



Monthly EM&A Report (September 2022)

0185/21/ED/0433 04

Sai O Trunk Sewer Sewage Pumping Station

10 February 2023

By Fax (2827 0485)

Sun Hung Kai Properties Ltd.
42/F., Sun Hung Kai Centre
30 Harbour Road, Wan Chai, Hong Kong

Attention: Mr. Sunny Cheung

Dear Sir,

**Re: Sai O Trunk Sewer Sewage Pumping Station
Environmental Permit No. EP-597/2021
Monthly EM&A Report (September 2022)**

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for September 2022 (ET's ref.:0185/21/ED/0433 04) certified by the ET Leader and provided to us via e-mail on 11 January 2023.

We are pleased to inform you that we have no further comments on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 of EP-597/2021 and Section 12.4.1.1 of EM&A Manual for the captioned project.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours sincerely,
For and on behalf of
Ramboll Hong Kong Ltd.



Y H Hui
Independent Environmental Checker

c.c.	AECOM	Ms. Janice Tam / Mr. CK Man	(By Fax: 3894 5801)
	Fugro	Mr. Calvin Leung	(By Fax: 2450 6138)
	SGJV	Mr. Eddie Tse	(By Fax: 3894 5801)

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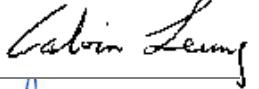
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Client Information

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Client Contact	Mr. Sunny Cheung

Environmental Team

Initials	Name	Role	Signature
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WC	Roy W.C. Cheung	Assistant Environmental Consultant	
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EXECUTIVE SUMMARY

- i. This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Sai O Trunk Sewer Sewage Pumping Station. Light Time Investments Limited has appointed Fugro Technical Services Limited (FTS) to undertake the Environmental Team services for the project and implement the EM&A works.
- ii. This is the 8th Monthly EM&A Report for the Project which summaries findings of the EM&A programme during the reporting period from 1 September 2022 to 30 September 2022.

Breaches of Environmental Quality Performance Limits (Action & Limit levels)

- iii. No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting month.
- iv. No corrective actions were required according to the Event-Action Plans.

Complaint Log

- v. No complaints were received in the reporting period.

Notifications of any Summons and Successful Prosecutions

- vi. No notifications of summons and prosecutions were received in the reporting period.

Reporting Change

- vii. There were no reporting changes during the reporting month.

Future Key Issues

- viii. The main works will be anticipated in the next month are as follow:

Pump Room - ELS

- Install S1, cast concrete packing
- Excavate to 500mm below S2
- Install S2, cast concrete packing

Rising Main and Gravity Sewer

- Clutch pipe pile
- Instrumentation, dewatering well and pumping station

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1. INTRODUCTION

1.1 Background

1.1.1 The proposed Sai O Trunk Sewer Sewage Pumping Station (Sai O Trunk Sewer SPS) is a part of Public Works Programme Item 4125DS - Tolo Harbour Sewerage of Unsewered Areas, Stage II, is a core component of the proposed trunk sewerage system in Ma On Shan along Sai Sha Road. It is required to receive all sewage flows along Sai Sha Road from Kei Ling Ha Lo Wai to Cheung Muk Tau and the adjacent residential development, health care institution and education institutions, and then convey the sewage to Sha Tin Sewage Treatment Works.

1.1.2 Based on the latest design, the installed capacity per day of the proposed Sai O Trunk Sewer SPS is about 20,600m³ for coping with the sewerage needs of both existing and future developments. Location of the proposed Sai O Trunk Sewer SPS is shown in **Figure 1.1**.

1.1.3 The proposed Sai O Trunk Sewer SPS include the following main components:

- Loading/unloading bay
- Inlet chamber
- Coarse screen channel
- Distribution chamber
- Wet wells
- Valve chamber
- Emergency storage tank
- Deodorizing unit
- Switch room
- Transformer room

1.1.4 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) for which Environmental Impact Assessment (EIA) report and Environmental Monitoring and Audit (EM&A) Manual was approved by EPD (Register No.: AEIAR-230/2021) on 4 June 2021. The Environmental Permit (EP) (EP No. EP-597/2021) was issued by EPD on 28 September 2021.

1.1.5 Fugro Technical Services Limited (FTS) has been appointed as the Environmental Team (ET) by Light Time Investments Limited to undertake the Environmental Team services for the Project and implement the EM&A works under Sai O Trunk Sewer Sewage Pumping Station (hereinafter referred as "the Project").

1.1.6 This is the 8th Monthly EM&A report to document the findings of site inspection activities and EM&A programme for this project from 1 September 2022 to 30 September 2022 (reporting period) and is submitted to fulfil Condition 3.4 of the EP and Section 12.4 of the EM&A Manual. According to Condition 4 of the EP, electronic reporting is provided on the internet website to facilitate public inspection of the report.

1.2 Project Organization

1.2.1 The Project Organization structure is shown in **Appendix A**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Table 1.1 – Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Proponent (PP) (Light Time Investments Ltd.)	Senior Project Manager	Mr. Sunny Cheung	3894 5934
Engineer's Representative (ER) (AECOM Asia Co. Ltd.)	Senior Resident Engineer	Mr. C.K. Man	3894 5919
Independent Environmental Checker (IEC) (Ramboll Hong Kong Ltd.)	Independent Environmental Checker	Mr. Y.H. Hui	3465 2888
Contractor (Sanfield-Gammon Construction JV Company Ltd.)	Environmental Officer	Ms. Carrie Kwan	3894 5816
Environmental Team (ET) (Fugro Technical Services Ltd.)	Environmental Team Leader (ETL)	Mr. Calvin Leung	3565 4441

1.3 Construction Programme and Activities

1.3.1 The construction programme of this project is shown in **Appendix B**.

1.4 Works undertaken during the month

1.4.1 Major construction activities were undertaken in the reporting month were:

Pump Room – ELS

- Clutch pipe pile and king post
- Instrumentation, dewatering well and pumping system
- Excavate to 500mm below S1
- Install S1, cast concrete packing

Rising Main and Gravity Sewer

- Clutch pipe

1.5 Status of Environmental Licences, Notification and Permits

1.5.1 A summary of the relevant permits, licenses and/or notifications on environmental protection for this project is presented in **Table 1.2**.

Table 1.2 – Environmental Licenses, Notification and Permits Summary

Permit/ Notification/ License	Reference No	Valid From	Valid Till
Environmental Permit	EP-597/2021	28-Sep-2021	NA
Notification of Construction Works under APCO	432718	18-Apr-2018	31-May-2023
Billing Account under Construction Waste Disposal Charging Scheme	7031695	28-Aug-2018	NA
Effluent Discharge License under WPCO	WT00040139-2021	11-Mar-2022	31-Mar-2027
Chemical Waste Producer Registration	8334-741-S4115-01	14-Aug-2018	31-Aug-2023
Construction Noise Permit	GW-RN0629-22	1-Aug-2022	31-Oct-2022

Notes:

NA = Not Applicable

2. AIR QUALITY

2.1 Monitoring Requirement

2.1.1 In accordance with the EM&A Manual, 1-hour Total Suspended Particulates (TSP) levels should be measured at the designated air quality monitoring station to ensure that any deteriorating air quality could be readily detected and timely action shall be undertaken to rectify such situation. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days when the highest dust impact occurs.

2.2 Monitoring Equipment

2.2.1 1-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) deployed at the designated monitoring station. The HVS shall meet all the requirements of the EM&A Manual.

2.2.2 Wind data monitoring equipment is provided at the conspicuous locations for logging wind speed and wind direction near to the air quality monitoring location. The equipment installation location is agreed with the ER and the IEC.

2.2.3 The model of the air quality monitoring equipment used is summarized in **Table 2.1**.

Table 2.1 – Air Quality Monitoring Equipment

Item	Brand	Model	Equipment	Serial No.
1	Tisch	TE-5170 (TSP)	High Volume Sampler	HVS-05
		TE-300-310X	-Mass Flow Controller	3088
		TE-5005X	-Blower Motor Assembly	2083
		TE-5007X	-Mechanical Timer	5159
		TE-5009X	-Continuous Flow Recorder	5483
2	Global Water	GL500-7-2	Wind Station	WS-03
3	Tisch	TE-5025A	Calibration Kit	2154

2.3 Monitoring Parameters and Frequency

2.3.1 The parameters and frequencies of impact noise monitoring is summarized in **Table 2.2**.

Table 2.2 – Monitoring Parameters and Frequencies of Air Quality Monitoring

Parameter	Frequency
1-hour TSP	At least three times every 6 days when the highest dust impact occurs

2.4 Monitoring Methodology

HVS Installation

2.4.1 The following guidelines were adopted during the installation of HVS:

- i. A horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
- ii. Two samplers shall be placed less than 2 meters apart;
- iii. The distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
- iv. A minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
- v. A minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
- vi. No furnace or incinerator flue is nearby;
- vii. Airflow around the sampler is unrestricted;
- viii. The sampler is more than 20 metres from the dripline;
- ix. Any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
- x. Permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
- xi. A secured supply of electricity is needed to operate the samplers.

Operating / Analytical Procedures

2.4.2 Prior to the commencement of the dust sampling, the flow rate of the HVS shall be properly set. The flow rate shall be indicated on the flow rate chart. The power supply should be checked to ensure the proper functioning of the sampler. The sampler is recommended to be operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

2.4.1 The filter holding frame should be removed by loosening the four nuts and placing carefully a weighted and conditioned filter at the centre with the stamped number upwards on a supporting screen.

2.4.2 The filter should be aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. The filter holding frame should be tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

- 2.4.3 A programmed timer should be used to control the duration of operation. Information should be recorded on the record sheet, which included the starting time, the weather condition and the filter number.
- 2.4.4 After sampling process is finished, the filter should be removed and sent to the laboratory for weighting. The elapsed time should also be recorded.
- 2.4.5 All filter papers should be equilibrated in a conditioning environment for 24 hours before weighting. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) should be <50% and not vary by more than $\pm 5\%$. A convenient working RH is 40%.

2.5 Maintenance and Calibration

- 2.5.1 The high volume motors and their accessories should be properly maintained, including routine motor brushes replacement and electrical wiring checking, to ensure that the equipment and a continuous power supply were in good working condition.
- 2.5.2 Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bimonthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The calibration certificate for the HVS is provided in **Appendix C**.

2.6 Monitoring Locations

- 2.6.1 In accordance with the EM&A Manual, air quality monitoring should be carried out at a designated monitoring location.
- 2.6.2 As limitation of stable electricity supply & safety concern could not be obtained from the designated dust monitoring location, an alternative monitoring location (CA_M1(a)) was proposed to measure 1-hour TSP levels in accordance with EP Condition 3.1 & Section 2.2.1.20 of the EM&A manual. The alternative monitoring location (CA_M1(a)) was approved by EPD on 15 December 2021.
- 2.6.3 The air quality monitoring location summarised in **Table 2.3** and shown in **Figure 2.1**.

Table 2.3 – Air Quality Monitoring Locations

Monitoring Location ID	Location
CA_M1(a)	Construction Site Boundary near Hong Kong Baptist Theological Seminary (HKBTS) Staff & Students Quarters

2.7 Monitoring Results

- 2.7.1 The schedule of air quality monitoring in reporting month is provided in **Appendix D**.
- 2.7.2 The monitoring data of 1-hr TSP are summarized in **Table 2.4**. The Detailed air quality monitoring results & graphs are presented in **Appendix E** & **Appendix F** respectively.

Table 2.4 – Summary of Air Quality Monitoring Results

Monitoring Station	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
1-hour TSP				
CA_M1(a)	94.4	40.3 – 190.1	339	500

- 2.7.3 No Action / Limit Level exceedance was recorded for 1-hr TSP at CA_M1(a).
- 2.7.4 No effect that arose from the other special phenomena and work progress of the concerned site was noted during the current monitoring month.
- 2.7.5 The Action and Limit Levels for impact air quality monitoring have been set and are presented in **Appendix G**.
- 2.7.6 The Event and Action Plan for Air Quality is given in **Appendix H**.
- 2.7.7 The weather conditions during the monitoring are provided in **Appendix I**.
- 2.7.8 The wind data obtained from the on-site wind station during the reporting period is provided in **Appendix J**.

3. NOISE

3.1 Monitoring Requirement

3.1.1 In accordance with the EM&A Manual, Leq (30min) monitoring is conducted at least once a week when there are Project-related construction activities being undertaken within a radius of 300 m from the monitoring stations. The monitoring is conducted during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

3.2.1 As referred to the requirements of the Technical Memorandum (TM) issued under the NCO, the sound level meters in compliance with the International Electro technical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications should be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The measurements may be accepted as valid only if the difference between calibration levels obtained before and after the noise measurement is less than 1.0 dB (94 dB ± 0.1 dB).

3.2.2 The model of the noise monitoring equipment used is summarized in **Table 3.1**.

Table 3.1 – Construction Noise Monitoring Equipment

Item	Brand	Model	Equipment	Serial No.
1	Casella	CEL-63X Series	Integrating Sound Level Meter	1488293
2	Casella	CEL-120/1	Calibrator	4358250
3	Smart Sensor	AR816	Anemometer	AM-001

3.3 Monitoring Parameters and Frequency

3.3.1 The parameters and frequencies of impact noise monitoring is summarized in **Table 3.2**.

Table 3.2 – Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency
LAeq (30 min) (L10 and L90 will be recorded for reference)	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week when construction activities are underway

3.4 Monitoring Methodology

3.4.1 Noise measurement should be conducted as the following procedures:

- The monitoring station will set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground. (In case façade measurement is not feasible on-site, a free field correction of +3dB(A) will be applied.)
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time will set as follows:
 - frequency weighting: A
 - time weighting: Fast
 - measurement time: 30 minutes
- Prior to and after noise measurement, the meter shall be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will be considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s. Calibration certificate of the anemometer is provided in **Appendix C**.

3.5 Maintenance and Calibration

3.5.1 Maintenance and calibration procedures should also be carried out, including:

- The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory.
- Relevant calibration certificates are provided in **Appendix C**.

3.6 Monitoring Locations

3.6.1 In accordance with the EM&A Manual, noise monitoring should be carried out at 2 designated monitoring locations.

3.6.2 The noise monitoring locations are summarised in **Table 3.3** and shown in **Figure 3.1**.

Table 3.3 – Construction Noise Monitoring Location

Monitoring Location ID	Location	Measurements
CN_M1	In front of the HKBTS Staff & Students Quarters	Free Field
CN_M2	In front of the HKBTS Administration and Education Block	Façade

Note: Correction of +3 dB(A) shall be made to the free field measurements.

3.7 Monitoring Results

3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix D**.

3.7.2 The noise monitoring data are summarized in **Table 3.4**. The Detailed noise monitoring results & graphs are presented in **Appendix E** & **Appendix F** respectively.

Table 3.4 – Summary of Construction Noise Monitoring Results

Frequency and Period	Location	Corrected L _{Aeq}		Action Level	Limit Level
		Range (dB(A))	Average (dB(A))		
0700-1900 hours in normal weekdays L _{Aeq} (30min)	CN_M1	65.3 – 67.8	66.3	When one documented complaint is received	70dB(A) during normal teaching period and examination periods 65 dB(A) during
	CN_M2	59.1 – 60.7	60.0		

Remark:

1. CN_M1: Free-field measurement (+3 dB(A) correction has been applied).

3.7.3 No Action / Limit Level exceedance of location CN_M1 & CN_M2 was recorded for construction noise in the reporting month.

3.7.4 Construction Noise and Road traffic noise along Ning Ming Road was observed at CN_M1 & CN_M2 during the monitoring month. No effect that arose from the other special phenomena was noted during the current monitoring month.

3.7.5 The Action and Limit Levels for Construction Noise have been set and are presented in **Appendix G**.

3.7.6 The Event and Action Plan for Construction Noise is given in **Appendix H**.

3.7.7 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation. The weather conditions during the monitoring month are provided in **Appendix I**.

3.8 Comparison of Noise Monitoring data with EIA Predictions

3.8.1 The noise monitoring data was compared with the EIA predictions as summarized in **Table 3.5**.

Table 3.5 – Comparison of Noise monitoring data with EIA predictions

Monitoring Station	EIA ID	Maximum Predicted Mitigated Construction Noise Level L_{eq} (30min) dB(A)	Maximum Construction Noise Level in September 2022 L_{eq} (30min) dB(A)
CN_M1	N1b	72	67.8
CN_M2	N2	66	60.7

Notes:

Predicted Construction Noise Levels extracted from Table 4.8 of EIA Report, AEIAR-230/2021

3.8.2 The construction noise monitoring results at CN_M1 and CN_M2 were below the Maximum Predicted mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-230/2021).

4. SITE INSPECTION AND AUDIT

4.1 Site Inspection

- 4.1.1 Site audits were carried out by ET on weekly basis to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.
- 4.1.2 In the reporting month, 4 site inspections were carried out on 5, 13, 19 and 26 September 2022.
- 4.1.3 No outstanding issues were reported during the reporting month. The Site Environmental Audit are summarized in **Appendix K**.

4.2 Advice on the Solid and Liquid Waste Management Status

- 4.2.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 4.2.2 The monthly summary of waste flow table is detailed in **Appendix L**.
- 4.2.3 If off-site disposal is required, the excavated marine mud from the land-based works shall be disposed of at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee or other locations as agreed by the Director. The Contractor shall ensure no spilling and overflowing of materials during loading / unloading / transportation is allowed.
- 4.2.4 The Contractor was reminded that chemical waste should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.

5. NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

5.1 Non-compliance (Exceedances of Action & Limit levels)

- 5.1.1 No Action / Limit Level exceedance was recorded for 1-hr TSP level at CA_M1(a) in the reporting month.
- 5.1.2 No Action / Limit Level exceedance was recorded for construction noise at CN_M1 & CN_M2 in the reporting month.
- 5.1.3 No corrective actions were required according to the Event-Action Plans.

5.2 Complaints, Notification of Summons and Prosecution

- 5.2.1 No environmental complaint, notification of summons and successful prosecution were received in the reporting month.
- 5.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix M**.
- 5.2.3 No corrective actions were required.

6. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

6.1 Implementation Status

The Contractor had implemented environmental mitigation measures and requirements as stated in the EIA Report, the EP and EM&A Manual. **Appendix N** summarized the Implementation Status of Environment Mitigation Measures.

7. FUTURE KEY ISSUES

7.1 Construction Programme for the Next Month

Pump Room - ELS

- Install S1, cast concrete packing
- Excavate to 500mm below S2
- Install S2, cast concrete packing

Rising Main and Gravity Sewer

- Clutch pipe pile
Instrumentation, dewatering well and pumping station

7.2 Key Issues for the Coming Month

7.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, waste management, and landscape and visual impact issues.

7.3 Monitoring Schedules for the Next Month

7.3.1 The tentative schedule for environmental monitoring in the coming month is provided in **Appendix D**.

8. CONCLUSION AND RECOMMENDATION

8.1 Conclusions

- 8.1.1 1-hour TSP impact monitoring was carried out in the reporting month. No Action / Limit Level exceedance at CA_M1(a) was recorded during the period.
- 8.1.2 Construction noise monitoring was carried out in the reporting month. No Action / Limit Level exceedance at CN_M1 & CN_M2 was recorded during the period.
- 8.1.3 Four environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for Permit/ Licenses were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 8.1.4 Two landscape and visual site audits were carried out in the reporting month. Recommendations on mitigation measures for Permit/ Licenses were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 8.1.5 Referring to the Contractor's information, no environmental complaint, notification of summons and successful prosecution was received in the reporting month.

8.2 Comment and Recommendations

- 8.2.1 The recommended environmental mitigation measures, as proposed in the EIA report and EM&A Manual shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.
- 8.2.2 **According to the environmental site inspections performed in the reporting month, the following recommendations were provided:**

Air Quality Impact

- NRMM Label for regulated equipment shall be replaced.
- Grouting station shall be covered with 3 sides and top to prevent air pollution.
- Cement bags should be covered entirely with tarpaulin sheet.

Construction Noise Impact

- No specific observation was identified in the reporting month.

Water Quality Impact

- Oil stain shall be removed from the surface.

Chemical Waste and Construction Waste Management

- No specific observation was identified in the reporting month.

Landscape and Visual Impact

- No specific observation was identified in the reporting month.

Permit/ Licenses

- No specific observation was identified in the reporting month.

Figure 1.1

Location of the proposed Sai O Trunk
SPS

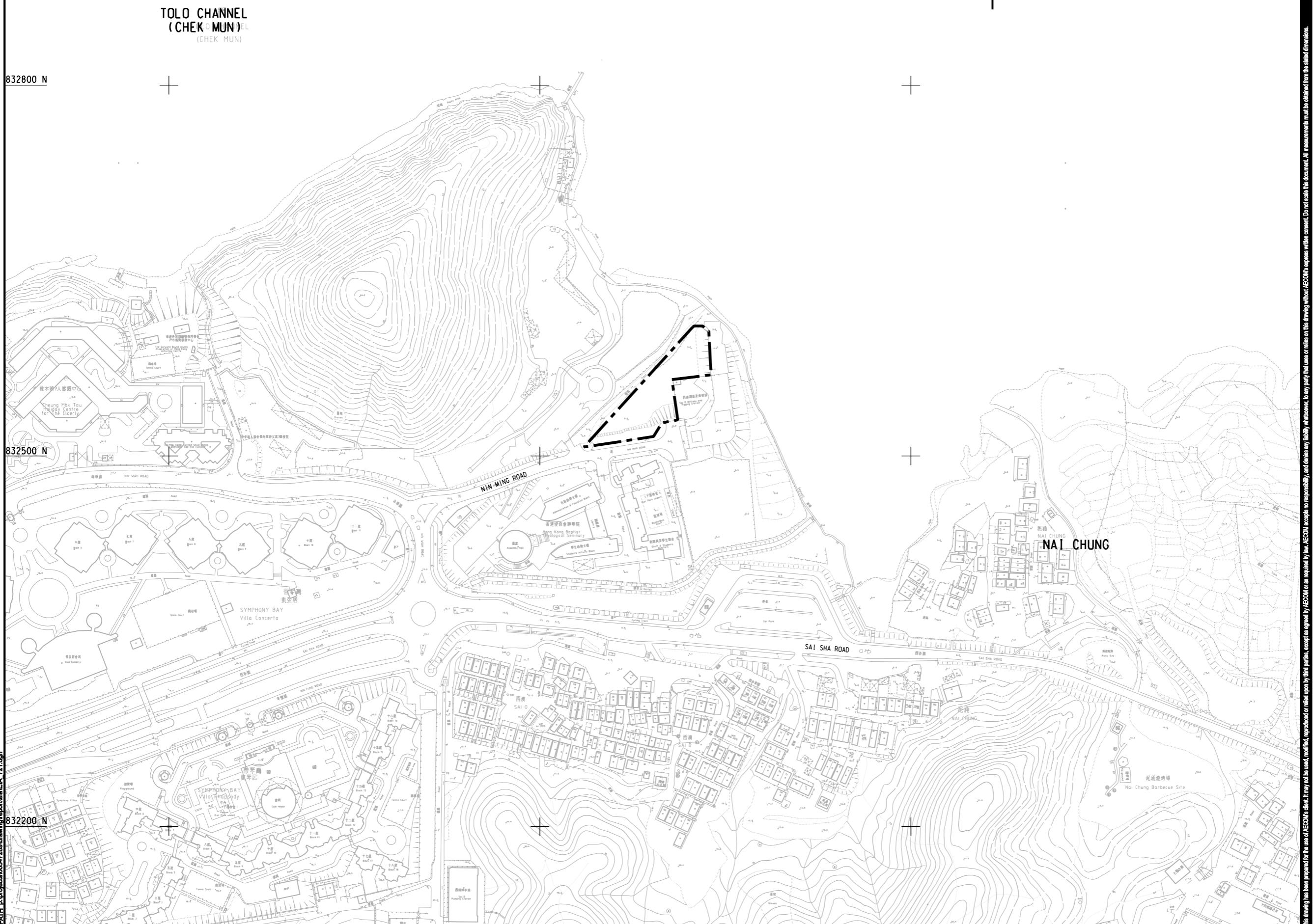
TOLO CHANNEL
(CHEK MUN)
(CHEK MUN)

844200 E

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LEGEND:

— SITE BOUNDARY



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分判工程顾问公司ISSUE/REVISION
修订

MR REV	DATE 日期	DESCRIPTION 内附说明	CHK 审核

STATUS
状态

SCALE
比例尺
A1 1 : 1500
DIMENSION UNIT
尺寸单位
METRES

KEY PLAN
索引图

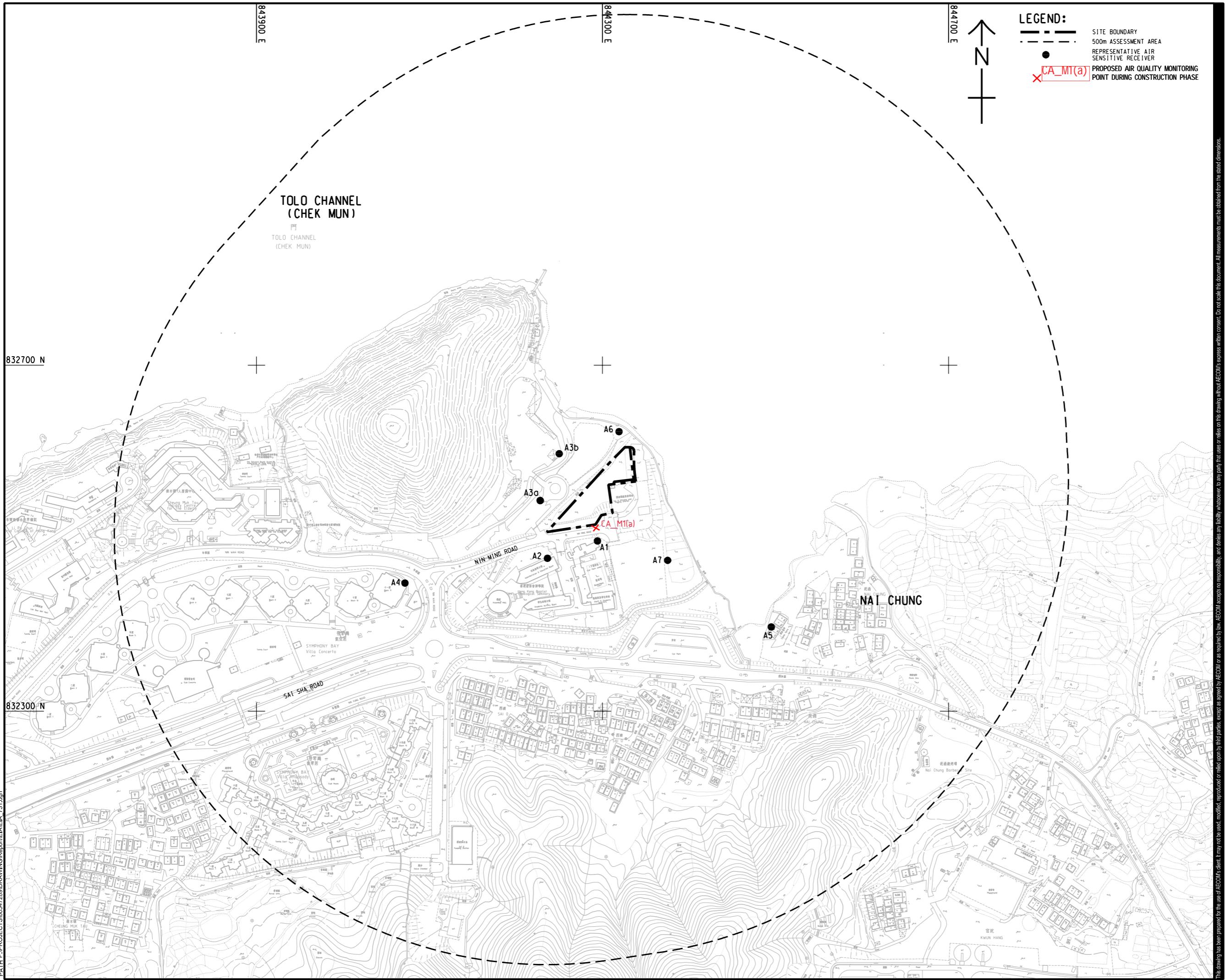
PROJECT NO.
项目编号
60547289
CONTRACT NO.
合同编号

SHEET TITLE
图纸名称LOCATION OF THE PROPOSED
SAI O TRUNK SEWER SEWAGE
PUMPING STATIONSHEET NUMBER
图纸编号

60547289/EM&A/FIGURE 1.1

Figure 2.1

Air Quality Monitoring Location

**AECOM****PROJECT**

**TOLO HARBOUR
SEWERAGE OF
UNSEWERED AREAS
STAGE 2 -
INVESTIGATION, DESIGN
AND CONSTRUCTION**

CLIENT

Drainage Services Department

CONSULTANT

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

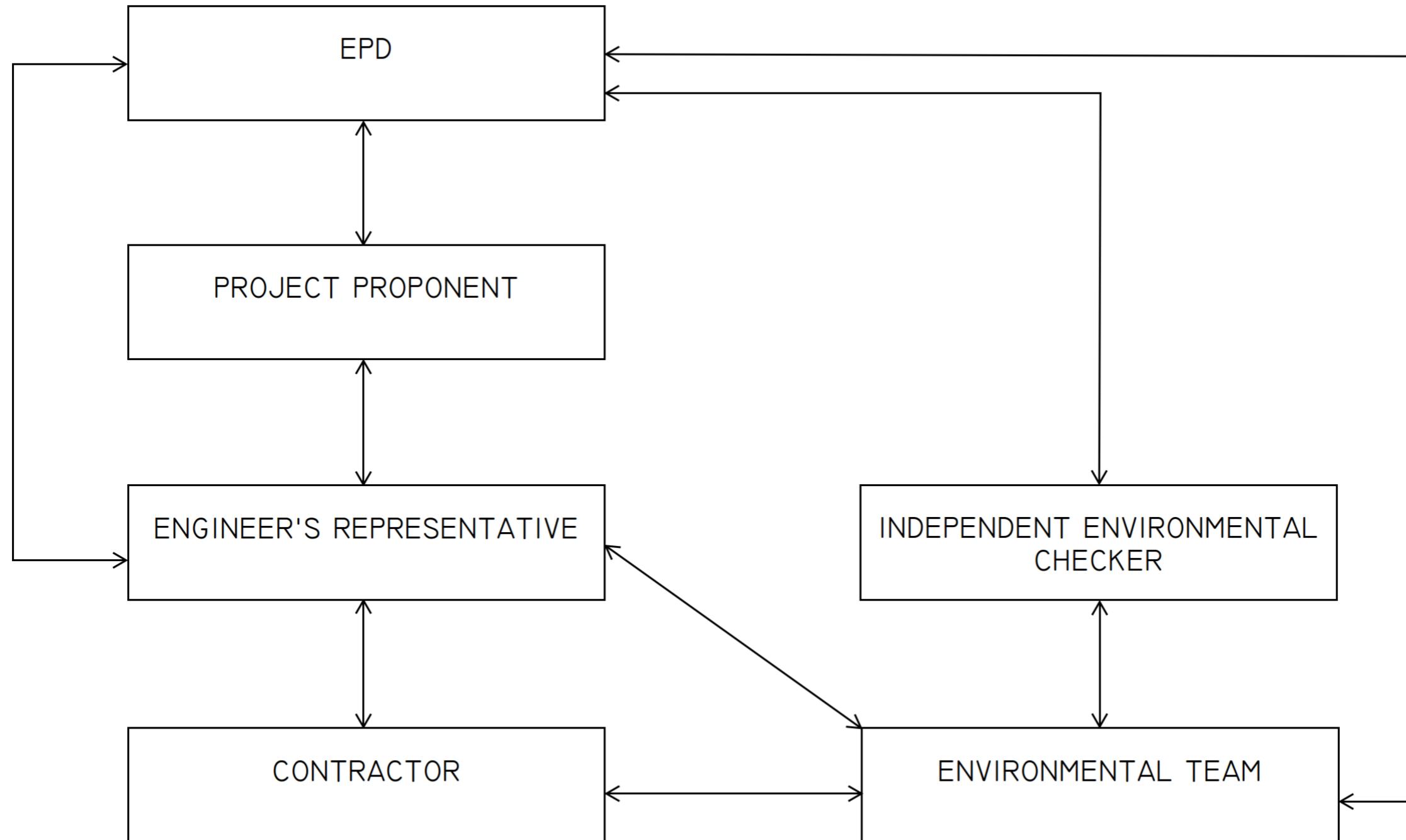
分判工程顧問公司

Figure 3.1

Noise Monitoring Locations

Appendix A

Project Organization Chart



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AECOM

PROJECT
项目

TOLO HARBOUR
SEWERAGE OF
UNSEWERED AREAS
STAGE 2 -
INVESTIGATION, DESIGN
AND CONSTRUCTION

CLIENT
客户

 **Drainage Services Department**

CONSULTANT
工程顾问公司

AECOM Asia Company Ltd.
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SUB-CONSULTANTS
分判工程顾问公司

ISSUE/REVISION
#07

MR	DATE	DESCRIPTION	CHK
007	2019/6/19	Initial Issue	Initial Check

STATUS
状态

SCALE
比例尺

A1 1 : AS SHOWN

METRES
米

KEY PLAN
索引图

PROJECT NO. CONTRACT NO.
项目编号 合同编号

60547289

CONTRACT NO.

SHEET TITLE
图纸名称

PROJECT ORGANISATION
项目组织

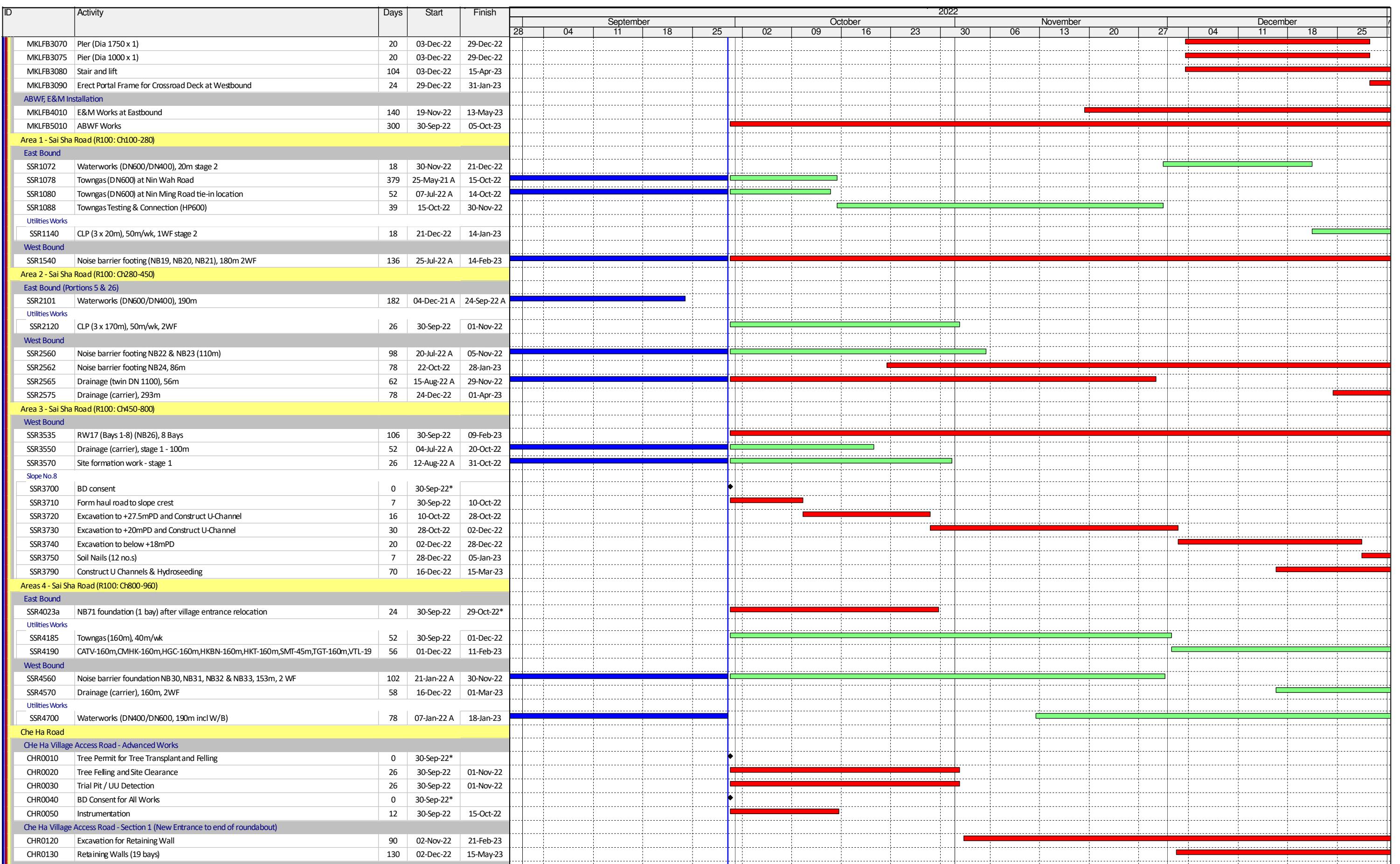
SHEET NUMBER
图纸编号

60547289/EM&A/FIGURE 1.2

Appendix B

Construction Programme

ID	Activity	Days	Start	Finish	2022																	
					September					October					November					December		
					28	04	11	18	25	02	09	16	23	30	06	13	20	27	04	11	18	25
	Master Programme Rev.1 Updated to 30-Sept-22																					
	Contractual Dates																					
	Keydates (Target)																					
	KDT15	KDT15 - Completion of all TBM Works (excluding Rising Mains and Gas Main Installation ar	0																			
	Keydates (Programmed)																					
	KD15	KD15 - Completion of all TBM Works (excluding Rising Mains and Gas Main Installation ar	0																			
	Sai Sha Road & Associated Works (Section 1 of the Works)																					
	Public Transport Interchange and Public Car Park at Sai O																					
	Public Car Park and Public Mini Bus Terminus																					
	PCP2170	Construct Public Toilet Remaining Structure & Refuse Collection Point	110	25-Aug-22 A	08-Feb-23																	
	PCP2180	E&M, ABWF and Misc. for New Toilet and Refuse Collection Point	150	23-Nov-22	31-May-23																	
	PCP2210	Drainage (carrier), 2WF	34	16-Aug-21 A	14-Oct-22																	
	PCP2220	DN250 Sewerage, 110m	48	13-Sep-21 A	11-Nov-22																	
	PCP2230	Site formation work	48	18-Oct-21 A	09-Dec-22																	
	PCP2250	Roadworks	63	23-Oct-21 A	19-Jan-23																	
	Utilities Works																					
	PCP2240	CMHK-190m, HKBN-195m, HKT-200m, VTL-190m, WTT-20m	37	01-Nov-21 A	05-Nov-22																	
	Nai Chung Footbridge FB1																					
	Eastbound																					
	NCFB1050	Stair, ramp and lift	120	17-Apr-21 A	12-Nov-22																	
	NCFB1070	Cast remaining structures after prestressing	78	10-Nov-22	16-Feb-23																	
	Westbound																					
	NCFB2050	Stair, ramp and lift	78	22-Jul-22 A	14-Dec-22																	
	NCFB2060	Erect Portal Frame for Crossroad Deck at Westbound	36	22-Aug-22 A	10-Sep-22 A																	
	NCFB2065	Cast remaining structures after prestressing	78	10-Nov-22	16-Feb-23																	
	NCFB2070	Deck	65	12-Sep-22 A	24-Nov-22																	
	NCFB2080	Prestressing, Grouting and ABWF on external faces	52	24-Nov-22	31-Jan-23																	
	ABWF, E&M Installation																					
	NCFB3010	E&M Works at Eastbound	120	14-Nov-22	13-Apr-23																	
	NCFB3030	E&M Works at Westbound	120	14-Dec-22	15-May-23																	
	NCFB3040	Lift Installation at Westbound	60	14-Dec-22	01-Mar-23																	
	NCFB3110	ABWF Works	180	13-Oct-22	24-May-23																	
	Kwun Hang Footbridge FB2																					
	Eastbound																					
	KHFB1070	Cast remaining Structures after Prestressing	60	01-Sep-22 A	29-Oct-22																	
	Westbound																					
	KHFB2050	Stair, ramp and lift	150	15-Nov-21 A	05-Sep-22 A																	
	KHFB2065	Cast remaining Structures after Prestressing	60	06-Sep-22 A	05-Nov-22																	
	KHFB2070	Deck	84	21-Apr-22 A	05-Sep-22 A																	
	KHFB2080	Prestressing, Grouting and ABWF on external faces	65	09-Sep-22 A	26-Nov-22																	
	KHFB2090	Remove the Portal Frame at W/B	18	28-Nov-22	17-Dec-22																	
	ABWF, E&M Installation																					
	KHFB3010	E&M Works at Eastbound	120	05-Nov-22	31-Mar-23																	
	KHFB3020	Lift Installation at Eastbound	60	30-Sep-22	10-Dec-22																	
	KHFB3030	E&M Works at Westbound	120	06-Dec-22	06-May-23																	
	KHFB3040	Lift Installation at Westbound	60	06-Oct-22	14-Dec-22																	
	KHFB4010	ABWF Works	156	24-Aug-22 A	29-Apr-23																	
	Ma Kwu Lam Footbridge FB3																					
	Design and Fabrication of Steelwork																					
	MKLF0180	Delivery of Lift Machines	0		12-Nov-22																	
	Eastbound																					
	Stage 2 (after Diversion of Tseng Tau Road Stage 1) Tai Tung Village																					
	MKLF2080	Prebored H Piles (27 nos)	99	11-Jul-22 A	21-Oct-22																	
	MKLF2120	Pile caps	36	21-Oct-22	02-Dec-22																	
	MKLF2130	Pier (Dia 1750 x 1)	20	18-Nov-22	12-Dec-22																	
	MKLF2135	Pier (Dia 850 x 2)	30	25-Nov-22	03-Jan-23																	
	MKLF2140	Stair and lift	104	19-Dec-22	02-May-23																	



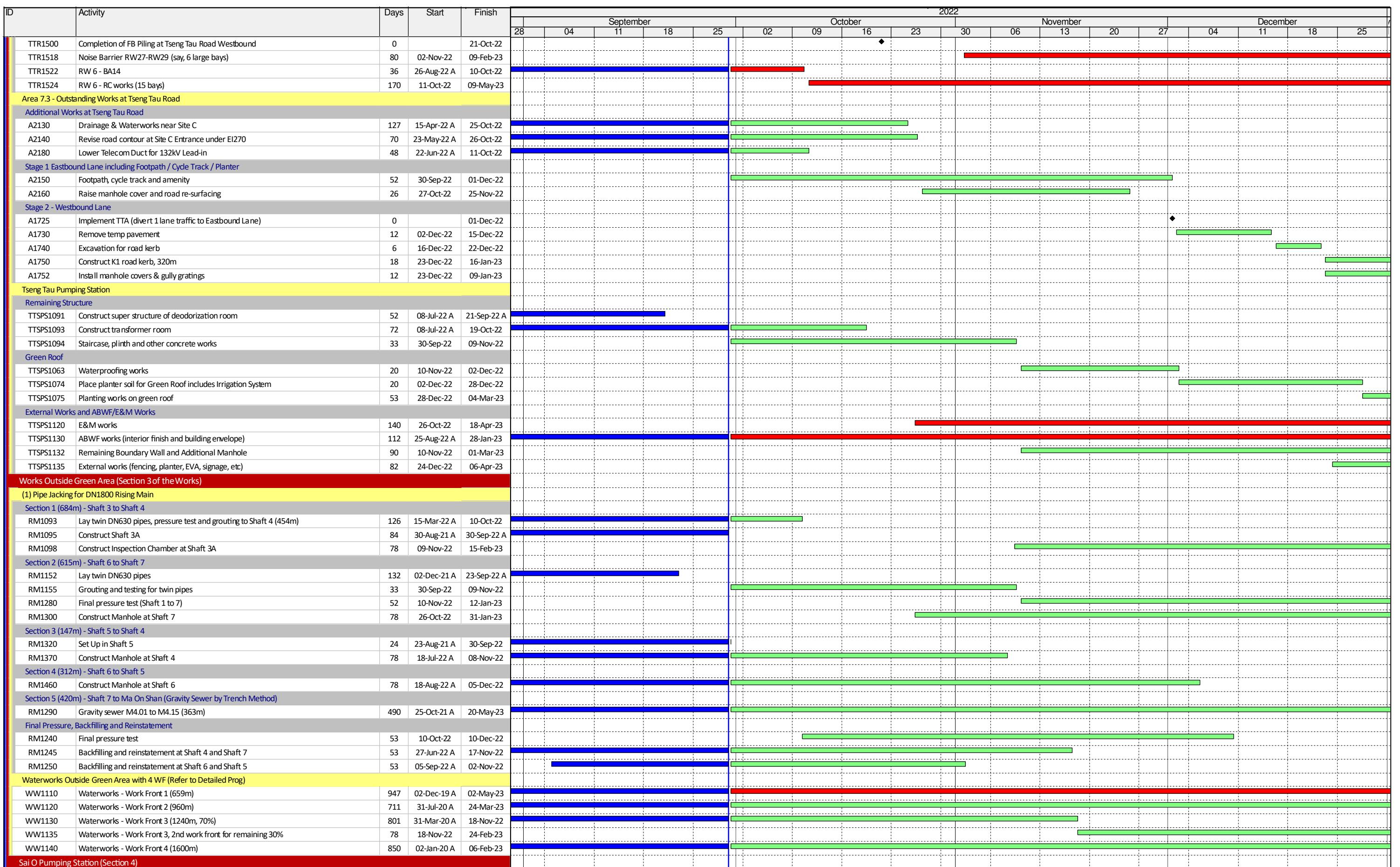
SAI SHA ROAD WIDENING

THREE MONTHLY ROLLING PROGRAMME AS OF 30/09/2022

P. 2

Date	Revision	Checked	Appr...
08-Oct-22			

SSR - RMCP 74W



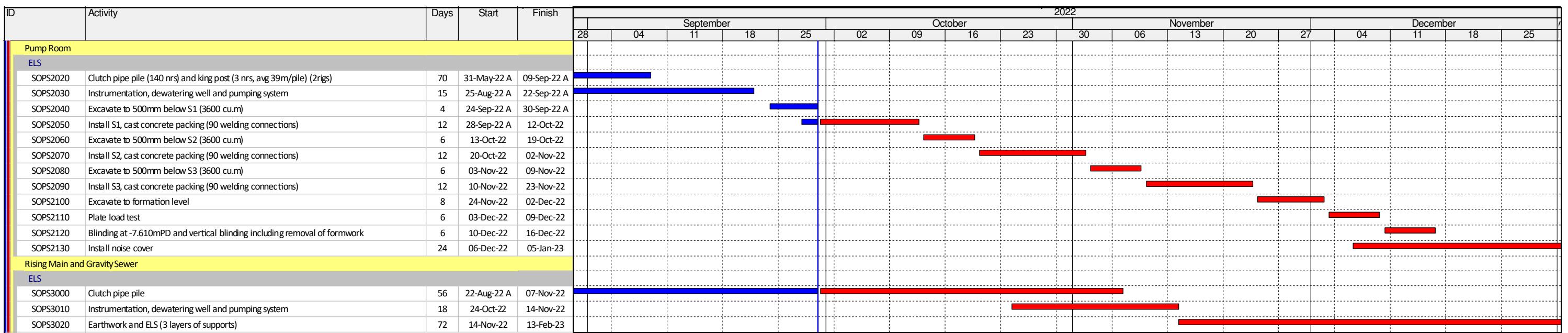
SAI SHA ROAD WIDENING

THREE MONTHLY ROLLING PROGRAMME AS OF 30/09/2022

P. 4

Date	Revision	Checked	Appr...
08-Oct-22			

SSR - RMCP 74W



Date	Revision	Checked	Appr...
08-Oct-22			

Appendix C

Equipment Calibration Certificates

Air Quality Monitoring Equipment

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Model:	Tisch TE-5170	Date of Calibration:	29-Jul-22				
Equipment No.:	HVS-05	Next Calibration Date:	28-Sep-22				
Location:		Technician:	Ho Woo				
CONDITIONS							
Sea Level Pressure (hPa):	1004.70	Corrected Pressure (mm Hg):	754				
Temperature (°C):	31.7	Temperature (K):	305				
CALIBRATION ORIFICE							
Model:	Tisch TE-5025A	Qstd Slope:	2.11005				
Serial No.:	2154	Qstd Intercept:	-0.01868				
Calibration Date:	24-Apr-22	Expiry Date:	24-Apr-23				
CALIBRATIONS							
Plate No.	H ₂ O (L) (in)	H ₂ O (R) (in)	H ₂ O (in)	Qstd (m ³ /min)	I (chart)	IC (corrected)	LINEAR REGRESSION
18	6.20	-7.20	13.400	1.717	61.00	60.07	Slope = 32.6311
13	4.90	-5.30	10.200	1.499	54.00	53.18	Intercept = 3.9431
10	3.60	-4.30	7.900	1.321	47.00	46.28	Corr. coeff.= 0.9991
7	2.40	-3.80	6.200	1.171	43.00	42.34	
5	1.70	-2.20	3.900	0.931	35.00	34.47	

Calculations:

$$Q_{std} = 1/m[\text{Sqrt}(H_2O(Pa/P_{std})(T_{std}/T_a)) - b]$$

$$IC = I[\text{Sqrt}(Pa/P_{std})(T_{std}/T_a)]$$

Qstd = standard flow rate

IC = corrected chart response

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pa = actual pressure during calibration (mm Hg)

Tstd = 298 deg K

Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

$$1/m(I)[\text{Sqrt}(298/T_{avg})(P_{avg}/760)] - b$$

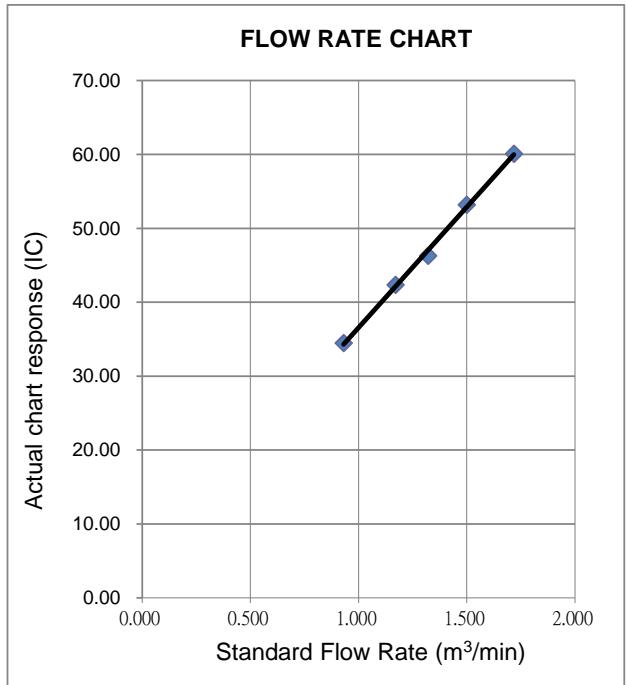
m = sampler slope

b = sampler intercept

I = chart response

Tavg = daily average temperature

Pavg = daily average pressure


 Calibrated by: Ho Date: 1 August 2022 Supervised by: Ho Date: 1 August 2022

**** End of Report ****



RECALIBRATION

DUE DATE:

April 24, 2023

Certificate of Calibration

Calibration Certification Information

Cal. Date:	April 24, 2022	Rootsmeter S/N:	438320	Ta:	295	°K
Operator:	Jim Tisch			Pa:	751.1	mm Hg
Calibration Model #:	TE-5025A	Calibrator S/N:	2154			

Run	Vol. Init (m ³)	Vol. Final (m ³)	ΔVol. (m ³)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H ₂ O)
1	1	2	1	1.4680	3.2	2.00
2	3	4	1	1.0350	6.4	4.00
3	5	6	1	0.9240	8.0	5.00
4	7	8	1	0.8800	8.8	5.50
5	9	10	1	0.7290	12.8	8.00

Data Tabulation

Vstd (m ³)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)	
0.9941	0.6772	1.4130	0.9957	0.6783	0.8863	
0.9898	0.9563	1.9983	0.9915	0.9580	1.2534	
0.9877	1.0689	2.2342	0.9893	1.0707	1.4014	
0.9866	1.1212	2.3432	0.9883	1.1230	1.4698	
0.9813	1.3461	2.8260	0.9830	1.3484	1.7726	
QSTD	m= 2.11005		QA	m= 1.32128		
	b= -0.01868			b= -0.01172		
	r= 0.99998			r= 0.99998		

Calculations

$$\begin{aligned} Vstd &= \Delta Vol \left(\frac{(Pa - \Delta P)}{Pstd} \right) \left(\frac{Tstd}{Ta} \right) & Va &= \Delta Vol \left(\frac{(Pa - \Delta P)}{Pa} \right) \\ Qstd &= Vstd / \Delta Time & Qa &= Va / \Delta Time \end{aligned}$$

For subsequent flow rate calculations:

$$Qstd = 1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right) \quad Qa = 1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$$

Standard Conditions

Tstd: 298.15 °K

Pstd: 760 mm Hg

Key

ΔH: calibrator manometer reading (in H₂O)

ΔP: rootsmeter manometer reading (mm Hg)

Ta: actual absolute temperature (°K)

Pa: actual barometric pressure (mm Hg)

b: intercept

m: slope

RECALIBRATION

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

CALIBRATION REPORT OF WIND METER

EP No.: EP-597/2021	Date of Calibration: 08-Jun-2022
Location: Sai O Trunk Sewer Sewage Pumping Station	Next Calibration Date: 07-Dec-2022
Technician: Ho Woo	
Brand: Global Water Model: GL500-7-2	Equipment ID: WS-03
Anemometer	
Brand: Smart Sensor Model: AR816	Equipment ID: WS-03
Procedures:	
1. Wind Still Test:	The wind speed sensor was held by hand until stabilized.
2. Wind Speed Test:	By direct comparison the reading between the wind speed sensor and the Anemometer.
3. Wind Direction Test:	The wind meter was calibrated in-situ and compared with a marine compass from four directions.

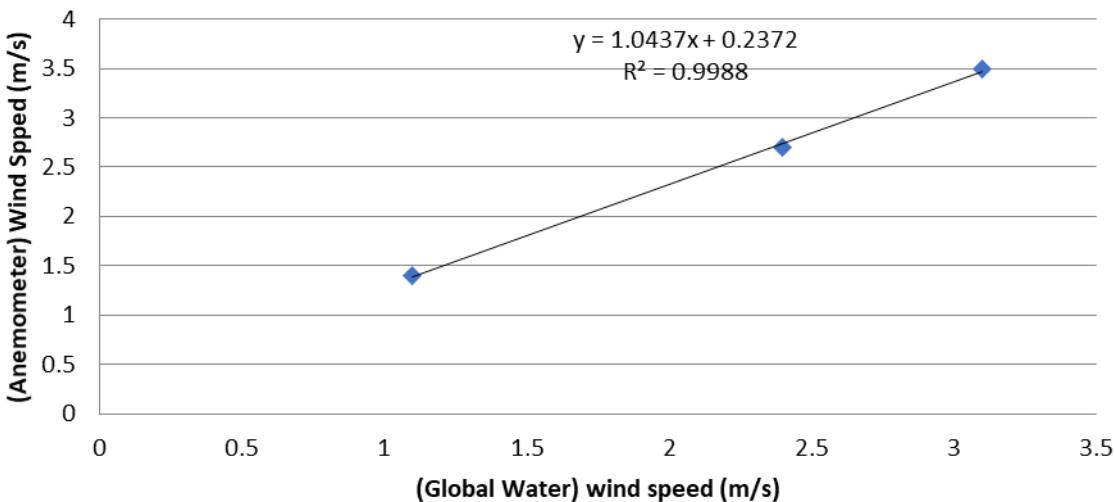
Wind Still Test:

Wind Speed (m/s)
0.00

Wind Speed Test:

Global Water (m/s)	Anemometer (m/s)
1.1	1.4
2.4	2.7
3.1	3.5

Correlation between Global Water & Anemometer


Remarks:

1. Actual Wind Speed Value (m/s) = $1.1071 \times (\text{Reading of Global Water Instrument}) + 0.0643$
2. Correlation coefficient (R^2) = 0.9988
3. Acceptable Range: $R^2 \geq 0.99$

CALIBRATION REPORT OF WIND METER**Wind Direction Test:**

	Marine Compass (o)
0	3
54	55
90	92
273	274

**Report Date:** 08/06/2022

Cheung Wang Ching
Project Consultant

Report No. : 212769CA220614

Page 1 of 1

CALIBRATION CERTIFICATE OF ANEMOMETER**Client Supplied Information**

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : Smart Sensor

Model No. : AR816

Serial No. : N/A

Equipment ID. : AM-001

Next Calibration Date : 28-Mar-2023

Laboratory Information

Details of Reference Equipment –

Description : Reference Anemometer

Equipment ID. : R-101-4

Date of Calibration : 29-Mar-2022 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : In-house Method R-C-279

Calibration Results :

Reference Reading (m/s)	UUT Reading (m/s)	Error (m/s)
2.1	2.0	-0.1
3.6	4.0	0.4
5.4	6.0	0.6
7.0	8.0	1.0
8.8	10.0	1.2

Remarks :

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The expanded uncertainty is 0.5 m/s with a coverage factor of 2 at a confidence level of 95%.
3. The reported readings in this calibration are an average from 10 trials.

Checked by : Cenny Date : 31-3-2022 Certified by : Kit Leung Date : 1-4-2022
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

Noise Monitoring Equipment

Report no.: 212769CA221783

CALIBRATION CERTIFICATE OF SOUND LEVEL METER**Client Supplied Information**

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter
Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No.	CEL-63X	CE-251	CEL-495
Serial No.	1488293	02772	004020

Equipment ID : N/A

Next Calibration Date : 27-Jul-2023

Specification Limit : EN 61672-1: 2003 Class 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)
Equipment ID. : R-108-1

Date Receipt of UUT : 27-Jul-2022

Date of Calibration : 28-Jul-2022

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 20±2 °C

Method Used : By direct comparison Relative Humidity : <80% R.H.

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)		
A-weighing frequency response	4000Hz	0.6	2.6	to	-0.6
	2000Hz	1.0	2.8	to	-0.4
	1000Hz	0.0	1.1	to	-1.1
	500Hz	-3.3	-1.8	to	-4.6
	250Hz	-8.6	-7.2	to	-10.0
	125Hz	-16.1	-14.6	to	-17.6
	63Hz	-26.1	-24.7	to	-27.7
Differential level linearity	94dB-104dB	0.0	± 0.6		
	104dB-114dB	0.0	± 0.6		

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
3. The mean value is the average of four measurements.
4. The values given in this Calibration Certificate only relate to unit under test and the values measured at the time of the test. Any uncertainties 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.

Checked by : Ally

CA-R-297 (22/07/2009)

Date : 18-2022Certified by : C. T. Leung

Leung Kwok Tai (Assistant Manager)

** End of Report **

Report no.: 212769CA220043(2)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Calibrator
Manufacturer : Casella (Model CEL-120/1)
Serial No. : 4358250
Equipment ID : N/A
Next Calibration Date : 05-Jan-2023
Specification Limit : EN 60942: 2003 Class 1

Laboratory Information

Description : Reference Sound level meter

Equipment ID. : R-119-1

Date of Calibration : 06-Jan-2022

Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Relative Humidity : <80% R.H.

Method Used : By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.2 dB	± 0.4 dB
114dB	-0.3 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during tranportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement

Checked by : Cuny Date : 10-1-2022 Certified by : Ch. Young Date : 11-1-2022
CA-R-297 (22/07/2009) Young Kwok Tai (Assistant Manager)

** End of Report **

Report No. : 212769CA220614

Page 1 of 1

CALIBRATION CERTIFICATE OF ANEMOMETER**Client Supplied Information**

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : Smart Sensor

Model No. : AR816

Serial No. : N/A

Equipment ID. : AM-001

Next Calibration Date : 28-Mar-2023

Laboratory Information**Details of Reference Equipment –**

Description : Reference Anemometer

Equipment ID. : R-101-4

Date of Calibration : 29-Mar-2022 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : In-house Method R-C-279

Calibration Results :

Reference Reading (m/s)	UUT Reading (m/s)	Error (m/s)
2.1	2.0	-0.1
3.6	4.0	0.4
5.4	6.0	0.6
7.0	8.0	1.0
8.8	10.0	1.2

Remarks :

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The expanded uncertainty is 0.5 m/s with a coverage factor of 2 at a confidence level of 95%.
3. The reported readings in this calibration are an average from 10 trials.

Checked by : Cenny Date : 31-3-2022 Certified by : Kit Leung Date : 1-4-2022
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

Appendix D

Environmental Monitoring Schedule

Project: EP-597/2021 Sai O Trunk Sewer Sewage Pumping Station

Impact Air Quality & Noise Monitoring Schedule (September 2022)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
				1September	2	3
4	5 • Site Inspection • AQM • NM	6	7	8	9 • AQM	10
11	12 • Site Inspection	13 • Site Inspection	14	15 • AQM • NM	16	17
18	19 • Site Inspection	20	21 • AQM • NM	22	23	24
25	26 • Site Inspection	27 • AQM • NM	28	29	30	

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition;
2. Air Quality Monitoring(AQM): 3 x 1-hours TSP Monitoring in every 6 days;
Monitoring Locations: CA_M1(a) Construction Site Boundary near Hong Kong Baptist Theological Seminary (HKBTS) Staff & Students Quarters
3. Noise Monitoring(NM): one set of Leq (30 min) between 0700 and 1900 hours on normal weekdays once a week;
Monitoring Locations: CN_M1 In front of the HKBTS Staff & Students Quarters
Monitoring Locations: CN_M2 In front of the HKBTS Administration and Education Block
4. Site Inspection: Once a week

Project: EP-597/2021 Sai O Trunk Sewer Sewage Pumping Station

Impact Air Quality & Noise Monitoring Schedule (October 2022)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
						1 October
2	3 • Site inspection • AQM • NM	4	5	6	7 • AQM	8
9	10 • Site inspection	11	12	13 • AQM • NM	14	15
16	17 • Site inspection	18	19 • AQM • NM	20	21	22
23	24 • Site inspection	25 • AQM • NM	26	27	28	29
30	31 • Site inspection • AQM • NM					

Remarks

1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition;
2. Air Quality Monitoring(AQM): 3 x 1-hours TSP Monitoring in every 6 days;
Monitoring Locations: CA_M1(a) Construction Site Boundary near Hong Kong Baptist Theological Seminary (HKBTS) Staff & Students Quarters
3. Noise Monitoring(NM): one set of Leq (30 min) between 0700 and 1900 hours on normal weekdays once a week;
Monitoring Locations: CN_M1 In front of the HKBTS Staff & Students Quarters
Monitoring Locations: CN_M2 In front of the HKBTS Administration and Education Block
4. Site Inspection: Once a week

Appendix E

Air Quality & Construction Noise
Monitoring Results

1-hr TSP Monitoring Results

Monitoring Location : CA_M1(a) Construction Site Boundary near Hong Kong Baptist Theological Seminary (HKBTS) Staff & Students Quarters

Start Date	Start Time	Weather Condition	Filter Identification No	Elapsed-Time Meter		Sampling Time	Temperature (K)	Atmospheric Pressure	Filter Paper Weight			Flow Rate			Total Volume	Concentration				
				Start	Stop				Initial	Final	Particulate	Intial	Final	Average		Value	Average	Action	Limit	
5-Sep-22	12:06	Fine	M10474	6132.51	6133.49	59	304.1	753.4	2.6579	2.6638	0.006	1.15	1.15	1.15	67.49	87.4	88.4	339	500	
	13:08	Fine	M10478	6133.49	6134.47	59	304.1	753.4	2.7386	2.7458	0.007	1.15	1.15	1.15	67.49	106.7				
	14:11	Fine	M10479	6134.47	6135.45	59	304.1	753.4	2.7345	2.7393	0.005	1.15	1.15	1.15	67.49	71.1				
9-Sep-22	11:12	Fine	M10152	6135.45	6136.43	59	302.6	759.9	2.7693	2.7744	0.005	1.22	1.22	1.22	71.57	71.3	83.2	339	500	
	12:14	Fine	M10149	6136.43	6137.41	59	302.6	759.9	2.7670	2.7731	0.006	1.22	1.22	1.22	71.57	85.2				
	13:17	Fine	M10153	6137.41	6138.39	59	302.6	759.9	2.7670	2.7730	0.006	1.10	1.10	1.10	64.42	93.1				
15-Sep-22	11:00	Fine	M10154	6138.39	6139.37	59	304.3	754.5	2.7640	2.7713	0.007	1.15	1.15	1.15	67.52	108.1	117.8	339	500	
	12:02	Fine	M10155	6139.37	6140.35	59	304.3	754.5	2.7664	2.7728	0.006	1.03	1.03	1.03	60.41	105.9				
	13:05	Fine	M9817	6140.35	6141.33	59	304.3	754.5	2.7674	2.7768	0.009	1.15	1.15	1.15	67.52	139.2				
21-Sep-22	9:00	Fine	M10472	6141.33	6142.31	59	301.1	758.1	2.6486	2.6530	0.004	1.22	1.22	1.22	71.67	61.4	56.5	339	500	
	10:01	Fine	M10473	6142.31	6143.29	59	301.1	758.1	2.6393	2.6444	0.005	1.28	1.28	1.28	75.25	67.8				
	11:02	Fine	M10471	6143.29	6144.27	59	301.1	758.1	2.6417	2.6443	0.003	1.10	1.10	1.10	64.51	40.3				
27-Sep-22	11:01	Fine	M10482	6144.27	6145.25	59	302.2	755.8	2.7457	2.7522	0.007	1.15	1.15	1.15	67.84	95.8	126.3	339	500	
	12:04	Fine	M10481	6145.25	6146.23	59	302.2	755.8	2.7443	2.7506	0.006	1.15	1.15	1.15	67.84	92.9				
	13:09	Fine	M10480	6146.23	6147.21	59	302.2	755.8	2.7453	2.7582	0.013	1.15	1.15	1.15	67.84	190.1				
													Min	40.3						
													Max	190.1						
													Average	94.4						

Noise Monitoring Results

Monitoring Location : CN_M1 In front of the HKBTS Staff & Students Quarters

Date	Weather	Wind Speed (m/s)	Start Time	Noise Monitoring (30min)(dB(A))			
				Corrected Leq	Leq	L90	L10
5-Sep-22	Fine	0.8	10:04	65.8	62.8	60.5	65.0
15-Sep-22	Fine	0.6	13:14	67.8	64.8	61.0	66.0
21-Sep-22	Fine	0.4	11:24	65.3	62.3	61.0	64.0
27-Sep-22	Fine	0.3	13:27	65.8	62.8	59.5	65.0
Average :				66.3			
Baseline Level:				64.3			
Action Level :				When one valid documented complaint is received			
Limit Level :				70dB(A) for schools and 65dB(A) during school examination periods			

Monitoring Location : CN_M2 In front of the HKBTS Administration and Education Block

Date	Weather	Wind Speed (m/s)	Start Time	Noise Monitoring (30min)(dB(A))		
				Leq	L90	L10
5-Sep-22	Fine	0.6	10:34	60.7	57.5	64.0
15-Sep-22	Fine	0.8	13:57	60.3	58.5	63.0
21-Sep-22	Fine	0.3	11:59	59.6	56.5	61.0
27-Sep-22	Fine	0.4	14:19	59.1	57.5	60.2
Average :				60.0		
Baseline Level:				62.5		
Action Level :				When one valid documented complaint is received		
Limit Level :				70dB(A) for schools and 65dB(A) during school examination periods		

Remarks: 1. Noise results at CN_M1 were calculated by +3 dB (A) correction for free-field measurement.

Report No. : 181172EN221859



Page 1 of 1

Test Report on Analysis of Filters**Information Supplied by Client**

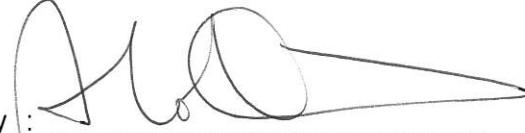
Client : Fugro Technical Services Ltd.
Client's address : 13/F, Fugro House – KCC2, No.1 Kwai On Road, Kwai Chung, N.T., H.K.
Project : Provision of ET Services for Sai O Trunk Sewer Sewage Pumping Station
Sample description : 3 samples of TSP filter paper
Sample identification : -
Sampling date : -
Test required : Provision of conditioned & tared filter paper and subsequent reconditioning and reweighing of returned filter paper for TSP monitoring

Laboratory Information

Filter paper I.D. : M10149, M10152, M10153
Date of receipt of sample : 09/09/2022
Date test completed : 14/09/2022
Test method used : USEPA Method 40 CFR Part 50 Appendix B.

Results :

Filter paper I.D.	Initial wt. of filter, g	Final wt. of filter, g
M10149	2.7670	2.7731
M10152	2.7693	2.7744
M10153	2.7670	2.7730

Supervised by : K.F. WongCertified by : Approved Signatory: HO Kin Man, John
Assistant General Manager – LaboratoriesDate : 14/9/2022
** End of Report ***Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.*

Report No. : 181172EN221859(1)



Page 1 of 1

Test Report on Analysis of Filters**Information Supplied by Client**

Client : Fugro Technical Services Ltd.
Client's address : 13/F, Fugro House – KCC2, No.1 Kwai On Road, Kwai Chung, N.T., H.K.
Project : Provision of ET Services for Sai O Trunk Sewer Sewage Pumping Station
Sample description : 3 samples of TSP filter paper
Sample identification : -
Sampling date : -
Test required : Provision of conditioned & tared filter paper and subsequent reconditioning and reweighing of returned filter paper for TSP monitoring

Laboratory Information

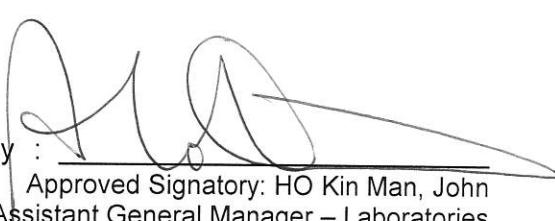
Filter paper I.D. : M9817, M10154, M10155
Date of receipt of sample : 15/09/2022
Date test completed : 17/09/2022
Test method used : USEPA Method 40 CFR Part 50 Appendix B.

Results :

Filter paper I.D.	Initial wt. of filter, g	Final wt. of filter, g
M9817	2.7674	2.7768
M10154	2.7640	2.7713
M10155	2.7664	2.7728

Supervised by : K.F. Wong

Certified by :


Approved Signatory: HO Kin Man, John
Assistant General Manager – LaboratoriesDate : 21/9/2022
** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 181172EN221859(2)



Page 1 of 1

Test Report on Analysis of Filters**Information Supplied by Client**

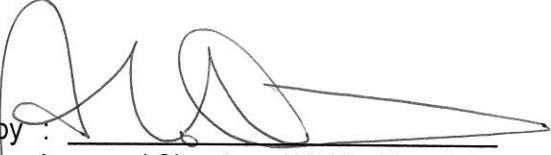
Client : Fugro Technical Services Ltd.
Client's address : 13/F, Fugro House – KCC2, No.1 Kwai On Road, Kwai Chung, N.T., H.K.
Project : Provision of ET Services for Sai O Trunk Sewer Sewage Pumping Station
Sample description : 3 samples of TSP filter paper
Sample identification : -
Sampling date : -
Test required : Provision of conditioned & tared filter paper and subsequent reconditioning and reweighing of returned filter paper for TSP monitoring

Laboratory Information

Filter paper I.D. : M10471, M10472, M10473
Date of receipt of sample : 21/09/2022
Date test completed : 23/09/2022
Test method used : USEPA Method 40 CFR Part 50 Appendix B.

Results :

Filter paper I.D.	Initial wt. of filter, g	Final wt. of filter, g
M10471	2.6417	2.6443
M10472	2.6486	2.6530
M10473	2.6393	2.6444

Supervised by : K.F. WongCertified by : Approved Signatory: HO Kin Man, John
Assistant General Manager – LaboratoriesDate : 28/9/2022
** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 181172EN221859(3)



Page 1 of 1

Test Report on Analysis of Filters

Information Supplied by Client

Client : Fugro Technical Services Ltd.

Client's address : 13/F, Fugro House – KCC2, No.1 Kwai On Road, Kwai Chung, N.T., H.K.

Project : Provision of ET Services for Sai O Trunk Sewer Sewage Pumping Station

Sample description : 3 samples of TSP filter paper

Sample identification : -

Sampling date : -

Test required : Provision of conditioned & tared filter paper and subsequent reconditioning and reweighing of returned filter paper for TSP monitoring

Laboratory Information

Filter paper I.D. : M10474, M10478, M10479
Date of receipt of sample : 23/09/2022
Date test completed : 26/09/2022
Test method used : USEPA Method 40 CFR Part 50 Appendix B.

Results :

Filter paper I.D.	Initial wt. of filter, g	Final wt. of filter, g
M10474	2.6579	2.6638
M10478	2.7386	2.7458
M10479	2.7345	2.7393

Supervised by : K.F. Wong

Certified by

Approved Signatory: HO Kin Man, John
Assistant General Manager – Laboratories

Date
** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 181172EN221859(4)



Page 1 of 1

Test Report on Analysis of Filters**Information Supplied by Client**

Client : Fugro Technical Services Ltd.
Client's address : 13/F, Fugro House – KCC2, No.1 Kwai On Road, Kwai Chung, N.T., H.K.
Project : Provision of ET Services for Sai O Trunk Sewer Sewage Pumping Station
Sample description : 3 samples of TSP filter paper
Sample identification : -
Sampling date : -
Test required : Provision of conditioned & tared filter paper and subsequent reconditioning and reweighing of returned filter paper for TSP monitoring

Laboratory Information

Filter paper I.D. : M10480, M10481, M10482
Date of receipt of sample : 27/09/2022
Date test completed : 28/09/2022
Test method used : USEPA Method 40 CFR Part 50 Appendix B.

Results :

Filter paper I.D.	Initial wt. of filter, g	Final wt. of filter, g
M10480	2.7453	2.7582
M10481	2.7443	2.7506
M10482	2.7457	2.7522

Supervised by : K.F. Wong

Certified by

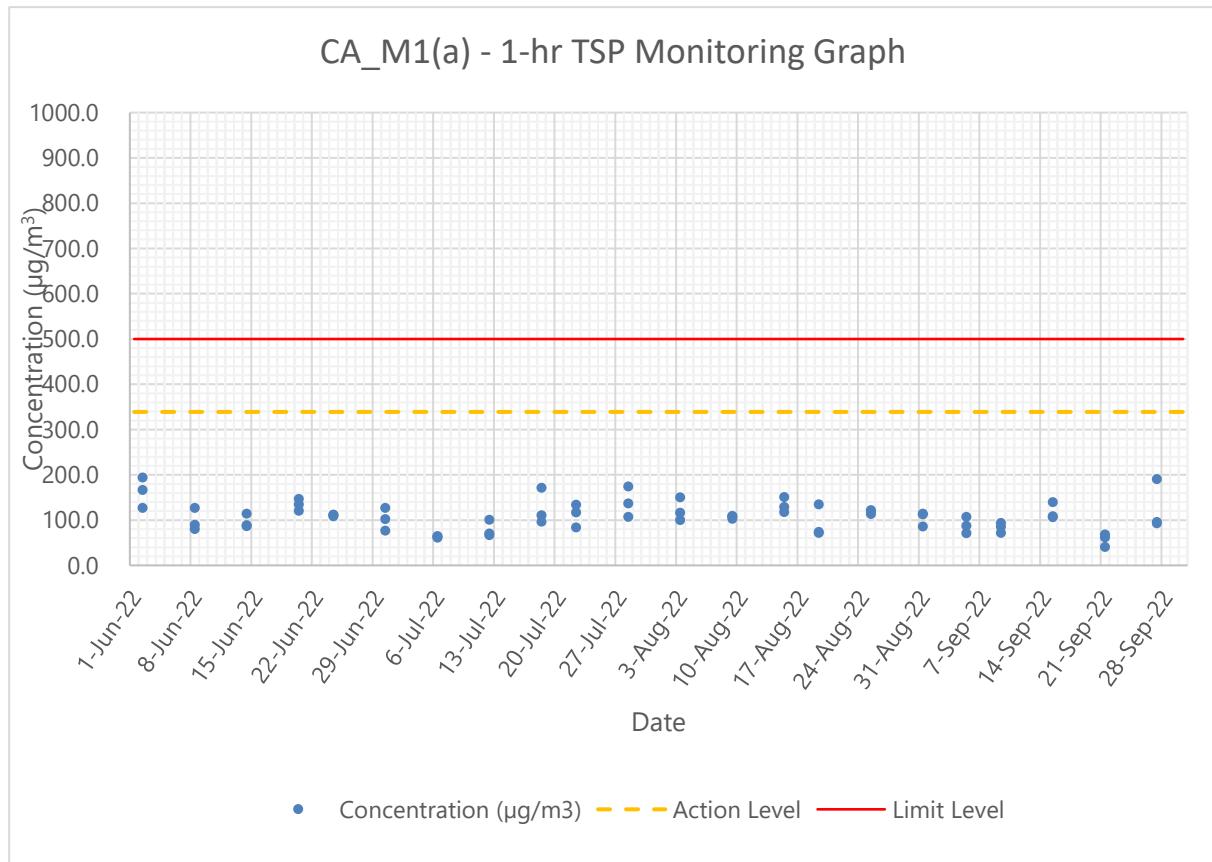
Approved Signatory: HO Kin Man, John
Assistant General Manager – LaboratoriesDate : 28/9/2022
** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

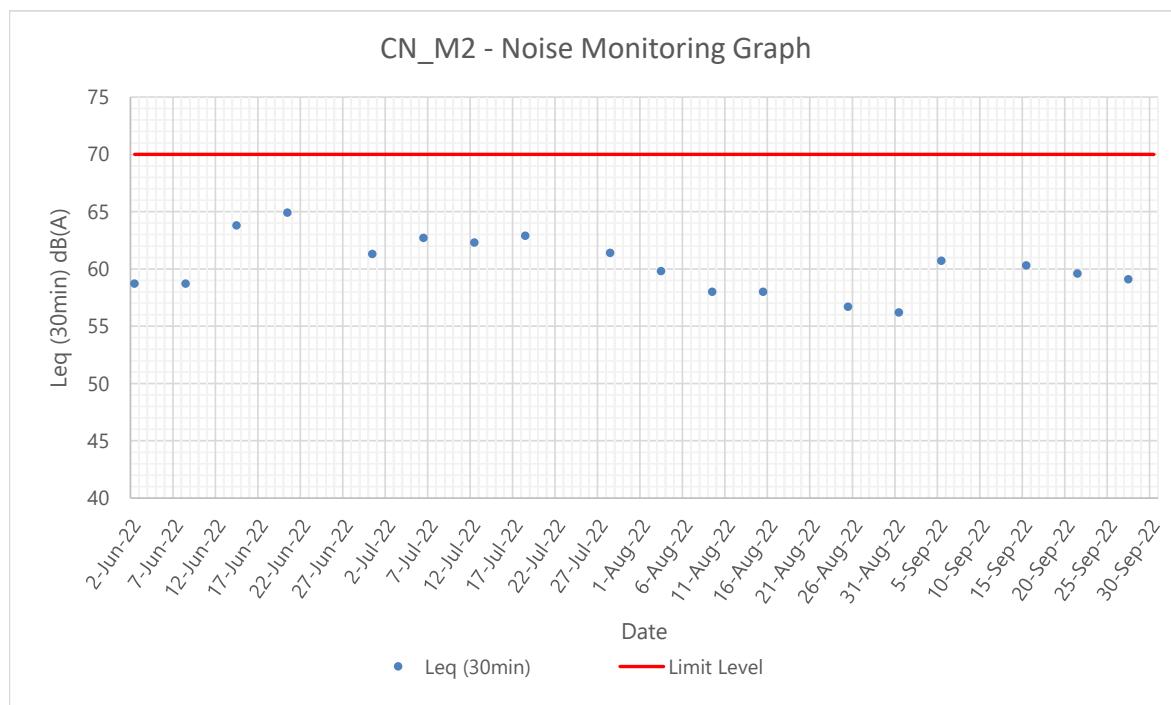
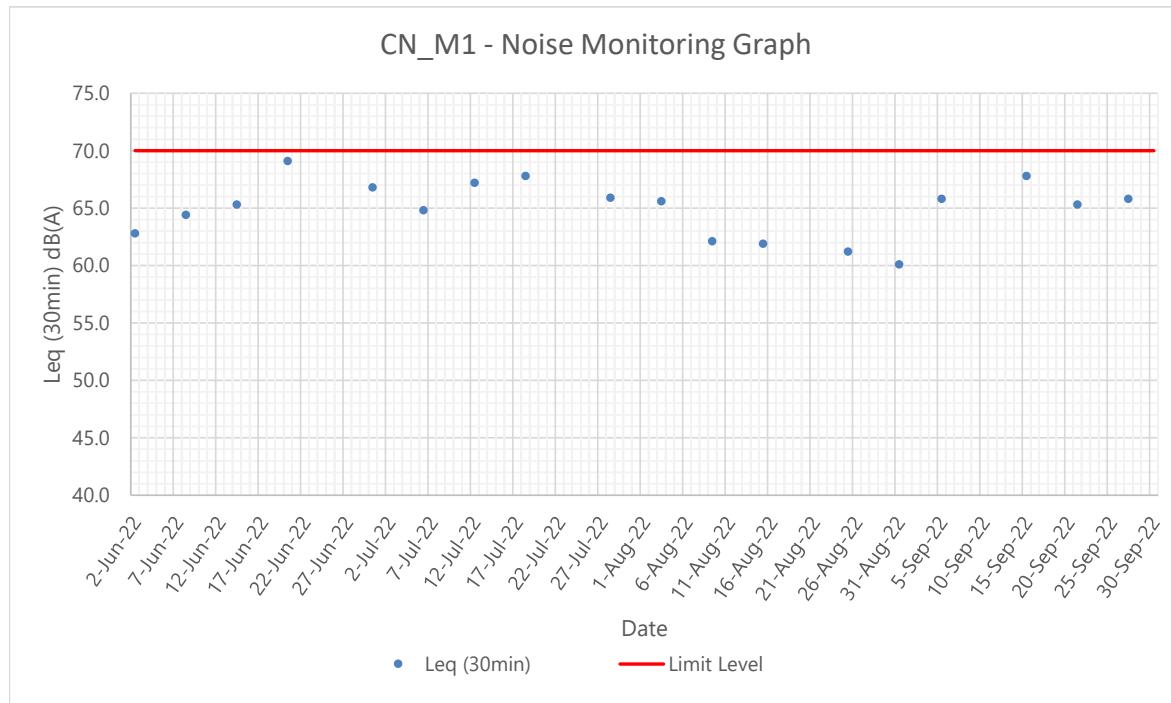
Appendix F

Air Quality & Construction Noise
Monitoring Graphs

1-hr TSP Monitoring Graph



Noise Monitoring Graph



Appendix G

Action and Limit Level

Action and Limit Levels for Air Quality

Monitoring Parameter	Monitoring Station	Action Level	Limit Level
1-hour TSP	CA_M1(a)	339 µg/m ³	500 µg/m ³

Action and Limit Levels for Construction Noise

Monitoring Parameter	Monitoring Station	Action Level	Limit Level
0700-1900 hours in normal weekdays LA _{eq} (30min)	CN_M1	When one documented complaint is received	70dB(A) during normal teaching period & 65 dB(A) during examination periods
	CN_M2		

Remark:

CN_M1: Free-field measurement (+3 dB(A) correction has been applied).

Appendix H

Event and Action Plan

Event and Action Plan for Air Quality (Construction Dust)

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action level being exceeded by one sampling	<ol style="list-style-type: none"> Identify source, investigate the causes of complaint and propose remedial measures; Inform Contractor, IEC and ER; Repeat measurement to confirm finding; and Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> Check monitoring data submitted by ET; Check Contractor's working method; and Review and advise the ET and ER on the effectiveness of the proposed remedial measures. 	1. Notify Contractor.	<ol style="list-style-type: none"> Identify source(s), investigate the causes of exceedance and propose remedial measures; Implement remedial measures; and Amend working methods agreed with the ER as appropriate.
Action level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> Identify source; Inform Contractor, IEC and ER; Advise the Contractor and ER on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with Contractor, IEC and ER; and If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET, ER and Contractor on possible remedial measures; Advise the ET and ER on the effectiveness of the proposed remedial measures; and Supervise Implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> Identify source and investigate the causes of exceedance; Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; Implement the agreed proposals; and Amend proposal as appropriate.
Limit level being exceeded by one sampling	<ol style="list-style-type: none"> Identify source, investigate the causes of exceedance and propose remedial measures; Inform Contractor, IEC, ER, and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; and Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	<ol style="list-style-type: none"> Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; and Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> Identify source(s) and investigate the causes of exceedance; Take immediate action to avoid further exceedance; Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; Implement the agreed proposals; and Amend proposal if appropriate.
Limit level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET; Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing; In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; and If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> Identify source(s) and investigate the causes of exceedance; Take immediate action to avoid further exceedance; Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; Implement the agreed proposals; Revise and resubmit proposals if problem still not under control; and Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Noise (Construction Noise)

EVENT	ACTION			
	ET	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analyzed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix I

Weather and Meteorological
Conditions during Reporting Month

Weather Condition (September 2022)

Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (°C)	Mean (°C)	Minimum (°C)		
1 September 2022	1007.9	32.9	29.4	26.9	78	2.8
2 September 2022	1005.9	32.3	29.5	27.3	63	0
3 September 2022	1002.8	33.9	30	26.9	54	0
4 September 2022	1002.9	34.7	30.8	27.7	55	0
5 September 2022	1004.4	35.3	31.1	28.8	52	0
6 September 2022	1008.2	34.5	30.8	28.4	61	0
7 September 2022	1013.3	29.6	28.4	26.7	81	8.6
8 September 2022	1014.2	32.8	29.5	27.8	70	Trace
9 September 2022	1013.1	33.3	29.6	27.5	55	0
10 September 2022	1011.4	31.4	28.9	27.6	76	Trace
11 September 2022	1009.1	32.1	29.4	27.4	78	0
12 September 2022	1007.4	33.7	30.8	28.2	66	0
13 September 2022	1007.3	35.9	31.7	28.8	56	0
14 September 2022	1007	35.5	31.7	29.6	46	0
15 September 2022	1005.9	34.5	31.3	28.7	52	0
16 September 2022	1005.1	33.8	30.8	28.6	63	Trace
17 September 2022	1006	33.9	31.1	29.1	69	Trace
18 September 2022	1005.7	34	30.1	27.4	77	20.3
19 September 2022	1005.9	32.3	28.8	25.9	77	3.3
20 September 2022	1008.2	30.7	28.9	26.2	79	3.5
21 September 2022	1010.7	30.4	28.1	25.8	72	8.5
22 September 2022	1011.1	31.2	28.5	26.9	73	0
23 September 2022	1010.8	32.1	28.5	25.6	77	13.4
24 September 2022	1011.2	31	28.3	25.8	71	0
25 September 2022	1010.4	32.7	28.8	26.9	71	0
26 September 2022	1009.1	33.7	29.4	27.2	70	0
27 September 2022	1007.7	32.3	29.2	28.1	72	Trace
28 September 2022	1008	31.2	28.8	27.7	73	0
29 September 2022	1010.1	29.7	28.0	25.0	81	8.1
30 September 2022	1012.3	28.3	26.4	24.8	91	102.7

Remark:

1. Trace means rainfall less than 0.05 mm.

Source: Hong Kong Observatory

Appendix J

Wind Data

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
01 Sep 2022 00:00	0.0	-	02 Sep 2022 00:00	0.0	-
01 Sep 2022 01:00	0.0	-	02 Sep 2022 01:00	0.2	W
01 Sep 2022 02:00	0.0	-	02 Sep 2022 02:00	0.0	-
01 Sep 2022 03:00	0.0	-	02 Sep 2022 03:00	0.3	N
01 Sep 2022 04:00	0.0	-	02 Sep 2022 04:00	0.1	NWW
01 Sep 2022 05:00	0.1	SE	02 Sep 2022 05:00	0.7	NWW
01 Sep 2022 06:00	0.0	-	02 Sep 2022 06:00	0.7	NWW
01 Sep 2022 07:00	0.2	N	02 Sep 2022 07:00	0.1	NWW
01 Sep 2022 08:00	0.0	-	02 Sep 2022 08:00	1.2	NWW
01 Sep 2022 09:00	0.2	S	02 Sep 2022 09:00	1.6	NWW
01 Sep 2022 10:00	0.0	-	02 Sep 2022 10:00	1.0	SWW
01 Sep 2022 11:00	0.0	-	02 Sep 2022 11:00	1.1	SWW
01 Sep 2022 12:00	0.7	NW	02 Sep 2022 12:00	1.9	N
01 Sep 2022 13:00	0.8	NW	02 Sep 2022 13:00	1.0	N
01 Sep 2022 14:00	2.0	SEE	02 Sep 2022 14:00	1.8	NWW
01 Sep 2022 15:00	0.1	SEE	02 Sep 2022 15:00	2.2	NWW
01 Sep 2022 16:00	1.3	N	02 Sep 2022 16:00	2.4	NWW
01 Sep 2022 20:00	0.2	W	02 Sep 2022 17:00	1.8	NWW
01 Sep 2022 18:00	0.0	-	02 Sep 2022 18:00	1.4	SW
01 Sep 2022 19:00	0.1	SES	02 Sep 2022 19:00	1.7	SW
01 Sep 2022 20:00	0.0	-	02 Sep 2022 20:00	0.4	NWW
01 Sep 2022 21:00	0.0	-	02 Sep 2022 21:00	0.6	NWW
01 Sep 2022 22:00	0.1	NWW	02 Sep 2022 22:00	0.1	N
01 Sep 2022 23:00	0.0	-	02 Sep 2022 23:00	0.1	N

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
3 Sep 2022 00:00	0.1	S	4 Sep 2022 00:00	0.1	W
3 Sep 2022 01:00	0.0	-	4 Sep 2022 01:00	0.0	-
3 Sep 2022 02:00	0.5	W	4 Sep 2022 02:00	0.1	SWW
3 Sep 2022 03:00	0.4	W	4 Sep 2022 03:00	0.9	SWW
3 Sep 2022 04:00	1.0	W	4 Sep 2022 04:00	0.2	N
3 Sep 2022 05:00	0.3	W	4 Sep 2022 05:00	0.5	N
3 Sep 2022 06:00	0.3	SWW	4 Sep 2022 06:00	0.0	-
3 Sep 2022 07:00	0.1	SWW	4 Sep 2022 07:00	0.5	NWW
3 Sep 2022 08:00	2.5	N	4 Sep 2022 08:00	1.6	W
3 Sep 2022 09:00	0.8	N	4 Sep 2022 09:00	3.2	W
3 Sep 2022 10:00	1.3	NWW	4 Sep 2022 10:00	3.0	NWW
3 Sep 2022 11:00	0.9	NWW	4 Sep 2022 11:00	1.0	NWW
3 Sep 2022 12:00	2.1	W	4 Sep 2022 12:00	1.1	SW
3 Sep 2022 13:00	1.2	W	4 Sep 2022 13:00	0.8	SW
3 Sep 2022 14:00	1.0	SEE	4 Sep 2022 14:00	1.9	N
3 Sep 2022 15:00	1.2	SEE	4 Sep 2022 15:00	0.9	N
3 Sep 2022 16:00	0.7	SWW	4 Sep 2022 16:00	1.2	W
3 Sep 2022 17:00	0.7	SWW	4 Sep 2022 17:00	0.1	W
3 Sep 2022 18:00	0.3	SWW	4 Sep 2022 18:00	0.0	-
3 Sep 2022 19:00	0.6	N	4 Sep 2022 19:00	0.0	-
3 Sep 2022 20:00	0.2	W	4 Sep 2022 20:00	0.0	-
3 Sep 2022 21:00	0.3	W	4 Sep 2022 21:00	0.0	-
3 Sep 2022 22:00	0.2	SWW	4 Sep 2022 22:00	0.0	-
3 Sep 2022 23:00	0.0	-	4 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
5 Sep 2022 00:00	0.0	-	6 Sep 2022 00:00	0.0	-
5 Sep 2022 01:00	0.0	-	6 Sep 2022 01:00	0.0	-
5 Sep 2022 02:00	0.0	-	6 Sep 2022 02:00	0.0	-
5 Sep 2022 03:00	0.0	-	6 Sep 2022 03:00	0.0	-
5 Sep 2022 04:00	0.0	-	6 Sep 2022 04:00	0.0	-
5 Sep 2022 05:00	0.1	S	6 Sep 2022 05:00	0.0	-
5 Sep 2022 06:00	0.0	-	6 Sep 2022 06:00	0.0	-
5 Sep 2022 07:00	0.0	-	6 Sep 2022 07:00	0.0	-
5 Sep 2022 08:00	0.0	-	6 Sep 2022 08:00	0.0	-
5 Sep 2022 09:00	0.1	SWW	6 Sep 2022 09:00	0.0	-
5 Sep 2022 10:00	0.0	-	6 Sep 2022 10:00	0.0	-
5 Sep 2022 11:00	0.0	-	6 Sep 2022 11:00	0.2	SWS
5 Sep 2022 12:00	0.4	NE	6 Sep 2022 12:00	1.1	SE
5 Sep 2022 13:00	0.2	NE	6 Sep 2022 13:00	4.0	SE
5 Sep 2022 14:00	0.0	-	6 Sep 2022 14:00	2.3	SEE
5 Sep 2022 15:00	0.0	-	6 Sep 2022 15:00	1.9	SEE
5 Sep 2022 16:00	0.1	NEE	6 Sep 2022 16:00	0.8	N
5 Sep 2022 17:00	0.0	NEE	6 Sep 2022 17:00	0.5	N
5 Sep 2022 18:00	0.0	-	6 Sep 2022 18:00	0.5	SEE
5 Sep 2022 19:00	0.0	-	6 Sep 2022 19:00	1.2	SEE
5 Sep 2022 20:00	0.0	-	6 Sep 2022 20:00	1.6	SEE
5 Sep 2022 21:00	0.0	-	6 Sep 2022 21:00	0.3	SEE
5 Sep 2022 22:00	0.0	-	6 Sep 2022 22:00	0.3	E
5 Sep 2022 23:00	0.0	-	6 Sep 2022 23:00	0.1	E

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
7 Sep 2022 00:00	0.2	SEE	8 Sep 2022 00:00	0.9	E
7 Sep 2022 01:00	0.0	-	8 Sep 2022 01:00	0.0	-
7 Sep 2022 02:00	0.3	N	8 Sep 2022 02:00	0.1	E
7 Sep 2022 03:00	0.0	-	8 Sep 2022 03:00	0.0	-
7 Sep 2022 04:00	0.0	-	8 Sep 2022 04:00	0.1	E
7 Sep 2022 05:00	0.1	E	8 Sep 2022 05:00	0.0	-
7 Sep 2022 06:00	0.4	SEE	8 Sep 2022 06:00	0.0	-
7 Sep 2022 07:00	0.3	SEE	8 Sep 2022 07:00	0.0	-
7 Sep 2022 08:00	0.2	E	8 Sep 2022 08:00	0.0	-
7 Sep 2022 09:00	0.1	E	8 Sep 2022 09:00	0.2	N
7 Sep 2022 10:00	0.6	E	8 Sep 2022 10:00	0.6	SE
7 Sep 2022 11:00	0.2	E	8 Sep 2022 11:00	0.8	SE
7 Sep 2022 12:00	1.2	N	8 Sep 2022 12:00	1.3	S
7 Sep 2022 13:00	1.8	N	8 Sep 2022 13:00	3.2	S
7 Sep 2022 14:00	0.8	E	8 Sep 2022 14:00	2.9	SE
7 Sep 2022 15:00	1.4	E	8 Sep 2022 15:00	2.6	SE
7 Sep 2022 16:00	1.8	SEE	8 Sep 2022 16:00	3.3	SE
7 Sep 2022 17:00	1.4	SEE	8 Sep 2022 17:00	1.8	SE
7 Sep 2022 18:00	0.0	-	8 Sep 2022 18:00	0.7	N
7 Sep 2022 19:00	0.2	SEE	8 Sep 2022 19:00	0.2	N
7 Sep 2022 20:00	0.5	SEE	8 Sep 2022 20:00	0.2	SES
7 Sep 2022 21:00	1.1	SEE	8 Sep 2022 21:00	0.2	SES
7 Sep 2022 22:00	1.5	N	8 Sep 2022 22:00	0.3	SEE
7 Sep 2022 23:00	1.2	N	8 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
9 Sep 2022 00:00	0.0	-	10 Sep 2022 00:00	0.0	-
9 Sep 2022 01:00	0.0	-	10 Sep 2022 01:00	0.0	-
9 Sep 2022 02:00	0.0	-	10 Sep 2022 02:00	0.0	-
9 Sep 2022 03:00	0.0	-	10 Sep 2022 03:00	0.0	-
9 Sep 2022 04:00	0.0	-	10 Sep 2022 04:00	0.0	-
9 Sep 2022 05:00	0.0	-	10 Sep 2022 05:00	0.0	-
9 Sep 2022 06:00	0.0	-	10 Sep 2022 06:00	0.0	-
9 Sep 2022 07:00	0.0	-	10 Sep 2022 07:00	0.0	-
9 Sep 2022 08:00	0.2	W	10 Sep 2022 08:00	0.0	-
9 Sep 2022 09:00	0.1	W	10 Sep 2022 09:00	0.2	NEN
9 Sep 2022 10:00	0.3	SW	10 Sep 2022 10:00	0.2	N
9 Sep 2022 11:00	0.2	SW	10 Sep 2022 11:00	0.2	N
9 Sep 2022 12:00	0.0	-	10 Sep 2022 12:00	0.7	SEE
9 Sep 2022 13:00	1.3	SE	10 Sep 2022 13:00	2.9	SEE
9 Sep 2022 14:00	1.3	N	10 Sep 2022 14:00	2.0	SEE
9 Sep 2022 15:00	3.5	N	10 Sep 2022 15:00	3.5	SEE
9 Sep 2022 16:00	3.5	SEE	10 Sep 2022 16:00	1.7	SE
9 Sep 2022 17:00	2.8	SEE	10 Sep 2022 17:00	1.1	SE
9 Sep 2022 18:00	2.3	SEE	10 Sep 2022 18:00	0.1	SEE
9 Sep 2022 19:00	0.7	SEE	10 Sep 2022 19:00	0.2	SEE
9 Sep 2022 20:00	0.2	SEE	10 Sep 2022 20:00	0.0	-
9 Sep 2022 21:00	0.2	SEE	10 Sep 2022 21:00	0.0	-
9 Sep 2022 22:00	0.2	SEE	10 Sep 2022 22:00	0.0	-
9 Sep 2022 23:00	0.1	SEE	10 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
11 Sep 2022 00:00	0.0	-	12 Sep 2022 00:00	0.0	-
11 Sep 2022 01:00	0.0	-	12 Sep 2022 01:00	0.0	-
11 Sep 2022 02:00	0.0	-	12 Sep 2022 02:00	0.0	-
11 Sep 2022 03:00	0.0	-	12 Sep 2022 03:00	0.0	-
11 Sep 2022 04:00	0.0	-	12 Sep 2022 04:00	0.0	-
11 Sep 2022 05:00	0.0	-	12 Sep 2022 05:00	0.0	-
11 Sep 2022 06:00	0.0	-	12 Sep 2022 06:00	0.1	SWW
11 Sep 2022 07:00	0.0	-	12 Sep 2022 07:00	0.1	SWW
11 Sep 2022 08:00	0.0	-	12 Sep 2022 08:00	0.9	SWW
11 Sep 2022 09:00	1.5	SWW	12 Sep 2022 09:00	0.2	SWW
11 Sep 2022 10:00	1.6	SWW	12 Sep 2022 10:00	0.0	-
11 Sep 2022 11:00	0.7	SWW	12 Sep 2022 11:00	0.1	SE
11 Sep 2022 12:00	1.4	W	12 Sep 2022 12:00	0.0	-
11 Sep 2022 13:00	0.9	W	12 Sep 2022 13:00	0.0	-
11 Sep 2022 14:00	0.2	S	12 Sep 2022 14:00	0.0	-
11 Sep 2022 15:00	0.3	S	12 Sep 2022 15:00	0.0	-
11 Sep 2022 16:00	0.0	-	12 Sep 2022 16:00	0.7	E
11 Sep 2022 17:00	0.3	N	12 Sep 2022 17:00	0.8	E
11 Sep 2022 18:00	0.0	-	12 Sep 2022 18:00	0.0	-
11 Sep 2022 19:00	0.1	S	12 Sep 2022 19:00	0.0	-
11 Sep 2022 20:00	0.0	-	12 Sep 2022 20:00	0.0	-
11 Sep 2022 21:00	0.0	-	12 Sep 2022 21:00	0.0	-
11 Sep 2022 22:00	0.0	-	12 Sep 2022 22:00	0.0	-
11 Sep 2022 23:00	0.0	-	12 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
13 Sep 2022 00:00	0.0	-	14 Sep 2022 00:00	0.0	-
13 Sep 2022 01:00	0.0	-	14 Sep 2022 01:00	0.0	-
13 Sep 2022 02:00	0.0	-	14 Sep 2022 02:00	0.0	-
13 Sep 2022 03:00	0.0	-	14 Sep 2022 03:00	0.0	-
13 Sep 2022 04:00	0.0	-	14 Sep 2022 04:00	0.0	-
13 Sep 2022 05:00	0.0	-	14 Sep 2022 05:00	0.0	-
13 Sep 2022 06:00	0.0	-	14 Sep 2022 06:00	0.0	-
13 Sep 2022 07:00	0.0	-	14 Sep 2022 07:00	0.1	SE
13 Sep 2022 08:00	0.4	N	14 Sep 2022 08:00	0.3	SEE
13 Sep 2022 09:00	0.0	-	14 Sep 2022 09:00	0.0	-
13 Sep 2022 10:00	0.0	-	14 Sep 2022 10:00	0.3	SE
13 Sep 2022 11:00	0.5	NEE	14 Sep 2022 11:00	0.3	SE
13 Sep 2022 12:00	0.5	NE	14 Sep 2022 12:00	0.2	W
13 Sep 2022 13:00	0.1	NE	14 Sep 2022 13:00	1.0	W
13 Sep 2022 14:00	0.0	-	14 Sep 2022 14:00	0.4	N
13 Sep 2022 15:00	0.1	SE	14 Sep 2022 15:00	0.5	N
13 Sep 2022 16:00	0.0	-	14 Sep 2022 16:00	0.6	W
13 Sep 2022 17:00	0.0	-	14 Sep 2022 17:00	0.5	W
13 Sep 2022 18:00	0.0	-	14 Sep 2022 18:00	0.0	-
13 Sep 2022 19:00	0.0	-	14 Sep 2022 19:00	0.0	-
13 Sep 2022 20:00	0.0	-	14 Sep 2022 20:00	0.0	-
13 Sep 2022 21:00	0.0	-	14 Sep 2022 21:00	0.0	-
13 Sep 2022 22:00	0.0	-	14 Sep 2022 22:00	0.0	-
13 Sep 2022 23:00	0.0	-	14 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
15 Sep 2022 00:00	0.0	-	16 Sep 2022 00:00	0.0	-
15 Sep 2022 01:00	0.0	-	16 Sep 2022 01:00	0.0	-
15 Sep 2022 02:00	0.0	-	16 Sep 2022 02:00	0.0	-
15 Sep 2022 03:00	0.0	-	16 Sep 2022 03:00	0.0	-
15 Sep 2022 04:00	0.0	-	16 Sep 2022 04:00	0.0	-
15 Sep 2022 05:00	0.0	-	16 Sep 2022 05:00	0.0	-
15 Sep 2022 06:00	0.0	-	16 Sep 2022 06:00	0.0	-
15 Sep 2022 07:00	0.0	-	16 Sep 2022 07:00	0.0	-
15 Sep 2022 08:00	0.0	-	16 Sep 2022 08:00	0.0	-
15 Sep 2022 09:00	0.1	SES	16 Sep 2022 09:00	0.1	SWW
15 Sep 2022 10:00	0.1	N	16 Sep 2022 10:00	0.1	E
15 Sep 2022 11:00	0.3	N	16 Sep 2022 11:00	0.1	E
15 Sep 2022 12:00	0.0	-	16 Sep 2022 12:00	0.3	SE
15 Sep 2022 13:00	0.1	SW	16 Sep 2022 13:00	0.9	SE
15 Sep 2022 14:00	0.1	S	16 Sep 2022 14:00	2.2	SEE
15 Sep 2022 15:00	0.5	S	16 Sep 2022 15:00	2.2	SEE
15 Sep 2022 16:00	0.5	SE	16 Sep 2022 16:00	2.5	N
15 Sep 2022 17:00	0.0	-	16 Sep 2022 17:00	2.8	N
15 Sep 2022 18:00	0.0	-	16 Sep 2022 18:00	0.7	SE
15 Sep 2022 19:00	0.0	-	16 Sep 2022 19:00	0.0	-
15 Sep 2022 20:00	0.0	-	16 Sep 2022 20:00	0.0	-
15 Sep 2022 21:00	0.0	-	16 Sep 2022 21:00	0.0	-
15 Sep 2022 22:00	0.0	-	16 Sep 2022 22:00	0.0	-
15 Sep 2022 23:00	0.0	-	16 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
17 Sep 2022 00:00	0.0	-	18 Sep 2022 00:00	0.0	-
17 Sep 2022 01:00	0.0	-	18 Sep 2022 01:00	0.0	-
17 Sep 2022 02:00	0.0	-	18 Sep 2022 02:00	0.0	-
17 Sep 2022 03:00	0.0	-	18 Sep 2022 03:00	0.0	-
17 Sep 2022 04:00	0.0	-	18 Sep 2022 04:00	0.0	-
17 Sep 2022 05:00	0.0	-	18 Sep 2022 05:00	0.0	-
17 Sep 2022 06:00	0.0	-	18 Sep 2022 06:00	0.0	-
17 Sep 2022 07:00	0.0	-	18 Sep 2022 07:00	0.0	-
17 Sep 2022 08:00	0.1	NWW	18 Sep 2022 08:00	0.0	-
17 Sep 2022 09:00	0.0	-	18 Sep 2022 09:00	0.0	-
17 Sep 2022 10:00	0.0	-	18 Sep 2022 10:00	0.7	SWW
17 Sep 2022 11:00	0.0	-	18 Sep 2022 11:00	1.3	SWW
17 Sep 2022 12:00	0.6	N	18 Sep 2022 12:00	0.8	SWW
17 Sep 2022 13:00	1.2	N	18 Sep 2022 13:00	0.7	SWW
17 Sep 2022 14:00	0.4	SES	18 Sep 2022 14:00	1.3	SWS
17 Sep 2022 15:00	0.1	SES	18 Sep 2022 15:00	2.9	SWS
17 Sep 2022 16:00	0.2	S	18 Sep 2022 16:00	0.2	SW
17 Sep 2022 17:00	0.1	S	18 Sep 2022 17:00	0.0	-
17 Sep 2022 18:00	0.0	-	18 Sep 2022 18:00	0.0	-
17 Sep 2022 19:00	0.2	SW	18 Sep 2022 19:00	0.0	-
17 Sep 2022 20:00	0.0	-	18 Sep 2022 20:00	0.0	-
17 Sep 2022 21:00	0.7	S	18 Sep 2022 21:00	0.0	-
17 Sep 2022 22:00	0.0	-	18 Sep 2022 22:00	0.0	-
17 Sep 2022 23:00	0.0	-	18 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
19 Sep 2022 00:00	0.2	SE	20 Sep 2022 00:00	0.0	-
19 Sep 2022 01:00	1.7	SE	20 Sep 2022 01:00	0.0	-
19 Sep 2022 02:00	1.0	SWS	20 Sep 2022 02:00	0.0	-
19 Sep 2022 03:00	1.1	SWS	20 Sep 2022 03:00	0.0	-
19 Sep 2022 04:00	1.6	N	20 Sep 2022 04:00	0.0	-
19 Sep 2022 05:00	0.5	N	20 Sep 2022 05:00	0.0	-
19 Sep 2022 06:00	0.5	W	20 Sep 2022 06:00	0.0	-
19 Sep 2022 07:00	1.5	W	20 Sep 2022 07:00	0.0	-
19 Sep 2022 08:00	1.2	SWW	20 Sep 2022 08:00	0.1	SEE
19 Sep 2022 09:00	1.0	SWW	20 Sep 2022 09:00	0.1	SEE
19 Sep 2022 10:00	0.6	SWW	20 Sep 2022 10:00	0.2	N
19 Sep 2022 11:00	0.9	SWW	20 Sep 2022 11:00	1.3	N
19 Sep 2022 12:00	0.6	W	20 Sep 2022 12:00	0.1	E
19 Sep 2022 13:00	0.1	W	20 Sep 2022 13:00	2.1	E
19 Sep 2022 14:00	0.5	N	20 Sep 2022 14:00	2.8	SEE
19 Sep 2022 15:00	0.6	N	20 Sep 2022 15:00	3.1	SEE
19 Sep 2022 16:00	1.2	E	20 Sep 2022 16:00	3.8	SEE
19 Sep 2022 17:00	0.3	E	20 Sep 2022 17:00	0.7	SEE
19 Sep 2022 18:00	0.1	SEE	20 Sep 2022 18:00	2.1	SEE
19 Sep 2022 19:00	0.0	-	20 Sep 2022 19:00	0.2	SEE
19 Sep 2022 20:00	0.0	-	20 Sep 2022 20:00	0.0	-
19 Sep 2022 21:00	0.0	-	20 Sep 2022 21:00	0.0	-
19 Sep 2022 22:00	0.0	-	20 Sep 2022 22:00	0.0	-
19 Sep 2022 23:00	0.0	-	20 Sep 2022 23:00	0.1	E

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
21 Sep 2022 00:00	0.1	E	22 Sep 2022 00:00	1.2	SEE
21 Sep 2022 01:00	0.0	-	22 Sep 2022 01:00	0.4	SEE
21 Sep 2022 02:00	0.4	E	22 Sep 2022 02:00	0.8	N
21 Sep 2022 03:00	0.1	E	22 Sep 2022 03:00	0.2	N
21 Sep 2022 04:00	0.3	E	22 Sep 2022 04:00	0.0	-
21 Sep 2022 05:00	0.1	E	22 Sep 2022 05:00	0.1	E
21 Sep 2022 06:00	0.9	N	22 Sep 2022 06:00	0.3	SEE
21 Sep 2022 07:00	1.0	N	22 Sep 2022 07:00	0.1	SEE
21 Sep 2022 08:00	3.8	SEE	22 Sep 2022 08:00	0.3	E
21 Sep 2022 09:00	7.5	SEE	22 Sep 2022 09:00	0.4	E
21 Sep 2022 10:00	2.2	SEE	22 Sep 2022 10:00	0.5	E
21 Sep 2022 11:00	5.3	SEE	22 Sep 2022 11:00	3.3	E
21 Sep 2022 12:00	3.4	E	22 Sep 2022 12:00	1.9	N
21 Sep 2022 13:00	1.8	E	22 Sep 2022 13:00	1.9	N
21 Sep 2022 14:00	2.8	E	22 Sep 2022 14:00	0.4	SEE
21 Sep 2022 15:00	0.9	E	22 Sep 2022 15:00	2.0	SEE
21 Sep 2022 16:00	2.6	N	22 Sep 2022 16:00	1.2	SEE
21 Sep 2022 17:00	1.5	N	22 Sep 2022 17:00	0.3	SEE
21 Sep 2022 18:00	1.4	E	22 Sep 2022 18:00	0.1	SEE
21 Sep 2022 19:00	0.3	E	22 Sep 2022 19:00	0.0	-
21 Sep 2022 20:00	0.5	SEE	22 Sep 2022 20:00	0.0	-
21 Sep 2022 21:00	0.5	SEE	22 Sep 2022 21:00	0.0	-
21 Sep 2022 22:00	0.5	SEE	22 Sep 2022 22:00	0.0	-
21 Sep 2022 23:00	0.5	SEE	22 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
23 Sep 2022 00:00	0.0	-	24 Sep 2022 00:00	0.1	SEE
23 Sep 2022 01:00	0.0	-	24 Sep 2022 01:00	0.0	-
23 Sep 2022 02:00	0.0	-	24 Sep 2022 02:00	0.3	SEE
23 Sep 2022 03:00	0.0	-	24 Sep 2022 03:00	0.3	SEE
23 Sep 2022 04:00	0.0	-	24 Sep 2022 04:00	0.4	N
23 Sep 2022 05:00	0.0	-	24 Sep 2022 05:00	0.0	-
23 Sep 2022 06:00	0.0	-	24 Sep 2022 06:00	0.2	SEE
23 Sep 2022 07:00	0.0	-	24 Sep 2022 07:00	0.5	SEE
23 Sep 2022 08:00	0.1	N	24 Sep 2022 08:00	0.7	E
23 Sep 2022 09:00	0.0	-	24 Sep 2022 09:00	0.4	E
23 Sep 2022 10:00	0.1	NEE	24 Sep 2022 10:00	0.5	SW
23 Sep 2022 11:00	0.0	-	24 Sep 2022 11:00	1.1	SW
23 Sep 2022 12:00	0.1	NEN	24 Sep 2022 12:00	2.0	E
23 Sep 2022 13:00	2.3	NEN	24 Sep 2022 13:00	3.8	E
23 Sep 2022 14:00	1.9	SEE	24 Sep 2022 14:00	2.2	N
23 Sep 2022 15:00	1.7	SEE	24 Sep 2022 15:00	2.3	N
23 Sep 2022 16:00	1.0	SEE	24 Sep 2022 16:00	1.4	SEE
23 Sep 2022 17:00	0.3	SEE	24 Sep 2022 17:00	0.6	SEE
23 Sep 2022 18:00	0.0	-	24 Sep 2022 18:00	0.7	SEE
23 Sep 2022 19:00	0.0	-	24 Sep 2022 19:00	0.2	SEE
23 Sep 2022 20:00	0.3	E	24 Sep 2022 20:00	0.2	SEE
23 Sep 2022 21:00	2.5	E	24 Sep 2022 21:00	0.2	SEE
23 Sep 2022 22:00	0.1	SEE	24 Sep 2022 22:00	0.4	SEE
23 Sep 2022 23:00	0.0	-	24 Sep 2022 23:00	0.0	-

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
25 Sep 2022 00:00	0.1	N	26 Sep 2022 00:00	0.2	SEE
25 Sep 2022 01:00	0.2	N	26 Sep 2022 01:00	0.0	-
25 Sep 2022 02:00	0.1	SEE	26 Sep 2022 02:00	0.0	-
25 Sep 2022 03:00	0.2	SEE	26 Sep 2022 03:00	0.1	SEE
25 Sep 2022 04:00	0.1	SEE	26 Sep 2022 04:00	0.1	E
25 Sep 2022 05:00	0.1	SEE	26 Sep 2022 05:00	0.0	-
25 Sep 2022 06:00	0.2	E	26 Sep 2022 06:00	0.3	N
25 Sep 2022 07:00	0.1	E	26 Sep 2022 07:00	0.0	-
25 Sep 2022 08:00	0.2	SES	26 Sep 2022 08:00	0.1	SWS
25 Sep 2022 09:00	0.0	-	26 Sep 2022 09:00	0.4	SWS
25 Sep 2022 10:00	0.2	N	26 Sep 2022 10:00	0.3	E
25 Sep 2022 11:00	0.0	-	26 Sep 2022 11:00	0.1	E
25 Sep 2022 12:00	0.0	-	26 Sep 2022 12:00	0.6	NEE
25 Sep 2022 13:00	1.0	SWS	26 Sep 2022 13:00	0.1	NEE
25 Sep 2022 14:00	1.9	SEE	26 Sep 2022 14:00	0.1	SE
25 Sep 2022 15:00	2.0	SEE	26 Sep 2022 15:00	0.2	SE
25 Sep 2022 16:00	3.2	SEE	26 Sep 2022 16:00	0.7	N
25 Sep 2022 17:00	2.9	SEE	26 Sep 2022 17:00	0.6	N
25 Sep 2022 18:00	1.4	SEE	26 Sep 2022 18:00	0.7	SEE
25 Sep 2022 19:00	0.7	SEE	26 Sep 2022 19:00	1.4	SEE
25 Sep 2022 20:00	0.1	N	26 Sep 2022 20:00	0.5	SEE
25 Sep 2022 21:00	0.6	N	26 Sep 2022 21:00	0.7	SEE
25 Sep 2022 22:00	0.3	SEE	26 Sep 2022 22:00	0.3	NEE
25 Sep 2022 23:00	0.0	-	26 Sep 2022 23:00	0.9	NEE

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
27 Sep 2022 00:00	4.4	E	28 Sep 2022 00:00	1.5	SEE
27 Sep 2022 01:00	1.8	E	28 Sep 2022 01:00	1.2	SEE
27 Sep 2022 02:00	1.4	N	28 Sep 2022 02:00	3.7	SEE
27 Sep 2022 03:00	0.9	N	28 Sep 2022 03:00	2.1	SEE
27 Sep 2022 04:00	0.8	E	28 Sep 2022 04:00	3.2	E
27 Sep 2022 05:00	0.4	E	28 Sep 2022 05:00	2.0	E
27 Sep 2022 06:00	0.3	SE	28 Sep 2022 06:00	1.4	E
27 Sep 2022 07:00	1.0	SE	28 Sep 2022 07:00	0.6	E
27 Sep 2022 08:00	1.5	E	28 Sep 2022 08:00	2.5	N
27 Sep 2022 09:00	1.0	E	28 Sep 2022 09:00	2.6	N
27 Sep 2022 10:00	0.9	NEE	28 Sep 2022 10:00	2.0	SE
27 Sep 2022 11:00	0.7	NEE	28 Sep 2022 11:00	4.6	SE
27 Sep 2022 12:00	1.3	N	28 Sep 2022 12:00	4.8	SEE
27 Sep 2022 13:00	0.8	N	28 Sep 2022 13:00	3.1	SEE
27 Sep 2022 14:00	2.9	SEE	28 Sep 2022 14:00	2.3	E
27 Sep 2022 15:00	2.5	SEE	28 Sep 2022 15:00	0.7	E
27 Sep 2022 16:00	4.1	SEE	28 Sep 2022 16:00	1.8	E
27 Sep 2022 17:00	5.0	SEE	28 Sep 2022 17:00	1.1	E
27 Sep 2022 18:00	1.1	E	28 Sep 2022 18:00	1.3	N
27 Sep 2022 19:00	2.4	E	28 Sep 2022 19:00	1.2	N
27 Sep 2022 20:00	1.0	E	28 Sep 2022 20:00	0.7	SEE
27 Sep 2022 21:00	0.5	E	28 Sep 2022 21:00	2.0	SEE
27 Sep 2022 22:00	1.8	N	28 Sep 2022 22:00	0.8	SEE
27 Sep 2022 23:00	1.7	N	28 Sep 2022 23:00	1.3	SEE

Wind Data (September 2022)

Date & Time	Wind Speed (m/s)	Wind Direction	Date & Time	Wind Speed (m/s)	Wind Direction
29 Sep 2022 00:00	0.3	SEE	30 Sep 2022 00:00	1.1	N
29 Sep 2022 01:00	0.6	SEE	30 Sep 2022 01:00	2.5	N
29 Sep 2022 02:00	0.7	NEE	30 Sep 2022 02:00	2.7	E
29 Sep 2022 03:00	0.7	NEE	30 Sep 2022 03:00	0.5	E
29 Sep 2022 04:00	0.2	N	30 Sep 2022 04:00	0.2	E
29 Sep 2022 05:00	0.4	N	30 Sep 2022 05:00	0.4	E
29 Sep 2022 06:00	1.2	SEE	30 Sep 2022 06:00	0.6	E
29 Sep 2022 07:00	0.9	SEE	30 Sep 2022 07:00	0.8	E
29 Sep 2022 08:00	0.5	SEE	30 Sep 2022 08:00	2.8	SEE
29 Sep 2022 09:00	0.4	SEE	30 Sep 2022 09:00	1.1	SEE
29 Sep 2022 10:00	2.0	SEE	30 Sep 2022 10:00	1.9	N
29 Sep 2022 11:00	3.2	SEE	30 Sep 2022 11:00	0.5	N
29 Sep 2022 12:00	2.5	E	30 Sep 2022 12:00	1.0	SEE
29 Sep 2022 13:00	4.5	E	30 Sep 2022 13:00	0.1	SEE
29 Sep 2022 14:00	1.8	N	30 Sep 2022 14:00	0.1	SEE
29 Sep 2022 15:00	4.0	N	30 Sep 2022 15:00	0.1	SEE
29 Sep 2022 16:00	2.7	SEE	30 Sep 2022 16:00	1.3	E
29 Sep 2022 17:00	2.1	SEE	30 Sep 2022 17:00	0.0	-
29 Sep 2022 18:00	1.5	SEE	30 Sep 2022 18:00	0.0	-
29 Sep 2022 19:00	1.1	SEE	30 Sep 2022 19:00	0.0	-
29 Sep 2022 20:00	2.8	SEE	30 Sep 2022 20:00	0.0	-
29 Sep 2022 21:00	0.7	SEE	30 Sep 2022 21:00	0.1	N
29 Sep 2022 22:00	1.2	E	30 Sep 2022 22:00	0.1	SE
29 Sep 2022 23:00	1.7	E	30 Sep 2022 23:00	0.1	SE

Appendix K

Summary of ET's Site Environmental
Audit in the Reporting Month

Summary of ET's Site Environmental Audit in the Reporting Month

Parameters	Date	Observations and Recommendations		Follow-up
Air Quality	5 September 2022	Reminder 1: Grouting station shall be covered with 3 sides and top to prevent air pollution.		5 September 2022
	13 September 2022	Reminder 1: NRMM Label for regulated equipment shall be replaced.		13 September 2022
	19 September 2022	Reminder 1: Cement bags should be covered entirely with tarpaulin sheet.		19 September 2022
Noise		NA		
Water Quality	5 September 2022	Observation 1: Oil stain shall be removed from the surface.		5 September 2022
Chemical and Waste Management		NA		
Landscape and Visual Impact		NA		
Permit / Licenses		NA		
Others		NA		

Sai O Trunk Sewer Sewage Pumping Station

Date of Inspection: 5 September 2022

Defect Photo	Rectified Photo
	
<p>Reminder 1: Grouting station shall be covered with 3 sides and top to prevent air pollution</p>	<p>Grouting station had been covered with 3 sides and top to prevent air pollution</p>
	
<p>Observation 1: Oil Stain shall be removed from the surface.</p>	<p>Oil stain have been removed from the surface.</p>

Sai O Trunk Sewer Sewage Pumping Station

Date of Inspection: 13 September 2022

Defect Photo	Rectified Photo
 	
<p>Reminder 1: NRMM Label for regulated equipment shall be replaced</p>	<p>NRMM Label had been replaced</p>

Date of Inspection: 19 September 2022

Defect Photo	Rectified Photo
	
<p>Reminder 1: Cement bags should be covered entirely with tarpaulin sheet</p>	<p>Cement bag had been transferred to grouting station which is semi-enclosed in 3 sides and the top with tarpaulin sheet</p>

Appendix L

Waste Flow Table

Waste Flow Table (September 2022)

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated		Actual Quantities of Recyclables Generation		
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Chemical Waste	General Refuse	Felled Trees	Metals	Paper / Cardboard Packaging
	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)
2022 Feb	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2022 Mar	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2022 Apr	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2022 May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	61.760	0.000	0.000	0.000
2022 Jun	0.649	0.000	0.000	0.000	0.649	0.000	0.000	0.610	0.000	0.000	0.000
2022 Jul	0.711	0.000	0.000	0.000	0.711	0.000	0.000	8.990	0.000	0.000	0.000
2022 Aug	0.839	0.000	0.000	0.000	0.839	0.000	0.000	10.890	0.000	0.000	0.000
2022 Sep	2.724	0.000	0.000	0.678	2.045	0.000	0.000	5.660	0.000	0.000	0.000
2022 Oct											
2022 Nov											
2022 Dec											
Total	4.922	0.000	0.000	0.678	4.244	0.000	0.000	87.910	0.000	0.000	0.000

Note:

- 1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

Appendix M

Cumulative Statistics on Environmental
Complaints, Notifications of Summons and
Successful Prosecutions

Environmental Complaints Log

Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Outcome	Date of Reply

Cumulative Statistics on Complaints

Environmental Aspects	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

Cumulative Statistics on Notification of Summons and Successful Prosecutions

Environmental Aspects	Cumulative No. Brought Forward	No. of Notification of Summons and Prosecutions This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

Appendix N

Implementation Status of Environmental
Mitigation Measures (Construction Phase)

Implementation Status of Environmental Mitigation Measures (Construction Phase)

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	A) Air Quality		
3.7.1.1 (A1)	<p>Sufficient dust suppression measures as stipulated under the <i>Air Pollution Control (Construction Dust) Regulation</i> (Cap. 311R), as well as good site practices and good housekeeping of the site should be properly implemented in order to minimise the construction dust generated. These measures include the following:</p> <ul style="list-style-type: none"> a) Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather; b) Use of frequent watering for particularly dusty construction areas and areas close to ASRs; c) Use of frequent watering or water sprinklers for major haul roads, material stockpiling areas and other dusty activities within the construction site; d) Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines; e) Provide hoarding of not less than 2.4 m high from ground level along the site boundary except for site entrance or exit; f) Open temporary stockpiles should be avoided or covered. Prevent placing dusty material storage piles near ASRs; g) Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations; h) Establishment and use of vehicle wheel and body washing facilities at the exit points of the site; i) Imposition of speed controls for vehicles on unpaved site roads, 8 km/hr is the recommended limit; j) Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs; k) Avoid position of material stockpiling areas, major haul roads and dusty works within the construction site close to concerned ASRs; and l) Avoid unnecessary exposed earth. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
			Implemented
			Implemented
			Partially Implemented
			Implemented
			N/A
			N/O
			Implemented
			Implemented
			Implemented
3.7.1.2 (A2)	<p>Guidelines stipulated in EPD's <i>Recommended Pollution Control Clauses for Construction Contracts</i> should be incorporated in the contract documents to abate dust impacts. The clauses include:</p> <ul style="list-style-type: none"> a) The contractor shall observe and comply with the <i>Air Pollution Control Ordinance</i> and its subsidiary regulations, particularly the <i>Air Pollution Control (Construction Dust) Regulation</i>. b) The contractor shall undertake at all times to prevent dust nuisance as a result of the construction activities. c) The contractor shall ensure that there will be adequate water supply / storage for dust suppression. d) The contractor shall devise, arrange methods of working and carrying out the works in such a manner so as to minimise dust impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented. e) Before the commencement of any work, the contractor may require to submit the methods of working, plant, equipment and air pollution control system to be used on the site for the engineer inspection and approval. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	
			Implemented
3.4.1.4 (A3)	<p><u>Control on fuel combustion from the use of PMEs</u></p> <ul style="list-style-type: none"> a) Legal control on the types of fuel allowed for use and their sulphur contents in commercial and industrial processes should be observed. b) Only approved or exempted non-road mobile machinery should be allowed to be used in construction sites. c) All construction plants are required to use ultra-low-sulphur diesel (ULSD) (defined as diesel fuel containing not more than 0.005% sulphur by weight). 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	
			Implemented
			Implemented

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix B of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed.

Implementation Status of Environmental Mitigation Measures (Construction Phase)

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	B) Noise		
4.8.1.2 (B1)	<p>Good Site Practice</p> <p>The site practices listed below should be followed during construction works:</p> <ul style="list-style-type: none"> a) Only well-maintained PME to be operated on site and should be serviced regularly during construction; b) Silencers or mufflers on construction equipment should be utilised (if appropriate) and should be properly maintained during the construction; c) Mobile plant, if any, should be sited as far away from NSRs as possible; d) Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; e) Plant known to emit noise strongly in one direction should, wherever possible, be orientated to direct noise away from the nearby NSRs; and f) Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	<p>Implemented</p> <p>N/A</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p>
4.8.1.3 – 4.8.1.4 & Table 7 (B2)	<p><u>Use of Quiet PME</u></p> <p>The Contractors may adopt alternative quiet PME as long as it can be demonstrated that they would not result in construction noise impacts worse than those predicted in this EIA Report. Use of quiet plant should be made reference to the Powered Mechanical Equipment (PME) listed in the Technical Memorandum or the Quality Powered Mechanical Equipment (QPME) / other commonly used PME listed in Environmental Protection Department (EPD) web pages as far as possible which includes the Sound Power Level (SWLs) for specific quiet PME.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
4.8.1.5 (B3)	<p><u>Use of Movable Noise Barriers/Acoustic Mats</u></p> <p>Movable noise barriers that can be placed close to the construction equipment and moved along with the PME are effective for screening noise from NSRs. A typical design which has been used locally is a wooden framed barrier with a cantilevered upper portion of superficial density no less than 10 kg/m² on a skid footing with internal sound absorptive lining. This measure is particularly effective for low level zone of NSRs. A longer cantilevered top cover would be required to achieve screening benefits at upper floors of NSRs. The Contractor shall be responsible for the design and actual position of the movable noise barriers with due consideration given to the position and size of the PME, and the requirement of intercepting the line-of-sight from the NSRs to the PME, as well as ensuring that the barriers should have no opening and gap. It is anticipated that properly designed noise barriers would achieve a 5 dB(A) reduction for mobile PME and a 10 dB(A) reduction for static PME. Acoustic mat with surface mass of not less than 7kg/m² would be used for plant items such as piling, oscillator and a 10 dB(A) noise reduction is anticipated.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
4.8.1.7 (B4)	<p><u>Scheduling of Noisy Activities to outside Examination Period of HKBTS</u></p> <p>To minimise the construction noise impact on HKBTS, the use of piling (oscillator) in ELS and concurrent use of concrete lorry mixer with other PMEs in steel fixing and concreting of structure should be avoided during the examination period of HKBTS.</p> <p>Contractor should keep close communication with the operator of HKBTS to obtain the updated schedule of examination at the time conducting of the relevant construction works.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	<p>Implemented</p> <p>Implemented</p>

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix B of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed.

Implementation Status of Environmental Mitigation Measures (Construction Phase)

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	C) Water Quality		
5.8.1.1 (C1)	<p>Construction Site Runoff</p> <p>Proper site management measures should be implemented to control site runoff and drainage, and thereby prevent high sediment loadings from entering nearby watercourses. The contractor should follow the practices, and be responsible for the design, construction, operation and maintenance of all the mitigation measures as specified in ProPECC PN 1/94 “Construction Site Drainage”. The design of the mitigation measures should be submitted by the contractor to the engineer for approval.</p> <p>These mitigation measures should include the following practices:</p> <ul style="list-style-type: none"> a) At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. b) Sand / silt removal facilities such as sand / silt traps and sediment basins should be provided to remove sand / silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt / sand traps should be 5 minutes under maximum flow conditions. c) All drainage facilities and erosion and sediment control structures should always be regularly inspected and maintained to ensure proper and efficient operation and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. d) Measures should be taken to minimise the ingress of site drainage into excavations. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. e) If surface excavation works cannot be avoided during the wet season (April to October), temporarily exposed slope / soil surfaces should be covered by a tarpaulin or other means, as far as practicable, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Interception channels should be provided (e.g. along the crest / edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. Other measures that need to be implemented before, during and after rainstorms are summarised in ProPECC PN 1/94. f) All vehicles and plant should be cleaned before leaving a construction site. An adequately designed and sited wheel washing facility should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. g) Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
5.8.1.2 5.8.1.3 (C2)	<p>General Construction Activities</p> <ul style="list-style-type: none"> a) Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby water bodies and public drainage system. b) Stockpiles of cement and other construction materials should be kept covered when not being used. c) Oils and fuels should only be used and stored in designated areas, which have pollution prevention facilities. d) All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. Rainwater in the bunds should be cleared after each rain event. Waste oils, fuels and solvents collected within the bund should be handled and treated as chemical waste. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
5.8.1.4 (C3)	<p>Sewage Effluent</p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible for appropriate disposal of waste matter and maintenance of these facilities.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented

Sai O Trunk Sewer Sewage Pumping Station

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	C) Water Quality		
5.8.1.5 (C4)	<u>Construction Works in Close Proximity of Inland Waters</u> The practices outlined in ETWB TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should be adopted where applicable to minimise the water quality impacts upon any natural streams or surface water systems.	All construction sites / construction phase / upon completion of all construction activities (Contractor)	N/A

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix B of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed.

Implementation Status of Environmental Mitigation Measures (Construction Phase)

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	D) Waste Management		
6.5.1.3 (D1)	<p>Good Site Practices Recommendations for good site practices during the construction phase include:</p> <ul style="list-style-type: none"> a) Nomination of approved personnel, such as a site manager, to be responsible for implementation of good site practices, arrangements for waste collection and effective disposal to an appropriate facility; b) Training of site personnel in site cleanliness, concepts of waste reduction, reuse and recycling, proper waste management and chemical waste handling procedures; c) Provision of sufficient waste reception / disposal points, and regular collection of waste; d) Adoption of appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; e) Provision of regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; f) Adoption of a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites); and g) Preparation of Waste Management Plan (WMP), as part of the Environmental Management Plan (EMP). 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
			Implemented
6.5.1.4 (D2)	<p>Waste Reduction Measures Recommendations to achieve waste reduction are discussed as follow:</p> <ul style="list-style-type: none"> a) Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; b) Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the work force, and to encourage collection by individual collectors; c) Recycle any unused chemicals or those with remaining functional capacity; d) Maximise the use of reusable steel formwork to reduce the amount of C&D materials; e) Adopt proper storage and site practices to minimise the potential for damage to, or contamination of construction materials; f) Plan the delivery and stock of construction materials carefully to minimise the amount of waste generated; and g) Minimise over ordering and wastage through careful planning during purchasing of construction materials. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
			Implemented
6.5.1.6-6.5.1.7 (D3)	<p>Reducing and Reuse of C&D Materials</p> <ul style="list-style-type: none"> a) Careful design, planning together with good site management can reduce over-ordering and generation of C&D materials such as concrete, mortar and cement grouts. Formwork should be designed to minimise the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse. b) To minimise off-site disposal of inert C&D material, the excavated inert materials with suitable characteristics / size should be reused on-site as fill material as far as practicable, such as for backfilling of the box culvert and drainage pipe works. c) Prior to disposal of non-inert C&D materials, wood, steel and other metals should also be separated for reuse and / or recycle where practicable so as to minimise the quantity of waste to be disposed of to landfill. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
			Implemented
			Implemented
6.5.1.8 (D4)	<p>Storage of C&D Materials Suitable areas should be designated within the works site boundaries for temporary stockpiling of C&D material. Within stockpile areas, the following measures should be taken to control potential environmental impacts or nuisance:</p> <ul style="list-style-type: none"> a) cover material during heavy rainfall; b) locate stockpiles to minimise potential visual impacts; and c) minimise land intake of stockpile areas as far as possible. 	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
			Implemented
			Implemented

Sai O Trunk Sewer Sewage Pumping Station

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	D) Waste Management		
6.5.1.9 (D5)	<u>Disposal of C&D Materials</u> a) In order to monitor the disposal of C&D materials at the designated public fill reception facility and landfill and to control fly-tipping, a trip-ticket system should be included. b) When disposing inert C&D materials at a public filling reception facility, the material shall only consist of soil, rock, concrete, brick, cement plaster / mortar, inert building debris, aggregates and asphalt. The material shall be free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor.	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented Implemented
6.5.1.10 & 6.5.1.12 (D6)	<u>Chemical Wastes</u> a) If chemical waste is produced at the construction site / the SPS, the contractor would be required to register with the EPD as a Chemical Waste Producer. b) Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. c) Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. d) The contractor shall use a licensed collector to transport and dispose of the chemical wastes at the CWTC or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Construction and Operational Phase	Implemented Implemented Implemented Implemented
6.5.1.11 & Table 6.2 (D7)	<u>General Refuse</u> a) General refuse should be stored in enclosed bins or compaction units separate from C&D materials and chemical wastes. b) A reputable waste collector should be employed by the contractor to remove general refuse / screenings from the site on a regular basis to minimise odour, pest and litter impacts. c) Clearly labelled recycling bins should be provided on site to encourage segregation and recycling of aluminium and plastic wastes, and wastepaper to reduce general refuse production. d) The contractor should carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins should also be provided in the site as reminders. The recyclable waste materials should then be collected by reliable waste recycling agents on a regular basis. e) The collected general refuse will be disposed of at NENT landfill.	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented Implemented Implemented Implemented Implemented

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix B of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed.

Implementation Status of Environmental Mitigation Measures (Construction Phase)

EIA Ref. (No.)	Environmental Protection Measures (Construction Phase) ⁽¹⁾	Location & (Implementation Agent)	Implementation Status
	E) Landscape and Visual		
Table 10.9 (E1)	<p><u>CM1 – Preservation of Trees</u></p> <p>Trees to be retained in accordance with DEVB TCW No. 4/2020 - Tree Preservation.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	N/A
Table 10.9 (E2)	<p><u>CM2 – Compensatory Tree Planting</u></p> <p>Any trees to be felled under the Project shall be compensated in accordance with DEVB TCW No. 4/2020 - <i>Tree Preservation</i>.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	N/A
Table 10.9 (E3)	<p><u>CM3 – Control of Night-time Lighting Glare</u></p> <p>Any lighting provision of the construction works at night shall be carefully controlled to prevent light overspill to the nearby VSRs and into the sky.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
Table 10.9 (E4)	<p><u>CM4 – Erection of Decorative Screen Hoarding</u></p> <p>Decorative Hoarding, which is compatible with the surrounding settings, shall be erected during construction to minimise the potential landscape and visual impacts due to the construction works and activities.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
Table 10.9 (E5)	<p><u>CM5 – Management of Construction Activities and Facilities</u></p> <p>The facilities and activities at works sites and areas, which include site office, temporary storage areas, temporary works etc., shall be carefully managed and controlled on the height, deposition and arrangement to minimise any potential adverse landscape and visual impacts.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	Implemented
Table 10.9 (E6)	<p><u>CM6 – Reinstatement of Temporarily Disturbed Landscape Areas</u></p> <p>All hard and soft landscape areas disturbed temporarily during construction due to temporary excavations, temporary works sites and works areas shall be reinstated to equal or better quality, to the satisfaction of the relevant Government Departments.</p>	All construction sites / construction phase / upon completion of all construction activities (Contractor)	N/A

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix B of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed

Appendix O

Summary of Outstanding Issues and
Deficiencies in the Reporting Month

Summary of Outstanding Issues and Deficiencies in the Reporting Month

Environmental Aspects	Outstanding Issues	Deficiencies
Air Quality	N/A	
Noise	N/A	
Water Quality	N/A	
Chemical and Waste Management	N/A	
Landscape and Visual Impact	N/A	
Permit / Licenses	N/A	
Others	N/A	

Any items of deficiencies can be referred to **Appendix K**.