



翠谷工程有限公司 Green Valley Landfill, Limited

South East New Territories (SENT) Landfill Extension

Monthly Environmental Monitoring & Audit Report No.30 for June 2021

July 2021

ERM

2509, 25/F One Harbourfront 18 Tak Fung Street Hunghom, Kowloon Hong Kong T: 2271 3000 F: 2723 5660 www.erm.com





South East New Territories (SENT) Landfill Extension

Environmental Certification Sheet EP-308/2008/B and FEP-01/308/2008/B

Reference Document/Plan

Document/Plan to be Certified/Verified:	Monthly Environmental Monitoring & Audit Report No.30 for June 2021 for South East New Territories (SENT) Landfill Extension
Date of Report:	12 July 2021

Reference EP Condition

EP Condition:

Condition No. 3.4

Four hard copies and one electronic copy of monthly EM&A Report shall be submitted to the Director within 10 working days after the end of the reporting month. The EM&A Reports shall include a summary of all non-compliance (exceedances) of the environmental quality performance limits (Action and Limit Levels). The submissions shall be verified by the IEC. Additional copies of the submission shall be provided to the Director upon request by the Director.

ET Certification

I hereby certify that the above referenced document/plan complies with the above referenced condition of EP-308/2008/B and FEP-01/308/2008/B.

Frank Wan, Environmental Team Leader: (ERM Hong-Kong, Limited)

Warchitt T.

Date: 12 July 2021

IEC Verification

I hereby verify that the above referenced document/plan complies with the above referenced condition of EP-308/2008/B and FEP-01/308/2008/B.

W.K. Chiu, Independent Environmental Checker:

(Meinhardt Infrastructure and Environment Limited)

 $\sqrt{}$

Date:

13 July 2021

South East New Territories (SENT) Landfill Extension

Monthly Environmental Monitoring & Audit Report for June 2021

Environmental Resources Management

2509, 25/F, One Harbourfront 18 Tak Fung Street Hunghom, Kowloon Hong Kong Telephone: (852) 2271 3000 Facsimile: (852) 2723 5660 E-mail: post.hk@erm.com http://www.erm.com

Client:		Projec	t No:		
Green V	alley Landfill Ltd.	0465	169		
Summary:		Date:	1 0004		
			uly 2021		
A This document presents the Monthly EM&A Report No.30 for June 2021 for <i>South East New Territories (SENT) Landfill Extension</i>		Approved by: Warchith J.			
		Franl <i>Partn</i>	k Wan <i>er</i>		
0	Monthly EM&A Report No.30 (for June 2021)	AL	FW	FW	12 Jul 21
Revision	Description	Ву	Checked	Approved	Date
This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business		Distribution			
	iccount of the resources devoted to it by agreement with the client.		Internal		OHSAS 18001:2007 tificate No. OHS 515956
We disclaim scope of the	any responsibility to the client and others in respect of any matters outside the above.	\boxtimes	Public		BSI
to third parti	s confidential to the client and we accept no responsibility of whatsoever nature es to whom this report, or any part thereof, is made known. Any such party report at their own risk.		Confide		15O 9001 : 2008 rtificate No. FS 32515



EXECUTIVE	SUMMARY	1
1	INTRODUCTION	1
1.1	BACKGROUND	1
1.2	PROJECT DESCRIPTION	1
1.3	SCOPE OF THE EM&A REPORT	2
1.4	PROJECT ORGANISATION	2
1.5	SUMMARY OF CONSTRUCTION WORKS	3
1.6	SUMMARY OF EM&A PROGRAMME REQUIREMENTS	4
1.7	STATUS OF STATUTORY ENVIRONMENTAL COMPLIANCE WITH THE	
	Environmental Permit	5
1.8	STATUS OF OTHER STATUTORY ENVIRONMENTAL REQUIREMENTS	6
2	EM&A RESULTS	7
2.1	AIR QUALITY MONITORING	7
2.2	Noise Monitoring	9
2.3	SURFACE WATER QUALITY MONITORING	11
2.4	LANDSCAPE AND VISUAL MONITORING	13
2.5	EM&A SITE INSPECTION	13
2.6	WASTE MANAGEMENT STATUS	16
2.7	IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES	17
2.8	SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE	CE
	LIMIT	17
2.9	SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL	
	PROSECUTIONS	17
3	FUTURE KEY ISSUES	18
3.1	CONSTRUCTION PROGRAMME FOR THE COMING MONTH	18
3.2	KEY ISSUES FOR THE COMING MONTH	18
3.3	MONITORING SCHEDULE FOR THE COMING MONTH	19
4	CONCLUSION AND RECOMMENDATION	20

ANNEXES

ANNEX A	WORK PROGRAMME
ANNEX B	ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE
ANNEX C	MONITORING SCHEDULE FOR THIS REPORTING PERIOD
ANNEX D	AIR QUALITY
ANNEX D1	CALIBRATION CERTIFICATES FOR DUST MONITORING EQUIPMENT
	24-HOUR TSP MONITORING RESULTS
ANNEX D3	EVENT AND ACTION PLAN FOR DUST MONITORING
ANNEX D4	METEOROLOGICAL DATA
	Neve
ANNEX E	
	CALIBRATION CERTIFICATES FOR NOISE MONITORING EQUIPMENT
	NOISE MONITORING RESULTS
ANNEX E3	EVENT AND ACTION PLAN FOR NOISE MONITORING
ANNEX F	SURFACE WATER QUALITY
ANNEX F1	CALIBRATION CERTIFICATES FOR SURFACE WATER QUALITY
Monitorii	NG EQUIPMENT
ANNEX F2	SURFACE WATER QUALITY MONITORING RESULTS
ANNEX F3	EVENT AND ACTION PLAN FOR SURFACE WATER QUALITY
Monitorii	
ANNEX F4	INVESTIGATION REPORTS OF ENVIRONMENTAL QUALITY LIMIT
Exceedance	
ANNEX G	CUMULATIVE STATISTICS ON EXCEEDANCES, ENVIRONMENTAL
	rs, Notification of Summons and Status of Prosecutions
ANNEX H	MONITORING SCHEDULE FOR THE NEXT REPORTING PERIOD

EXECUTIVE SUMMARY

The SENT Landfill Extension (SENTX) forms an integral part in the Strategic Plan in maintaining the continuity of landfill capacity in the Hong Kong for the cost-effective and environmentally satisfactory disposal of waste. ERM-Hong Kong, Limited (ERM) is commissioned to undertake the role of Environmental Team (ET) for the construction, operation/restoration and aftercare of SENTX Project ("the Project") in accordance with the requirements specified in the Environmental Permit (EP), updated Environmental Monitoring and Audit (EM&A) Manual, the approved Environmental Impact Assessment (EIA) Report of the Project taking account of the latest design and other relevant statutory requirements. The construction (not including works related to site clearance and preparation) of the Project commenced on 2 January 2019.

This Monthly EM&A report presents the EM&A works carried out during the period from 1 to 30 June 2021 for the Project in accordance with the updated EM&A Manual.

Exceedance of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Levels for construction air quality monitoring was recorded in the reporting period.

Exceedance of Action and Limit Levels for Noise

No exceedance of Action and Limit Levels for construction noise monitoring was recorded in the reporting period.

Exceedance of Action and Limit Levels for Surface Water Quality

Four exceedances of the Limit Level for pH and two exceedances of the Limit Level for suspended solids (SS) were recorded for surface water quality impact monitoring in the reporting period. The pH and SS exceedances were found deemed to Project-related activities.

Environmental Complaints, Summons and Prosecutions

There were no complaints, notification of summons or prosecution recorded in the reporting period.

Reporting Change

There was no reporting change in the reporting period.

Future Key Issues

Potential environmental impacts arising from the upcoming construction activities in the next reporting period of July 2021 are mainly associated with potential surface water impact in the rainy season.

1 INTRODUCTION

1.1 BACKGROUND

The SENT Landfill Extension (SENTX) forms an integral part in the Strategic Plan in maintaining the continuity of landfill capacity in the Hong Kong for the cost-effective and environmentally satisfactory disposal of waste. The *Environmental Impact Assessment (EIA) Report* and the associated *Environmental Monitoring and Audit (EM&A) Manual* for the construction, operation, restoration and aftercare of the SENTX (hereafter referred to as "the Project") have been approved under the *Environmental Impact Assessment Ordinance (EIAO)* in May 2008 (Register No.: AEIAR-117/2008) (hereafter referred to as the approved EIA Report) and an Environmental Permit (EP-308/2008) (EP) was granted by the Director of Environmental Protection (DEP) on 5 August 2008.

Since then, applications for Variation of an Environmental Permit (No. VEP-531/2017) were submitted to EPD and the Variation of Environmental Permits (EP-308/2008/A and EP-308/2008/B) were granted on 6 January 2012 and 20 January 2017, respectively, as the Hong Kong SAR Government has decided to reduce the scale of the design scheme of SENTX assessed in the approved EIA Report and SENTX will only receive construction waste. In May 2018, a Further Environmental Permit (FEP) (FEP-01/308/2008/B) was granted to the SENTX's contractor, Green Valley Landfill, Limited (GVL).

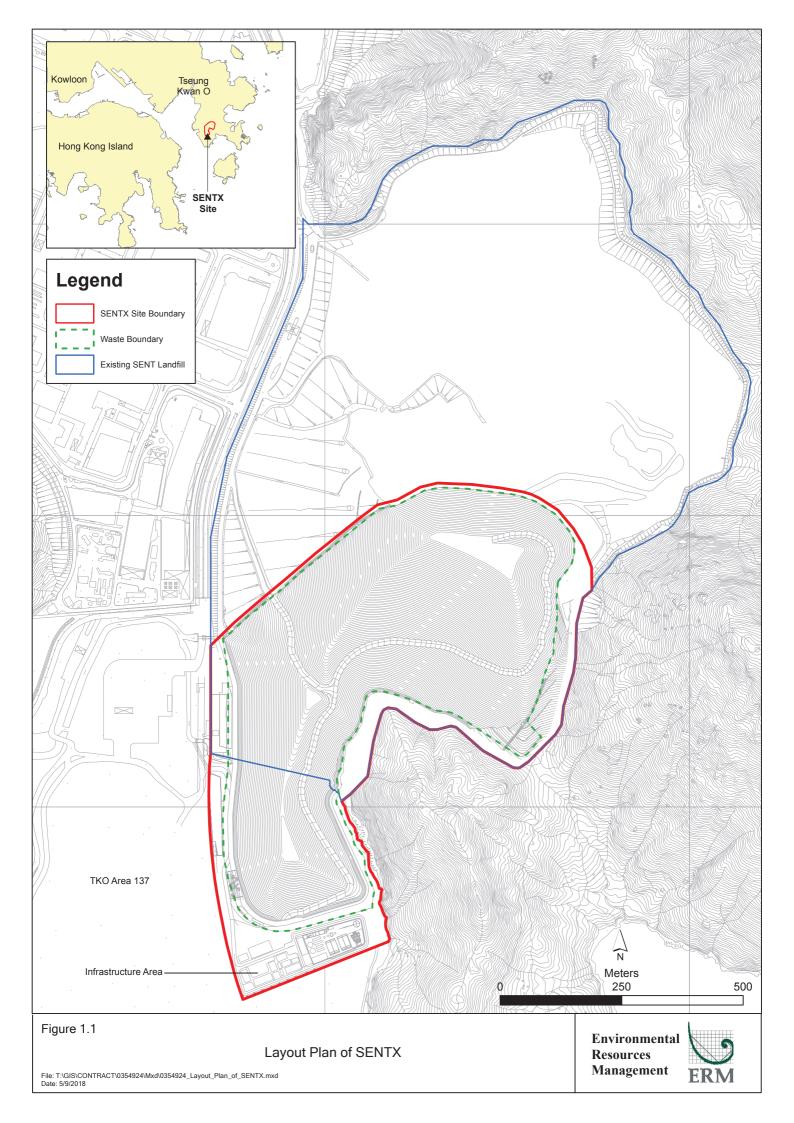
ERM-Hong Kong, Limited (ERM) and Meinhardt Infrastructure and Environment Limited (Meinhardt) are commissioned to undertake the roles of Environmental Team (ET) and the Independent Environmental Checker (IEC), respectively, to undertake the EM&A activities for the Project in accordance with the requirements specified in the EP, updated EM&A Manual ⁽¹⁾, approved EIA Report ⁽²⁾ taking account of the latest design and other relevant statutory requirements.

1.2 **PROJECT DESCRIPTION**

The SENTX is a piggyback landfill, occupying the southern part of the existing SENT Landfill (including its infrastructure area) and 13 ha of Tseung Kwan O (TKO) Area 137. A layout plan of the SENTX is shown in *Figure 1.1*. Under the latest design, the SENTX has a net void capacity of about 6.5 Mm³ and provides an additional lifespan of about 6 years, commencing operation upon exhaustion of the SENT Landfill. The SENTX will receive construction waste only.

⁽¹⁾ ERM (2018). South East New Territories (SENT) Landfill Extension: Environmental Monitoring & Audit Manual

⁽²⁾ ERM (2007). South East New Territories (SENT) Landfill Extension – Feasibility Study: Environmental Impact Assessment Report



The key implementation milestones of the Project are indicatively summarised in *Table 1.1*. The construction works of the Project commenced on 2 January 2019.

Table 1.1Estimated Key Dates of Implementation Programme

Key Stage of the Project	Indicative Date
Start construction	2 January 2019
Commissioning of new infrastructure facilities	2020
Demolition of existing infrastructure facilities	2021
Start waste intake at SENTX	2021 or upon exhaustion of SENT Landfill
Estimated exhaustion date of SENTX	2027
End of aftercare for SENTX	2057

The major construction works of the SENTX includes:

- Site formation at the TKO Area 137 and the existing infrastructure area at SENT Landfill;
- Construction of surface and groundwater drainage systems;
- Construction of the leachate containment and collection systems;
- Construction of new leachate and landfill gas treatment facilities, site offices, maintenance yards at the new infrastructure area;
- Construction of new pipelines to transfer the leachate and landfill gas collected from the existing SENT Landfill to the treatment facilities at the new infrastructure area;
- Construction of the site access and new waste reception facilities; and
- Demolition of the facilities at the existing SENT Landfill infrastructure area.

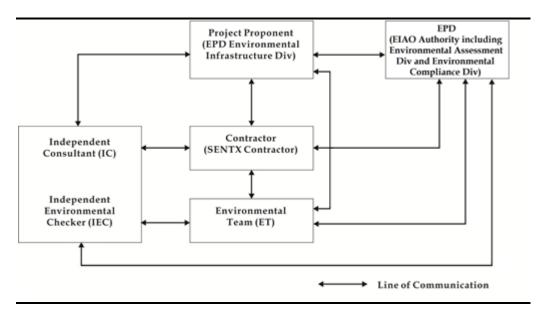
1.3 SCOPE OF THE EM&A REPORT

This is the Monthly EM&A Report for the Project which summarises the key findings of the EM&A programme during the reporting period from 1 to 30 June 2021 for the construction works.

1.4 PROJECT ORGANISATION

The organisation structure of the Project is presented in *Figure 1.2*.

Figure 1.2 Organisation Chart



Contact details of the key personnel are summarised in *Table 1.2* below.

Table 1.2Contact Information of Key Personnel

Party	Position	Name	Telephone
Contractor	Project Manager	Gary Barnicott	2706 8827
(Green Valley Landfill			
Limited)			
Environmental Team (ET)	ET Leader	Frank Wan	2271 3152
(ERM-Hong Kong, Limited)			
Independent Environmental	IEC	W.K. Chiu	2858 0738
Checker (IEC)			
(Meinhardt Infrastructure			
and Environment Limited)			

1.5 SUMMARY OF CONSTRUCTION WORKS

The programme of the construction is shown in *Annex A*. As informed by the Contractor, the major works carried out in this reporting period include:

- Follow up on civil provision work detects at Landfill Gas (LFG) Plant, Leachate Treatment Plant (LTP) and infrastructure area;
- Testing and commissioning at LFG Plant and LTP;
- Construction of U-channel surface drainage at infrastructure area;
- Road pavement for emergency vehicular access (EVA);
- Permanent equipment installation for sump houses 1, 2 and 3;

- Maintenance and improvement of temporary surface water drainage;
- Demolition of the SENT infrastructure buildings;
- Underground utilities and pipes installation at waste reception area; and
- Sewerage system works at waste reception area.

The implementation schedule of the mitigation measured recommended in the Updated EM&A Manual is presented in *Annex B*.

1.6 SUMMARY OF EM&A PROGRAMME REQUIREMENTS

The status for all environmental aspects are presented in *Table 1.3*. The EM&A requirements remained unchanged during the reporting period.

Table 1.3Summary of Status for the Environmental Aspects under the Updated EM&AManual

Parameters	Status
Air Quality	
Baseline Monitoring	The results of baseline air quality monitoring were reported in
u u u u u u u u u u u u u u u u u u u	Baseline Monitoring Report and submitted to EPD under EP
	Condition 3.3
Impact Monitoring	On-going
Noise	
Baseline Monitoring	The results of baseline noise monitoring were reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.3
Impact Monitoring	On-going
Surface Water Quality	
Baseline Monitoring	The results of baseline surface water quality monitoring were reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.3
Impact Monitoring	On-going
Waste Management	
Waste Monitoring	On-going
Landscape and Visual	
Baseline Monitoring	The results of baseline landscape and visual monitoring were reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.3
Construction Phase Audit	On-going
Site Environmental Audit	
Regular Site Inspection	On-going
Complaint Hotline and Email	On-going
Channel	
Environmental Log Book	On-going
Groundwater Quality	
Pre-operation Baseline	Commenced on 24 March 2020 and completed on 9 March
Monitoring	2021
Landfill Gas	
Pre-operation Baseline	Commenced on 24 March 2020 and completed on 26 March
Monitoring	2021

Parameters	Status
Pre-operation Baseline	Commenced on 27 May 2020 and completed on 17 February
Monitoring	2021
Dust	
Pre-operation Baseline	Commenced on 21 May 2021 and completed on 12 June 2021
Monitoring	· · ·

Taking into account the construction works, impact monitoring of air quality, noise, surface water quality and waste management were carried out in the reporting period. The impact monitoring schedule of air quality, noise and surface water quality monitoring are provided in *Annex C*. Groundwater and landfill gas pre-operation baseline monitoring and ambient VOCs, ammonia and H2S pre-operation baseline monitoring were commenced on 24 March 2020 and 27 May 2020 respectively. Pre-operation baseline dust was commenced on 21 May 2021.

The EM&A programme also involved environmental site inspections and related auditing conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report and relevant EP submissions. To promote the environmental awareness and enhance the environmental performance of the contractors, environmental trainings and regular environmental management meetings were conducted during the reporting period, which are summarised as below:

- One environmental management meeting was held with the Contractor, ER, ET, IEC and EPD on 24 June 2021; and
- Environmental toolbox trainings on Noise Control Ordinance and Waste Reduction in Construction Site were provided on 9 June and 23 June 2021 respectively by the Contractor to the workers.

1.7 STATUS OF STATUTORY ENVIRONMENTAL COMPLIANCE WITH THE ENVIRONMENTAL PERMIT

The status of statutory environmental compliance with the EP conditions under the EIAO, submission status under the EP and implementation status of mitigation measures are presented in *Table 1.4*.

Table 1.4Status of Submissions required under the EP and Implementation Status of
Mitigation Measures

EP	Submission / Implementation Status	Status
Condition		
2.3	Management Organisation of Main	Submitted and accepted by EPD.
	Construction Companies	
2.4	Setting up of Community Liaison Group	Community Liaison Group was set up.
2.5	Submission of Detailed Landfill Gas	Submitted and accepted by EPD on 10
	Hazard Assessment Report	January 2019.
2.6	Submission of Restoration and Ecological	Submitted to EPD on 28 June 2019.
	Enhancement Plan	
2.7	Setting up of Trial Nursery	Trial Nursery works was commenced
		on 28 August 2019.

EP	Submission / Implementation Status	Status
Condition		
2.8	Advance Screen Planting	Advance Screen Planting works were completed on 28 June 2019.
2.9	Provision of Multi-layer Composite Liner System	Under implementation.

1.8 STATUS OF OTHER STATUTORY ENVIRONMENTAL REQUIREMENTS

The environmental licenses and permits (including EP, *Water Pollution Control Ordinance* (WPCO) discharge license, registration as a chemical waste producer, and construction noise permit) that are valid in the reporting period are presented in *Table 1.5*. No non-compliance with environmental statutory requirements was identified.

Table 1.5Status of Statutory Environmental Requirements

Description	Ref No.	Chatava
Description		Status
Environmental Permit	EP-308/2008	Granted on 5 August 2008
Variation of Environmental Permit	EP-308/2008/A	Granted on 6 January 2012
	EP-308/2008/B	Granted on 20 January 2017
Further Environmental Permit	FEP-01/308/2008/B	Granted on 16 May 2018
Water Discharge License under	Licence No.: WT00033525-	Validity from 27 March
WPCO (Permit Holder: Chun Wo)	2019	2019 to 31 March 2024
Water Discharge License under	Licence No.: WT00036269-	Validity from 21 June 2020
WPCO (Permit Holder: GVL)	2020	to 30 June 2022
Billing Account for Disposal of	Chit Account Number:	Approved on 28 December
Construction Waste	5001692	2005
Registration as a Chemical Waste	5213-839-C3507-10	Issued on 23 August 2018
Producer (Permit Holder: Chun Wo)		
Registration as a Chemical Waste	5518-839-R2289-06	Issued on 24 October 2019
Producer (Permit Holder: REC)		
Construction Noise Permit (Permit	GW-RE0154-21	Validity from 1 March 2021
Holder: GVL)		to 30 September 2021
Construction Noise Permit (Permit	GW-RE1047-20	Validity from 9 December
Holder: Chun Wo)		2020 to 7 June 2021
	GW-RE0564-21	Validity from 7 June 2021 to
		6 December 2021
Construction Noise Permit (Permit	GW-RE0255-21	Validity from 1 April 2020
Holder: REC)		to 30 September 2021

2 EM&A RESULTS

The EM&A programme for the Project required environmental monitoring for air quality, noise and surface water quality as well as environmental site inspections for air quality, noise, surface water quality, waste management, and landscape and visual impacts. The EM&A requirements and related findings for each component are summarised in the following sections.

2.1 AIR QUALITY MONITORING

2.1.1 Monitoring Requirements and Equipment

According to the updated EM&A Manual of the Project, impact air quality monitoring (dust, in term of Total Suspended Particulates (TSP)) was carried out at the two designated monitoring locations (i.e. DM1 and DM2) at a 6-day interval. As there are two existing TSP monitoring stations (i.e. TKO-A1 and TKO-A2a) currently operating by the Civil Engineering and Development Department (CEDD) to monitor the 24-hour TSP levels at the proposed dust monitoring stations for the SENTX, it is considered that the CEDD monitoring data can represent the dust condition of the SENTX during the construction phase.

The Action and Limit Levels of the air quality monitoring is provided in *Table* 2.1 below.

Table 2.1Action and Limit Levels for 24-hour TSP

Monitoring Station	Action Level	Limit Level
DM-1 – Site Egress of TKO Area 137 Fill Bank	204 µg m- ³	260 µg m- ³
DM-2A -Combined Reception and Exit Office (CREO) of TKO Area 137 Fill Bank	193 μg m- ³	260 μg m- ³

High volume air samplers (HVSs) in compliance with the specifications listed under Section 3.2.2 of the updated EM&A Manual were used to measure 24hour TSP levels at the CEDD dust monitoring stations. The HVSs were calibrated upon installation and thereafter at bi-monthly intervals to check the validity and accuracy of the results.

The equipment used in the impact air quality monitoring programme and monitoring locations are summarised in *Table 2.2* and illustrated in *Figure 2.1* respectively. Copies of the calibration certificates for the equipment are presented in *Annex D1*.

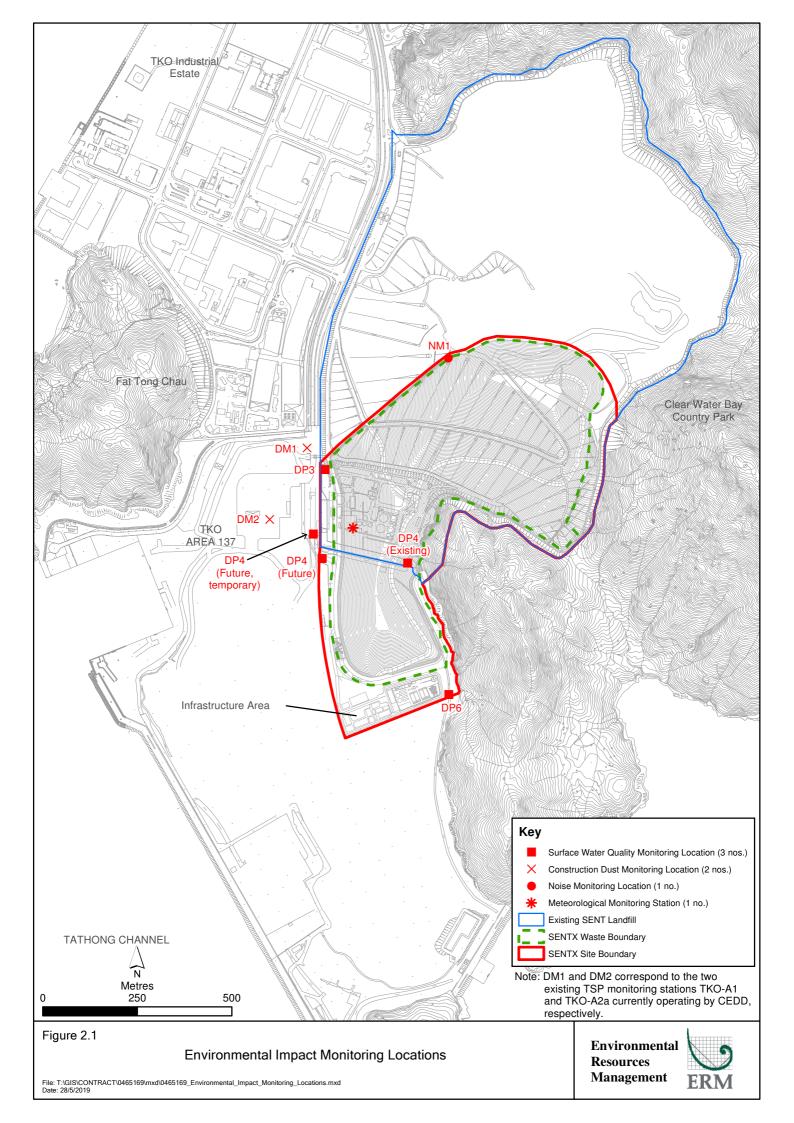


Table 2.2Dust Monitoring Details

Monitoring Station	Location	Parameter	Frequency and Duration	Monitoring Dates	Equipment
DM1 DM2	Site Egress of TKO Area 137 Fill Bank Combined Reception and Exit Office (CREO) of TKO Area 137 Fill Bank	24-hour TSP	Once every 6 days during the construction phase of the Project	5, 11, 17, 23, 29 June 2021	HVS Greasby 105 (S/N: 9795 (ET/EA/003/18)) HVS Andersen G1051 (S/N: 1176 (ET/EA/003/05))

2.1.2 Monitoring Schedule for the Reporting Month

The schedule for air quality monitoring during the reporting period is provided in *Annex C*.

2.1.3 Results and Observations

The monitoring results for 24-hour TSP are summarised in *Table 2.3*. The detailed monitoring results and the graphical presentation of the 24-hour TSP results at each monitoring location are provided in *Annex D2*.

Table 2.3Summary of 24-hour TSP Monitoring Results in the Reporting Period

Monitoring Station	Average 24-hr TSP Concentration (μg m ⁻³) (Range in bracket)	Action Level (μg/m³)	Limit Level (µg/m³)
DM-1 – Site Egress of TKO Area 137 Fill Bank	106 (97 - 114)	204	260
DM-2A -Combined Reception and Exit Office (CREO) of TKO Area 137 Fill Bank	97 (88 – 106)	193	260

The major dust sources in the reporting period included fugitive dust emission from exposed area in SENTX, as well as nearby operations of the existing SENT landfill and the TKO Area 137 Fill Bank.

All the 24-hour TSP results were below the Action and Limit Levels at the monitoring locations in the reporting period. No action is thus required to be undertaken in accordance with the Event and Action Plan presented in *Annex D*3.

2.1.4 Meteorological Data

Meteorological data obtained from the on-site meteorological monitoring station at the existing SENT landfill (see *Figure 2.1*) were used for the dust monitoring and are shown in *Annex D4*. The meteorological station was relocated to a new position for SENTX as per the updated EM&A Manual in June 2021. It is considered that meteorological data obtained at the on-site

meteorological monitoring station are representative of the Project area and could be used for the construction phase dust monitoring programme for the Project. On-site meteorological monitoring was suspended from 7 June to 11 June 2021 due to the removal works of the meteorological station to the new location. Meteorological data obtained from Hong Kong Observatory in June 2021 are also presented in *Annex D4*. At the time of reporting, the daily extract of meteorological observations at Tseung Kwan O Station (the nearest weather station monitoring prevailing wind direction and mean wind speed) in June 2021 is not available on Hong Kong Observatory website.

2.2 NOISE MONITORING

2.2.1 Monitoring Requirements and Equipment

According to the updated EM&A Manual of the Project, impact noise monitoring was conducted weekly at the monitoring location (i.e. NM1) to obtain one set of 30 minutes measurement between 07:00 and 19:00 hours on normal weekdays.

The Action and Limit Levels for construction noise of the Project are provided in *Table 2.4* below.

Tim	e Period	Action Level ^(a)	Limit Level ^(b)
	0 – 19:00 hrs on normal kdays	When one documented complaint is received from any one of the noise sensitive receivers (NSRs)	75 dB(A) at NSRs
		or	
		75 dB(A) recorded at the monitoring station	
Not	es:		
(a)	75dB(A) along and at ab Level.	out 100m from the SENTX site boundary v	vas set as the Action
(b)	Limits specified in the G respectively.	W-TM and IND-TM for construction and	operational noise,

Table 2.4Action and Limit Levels for Construction Noise

Noise monitoring was performed by ALS Technichem (HK) Pty Ltd. (HOKLAS Registration No. 066) using sound level meter at the designated monitoring station NM1 (see *Figure 2.1*) in accordance with the requirements stipulated in the updated EM&A Manual. Acoustic calibrator was deployed to check the sound level meter at a known sound pressure level. Details of the deployed equipment are provided in *Table 2.5*. Copies of the calibration certificates for the equipment are presented in *Annex E1*.

Monitoring Station ⁽¹⁾	Location	Parameter	Frequency and Duration	Monitoring Dates	Equipment
NM1	SENTX Site Boundary (North)	L _{eq (30 min)} measurement between 07:00 and 19:00 hours on normal weekdays (Monday to Saturday)	Once per week for 30 mins during the construction period of the Project	3, 10, 17, 24, 30 June 2021	Sound Level Meter: B&K 2238 (S/N: 2285722) Rion NL-31 (S/N: 00410221)
					Acoustic Calibrator: Rion NC-74 (S/N: 34657230)

Table 2.5Noise Monitoring Details

2.2.2 Monitoring Schedule for the Reporting Month

The schedule for noise monitoring during the reporting period is provided in *Annex C*.

2.2.3 Results and Observations

A total of 5 impact noise monitoring events were scheduled during the reporting period. However, monitoring was not conducted on 24 June 2021 due to adverse weather condition. Results for noise monitoring are summarised in *Table 2.6*. The monitoring results and the graphical presentation of the data are provided in *Annex E2*.

Table 2.6Summary of Construction Noise Monitoring Results in the Reporting Period

Monitoring Station	Measured Noise Level Leq (30 min), dB(A)		eq (30 min), dB(A)
	Average	Range	Action and Limit Level
NM1	54.6	51.9 - 56.0	75

Major noise sources identified during the noise monitoring included noise from operations of the existing SENT landfill and the TKO Area 137 Fill Bank, aircrafts and insects.

No Action and Limit Levels exceedance was recorded for construction noise monitoring in the reporting period. No action is thus required to be undertaken in accordance with the Event and Action Plan presented in *Annex E*3.

2.3 SURFACE WATER QUALITY MONITORING

2.3.1 Monitoring Requirements and Equipment

According to the updated EM&A Manual of the Project, impact surface water quality monitoring were carried out at the three designated surface water discharge points (i.e. DP3, DP4 and DP6) weekly to ensure that the SENTX will not cause adverse water quality impact. Temporary relocation of surface water discharge point DP4 to DP4 (Future, temporary) as an interim arrangement due to site constraints and construction sequence was approved by EPD on 14 May 2019. Surface water quality monitoring was carried out at DP4 (Future, temporary) (i.e. DP4T) from the monitoring event on 16 May 2019. In addition, suspension of impact surface water quality monitoring at DP3 was approved under the Baseline Monitoring Report by EPD on 24 July 2019 until the actual commencement of construction works affecting DP3 in 2021.

Dissolved Oxygen (DO) and pH value were measured in-situ whereas the level of suspended solids (SS) were determined by ALS Technichem (HK) Pty Ltd. (HOKLAS Registration No. 066).

The Action and Limit Levels of the surface water quality impact monitoring are provided in *Table 2.7*.

Parameters	Action Level	Limit Level	
	DP4 & DP6		
DO	< 5.80 mg/L	< 5.42 mg/L	
SS	> 11.7 mg/L	> 12.7 mg/L	
pН	> 8.39	> 8.40	

Table 2.7Action and Limit Levels for Surface Water Quality

The locations of the monitoring stations for the Project are shown in *Figure 2.1*. All *in situ* monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the surface water quality monitoring programme. Calibration for a DO meter was carried out before measurement according to the instruction manual of the equipment model. Details of the equipment used in the impact surface water quality monitoring works are provided in *Table 2.8*. Copies of the calibration certificates for the equipment are presented in *Annex F1*.

Table 2.8Impact Surface Water Quality Monitoring Details

Monitoring Station	Location	Frequency	Monitoring Dates	Parameter	Equipment
DP4	Surface water	Weekly	3, 10, 17, 24,	•pH	YSI Professional DSS
(Future,	discharge point		30 June 2021		(S/N: 17B102764)
temporary)	DP4			•DO	
DP6	Surface water discharge point			•SS	
	DP6				
Notes:					
(a) DP4 wa	s temporary reloc ge point from the		· •	5, (T) as an interim

(b) Impact surface water quality monitoring at DP3 was suspended from the monitoring event on 25 July 2019 until the actual commencement of construction works affecting DP3 in 2021.

2.3.2 Monitoring Schedule for the Reporting Month

The schedule for surface water quality monitoring during the reporting period is provided in *Annex C*.

2.3.3 Results and Observations

A total of 5 monitoring events for impact surface water quality monitoring were scheduled at all designated monitoring stations during the reporting period. However, sampling could not be carried out on 3, 10, 17 and 30 June 2021 at DP6 and on 24 and 30 June 2021 at DP4T due to insufficient flow. Impact water quality monitoring results and graphical presentations are provided in *Annex F2*.

Action and Limit Level exceedances were recorded for surface water quality impact monitoring in the reporting period and actions in accordance with the Event and Action Plan presented in *Annex F3* were undertaken. Investigations of the Action and Limit Levels exceedances are conducted and summarized in *Table 2.9* below. Investigation reports of the exceedances are presented in *Annex F4*.

Table 2.9Details of Exceedances Recorded for Surface Water Quality Monitoring

Date	Monitoring Location	Parameter	Type of Exceedance	Remarks
3 June 2021	DP4 (Future, temporary)	рН	Limit Level	Project-related
3 June 2021	DP4 (Future, temporary)	SS	Limit Level	Project-related
10 June 2021	DP4 (Future, temporary)	рН	Limit Level	Project-related
17 June 2021	DP4 (Future, temporary)	рН	Limit Level	Project-related
24 June 2021	DP6	pН	Limit Level	Project-related
24 June 2021	DP6	SS	Limit Level	Project-related

Based on the investigation conducted for the monitoring events with potential Action and Limit Levels exceedances with the Contractor, and the IEC, the exceedances were found deemed to Project-related activities. The Contractor was reminded to implement all relevant mitigation measures for the construction works and maintain good site practice. The ET will keep track on the monitoring data and ensure Contractor's compliance of the environmental requirements.

2.4 LANDSCAPE AND VISUAL MONITORING

2.4.1 *Monitoring Requirements*

According to the updated EM&A Manual of the Project, the monthly landscape and visual audit was conducted on 29 June 2021 to monitor the implementation of the landscape and visual mitigation measures during construction phase.

All relevant environmental mitigation measures listed in the approved EIA Report and the updated EM&A Manual and their implementation status are summarised in *Annex B*.

2.4.2 Results and Observations

The Contractor has implemented environmental mitigation measures as stated in the approved EIA Report and the EM&A Manual.

Regarding the landscape and visual audit, the Contractor was reminded to maintain the advance screen planting works as soon as possible to ensure effective screening of views of project works from the High Junk Peak Trail. The Contractor shall consider the mitigation measures during the design phase, including the preparation of the Construction Drawings and Detailed Landscape Design Drawings.

2.5 EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis with the Contractor, IEC and ER to monitor the implementation of proper environmental pollution control and mitigation measures for air quality, noise, surface water quality and waste management under the Project. In the reporting period, 4 site inspections were carried out on 3, 10, 17 and 24 June 2021.

Key observations during the site inspections are summarised in Table 2.10.

Table 2.10Key Observations Identified during the Site Inspection in this Reporting
Month

Inspection Date	Environmental Observations and Recommendations
3 June 2021	 The Contractor shall provide drip tray for the chemical stored near future weighmaster house and remove the stagnant water accumulated in the drip tray near DP6. The Contractor shall display a NRMM label on the roller near future vehicle washing facilities. The Contractor shall avoid accumulation of stagnant water around the site, especially near future weighmaster house, vehicle washing facilities, maintenance building, at the drains around carpark and containers at LTP, and spray larvicides for pest control, if necessary.
	 The Contractor shall remove the general refuse accumulated near container area and dispose of the waste regularly to minimize odour and pest issues.
10 June 2021	 The Contractor shall remove the stagnant water accumulated in the drip tray neat LTP. The Contractor shall avoid accumulation of stagnant water around the site, especially at X9b channel and near future vehicle washing facilities, and spray larvicides for pest control, if necessary.
	 The Contractor shall remove the general refuse accumulated at X9b channel, near future weighmaster house, vehicle washing facilities and LTP and dispose of the waste regularly. The Contractor shall ensure that all surface water collected at DP6 is treated by the Wetsep before discharge.
17 June 2021	 The Contractor shall store the emptied chemical containers near site entrance in the chemical waste cabinet properly. The Contractor shall fix the signage of the chemical waste cabinet to ensure compliance with the COP. The Contractor shall remove the general refuse accumulated in the skip near existing vehicle washing facilities, container area near site entrance and future vehicle washing facilities and dispose of the waste regularly to minimise odour and pest issues.

Inspection Date	Environmental Observations and Recommendations
24 June 2021	• The Contractor shall ensure that all surface water at DP4T and
	DP6 is treated before discharge and the Wetseps are functioning
	properly at all times.
	• The Contractor shall clean up the oil spill at the generator near
	future vehicle washing facilities ad handle the clean-up materials
	as chemical waste.
	The Contractor shall provide drip tray for the chemical stored
	near future weighbridge.
	• The Contractor shall regulate the water flow from the Wetsep
	outlet near DP4T to ensure all water is treated by the oil
	interceptor before discharge.
	• The Contractor shall ensure that all trucks leaving the site shall
	pass through the wheel washing facilities at the site exit to keep
	the public road clear of dusty materials.
	The Contractor shall label the chemical waste stored in the
	chemical waste cabinet in accordance with the COP and arrange
	chemical waste collection regularly.
	• The Contractor shall remove the general refuse accumulated near
	the container area near site entrance, future vehicle washing
	facilities and future maintenance building and dispose of the
	waste regularly to minimise odour and pest issues.
	The Contractor shall display a NRMM label on the generator
	near future vehicle washing facilities.

The Contractor has rectified all observations identified during environmental site inspections in the reporting period. Key environmental deficiencies identified and the corresponding rectification actions are presented in *Table 2.11*.

Deficiencies **Rectifications Implemented Proposed Additional Control Measures** Surface Water Intercepting channels • Reviewed drainage plan. Addition of channels. & drainage system Expedite the construction of permanent sediment trap and discharge culverts. DP channels (design Carried out regular maintenance N.A. & regular silt and cleaning of channels. removal) DP4 channel: Area near the channel was paved with concrete and a bund was built. DP6 channel: Gravel piles on the channel were covered with concrete which serve as blocks for running water and to divide the channel into several sections. A pump was placed in the water zone in the upstream section to pump water to the Wetsep for treatment prior to the discharge to the last section before the weir plate. DP6: Pipes through the gravel piles between different channel sections were covered with geotextiles to block debris and silt. Stockpiles & exposed • Installed silt fencing near surface Improve soil soil water channel along DP6 channel. covering. Compaction and cover for stockpiles and soil slopes.

Table 2.11Summary of Environmental Deficiencies Identified and Corresponding
Rectification Actions

Wetsep (treatment
capacity & number)Reviewed Wetsep capacity.
Chemicals dosage of the Wetsep
was increased to enhance the
efficiency.Install additional
Wetsep.Backflow / ponding
during heavy rainfallRaised with EPD (LDG) and CEDD.N.A.

2.6 WASTE MANAGEMENT STATUS

The Contractor has registered as chemical waste producer under the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.

As informed by the Contractor, waste generated during this reporting period include mainly inert C&D materials. Reference has been made to the waste flow table prepared by the Contractor. The quantities of different types of wastes and imported fill materials are summarised in *Table 2.12*.

Table 2.12 Quantities of Different Waste Generated and Imported Fill Materials

Month/	Inert	Impor	ted Fill	Inert	Non-inert	Recyclable	Chemical
Year	C&D Materials (a)	(in '00	0kg) ^(b)	Construction Waste Re- used	Construction Waste ^(c) (in '000m ³)	Materials ^(d) (in '000kg)	Wastes (in '000kg)
	(in '000m³)	Rock	Soil	(in '000m³)			
1 - 30 June	3.990	0	0	0	0.083	151.970	0
2021							
Notes:							
()				hard rock and assumption: 1.6	0		naterials
(b) Impo	rted fill refe	ers to n	naterials g	enerated from	other project fo	or on-site reuse	2.
(c) Non-	inert constr	uction	wastes in	clude general re	efuse disposed	at landfill. De	ensity

(c) Non-inert construction wastes include general refuse disposed at landfill. Density assumption: 0.9 (kg/L) for general refuse.

(d) Recyclable materials include metals, paper, cardboard, plastics and others.

2.7 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

A summary of the Environmental Mitigation Implementation Schedule is presented in *Annex B*. The necessary mitigation measures were implemented properly for the Project.

2.8 SUMMARY OF EXCEEDANCES OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMIT

The 24-hour TSP monitoring results and construction noise monitoring results complied with the Action and Limit Levels in the reporting period. Four exceedances of the Limit Level for pH and two exceedances of the Limit Level for SS were recorded for surface water quality impact monitoring in the reporting period. The pH and SS exceedances were found deemed to Project-related activities.

Cumulative statistics on exceedances is provided in *Annex G*.

2.9 SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

There were no complaints, notification of summons or prosecution recorded in the reporting period.

Statistics on complaints, notifications of summons, successful prosecutions are summarised in *Annex G*.

3 FUTURE KEY ISSUES

3.1 CONSTRUCTION PROGRAMME FOR THE COMING MONTH

As informed by the Contractor, the major works for the Project in July 2021 will be:

- Excavation and removal of unsuitable fill materials;
- Import materials for Cell 4X;
- Construction of Cell 4X formation;
- Installation of groundwater pipes for Cell 4X;
- Construction of welfare area;
- Screeding works at LTP;
- Remaining building service and fitting-out works at maintenance building;
- Pavement works at Part X1 area;
- Construction of the remaining surface water channels along the road pavement;
- Installation of the remaining LFG and leachate HDPE pipes in Cell 3X and 4X areas;
- Equipment installation for sump houses 1, 2 and 3;
- Demolition of SENT infrastructure buildings;
- Construction of mechanically stabilised earth (MSE) wall;
- Construction of waste reception area, including weighbridge, vehicle washing facilities, wheel wash bay and guard house;
- Weighbridge installation;
- Trial nursery at SENT and tree felling at Part X3; and
- Testing and commissioning for LFG plant and LTP.

3.2 KEY ISSUES FOR THE COMING MONTH

Potential environmental impacts arising from the above upcoming construction activities in the next reporting period of July 2021 are mainly associated with the potential surface water impact in the rainy season. The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

3.3 MONITORING SCHEDULE FOR THE COMING MONTH

The tentative schedules for environmental monitoring in July 2021 are provided in *Annex H*.

CONCLUSION AND RECOMMENDATION

This EM&A Report presents the findings of the EM&A activities undertaken during the period from 1 to 30 June 2021 in accordance with the updated EM&A Manual and the requirements of the Environmental Permit (*EP*-308/2008/B).

Air quality (24-hour TSP), noise and water quality (DO, pH and SS) monitoring were carried out in the reporting period. Results for air quality monitoring (24-hour TSP) complied with the Action and Limit Levels in the reporting period. No Action and Limit Levels exceedances were recorded for construction noise monitoring. Four exceedances of the Limit Level for pH and two exceedances of the Limit Level for SS were recorded for surface water quality impact monitoring in the reporting period. The pH and SS exceedances were found deemed to Project-related activities.

Environmental site inspections were carried out during the reporting period. Recommendations on remedial actions were given to the Contractor for the deficiencies identified during the site inspections.

There were no complaints, notification of summons or prosecution recorded in the reporting period.

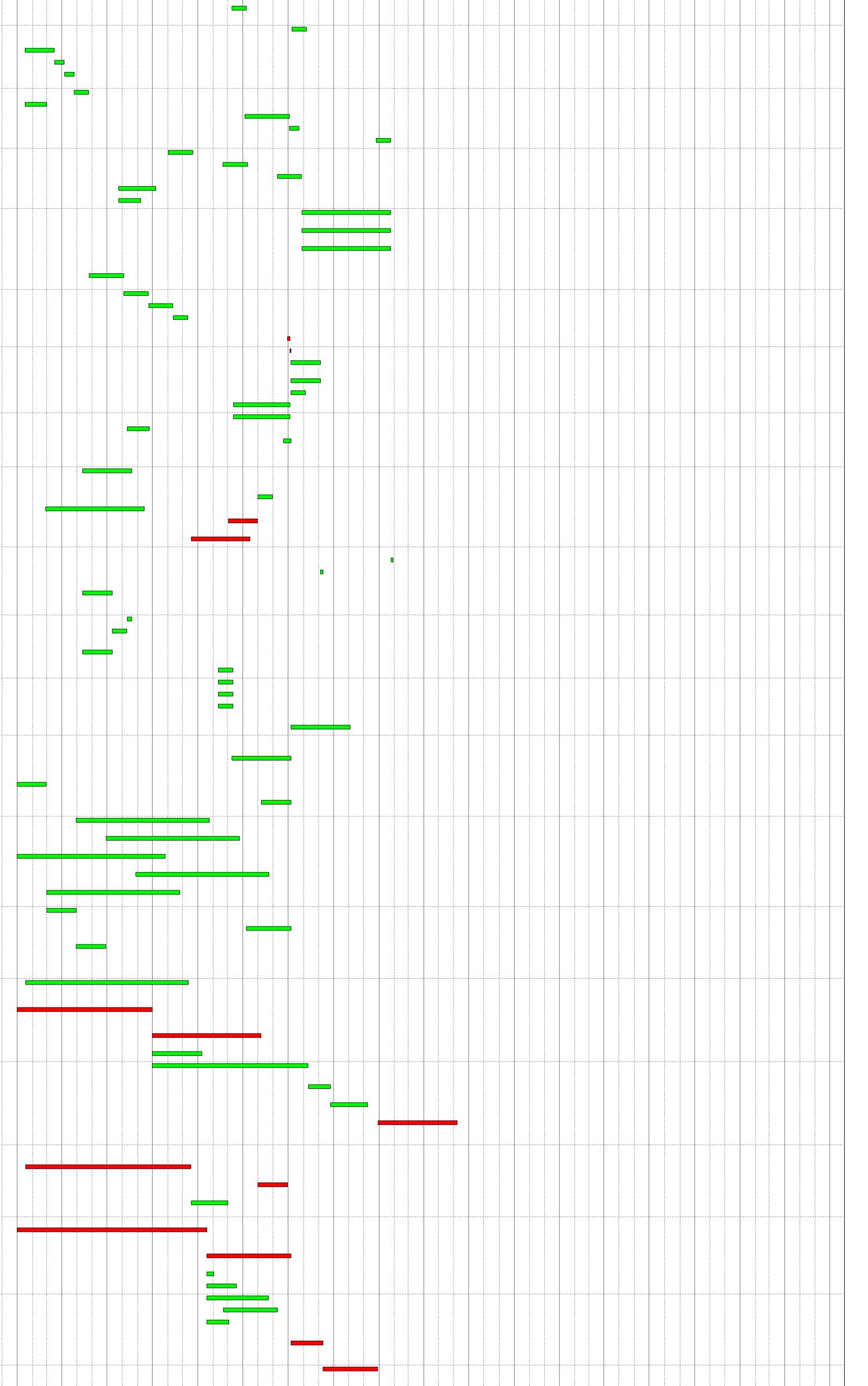
The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

4

Annex A

Work Programme

VBS Path Activity Activity Name	Dur Start Finish Total Predecessor Details Successor Details	2018 2019 2020 2021 2022 2023 Q2 Q3 Q4 Q1 Q2
		UZ US
SA2.5 Construction (Initial Works) SA2.5.02 Advance Works & Site Establishment	1153 12-Apr-18 07-Jun-21 705 1148 12-Apr-18 02-Jun-21 35	
SA2.5.02.01 Site Establishment & Mobilization 5.02.01 52-1000 Site Mobilization for Parts X1 & X2 5.02.01 52-1100 Site Mobilization for Parts X3, X4 & X5	333 12-Apr-18 10-Mar-19 820 Example 30 31-Dec-18 29-Jan-19 820 11-1100: FS, 11-1200: FS 52-1300: FS, M 3. 1: FS, M 3. 2: FS 30 12-Apr-18 11-May-18 1083 11-1300: FS, 11-1200: FS 52-1300: FS, M 3. 1: FF	
5.02.01 52-1200 Temporary Office for Employer / ER / IC 5.02.01 52-1300 Hoarding and Fencing Works	60 10-Oct-18 08-Dec-18 0 23-1300: FS 11-1700: SS, M 3. 1: FS 40 30-Jan-19 10-Mar-19 820 52-1000: FS, 52-1100: FS 32-1500: FS, M10. 1: FS -26, M10. 2: FS -13, M10. 3: FS	
SA2.5.02.02 Site Survey & Investigation Works for Parts X1 & X2 5.02.02 52-1400 Condition Survey 5.02.02 52-1400 Condition Survey	50 31-Dec-18 18-Feb-19 840 25 31-Dec-18 24-Jan-19 840 11-1100: FS, 11-1200: FS 52-1600: FS	
5.02.02 52-1500 Topographic Survey 5.02.02 52-1600 Site inspection, Review of Condition Survey Report SA2.5.02.03 Site Survey & Investigation Works for Parts X3, X4 & X5	20 31-Dec-18 19-Jan-19 845 11-1100: FS, 11-1200: FS 52-1600: FS 25 25-Jan-19 18-Feb-19 840 52-1500: FS, 52-1400: FS 32-1500: FS 50 12-Apr-18 31-May-18 1103 1103	
5.02.0352-1700Condition Survey5.02.0352-1800Topographic Survey5.02.0352-1900Site inspection, Review of Condition Survey Report	25 12-Apr-18 06-May-18 1103 11-1300: FS, 11-1400: FS, 11-1500: FS 52-1900: FS 20 12-Apr-18 01-May-18 1108 11-1300: FS, 11-1400: FS, 11-1500: FS 52-1900: FS 25 07-May-18 31-May-18 1103 52-1700: FS, 52-1800: FS 32-1500: FS	
S.02.03 Size Inspection, Review of Condition Survey Report SA2.5.02.04 Environmental Monitoring 5.02.04 52-2000 Installation of Monitoring Stations & Wells (GP & GW)	25 07-May-18 31-May-18 1103 52-1700: FS, 52-1800: FS 32-1500: FS 975 02-Oct-18 02-Jun-21 35	
5.02.04 52-2100 Installation of Monitoring Stations & Wells (GP & GW) on Buttress Wall 5.02.04 52-2200 Conduct Baseline Monitoring for Construction (one month) 5.02.04 52-2300 Conduct Baseline Monitoring for Operation (one year)	120 02-Oct-18 29-Jan-19 0 23-1600: FS 52-2200: SS 60 30 01-Dec-18 30-Dec-18 0 52-2000: SS 60, 52-2100: SS 60 11-1100: FS 365 03-Jun-20 02-Jun-21 35 32-1500: FS -400, 53-4500: FS 12-1400: FS	
SA2.5.03 Civil Engineering Works SA2.5.03.0 Buttress Wall 5.03.0 53-1000 Section adj. SENT	748 13-Jan-19 29-Jan-21 834 475 02-Mar-19 18-Jun-20 83 300 13-Apr-19 06-Feb-20 96 11-1300: FS, 23-2500: FS, 53-3000: FS, 31-1200: FS, 53-1100: FS, 53-1300: FS, 53-3100: FS, M 3. 5: FS - 150, M 3.	
5.03.0 53-1100 Diversion of SENT Landfill Gas Pipe	45 07-Feb-20 22-Mar-20 96 23-2500: FS, 53-1000: FS 53-1300: FS, 54-4000: FS, M 3. 3: FS	
5.03.0 53-1200 Section at Cell 4 5.03.0 53-1300 Install Landfill Gas Pipe on Buttress Wall	400 02-Mar-19 04-Apr-20 83 11-1300: FS, 23-2500: FS, 53-3000: FS, 11-1400: FS 53-1300: FS, 53-3100: FS, M 3. 7: FS, M 3. 6: FS -200 75 05-Apr-20 18-Jun-20 83 41-1500: FS, 53-1100: FS, 53-1200: FS, 53-1000: FS 54-4000: FS	
SA2.5.03.1 Landfill Cell 1 5.03.1 53-1400 Earth bund (Eastern)	503 13-Jan-19 29-May-20 214 90 04-Aug-19 01-Nov-19 9 11-1100: FS, 23-2500: FS, 53-4200: FS, 53-2800: FS 53-2000: FS, 53-2300: FS, 53-3400: FS, 63-1000: FS, 63-100: FS, 63-1000: FS, 63-100: FS, 63-100: FS, 75, FS, 75, FS, 75, FS, FS, FS, FS	
5.03.1 53-1500 Earth bund (Southern)	90 26-Apr-19 24-Jul-19 314 11-1100: FS, 23-2500: FS, 53-2800: FS 53-2000: FS, 53-2200: FS, 53-2300: FS, 53-3400: FS, 53-3400: FS, 53-3400: FS	
5.03.1 53-1600 Earth bund (Western) 5.03.1 53-1700 Intercell bund (Cell 1/2)	90 13-Jan-19 12-Apr-19 417 11-1100: FS, 23-2500: FS 53-1900: FS, 53-2000: FS, 53-2200: FS, 53-3800: FS 75 13-Jan-19 28-Mar-19 432 11-1100: FS, 23-2500: FS 53-2000: FS	
5.03.1 53-1800 Site Formation 5.03.1 53-1900 Pump Station (PS#1X)	90 13-Jan-19 12-Apr-19 217 11-1100: FS, 23-2500: FS, 31-1300: FS 53-1900: FS, 63-1100: FS, 63-1200: FS, 63-1300: FS, M 4. 1: FS -45 45 13-Apr-19 27-May-19 507 53-1800: FS, 53-1600: FS 53-2100: FS, 53-2200: FS	
5.03.1 53-2000 Lining Works 5.03.1 53-2100 Protective Stone Laying & Leachate Collection Pipe	135 02-Nov-19* 15-Mar-20 214 41-1500: FS, 53-1400: FS, 53-1500: FS, 53-1600: FS, 53-2000: FS, 53-1600: FS, 53-2000: FS, 53-1600: FS, 53-2000: FS, 53-1600: FS, 53-2000: FS, 54-2800: FS, M 4. 3: FS Image: Comparison of the table of tab	
5.03.1 53-2300 Install Leachate Force Main 5.03.1 53-2300 Install Landfill Gas Pipe on earth bund	75 25-Jul-19 07-Oct-19 449 53-1500: FS, 53-1600: FS, 53-1900: FS 54-2800: FS 55 02-Nov-19 26-Dec-19 258 41-1500: FS, 53-1500: FS 54-4000: FS	
5.03.1 53-2400 Leachate Pipe Connection (Cell 1 to LTP) SA2.5.03.4 Landfill Cell 4 5.03.4 53-2500 Provide Temporary Leachate Pipe on Cell 4 Area	30 09-Mar-20 07-Apr-20 266 23-2500: FS, 54-1000: SS 54-2800: FS 30 09-Jul-20 07-Aug-20 144 23-2500: FS, 63-2600: SS -90 54-2800: FS, M 3. 3: FS	
SA2.5.03.5 Drainage - Surface Run-Off 5.03.5 53-2600 Construct Cut-Off Channel 12A	740 16-Jan-19 24-Jan-21 839 600 16-Jan-19 16-Mar-19 9 11-1100: FS, 23-2800: FS 53-2700: FS	
5.03.553-2700Connect Cut-Off Channel 12A to DP65.03.553-2800Diversion from Existing Trapezoidal Channel into Channel 12A	20 17-Mar-19 05-Apr-19 9 53-2600: FS, 31-1400: FS, 23-1900: FS 53-2800: FS 20 06-Apr-19 25-Apr-19 9 53-2700: FS 53-1400: FS, 53-1500: FS, 53-2900: FS, 63-1000: FS, 63-1000: FS, 63-1000: FS, 63-1900: FS, M 3. 3: FS	
5.03.553-2900Removal of Existing Trapezoidal Channel along Eastern Bund5.03.553-3000Cut-Off Channel C4 Diversion to Cut-Off Channel 17-25.03.553-3100Cut-Off Channel X5 on Buttress Wall, Cell 4, Cell 3	30 26-Apr-19 25-May-19 9 53-2800: FS 53-4200: FS 45 16-Jan-19 01-Mar-19 83 11-1300: FS, 23-2800: FS 53-1000: FS, 53-1200: FS 90 05-Apr-20 03-Jul-20 289 53-1000: FS, 53-1200: FS 53-3200: FS	
5.03.553-3200Temporary Diversion Cut-Off Channel X5 to 12A5.03.553-3300Culvert X5 (5m long) & Perm Connection of Cut-Off Channel X5	90 05-Apr-20 03-Jul-20 289 53-1000: FS, 53-1200: FS 53-3200: FS 20 04-Jul-20 23-Jul-20 289 53-3100: FS, 23-1900: FS 53-3300: FS, M 3. 4: FS 30 26-Dec-20 24-Jan-21 134 53-4100: FF, 63-1900: FS, 53-3200: FS 32-1500: FS	
5.03.5 53-3400 Construct Perimeter Channel X6 on Eastern Bund & Southern Bund of Cell 1 5.03.5 53-3500 Construct Perimeter Channel X6 on Eastern Bund of Cell 2	50 02-Nov-19 21-Dec-19 249 53-1400: FS, 53-1500: FS 53-3500: FS 50 20-Feb-20 09-Apr-20 189 63-1000: FS, 53-3400: FS 53-3600: FS	
5.03.553-3600Construct Perimeter Channel X6 Eastern Bund of Cell 35.03.553-3700Culvert X6 (25m long) at Cell 1 Southern Bund5.03.553-3800Perimeter Channel (X9B) at Cell 1 Southern & Western Bund	50 09-Jun-20 28-Jul-20 129 63-1900: FS, 53-3500: FS 53-3900: FS 75 25-Jul-19 07-Oct-19 1314 53-1500: FS 53-3900: FS 45 25-Jul-19 07-Sep-19 1344 53-1500: FS, 53-1600: FS 53-1600: FS	
5.03.5 53-3900 Drop Inlet & Culvert (X9) - 21m long 5.03.5 53-4000 Sediment Trap (ST)	180 29-Jul-20 24-Jan-21 129 11-1100: FS, 23-1900: FS, 53-3600: FS 53-4000: FF, 53-4100: FF, 53-6000: FS, M 9. 1: FS -90, M 9. 180 29-Jul-20 24-Jan-21 129 11-1100: FS, 23-1900: FS, 11-1200: FS, 53-3900: FF 53-6000: FS, M 9. 3: FS -90, M 9. 4: FS	
5.03.5 53-4100 Dual Culvert 74m long (connect to DP4)	180 29-Jul-20 24-Jan-21 129 11-1100: FS, 11-1200: FS, 23-1900: FS, 53-3900: FF 53-3300: FF, 53-6000: FS, M 9. 1: FS -90, M 9. 2: FS	
SA2.5.03.6 Drainage - Ground Water 5.03.6 53-4200 Construct Groundwater Collection Pipe along Cells X1 & X2 Eastern Bund	200 26-May-19 11-Dec-19 209 200 70 26-May-19 03-Aug-19 9 11-1100: FS, 23-1600: FS, 53-2900: FS 53-1400: FS, 53-4300: FS, 63-1000: FS, 63-1900: FS	
5.03.6 53-4300 Construct Groundwater Collection Pipe along Cell X3 Eastern Bund 5.03.6 53-4400 Construct Groundwater Collection Pipe along Intercell Bund X2/X3 5.03.6 53-4500 Construct Manhole MH-X1	50 04-Aug-19 22-Sep-19 159 53-4200: FS 53-4400: FS, 63-1900: FS 50 23-Sep-19 11-Nov-19 209 53-4300: FS 53-4500: FS, 63-1200: FS 30 12-Nov-19 11-Dec-19 209 53-4400: FS 52-2300: FS, M 9. 5: FS	
SA2.5.03.7 Utilities - Distribution within New Infrastructure Area 5.03.7 53-4600 Power Supply HV Works (Transformer & HV switchgear)	391 11-Aug-19 04-Sep-20 276 5 30-Jun-20 04-Jul-20 0 54-3000: FS 12-1200: FS	
5.03.7 53-4700 Power Distribution, LV Power Supply Works 5.03.7 53-4800 Sewerage (Collection to LTP)	2 05-Jul-20 06-Jul-20 0 54-3100: FS, 12-1200: FS 12-1000: FS 60 07-Jul-20 04-Sep-20 271 54-1000: FS, 54-3100: FS, 54-3100: FS, 54-4100: FS 12-1100: FS, 53-6100: FS	
5.03.753-4900Sewerage (Discharge to Site Boundary)5.03.753-5000Lighting Provision5.03.753-5100Fire Services	60 07-Jul-20 04-Sep-20 271 54-1000: FS, 54-4100: FS 12-1100: FS, 53-6100: FS 30 07-Jul-20 05-Aug-20 6 54-1000: FS, 54-4100: FS, 54-4600: FS 12-1100: FS, 32-2100: FS 115 12-Mar-20 04-Jul-20 2 53-6800: FS 12-1000: FS	
5.03.7 53-5200 Water Supply (Fresh & Salt) 5.03.7 53-5300 Telecom & Network	115 12-Mar-20 04-Jul-20 338 53-6600: FS, 53-6700: FS 12-1100: FS 45 11-Aug-19 24-Sep-19 622 53-6400: FS 12-1100: FS	
5.03.7 53-5400 Gas Network (LFG to LTP) SA2.5.03.8 Utilities - Works Associated with Utilities Undertakers SA2.5.03.8.U1 CLP	15 22-Jun-20 06-Jul-20 176 54-1000: FF 54-2800: FS 703 27-Feb-19 29-Jan-21 129 6 6 6 459 27-Feb-19 30-May-20 43 43 6 6	
5.03.8.U1 53-5500 Excavate Trench for CLP Cable	100 13-May-19 20-Aug-19 194 23-2900: FS 53-5800: FS, 54-1000: SS, 54-4100: SS, 54-4600: SS, M10. 1: FS -60, M10. 2: FS -30, M10. 3: FS 1: FS -60, M10. 2: FS -30, M10. 3: FS 1: FS -60, M10. 2: FS -30, M10. 3: FS	
5.03.8.U1 53-5600 Backfill Trench after CLP Cable Laying 5.03.8.U1 53-5700 CLP Cable Laying (from CLP Substation to Site Boundary) 5.03.8.U1 53-5800 CLP Cable Laying (from Site Boundary to HV Switchroom)	30 01-May-20 30-May-20 43 53-5800: FS 54-1000: FF, 54-4100: FF, 54-4600: FF 200 27-Feb-19 14-Sep-19 229 32-2400: FS 54-3000: FS 60 02-Mar-20 30-Apr-20 0 53-5500: FS, 54-2900: FS, 32-2400: FS, 53-5900: FF 15 53-5600: FS, 54-3000: FS	
5.03.8.U1 53-5900 CLP HV associated equipment installation SA2.5.03.8.U2 DSD	Image: Non-State Image: Non-State<	
5.03.8.U253-6000Connection to Storm Drain System5.03.8.U253-6100Connection to Foul Drain System	5 25-Jan-21 29-Jan-21 129 53-4100: FS, 53-4000: FS, 53-3900: FS 32-1500: FS 5 05-Sep-20 09-Sep-20 271 53-4800: FS, 53-4900: FS 32-1500: FS	
SA2.5.03.8.U3 Telecom 5.03.8.U3 53-6200 Excavate Trench for PCCW	100 13-May-19 20-Aug-19 327 60 13-May-19 11-Jul-19 307 23-2900: FS 53-6400: FS, 54-1000: SS, 54-4100: SS, 54-4600: SS, M10. 1: FS -40, M10. 2: FS -20, M10. 3: FS	
5.03.8.U353-6300Backfill Trench after PCCW Cable Laying5.03.8.U353-6400Laying Cables & Connection	10 11-Aug-19 20-Aug-19 327 53-6400: FS 54-1000: FF, 54-4100: FF, 54-4600: FF 30 12-Jul-19 10-Aug-19 327 53-6200: FS 53-6200: FS 53-5300: FS, 53-6300: FS	
SA2.5.03.8.U4 WSD 5.03.8.U4 53-6500 Install Watermain & Piping for Water Supplies 5.03.8.14 53-6600 Connection for Eresh Water & Mater Installation	304 13-May-19 11-Mar-20 338 60 13-May-19 11-Jul-19 216 23-2900: FS 53-6600: FS, 53-6700: FS, 53-6800: FS, 53-6900: FS 30 11-Eeb-20 11-Mar-20 338 53-6500: FS 53-5200: FS	
5.03.8.U453-6600Connection for Fresh Water & Meter Installation5.03.8.U453-6700Connection for Salt Water5.03.8.U453-6800Connection for Fire Services	30 11-Feb-20 11-Mar-20 338 53-6500: FS, 32-2300: FS 53-5200: FS 30 11-Feb-20 11-Mar-20 338 53-6500: FS, 32-2300: FS 53-5200: FS 30 11-Feb-20 11-Mar-20 338 53-6500: FS, 32-2300: FS 53-5200: FS 30 11-Feb-20 11-Mar-20 2 53-6500: FS, 32-2300: FS 53-5100: FS 30 11-Feb-20 11-Mar-20 2 53-6500: FS, 32-2300: FS 53-5100: FS	
5.03.8.U4 53-6900 Connection for Cooling Tower & Meter Installation SA2.5.03.8.U5 HyD Lighting	30 11-Feb-20 11-Mar-20 117 53-6500: FS, 32-2300: FS 54-2700: FS, 54-3900: FS 120 07-Jul-20 03-Nov-20 216 54-2700: FS, 54-3900: FS	
5.03.8.U5 53-7000 Installation of Public Street Lighting / Handover SA2.5.04 Building Construction, incl. E&M and System Installation, and T&C SA2.5.04.A Part X1 Area A 5.04.0 54.1000 Construction & Access Read	120 07-Jul-20 03-Nov-20 216 54-4100: FS, 54-4600: FS, 54-1000: FS 32-1500: FS 890 31-Dec-18 07-Jul-21 0 0 554 31-Dec-18 06-Jul-20 36 22-1500: FS 22-1500: FS 120 00 Max 20 06-Jul-20 36 22-2100: FS 22-2100: FS 52-4800: FS	
5.04.A 54-1000 General Area & Access Road 5.04.A 54-1100 Carpark & Supporting Area	120 09-Mar-20 06-Jul-20 6 23-1300: FS, 53-5500: SS, 53-5600: FF, 53-6200: SS, 53-5600: FF, 53-6200: SS, 53-5400: FS, 53-2400: SS, 53-4800: FS, 53-4900: FS, 53-6300: FF, 12-1000: FF, 11-1100: FS, 54-1100: FF, 53-5000: FS, 53-5400: FF, 53-7000: FS, 68-1700: FS 60 31-Dec-18 28-Feb-19 64 23-1300: FS, 11-1100: FS 32-1500: FS, M 5.11: FS -30, M 5.12: FS, 54-1000: FF,	
5.04.A 54-1200 Diesel Fuel Tanks	60 08-May-20 06-Jul-20 36 23-1300: FS, 23-5200: FS, 12-1000: FF, 11-1100: FS 32-2200: FS	
5.04.A 54-1300 EPD Building 5.04.A 54-1400 Fire Service Tank	270 30-Apr-19 24-Jan-20 44 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-1700: SS 60 32-2100: FS, M 5. 4: FS -135, M 5. 5: FS, 12-1000: FS, 54-1400: SS 60 270 29-Jun-19 24-Mar-20 44 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-1300: SS 60 32-2100: FS, M 5. 10: FS, 12-1000: FS, 54-1600: SS 60	
5.04.A 54-1500 GVL Building	A A	
5.04.A 54-1600 Laboratory Building 5.04.A 54-1700 Maintenance Building & Area	270 28-Aug-19 23-May-20 44 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-1400: SS 60 32-2100: FS, M 5. 6: FS -135, M 5. 7: FS, 12-1000: FS, 32-2200: FS 270 01-Mar-19 25-Nov-19 44 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-1500: SS 60 32-2100: FS, M 5. 8: FS -135, M 5. 9: FS, 12-1000: FS, 54-1300: FS, 54-1300: SS 60	
5.04.A 54-1800 Storage Facility & Area 5.04.A 54-1900 Waste Oil Tanks	60 01-Mar-19 29-Apr-19 64 23-1300: FS, 11-1100: FS 32-1500: FS, M 5.11: FS -30, M 5.12: FS, 54-1000: FF, 54-2000: FS 90 08-Apr-20 06-Jul-20 36 23-1300: FS, 23-5200: FS, 12-1000: FF, 11-1100: FS 32-2200: FS	
5.04.A 54-2000 Water Service House	60 30-Apr-19 28-Jun-19 64 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-1800: FS 32-2100: FS, M 5.10: FS, 12-1000: FS, 54-4400: FS	
SA2.5.04.B Part X1 Area B SA2.5.04.B.1 BioPlant Building 5.04.B.1 54-2100 LTP BioPlant Building	890 31-Dec-18 07-Jun-21 0 330 17-Jan-19 12-Dec-19 243 330 17-Jan-19 12-Dec-19 243 330 17-Jan-19 12-Dec-19 243 330 17-Jan-19 12-Dec-19 243 23-1300: FS, 23-5200: FS, 11-1100: FS, 32-2200: FS, M 6. 2: FS -165, M 6. 3: FS	
SA2.5.04.B.2 Leachate Treatment Plant 5.04.B.2 54-2200 Main Plant Area included Civil works	589 31-Dec-18 10-Aug-20 21 274 31-Dec-18 30-Sep-19 0 23-1300: FS, 23-3200: FS, 11-1100: FS 54-2300: FS, 54-2400: FS, 54-2500: FS, 64-1100: FS, M 6. 1: SF 30, M 6. 4: FS -137, M 6. 5: FS	
5.04.B.2 54-2300 MEP Installation	220 01-Oct-19 07-May-20 0 41-2100: FS, 41-1800: FS, 22-2100: FS, 54-2200: FS, 12-1000: FS 60, 32-1900: FS, 54-2600: FS, M 6. 8: FS -110, 11-1100: FS	
5.04.B.2 54-2400 SBR Tanks 5.04.B.2 54-2500 Ammonia Stripper	100 01-Oct-19 08-Jan-20 236 41-2400: FS, 54-2200: FS 54-2600: FS, M 6. 6: FS 315 01-Oct-19 10-Aug-20 21 41-3000: FS, 54-2200: FS 54-2600: FS, M 6. 8: FS -150, M 6. 9: FS	
SA2.5.04.B.3 LTP - Test & Commission 5.04.B.3 54-2600 Dry testing 5.04.B.3 54-2700 Wet testing	301 11-Aug-20 07-Jun-21 0 45 11-Aug-20 24-Sep-20 21 54-2300: FS, 54-2400: FS, 54-2500: FS 23-6600: FS -150, 23-6900: SS, 54-2700: FS, M11. 1: FS 75 25-Sep-20 08-Dec-20 21 54-2600: FS 12-1200: FS 53-6900: FS 31-2200: FS 54-2800: FS M11. 2: FS	
5.04.B.3 54-2700 Wet testing 5.04.B.3 54-2800 Operational testing	75 25-Sep-20 08-Dec-20 21 54-2600: FS, 12-1200: FS, 53-6900: FS, 31-2200: FS, 53-2200: FS, 53-2400: FS, 53-24	
SA2.5.04.C Part X1 Area C SA2.5.04.C.1 LFG - Power Supply Building	730 31-Dec-18 29-Dec-20 0 530 17-Jan-19 29-Jun-20 5	
5.04.C.1 54-2900 LFG Building (with Transformer Room) 5.04.C.1 54-3000 Transformer & HV Swtichgear Installation	530 17-Jan-19 29-Jun-20 5 335 17-Jan-19 17-Dec-19 0 23-1300: FS, 23-3500: FS, 11-1100: FS, 31-1000: FS 53-5800: FS, 53-5900: FS, 54-3000: FS, 54-3100: FS, M 7. 6: FS 60 01-May-20 29-Jun-20 0 54-2900: FS, 41-1200: FS, 53-5800: FS, 53-5700: FS 53-4600: FS, M 7. 4: FS -30, M 7. 5: FS, M 7. 5: FF	
5.04.C.1 54-3100 MEP Installation, with T&C	75 18-Dec-19 01-Mar-20 125 54-2900: FS 32-1400: FS, 32-2100: FS, 53-4700: FS, 53-4800: FS, M 7. 4: FS -30, M 7. 5: FS	
SA2.5.04.C.2 LFG Treatment Plant 5.04.C.2 54-3200 Main Plant Area included Civil Works	554 31-Dec-18 06-Jul-20 0 384 31-Dec-18 18-Jan-20 0 23-3500: FS, 11-1100: FS 54-3300: FS, 54-3400: FS, 54-3500: FS, 54-3600: FS, 54-3600: FS, 54-3700: FS, 54-3700: FS, 54-3700: FS, 54-3800: FS, M 7. 1: SF 30, M 7. 2: FS -200, M 7. 3: FS	
5.04.C.2 54-3300 MEP Installation 5.04.C.2 54-3400 GHS600 Blower 601 A&B Relocation	Image: Section of the section of th	
5.04.C.2 54-3400 GHS600 Blower 601 A&B Relocation 5.04.C.2 54-3500 Pre-treatment 5.04.C.2 54-3600 Flares (incl. PLC control, interlink to Towngas PF & LTP)	15 19-Jan-20 02-Feb-20 155 23-5800: FS, 54-3200: FS 54-3900: FS, M 7. 4: FS -8, M 7. 5: FS 60 19-Jan-20 18-Mar-20 110 41-3900: FS, 54-3200: FS 54-3900: FS, M 7. 4: FS -30, M 7. 5: FS 125 19-Jan-20 22-May-20 45 41-3300: FS, 54-3200: FS 54-3900: FS, M 7. 4: FS -60, M 7. 5: FS	
5.04.C.254-3700LFG Engine (incl. on-grid protection, PLC control, turning)5.04.C.254-3800Cooling System	110 21-Feb-20 09-Jun-20 27 41-3600: FS, 54-3200: FS 54-3900: FS, M 7. 4: FS -60 45 19-Jan-20 03-Mar-20 125 22-1500: FS, 54-3200: FS 54-3900: FS, M 7. 4: FS -25, M 7. 5: FS	
SA2.5.04.C.3 LFG - Test & Commission 5.04.C.3 54-3900 MEP Testing	176 07-Jul-20 29-Dec-20 0 65 07-Jul-20 99-Sep-20 0 \$4-3400: FS, 54-3500: FS, 54-3600: FS, 54-3700: FS, 54-3700: FS, 54-3700: FS, 54-3700: FS, 54-3800: F	
5.04.C.3 54-4000 Operational Testing	111 10-Sep-20 29-Dec-20 0 53-1300: FS, 63-2700: FS, 63-1800: FS, 53-2300: FS, 53-2300: FS, 63-4800: FS, 63-4800: FF, 63-4900: FS, 53-1100: FS, 54-3900: FS, 53-2100: FS 32-1500: FS, 54-2800: FS, 63-4800: FF, 63-4900: FS, 63-4800: FS, 70	
SA2.5.04.D Part X1 Area D	374 29-Jun-19 06-Jul-20 6	



'Remair		1.0.90.00.	-	
	al Remaining Work	Page : 3 of	4	
	aining Work			South-East Nev
0.02.9		00	23-JUI-21 20-984-21 333 32-1300: FS, 12-1300: FS, 23-2200: FS	03-3000. F3, 03-4300. F3, IVI 12. 4: F3 -30, IVI 12. 3: F3
	62-1200 Existing SENT LFG		29-Jul-21 26-Sep-21 339 32-1500: FS, 12-1300: FS, 23-2200: FS	63-3000: FS, 63-4500: FS, M12. 4: FS -30, M12. 5: FS
507 6.02.9	62-1100 Existing SENT LTP	60	29-Jul-21 26-Sep-21 339 32-1500: FS, 12-1300: FS, 23-2200: FS	63-3000: FS, 63-4500: FS, M12. 4: FS -30, M12. 5: FS
506 6.02.9	62-1000 Existing SENT General Infrastructure Facility & Building	60	09-Jul-21 06-Sep-21 239 32-2100: FS, 12-1300: FS	23-2000: SS -90, 63-2800: FS, 63-2900: FS, 63-3000: FS, 63-4300: FS, M12. 4: FS -30, M12. 5: FS
	Demolition of SENT Infrastructure Area		09-Jul-21 26-Sep-21 339	
	Advance Works	80	09-Jul-21 26-Sep-21 339	
503 SA2.6 Co	onstruction (Remaining Works)	1474	01-Apr-19 13-Apr-23 30	
502 5.08.S	58-1300 Establishment of Screen Planting	270	01-Apr-19* 26-Dec-19 529 58-1200: SS	32-1500: FS
	58-1200 Advance Screen Planting		01-Apr-19* 29-Jun-19 529 23-7900: FS, 31-1100: FS, 11-1500: FS	58-1300: SS, M 3. 2: FS
500 SA2.5.08.S		_ 270	01-Apr-19 26-Dec-19 529	
499 5.08.N	58-1100 Establishment of Screen Planting	270	01-Apr-19* 26-Dec-19 529 58-1000: SS, 14-1800: FS	32-1500: FS
98 5.08.N	58-1000 Advance Screen Planting	90	01-Apr-19* 29-Jun-19 529 23-7900: FS, 31-1100: FS, 11-1500: FS	14-1800: SS -60, 58-1100: SS, 68-1600: SS 30, M 3. 2: FS
97 SA2.5.08.N			01-Apr-19 26-Dec-19 529	
196 SA2.5.08 L	Landscape Works - Advance Screen Planting in CWB Country Park	270	01-Apr-19 26-Dec-19 529	
195 5.04.E	54-4700 Guard House & Entrance Gate	100	26-Jan-20 04-May-20 63 23-1300: FS, 23-5200: FS, 11-1100: FS, 11-1200: FS, 54-4500: SS 30	32-2100: FS, M 8. 2: FS, 12-1000: FS
			12-1000: FF, 11-1100: FS, 11-1200: FS	
	54-4600 General Area & Access Road		09-Mar-20 06-Jul-20 6 53-5500: SS, 53-5600: FF, 53-6200: SS, 53-6300: FF,	32-2100: FS, 53-4900: FS, 53-5000: FS, 53-7000: FS
493 SA2 5 04 F	E Part X1 Area E & Part X2	163	26-Jan-20 06-Jul-20 6	
92 5.04.D	54-4500 Wheel Wash Bath	75	27-Dec-19 10-Mar-20 63 23-1300: FS, 23-5200: FS, 41-4500: FS, 11-1100: FS, 54-4200: SS 60	32-2100: FS, M 8. 3: FS, 12-1000: FS, 54-4700: SS 30
191 5.04.D	54-4400 Weighmaster House	120	29-Jun-19 26-Oct-19 64 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-2000: FS	32-2100: FS, M 8. 1: FS, 12-1000: FS, 54-4300: SS 60
190 5.04.D	54-4300 Weighbridge	75	29-Aug-19 11-Nov-19 63 41-4200: FS, 23-1300: FS, 23-5200: FS, 11-1100: FS, 54-4400: SS 60	32-2100: FS, M 8. 6: FS -40, M 8. 7: FS, 54-4200: SS 60
	54-4200 VWF Building	120	28-Oct-19 24-Feb-20 63 23-1300: FS, 23-5200: FS, 41-4500: FS, 11-1100: FS, 54-4300: SS 60	32-2100: FS, M 8. 4: FS, M 8. 6: FS -60, M 8. 7: FS, 12-1000: FS, 54-4500: SS 60
			53-6300: FF, 12-1000: FF, 11-1100: FS	53-7000: FS, M 8. 5: FS
	54-4100 General Area & Access Road		29-Jun-19 06-Jul-20 6 09-Mar-20 06-Jul-20 6 23-1300: FS, 53-5500: SS, 53-5600: FF, 53-6200: SS, 53-5600: FF,	32-2100: FS, 53-4800: FS, 53-4900: FS, 53-5000: FS,
		074		

# WBS Path Activity Activity Name	Dur Start Finish Total Predecessor Details	Successor Details		2018		20	010		2	120		2021			2022	2		2023
	Float		Q2	Q3	Q4 Q1	Q2	Q3	Q4 Q1	1 Q2	Q3	Q4 Q1	Q2	Q3 Q4	Q1	Q2	Q3	Q4	Q1 Q2 (
509 SA2.6.03 Civil Engineering Works	1259 02-Nov-19 13-Apr-23 30																	
510 SA2.6.03.2 Landfill Cell 2 511 6.03.2 63-1000 Earth bund (Eastern)	449 02-Nov-19 23-Jan-21 810 110 02-Nov-19 19-Feb-20 9 11-1100: FS, 23-2500: FS, 53-4200: FS, 53-1400: FS, 53-1400	53-3500; FS, 63-1500; FS, 63-1800; FS, 63-1900; FS,																· · · · · · · · · · · · · · · · · · ·
	53-2800: FS	63-2000: FS, 63-2100: FS, 63-2200: FS, M12. 1: FS -50, M12.																
		2: FS, 63-1100: FS																
512 6.03.2 63-1100 Earth bund (Western)	110 20-Feb-20 08-Jun-20 84 11-1100: FS, 23-2500: FS, 53-1800: FS, 53-1400: FS,	63-1400; FS. 63-1500; FS. 63-1700; FS. 63-3500; FS.																
	63-1000: FS	63-3600: FS, 63-1200: FS																
513 6.03.2 63-1200 Intercell bund (Cell 2/3)	90 09-Jun-20 06-Sep-20 734 11-1100: FS, 23-2500: FS, 53-1800: FS, 53-1400: FS,	63-1500: FS																
	53-4400: FS, 63-1100: FS																	
514 6.03.2 63-1300 Site Formation	75 02-Nov-19 15-Jan-20 14 11-1100: FS, 23-2500: FS, 53-1800: FS, 53-1400: FS	63-1400: FS, 63-4200: FS																
515 6.03.2 63-1400 Pump Station (PS#2X)	45 09-Jun-20 23-Jul-20 84 63-1300: FS, 63-1100: FS	63-1600: FS, 63-1700: FS																
516 6.03.2 63-1500 Lining Works	90 01-Oct-20* 29-Dec-20 710 41-1500: FS, 63-1000: FS, 63-1100: FS, 63-1200: FS	63-1600: FS, M12. 3: FS, 63-2400: FS												· · · · · · · · · · · · · · · · · · ·				
517 6.03.2 63-1600 Protective Stone Laying & Leachate Collection Pipe	25 30-Dec-20 23-Jan-21 810 63-1500: FS, 41-1500: FS, 63-1400: FS	32-1600: FS, M12. 3: FS																
518 6.03.2 63-1700 Install Leachate Force Main	75 24-Jul-20 06-Oct-20 84 63-1100: FS, 41-1500: FS, 63-1400: FS	54-2800: FS, M12. 3: FS																
519 6.03.2 63-1800 Install Landfill Gas Pipe on earth bund	35 20-Feb-20 25-Mar-20 168 41-1500: FS, 63-1000: FS	54-4000: FS, M12. 3: FS																
520 SA2.6.03.3 Landfill Cell 3	714 20-Feb-20 02-Feb-22 435																	
521 6.03.3 63-1900 Earth bund (Eastern)	110 20-Feb-20 08-Jun-20 9 11-1100: FS, 53-4200: FS, 63-1000: FS, 53-4300: FS, 53-2800: FS, 63-4200: FS	53-3300: FS, 53-3600: FS, 63-2400: FS, 63-2700: FS, M12. 1: FS -50, M12. 2: FS, 63-2000: FS -45, 63-2200: FS																
	53-2000. FS, 63-4200. FS	F3 -50, M12. 2. F3, 03-2000. F3 -45, 03-2200. F3																
522 6.03.3 63-2000 Earth bund (Western)	110 25-Apr-20 12-Aug-20 19 11-1100: FS, 63-1000: FS, 63-1900: FS -45	63-2300: FS, 63-2400: FS, 63-2600: FS, 63-3700: FS,																
		63-2100: FS -45																
523 6.03.3 63-2100 Intercell bund (Cell 3/4)	105 29-Jun-20 11-Oct-20 789 11-1100: FS, 63-1000: FS, 63-4200: FS, 63-2000: FS -45	63-2400: FS																
524 6.03.3 63-2200 Site Formation	75 09-Jun-20 22-Aug-20 9 11-1100: FS, 63-1000: FS, 63-1900: FS	63-2300: FS																
525 6.03.3 63-2300 Pump Station (PS#3X)	45 23-Aug-20 06-Oct-20 9 63-2200: FS, 63-2000: FS	63-2500: FS, 63-2600: FS																
526 6.03.3 63-2400 Lining Works	100 01-Oct-21* 08-Jan-22 435 41-1500: FS, 63-2000: FS, 63-2100: FS,	63-2500: FS, M12. 3: FS												·····				
	63-1500: FS																	
527 6.03.3 63-2500 Protective Stone Laying & Leachate Collection Pipe	25 09-Jan-22 02-Feb-22 435 63-2400: FS, 41-1500: FS, 63-2300: FS	32-1700: FS, M12. 3: FS																
528 6.03.3 63-2600 Install Leachate Force Main	75 07-Oct-20 20-Dec-20 9 63-2000: FS, 41-1500: FS, 63-2300: FS	53-2500: SS -90, 54-2800: FS, M12. 3: FS																
529 6.03.3 63-2700 Install Landfill Gas Pipe on earth bund	35 09-Jun-20 13-Jul-20 58 41-1500: FS, 63-1900: FS	54-4000: FS, M12. 3: FS																
530 SA2.6.03.4 Landfill Cell 4	584 07-Sep-21 13-Apr-23 30																	
531 6.03.4 63-2800 Remaining Portion of Buttress Wall	120 07-Sep-21 04-Jan-22 494 62-1000: FS																	
532 6.03.4 63-2900 Earth bund (Western) incl. MSE Wall	120 07-Sep-21 04-Jan-22 239 62-1000: FS	63-3000: FS, 63-3100: FS, 63-3200: FS, 63-3400: FS,																
		63-3800: FS, 63-3900: FS, 63-4100: SS -90, M 9. 6: FS -60, M 9. 7: FS -30, M 9. 8: FS																
533 6.03.4 63-3000 Site Formation	120 05-Jan-22 04-May-22 239 62-1000: FS, 62-1100: FS, 62-1200: FS, 63-2900: FS,	63-3100: FS																
524 C 02 A C 22400 Dume Chaties (DCHAV)	63-4100: FS	63-3300: FS, 63-3400: FS																
534 6.03.4 63-3100 Pump Station (PS#4X)	45 05-May-22 18-Jun-22 239 63-3000: FS, 63-2900: FS																	
535 6.03.4 63-3200 Lining Works	135 01-Oct-22* 12-Feb-23 0 41-1500: FS, 63-2900: FS	63-3300: FS, M12. 6: FS																
536 6.03.4 63-3300 Protective Stone Laying & Leachate Collection Pipe	60 13-Feb-23 13-Apr-23 0 41-1500: FS, 63-3200: FS, 63-3100: FS	12-1900: FS, 32-1800: FS, M12. 6: FS																
537 6.03.4 63-3400 Install Leachate Force Main & Remove Temporary Leachate Pipe	30 19-Jun-22 18-Jul-22 269 41-1500: FS, 63-2900: FS, 63-3100: FS	12-1900: FS, 32-1800: FS, M12. 6: FS																
538 SA2.6.03.5 Drainage - Surface Run-Off 539 6.03.5 63-3500 Perimeter Channel (X9A) at Cell 2 Western Bund	750 16-Jan-20 03-Feb-22 464 15 09-Jun-20 23-Jun-20 1054 63-1100: FS	12-1900: FS																
		63-4000: FS																
540 6.03.5 63-3600 Perimeter Channel (X10A) at Cell 2 Western Bund	30 09-Jun-20 08-Jul-20 1029 63-1100: FS																	
541 6.03.5 63-3700 Perimeter Channel (X10A) at Cell 3 Western Bund	30 13-Aug-20 11-Sep-20 964 63-2000: FS	63-4000: FS																
542 6.03.5 63-3800 Perimeter Channel (X10A) at Cell 4 Western Bund	20 05-Jan-22 24-Jan-22 464 63-2900: FS	63-4000: FS																
543 6.03.5 63-3900 Perimeter Channel (X10C) at Cell 4 Western Bund	15 05-Jan-22 19-Jan-22 469 63-2900: FS	63-4000: FS																
544 6.03.5 63-4000 Connection to Existing DP3	10 25-Jan-22 03-Feb-22 464 63-3900: FS, 63-3600: FS, 63-3700: FS, 63-3800: FS	12-1900: FS																
545 6.03.5 63-4100 Remove Cut-Off Channel C-7 at bottom of Buttress Wall	30 09-Jun-21 08-Jul-21 419 63-2900: SS -90	63-3000: FS																
546 6.03.5 63-4200 Temporary Channel (X7T) at SENT Infrastructure Area	30 16-Jan-20 14-Feb-20 14 63-1300: FS	63-1900: FS, 63-2100: FS																
547 SA2.6.03.6 Drainage - Ground Water	85 07-Sep-21 30-Nov-21 529																	
548 6.03.6 63-4300 Construct Temporary Channel (TC-1), from MH-1 to Existing UC-825	50 07-Sep-21 26-Oct-21 529 23-1900: FS, 11-1300: FS, 62-1000: FS	63-4400: FS																
549 6.03.6 63-4400 Divert GW at MH-1 to TC-1	5 27-Oct-21 31-Oct-21 529 63-4300: FS	63-4500: FS, M 9. 9: FS																
550 6.03.6 63-4500 Reconnection of GWCP across Cell 4	30 01-Nov-21 30-Nov-21 529 62-1100: FS, 62-1200: FS, 63-4400: FS	12-1900: FS																
551 SA2.6.03.8 Utilities - Works Associated with Utilities Undertakers	255 15-Nov-20 27-Jul-21 655																	
552 SA2.6.03.8.U1 CLP	210 30-Dec-20 27-Jul-21 655																	
553 6.03.8.U1 63-4600 LFG Generator On-grid Testing	180 30-Dec-20 27-Jun-21 655 32-2500: FS, 12-1200: FS, 54-4000: FS	63-4700: FS																
554 6.03.8.U1 63-4700 LFG Generator On-grid Inspection & Verify	30 28-Jun-21 27-Jul-21 655 63-4600: FS	12-1900: FS																
555 SA2.6.03.8.U6 TownGas	55 15-Nov-20 08-Jan-21 855	C2 4000 E0												····				
556 6.03.8.U6 63-4800 Laying Gas Mains (from LFG to Town Gas PF)	45 15-Nov-20 29-Dec-20 855 54-4000: FF	63-4900: FS																
557 6.03.8.U6 63-4900 Gas Meter Relocation & Connection at LFG	10 30-Dec-20 08-Jan-21 855 63-4800: FS, 54-4000: FS	12-1900: FS																
558 SA2.6.04 Building & E&M Works	661 01-Oct-19 22-Jul-21 660																	
559 SA2.6.04.C Part X1 Area C 560 SA2.6.04.C.02 LFG Treatment Plant	661 01-Oct-19 22-Jul-21 660 661 01-Oct-19 22-Jul-21 660																	
561 6.04.C.02 64-1000 GHS600 Blower 601 C Relocation	15 08-Jul-21 22-Jul-21 660 32-1500: FS	12-1900: FS																
562 6.04.C.02 64-1100 Absorption Chiller (Optional)	90 01-Oct-19 29-Dec-19 1231 54-2200: FS	12-1900: FS																
563 SA2.6.08 Landscape Works	613 01-Apr-19 03-Dec-20 891																	
564 SA2.6.08.1 SENT Area - Tree Removal & Transplanting	240 01-Apr-19 26-Nov-19 1264																	
565 6.08.1 68-1000 Access trees condition and select for transplanting	30 01-Apr-19* 30-Apr-19 1264 14-1300: FS	68-1100: FS, 68-1200: FS, 68-1400: FS																
566 6.08.1 68-1100 Prepare new site to receive trees	90 01-May-19 29-Jul-19 1264 68-1000: FS	68-1200: SS				1 1												
567 6.08.1 68-1200 Transplant selected trees	120 01-May-19 28-Aug-19 1264 68-1000: FS, 68-1100: SS	68-1300: FS																
568 6.08.1 68-1300 Prune trees prior to removal from Cell 4	90 29-Aug-19 26-Nov-19 1264 68-1200: FS	12-1900: FS																
569 6.08.1 68-1400 Tree Felling - Part X3	90 01-May-19 29-Jul-19 1384 23-8200: FS, 31-1600: FS, 68-1000: FS	12-1900: FS																
570 SA2.6.08.2 SENTX Area - Trial Nursery & Tree Planting	583 01-May-19 03-Dec-20 891																	
571 6.08.2 68-1600 Trial Nursery	300 01-May-19 24-Feb-20 1174 14-1800: FS, 58-1000: SS 30	12-1900: FS, M 3. 2: FS					· · · · · · · · · · · · · · · · · · ·	+										
572 6.08.2 68-1700 Landscaping in New Infrastructure Area	150 07-Jul-20 03-Dec-20 891 54-1000: FS, 23-7600: FS	12-1900: FS																

Remaining Work		South-East New Territories Land Fill Extension (SA2-SENTX)	Date	Revision	Checked	Approved
	Page : 4 of 4		11-May-18	SENTX-GVL-W-PB-ZZ-0001 Rev. I01		
 Milestone 		Baseline Programme	20-Jul-18	SENTX-GVL-W-PB-ZZ-0001 Rev. I02 (Detailed)		

Annex B

Environmental Mitigation Implementation Schedule

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?		implement sure? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
Air Qualit	ty – Const	truction Phase							
4.8.1	AQ1	<u>Blasting</u>The area within 30m of the blasting area will be wetted prior to blasting.	dust nuisance	Blasting area and 30m of blasting area	SENTX Contractor	~		Air Pollution Control (Construction Dust) Regulations	Not applicable. Blasting is not required in the latest landfill design
		• Blasting will not be carried out when the strong wind signal or tropical cyclone warning signal No. 3 or higher is hoisted, unless this is with the express prior permission of the Commissioner of Mines.							design
		• loose material and stones in the Site will be removed prior to the blast operation							
		• During blasting, blast nets, screens and other protective covers will be used to prevent the projection of flying fragments and material resulting from blasting							
4.8.1	AQ2	 <u>Rock Drilling</u> Watering will be carried out at the rock drilling activities to avoid fugitive dust emissions. 	To minimise potential dust nuisance	Rock drilling area	SENTX Contractor	~		Air Pollution Control (Construction Dust) Regulations	Not applicable. Rock drilling is not required in the latest landfill design

Annex B Environmental Mitigation Implementation Schedule

(1) D=Design; C=Construction; O/R=Operation/Restoration; A=Aftercare

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main	Location of the Measures	Who to implement the measure?		implement ure? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks	
			Concerns to address			-	-,			
4.8.1	AQ3	Site Access Road	To minimise potential		SENTX	✓		Air Pollution Control	Implemented	
		• The main haul road will be kept clear of dusty materials or sprayed with	dust nuisance	road	Contractor			(Construction Dust) Regulations		
		water.						HKAQO and EIAO-		
		• The main haul road will be paved with aggregate or gravel.						TM Annex 4		
		• Vehicle speed will be limited to 10kph.								
4.8.1	AQ4	Stockpiling of Dusty Materials	To minimise potential		SENTX	✓		Air Pollution Control	Implemented	
		• Any stockpile of dusty materials will be covered entirely by impervious	dust nuisance construction works area	construction works area	Contractor			(Construction Dust) Regulations		
		sheeting or placed in an area sheltered on the top and three sides or sprayed with water so as to ensure that the entire surface is wet.						HKAQO and EIAO- TM Annex 4		
4.8.1	AQ5	Loading, unloading or transfer of dusty materials	To minimise potential dust nuisance	All construction	SENTX Contractor	√		Air Pollution Control (Construction Dust)	Implemented	
		• All dusty materials will be sprayed		works area				Regulations		
		with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.						HKAQO and EIAO- TM Annex 4		
4.8.1	AQ6	Site Boundary and Entrance	To minimise potential		SENTX	\checkmark		Air Pollution Control	Not applicable	
		• Where a site boundary adjoins a road, street, service lane or other area	dust nuisance ,	and entrance	Contractor			(Construction Dust) Regulations		
		accessible to the public, hoarding of height not less than 2.4m from						HKAQO and EIAO-		

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the r		implen ure? ⁽¹⁾ O/R	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		ground level will be provided along the entire length of that portion of the site boundary except for the site entrance or exit.							TM Annex 4	
4.8.1	AQ7	 Excavation Works Working area of any excavation or earth moving operation will be sprayed with water immediately before, during and immediately after the operation so as to ensure that the entire surface is wet. 	To minimise potential dust nuisance	All construction works area	SENTX Contractor		•		Air Pollution Control (Construction Dust) Regulations HKAQO and EIAO- TM Annex 4	Not applicable
4.8.1	AQ8	 Building Demolition The area where the demolition works are planned to take place will be sprayed with water immediately prior to, during and immediately after the demolition activities. Any dusty materials remaining after a stockpile is removed will be wetted with water and cleared from the surface of roads or street. 	To minimise potential dust nuisance	All construction works area	SENTX Contractor		•		Air Pollution Control (Construction Dust) Regulations HKAQO and EIAO- TM Annex 4	Not applicable
4.8.1	AQ9	 <u>Construction of the Superstructure of</u> <u>Building</u> Effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground level up to the highest level of the scaffolding. 	To minimise potential dust nuisance	All construction works area	SENTX Contractor		•		Air Pollution Control (Construction Dust) Regulations HKAQO and EIAO- TM Annex 4	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement			imple: ure? ⁽¹⁾		What requirements or standards for the	Implementation Status and Remarks	
			Measure & Main Concerns to address		the measure?	D	С	O/R	А	measure to achieve?		
4.8.1	AQ10	Should a stone crushing plant be needed on site, the control measures recommended in the <i>Best Practicable</i> <i>Means Requirement for Mineral Works</i> (<i>Stone Crushing Plants</i>) <i>BPM 11/1</i> should be implemented.	To minimise potential dust nuisance	Stone crushing plant/ construction phase	SENTX Contractor		✓			Best Practicable Means Requirement for Mineral Works (Stone Crushing Plants) BPM 11/1	Not applicable. Stone crushing plant is not required in the latest landfill design	
4.8.1	AQ11	Good site practices such as regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke emissions and to minimize gaseous emissions.	To minimise potential dust nuisance	All construction works area	SENTX Contractor		✓			HKAQO and EIAO- TM Annex 4	Reminder was given to the Contractor	
4.10.1	AQ12	Dust monitoring once every 6 days	Ensure the dust generated from the project meets the air quality requirement	At monitoring locations shown in <i>Figure 3.2a</i>	SENTX Contractor		✓			HKAQO and EIAO- TM Annex 4	Implemented	
4.10.2	AQ41	Monitoring of ambient TSP once every 6 days	Ensure the dust emission from the project meets the dust requirement	At monitoring locations shown in <i>Figure 11.3a</i>	SENTX Contractor		✓	✓		HKAQO and EIAO- TM Annex 4	Implemented	
4.10.2	AQ46	Monitoring of meteorological station, continuously	Collect site specific meteorological data	At meteorologica l station shown in <i>Figure 11.3a</i>	SENTX Contractor		✓	✓	~	-	Implemented	

Noise – Construction Phase

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement	the 1	meas	imple sure? (1)	or standards for the	Implementation Status and Remarks
			Measure & Main Concerns to address		the measure?	D	С	O/R	А	measure to achieve?	
5.7.1	N1	Adopt good site practice listed below:	To minimise potential construction noise	All construction	SENTX Contractor		✓			Noise Control Ordinance (NCO) and	Implemented
		 Only well-maintained plant will be operated on-site and plant should be serviced regularly during the construction program; 	nuisance.	works area						EIAO-TM Annex 5	
		• Silencers or mufflers on construction equipment should be utilized and will be properly maintained during the construction program;									
		• Mobile plant, if any, will be sited as far from NSRs as possible;									
		• Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or should be throttled down to a minimum;									
		• Plant known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and									
		• Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.									

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement			implemen sure? ⁽¹⁾	What requirements or standards for the	Implementation Status and Remarks
			Measure & Main Concerns to address		the measure?	D	С	O/R A	measure to achieve?	
5.8	N2	Weekly noise monitoring	Ensure noise generated from the project meets the criteria	At monitoring locations shown in <i>Figure 6.4a</i>	SENTX Contractor		✓		Noise Control Ordinance (NCO) and EIAO-TM Annex 5	Implemented
Water Qu	ality - Co	nstruction Phase								
6.8.1	WQ1	Construction Runoff								
		• Exposed soil areas will be minimised	To minimise potential		SENTX		\checkmark		ProPECC PN 1/94	Implemented
		to reduce the contamination of runoff and erosion.	water quality impacts arising from the construction works	construction works area	Contractor				EIAO-TM Annex 6	
.8.1	WQ2	• Perimeter channels will be	To minimise potential		SENTX	✓	\checkmark		ProPECC PN 1/94	Implemented
		constructed in advance of site formation works and earthworks and intercepting channels will be provided	water quality impacts arising from the construction works	construction works area	Contractor				Water Pollution Control Ordinance (WPCO)	
		for example along the edge of excavation.							EIAO-TM Annex 6	
5.8.1	WQ3	• Silt removal facilities, channels and	To minimise potential	All	SENTX		\checkmark		ProPECC PN 1/94	Implemented
		manholes will be maintained and the deposited silt and grit should be	water quality impacts arising from the	construction works area	Contractor				WPCO	
		removed regularly to ensure they are functioning properly at all times.	construction works	works area					EIAO-TM Annex 6	
5.8.1	WQ4	• Temporary covers such as tarpaulin	To minimise potential		SENTX		\checkmark		ProPECC PN 1/94	Implemented
		will also be provided to minimise the generation of high SS runoff.	water quality impacts arising from the construction works	construction works area	Contractor				WPCO	
6.8.1	WQ5	• The surface runoff contained any oil	To minimise potential	All	SENTX		✓		ProPECC PN 1/94	Not applicable

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the m	easu	mplement re? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		and grease will pass through the oil	water quality impacts	construction	Contractor				WPCO	
		interceptors.	arising from the construction works	works area					EIAO-TM Annex 6	
6.8.1	WQ6	• All sewer and drains will be sealed to	To minimise potential		SENTX	v	1		ProPECC PN 1/94	Not applicable
		prevent building debris, soil etc from entering public sewers/drains before	water quality impacts arising from the	area at existing SENT	Contractor				WPCO	
		commencing any demolition works	demolition works	Landfill					EIAO-TM Annex 6	
6.8.1	WQ7	• During the excavation works for the	To minimise potential	Tunnel boring		v	1		ProPECC PN 1/94	Not applicable.
		twin drainage tunnels, the recycle water for cooling the cutter head of	water quality impacts arising from the	sites	Contractor				WPCO	Excavation of drainage tunnels is not required
		the TBM will be conveyed to the sedimentation tanks for treatment and most of the treated water will be reused, where applicable and as much as possible, in the boring operations.	tunnel works						EIAO-TM Annex 6	in the latest landfill design.
6.8.1	WQ8	• The fuel and waste lubricant oil from	To minimise potential	SENTX Site	SENTX	v	1		ProPECC PN 1/94	Implemented
		the on-site maintenance of machinery and equipment will be collected by a	water quality impacts arising from improper		Contractor				WPCO	
		licensed chemical waste collector.	handling of fuel and oil						Waste Disposal Ordinance (WDO)	
6.8.1	WQ9	Implementation of excavation	To minimise	All	SENTX	v	1		ProPECC PN 1/94	Implemented
		schedules, lining and covering of excavated stockpiles	contaminated stormwater run-off	construction works	Contractor				WPCO	
		excuvated stockpiles	from the SENTX Site	WOIKS					EIAO-TM Annex 6	
6.13	WQ10	• Monitoring of surface water quality	To minimise potential	SENTX Site	SENTX	v	✓ WPCO	WPCO	Implemented	
		will be conducted on a regular basis as stated in the EM&A Manual.	water quality impacts on surface water arising from the construction works		Contractor				Water-TM	

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?			implement ure? ⁽¹⁾ O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
6.8.2	WQ11	Sewage Effluents								
		• Sufficient chemical toilets will be provided for the construction workforce.	To minimise potential water quality impacts arising from the sewage effluents	SENTX Site	SENTX Contractor		✓		WPCO	Implemented
6.8.2	WQ12	• Untreated sewage will not be allowed	To minimise potential	SENTX Site	SENTX		\checkmark		WPCO	Deficiency of
		to discharge into the surrounding water body.	water quality impacts arising from the sewage effluents		Contractor				WDO	mitigation measures but rectified by the Contractor
6.8.2	WQ13	• A licensed waste collector will be	To minimise potential	SENTX Site	SENTX		✓		WPCO	Implemented
		employed to clean the chemical toilets on a regular basis.	water quality impacts arising from the sewage effluents		Contractor				WDO	
Waste Ma	nagement	t - Construction Phase								
7.6.1	WM1	All the necessary waste disposal permits are obtained prior to the commencement of construction work.	-	Before construction works commence	SENTX Contractor	✓	✓		WDO	Implemented
7.6.1	WM2	Management of Waste Disposal								
		The construction contractor will open a	To ensure that	SENTX Site	SENTX		✓		WDO	Implemented
		billing account with the EPD. Every construction waste or public fill load to be transferred to the Government waste disposal facilities such as public fill reception facilities, sorting facilities,	adverse environmental impacts are prevented		Contractor				Waste Disposal (Charges for Disposal of Construction Waste) Regulation;	
		landfills will required a valid "chit" which contains the information of the account holder to facilitate waste							Works Bureau Technical Circular No.31/2004; and	

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	the m	n to impl neasure? (C O/1	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		transaction recording and billing to the waste producer. A trip-ticket system will also be established to monitor the disposal of construction waste at the SENT Landfill and to control fly-tipping. The trip-ticket system will be included as one of the contractual requirements and implemented by the contractor.						Annex 5 and Annex 6 of Appendix G of ETWBTC No. 19/2005)	
		A recording system for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established.							
7.6.1	WM3	<u>Measures for the Reduction of</u> <u>Construction Waste Generation</u>							
		Inert and non-inert construction waste will be segregated and stored in different containers or skips to facilitate reuse or recycling of the inert waste and proper disposal of the non-inert construction waste. Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	To reduce construction waste generation	SENTX Site	SENTX Contractor		✓	WDO EIAO-TM Annex 7	Implemented
7.6.1	WM4	<u>Chemical Waste</u>	To opening property	SENTX Site	SENTX		J	WDO	Deficiency of
		The construction contractor will register as a chemical waste producer with the EPD. Chemical waste will be handled in accordance with the <i>Code of Practice on</i> <i>the Packaging, Handling and Storage of</i>	To ensure proper handling of chemical waste	JEN I A SITE	SEN1X Contractor		•	VDO Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	Deficiency of mitigation measures but rectified by the Contractor

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When to implement the measure? ⁽¹⁾ D C O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		Chemical Wastes.						
7.6.1	WM5	<u>Sewage</u>						
		An adequate number of portable toilets will be provided at the site to ensure that sewage from site staff is properly collected. The portable toilets will be desludged and maintained regularly by a specialist contractor.	To ensure proper handling of sewage	SENTX Site	SENTX Contractor	✓	WDO EIAO-TM Annex 7	Implemented
7.6.1 and	WM6	General Refuse						
SENTX latest design		General refuse will be stored in enclosed bins separately from construction and chemical wastes. The general refuse will be delivered to a transfer station or other landfill, separately from construction and chemical wastes, on a daily basis to reduce odour, pest and litter impacts.	To ensure proper handling of general refuse	SENTX Site	SENTX Contractor	*	WDO EIAO-TM Annex 7	Deficiency of mitigation measures but rectified by the Contractor
		Recycling bins will be provided at strategic locations to facilitate recovery of aluminium can and waste paper from the SENTX Site. Materials recovered will be sold for recycling.						
7.6.1	WM7	Staff Training At the commencement of the construction works, training will be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including	To ensure that adverse environmental impacts are prevented	SENTX Site	SENTX Contractor	✓		Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?	When to implement the measure? ⁽¹⁾ D C O/R A	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
7.8	WM8	 waste reduction, reuse and recycling. <u>Environmental Monitoring & Audit</u> <u>Requirements</u> Weekly audits of the waste management practices will be carried out during the construction phase. The audits examine all aspects of waste management including waste generation, storage, recycling, transport and disposal. 	To ensure that adverse environmental impacts are prevented	SENTX Site	SENTX Contractor	✓	WDO	Implemented
<i>Landfill</i> G 8.6.2 and SENTX latest design	Gas Hazar	ds – Design and Construction Phase Precautionary measures to be adopted by the contractors at the Project site and the adjacent development site within the landfill consultation zone are outlined in Paragraphs 8.3 to 8.49 of EPD's Landfill Gas Hazard Assessment Guidance Notes (the Guidance Note). Those precautionary measures applicable to the SENTX will be confirmed in the detailed Qualitative Landfill Gas Hazard Assessment to be	-	All construction works area	SENTX Contractor	✓	Paragraphs 8.3 to 8.49 of EPD's Landfill Gas Hazards Assessment Guidance Note EIAO-TM Annex 7	Implemented
8.6.2	LFG2	submitted by the contractor. Monitoring will be undertaken when construction works are carried out in confined space within the consultation zone with reference to the monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's <i>Guidance Note</i> will be followed.	To protect workers from landfill gas risk	Confined space within the construction works area	SENTX Contractor	~		Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?			imples sure? ⁽¹⁾ O/R)	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		In the event of the trigger levels being exceeded, it is recommended that a person, such as the Safety Officer, is nominated, with deputies, to be responsible for dealing with any emergency which may occur due to landfill gas. In an emergency situation, the nominated person, or his deputies, shall have the necessary authority and shall ensure that the confined space is evacuated and the necessary works implemented for reducing the concentrations of gas. The appropriate organisations shall be contact.									
8.6.3	LFG4	Implementation of engineering measures according to Contract Specification requirements. These measures will include the placement of liner and installation of landfill gas management system to contain, manage and control landfill gas.	To protect workers from landfill gas risk	SENTX Site	SENTX Contractor	✓	✓	~	~	EIAO-TM Annex 7	Implemented
8.6.3	LFG5	Engineering measures to significant engineering measures will be required in the design of the SENTX to protect the staff working in the infrastructure area. These measures include a combination of passive and active systems (examples are recommended in EPD's <i>Guidance Notes</i>). Landfill gas monitoring boreholes will be installed at the edge of the waste slope	To protect workers from landfill gas risk	Infrastructure Area	SENTX Contractor	•	•			EPD's Landfill Gas Hazards Assessment Guidance Note EIAO-TM Annex 7	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement			impler aure? (1)	nent	What requirements or standards for the	Implementation Status and Remarks
	Kei	ivitigation ivicasures	Measure & Main Concerns to address	the measures	the measure?	D	C	O/R	А	measure to achieve?	Status and Kemarks
		between the waste and the new infrastructure area to monitor the migration of landfill gas, if any.									
Ecology –	Construct	tion Phase									
9.10.2	EC1	Measures to control construction runoff:	To minimise potential		SENTX		✓			EIAO-TM Annex 16	Implemented
		• Exposed soil areas will be	water quality impacts affecting ecological	construction works area	Contractor					ProPECC PN 1/94	
		minimised to reduce the contamination of runoff and erosion;	resources							Water Pollution Control Ordinance (WPCO)	
										EIAO-TM Annex 6	
		• To prevent stormwater runoff from washing across exposed soil surfaces, perimeter channels will be constructed in advance of site formation works and earthworks and intercepting channels will be provided for example along the edge of excavation;								-	Implemented
		• Silt removal facilities, channels and manholes will be maintained and the deposited silt and grit will be removed regularly to ensure they are functioning properly at all times;								-	Implemented
		• Temporary covers such as tarpaulin will also be provided to minimise the generation of high suspended solids runoff;								-	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?		to imple asure? ⁽¹ O/R		What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		• The surface runoff contained any oil and grease will pass through the oil interceptors; and,							-	Not applicable
		• Control measures, including implementation of excavation schedules, lining and covering of excavated stockpiles will be implemented to minimise contaminated stormwater run-off from the SENTX site.							-	Implemented
9.10.2 and SENTX latest design	EC2	 Good Construction Practice: Fences along the boundary of the SENTX Site will be erected before the commencement of works to prevent vehicle movements, and encroachment of personnel, onto adjacent areas. 	To minimise potential ecological impacts arising from the Project	SENTX Site	SENTX Contractor	~			EIAO-TM Annex 16	Implemented
		• The work site boundaries will be regularly checked to ensure that they are not breached and that damage does not occur to surrounding areas.								
9.12.1	EC9	Environmental Monitoring & Audit Requirements The implementation of the ecological mitigation measures should be checked as part of the environmental monitoring and audit procedures during the	To ensure that adverse ecological impacts are prevented	SENTX	SENTX Contractor	~	¥	✓	EIAO-TM Annex 16	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?			impleme sure? ⁽¹⁾ O/R	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		construction period.								
Landscape	e and Visu	ual – Construction Phase								
10.6.5	LV1	CM1 - The construction area and area allowed for the contractor's office, leachate treatment plant and laboratory areas will be minimised to a practical minimum, to avoid impacts on adjacent landscape.	To minimise the landscape and visual impacts	SENTX Site	SENTX Contractor		✓		EIAO-TM Annex 18 and ETWBC 3/2006	Implemented
10.6.5	LV2	CM2 - Topsoil, where identified, will be stripped and stored for re-use in the construction of the soft landscape works, where practical. The Contract Specification will include storage and reuse of topsoil as appropriate.	To minimise the landscape and visual impacts	All construction works area	SENTX Contractor		✓		EIAO-TM Annex 18	Not applicable
10.6.5	LV3	CM3 - All existing trees at the edges of the landfill will be carefully protected during construction. Detailed Tree Protection Specification will be provided in the Contract Specification. Under this Specification, the Contractor will be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.	To minimise the landscape and visual impacts	Potential impacted area	SENTX Contractor		✓		EIAO-TM Annex 18 and ETWBC 3/2006	Not applicable
10.6.5	LV4	CM4 - Trees unavoidably affected by the works will be transplanted, where necessary and practical. A detailed Tree	landscape and visual	Potential impacted area	SENTX Contractor	~	~		EIAO-TM Annex 18 and ETWBC 3/2006	Implemented

EIA Ref.	EM&A Ref	Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Location of the Measures	Who to implement the measure?			o impleme sure? ⁽¹⁾ O/R	What requirements or standards for the measure to achieve?	Implementation Status and Remarks
		Transplanting Specification will be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods will be allowed in the project programme.								
10.6.5 and SENTX latest design	LV5	CM5 - Within 3 months of taking possession of the SENTX Site, the Contractor will plant advance screen planting of native species at Light Standard size at 1.5m centres along the High Junk Peak Trail so as to screen views of the Works from the trail. Tree planting locations will be agreed with AFCD. Works will be completed within 9 months of taking possession of the SENTX Site.	To minimise the landscape and visual impacts	At High Junk Peak Hiking Trail	SENTX Contractor		~		EIAO-TM Annex 18	Implemented
10.6.5	LV6	CM6 - The Contractor's office, leachate treatment plant and laboratory will be given an aesthetic treatment in earth tones to reduce their visual impact and albedo and blend them into the surrounding landscape.	To minimise the landscape and visual impacts	Infrastructure area	SENTX Contractor	•	~		EIAO-TM Annex 18	Not applicable
10.6.5	LV7	CM7 - The Contractor's office, leachate treatment plant and laboratory will be surrounded by a minimum of 5m wide and 0.75m high earth bund on the west and south sides planted with a dense screen of tree and shrub vegetation. Additional tree planting will be provided in unused spaces with thin infrastructure	To minimise the landscape and visual impacts	Infrastructure area	SENTX Contractor	~	V		EIAO-TM Annex 18 and ETWBC 7/2002	Not applicable

EIA Ref. EM&A Ref		Environmental Protection Measures/ Mitigation Measures	Objectives of the Recommended	Location of the Measures	Who to implement			implement sure? ⁽¹⁾	or standards for the	Implementation Status and Remarks
			Measure & Main Concerns to address		the measure?	D	С	O/R A	measure to achieve?	
		site, along access roads and in and around car parks. This will be supplemented with shrub planting, where appropriate.								
10.6.5	LV8	CM8 - Planting trials will be carried out in an on-site nursery prior to implementation of the first phase of restoration to establish the best planting matrix and management intensity of the recommended plant materials for the restoration.	To minimise the landscape and visual impacts	SENTX Site	SENTX Contractor		~		EIAO-TM Annex 18	Implemented
11.4.1 and SENTX latest design	LV9	During the preparation of the detailed landscape design plan, the design submission will be audited against the recommendation proposed in the <i>ER</i> <i>Report</i> by the Registered Landscape Architect from the ET.	To ensure the implementation of mitigation measures proposed in this EIA Report	SENTX Site	SENTX Contractor/E T	~	✓		EIAO-TM Annex 18	Implemented

Annex C

Monitoring Schedule for This Reporting Period

South East New Territories (SENT) Landfill Extension EM&A Impact Monitoring Schedule during Construction Phase

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

June 2021

Note:

Impact dust monitoring will be conducted at two monitoring stations (DM1 and DM2) under the on-going EM&A programme TKO Area 137 Fill Bank and the results will be shared with SENTX.

Air Quality

Calibration Certificates for Dust Monitoring Equipment



東業德勤測試顧問有限公司 **ETS-TESTCONSULT LTD**.

8/F Block B Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

T +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com

Calibration Report of

High Volume Air Sampler

Manufacturer : Graseb		Graseby 105	Date of Calibration		24 Ma	24 May 2021		
Serial No.	:	9795 (ET/EA/003/18)	Calibration Due Date		<u>23 Ju</u>	y 2021		-
Method	:	Five-point calibration by using sta Operations Manual	andard calibration kit Tisch TE-)25A refe	er to the		
Poculto		Flow recorder reading (cfm)	48	43	35	32	28]

756.81 mm Hg

Results

Sampler 9795 Calibration Curve Site: Tseung Kwan O 137 (TKO-A1)

1.67

1.49

Temp. :

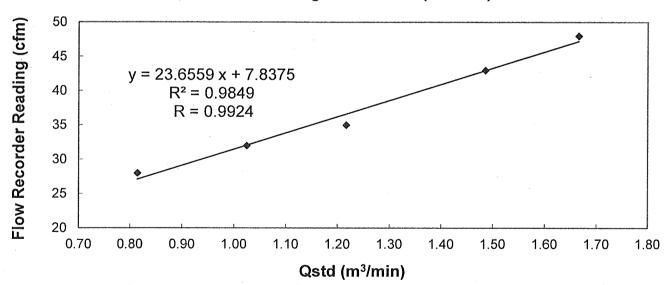
1.22

303

1.02

Κ

0.81



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / does not comply* with the specified requirements and is deemed acceptable*/ unacceptable* for use.

Calibrated by :

Qstd (Actual flow rate, m³/min)

Pressure :

LIAO, Yun Chao (Technician)

Checked by :

LAU, Chi Leung (Environmental Team Leader)

- END OF REPORT -



東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

8/F Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fo Tan, Hong Kong

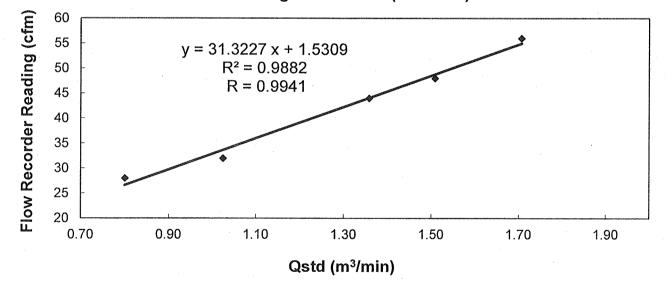
T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com

<u>Calibration Report</u> of

High Volume Air Sampler

Manufacturer	:	Andersen G1051	Date of Calib	oration	:	24 M	ay 2021	
Serial No.	:	1176 (ET/EA/003/05)	A / 003 / 05) Calibration Due Date : 23 July 2021					
Method	•	Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A						
Results	:	Flow recorder reading (cfm)	56	48		44	32	28
		Qstd (Actual flow rate, m ³ /min)	1.71	1.51		1.36	1.02	0.80
		Pressure : 756.81 mm H	łg	Temp. :		303	к	

Sampler 1176 Calibration Curve Site: Tseung Kwan O 137 (TKO-A2a)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / does not comply* with the specified requirements and is deemed acceptable* / unacceptable * for use.

Calibrated by :

LIAO, Yun Chao (Technician)

Checked by LAU, Chi Leung

(Environmental Team Leader)

- END OF REPORT -

24-hour TSP Monitoring Results

Start Date	Start Time	Finish Date	Finish Time	Weather	24-hour TSP (µg/m3)
5 Jun 21	8:00	6 Jun 21	8:00	Rainy	102
11 Jun 21	14:45	12 Jun 21	14:45	Rainy	114
17 Jun 21	8:30	18 Jun 21	8:30	Rainy	109
23 Jun 21	16:32	24 Jun 21	16:32	Rainy	97
29 Jun 21	10:40	30 Jun 21	10:40	Rainy	107
				Average	106
				Min	97
				Max	114
Note:					
DM1 corres	ponds to the	existing TSP 1	nonitoring stat	ion TKO-A1 c	urrently operating by

Table D2.124-hour TSP Monitoring Results at DM1

CEDD.

Figure D2.1 Graphical Presentation for 24-hr TSP Monitoring at DM1

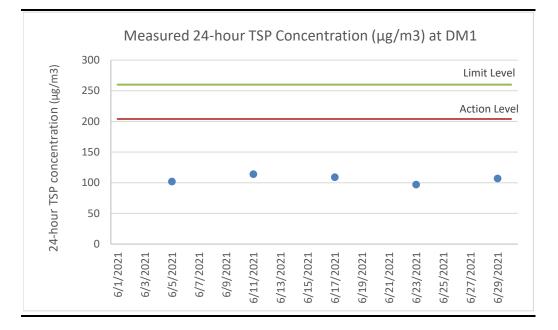
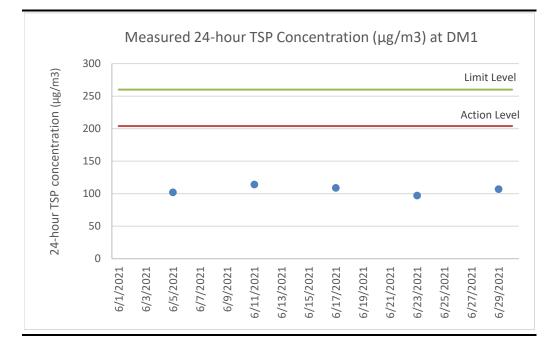


Table D2.2	24-hour TSP Monitoring Results at DM2
------------	---------------------------------------

Start Date	Start Time	Finish Date	Finish Time	Weather	24-hour TSP (µg/m3)
5 Jun 21	8:00	6 Jun 21	8:00	Rainy	91
11 Jun 21	15:00	12 Jun 21	15:00	Rainy	106
17 Jun 21	8:30	18 Jun 21	8:30	Rainy	100
23 Jun 21	16:26	24 Jun 21	16:26	Rainy	88
29 Jun 21	10:48	30 Jun 21	10:48	Rainy	99
				Average	97
				Min	88
				Max	106
Note:					
	nonde to the	uistin a TCD a	:		urrently operating

DM2 corresponds to the existing TSP monitoring station TKO-A2a currently operating by CEDD.

Figure D2.2 Graphical Presentation for 24-hr TSP Monitoring at DM2



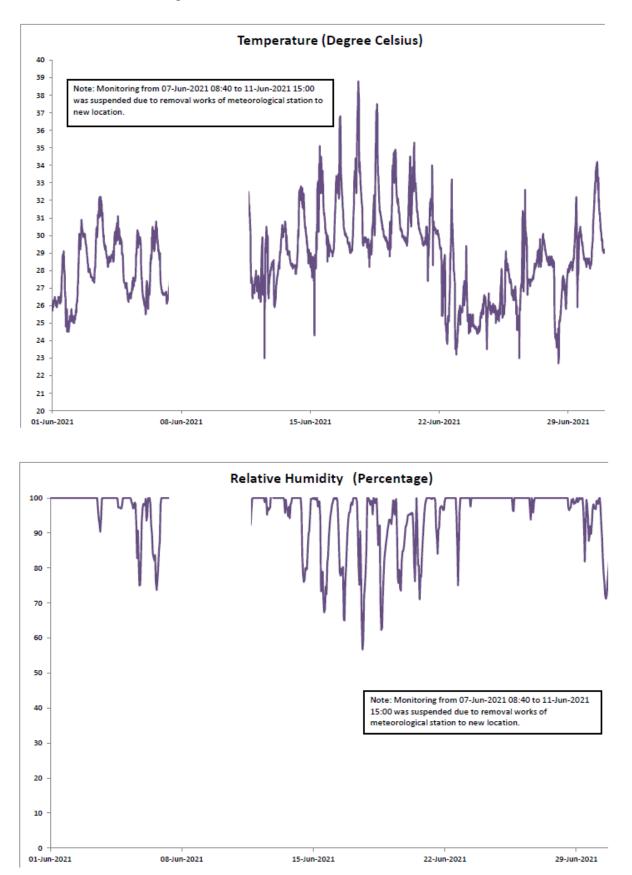
Event and Action Plan for Dust Monitoring

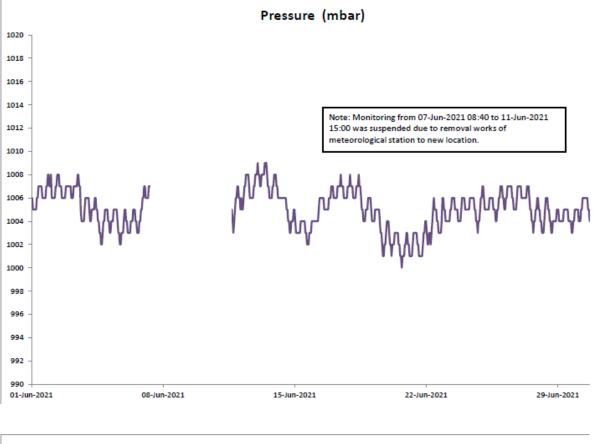
Action										
Event	ET	IEC	Contractor							
Action Level										
Exceedance for one sample	 Identify the source(s) and investigate the cause(s) of exceedance Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC and Project Proponent whether the cause of exceedance is due to the Project Repeat measurement to confirm finding if exceedance is due to the Project Increase monitoring frequency to daily if exceedance is due to the Project and continue until the monitoring results reduce to below action level 	 Verify the Notification of Exceedance Check monitoring data submitted by ET Check Contractor's working methods 	 Rectify any unacceptable practice Amend working methods if appropriate 							
Exceedance for two or more consecutive samples	 Identify the source(s) and investigate the cause(s) of exceedance Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC and Project Proponent whether the cause of exceedance is due to the Project Discuss with Contractor and IEC for remedial measures required Ensure remedial measures are properly implemented If exceedance continues, arrange meeting with Contractor & IEC Continue monitoring at daily intervals if exceedance is due to the Project If no exceedance for 3 consecutive days, cease additional monitoring 	Check monitoring data submitted by ET	 Submit proposals for remedial measures to IEC Implement the agreed proposals Amend proposal if appropriate 							

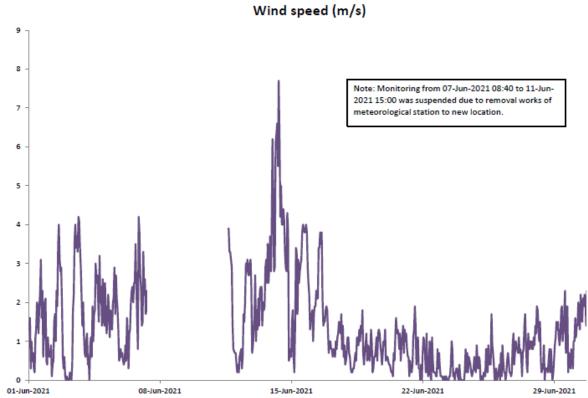
Annex D3 Event and Action Plan for Dust Monitoring During Construction Phase

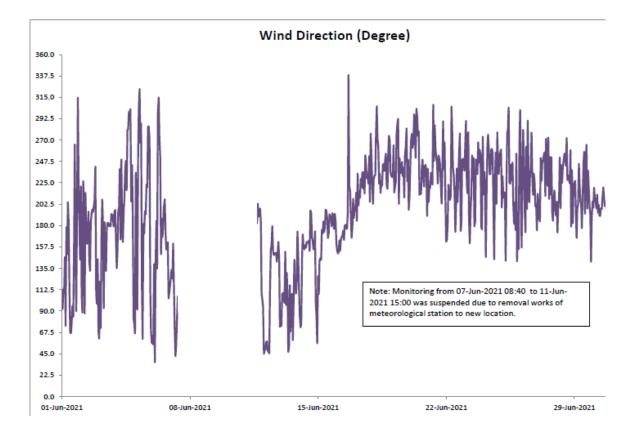
Action								
Event	ET	IEC	Contractor					
Limit Level								
Exceedance for one sample	 Identify the source(s) and investigate the cause(s) of exceedance Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC, Project Proponent and EPD whether the cause of exceedance is due to the Project Discuss with Contractor and IEC for remedial measures required Ensure remedial measures are properly implemented Repeat measurement to confirm finding if exceedance is due to the Project Increase monitoring frequency to daily if exceedance is due to the Project and continue until the monitoring results reduce to below limit level 	Check monitoring data submitted by ETCheck Contractor's working methods	 Take immediate action to avoid further exceedance Submit proposals for remedial measures to IEC Implement the agreed proposals Amend proposal if appropriate 					
Exceedance for two or more consecutive samples	 Identify source(s) and investigate the cause(s) of exceedance Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC, Project Proponent and EPD the causes & actions taken for the exceedances Discuss with Contractor and IEC for remedial measures required Ensure remedial measures are properly implemented Continue monitoring at daily intervals if exceedance is due to the Project If no exceedance for 3 consecutive days, cease additional monitoring If exceedance due to the Project continues, consider what portion of the work is responsible and stop that portion of work until the exceedance is abated 		 Take immediate action to avoid further exceedance Submit proposals for remedial measures to IEC Implement the agreed proposals Resubmit proposals if problem still not under control 					

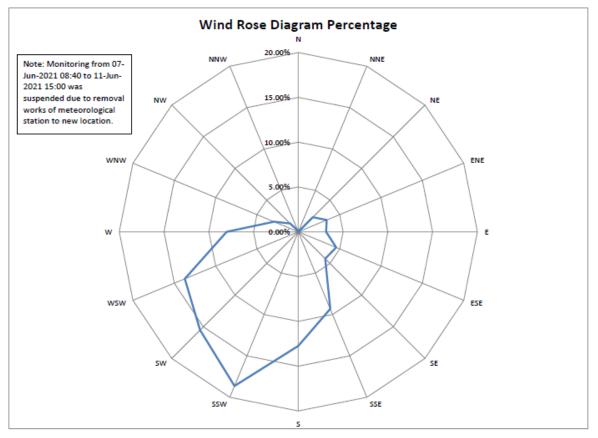
Meteorological Data

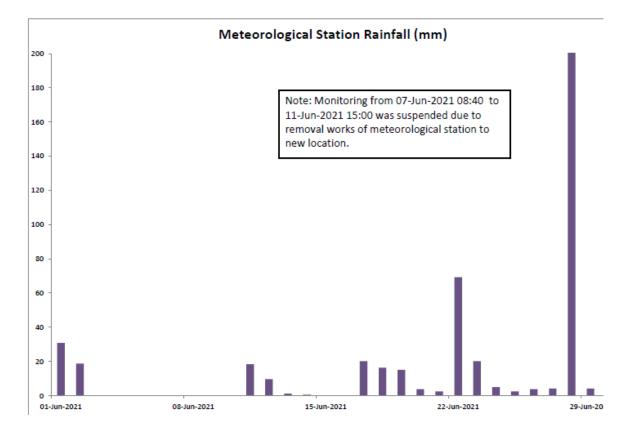












Daily Extract of Meteorological Observations , June 2021

Back Year 2021 V Month 6 V Go

	Hong Kong Observatory										
Day		Air Temperature				Mara Balatina	Mean				
	Mean Pressure (hPa)	Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)	Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Amount of Cloud (%)	Total Rainfall (mm)			
01	1006.6	29.3	26.5	24.1	24.9	91	92	45.8			
02	1006.9	31.3	28.3	25.0	25.5	85	85	2.4			
03	1006.3	34.0	30.3	27.9	25.8	77	63	0.0			
04	1004.7	29.8	28.4	26.7	25.5	84	87	7.5			
05	1004.3	29.2	27.3	25.6	21.8	73	80	Trace			
06	1004.6	31.4	28.2	26.4	23.0	74	64	Trace			
07	1007.3	32.2	28.7	26.6	24.5	78	68	Trace			
08	1008.0	33.5	29.3	26.5	25.3	79	84	0.9			
09	1007.2	29.9	27.9	26.4	25.5	87	88	48.6			
10	1005.6	32.8	28.8	25.5	25.5	83	82	29.4			
11	1005.4	32.9	29.1	26.7	25.7	82	85	31.2			

Note: At the time of reporting, the daily extract of meteorological observations at Tseung Kwan O Station (the nearest weather station monitoring prevailing wind direction and mean wind speed) in June 2021 are not available on Hong Kong Observatory website.

Annex E

Noise

Annex E1

Calibration Certificates for Noise Monitoring Equipment



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C203574 證書編號

ITEM TESTED / 送檢項目	(Job No. / 序引編號:IC20-1324)	Date of Receipt / 收件日期:19 June 2020
Description / 儀器名稱 :	Integrating Sound Level Meter (EQ009)	
Manufacturer / 製造商 :	Brüel & Kjær	
Model No. / 型號 :	2238	
Serial No. / 編號 :	2285722	
Supplied By / 委託者 :	Action-United Environmental Services and G	Consulting
	Unit A, 20/F., Gold King Industrial Building	· · · · · · · · · · · · · · · · · · ·
	35-41 Tai Lin Pai Road, Kwai Chung, N.T.	

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 : 29 June 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. 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

K P Cheuk

Assistant Engineer

KC Lee Engineer

Certified By 核證 Date of Issue 簽發日期 :

6 July 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



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No.: C203574 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 laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- 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 Self-calibration

	UUT S	Setting	Applied	Value	UUT	
Range	Parameter	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
52 - 132	L _{AFP}	А	F	94.00	1	93.8

6.1.1.2 After Self-calibration

	UUT Setting					d Value	UUT	IEC 60651
	Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
÷ .	(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
	52 - 132	L _{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied	d Value	UUT
Range	Parameter	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
52 - 132	L _{AFP}	Α	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : \pm 0.4 dB per 10 dB step and \pm 0.7 dB for overall different.

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/傅真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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.



輝創工程有限公司 Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No.: C203574 證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

	UUT Setting Applied Value UUT IEC 60651								
		Applie	d Value	UUT	IEC 60651				
Range	Parameter	Frequency	Time	Level Freq.		Reading	Type 1 Spec.		
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)		
52 - 132	L _{AFP}	Α	F	94.00	1	94.0	Ref.		
	L _{ASP}		S			94.0	± 0.1		
	L _{AIP}		Ι			94.1	± 0.1		

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting					lied Value	UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Level Burst		Type 1 Spec.
(dB)		Weighting	Weighting	(dB)	Duration	(dB)	(dB)
32 - 112	L _{AFP}	А	F	106.0	Continuous	106.0	Ref.
	L _{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L _{ASP}		S		Continuous	106.0	Ref.
	L _{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Appl	ied Value	UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
52 - 132	L _{AFP}	А	F	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	$+1.2 \pm 1.0$
					4 kHz	95.0	$+1.0 \pm 1.0$
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

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。



輝創工程有限公司 Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C203574 證書編號

6.3.2 C-Weighting

	UUT Setting			Appl	ied Value	UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
52 - 132	L _{CFP}	С	F	94.00	31.5 Hz	90.9	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	$\textbf{-0.8} \pm 1.0$
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

1 mile Av	Time Averaging									
	UUT Setting			Applied Value					UUT	IEC 60804
Range	Parameter	Frequency	Integrating	Frequency	Burst	Burst	Burst	Equivalent	Reading	Type 1
(dB)		Weighting	Time	(kHz)	Duration	Duty	Level	Level	(dB)	Spec.
					(ms)	Factor	(dB)	(dB)		(dB)
32 - 112	L _{Aeq}	А	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^{2}$		90	89.6	± 0.5
			60 sec.			$1/10^{3}$		80	79.1	± 1.0
			5 min.			1/104		70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812706

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :	94 dB : 31.5 Hz - 125 Hz 250 Hz - 500 Hz 1 kHz	: ± 0.30 dB : ± 0.20 dB
	2 kHz - 4 kHz 8 kHz	$\pm 0.35 \text{ dB}$ $\pm 0.45 \text{ dB}$
	12.5 kHz 104 dB : 1 kHz	: ± 0.70 dB : ± 0.10 dB (Ref. 94 dB)
	114 dB : 1 kHz	$\pm 0.10 \text{ dB}$ (Ref. 94 dB) $\pm 0.10 \text{ dB}$ (Ref. 94 dB)
	Burst equivalent level	$\pm 0.2 \text{ dB}$ (Ref. 110 dB continuous sound level)

- 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.

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

Certificate of Calibration 校正證書

Certificate No. : C210403 證書編號

ITEM TESTED / 送檢項目] (Job No. / 序引編號:IC20-1324)	Date of Receipt / 收件日期: 19 January 2021
Description / 儀器名稱 :	Sound Level Meter (EQ067)	
Manufacturer / 製造商 :	Rion	
Model No. / 型號 :	NL-31	
Serial No. / 編號 :	00410221	
Supplied By / 委託者 :	Action-United Environmental Services	and Consulting
	Unit A, 20/F., Gold King Industrial Bui	lding,
	35-41 Tai Lin Pai Road, Kwai Chung, N	N.T.

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 : 21 January 2021

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only. The results do not exceed manufacturer's specification. 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

K P Cheuk Assistant Engineer

Certified By 核證

K C Lee Engineer

Date of Issue 簽發日期 :

21 January 2021

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. : C210403 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 was performed before the test.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

Equipment IDDescriptionCertificate No.CL28040 MHz Arbitrary Waveform GeneratorC210084CL281Multifunction Acoustic CalibratorCDK1806821

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

UUT Setting				Applied Value		UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 120	L _A	А	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

	UUT Setting				Value	UUT
Range	Mode	e Frequency Time		Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 120	L _A	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.

6.2 Time Weighting

	UUT Setting			Applied Value		UUT	IEC 61672 Class 1
Range	Range Mode Frequency Time				Freq.	Reading	Spec.
(dB)	-	Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 120	L _A	А	Fast	94.00	1	94.0	Ref.
			Slow			93.9	± 0.3

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

Certificate of Calibration 校正證書

Certificate No. : C210403 證書編號

Frequency Weighting 6.3

6.3.1 A-Weighting

<u> </u>	it worghting	2						
	UUT Setting					Applied Value		IEC 61672 Class 1
	Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
	(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
	30 - 120	L _A	А	Fast	94.00	63 Hz	67.7	-26.2 ± 1.5
						125 Hz	77.8	-16.1 ± 1.5
						250 Hz	85.3	-8.6 ± 1.4
						500 Hz	90.7	-3.2 ± 1.4
						1 kHz	94.0	Ref.
						2 kHz	95.2	$+1.2 \pm 1.6$
						4 kHz	95.1	$+1.0 \pm 1.6$
						8 kHz	93.0	-1.1 (+2.1 ; -3.1)
						12.5 kHz	90.1	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

		Γ Setting		Applied Value		UUT	IEC 61672 Class 1
Range	Mode	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 120	L _C	С	Fast	94.00	63 Hz	93.1	$\textbf{-0.8} \pm 1.5$
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	93.9	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.9	-0.2 ± 1.6
					4 kHz	93.3	-0.8 ± 1.6
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					12.5 kHz	88.3	-6.2 (+3.0 ; -6.0)

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

Certificate of Calibration 校正證書

Certificate No. : C210403 證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 322551

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value : 94 dB	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
	B : 1 kHz: ± 0.10 dB (Ref. 94 dB)B : 1 kHz: ± 0.10 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.

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。

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. : C204289 證書編號

ITEM TESTED / 送檢項目	(Job No. / 序引編號:IC20-1324)	Date of Receipt / 收件日期: 30 July 2020
Description / 儀器名稱 :	Sound Calibrator (EQ086)	
Manufacturer / 製造商 :	Rion	
Model No. / 型號 :	NC-74	
Serial No. / 編號 :	34657230	
Supplied By / 委託者 :	Action-United Environmental Services and	Consulting
	Unit A, 20/F., Gold King Industrial Building	g,
	35-41 Tai Lin Pai Road, Kwai Chung, N.T.	

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 : 2 August 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. 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

K C Lee Engineer

H T Wong Assistant Engineer

Certified By 核證 Date of Issue 簽發日期

:

3 August 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 Page 1 of 2



Certificate of Calibration 校正證書

Certificate No. : C204289 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	Description	Certificate No.
CL130	Universal Counter	C203952
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	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	94.1	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's	Uncertainty of Measured Value
(kHz)	(kHz)	Spec.	(Hz)
1	1.002	$1 \text{ kHz} \pm 1 \%$	± 1

Remark : 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.

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。

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.

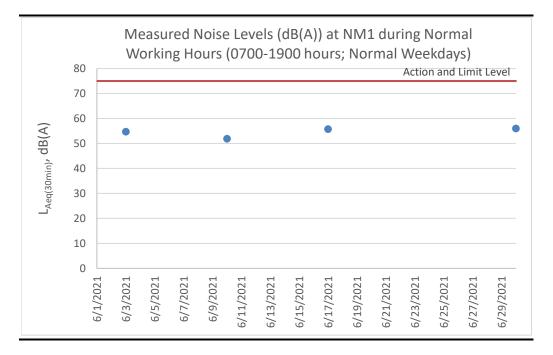
Annex E2

Noise Monitoring Results

Date	Start Time	Finish Time	Weather	L _{10 (30min)}	L90 (30min)	Leq (30min)	
3 Jun 21	15:03	15:33	Sunny	56.0	52.5	54.7	
10 Jun 21	15:17	15:47	Sunny	53.6	46.9	51.9	
17 Jun 21	15:20	15:50	Sunny	57.7	53.1	55.7	
24 Jun 21	NA	NA	Rainy	Monitoring was cancelled due to adverse weather.			
30 Jun 21	15:01	15:31	Sunny	58.0	53.3	56	
					Average	e 54.6	
					Mir	1 51.9	
					Max	x 56.0	

Table E2.1Measured Noise Levels (dB(A)) at NM1 during Normal Working Hours (0700-
1900 hours; Normal Weekdays)

Figure E2.1 Graphical Presentation for Noise Monitoring at NM1



Annex E3

Event and Action Plan for Noise Monitoring

Event		Action	
	ET	IEC	Contractor
Action Level	and complaint	 Verify the Notification of Exceedance Check monitoring data submitted by ET Discuss with ET and Contractor on proposed remedial measures Review proposals on remedial measures Audit the implementation of the remedial measures Audit the effectiveness of the implemented remedial measures 	Submit proposals for remedial measures to IECImplement the agreed proposals
Limit Level	Identify the source(s) and investigate the cause(s) of exceedance and complaint Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC, Project Proponent and EPD whether the cause of exceedance is due to the Project Analyse the operation of SENTX and investigate the causes of exceedance Provide interim report to Contractor, IEC, Project Proponent and EPD the causes of the exceedances Discuss with Contractor and IEC for remedial measures required Ensure remedial measures are properly implemented Report the remedial measures implemented and the additional monitoring results to Contactor, IEC, Project Proponent and EPD Have additional monitoring if exceedance is due to the Project. If exceedance stops, cease additional monitoring	 Verify the Notification of Exceedance Check monitoring data submitted by ET Discuss with ET and Contractor on proposed remedial measures Review proposals on remedial measures Audit the implementation of the remedial measures Audit the effectiveness of the implemented remedial measures 	 Take immediate measures to avoid further exceedance Submit proposals for remedial measures to IEC within 3 working days of notification Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant activity of works as determined by the Project Proponent until the exceedance is abated

Annex E3 Event and Action Plan for Construction Noise

Annex F

Surface Water Quality

Annex F1

Calibration Certificates for Surface Water Quality Monitoring Equipment



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:	HK2115892
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 21-Apr-2021 28-Apr-2021

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.:	[17B102764/17B100758]/ [EQW019]
Date of Calibration:	27-April-2021

GENERAL COMMENTS

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

ha A

Mr Chan Siu Ming, Vico Manager - Inorganic

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:	HK2115892		A	
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 28-Apr-2021 ACTION UNITED ENVIRONMEN	T SERVICES AND CONSULTING		
Equipment Type:	Multifunctional Meter			
Brand Name/ Model No.:	[YSI]/ [Professional DSS]			
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EC	2W019]		
Date of Calibration:	27-April-2021	Date of Next Calibration:	27-July-2021	

PARAMETERS:

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

Expected Reading (µS/cm)	Displayed Reading (µ S/cm)	Tolerance (%)	
146.9	153.2	+4.3	
6667	6371	-4.4	
12890	12944	+0.4	
58670	58393	-0.5	
	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)
3.52	3.50	-0.02
5.94	5.87	-0.07
7.12	7.08	-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.O	4.10	+0.10	
7.0	7.16	+0.16	
10.0	9.89	-0.11	
	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.

Ma Siz

Mr Chan Siu Ming, Vico Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:	HK2115892		A	
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 28-Apr-2021 ACTION UNITED ENVIRONMEN	T SERVICES AND CONSULTING		
Equipment Type:	Multifunctional Meter			
Brand Name/ Model No.:	[YSI]/ [Professional DSS]			
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EC	2W019]		
Date of Calibration:	27-April-2021	Date of Next Calibration:	27-July-2021	

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.64	
4	4.04	+1.0
40	38.66	-3.4
80	80.07	+ O. 1
400	392.82	-1.8
800	802.32	+0.3
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.02	
10	10.56	+5.6
20	19.50	-2.5
30	30.30	+1.0
	Tolerance Limit (%)	±10.0

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

Ma Ain

Mr Chan Siu Ming, Vico Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER:	HK2115892			ALS
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 28-Apr-2021 ACTION UNITED ENVIRONMEN	T SERVICES AND CONSULTING		
Equipment Type:	Multifunctional Meter			
Brand Name/ Model No.:	[YSI]/ [Professional DSS]			
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EQ	W019]		
Date of Calibration:	27-April-2021	Date of Next Calibration:	27-July-2021	
PARAMETERS:				

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure

Guide No. 3 Second edition March 2008. Working memometer campration Procedure.			
Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)	
10.5	10.3	-0.2	
21.0	20.8	-0.2	
40.5	40.1	-0.4	
	Tolerance Limit (°C)	±2.0	

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

Ma Ali

Mr Chan Siu Ming, Vico Manager - Inorganic

Annex F2

Surface Water Quality Monitoring Results

Table F2.1Surface Water Quality Monitoring Results at DP4T

Date	Time	Weather	Water	Water	Water	Dissolved	pН	Suspended	Remarks
		Condition	Appearance	Condition	Temperature	Oxygen (DO)		Solids (SS)	
					(oC)	(mg/L)		(mg/L)	
3 Jun 21	14:23	Sunny	Light yellow	Semi clear	28.3	7.28	8.84	32.3	-
3 Jun 21	14:26	Sunny	Light yellow	Semi clear	28.3	7.34	8.82	-	DP4T (Remeasurement)
3 Jun 21	14:35	Sunny	Light yellow	Semi clear	28.4	7.29	8.82	32.0	DP4T (Duplicate)
3 Jun 21	14:38	Sunny	Light yellow	Semi clear	28.3	7.35	8.82	-	DP4T (Duplicate) (Remeasurement)
10 Jun 21	14:29	Sunny	Light yellow	Semi clear	29.5	8.06	8.61	10.6	-
10 Jun 21	14:30	Sunny	Light yellow	Semi clear	29.3	8.06	8.61	-	DP4T (Remeasurement)
10 Jun 21	14:37	Sunny	Light yellow	Semi clear	29.4	8.06	8.58	10.2	DP4T (Duplicate)
10 Jun 21	14:39	Sunny	Light yellow	Semi clear	29.4	7.99	8.56	-	DP4T (Duplicate) (Remeasurement)
17 Jun 21	14:36	Sunny	Light yellow	Semi clear	29.9	7.80	8.48	7.1	-
17 Jun 21	14:38	Sunny	Light yellow	Semi clear	29.8	7.85	8.50	-	DP4T (Remeasurement)
17 Jun 21	14:45	Sunny	Light yellow	Semi clear	29.8	7.79	8.50	7.2	DP4T (Duplicate)
17 Jun 21	14:49	Sunny	Light yellow	Semi clear	29.7	7.79	8.47	-	DP4T (Duplicate) (Remeasurement)
24 Jun 21	15:50	Rainy		Unable to d	collect water sam	ple due to insuff	icient flow		-
30 Jun 21	14:26	Sunny		Unable to d	collect water sam	ple due to insuff	icient flow		-
					Average	7.72	8.63	16.6	-
					Min	7.28	8.47	7.1	-
					Max	8.06	8.84	32.3	-

Date	Time	Weather Condition	Water Appearance	Water Condition	Water Temperature (oC)	Dissolved Oxygen (DO) (mg/L)	рН	Suspended Solids (SS) (mg/L)	Remarks
3 Jun 21	14:09	Sunny		Unable to	collect water sam	ple due to insuffi	cient flow		-
10 Jun 21	14:09	Sunny		Unable to o	collect water sam	ple due to insuffi	cient flow		-
17 Jun 21	15:05	Sunny		Unable to o	collect water sam	ple due to insuffi	cient flow		-
24 Jun 21	15:14	Rainy	Light yellow	Semi clear	26.0	7.83	9.17	83.6	-
24 Jun 21	15:16	Rainy	Light yellow	Semi clear	26.1	7.83	9.17	-	DP6 (Remeasurement)
24 Jun 21	15:24	Rainy	Light yellow	Semi clear	26.1	7.81	9.17	79.8	DP6 (Duplicate)
24 Jun 21	15:26	Rainy	Light yellow	Semi clear	26.1	7.85	9.15	-	DP6 (Duplicate) (Remeasurement)
30 Jun 21	14:08	Sunny		Unable to o	collect water sam	ple due to insuffi	cient flow		-
					Average	7.83	9.17	81.7	-
					Min	7.81	9.15	79.8	-
					Max	7.85	9.17	83.6	-

Table F2.2Surface Water Quality Monitoring Results at DP6

Figure F2.1 Graphical Presentation for Surface Water Quality Monitoring (DO)

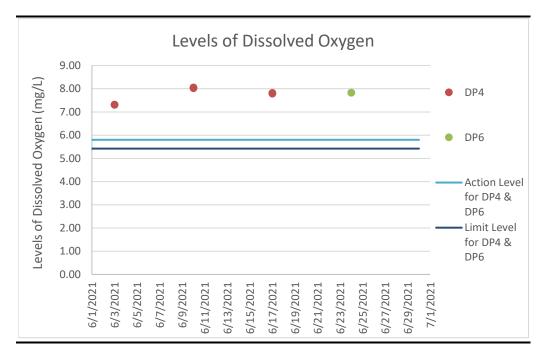
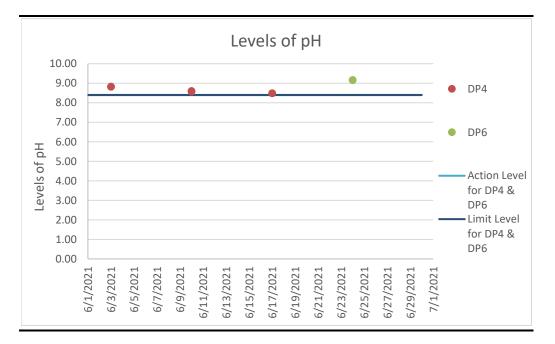
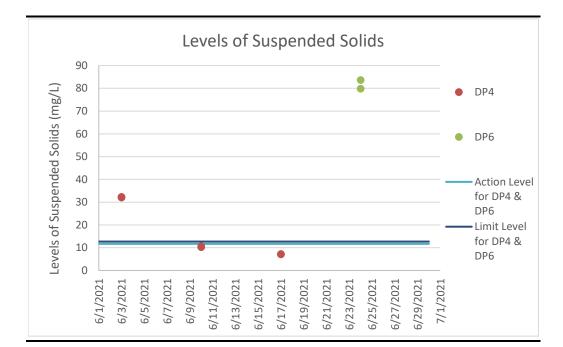


Figure F2.2 Graphical Presentation for Surface Water Quality Monitoring (pH)



ENVIRONMENTAL RESOURCES MANAGEMENT



Annex F3

Event and Action Plan for Surface Water Quality Monitoring

Event	Action						
	ET	IEC	Contractor				
Action Level being exceeded by one sampling day	 Repeat <i>in situ</i> measurement to confirm findings Identify the source(s) and investigate the cause(s) of exceedance Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC and Project Proponent whether the cause of exceedance is due to the Project Repeat measurement on the next day of exceedance if exceedance is due to the Project 	 Verify the Notification of Exceedance Check monitoring data submitted by ET Check Contractor's working methods 	 Rectify any unacceptable practice Amend working methods if appropriate 				
Action Level being exceeded by two onsecutive ampling days	 Repeat <i>in situ</i> measurement to confirm findings Identify the source(s) and investigate the cause(s) of exceedance Prepare Notification of Exceedance within 24 hours Inform Contractor, IEC and Project Proponent whether the cause of exceedance is due to the Project Discuss with Contractor and IEC for remedial measures required Ensure remedial measures are properly implemented Increase the monitoring frequency to daily if exceedance of Action Level 	 Verify the Notification of Exceedance Check monitoring data submitted by ET Check Contractor's working methods Discuss with ET Leader and Contractor on proposed remedial measures Review proposals on remedial measures Audit the implementation of the remedial measures Audit the effectiveness of the implemented remedial measures 	 Submit proposals for remedial measures to IEC Implement the agreed proposals Amend proposal if appropriate 				

Annex F3 Event and Action Plan for Surface Water Quality During Construction Phase

Event	Action					
	ET	IEC	Contractor			
Limit Level being exceeded by two consecutive sampling days	 Repeat <i>in situ</i> measurement to confirm findings Identify source(s) of impact and cause(s) of exceedance Prepare the Notification of Exceedance within 24 hours Inform Contractor, IEC, Project Proponent and EPD whether the cause of exceedance is due to the Project Discuss with Contractor and IEC for remedial measures required Ensure remedial measures are properly implemented Increase the monitoring frequency to daily if exceedance is due to the Project until no exceedance of Limit Level 	 Verify the Notification of Exceedance Check monitoring data submitted by ET Check Contractor's working methods Discuss with ET and Contractor on proposed remedial measures Review proposals on remedial measures Audit the implementation of the remedial measures Audit the effectiveness of the implemented remedial measures 	 Critically review the working methods Rectify unacceptable practice Check all plant and equipment Consider changes of working methods Discuss with the ET and IEC and propose mitigation measures to the IEC Implement the agreed mitigation measures 			
Limit Level being exceeded by more than two consecutive sampling days	 Repeat <i>in situ</i> measurement to confirm findings Identify source(s) of impact and cause(s) of exceedance Prepare the Notification of Exceedance within 24 hours Inform Contractor, IEC, Project Proponent and EPD whether the cause of exceedance is due to the Project Check monitoring data, all plant, equipment and Contractor's working methods Discuss with Contractor and IEC for remedial measures required Ensure mitigation measures are implemented Increase the monitoring frequency to daily if exceedance is due to the Project until no exceedance of Limit Level for two consecutive days 	 Verify the Notification of Exceedance Check monitoring data submitted by ET Check Contractor's working methods Discuss with ET and Contractor on proposed remedial measures Review proposals on remedial measures Audit the implementation of the remedial measures Audit the effectiveness of the implemented remedial measures 	 Critically review the working methods Rectify unacceptable practice Check all plant and equipment Consider changes of working methods Discuss with the ET and IEC and propose mitigation measures Implement the agreed mitigation measure As directed by the Project Proponent, slo down or stop all or part of the construction activities 			

Annex F4

Project	South East New Territories (SENT) Landfill Extension
Date	3 June 2021
Time	14:23 and 14:35 (Duplicate)
Monitoring Location	DP4T
Parameter	Surface Water (pH)
Action / Limit Levels	Action level: >8.39
	Limit level: >8.40
Measured Level	DP4T: 8.84 & 8.82
	DP4T (Duplicate): 8.82 & 8.82
Possible reason	From the on-site rainfall record of May and June 2021, heavy rainfall events were recorded on 31 May and 1 June 2021 before the sampling event. Red and amber rainstorm warning signal was also issued by the Hong Kong Observatory on 1 June 2021. On 1 June 2021, muddy surface water discharge and overflow from other project sites to the sediment trap leading to DP4T was observed.
	No works which may lead to potential pH increase (e.g. concreting works) was conducted in the vicinity of surface water channel leading to DP4T on the sampling day based on on-site observations and construction activities described by the Contractor. Site surface runoff collected at DP4T channel was treated by the Wetsep prior to discharge. Wetsep near DP4T was functioning properly during the sampling event.
	Environmental deficiency was not observed during the weekly site inspection on 3 June 2021 morning before the surface water monitoring. The Contractor has implemented the surface water control and mitigation measures recommended in the updated EM&A Manual.
	During the sampling event, no raining was recorded and no other sources (e.g. Clearwater Bay Country Park, other project sites) was identified in the vicinity of surface water channel leading to DP4T which might cause the pH exceedance at DP4T. There is no adequate evidence showing that the muddy surface water discharge and overflow from other project sites to the sediment trap leading to DP4T on 1 June 2021 could have contributed to the level of pH during the sampling event. The pH exceedance at DP4T was therefore deemed to Project-related activities.
	It is noted that the Water Pollution Control Ordinance (WPCO) water discharge licence was obtained by the Contractor for the operation of the Wetsep near DP4T and the allowable discharge limit for pH is 6 to 9. The treated water from the Wetsep did not exceed the WPCO discharge limit and cause any adverse water

	quality impact.
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Levels. In addition, the Contractor was reminded to review the efficiency of the Wetsep near sediment trap and monitor the Wetsep operation regularly to ensure it is functioning properly at all times.
Remarks	-

Prepared by:	Abbey Lau
Designation:	Environmental Team
Date:	12 July 2021

Project	South East New Territories (SENT) Landfill Extension
Date	3 June 2021
Time	14:23 and 14:35 (Duplicate)
Monitoring Location	DP4T
Parameter	Surface Water (Suspended Solids (SS))
Action / Limit Levels	Action level: >11.7 mg/L
	Limit level: >12.7 mg/L
Measured Level	DP4T: 32.3 mg/L
	DP4T (Duplicate): 32.0 mg/L
Possible reason	From the on-site rainfall record of May and June 2021, heavy rainfall events were recorded on 31 May and 1 June 2021 before the sampling event. Red and amber rainstorm warning signal was also issued by the Hong Kong Observatory on 1 June 2021. On 1 June 2021, muddy surface water discharge and overflow from other project sites to the sediment trap leading to DP4T was observed. No works which may lead to potential SS increase (e.g. active stockpiling and excavation works) was conducted in the vicinity of surface water channel leading to DP4T on the sampling day based on on-site observations and construction activities described by the Contractor. Site surface runoff collected at DP4T channel was treated by the Wetsep prior to discharge. Environmental deficiency was not observed during the weekly site inspection on 3 June 2021 morning. The Contractor has implemented the surface water control and mitigation measures recommended in the updated EM&A Manual. During the sampling event, no raining was recorded and no other sources (e.g. Clearwater Bay Country Park, other project sites) was identified in the vicinity of surface water channel leading to DP4T which might cause the SS exceedance at DP4T. There is no adequate evidence showing that the muddy surface water discharge and overflow from other project sites to the sediment trap leading to DP4T on 1 June 2021 could have contributed to the level of SS during the sampling event. The SS exceedance at DP4T was therefore deemed to Project-related activities.
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Level. In addition, the Contractor was reminded to review the efficiency
	In addition, the contractor was relimited to review the entitlency

	of the Wetsep near sediment trap and monitor the Wetsep operation regularly to ensure it is functioning properly at all times.
Remarks	-

Prepared by:	Abbey Lau
Designation:	Environmental Team
Date:	12 July 2021

Project	South East New Territories (SENT) Landfill Extension
Date	10 June 2020
Time	14:29 and 14:37 (Duplicate)
Monitoring Location	DP4T
Parameter	Surface Water (pH)
Action / Limit Levels	DP4T: Action level: >8.39
	Limit level: >8.40
Measured Level	DP4T: 8.61 & 8.61
	DP4T (Duplicate): 8.58 & 8.56
Possible reason	From the on-site rainfall record of June 2021, rainfall event was recorded on 9 June 2021 before the sampling event. No works which may lead to potential pH increase (e.g. concreting works) was conducted in the vicinity of surface water channel leading to DP4T on the sampling day based on on-site observations and construction activities described by the Contractor. During the sampling event, no raining was recorded and no other sources (e.g. Clearwater Bay Country Park, other project sites) was identified in the vicinity of surface water channel leading to DP4T which might cause the pH exceedance at DP4T. Surface runoff collected at DP4T channel was treated by the Wetsep prior to discharge. Yet during the sampling event, it was observed that the Wetsep near sediment trap was not functioning properly with reference to the on-site checking of the treated water at the outlet of the processing chamber of the Wetsep. The pH of the treated water collected at the outlet of the Wetsep (i.e. 8.81) exceeded the Action and Limit Level. Based on the above, the pH exceedance at DP4T was deemed to Project-related activities. However, it is noted that the Water Pollution Control Ordinance (WPCO) water discharge licence was obtained by the Contractor for the operation of the Wetsep near DP4T and the allowable discharge limit for pH is 6 to 9. The treated water from the Wetsep did not exceed the WPCO discharge
	limit and cause any adverse water quality impact.
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Level. In addition, the Contractor shall review the efficiency of the Western mean and memiliar the Watern energitien
	Wetsep near sediment trap and monitor the Wetsep operation regularly to ensure it is functioning properly at all times.

Remarks	-

Prepared by:Abbey LauDesignation:Environmental TeamDate:8 July 2021

Project	South East New Territories (SENT) Landfill Extension				
Date	17 June 2020				
Time	14:46 and 14:45 (Duplicate)				
Monitoring Location	DP4T				
Parameter	Surface Water (pH)				
Action / Limit Levels	DP4T: Action level: >8.39				
	Limit level: >8.40				
Measured Level	DP4T: 8.48 & 8.50				
	DP4T (Duplicate): 8.50 & 8.47				
Possible reason	No works which may lead to potential pH increase (e.g. concreting works) was conducted in the vicinity of surface water channel leading to DP4T on the sampling day based on on-site observations and construction activities described by the Contractor. During the sampling event, no raining was recorded and no other sources (e.g. Clearwater Bay Country Park, other project sites) was identified in the vicinity of surface water channel leading to DP4T which might cause the pH exceedance at DP4T.				
	Surface runoff collected at DP4T channel was treated by the Wetsep prior to discharge. Yet during the sampling event, it was observed that the Wetsep near sediment trap was not functioning properly with reference to the on-site checking of the treated water at the outlet of the processing chamber of the Wetsep. The pH of the treated water collected at the outlet of the Wetsep (i.e. 8.55) exceeded the Action and Limit Level.				
	Based on the above, the pH exceedance at DP4T was deemed to Project-related activities. However, it is noted that the Water Pollution Control Ordinance (WPCO) water discharge licence was obtained by the Contractor for the operation of the Wetsep near DP4T and the allowable discharge limit for pH is 6 to 9. The treated water from the Wetsep did not exceed the WPCO discharge limit and cause any adverse water quality impact.				
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Level.				
	In addition, the Contractor shall review the efficiency of the Wetsep near sediment trap and monitor the Wetsep operation regularly to ensure it is functioning properly at all times.				

Remarks		-
Propagad by:	AbborrIou	

riepared by.	Abbey Lau
Designation:	Environmental Team
Date:	8 July 2021

Project	South East New Territories (SENT) Landfill Extension				
Date	24 June 2021				
Time	15:14 and 15:24 (Duplicate)				
Monitoring Location	DP6				
Parameter	Surface Water (pH)				
Action / Limit Levels	Action level: >8.39				
	Limit level: >8.40				
Measured Level	DP6: 9.17 & 9.17				
	DP6 (Duplicate): 9.17 & 9.15				
Possible reason Action Taken / Action to be Taken	From the on-site rainfall record of June 2021, heavy rainfall events were recorded on 21 to 24 June 2021 before the sampling event. Amber rainstorm warning signals were also issued by the Hong Kong Observatory on 22, 23 and 24 June 2021. No works which may lead to potential pH increase (e.g. concreting works) was conducted in the vicinity of surface water channel leading to DP6 on the sampling day based on on-site observations and construction activities described by the Contractor. Environmental deficiency was observed during the weekly site inspection on 24 June 2021 morning. Surface water collected at DP6 channel was not treated by the Wetsep prior to discharge. The untreated surface water discharged at DP6 could be the potential source of pH contributing to the exceedance. Based on the above, the pH exceedance at DP6 was deemed to Project-related activities. Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Levels.				
	In addition, the Contractor shall ensure that all surface water at DP6 is treated before discharge and the Wetsep is functioning properly at all times.				
Remarks	-				

Prepared by:Abbey LauDesignation:Environmental TeamDate:9 July 2021

Project	South East New Territories (SENT) Landfill Extension				
Date	24 June 2021				
Time	15:14 and 15:24 (Duplicate)				
Monitoring Location	DP6				
Parameter	Surface Water (Suspended Solids (SS))				
Action / Limit Levels	Action level: >11.7 mg/L				
	Limit level: >12.7 mg/L				
Measured Level	DP6: 83.6 mg/L				
	DP6 (Duplicate): 79.8 mg/L				
Possible reason	From the on-site rainfall record of June 2021, heavy rainfall events were recorded on 21 to 24 June 2021 before the sampling event. Amber rainstorm warning signals were also issued by the Hong Kong Observatory on 22, 23 and 24 June 2021. No works which may lead to potential SS increase (e.g. active stockpiling and excavation works) was conducted in the vicinity of surface water channel leading to DP6 on the sampling day based on on-site observations and construction activities described by the Contractor.				
	Environmental deficiency was observed during the weekly site inspection on 24 June 2021 morning. Surface water collected at DP6 was not treated by the Wetsep prior to discharge. Based on the above, the SS exceedance at DP6 was deemed to Project-related activities.				
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&A Manual to avoid any exceedance of the Action and Limit Levels. In addition, the Contractor shall ensure that all surface water at DP6 is treated before discharge and the Wetsep is functioning properly at all times.				
Remarks	-				
Prepared by: <u>Abbey Lau</u>	1 T				
Designation: Environmenta	li Team				
Date: 9 July 2021					

Annex G

Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecutions

Table G1Cumulative Statistics on Exceedances

		Total No. recorded in this reporting period	Total No. recorded since project commencement
Air Quality (24-hr TSP)	Action	0	0
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Surface Water Quality	Action	0	0
	Limit	6	54

Table G2Cumulative Statistics on Complaints, Notifications of Summons and Successful
Prosecutions

Reporting Period	Cumulative Statistics			
_	Complaints	Notifications of Summons	Prosecutions	
This Reporting Period (1 - 30 Jun 2021)	0	0	0	
Total no. received since project commencement	1	0	0	

Annex H

Monitoring Schedule for the Next Reporting Period

South East New Territories (SENT) Landfill Extension EM&A Impact Monitoring Schedule during Construction Phase

<u>Sun</u>	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
	Dust Monitoring			Surface Water Monitoring (pm)		
				Noise Monitoring (pm)		
11	12	13	14		16	
Dust Monitoring				Surface Water Monitoring (pm)		Dust Monitoring
				Noise Monitoring (pm)		
18	19	20	21	22	23	24
				Surface Water Monitoring (pm)	Dust Monitoring	
				Noise Monitoring (pm)		
25	26	27	29	20	20	21
25	26	27	28	29 Surface Water Monitoring (pm)	30	31
				Noise Monitoring (pm)		
				Dust Monitoring		

July 2021

Note:

Impact dust monitoring will be conducted at two monitoring stations (DM1 and DM2) under the on-going EM&A programme TKO Area 137 Fill Bank and the results will be shared with SENTX.