	Contract 1		Contract 2	
Type of Waste	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0		0	
Recycled Paper / Cardboard Packing ('000kg)	0		0	
Recycled Plastic ('000kg)	0		0	
Chemical Wastes ('000kg)	0		0	
General Refuses ('000m <sup>3</sup> )	0.204	NENT Landfill	4.370 (#)	NENT Landfill

Remark: the unit is '000kg

9.2.3 Since canteen and/or kitchen are not allowed setting on the Project site, no domestic wastewater was generated from the Project.



## **10. SITE INSPECTION**

## **10.1 REQUIREMENT**

10.1.1 According to the approved EM&A Manual, environmental site inspection should be led by RE and attended by the Contractor and ET at least once per week. Regular environmental site inspections shall be carried out to assess the environmental performance.

# **10.2** FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH

## Contract 1

- 10.2.1 In the Reporting Month, joint site inspections for Contract 1 to evaluate the site environmental performance were carried out by the RE, ET and the Contractor on  $6^{th}$ ,  $14^{th}$ ,  $20^{th}$  and  $27^{th}$  August 2020 and IEC attended joint site inspection on  $14^{th}$  August 2020. No non-compliance was noted.
- 10.2.2 The findings / deficiencies that observed during the weekly site inspection are listed in *Table 10-1*.

Table 10-1Site Observations for the Works of Contract 1

Date	Findings / Deficiencies	Follow-Up Status			
6 <sup>th</sup> August 2020	• No adverse environmental issue was observed.	• NA			
14 <sup>th</sup> August 2020	<ul> <li>Discoloured NRMM label should be replaced for the crane. (Near Detention Tank)</li> <li>The Contractor was reminded to remove stagnant water accumulated on site after rainy days</li> </ul>	<ul> <li>NRMM label with proper color was displayed on the crane.</li> <li>Reminder only</li> </ul>			
20 <sup>th</sup> August 2020	• No adverse environmental issue was observed.	• NA			
27 <sup>th</sup> August 2020	• The Contractor should provide NRMM label for the air compressor at CS12, 13.	Proper NRMM label     was provided			

## Contract 2

- 10.2.3 In the Reporting Month, joint site inspections for Contract 2 to evaluate the site environmental performance carried out by the RE, ET and the Contractor was on  $6^{th}$ ,  $14^{th}$ ,  $20^{th}$  and  $27^{th}$  August 2020 and IEC attended joint site inspection on  $14^{th}$  August 2020. No non-compliance was noted.
- 10.2.4 The findings / deficiencies that observed during the weekly site inspection are listed in *Table 10-2*.

Table 10-2Site Observations for the Works of Contract 2

	able 10-2 Site Obset valuations for the Works of Contract 2					
Date	Findings / Deficiencies	Follow-Up Status				
6 <sup>th</sup> August 2020	<ul> <li>NRMM label with proper color should be displayed on the excavator used on site. (RW13)</li> <li>Stagnant water in drip tray should be removed. (RW13)</li> <li>Proper NRMM label should be displayed on the generator. (Man Kam To road)</li> </ul>	<ul> <li>NRMM label with proper color was displayed on the excavator.</li> <li>Stagnant water in drip tray was removed.</li> <li>NRMM label was not required for that generator after checking its specification.</li> </ul>				
14 <sup>th</sup> August 2020	<ul> <li>NRMM label for the roller should be properly displayed. (RW14)</li> <li>Generator should be properly maintained to avoid black smoke emission. (RW14)</li> <li>Chemical container should be place inside drip tray. (CS20)</li> <li>The Contractor was reminded to remove stagnant water accumulated on site after rainy days.</li> </ul>	<ul> <li>NRMM label was displayed properly.</li> <li>Maintenance was provided for the machinery regularly.</li> <li>Chemical container was placed in drip tray.</li> <li>Reminder only</li> </ul>				



Date	Findings / Deficiencies	Follow-Up Status
20 <sup>th</sup> August 2020	• The Contractor was reminded to remove stagnant water on site. (RW14)	• Reminder only
27 <sup>th</sup> August 2020	• The Contractor was reminded to clean the muddy trails at site entrance. (LMHR TTA1)	• Reminder only



## 11. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

#### 11.1 Environmental Complaint, Summons and Prosecution

11.1.1 In the Reporting Month, no environmental complaint was received for the Project. No summons and prosecution was lodged for the Contract. The statistical summary table of the environmental complaint, summons and prosecution are presented in *Tables 11-1, 11-2* and *11-3*.

## Table 11-1 Statistical Summary of Environmental Complaints

Reporting Month		Environmental Complaint Statistics		
		Frequency	Cumulative	<b>Complaint Nature</b>
1 – 31 August 2020	Contract 1	0	0	NA
1 – 31 August 2020	Contract 2	0	0	NA

#### Table 11-2 Statistical Summary of Environmental Summons

Reporting Month		Environmental Summons Statistics		
		Frequency	Cumulative	<b>Complaint Nature</b>
1 – 31 August 2020	Contract 1	0	0	NA
1 – 31 August 2020	Contract 2	0	0	NA

#### Table 11-3 Statistical Summary of Environmental Prosecution

Reporting Month Frequence		Environmental Prosecution Statistics		
		Frequency	Cumulative	<b>Complaint Nature</b>
1 – 31 August 2020	Contract 1	0	0	NA
1 – 31 August 20200	Contract 2	0	0	NA

11.1.2 In addition, no complaints received and emergency events relating to violation of environmental legislation for illegal dumping and landfilling were received.



## 12. IMPLEMENTATION STATUS OF MITIGATION MEASURES

### **12.1 GENERAL REQUIREMENTS**

- 12.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in *Appendix N*.
- 12.1.2 The Works of Contract 1 and Contract 2 under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual subject to the site condition. Environmental mitigation measures implemented in this Reporting Month is summarized in *Table 12-1*.

Issues	Environmental Mitigation Measures						
Water	· Provided efficient silt removal facilities to reduce SS level before effluent						
Quality	discharge.						
	• Provided ditches, earth bunds or sand bag barriers to minimize polluted runoff.						
	• Temporary drainage was provided to prevent runoff going through site surface and						
	minimize polluted runoff.						
	• Provided perimeter cut-off drains at site boundaries to intercept storm runoff from						
	crossing the site.						
	• Exposed slopes surface were compacted and covered with tarpaulin or similar means.						
	Provided portable chemical toilets on site.						
Air Quality	Maintain damp / wet surface on access road.						
	Maintain low vehicular speed within the works areas.						
	• Provided vehicle wheel washing facilities at each construction site exit;						
	Provided water spraying for all active works area.						
	• Stockpiles of dusty material were covered with impervious sheeting.						
	• Provided workers to clear dusty materials at the vehicle entrance or exit regularly.						
	• Stockpile more than 20 bags of cement or dry pulverized fuel ash (PFA) has been						
	covered entirely by impervious sheeting or placed in an area sheltered on the top						
	and the 3 sides.						
Noise	• Restricted operation time of plants from 07:00 to 19:00 on any working day						
	except for Public Holiday and Sunday.						
	Keep good maintenance of plants						
	Placed noisy plants away from residence and school						
	Provided noise barriers or hoarding to enclose the noisy plants or works						
XX7 / 1	Shut down the plants when not in used.						
Waste and	Provided on-site sorting prior to disposal     Fallowed requirements and needed on the "Trip tighet System"						
Chemical Monogement	<ul> <li>Followed requirements and procedures of the "Trip-ticket System"</li> <li>Predicted required quantity of concerts accurately.</li> </ul>						
Management	• Predicted required quantity of concrete accurately						
	<ul> <li>Collected the unused fresh concrete at designated locations in the sites for subsequent disposal</li> </ul>						
General	The site was generally kept tidy and clean.						
Contrai	The site was generally hepe day and eleant						

 Table 12-1
 Environmental Mitigation Measures

## 12.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

- 12.2.1 According to the information provided by HCTYJV, the forthcoming construction activities for Contract 1 are listed below:
  - General Site Housekeeping
  - Bulk Excavation
  - Construction of cut slope, installation of soil nailing and construction of surface channel and planter wall.
  - Construction of fill slope and surface channel
  - Construction of pick-up and drop-off point near Man Kam To Road
  - Construction of sewer and storm drain



- Construction of noise barrier
- Construction of watermains
- 12.2.2 According to the information provided by Sang Hing, the forthcoming construction activities for Contract 2 are listed below:
  - Construction of Manhole, gullies, drainage pipe at Lin Ma Hang Road between CH565-675 Southbound & CH1345-1377 Northbound.
  - Man Kam To Road DN800 DI Sewerage Pipe FM4.18-4.19(50m)
  - Reinstatement for Man Kam To Road DN800 DI Sewerage Pipe Trench FM4.18-FM4.21 (120m)
  - Filling works for slope FS18 (Part A1)
  - Drainage Works at Road E CH200-300
  - Retaining Wall 14 construction
  - Soil Nail Works at Lin Ma Hang Road Slope C225 & C231
  - Soil Nail Works at Sandy Ridge Slope CS20
  - Fanling Station Road Covered Walkway

## 12.3 KEY ISSUES FOR THE COMING MONTH

12.3.1 Key issues to be considered in the coming month for the works of Contract 1 include:

- Implementation of control measures for rainstorm;
- Regular clearance of stagnant water during wet season;
- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
- Ensure dust suppression measures are implemented properly;
- Sediment catch-pits and silt removal facilities should be regularly maintained;
- Discharge of site effluent to the nearby wetland is prohibited;
- Nearby wetland prohibited stockpiling and/or disposal of materials;
- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures.
- 12.3.2 The Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent surface runoff and other pollutants from flowing to local stream and Conservation Area. The implementation of water quality mitigation measures conducted by the Contractors is shown in *Appendix O*.



### **13. CONCLUSIONS AND RECOMMENTATIONS**

#### **13.1 CONCLUSIONS**

- 13.1.1 This is the 25<sup>th</sup> Monthly EM&A Report presenting the monitoring results and inspection findings for the period of 1<sup>st</sup> to 31<sup>st</sup> August 2020.
- 13.1.2 No 24-hour or 1-hour TSP monitoring result that triggered the Action or Limit Levels was recorded. No NOEs or the associated corrective action was therefore required.
- 13.1.3 No noise complaint (which is an Action Level exceedance) was received and no construction noise measurement result that exceeded the Limit Level was recorded in this Reporting Month. No NOEs or the associated corrective actions were therefore issued.
- 13.1.4 For water quality monitoring, a total of **2** Action Level and **34** Limit Level exceedances were recorded In the Reporting Period. NOE were issued to relevant parties and the investigation has been conducted by ET. Investigation revealed that the Contractor had implemented water quality mitigation measures and the exceedances were related the rainstorm and not caused by the work under the project.
- 13.1.5 Monthly ecological monitoring for sensitive habitat for area of Contract 1 and Contract 2 were undertaken on *6<sup>th</sup> August 2020*. As advised by both Contractors, there were no vegetation clearance conducted within the site in the Reporting Month and therefore precautionary check for the presence of nesting birds was not required.
- 13.1.6 Landscape and visual inspection at both Contracts were undertaken by the RLA on 24<sup>th</sup> August 2020. The Contractor was reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ.
- 13.1.7 In the Reporting Month, no environmental complaint, summons and prosecution was received. In addition, no complaints received and emergency events relating to violation of environmental legislation for illegal dumping and landfilling were received.
- 13.1.8 In the Reporting Month, joint site inspections for Contract 1 to evaluate the site environmental performance were carried out by the RE, ET and the Contractor on  $6^{th}$ ,  $14^{th}$ ,  $20^{th}$  and  $27^{th}$  August 2020 and IEC attended joint site inspection on  $14^{h}$  August 2020. No non-compliance was noted.
- 13.1.9 Joint site inspections for Contract 2 to evaluate the site environmental performance carried out by the RE, ET and the Contractor was on 6<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup> and 27<sup>th</sup> August 2020 and IEC attended joint site inspection on 14<sup>h</sup> August 2020. No non-compliance was noted.

### **13.2 RECOMMENDATIONS**

- 13.2.1 The Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent surface runoff and other pollutants from flowing to local stream and Conservation Area.
- 13.2.2 Air quality mitigation measures such as wheel wash facilities, watering of haul roads, loose soil construction surface and covering of dusty materials with tarpaulin sheet should be implemented as far as practicable.
- 13.2.3 Construction noise would be a key environmental issue during construction phase of the Project. Noise mitigation measures such as using quiet plants and mobile noise barriers should be implemented in accordance with the EM&A requirement.
- 13.2.4 Since some of the construction site under the Project is located near villages, both Contractors should fully implement air quality mitigation measures to reduce construction dust emission.
- 13.2.5 Furthermore, daily cleaning and weekly tidiness shall be properly performed and maintained. In addition, mosquito control should be performed to prevent mosquito breeding on site.



# Appendix A

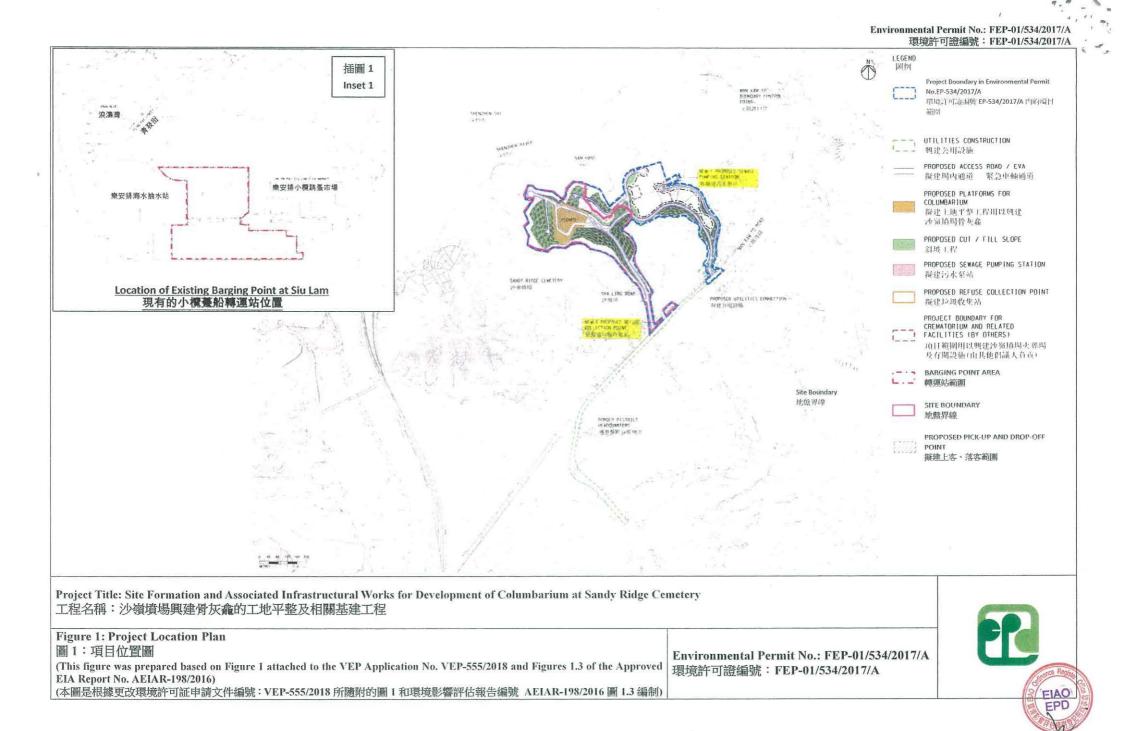
# Layout Plan of the Project

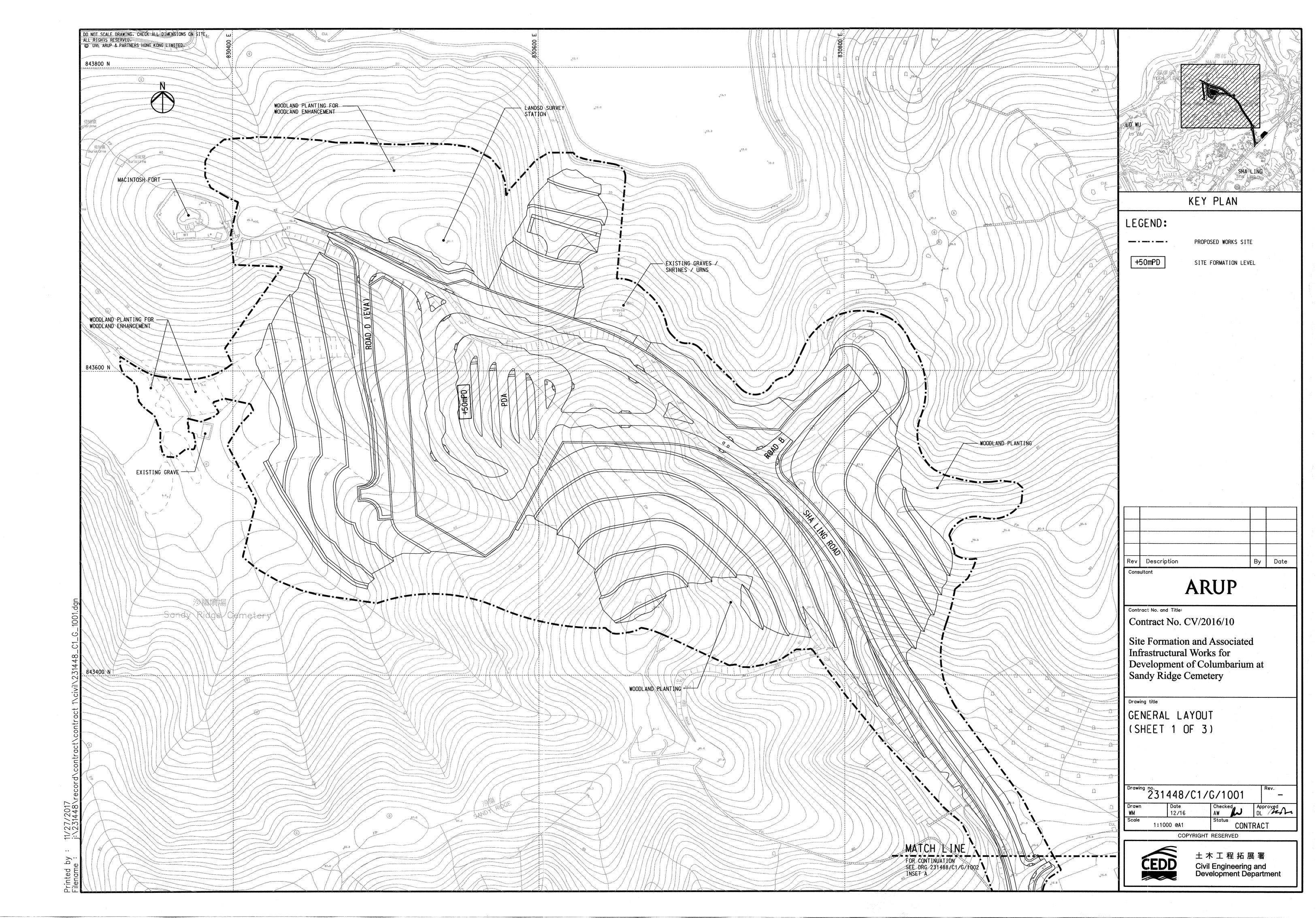
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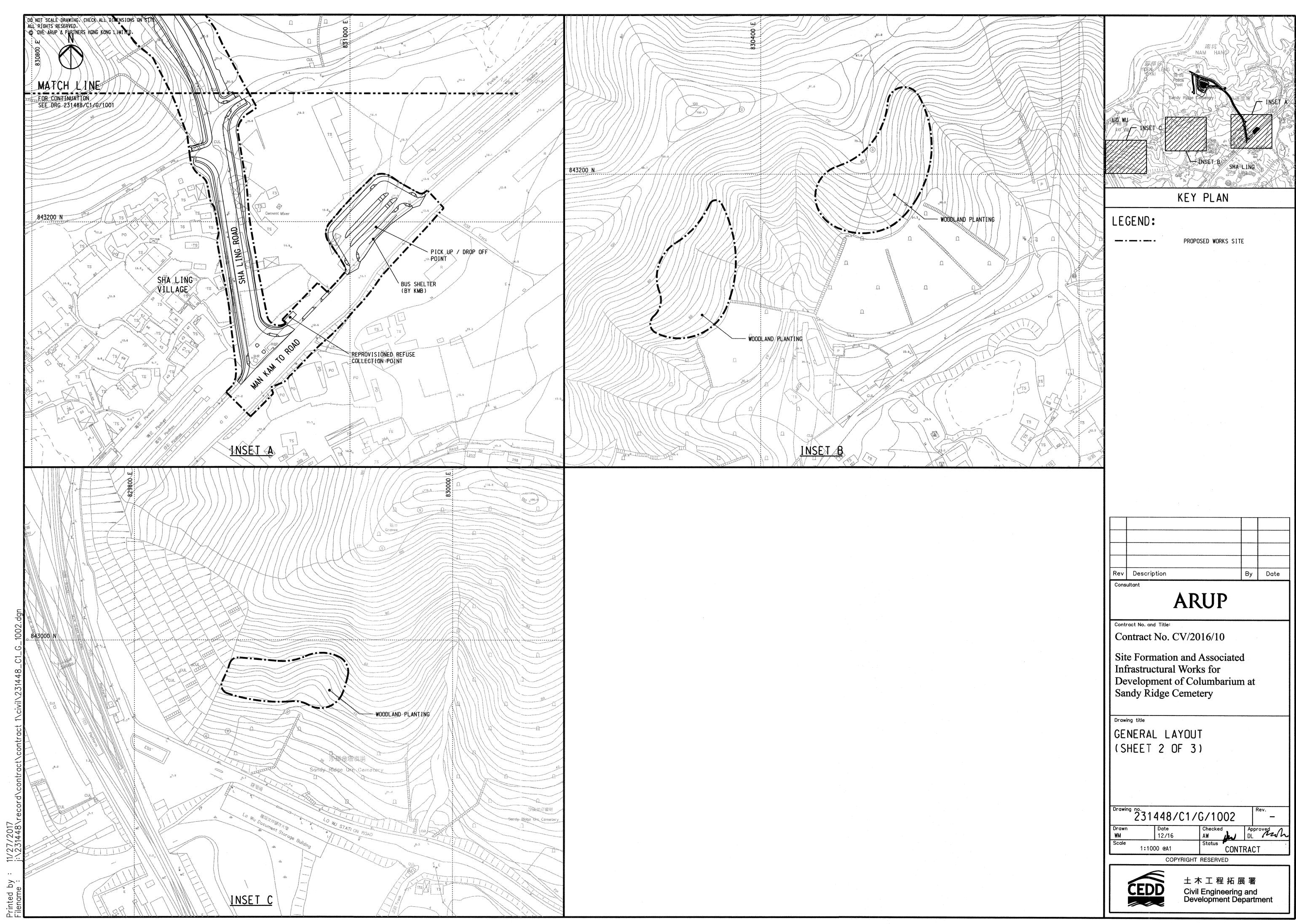


# Layout Plan of Contract CV/2016/10

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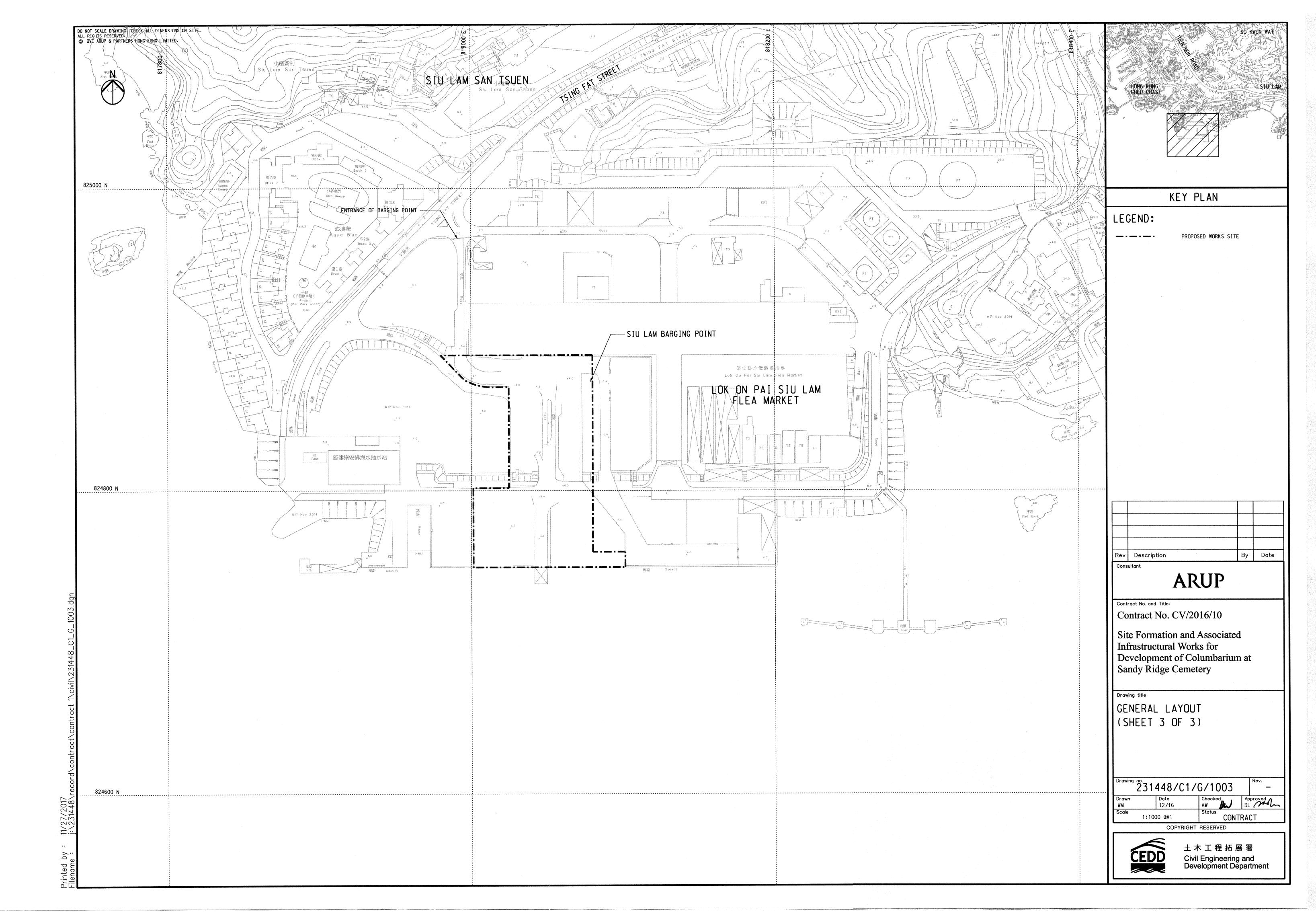






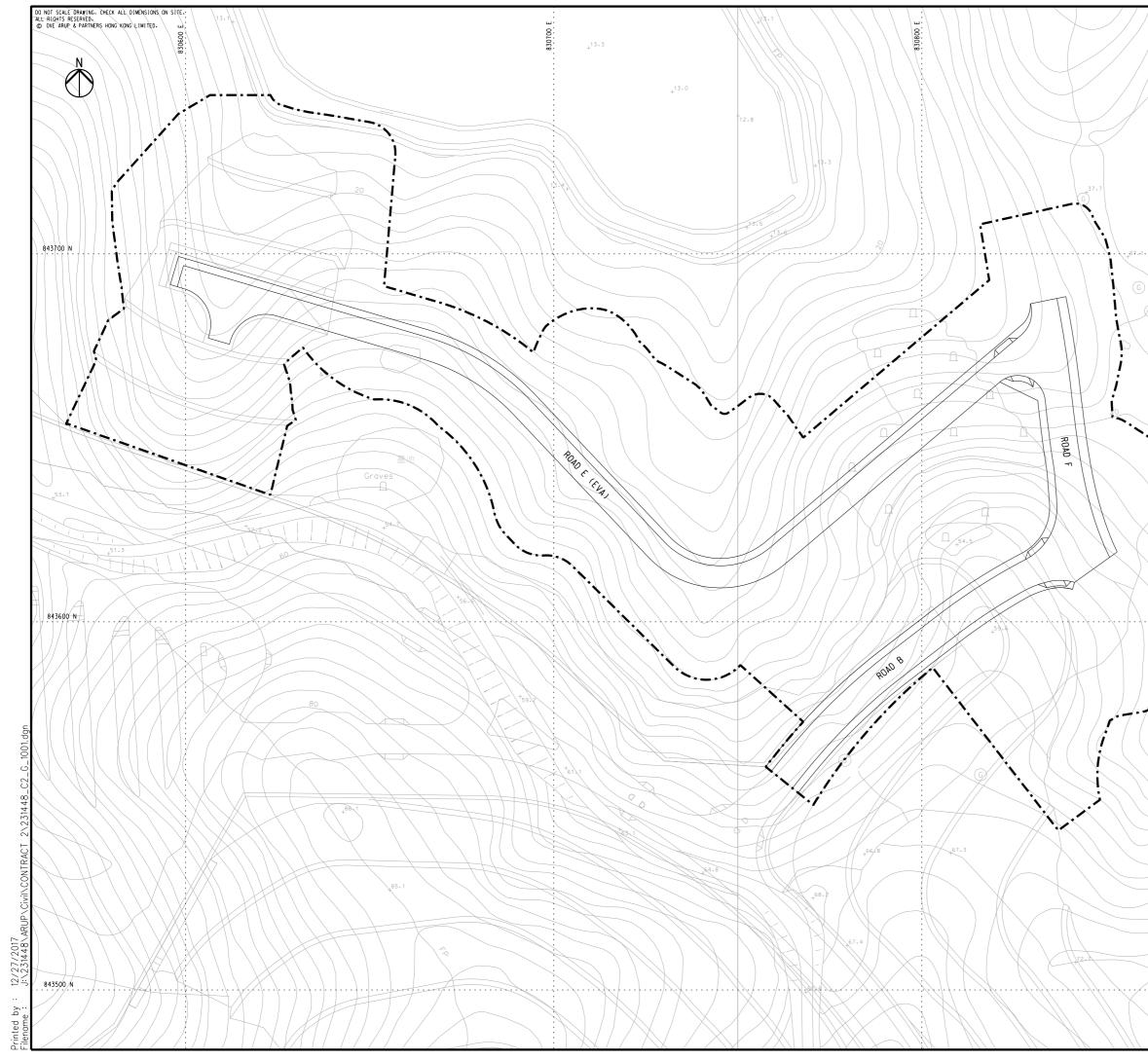
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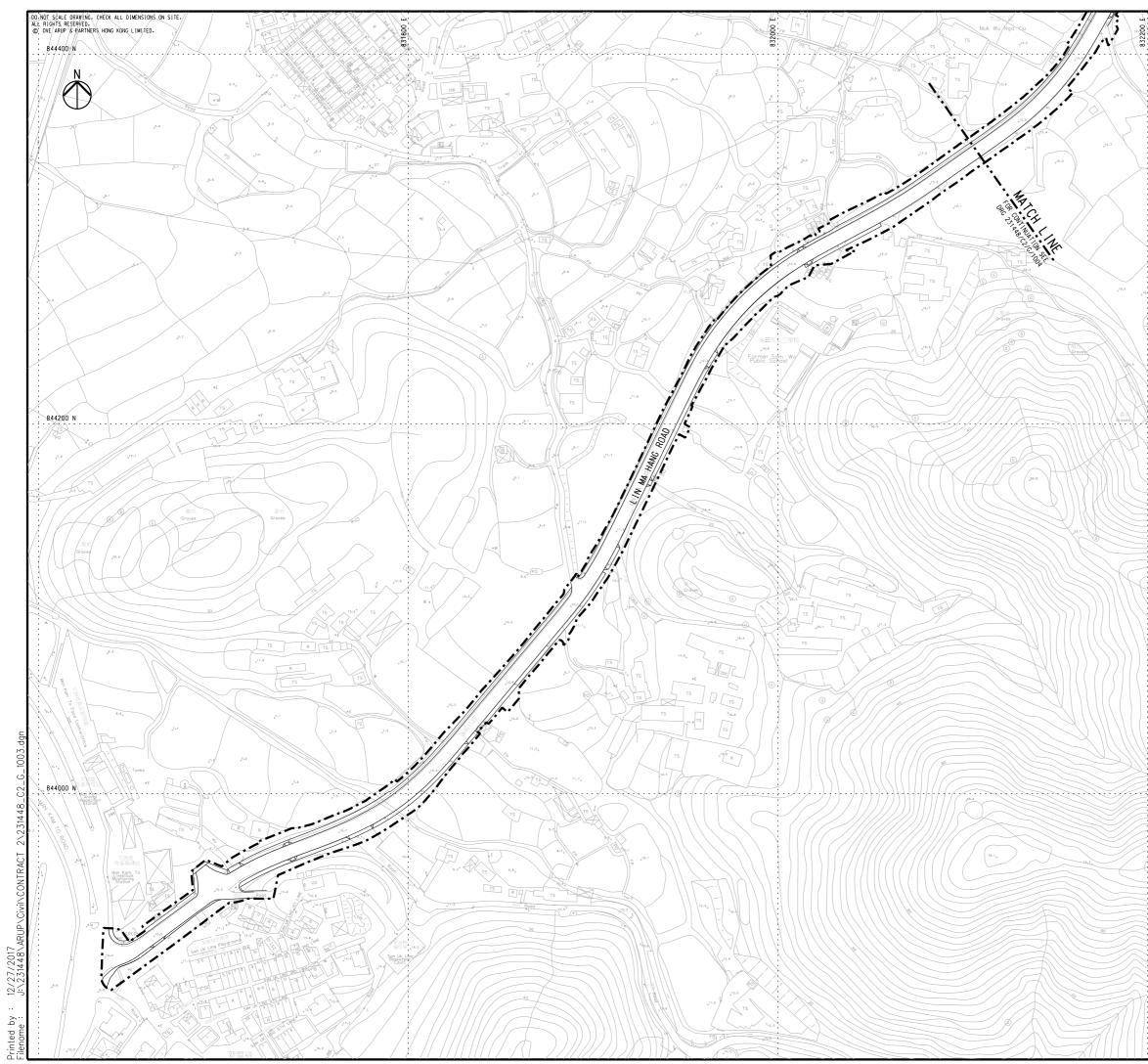


# Layout Plan of Contract CV/2017/02

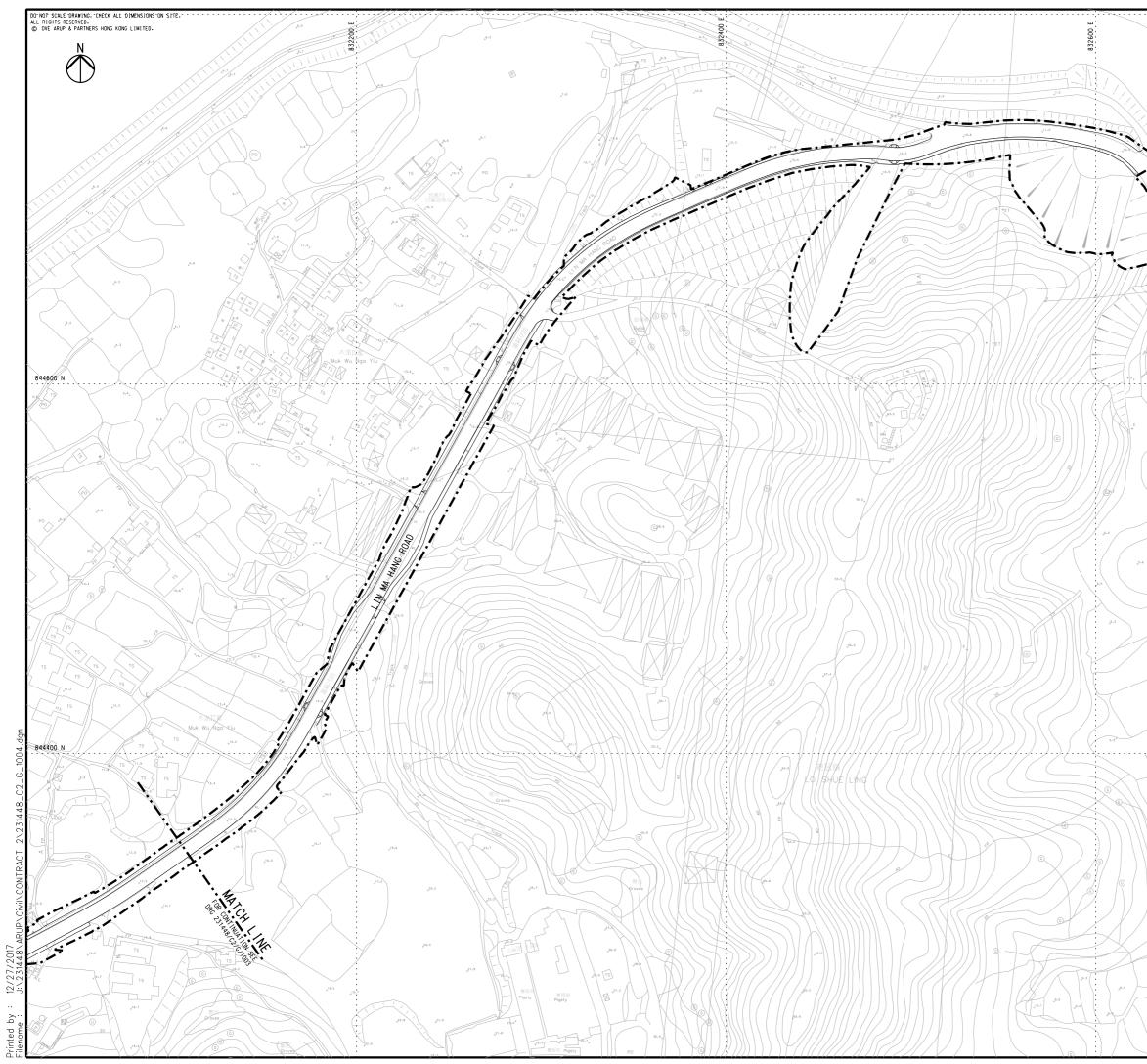


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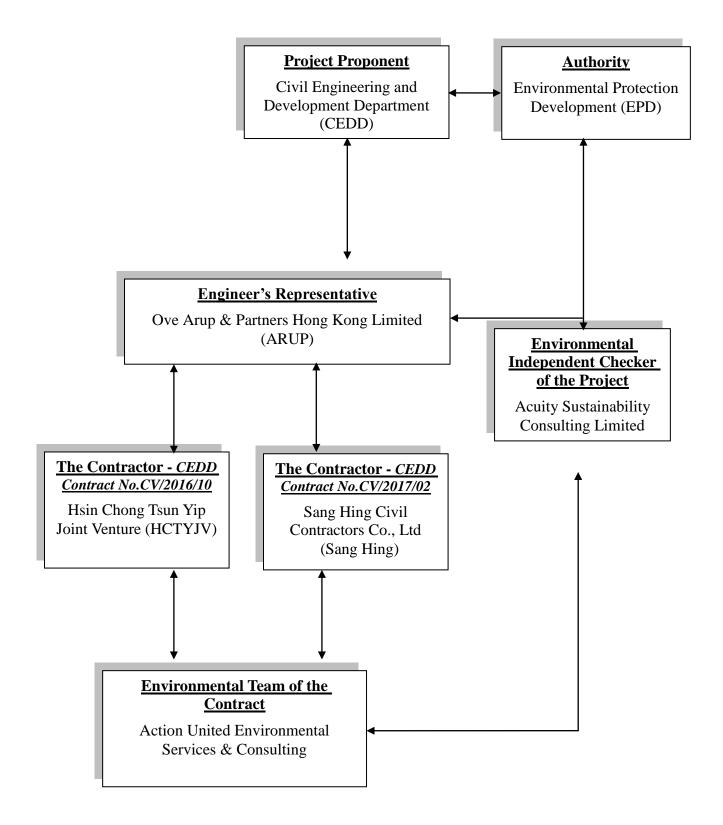


# **Appendix B**

# **Organization Structure and Contact Details of Relevant Parties**



# **The Contract's Environmental Management Organization**





Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Employer	CHOI Wing-hing	2762-5620	2714-0695
ARUP	Engineer's Representative	Steve Tang	6190-1513	2268-3950
ACUITY	Independent Environmental Checker	Ir. Leung CH Jacky	2698-6833	2698-9383
HCTYJV	Project Director	Mr. Kan Kwok Cheung	9495-2408	2633-4691
HCTYJV	Construction Manager	Mr. Keniel Kwong	9863-0020	2633-4691
НСТҮЈV	Site Agent	Mr. Ho Man To	9507-9634	2633-4691
HCTYJV	Environmental Officer	Mr. Chan Ming Tai	9358-7007	2633-4691
AUES	Environmental Team Leader	Mr. T.W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Mr. Ben Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959-6059	2959-6079
AUES	Environmental Site Inspector	Mr. Martin Li	2959-6059	2959-6079

## Contact Details of Key Personnel for CV/2016/10 (Contract 1)

## Legend:

CEDD (Employer) – Civil Engineering and Development Department

ARUP (Engineer) – Ove Arup & Partners Hong Kong Limited

HCTYJV (Main Contractor) – Hsin Chong Tsun Yip Joint Venture

ACUITY (IEC) – Acuity Sustainability Consulting Limited

AUES (ET) – Action-United Environmental Services & Consulting



Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Employer	CHOI Wing-hing	2762-5620	2714-0695
ARUP	Engineer's Representative	Anthony Lau	6190-1513	2268-3950
ACUITY	Independent Environmental Checker	Ir. Leung CH Jacky	2698-6833	2698-9383
SANG HING	Project Director	Edwin Au	9208-7329	2403-1162
SANG HING	Construction Manager	Raymond Wong	9272-1831	2403-1162
SANG HING	Site Agent	Elvin Lam	6285-0803	2403-1162
SANG HING	Environmental Officer	Chan Ng jhon-keibi	6090-0183	2403-1162
SANG HING	Environmental Supervisor	Kenny Chan	6115-0120	2403-1162
AUES	Environmental Team Leader	Mr. T.W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Mr. Ben Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959-6059	2959-6079
AUES	Environmental Site Inspector	Mr. Martin Li	2959-6059	2959-6079

## Contact Details of Key Personnel for CV/2017/02 (Contract 2)

## Legend:

CEDD (Employer) – Civil Engineering and Development Department

ARUP (Engineer) – Ove Arup & Partners Hong Kong Limited

Sang Hing (Main Contractor) – Sang Hing Civil Contractors Co., Ltd

ACUITY (IEC) – Acuity Sustainability Consulting Limited

AUES (ET) – Action-United Environmental Services & Consulting



# Appendix C

# **Three Months rolling Programme**



Three Months rolling Programme of Contract CV/2016/10

Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery

## 3-month Rolling Programme (Aug 2020 to Oct 2020)

		Duration	Start	Finish	Aug		Sep
Key Dates		2199 days	Fri 15/12/17	Fri 22/12/23	Aug	<u> </u>	4.36
Section Com	pletion Date		Wed 17/7/19	Fri 22/12/23			
Section 1 of the	Works (Parts A1, A2 & A3)	940 days	Fri 15/12/17	Sat 11/7/20			
Fill Slope FS	1	503 days	Thu 11/10/18	Fri 3/7/20			
	FS1 South (Section 12 at Drawing C1/GE/1030)	453 days	Wed 14/11/18	Wed 3/6/20			
	outh Backfilling Stage 5 (~7.6m height, Section 12 up to Proposed Platform, +50mPD),	83 days	Thu 23/1/20	Sat 9/5/20			
	Blanket from 42.4mPD to 44.9mPD)	,					
Draina	ge and Maintenance Access	300 days	Tue 28/5/19	Wed 3/6/20			
		220 days	Wed 14/8/19	Sat 16/5/20			
Fill Slope	FS1 North (Section 14 at Drawing C1/GE/1030)	503 days	Thu 11/10/18	Fri 3/7/20			
	orth Backfilling Stage 5 (~7.5 m height, Section 14 up to Proposed Platform), (Filter blanket		Mon 24/2/20	Sat 6/6/20			
	9 46.8mPD)						
Existin	g Slope Feature 3NW-C/F37 Upgrading Re-compaction	175 days	Tue 12/11/19	Wed 17/6/20			
Draina	ge and Maintenance Access	300 days	Wed 26/6/19	Fri 3/7/20			
Geoteo	chnical Instrumentation Works	220 days	Wed 11/9/19	Sat 13/6/20			
Road D and F	Pickup/Drop-Off Area		Mon 23/7/18	Sat 11/7/20			
	Sewerage and Utilities Works	103 days	Mon 3/2/20	Tue 9/6/20			
Draina	ge at Pick-up/Drop Off	20 days	Mon 18/5/20	Tue 9/6/20			
	able Installation	19 days	Mon 18/5/20	Mon 8/6/20			
	vay and Footway		Mon 23/7/18	Sat 11/7/20			
	ling to Formation Level at Road D	27 days	Fri 27/3/20	Tue 5/5/20	_		
		50 days	Tue 24/3/20	Thu 28/5/20	_		
	Lighting Civil Works Provision	26 days	Fri 27/3/20	Mon 4/5/20			
		45 days	Wed 6/5/20	Sat 27/6/20			
	ling to Formation Level at Pick-up/Drop Off	21 days	Wed 10/6/20	Mon 6/7/20			
	nent, Road Marking and Street Furniture at Pick-up/Drop Off	17 days	Sat 20/6/20	Sat 11/7/20			
Landscape W			Tue 21/5/19	Sat 11/7/20			
Woodland	I Planting at Fill Slope	300 days	Wed 26/6/19	Fri 3/7/20	-1		
Hydroseed	ding at Fill Slope	300 days	Tue 2/7/19	Wed 8/7/20			
Planter E2	2 Construction at Pick-up/Drop Off	15 days	Wed 10/6/20	Sat 27/6/20	_		
Shrubs Pla	anting at Planter E2 at Pick-up/Drop Off	10 days	Mon 29/6/20	Fri 10/7/20	_		
		24 days	Mon 18/5/20	Sat 13/6/20	_		
Tree Plant		10 days	Tue 30/6/20	Sat 11/7/20			
	Works (Parts B1, B2, C, D, F, G1 & G2)		Fri 15/12/17	Mon 28/6/21		<u> </u>	
Part B1			Fri 15/12/17	Mon 28/6/21		<u> </u>	
	Viversion/Protection Works		Fri 15/12/17	Wed 30/9/20		<u> </u>	
HKT			Fri 15/12/17	Wed 30/9/20		<u> </u>	
	pporting / Diversion of Existing HKT Cable	700 days	Thu 17/5/18	Wed 30/9/20			
	be Works at Cut Slopes CS1, CS2 & CS3		Fri 31/1/20	Tue 29/9/20			
	Planting at Planter W1 & W2 at CS1 & CS2	66 days	Thu 23/4/20	Mon 13/7/20	_		
	r W2 Construction at CS3	98 days	Tue 4/2/20	Thu 4/6/20	_		
	Planting at Planter W2 at CS3	98 days	Fri 5/6/20	Tue 29/9/20			
	r E2 Construction besides CS2	27 days	Thu 23/4/20	Tue 26/5/20			
	Planting at Planter E2 besides CS2	27 days	Wed 27/5/20	Sat 27/6/20			
	es CS11 & CS12	759 days		Thu 8/4/21		<u> </u>	
	ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (433 nos. of Soil Nail, 65 nos.		Thu 12/3/20	Fri 26/6/20	_		
	ing Drain)						
	ate to Toe Level, Pull Out Test, Soil Nails and Raking Drains (168 nos. of Soil Nail, 33 nos o	f 56 davs	Sat 27/6/20	Tue 1/9/20			
Excava							1
Excava Raking	( Dialit)					1	
Raking	ge and Maintenance Access from +72 mPD to Toe Level	347 days	Thu 24/10/19	Thu 24/12/20			
Raking Draina		347 days 450 days	Thu 24/10/19 Wed 27/2/19	Thu 24/12/20 Tue 8/9/20			
Raking Draina Geoteo	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works	450 days	Wed 27/2/19				
Raking Draina Geotec <b>Landscap</b>	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works be Works at Cut Slopes CS11 & CS12	450 days <b>703 days</b>	Wed 27/2/19 Tue 22/1/19	Tue 8/9/20		¥	
Raking Draina Geotec <b>Landscap</b> Planter	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>De Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level	450 days <b>703 days</b> 352 days	Wed 27/2/19	Tue 8/9/20 Fri 18/6/21			
Raking Draina Geotec Landscap Planter Shrub	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works be Works at Cut Slopes CS11 & CS12	450 days <b>703 days</b> 352 days 352 days	Wed 27/2/19 Tue 22/1/19 Fri 23/8/19	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20		( <b>*</b>	
Raking Draina Geotec Landscap Plante Shrub Hydros	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>De Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level	450 days 703 days 352 days 352 days 212 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20			
Raking Draina Geotec Landscap Planter Shrub Hydros Retaining	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>De Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level Wall RW11	450 days 703 days 352 days 352 days 212 days 307 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b>	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21			
Raking Draina Geotec Landscap Planter Shrub Hydros Retaining Installa	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>De Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level I <b>Wall RW11</b> ation of Temporary Works	450 days 703 days 352 days 352 days 212 days 307 days 70 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> Fri 29/5/20	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20			
Raking Draina Geotec Landscap Planter Shrub Hydros Retaining Installa Cut Slope	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>De Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>e CS13</b>	450 days 703 days 352 days 352 days 212 days 307 days 70 days 791 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> Fri 29/5/20 <b>Fri 4/5/18</b>	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20 Mon 11/1/21			
Raking Draina Geotec Landscap Plante Shrub Hydros Retaining Installa Cut Slope Excava	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>e CS13</b> ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (152 nos. of Soil Nail, 34 nos.	450 days 703 days 352 days 352 days 212 days 307 days 70 days 791 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> Fri 29/5/20	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20			
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Raking Draina Geotec Landscap Planter Shrub Hydros <b>Retaining</b> Installa <b>Cut Slope</b> Excava of Raki	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>c CS13</b> ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (152 nos. of Soil Nail, 34 nos. ing Drain)	450 days 703 days 352 days 352 days 212 days 307 days 70 days 791 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> Fri 29/5/20 <b>Fri 4/5/18</b>	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20 Mon 11/1/21			
Raking Draina Geotec Landscap Planter Shrub Hydros <b>Retaining</b> Installa <b>Cut Slope</b> Excava of Raki	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>c CS13</b> ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (152 nos. of Soil Nail, 34 nos. ing Drain) ate to +42 mPD, Pull Out Test, Soil Nails and Raking Drains (215 nos. of Soil Nail, 54 nos.	450 days 703 days 352 days 352 days 212 days 307 days 70 days 791 days 84 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> Fri 29/5/20 <b>Fri 4/5/18</b> Thu 12/3/20	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20 Mon 11/1/21 Fri 26/6/20			
Raking Draina Geotec Landscap Planter Shrub Hydros <b>Retaining</b> Installa <b>Cut Slope</b> Excava of Raki	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>e CS13</b> ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (152 nos. of Soil Nail, 34 nos. ing Drain) ate to +42 mPD, Pull Out Test, Soil Nails and Raking Drains (215 nos. of Soil Nail, 54 nos. ing Drain) ge and Maintenance Access from +72 mPD to Toe Level	450 days 703 days 352 days 352 days 212 days 307 days 70 days 70 days 84 days 56 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> <b>Fri 29/5/20</b> <b>Fri 4/5/18</b> Thu 12/3/20 Sat 27/6/20	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20 Mon 11/1/21 Fri 26/6/20 Tue 1/9/20			
Raking Draina Geotec Landscap Planter Shrub Hydros <b>Retaining</b> Installa <b>Cut Slope</b> Excava of Raki Excava of Raki	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>e CS13</b> ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (152 nos. of Soil Nail, 34 nos. ing Drain) ate to +42 mPD, Pull Out Test, Soil Nails and Raking Drains (215 nos. of Soil Nail, 54 nos. ing Drain) ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works	450 days 703 days 352 days 352 days 212 days 307 days 70 days 791 days 84 days 56 days 347 days 380 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> <b>Fri 29/5/20</b> <b>Fri 4/5/18</b> Thu 12/3/20 Sat 27/6/20 Thu 7/11/19 Wed 10/7/19	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20 Mon 11/1/21 Fri 26/6/20 Tue 1/9/20 Mon 11/1/21 Tue 20/10/20			
Raking Draina Geotec Landscap Planter Shrub Hydros <b>Retaining</b> Installa <b>Cut Slope</b> Excava of Raki Excava of Raki	ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slopes CS11 &amp; CS12</b> r W1 & W2 Construction Stage 2 from +72 mPD to Toe Level Planting at Planter W1 & W2 Stage 2 from +72 mPD to Toe Level seeding Stage 2 from +72 mPD tp Toe Level <b>Wall RW11</b> ation of Temporary Works <b>c CS13</b> ate to +49.5 mPD, Pull Out Test, Soil Nails and Raking Drains (152 nos. of Soil Nail, 34 nos. ing Drain) ate to +42 mPD, Pull Out Test, Soil Nails and Raking Drains (215 nos. of Soil Nail, 54 nos. ing Drain) ge and Maintenance Access from +72 mPD to Toe Level chnical Instrumentation Works <b>be Works at Cut Slope CS13</b>	450 days 703 days 352 days 352 days 212 days 307 days 70 days 791 days 84 days 56 days 347 days 380 days 549 days	Wed 27/2/19 <b>Tue 22/1/19</b> Fri 23/8/19 Tue 10/3/20 Sat 15/2/20 <b>Fri 29/5/20</b> <b>Fri 29/5/20</b> <b>Fri 4/5/18</b> Thu 12/3/20 Sat 27/6/20 Thu 7/11/19 Wed 10/7/19 <b>Thu 1/8/19</b>	Tue 8/9/20 Fri 18/6/21 Wed 4/11/20 Mon 24/5/21 Wed 4/11/20 Sat 12/6/21 Thu 20/8/20 Mon 11/1/21 Fri 26/6/20 Tue 1/9/20 Mon 11/1/21 Tue 20/10/20 Tue 15/6/21			
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Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery

## 3-month Rolling Programme (Aug 2020 to Oct 2020)

Develop	ment of Colum	nbarium at Sandy Ridge Cemetery						
ID 👩	Task Name		Duration	Start	Fini sh			Qtr 4, 2
278		Geotechnical Instrumentation Works	460 days	Tue 23/10/18	Wed 20/5/20	Aug	Sep	
279		andscape Works at Cut Slope CS15	613 days	Thu 3/1/19	Wed 3/2/21			
280		Planter W1 & W2 Construction	288 days	Mon 10/6/19	Mon 1/6/20			
281		Shrub Planting at Planter W1 & W2	300 days	Fri 31/1/20	Wed 3/2/21			
282 🖌		Hydroseeding	450 days	Thu 3/1/19	Sat 18/7/20			-
291	Fi	ill Slope FS17	717 days	Thu 5/7/18	Thu 10/12/20			
308 📝	E)	xisting Slope Upgrading Works	172 days	Tue 12/11/19	Sat 13/6/20			
309 🗳	5	Existing Feature 3NW-C/F37 Upgrading Re-compaction	150 days	Tue 12/11/19	Tue 19/5/20			
309 🗳 311 💆		Existing Feature 3NW-C/C258 Slope Upgrading Works	74 days	Thu 12/3/20	Sat 13/6/20			
313 314		Excavate to Proposed Ground Level, Pull Out Test, Soil Nails and Raking Drains (14 Nos. of	23 days	Wed 8/4/20	Sat 9/5/20			
314		Soil Nail, 8 Nos. of Raking Drain) Drainage and Maintenance Access	67 dava	Fri 20/3/20	Sat 13/6/20			
315	<u>}.</u>	ha Ling Road (M001 CH +620 to +820), M011, M004 and PDA	67 days 310 days	Mon 11/5/20	Fri 28/5/21			
316	<u>ຼ</u> ວາ	Sewerage and Drainage	105 days	Thu 18/6/20	Thu 22/10/20			
317		Drainage and Sewerage Works	105 days	Thu 18/6/20	Thu 22/10/20			
318		Utilities and Watermains Works	128 days	Thu 18/6/20	Sat 21/11/20			
319	λ	Watermains Works	55 days	Thu 18/6/20	Sat 22/8/20			
321		Landscape Works	148 days	Mon 11/5/20	Fri 6/11/20			
322		Tree Planting	48 days	Mon 11/5/20	Tue 7/7/20			
376	Part E		887 days	Fri 15/12/17	Wed 23/12/20			
387	SI	ha Ling Road (M001 CH +40 to +180)	602 days	Sat 1/12/18	Sat 19/12/20			
389 📝		Noise Barrier	189 days	Tue 18/2/20	Wed 7/10/20			
390 🥳		Sub-structure of Noise Barrier Construction Bay 3 to Bay 8	69 days	Tue 18/2/20	Fri 15/5/20			
391	<u> </u>	Backfilling to Road Formation Level at Noise Barrier Bay 3 to Bay 5	32 days	Fri 17/4/20	Tue 26/5/20			
392 🤞		Backfilling to Road Formation Level at Noise Barrier Bay 6 to Bay 8	32 days	Sat 16/5/20	Mon 22/6/20			
393 🤞		Superstructure of Noise Barrier Construction Bay 3 to Bay 8	120 days	Sat 16/5/20	Wed 7/10/20			
394 📝		Sewerage and Drainage	72 days	Wed 27/5/20	Thu 20/8/20			
39.5 🤞		Drainage and Sewerage Works	72 days	Wed 27/5/20	Thu 20/8/20			
396 🗳		Utilities and Watermains Works	355 days	Thu 18/7/19	Sat 26/9/20			<u> </u>
399 🍕	<u>ک</u>	Watermains Works	21 days	Wed 10/6/20	Mon 6/7/20			
400 🤞	<u>ا</u>	Town Gas Installation	29 days	Tue 7/7/20	Sat 8/8/20			
408		Landscape Works	138 days	Tue 7/7/20	Sat 19/12/20			
410 🤞		Irrigation System and Water Points	36 days	Tue 7/7/20	Mon 17/8/20			
413	Ma Ma	an Kam To Road Bus Shelter	836 days	Fri 15/12/17	Wed 21/10/20			
417 🖌 418 🖌		Road Lighting E&M works, Testing and Comissioning (by others)	45 days	Fri 17/4/20	Wed 10/6/20			
418		Backfilling to Formation Level	30 days	Fri 17/4/20	Sat 23/5/20			
419 📢 420 📢	<u></u>	Carraigeway, Pavement, Road Marking and Street Furniture	65 days	Mon 25/5/20	Mon 10/8/20			
420 1		Tree Planting ha Ling Road (M001 CH+0 to +40), Man Kam To Road Drainage, Sewerage, Watermains and	75 days <b>749 days</b>	Fri 24/7/20 Fri 8/6/18	Wed 21/10/20 Wed 23/12/20			
421	01	ther Utilities	749 uays	FII 0/0/10	weu 23/12/20			
423 🗳		Works at Existing Sha Ling Road	298 days	Thu 19/12/19	Wed 23/12/20			
424 🍕	<b>N</b>	Sub-structure of Noise Barrier Construction Bay 1 to Bay 2	150 days	Thu 19/12/19	Fri 26/6/20			
425 🤞		Backfilling to Road Formation Level at Noise Barrier Bay 1 to Bay 2	45 days	Sat 27/6/20	Wed 19/8/20			
426 🤞		Superstructure of Noise Barrier Construction Bay 1 to Bay 2	40 days	Sat 27/6/20	Thu 13/8/20			
440 🖌		TTA Stage 2 - Man Kam To Road Eastbound Slow Lane	158 days	Fri 31/1/20	Wed 12/8/20			
441 🤞	<u>ا (</u>	Drainage and Sewerage Connections	112 days	Fri 31/1/20	Wed 17/6/20			
442 🍕		Watermains Works	76 days	Fri 31/1/20	Wed 6/5/20			
443 🗳		Backfill to Formation Level	30 days	Thu 18/6/20	Fri 24/7/20			
444		Carraigeway Reinstatement, Road Marking and Preparation Works for Change of TTA	16 days	Sat 25/7/20	Wed 12/8/20			
454	Part (		570 days	Tue 15/1/19	Wed 23/12/20			
461	Dr	rainage and Sewerage Works and Connections TTA Stage 2	112 days	Thu 20/2/20	Thu 9/7/20			
40.5		aving Works	40 days	Fri 10/7/20	Tue 25/8/20			
404	Ε Eδ	&M and Waterworks	570 days	Tue 15/1/19	Wed 23/12/20			
400		Watermain Works and Connection TTA Stage 2 CLP Meter Application	100 days	Fri 31/1/20 Thu 9/4/20	Wed 3/6/20 Thu 30/7/20	_		
443         444           444         444           454         444           454         461           463         464           466         469           470         472           474         486		CLP Meter Application CLP Cabling Works	90 days 120 days	Fri 31/7/20	Wed 23/12/20			
472.	Part I		586 days	Sat 15/12/18	Tue 15/12/20			
474	Parte	G1 and G2	300 days	Thu 18/7/19	Fri 24/7/20			
486 🔽	Fi	ill Slope FS13	127 days	Tue 18/2/20	Fri 24/7/20			
489		Backfill to Proposed Ground Level (Max. 2.5m)	36 days	Wed 29/4/20	Thu 11/6/20			
490	·	Drainage and Maintenance Access	35 days	Fri 12/6/20	Fri 24/7/20			
491		erage and Drainage	72 days	Wed 27/5/20	Thu 20/8/20			
492		es and Watermains Works	21 days	Wed 10/6/20	Mon 6/7/20			
494		scape Works	138 days	Tue 7/7/20	Sat 19/12/20			
545 📝	Section 4	4 of the Works		Sun 12/7/20	Wed 12/7/23			
546 🗳	Estab	blishment Works of Parts A1, A2 & A3 6 of the Works		Sun 12/7/20	Wed 12/7/23			
549 🗳	Section (	6 of the Works		Fri 6/12/19	Mon 5/12/22			
550 🗳	Estab	blishment Works of Part E		Fri 6/12/19	Mon 5/12/22			

3-month Rolling Programme (May 2020 to July 2020)	Task Split	 Mile stone Summary	¢ ii	Project Summary External Tasks	External Milestor Deadline	ie ◆ ♣	Critical Critical Split		Progress		
Date: May 2020											
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	Hsin Chong Tsun Yip Joint Venture
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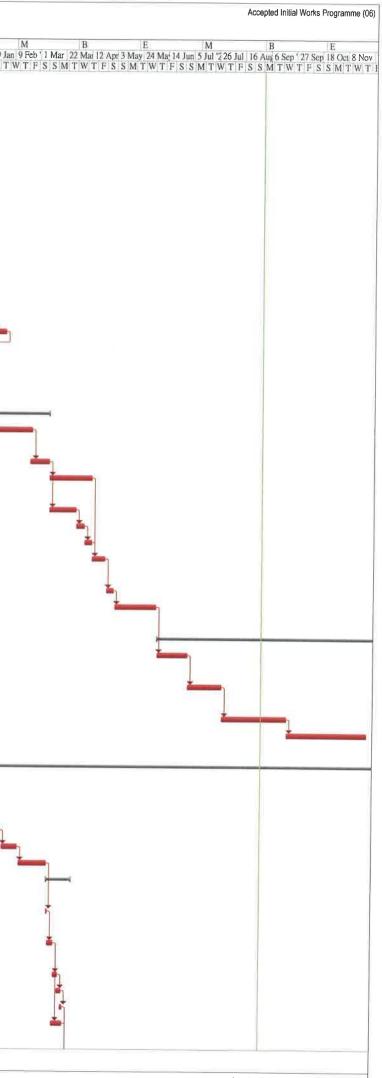


Three Months rolling Programme of Contract CV/2017/02

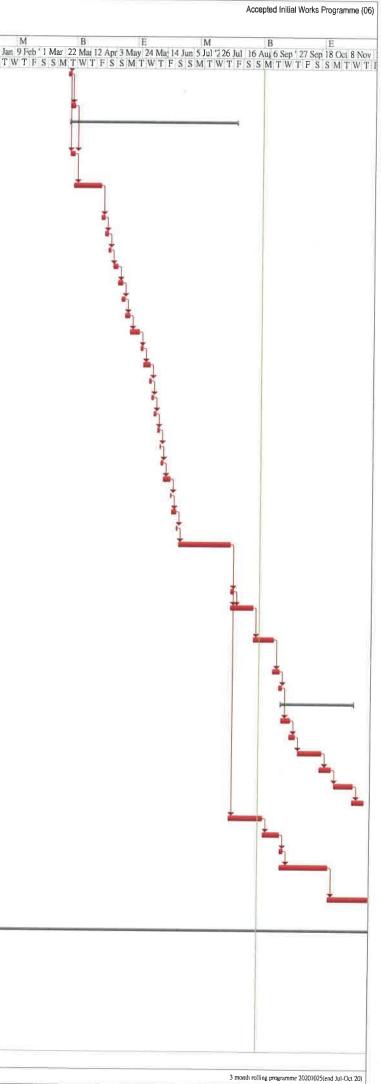
evelo Infras	tructural V	Columbarium at Sandy Ridge Cemetery Norks at Man Kam To Road and Lin Ma Hang Road		0.5		3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)	
r, r	WBS	Task Name	Duration	Start Date	Completion Date	Mat 10 Jun 1 Jul 122 Jul 12 Aug 2 Sen 14 Oct 4 Nov 25 Nov 16 Dec 6 Jun 17 Feb 10 Mar 31 Mar 21 And 2 Jun 12 Jun 14 Jul 4 Aug 26 Aug 16 Dec 6 Jun 17 Feb 10 Mar 31 Mar 21 And 2 Jun 12 Jun 14 Jul 4 Aug 26 Aug 16 Dec 6 Jun 17 Feb 10 Mar 31 Mar 21 And 2 Jun 17 Feb 10 Mar 31 Mar 31 Mar 31 Mar 31 Mar 31 Mar 31 Jun 17 Feb 10 Mar 31 Mar 3	E Dec   29 Dec
1	1	Letter of Acceptance	0 days	Wed 30/5/18		WTFSSMTWTFSSSMTWTFSSSMTWTFS	TFSS
2	2	Starting Date	0 days	Thu 31/5/18		š	
3	3	ET Submissions	9 days	Wed 26/9/18	Fri 5/10/18		
2 4	4 /	Applications to Government Department	27 days	Mon 4/6/18	Sat 30/6/18		
0 8	5 5	Submissions & acceptances	835 days	Mon 4/6/18	Tue 15/9/20		
4 6		Liaison with Utility Undertakers	979 days	Fri 1/6/18	Wed 3/2/21		_
7 7		Liaison with Contract CV/2016/01 regarding Parts A1 to A4 (refer PS Appendix A1)	979 days	Fri 1/6/18	Wed 3/2/21		-
18 8	3 [	Liaison Meeting with Interface and associated contractors	389 days	Fri 1/6/18	Mon 24/6/19	>	
3 9	) 1	Tree Survey Reporting	164 days	Fri 1/6/18	Sun 11/11/18		
58 1		Street Lighting Designs by the Contractor	671 days		Wed 1/4/20		
56 1		Provision of Project Manager's Site Accommodation (PS1.08A(b) & 1.49)	28 days	Fri 1/6/18	Thu 28/6/18		
57 1	1. 29%	Design of irrigation system within the Sandy Ridge Cemetery (LS/2021, 2041, 2042, W/1041,1011)	21 days	Fri 20/12/19	Fri 10/1/20	×	<u> </u>
70  1		Condition Survey	81 days	Thu 23/8/18	Sun 11/11/18		
77 1	,	section 1 of the works - Completion of all works within Parts A1, A2 and B of the Site except Establishment works	979 days	Thu 31/5/18	Wed 3/2/21		+-
78 1		Parts A1	859 days	Fri 28/9/18	Wed 3/2/21		
79 1	14.1.1	access date for section 1 (Parts A1) - not more than 120 days after the starting date	0 days	Fri 28/9/18	Fri 28/9/18		
80 1	4.1.2	form temporary haul road from the south side to Parts A1	14 days	Tue 2/10/18	Mon 22/10/18		
31 1	4.1.3	general site clearance	30 days	Tue 23/10/18	Wed 28/11/18		
2 1	4.1.4	initial survey	27 days	Thu 29/11/18	Wed 2/1/19		
3 1	4.1.5	construction of temporary drainage	21 days	Thu 3/1/19	Sat 26/1/19		
34 1	14.1.6	Site Formation works for Cut Slope CS22 (in Parts A1)	258 days	Mon 28/1/19	Mon 23/12/19	· · · · · · · · · · · · · · · · · · ·	4
01 1	4.1.7	A1) Construction of Retaining Wall RW13 (bays 1 to 5)	192 days	Mon 15/4/19	Thu 12/12/19	· · · · · · · · · · · · · · · · · · ·	
32 1	4171	excavation with installation of temporary soil nails work behind RW13 (bays 1 to 5)	56 days	Mon 15/4/19	Tue 25/6/19		
03 1	4172	plate load tests	3 days	Wed 26/6/19	Fri 28/6/19		
	4.1.7.3	concrete blinding layers for 5 bays	3 days	Sat 29/6/19	Wed 3/7/19		
	4.1.7.4	formwork for bases of alternative first 3 bays	2 days	Wed 3/7/19	Thu 4/7/19		
6 1	4.1.7.5	steel fixing for 3 bases	3 days	Fri 5/7/19	Mon 8/7/19		
17 1	4.1.7.6	concrete and curing for 3 bases	5 days	Tue 9/7/19	Sat 13/7/19		
18 1	4.1.7.7	remove formwork	3 days	Mon 15/7/19	Wed 17/7/19		
9 1	4.1.7.8	falsework and formwork for alternative 3 walls	4 days	Thu 18/7/19	Mon 22/7/19		
0 1	4179	steel fixing for 3 walls	9 days	Tue 23/7/19	Thu 1/8/19		
1 1	41710	close formwork for 3 walls	3 days	Fri 2/8/19	Mon 5/8/19		
2 1	4.1.7.11	concrete and curing for 3 walls	6 days	Mon 5/8/19	Sat 10/8/19		
3 1	4.1.7.12	remove formwork	3 days	Sat 10/8/19	Tue 13/8/19		
4 1	41713	formwork for bases of alternative second two bays	2 days	Tue 13/8/19	Wed 14/8/19	The second se	
5 1	4.1.7.14	steel fixing for two bases	2 days	Wed 14/8/19	Thu 15/8/19		
16 1	4.1.7.15	concrete and curing for two bases	4 days	Fri 16/8/19	Tue 20/8/19		
7 1	4.1.7.16	remove formwork	2 days	Tue 20/8/19	Wed 21/8/19		
18 1	4.1.7.17	falsework and formwork of alternative second two walls	3 days	Wed 21/8/19			
9 1	4.1.7.18	steel fixing for two walls	6 days	Fri 23/8/19	Thu 29/8/19		
0 1	4.1.7.19	close formwork for two walls	2 days	Thu 29/8/19	Fri 30/8/19		
21 1	41720	concrete and curing for two walls	4 days	Sal 31/8/19	Wed 4/9/19		
22 1	4.1.7.21	remove falsework & formwork	2 days	Wed 4/9/19	Thu 5/9/19		
23 1	4.1.7.22	after completion of RW13 (bay 1 to 5) , backfilling & compaction behind wall to formation (A1) (Drg GE/1101)	66 days	Fri 6/9/19	Mon 2/12/19		
			0.1	T 0/40/40	Thu 40/40/40		
24 1 25 1	4.1.7.23	install instrument for RW13 (bay 1 to bay 5)	9 days	Tue 3/12/19	Inu 12/12/19		

M B E M	Accepted Initial Works Pro	
an 9 Feb 1 Mar 22 Mai 12 Apr 3 May 24 Mai 14 Jun 5 Jul 7 W T F S S M T W T F S S M T W T F S S M T W T F S S M T V	B I 2 26 Jul   16 Aug 6 Sep " 27 Sep 18 W T F S S M T W T F S S	3 Oct 8 Nov M T W T F
	3 month rolling programme 20201025(end	i Jul-Oct 20)

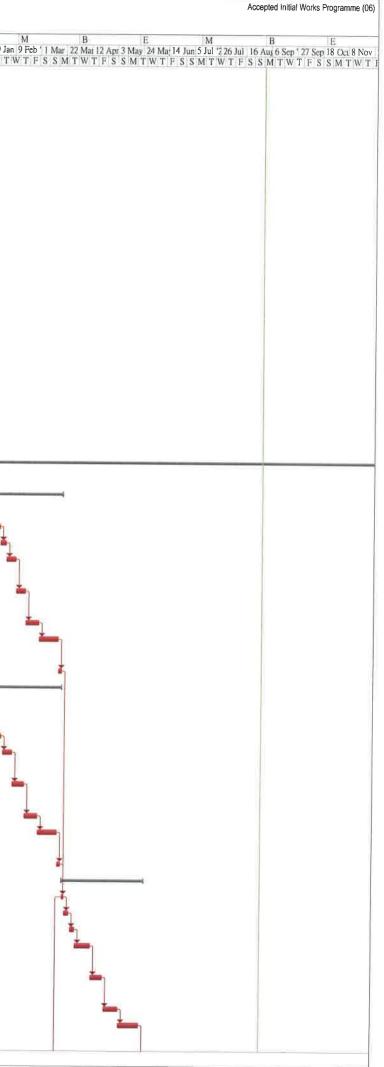
Devel - Infra	structural	Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
D	WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B
126	14.1.8.1	excavate top 3.5m from the existing slope profile (extent to be directed by PM)(Drg.GE/2305)	15 days	Mon 15/4/19	Mon 6/5/19	
127	14.1.8.2	prepare formation for filter blanket	2 days	Tue 7/5/19	Wed 8/5/19	t t t t t t t t t t t t t t t t t t t
128	14.1.8.3	slope backfill FS18 with 2.1m filter blanket (GE/2601)	9 days	Wed 8/5/19	Sal 18/5/19	
129	14,1,8,4	backilling from lop of filler blanket to formation level (including SRT tests)	126 days	Thu 16/5/19	Mon 21/10/19	
130	14,1,8,5	construction of 1.5m width maintenance berm	2 days	Fri 18/10/19	Mon 21/10/19	a la
131	14.1.8 6	construction of U channel/ stepped channel and catchpits	37 days	Fri 18/10/19	Mon 2/12/19	
132	14,1,8,7	construction of U channel in front of RW13	4 days	Tue 3/12/19	Fri 6/12/19	
133	14,1.8.8	600mm width concrete maintenance staircase with handrailing boxing out	11 days	Sat 7/12/19	Thu 19/12/19	
	14.1,8,9	landscaping (hydroseeding)	27 days	Fri 20/12/19	Thu 23/1/20	
	14,1.8,10	install instrument for FS18	6 days	Fri 24/1/20	Mon 3/2/20	
	14.1.9	CS21 - slope cutting	7 days	Fri 20/12/19		
	14.1.10	install instrument for CS21	,	Tue 31/12/19		
	14 1 11 14 1 12	placement of erosion control mal/ hydroseeding	2 days	Tue 7/1/20	Wed 8/1/20	
	14 1 12	minor cutling CS26 (Parls A1) (for Road E) Drainage works at Road E	7 days	Thu 9/1/20 Fri 17/1/20	Thu 16/1/20 Tue 10/3/20	
	14 1 13 1	main pipe laying	43 days 31 days	Fri 17/1/20	Tue 10/3/20 Tue 25/2/20	
		man ppe laying	or days	11111120	106 2012120	9 · · · · · · · · · · · · · · · · · · ·
142	14.1.13.2	gully pipe and pots	14 days	Mon 24/2/20	Tue 10/3/20	
143	` <b>14_1_14</b>	Waterworks at Road E	24 days	Wed 11/3/20	Tue 14/4/20	
144	14.1.15	CS23 - slope cutting & 300U channel	17 days	Wed 11/3/20	Wed 1/4/20	
145	14.1.16	install instrument for CS23	5 days	Thu 2/4/20	Wed 8/4/20	
146	14.1.17	placement of erosion control mat/ hydroseeding	2 days	Thu 9/4/20	Tue 14/4/20	
147	14.1.18	backfilling of pipe trench to formation (including SRT test)	9 days	Wed 15/4/20	Sat 25/4/20	
148	14 1.19	300U channel behind RW13	4 days	Mon 27/4/20	Sat 2/5/20	
149	14.1.20	300U channel and planter wall at south side of Road E	30 days	Mon 4/5/20	Sat 6/6/20	
150	14.1.21	Roadworks of Road E (A1-ch66-243)	164 days	Mon 8/6/20	Wed 30/12/20	
151	14 1.21 1	ducting for road lighting (RD/2091) & construction of irrigation system	20 days	Mon 8/6/20	Thu 2/7/20	
152	14.1.21.2	kerbing, sub-base (include subbase SRT test) & cross road duct (RD/2061, 2081)	24 days	Fri 3/7/20	Thu 30/7/20	
153	14.1.21.3	concrete pavement	45 days	Fri 31/7/20	Mon 21/9/20	
154	14.1.21.4	traffic signs, directional signs, type 2 railing, emergency crash gate, beam barriers	48 days	Tue 22/9/20	Thu 26/11/20	
159	14.2	Parts A2	400 days	Tue 31/12/19	Wed 3/2/21	
160	14.2.1	access date for section 1 (Parls A2) - not more than 580 days after the starting date	0 days	Tue 31/12/19	Tue 31/12/19	
	14 2 2	form temporary haul road to Parts A2	6 days	Thu 2/1/20	Wed 8/1/20	
	14.2.3	general site clearance	,	Thu 9/1/20	Sat 1/2/20	
	14.2.4	initial survey		Mon 3/2/20	Sat 15/2/20	
	14.2.5	construction of temporary drainage		Mon 17/2/20	Tue 10/3/20	
165	14.2.6	Site Formation works for Cut Slope CS22 (in Parts A2)	15 days	Wed 11/3/20	Mon 30/3/20	
166	14.2.6.1	slope excavation works	1 day	Wed 11/3/20	Wed 11/3/20	
167	14.2.6.2	drill, install steel bars and grout soil nails (TB01-06, TA01-07) & 3nrs. raking drain	4 days	Thu 12/3/20	Mon 16/3/20	
168	14.2.6.3	TDR test allowance	4 days	Tue 17/3/20	Fri 20/3/20	
169	14.2.6.4	soil nail head works	2 days	Fri 20/3/20	Mon 23/3/20	
170	14.2.6.5	install rest of instrument for CS22	2 days	Mon 23/3/20	Tue 24/3/20	
171	14.2.6.6	300U channel, 300 stepped channel & catchpits	7 days	Mon 16/3/20	Tue 24/3/20	
		with planter walls				



Develo	opment o	//2017/02 Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)							
D	WBS	Task Name	Duration	Start Date	Completion Date	M B E M B B E M B B E M B B E M B B E M B B E M B B B B							
172	14.2.6.7	600mm width concrete maintenance staircase with handrailing	2 days	Wed 25/3/20	Thu 26/3/20	WIPS SMIWIPS SMIWIPS SMIWIPS SMIWIPS SMIWIPS SMIWIPS SMIWIPS SMIWTPS SMIWTPS SMIWTPS SMIWTPS SMIWTPS SMIWTPS SMIWIPS S							
173	14.2.6.8	placement of erosion control mat/ hydroseeding	2 days	Fri 27/3/20	Mon 30/3/20								
174	14.2.7	Construction of Retaining Wall RW13 Bay 6 to Bay 8	*		Mon 10/8/20								
175	14271	temporary cutting for retaining wall RW13 Bay 6	0 dava	Ed 07/2/20	Mon 30/3/20								
		to 8		Fri 27/3/20									
176	14272	temporary soil nails works for retaining wall RW13 Bay 6-8	15 days	Mon 30/3/20	Tue 21/4/20								
177	14.2.7.3	plate load tests	3 days	Wed 22/4/20	Fri 24/4/20								
178	14.2.7.4	blinding concrete for bay 6 to 8	2 days	Sal 25/4/20	Mon 27/4/20								
179	14.2.7.5	base formwork for bay 6 and 8	2 days	Tue 28/4/20	Wed 29/4/20								
180	14.2.7.6	base steel fixing for bay 6 and 8	3 days	Sat 2/5/20	Tue 5/5/20								
181	14277	base concreting & curing for bay 6 & 8	4 days	Wed 6/5/20	Sat 9/5/20								
182	14.2.7.8	remove base formwork	2 days	Sat 9/5/20	Mon 11/5/20								
183	14.2.7.9	falsework and formwork for walls bay 6&8	4 days	Tue 12/5/20	Fri 15/5/20								
184	14.2.7.10	steel fixing for walls of bay 6 & 8	7 days	Sat 16/5/20	Sat 23/5/20								
	14.2.7.11	close formwork for walls of bay 6 & 8	2 days	Mon 25/5/20	Tue 26/5/20								
186	14.2.7.12	concreting and curing for walls of bay 6&8	5 days	Wed 27/5/20	Mon 1/6/20								
187	14.2.7.13	remove falsework and formwork for walls	2 days	Mon 1/6/20	Tue 2/6/20								
	14.2.7 14	base formwork for bay 7	2 days	Wed 3/6/20	Thu 4/6/20								
	14 2 7 15	base steel fixing for bay 7	2 days	Fri 5/6/20	Sal 6/6/20								
	14 2 7 16	base concreling & curing for bay 7	2 days	Mon 8/6/20	Tue 9/6/20								
	14 2 7 17	remove base formwork	1 day	Wed 10/6/20	Wed 10/6/20								
	14.2 7.18	falsework and formwork for walls of bay 7	2 days	Thu 11/6/20	Fri 12/6/20								
	14 2 7 19	steel fixing for walls of bay 7	5 days	Sat 13/6/20	Thu 18/6/20								
	14 2 7 20	close formwork for walls of bay 7	1 day	Fri 19/6/20	Fri 19/6/20								
	14.2.7.21	concreting and curing for walls of bay 7	3 days	Sal 20/6/20	Tue 23/6/20								
	14.2.7.22	remove falsework and formwork for walls	1 day	Wed 24/6/20	Wed 24/6/20								
197	14.2.7.23	after completion of structural RW13 (bay 6 to 8), backfill behind wall to formation (A2) (Drg GE/1101)	36 days	Fri 26/6/20	Fri 7/8/20								
198	14.2.7.24	install instrument for RW13 (bay 6 to bay 8)	2 days	Sat 8/8/20	Mon 10/8/20								
199	14.2.8	(west) drainage works at Road E (ch250 to 300)	16 days	Sat 8/8/20	Wed 26/8/20								
200	14.2 9	(west) waterworks at Road E (ch250 to 300)	15 days	Thu 27/8/20	Sat 12/9/20								
201	14.2.10	construction of Irrigation System	5 days	Sat 12/9/20	Thu 17/9/20								
202		U channel for Road E	3 days	Thu 17/9/20	Sat 19/9/20								
	14.2.12	Roadworks of Road E (A2-ch243-300)	42 days	Sat 19/9/20	Tue 17/11/20								
	14.2.12.1	kerbing & sub-base (include sub-base SRT test)	7 days	Sat 19/9/20	Sat 26/9/20								
205	14.2 12.2	ducting for road lighting & water point	4 days	Sal 26/9/20	Wed 30/9/20								
206	14.2.12.3	concrete pavement	15 days	Sat 3/10/20	Thu 22/10/20								
207	14.2.12.4	lraffic signs, beam barriers		Wed 21/10/20									
208	14.2.12.5	concrete foolpath	12 days	Mon 2/11/20									
209	14.2.13	street lighting for Road E (Drg/ RD/2091)	-	Tue 17/11/20	Thu 26/11/20								
211	14 2 15	site formation works for Cut Slope CS26 (A2)	24 days	Sat 8/8/20	Fri 4/9/20								
212	14.2.16	site formation works for Cut Slope CS25 (A2)	12 days	Sat 5/9/20	Fri 18/9/20								
213	14.2.17	placement of erosion control mat/ hydroseeding	2 days	Sat 19/9/20	Mon 21/9/20								
214	14.2.18	drainage works at Road B & sewerage works at Road B	28 days	Sat 19/9/20	Wed 28/10/20								
215	14.2.19	waterworks at Road B	25 days	Thu 29/10/20	Mon 30/11/20								
228	14,3	Parts B - refer Appendix MKTR01A & Appendix MKTR01B	979 days	Thu 31/5/18	Wed 3/2/21	2							
229	14.3.1	access date for section 1 (Parts ${\it B}$ ) - the starting date	0 days	Thu 31/5/18	Thu 31/5/18	**							
230	14.3.2	Initial Survey	104 days	Fri 1/6/18	Thu 4/10/18								
231	14.3.3	utility detection and submit reports	30 days	Fri 5/10/18	Fri 9/11/18								
232	14.3.4		134 days	Fri 1/6/18	Fri 9/11/18								
		Man Kam Road											

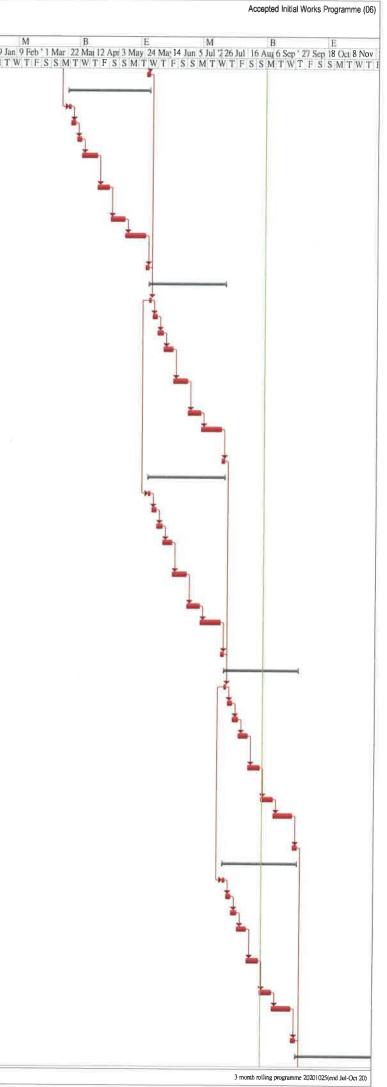


Infra	structural	f Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road			24.000	3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
	WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B
236	14.3.5	Construction of Fresh Water Mains (DN400)-refer to Drawings No. MKTR Programme/W/001 & 002	352 days	Sat 10/11/18	Fri 17/1/20	
237	14.3.5.1	Phase 1: TTA 1s	52 days	Sat 10/11/18	Sal 12/1/19	
	14.3.5.2	Phase 1: TTA 8s	49 days	Wed 14/11/18	Sat 12/1/19	
	14,3,5,3	Phase 1: TTA 15s		Tue 20/11/18		×
	14.3 5 4	Phase 2: TTA 2s	39 days	Tue 15/1/19	Mon 4/3/19	
	14.3.5.5	Phase 2: TTA 9s	39 days	Tue 15/1/19	Mon 4/3/19	
	14.3.5.6	Phase 2: TTA 16s Phase 3: TTA3s	40 days	Mon 14/1/19	Mon 4/3/19	
	14.3.5.8	Phase 3: TTAOs Phase 3: TTAOs	39 days	Tue 5/3/19 Tue 5/3/19	Tue 23/4/19 Tue 23/4/19	
	14.3.5.9	Phase 3: TTATos	39 days 39 days	Tue 5/3/19	Tue 23/4/19	
ni se	14.3.5.10	Phase 4: TTA4s	38 days	Mon 29/4/19	Fri 14/6/19	
	14.3.5.11	Phase 4: TTA11s	38 days	Mon 29/4/19	Fri 14/6/19	
336	14.3.5.12	Phase 4: TTA18s	42 days	Wed 24/4/19	Fri 14/6/19	
145	14.3.5.13	Phase 5: TTA5s	42 days	Wed 19/6/19	Wed 7/8/19	
354	14.3.5.14	Phase 5: TTA12s	45 days	Sat 15/6/19	Wed 7/8/19	
63	14 3 5 15	Phase 5: TTA19s	45 days	Sat 15/6/19	Wed 7/8/19	
72	14 3 5 16	Phase 6: TTA6s	46 days	Fri 9/8/19	Thu 3/10/19	
81	14.3.5.17	Phase 6: TTA13s	42 days	Wed 14/8/19	Thu 3/10/19	
90	14.3.5.18	Phase 6: TTA20s	47 days	Thu 8/8/19	Thu 3/10/19	
99	14.3.5.19	Phase 7: TTA7s	44 days	Tue 8/10/19	Wed 27/11/19	
08	14.3.5.20	Phase 7: TTA14s	46 days	Fri 4/10/19	Wed 27/11/19	·
17	14 3 5 21	Phase 7: additional TTA21s	29 days	Thu 24/10/19	Wed 27/11/19	
	143522 1436	additional Phase 8: additional TTA 0s Construction of Sewerage (DN630) - refer to Drawing No. MKTR Programme/DR/001		Wed 27/11/19 Sat 18/1/20	Fri 17/1/20 Wed 3/2/21	
38	14.3.6.1	Phase A: TTA 1n	50 dava	Tue 01/1/00	0-1-01/0/00	
	14.3.6.1.1	mobilisation & set up TTA	50 days 2 days	Tue 21/1/20 Tue 21/1/20	Sat 21/3/20 Wed 22/1/20	
	14 3.6 1.2	saw cut existing pavement and removal	2 days 4 days	Thu 23/1/20	Thu 30/1/20	
are o	14.3 6 1 3	trial pits	4 days	Fri 31/1/20	Tue 4/2/20	
	14.3.6.1.4	trench sheelpiling	7 days	Wed 5/2/20	Wed 12/2/20	
13	14.3.6.1.5	excavate trench & shoring	7 days	Thu 13/2/20	Thu 20/2/20	
44	14.3.6.1.6	pipe laying & construct manhole	9 days	Fri 21/2/20	Mon 2/3/20	
45	14.3.6.1.7	backfill trench & remove sheetpile, rail & strut	14 days	Tue 3/3/20	Wed 18/3/20	
46	14.3.6,1.8	reinstate trench & curing	3 days	Thu 19/3/20	Sat 21/3/20	
47	14.3.6.2	Phase A: TTA 7n	52 days	Sat 18/1/20	Sal 21/3/20	
8	14.3.6.2.1	mobilisation & set up TTA	2 days	Sat 18/1/20	Mon 20/1/20	
	14.3.6.2.2	saw cut existing pavement and removal	4 days	Tue 21/1/20	Fri 24/1/20	
	14.3.6.2.3	trial pits	4 days	Wed 29/1/20	Sat 1/2/20	
	14,3,6,2,4	trench sheetpiling	7 days	Mon 3/2/20	Mon 10/2/20	
	14.3.6.2.5	excavale lrench & shoring	9 days	Tue 11/2/20	Thu 20/2/20	
	14.3.6.2.6	pipe laying & construct manhole	9 days	Fri 21/2/20	Mon 2/3/20	
54	143627	backfill trench & remove sheetpile, rail & strut	14 days	Tue 3/3/20	Wed 18/3/20	
	14.3.6.2.8	reinstate trench & curing	3 days	Thu 19/3/20	Sat 21/3/20	
	14.3.6.3	Phase B: TTA 2n		Mon 23/3/20	Thu 28/5/20	
	14.3.6.3.1	mobilisation & set up TTA			Tue 24/3/20	
	14.3.6.3.2	saw cut existing pavement and removal	4 days	Wed 25/3/20	Sat 28/3/20	
	14.3.6.3.3	trial pits	4 days	Mon 30/3/20	Thu 2/4/20	
11	14.3.6.3.4	trench sheetpiling	7 days	Fri 3/4/20	Wed 15/4/20	
	14.3.6.3.5	excavate trench & shoring	9 days	Thu 16/4/20	Sat 25/4/20	
62	14.3.6.3.6 14.3.6.3.7	pipe laying & construct manhole backfill trench & remove sheetpile, rail & strut	9 days	Mon 27/4/20 Sat 9/5/20	Fri 8/5/20 Mon 25/5/20	

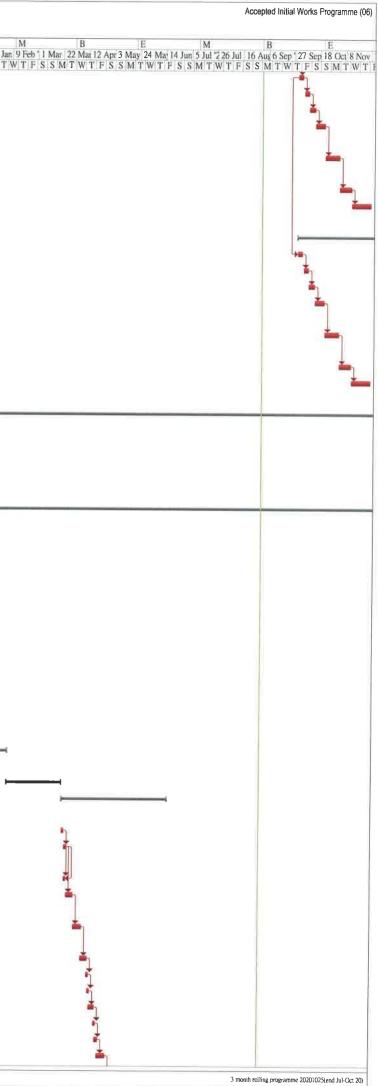


<sup>3</sup> month rolling programme 20201025(end Jul-Oct 20)

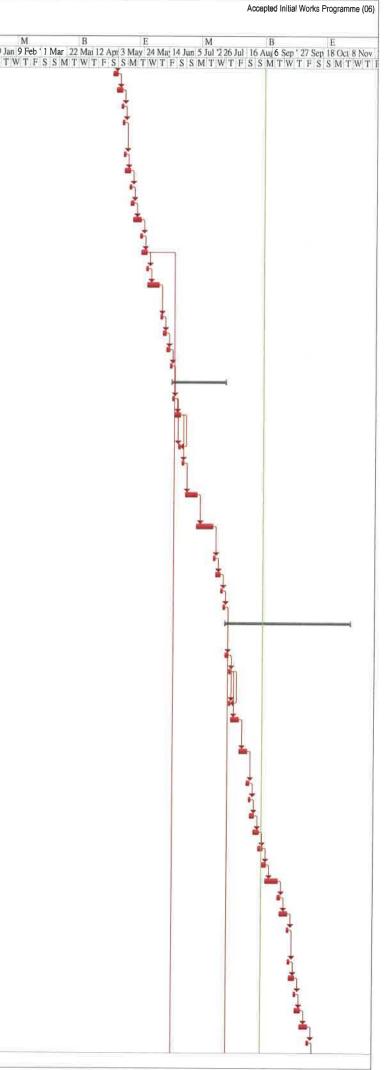
	structura	f Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
0	WBS	Task Name	Duration	Start Date	Completion Date	Mar 10 Jun 1 Jul 122 Jul 12 Aug 2 Sep 123 Sep 14 Oct 4 Nov 25 Nov 16 Dec 6 Jan 127 Jan 17 Feb 10 Mar 31 Mar 21 Am 12 Mar 2 Jun 124 Jun 124 Jun 124 Aug 25 Aug 15 Sep 6 Oct 127 Oct 17 Nov 8 Dec 120 De
464	14.3.6.3.8	reinstate trench & curing	3 days	Tue 26/5/20	Thu 28/5/20	WTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSM
465	14,3.6.4	Phase B: TTA 8n	52 days		Thu 28/5/20	
466	14.3.6.4.1	mobilisation & set up TTA	2 days	Mon 23/3/20	Tue 24/3/20	
467	14,3,6,4.2	saw cut existing pavement and removal	4 days	Wed 25/3/20	Sat 28/3/20	
468	14.3.6.4.3	trial pits	4 days	Mon 30/3/20	Thu 2/4/20	
469	14.3.6.4,4	trench sheetpiling	7 days	Fri 3/4/20	Wed 15/4/20	
470	14.3.6.4.5	excavate trench & shoring	9 days	Thu 16/4/20	Sat 25/4/20	
471	14.3.6.4.6	pipe laying & construct manhole	9 days	Mon 27/4/20	Fri 8/5/20	
472	14.3.6.4.7	backfill trench & remove sheetpile, rail & strut	14 days	Sat 9/5/20	Mon 25/5/20	
473	14,3,6,4,8	reinstate trench & curing	3 days	Tue 26/5/20	Thu 28/5/20	
474	14.3.6.5	Phase C: TTA 3n	52 days	Fri 29/5/20	Thu 30/7/20	
475	14.3.6.5.1	mobilisation & set up TTA	2 days	Fri 29/5/20	Sat 30/5/20	
	14.3.6.5.2	saw cul existing pavement and removal	4 days	Mon 1/6/20	Thu 4/6/20	
	14.3.6.5.3	trial pits	4 days	Fri 5/6/20	Tue 9/6/20	
478	14.3.6.5.4	trench sheetpiling	7 days	Wed 10/6/20	Wed 17/6/20	
479	14.3.6.5.5	excavate trench & shoring	9 days	Thu 18/6/20	Mon 29/6/20	
480	14.3.6.5.6	pipe laying & construct manhole	9 days	Tue 30/6/20	Fri 10/7/20	
481	14.3.6.5.7	backfill trench & remove sheetpile, rail & strut	14 days	Sat 11/7/20	Mon 27/7/20	
482	14.3.6.5.8	reinstate trench & curing	3 days	Tue 28/7/20	Thu 30/7/20	
483	14.3.6.6	Phase C: TTA 9n	52 days	Fri 29/5/20	Thu 30/7/20	
484	14.3.6.6.1	mobilisation & set up TTA	2 days	Fri 29/5/20	Sat 30/5/20	
485	14 3 6 6.2	saw cut existing pavement and removal	4 days	Mon 1/6/20	Thu 4/6/20	
486	14 3 6 6 3	trial pits	4 days	Fri 5/6/20	Tue 9/6/20	
487	14.3.6.6.4	trench sheetpiling	7 days	Wed 10/6/20	Wed 17/6/20	
488	14.3.6.6.5	excavate trench & shoring	9 days	Thu 18/6/20	Mon 29/6/20	
489	14.3.6.6.6	pipe laying & construct manhole	9 days	Tue 30/6/20	Fri 10/7/20	
490	14.3.6.6.7	backfill trench & remove sheetpile, rail & strut	14 days		Mon 27/7/20	
491	14.3.6.6.8	reinstate trench & curing	3 days	Tue 28/7/20	Thu 30/7/20	
492	14.3.6.7	Phase D: TTA 4n	52 days	Fri 31/7/20	Tue 29/9/20	
493	14.3.6.7.1	mobilisation & set up TTA	2 days	Fri 31/7/20	Sat 1/8/20	
494	14.3.6.7.2	saw cut existing pavement and removal	4 days	Mon 3/8/20	Thu 6/8/20	
495	143673	trial pits	4 days	Fri 7/8/20	Tue 11/8/20	
496	14.3.6.7.4	trench sheetpiling	7 days	Wed 12/8/20	Wed 19/8/20	
497	14.3.6.7.5	excavate trench & shoring	9 days	Thu 20/8/20	Sat 29/8/20	
498	14.3.6.7.6	pipe laying & construct manhole	9 days	Mon 31/8/20	Wed 9/9/20	
	14.3.6.7.7	backfill trench & remove sheetpile, rail & strut		Thu 10/9/20	Fri 25/9/20	
	14.3.6.7.8	reinstate trench & curing	3 days	Sat 26/9/20	Tue 29/9/20	
	14.3.6.8	Phase D: TTA 10n	52 days	Fri 31/7/20	Tue 29/9/20	
1000	14.3.6.8.1	mobilisation & set up TTA	2 days	Fri 31/7/20	Sat 1/8/20	
	14.3.6.8.2	saw cut existing pavement and removal	4 days	Mon 3/8/20	Thu 6/8/20	
	14.3.6.8.3	trial pits	4 days	Fri 7/8/20	Tue 11/8/20	
505	14.3.6.8.4	trench sheetpiling	7 days	Wed 12/8/20	Wed 19/8/20	
506	14.3.6.8,5	excavale trench & shoring	9 days	Thu 20/8/20	Sat 29/8/20	
507	14 3 6 8 6	pipe laying & construct manhole	9 days	Mon 31/8/20	Wed 9/9/20	
508	14.3.6.8.7	backfill trench & remove sheetpile, rail & strut	-	Thu 10/9/20	Fri 25/9/20	
509	14.3.6.8.8	reinstate trench & curing	3 days	Sat 26/9/20	Tue 29/9/20	
510	14.3.6.9	Phase E: TTA 5n		Wed 30/9/20		



Develo	pment of	//2017/02 Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road	t				th Rolling Programme 6/8/2020 to 25/11/2020)
D	WBS	Task Name	Duration	Start Date	Completion Date	M B E M B 10 Jun 1 Jul '1 22 Jul 12 Aug 2 Sep '23 Sep 14 Oct 4 Nov 25 Nov 16 Dec 6 Jan '	E M B E M B E 27 Jan 17 Feb 10 Mat 31 Mat 21 Apr 12 Mat 2 Jun 2 Jun 14 Jul 4 Aug 25 Aug 15 Sep 6 Oct 27 Oct 17 Nov 8 Dec 29 Dec 19 Jan
511	14.3.6.9.1	mobilisation & set up TTA	2 days	Wed 30/9/20	Sat 3/10/20	F S S M T W T F S S M T W T F S S M T W T F S S M T W T F	S S M T W T F S
	143692	saw cut existing pavement and removal	4 days	Mon 5/10/20			
-010-0	143693	trial pits	4 days		Tue 13/10/20		
514	14.3.6.9.4	trench sheetpiling		Wed 14/10/20			
515	14.3.6.9.5	excavate trench & shoring	9 days	Thu 22/10/20	Mon 2/11/20		
516	14 3 6 9.6	pipe laying & construct manhole	9 days	Tue 3/11/20	Thu 12/11/20		
517	14.3.6.9.7	backfill trench & remove sheetpile, rail & strut	14 days	Fri 13/11/20	Sat 28/11/20		
519	14.3.6.10	Phase E: TTA 11n	52 days	Wed 30/9/20	Wed 2/12/20		
520	14.3.6.10.1	mobilisation & set up TTA	2 days	Wed 30/9/20	Sat 3/10/20		
521	14.3.6.10.2	saw cut existing pavement and removal	4 days	Mon 5/10/20	Thu 8/10/20		
522	14.3.6.10.3	trial pits	4 days	Fri 9/10/20	Tue 13/10/20		
523	14.3.6.10.4	trench sheetpiling	7 days	Wed 14/10/20	Wed 21/10/20		
524	14.3.6.10.5	excavate trench & shoring	9 days	Thu 22/10/20	Mon 2/11/20		
525	14.3.6.10.6	pipe laying & construct manhole	9 days	Tue 3/11/20	Thu 12/11/20		
20030	14.3.6.10.7	backfill trench & remove sheetpile, rail & strut		Fri 13/11/20			
557		section 2 of the works - Completion of all works within Parts C1 and C2 of the Site except Establishment works	979 days	Thu 31/5/18	Wed 3/2/21		
558			0 dour	Thu 04/5/40	Thu 04/6/40		
559		access date for section 2 (Part C1) Temporary Traffic Arrangement (TTA) Scheme for Lin Ma Hang Road	0 days 162 days	Thu 31/5/18 Fri 1/6/18	Thu 31/5/18 Fri 9/11/18		
565	17.3	works at Lin Ma Hang Road (section 2 Part C1) refer Appendice LMHR01a to d	817 days	Sat 10/11/18	Wed 3/2/21		
566	17.3.1	Phase I (stage 1)-south lane (chainage 240-283)	23 days	Sat 10/11/18	Thu 6/12/18		
577	17.3.2	Phase I (stage 2)-north lane (chainage 240-283)	16 days	Fri 7/12/18	Thu 27/12/18		
587		Phase I (stage 3)-south lane (chainage 283-335)		Fri 28/12/18			
598		Phase I (stage 4)-north lane (chainage 283-335)	17 days	Tue 29/1/19	Wed 20/2/19		
202-1	17.3.5	Phase I (stage 5)-south lane (chainage 335-380)	18 days	Thu 21/2/19	Wed 13/3/19		A
0.000	17.3.6	Phase I (stage 6)-north lane (chainage 335-380)	16 days	Thu 14/3/19	Mon 1/4/19		
1122220	17.3.7	Phase I (stage 7)-south lane (chainage 380-435)	23 days	Tue 2/4/19	Fri 3/5/19		
	17,3.8	Phase I (stage 8)-north lane (chainage 380-435)	15 days	Sat 4/5/19	Wed 22/5/19		
	17.3.9	Phase I (stage 9)-south lane (chainage 190-240)	18 days	Thu 23/5/19	Thu 13/6/19		
659 669	17.3.10 17.3.11	Phase I (stage 10)-north Iane (chainage 190-240) Phase II (stage 1)-south Iane (chainage 32-85)-Noise Barrier MM6 (bays 1-3) & MM7 (bays 1-2)	16 days 95 days	Fri 14/6/19 Thu 4/7/19	Wed 3/7/19 Fri 25/10/19		ji
703	17.3.12	Phase II (stage 2)-north lane (chainage 32-85)-Noise Barrier MM9 (bays 1-4)	84 days	Sat 26/10/19	Fri 7/2/20		
735	17.3.13	Phase II (stage 3)-south lane (chainage 85-138)	38 days	Sal 8/2/20	Mon 23/3/20		
746	17.3.14	Phase II (stage 4)-north lane (chainage 85-138)-Noise Barrier MM10 (bays 1-4)	-		Wed 17/6/20		
747	17.3.14.1	TTA, UU detection	2 days	Tue 24/3/20	Wed 25/3/20		
748	17.3.14.2	tree felling	2 days	Thu 26/3/20	Fri 27/3/20		
749	17,3.14,3	saw cut & remove existing pavement	2 days	Thu 26/3/20	Fri 27/3/20		
750	17.3 14 4	install sheetpiles	5 days	Sal 28/3/20	Thu 2/4/20		
751	17.3 14.5	excavate and install rails and struts	5 days	Fri 3/4/20	Thu 9/4/20		
752	17.3 14 6	concrete blinding layers for 4 bays	2 days	Thu 9/4/20	Tue 14/4/20		
	17.3.14.7	formwork for bases of alternative first two bays	2 days		Wed 15/4/20		
1.515	17.3.14.8	steel fixing for two bases	2 days	Wed 15/4/20	Thu 16/4/20		
10-c-	17.3 14.9	concrete and curing for two bases	4 days		Mon 20/4/20		
110-011	7.3.14.10	remove formwork	2 days		Tue 21/4/20		
757	7 9 4 4 4 4	falsework and formwork for two walls	3 days		Thu 23/4/20		
757	17.3 14 11		0 00,0	100 2 114120	THU LOF TILD		
	17.3.14.11	steel fixing for two walls	6 days		Wed 29/4/20		

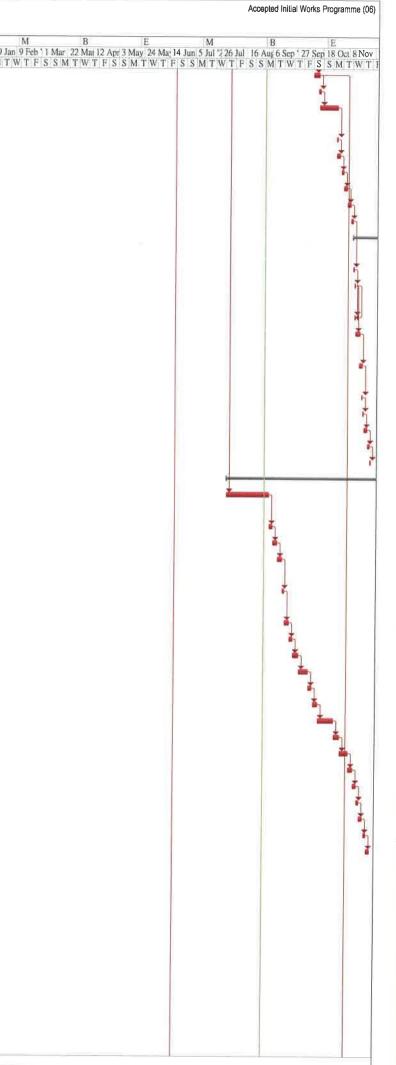


Devel	opment c	∶V/2017/02 of Columbarium at Sandy Ridge Cemetery I Works at Man Kam To Road and Lin Ma Hang Road	d			3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)							
D	WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B							
759	17.3.14.13	close formwork for two walls	2 days	Wed 29/4/20	Sat 2/5/20	W1F33M1W1F33M1W1F33M1W1F33M1W1F33M1W1F33M1W1F53M1W1W1F53M1W1F53M1W1F53M1W1F53M1W1F53M1W							
760	17.3.14.14	concrete and curing for two walls	4 days	Sat 2/5/20	Wed 6/5/20								
761	17.3.14.15	remove formwork	2 days	Wed 6/5/20	Thu 7/5/20								
762	17.3.14.16		2 days	Thu 7/5/20	Fri 8/5/20								
7/0	17.0 44 47	bays	0.4	E-: 0/5/00	0-10/5/00								
	17.3.14.17 17.3.14.18	<b>0</b>	2 days	Fri 8/5/20 Sat 9/5/20	Sat 9/5/20 Wed 13/5/20								
	17.3.14.19		4 days 2 days	Wed 13/5/20	Thu 14/5/20								
	17.3.14.20		3 days	Thu 14/5/20	Sat 16/5/20								
	17.3.14.21		6 days	Sat 16/5/20	Fri 22/5/20								
768	17.3.14.22		2 days	Fri 22/5/20	Sat 23/5/20								
769	17.3.14.23	concrete and curing for two walls	4 days	Sat 23/5/20	Wed 27/5/20								
770	17.3.14.24	remove formwork	2 days	Wed 27/5/20	Thu 28/5/20								
771	17.3.14.25	backfill formation & SRT test	9 days	Thu 28/5/20	Sat 6/6/20								
772	17.3.14.26	lay kerb, sub-base	2 days	Mon 8/6/20	Tue 9/6/20								
773	17.3.14.2	7 sub-base SRT test	3 days	Wed 10/6/20	Fri 12/6/20								
	17.3.14.28		2 days	Sat 13/6/20	Mon 15/6/20								
	17.3.14.29		2 days	Tue 16/6/20	Wed 17/6/20								
255230	17.3.15	Phase II (stage 5)-south lane (chainage 138-190)	36 days	Thu 18/6/20	Fri 31/7/20								
100000	17.3.15.1	TTA & UU detection	2 days	Thu 18/6/20	Fri 19/6/20								
778	17.3.15.2	tree felling	4 days	Sat 20/6/20	Wed 24/6/20								
779	17.3.15.3	saw cut & remove existing pavement	2 days	Tue 23/6/20	Wed 24/6/20								
780	17.3 15.4	excavate pipe trench and manhole(s)	2 days	Fri 26/6/20	Sat 27/6/20								
781	17,3.15.5	lay pipes & construct manhole(s)	8 days ·	Mon 29/6/20	Wed 8/7/20								
782	17.3.15.6	backfill formation & SRT test	12 days	Wed 8/7/20	Tue 21/7/20								
783	17.3.15.7	lay kerb, sub-base	2 days	Wed 22/7/20	Thu 23/7/20								
784	17.3.15.8	sub-base SRT test	3 days	Fri 24/7/20	Mon 27/7/20								
785	17.3.15.9	DBM (Roadbase)	2 days	Tue 28/7/20	Wed 29/7/20								
1. 737	17.3.15.10	B	2 days	Thu 30/7/20	Fri 31/7/20								
787	17.3.16	Phase II (stage 6)-north lane (chainage 138-190)-Noise Barrier MM10 (bays 5-9)	85 days	Sat 1/8/20	Wed 11/11/20								
788	17.3_16_1	TTA, UU detection	2 days	Sat 1/8/20	Mon 3/8/20								
789	17,3.16.2	tree felling	2 days	Tue 4/8/20	Wed 5/8/20								
790	17.3.16.3	saw cut & remove existing pavement	2 days	Tue 4/8/20	Wed 5/8/20								
791	17.3.16.4	install sheetpiles	6 days	Thu 6/8/20	Wed 12/8/20								
792	17.3.16.5	excavate and install rails and struts	6 days	Thu 13/8/20	Wed 19/8/20								
793	17.3.16.6	concrete blinding layers for 5 bays	3 days	Wed 19/8/20	Fri 21/8/20								
794	17.3.16.7	formwork for bases of alternative first 3 bays	2 days	Fri 21/8/20	Sat 22/8/20								
795	17.3.16.8	steel fixing for 3 bases	3 days	Sat 22/8/20	Tue 25/8/20								
	17.3.16.9	·	5 days	Tue 25/8/20	Sat 29/8/20								
	17.3.16.10		3 days	Sat 29/8/20	Tue 1/9/20								
- CON-11	17.3.16.11		4 days	Tue 1/9/20	Fri 4/9/20								
	17.3.16.12	0	9 days 3 days	Fri 4/9/20 Mon 14/9/20	Mon 14/9/20								
	17.3.16.13 17.3.16.14		3 days 6 days	Wed 16/9/20	Wed 16/9/20 Tue 22/9/20								
	17.3 16 14	9	o days 2 days	Tue 22/9/20	Wed 23/9/20								
	1	bays	⊾ uuyo										
	17.3.16.16	0	2 days	Wed 23/9/20	Thu 24/9/20								
	17.3.16.17	•	4 days	Thu 24/9/20	Mon 28/9/20								
1.1.1.1.1.2.1	17.3.16.18		2 days	Mon 28/9/20	Tue 29/9/20								
	17.3.16.19		3 days 6 days	Tue 29/9/20 Sat 3/10/20	Sat 3/10/20 Fri 9/10/20								
	17.3.16.21		2 days	Sat 3/10/20 Fri 9/10/20	Sat 10/10/20								
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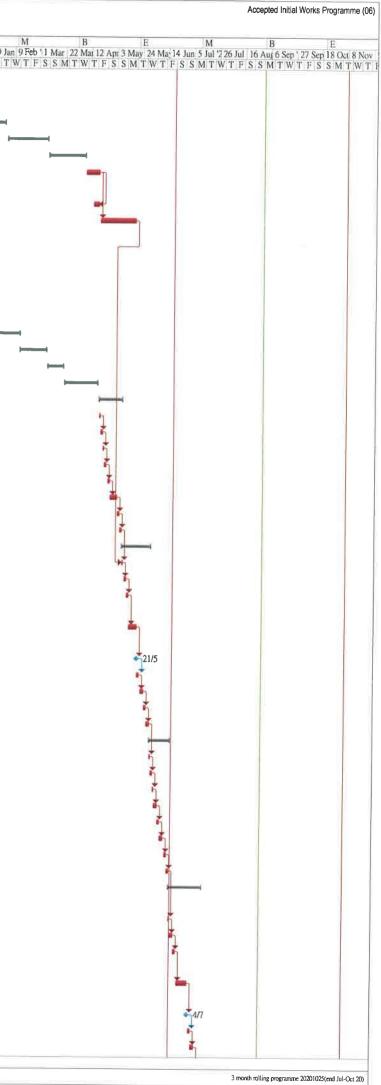
Infrastruct	nt of C ural W	olumbarium at Sandy Ridge Cemetery orks at Man Kam To Road and Lin Ma Hang Road		3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)										
WBS	T	ask Name	Duration	Start Date	Completion Date	M         B         E         M         B         C         D         D								
17.3.1	6.22	concrete and curing for two walls	4 days	Sat 10/10/20	Wed 14/10/20	WTFSSMTWTFSSSMTWTFSSSMTWTFSSMTWTTFSSMTWTFSSMTWTFSSMTWTTFSSMTTWTTFSSMTTWTTFSSMTTTFSSMTTWTTFSSMTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTFSSMTTTFSSMTTTFSSMTTTFSSMTTTFSSMTTTFSSMTTTFSSMTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFSSMTTTTFS								
810 17.3.1	6.23	remove formwork	2 days	Wed 14/10/20	Thu 15/10/20									
311 17.3.1	6.24	backfill formation & SRT test	12 days	Thu 15/10/20	Thu 29/10/20									
312 17,3,1	6,25	excavate gully trench and gully pot(s)	1 day	Thu 29/10/20	Thu 29/10/20									
17.3.1	6 26	lay& connect gully pipes& construct gully pot(s)	3 days	Thu 29/10/20	Sat 31/10/20									
14 17.3.1	6.27	lay kerb, sub-base	2 days	Mon 2/11/20	Tue 3/11/20									
115 17.3.1	6.28	sub-base SRT test	3 days	Wed 4/11/20	Fri 6/11/20									
116 17.3.1	6.29	DBM (Roadbase)	2 days	Sat 7/11/20	Mon 9/11/20									
17 17.3.1		base course and wearing course	2 days		Wed 11/11/20									
17.3.1	7	Phase II (stage 7)-south lane (chainage 0-32)-Noise Barrier MM5 (bays 1-2)	53 days	Thu 12/11/20	Fri 15/1/21									
17.3.1	7.1	TTA, UU detection	1 day	Thu 12/11/20	Thu 12/11/20									
20 17.3.1	7.2	tree felling	1 day	Fri 13/11/20	Fri 13/11/20									
21 17.3.1	7.3	saw cut & remove existing pavement	1 day	Fri 13/11/20	Fri 13/11/20									
17.3.1		install sheetpiles	3 days		Tue 17/11/20									
120 1201					-									
17.3.1	1.5	excavate and install rails and struts	3 days	Tue 17/11/20	Thu 19/11/20									
17.3.1	7.6	concrete blinding layers for 2 bays	1 day	Thu 19/11/20	Thu 19/11/20									
25 17.3.1	77	formwork for base of the first bay	1 day	Fri 20/11/20	Fri 20/11/20									
26 17.3.1	7.8	steel fixing for 1 base	2 days	Sat 21/11/20	Mon 23/11/20									
27 17.3.1	7.9	concrete and curing	2 days	Tue 24/11/20	Wed 25/11/20									
28 17.3.1	7_10	remove formwork	1 day	Thu 26/11/20	Thu 26/11/20									
62 17.3.1	9	Noise Barrier MM8 (bays 1-3)	140 days	Sat 1/8/20	Mon 18/1/21									
63 :17.3.1	9.1	construct alternative route to close the existing road	30 days	Sat 1/8/20	Fri 4/9/20									
17.3.1	9.2	TTA road closure, UU detection	2 days	Sat 5/9/20	Mon 7/9/20									
17.3.1	9.3	remove existing pavement	4 days	Tue 8/9/20	Fri 11/9/20									
56 17.3.1	9.4	install sheetpiles	3 days	Sat 12/9/20	Tue 15/9/20									
17.3.1	9.5	excavate and install rails and struts	2 days	Wed 16/9/20	Thu 17/9/20									
368 17.3.1	9.6	concrete blinding layers for 3 bays	3 days	Fri 18/9/20	Mon 21/9/20									
69 17.3.1	9.7	formwork for 2 bases	3 days	Tue 22/9/20	Thu 24/9/20									
70 17.3.1	9.8	steel fixing for 2 bases	4 days	Fri 25/9/20	Tue 29/9/20									
71 17.3.1	9.9	concrete and curing for 2 bases	5 days	Wed 30/9/20	Wed 7/10/20									
17.3.1	9_10	remove formwork for 2 bases	3 days	Thu 8/10/20	Sat 10/10/20									
73 17.3.1	9 <b>1</b> 1	falsework and formwork for 2 walls	4 days	Mon 12/10/20	Thu 15/10/20									
74 17.3.1	9.12	steel fixing for 2 walls	10 days	Fri 16/10/20	Wed 28/10/20									
17.3.1		close formwork for 2 walls	4 days	Thu 29/10/20										
76 17.3.1		concrete and curing for 2 walls	6 days	Tue 3/11/20										
17.3.1		remove formwork for 2 walls	4 days	Tue 10/11/20										
78 17.3.1		formwork for base of the second 1 bay	2 days	Sat 14/11/20										
17.3.1		steel fixing	2 days		Wed 18/11/20									
80 17.3.1		concrete and curing	3 days	Thu 19/11/20										
81 17.3.1		remove formwork	2 days	Mon 23/11/20										
82 17.3.1		falsework and formwork for wall		Wed 25/11/20										
94 17.3.2		Phase la (stage 101)-south lane (chainage 633-685)												
17.3.2 14 17.3.2		Phase la (stage 102)-north lane (chainage 633-685)		Tue 4/12/18										
14 17.3.2 25 17.3.2		Phase la (stage 103)-south lane (chainage 685-740)		Sat 22/12/18 Thu 24/1/19	Wed 23/1/19 Fri 15/2/19									
34 17.3.2		Phase Ia (stage 104)-north Iane (chainage 685-740) Phase Ia (stage 105)-south Iane (chainage 740-790)	•	Sat 16/2/19	Fri 15/2/19 Fri 15/3/19									
45 17.3.2		Phase la (stage 105)-south lane (chainage 740-790) Phase la (stage 106) north lane (chainage 740-790)	-	Sat 16/2/19 Sat 16/3/19	Thu 4/4/19									
55 17.3.2		Phase la stage 107)-south lane (chainage 740-750) Phase la stage 107)-south lane (chainage 790-840)	•	Sat 6/4/19	Sat 4/5/19									
66 17.3.3		Phase la (stage 108)-north lane (chainage 790-840)		Mon 6/5/19	Mon 10/6/19									
76 17.3.3		Phase la (stage 109)-south lane (chainage 840-890)		Tue 11/6/19	Wed 17/7/19									
17.3.3		Phase la (stage 110)-north lane (chainage 640-890)		Thu 18/7/19	Wed 7/8/19									
98 17.3.3	3	Phase III (stage 1)-south lane (chainage 435-490)	20 days	Thu 8/8/19	Fri 30/8/19									

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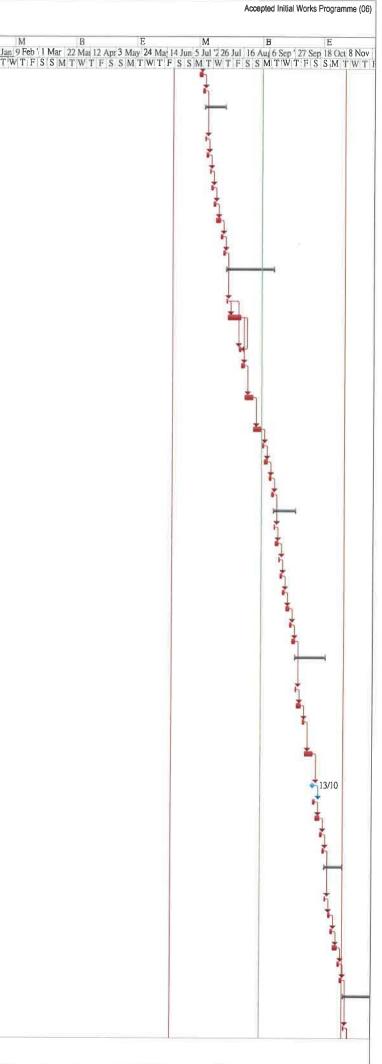


Contract No. ( Development - Infrastructura	of Columbarium at Sandy Ridge Cemetery al Works at Man Kam To Road and Lin Ma Hang Road		3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)										
D WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B								
1019 17.3.35	Phase III (stage 3)-south lane (chainage 490-540)	34 days	Fri 20/9/19	Thu 31/10/19	W 1 P 5 S M 1 W 1 P 5 S M 1 W 1 P 5 S M 1 W 1 P 5 S M 1 W 1 P 5 S M T W T P S S M T W T P S S M T W T F S S M T W								
1030 17.3.36	Phase III (stage 4)-north lane (chainage 490-540)	17 days	Fri 8/11/19	Wed 27/11/19									
1039 17.3.37	Phase III (stage 5)-south lane (chainage 540-590)	29 days	Thu 28/11/19	Fri 3/1/20									
1049 17,3.38	Phase III (stage 6)-north lane (chainage 540-590)	22 days	Sat 4/1/20	Sat 1/2/20									
1059 17.3.39	Phase III (stage 7)-south lane (chainage 590-633)	29 days	Tue 4/2/20	Sal 7/3/20									
1069 17.3.40	Phase III (stage 8)-north lane (chainage 590-633)	25 days	Mon 9/3/20	Tue 7/4/20									
1079 17.3.41	Street lighting (drawpits, abandon existing public lighting & cable, 100uPVC ducts) (ch435-890)	7 days	Wed 8/4/20	Sat 18/4/20									
1080 17.3.42	tree planting	5 days	Tue 14/4/20	Sal 18/4/20									
1081 17.3.43	Street furniture & construction of footpath (ch435-890)	23 days	Mon 20/4/20	Mon 18/5/20									
1082 17.3.44	Phase IV (stage 1)-south lane (chainage 890-940)	22 days	Fri 20/9/19	Thu 17/10/19									
1093 17.3.45	Phase IV (stage 2)-north lane (chainage 890-940)	17 days	Fri 18/10/19	Wed 6/11/19									
1103 17.3.46	Phase IV (stage 3)-south lane (chainage 940-983)	31 days	Thu 7/11/19	Thu 12/12/19									
1113 17.3.47	Phase IV (stage 4)-north lane (chainage 940-983)	16 days	Fri 13/12/19	Fri 3/1/20									
1122 17.3.48	Phase V (stage 1)-south lane (chainage 983-1035)	17 days	Sat 4/1/20	Thu 23/1/20									
1132 17.3.49	Phase V (stage 2)-north lane (chainage 983-1035)	16 days	Fri 24/1/20	Fri 14/2/20									
1141 17.3.50	Phase V (stage 3)-south lane (chainage 1035-1087)	19 days	Sat 15/2/20	Sat 7/3/20									
1151 17.3.51	Phase V (stage 4)-north lane (chainage 1035-1087)	12 days	Mon 9/3/20	Sat 21/3/20									
1160 17.3.52	Phase V (stage 5)-south lane (chainage 1087-1139)	20 days	Mon 23/3/20	Sat 18/4/20									
1170 17.3.53	Phase V (stage 6)-north lane (chainage 1087-1139)	15 days	Mon 20/4/20	Fri 8/5/20									
1171 17.3.53.1	TTA & UU detection	1 day	Mon 20/4/20	Mon 20/4/20									
1172 17.3.53.2	saw cut & remove existing pavement	2 days	Tue 21/4/20	Wed 22/4/20									
1173 17.3.53.3	excavate gully trench and gully pot(s)	1 day	Thu 23/4/20	Thu 23/4/20									
1174 17.3.53.4	lay& connect gully pipes& construct gully pot(s)	2 days	Fri 24/4/20	Sat 25/4/20									
1175 17.3.53.5	lay kerb, sub-base	2 days	Mon 27/4/20	Tue 28/4/20									
1176 17.3.53.6	sub-base SRT test	3 days	Wed 29/4/20	Mon 4/5/20									
1177 17.3.53.7	DBM (Roadbase)	2 days	Tue 5/5/20	Wed 6/5/20									
1178 17.3.53.8	base course and wearing course	2 days	Thu 7/5/20	Fri 8/5/20									
1179 17.3.54	Phase V (stage 7)-south lane (chainage 1139-1190)	20 days	Sat 9/5/20	Mon 1/6/20									
1180 17.3.54.1	TTA & UU detection	1 day	Sat 9/5/20	Sat 9/5/20									
1181 17.3.54.2	saw cut & remove existing pavement	2 days	Mon 11/5/20	Tue 12/5/20									
1182 17.3.54.3	excavate pipe trench and manhole(s)	2 days	Wed 13/5/20	Thu 14/5/20									
1183 17.3.54.4	lay pipes & construct manhole(s)	6 days	Fri 15/5/20	Thu 21/5/20									
1184 17.3.54.5	backfill formation & SRT test	0 days	Thu 21/5/20	Thu 21/5/20									
1185 17.3.54.6	lay kerb, sub-base	2 days	Fri 22/5/20	Sat 23/5/20									
1186 17.3.54.7	sub-base SRT test	3 days	Mon 25/5/20	Wed 27/5/20									
1187 17.3.54.8	DBM (Roadbase)	2 days	Thu 28/5/20	Fri 29/5/20									
1188 17.3.54.9	base course and wearing course	2 days	Sat 30/5/20	Mon 1/6/20									
1189 17.3.55	Phase V (stage 8)-north lane (chainage 1139-1190)	15 days	Tue 2/6/20	Thu 18/6/20									
1190 17.3.55.1	TTA & UU detection	1 day	Tue 2/6/20	Tue 2/6/20									
1191 17.3.55.2	saw cut & remove existing pavement	2 days	Wed 3/6/20	Thu 4/6/20									
1192 17.3.55.3	excavate gully trench and gully pot(s)	1 day	Fri 5/6/20	Fri 5/6/20									
1193 17.3.55.4		2 days	Sat 6/6/20	Mon 8/6/20									
1194 17.3.55.5		2 days	Tue 9/6/20	Wed 10/6/20									
1195 17.3.55.6		3 days	Thu 11/6/20	Sat 13/6/20									
1196 17.3.55.7	DBM (Roadbase)	2 days	Mon 15/6/20	Tue 16/6/20									
1197 17.3.55.8	base course and wearing course	2 days	Wed 17/6/20	Thu 18/6/20									
1198 17.3.56	Phase VI (stage 1)-south lane (chainage 1190-1240)		Fri 19/6/20	Wed 15/7/20									
1199 17.3.56.1	TTA & UU detection	1 day	Fri 19/6/20	Fri 19/6/20									
1200 17.3.56.2		2 days	Sat 20/6/20	Mon 22/6/20									
1201 17.3.56.3		2 days	Tue 23/6/20	Wed 24/6/20									
1202 17.3.56.4	lay pipes & construct manhole(s)	7 days	Fri 26/6/20	Sat 4/7/20									
1203 17.3.56.5		0 days	Sat 4/7/20	Sat 4/7/20									
1204 17.3.56.6		2 days	Mon 6/7/20	Tue 7/7/20									
1205 17.3.56.7	sub-base SRT test	3 days	Wed 8/7/20	Fri 10/7/20									

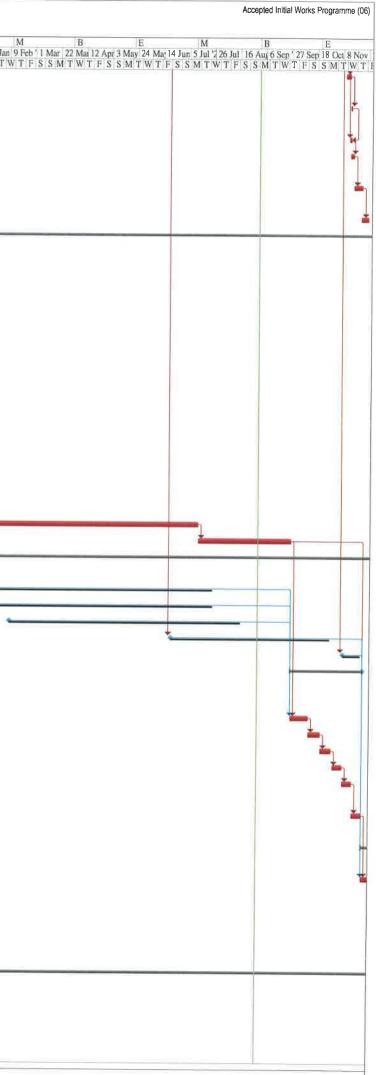
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Develo - Infra	opment o structural	V/2017/02 f Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road			10-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
ĺD	WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B
1206	17.3.56.8	DBM (Roadbase)	2 days	Sat 11/7/20	Mon 13/7/20	
	17.3.56.9	base course and wearing course	2 days	Tue 14/7/20	Wed 15/7/20	
1208	17.3 57	Phase VI (stage 2)-north lane (chainage 1190-1240)	15 days	Thu 16/7/20	Sat 1/8/20	
1209	17,3.57.1	TTA & UU detection	1 day	Thu 16/7/20	Thu 16/7/20	
1210	17.3.57.2	saw cut & remove existing pavement	2 days	Fri 17/7/20	Sat 18/7/20	
	17.3.57.3	excavate gully trench and gully pot(s)	1 day	Mon 20/7/20	Mon 20/7/20	
in the second second	17.3.57.4	lay& connect gully pipes& construct gully pot(s)	2 days	Tue 21/7/20	Wed 22/7/20	
	17.3.57.5	lay kerb, sub-base	2 days	Thu 23/7/20	Fri 24/7/20	
	17.3.57.6	sub-base SRT test	3 days	Sat 25/7/20	Tue 28/7/20	
	17.3.57.7	DBM (Roadbase)	2 days	Wed 29/7/20	Thu 30/7/20	
1111120	17.3.57.8	base course and wearing course	2 days	Fri 31/7/20	Sat 1/8/20	
1217	17.3.58	Phase VI (stage 3)-south lane (chainage 1240-1286)	34 days	Mon 3/8/20	Thu 10/9/20	
1218	17.3.58.1	TTA & UU detection	1 day	Mon 3/8/20	Mon 3/8/20	
1219	17.3.58.2	tree felling	10 days	Tue 4/8/20	Fri 14/8/20	
1220	17.3.58.3	saw cut & remove existing pavement	2 days	Thu 13/8/20	Fri 14/8/20	
	17.3.58.4	excavate pipe trench and manhole(s)	2 days	Sat 15/8/20	Mon 17/8/20	
1222	17.3.58.5	lay pipes & construct manhole(s)	6 days	Tue 18/8/20	Mon 24/8/20	
			-			
PORCEALCY.	17.3.58.6	backfill formation & SRT test	6 days	Tue 25/8/20	Mon 31/8/20	
	17.3.58.7	lay kerb, sub-base	2 days	Tue 1/9/20	Wed 2/9/20	
	17.3.58.8	sub-base SRT test	3 days	Thu 3/9/20	Sat 5/9/20	
	17.3.58.9	DBM (Roadbase)	2 days	Mon 7/9/20	Tue 8/9/20	
0.0000055	17 3.58.10	base course and wearing course	2 days	Wed 9/9/20	Thu 10/9/20	
	17,3.59	Phase VI (stage 4)-north lane (chainage 1240-1286)	15 days	Fri 11/9/20	Mon 28/9/20	
1.1	17.3 59 1	TTA & UU detection	1 day	Fri 11/9/20	Fri 11/9/20	
	17.3.59.2 17.3.59.3	saw cut & remove existing pavement excavate gully trench and gully pot(s)	2 days 1 day	Sat 12/9/20 Tue 15/9/20	Mon 14/9/20 Tue 15/9/20	
	17.3.59.4	lay& connect gully pipes& construct gully pot(s)	2 days	Wed 16/9/20	The 15/9/20 Thu 17/9/20	
1253	17.3.59.5	lay kerb, sub-base	2 days 2 days	Fri 18/9/20	Sat 19/9/20	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	17.3.59.6		3 days	Mon 21/9/20	Wed 23/9/20	
1	17.3.59,7	DBM (Roadbase)	2 days	Thu 24/9/20	Fri 25/9/20	
	17.3.59.8	base course and wearing course	2 days	Sat 26/9/20	Mon 28/9/20	
	17.3.60	Phase VI (stage 5)-south lane (chainage 1286-1332)			Fri 23/10/20	
1238	17.3.60.1	TTA & UU detection	1 day	Tue 29/9/20	Tue 29/9/20	
1239	17.3.60.2	saw cut & remove existing pavement	2 days	Wed 30/9/20	Sat 3/10/20	
1240	17 3 60 3	excavate pipe trench and manhole(s)	2 days	Mon 5/10/20	Tue 6/10/20	
1241	17.3.60.4	lay pipes & construct manhole(s)	6 days	Wed 7/10/20	Tue 13/10/20	
1242	17.3.60.5	backfill formation & SRT test	0 days	Tue 13/10/20	Tue 13/10/20	
1243	17.3.60.6	lay kerb, sub-base	2 days	Wed 14/10/20	Thu 15/10/20	
1244	17.3.60.7	sub-base SRT test	3 days	Fri 16/10/20	Mon 19/10/20	
1245	17.3.60.8	DBM (Roadbase)	2 days	Tue 20/10/20	Wed 21/10/20	
1246	17.3.60.9	base course and wearing course	2 days	Thu 22/10/20	Fri 23/10/20	
1247	17.3.61	Phase VI (stage 6) - north lane (chainage 1286 -1332)	12 days	Sat 24/10/20	Sat 7/11/20	
1248	17.3.61 1	TTA & UU detection	1 day	Sat 24/10/20	Sat 24/10/20	
1249	17.3.61.2	saw cut & remove existing pavement	2 days	Tue 27/10/20	Wed 28/10/20	
1250	17.3.61.3	lay kerb, sub-base	2 days	Thu 29/10/20	Fri 30/10/20	
	17.3.61.4		3 days	Sat 31/10/20	Тие 3/11/20	
	17.3.61.5	DBM (Roadbase)	2 days	Wed 4/11/20	Thu 5/11/20	
	17.3.61.6	base course and wearing course	2 days	Fri 6/11/20	Sat 7/11/20	
1254	17.3.62	Phase VI (stage 7)-south lane (chainage 1332-1377)	27 days	Mon 9/11/20	Wed 9/12/20	
1255	17.3.62.1	TTA & UU detection	1 day	Mon 9/11/20	Mon 9/11/20	



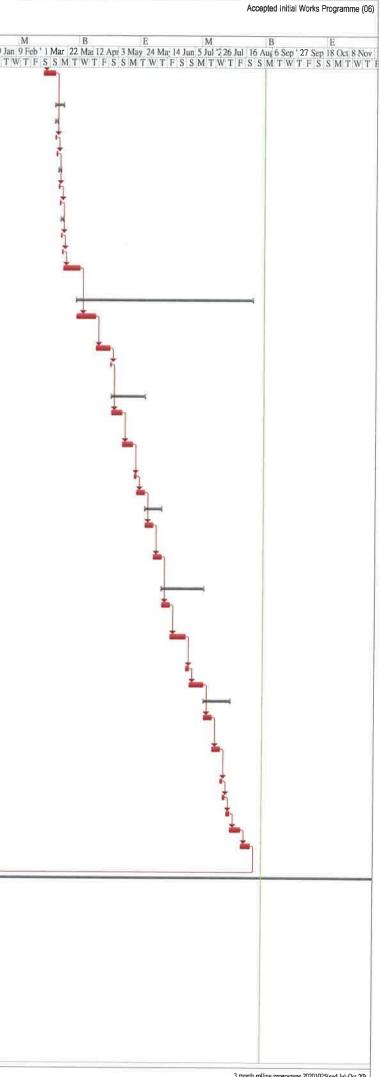
Infrast	tructural \	Columbarium at Sandy Ridge Cemetery Norks at Man Kam To Road and Lin Ma Hang Road				(from 26/8/2020 to 25/11/2020)
	WBS	Task Name	Duration	Start Date	Completion Date	Mar 10 Jun 1 Jul 1 22 Jul 12 Aue 2 Sen 1 23 Sen 14 Oct 4 Nov. 25 Nov 16 Dec 6 Jan 1 27 Jan 17 Feb 10 Mar 31 Mar 21 Are 12 Mar 2 Jun 1 23 Jun 14 Jul 4 Aug. 25 Are 15 Sen 6 Oct 1 27 Oct 1 27 Nov. 6 Dec 6 Jan 1 27 Jun 12 Feb 10 Mar 31 Mar 21 Are 12 Mar 2 Jun 1 34 Jun 14 Jul 4 Aug. 25 Are 15 Sen 6 Oct 1 27 Oct 1 27 Nov. 6 Dec 6 Jan 1 27 Jun 12 Feb 10 Mar 31 Mar 21 Are 12 Mar 2 Jun 1 34 Jun 14 Jul 4 Aug. 25 Are 15 Sen 6 Oct 1 27 Oct 1 27 Nov. 6 Dec 6 Jan 1 27 Jun 12 Feb 10 Mar 31 Mar 21 Are 12 Mar 2 Jun 14 Jul 4 Aug. 25 Are 15 Sen 6 Oct 1 27 Oct 1 27 Nov. 6 Dec 6 Jan 1 27 Jun 12 Feb 10 Mar 31 Mar 2 Jun 12 Mar 2 Jun 14 Jul 4 Aug. 25 Are 15 Sen 6 Oct 1 27 Oct 1 27 Nov. 6 Dec 6 Jan 1 27 Jun 12 Feb 10 Mar 31 Mar 2 Jun 12 Mar 31 Jun 14 Jul 4 Aug. 25 Are 15 Sen 6 Oct 1 27 Oct 1 27 Jun 12 Feb 10 Mar 31 Mar 31 Mar 31 Mar 31 Jun 14 Jun 14 Jun 14 Jun 15 Are 15 Sen 6 Oct 1 27 Oct 1 27 Jun 12 Feb 10 Mar 31 Jun 14 Ju
256 1	7.3,62.2	tree felling	4 days	Tue 10/11/20		W 1 F S S M T W T F S S M T W
0		-				
257 1	7.3.62.3	tree transplant	1 day	Sat 14/11/20	Sat 14/11/20	
258 1	7.3.62.4	saw cut & remove existing pavement	2 days	Fri 13/11/20	Sat 1//11/20	
	7.3.62.5	excavate pipe trench and manhole(s)	2 days	Sal 14/11/20		
			,-			
260  1	7 3 62 6	lay pipes & construct manhole(s)	6 days	Tue 17/11/20	Mon 23/11/20	
act 4	7.3.62.7		0.1	Max 00/44/00	0-1-00/44/00	
278 1		backfill formation & SRT test Noise Barrier works above the concrete substructure of	-	Mon 23/11/20 Mon 29/10/18		
		the noise barrier (section 2 Part C1)	or r dayo		1100 012121	
279 1	7_4_1	seek specialist subcontractor to design and build	210 days	Mon 29/10/18	Sun 26/5/19	
280 1	7_4_2	propose specialist subcontractor to PM for	0 days	Sun 26/5/19	Sun 26/5/19	
201	- 4 0	acceptance				
281 1	743	acceptance of propose specialist subcontractor by Project Manager	0 days	Sun 16/6/19	Sun 16/6/19	
282 :1	7.4.4	, ,	120 days	Mon 17/6/19	Mon 14/10/19	
283 1		submit a proposal detailing the changes to PM's		Tue 15/10/19		
		design, if any				
284 1		submit 1st design for PM's comment	0 days	Mon 28/10/19	Mon 28/10/19	÷
285 1	7.4.7	PM's comments	21 days	Tue 29/10/19	Mon 18/11/19	)
286 1		revise design	28 days	Tue 19/11/19	Mon 16/12/19	) i i i i i i i i i i i i i i i i i i i
287 1		re-submit design for PM's acceptance	0 days	Mon 16/12/19	Mon 16/12/19	a la
288 1	7 4 10	submit 3 sample panels for each type & colour for acceptance	7 days	Tue 17/12/19	Mon 23/12/19	)
289 1	7 <b>4 1</b> 1	PM's & relevant authorities' acceptance	0 days	Mon 13/1/20	Mon 13/1/20	
290 1		ordering of noise barrier panel	0 days	Wed 15/1/20		
291 1		•		Thu 16/1/20		
292 1	7.4.14			Tue 14/7/20		
293 1	7 4 15			Mon 14/10/19		
		Nosie Barriers				
295 1	7 4 15 2	MM6	0 days	Mon 14/10/19	Mon 14/10/19	a
296 1	7.4.15.3	MM7	0 days	Mon 14/10/19	Mon 14/10/19	
298 1	7.4.15.5	MM9	0 days	Mon 10/2/20	Mon 10/2/20	
299 1	7.4.15.6	MM10 (Bay 1-4)	0 days	Sun 21/6/20	Sun 21/6/20	
care n	7 4 15 7	MM10 (Bay 5-9)	0 days	Mon 9/11/20		
301 1	7.4.16	construction works above the concrete substructure of the noise barrier MM6, MM7 & MM9 (app. 77m)	48 days	Mon 28/9/20	Wed 25/11/20	
302 1	7.4.16.1	fix posts with base plates to copings	11 davs	Mon 28/9/20	Mon 12/10/20	
303 1	7.4.16.2	install structural frames	9 days	Tue 13/10/20		
304 1	7.4_16.3	fix AI. absorption noise barrier panels	7 days	Fri 23/10/20		
305 1	7.4 16 4	fix tinted transplant noise barrier panels	7 days	Mon 2/11/20		
306 1	7.4.16.5	fix copping the end of UC member	7 days	Tue 10/11/20	Tue 17/11/20	
307 1	7.4.16.6	fix base sealing panel	7 days	Wed 18/11/20	Wed 25/11/20	
308 1	7.4.17	construction works above the concrete substructure of the noise barrier MM10 (app. 94m)	54 days	Thu 26/11/20	Sat 30/1/21	
300 1	7.4_17_1	fix posts with base plates to copings	12 down	Thu 26/11/20	Wed Q/12/20	
323 1		access date for section 2 (Part C2)	0 days	Sun 24/2/19		
324 1		additional site possession for areas outside site	0 days	Sun 24/2/19		
		boundary {for 3NW-C/C470 (existing D-DH7), C224 (existing D-DH11) & C225 new drillholes DHA1,A2 & A3 }	,.			
325 1	7.7	Slope Upgrading works (section 2 Part C2)	578 dave	Mon 25/2/19	Wed 3/2/21	
326 1					Thu 18/4/19	
327 1		-		Thu 11/4/19	Sal 8/6/19	
328 1	7.7.3			Wed 22/5/19		
one of the	7.7.4			Mon 17/6/19		



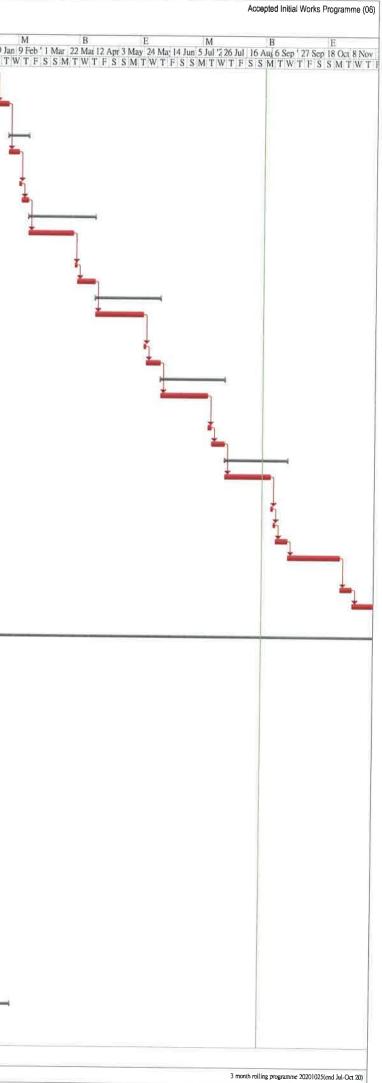
Develop	t No. CV/2 oment of Co ructural Wo	or//02 olumbarium at Sandy Ridge Cemetery orks at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
D V	VBS Ta	isk Name	Duration	Start Date	Completion Date	M         B         E         M         B
1330 1	7.7.5	baseline monitoring for 3NW-C/C230 (DH15 & 16) & C225 (DH3 & 17) on existing drillholes & 3NW-C/C470 (existing D-DH7), C224 (existing D-DH11) & C225 proposed verification drillholes DHA1,A2 & A3	30 days	Fri 12/7/19	Thu 15/8/19	
1331 1	7.7.6	submit 4 sets of initial readings of baseline monitoring and preliminary logs to the Project Manager to the Project Manager	0 days	Thu 15/8/19	Thu 15/8/19	
1332 1	7.7.7	Slopeworks: 3NW-C/C470 (ch490-540S/B)	59 days	Fri 16/8/19	Sat 26/10/19	
1333 1		removal of existing trees		Fri 16/8/19		
1334 1	7.7.7.2	hoarding & fencing	6 days	Wed 28/8/19	Tue 3/9/19	
1335 1	7773	slope excavation works	1 day	Wed 4/9/19	Wed 4/9/19	τ, t
1336 1	7774	temporary scaffolding	5 days	Thu 5/9/19	Tue 10/9/19	
1337 1		proposed slope stripping for mapping or rock and relict discontinuities (AS5-A,B, AS6-A,B)		Wed 11/9/19		
1338 1	7.7.7.6	Phase I	8 days	Sat 21/9/19	Mon 30/9/19	
1339 1	7.7.7.6.1	install test nail PN02 & pull out test	6 days	Sat 21/9/19	Fri 27/9/19	
1340 1	777.6.2	drill, install steel bars and grout soil nails (B01-12)	2 days	Sat 28/9/19	Mon 30/9/19	
1341 1	7.7.7.7	Phase II	8 days	Wed 2/10/19	Fri 11/10/19	
1342 1	7.7.7.7.1	install test nail PN01 & pull out test	6 days	Wed 2/10/19	Wed 9/10/19	
1343 1	7.7.7.2	drill, install steel bars and grout soil nails (A01-17)	2 days	Thu 10/10/19	Fri 11/10/19	i i i i i i i i i i i i i i i i i i i
1344 1	7.7.7.8	raking drains	1 day	Sat 12/10/19	Sat 12/10/19	
1345 1	7.7.7.9	TDR Test (including test & wait issue result)	2 days	Mon 14/10/19	Tue 15/10/19	
1346 1	7.7.7.10	soil nail head works	3 days	Wed 16/10/19	Fri 18/10/19	
1347 1		UC & catchpil (38m & 1 nr)	,	Sat 19/10/19		
1348 1	7.7.7.12	biodegradable erosion control mal with hydroseeding	2 days	Fri 25/10/19	Sat 26/10/19	r
1349 1	7.7.8	Slopeworks: - 3NW-C/C230 (ch1240-1330S/B)	130 days	Mon 28/10/19	Thu 2/4/20	New York State Sta
1350 1	7.7.8.1	removal of existing trees	10 days	Mon 28/10/19	Thu 7/11/19	
1351 1	7.7.8.2	hoarding & fencing	9 days	Fri 8/11/19	Mon 18/11/19	
1352 1	7.7.8.3	temporary scaffolding	7 days	Tue 19/11/19	Tue 26/11/19	
1353 1	7.7.8.4		8 days	Wed 27/11/19	Thu 5/12/19	
1354 1	7.7.8.5	slope excavation works	1 day	Fri 6/12/19	Fri 6/12/19	r i i i i i i i i i i i i i i i i i i i
1355 1	17786	Phase I	25 days	Sat 7/12/19	Wed 8/1/20	
1356 1		install test nail PN22 & pull out test	6 days	Sat 7/12/19 Sat 7/12/19	Fri 13/12/19	
1357 1	7,7,8.6.2	drill, install steel bars and grout soil nails (K01-22, N01-05, M01-11, J01-25)	10 days	Sat 14/12/19	Fri 27/12/19	
1358 1	7,7.8.6.3	TDR Test (including test & wait issue result)	2 days	Sat 28/12/19	Mon 30/12/19	
1359 1		soil nail head works		Tue 31/12/19		
1360 1		Phase II	22 days	Thu 9/1/20	Thu 6/2/20	
1361 1	17.7.8.7.1	install test nail PN21 & pull out test	6 days	Thu 9/1/20	Wed 15/1/20	
1362 1	17.7.8.7.2	drill, install steel bars and grout soil nails (H01-25, L01-16)	8 days	Thu 16/1/20	Fri 24/1/20	
1363 1	7 7 8.7.3	raking drains	2 days	Wed 29/1/20	Thu 30/1/20	
1364 1	7 7.8.7.4	TDR Test (including test & wait issue result)	2 days	Fri 31/1/20	Sat 1/2/20	
	77875	soil nail head works	4 days	Mon 3/2/20	Thu 6/2/20	
1365 1	17.17.01.0		i duyo	141011 0/2/20	1110 0/2/20	

	Accepted Initial Works Programme (06	
M B E in 9 Feb 1 Mar 22 Mai 12 Apr 3 May 24 Mai 14 W T E S S M TW T E S S M TW T T	M B E 4 Jun 5 Jul 226 Jul 16 Au 6 Sep 27 Sep 18 Oct 8 Nov S S M T W T F S S M T W T F S S M T W T	-
w 1 F 5 5 M 1 W 1 F 5 5 M 1 W 1 F	[S   S   M   T   W   T   F   S   S   M   T   W   T   F   S   S   M   T   W   T	ŀ

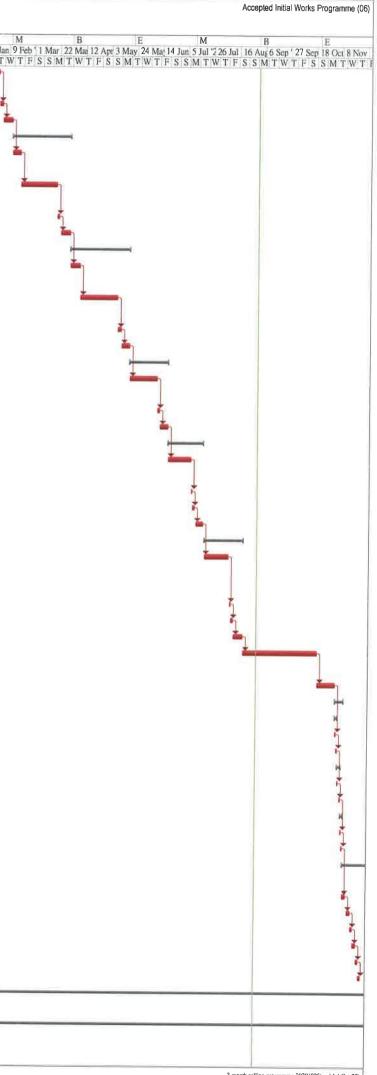
Development of Infrastructural	//2017/02 Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road		11 10 10 10 10 10 10 10 10 10 10 10 10 1		3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
WBS	Task Name	Duration	Start Date	Completion Date	Mai 10 Jun 1 Jul 1 22 Jul 12 Aug 2 Sep 1 23 Sep 14 Oct 4 Nov 25 Nov 16 Dec 6 Jan 27 Jan 17 Feb 10 Mat 31 Mat 21 Ang 12 Mat 2 Jun 23 Jun 14 Jul 4 Aug 25 Aug 15 Sep 6 Oct 27 Oct 17 Nov 8 Dec 120 Dec 10 J
1367 17.7.8.9	600mm width concrete maintenance staircase with handrailing	9 days	Tue 3/3/20	Thu 12/3/20	W T F S S M T W
1368 17.7.8.10	soil replacement by no-fines concrete	6 days	Fri 13/3/20	Thu 19/3/20	
1369 17.7.8.10.1	stage 1	2 days	Fri 13/3/20	Sat 14/3/20	
1370 17.7.8.10.1.	tompolary out a onouration of bon		Fri 13/3/20	Fri 13/3/20	
1371 17.7.8.10.1.			Sat 14/3/20 Mon 16/3/20	Sat 14/3/20 Tue 17/3/20	
1372 17.7.8.10.2 1373 17.7.8.10.2			Mon 16/3/20	Mon 16/3/20	
1374 17.7.8.10.2.			Tue 17/3/20	Tue 17/3/20	
1375 17.7.8.10.3			Wed 18/3/20	Thu 19/3/20	
376 17.7.8.10.3	<b>v</b>		Wed 18/3/20	Wed 18/3/20	
1377 17.7.8.10.3.	2 placement of no-fine concrete	1 day	Thu 19/3/20	Thu 19/3/20	
1378 17.7.8.11	biodegradable erosion control mat with hydroseeding & shrub planting	12 days	Fri 20/3/20	Thu 2/4/20	
1379 17.7.9	Slopeworks: - 3NW-C/C224 (ch1040-1120N/B)	117 days	Tue 31/3/20	Sat 22/8/20	
1380 17.7.9.1	hoarding & fencing	10 days	Tue 31/3/20	Wed 15/4/20	
1381 17.7.9.2	temporary scaffolding	10 days	Thu 16/4/20	Mon 27/4/20	
1382 17.7.9.3	slope excavation works	1 day	Tue 28/4/20	Tue 28/4/20	
1383 :17.7.9.4	Phase I	22 days	Wed 29/4/20	Tue 26/5/20	
1384 17.7.9.4.1	install test nail PN14 & pull out test		Wed 29/4/20	Thu 7/5/20	
1385 17.7.9.4.2	drill, install steel bars and grout soil nails (G01-21, F01-31)	8 days	Fri 8/5/20	Sat 16/5/20	
1386 17.7.9.4.3	TDR Test (including test & wait issue result)	2 days	Mon 18/5/20	Tue 19/5/20	
1387 17.7.9.4.4	soil nail head works	6 days	Wed 20/5/20	Tue 26/5/20	
1388 17.7.9.5	Phase II	12 days	Wed 27/5/20	Tue 9/6/20	
1389 17.7.9.5.1	install test nail PN13 & pull out test	6 days	Wed 27/5/20	Tue 2/6/20	
1390 17.7.9.5.2	drill, install steel bars and grout soil nails (E01-46)	6 days	Wed 3/6/20	Tue 9/6/20	
1391 17.7.9.6	Phase III	28 days	Wed 10/6/20	Tue 14/7/20	
1392 17.7.9.6.1	install test nail PN12 & pull out test	6 days	Wed 10/6/20	Tue 16/6/20	
1393 17.7.9.6.2	drill, install steel bars and grout soil nails (D01-D51)	10 days	Wed 17/6/20	Mon 29/6/20	
1394 17.7.9.6.3	TDR Test (including test & wait issue result)		Tue 30/6/20	Thu 2/7/20	
1395 17.7.9.6.4	soil nail head works		Fri 3/7/20	Tue 14/7/20	
1396 17.7.9.7	Phase IV		Wed 15/7/20	Wed 5/8/20	
1397 17.7.9.7.1	install test nail PN11 & pull out test		Wed 15/7/20	Tue 21/7/20	
1398 17.7.9.7.2	drill, install steel bars and grout soil nails (C01-26)	6 days	Wed 22/7/20	Tue 28/7/20	
1399 17.7.9.7.3	raking drains	2 days	Wed 29/7/20	Thu 30/7/20	
1400 17.7.9.7.4	TDR Test (including test & wait issue result)	2 days	Fri 31/7/20	Sat 1/8/20	
1401 17.7.9.7.5	soil nail head works		Mon 3/8/20	Wed 5/8/20	
1402 17.7.9.8	UC & catchpit		Thu 6/8/20	Fri 14/8/20	
1403 17.7.9.9	75mm thick shotcrete with a layer of A252 wire mesh (380m2)	7 days	Sat 15/8/20	Sat 22/8/20	
1404 17.7.10	Slopeworks: - 3NW-C/C225 (ch1300-1376N/B)	348 days	Tue 3/12/19	Wed 3/2/21	
1405 17.7.10.1	tree transplant	2 days	Tue 3/12/19	Wed 4/12/19	
1406 17.7.10.2	removal of existing trees	5 days	Thu 5/12/19	Tue 10/12/19	
1407 17,7.10,3	hoarding & fencing	12 days	Wed 11/12/19	Tue 24/12/19	
1408 17.7.10.4	slope excavation works	1 day	Fri 27/12/19	Fri 27/12/19	T <sub>1</sub>
1409 17.7.10.5	temporary scaffolding		Sat 28/12/19	Thu 9/1/20	
		-	<b>B</b> 1 1 0 14 10 0	E: 1011/00	
1410 17.7.10.6	install test nail PN31-PN33, grout & pull out tests	6 days	Fri 10/1/20	Thu 16/1/20	



		Works at Man Kam To Road and Lin Ma Hang Road Task Name	Duration	Start Date	Completion	(from 26/8/2020 to 25/11/2020)
		LNON A SOLINE	Duration	Start Dale	Completion Date	M         B         E         M         B
11	7.7.10.7	install test nail PN34-PN36, grout & pull out tests	6 days	Fri 17/1/20	Thu 23/1/20	1 1 5 5 M 1 W 1 F 5 5 M 1 W 1
112	7.7.10.8	install test nail PN37-PN39, grout & pull out tests	6 days	Fri 24/1/20	Mon 3/2/20	
13 1	7.7.10.9	Phase I	15 days	Tue 4/2/20	Thu 20/2/20	
14 1	7.7 10.9.1	drill, install steel bars and grout soil nails (AJ01-18, Y01-07, AH01-18, X01-08)	8 days	Tue 4/2/20	Wed 12/2/20	
415 1	7.7.10.9.2	TDR Test (including test & wait issue resull)	2 days	Thu 13/2/20	Fri 14/2/20	
	7.7.10.9.3	soil nail head works	5 days	Sat 15/2/20	Thu 20/2/20	
	7.7.10.10 7.7.10.10.1	Phase II drill, install steel bars and grout soil nails	43 days 32 days	Fri 21/2/20 Fri 21/2/20	Wed 15/4/20 Sat 28/3/20	
		(AJ01-18, Y01-07, AH01-18, X01-08)	52 udys	1112112120	38(20)3/20	
	7.7.10.10.2		2 days	Mon 30/3/20	Tue 31/3/20	
	7 7 10 10.3		9 days	Wed 1/4/20	Wed 15/4/20	
	7 7 10 11	Phase III	44 days	Thu 16/4/20	Mon 8/6/20	
122 1	7.7.10.11.1	drill, install steel bars and grout soil nails (AJ01-18, Y01-07, AH01-18, X01-08)	32 days	Thu 16/4/20	Mon 25/5/20	
123 1	7.7.10.11.2	TDR Test (including test & wait issue result)	2 days	Tue 26/5/20	Wed 27/5/20	
1000	7.7.10.11.3		10 days	Thu 28/5/20	Mon 8/6/20	
	7.7.10.12	Phase IV	44 days	Tue 9/6/20	Fri 31/7/20	
426 1	7 7 10.12 1	drill, install steel bars and grout soil nails (AJ01-18, Y01-07, AH01-18, X01-08)	32 days	Tue 9/6/20	Fri 17/7/20	
427 1	7.7.10 12 2	TDR Test (including test & wait issue result)	2 days	Sat 18/7/20	Mon 20/7/20	
428 1	7.7.10.12.3	soil nail head works	10 days	Tue 21/7/20	Fri 31/7/20	
(14) (14) (14)	7,7.10.13	Phase V	44 days	Sat 1/8/20	Mon 21/9/20	
430 1	7.7.10.13.1	drill, install steel bars and grout soil nails (AJ01-18, Y01-07, AH01-18, X01-08)	32 days	Sat 1/8/20	Mon 7/9/20	
431 1	7.7.10.13.2	raking drains	2 days	Tue 8/9/20	Wed 9/9/20	
	7 7 10 13.3	· · · · · · · · · · · · · · · · · · ·	2 days	Thu 10/9/20	Fri 11/9/20	
1000	7.7.10.13.4		8 days	Sal 12/9/20	Mon 21/9/20	
134 1	7.7.10.14	300UC (192m), 300SC (135m) & 2 catchpit	34 days	Tue 22/9/20	Tue 3/11/20	
435 1	7.7.10.15	berm with handrailing C2409H	9 days	Wed 4/11/20	Fri 13/11/20	
436 1	7 7 10 16	600mm width concrete maintenance staircase with handrailing	15 days	Sat 14/11/20	Tue 1/12/20	
438 1	7.7.11	Slopeworks: - 3NW-C/C231 (ch1220-1240N/B)	415 days	Thu 12/9/19	Wed 3/2/21	
439 1	7.7.11.1	hoarding & fencing	12 days	Thu 12/9/19	Thu 26/9/19	
440 1	7.7.11.2	temporary scaffolding	14 days	Fri 27/9/19	Tue 15/10/19	
P	7.7.11.3			Wed 16/10/19		
		relict discontinuities (AS2-A,B, AS2-A,B)	,			
442 1	7.7.11.4	trial pits (A1, A2, A3)	8 days	Mon 28/10/19	Tue 5/11/19	
443 1	7.7.11.5	slope excavation works	1 day	Wed 6/11/19	Wed 6/11/19	r,
444 1	7.7.11.6	Phase I	20 days	Thu 7/11/19	Fri 20/11/10	
	771161	install test nails PN41-42 & pull out tests	7 days		Thu 14/11/19	
446 1	7.7.11.6.2	drill, install steel bars and grout soil nails (BP01-08, BT01-05, BN01-08, BS01-08))	8 days	Fri 15/11/19	Sat 23/11/19	
447 1	7.7.11.6.3	TDR Test (including test & wait issue result)	2 days	Mon 25/11/19	Tue 26/11/19	
448 1	7.7.11.6.4	soil nail head works	3 days	Wed 27/11/19	Fri 29/11/19	
449 1	7.7.11.7	Phase II	28 days	Sat 30/11/19	Sat 4/1/20	
450 1	7.7.11.7.1	install test nails PN43-44 & pull out tests	6 days	Sat 30/11/19	Fri 6/12/19	±
451 1	7.7.11.7.2	drill, install steel bars and grout soil nails (BM01-09, BR01-13, BL01-09, BQ01-22)	14 days	Sat 7/12/19	Mon 23/12/19	
452 1	7.7.11.7.3	(BM01-09, BR01-13, BL01-09, BQ01-22)	2 days	Tue 24/12/19	Fri 27/12/19	
	7.7.11.7.4	soil nail head works		Sat 28/12/19	Sat 4/1/20	
	7.7.11.8	Phase III	29 days	Mon 6/1/20	Tue 11/2/20	
10	7.7.11.8.1	install test nails PN45-46 & pull out tests		Mon 6/1/20	Sat 11/1/20	A contract of the second s



No.         No. <th>Date         Description         Date         Description         <thdescription< th="">         Description         Descript</thdescription<></th> <th>nme 2020)</th>	Date         Description         Date         Description         Description <thdescription< th="">         Description         Descript</thdescription<>	nme 2020)
20       70.40       70	101         1111         111         111         111 <th>Apr 12 May 2 Jun 1 23 Jun 14 Jul 4 Apr 25 Apr 15 Sam 6 Oct 127 Oct 17 No. 9 Th - 100 D 10 F.</th>	Apr 12 May 2 Jun 1 23 Jun 14 Jul 4 Apr 25 Apr 15 Sam 6 Oct 127 Oct 17 No. 9 Th - 100 D 10 F.
1000         1000 <td< th=""><th>1011         2.111         Provide Trans Prov</th><th></th></td<>	1011         2.111         Provide Trans Prov	
Bits         Table         Table <tht< td=""><td>Web         Web         Web&lt;         Web         Web&lt;         Web&lt;</td><td></td></tht<>	Web         Web<         Web         Web<	
Image: No. 10.         Image:	Image learners with PMA-04 A pulsations       ft.day       M. ed 10200       The 18020         Idea       J. 1112       Other pulsations with service pulsations       J. 2019       M. ed 10200       The 18020         Idea       J. 2014 J. 201	
V1 72.92       V1 72.92 <td< td=""><td>V21-92         cth meal area large and grow solinals (2011) E2015, E</td><td></td></td<>	V21-92         cth meal area large and grow solinals (2011) E2015, E	
Note         Total S         Total S <thtotal s<="" th=""> <thtotal s<="" th=""> <thtota< td=""><td>Bit II.1.2.07.04         Bit II.1.2.07.04         Bit II.1.2.07.04         Bit II.1.2.07.04           Bit II.1.2.07.04         Bit II.1.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.2.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.0.07.04.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.1.0.07.04.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.0.07.04.04.07.04         Bit II.1.0.07.04.04.07.04         Bit II.1.0.07.04.04.07.04           Bit II.1.0.07.04.04.07.04.04.07.04.04.07.04         Bit II.1.0.07.04.04.07.04         Bit II.1.0.07.04.04.07.04</td><td></td></thtota<></thtotal></thtotal>	Bit II.1.2.07.04         Bit II.1.2.07.04         Bit II.1.2.07.04         Bit II.1.2.07.04           Bit II.1.2.07.04         Bit II.1.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.2.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.0.07.04.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.1.0.07.04.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04         Bit II.1.0.07.04           Bit II.1.0.07.04.04.07.04         Bit II.1.0.07.04.04.07.04         Bit II.1.0.07.04.04.07.04           Bit II.1.0.07.04.04.07.04.04.07.04.04.07.04         Bit II.1.0.07.04.04.07.04         Bit II.1.0.07.04.04.07.04	
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464       71712       01 Augli lake Cange Oper La India       20.9       96.950.00       94.950.00         465       71713       100 Cange Cange Oper La India       20.9       94.950.00       101.000         466       71714       100 Cange Cange Oper La India       20.9       94.950.00       101.000         466       71714       100 Cange Cange Oper La India       20.9       94.950.00       101.000         471714       100 Cange Oper La India       20.9       101.000       101.000       101.000       101.000         471714       100 Cange Oper La India       20.9       101.000       101.000       101.000       101.000       101.000         471714       100 Cange Oper La India       20.9       101.000       101.0	Part Part Part Part Part Part Part Part	
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View         Preson W         Preson W <th< td=""><td>Image       Transmit       Prace Mill       Prace Mill</td><td></td></th<>	Image       Transmit       Prace Mill	
90       710.1       apple tabula sacing out similaries       2000       To 1900       00.41900         90       710.1       2001 tabula society       2000       101000       00.1100 <td< td=""><td>Image       Table 1       State 1</td><td></td></td<>	Image       Table 1       State 1	
Image: Provide Source	(AM17 24, AC12, A)         (AV17 24, AC12, A)         (AV17 24, AC12, A)           (AV1112)         TDR Test (redufing lest A with issue mould)         2 days         Thu 116,200         Fri 12620           (AV1112)         TDR Test (redufing lest A with issue mould)         2 days         Sta 13670         Fri 12620           (AV1112)         TPL Test (redufing lest A with issue mould)         2 days         Sta 20820         Sta 198720           (AV1112)         rabing dama         2 days         Sta 20820         Sta 198720         Thu 9720           (AV1112)         rabing dama         2 days         Sta 20820         Sta 198720         Thu 9720           (AV1112)         rabing dama         6 days         Mat 19720         Sta 19720         Sta 19720           (AV1112)         rabing dama         6 days         Mat 19720         Sta 19720         Sta 19720           (AV1112)         rabing dama         6 days         Mat 19720         Sta 19720         Sta 19720           (AV1113)         rabing dama         1 day         Mat 19720         Sta 19720         Sta 19720           (AV114)         sta 11 dat works         7 day         Thu 11620         Mat 19820         Mat 19820           (AV114)         sta 10 dat works         7 day         Thu	
Virtual         Mathematication         Game         Set 1980         Fee 1980           Virtual         Preak W         2000         Set 1980         Set 19800         Set 19800         Set	IPACE       IPACE <th< td=""><td></td></th<>	
View         Phase VII         Pha	123       17.112       Phase VI       23 day       Sat 20620       Sat 20620         124       17.112       raking data       14 day       Sat 20620       Wed 87700         126       17.112       raking data       14 day       Sat 20620       Wed 87700         127       17.112       raking data       16 day       Tu 97700       Sat 10700         127       17.112       raking data       16 day       Men 207700       Sat 10700         127       17.112       raking data       8 days       Men 207700       Sat 187000         127       17.113       TDA Tast (including sat 3 wait saue result)       2 days       Tu 10820       Men 207700       Sat 887000         1280       17.113.2       raking datais       1 day       Men 10820       Men 207700       Sat 88700         1280       17.113.2       raking datais       1 day       Men 10820       Men 207700       Sat 88700         1281       17.113.2       raking datais       1 day       Men 10820       Men 207700       Sat 88700         1284       17.114.2       ben with handraling C24091       1 day       Tu 11820       Tu 201700         1284       17.114.2       ben with handraling C24091       1 day	
Winds       Winds       Mining and point open a	HP4       172.11.2.1       aff. pread tech bas and pour serialing (ASD1-19, ARD1-01), ARD1-01), ARD1-01, AR	
Visit - 4, Arbit - 4,	Image: (ASU119, AT01-11, AQ01-19, AT01-37)           Image: ADD Control (Control (Contro) (Contro) (Control (Control (Control (Control (Control (Control	
Vision         Vision<	IPR0       IT2A1:2.3       TDR Test (including lest & will issue result)       2 days       Fit 107/20       Sat 117/20         IPR0       IPR1.112       all an head works       6 days       Min 107/20       Sat 117/20         IPR0       IPR1.112       all an head works       6 days       Min 107/20       Sat 117/20         IPR0       IPR1.112       all head works       1 day       Min 108/20       Sat 187/20         IPR0       IPR1.112       anking drams       1 day       Min 108/20       Sat 187/20         IPR0       IPR1.112       anking drams       1 day       Min 108/20       Min 108/20         IPR1.112       anking drams       1 day       Min 108/20       Min 108/20       Min 108/20         IPR1.113       TDR Test (including lest & wait issue result)       2 days       Tin 118/20       Wed 128/20         IPR1.113       Dim with hardraling C2409H       12 days       Wed 211/120       Tin 511/120       Wed 111/120         IPR1.115       pasament of no-fine concrete       6 days       Tin 511/120       Fire 611/20       Fire 611/20       Fire 611/20         IPR1.116       pasament of no-fine concrete       1 day       Tin 511/20       Fire 611/20       Fire 611/20       Fire 611/20         IPR1.116	
7177       27.13.2       spin land service       6.0 spin       Min 139720       Set 8720         7178       77.13.4       spin land service are grant white here are white here are white here are grant white here are grant white here are grant white here are whith here are white here are whith here are white here are	Instruction       Instruction       Set days       Mon 137/20       Set 187720         Instruction       Phase VIII       28 days       Mon 207/20       Tu 20820         Instruction       Instruction       Instruction       Set 187720       Tu 20820         Instruction       Instruction       Instruction       Set 187720       Set 187720         Instruction       Instruction       Instruction       Set 187720       Tu 20820         Instruction       Instruction       Instruction       Set 187720       Set 187720       Set 187720         Instruction       Instruction       Instruction       Instruction       Set 187720       Set 187720       Set 187720         Instruction       Instruction       Instruction       Instruction       Set 187720       Set 187720       Set 187720       Set 187720         Instruction       Instruction       Instruction       Instruction       Set 187720       S	
Virve         Virve <th< td=""><td>172 11.31         Phase VII         28 days         Mon 20/7/20         Tu 208/20           173 11.31         official state and grout soil nails (AU011-6, APC106, AU11-15, AM01-08, AUC1-16)         Mon 100/7/20         Sat B8/20           174 11.32         raking drains         1 day         Mon 100/7/20         Sat B8/20           174 11.32         raking drains         1 day         Mon 100/7/20         Won 100/7/20           174 173 100         2001 (240m) (with upstature recur)         2 days         Tue 110/20         Wed 120/20           174 173 100         2001 (240m) (with upstature recur)         7 days         Tue 110/20         Wed 120/20           174 173 100         2001 (240m) (with upstature recurre recurs)         2 days         Tue 110/20         Wed 110/120           174 174 10         2001 (240m) (with upstature recurre recurs)         2 days         Tue 511/20         Wed 111/120           174 174 10         2001 (240m) (with upstature recurs)         2 days         Sat 711/20         Sat 711/20           174 174 10         2001 (240m) (with upstature recurs)         2 days         Sat 711/20         Sat 711/20           174 175 1115 1         Berporary out &amp; excavation of sail         1 day         Sat 711/20         Sat 711/20           174 175 1116 1         Berporary out &amp; excavation of sail<td></td></td></th<>	172 11.31         Phase VII         28 days         Mon 20/7/20         Tu 208/20           173 11.31         official state and grout soil nails (AU011-6, APC106, AU11-15, AM01-08, AUC1-16)         Mon 100/7/20         Sat B8/20           174 11.32         raking drains         1 day         Mon 100/7/20         Sat B8/20           174 11.32         raking drains         1 day         Mon 100/7/20         Won 100/7/20           174 173 100         2001 (240m) (with upstature recur)         2 days         Tue 110/20         Wed 120/20           174 173 100         2001 (240m) (with upstature recur)         7 days         Tue 110/20         Wed 120/20           174 173 100         2001 (240m) (with upstature recurre recurs)         2 days         Tue 110/20         Wed 110/120           174 174 10         2001 (240m) (with upstature recurre recurs)         2 days         Tue 511/20         Wed 111/120           174 174 10         2001 (240m) (with upstature recurs)         2 days         Sat 711/20         Sat 711/20           174 174 10         2001 (240m) (with upstature recurs)         2 days         Sat 711/20         Sat 711/20           174 175 1115 1         Berporary out & excavation of sail         1 day         Sat 711/20         Sat 711/20           174 175 1116 1         Berporary out & excavation of sail <td></td>	
489       72.113.1       vel       vel       vel       15 egs       A001 6 ags         489       72.113.2       radiu datie       16 egs       Mon 106/00       Mon 106/00         480       72.113.2       radiu datie       16 egs       Mon 106/00       Mon 106/00         480       72.113.2       radiu datie       16 egs       Mon 106/00       Mon 106/00         480       72.113.2       radiu datie       76 m       Th 105/00       Mon 106/00         481       72.113       radiu datie       76 m       Th 105/00       Th 105/00       Th 105/00         481       72.114       sage 1       radiu datie       76 m       Th 105/00       Th 105/00       Th 105/00         481       72.114       sage 1       radiu datie       Th 105/00       Wel 111/10       Wel 111/10       Wel 111/10         481       72.115       sage 1       radiu datie       Th 105/00       Wel 111/10	1479       7.11.31       diff. install steel bars and grout soli nails (AND 115, APC) -09, ALD 1-15, AND 1-09, AND 1-15       18 days       Mon 108/20       Sal 88/20         1480       7.11.132       raking drains       1 day       Mon 108/20       Won 108/20         1481       7.11.133       TDR Test (Including test & wait issue result)       2 days       Tu 118/20       Wod 12/8/20         1483       7.11.14       Soll cal Med works       7 days       Tu 118/20       Tu 20/8/20         1484       7.11.15       Soll regionement ty no-line concrete       6 days       Tu 111/20       Wed 11/11/20         1485       7.11.15       soll regionement ty no-line concrete       6 days       Tu 511/20       Fie 611/20         1486       7.11.15       soll regionement of no-fine concrete       6 days       Tu 511/20       Fie 611/20         1487       7.11.15       soll regionement of no-fine concrete       1 day       Mon 11/120       Fie 611/20         1488       77.11.15       soll regionement of no-fine concrete       1 day       Mon 11/120       Fie 611/120         1490       17.11.16.2       temporary cl & excavation of soil       1 day       Mon 11/120       Mon 11/120         1491       17.11.16.3       temporary cl & excavation of soil       1 day	
VANUE: 18         VANUE: 18 <t< td=""><td>International International Internatinenancel International International Internati</td><td></td></t<>	International Internatinenancel International International Internati	
High       77.11.3.1       TDA Test (including les) & wait sources)       2 days       Tu 11.020       Weid 128202         High       77.11.3       solital head works       7 day       Tu 13.020       Thu 23.020         High       77.11.9       solital head works       7 day       Thu 23.020         High       77.11.9       solital head works       7 day       Thu 23.020         High       77.11.9       solital head works       6 day       Thu 11.100         High       77.11.9       solital head works       6 day       Thu 11.100         High       77.11.9       solital head works       7 day       Thu 11.100       Head Thu 11.100         High       77.11.9       solital head works       Thu 11.100       Heid Thu 11.100         High       77.11.9       solital head works       Thu 11.100       Heid Thu 11.100         High       77.11.9       solital head works       Thu 11.100       Heid Thu 11.100         High       77.11.9       Heid Thu 11.100       Heid Thu 11.100       Heid Thu 11.100         High       Heid Thu 11.100       Heid Thu 11.100       Heid Thu 11.100       Heid Thu 11.100         High       Heid Thu 11.100       Heid Thu 11.100       Heid Thu 11.100       Heid Thu 11.100 </td <td>H4H       72.1113.3       TDR Test (including test &amp; well issue result)       2 days       Tue 11/8/20       Wed 12/8/20         H4E       72.1113.4       soll nail head works       7 days       Thu 13/8/20       Thu 20/8/20         H4E       77.1114       soll nail head works       7 days       Thu 13/8/20       Thu 20/8/20         H4E       77.1115       bern with handrailing C24/09H       12 days       Wed 21/1/20       Wed 41/1/20         H4E       77.1115       bern with handrailing C24/09H       12 days       Wed 21/1/20       Wed 41/1/20         H4E       77.1115       bern with handrailing C24/09H       12 days       Thu 51/1/20       Wed 11/1/1/20         H4E       77.1116       bern with handrailing C24/09H       12 days       Thu 51/1/20       Wed 11/1/1/20         H4E       77.1116.1       bern with handrailing C24/09H       12 days       Thu 51/1/20       Wed 11/1/1/20         H4E       77.1116.1       pagement of no-fine concrete       1 day       Thi 61/1/20       Wed 11/1/1/20         H4E       77.1116.2       stage 2       2 days       Tue 10/11/20       Wed 11/11/20         H4E       77.1116.2       stage 3       2 days       Thu 10/11/20       Wed 11/11/20         H4E       77.1116.3<td></td></td>	H4H       72.1113.3       TDR Test (including test & well issue result)       2 days       Tue 11/8/20       Wed 12/8/20         H4E       72.1113.4       soll nail head works       7 days       Thu 13/8/20       Thu 20/8/20         H4E       77.1114       soll nail head works       7 days       Thu 13/8/20       Thu 20/8/20         H4E       77.1115       bern with handrailing C24/09H       12 days       Wed 21/1/20       Wed 41/1/20         H4E       77.1115       bern with handrailing C24/09H       12 days       Wed 21/1/20       Wed 41/1/20         H4E       77.1115       bern with handrailing C24/09H       12 days       Thu 51/1/20       Wed 11/1/1/20         H4E       77.1116       bern with handrailing C24/09H       12 days       Thu 51/1/20       Wed 11/1/1/20         H4E       77.1116.1       bern with handrailing C24/09H       12 days       Thu 51/1/20       Wed 11/1/1/20         H4E       77.1116.1       pagement of no-fine concrete       1 day       Thi 61/1/20       Wed 11/1/1/20         H4E       77.1116.2       stage 2       2 days       Tue 10/11/20       Wed 11/11/20         H4E       77.1116.2       stage 3       2 days       Thu 10/11/20       Wed 11/11/20         H4E       77.1116.3 <td></td>	
NR8       T7.11.34       social head works       7 days       Thu 138/20       Thu 238/20         NR8       T7.11.44       social head works       7 days       Thu 138/20       Thu 238/20         NR8       T7.11.40       Social head works       7 days       Thu 238/20       Thu 238/20         NR8       T7.11.40       Social head works       7 days       Thu 238/20       Thu 238/20         NR8       T7.11.41       Social head works       7 days       Thu 238/20       Thu 238/20         NR8       T7.11.42       Social head works       7 days       Thu 238/20       Wei 4/11/20         NR8       T7.11.41       Social head works       7 days       Thu 511/20       Field 11/20         NR8       T7.11.42       Social head works       7 days       Thu 511/20       Field 11/20         NR8       T7.11.43       Social head works       7 days       Social 11/120       Men 911/20         NR8       T7.11.43       Social head works       7 days       Social 11/120	1442       77.11.13.4       soli nail head works       7 days       Thu 13/8/20       Thu 20/8/20         1443       77.11.14       300/UC (240m) (with upstand (C2509A)), 300SC       50 days       Fn 21/8/20       Tue 20/10/20         1444       77.11.15       berm with hardraling C2409H       12 days       Wed 21/10/20       Wed 21/11/20         1445       77.11.16       soli replacement by no-fine concrete       6 days       Tu 5/11/20       Wed 11/11/20         1446       77.11.16.1       stage 1       2 days       Thu 5/11/20       Fi 6/11/20         1447       77.11.16.1       temporary cut & excavalion of soli       1 day       Thu 5/11/20       Fi 6/11/20         1448       77.11.16.2       stage 2       2 days       St 7/11/20       Mon 9/11/20         1449       17.11.16.2       temporary cut & excavalion of soli       1 day       St 7/11/20       Mon 9/11/20         1449       17.11.16.3       temporary cut & excavalion of soli       1 day       Tue 10/11/20       Wed 11/11/20         1449       17.11.16.3       temporary cut & excavalion of soli       1 day       Tue 10/11/20       Wed 11/11/20         1449       17.11.16.3       temporary cut & excavalion of soli       1 day       Tue 10/11/20       Wed 11/11/20	
148       77.114       3000 (2 down) (with usedand (2 2694)), 3005       50 days       Fi 218.20       Tue 2010/20         1486       77.114       and replacement by no-fine concrete       6 days       Thue 511.20       Wed 1111120         1486       77.114       and replacement by no-fine concrete       6 days       Thue 511.20       Fine 111.20         1486       77.114       and replacement by no-fine concrete       1 day       Thue 511.20       Fine 111.20         1486       77.114       and replacement of no-fine concrete       1 day       Fine 111.20       Fine 111.20         1486       77.1145       astage 2       2 days       Sig 711.20       Fine 111.20         1490       77.1145       astage 2       2 days       Sig 711.20       Non 911.20         1490       77.1145       astage 1       1 day       Non 911.20       Non 911.20         1490       77.1145       astage 1       1 day       Non 911.20       Non 911.20         1490       77.1145       astage 1       3 day       Thue 121.102       Fine 111.20         1490       77.1145       stage 1       3 day       Non 911.20       Non 911.20         1490       77.1145       stage 1       3 day       Non 911.102 <t< td=""><td>1483       77.11.14       300UC (240m) (with upstand (C2509A)), 300S       50 days       Fri 21/8/20       Tue 201/020         1484       77.21.15       berm with handralling (C2409H       12 days       Wed 21/10/20       Wed 11/11/20         1485       77.21.16       soil replacement by no-fine concrete       6 days       Thu 5/11/20       Fri 6/11/20         1486       77.21.16.1       stage 1       2 days       Thu 5/11/20       Fri 6/11/20         1487       77.21.16.2       temporary cut &amp; excavation of soil       1 day       Thu 5/11/20       Fri 6/11/20         1488       17.21.16.2       stage 2       2 days       Sat 7/11/20       Sat 7/11/20         1490       17.21.16.2       temporary cut &amp; excavation of soil       1 day       Mon 9/11/20       Mon 9/11/20         1490       17.21.16.3       stage 3       2 days       Tru 10/11/20       Won 9/11/20         1490       17.21.16.3       stage 3       2 days       Tru 10/11/20       Wed 11/11/20         1491       17.21.16.3       temporary cut &amp; excavation of soil       1 day       Won 9/11/20       Mon 9/11/20         1492       17.21.16.3       stage 3       2 days       Tru 10/11/20       Wed 11/11/20         1492       17.21.16.3       <t< td=""><td></td></t<></td></t<>	1483       77.11.14       300UC (240m) (with upstand (C2509A)), 300S       50 days       Fri 21/8/20       Tue 201/020         1484       77.21.15       berm with handralling (C2409H       12 days       Wed 21/10/20       Wed 11/11/20         1485       77.21.16       soil replacement by no-fine concrete       6 days       Thu 5/11/20       Fri 6/11/20         1486       77.21.16.1       stage 1       2 days       Thu 5/11/20       Fri 6/11/20         1487       77.21.16.2       temporary cut & excavation of soil       1 day       Thu 5/11/20       Fri 6/11/20         1488       17.21.16.2       stage 2       2 days       Sat 7/11/20       Sat 7/11/20         1490       17.21.16.2       temporary cut & excavation of soil       1 day       Mon 9/11/20       Mon 9/11/20         1490       17.21.16.3       stage 3       2 days       Tru 10/11/20       Won 9/11/20         1490       17.21.16.3       stage 3       2 days       Tru 10/11/20       Wed 11/11/20         1491       17.21.16.3       temporary cut & excavation of soil       1 day       Won 9/11/20       Mon 9/11/20         1492       17.21.16.3       stage 3       2 days       Tru 10/11/20       Wed 11/11/20         1492       17.21.16.3 <t< td=""><td></td></t<>	
item         item <th< td=""><td>(160m) &amp; catchpil 9 nos.         1444       17.311.5       berm with handralling C2409H       12 days       Wed 21/10/20       Wed 4/11/20         1485       17.211.36       soil replacement by no-fine concrete       6 days       Thu 5/11/20       Wed 11/11/20         1486       17.211.36.1       stage 1       2 days       Thu 5/11/20       Fri 6/11/20         1488       17.211.36.1       temporary cut &amp; excavation of soil       1 day       Thu 5/11/20         1489       17.211.36.2       stage 2       2 days       Sat 7/11/20         1490       17.211.36.3       stage 3       2 days       Sat 7/11/20         1490       17.211.36.3       stage 3       2 days       Tu 10/11/20         1490       17.211.36.3       stage 3       2 days       Tu 10/11/20         1490       17.211.36.3       temporary cut &amp; excavation of soil       1 day       Tu 10/11/20         1490       17.211.36.3       temporary cut &amp; excavation of soil       1 day       Tu 10/11/20         1490       17.211.36.3       temporary cut &amp; excavation of soil       1 day       Tu 10/11/20         1493       17.211.37.4       stage 1       3 days       Tu 10/11/20       Fri 4/12/20         1494       17.211.37.3</td><td></td></th<>	(160m) & catchpil 9 nos.         1444       17.311.5       berm with handralling C2409H       12 days       Wed 21/10/20       Wed 4/11/20         1485       17.211.36       soil replacement by no-fine concrete       6 days       Thu 5/11/20       Wed 11/11/20         1486       17.211.36.1       stage 1       2 days       Thu 5/11/20       Fri 6/11/20         1488       17.211.36.1       temporary cut & excavation of soil       1 day       Thu 5/11/20         1489       17.211.36.2       stage 2       2 days       Sat 7/11/20         1490       17.211.36.3       stage 3       2 days       Sat 7/11/20         1490       17.211.36.3       stage 3       2 days       Tu 10/11/20         1490       17.211.36.3       stage 3       2 days       Tu 10/11/20         1490       17.211.36.3       temporary cut & excavation of soil       1 day       Tu 10/11/20         1490       17.211.36.3       temporary cut & excavation of soil       1 day       Tu 10/11/20         1490       17.211.36.3       temporary cut & excavation of soil       1 day       Tu 10/11/20         1493       17.211.37.4       stage 1       3 days       Tu 10/11/20       Fri 4/12/20         1494       17.211.37.3	
1488       172.11.18       solid replacement by no-fine concrute       6 days       Thu 51/12.0       Frie 51/12.0         1486       172.11.18.1       stage 1       2 days       Thu 51/12.0       Frie 51/12.0         1486       172.11.18.1       stage range	1485       17.7.11.36       soil replacement by no-fine concrete       6 days       Thu 5/11/20       Wed 11/11/20         1486       17.2.11.61       stage 1       2 days       Thu 5/11/20       Fri 6/11/20         1487       17.7.11.61       temporary cut & excavalion of soil       1 day       Thu 5/11/20       Thu 5/11/20         1488       17.7.11.62       temporary cut & excavalion of soil       1 day       Fri 6/11/20       Fri 6/11/20         1489       17.7.11.62       stage 2       2 days       Sat 7/11/20       Sat 7/11/20         1490       17.7.11.62       temporary cut & excavation of soil       1 day       Mon 9/11/20         1490       17.7.11.63       stage 3       2 days       Tu 10/11/20       Wed 11/11/20         1490       17.7.11.63       temporary cut & excavation of soil       1 day       Mon 9/11/20         1493       17.7.11.63       stage 3       2 days       Tu 10/11/20       Tu 10/11/20         1494       17.7.11.63       temporary cut & excavation of soil       1 day       Wed 11/11/20         1495       17.7.11.64       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1495       17.7.11.71       stage 2       3 days       Mon 16/11/20       Wed 18/11	
HARE       17211.81       stage 1       2 days       Thu 5/11/20       Fif 6/11/20         HARE       17211.84       temporary cut & excavation of soil       1 day       Thu 5/11/20       Thu 5/11/2	1486       17.7.1116.1       stage 1       2 days       Thu 5/11/20       Fri 6/11/20         1487       17.7.1116.1       temporary cut & excavation of soil       1 day       Thu 5/11/20       Thu 5/11/20         1488       17.7.1116.2       placement of no-fine concrete       1 day       Fri 6/11/20       Fri 6/11/20         1489       17.7.1116.2       stage 2       2 days       Sta 7/11/20       Mon 9/11/20         1490       17.7.1116.2       temporary cut & excavation of soil       1 day       Sta 7/11/20       Mon 9/11/20         1490       17.7.1116.2       temporary cut & excavation of soil       1 day       Mon 9/11/20       Mon 9/11/20         1490       17.7.1116.3       temporary cut & excavation of soil       1 day       Wed 11/11/20       Mon 9/11/20         1493       17.7.1116.3       temporary cut & excavation of soil       1 day       Wed 11/11/20       Mon 9/11/20         1494       17.7.1116.3       placement of no-fine concrete       1 day       Wed 11/11/20       Fri 4/12/20         1495       17.7.1116.3       placement of no-fine concrete       1 day       Wed 11/11/20       Fri 4/12/20         1496       17.7.1117       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         149	
1481       17.11.15.1       importany cut & excavation of soil       1 day       Thu 5/11/20       Thu 5/11/20         1486       17.21.11.61       placement of no-fine concrete       1 day       Fh 6/11/20       Fi 6/11/20         1480       17.21.11.62       importany cut & excavation of soil       1 day       S 17/11/20       Mon 9/11/20         1480       17.21.11.62       importany cut & excavation of soil       1 day       S 17/11/20       Mon 9/11/20         1491       17.21.11.62       importany cut & excavation of soil       1 day       S 17/11/20       Mon 9/11/20         1492       17.21.11.63       importany cut & excavation of soil       1 day       No 9/11/20       Mon 9/11/20         1492       17.21.11.63       importany cut & excavation of soil       1 day       No 9/11/20       No 9/11/20         1493       17.21.11.63       importany cut & excavation of soil       1 day       No 9/11/20       No 9/11/20         1494       17.21.11.23       ippacement of no-fine concrete       1 day       No 9/11/20       No 9/11/20         1494       17.21.11.24       ispace 2       3 days       No 10/11/20       Wel 11/11/20         1494       17.21.11.24       ispace 2       3 days       No 10/11/20       Wel 11/11/20	1487       17.2,111.61       temporary cut & excavation of soil       1 day       Thu 5/11/20       Thu 5/11/20         1488       17.2,111.61       placement of no-fine concrete       1 day       Fri 6/11/20       Fri 6/11/20         1489       17.2,111.62       stage 2       2 days       Sat 7/11/20       Mon 9/11/20         1490       17.2,111.62       temporary cut & excavation of soil       1 day       Sat 7/11/20       Sat 7/11/20         1491       17.2,111.62       placement of no-fine concrete       1 day       Sat 7/11/20       Sat 7/11/20         1492       17.2,111.63       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1493       17.2,111.63       temporary cut & excavation of soil       1 day       Tue 10/11/20       Wed 11/11/20         1494       17.2,11.163       temporary cut & excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1495       17.2,11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1496       17.2,11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1497       17.2,11.17.3       stage 3       2 days       Sat 21/11/20       Kat 14/120         1498       17.2,11.17.4	
1488       172.11.16.1       pbcsment of no-fine concrete       1 day       Fi 6/1120       Fi 6/1120         1489       172.11.16.2       stage 2       2 days       Sat 7/1120       Mon 9/1120         1490       172.11.16.2       pbcsment of no-fine concrete       1 day       Mon 9/1120       Mon 9/1120         1490       172.11.16.3       stage 3       2 days       Sat 7/1120       Mon 9/1120       Won 9/1120         1490       172.11.16.3       stage 3       2 days       Tue 10/1120       Wot 11/1120       Wot 11/1120         1490       172.11.16.3       temporary cul & excavation of soil       1 day       Wot 11/1120       Wot 11/1120         1490       172.11.16.3       temporary cul & excavation of soil       1 day       Wot 11/1120       Wot 11/1120         1490       172.11.16.3       temporary cul & excavation of soil       1 day       Wot 11/1120       Wot 11/1120         1490       172.11.7.1       stage 1       3 days       Tuu 12/1120       Sat 14/1120       Fi 4/1220         1490       172.11.7.1       stage 4       2 days       Tuu 12/1120       Sat 14/1120       Wot 18/1120         1490       172.11.7.1       stage 6       2 days       Tuu 12/1120       Sat 14/1120       Wot 28/11	1488       177.11.16.1       placement of no-fine concrete       1 day       Fri 6/11/20       Fri 6/11/20         1489       177.11.16.2       stage 2       2 days       Sat 7/11/20       Mon 9/11/20         1490       172.11.16.2       temporary cut & excavation of soil       1 day       Sat 7/11/20       Sat 7/11/20         1490       172.11.16.2       placement of no-fine concrete       1 day       Mon 9/11/20       Mon 9/11/20         1492       177.11.16.3       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1493       177.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       177.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1495       177.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Fri 4/12/20         1496       177.11.17.3       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       177.11.17.2       stage 3       2 days       Tue 19/11/20       Fri 4/12/20         1499       177.11.17.4       stage 4       2 days       Sat 2/11/20       Mon 3/11/20         14999       177.11.17.4       s	
1489       177.111.15.2       stage 2       2 day       Sat 7/11/20       Mon 9/11/20         1490       172.111.62       temporary cut 8 excavation of soil       1 day       Sat 7/11/20       Sat 7/11/20         1490       172.111.63       stage 3       2 days       Tue 10/11/20       Won 9/11/20         1491       172.111.63       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1491       172.111.63       temporary cut 8 excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1494       172.111.63       temporary cut 8 excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1494       172.111.63       temporary cut 8 excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1494       172.111.73       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1494       172.111.73       stage 2       3 days       Mon 32/11/20       Fit 22/11/20         1495       172.111.73       stage 2       2 days       Tue 9/11/20       Fit 22/11/20         1504       172.111.74       stage 5       2 days       Tue 9/11/20       Fit 22/11/20         1504       172.111.74       stage 6       2 days	1489       177.11.16.2       stage 2       2 days       Sat 7/11/20       Mon 9/11/20         1490       172.11.16.2       temporary cut & excavation of soil       1 day       Sat 7/11/20       Sat 7/11/20         1491       172.11.16.2       placement of no-fine concrete       1 day       Mon 9/11/20       Mon 9/11/20         1492       177.11.16.3       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1493       177.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       177.11.16.3       temporary cut & excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1495       177.11.16.3       temporary cut & excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1495       177.11.16.3       temporary cut & excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1495       177.11.17.4       stage 1       3 days       Thu 12/11/20       Fri 4/12/20         1496       177.11.17.4       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1497       177.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1499       177.11.17.4 <td></td>	
1480       17.11.16.2       Lemporary cut & excavalion of soil       1 day       Sat 7/11.20       Sat 7/11.20         1490       17.21.116.3       stage 3       2 days       Tur 10/11.20       Won 9/11/20         1491       17.21.116.3       stage 3       2 days       Tur 10/11/20       Wed 11/11/20         1492       17.21.116.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       17.21.116.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1496       17.21.11.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1496       17.21.11.3       placement of no-fine concrete       1 day       Ked 11/11/20       Wed 11/11/20         1497       17.21.11.7.3       stage 1       3 days       Thu 12/11/20       Fit 4/12/20         1498       17.21.11.7.3       stage 2       3 days       Thu 19/11/20       Wed 18/11/20         1499       17.21.11.7.4       stage 6       2 days       Tur 20/11/20       Wed 28/11/20         1500       17.21.11.7.5       stage 6       2 days       Tur 20/11/20       Wed 32/21         1501       12.11.7.5       stage 6       2 days	1490       17.71.11.62       temporary cut & excavation of soil       1 day       Sat 7/11/20       Sat 7/11/20         1491       17.71.11.62       placement of no-fine concrete       1 day       Mon 9/11/20       Wed 11/11/20         1492       17.71.11.63       stage 3       2 days       Tue 10/11/20       Tue 10/11/20         1493       17.71.11.63       temporary cut & excavation of soil       1 day       Wed 11/11/20       Tue 10/11/20         1494       17.71.11.63       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       17.71.11.63       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1496       17.71.11.73       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1497       17.71.11.71       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.71.11.72       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.71.11.73       stage 4       2 days       Sat 2/111/20       Mon 23/11/20         1499       17.71.11.74       stage 5       2 days       Tue 26/11/20       Fri 27/11/20         1500       17.211.17.6 <t< td=""><td></td></t<>	
1449       17.11.16.2       placement of no-fine concrete       1 day       Mon 9/11/20       Won 9/11/20         1462       17.11.16.3       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1473       17.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Wed 11/11/20         1474       17.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1474       17.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Fit 4/12/20         1476       17.11.17.3       stage 1       3 days       Thu 12/11/20       Fit 4/12/20         1476       17.11.17.3       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1477       17.11.17.3       stage 3       2 days       Tue 19/11/20       Fit 4/12/20         1478       17.11.17.4       stage 5       2 days       Tue 19/11/20       Fit 20/11/20         1470       17.11.17.5       stage 6       2 days       Tue 20/11/20       Mon 32/11/20         1500       17.11.17.5       stage 6       2 days       Tue 20/11/20       Fit 20/11/20         1507       20       seetion 3 of the works - completion of all works       707	1491       17.71.16.2       placement of no-fine concrete       1 day       Mon 9/11/20       Mon 9/11/20         1492       17.71.16.3       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1493       17.71.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       17.71.16.3       temporary cut & excavation of soil       1 day       Wed 11/11/20       Wed 11/11/20         1495       17.71.17.3       placement of no-fine concrete       1 day       Wed 11/11/20       Fit 4/12/20         1496       17.71.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.71.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.71.17.3       stage 3       2 days       Sat 21/11/20       Fit 2/11/20         1499       17.71.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1499       17.71.17.5       stage 5       2 days       Tue 26/11/20       Fit 27/11/20         1500       17.71.17.5       stage 6       2 days       Thu 31/5/18       Wed 3/2/21         1501       20       section 3 of the works - Completion of all works	
1492       172.11.16.3       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1493       172.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       172.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       172.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       172.11.17.3       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1496       172.11.17.4       stage 2       3 days       Thu 12/11/20       Sat 14/11/20         1496       172.11.17.3       stage 3       2 days       Thu 12/11/20       Sat 14/11/20         1497       172.11.17.4       stage 3       2 days       Thu 12/11/20       Sat 11/120         1498       172.11.17.4       stage 6       2 days       Thu 2/11/20       Fa 2/11/20         1500       172.11.17.4       stage 6       2 days       Thu 2/11/20       Fa 2/11/20         1500       172.11.17.4       stage 6       2 days       Thu 2/11/20       Fa 2/11/20         1500       172.11.17.4       stage 6       2 days       Thu 2/11/20       <	1492       17.7.11.16.3       stage 3       2 days       Tue 10/11/20       Wed 11/11/20         1493       17.7.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       17.7.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1494       17.7.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       17.7.11.17.       600mm width concrete maintenance staircase       20 days       Thu 12/11/20       Fri 4/12/20         1496       17.7.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.76       stage 6       2 days       Thu 31/5/18       Wed 3/2/21         1507       20       section 3 of the works - Complet	
1493       17.7.1.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20       Tue 10/11/20         1494       17.7.1.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       17.7.1.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Fri 4/12/20         1496       17.7.1.17.1       Stage 1       3 days       Thu 12/11/20       Sai 14/11/20         1497       17.7.1.17.1       stage 2       3 days       Thu 12/11/20       Sai 14/11/20         1497       17.7.1.17.3       stage 4       2 days       Sai 10/11/20       Wed 18/11/20         1499       17.7.1.17.4       stage 4       2 days       Sai 22/11/20       Non 16/11/20         1499       17.7.1.17.5       stage 4       2 days       Sai 22/11/20       Wed 18/11/20         1500       17.7.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1500       17.7.11.17.5       stage 6       2 days       Thu 31/5/18       Wed 32/21         1500       17.1       Parts D       800 days       Mon 26/11/18       Wed 32/21         1500       11.1       access date for section 3 (Parts D) - not more than       0 days	1493       17.7.11.16.3       temporary cut & excavation of soil       1 day       Tue 10/11/20         1494       17.7.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20         1495       17.7.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20         1495       17.7.11.17       600mm width concrete maintenance staircase       20 days       Thu 12/11/20       Fri 4/12/20         1496       17.7.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Wed 25/11/20         1500       17.7.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works       797 days       Thu 31/5/18       Wed 3/2/21	
1494       172.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       172.11.17.1       600mm width concrete maintenance staircase with handralling (C2101D)       20 days       Thu 12/11/20       Fri 4/12/20         1496       172.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       172.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       172.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       172.11.17.4       stage 4       2 days       Tu 24/11/20       Wed 25/11/20         1500       172.11.17.5       stage 6       2 days       Tu 26/11/20       Fri 27/11/20         1500       172.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1500       10.1       parts D       mothers - Completion of all works       797 days       Thu 31/5/18       Wed 3/2/21         1500       10.1       access date for section 3 (Parts D) - not more than       0 days       Mon 26/11/18       Wed 3/2/21	1494       177.11.16.3       placement of no-fine concrete       1 day       Wed 11/11/20       Wed 11/11/20         1495       177.11.17       600mm width concrete maintenance staircase with handrailing (C2101D)       20 days       Thu 12/11/20       Fri 4/12/20         1496       177.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       177.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       177.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       177.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       177.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1500       177.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1500       177.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       177.11.17.6       stage 6       2 days       Thu 31/5/18       Wed 3/2/21         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       Thu 31/5/18       Wed 3/2/21 <td></td>	
1495       17.7.11.17       600mm width concrete maintenance staircase with handrailing (C2101D)       20 days       Thu 12/11/20       Fri 4/12/20         1496       17.7.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.5       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 5       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.5       stage 6       2 days       Thu 21/11/20       Fri 27/11/20         1501       17.7.11.17.5       stage 6       2 days       Thu 21/51/20       Fri 27/11/20         1501       17.7.11.17.5       stage 6       2 days       Thu 31/57/8       Wed 3/2/21       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works       797 days       Thu 31/57/8       Wed 3/2/21       Fri 27/11/20       Fri 27/11/20       Fri 27/11/20 <td>1495       17.7.11.17       600mm width concrete maintenance staircase with handrailing (C2101D)       20 days       Thu 12/11/20       Fri 4/12/20         1496       17.7.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 6       2 days       Tu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1500       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 31/5/18       Wed 3/2/21       Med 3/2/21         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21       Med 3/2/21       Med 3/2/21</td> <td></td>	1495       17.7.11.17       600mm width concrete maintenance staircase with handrailing (C2101D)       20 days       Thu 12/11/20       Fri 4/12/20         1496       17.7.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 6       2 days       Tu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1500       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 31/5/18       Wed 3/2/21       Med 3/2/21         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21       Med 3/2/21       Med 3/2/21	
1496       17.11.17.1       stage 1       3 days       Thu 12/11/20       Sat 14/11/20         1497       17.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1497       17.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.11.17.3       stage 4       2 days       Sat 21/11/20       Wed 18/11/20         1499       17.11.17.5       stage 4       2 days       Sat 21/11/20       Wed 25/11/20         1500       17.21.11.7.5       stage 5       2 days       Thu 21/11/20       Wed 25/11/20         1500       17.21.11.7.6       stage 6       2 days       Thu 21/120       Wed 25/11/20         1500       17.21.11.7.6       stage 6       2 days       Thu 21/120       Wed 25/21/20         1500       17.21.11.7.6       stage 6       2 days       Thu 31/5/18       Wed 32/21         1500       20.1       Parts D and E of the Site       Wed 32/21       Wed 32/21         1500       20.1       access date for section 3 (Parts D) - not more than       0 days       Mon 26/11/18       Mon 26/11/18	1496       17.7.11.17.1       stage 1       3 days       Thu 12/11/20       Sai 14/11/20         1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.6       stage 5       2 days       Tue 24/11/20       Wed 25/11/20         1500       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21	
1497       17.711.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.711.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.711.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.711.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.711.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.711.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1502       20.1       section 3 of the works - Completion of all works       797 days       Thu 31/5/18       Wed 3/2/21         1503       20.1       access date for section 3 (Parts D) - not more than       0 days       Mon 26/11/18       Mon 26/11/18	1497       17.7.11.17.2       stage 2       3 days       Mon 16/11/20       Wed 18/11/20         1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 5       2 days       Tue 24/11/20       Wed 25/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 31/5/18       Wed 3/2/21         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21	
1498       17.7.11.17.3       stage 3       2 days       Thu 19/1/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 6       2 days       Thu 24/11/20       Wed 25/11/20         1501       17.7.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.5       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       Thu 31/5/18       Wed 3/2/21         1508       20.1       Parts D       800 days       Mon 26/11/18       Wed 3/2/21         1509       20.1.1       access date for section 3 (Parts D) - not more than       0 days       Mon 26/11/18	1498       17.7.11.17.3       stage 3       2 days       Thu 19/11/20       Fri 20/11/20         1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 5       2 days       Tu 24/11/20       Wed 25/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 31/5/18       Wed 3/2/21         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21	
1499       17.7.11.77.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 5       2 days       Tue 24/11/20       Wed 25/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       Thu 31/5/18       Wed 3/2/21         1508       20.1       Parts D       800 days       Mon 26/11/18       Wed 3/2/21         1509       20.1.1       access date for section 3 (Parts D) - not more than 0 days       0 days       Mon 26/11/18	1499       17.7.11.17.4       stage 4       2 days       Sat 21/11/20       Mon 23/11/20         1500       17.7.11.17.5       stage 5       2 days       Tue 24/11/20       Wed 25/11/20         1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21	
1501       17.7.11.17.6       stage 6       2 days       Thu 26/11/20       Fri 27/11/20         1507       20       section 3 of the works - Completion of all works within Parts D and E of the Site       797 days       Thu 31/5/18       Wed 3/2/21         1508       20.1       Parts D       800 days       Mon 26/11/18       Wed 3/2/21         1509       20.1.1       access date for section 3 (Parts D) - not more than 0 days       0 days       Mon 26/11/18	1501         17.7.11.17.6         stage 6         2 days         Thu 26/11/20         Fri 27/11/20           1507         20         section 3 of the works - Completion of all works within Parts D and E of the Site         797 days         Thu 31/5/18         Wed 3/2/21	
1507     20     section 3 of the works - Completion of all works within Parts D and E of the Site     797 days     Thu 31/5/18     Wed 3/2/21       1508     20.1     Parts D     800 days     Mon 26/11/18     Wed 3/2/21       1509     20.1.1     access date for section 3 (Parts D) - not more than 0 days     0 days     Mon 26/11/18	1507 20 section 3 of the works - Completion of all works 797 days Thu 31/5/18 Wed 3/2/21 within Parts D and E of the Site	
within Parts D and E of the Site       1508     20.1     Parts D     800 days     Mon 26/11/18     Wed 3/2/21       1509     20.1.1     access date for section 3 (Parts D) - not more than     0 days     Mon 26/11/18	within Parts D and E of the Site	×
1508         20.1         Parts D         800 days         Mon 26/11/18         Wed 3/2/21           1509         20.1.1         access date for section 3 (Parts D) - not more than 0 days         0 days         Mon 26/11/18         Mon 26/11/18		
1509 20.1.1 access date for section 3 (Parts D) - not more than 0 days Mon 26/11/18 Mon 26/11/18		
180 days after the starting date	1509 20.1.1 access date for section 3 (Parts D) - not more than 0 days Mon 26/11/18 Mon 26/11/18	
	180 days after the starting date	



3 month rolling programme 20201025(end Jul-Oct 20)

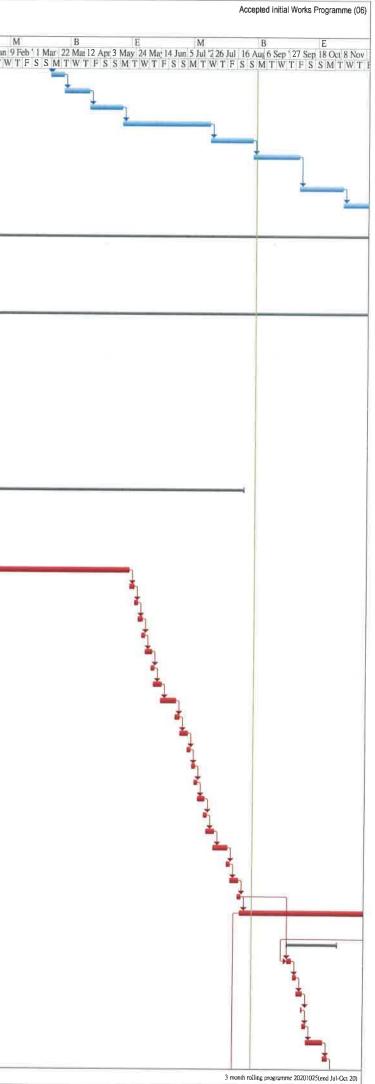
- Infrastructura	of Columbarium at Sandy Ridge Cemetery I Works at Man Kam To Road and Lin Ma Hang Road		1		3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
O WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B
1510 20.1.2	seek specialist for design, supply and installation of the covered walkway	59 days	Tue 27/11/18	Thu 24/1/19	
1511 20.1.3	acceptance of specialist	0 days	Thu 14/2/19	Thu 14/2/19	
1512 20.1.4	design for approval for lighting system for the covered walkway	150 days	Fri 15/2/19	Sun 14/7/19	
1513 20.1.5	submit for approval for lighting system for the covered walkway	0 days	Sun 14/7/19	Sun 14/7/19	
1514 20.1.6	acceptance of lighting system for the covered walkway	0 days	Sun 4/8/19	Sun 4/8/19	
1515 20.1.7	Waikway Coordination with CLP to obtain the electricity supply for the street lighting system (Design for Road B, Road E, Road F(part), Lin Ma Hang Road and Sheung Shui Landmark PTI & Lighting system for the covered walkway)	168 days	Mon 5/8/19	Sun 19/1/20	
1516 20.1.8	design for glazing system of the proposed covered walkway at Fanling Station Road	150 days	Fri 15/2/19	Sun 14/7/19	
1517 20.1.9	submission of glazing system	0 days	Sun 14/7/19	Sun 14/7/19	
1518 20.1.10	acceptance of glazing system and fall arrest system by Project Manager		Sun 4/8/19	Sun 4/8/19	*
1519 20.1.11	design for fall arrest system of the proposed covered walkway at Fanling Station Road	150 days	Fri 15/2/19	Sun 14/7/19	
1520 20.1.12	submission of fall arrest system	0 days	Sun 14/7/19	Sun 14/7/19	
1521 20.1.13	acceptance of fall arrest system by Project Manager		Sun 4/8/19	Sun 4/8/19	
1522 20.1.14	Liaison with MTRC for the works arrangement	30 days	Mon 5/8/19	Tue 3/9/19	
1523 20.1.15	general site clearance	12 days	Wed 4/9/19	Wed 18/9/19	
1524 20.1.16	initial survey		Thu 19/9/19	Thu 3/10/19	
1525 20.1.17	utility detection and submit reports	8 days		Mon 14/10/19	
1526 20.1.18	Fabrication of Steelworks & glass panel	100 days		Mon 2/12/19	
1527 20.1.19	delivery steelworks & glass panel to site		Tue 3/12/19	Sat 18/1/20	
1528 20.1.20	application of XP (for Parts D)			Thu 29/11/18	
1529 20.1.21	acceptance of XP (for Parts D)		Thu 30/5/19		
1530 20.1.22	Construction of Covered Walkway at Fanling Station				
1531 20.1.22.1	construct the concrete foundation of covered walkway (first 20m)	20 days	Tue 15/10/19	Wed 6/11/19	
1532 20.1.22.2	construct the concrete foundation of covered walkway (2nd 20m)	20 days	Thu 7/11/19	Fri 29/11/19	
1533 20.1.22.3	construct the concrete foundation of covered walkway (3rd 20m)	20 days	Sal 30/11/19	Mon 23/12/19	
1534 20.1.22.4	demolished existing planter (drg.WY/1051)	20 days	Sat 30/11/19	Mon 23/12/19	
1535 20.1.22.5	construct the concrete foundation of covered walkway (4th 20m)	20 days	Tue 24/12/19	Sat 18/1/20	
1536 20.1.22.6	construction of covered walkway including steelworks, glass panel and electrical works	265 days	Mon 20/1/20	Wed 9/12/20	
1538 20.2	Parts E	782 davs	Thu 31/5/18	Sat 16/1/21	
1539 20.2.1	access date for section 3 (Parts E)	0 days		Thu 31/5/18	*
1540 20.2.2	application of XP (for Parts E)	0 days	Thu 30/5/19		*+
1541 20.2.3	acceptance of XP (for Parts E)	0 days	Thu 28/11/19	Thu 28/11/19	
1542 20.2.4	Temporary Traffic Arrangement (TTA) Scheme for Sheung Shui Landmark North PTI and Fanling Station Road	242 days	Fri 31/5/19	Mon 27/1/20	
1543 20.2.4.1	Preparation of TTA for TMLG and acceptance from TD and RMO	120 days	Fri 31/5/19	Fri 27/9/19	₩
1544 20.2.4.2	Comment & acceptance of TTA scheme by TD & RMO	60 days	Sal 28/9/19	Tue 26/11/19	±
1545 20.2.4.3	Obtain roadwork advice from RMO	60 days	Fri 29/11/19	Mon 27/1/20	
1546 20.2.5	general site clearance		Wed 29/1/20		
1547 20.2.6	initial Survey		Wed 12/2/20		
1548 20.2.7	utility detection and submit reports		Fri 28/2/20	Sat 14/3/20	
1549 20.2.8	Road Improvement works at Sheung Shui Landmark North PTI	250 days	Mon 16/3/20		

Sang Hing Civil Contractors Company Limited

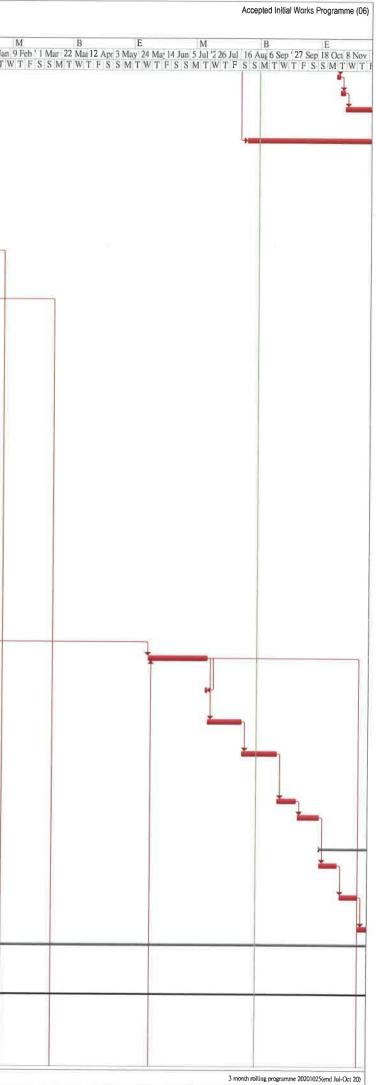
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	Accepted Initial Works Programme (06)
M B E M n 9 Feb 1 Mar 22 Mai 12 Apr 3 May 24 Mai 14 Jun 5 Jul 2 26 W T F S S M T W T F S S M T W T F S S M T W T	B E Jul 16 Aug 6 Sep 27 Sep 18 Oct 8 Nov
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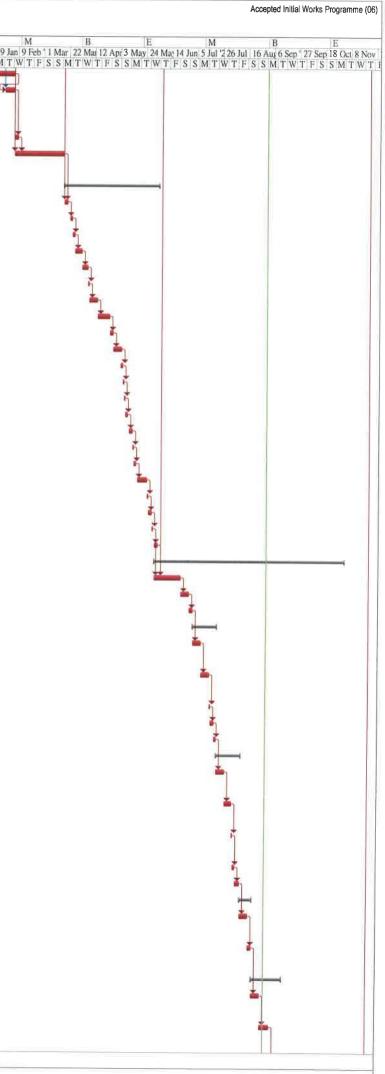
evelopmen	CV/2017/02 t of Columbarium at Sandy Ridge Cemetery ral Works at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)	
WBS	Task Name	Duration	Start Date	Completion Date	M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B E M B B E M B B E M B B B B	19 Jan
550 20.2.8.1	saw cut and remove existing pavement	10 days	Mon 16/3/20	Thu 26/3/20	WTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSMTWTFSSM	A T W
551 20.2.8.2		14 days	Fri 27/3/20	Thu 16/4/20		
552 20.2.8.3	• •	21 days	Fri 17/4/20	Wed 13/5/20		
553 20 2.8 4	construct slope planter wall	60 days	Thu 14/5/20	Fri 24/7/20		
554 20.2.8.5	construct kerb backing & lay kerb	30 days	Sat 25/7/20	Fri 28/8/20		
555 20.2 8.6	construct concrete & bituminous pavement for road and central refuge	30 days	Sat 29/8/20	Mon 5/10/20		
556 202.87	relocate existing street lighting (DD0398)	30 days	Tue 6/10/20	Tue 10/11/20		
557 20.2.8.8	install type 2 railing, traffic & directional signs	45 days	Wed 11/11/20	Tue 5/1/21		
569 <b>29</b>	section 6 of the works (section Subject to Excision) - Completion of all works within Parts A3 and A4 of the Site except Establishment works. Extent of works under section 6 of the works is defined in Drawing No.: 231448/C2/G/1031	859 days	Fri 28/9/18	Wed 3/2/21		
570 29.1	Parts A3	859 days	Fri 28/9/18	Wed 3/2/21		
571 29.1.1	access date for section 6 (Part A3) - not more than 120 days after the starting date	0 days	Fri 28/9/18	Fri 28/9/18	*	
572 2912	The time for ordering the "section Subject to Excision" for section 6 and 7 is within 390 days commencing from and including the starting date	0 days	Mon 24/6/19	Mon 24/6/19		
573 29.1.3	form temporary haul road from the south side to Parts A3	5 days	Tue 25/6/19	Sat 29/6/19		
574 29.1.4	general site clearance & tree felling	12 days	Tue 2/7/19	Mon 15/7/19		
575 29.1.5	initial survey	12 days	Tue 2/7/19	Mon 15/7/19		
576 29.1.6	construction of temporary drainage	14 days	Mon 15/7/19	Tue 30/7/19		
577 29.1.7	Construction of Retaining Wall RW14 (Bay 1-Bay 6)	312 days	Fri 26/7/19	Sat 22/8/20	le la	
578 29.1.7.1		5 days	Fri 26/7/19	Wed 31/7/19		
579 29.1.7.2	temporary soil nails (bays 5 to 7)	23 days	Wed 31/7/19	Mon 26/8/19		
580 29.1.7.3	predrilling for socketed H-Piling	25 days	Tue 27/8/19	Thu 26/9/19		
581 29.1.7.4	construction of socketed H-Pile	185 days	Tue 24/9/19	Thu 21/5/20		
582 29.1.7.5	post drilling for socketed H-Piling	3 days	Fri 22/5/20	Mon 25/5/20		
583 29.1.7.6	blinding concrete for bays 1 to 7	3 days	Tue 26/5/20	Thu 28/5/20		
584 29.1.7.7	base formwork for bay 2, 4 & 6	3 days	Fri 29/5/20	Mon 1/6/20		
585 29.1.7.8	base steel fixing for bay 2, 4 & 6	3 days	Mon 1/6/20	Wed 3/6/20		
586 29.1.7.9	8 8 3 9	5 days	Thu 4/6/20	Tue 9/6/20		
587 29.1.7.1		3 days	Tue 9/6/20	Thu 11/6/20		
588 29.1.7.1		6 days	Thu 11/6/20	Wed 17/6/20		
589 29.1.7.1		10 days	Wed 17/6/20	Mon 29/6/20		
590 29.1.7.1		3 days	Mon 29/6/20	Thu 2/7/20		
591 29.1.7.1	0 0 1	6 days	Fri 3/7/20	Thu 9/7/20		
592 29.1.7.1		3 days	Thu 9/7/20	Sat 11/7/20		
1593 291.7.1		3 days		Wed 15/7/20		
1594 29.1.7.1		3 days	Wed 15/7/20	Fri 17/7/20		
1595 29.1.7.1	0 0 9 7	5 days	Sat 18/7/20	Thu 23/7/20		
596 29.1.7.1		3 days	Thu 23/7/20	Sat 25/7/20		
29.1.7.2		6 days	Sat 25/7/20	Fri 31/7/20		
1598 29.1.7.2 1599 29.1.7.2	•	10 days	Fri 31/7/20 Tue 11/8/20	Tue 11/8/20 Thu 13/8/20		
1600 29.1.7.2		3 days 6 days	Fri 14/8/20	Thu 13/8/20 Thu 20/8/20		
1601 29.1.7.2	<b>o o ,</b> ,	6 days 3 days	Thu 20/8/20	Sat 22/8/20		
602 29.1.8	backfilling works behind Retaining Wall RW14 (bay1 to 6) (include SRT tests)			Tue 15/12/20		
1603 29.1.9	Construction of Retaining Wall RW14 Bay 7	27 days	Wed 30/9/20			
1604 29.1.9.1		2 days	Wed 30/9/20			
1605 29.1.9.2		3 days	Mon 5/10/20			
1606 29.1.9.3	0 0	3 days		Mon 12/10/20		
1607 29.1.9.4		1 day	Mon 12/10/20			
1608 29.1.9.5		3 days	Tue 13/10/20			
1609 29.1.9.6	6	9 days		Thu 29/10/20		
1610 29.1.9.7	close formwork for wall	2 days	Fri 30/10/20	Mon 2/11/20		



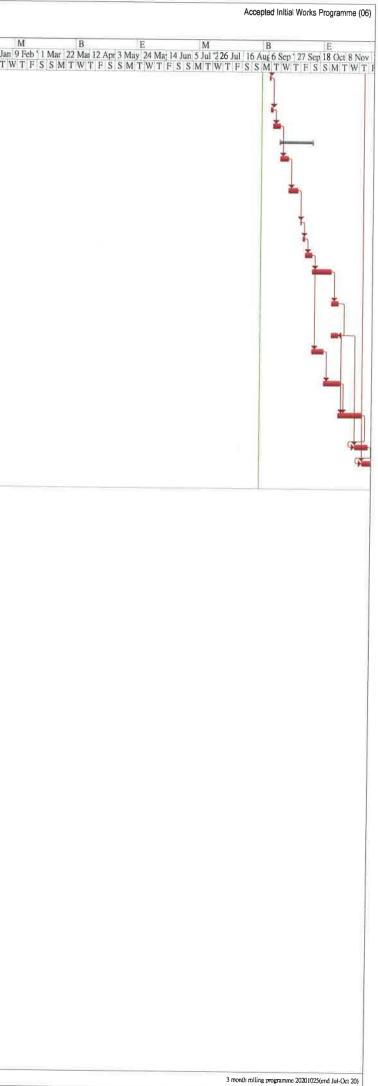
	of Columbarium at Sandy Ridge Cemetery al Works at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         D         D
611 29.1.9.8	concreting and curing for wall	3 days	Tue 3/11/20	Thu 5/11/20	111 0 0 W 1 W 1 L 0 0 W 1 W 1 W 1 L 0 0 W 1 W 1 L 0 0 W 1 W 1 W 1 V 0 0 W 1 W 1 W 1 V 0 0 W 1 W 1 W 1 V 0 0 W 1 W
1612 29.1.9.9	remove falsework and formwork	2 days	Fri 6/11/20	Mon 9/11/20	
1613 29.1.10	backfilling works behind RW14 (bay 7) (include SRT tests)	30 days	Tue 10/11/20	Tue 15/12/20	
1616 29,1.13	site formation works for fill slope FS19 and FS20 (including in "backfilling works behind Retaining Wall RW14 (bay1 to 6)")	90 days	Sat 22/8/20	Tue 15/12/20	
1631 ;29.1.23	Site Formation works for Cut Slope CS24 (include temporary cutting from top of RW12 to toe of CS24) (for RW12 bays 1-3)	4 days	Tue 17/9/19	Fri 20/9/19	
1632 29:1.24	install instrument for CS24	5 days	Mon 23/9/19	Fri 27/9/19	
1633 29.1.25	temporary soil nails between CS20 & RW12 (for RW12 bays 1-3)				
1634 29.1.26	Construction of Retaining Wall RW12 CH 0-20	67 days	Tue 5/11/19	Fri 24/1/20	P
1635 29.1.26.1	plate load tests	3 days	Tue 5/11/19	Thu 7/11/19	
1636 29.1.26.2	blinding concrete for bay 1 to 3	2 days	Fri 8/11/19	Sat 9/11/19	<u>z</u>
1637 29.1.26.3	base formwork for bay 1 & 3	2 days	Mon 11/11/19	Tue 12/11/19	the second s
1638 29.1.26.4	base steel fixing for bay 1 & 3	4 days	Wed 13/11/19	Sat 16/11/19	a, a
1639 29.1.26.5	base concreting & curing for bay 1 & 3	4 days	Mon 18/11/19	Thu 21/11/19	<b>1</b>
1640 29.1.26.6	remove base formwork	1 day	Fri 22/11/19	Fri 22/11/19	t i
1641 29.1.26.2	falsework and formwork for walls of bay 1 & 3	4 days	Sat 23/11/19	Wed 27/11/19	
1642 29.1.26.8	steel fixing for walls of bay 1 & 3	10 days	Thu 28/11/19	Mon 9/12/19	
1643 29.1.26.9	close formwork for walls of bay 1 & 3	2 days	Tue 10/12/19	Wed 11/12/19	र,
1644 :29.1.26.1	0 concreting & curing for walls of bay 1 & 3	4 days	Thu 12/12/19	Mon 16/12/19	<b>▲</b>
1645 29.1.26.1	1 remove falsework and formwork for walls	2 days	Mon 16/12/19	Tue 17/12/19	<b>4</b>
1646 29.1.26.1	2 blinding concrete for bay 2	1 day	Wed 18/12/19	Wed 18/12/19	
1647 29.1.26.1	3 base formwork for bay 2	1 day	Thu 19/12/19	Thu 19/12/19	×
1648 29.1.26.	4 base steel fixing for bay 2	2 days	Fri 20/12/19	Sat 21/12/19	t i i i i i i i i i i i i i i i i i i i
1649 29.1.26.			Mon 23/12/19	Fri 27/12/19	
1650 29.1.26,	• • •	1 day	Sat 28/12/19		
1651 29.1.26.			Mon 30/12/19		
1652 29.1.26.		7 days	Thu 2/1/20	Thu 9/1/20	
1653 29.1.26.	0	2 days	Fri 10/1/20	Sat 11/1/20	
1654 29.1.26.3	-	4 days	Mon 13/1/20	Thu 16/1/20	
1655 29.1.26.3		2 days	Fri 17/1/20	Sat 18/1/20	
1656 29.1.26.	<sup>22</sup> install instrument for RW12	5 days	Mon 20/1/20	Fri 24/1/20	
1657 29.1.27	backfilling along Retaining Wall RW12	40 days	Thu 4/6/20	Wed 22/7/20	
1658 29.1.28	Completion of Site Formation works for Cut Slope 25	2 days	Tue 21/7/20	Wed 22/7/20	
1659 29.1.29	Waterworks at Road F	24 days	Thu 23/7/20	Wed 19/8/20	
1660 29.1.30	Drainage works al Road F	25 days	Thu 20/8/20	Thu 17/9/20	
1261 002 02				Celouon	
1661 29.1.31 1662 29.1.32	planter wall for Road E and Road F in Parts A3 UU-Arrange Town Gas & PCCW to lay across Road F (not yet agree)	12 days 14 days		Sat 3/10/20 Thu 22/10/20	
1663 29.1.33	Roadworks of Road F (60m)	55 davs	Fri 23/10/20	Mon 4/1/21	
1664 29.1.33.		•	Fri 23/10/20	Fri 6/11/20	
1665 29.1.33	2 ducling for road lighting & construction of irrigation system	12 days	Mon 9/11/20	Mon 23/11/20	
1666 29.1.33	bituminous pavement	12 days	Tue 24/11/20	Mon 7/12/20	
1671 29.2			Mon 24/6/19		
1672 29.2.1		•	Tue 31/12/19		
1673 29.2.2	The time for ordering the "section Subject to Excision" for section 6 and 7 is within 390 days commencing from and including the starting date	0 days	Mon 24/6/19	Mon 24/6/19	*
	general site clearance	15 days	Thu 2/1/20	Sat 18/1/20	
1674 2923				JUL 10/1/20	
1674 29.2.3 1675 29.2.4	initial survey		Sat 11/1/20	Thu 22/1/20	(Hereiter and Hereiter and He



Developm	No, CV/2017/02 nent of Columbarium at Sandy Ridge Cemetery ictural Works at Man Kam To Road and Lin Ma Hang Road				3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)
ID WE	3S Task Name	Duration	Start Date	Completion Date	M         B         E         M         B
1676 29.2	2.5 construction of temporary drainage	15 days	Thu 16/1/20	Wed 5/2/20	
1677 29.2	2.6 Site Formation works for Cut Slope CS24 (include temporary cutting from top of RW12 to toe of CS24) (for RW12 bays 4-6)	7 days	Wed 29/1/20	Wed 5/2/20	
1678 29.2	install instrument for CS24	3 days	Thu 6/2/20	Sat 8/2/20	
1679 29.2	2.8 temporary soil nails between CS20 & RW12 (for RW12 bays 4-6)	35 days	Thu 6/2/20	Tue 17/3/20	
1680 29.2	2.9 Construction of Retaining Wall RW12 CH 21-40	58 days	Wed 18/3/20	Wed 3/6/20	
1681 29.2	2.9.1 plate load tests	3 days	Wed 18/3/20	Fri 20/3/20	
1682 29.2	5	2 days	Mon 23/3/20	Tue 24/3/20	
1683 29.2		2 days	Wed 25/3/20	Thu 26/3/20	
1684 29.2		4 days	Fri 27/3/20	Wed 1/4/20	
1685 29.2	2009	3 days	Thu 2/4/20	Mon 6/4/20	
1686 29.2		1 day	Tue 7/4/20	Tue 7/4/20	
1687 29.2	-	3 days	Wed 8/4/20	Tue 14/4/20	
1688 29,2	······································	8 days	Wed 15/4/20	Fri 24/4/20	
1689 29.2		2 days	Sat 25/4/20	Mon 27/4/20	
1690 29.2		4 days	Tue 28/4/20	Mon 4/5/20	
1691 29.2		2 days	Mon 4/5/20	Tue 5/5/20	
1692 29.2		1 day	Wed 6/5/20	Wed 6/5/20	
1693 29.2	North Sec.	1 day	Thu 7/5/20	Thu 7/5/20	
1694 29.2		2 days	Fri 8/5/20	Sat 9/5/20	
1695 29.2		3 days	Mon 11/5/20	Wed 13/5/20	
1696 29.2		1 day	Thu 14/5/20	Thu 14/5/20	
1697 29.2	35040	2 days	Fri 15/5/20	Sat 16/5/20	
1698 29.3		7 days	Mon 18/5/20		
1699 29.2	2744042	1 day	Tue 26/5/20	Tue 26/5/20	
1700 29.3	CONVEX	3 days	Wed 27/5/20	Fri 29/5/20	
1701 29.3		1 day	Sat 30/5/20	Sat 30/5/20	
1702 29.3		3 days	Mon 1/6/20	Wed 3/6/20	
1703 29.2 1704 29.2		125 days		Tue 3/11/20	
1704 29.1		19 days	Mon 1/6/20	Mon 22/6/20	
1705 29.		5 days	Tue 23/6/20 Tue 30/6/20	Mon 29/6/20 Thu 2/7/20	
1703 29.		2 days 17 days	Fri 3/7/20	Wed 22/7/20	
1708 29.3		6 days	Fri 3/7/20	Thu 9/7/20	
1709 29.3	210.4.2 drill, install steel bars and grout soil nails (RL01, RK01-06, RJ01-10)	6 days	Fri 10/7/20	Thu 16/7/20	
1710 29.3	2.10.4.3 raking drains	1 day	Fri 17/7/20	Fri 17/7/20	
1711 29.3	TDR Test (including test & wait issue result)	2 days	Sat 18/7/20	Mon 20/7/20	
1712 29.3	2.10.4.5 soil nail head works	2 days	Tue 21/7/20	Wed 22/7/20	
1713 29.	2.10.5 Phase II	17 days	Thu 23/7/20	Tue 11/8/20	
1714 29.3	2.10.5.1 install test nail PN05 & pull out test	6 days	Thu 23/7/20	Wed 29/7/20	
1715 29.	2:10.5.2 drill, install steel bars and grout soil nails (RH01-12, RG01-12, SF01-04)	5 days	Thu 30/7/20	Tue 4/8/20	
1716 29.3	2.10.5.3 raking drains	1 day	Wed 5/8/20	Wed 5/8/20	
1717 29.	2.10.5.4 TDR Test (including test & wait issue result)	2 days	Thu 6/8/20	Fri 7/8/20	
1718 29.		3 days	Sat 8/8/20	Tue 11/8/20	
1719 29.	2.10.6 Phase III	9 days	Wed 12/8/20	Fri 21/8/20	
1720 29.	2.10.6.1 install test nail PN02 & pull out test	6 days	Wed 12/8/20	Tue 18/8/20	
1721 29.	210.6.2 drill, install steel bars and grout soil nails (RF01-13, SE01-07)	3 days	Wed 19/8/20	Fri 21/8/20	
1722 29.	2.10.7 Phase IV	21 days	Sat 22/8/20	Tue 15/9/20	
1723 29.	2.10.7.1 install test nail PN04 & pull out test	6 days	Sat 22/8/20	Fri 28/8/20	
1724 29.	2.10.7.2 drill, install steel bars and grout soil nails (RE01-14, SD01-08, RC01-15, SC01-03)	7 days	Sat 29/8/20	Sat 5/9/20	



Deve	opment of	//2017/02 Columbarium at Sandy Ridge Cemetery Works at Man Kam To Road and Lin Ma Hang Road	ł			3 Month Rolling Programme (from 26/8/2020 to 25/11/2020)	
D	WBS	Task Name	Duration	Start Date	Completion Date	M         B         E         M         B	an
172	29.2.10.7.3	raking drains	1 day	Mon 7/9/20	Mon 7/9/20	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	W
172	29.2.10.7.4	TDR Test (including test & wait issue result)	2 days	Tue 8/9/20	Wed 9/9/20		
1723	29.2.10.7.5	soil nail head works	5 days	Thu 10/9/20	Tue 15/9/20		
1728	29.2.10.8	Phase V	20 days	Wed 16/9/20	Mon 12/10/20		
1729	29.2.10.8.1	install test nail PN01 & pull out test	6 days	Wed 16/9/20	Tue 22/9/20		
1730	29.2.10.8.2	drill, install steel bars and grout soil nails (RB01-16, SB01-02, RA01-18)	7 days	Wed 23/9/20	Wed 30/9/20	•	
1731	29.2.10.8.3	raking drains	1 day	Sat 3/10/20	Sat 3/10/20		
1732	29.2.10.8.4	TDR Test (including test & wait issue result)	2 days	Mon 5/10/20	Tue 6/10/20		
1733	29.2.10.8.5	soil nail head works	4 days	Wed 7/10/20	Mon 12/10/20	).	
1734	29.2.10.9	300U channel, 300 stepped channel & catchpits	11 days	Tue 13/10/20	Wed 28/10/20		
1735	29.2.10.10	600mm width concrete maintenance staircase with handrailing	4 days	Thu 29/10/20	Tue 3/11/20		
1736	29.2.10.11	install instrument for CS20	4 days	Thu 29/10/20	Tue 3/11/20		
1737	29.2.11	Site Formation works for Cut Slope CS26 (A4)	8 days	Tue 13/10/20	Thu 22/10/20		
1738	29.2.12	Site Formation works for Cut Slope CS25 (A4)	9 days	Fri 23/10/20	Thu 5/11/20		
1739	29.2.13	complete the construction of U channel at CS 25 and 26	15 days	Wed 4/11/20	Mon 23/11/20		
1740	29.2.14	planter wall	10 days	Wed 18/11/20	Sat 28/11/20		
1741	29.2.15	Waterworks at Road B	8 days	Tue 24/11/20	Wed 2/12/20		



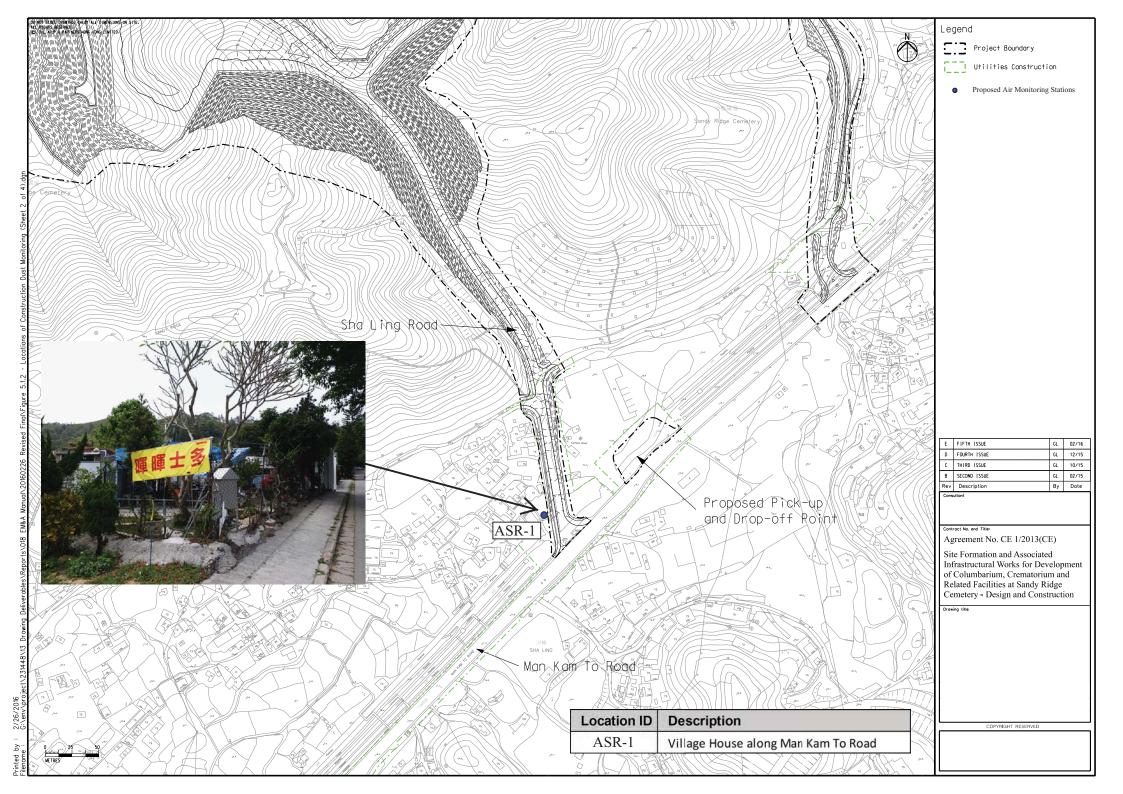


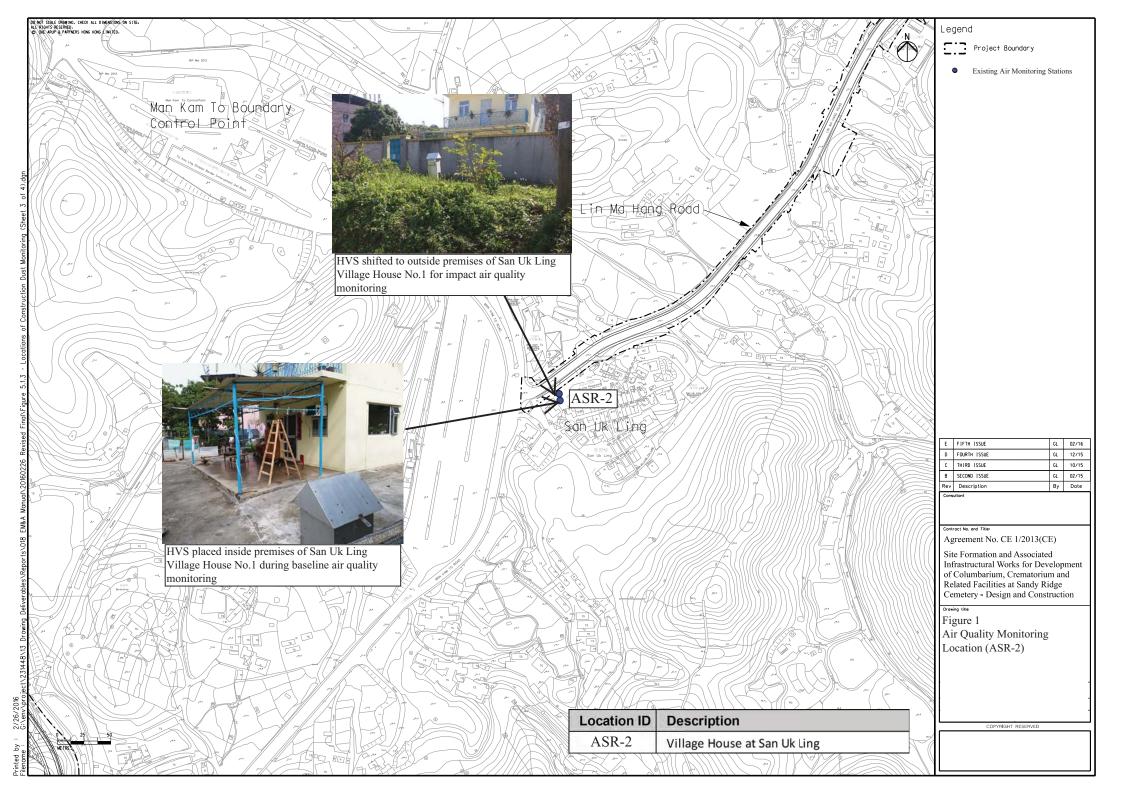
# Appendix D

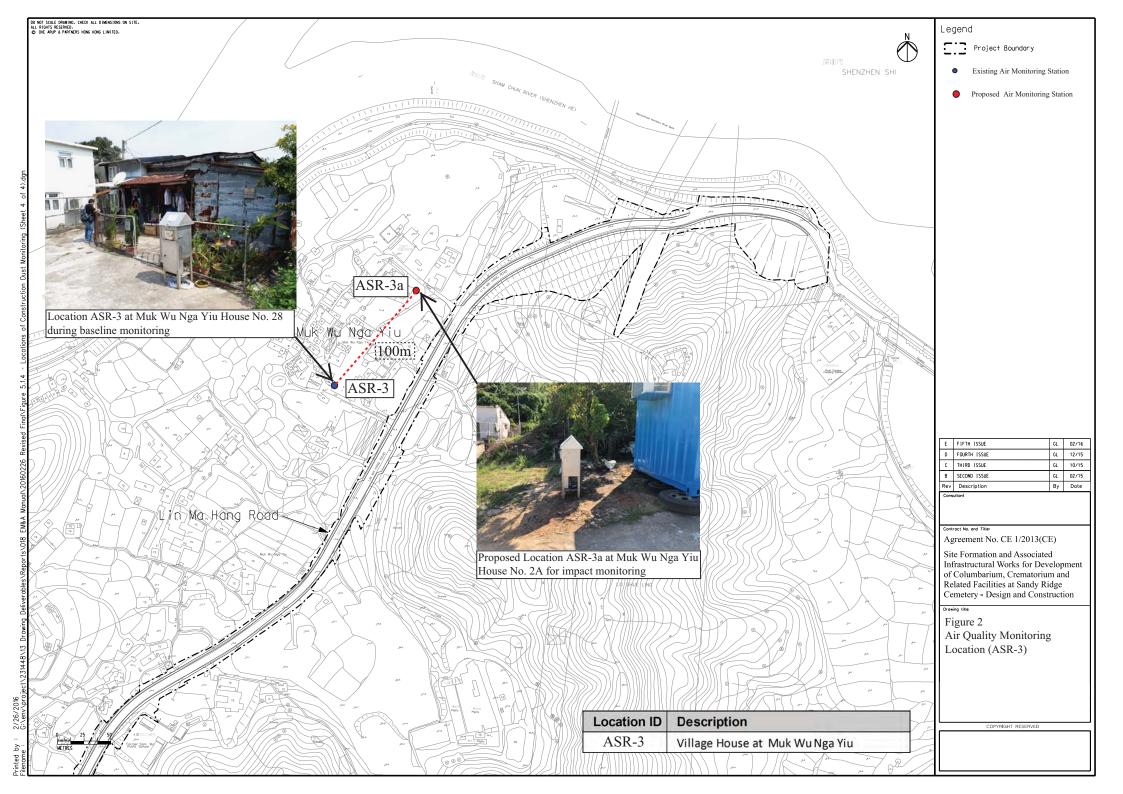
# **Monitoring Locations**



# **Air Quality Monitoring Location**





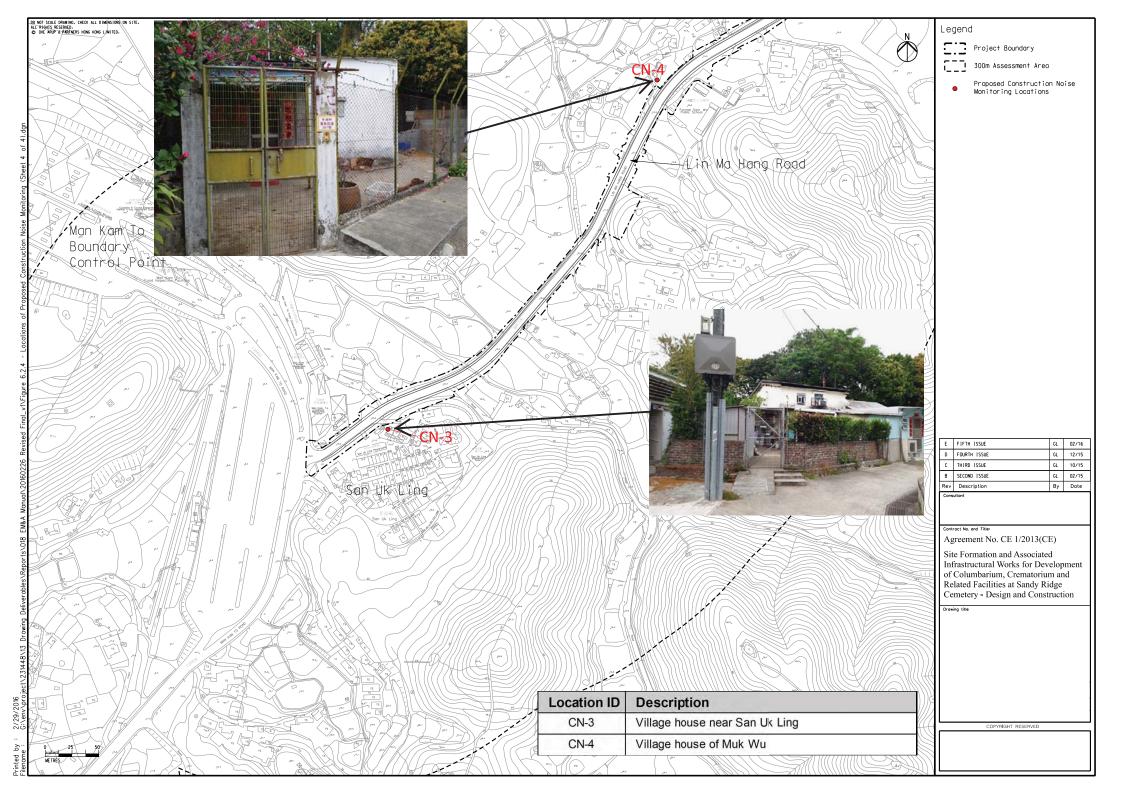




**Noise Monitoring Location** 

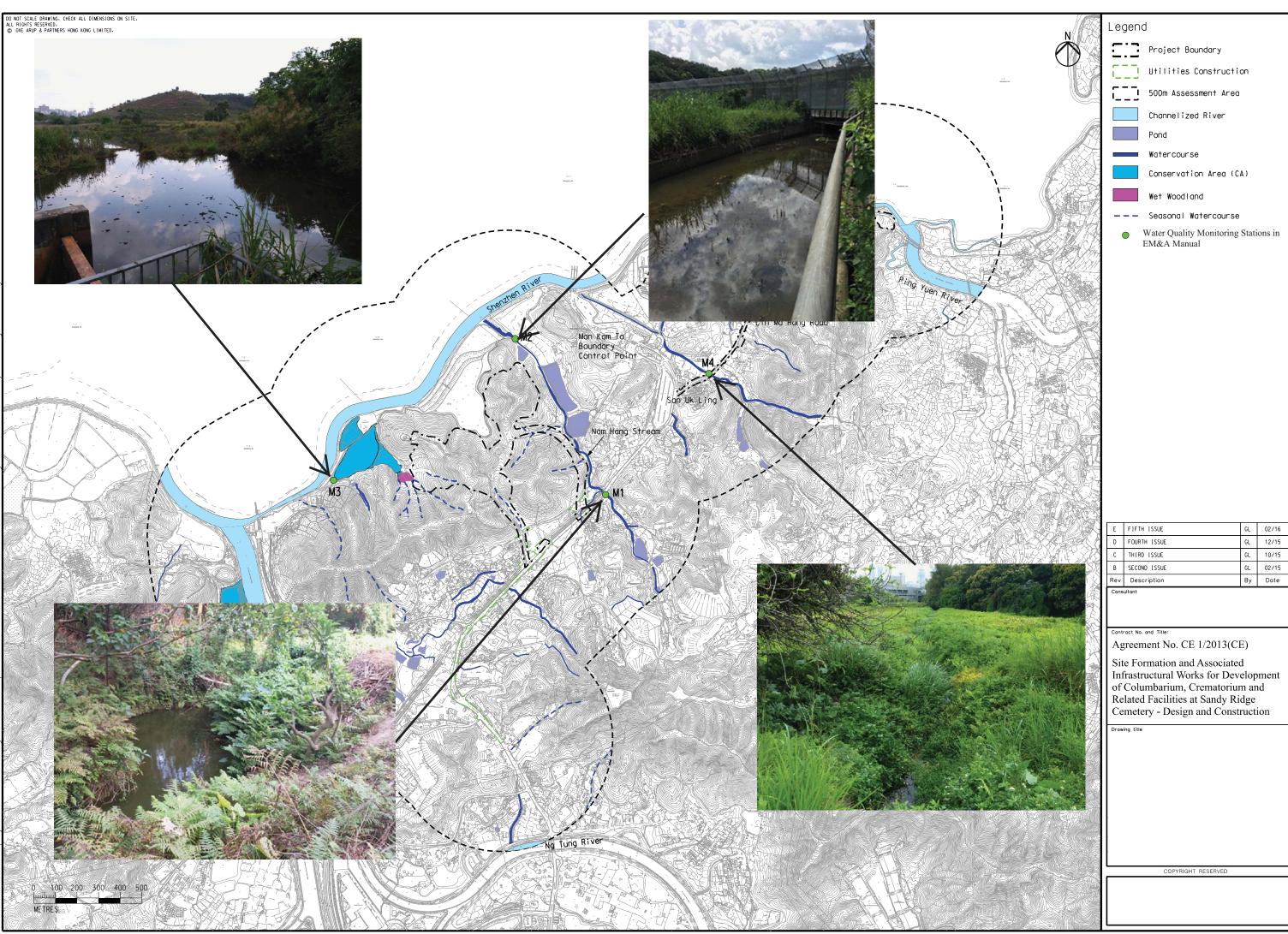








# Water Quality Monitoring Station



Ε	FIFTH ISSUE	GL	02/16					
D	FOURTH ISSUE	GL	12/15					
С	THIRD ISSUE	GL	10/15					
В	SECOND ISSUE	GL	02/15					
Rev	Description By [							
Cons	Consultant							



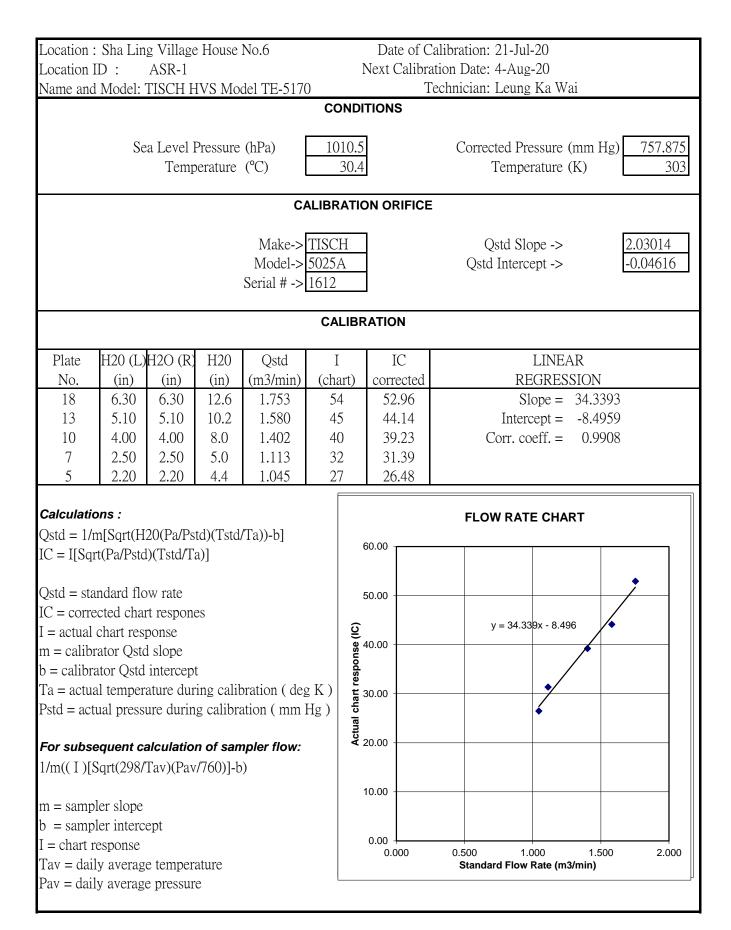
# Appendix E

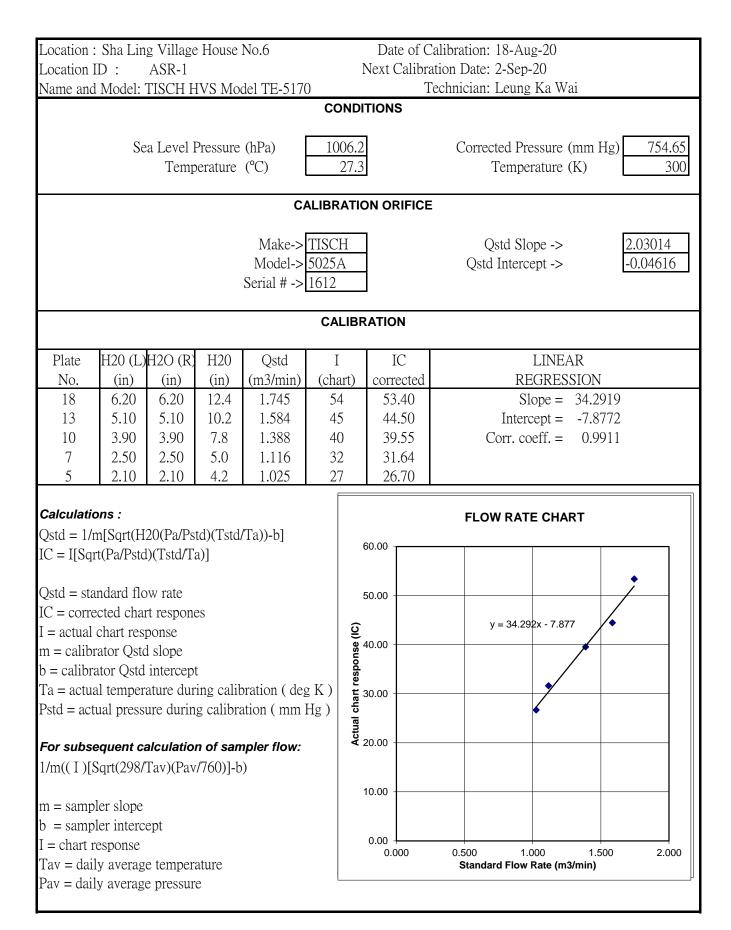
# Calibration Certificate of Monitoring Equipment and Laboratory Certificate

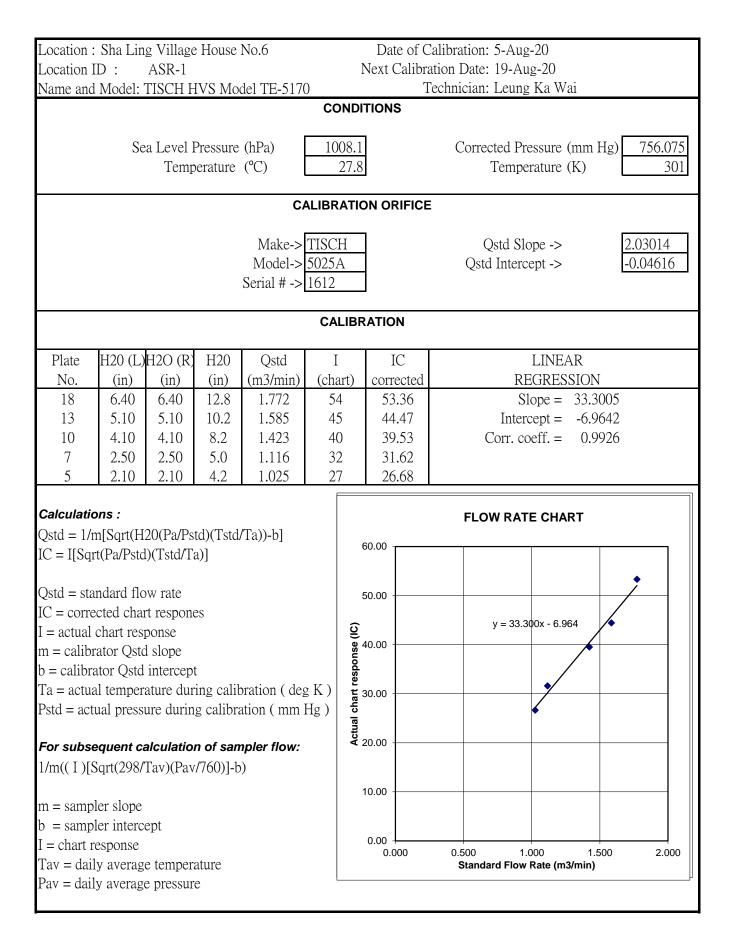


#### CALIBRATION CERTIFICATES FOR MONITORING EQUIPMENT USED IN THE REPORTING MONTH

Items	Aspect	Description of Equipment	Date of Calibration	Date of Next Calibration
1		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-1	21 Jul 20	4 Aug 20
1a		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-1	5 Aug 20	19 Aug 20
1b		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-1	18 Aug 20	2 Sep 20
2		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-2	21 Jul 20	4 Aug 20
2a		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-2	5 Aug 20	19 Aug 20
2b		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-2	18 Aug 20	2 Sep 20
3		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-3a	21 Jul 20	4 Aug 20
3a	Air	TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-3a	5 Aug 20	19 Aug 20
3b		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-3a	18 Aug 20	2 Sep 20
4		Calibration Kit TISCH Model TE-5025A Orifice ID 1941 and Rootsmeter S/N 438320	7 Feb 20	7 Feb 21
6		Laser Dust Monitor, Model LD-3B (Serial No. 366410) – EQ110	6 Jan 20	6 Jan 21
7		Laser Dust Monitor, Model LD-3B (Serial No. 366410) – EQ110	6 Jan 20	6 Jan 21
8		Laser Dust Monitor, Model AM510 (Serial No. 11008017) – EQ102	6 Jan 20	6 Jan 21
9		Laser Dust Monitor, Model LD-3B (Serial No. 2X6145) – EQ105	6 Jan 20	6 Jan 21
10		Laser Dust Monitor, Model LD-3B (Serial No. 3Y6503) – EQ112	6 Jan 20	6 Jan 21
11		Rion NL- 52 Sound Level Meter (Serial No. 00142581) – EQ015	27 Aug 19	27 Aug 20
12	Noise	Rion NL- 52 Sound Level Meter (Serial No. 01121362) – EQ011	7 Jan 20	7 Jan 21
13		Rion NC - 73 Acoustical Calibrator (Serial No. 10655561) – EQ085	27 Feb 20	27 Feb 21
14	Water	YSI Pro DSS (Serial No.15H102620)	6 Jul 20	6 Oct 20
15	water	Global Water FP211 Flow Meter (Serial No. 1449006330)	9 Oct 19	9 Oct 20



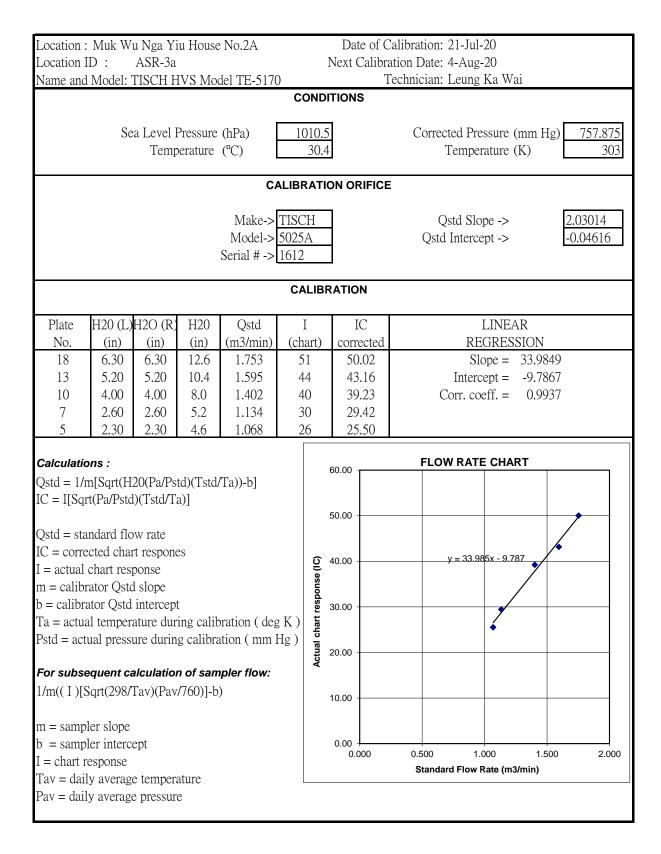


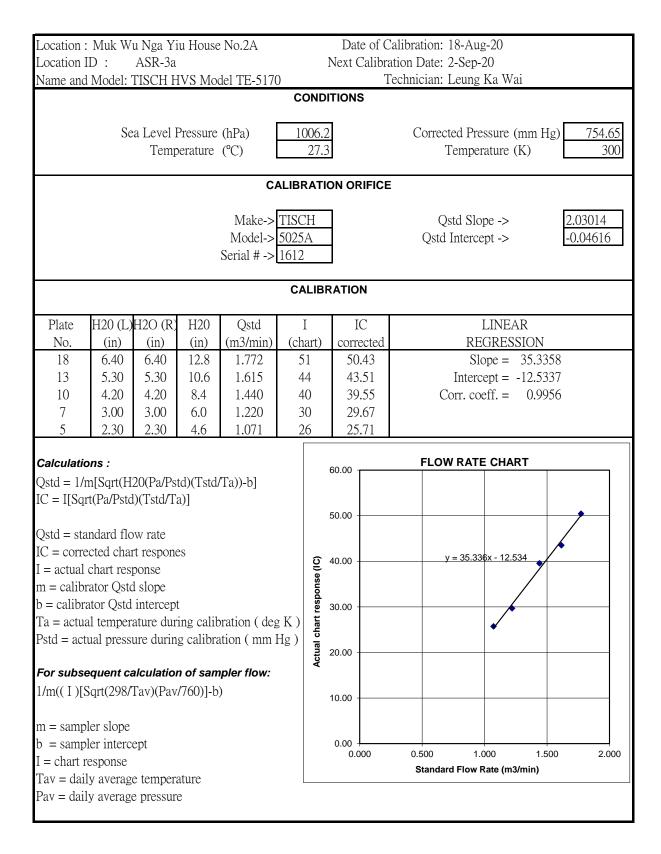


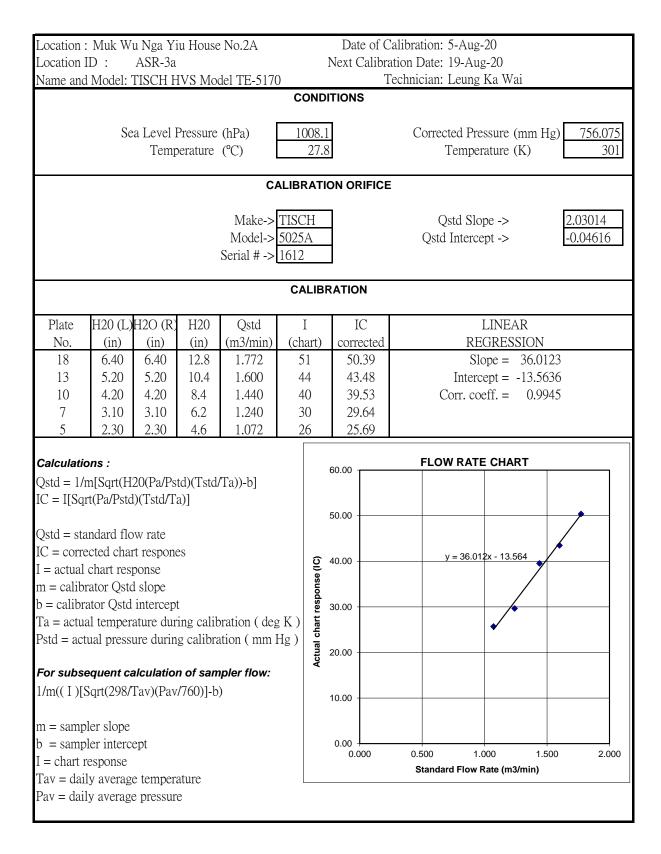
Location	: San Ul	k Ling V	illage H	ouse No.1			Date of	of Ca	Calibration: 21-Jul-20			
Location	ID:	ASR-2				l	Next Cal	libra	ation Date: 4-Aug-20			
Name and	l Model:	TISCH H	IVS Mo	del TE-517	0			Τe	Fechnician: Leung Ka Wai			
					CC	ONDI	TIONS					
							•					
	Se	a Level I	Pressure	(hPa)	10	)10.5			Corrected Pressure (mm Hg) 757.875			
		Temp	erature	(°C)		30.4	]		Temperature (K) 302			
				C	ALIBF	RATIO		ICE	Ξ			
					<b></b>		1					
				Make->			4		Qstd Slope -> 2.03014			
				Model->			-		Qstd Intercept -> -0.04616			
				Serial # ->	1612		]					
					CA	LIBE						
					0/1							
Plate	H20 (L)	H2O (R)	H20	Qstd	]	[	IC		LINEAR			
No.	(in)	(in)	(in)	(m3/min)	(ch	art)	correct	ted	REGRESSION			
18	6.30	6.30	12.6	1.753	5	3	51.98	8	Slope = 36.5445			
13	5.20	5.20	10.4	1.595	4	5	44.14		Intercept = $-12.8410$			
10	4.10	4.10	8.2	1.419	4	0	39.23	3	Corr. coeff. = 0.9957			
7	2.70	2.70	5.4	1.156	3	1	30.42	1				
5	2.30	2.30	4.6	1.068	2	6	25.50					
Calculatio							60.00		FLOW RATE CHART			
Qstd = 1/1				/Ta))-b]								
IC = I[Sq;	rt(Pa/Pstc	l)(Tstd/T	a)]						•			
0.11	1 10						50.00					
Qstd = sta												
IC = correction		-	es			Û	40.00		y = 36.545x - 12.841			
I = actual m = calibi		-				Actual chart response (IC)						
b = calibr	-	-	+			spor						
				oration ( de	σK)	rt re:	30.00 -		<b>*</b>			
	-		-	ation ( mm		cha			▲			
$1 \operatorname{std} = \operatorname{act}$	uai piess	uic uuiii			11g )	tual	20.00					
For subse	eauent ca	alculatio	n of sam	pler flow:		Ac	20.00					
1/m((I)[	-			-								
1,111((1)[	5411(2) 5,	14,)(14,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,			10.00 -					
m = samp	ler slope											
b = samp	-	ept										
I = chart I		*					4 0.00 0.00	0	0.500 1.000 1.500 2.000			
Tav = dai		e temper	ature						Standard Flow Rate (m3/min)			
Pav = dai						L						
I	- 0	-										

Location :	San Ul	k Ling V	illage Ho	ouse No.1			Date	of Ca	alibration: 18-Aug	g-20		
Location I	D :	ASR-2				]	Next Ca	alibrat	tion Date: 2-Sep-	20		
Name and	Model:	TISCH H	IVS Mo	del TE-517	0			Te	echnician: Leung	Ka Wai		
					CC	ONDI	TIONS					
							7					
	Se	a Level I		. ,	10	06.2			Corrected Pre			
		Temp	erature	(°C)		27.3			Temper	ature (K)	3	300
				C	ALIBR	RATIO		FICE				
							1					
				Make->					Qstd Slo	-	2.03014	
				Model->					Qstd Interce	ept ->	-0.0461	6
				Serial # ->	1612		]					
					<b>C A</b>							
					CA	LIDF	ATION					
Plate	H20 (L)	H2O (R)	H20	Qstd	]	[	IC			LINEAR		
No.	(in)	(in)	(in)	(m3/min)	(ch		correc			GRESSION		
18	6.50	6.50	13.0	1.786	5		52.41		Slope = 36.3755			
13	5.30	5.30	10.6	1.615		45		50		ept = -12.92		
10	4.00	4.00	8.0	1.406		40		55	Corr. co	-		
7	2.90	2.90	5.8	1.200	3		30.6	55				
5	2.30	2.30	4.6	1.071		25.71						
Calculatio	ons :						60.00 <del>-</del>		FLOW RATE	ECHART		,
Qstd = 1/r	n[Sqrt(H	20(Pa/Ps	td)(Tstd	/Ta))-b]			00.00					
IC = I[Sqn	t(Pa/Pstd	l)(Tstd/T	a)]								•	
							50.00					
Qstd = sta	ndard flo	w rate										
IC = corrections	ected char	rt respon	es			<i>.</i>			y = 36.375	(- 12.927		
I = actual		-				e (IC	40.00 -			/		
m = calibr	-	-				suoc						
b = calibra	-	-				res	30.00			-		
	-		_	pration ( de	- ·	Actual chart response (IC)						
Pstd = act	ual press	ure durin	ig calibra	ation (mm	Hg)	ual c						
						Acti	20.00 -					
For subsequent calculation of sampler flow:												
1/m(( I )[Sqrt(298/Tav)(Pav/760)]-b)							10.00 -					
-	lonalana											
m = samp		ant										
b = samp		σρι					0.00	20	0.500			
I = chart r Tav = dail	-	a tamnar	oturo				0.00	JU	0.500 1. Standard Flow I		500 2.0	00
Pav = dail Pav = dail		-										
i av – uall	y average	e pressui	C									

												_
Location :	San Ul	k Ling V	illage Ho	ouse No.1		Date of Calibration: 5-Aug-20						
Location 1	ID :	ASR-2				l	Next Ca	librat	tion Date: 19-Aug-	20		
Name and	Model:	TISCH H	IVS Mo	del TE-517	0			Τe	echnician: Leung K	Ka Wai		
					CC	ONDI	TIONS					
							-					
	Se	a Level I	Pressure	(hPa)	10	08.1			Corrected Press	sure (mm H	Ig) 756.07	5
	Temp	erature	(°C)		27.8			Temperat	ture (K)	30	1	
				C	ALIBR	RATIO	on orif	FICE				
							•					-
				Make->					Qstd Slope	e ->	2.03014	
				Model->					Qstd Intercep	t ->	-0.04616	
				Serial # ->	1612							
					CA	LIBR	ATION					
Plate		H2O (R)	H20	Qstd	]	r	IC		I .			
No.	(in)	(in)	(in)	(m3/min)	(cha		correc		LINEAR REGRESSION			
18	6.50	6.50	13.0	1.786			52.3	-	Slope = 37.0886			
18	5.10	5.10	10.2	1.780		53 45			-	pt = -13.87		
10	4.10	4.10	8.2	1.383	4		44.47 39.53		Corr. coef	-		
10 7	2.90	2.90	5.8	1.423	3		39.5			1. – 0.95	795	
5	2.90	2.90	5.8 4.6	1.200	2		25.6					
	2.30	2.30	4.0	1.072	Z		23.0	9				
Calculatio	ons :								FLOW RATE	CHART		
Qstd = 1/r		20(Pa/Ps)	td)(Tstd	/Ta)) <b>-</b> h]			<sup>60.00</sup> T					
IC = I[Squ				1 <i>u))</i> 0]								
		•)(1500/1	u)]				50.00				/	
Qstd = sta	ndard flo	ow rate										
IC = correction			es						y = 37.089x -	13.872		
I = actual						(C)	40.00					
m = calibi		-				onse						
b = calibra	-	-	t			Actual chart response (IC)						
				oration ( de	gK)	art	30.00 +			/		
	-		_	ation ( mm		l ch				<		
	-			× ×	2,	ctua	20.00					
For subsequent calculation of sampler flow:												
1/m(( I )[Sqrt(298/Tav)(Pav/760)]-b)												
							10.00 -					
m = samp	ler slope											
b = samp	ler interc	ept										
I = chart r	esponse						-+ 0.00 0.00	00	0.500 1.00	0 1.5	500 2.000	, ∥
Tav = dai	ly averag	e temper	ature						Standard Flow Ra	te (m3/min)		
Pav = dail	y averag	e pressur	e			L						
	2	_										







								ALIBRATION
							D	UE DATE:
					)		Febru	uary 7, 202
nvir	o n m	ent	al	- Construction of the Article				
	Ø		2 .		O	0.0	<b>6</b> •	
	0e	rtifa	çate	01	Oal	ibra	tion	
			Calibration	Certificatio	on Informat	ion		
Cal. Date:	February 7	2020	Roots	meter S/N:	438320	Ta:	295	°К
Operator:	Jim Tisch					Pa:	745.5	mm Hg
Calibration	Model #:	TE-5025A	Calil	prator S/N:	1612			
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	]
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.3730	3.2	2.00	
	2	3	4	1	0.9820	6.4	4.00	-
	3	5	6	1	0.8780	8.0	5.00	-
	4	7	8	1	0.8340	8.8	5.50	
	5	9	10	1	0.6900	12.8	8.00	
			[	Data Tabula	tion			]
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$	)( <u>Tstd</u> )		Qa	√∆H(Ta/Pa)	
	(m3)	(x-axis)	(y-ax		Va	(x-axis)	(y-axis)	
	0.9866	0.7186	1.40		0.9957	0.7252	0.8896	-
	0.9824	1.0004	1.99	09	0.9914	1.0096	1.2581	-
	0.9802	1.1165	2.22	59	0.9893	1.1267	1.4066	
	0.9792	1.1741	2.33	45	0.9882	1.1849	1.4753	-
	0.9739	1.4114	2.81		0.9828	1.4244	1.7792	-
	OCTD		2.030		0.4		1.27124	
	QSTD	b= r=	-0.04		QA	b= r=	-0.02917 0.99995	
		1-	0.555			1	0.33333	]
	Vstd=	AVol((Pa-AP)	/Pstd)(Tstd/Ta	Calculation		ΔVol((Pa-Δl	P)/Pa)	-
		Vstd/ATime	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Va/ATime	,,,	-
			For subsequ	ient flow rat	te calculatio			1
	Qstd=	1/m (( _ \[ \[ \] \[ \] \[ \] H (	Pa (Tstd Pstd Ta	-))-b)		11	н(Та/Ра))-b)	
[		Conditions	rstu /\ la	///		// V	· // /	]
Tstd:				Г		RECA	LIBRATION	1
Pstd:		mm Hg						
	ŀ	(ey					nnual recalibrati	
ΔH: calibrate							Regulations Part	
ΔP: rootsme		eter reading perature (°K)					, Reference Met	
		essure (mm					ended Particulat	
		cooure (min			th	e Atmosphe	ere, 9.2.17, page	30
b: intercept			1	1				1

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Village of Cleves, OH 45002

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-

# ALS Technichem (HK) Pty Ltd

### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES





CONTACT	: MR BEN TAM	WORK ORDER HK2001299
CLIENT	ACTION UNITED ENVIRONMENT	
	SERVICES AND CONSULTING	
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1
	TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG	DATE RECEIVED : 6-JAN-2020
	KONG	DATE OF ISSUE : 10-JAN-2020
PROJECT	:	NO. OF SAMPLES : 1
		CLIENT ORDER +

#### **General Comments**

- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.
- Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	Position
Kichard Jong.	
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd Part of the ALS Laboratory Group

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2001299

<sup>1</sup> ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING : .....



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001299-001	S/N: 11008017	AIR	06-Jan-2020	S/N: 11008017

## **Equipment Verification Report (TSP)**

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	TSI AM510
Serial No.	11008017
Equipment Ref:	EQ102
Work Order:	HK2001299

#### **Standard Equipment:**

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES Office (Calibration Room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

## **Equipment Verification Results:**

Verification Date:

27 & 31 December 2019

0.5354

0.9984

6 January 2020

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Concentration in mg/m <sup>3</sup> (Calibrated Equipment)	Tolerance (mg/m <sup>3</sup> )
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	0.076	+0.036
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	0.087	+0.039
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	0.066	+0.032

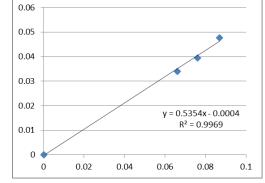
#### Linear Regression of Y or X

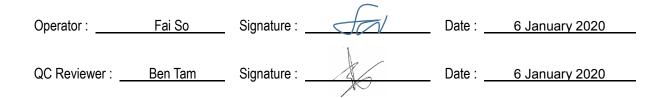
Slope (factor):	
Correlation Coefficient (R)	
Date of Issue	

Remarks:

- 1. **Strong** Correlation (R>0.8)
- 2. Factor 0.5354 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment





Location : Location ID :	Gold Ki Calibrat	-	strial Buildi m	ng, K	wai Cł	nung		Date of Calibration: 3-Dec-19 Next Calibration Date: 3-Mar-20			
					COND	ITIONS					
	Sea Level ] Temp	Pressure perature	. ,	1	.023.1 16.4		Corrected Pressi Temperati		767.325 289		
				CALI	BRATI	ON ORIFICE					
		Calibrat	Make-> Model-> ion Date->		SCH 25A 26-19		Qstd Slope Qstd Intercept Expiry Date	->(	2.0968 0.00065 -Feb-20		
					CALIB	RATION					
Plate H20 No. (ir	(L)H2O (R) 1) (in)	H20 (in)	Qstd (m3/min)		I art)	IC corrected		INEAR RESSION			
13 5. 10 4.	18         6.5         6.5         13.0         1.754         55           13         5.2         5.2         10.4         1.569         4           10         4.1         4.1         8.2         1.393         4           8         2.6         2.6         5.2         1.109         3				53         54.04           48         48.94           41         41.80           30         30.59           22         22.43		Intercep	Slope = 36.7338 Intercept = -9.6198 Corr. coeff. = 0.9986			
<b>Calculations :</b> Qstd = 1/m[Squ IC = I[Sqrt(Pa/ Qstd = standard IC = corrected I = actual chart m = calibrator (C Ta = actual ten Pstd = actual p <b>For subsequer</b> 1/m((I)[Sqrt(2 m = sampler she	Pstd)(Tstd/T I flow rate chart response Qstd slope Qstd intercep nperature du ressure durin t calculation (98/Tav)(Pay	ra)] es t ring cali ng calibr <b>n of san</b>	bration ( de ation ( mm apler flow:		00 90 90 90 90 90 90 90 90 90 90 90 90 9	.00	FLOW RATE C	CHART			
<ul> <li>b = sampler intercept</li> <li>I = chart response</li> <li>Tav = daily average temperature</li> <li>Pav = daily average pressure</li> </ul>						0.000	0.500 1.000 Standard Flow Rate	1.500 e (m3/min)	2.000		



Key

ΔH: calibrator manometer reading (in H2O) ΔP: rootsmeter manometer reading (mm Hg)

Ta: actual absolute temperature (°K)

Pa: actual barometric pressure (mm Hg)

RECALIBRATION DUE DATE:

February 5, 2020

	0e	rufu	cate	of	Oal	wri	tion	
			Calibration	Certificati	on Informat	tion		
Cal. Date:	February 5	, 2019	Roots	meter S/N:	438320	Ta:	293	°K
Operator:	Jim Tisch					Pa:	753.1	mm Hg
Calibration	Model #:	TE-5025A	Cali	brator S/N:	1941			-
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	1
•	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.4830	3.2	2.00	-
	2	3	4	1	1.0430	6.4	4.00	1
	3	5	6	1	0.9300	7.9	5.00	1
	4	7	8	1	0.8870	8.7	5.50	1
	5	9	10	1	0.7320	12.7	8.00	]
			I	Data Tabula	tion			1
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstc}\right)}$	)( <u>Tstd</u> )		Qa	$\sqrt{\Delta H(Ta/Pa)}$	
	(m3)	(x-axis)	(y-ax	(is)	Va	(x-axis)	(y-axis)	
	1.0036	0.6767	1.41	97	0.9958	0.6714	0.8821	1
	0.9993	0.9581	2.00	78	0.9915	0.9506	1.2475	1
	0.9973	1.0723	2.24	48	0.9895	1.0640	1.3947	]
	0.9962	1.1231	2.35	44	0.9884	1.1144	1.4628	
	0.9908	1.3536	2.83	95	0.9831	1.3431	1.7642	1
		m=	2.096			m=	1.31298	
•	QSTD	b=	-0.00		QA	b=	-0.00040	1
		r=	0.999	999		r=	0.99999	
			Alla taka ang kati ng panakan pang kati kati ng pang kati kati ng pang kati kati ng pang kati kati ng pang kati	Calculatio	ns	****		1
	Vstd=	ΔVol((Pa-ΔP)	)/Pstd)(Tstd/T	a)	Va=	ΔVol((Pa-Δ	P)/Pa)	1
		Vstd/∆Time			and the second se	Va/∆Time		1
			For subsequ	ent flow ra	te calculatio	ns:		1
	Qstd=	1/m (( \\ \[ \Delta H (	Pa Tstd	-))-b)	Qa=	1/m (( $\sqrt{\Delta H})$	H(Ta/Pa))-b)	
[	Standard	Conditions						_
Tstd:	1					RECA	LIBRATION	
Pstd:	760	mm Hg				a na na a na d	nnual racalibrati	on nor 100

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

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Village of Cleves, OH 45002

b: intercept m: slope

## ALS Technichem (HK) Pty Ltd

#### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES





CONTACT	: MR BEN TAM	WORK ORDER HK2001293					
CLIENT	ACTION UNITED ENVIRONMENT						
	SERVICES AND CONSULTING						
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1					
	TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG	DATE RECEIVED : 6-JAN-2020					
	KONG	DATE OF ISSUE : 10-JAN-2020					
PROJECT	:	NO. OF SAMPLES : 1					
		CLIENT ORDER +					

#### **General Comments**

- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.
- Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	Position
Richard Jong.	
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd Part of the ALS Laboratory Group

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2001293

<sup>1</sup> ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING : .....



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001293-001	S/N: 3Y6503	AIR	06-Jan-2020	S/N: 3Y6503

### **Equipment Verification Report (TSP)**

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6503
Equipment Ref:	EQ112
Job Order	HK2001293

#### **Standard Equipment:**

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

### **Equipment Verification Results:**

Testing Date:

27&31 December 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	2371	19.8
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	2479	20.7
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	1899	14.1

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)



Slope (K-factor):	0.0022
Correlation Coefficient	0.9889
Date of Issue	6 January 2020

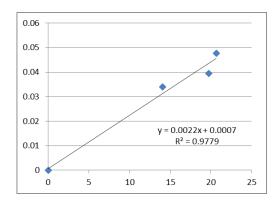
#### Remarks:

1. **Strong** Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment





Operator :	Fai So	Signature :	Sal	Date :	6 January 2020
QC Reviewer :	Ben Tam	Signature :	46	Date :	6 January 2020

### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Location ID : Calibration Room						nung		of Calibration: 3-I libration Date: 3-N	
					COND	ITIONS			
	Sea Level ] Temp	Pressure perature	. ,	1	.023.1 16.4		Corrected Pressu Temperatu		767.325 289
				CALI	BRATI	ON ORIFICE			
Make-> TIS Model-> 502 Calibration Date-> 5-Fe							Qstd Slope Qstd Intercept Expiry Date	->(	2.0968 0.00065 -Feb-20
					CALIB	RATION			
Plate H20 No. (ir	(L)H2O (R) 1) (in)	H20 (in)	Qstd (m3/min)		I art)	IC corrected		INEAR RESSION	
18       6.         13       5.         10       4.         8       2.         5       1.	2 5.2 1 4.1 6 2.6	13.0 10.4 8.2 5.2 3.2	1.754 1.569 1.393 1.109 0.870	4	53         54.04           48         48.94           41         41.80           30         30.59           22         22.43		Slope = 36.7338 Intercept = -9.6198 Corr. coeff. = 0.9986		
<b>Calculations :</b> Qstd = 1/m[Squ IC = I[Sqrt(Pa/ Qstd = standard IC = corrected I = actual chart m = calibrator (C Ta = actual ten Pstd = actual p <b>For subsequer</b> 1/m((I)[Sqrt(2 m = sampler she	Pstd)(Tstd/T I flow rate chart response Qstd slope Qstd intercep nperature du ressure durin t calculation (98/Tav)(Pay	ra)] es t ring cali ng calibr <b>n of san</b>	bration ( de ation ( mm apler flow:		00 90 90 90 90 90 90 90 90 90 90 90 90 9	.00	FLOW RATE C	CHART	
<ul> <li>b = sampler intercept</li> <li>I = chart response</li> <li>Tav = daily average temperature</li> <li>Pav = daily average pressure</li> </ul>				0	0.000	0.500 1.000 Standard Flow Rate	1.500 e (m3/min)	2.000	



Key

ΔH: calibrator manometer reading (in H2O) ΔP: rootsmeter manometer reading (mm Hg)

Ta: actual absolute temperature (°K)

Pa: actual barometric pressure (mm Hg)

RECALIBRATION DUE DATE:

February 5, 2020

	0e	rtifa	cate	of	Oal	iori	tion	
			Calibration	Certificati	on Informat	ion		
Cal. Date:	February 5	, 2019	Roots	meter S/N:	438320	Ta:	293	°К
Operator:	Jim Tisch					Pa:	753.1	mm Hg
Calibration I	Model #:	TE-5025A	Cali	brator S/N:	1941			-
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	]
4	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.4830	3.2	2.00	
	2	3	4	1	1.0430	6.4	4.00	1
	3	5	6	1	0.9300	7.9	5.00	]
	4	7	8	1	0.8870	8.7	5.50	]
	5	9	10	1	0.7320	12.7	8.00	
				Data Tabula	tion			]
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstc}\right)}$	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$		Qa	$\sqrt{\Delta H(Ta/Pa)}$	
	(m3)	(x-axis)	(y-ax	(is)	Va	(x-axis)	(y-axis)	
	1.0036	0.6767	1.41	97	0.9958	0.6714	0.8821	1
	0.9993	0.9581	2.00	78	0.9915	0.9506	1.2475	1
	0.9973	1.0723	2.24	48	0.9895	1.0640	1.3947	]
	0.9962	1.1231	2.35	44	0.9884	1.1144	1.4628	]
	0.9908	1.3536	2.83		0.9831	1.3431	1.7642	
		m=	2.096			m=	1.31298	
,	QSTD	b=	-0.00		QA	b=	-0.00040	1
		r=	0.999	999		<u>r=</u>	0.99999	]
				Calculatio	ns	216/100418/04/1004-044118/04/04/04/04/04/04/04/04/04/04/04/04/04/		]
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T	a)	Va=	ΔVol((Pa-Δ	P)/Pa)	1
	Qstd=	Vstd/∆Time	******		Qa=	Va/∆Time		1
	For subsequent flow rate calculations:							
	$\mathbf{Qstd=1/m}\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right) \qquad \mathbf{Qa=1/m}\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$							
	Standard	Conditions						
Tstd:	298.15		de diving to the second se			RECA	LIBRATION	
Pstd:	760	mm Hg					nnual racalibrati	100

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc. 145 South Miami Avenue

Village of Cleves, OH 45002

b: intercept m: slope

> <u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9009

## ALS Technichem (HK) Pty Ltd

#### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES





CONTACT	: MR BEN TAM	WORK ORDER HK2001300					
CLIENT	ACTION UNITED ENVIRONMENT						
	SERVICES AND CONSULTING						
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1					
	TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG	DATE RECEIVED : 6-JAN-2020					
	KONG	DATE OF ISSUE : 10-JAN-2020					
PROJECT	:	NO. OF SAMPLES : 1					
		CLIENT ORDER					

#### **General Comments**

- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.
- Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	Position
Richard Jong.	
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd Part of the ALS Laboratory Group

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2001300

<sup>1</sup> ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING : .....



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001300-001	S/N: 366410	AIR	06-Jan-2020	S/N: 366410

### **Equipment Verification Report (TSP)**

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK2001300

#### **Standard Equipment:**

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

### **Equipment Verification Results:**

Testing Date:

27&31 December 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	2298	19.2
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	2477	20.6
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	1941	14.4

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)



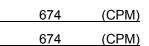
Slope (K-factor):	0.0022
Correlation Coefficient	0.9937
Date of Issue	6 January 2020

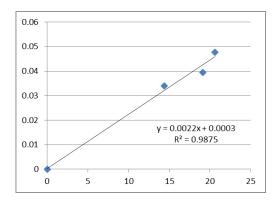
#### Remarks:

1. **Strong** Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment





Operator :	Fai So	Signature : _	far	Date :	6 January 2020
QC Reviewer :	Ben Tam	Signature : _	K	Date :	6 January 2020

### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location ID :	Gold Ki Calibrat	-		of Calibration: 3-I libration Date: 3-N					
					COND	ITIONS			
	Sea Level ] Temp	Pressure perature	. ,	1	.023.1 16.4		Corrected Pressu Temperatu		767.325 289
				CALI	BRATI	ON ORIFICE		-	
Make-> TIS Model-> 502 Calibration Date-> 5-Fe							Qstd Slope Qstd Intercept Expiry Date	->(	2.0968 0.00065 -Feb-20
					CALIB	RATION			
Plate H20 No. (ir	(L)H2O (R) 1) (in)	H20 (in)	Qstd (m3/min)		I art)	IC corrected		INEAR RESSION	
18       6.         13       5.         10       4.         8       2.         5       1.	2 5.2 1 4.1 6 2.6	13.0 10.4 8.2 5.2 3.2	1.754 1.569 1.393 1.109 0.870	4	53 18 11 50 22	54.04 48.94 41.80 30.59 22.43	Slope Intercep Corr. coeff	t = -9.6198	
<b>Calculations :</b> Qstd = 1/m[Squ IC = I[Sqrt(Pa/ Qstd = standard IC = corrected I = actual chart m = calibrator (C Ta = actual ten Pstd = actual p <b>For subsequen</b> 1/m((I)[Sqrt(2 m = sampler she	Pstd)(Tstd/T I flow rate chart response Qstd slope Qstd intercep nperature du ressure durin t calculation (98/Tav)(Pay	ra)] es t ring cali ng calibr <b>n of san</b>	bration ( de ation ( mm apler flow:		00 90 90 90 90 90 90 90 90 90 90 90 90 9	.00	FLOW RATE C	CHART	
<ul> <li>b = sampler intercept</li> <li>I = chart response</li> <li>Tav = daily average temperature</li> <li>Pav = daily average pressure</li> </ul>				0	0.000	0.500 1.000 Standard Flow Rate	1.500 e (m3/min)	2.000	



Key

ΔH: calibrator manometer reading (in H2O) ΔP: rootsmeter manometer reading (mm Hg)

Ta: actual absolute temperature (°K)

Pa: actual barometric pressure (mm Hg)

RECALIBRATION DUE DATE:

February 5, 2020

	0e	rtifa	cate	of	Oal	iori	tion	
			Calibration	Certificati	on Informat	ion		
Cal. Date:	February 5	, 2019	Roots	meter S/N:	438320	Ta:	293	°К
Operator:	Jim Tisch					Pa:	753.1	mm Hg
Calibration I	Model #:	TE-5025A	Cali	brator S/N:	1941			-
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	]
4	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.4830	3.2	2.00	
	2	3	4	1	1.0430	6.4	4.00	1
	3	5	6	1	0.9300	7.9	5.00	]
	4	7	8	1	0.8870	8.7	5.50	]
	5	9	10	1	0.7320	12.7	8.00	
				Data Tabula	tion			]
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstc}\right)}$	)( <u>Tstd</u> )		Qa	$\sqrt{\Delta H(Ta/Pa)}$	
	(m3)	(x-axis)	(y-ax	(is)	Va	(x-axis)	(y-axis)	
	1.0036	0.6767	1.41	97	0.9958	0.6714	0.8821	1
	0.9993	0.9581	2.00	78	0.9915	0.9506	1.2475	1
	0.9973	1.0723	2.24	48	0.9895	1.0640	1.3947	]
	0.9962	1.1231	2.35	44	0.9884	1.1144	1.4628	]
	0.9908	1.3536	2.83		0.9831	1.3431	1.7642	
		m=	2.096			m=	1.31298	
,	QSTD	b=	-0.00		QA	b=	-0.00040	1
		r=	0.999	999		<u>r=</u>	0.99999	]
				Calculatio	ns	216/100418/04/10040244141824404404404404884494444		]
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T	a)	Va=	ΔVol((Pa-Δ	P)/Pa)	1
	$Qstd=Vstd/\DeltaTime$ $Qa=Va/\DeltaTime$						1	
	For subsequent flow rate calculations:							1
	$\mathbf{Qstd=1/m}\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right) \cdot b\right) \qquad \mathbf{Qa=1/m}\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right) \cdot b\right)$							
	Standard	Conditions			_			
Tstd:	298.15		de diving to the second se			RECA	LIBRATION	
Pstd:	760	mm Hg				nnual racalibrati	100	

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc. 145 South Miami Avenue

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b: intercept m: slope

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## ALS Technichem (HK) Pty Ltd

#### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES





CONTACT	: MR BEN TAM	WORK ORDER HK2001298				
CLIENT	ACTION UNITED ENVIRONMENT					
	SERVICES AND CONSULTING					
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1				
	TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG	DATE RECEIVED : 6-JAN-2020				
	KONG	DATE OF ISSUE : 10-JAN-2020				
PROJECT	:	NO. OF SAMPLES : 1				
		CLIENT ORDER +				

#### **General Comments**

- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.
- Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

#### Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories	Position
Richard Jong.	
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd Part of the ALS Laboratory Group

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2001298

<sup>1</sup> ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING : .....



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001298-001	S/N: 2X6145	AIR	06-Jan-2020	S/N: 2X6145

### **Equipment Verification Report (TSP)**

#### **Equipment Calibrated:**

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	2X6145
Equipment Ref:	EQ105
Job Order	HK2001298

#### Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

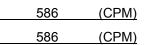
### **Equipment Verification Results:**

Testing Date:

27&31 December 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	2254	18.8
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	2561	21.3
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	1841	13.6

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration)



#### Linear Regression of Y or X

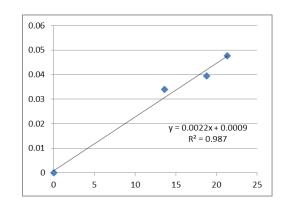
Slope (K-factor):	0.0022
Correlation Coefficient	0.9935
Date of Issue	6 January 2020

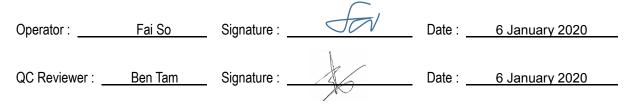
#### Remarks:

1. **Strong** Correlation (R>0.8)

2. Factor 0.0022 should be apply for TSP monitoring

\*If R<0.5, repair or re-verification is required for the equipment





### TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai C Location ID : Calibration Room					wai Cł	nung		of Calibration: 3-I libration Date: 3-N	
					COND	ITIONS			
	Sea Level ] Temp	Pressure perature	. ,	1	.023.1 16.4		Corrected Pressu Temperatu		767.325 289
				CALI	BRATI	ON ORIFICE			
		Calibrat	Make-> Model-> ion Date->		SCH 25A 26-19		Qstd Slope Qstd Intercept Expiry Date	->(	2.0968 0.00065 -Feb-20
					CALIB	RATION			
Plate H20 No. (ir	(L)H2O (R) 1) (in)	H20 (in)	Qstd (m3/min)		I art)	IC corrected		INEAR RESSION	
18       6.         13       5.         10       4.         8       2.         5       1.	2 5.2 1 4.1 6 2.6	13.0 10.4 8.2 5.2 3.2	1.754 1.569 1.393 1.109 0.870	4	53 18 11 50 22	54.04 48.94 41.80 30.59 22.43	Slope Intercep Corr. coeff	t = -9.6198	
<b>Calculations :</b> Qstd = 1/m[Sqr IC = I[Sqrt(Pa/ Qstd = standard IC = corrected I = actual chart m = calibrator ( Ta = actual ten Pstd = actual ten Pstd = actual pr <b>For subsequen</b> 1/m((I)[Sqrt(2 m = sampler slo b = sampler in	Pstd)(Tstd/T I flow rate chart response Qstd slope Qstd intercep nperature du ressure durin t calculation (98/Tav)(Pay	ra)] es t ring cali ng calibr <b>n of san</b>	bration ( de ation ( mm apler flow:		00 90 90 90 90 90 90 90 90 90 90 90 90 9	.00	FLOW RATE C	CHART	
I = chart responses Tay = daily ave	ise				0	0.000	0.500 1.000 Standard Flow Rate	1.500 e (m3/min)	2.000



Key

ΔH: calibrator manometer reading (in H2O) ΔP: rootsmeter manometer reading (mm Hg)

Ta: actual absolute temperature (°K)

Pa: actual barometric pressure (mm Hg)

RECALIBRATION DUE DATE:

February 5, 2020

	0e	rtifa	cate	of	Oal	iori	tion	
			Calibration	Certificati	on Informat	ion		
Cal. Date:	February 5	, 2019	Roots	meter S/N:	438320	Ta:	293	°К
Operator:	Jim Tisch					Pa:	753.1	mm Hg
Calibration I	Model #:	TE-5025A	Cali	brator S/N:	1941			-
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	]
4	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.4830	3.2	2.00	
	2	3	4	1	1.0430	6.4	4.00	1
	3	5	6	1	0.9300	7.9	5.00	]
	4	7	8	1	0.8870	8.7	5.50	]
	5	9	10	1	0.7320	12.7	8.00	
				Data Tabula	tion			]
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstc}\right)}$	)( <u>Tstd</u> )		Qa	$\sqrt{\Delta H(Ta/Pa)}$	
	(m3)	(x-axis)	(y-ax	(is)	Va	(x-axis)	(y-axis)	
	1.0036	0.6767	1.41	97	0.9958	0.6714	0.8821	1
	0.9993	0.9581	2.00	78	0.9915	0.9506	1.2475	1
	0.9973	1.0723	2.24	48	0.9895	1.0640	1.3947	]
	0.9962	1.1231	2.35	44	0.9884	1.1144	1.4628	]
	0.9908	1.3536	2.83		0.9831	1.3431	1.7642	
		m=	2.096			m=	1.31298	
,	QSTD	b=	-0.00		QA	b=	-0.00040	1
		r=	0.999	999		<u>r=</u>	0.99999	]
				Calculatio	ns	216/100418/04/1004-044118/04/04/04/04/04/04/04/04/04/04/04/04/04/		]
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T	a)	Va=	ΔVol((Pa-Δ	P)/Pa)	1
	Qstd=	Vstd/∆Time	******		Qa=	Va/∆Time		1
			For subsequ	ent flow ra	te calculatio	ns:		1
	Qstd=	1/m ((	Pa Pstd Tstd	-))-b)	Qa=	$1/m \left( \sqrt{\Delta H} \right)$	l(Ta/Pa))-b)	
	Standard	Conditions			_			
Tstd:	298.15		de diving to the second se			RECA	LIBRATION	
Pstd:	760	mm Hg					nnual racalibrati	100

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

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b: intercept m: slope

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Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C200488 證書編號

ITEM TESTED / 送檢項目	(Job No. / 序引編號:IC19-1098)	Date of Receipt / 收件日期: 7 January 2020
Description / 儀器名稱 :	Sound Level Meter (EQ011)	
Manufacturer / 製造商 :	Rion	
Model No. / 型號 :	NL-52	
Serial No. / 編號 :	01121362	
Supplied By / 委託者 :	Action-United Environmental Services and	d Consulting
	Unit A, 20/F., Gold King Industrial Buildi	ng,
	35-41 Tai Lin Pai Road, Kwai Chung, N.T	Γ.

#### TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Line Voltage / 電壓 : --- Relative Humidity / 相對濕度 : (50 ± 25)%

#### TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 22 January 2020

#### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. The results do not exceed manufacturer's specification. (after adjustment) The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試	:As	<u>Chenk</u> K P Cheuk ssistant Engineer			
Certified By 核證	:	K C Lee Engineer	Date of Issue 簽發日期	:	24 January 2020

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 - 校正及檢測實驗所 c/o 香港新界屯門興安里一號四樓 Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com



Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No.: C200488 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C200258
CL281	Multifunction Acoustic Calibrator	CDK1806821

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level
- 6.1.1.1 Before Adjustment

×	UUT	Setting		Applied	d Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	* 91.3	$\pm 1.1$
* Out of IEC	61672 Class	1 Space					

\* Out of IEC 61672 Class 1 Spec.

#### 6.1.1.2 After Adjustment

	UUT	Setting		Applied	d Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	94.0	± 1.1

#### 6.1.2 Linearity

	UU	Г Setting	Applie	d Value	UUT	
Range	Function	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Spec. :  $\pm$  0.6 dB per 10 dB step and  $\pm$  1.1 dB for overall different.

E-mail/電郵: callab@suncreation.com

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗所

c/o 香港新界屯門興安里一號四樓 Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No.: C200488 證書編號

#### 6.2 Time Weighting

	UUT	Setting		Applie	d Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

#### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting			Applied Value		UUT	IEC 61672	
Range	Function	Frequency	uency Time		Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	63 Hz	67.7	$-26.2 \pm 1.5$
					125 Hz	77.8	$-16.1 \pm 1.5$
					250 Hz	85.3	$-8.6 \pm 1.4$
					500 Hz	90.7	$-3.2 \pm 1.4$
					1 kHz	94.0	Ref.
					2 kHz	95.2	$+1.2 \pm 1.6$
					4 kHz	95.0	$+1.0 \pm 1.6$
					8 kHz	92.9	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

#### 6.3.2 C-Weighting

UUT Setting			Applied Value		UUT	IEC 61672	
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L <sub>C</sub>	С	Fast	94.00	63 Hz	93.2	$-0.8 \pm 1.5$
					125 Hz	93.8	$-0.2 \pm 1.5$
					250 Hz	94.0	$0.0 \pm 1.4$
					500 Hz	94.0	$0.0 \pm 1.4$
					1 kHz	94.0	Ref.
					2 kHz	93.8	$-0.2 \pm 1.6$
					4 kHz	93.2	$-0.8 \pm 1.6$
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.6	-6.2 (+3.0 ; -6.0)

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# Certificate of Calibration 校正證書

Certificate No. : C200488 證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 12912

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value : 94 dB : 63 Hz - 125 Hz :  $\pm \ 0.35 \ dB$ 250 Hz - 500 Hz : ± 0.30 dB  $\pm 0.20 \text{ dB}$ 1 kHz 2 kHz - 4 kHz  $\pm 0.35 \text{ dB}$ 8 kHz  $\pm 0.45 \text{ dB}$ 12.5 kHz  $\pm 0.70 \text{ dB}$ 104 dB : 1 kHz  $\pm 0.10 \text{ dB}$  (Ref. 94 dB) 114 dB : 1 kHz  $\pm 0.10 \text{ dB}$  (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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**Sun Creation Engineering Limited** 

**Calibration & Testing Laboratory** 

# Certificate of Calibration 校正證書

Certificate No. : C194820 證書編號

	·	
ITEM TESTED / Description / 儀器 Manufacturer / 製 Model No. / 型號 Serial No. / 編號 Supplied By / 委討	名稱 : Sound Level Meter (EQ015) 造商 : Rion : NL-52 : 00142581	rvices and Consulting ial Building,
TEST CONDITIO		
Temperature / 溫度 Line Voltage / 電風		Relative Humidity / 相對濕度 : (50 ± 25)%
Calibration DATE OF TEST	/ 測試日期 : 7 September 2019	
The results do not	/ 測試結果 to the particular unit-under-test only. exceed manufacturer's specification. (after ad ailed in the subsequent page(s).	ljustment)
<ul><li>The Governmen</li><li>The Bruel &amp; Kja</li><li>Agilent Technol</li></ul>	t used for calibration are traceable to Nationa t of The Hong Kong Special Administrative F aer Calibration Laboratory, Denmark ogies / Keysight Technologies ervice Center, USA	l Standards via : Region Standard & Calibration Laboratory
Tested By 測試	: H T Wong Technical Officer	
Certified By	- An-	Date of Issue : 10 September 2019

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory. 本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

簽發日期

核證

K C Lee Engineer



**Sun Creation Engineering Limited** 

**Calibration & Testing Laboratory** 

# Certificate of Calibration 校正證書

Certificate No. : C194820 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level
- 6.1.1.1 Before Adjustment

	UUT Setting				Applied Value		IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	* 92.9	± 1.1

\* Out of IEC 61672 Class 1 Spec.

#### 6.1.1.2 After Adjustment

	UUT Setting				d Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	94.0	± 1.1

#### 6.1.2 Linearity

	UU	Γ Setting	Applied Value		UUT	
Range	Function	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 130	L <sub>A</sub>	А	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Spec. :  $\pm$  0.6 dB per 10 dB step and  $\pm$  1.1 dB for overall different.

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**Sun Creation Engineering Limited** 

**Calibration & Testing Laboratory** 

# Certificate of Calibration 校正證書

Certificate No. : C194820 證書編號

#### 6.2 Time Weighting

	UUT Setting				Applied Value		UUT	IEC 61672
Rar	nge	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(d	lB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 -	130	L <sub>A</sub>	А	Fast	94.00	1	94.0	Ref.
				Slow			94.0	± 0.3

#### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting			Appl	ied Value	UUT	IEC 61672	
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L <sub>A</sub>	A	Fast	94.00	63 Hz	67.7	$-26.2 \pm 1.5$
					125 Hz	77.8	$-16.1 \pm 1.5$
	· · · · · · · · · · · · · · · · · · ·				250 Hz	85.3	$-8.6 \pm 1.4$
					500 Hz	90.8	$-3.2 \pm 1.4$
					1 kHz	94.0	Ref.
					2 kHz	95.2	$+1.2 \pm 1.6$
					4 kHz	95.0	$+1.0 \pm 1.6$
					8 kHz	93.0	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

#### 6.3.2 <u>C-Weighting</u>

UUT Setting				Appli	ed Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L <sub>C</sub>	С	Fast	94.00	63 Hz	93.1	$-0.8 \pm 1.5$
					125 Hz	93.8	$-0.2 \pm 1.5$
					250 Hz	94.0	$0.0 \pm 1.4$
					500 Hz	94.0	$0.0 \pm 1.4$
					1 kHz	94.0	Ref.
					2 kHz	93.9	$-0.2 \pm 1.6$
					4 kHz	93.2	$-0.8 \pm 1.6$
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.7	-6.2 (+3.0 ; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C194820 證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 15585

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :	94 dB : 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	$= \pm 0.30 \text{ dB}$
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	$\pm 0.45 \text{ dB}$
	12.5 kHz	$2 \pm 0.70 \text{ dB}$
	104 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	114 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

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The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C201348 證書編號

ITEM TESTED / 送檢項	目目	(Job No. / 序引編號:IC19-1098)	Date of Receipt / 收件日期: 27 February 2020
Description / 儀器名稱	:	Sound Level Calibrator (EQ085)	
Manufacturer / 製造商	:	Rion	
Model No. / 型號	:	NC-73	
Serial No. / 編號	:	10655561	
Supplied By / 委託者	:	Action-United Environmental Services a	nd Consulting
		Unit A, 20/F., Gold King Industrial Build	ding,
		35-41 Tai Lin Pai Road, Kwai Chung, N	.Т.

#### TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Line Voltage / 電壓 : --- Relative Humidity / 相對濕度 : (50±25)%

#### TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 7 March 2020

#### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

The results do not exceed manufacturer's specification & user's specified acceptance criteria. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試

H T Wong

Technical Officer

K C Lee Engineer

2

Certified By 核證

Date of Issue 簽發日期 ÷

10 March 2020

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited – Calibration & Testing Laboratory c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong 輝創工程有限公司 - 校正及檢測實驗所 c/o 香港新界屯門與安里—號四樓 Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com Page 1 of 2



Sun Creation Engineering Limited

Calibration & Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C201348 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- 2. The results presented are the mean of 3 measurements at each calibration point.
- 3. Test equipment :

Equipment ID CL130 CL281 TST150A Description Universal Counter Multifunction Acoustic Calibrator Measuring Amplifier

<u>Certificate No.</u> C193756 CDK1806821 C201309

- 4. Test procedure : MA100N.
- 5. Results :
- 5.1 Sound Level Accuracy

UUT	Measured Value	Mfr's Spec.	Uncertainty of Measured Value
Nominal Value	(dB)	(dB)	(dB)
94 dB, 1 kHz	94.2	$\pm 0.5$	± 0.2

#### 5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	User's	Uncertainty of Measured Value
(kHz)	(kHz)	Spec.	(Hz)
1	0.958	1 kHz ± 6 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

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ALS Technichem (HK) Pty Ltd 11/F, Chung Shun Knitting Centre 1-3 Wing Yip Street, Kwai Chung N.T., Hong Kong T: +852 2610 1044 | F: +852 2610 2021

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: CLIENT:	BEN TAM ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	WORK ORDER:	HK2023842
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH: LABORATORY: DATE RECEIVED: DATE OF ISSUE:	0 HONG KONG 26-Jun-2020 06-Jul-2020

### SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	YSI Professional DSS
Serial No./ Equipment No.:	15H102620/ 15H103928 (EQW018)
Date of Calibration:	06-July-2020

### **GENERAL COMMENTS**

This is the Final Report and supersedes any preliminary report with this batch number. All pages of this report have been checked and approved for release.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

SUB-BATCH: DATE OF ISSUE: CLIENT:0 06-Jul-2020 ACTION UNITED ENVIRONMENT SERVICES AND CONSULTINGEquipment Type: Brand Name/ Model No.: Serial No./ Equipment No.: Date of Calibration:Multifunctional Meter YSI Professional DSSFind Name/ Model No.: Serial No./ Equipment No.: Date of Calibration:Multifunctional Meter O6-July-2020Date of Next Calibration:06-October-2020		WORK ORDER:	HK2023842		ALS
Brand Name/ Model No.: Serial No./ Equipment No.: YSI Professional DSS 15H102620/ 15H103928 (EQW018)		DATE OF ISSUE:	06-Jul-2020	T SERVICES AND CONSULTING	
Model No.: Serial No./ Equipment No.: YSI Professional DSS Serial No./ 15H102620/ 15H103928 (EQW018)		• • •	Multifunctional Meter		
Equipment No.:	Mod Seria	•	YSI Professional DSS		
		•	15H102620/ 15H103928 (EQ)	W018)	
			06-July-2020	Date of Next Calibration:	06-October-2020

#### PARAMETERS:

Conductivity

Method Ref: APHA (21st edition), 2510B

Expected Reading (µS/cm)	Displayed Reading ( <b>µ</b> S/cm)	Tolerance (%)
146.9	151.0	+2.8
6667	6238	-6.4
12890	12930	+0.3
58670	56782	-3.2
	Tolerance Limit (%)	±10.0

#### Dissolved Oxygen

#### en Method Ref: APHA (21st edition), 45000: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.97	3.10	+0.13
5.92	5.86	-0.06
7.42	7.38	-0.04
	Tolerance Limit (mg/L)	±0.20

pH Value

#### Method Ref: APHA (21st edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)		
4.0	3.91	-0.09		
7.0	7.10	+0.10		
10.0	10.06	+0.06		
	Tolerance Limit (pH unit)	±0.20		

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

WORK ORDER: HK2023842	LS
SUB-BATCH:0DATE OF ISSUE:06-Jul-2020CLIENT:ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	
Equipment Type: Multifunctional Meter	
Brand Name/ YSI Professional DSS Model No.:	
Serial No./ 15H102620/ 15H103928 (EQW018) Equipment No.:	
Date of Calibration:06-July-2020Date of Next Calibration:06-October-2020	

PARAMETERS:

Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)	
0	0.12		
4	4.17	+4.3	
40	40.21	+0.5	
80	80.26	+0.3	
400	409.76	+2.4	
800	810.22	+1.3	
	Tolerance Limit (%)	±10.0	

Salinity

#### Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	
10	10.02	+0.2
20	19.88	-0.6
30	29.97	-0.1
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

WORK ORDER:	HK2023842		C	ALS
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 06-Jul-2020 ACTION UNITED ENVIRON	MENT SERVICES AND CONSULTING		
Equipment Type:	Multifunctional Meter			
Brand Name/ Model No.:	YSI Professional DSS			
Serial No./ Equipment No.:	15H102620/ 15H103928 (EQW018)			
Date of Calibration:	06-July-2020	Date of Next Calibration:	06-October-2020	
PARAMETERS:				
Temperature	Method Ref: Section 6 of In	ternational Accreditation New Zealar	nd Technical	

Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.5	10.2	-0.3
20.0	19.8	-0.2
39.5	40.2	+0.7
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganic

Page 4 of 4

Work Order:	HK1946056
Sub-batch:	0
Date of Issue:	28-Oct-2019
Client:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

#### **Reference Equipment:**

Model: SonTek IQ Standard Serial Number : IQ1217004

#### Equipment to be calibrated:

Equipment Type:	Flow Meter		
Brand Name:	Global Water		
Model No.:	FP211		
Serial No.:	1449006330		
Equipment No.:			
Calibration Factor:	314		

Date of Calibration: 09 October, 2019

Parameters: The calibration of flow meter is verified with standard flow meter on site by AUES Staff.

#### Flow rate

Trial	Reading of Reference Equipment (m/s)	Reading of Equipment to be calibrated (m/s)	
	SonTek IQ Standard Serial No: IQ1217004	Global Water FP211 Serial No. 1449006330	
		81	
1	0.11	0.1	
2	0.19	0.2	
3	0.46	0.4	
4	0.77	0.8	
5	1.02	1.0	
6	1.17	1.1	

Mr. Fung Lim Chee, Richard Managing Director, Life Sciences Hong Kong



Hong Kong Accreditation Service 香港認可處

## **Certificate of Accreditation**

認可證書

This is to certify that 特此證明

## ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong 香港新界葵涌永業街1-3號忠信針織中心11樓

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a 為香港認可處執行機關根據認可諮詢委員會建議而接受的

**HOKLAS Accredited Laboratory** 

「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence 此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求, of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as 獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定 listed in the HOKLAS Directory of Accredited Laboratories within the test category of 測試或校正工作

## Environmental Testing 環境測試

This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005. 本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。 This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory 這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作 quality management system (see joint IAF-ILAC-ISO Communiqué). (見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive 香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator 執行幹事 陳成城 Issue Date : 5 May 2009 簽發日期:二零零九年五月五日

Registration Number : HCKLAS 066 註冊號碼:



Date of First Registration : 15 September 1995 首次註冊日期:一九九五年九月十五日

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## Appendix F

## Event and Action Plan of Air Quality, Noise and Water Quality

#### **Event and Action Plan for air quality**

E	Action			
Event	ET	IEC	ER	Contractor
Action level exceedance for one sample	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform IEC and ER;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>	1. Notify Contractor	<ol> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol>
Action level exceedance for two or more consecutive samples	<ol> <li>Identify source;</li> <li>Inform IEC and ER;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IEC and ER;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>Supervise Implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Submit proposals for remedial to ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
Limit level exceedance for one sample	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform ER, Contractor and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Supervise implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
Limit level exceedance for two or more consecutive samples	<ol> <li>Notify IEC, ER, Contractor and EPD;</li> <li>Identify source;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures properly implemented;</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

Note: ET – Environmental Team IEC – Independent Environmental Checker ER – Engineer's Representative

### **Event and Action Plan for Construction Noise**

Event	Action			
Event	ET	IEC	ER	Contractor
Action Level Exceedance	<ol> <li>Notify IEC, ER and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, ER and Contractor;</li> <li>Discuss with the Contractor and formulate remedial measures;</li> <li>Increase monitoring frequency to check mitigation effectiveness</li> </ol>	3. Supervise the implementation of remedial measures.	<ul> <li>failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem;</li> <li>4. Ensure remedial measures are properly implemented</li> </ul>	<ol> <li>Submit noise mitigation proposals to IEC and ER;</li> <li>Implement noise mitigation proposals</li> </ol>
Limit Level Exceedance	<ol> <li>Identify source;</li> <li>Inform IEC, ER, EPD and Contractor;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ul> <li>failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analyzed noise problem;</li> <li>4. Ensure remedial measures properly</li> </ul>	<ul><li>3. Implement the agreed proposals;</li><li>4. Resubmit proposals if problem still not under control;</li></ul>

Note:

ET – Environmental Team

IEC – Independent Environmental Checker

ER – Engineer's Representative

#### **Event and Action Plan for Water Quality**

Emer	Action			
Event	ET	IEC	ER	Contractor
Action level exceedance for one sampling day	<ol> <li>Inform IEC, Contractor and ER;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods; and</li> <li>Discuss remedial measures with IEC and Contractor and ER.</li> </ol>	<ol> <li>Discuss with ET, ER and Contractor on the implemented mitigation measures;</li> <li>Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and</li> <li>Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss with IEC, ET and Contractor on the implemented mitigation measures;</li> <li>Make agreement on the remedial measures to be implemented;</li> <li>Supervise the implementation of agreed remedial measures.</li> </ol>	<ol> <li>Identify source(s) of impact;</li> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Discuss with ER, ET and IEC and purpose remedial measures to IEC and ER; and</li> <li>Implement the agreed mitigation measures.</li> </ol>
Action level exceedance for more than one consecutive sampling days	<ol> <li>Repeat in-situ measurement on next day of exceedance to confirm findings;</li> <li>Inform IEC, contractor and ER;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>Discuss remedial measures with IEC, contractor and ER</li> <li>Ensure remedial measures are implemented</li> </ol>	<ol> <li>Discuss with ET, Contractor and ER on the implemented mitigation measures;</li> <li>Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and</li> <li>Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss with ET, IEC and Contractor on the proposed mitigation measures;</li> <li>Make agreement on the remedial measures to be implemented ; and</li> <li>Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.</li> </ol>	<ol> <li>Identify source(s) of impact;</li> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment and consider changes of working methods;</li> <li>Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and</li> <li>Implement the agreed mitigation measures.</li> </ol>
Limit level exceedance for one sampling day	<ol> <li>Repeat measurement on next day of exceedance to confirm findings;</li> <li>Inform IEC, contractor and ER;</li> <li>Rectify unacceptable practice;</li> <li>Check monitoring data, all plant,</li> <li>equipment and Contractor's working methods;</li> <li>Consider changes of working methods;</li> <li>Discuss mitigation measures with IEC, ER and Contractor; and</li> <li>Ensure the agreed remedial measures are implemented</li> </ol>	<ol> <li>Discuss with ET, Contractor and ER on the implemented mitigation measures;</li> <li>Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and</li> <li>Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss with ET, IEC and Contractor on the implemented remedial measures;</li> <li>Request Contractor to critically review the working methods;</li> <li>Make agreement on the remedial measures to be implemented; and</li> <li>Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.</li> </ol>	<ol> <li>Identify source(s) of impact;</li> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment and consider changes of working methods;</li> <li>Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and</li> <li>Implement the agreed remedial measures.</li> </ol>
Limit level exceedance for more than one consecutive sampling days	<ol> <li>Inform IEC, contractor and ER;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>Discuss mitigation measures with IEC, ER and Contractor;</li> <li>Ensure mitigation measures are implemented; and</li> <li>Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days</li> </ol>	<ol> <li>Discuss with ET, Contractor and ER on the implemented mitigation measures;</li> <li>Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and</li> <li>Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</li> </ol>	<ol> <li>Discuss with ET, IEC and Contractor on the implemented remedial measures;</li> <li>Request Contractor to critically review the working methods;</li> <li>Make agreement on the remedial measures to be implemented;</li> <li>Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and</li> <li>Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.</li> </ol>	<ol> <li>Identify source(s) of impact;</li> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment and consider changes of working methods;</li> <li>Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and</li> <li>Implement the agreed remedial measures; and</li> <li>As directed by the ER, to slow down or stop all or part of the construction activities until no exceedance of Limit level.</li> </ol>

Note: ET - Environmental Team IEC - Independent Environmental Checker ER - Engineer's Representative Each step of actions required shall be implemented within 1 working day unless otherwise specified or agreed with EPD.



# Appendix G

Monitoring Schedules of the Reporting Month and Coming Month



			Air Qualit	y Monitoring	
	Date	Noise Monitoring	1-Hour TSP	24-Hour TSP	Water Quality
Sat	1-Aug-20				
Sun	2-Aug-20				
Mon	3-Aug-20			✓	✓
Tue	4-Aug-20	✓	√		
Wed	5-Aug-20				✓
Thu	6-Aug-20				
Fri	7-Aug-20				√
Sat	8-Aug-20			✓	
Sun	9-Aug-20				
Mon	10-Aug-20	✓	√		√
Tue	11-Aug-20				
Wed	12-Aug-20				$\checkmark$
Thu	13-Aug-20				
Fri	14-Aug-20			✓	√
Sat	15-Aug-20		√		
Sun	16-Aug-20				
Mon	17-Aug-20				✓
Tue	18-Aug-20				
Wed	19-Aug-20				✓
Thu	20-Aug-20			✓	
Fri	21-Aug-20	✓	√		✓
Sat	22-Aug-20				
Sun	23-Aug-20				
Mon	24-Aug-20				✓
Tue	25-Aug-20				
Wed	26-Aug-20			✓	✓
Thu	27-Aug-20	✓	√		
Fri	28-Aug-20				✓
Sat	29-Aug-20				
Sun	30-Aug-20				
Mon	31-Aug-20				✓

#### Impact Monitoring Schedule of Air Quality, Noise and Water Quality – August 2020

✓	Monitoring Day
	Sunday or Public Holiday



### Impact Monitoring Schedule of Air Quality, Noise and Water Quality – September 2020

	Dete		Air Quality	y Monitoring	
	Date	Noise Monitoring	1-Hour TSP	24-Hour TSP	Water Quality
Tue	1-Sep-20			✓	
Wed	2-Sep-20	✓	$\checkmark$		✓
Thu	3-Sep-20				
Fri	4-Sep-20				$\checkmark$
Sat	5-Sep-20				
Sun	6-Sep-20				
Mon	7-Sep-20			✓	$\checkmark$
Tue	8-Sep-20	✓	$\checkmark$		
Wed	9-Sep-20				✓
Thu	10-Sep-20				
Fri	11-Sep-20				✓
Sat	12-Sep-20			✓	
Sun	13-Sep-20				
Mon	14-Sep-20	✓	$\checkmark$		$\checkmark$
Tue	15-Sep-20				
Wed	16-Sep-20				✓
Thu	17-Sep-20				
Fri	18-Sep-20			✓	✓
Sat	19-Sep-20		✓		
Sun	20-Sep-20				
Mon	21-Sep-20				✓
Tue	22-Sep-20				
Wed	23-Sep-20				✓
Thu	24-Sep-20			✓	
Fri	25-Sep-20	1	✓		✓
Sat	26-Sep-20				
Sun	27-Sep-20				
Mon	28-Sep-20				✓
Tue	29-Sep-20			✓	
Wed	30-Sep-20	✓	$\checkmark$		$\checkmark$

✓	Monitoring Day
	Sunday or Public Holiday



## Appendix H

### **Monitoring Data**

- 24-hour TSP Air Quality
- Noise
- Water Quality



Air Quality (24-hour TSP)



					24	Hour	TSP N	Aonitor	ring Data	a for ASR-	-1				
DATE	SAMPLE NUMBER				CHA	RT REA	DING	AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE		FILTER W	EIGHT (g)	DUST WEIGHT COLLECTED	24-Hr TSP (μg/m <sup>3</sup> )
	NUMBER 25964	INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m <sup>3</sup> /min)	(std m <sup>3</sup> )	INITIAL	FINAL	(g)	
3-Aug-20	25964	22808.24	22832.25	1440.60	31	32	31.5	28.7	1004.7	1.16	1664	2.7548	2.7670	0.0122	7
8-Aug-20	26095	22832.25	22856.35	1446.00	31	32	31.5	28.8	1004.4	1.14	1656	2.8233	2.9026	0.0793	48
14-Aug-20	26112	22856.35	22880.35	1440.00	30	32	31.0	29.3	1009.7	1.13	1630	2.6488	2.7050	0.0562	34
20-Aug-20	26127	22880.35	22904.35	1440.00	31	31	31.0	29	1009.1	1.13	1621	2.6466	2.7161	0.0695	43
26-Aug-20	26128	22904.35	22928.35	1440.00	31	32	31.5	28.4	1006.2	1.14	1641	2.6552	2.6962	0.0410	25

					24-	Hour	TSP N	Aonitor	ring Data	n for ASR-	-2				
DATE	SAMPLE NUMBER		APSED TI	ME	CHA	RT REAI	DING	AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER W	EIGHT (g)	DUST WEIGHT COLLECTED	24-Hr TSP $(\mu g/m^3)$
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m <sup>3</sup> /min)	(std m <sup>3</sup> )	INITIAL	FINAL	(g)	
3-Aug-20	25965	20210.11	20234.11	1440.00	31	32	31.5	28.7	1004.7	1.20	1734	2.7914	2.8203	0.0289	17
8-Aug-20	26096	20234.11	20258.35	1454.40	31	32	31.5	28.8	1004.4	1.21	1766	2.8443	2.8720	0.0277	16
14-Aug-20	26111	20258.35	20282.35	1440.00	30	32	31.0	29.3	1009.7	1.20	1731	2.6386	2.6757	0.0371	21
20-Aug-20	26083	20284.35	20308.35	1440.00	30	31	30.5	29	1009.1	1.19	1709	2.8035	2.8370	0.0335	20
26-Aug-20	26130	20308.35	20332.36	1440.60	30	31	30.5	28.4	1006.2	1.19	1709	2.6783	2.7125	0.0342	20

					24-	Hour '	TSP M	Ionitori	ing Data	for ASR-	3a				
DATE	SAMPLE NUMBER		APSED TI	ME	CHA	RT REA	DING	AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER W	EIGHT (g)	DUST WEIGHT COLLECTED	24-Hr TSP $(\mu g/m^3)$
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m <sup>3</sup> /min)	(std m <sup>3</sup> )	INITIAL	FINAL	(g)	
3-Aug-20	26072	14009.47	14033.53	1443.60	30	31	30.5	28.7	1004.7	1.18	1698	2.8068	2.8367	0.0299	18
8-Aug-20	26064	14033.53	14057.60	1444.20	30	31	30.5	28.8	1004.4	1.21	1754	2.8007	2.8399	0.0392	22
14-Aug-20	26119	14057.60	14081.40	1428.00	30	32	31.0	29.3	1009.7	1.23	1756	2.6326	2.6719	0.0393	22
20-Aug-20	26124	14081.40	14105.20	1428.00	31	31	31.0	29	1009.1	1.22	1748	2.6377	2.6815	0.0438	25
26-Aug-20	26147	14105.20	14129.28	1444.80	31	32	31.5	28.4	1006.2	1.24	1789	2.6566	2.7022	0.0456	25



Noise

								Noi	se Meası	urement	Results (	dB(A)) o	f CN-1								
Date	Start Time	1 <sup>st</sup> Leq <sub>5min</sub>	L10	L90	2 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	3 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	4 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	5 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	6 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	Leq <sub>30min</sub>	Façade Collection (*)
4-Aug-20	13:17	60.4	62.3	58.9	65.7	65	57.9	62.4	63.6	58.9	60.5	62.4	57.8	59.6	60	57.7	58.1	59.8	56.1	62	65
10-Aug-20	9:32	65.1	70.6	52.6	66.6	69.7	54.7	65	69.4	54.1	69.3	72	56.5	67.5	71.3	55.1	66.4	69.1	54.1	67	70
21-Aug-20	9:30	65.6	67.2	58.3	66.4	68.6	60.2	65.2	66.8	58	64.4	66.2	56.8	64	65.8	55.9	62.6	64.2	54.8	65	68
27-Aug-20	15:27	73.7	77.6	59.8	74.6	79.6	55.2	66.8	79.2	53.2	65.5	70.2	52.1	66.7	69.4	53.1	65.8	69.5	52.1	71	74

(\*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

								Noi	se Meas	urement	Results (	dB(A)) a	of CN-2								
Date	Start Time	1 <sup>st</sup> Leq <sub>5min</sub>	L10	L90	2 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	3 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	4 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	5 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	6 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	Leq <sub>30min</sub>	Façade Collection (*)
4-Aug-20	10:55	61.9	65.6	48.5	63.2	67.9	50.6	63.8	67.2	48.5	65.7	68.5	50.5	63.5	66.8	49.9	61.3	65	48	63	66
10-Aug-20	10:09	64.7	66.2	54	65.6	67.8	55.6	65.9	68.7	57.2	64.5	67.2	56.4	63.6	66.4	56.5	62.1	65	54.7	65	68
21-Aug-20	10:15	64.8	67.4	54.6	63.7	66	57.8	66.6	69.6	60.2	66.7	69.4	60.4	64.5	68.6	57.8	63.3	66.4	56.2	65	68
27-Aug-20	14:50	62	66.3	50	63.2	67.4	50.6	63.7	67.4	51.4	63.6	66.9	50	63.5	66.9	50	62.6	65.1	51.7	63	66

(\*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

								Noi	se Meası	ırement	Results (	dB(A)) a	of CN-3								
Date	Start Time	1 <sup>st</sup> Leq <sub>5min</sub>	L10	L90	2 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	3 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	4 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	5 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	6 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	Leq <sub>30min</sub>	Façade Collection (*)
4-Aug-20	10:14	55	58.3	47.3	55.6	57.1	48.3	54	57	47.3	55.5	58.4	48.7	56.7	59.5	47	55	58.2	47.5	55	58
10-Aug-20	10:50	54.9	59.3	44.3	56.6	60.1	45.4	56.3	60.5	45	57.4	61.7	46.9	57.5	61.9	46.1	56.3	60.8	45.8	57	60
21-Aug-20	10:48	57.8	60.2	50.8	58.2	60.4	51.2	61.4	65.2	55	59.5	64.2	53.8	55.5	59.2	49.8	57.4	59.9	51.6	59	62
27-Aug-20	10:27	54	56.3	50	59.5	62.6	50.4	58.6	61.3	51.9	56.4	59.5	50.1	57.1	59.9	50	57.5	60.8	50.5	58	61

(\*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

								Noi	se Meası	irement	Results (	dB(A)) o	f CN-4							
Date	Start Time	1 <sup>st</sup> Leq <sub>5min</sub>	L10	L90	2 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	3 <sup>nd</sup> Leq <sub>5min</sub>	L10	L90	4 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	5 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	6 <sup>th</sup> Leq <sub>5min</sub>	L10	L90	Leq <sub>30min</sub>
4-Aug-20	9:37	58.5	62.6	42.4	58.6	62.3	42.1	60.5	63.7	43.7	58.7	62.5	42.0	56.6	60.8	42.5	55.4	59.8	42.6	58
10-Aug-20	11:26	56.2	59.6	38.6	55.1	58.0	39.9	54.3	57.5	39.8	56.2	59.0	39.6	53.4	57.2	40.2	54.1	58.4	40.2	55
21-Aug-20	11:21	60.3	64.2	45.8	58.9	62.7	45.4	57.2	61.8	44.8	60.7	62.6	48.0	56.4	58.6	42.8	58.3	62.8	43.6	59
27-Aug-20	11:04	65.0	61.0	44.3	56.6	60.4	42.2	60.7	64.7	40.1	53.4	57.8	39.8	56.5	59.1	41.1	53.0	57.1	39.7	60



Water Quality



#### Water Quality Impact Monitoring Result for M1

Date	3-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>	pН	Salinity	SS(mg/L)
M1	9:40	0.15	<u>27.5</u> 27.5 27.5	0.1 <0.1	8.43 8.45 8.44	<u>106.7</u> 107.1 106.9	<u>36.2</u> 37.3 <b>36.8</b>	7.82 7.82 7.8	$\begin{array}{c c} 0.05 \\ \hline 0.05 \\ \end{array} 0.05 \end{array} 0.05$	<u>34</u> <u>39</u> <b>36.5</b>
Date	5-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	<b>DO</b> (%)	Turbidity (NTU)		Salinity	SS(mg/L)
M1	9:45	0.15	$     \begin{array}{c}       26.8 \\       26.8     \end{array}     $ 26.8	0.1 0.1	7.83 7.7 7.7	<u>101.6</u> 99.9 100.8	<u>22.9</u> 20.7 <b>21.8</b>	7.45 7.45 7.5	0.06 0.06	$\frac{30}{38}$ 34.0
Date	7-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	<b>DO (%)</b>	Turbidity (NTU)		Salinity	SS(mg/L)
M1	9:30	0.13	<u>26.2</u> 26.2 26.2	<u>&lt;0.1</u> <0.1 <0.1	<u>6.84</u> <u>6.85</u> 6.85	<u>91.2</u> 91.5 91.4	<u>20.3</u> 19.2 <b>19.8</b>	7.72 7.72 7.7	$     \begin{array}{c}       0.06 \\       0.06     \end{array}     $ 0.06	$\frac{39}{40}$ <b>39.5</b>
Date	10-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>		Salinity	SS(mg/L)
M1	9:30	0.13	$\begin{array}{c c} 26.5 \\ \hline 26.5 \end{array}$ 26.5	<0.1 <0.1	7.15 7.17	<u>95.0</u> 95.4 95.2	15.4 14.1 <b>14.8</b>	8.69 8.69 8.7	$\begin{array}{c c} 0.05 \\ \hline 0.05 \\ \end{array} 0.05$	$\frac{40}{6}$ <b>23.0</b>
Date	12-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>	pH	Salinity	SS(mg/L)
M1	9:30	0.13	27.9 27.9 27.9	<u>&lt;0.1</u> <0.1 <0.1	7.23 7.21 7.22	99.0 98.3 98.7	6.94 6.76 6.9	8.30 8.30 8.3	$\begin{array}{c c} 0.05 \\ \hline 0.05 \\ \hline \end{array} 0.05 \\ \end{array} 0.05$	<u>8</u> 7 7.5
Date	14-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>	pH	Salinity	SS(mg/L)
M1	9:35	0.14	<u>27.6</u> 27.6 27.6	<u>&lt;0.1</u> <0.1 <0.1	7.02 7.03 7.03	90.7 90.8 90.8	<u>14.7</u> 15.2 <b>15.0</b>	8.10 8.10 8.1	$\begin{array}{c c} 0.05 \\ \hline 0.05 \end{array}$ 0.05	$\frac{16}{18}$ <b>17.0</b>
Date	17-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>	pH	Salinity	SS(mg/L)
M1	9:30	0.13	25.8 25.8 25.8	<u>&lt;0.1</u> <0.1 <0.1	6.54 6.57 6.56	87.9 88.0 88.0	4.6 4.5	8.31 8.31 8.3	$\begin{array}{c c} 0.05 \\ \hline 0.05 \\ \hline \end{array} 0.05 \\ \end{array}$	$\frac{3}{3}$ 3.0
Date	19-Aug-20	-				• • • •	•			
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>	pH	Salinity	SS(mg/L)
					~ (	= = (, ; ; )			,	<b>_</b> /

25.8

0.1

0.1

6.64

6.65

87.3

87.4

4.82

4.6

7.52

7.5

0.05

0.05

4

4.0

**M**1

14:00

0.15

25.8

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery



Monthly Environmental Monitoring & Audit Report (No.25) - August 2020

Date	21-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	mg/L)
M1	9:35	0.13	25.2 25.2	25.2	<0.1 <0.1	< 0.1	6.84 6.7	6.77	91.5 89.7	90.6	3.2 3.23	3.2	8.18 8.18	8.2	0.05	0.05	4 4	4.0

Date	24-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	mg/L)	DO	(%)	Turbidi	ty (NTU)	р	H	Sali	nity	SS(1	mg/L)
M1	9:30	0.13	25.9	25.0	< 0.1	< 0.1	6.43	6.45	87.0	87.5	3.76	33	8.38	81	0.05	0.05	3	3.5
IVIII	9.30	0.15	25.9	23.9	< 0.1	<0.1	6.47	6.45	88.0	87.5	2.86	5.5	8.38	0.4	0.05	0.05	4	5.5

Date	26-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	H	Sali	nity	SS(1	ng/L)
M1	9:30	0.13	26.3 26.3	26.3	<0.1 <0.1	<0.1	6.49 6.48	6.49	90.7 90.5	90.6	3.33 3.5	3.4	7.36 7.36	7.4	0.05	0.05	3 3	3.0

Date	28-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	ng/L)
M1	9:30	0.13	25.7 25.7	25.7	<0.1 <0.1	< 0.1	6.84 6.78	6.81	91.2 90.4	90.8	4.13	4.1	8.45 8.45	8.5	0.05	0.05	34	3.5

Date	31-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	H	Sali	nity	SS(r	mg/L)
M1	0.35	0.12	26.9	26.9	< 0.1	<0.1	6.67	6 67	89.3	89.3	2.82	2.0	8.67	07	0.05	0.05	4	2.5
1/11	9:55	0.15	26.9	20.9	< 0.1	<0.1	6.66	6.67	89.2	09.5	2.92	2.9	8.67	0.7	0.05	0.05	3	5.5

Action Level exceedance
Limit Level exceedance



#### Water Quality Impact Monitoring Result for M2

Date	3-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(	mg/L)
M2	10:15	0.12	27.3 27.3	27.3	<0.1	<0.1	8.16 8.26	8.21	107.7 109.6	108.7	339 350	344.5	8.26 8.26	8.3	0.07	0.07	526 547	536.5

Date	5-Aug-20												
Location	Time	Depth (m)	Temp (o	oC) Flow	Velocity (m/s)	DO (mg/l	) DO	(%) Turbid	ity (NTU)	pН	Salinity	SS(mg/	/L)
M2	10:20	0.02 (#)			_								

Date	7-Aug-20																	
Location	Time	Depth (m)	Temp	(oC)	Flow V	elocity (m/s)	<b>DO</b> (1	mg/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(n	ng/L)
M2	10:05	0.00 (#)						-										

Date	10-Aug-20																
Location	Time	Depth (m)	Temp (oC	C) Flow V	/elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	ng/L)
M2	10:15	0.00 (#)															

Date	12-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p]	H	Sali	nity	SS(1	ng/L)
M2	10:00	0.01 (#)																

Date	14-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)	Flow V	velocity (m/s)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	pl	H	Sali	nity	SS(1	mg/L)
M2	10:05	0.00 (#)																

Date	17-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	mg/L)
M2	10:00	0.00 (#)																

Date	19-Aug-20																	
Location	Time	Depth (m)	Temp	(0C)	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	mg/L)
M2	14.50	0.20	26.1	26.1	0.1	0.1	6.44	6.45	84.9	85.0	555	560.5	7.35	74	0.05	0.05	527	529.0
1412	14.30	0.20	26.1	20.1	0.1	0.1	6.45	0.45	85.0	05.0	566	500.5	7.35	/	0.05	0.05	531	529.0



Date	21-Aug-20											
Location	Time	Depth (m)	Temp (	( <b>oC</b> )	Flow Velocity (m/s)	DO (mg/L)	DO (%	) Turbid	ity (NTU)	pН	Salinity	SS(mg/L)
M2	10:10	0.02 (#)		_					-			

Date	24-Aug-20																
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	pl	Sali	nity	SS(1	ng/L)
M2	10:15	0.00 (#)															

Date	26-Aug-20																
Location	Time	Depth (m)	Temp (o	C) Flow V	velocity (m/s)	DO (n	ıg/L)	DO	(%)	Turbidi	ty (NTU)	pl	H	Sali	nity	SS(r	ng/L)
M2	10:25	0.00 (#)															

Date	28-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)	Flow V	/elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p]	H	Sali	nity	SS(n	ng/L)
M2	10:00	0.00 (#)																

Date	31-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow Ve	locity (m/s)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	pl	H	Sali	nity	SS(1	ng/L)
M2	10:10	0.00 (#)																

*Remarks: (#) During the water monitoring, the channel of M2 was observed dried up and water sampling was unable be carried out;* 

Action Level exceedance
Limit Level exceedance



#### Water Quality Impact Monitoring Result for M3

Date	3-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)	Flow V	/elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	ng/L)
M3	10.25	2.45	27	27.0	0.1	0.1	7.06	7.09	93.4	02.8	5.35	5 5	7.74	77	0.0	0.03	7	75
WI3	10.23	2.45	27	27.0	0.1	0.1	7.12	7.09	94.1	93.8	5.57	5.5	7.74	1.1	0.0	0.05	8	7.5

Date	5-Aug-20																	
Location	Time	Depth (m)	Temp	(oC)	Flow V	elocity (m/s)	DO (r	ng/L)	DO	(%)	Turbidit	ty (NTU)	p	H	Sali	nity	SS(1	mg/L)
M2	10.20	2.45	28.3	202	0.1	0.1	6.2	6 01	79.6	79.8	15.4	157	7.37	74	0.0	0.04	13	12.5
M3	10:30	2.43	28.3	28.3	0.1	0.1	6.22	0.21	79.9	19.0	16	15./	7.37	7.4	0.0	0.04	12	12.5

Date	7-Aug-20																	
Location	Time	Depth (m)	Temp	(oC)	Flow V	velocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	р	H	Sali	nity	SS(1	mg/L)
M2	10:15	2.42	28	28.0	< 0.1	<0.1	6.24	6.25	83.7	927	15.6	15.0	7.63	76	0.1	0.05	11	10.5
M3	10.15	2.42	28	20.0	< 0.1	<0.1	6.25	0.23	83.6	05.7	14.7	15.2	7.63	7.0	0.1	0.05	10	10.5

Date	10-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	Velocity (m/s)	DO (r	ng/L)	DO	(%)	Turbidi	ity (NTU)	p	H	Sali	nity	SS(r	mg/L)
M3	10:25	2.44	28.3 28.3	28.3	<0.1 <0.1	<0.1	6.96 7.05	7.01	92.3 93.2	92.8	5.0 5.7	5.4	8.67 8.67	8.7	0.0	0.02	7 6	6.5

Date	12-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidit	ty (NTU)	p]	H	Sali	nity	SS(1	mg/L)
M3	10:10	2.44	28.5 28.5	28.5	<0.1	<0.1	6.18 6.21	6.20	84.6 84.9	84.8	<u>    11.7</u> 11.9	11.8	8.12 8.12	8.1	0.0	0.02	11	11.0

Date	14-Aug-20									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	<b>Turbidity (NTU)</b>	pН	Salinity	SS(mg/L)
M3	10:15	2.45	$\begin{array}{c c} 28.2 \\ \hline 28.2 \\ \hline \end{array} 28.2 \\ \end{array} 28.2$	<u>&lt;0.1</u> <0.1 <0.1	6.27 6.28 6.28	82.4 82.6 82.5	11.5 12.6 <b>12.1</b>	8.10 8.10 8.1		<u>9</u> 9 9.0

Date	17-Aug-20																	
Location	Time	Depth (m)	Temp	(oC)		elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ity (NTU)	p	H	Sali	nity	SS(1	mg/L)
M3	10:10	2.44	27.5	27.5	< 0.1	< 0.1	6.9	6.89	92.5	92.0	5.21	5.5	8.38	8.4	0.0	0.02	5	5.0
1015	10.10	2	27.5	27.0	< 0.1	<b>NO.1</b>	6.88	0.07	91.5	/2.0	5.87	0.0	8.38	0.1	0.0	0.02	5	5.0

Date	19-Aug-20																	
Location	Time	Depth (m)	Temp	) (oC)	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	ng/L)
M3	15:05	2.45	25.9	25.0	0.1	0.1	6.54	6 5 5	86.1	86.2	5.5	5 5	7.23	7.2	0.0	0.03	9	9.0
IVI3	15.05	2.43	25.9	23.9	0.1	0.1	6.56	0.55	86.3	80.2	5.4	5.5	7.23	1.2	0.0	0.05	9	9.0



Date	21-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	velocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(n	ng/L)
M3	10:20	2.45	27.3	27.3	0.1	0.1	6.96	6.97	94.1	94.2	4.92	18	8.22	87	0.0	0.02	7	65
M3	10.20	2.45	27.3	21.3	0.1	0.1	6.97	0.97	94.2	94.2	4.68	4.0	8.22	0.2	0.0	0.02	6	0.5

Date	24-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ity (NTU)	р	H	Sali	nity	SS(1	mg/L)
M3	10:25	2.44	27.6 27.6	27.6	<0.1 <0.1	<0.1	6.17 6.77	6.47	91.7 92.6	92.2	5.1 4.8	5.0	8.38 8.38	8.4	0.0	0.02	6 7	6.5

Date	26-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)		elocity (m/s)	DO (r	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	mg/L)
M3	10:35	2.43	28.1 28.1	28.1	<0.1	<0.1	6.57 6.58	6.58	91.9 92.0	92.0	4.9 4.6	4.8	7.26 7.26	7.3	0.0	0.02	5 6	5.5

Date	28-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(r	ng/L)
M3	10:10	2.43	27.8 27.8	27.8	<0.1 <0.1	<0.1	6.89 6.85	6.87	91.6 91.2	91.4	4.2 4.9	4.6	8.42 8.42	8.4	0.0	0.03	6 6	6.0

Date	31-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ty (NTU)	p	H	Sali	nity	SS(1	mg/L)
M3	10:20	2.41	28	28.0	< 0.1	<0.1	6.83	6.92	91.8	01.9	5.18	5 /	8.58	96	0.0	0.02	6	6.0
IVI S	10.20	2.41	28	28.0	< 0.1	<0.1	6.82	0.83	91.7	91.0	5.55	5.4	8.58	8.6	0.0	0.02	6	6.0

Action Level exceedance
Limit Level exceedance



#### Water Quality Impact Monitoring Result for M4

Date	3-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p]	H	Sali	nity	SS(1	mg/L)
M4	10.50	0.45	26.9	26.9	< 0.1	<0.1	8.79	8.80	110.1	110.2	38.6	27 0	7.53	75	0.05	0.05	43	46.0
1014	10.50	0.45	26.9	20.9	< 0.1	<0.1	8.81	0.00	110.4	110.5	36.9	37.8	7.53	7.5	0.05	0.05	49	40.0

Date	5-Aug-20																	
Location	Time	Depth (m)	Temp	(oC)	Flow Veloc	city (m/s)	DO (r	ng/L)	DO	(%)	Turt	oidity	p	H	Sali	nity	SS(1	mg/L)
<b>M</b> 4	10.50	0.45	27.9	27.0	< 0.1	-0.1	7.84	7 05	102.0	102.2	16.7	157	7.22	7.0	0.05	0.05	38	20 5
M4	10:50	0.45	27.9	27.9	< 0.1	<0.1	7.85	7.85	102.6	102.3	14.6	15./	7.22	1.2	0.05	0.05	41	39.5

Date	7-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Turl	bidity	p	H	Sali	nity	SS(1	mg/L)
M4	10:35	0.44	28.3	20.2	< 0.1	<0.1	6.96	6.97	93.2	03.3	18.1	16.9	7.44	74	0.05	0.05	36	37.0
M4	10:55	0.44	28.3	28.5	< 0.1	<0.1	6.97	0.97	93.3	95.5	15.6	10.9	7.44	7.4	0.05	0.05	38	57.0

Date	10-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Turl	bidity	p	H	Sali	nity	SS(1	ng/L)
M4	10:45	0.43	28.5	28.5	< 0.1	< 0.1	5.8	5.82	77.0	77 3	13.6	13.4	8.26	83	0.06	0.06	20	19.0
101 1	10.15	0.15	28.5	20.5	< 0.1	<0.1	5.84	5.02	77.5	11.5	13.2	10.7	8.26	0.5	0.06	0.00	18	17.0

Date	12-Aug-20																	
Location	Time	Depth (m)	Temp	(0C)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Turł	oidity	p	H	Sali	nity	SS(1	mg/L)
M4	10.25	0.42	28.6	206	< 0.1	<0.1	6.39	6 / 1	88.6	00 0	10.9	11 0	7.86	7 0	0.04	0.04	36	27 5
11/14	10:35	0.45	28.6	28.0	< 0.1	<0.1	6.42	6.41	89.0	88.8	11.0	11.0	7.86	7.9	0.04	0.04	39	37.5

Date	14-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow Veloc	city (m/s)	DO (I	ng/L)	DO	(%)	Turl	bidity	р	H	Sali	nity	SS(	mg/L)
M4	10:40	0.45	28.6	286	< 0.1	<0.1	6.09	6.09	80.2	80.3	15.0	14.8	7.87	7.0	0.1	0.10	23	24.0
IV14	10.40	0.43	28.6	28.0	< 0.1	<0.1	6.09	0.09	80.3	80.5	14.6	14.0	7.87	7.9	0.1	0.10	25	24.0

Date	17-Aug-20																	
Location	Time	Depth (m)	Temp	) (oC)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p	H	Sali	nity	SS(1	mg/L)
M4	10:30	0.41	28.1	28.1	< 0.1	<0.1	6.34	634	84.9	84.9	5.6	58	8.06	81	0.05	0.05	18	19.0
1014	10.50	0.41	28.1	20.1	< 0.1	<0.1	6.33	0.34	84.8	04.9	6.1	5.0	8.06	0.1	0.05	0.05	20	19.0

Date	19-Aug-20																	
Location	Time	Depth (m)	Temp	) (oC)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p	H	Sali	nity	SS(1	mg/L)
M4	15:35	0.46	26.3 26.3	26.3	<0.1 <0.1	< 0.1	6.77 6.78	6.78	88.8 88.9	88.9	4.9 5.3	5.1	7.00	7.0	0.05	0.05	3 4	3.5



Date	21-Aug-20																	
Location	Time	Depth (m)	Temp	(0C)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p]	H	Sali	nity	SS(1	mg/L)
M4	10:50	0.45	27.6 27.6	27.6	<0.1 <0.1	< 0.1	6.99 6.97	6.98	94.3 94.1	94.2	5.1 5.3	5.2	8.00 8.00	8.0	0.05	0.05	3	3.0

Date	24-Aug-20																	
Location	Time	Depth (m)	Temp	(oC)	Flow Veloc	city (m/s)	DO (r	ng/L)	DO	(%)	Tur	bidity	pl	H	Sali	nity	SS(1	mg/L)
M4	10.45	0.42	27.5	27.5	< 0.1	<0.1	6.2	6 20	84.7	010	3.5	3.0	8.06	01	0.06	0.06	4	4.0
M4	10:45	0.43	27.5	27.5	< 0.1	<0.1	6.19	6.20	84.8	84.8	4.4	3.9	8.06	8.1	0.06	0.06	4	4.0

Date	26-Aug-20																	
Location	Time	Depth (m)	Temp	( <b>oC</b> )	Flow Velo	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p]	H	Sali	nity	SS(n	ng/L)
M4	10:55	0.43	28.3 28.3	28.3	<0.1 <0.1	<0.1	6.57 6.58	6.58	92.2 92.3	92.3	4.0	3.8	7.02	7.0	0.05	0.05	32	2.5

Date	28-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p]	H	Sali	nity	SS(r	ng/L)
M4	10:30	0.44	27.5 27.5	27.5	<0.1 <0.1	< 0.1	6.94 6.99	6.97	92.4 93.0	92.7	3.0 2.9	2.9	8.18 8.18	8.2	0.05	0.05	32	2.5

Date	31-Aug-20																	
Location	Time	Depth (m)	Temp	) (0C)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Tur	bidity	p	H	Sali	nity	SS(	mg/L)
M4	10:40	0.45	28.2	28.2	< 0.1	<0.1	6.97	6.98	97.3	95.6	3.9	3.8	8.29	83	0.05	0.05	5	5.0
1014	10.40	0.45	28.2	20.2	< 0.1	<0.1	6.98	0.98	93.9	95.0	3.7	5.8	8.29	0.5	0.05	0.05	5	5.0

Action Level exceedance
Limit Level exceedance

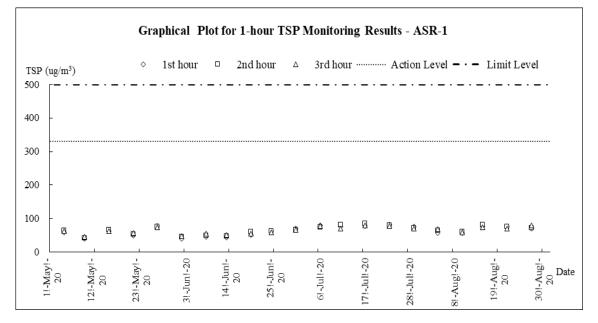


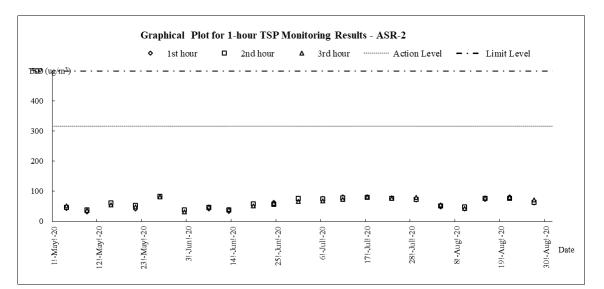
### Appendix I

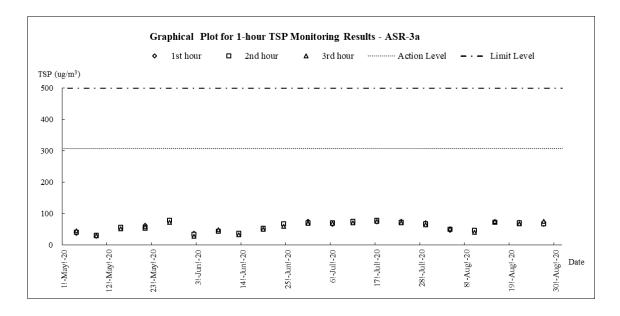
### Graphical Plots of Air Quality, Noise and Water Quality



#### Air Quality Impact Monitoring – 1-hour TSP

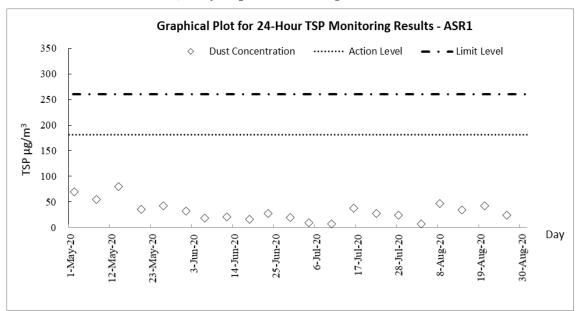


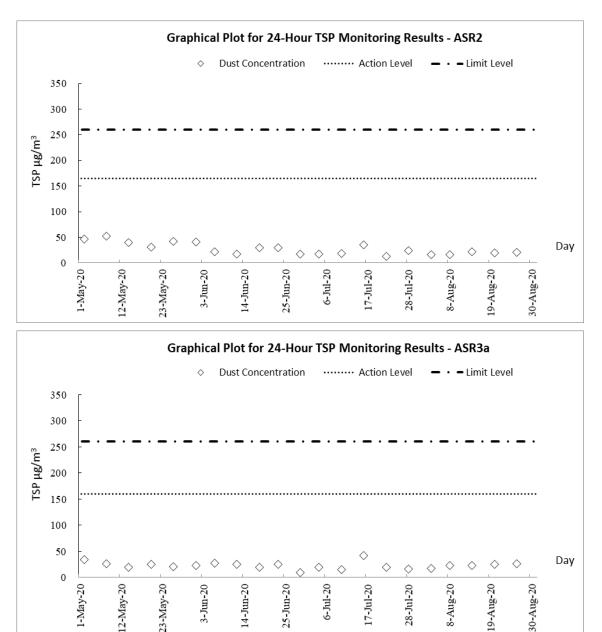






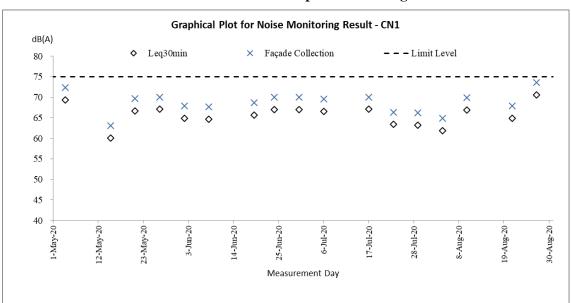
#### Air Quality Impact Monitoring – 24-hour TSP





Z:\Jobs\2018\TCS00881(CV-2016-10)\600\EM&A Report Submission\Monthly Report\2020\25th Month (Aug 2020)\R0456v2.doc



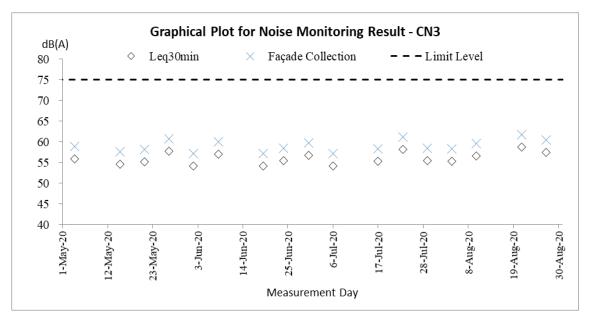


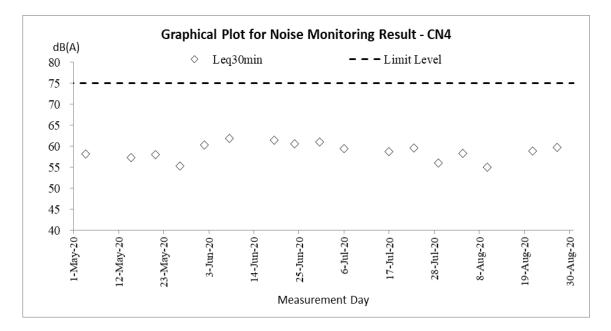
#### Graphical Plot for Noise Monitoring Result - CN2 dB(A) ٥ Leq30min × Façade Collection - - - Limit Level 80 75 70 × ◊ × \$ × × ♦ × ♦ × \$ $\begin{array}{cc} \times & \times \\ \diamond & \diamond \end{array}$ × \$ × \$ × ♦ × \$ × ♦ × \$ × \$ 65 × \$ $\diamond$ ٥ 60 55 50 45 40 8-Aug-20 3-Jun-20 25-Jun-20 28-Jul-20 1-May-20 12-May-20 23-May-20 14-Jun-20 6-Jul-20 17-Jul-20 [9-Aug-20 30-Aug-20 Measurement Day

#### **Construction Noise Impact Monitoring**

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Monthly Environmental Monitoring & Audit Report (No.25) – August 2020



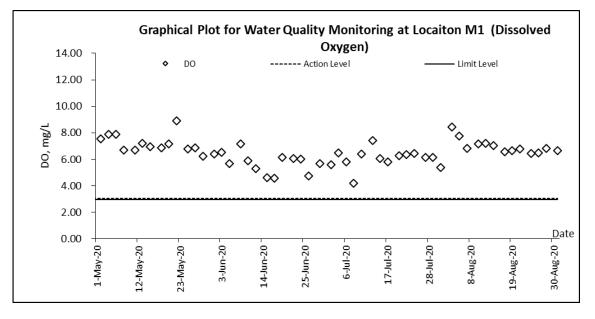


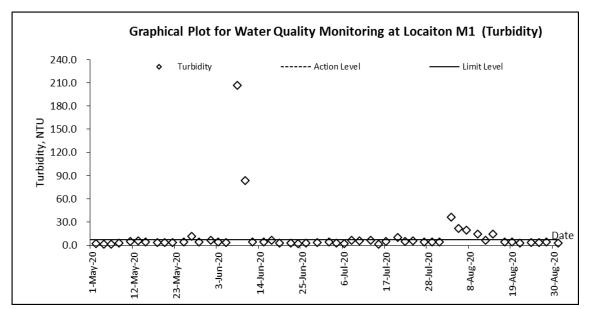


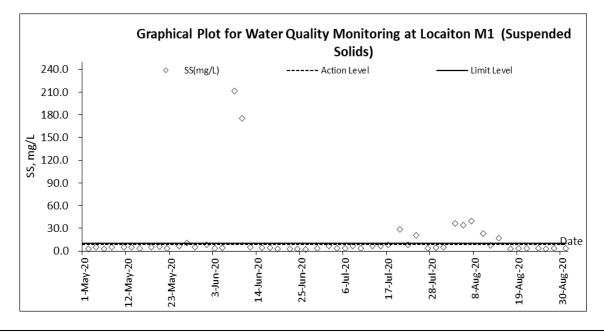
 $Z: \label{eq:loss} 2018 \ CV-2016-10) \ 600 \ EM\&A\ Report\ Submission \ Monthly\ Report\ 2020 \ 25th\ Month\ (Aug\ 2020) \ R0456v \ 2.doc\ R0456v \ 2.doc\$ 



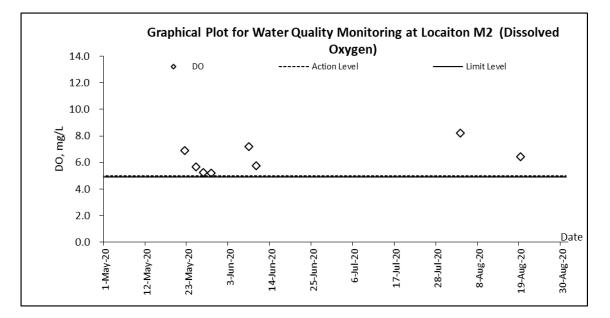
#### Water Quality Impact Monitoring

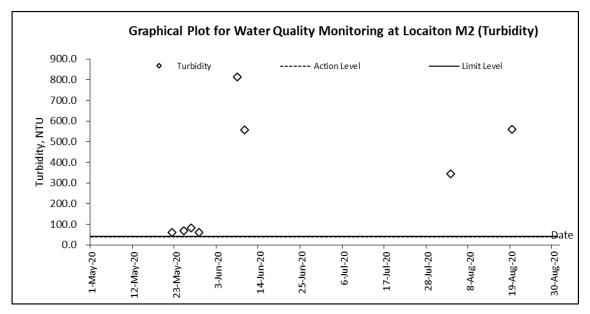


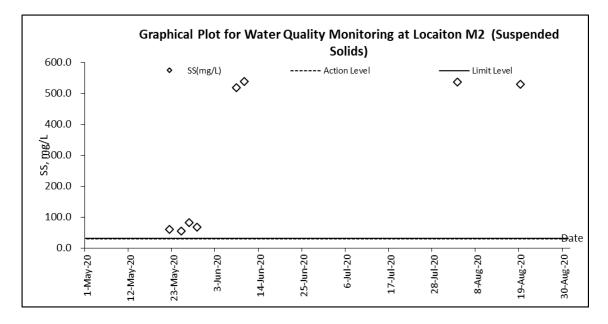




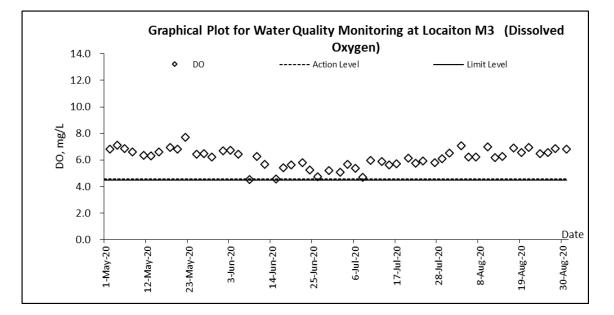


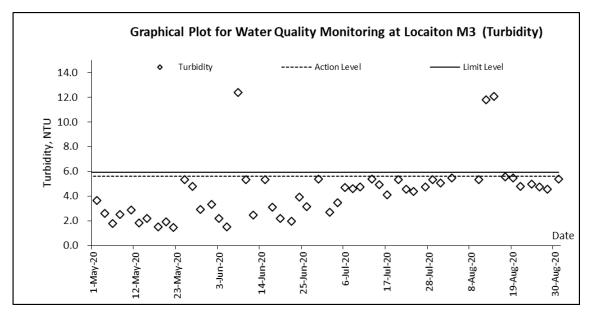


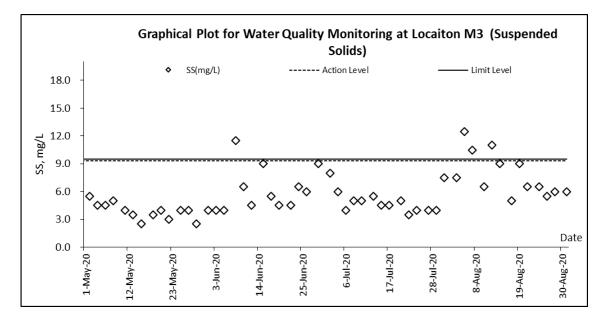




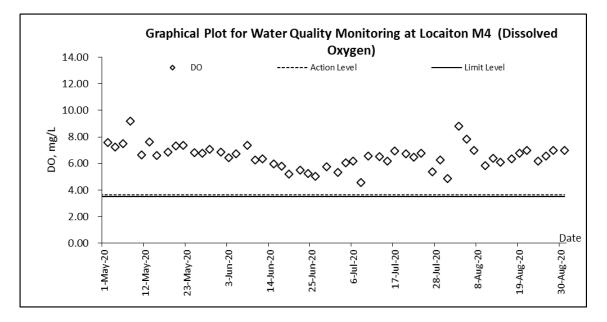


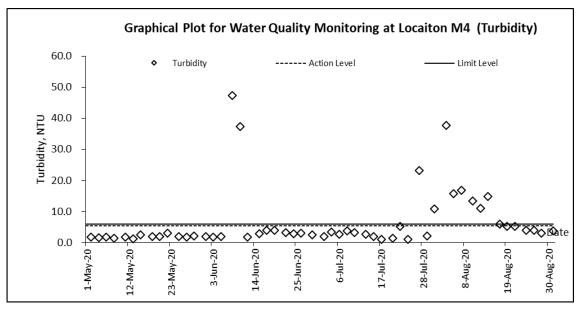


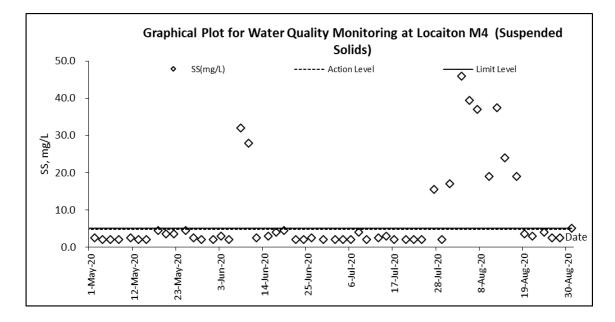














## Appendix J

### Meteorological Data of the Reporting Month



				Ta Kwu Ling Station				
Date		Weather	Total Rainfall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction	
1-Aug-20	Sat	Hot with sunny intervals and a few showers	28.3	27.1	9.5	78.5	Е	
2-Aug-20	Sun	Moderate east to southeasterly winds.	25.6	27.2	10.5	88.5	Е	
3-Aug-20	Mon	Light to moderate southerly winds.	46.9	26.9	6	88.7	E/SE	
4-Aug-20	Tue	A few showers.	47	28.4	7	84.5	Е	
5-Aug-20	Wed	Moderate east to southeasterly winds.	53.3	28.9	8	83	S/SE	
6-Aug-20	Thu	Mainly fine apart from isolated showers.	1.7	29.2	8	81.5	Е	
7-Aug-20	Fri	Very hot in the afternoon.	0.2	30.4	10	80.7	E	
8-Aug-20	Sat	Hot with sunny intervals in the afternoon	0	30.2	9.5	79.2	Е	
9-Aug-20	Sun	isolated thunderstorms at first.	0	30	6	80.2	S/SE	
10-Aug-20	Mon	Light to moderate southerly winds.	0	29.9	6.2	78.2	W/SW	
11-Aug-20	Tue	Very hot with sunny periods and isolated showers.	0.6	29.5	7.5	81	W/SW	
12-Aug-20	Wed	Mainly fine. Isolated showers tomorrow.	29.4	28.3	8.7	87.5	E/SE	
13-Aug-20	Thu	Light to moderate southwesterly winds.	16.5	28.2	6.2	86	E/SE	
14-Aug-20	Fri	Very hot during the day	9.3	28.9	6.2	82.7	E/SE	
15-Aug-20	Sat	Light to moderate southerly winds.	0	28.7	8	81	E/SE	
16-Aug-20	Sun	Cloudy with occasional squally showers and thunderstorms.	Trace	28.7	7.5	82	Е	
17-Aug-20	Mon	Mainly cloudy tonight. Moderate easterly winds.	16.6	27.5	6.7	88.5	E/SE	
18-Aug-20	Tue	Moderate to fresh south to southeasterly winds	52.7	27.4	9	86	E/SE	
19-Aug-20	Wed	Moderate east to southeasterly winds.	119.5	27.1	15.7	88.5	SE	
20-Aug-20	Thu	Very hot during the day	Trace	28.8	8	85.5	E	
21-Aug-20	Fri	Very hot in the afternoon.	0	29.2	6.2	85.5	E	
22-Aug-20	Sat	Mainly fine. Very hot in the afternoon. Moderate	0	29.4	7.5	79	E/SE	
23-Aug-20	Sun	Very hot in the afternoon. Moderate southwesterly winds.	0	29.3	5	87.5	E/SE	
24-Aug-20	Mon	Mainly fine apart from isolated showers.	0	29.7	7	76.2	W/SW	
25-Aug-20	Tue	Very hot during the day.	1.1	31.4	8.7	72	W/SW	
26-Aug-20	Wed	Mainly cloudy with a few showers	12.3	29.8	9.5	75.5	SW	
27-Aug-20	Thu	Isolated thunderstorms at first.	3.1	28.5	6.2	81	N/NE	
28-Aug-20	Fri	Mainly fine apart from isolated showers.	22.6	29.2	6.2	75	N/NE	
29-Aug-20	Sat	Light to moderate westerly winds.	3.2	29.8	10.5	69.5	E/SE	
30-Aug-20	Sun	Mainly cloudy with isolated showers and thunderstorms.	0.6	29.3	6	77.5	E/SE	
31-Aug-20	Mon	Very hot with sunny periods during the day tomorrow.	0.2	30	11	76.7	N/NE	



### Appendix K

### **Ecological Survey Report**



Ecological Survey Report for Contract CV/2016/10



# Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery

## Monthly Report of Ecologically Sensitive Habitats Monitoring – August 2020

Revision	0	
Date of issue	28 Aug 2020	
Prepared by	Alan Lam	A
Reviewed by	Edwina Yeung	and and
Verified by	Mike Leung	1



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Agreement No. CE1/2013 (CE) Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Monthly Report of Ecologically Sensitive Habitats Monitoring

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### **1 INTRODUCTION**

### 1.1 <u>BACKGROUND</u>

- 1.1.1 The main objective of the proposed site formation and associated infrastructural works for development of columbarium, crematorium (C&C) and related facilities at Sandy Ridge Cemetery is to increase the public cremation services and supply of public niches to meet the future demand.
- 1.1.2 The project includes site formation and associated works for development of C&C facilities at the Sandy Ridge Cemetery, road works within Sandy Ridge Cemetery, widening a section of Lin Ma Hang Road (from 6.5m to 7.3m), provision of off-site pick-up/drop-off points for shuttle buses as well as barging point at Siu Lam, Lok On Pai.
- 1.1.3 The Environmental Impact Assessment (EIA) report, including Environmental Monitoring and Audit Manual (EM&A Manual), was approved with conditions on 8 August 2016 (Register No.: AEIAR-198/2016). EPD issued an Environmental Permit (EP) for the Project (EP-534/2017) on 7 April 2017. A Further Environment Permit (FEP) for the Project (FEP-01/534/2017) was issued on 23 February 2018, variation of EP (EP-534/2017/A) and variation of FEP (FEP-01/534/2017/A) were issued on 24 December 2018.
- 1.1.4 According to Clause 3.1 of the FEP (FEP-01/534/2017/A), "The Permit Holder shall implement the EM&A programme in accordance with the procedures and requirements as set out in the EM&A Manual. Any changes to the programme shall be justified by the ET Leader and verified by the IEC as conforming to the information and requirements contained in the EM&A Manual before submission to the Director for approval".
- 1.1.5 This Ecologically Sensitive Habitats Monitoring Methodology articulates the protocol of monitoring the ecology of concerned habitats as specified in EM&A Manual.

### 1.2 <u>OBJECTIVE</u>

- 1.2.1 According to approved EIA report (AEIAR-198/2016), habitat types within project boundary comprise of watercourse, grassland, upland grassland, plantation, woodland and developed area. Natural habitats were of moderate ecological value in terms of species diversity, species rarity, species abundance, ecological linkage as well as nursery. Moreover, 0.3ha of wet woodland on the northern side of Sandy Ridge was deemed habitat with high ecological value. Four types of habitats were regarded as ecologically sensitive habitats, namely wet woodland, watercourses, upland grassland and woodland. Considering human disturbance in upcoming construction and operation phases, ecologically sensitive habitats shall be monitored in accordance with EM&A Manual.
- 1.2.2 The objective of ecologically sensitive habitats monitoring is to evaluate the effectiveness of measures to minimize impacts on concerned habitats from disturbance and pollution.



### 2 ECOLOGICALLY SENSITIVE HABITATS

### 2.1 DESCRIPTION OF HABITATS

2.1.1 In order to monitor the effectiveness of the measures to the minimise impact on ecologically sensitive habitats from disturbance and pollution, monthly monitoring during construction and operation phases is required as specified in EM&A Manual. Standard faunal transect and sampling surveys cover both wetland and non-wetland habitats:

Wetland habitats	Non-wetland habitats			
Wet Woodland	Upland Grassland			
Watercourses	Woodland			

- 2.1.2 Wet woodland is small patch present on northwest of the project boundary, and is confined by the marsh area to the north and the secondary woodland to the east, south and south-west parts. A number of mature trees *Cleistocalyx nervosum* and *Acronychia pedunculata* form the tree canopy, with other self-sown shrubs (including *Psychotria asiatica, Ligustrum sinense* and *Glochidion lanceolarium*) and trees (*Aporosa dioica* and *Litsea monopetala*). Whilst botanically it comprises of naturally regenerated secondary woodland and ground level are a series of small braided streams and weep points which even during the dry season remain wet. This creates a rather uncommon habitat in Hong Kong offering suitable conditions for a good assemblage of common wetland species. The wet woodland provides a good assemblage of micro-habitats, which is relatively undisturbed and has good linkages to other natural habitats. Several species of conversation importance were recorded in EIA report from this habitat: East Asian Porcupine, Leopard Cat, Red Muntjac, Two-striped Grass Frog, Small Snakehead, *Somanniathelphusa zanklon*, Dancing Shadow-emerald.
- 2.1.3 Seasonal watercourse running west to east in the eastern part of the area inside the Project boundary is shallower in gradient than those running off the hillside. This seasonal watercourse is heavily vegetated with wetland-associated herbs including *Commelina diffusa*, *Polygonum chinense*, *Colocasia esculenta* and *Dracaena sanderiana*. A mature tree of *Aquilaria sinensis* was recorded at the bank of the seasonal watercourse to the west of the Sandy Ridge Cemetery Office. Seasonal watercourses are restricted to the steeper slopes within the project boundary and are characterised by being entirely dry for much of the dry season. However, endemic crab *S. zanklon* population is supported by ephemeral watercourses close to the project boundary.
- 2.1.4 Upland grassland is the major habitat within the project boundary. The semi-natural habitat is dominated by typical upland grassland species: fern *Dicranopteris pedata*, grass *Neyraudia reynaudiana*, *Miscanthus floridulus*, climbing vines *Smilax china*, *Smilax glabra*, and shrubs such as *Rhodomyrtus tomentosa*, *Breynia fruticosa* and *Helicteres angustifolia*. Approximately 30 flowering spikes of two orchid species Bamboo Orchid and Toothed Habenaria were recorded near the hill top in the northern part of this upland grassland. Golden-headed Cisticola, which is considered as Local Concern by Fellowes *et al.* (2002), was also recorded in upland grassland on Sandy Ridge, including a proved breeding record of fledged young in September 2013. In addition, numerous species of conservation interest were recorded in EIA report, such as East Asian Porcupine, Leopard Cat, Red Muntjac, Great Swift, Tamil Grass Dart, Small Three-ring and Small Grass Yellow.



2.1.5 Scattered patches of woodland are present throughout the assessment area, with the largest contiguous block located immediately to the east of the project boundary. These woodlands are relatively young with single-layered of canopy dominants (~10 – 15m tall) including *A. dioica, Bridelia tomentosa, Cinnamomum burmannii, Daphniphyllum calycinum, Litsea glutinosa, Rhus succedanea,* and *Zanthoxylum avicennae*. Such areas comprise secondary woodland which is largely derived from natural regeneration and colonisation of trees as a result of seed dispersal by birds and/or bats. A mature tree of *A. sinensis* is located at the woodland edge at the central part of the Project according to EIA report.

### 2.2 MONITORING MEASURES OF WETLAND HABITATS

- 2.2.1 Wetland habitats include wet woodland and watercourses. Monitoring surveys using standardised quantitative methodology will be conducted at fixed points. For seasonal watercourse, survey shall be conducted whenever the habitat appears.
- 2.2.2 Measures to respond to decreases in numbers of aquatic fauna using the wetland habitats and action and limit levels to trigger these measures are detailed in Table 1.

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction	Investigate cause and if
taxa diversity	cause identified as related	in taxa	cause identified as related
by 30%	to the project instigate	diversity	to the project instigate
	remedial action to remove	by 50%	remedial action.
	or reduce source of		
	disturbance.		

Table 1 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

### 2.3 MONITORING MEASURES OF NON-WETLAND HABITATS

- 2.3.1 Non-wetland habitats consist of upland grassland and woodland. Monthly quantitative surveys of non-aquatic fauna will be conducted using standard route transect counts.
- 2.3.2 Measures to respond to decreases in numbers of non-aquatic fauna using the non-wetland habitats and action and limit levels to trigger these measures are detailed in Table 2.

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction	Investigate cause and if
species diversity	cause identified as related	in species	cause identified as related
by 30%	to the project instigate	diversity by	to the project instigate
	remedial action to remove	50%	remedial action.
	or reduce source of		
	disturbance.		

Table 2 Action and Limit Levels and Responses to Evidence of Declines in Non-Aquatic Fauna



Agreement No. CE1/2013 (CE) Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Monthly Report of Ecologically Sensitive Habitats Monitoring

### **3** METHODOLOGY

The ecological survey includes all taxa being investigated in EIA report. Table 3 summarizes schedule of faunal surveys.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mammals	$\checkmark$											
Birds (day)			$\checkmark$									
Birds (night)				$\checkmark$								
Herpetofau na				$\checkmark$								
Dragonflies			$\checkmark$									
Butterflies			$\checkmark$									
Aquatic fauna	$\checkmark$	√	$\checkmark$									

Table 3 Survey Schedule

### 3.1 MAMMAL SURVEY

3.1.1 Mammal surveys will be conducted along the transects shown in Appendix 1 during both daytime and night time periods. Along with direct observations, other field signs, such as scats and tracks, will be searched and recorded if present.

#### **3.2 BIRD SURVEY**

3.2.1 Bird surveys will be conducted along the transects shown in Appendix 1 during the surveys, species and their vocalizing individuals recorded will be enumerated and recorded according to the habitat(s) they are utilising.

### **3.3 HERPETOFAUNA SURVEY**

3.3.1 Reptile and amphibian surveys will be conducted along transects shown in Appendix 1 during surveys careful searches of appropriate microhabitats and refugia for reptiles and their vocalizing individuals will be undertaken and all reptiles observed will be identified and counted.

#### **3.4 DRAGONFLY SURVEY**

3.4.1 Dragonfly surveys will be conducted along transects shown in Appendix 1 during surveys all dragonflies seen will be identified and counted as accurately as possible.



Agreement No. CE1/2013 (CE) Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Monthly Report of Ecologically Sensitive Habitats Monitoring

#### **3.5 BUTTERFLY SURVEY**

3.5.1 Butterfly surveys will be conducted along transects shown in Appendix 1 during surveys all dragonflies seen will be identified and counted as accurately as possible.

#### 3.6 AQUATIC FAUNA SURVEY

3.6.1 Freshwater fishes and macro-invertebrates will be recorded by direct observation. All species trapped/recorded will be enumerated and identified (to the lowest taxonomic level possible), and the species of conservation importance photographed.



## 4 RESULT

This monitoring survey started on 6<sup>th</sup> August 2020. A sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed points. All species seen will be identified and counted as accurately as possible.

#### Mammal

There was one mammal recorded in the monitoring area.

#### Bird

There were a total of 20 bird individuals from 12 species recorded in the monitoring area. Four species of conservation interests were recorded in the monitoring area: *Centropus sinensis*, Greater Coucal (褐翅鴉鵑), *Centropus bengalensis*, Lesser Coucal (小鴉鵑) *Falco Subbuteo* Eurasian Hobby (燕隼) and *Garrulax canorus* Chinese Hwamei(畫眉).

#### Herpetofauna

There was no reptile recorded in the monitoring area.

There was two amphibian species recorded in the monitoring area.

■ Butterfly

There was a total of 12 butterfly individuals from 4 species recorded in the monitoring area.

Dragonfly

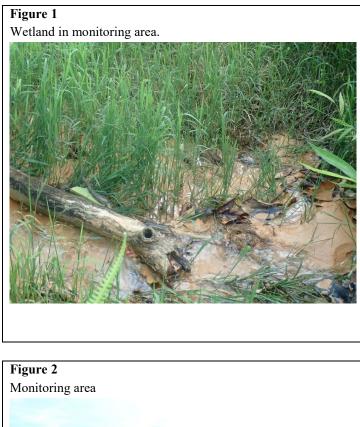
There was a total of 2 odonate individuals from 2 species recorded in the monitoring area.

Freshwater communities

There was no freshwater community recorded in the monitoring area.



Agreement No. CE1/2013 (CE) Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Monthly Report of Ecologically Sensitive Habitats Monitoring







#### Table 4Result of mammal in survey

Scientific Name	English Name	Chinese	Conservation	6-Aug-2020		
Science Ivanie		Name	Status	Non- wetland	Wetland	
Herpestes javanicus	Small Asian Mongoose	紅頰獴			1	

#### Table 5Result of Avifauna in survey

Chattan (10% - Ni anna	E - P-L No	Chinese	Commenting States	6-A1	ıg-2020
Scientific Name	English Name	Name	Conservation Status	Non- wetland	Wetland
Centropus sinensis	Greater Coucal	褐翅鴉鵑	Class 2 Protected Animal of China;China Red Data Book Status: (Vulnerable)	1	
Centropus bengalensis	Lesser Coucal	小鴉鵑	Class 2 Protected Animal of China;China Red Data Book Status: (Vulnerable)	1	
Apus nipalensis	House Swift	小白腰雨燕		4	
Falco subbuteo	Eurasian Hobby	燕隼	Class 2 Protected Animal of China;Fellowes et al. (2002): LC; Appendix 2 of CITES	1	
Lanius schach	Long-tailed Shrike	棕背伯勞			1
Dicrurus macrocercus	Black Drongo	黑卷尾			1
Pycnonotus aurigaster	Sooty-headed Bulbul	白喉紅臀鵯			3
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯			2
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		1	



Agreement No. CE1/2013 (CE) Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Monthly Report of Ecologically Sensitive Habitats Monitoring

Garrulax canorus	Chinese Hwamei	玉田	Appendix 2 of CITES	2
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		2
Myophonus caeruleus	Blue Whistling Thrush	紫嘯鶇		1

#### Table 6Result of reptile in survey

Scientific Name	sign 4: 6 a Nama	6-A	ug-2020	
Scientific Name	Common Name	Chinese Name	Non-wetland	Wetland
		N/A		

#### Table 7Result of amphibian in survey

Scientific Name	Common Name	Chinese Name	Conservation	6-A	ug-2020
			Status	Non- wetla nd	Wetland
Polypedates megacephalus	Brown Tree Frog	斑腿泛樹蛙			+
Bufo melanostictus	Asian Common Toad	黑眶蟾蜍			+

+: Uncountable due to vocal identification

#### Table 8Result of butterfly in survey

Scientific Name	Common Name	Chinese Name	6-Aı	ıg-2020
			Non-wetland	Wetland
Pelopidas assamensis	Great Swift	印度穀弄蝶	1	
Abisara echerius	Plum Judy	蛇目褐蜆蝶	2	4
Papilio polytes	Common Mormon	玉帶鳳蝶	1	
Catopsilia pomona	Lemon Emigrant	遷粉蝶	2	2

#### Table 9Result of Odonate in survey

Scientific Name	Common Name	Chinese Name	Conservation Status	6-Aug	g-2020
				Non- wetland	Wetland
Trithemis festiva	Indigo Dropwing	慶褐蜻			1
Urothemis signata	Scarlet Basker	赤斑曲鈎脈蜻	Fellowes et al. (2002): LC		1

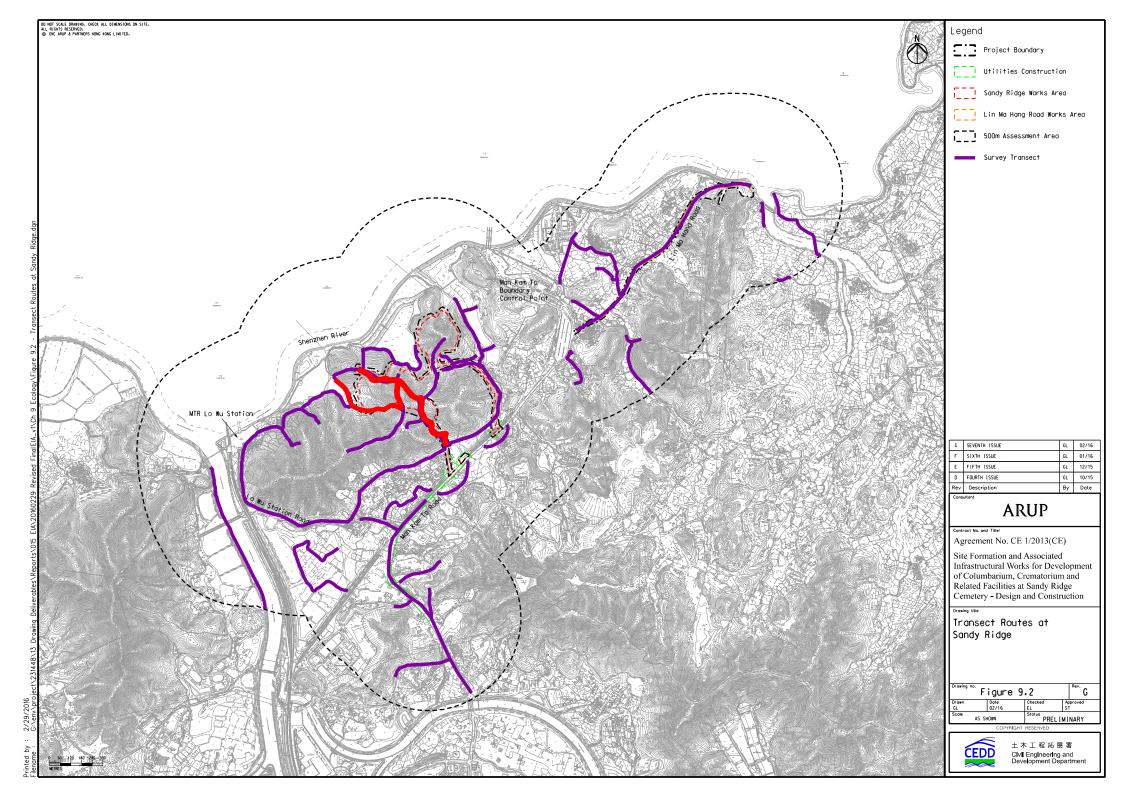


Agreement No. CE1/2013 (CE) Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery – Design and Construction Monthly Report of Ecologically Sensitive Habitats Monitoring

#### Table 10Result of freshwater communities in survey

			Conservation	6-Aug	g-2020	
Scientific Name	Common Name	Chinese Name	Status	Non- wetland	Wetland	
N/A						

# Appendix I – Transect Routes for Contract CV/2016/10





Ecological Survey Report for Contract CV/2017/02



# Contract No. CV/2017/02 Development of Columbarium at Sandy Ridge Cemetery – Infrastructural Works at Man Kam To Road and Lin Ma Hang Road

# Monthly Report of Ecologically Sensitive Habitats Monitoring – August 2020

Revision	0	
Date of issue	28 Aug 2020	
Prepared by	Alan Lam	
Reviewed by	Edwina Yeung	airo
Verified by	Mike Leung	1 Alexandre



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## **1 INTRODUCTION**

#### 1.1 <u>BACKGROUND</u>

- 1.1.1 The main objective of the proposed site formation and associated infrastructural works for development of columbarium, crematorium (C&C) and related facilities at Sandy Ridge Cemetery is to increase the public cremation services and supply of public niches to meet the future demand.
- 1.1.2 The project includes site formation and associated works for development of C&C facilities at the Sandy Ridge Cemetery, road works within Sandy Ridge Cemetery, widening a section of Lin Ma Hang Road (from 6.5m to 7.3m), provision of off-site pick-up/drop-off points for shuttle buses as well as barging point at Siu Lam, Lok On Pai.
- 1.1.3 The Environmental Impact Assessment (EIA) report, including Environmental Monitoring and Audit Manual (EM&A Manual), was approved with conditions on 8 August 2016 (Register No.: AEIAR-198/2016). EPD issued an Environmental Permit (EP) for the Project (EP-534/2017) on 7 April 2017, variation of EP (EP-534/2017/A) were issued on 24 December 2018.
- 1.1.4 According to Clause 3.1 of the EP (EP-534/2017/A), "The Permit Holder shall implement the EM&A programme in accordance with the procedures and requirements as set out in the EM&A Manual. Any changes to the programme shall be justified by the ET Leader and verified by the IEC as conforming to the information and requirements contained in the EM&A Manual before submission to the Director for approval".
- 1.1.5 This Ecologically Sensitive Habitats Monitoring Methodology articulates the protocol of monitoring the ecology of concerned habitats as specified in EM&A Manual.

#### 1.2 <u>OBJECTIVE</u>

- 1.2.1 According to approved EIA report (AEIAR-198/2016), habitat types within project boundary comprise of watercourse, grassland, upland grassland, plantation, woodland and developed area. Natural habitats were of moderate ecological value in terms of species diversity, species rarity, species abundance, ecological linkage as well as nursery. Moreover, 0.3ha of wet woodland on the northern side of Sandy Ridge was deemed habitat with high ecological value. Four types of habitats were regarded as ecologically sensitive habitats, namely wet woodland, watercourses, upland grassland and woodland. Considering human disturbance in upcoming construction and operation phases, ecologically sensitive habitats shall be monitored in accordance with EM&A Manual.
- 1.2.2 The objective of ecologically sensitive habitats monitoring is to evaluate the effectiveness of measures to minimize impacts on concerned habitats from disturbance and pollution.



# **2** ECOLOGICALLY SENSITIVE HABITATS

#### 2.1 DESCRIPTION OF HABITATS

2.1.1 In order to monitor the effectiveness of the measures to the minimise impact on ecologically sensitive habitats from disturbance and pollution, monthly monitoring during construction and operation phases is required as specified in EM&A Manual. Standard faunal transect and sampling surveys cover both wetland and non-wetland habitats:

Wetland habitats	Non-wetland habitats				
Wet Woodland	Upland Grassland				
Watercourses	Woodland				

- 2.1.2 Wet woodland is small patch present on northwest of the project boundary, and is confined by the marsh area to the north and the secondary woodland to the east, south and south-west parts. A number of mature trees *Cleistocalyx nervosum* and *Acronychia pedunculata* form the tree canopy, with other self-sown shrubs (including *Psychotria asiatica, Ligustrum sinense* and *Glochidion lanceolarium*) and trees (*Aporosa dioica* and *Litsea monopetala*). Whilst botanically it comprises of naturally regenerated secondary woodland and ground level are a series of small braided streams and weep points which even during the dry season remain wet. This creates a rather uncommon habitat in Hong Kong offering suitable conditions for a good assemblage of common wetland species. The wet woodland provides a good assemblage of micro-habitats, which is relatively undisturbed and has good linkages to other natural habitats. Several species of conversation importance were recorded in EIA report from this habitat: East Asian Porcupine, Leopard Cat, Red Muntjac, Two-striped Grass Frog, Small Snakehead, *Somanniathelphusa zanklon*, Dancing Shadow-emerald.
- 2.1.3 Seasonal watercourse running west to east in the eastern part of the area inside the Project boundary is shallower in gradient than those running off the hillside. This seasonal watercourse is heavily vegetated with wetland-associated herbs including *Commelina diffusa*, *Polygonum chinense*, *Colocasia esculenta* and *Dracaena sanderiana*. A mature tree of *Aquilaria sinensis* was recorded at the bank of the seasonal watercourse to the west of the Sandy Ridge Cemetery Office. Seasonal watercourses are restricted to the steeper slopes within the project boundary and are characterised by being entirely dry for much of the dry season. However, endemic crab *S. zanklon* population is supported by ephemeral watercourses close to the project boundary.
- 2.1.4 Upland grassland is the major habitat within the project boundary. The semi-natural habitat is dominated by typical upland grassland species: fern *Dicranopteris pedata*, grass *Neyraudia reynaudiana*, *Miscanthus floridulus*, climbing vines *Smilax china*, *Smilax glabra*, and shrubs such as *Rhodomyrtus tomentosa*, *Breynia fruticosa* and *Helicteres angustifolia*. Approximately 30 flowering spikes of two orchid species Bamboo Orchid and Toothed Habenaria were recorded near the hill top in the northern part of this upland grassland. Golden-headed Cisticola, which is considered as Local Concern by Fellowes *et al.* (2002), was also recorded in upland grassland on Sandy Ridge, including a proved breeding record of fledged young in September 2013. In addition, numerous species of conservation interest



were recorded in EIA report, such as East Asian Porcupine, Leopard Cat, Red Muntjac, Great Swift, Tamil Grass Dart, Small Three-ring and Small Grass Yellow.

2.1.5 Scattered patches of woodland are present throughout the assessment area, with the largest contiguous block located immediately to the east of the project boundary. These woodlands are relatively young with single-layered of canopy dominants (~10 – 15m tall) including *A. dioica, Bridelia tomentosa, Cinnamomum burmannii, Daphniphyllum calycinum, Litsea glutinosa, Rhus succedanea,* and *Zanthoxylum avicennae.* Such areas comprise secondary woodland which is largely derived from natural regeneration and colonisation of trees as a result of seed dispersal by birds and/or bats. A mature tree of *A. sinensis* is located at the woodland edge at the central part of the Project according to EIA report.

#### 2.2 MONITORING MEASURES OF WETLAND HABITATS

- 2.2.1 Wetland habitats include wet woodland and watercourses. Monitoring surveys using standardised quantitative methodology will be conducted at fixed points. For seasonal watercourse, survey shall be conducted whenever the habitat appears.
- 2.2.2 Measures to respond to decreases in numbers of aquatic fauna using the wetland habitats and action and limit levels to trigger these measures are detailed in Table 1.

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction	Investigate cause and if
taxa diversity	cause identified as related	in taxa	cause identified as related
by 30%	to the project instigate	diversity	to the project instigate
	remedial action to remove	by 50%	remedial action.
	or reduce source of		
	disturbance.		

Table 1 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

#### 2.3 MONITORING MEASURES OF NON-WETLAND HABITATS

- 2.3.1 Non-wetland habitats consist of upland grassland and woodland. Monthly quantitative surveys of non-aquatic fauna will be conducted using standard route transect counts.
- 2.3.2 Measures to respond to decreases in numbers of non-aquatic fauna using the non-wetland habitats and action and limit levels to trigger these measures are detailed in Table 2.

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction	Investigate cause and if
species diversity	cause identified as related	in species	cause identified as related
by 30%	to the project instigate	diversity by	to the project instigate
	remedial action to remove	50%	remedial action.
	or reduce source of		
	disturbance.		

Table 2 Action and Limit Levels and Responses to Evidence of Declines in Non-Aquatic Fauna



# **3** METHODOLOGY

The ecological survey includes all taxa being investigated in EIA report. Table 3 summarizes schedule of faunal surveys.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mammals	$\checkmark$											
Birds (day)	$\checkmark$											
Birds (night)				$\checkmark$								
Herpetofau na				$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$		
Dragonflies			$\checkmark$									
Butterflies			$\checkmark$									
Aquatic fauna	$\checkmark$											

Table 3 Survey Schedule

#### 3.1 MAMMAL SURVEY

3.1.1 Mammal surveys will be conducted along the transects shown in Appendix 1 during both daytime and night time periods. Along with direct observations, other field signs, such as scats and tracks, will be searched and recorded if present.

#### 3.2 **BIRD SURVEY**

3.2.1 Bird surveys will be conducted along the transects shown in Appendix 1 during the surveys, species and their vocalizing individuals recorded will be enumerated and recorded according to the habitat(s) they are utilising.

#### 3.3 HERPETOFAUNA SURVEY

3.3.1 Reptile and amphibian surveys will be conducted along transects shown in Appendix 1 during surveys careful searches of appropriate microhabitats and refugia for reptiles and their vocalizing individuals will be undertaken and all reptiles observed will be identified and counted.

#### 3.4 DRAGONFLY SURVEY

3.4.1 Dragonfly surveys will be conducted along transects shown in Appendix 1 during surveys all dragonflies seen will be identified and counted as accurately as possible.



#### 3.5 BUTTERFLY SURVEY

3.5.1 Butterfly surveys will be conducted along transects shown in Appendix 1 during surveys all dragonflies seen will be identified and counted as accurately as possible.

#### 3.6 AQUATIC FAUNA SURVEY

3.6.1 Freshwater fishes and macro-invertebrates will be recorded by direct observation. All species trapped/recorded will be enumerated and identified (to the lowest taxonomic level possible), and the species of conservation importance photographed.



## 4 RESULT

This monitoring survey started on  $6^{th}$  August 2020. A sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed point. All species seen will be identified and counted as accurately as possible.

Mammal

There was no mammal recorded in the monitoring area.

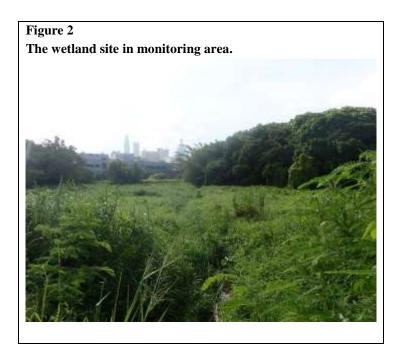
- Bird There were total of 18 bird individuals from 7 species recorded in the monitoring area.
- Herpetofauna

There was one reptile recorded in the monitoring area. There was two amphibian recorded in the monitoring area.

- Butterfly There was total 9 butterfly individuals from 7 species recorded in the monitoring area.
- Dragonfly There was total 7 odonate individuals from 3 species recorded in the monitoring area.
- Freshwater communities There were two species of freshwater fish recorded in the monitoring area.



Figure 1 Kaloula pulchra Asiatic Painted Frog(花狭□蛙) in monitoring area.





#### Table 4Result of mammal in survey

Scientific Name	English Name	Chinece Name	Status	6-Aug-2020		
Scientific Name		Chinese Wante		Non- wetland	Wetland	
		N/A				

#### Table 5Result of Avifauna in survey

			Conservation	6-Aug-2020		
Scientific Name	English Name	Chinese Name	Status	Non- wetland	Wetland	
Spilopelia chinensis	Spotted Dove	珠頸斑鳩			2	
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯			2	
Hirundo rustica	Barn Swallow	家燕		3	2	
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯			2	
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯			1	
Garrulax perspicillatus	Masked Laughingthrush	黑臉噪鶥		4		
Zosterops japonicus	Japanese White-eye	暗綠繡眼鳥		2		



#### Table 6Result of reptile in survey

Scientific Name	Common Name	Chinese Name	6-A	ug-2020
			Non-wetland	Wetland
Enhydris chinensis	Chinese Water Snake	中國水蛇		1

#### Table 7Result of amphibian in survey

Scientific Name	Common Name	Chinese Name	Conservation Status	6-Aug	g-2020
				Non- wetland	Wetland
Bufo melanostictus	Asian Common Toad	黑眶蟾蜍			+
Kaloula pulchra	Asiatic Painted Frog	花狹口蛙			+

+: Uncountable due to vocal identification

#### Table 8Result of butterfly in survey

Scientific Name	Common Name	Chinese Name	6-Aug-2020		
		Chimese Name	Non-wetland	Wetland	
Notocrypta curvifascia	Restricted Demon	曲紋袖弄蝶		1	
Faunis eumeus	Large Faun	串珠環蝶	2		
Mycalesis mineus	Dark Brand Bush Brown	小眉眼蝶	2		
Papilio polytes	Common Mormon	玉帶鳳蝶	1		
Papilio protenor	Spangle	藍鳳蝶	1		
Catopsilia pomona	Lemon Emigrant	遷粉蝶	1		
Delias pasithoe	Red-base Jezebel,	報喜斑粉蝶	1		
Denus pusinoe	Common Black Jezebel		1		

#### Table 9Result of Odonate in survey

Scientific Name	Common Name	Chinese Name	Conservation Status	6-Aug-2020	
				Non- wetland	Wetland
Brachydiplax chalybea	Blue Dasher	藍額疏脈蜻			1
Copera marginipes	Yellow Featherlegs	黃狹扇蟌			2
Pantala flavescens	Wandering Glider	黃蜻			4

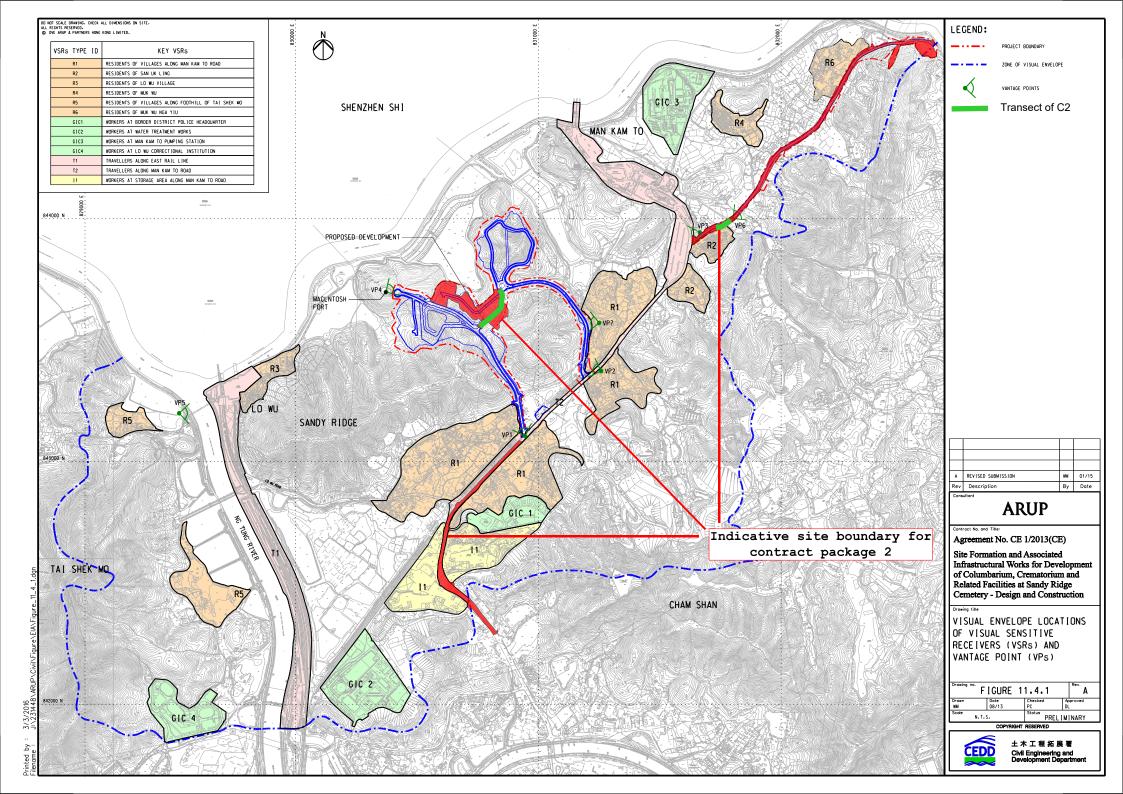


#### Table 10 Result of freshwater communities in survey

Scientific Name	Common Name	Chinese Name	Conservation Status	6-Aug-2020
Gambusia affinis	Mosquito fish	食蚊魚		*
Puntius semifasciolatus	Chinese Barb	五線無鬚鰓		*

\* : Species appeared but uncountable

# Appendix I – Transect Routes for Contract CV/2017/02





# Appendix L

# Landscape & Visual Inspection Checklist



Contract No. CV/2016/10

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Landscape and Visual Impact Assessment Checklist for Site Audit

#### Date/ Time: 24/8/2020 10:30 Weather: Fine/ Overcast/ Rain/ Windy

Item	Mitigation Measures	Implementation			Actions/ Remarks	
		Yes	No	N/A		
1	Landscape and Visual	-		_		
1.1	Is the construction period become shortened?			$\checkmark$	Under review.	
1.2	Is the work site confined within site boundaries and without encroaching into the landscape resources offsite?	~				
1.3	Is the site kept clean and tidy (E.g. storage of materials, location and appearance of site accommodation being well positioned)	~				
1.4	Is the construction site screened properly by hoardings or noise barriers in visually unobstructed colours?	~				
1.5	Is the erosion and dust control for exposed soil well performed during excavation work? (E.g. Exposed soil shall be covered or "camouflaged" and watered frequently. Areas that are expected to be left with bare soil for a long period of time should be hydro seeded and / or covered with suitable protective fabrics.)	~				
1.6	Are the woodland, plantation and other vegetation being protected and preserved in accordance with DEVB TC(W) No. 07/2015(E.g. Set up Tree Protection Zone)?	~				
1.7	Are the trees which are in direct conflict with the development proposal being transplanted as far as practical in accordance with and DEVB TC(W) No. 07/2015?	~				
1.8	Are compensatory planting for trees being provided to compensate the trees felled in accordance with DEVB TC(W) No. 07/2015?			~	Tree planting works have not yet been commenced.	
1.9	Are precautionary control measures to protect natural streams and rivers from adverse impact being implemented in accordance with ETWWB TCW No. 5/2005? (E.g. Construction debris and spoil should be covered up and properly disposed)	~				
1.10	Is light and glare control such as hooding being implemented during construction and operation to minimize light pollution and night time glare? (E.g. All security floodlights for construction sites should be equipped with adjustable shield, frosted diffusers and reflective covers)	~				

# Muni Arboris

#### **Summary / Remarks:**

#### Follow up actions taken by Contractor for previous comments:

N/A

#### New observation:

N/A

#### **Reminders:**

- 1. Contractor is reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ.
- 2. Transplanted trees T2465, T2468 and T2928 were in fair health condition with normal foliage color and density. Contractor is reminded to provide proper maintenance according to approved method statement.

#### **Photo Record:**

Fig B. Fig A. 24/8/2020

General view (1)

General view (2)



General view (3)

Tree protection zone







Transplanted tree (T-2465)

Fig F.



Transplanted tree (T-2468)



Tree protection zone (T-2468)



Transplanted tree (T-2928)



Contract No. CV/2017/02 Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Development of Columbarium at Sandy Ridge Cemetery – Infrastructural Works at Man Kam To Road and Lin Ma Hang Road Landscape and Visual Impact Assessment Checklist for Site Audit

#### Date/ Time: 24/8/2020 11:30 Weather: Fine/ Overcast/ Rain/ Windy

Item	Mitigation Measures	Im	pleme	ntation	Actions/ Remarks		
	8	Yes	No	N/A	_		
1	Landscape and Visual			•	1		
1.1	Is the construction period become shortened?			$\checkmark$	Under review		
1.2	Is the work site confined within site boundaries and without encroaching into the landscape resources offsite?	✓					
1.3	Is the site kept clean and tidy (E.g. storage of materials, location and appearance of site accommodation being well positioned)	~					
1.4	Is the construction site screened properly by hoardings or noise barriers in visually unobstructed colours?	~					
1.5	Is the erosion and dust control for exposed soil well performed during excavation work? (E.g. Exposed soil shall be covered or "camouflaged" and watered frequently. Areas that are expected to be left with bare soil for a long period of time should be hydro seeded and / or covered with suitable protective fabrics.)	~					
1.6	Are the woodland, plantation and other vegetation being protected and preserved in accordance with DEVB TC(W) No. 07/2015(E.g. Set up Tree Protection Zone)?	~					
1.7	Are the trees which are in direct conflict with the development proposal being transplanted as far as practical in accordance with and DEVB TC(W) No. 07/2015?			~	Tree transplanting works have not yet been commenced		
1.8	Are compensatory planting for trees being provided to compensate the trees felled in accordance with DEVB TC(W) No. 07/2015?			~			
1.9	Are precautionary control measures to protect natural streams and rivers from adverse impact being implemented in accordance with ETWWB TCW No. 5/2005? (E.g. Construction debris and spoil should be covered up and properly disposed)			~			
1.10	Is light and glare control such as hooding being implemented during construction and operation to minimize light pollution and night time glare? (E.g. All security floodlights for construction sites should be equipped with adjustable shield, frosted diffusers and reflective covers)			~			



#### Summary / Remarks:

#### Follow up actions taken by Contractor for previous comments:

N/A

#### **New Observation:**

N/A

#### **Reminders:**

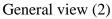
- 1. Contractor is reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ.
- 2. Proper TPZ should be set up according to approved method statement.

#### **Photo Record:**

Fig B.









General view (3)

General view (4)



## Signature:

		Signature	Date
Recorded by	Registered Landscape Architect	₩ 蕭 酿 滅 # R-142	26 Aug 2020
Checked by	Environmental Team Leader	a Bien it it	″ 10 Sep 2020
	Independent Environmental Checker	h	11 Sep 2020



# Appendix M

# Monthly Summary Waste Flow Table

#### Monthly Summary Waste Flow Table for August 2020

Department:	Civil Engineering and Deve	elopment Department Co	ntract No.:	CV/2016/10	)	
Contract Title:	Site Formation and Assoica	ted Infrastructural Works for	Developmen	nt of Columba	rium at Sandy Ridge Cemeter	у
Commencement Date	: 15-Dec-2017	Estimated completion Da	ate 22-D	Dec-2023	Estimated Contract Sum:	780M

		Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly						
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse			
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )			
Jan	34.748	0.000	9.595	0.000	25.153	0.000	0.000	0.000	0.000	0.000	0.070			
Feb	48.481	0.000	5.352	0.000	43.129	0.000	0.000	0.000	0.000	0.000	0.214			
Mar	16.411	0.000	14.155	0.000	2.256	0.000	0.000	0.000	0.000	0.498	0.222			
Apr	10.024	0.000	8.924	0.000	1.100	0.000	0.000	0.000	0.000	0.000	0.176			
May	9.923	0.000	9.383	0.000	0.540	0.000	0.000	0.000	0.000	0.000	0.052			
June	15.159	0.000	14.439	0.000	0.720	0.000	0.000	0.000	0.000	0.000	0.040			
Sub-total	134.746	0.000	61.848	0.000	72.898	0.000	0.000	0.000	0.000	0.498	0.774			
July	9.201	0.000	8.523	0.000	0.678	0.000	0.000	0.000	0.000	0.000	0.188			
Aug	3.361	0.000	1.567	0.000	1.794	0.000	0.000	0.000	0.000	0.000	0.204			
Sept														
Oct														
Nov														
Dec														
Total	147.308	0.000	71.938	0.000	75.370	0.000	0.000	0.000	0.000	0.498	1.166			

Notes: (1) The waste flow table should cover the whole construction period of the Contract.

(2) The original estimates of the C&D materials should be the estimates at contract commencement and should not be altered during construction.

(3) Inert C&D materials that are specified in the Contract to be imported for use at the Site shall be separately indicated.

(4) The yearly estimates of the C&D materials should be updated as appropriate taking into account the latest works programme etc.

(5) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(6) Broken concrete for recycling into aggregates.

Name of Department: CEDD

	A	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse			
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)			
JAN	8926.560	0.000	0.000	0.000	8926.56	0.000	0.000	0.000	0.000	0.000	50.290			
FEB	588.150	0.000	0.000	0.000	588.15	0.000	0.000	0.000	0.000	0.000	40.800			
MAR	12694.520	0.000	0.000	0.000	12694.52	0.000	0.000	0.000	0.000	0.000	11.660			
APRIL	1664.920	0.000	0.000	0.000	1664.92	0.000	0.000	0.000	0.000	0.000	6.110			
MAY	958.450	0.000	0.000	0.000	958.45	0.000	0.000	0.000	0.000	0.000	5.160			
JUN	2010.780	0.000	0.000	0.000	2010.78	0.000	0.000	0.000	0.000	0.000	10.560			
Sub Total	26843.380	0.000	0.000	0.000	26843.380	0.000	0.000	0.000	0.000	0.000	124.580			
JUL	931.700	0.000	0.000	0.000	931.700	0.000	0.000	0.000	0.000	0.000	15.720			
AUG	*353.240	0.000	0.000	0.000	*353.240	0.000	0.000	0.000	0.000	0.000	4.370			
SEP														
OCT														
NOV														
DEC														
Total	*28128.320	0.000	0.000	0.000	*28128.320	0.000	0.000	0.000	0.000	0.000	144.670			

# Monthly Summary Waste Flow Table for 2020

Notes: \* estimated quantity (pending from EPD NENT (soil) to update the actual quantity)

#### Name of Department: CEDD

	Forecast of Total Quantities of C&D Materials to be Generated from the Contract (see Note 4)										
Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metal	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse	
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )	
0	0	0	0	0	350	30	4	2	1	4	

Notes:

(1) The performance targets are given in PS clause 6(14) above.

(2) The waste flow table shall also include C&D materials that are specified in the Contractor to be imported for use at the Site.

(3) Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature

- Hard Rocks and Large Broken Concrete = Cannot be defined at this stage
- Imported Fill = Estimated by the Contractor
- Metal = Estimated by the Contractor
- Paper/cardboard packaging = Estimated by the Contractor
- Plastics = Estimated by the Contractor

- Chemical Waste = Estimated by the Contractor (Spent lubricating oil, assume density 0.9kg/L)

- Other, e.g. general refuse = Estimated by the Contractor



# Appendix N

# **Implementation Schedule for Environmental Mitigation Measures**

Note: Chapters 1 to 3 of the EIA report present the background information of the Project, identified concurrent projects, objectives and scope for various environmental aspects, and description on alternative options and construction description. Chapters 4 to 12 of the EIA report present the EIA findings and mitigation measures are described below with cross-reference to the EIA report. Chapters 13 to 15 describe the environmental monitoring requirements and conclusion.

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Common Mitig	ation Measures (Applicable to ALL Project Components, including D	Ps and Non-DPS)				
Construction D	ust Impact					
S4.4.5.2	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO     To control the dusi impact to meet HKAQO and TM-EIAC criteria
S4.4.5.3	Water spraying every hour for all active works area.	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO     To control the dust impact to meet HKAQO and TM-EIAO criteria
S4.4.5.2	<ul> <li>Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones;</li> <li>The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>Vehicle wheel washing facilities should be provided at each construction</li> </ul>	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO     To control the dust impact to meet HKAQO and TM-EIAO criteria

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels;					
	• When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period;					
	• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;					
	• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;					
	• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;					
	• Any skip hoist for material transport should be totally enclosed by impervious sheeting;					
	• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;					
	• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system;					
	• Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.					

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S4.4.5.1	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction phase	• TM-EIAO
S4.4.5.3	<ul> <li>All road surface within the barging facilities will be paved.</li> <li>Dust enclosures will be provided for the loading ramp, installation of 3-sided screen with top cover and the provision of water sprays at the discharge point would be provided.</li> <li>Vehicles will be required to pass through designated wheel wash facilities.</li> <li>Continuous water spray at the loading point.</li> </ul>	Minimise dust impact at the nearby sensitive receivers	Contractor	Barging point at Siu Lam	Construction phase	• TM-EIAO

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Construction Noise						
\$5.5.5.3	<ul> <li>Implement the following good site management practices:</li> <li>only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from onsite construction activities.</li> </ul>	Control construction noise	Contractor	All construction sites	Construction phase	• Annex 5, TM-EIAO
S5.5.5.5	Adopt quiet plants during the construction of viaduct, widening of Sha Ling Road, construction of platform for crematorium and widening of Lin Ma Hang Road. The quiet plants should be made reference to the PME listed in the TM or the QPME/ other commonly used PME listed in EPD web pages or taken from BS5228: Part 1: 2009 Noise Control on Construction and Open Sites as far as possible.	Reduce the noise levels of plant items	Contractor	Works area for construction of viaduct, widening of Sha Ling Road, construction of platform for crematorium and widening of Lin Ma Hang Road		• Annex 5, TM-EIAO

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S5.5.5.6	Install temporary noise barriers (in the form of site hoardings, approx. 2.4m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	• Annex 5, TM-EIAO
S5.5.5.7 – S5.5.5.12	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered upper portion of superficial density no less than $7 \text{kg/m}^2$ on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressors, generators etc.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction phase	• Annex 5, TM-EIAO
\$5.5.5.13	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction noise	Contractor	All construction sites where practicable	Construction phase	• Annex 5, TM-EIAO
S13.2.1.1 – S13.4.1.2	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representativ e noise monitoring station	Construction phase	• TM-EIAO
Operational Noise (Road	d Traffic Noise)			1	L	
S5.6.6.4	<ul> <li>Provide a series of noise mitigation measures including absorptive noise barriers and low noise road surfacing materials along Lin Ma Hang Road and Sha Ling Road before operation of the proposed project for existing and planned representative NSRs. Locations of noise mitigation measures are stated as following:</li> <li><i>For existing representative NSRs</i></li> <li>Approx. 12m of absorptive noise barrier 2.5m above road level along Sha Ling Road (MM1);</li> <li>Approx. 92m of absorptive noise barrier 2.5m above road level along Sha Ling Road (MM2);</li> </ul>	Reduce operation noise from road traffic	Contractor	Refer to Figures 5.6.9 – 5.6.13 of the EIA Report	Prior to operation of the Project for existing representative NSRs. While for barriers to protect planned representative NSRs, it should constructed before intake of planned representative NSRs.	

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	• Approx. 28m of absorptive noise barrier 3m above road level along Project Road near Sha Ling Road (MM3);					
	• Approx. 51m of absorptive noise barrier 3m above road level along Project Road near Sha Ling Road (MM4);					
	<ul> <li>Approx. 25m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM5);</li> </ul>					
	• Approx. 21m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM6);					
	• Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM7);					
	<ul> <li>Approx. 18m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM8);</li> </ul>					
	• Approx. 42m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM9);					
	<ul> <li>Approx. 93m of absorptive noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10);</li> </ul>					
	• Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11);					
	For planned representative NSRs					
	<ul> <li>Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12);</li> </ul>					
	<ul> <li>Approx. 47m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM13);</li> </ul>					
	<ul> <li>Approx. 31m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM14);</li> </ul>					
	<ul> <li>Approx. 31m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM15);</li> </ul>					
	<ul> <li>Approx. 41m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM16);</li> </ul>					

EIA Ref.	Recommended Mitigation Measures	ObjectivesoftheRecommendedMeasures &Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	• Approx. 340m of low noise surfacing materials along Lin Ma Hang Road near Muk Wu Nga Yiu (MM17).					

EIA Ref.	Recommended Mitigation Measures	ObjectivesoftheRecommendedMeasures&Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Water Quality (Construc	tion Phase)					
S6.4.4.1 – S6.4.4.3	<ul> <li>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:</li> <li>General Site Operation</li> <li>At the start of site establishment, perimeter cut-off drains to direct offsite water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction;</li> <li>Diversion of natural stormwater should be avoided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or minimise polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m<sup>3</sup> capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped;</li> <li>The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be incorporated in the permanent drainage channels to enhance deposition rates;</li> <li>The design of efficient silt removal facilities should be based on the</li> </ul>	To minimise water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where applicable	Construction phase	• Water Pollution Control Ordinance • ProPECC PN1/94 • TM-EIAO • TM-DSS
	guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of					

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction;					
	• Construction works should be programmed to minimise surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means;					
	• If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;					
	• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas;					
	• All open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m <sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;					
	• Manholes (including newly constructed ones) should always be covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers;					
	• Precautions be taken at any time of year when rainstorms are likely, 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. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes;					

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	<ul> <li>All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Washwater should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains;</li> <li>Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain;</li> <li>Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts;</li> <li>All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby;</li> <li>Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the water bodies, marsh and ponds;</li> <li>Adopt best management practices.</li> </ul>					
S6.4.4.4 – S6.4.4.5	<ul> <li>Sewage from workforce</li> <li>Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance;</li> </ul>	To minimise water quality from sewage effluent	Contractor	All construction sites where practicable	Construction phase	Water Pollution Control Ordinance     TM-DSS

Environmental Mitigation Implementation Sc	chedule – Sandy Ridge
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EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	<ul> <li>Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project;</li> <li>Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.</li> </ul>					
S6.4.4.6	<ul> <li>Operation of Barging Point at Siu Lam</li> <li>All barges should be fitted with tight bottom seals to prevent leakage of materials during transport;</li> <li>Barges or hoppers should not be filled to a level that will cause overflow of materials or polluted water during loading or transportation;</li> <li>All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; and</li> <li>Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water.</li> <li>Mitigation measures for land-based activities as outlined in Section 6.4.4 should be applied to minimise water quality impacts from site runoff and open stockpile spoils at the proposed barging facilities where appropriate.</li> </ul>	To minimise water quality from operation of barging point at Siu Lam	Contractor	All construction sites where practicable	Construction phase	Water Pollution Control Ordinance     TM-DSS
Water Quality (Operat	tional Phase)					
S6.5.4.1 – S6.5.4.6	<ul> <li>The following mitigation measures during operational phase are recommended:</li> <li>Sewage and wastewater discharge should be connected to foul sewerage system;</li> <li>Proper drainage systems with silt traps and oil interceptors should be installed;</li> </ul>	To minimise the road runoff, wastewater discharge and erosion of seasonal watercourse during the operational phase	Highways Department / Contractors	Whole alignment	Construction / Operational Phase	Water Pollution Control Ordinance     TM-DSS

EIA Ref.	Recommended Mitigation Measures	ObjectivesoftheRecommendedMeasures&Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	<ul> <li>The design of road gullies with silt traps should be incorporated especially for the catchment leading to the existing wet woodland area located at the north of the site;</li> <li>The silt traps and oil interceptors should be cleaned and maintained regularly, especially before peak seasons of the visitors in Ching Ming Festival and Chung Yeung Festival;</li> <li>Energy dissipaters should be installed at the seasonally wet watercourses to reduce the magnitude of the first flush in order to minimise the erosion impact to the wet woodland.</li> </ul>					

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Waste Management	(Construction Waste)					
\$7.3.3.8	Construction & Demolition Material Management Plan (C&DMMP)	To enhance the management of	Contractor	All	Construction phase	Project
	• A C&DMMP shall be submitted to the Public Fill Committee for approval in the case of C&D materials disposal exceeding 50,000m <sup>3</sup> .	construction and demolition (C&D) material including rock in public works projects		construction sites		Administrative Handbook for Civil Engineering Works, 2012 Edition
\$7.3.4.2	Good Site Practice	Minimise waste generation	Contractor	All	Construction phase	• Waste Disposal
	The following good site practices are recommended throughout the construction activities:	during construction		construction sites		Ordinance
	• nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;					
	<ul> <li>training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling;</li> </ul>					
	• provision of sufficient waste disposal points and regular collection for disposal;					
	• appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;					
	• regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;					
	• a Waste Management Plan (WMP) should be prepared by the contractor and submitted to the Engineer for approval.					
\$7.3.4.3	Waste Reduction Measures	Reduce waste generation	Contractor	All	Construction phase	• Waste Disposal
	Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction:			construction sites		Ordinance
	• segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal;					

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	<ul> <li>proper storage and site practices to minimise the potential for damage and contamination of construction materials;</li> <li>plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste;</li> <li>sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.);</li> <li>provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.</li> </ul>					
S7.3.4.5	Storage of Waste         The following recommendation should be implemented to minimise the impacts:         • non-inert C&D materials such as soil should be handled and stored well to ensure secure containment;         • stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away;         • different locations should be designated to stockpile each material to enhance reuse;	Good site practice to minimise the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction phase	<ul> <li>Land (Miscellaneous Provisions) Ordinance</li> <li>Waste Disposal Ordinance</li> <li>ETWB TCW No. 19/2005</li> </ul>
\$7.3.4.6	Collection and Transportation of Waste         The following recommendation should be implemented to minimise the impacts:         • remove waste in timely manner;         • employ the trucks with cover or enclosed containers for waste transportation;         • obtain relevant waste disposal permits from the appropriate authorities; and         • disposal of waste should be done at licensed waste disposal facilities.	Minimise waste impacts from storage	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance
S7.3.4.8 – S7.3.4.15	<ul> <li><u>Excavated and C&amp;D Materials</u></li> <li>Wherever practicable, C&amp;D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&amp;D materials:</li> <li>maintain temporary stockpiles and reuse excavated fill material for</li> </ul>	Minimise waste impacts from excavated and C&D materials	Contractor	All construction sites	Construction phase	Land (Miscellaneous Provisions) Ordinance Waste Disposal Ordinance

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	backfilling;					• ETWB TCW No.
	• carry out on-site sorting;					19/2005
	• make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and					Project     Administrative
	• implement a recording system for the amount of waste generated, recycled and disposed of for checking.					Handbook for Civil Engineering Works,
	The recommended C&D materials handling should include:					2012 Edition
	• On-site sorting of C&D materials;					
	• Reuse of C&D materials; and					
	• Use of Standard Formwork and Planning of Construction Materials purchasing.					
S7.3.4.17 – S7.3.4.18	Chemical Waste	Control the chemical waste and	Contractor	All	Construction phase	• Waste Disposal
	If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producer. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	ensure proper storage, handling and disposal.		construction sites		<ul> <li>(Chemical Waste) General) Regulation</li> <li>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</li> </ul>
\$7.3.4.19	<ul> <li><u>General Refuse</u></li> <li>General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.</li> <li>Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean.</li> <li>A reputable waste collector should be employed to remove general refuse on a daily basis.</li> </ul>	Minimise production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance
\$7.3.4.20	<ul> <li>Sewage</li> <li>The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability,</li> </ul>	Minimise production of sewage impacts	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	<ul> <li>site condition and activities.</li> <li>Regularly collection by licensed collectors should be arranged to minimise potential environmental impacts.</li> </ul>					
Waste Management (Opera	ational Waste)					
S7.4.4.1	General Refuse A reputable waste collector should be employed to remove general refuse on a daily basis.	Remove general refuse during routine road cleaning activities on the roads network and avoid odour, pest and litter impacts	Contractor	Roads network for the C&C facilities and Lin Ma Hang Road	Operational phase	• Waste Disposal Ordinance

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Land Contamination						
S8.9.1.1	Re-appraisal of the potentially contaminated site (SRC-1)	Identify any hot spots for SI within the southeast and western portions of SRC-1	• •	Potentially contaminated site (SRC-1)	Once the works area for the Project is confirmed and site access is available (e.g. after land resumption)	• Annex 19 of the TM- EIAO, Guidelines for Assessment of Impact On Sites of Cultural Heritage and Other Impacts (Section 3 : Potential Contaminated Land Issues);
						Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management;
						• Guidance Notes for Contaminated Land Assessment and Remediation; and
						• Practice Guide for Investigation and Remediation of Contaminated Land
						• Recommendations in Health Risk Assessment
S8.11.1.1	Preparation and submission of Contamination Assessment Plan (CAP) to EPD for review and approval, if required	Present the findings of the re- appraisal and strategy of the recommended SI, if required		Potentially contaminated site (SRC-1)	After land resumption and prior to the construction phase	Ditto
\$8.11.1.2	Preparation and submission of Contamination Assessment Report (CAR) to EPD for review and approval, if required	Present the findings of SI, if any, and evaluate the level and extent of potential contamination	Project Proponent / Detailed Design Consultant	Potentially contaminated site (SRC-1)	Prior to the construction phase	Ditto

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S8.11.1.2	Preparation and submission of Remediation Action Plan (RAP) to EPD for review and approval if contamination is identified	Recommend appropriate mitigation measures for the contaminated soil and groundwater identified in the assessment if remediation is required	Detailed Design Consultant	Potentially contaminated site (SRC-1)	Prior to the construction phase	Ditto
S8.11.1.2	Preparation and submission of Remediation Report (RR) to EPD for review and approval following the completion of any necessary remediation works	Demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed CAR and RAP	Detailed Design	Potentially contaminated site (SRC-1)	Prior to the construction phase	Ditto

Environmental Mitigation Implementatio	n Schedule – Sandy Ridge
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EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
Ecology (Construction	Phase)					
\$9.7.2.3	Preparation and submission of Upland Grassland Reinstatement Plan to EPD for agreement.	An Upland Grassland Reinstatement Plan will be prepared by a qualified ecologist/botanist with full details of the findings of a baseline grassland survey, the practical details and methodology of the physical excavation, transport and storage or turves/topsoil and their subsequent reinstatement once the receptor sites have been established, along with an implementation programme of reinstatement, post- reinstatement monitoring and maintenance programme. A contingency plan should be proposed in the Grassland Reinstatement Plan so as to describe the action and limit levels and the action plan if certain performance criteria (such as area of preferred habitat) are not met during the monitoring and maintenance period.	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for Upland Grassland Reinstatement Plan	Engineered slopes of Crematorium Indicative locations for Grassland Reinstatement should be referred to <b>Figure 9.11</b> of the EIA Report	Prior to construction phase	<ul> <li>Reinstatement and establishment requirements to be detailed in Upland Grassland Reinstatement Plan</li> <li>TM-EIAO</li> </ul>
S9.7.2.5 – S9.7.2.6	Preparation and submission of a Vegetation Survey Report and Transplantation Proposal (if needed as concluded in the Vegetation Survey Report) to EPD for agreement.	The Vegetation Survey will report the presence, as well as update the conditions, number, locations and habitat types of any identified floral species of conservation importance to be impacted by the development,	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for	Within the Project Area where applicable	Prior to construction phase	• Survey findings and transplantation methodology to be detailed in Vegetation Survey Report and Transplantation Plan

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		and evaluate suitability and/or practicality of transplantation. The Transplantation Proposal will recommend locations of the receptor site(s), transplantation methodology, implementation programme of transplantation and post-transplantation monitoring and maintenance programme.	Vegetation Survey Report and Transplantation Proposal.			respectively. • TM-EIAO.
\$9.7.5.3 – \$9.7.5.5, \$9.8.1.6	Preparation and submission of Enhancement Woodland Proposal to EPD for agreement.	Recommend appropriate enhancement planting programme, planting and post-transplantation monitoring methodology, action plan for monitoring the enhancement planting and maintenance programme.	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for Wooded Area Proposal.	Filled slope west of the platform, and north west of the platform in the valley below MacIntosh Fort Indicative locations for Enhancement Woodland should be referred to <b>Figure 9.11</b> of the EIA Report	Prior to construction phase	<ul> <li>Enhancement planting and establishment requirements to be detailed in Wooded Enhancement Proposal.</li> <li>TM-EIAO</li> </ul>
S9.7.3.1 – S9.7.3.3	Indirect impacts due to potential changes in water quality, hydrology and sedimentation could occur to a series of downstream watercourses and wetland systems (including the wet woodland, marsh and mitigation ponds) during both the construction (for the Platform and LMHR widening works) and operational stages. Generally, indirect water impact to any aquatic fauna during the construction phase should easily be avoided by implementing water control measures (ETWB TCW No. 5/2005) to avoid direct or indirect impacts any watercourses and good site practices (further details are discussed in Section 6 of the EIA Report).	Minimise the indirect impacts to Water Quality and Hydrology	Contractor /detailed design consultant.	On the edge of any active works area, 30m from the watercourse	Prior to commencement and during construction phase	• ETWB TCW No. 5/2005 • TM-EIAO

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
	In addition, construction phase impacts on the watercourses, riparian corridor and fauna using these areas will be minimised by erection of a 2m high, solid, dull green site boundary fence on the edge of any active works area, 30m from the watercourse. Where this is not practicable due to site constraints, demarcation fencing will need to be erected to prevent unauthorised encroachment into the riparian corridor by constructions works and traffic. Detailed mitigation measures will be designed at the detailed design stage.					
S9.7.3.4 – S9.7.3.6	Mitigation for noise disturbance (details refer to \$5.5.5 to \$5.6.6 of this table). Site formation and construction are tentatively proposed to cover a 65-month period from mid 2017 to late 2022. As a precautionary approach, consideration should be given at the detailed design stage to avoid the use of highly reflective materials in the design and implementing the use of opaque materials, fritting, breaking up external reflections with stickers or plastic wrap and/or any other bird-friendly design for noise barriers. Works will be restricted to daytime and any construction lighting should be designed and positioned as to not impact on adjacent ecologically sensitive areas.	The construction work and site formation will be phased in order to reduce overall noise disturbance impacts in particular areas. Collisions usually occurs as a result of birds perceiving a clear path through an object that is transparent or appears to be transparent at some distance, or if the noise barrier is highly reflective which would appear to be composed of the adjacent natural vegetation. Furthermore, mitigation measures to control noise disturbance during this phase will involve the selection of quieter plant, use of movable noise barriers and erection of hoarding and fencing to demarcate the site boundary	Contractor Project Proponent	All construction sites	Prior to commencement and during construction phase	• TM-EIAO.

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
\$.9.7.3.7	<ul> <li>In order to demonstrate ecological awareness and to minimise the risk of indirect impacts from water pollution and hill fires, a series of good site practices should be adopted by site staff throughout the construction phase at each works site. These are as follows:</li> <li>Put up signs to alert site staff about any locations which are ecologically sensitive and measures to prevent accidental impacts;</li> <li>Erection of temporary geotextile silt or sediment fences/oil traps around any earth-moving works to trap any sediments and prevent them from entering watercourses;</li> <li>Prohibition of soil storage against trees or close to waterbodies;</li> <li>Delineation of works site to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value;</li> <li>No smoking, hot works or sources of fire close to upland grassland;</li> <li>No on-site burning of waste; and</li> <li>Waste and refuse in appropriate receptacles.</li> </ul>	Minimise impacts on hydrological condition and water quality of hillside watercourses and reduce chances of hillfires.	Contractor	All construction sites	Prior to commencement and during construction phase	• TM-EIAO.
S.9.7.3.9	Precautionary checks by a suitably experienced ecologist of the vegetation for the presence of nesting birds should be carried out in the breeding season (February to July) before vegetation clearance. These impacts can be avoided by conducting vegetation clearance during the non-breeding season (tentatively August-January) and phased through the project period to minimise impacts.	Minimise the impacts to breeding birds within the works areas.	Contractor	All construction sites	Prior to site clearance	• TM-EIAO • WAPO

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S9.7.2	Establishment, maintenance and monitoring of a Upland Grassland Reinstatement Area	Reinstatement of upland grassland and to maintain connectivity in Sandy Ridge.	Project Proponent / Contractor / Maintenance Authority	Engineered slopes of Crematorium Indicative locations for Grassland Reinstatement should be referred to <b>Figure 9.11</b> of the EIA Report	Operational phase	<ul> <li>Monitoring methodology and successfulness of survival of upland grassland should follow Upland Grassland Reinstatement Plan.</li> <li>TM-EIAO.</li> </ul>
S9.7.5.3 – S9.7.5.6	Establishment, maintenance and monitoring of an enhancement woodland	Recommend appropriate enhancement planting programme, planting and post- transplantation monitoring methodology, action plan for monitoring the enhancement planting and maintenance programme.	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for Wooded Area Proposal.	Filled slope west of the platform, and north west of the platform in the valley below MacIntosh Fort Indicative locations for Enhancement Woodland should be referred to <b>Figure 9.11</b> of the EIA Report	Operational phase	<ul> <li>Enhancement planting and establishment requirements to be detailed in Wooded Area Proposal.</li> <li>TM-EIAO.</li> </ul>
S9.7.4.1 – S9.7.4.5	<ul> <li>Mitigation for Impacts to Water Quality and Hydrology (Operational Phase)</li> <li>Stormwater drainage system will be further developed in detailed design stage to collect dusty materials from water collected from the platform and associated road system. Silt traps will be installed to ensure removal of dusty materials. Regular cleaning will be conducted to avoid debris entering downstream rivers during first flush; and</li> <li>The proposed small diameter bore pile system at the foundation of the proposed platform structure.</li> </ul>	Specific mitigation measures will be implemented to prevent indirect impacts wetland habitats and fauna. Mitigation measures are to be further developed in the detailed design stage to address any water quality impacts due to the drainage from the proposed platform, and any erosion issues due to the drainage from the	Detailed Design Consultant	Wet woodland (and further down the marsh and mitigation ponds) and the seasonal watercourse to the east of the Project boundary	Detailed Design phase/Operational phase	• TM-EIAO

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
		proposed platform. The surface runoff collected on the platform will be captured by a stormwater drainage system, which will be further developed at the detailed design stage The proposed small diameter bore pile system at the foundation of the proposed platform structure would allow a notional free area of about 87 – 91% for groundwater to pass through				
\$9.7.4.6 – \$9.7.4.7	<ul> <li><u>Minimise the potential indirect light disturbance on the Street Lighting on</u> <u>fireflies surrounding the Project Site during operational phase</u></li> <li>It is considered that at the detailed design stage, street lighting of similar lux/light intensity as to what is currently present is utilised. Furthermore, as a precautionary measure, it is suggested that deflectors are fixed to the back of the street lights to prevent additional light reaching the marsh and causing adverse impacts to fireflies.</li> </ul>	Reduce light pollution and impact on the nearby habitats and their associated wildlife groups, particularly nocturnal fireflies.	Detailed Design/ Consultant/ Operator	The whole Project area	Detailed Design phase/Operational phase	• TM-EIAO
S9.7.4.9 – S9.7.4.9	The increase in visitors to the columbarium allows greater public access to the upland grassland of Sandy Ridge and in turn, the potential for hill fires is also increased. Fires may emanate from discarded cigarettes and from specific practices during festivals or grave-sweeping. In order to reduce the risk of hill fires, sufficient educational signage should be displayed throughout the columbarium warning people of the risks of fire and strictly prohibits practices that could cause hill fires. This will require input in the detailed design phase.	Minimise the risk of hill fires.	Detailed Design/ Consultant/ Operator	The whole Project area	Detailed Design phase/Operational phase	• TM-EIAO

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Fisheries						
S10.5.1.1	No loss of fish ponds is anticipated and no <i>in situ</i> mitigation is required. However, mitigation measures for water quality (S6.4.4 – S6.5.4 in this table) proposed are also pertinent in ensuring that fisheries impacts of the Project do not occur downstream of the Project area either locally or in Inner Deep Bay.	-	-	-	-	-

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Landscape & Visual						
S11.8.1.3, Table 11.9	CM1 – The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape, and the reliance on off-site construction.	Minimise landscape impact and visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase	-
S11.8.1.3, Table 11.9	CM3 – Screening of construction works by hoardings/noise barriers around works area in visually unobtrusive colours and to screen construction works. It is proposed that screening be compatible with the surrounding environment and non-reflective, recessive colours be used. Hoarding should be taken down at the end of the construction period.	Minimise visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase	-
S11.8.1.3, Table 11.9	CM4 – Dust and Erosion Control for Exposed Soil - Excavation works and demolition of existing building blocks shall be well planned with precautions to suppress dust. Exposed soil shall be covered or watered often. Areas that are expected to be left with bare soil for a long period of time after excavation shall be properly covered with suitable protective fabric. Suitable drainage shall be provided around construction sites to avoid discharge of contaminants and sediments into sensitive water-based habitat.	Minimise indirect landscape impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase	-
S11.8.1.3, Table 11.9	CM5 – Control night-time lighting and glare by hooding all lights.	Minimise visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase	-

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S11.8.1.3, Table 11.9	CM6 – Tree Protection and Preservation – Woodland, plantation and other vegetation within the Study Area will be protected and preserved as far as possible in accordance with ETWB TCW No. 29/2004 - Registration of Old and Valuable Trees, and Guidelines for their Preservation and DEVB TCW No.07/2015 – Tree Preservation. Detailed Design Considerations are made to avoid impacts to trees, e.g. proper viaduct/ bridge design routing to avoid majority of the woodland, locating the columbarium buildings in areas with less trees and ensuring design of the buildings has as small a footprint as practical.	Minimise landscape impact and visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase	<ul> <li>DEVB TC(W) 07/2015</li> <li>Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DevB</li> </ul>
S11.8.1.3, Table 11.9	CM7 – Tree Transplantation – Tree(s) will be affected according to the Tree Preservation and Removal Proposal to be carried out in a later stage. Established trees of value are to be re-located where practically feasible.	Minimise landscape and visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Design and Construction phase	<ul> <li>'Guidelines for Tree Risk Management and Assessment Arrangement on an Area Basis and on a Tree Basis', issued January 2011, Greening, Landscape and Tree Management (GLTM) Section, DevB</li> <li>Latest recommended horticultural practices from GLTM Section, DevB</li> </ul>

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S11.8.1.3, Table 11.9	CM8 - Implementing precautionary control measures during construction stage accordingly to ETWB TCW No. 5/2005 – Protection of natural streams/rivers from adverse impacts arising from construction works to avoid direct or indirect impacts any watercourses and good site practices.	Minimize landscape impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Design and Construction phase	• ETWB TCW No. 5/2005 – Protection of natural streams/rivers from adverse impacts arising from construction works
S11.8.1.3, Table 11.9	OM1 – Compensatory Woodland Planting - The arrangement of compensatory planting (e.g. areas of woodland to be compensated and space to be allowed within the Project Site) will be subject to detailed engineering design, landscape design and planting plan, and is recommended to be implemented prior to the construction activities as far as practical.	Compensate the loss of landscape greenery and enhance the overall visual value of the site.	Funded by CEDD and implemented by Contractor	Within Project Site	Prior to Construction phase	<ul> <li>DEVB TC(W) 07/2015 – Tree Preservation</li> <li>Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DevB</li> <li>DEVB TCW No. 06/2015 – Maintenance of Vegetation and Hard Landscape Features</li> </ul>

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S11.8.1.3, Table 11.9	OM2 – Compensatory Tree Planting for Plantation and Other Vegetated Areas - Compensatory planting should be provided in accordance with DEVB TCW No. 07/2015 to compensate for those trees felled. According to the preliminary design, compensatory trees will be planted on the cut/fill slopes, along new roads and in car parks. The selection of planting species shall be made with reference to the species identified in the future Detailed Tree Survey and be native to Hong Kong or the South China region.	Compensate the loss of landscape greenery and enhance the overall visual value of the site.	Funded by CEDD and implemented by Contractor	Within Project Site	Construction phase	<ul> <li>DEVB TC(W) 07/2015 – Tree Preservation</li> <li>Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DevB</li> <li>DEVB TCW No. 06/2015 – Maintenance of Vegetation and Hard Landscape Features</li> </ul>
S11.8.1.3, Table 11.9	OM3 – Amenity Planting and aesthetic streetscape design of hard landscaping for Pedestrian Walkway, Roadside - Roadside amenity planting should be provided along Sha Ling Road, Lin Ma Hang Road, as well as the internal road within Sandy Ridge columbarium and crematorium site; to enhance the landscape quality of the existing and proposed transport routes. Climbers are proposed to cover vertical, hard surfaces of the piers of the proposed viaducts, and also the newly formed retaining wall within the site. Shade tolerant plants will be planted, where light is sufficient, to improve aesthetic value of areas under viaducts.	Minimise visual impact and also enhance landscape.	Funded by CEDD and implemented by Contractor	Within Project Site	Construction phase	<ul> <li>Guidelines on Greening of Noise Barriers, issued April 2012, GLTMS, DevB</li> <li>DEVB TCW No. 06/2015 – Maintenance of Vegetation and Hard Landscape Features</li> </ul>
S11.8.1.3, Table 11.9	OM4 – Greening Works and Contour Grading Works on Cut/ Fill Slopes - Greening works such as hydroseeding/ terraces of shrub or tree planting will be provided where slope gradient allows, according to Geotechnical Engineering Office (GEO) Publication No.1/2011 Technical Guidelines on Landscape Treatment for Slopes.	Minimise landscape and visual impact	Funded by CEDD and implemented by Contractor	Within Project Site	Construction phase	Geotechnical Engineering Office (GEO) Publication No.1/2011 Technical Guidelines on Landscape Treatment for Slopes.

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
S11.8.1.3, Table 11.9	OM5 – Landscape design treatment to be provided by relevant government department.	Mitigate the loss of greenery and enhance the overall landscape and visual value	Funded by FEHD and implemented by Contractor	Within Project Site	After handover to the relevant department	-
S11.8.1.3, Table 11.9	OM6 – Architectural and chromatic treatment of the hard architectural and engineering structures and facilities.	Mitigate the loss of greenery and enhance the overall landscape and visual value	Funded by FEHD and implemented by Contractor	Within Project Site	After handover to the relevant department	-
S11.8.1.3, Table 11.9	OM7 – Aesthetic design of the proposed noise barriers.	Mitigate the visual impact	Funded by CEDD and implemented by Contractor	Along Sha Ling Road and Lin Ma Hang Road	Construction phase	• WBTC No. 36/2004 - ACABAS - submission is required to ACABAS for approval of any bridges and associated structures within the public highway system.
S11.8.1.3, Table 11.9	OM8 - Silt traps should also be incorporated into design of road gullies for the natural water stream(s).	Minimise the landscape impact on natural stream	Funded by CEDD and implemented by Contractor	Within Project Site	Construction Phase	

Notes:

(a) A detailed Tree Survey Report showing all identified valuable trees and OVT will be undertaken in a separate Tree Preservation and Removal Proposal.

(b) Wood resulting from tree removal should be recycled as mulch or soil conditioner for re-use within the Project or in other projects as far as possible e.g. for the construction of soft landscape work, were practical.

(c) Contractor is responsible for landscaping during the agreed establishment and maintenance period. Other designated management and maintenance agents to take up maintenance and management of landscaping after end of agreed period.

(d) Highways Department (HyD) is responsible for maintenance and management of landscaping of public road side slope, Leisure and Cultural Services Department (LCSD) is responsible for the management and maintenance of soft landscapes along non-expressway public roads outside Country Park and Food and Environmental Hygiene Department (FEHD) is responsible for maintenance and management of landscaping of other areas allocated to FEHD.

- (e) The landscape mitigation treatment of the future development site shall follow the below frameworks:
  - Buffer planting shall be provided to soften the edge of the site.
  - Aesthetic landscape treatment including both soft and hard landscape features shall be provided.
  - Vertical greening shall be provided as far as practicable.
  - At-grade tree planting shall be provided as far as possible while planting space is allowed, to enhance the overall environment.
  - Architectural design shall blend in with the surrounding environment.
  - Overall greening ratio shall comply with TC(W) No.3/2012 Site coverage of Greenery for Government Building Projects.

Recommended Mitigation Measures     Recommended Measures & Main Concerns to address     Agent     Timing     Stage     / or standards to be achieved
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The compensatory woodland planting shall be included woodland mixed whips, seeding, and shrubs. The principle of the location shall be the extension of the existing woodland, as well as the original lost woodland location. The proposal will be agreed with AFCD, the woodland enhancement planting shall refer to Chapter 9.

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved
EM&A Project						
S13.1.1.1, S13.2.1.2	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Highways Department	All construction sites	Construction phase	<ul> <li>• EIAO Guidance</li> <li>Note No.4/2010</li> <li>• TM-EIAO</li> </ul>
S13.2.1.1 – S13.4.1.2	<ol> <li>An Environmental Team needs to be employed as per the EM&amp;A Manual.</li> <li>Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.</li> <li>An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&amp;A Manual are fully complied with.</li> </ol>	Perform environmental monitoring & auditing	Highways Department / Contractor	All construction sites	Construction phase	<ul> <li>• EIAO Guidance Note No.4/2010</li> <li>• TM-EIAO</li> </ul>



# Appendix O

# Implementation of Water Quality Mitigation Measures

Water Quality Mitigation Measures under CV/2016/10 (Contract 1)



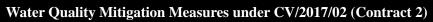
### Water Quality Mitigation Measures under CV/2016/10 (Contract 1)



## Water Quality Mitigation Measures under CV/2016/10 (Contract 1)



Hydro-seeding was applied on the slope to minimize muddy runoff.







## Water Quality Mitigation Measures under CV/2017/02 (Contract 2)

