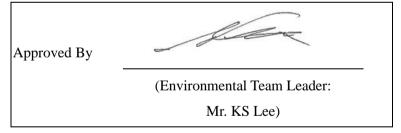
# **Civil Engineering and Development Department**

# Trunk Road T2 Monthly Environmental Monitoring and Audit Report (under EP-451/2013)

May 2024 (Version 1.0)



#### REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

#### CINOTECH CONSULTANTS LTD

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Ref.: CEDKTDT2EM00\_0\_0623L.24

12 June 2024

By Post and Email

Hyder-Meinhardt Joint Venture 23/F, Two Harbour Square 180 Wai Yip Street, Kwun Tong

Kowloon, Hong Kong

Attention: Mr. Edwin Ching

Dear Mr. Ching,

Re: Agreement No. EDO 01/2019

**Independent Environmental Checker for** Contract No. ED/2018/04 - Trunk Road T2 and Infrastructure Works for

**Developments at the Former South Apron** 

# Monthly EM&A Report (May 2024) for EP-451/2013

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for May 2024 (Version 1.0) certified by the ET Leader and provided to us via e-mail on 8 June 2024. We are pleased to inform you that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 of EP-451/2013.

Thank you for your attention. Please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely, For and on behalf of Ramboll Hong Kong Limited

Independent Environmental Checker

C.C.

CEDD

Attn.: Mr. Tommy Wong

Fax: 2739 0076

BTP

Attn.: Mr. Ivan Chau

By email

Cinotech

Attn.: Mr. K. S. Lee

Fax: 3107 1388

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#### **EXECUTIVE SUMMARY**

#### Introduction

1. This is the 51<sup>st</sup> Environmental Monitoring and Audit (EM&A) Report prepared by the Environmental Team (ET), Cinotech Consultants Ltd., for "Trunk Road T2". This report summarized the monitoring results and audits findings of the EM&A programme under the issued Environmental Permit (EP) No. EP-451/2013 and in accordance with the EM&A Manual (AEIAR-174/2013) during the reporting month of May 2024.

# Summary of Main Works Undertaken and Key Measures Implemented

2. The main works of each works contracts undertaken during the reporting period are as follows:

**Table I** Summary of Key Construction Work in the Reporting Month

Contract No.	Project Title	Site Activities	
ED/2018/04	Trunk Road T2 and Infrastructure Works for Developments at South Apron	<ul> <li>West Ventilation Building RC Structure, ABWF, E&amp;M</li> <li>Launching Shaft / Cut &amp; Cover RC Structure</li> <li>Westbound TBM Tunnelling</li> <li>Eastbound TBM Tunnelling</li> <li>EB Service Gallery Installation</li> <li>WB Service Gallery Installation</li> <li>CP Tympanum Construction</li> <li>Cross Passage Finishing</li> <li>Sub-sea Corbel Construction</li> <li>Sub-sea Crown Fire Board</li> <li>Sub-sea Road Level Fire Board</li> <li>Sub-sea OHVD Soffit Fire Board</li> <li>Sub-sea Parapet Installation</li> <li>SUS Remaining Internal Wall</li> <li>Sub-sea OHVD Slab Installation</li> <li>SUS Fire Board installation</li> <li>SUS Skin Wall</li> <li>Tunnel Segment delivery</li> <li>MiMEP Module Installation</li> <li>Sub-sea E&amp;M Bracket installation</li> <li>Sub-sea E&amp;M Bracket drilling</li> <li>Sub-sea E&amp;M installation</li> <li>Eastbound cavern excavation</li> </ul>	
ED/2020/03	Trunk Road T2 - Traffic Control And Surveillance	<ul><li>WVB Installation of cable containment</li><li>Tunnel: Site survey</li></ul>	

System (TCSS) a	and
Associated Works <sup>(1)</sup>	

Notes:

(1): No major construction work was undertaken during reporting month.

N/A: Not applicable

3. Implementation of the key mitigation measures during the reporting period are as follows:

Table II Summary of Key Mitigation Measures Implemented in the Reporting Month

Table 11 Summary of Key Mitigation Measures Implemented in the Reporting Month				
Contract No. and Project Title	Key Mitigation Measures Implemented			
ED/2018/04 - Trunk Road T2 and Infrastructure Works for Developments at South Apron	<ul> <li>Air Quality</li> <li>Water spraying regularly on construction site area to avoid dust generation.</li> <li>Excavated dusty materials were covered by impervious sheets.</li> <li>Noise</li> <li>Air compressor was operated with door closed and have valid noise</li> </ul>			
	<ul> <li>labels.</li> <li>Use of Quality Powered Mechanical Equipment (QPME)</li> <li>Erecting noise barriers on site to minimize noise impact generated from breaking activities.</li> </ul> Water Quality			
	WetSep was constructed to treat the surface runoff prior to discharge.			
	Landscape and Visual			
	Tree protection zone were fenced off to protect the existing tree.			
ED/2020/03 - Trunk Road T2 - Traffic Control And Surveillance System (TCSS)	N/A			
and Associated Works <sup>(1)</sup>				

Notes:

 $(1): No\ major\ construction\ work\ was\ undertaken\ during\ reporting\ month.$ 

N/A: Not applicable

# Summary of Exceedances, Investigation and Follow-up

4. Exceedance of Action/Limit levels during the reporting month (May 2024) and the investigation results and/or follow-up actions:

Air Quality Monitoring

• No Action Level exceedance for 24-hour TSP was recorded.

• No Limit Level exceedance for 24-hour TSP was recorded.

# Construction Noise Monitoring

- No Limit Level exceedance for day time construction noise was recorded in this reporting month.
- No Action Level exceedance was recorded in this reporting month.

# Landscape and Visual Monitoring and Audit

• No non-compliance of the landscape and visual impact was recorded in the reporting month. The implementation of landscape and visual and mitigation measures was checked by a Registered Landscape Architect (RLA) during the environmental site inspections.

# Complaint Handling, Prosecution and Public Engagement

Table III Summary of Complaint/Summons/Prosecution in the Reporting Month

Event	Ev	ent Details	Follow-up/ Remedial Actions	Status/
Event	Number	<b>Brief Description</b>		Remarks
Complaints Received	0	-	-	-
Notification of Summons and Prosecutions Received	0	-	-	-
Public Engagement Activities	0	-	-	-

#### **Reporting Changes**

1) No reporting change in this reporting month.

#### **Future Key Issues**

2) The key works or activities will be anticipated in the next reporting period are as follows:

Table IV Summary Table for Site Activities in the next Reporting Period

Contract No. and	Site Activities (June 2024)	<b>Key Environmental</b>
<b>Project Title</b>	Site Activities (June 2024)	Issues
ED/2018/04 - Trunk	1) West Ventilation Building RC Structure,	
Road T2 and	ABWF, E&M	
Infrastructure Works	2) Launching Shaft / Cut & Cover RC	
for Developments at	Structure	(A) / (D) / (C) / (D)
South Apron	3) Westbound TBM Tunnelling	(A) / (B) / (C) / (D)
	4) Eastbound TBM Tunnelling	
	5) EB Service Gallery Installation	
	6) WB Service Gallery Installation	

	Wolfelly Diviced Report Way 2021		
	7) CP Tympanum Construction		
	8) Cross Passage Finishing		
	9) Sub-sea Corbel Construction		
	10) Sub-sea Crown Fire Board		
	11) Sub-sea Road Level Fire Board		
	12) Sub-sea OHVD Soffit Fire Board		
	13) Sub-sea Parapet Installation		
	14) SUS Remaining Internal Wall		
	15) SUS Fire Board installation		
	16) Tunnel Segment delivery		
	17) Sub-sea OHVD Slab Installation		
	18) MiMEP Module Installation		
	19) Sub-sea E&M Bracket installation		
	20) Sub-sea E&M installation		
	21) Sub-sea E&M Bracket drilling		
	22) Eastbound cavern excavation		
	23) SUS Skin Wall		
	24) SUS Bracket installation		
	25) SUS E&M installation		
ED/2020/03 - Trunk	1) Installation of cable containment at Gantry		
Road T2 - Traffic	2) FAT for Radio System		
Control And	3) FAT for CCTV System		
Surveillance System	4) FAT for CSS + MFCS		
(TCSS) and	5) BAT for SEC System		
Associated Works <sup>(1)</sup>	6) Mockup inside tunnel – cable containment, ALCS, CCTV,		
	VD.		
	7) Mockup inside Service Gallery – PA Speaker		
Notes:			

#### Notes

(1): No major construction work was undertaken during reporting month.

N/A: Not applicable

- (A) Dust generation from haul road, stockpile of dusty materials, exposed site area, excavation works and rock breaking activities;
- (B) Noisy construction activity such as rock-breaking activities and piling works
- (C) Runoff from exposed slope or site area; and
- (D) Wastewater and runoff discharge from site.

# **Review of Status and Location of Monitoring Stations**

3) According to the EM&A Manual (AEIAR-174/2013), the number and location of the monitoring stations and parameters should be reviewed in every six months, or on as -needed basis, in order to cater for any changes in the surrounding environmental and the nature of works in progress. The latest review was conducted in January 2024 and the review of status and location of monitoring stations are summarized as follow:

Table V Summary Table for Review of Status and Location of Monitoring Stations

Monitoring Station ID	Review Status	Follow-up Action/ Recommendation
KTD 2d	ET has reviewed the status and location of KER1, KTD 1, KTD2d, CKL1 and	N/A

KER1	CKL2. To conclude, the environmental monitoring conducted at KER1, KTD 1,	
KTD 1	appropriate, and the monitoring results reflect how the sensitive receiver(s)	
CKL 1	is/are impacted by the construction activities of the Project.	
CKL 2		

N/A: Not Applicable

#### 1 INTRODUCTION

#### **Background**

- 1.1 In 2009, Civil Engineering and Development Department (CEDD) commissioned a Kai Tak Development (KTD) Trunk Road T2 and Infrastructure at South Apron Investigation. The assignment covers the provision of the Trunk Road T2 and its connections with the Central Kowloon Route (CKR) at the north apron area and the Tseung Kwan O Lam Tin Tunnel (TKOLTT) to the south in the Cha Kwo Ling area.
- 1.2 The Trunk Road T2 Project is one of the designated Projects under Schedule 2 of the EIAO proposed in the KTD. CEDD submitted the Project Profile (No. PP-379/2009) on 24 March 2009 for application for an EIA study brief for the Trunk Road T2 Project under the EIAO. Accordingly, an EIA Study Brief (ESB-203/2009) for the Trunk Road T2 Project was issued on 30 April 2009. The Environmental Impact Assessment (EIA) Report for the Trunk Road T2 Project was approved under the Environmental Impact Assessment Ordinance (EIAO) on 19 September 2013. The corresponding Environmental Permit (EP) was issued on 19 September 2013 (EP no.: EP-451/2013).
- 1.3 The Contract No. ED/2018/04 is the main contract of Trunk Road T2 ("T2 Main Works") which comprises mainly the design and construction of a dual two-lane trunk road of approximately 3.4km long with about 3.1km of the trunk road in form of tunnel; ventilation and administration buildings, environmental protection and mitigation works and etc. Moreover, the Contract No. ED/2020/03 is the other contract under Truck Road T2 Project which comprises mainly design and construction of the TCSS for this Project. The EM&A programme at Kai Tak area under the Contract ED/2018/04 and ED/2020/03 are governed by the EP-451/2013 and EM&A Manual (AEIAR-174/2013). The work areas of the Trunk Road T2 Project are shown in **Figure 1** and the works to be executed under each Contract and corresponding EP are summarized as follows:

<b>Environmental Permit</b>	Works Description	
EP-451/2013 – Trunk Road T2	ED/2018/04	
	Construction of highway and sub-sea tunnel connecting between	
	Central Kowloon Route and Cha Kwo Ling Tunnel	
	Western & Eastern Ventilation Buildings	
	<u>ED/2020/03</u>	
	Design and construction of TCSS for Trunk Road T2	

#### Monitoring Works in Kai Tak under EP-451/2013

Under Contract No. KL/2014/03 – Kai Tak Development – Stage 3 Infrastructure Works for Development at the Southern Part of the Former Runway ("T2 Advance Works"), the baseline monitoring works in Kai Tak under the EM&A Manual (AEIAR-174/2013) were conducted by the Environmental Team (ET) for the Contract No. KL/2014/03 at the approved relocated monitoring locations (EPD reference: EP2/K19/A/21 pt.5), namely KTD1a, KTD2a & KER1a. During the impact monitoring period, monitoring locations KTD 2a and KER 1a were relocated to new locations, i.e. KTD 2b and KER 1b (EPD reference: ( ) in EP2/K19/A/21 pt. 6 and ( ) in EP2/K19/A/21 pt. 5) respectively. Location KTD2b was then further relocated to location KTD2c, the proposal of such relocation was submitted to EPD on 24 March 2020 and was approved by EPD on 6 April 2020 (EPD reference: ( ) in EP2/K19/A/21 pt.7). The aforementioned relocation was effective from 9 April 2020. Since the major part of work under Contract No. KL/2014/03 has been completed and monitoring works conducted by the ET of Contract No. KL/2014/03 was determined to be ceased, the impact monitoring within the Kai Tak area was then handed over to the ET of Contract No. ED/2018/04 on 1 August 2020. The monitoring location has been reviewed and updated to obtain the data with higher representative based on several conditions, such as distance between monitoring location and the sensitive receiver, non-project related interference, obstruction to the construction works on site and the power supply problem. The monitoring location KTD1a and KER1b has been updated to the monitoring location KTD1 and KER1 on 3 August 2020, where are the original location as proposed in the EM&A manual (AEIAR-174/2013). And the monitoring location KTD2c was remained unchanged after the aforementioned review. Location KTD2c was then further relocated to location KTD2d, the proposal of such relocation was submitted on 9 March 2021 and was approved by EPD on 27 March 2021 (EPD reference: ( ) in EP2/K19/A/21 pt.8). The aforementioned relocation was effective from 24 May 2021. The impact monitoring for the three stations KTD1, KTD2d and KER1 are currently conducted by the ET of T2 Main Works

# Monitoring Works in Cha Kwo Ling under EP-451/2013

- 1.5 The environmental impact of the remaining works in Cha Kwo Ling, under EP-451/2013, shall be monitored at the two proposed stations, namely CKL1, CKL2, in accordance to the EM&A Manual (AEIAR-174/2013). The impact monitoring for the two proposed stations shall be conducted by the ET of T2 Main Works.
- 1.6 Cinotech Consultants Ltd. Was designated as the Environmental Team (ET) to undertake the EM&A works for "Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron" (hereinafter called the "Project") and "Trunk Road T2 –Traffic Control & Surveillance System (TCSS) and Associated Works".

#### **Purpose of the Report**

1.7 This is the 51<sup>st</sup> Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in May 2024.

# **Project Organizations**

- 1.8 Different Parties with different levels of involvement in the Project organization include:
  - Permit Holder Civil Engineering and Development Department (CEDD)
  - Supervisor Representative Hyder-Meinhardt Joint Venture (HMJV)
  - Environmental Team (ET) Cinotech Consultants Limited (Cinotech)
  - Independent Environmental Checker (IEC) Ramboll Hong Kong Limited (Ramboll)
  - Contractor Bouygues Travaux Publics (BTP) (For ED/2018/04) & GTECH Services (Hong Kong) Limited (For ED/2020/03)
- 1.9 The key contacts of the Project are shown in **Table 1.1**.

**Table 1.1 Key Project Contacts** 

Party	Role	Contact Person	Phone No.
CEDD	Permit Holder Mr. Wong Chi Wai, Tommy		3842 7111
HMJV	Supervisor Representative	Ms. Hazel Tang	2149 8524
Cinotech	F ' 1T	Mr. KS Lee (ETL)	2151 2091
	Environmental Team	Ms. Karina Chan	2157 3880
Ramboll	Independent Environmental Checker	Mr. YH Hui	3465 2850
BTP	Contractor (ED/2018/04)	Mr. Roy Leung	6628 2685
GTECH	Contractor (ED/2020/03)	Mr. Deacon Choi	6038 3568

1.10 The Organizational Structure for Environmental Management is shown in Figure 1.2.

# Construction Activities undertaken during the Reporting Month

1.11 The major site activities undertaken in the reporting month included:

Table 1.2 Summary of Key Construction Work in the Reporting Month

Contract No.	Project Title	Site Activities
ED/2018/04	Trunk Road T2 and Infrastructure Works for Developments at South Apron	8 - 3 - 3 - 3

		<ul> <li>Sub-sea Corbel Construction</li> <li>Sub-sea Crown Fire Board</li> <li>Sub-sea Road Level Fire Board</li> <li>Sub-sea OHVD Soffit Fire Board</li> <li>Sub-sea Parapet Installation</li> <li>SUS Remaining Internal Wall</li> <li>Sub-sea OHVD Slab Installation</li> <li>SUS Fire Board installation</li> <li>SUS Skin Wall</li> <li>Tunnel Segment delivery</li> <li>MiMEP Module Installation</li> <li>Sub-sea E&amp;M Bracket installation</li> <li>Sub-sea E&amp;M Bracket drilling</li> <li>Sub-sea E&amp;M installation</li> <li>Eastbound cavern excavation</li> </ul>
ED/2020/03	Trunk Road T2 – Traffic Control And Surveillance System (TCSS) and Associated Works <sup>(1)</sup>	<ul> <li>WVB Installation of cable containment</li> <li>Tunnel: Site survey</li> </ul>

Notes:

(1): No major construction work was undertaken during reporting month.

N/A: Not applicable

- 1.12 The EM&A programme requires construction noise, air quality monitoring and environmental site audit, etc. The EM&A requirements for each parameter are described in the following sections, including:
  - All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event Action Plans;
  - Environmental mitigation measures, as recommended in the Project EIA Report.
- 1.13 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 10** of this report.
- 1.14 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the monitoring parameters of the required environmental monitoring works and audit works for the Project in May 2024.

#### **Status of Environmental Licensing and Permitting**

1.15 All permits/licenses obtained for the Project are summarized in **Table 1.3**.

 Table 1.3
 Summary of Environmental License and Permit

Contract	Downid / Linnary N	Valid	g	
No.	Permit / License No.	From	To	Status
Environment	ral Permit (EP)			
N/A	EP-451/2013	19 Sep 2013	N/A	Valid
Notification p	oursuant to Air Pollution (Construction	on Dust) Regula	tion	
ED/2018/04	Ref. No.: 451120	20 Nov 2019	N/A	Valid
ED/2020/03	Ref. No.: 483143	15 Aug 2022	N/A	Valid
Billing Accou	int for Construction Waste Disposal			
ED/2018/04	A/C No.: 7036016	09 Dec 2019	N/A	Valid
ED/2020/03	A/C No.: 7043158	31 Jan 2022	N/A	Valid
Billing Accou	nt for Vessel Disposal			
ED/2018/04	A/C No.:7037747 (Application No.: CEDD01228)	11 Apr 2024	25 Jul 2024	Valid
Construction	Noise Permit			
ED/2018/04	CNP No. (For Portion Q): GW- RE0309-24	21 Mar 2024	31 Aug 2024	Valid
	CNP No. (For Launching Shaft and Barging Point): GW- RE0328-24	19 Mar 2024	13 Sep 2024	Valid
	CNP No. (For Depressed Road): GW-RE0447-24	30 Apr 2024	29 Oct 2024	Valid
Wastewater I	Discharge License			
	WT00036183-2020 (For Depressed Road Area)	27 Jul 2020	31 Jul 2025	Valid
ED/2018/04	WT00039117-2021 (For Site Office and Support Area)	28 Sep 2021	30 Sep 2026	Valid
ED/2016/04	WT00036228-2020 (For Launching Shaft)	10 Nov 2021	31 Jul 2025	Valid
	WT10001495-2023 (For TBM Consumable Storage Area)	12 Mar 2024	31 Mar 2029	Valid
Chemical Wa	nste Producer License			
ED/2018/04	WPN: 5213-286-B2557-03	09 Mar 2020	N/A	Valid
Marine Dum	ping Permit			
ED/2018/04	EP/MD/24-083	5 Apr 2024	4 Jul 2024	Valid

#### 2. AIR QUALITY

# **Monitoring Requirement**

2.1 According to the EM&A Manual (AEIAR-174/2013), 24-hour Total Suspended Particulates (TSP) monitoring was conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. In case of complaints, 1-hour TSP monitoring should be conducted at least three times in every six days when the highest dust impacts are likely to occur. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

#### **Monitoring Locations**

- 2.2 Five designated monitoring stations were selected for air quality monitoring programme. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.
- 2.3 The monitoring location at Kai Tak area has been reviewed and updated to obtain the data with higher representative based on several conditions, such as distance between monitoring location and the sensitive receiver, non-project related interference, obstruction to the construction works on site and the power supply problem. The monitoring location KTD1a and KER1b has been updated to KTD1 and KER1 respectively, where are the original location as proposed in the EM&A manual (AEIAR-174/2013). And the monitoring location KTD2c was remained unchanged after the aforementioned review. Monitoring location KTD2c was then further relocated to KTD2d after the review of status and location of monitoring station conducted in between February and March 2021.

**Table 2.1 Air Quality Monitoring Locations** 

<b>Monitoring Stations</b>	Location			
KTD1	Centre of Excellence in Paediatrics (Children's Hospital)			
KTD2d	Next to the SOR Office of Trunk Road T2 in Kai Tak Area			
KER1	Future Residential Development at Kerry Godown			
CKL1	Flat 121 Cha Kwo Ling Village			
CKL2	Flat 103 Cha Kwo Ling Village			

#### **Monitoring Parameters and Frequency**

2.4 **Table 2.2** summarizes the monitoring parameters, monitoring period and frequencies of impact air quality monitoring. The monitoring schedule is shown in **Appendix B**.

Table 2.2 Frequency and Parameters of Air Quality Monitoring

<b>Monitoring Stations</b>	Parameter	Period	Frequency
KTD1, KTD2d, KER1, CKL1 & CKL2	1-hour TSP	0700 – 1900	3 times per 6 days (as required in case of complaints)
KTD1, KTD2d, KER1, CKL1 & CKL2	24-hour TSP	24 hours	Once every 6 days

# **Monitoring Equipment**

- 2.5 High Volume Samplers (HVS) in compliance with the specification stipulated in the EM&A Manual (AEIAR-174/2013), Section 2.2.1.4, were used to carry out 24-hour TSP monitoring. Direct reading dust meter were also used to measure 1-hour average TSP levels. The 1-hour sampling was determined by HVS to check the validity and accuracy of the results measured by direct reading method.
- 2.6 Wind data monitoring equipment was set at rooftop (about 41/F) of Yau Lai Estate Bik Lai House, Lam Tin for logging wind speed and wind direction such that the wind sensors were clear of obstructions or turbulence caused by building. The wind data monitoring equipment was recalibrated at least once every six months and the wind directions were divided into 16 sectors of 22.5 degrees each. Wind data is attached in **Appendix D**.
- 2.7 **Table 2.3** summarizes the equipment used for air quality monitoring. Copies of calibration certificates are attached in **Appendix C**.

Table 2.3 Air Quality Monitoring Equipment

	<u> </u>	
Equipment Model		Quantity
HVS Sampler	TISCH Model: TE-5170 (Serial no. 0723, 1956, 10595, 1316, 5280)	5
Calibrator	TISCH Model: TE-5025A (Serial no. 3864)	1
Wind Anemometer	Davis Weather Monitor II, Model no. 7440 (Serial no. MC01010A44)	1

#### **Monitoring Methodology**

#### 1-hour TSP Monitoring

# **Measuring Procedures**

2.8 The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(Sibata Model No.: LD-3B/LD-5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.

- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

#### Maintenance/Calibration

- 2.9 The following maintenance/calibration is required for the 1-hour dust meter:
  - Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

# 24-hour TSP Monitoring

#### Instrumentation

- 2.10 High volume samplers (HVS) (TISCH Model: TE-5170) complete with appropriate sampling inlets was employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in Section 2.2 of the Annex II Specification.
- 2.11 The positioning of the HVS samplers are as follows:
  - A horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
  - No two samplers shall be placed less than 2 meter apart;
  - 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;
  - A minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
  - A minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
  - No furnace or incinerator flue is nearby;
  - Airflow around the sampler is unrestricted;
  - The sampler is more than 20 metres from the dripline;
  - Any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
  - Permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
  - A secured supply of electricity is needed to operate the samplers.

# Operating/analytical procedures for the operation of HVS

- 2.12 Operating/analytical procedures for the air quality monitoring are highlighted as follows:
  - Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6 m³/min. and 1.7 m³/min.) in accordance with the EM&A manual (AEIAR-174/2013). The flow rate shall be indicated on the flow rate chart.
  - For TSP sampling, fiberglass filters with a collection efficiency of > 99% for particles of 0.3 µm diameter were used.
  - The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
  - The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
  - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
  - The shelter lid was closed and secured with the aluminum strip.
  - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
  - After sampling, the filter was removed and sent to the HOKLAS laboratory (High Precision Chemical Testing Ltd.) for weighing. The elapsed time was also recorded.
  - Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

#### Maintenance/Calibration

- 2.13 The following maintenance/calibration is required for the HVS:
  - The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
  - High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

#### **Results and Observations**

- 2.14 Impact air quality monitoring was conducted at five monitoring stations as scheduled. The monitoring schedule is shown in **Appendix B**.
- 2.15 No Action and no Limit Level exceedance was recorded for 24-hour TSP monitoring in the reporting month. No exceedance of 24-hour TSP were considered as **project related** and no exceedance of 24-hour TSP were considered as **non-project related**. Details of the exceedance are presented in **Appendix M**.
- 2.16 The air temperature, relative humidity, and the precipitation data were obtained from daily extracts of Hong Kong Observatory Climate Information Service. This weather information for the reporting month is summarized in **Appendix D**.
- 2.17 The monitoring data and graphical presentations of 24-hour TSP monitoring results are shown in **Appendix F**.
- 2.18 According to field observations observed in the reporting period, the major dust source identified at the designated air quality monitoring stations are as follows:

Table 2.4 Major Dust Source during Air Quality Monitoring

<b>Monitoring Stations</b>	Major Dust Source
KTD 1 - Centre of Excellence in Paediatrics (Children's Hospital)	<ul> <li>Project related construction activities (i.e., Loading and unloading of C&amp;D wastes, drilling, crushing of material);</li> <li>Vehicle movement in the site;</li> </ul>
KER 1 – Future Residential Development at Kerry Godown	<ul> <li>Construction activities at the nearby construction sites of New Acute Hospital; and,</li> <li>Road traffic along Shing Fung Road, Shing Cheong Road, Cheung Yip Street, Kai Hing Road and Kwun Tong Bypass.</li> </ul>
KTD 2d – Next to the SOR Office of Trunk Road T2 in Kai Tak Area	<ul> <li>Project related construction activities (i.e., Loading and unloading of C&amp;D material, crushing of material);</li> <li>Vehicle movement in the site; and,</li> <li>Non-project related construction activities (i.e excavating work, Loading and unloading of C&amp;D wastes at the nearby construction site of Additional District Cooling System at Kai Tak Development, Paul Y. Engineering.)</li> </ul>
CKL1 - Flat 121 Cha Kwo Ling Village	Road Traffic along Cha Kwo Ling Road
CKL2 - Flat 103 Cha Kwo Ling Village	Road Traffic along Cha Kwo Ling Road

# Comparison of EM&A Result with EIA Prediction

2.19 The air monitoring data was compared with the predictions in Table 4.14 of EIA Report, AEIAR-174/2013 (as approved in 2013) as summarised in **Table 2.6** for 24-hour TSP.

Table 2.6 Comparison of 24-hr TSP Monitoring Data with Predictions in EIA Report

Monitoring Stations	ASR ID	Predicted Maximum 24-hr TSP Concentration in EIA Report (AEIAR- 174/2013), μg/m <sup>3</sup>	Maximum 24-hr TSP Concentration in the Reporting Month (May 2024), μg/m <sup>3</sup>
KTD 1 - Centre of Excellence in Paediatrics (Children's Hospital)	KTD3	126	82.6
KTD 2d – Next to the SOR Office of Trunk Road T2 in Kai Tak Area	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	115.6
KER 1 – Future Residential Development at Kerry Godown	KTD6	169	149.0
CKL1 - Flat 121 Cha Kwo Ling Village	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	176.5
CKL2 - Flat 103 Cha Kwo Ling Village	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	102.9

Remarks:

2.20 In the reporting month the 24-hour TSP concentration at KER1 and KTD1 were lower than the prediction in the EIA Report, AEIAR-174/2013 (as approved in 2013). No Action and Limit level exceedance for 24-hour TSP was recorded in the reporting period.

<sup>(1)</sup> No 24-hr TSP concentration was predicted in EIA Report (AEIAR-174/2013)

#### 3 NOISE

# **Monitoring Requirement**

3.1 According to the EM&A Manual (AEIAR-174/2013), construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

# **Monitoring Locations**

- 3.2 Noise monitoring was conducted at five designated monitoring stations, namely KTD1, KTD2d, KER1, CKL1 and CKL2 in the reporting period. **Table 3.1** and **Figure 2** show the locations of these stations.
- 3.3 The monitoring location at Kai Tak area has been reviewed and updated to obtain the data with higher representative based on several conditions, such as distance between monitoring location and the sensitive receiver, non-project related interference, obstruction to the construction works on site and the power supply problem. The monitoring location KTD1a and KER1b has been updated to KTD1 and KER1 respectively, where are the original location as proposed in the EM&A manual (AEIAR-174/2013). And the monitoring location KTD2c was remained unchanged after the aforementioned review. Monitoring location KTD2c was then further relocated to KTD2d after the review of status and location of monitoring station conducted in between February and March 2021.

**Table 3.1 Noise Monitoring Stations** 

<b>Monitoring Stations</b>	Location		
KTD1	Centre of Excellence in Paediatrics (Children's Hospital)		
KTD2d	Next to the SOR Office of Trunk Road T2 in Kai Tak Area		
KER1	Future Residential Development at Kerry Godown		
CKL1	Flat 121 Cha Kwo Ling Village		
CKL2	Flat 103 Cha Kwo Ling Village		

# **Monitoring Parameters, Frequency and Duration**

3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix B**.

Monitoring Stations	Time Period	Duration	Frequency	Parameter	Measurement
KTD1					Façade Measurement
KTD2d				L <sub>10</sub> (30 min.) dB(A)	Free Field Measurement
KER1	0700-1900 hrs on normal weekdays	30 minutes	Once per week	L <sub>90</sub> (30 min.) dB(A)	Free Field Measurement
CKL1	weekdays			L <sub>eq</sub> (30 min.)	Free Field Measurement
CKL2				dB(A)	Free Field Measurement

**Table 3.2** Frequency and Parameters of Noise Monitoring

# **Monitoring Equipment**

3.5 Integrating Sound Level Meter was used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L<sub>eq</sub>) and percentile sound pressure level (L<sub>x</sub>) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 3.3** summarizes the noise monitoring equipment being used within the reporting period. Copies of calibration certificates are attached in **Appendix G**.

**Table 3.3 Noise Monitoring Equipment** 

Equipment	Model	Quantity
	BSWA 308 (Serial no. 570188)	
Integrating Sound Level Meter	SVAN 957 (Serial no. 21455)	3
	SVAN 979 (Serial no. 27189)	
	ST-120 (Serial no. 181001636)	
Calibrator	AWA6021A (Serial no. 1023253)	2

#### Monitoring Methodology and QA/QC Procedure

- 3.6 The monitoring procedures are as follows:
  - The monitoring station was normally be at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
  - For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels were adjusted with a correction of +3 dB(A).
  - The battery condition was checked to ensure the correct functioning of the meter.
  - Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
    - Frequency weighting: A
    - Time weighting: Fast
    - Time measurement: 30 minutes
  - Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement

- was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L<sub>eq</sub>, L<sub>90</sub> and L<sub>10</sub> were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise monitoring would be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. Supplementary monitoring would be provided to ensure sufficient data would be obtained.

#### **Maintenance and Calibration**

- 3.7 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 3.8 The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.9 Immediately prior to and following each noise measurement the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

#### **Results and Observations**

- 3.10 Impact noise monitoring was conducted at five monitoring stations as scheduled. The monitoring schedule is shown in **Appendix B**. No Action and Level exceedance was recorded for day time construction noise monitoring in the reporting month.
- 3.11 Noise monitoring results and graphical presentations are shown in **Appendix H**.
- 3.12 According to field observations observed in the reporting period, the major noise sources identified at the noise monitoring stations are shown in **Table 3.4**.

Table 3.4 Other Noise Source Identified during Noise Monitoring

<b>Monitoring Stations</b>	Major Noise Source	
KTD 1	<ul> <li>Project related construction activities (Loading and unloading of C&amp;D waste, travel of vehicles, use of PME and other plants, and other construction activities);</li> <li>Vehicle movement in the site;</li> <li>Road traffic along Shing Cheong Road; and,</li> <li>Non-project related construction activities at the nearby construction site of New Acute Hospital.</li> </ul>	
KTD 2d	<ul> <li>Project related construction activities (Loading and unloading of C&amp;D waste, travel of vehicles, use of PME and other plants, and other construction activities);</li> <li>Vehicle movement in the site; and,</li> <li>Non-project related construction activities. (i.e excavating work, Loading and unloading of C&amp;D wastes at the nearby construction site of Additional District Cooling System at Kai Tak Development, Paul Y. Engineering.)</li> </ul>	

<b>Monitoring Stations</b>	Major Noise Source	
	Road traffic along Kai Hing Road.	
KER 1	<ul> <li>Project related construction activities (Travel of vehicles, use of</li> </ul>	
	PME and other plants, and other construction activities)	
CKL1	Road traffic along Cha Kwo Ling Road.	
CKL2	Road traffic along Cha Kwo Ling Road	

3.13 The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.

Table 3.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations

Monitoring Stations	Baseline Noise Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)	Noise Limit Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)
KTD1	78	
KTD2d	64	
KER1	65	75
CKL1	72.4	
CKL2	71.4	

# Comparison of EM&A Result with EIA Prediction

3.14 The noise monitoring data was compared with the predictions in Table 5.13 of EIA Report (AEIAR-174/2013) as summarised in **Table 3.6**.

Table 3.6 Maximum Predicted Mitigated Construction Noise Levels in EIA Report

Monitoring Stations	NSR ID	Maximum Predicted Mitigated Construction Noise Levels in EIA Report (AEIAR- 174/2013), dB(A)	Maximum Construction Noise Levels in the Reporting Month (May 2024), Leq (30min) dB(A)
KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)	KTD1	74	74.2
KTD2d – Next to the SOR Office of Trunk Road T2 in Kai Tak Area	N/A <sup>(1)</sup>	N/A <sup>(1)</sup>	63.0
KER1 – Future Residential Development at Kerry Godown	KER1	75	72.0
CKL1 - Flat 121 Cha Kwo Ling Village	CKL4	71	72.0
CKL2 - Flat 103 Cha Kwo Ling Village	CKL5	69	74.0

Remarks:

(1): No Maximum Predicted Mitigated Construction Noise Levels was predicted in EIA Report (AEIAR-174/2013)

3.15 The results at CKL1, CKL2 and KTD1 were higher than the maximum predicted mitigated construction noise level in the EIA Report, AEIAR-174/2013 (as approved in 2013), this may be due to fluctuations of traffic flow along the traffic flow along Cha Kwo Ling Road throughout the day and the non-project related construction activities (i.e New Acute Hospital). Besides, the result at KER1 was lower than the maximum predicted mitigated construction noise level in the EIA Report. No Action and Limit Level exceedance were recorded in the reporting period.

# 4 WATER QUALITY

# **Monitoring Requirement**

- 4.1 According to Section 4.3.1.1 of EM&A Manual (AEIAR-174/2013), no water quality monitoring is required during the construction phase.
- 4.2 According to Section 4.3.1.5 of EM&A Manual (AEIAR-174/2013), compliance site audits are to be undertaken by the Engineer and ET and escorted by the Contractor to ensure that a valid discharge license has been issued by the EPD prior to the discharge of the effluent from the construction activities of the Project site. Monitoring of the quality of the treated effluent from the works areas should be carried out in accordance with the Water Pollution Control Ordinance (WPCO) license. The audit results reflect whether the effluent quality is in compliance with the discharge license requirements, the summaries of site audits are attached in **Appendix I**.
- 4.3 In the event of non-compliance the responsibilities of the relevant parties is detailed in the Event / Action plan attached in **Appendix J**.

#### 5 MARINE ECOLOGY

- 5.1 According to Section 5.3.1.1 of EM&A Manual (AEIAR-174/2013), ET will be required to undertake audit of good site practice for habitat protection as detailed below. The summaries of site audits are attached in **Appendix I**.
  - Avoid damage and disturbance to the remaining and surrounding natural habitat;
  - Ensure placement of equipment is within designated areas within the existing disturbed land;
  - Ensure construction activities are restricted to within the proposed works boundary;
  - Ensure spoil heaps are be covered at all times;
  - Ensure that disturbed areas are reinstated immediately after completion of the works; and
  - Ensure enhancement planting works undertaken.

# 6 FISHERIES

6.1 According to Section 6.3.1.2 of EM&A Manual (AEIAR-174/2013), no specific fisheries monitoring and audit programme is required during the construction phase.

6.2 The implementation of the water quality mitigation measures stated in the Water Quality Impact Assessment (Refer to Section 6 of the EIA Report (AEIAR-174/2013)) will be audited as part of the EM&A procedures during the construction period and the details are presented in **Section 4.2** of this Report. The summaries of site audits are attached in **Appendix I**.

#### 7 LANDSCAPE AND VISUAL

7.1 According to the EM&A Manual (AEIAR-174/2013), a series of mitigation measures were recommended to ameliorate the landscape and visual impacts of the Project. The mitigation measures for construction stage are summarized in **Table 7.1** below and provided in **Appendix K**:

 Table 7.1
 Construction Phase Landscape and Visual Mitigation Measures

ID No.	Landscape and Visual Mitigation Measure
CM1	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers.  Existing trees within works area shall be retained and protected.
CM2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.
CM3	Not used.
CM4	Not used.
CM5	Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.
CM6	Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance
CM7	Erection of decorative screen hoarding should be designed to be compatible with the existing urban context.
CM8	All lighting in construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts.

7.2 A specialist Landscape Sub-Contractor should be employed by the Contractor for the implementation of landscape construction works and subsequent maintenance operations during the establishment period. It is proposed that the planting works will be on-site and the planting should be completed during the construction contract. The monitoring of the planting establishment should be undertaken for a 12 month period which could extend throughout the Contractor's one-year maintenance period, which will be within the first operational year of the Project.

- 7.3 All measures undertaken by both the Contractor and the specialist Landscape Sub-Contractor during the construction phase and first year of the operational phase shall be audited by a Registered Landscape Architect (RLA), as a member of the Environmental Team (ET), on a regular basis to ensure compliance with the intended aims of the measures. To fulfil the aforementioned requirements, on-site landscape and visual mitigation measures were audited by RLA in the reporting month.
- 7.4 According to Section 7.3.1.2 of the EM&A Manual (AEIAR-174/2013), site audits shall be undertaken at least once every two weeks throughout the construction period to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project.
- 7.5 The broad scope of the audit is detailed below but should also be undertaken with reference to the more specific checklist provided in **Table 7.2**. The summaries of site audits are attached in **Appendix I**:
  - The extent of the agreed works areas should be regularly checked during the construction phase. Any trespass by the Contractor outside the limit of the works, including any damage to existing trees and soft landscape areas shall be prohibited;
  - the progress of the engineering works should be regularly reviewed on site to identify the earliest practical opportunities for the landscape works to be undertaken;
  - all existing trees and vegetation within the study area which are not directly affected by the works are retained and protected;
  - the methods of protecting existing vegetation proposed by the Contractor are acceptable and enforced;
  - preparation, lifting transport and re-planting operations for any transplanted trees;
  - all landscaping works are carried out in accordance with the specifications;
  - the planting of new trees, shrubs, groundcover, climbers, ferns, grasses and other plans, together with the replanting of any transplanted trees are carried out properly and within the right season; and
  - all necessary horticultural operations and replacement planting are undertaken throughout the Establishment Period to ensure the healthy establishment and growth of both transplanted trees and all newly established plants.

Table 7.2 Construction Phase Audit Checklist for Landscape and Visual Mitigation Measures

Area of Works	Items to be Monitored
Advance planting	Monitoring of implementation and maintenance of planting, and against possible incursion, physical damage, fire, pollution, surface

Area of Works	Items to be Monitored
	erosion, etc.
Protection of all trees and existing soft landscape areas to be retained	Identification and demarcation of trees / vegetation to be retained, erection of physical protection (e.g. fencing), monitoring against possible incursion, physical damage, fire, pollution, surface erosion, etc.
Clearance of existing vegetation	Identification and demarcation of trees / vegetation to be cleared, checking of extent of works to minimise damage, monitoring of adjacent areas against possible incursion, physical damage, fire, pollution, surface erosion, etc.
Pruning of trees	Identification and demarcation of trees / vegetation to be pruned, monitoring of extent of pruning to minimise damage, timing of operations, implementation of all stages of preparatory and pruning works, and maintenance of pruned vegetation, etc.
Plant supply	Monitoring of operations relating to the supply of specialist plant material (including the collecting, germination and growth of plants from seed) to ensure that plants will be available in time to be used within the construction works.
Soiling, planting, etc.	Monitoring of implementation and maintenance of soiling and planting works and against possible incursion, physical damage, fire, pollution, surface erosion, etc.
Site fencing and hoarding	Implementation and maintenance, to ensure compliance with agreed designs and check that it matches the surrounding environment and does not cause visual intrusion.
Architectural treatment of engineering works.	Implementation and maintenance of mitigation measures, to ensure compliance with agreed designs as applicable.
Establishment Works	Monitoring of implementation of maintenance operations during Establishment Period.

- 7.6 In the event of non-compliance the responsibilities of the relevant parties is detailed in the Event / Action plan attached in **Appendix J**.
- 7.7 In the reporting month, no non-compliance of the landscape and visual mitigation measures was recorded by RLA.

#### 8 CULTURAL HERITAGE

- 8.1 According to Section 8.3.1.1 of EM&A Manual (AEIAR-174/2013), as a precautionary measure, it is recommended that if any antiquity or supposed antiquity is discovered during the course of the excavation works undertaken by the Contractor, the discovery shall be reported to the AMO immediately and all necessary measures taken to preserve it.
- 8.2 According to Section 8.3.1.2 of EM&A Manual (AEIAR-174/2013), no EM&A is required during the construction and operational phase.

#### 9 WASTE MANAGEMENT

- 9.1 According to Section 9.3.1.1 of EM&A Manual (AEIAR-174/2013), the effective management of waste arisings during the construction phase will be monitored through the site audit programme. Regular audits and site inspections should be carried out by the Engineer, ET and Contractor to ensure that the recommended good site practices and other mitigation measures are implemented by the Contractor. The summaries of site audits are attached in **Appendix I**.
- 9.2 According to Sections 9.3.1.3 and 9.3.1.4 of EM&A Manual (AEIAR-174/2013), documents including licenses, permits, disposal and recycling records should be reviewed and audited during site audits for the compliance with the legislation and contract requirements to ensure proper records are being maintained and procedures undertaken in accordance with the Waste Management Plan.
- 9.3 With reference to the relevant handing records of this Project, the quantities of different types of waste generated in the reporting month are summarized and presented in the **Appendix O**.

#### 10 ENVIRONMENTAL AUDIT

#### **Site Audits**

- 10.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix I**.
- 10.2 Site audits for the each contract were conducted as follows.
  - ED/2018/04 Site audit were conducted on 02, 09, 16, 23 & 29 May 2024 in the reporting month. Site inspection of the IEC was conducted on 29 May 2024. No non-compliance was observed during the site audit.
  - ED/2020/03 Site audit was conducted on 02,09, 16, 17, 23 & 29 May 2024 in the reporting month. Site inspection of the IEC was conducted on 17 May 2024. No non-compliance was observed during the site audit.

#### **Implementation Status of Environmental Mitigation Measures**

- 10.3 According to Environmental Permits, the approved EIA Reports (Register No.: AEIAR-174/2013 and AEIAR-173/2013), and the EM&A Manuals of the Project (AEIAR-174/2013 and AEIAR-173/2013), the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix K**.
- 10.4 The ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Table 10.1**. Refer to **Appendix I** for the site inspection summary reports in the reporting month.

Table 10.1 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
	2 May 2024	NRMM label was broken.	The NRMM label was replaced.
	2 May 2024	More than 20 bags of cements should be covered.	The cement bags had been covered.
Air Quality	16 May 2024	More than 20 cement bags should be covered at WVB G/F.	Cement bags have been removed.
	23 May 2024	NRMM Label was broken. (Mobile machinery 06-0168)	The NRMM label was replaced.
	23 May 2024	More than 20 bags of cements should be covered. (WVB G/F)	The cements bag was covered.

Parameters	Date	Observations and Recommendations	Follow-up
	29 May 2024	Water should be sprayed on ground to prevent dust. (West Tunnel)	To be reported in the next reporting month.
Noise	N/A	There was no observation in the reporting period.	N/A
Water Quality	N/A	There was no observation in the reporting period.	N/A
Ecology	N/A	There was no observation in the reporting period.	N/A
Landscape and Visual	N/A	There was no observation in the reporting period.	N/A
Waste/	9 May 2024	Chemical waste should be placed at designated area. (OHVD)	The chemical/oil containers have been removed.
Chemical Management	29 May 2024	Drip trays should be provided for chemical/oil containers to prevent leakage. (West Tunnel).	To be reported in the next reporting month.
Permits /Licences	N/A	There was no observation in the reporting period.	N/A

# **Implementation Status of Event and Action Plans**

10.5 The Event and Action Plans for air quality, construction noise, and landscape and visual are presented in **Appendix J**.

Air Quality Monitoring

• No Action and no Limit Level exceedance for 24-hour TSP monitoring was recorded.

Construction Noise Monitoring

• No Action and Limit Level exceedance was recorded in the reporting month.

Landscape and Visual

• No landscape and visual non-conformity was recorded.

#### Status of Required Submission under Environmental Permit

10.6 According the Section 11.3.2.1 (c) of the EM&A Manual (AEIAR-174/2013), status of required submission under EP-451/2013 during the reporting period are summarized in **Table 10.2**.

Table 10.2 Status of Required Submission under Environmental Permit

<b>EP Condition</b>	Submission	<b>Submission Date</b>
EP-451/2013		
Condition 2.3	Management Organization of Main Construction Companies for ED/2018/04	20 January 2020
Condition 2.3	Management Organization of Main Construction Companies for ED/2020/03	21 March 2023
Condition 2.4	Design Drawing of the Project	20 January 2020
Condition 2.5	Landscape Mitigation Plan (Rev. F)	25 November 2022
Condition 2.10 (a)	Supplementary Contamination Assessment Plan	18 December 2015
Condition 2.10 (b)	Supplementary Contamination Assessment Report	6 December 2016
Condition 3.3	Updated Baseline Monitoring Report	3 November 2020
Condition 3.4	Monthly EM&A Report (April 2024) for ED/2018/04 and ED/2020/03	9 May 2024

#### 11 ENVIRONMENTAL NON-CONFORMANCE

# Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

11.1 The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix L**.

# **Summary of Exceedance**

- 11.2 The summary of exceedance record in the reporting month is shown in **Appendix M**.
- 11.3 No non-conformity was recorded for landscape and visual inspections conducted in the reporting month.

#### 12 FUTURE KEY ISSUES

Tentative construction programmes for the next three months are provided in **Appendix N**.

12.1 Major site activities undertaken for the coming months and the key environmental issues are summarized as follows:

Table 12.1 Summary Table for Site Activities and the Key Environmental Issues in the next Reporting Period

•	G	
Contract No. and Project Title	Site Activities (June 2024)	Key Environmental Issues
ED/2018/04 - Trunk Road T2 and Infrastructure Works for Developments at South Apron	<ol> <li>West Ventilation Building RC Structure, ABWF, E&amp;M</li> <li>Launching Shaft / Cut &amp; Cover RC Structure</li> <li>Westbound TBM Tunnelling</li> <li>Eastbound TBM Tunnelling</li> <li>EB Service Gallery Installation</li> <li>WB Service Gallery Installation</li> <li>CP Tympanum Construction</li> <li>Cross Passage Finishing</li> <li>Sub-sea Corbel Construction</li> <li>Sub-sea Road Level Fire Board</li> <li>Sub-sea OHVD Soffit Fire Board</li> <li>Sub-sea Parapet Installation</li> <li>SUS Remaining Internal Wall</li> <li>SUS Fire Board installation</li> <li>Tunnel Segment delivery</li> </ol>	<ul> <li>Wheel washing bay at site exits;</li> <li>Temporary noise barriers for PMEs;</li> <li>Sedimentation tank for settling muddy water; and</li> <li>Make sure open stockpiles are covered during rainstorm.</li> </ul>

Contract No. and Project Title	Site Activities (June 2024)	Key Environmental Issues
ED/2020/03 - Trunk Road T2 - Traffic Control And Surveillance System (TCSS) and Associated Works <sup>(1)</sup>	<ol> <li>Sub-sea E&amp;M Bracket installation</li> <li>Sub-sea E&amp;M installation</li> <li>Sub-sea E&amp;M Bracket drilling</li> <li>Eastbound cavern excavation</li> <li>SUS Skin Wall</li> <li>SUS Bracket installation</li> <li>SUS E&amp;M installation</li> <li>Installation of cable containment at Gantry</li> <li>FAT for Radio System</li> <li>FAT for CCTV System</li> <li>FAT for SEC System</li> <li>Mockup inside tunnel – cable containment, ALCS, CCTV, VD.</li> <li>Mockup inside Service Gallery – PA Speaker</li> </ol>	<ul> <li>The waste should be removed regularly and litter free.</li> <li>The storage area should be kept tidy.</li> <li>Temporary noise barriers for PMEs.</li> </ul>

Notes:

(1): No major construction work was undertaken during reporting month.

N/A: Not applicable

# **Monitoring Schedule**

12.2 The tentative environmental monitoring schedule for the next three months are shown in **Appendix B**.

#### 13 CONCLUSIONS AND RECOMMENDATIONS

#### **Conclusions**

13.1 This is the 51<sup>st</sup> Monthly EM&A Report which presents the EM&A works undertaken during the reporting month in accordance with the EM&A Manual (AEIAR-174/2013) and the requirement under EP.

#### **Air Quality Monitoring**

13.2 No Action and no Limit Level exceedance was recorded for 24-hour TSP monitoring in the reporting month.

# **Construction Noise Monitoring**

- 13.3 No Limit Level exceedance was recorded for day-time construction noise monitoring in the reporting month.
- 13.4 No Action Level exceedance was recorded in the reporting month.

# Site Audit

- 13.5 5 (Five) ET joint weekly environmental site inspections were conducted for the Contact No. ED/2018/04 in the reporting month.
- 13.6 6 (Six) ET joint environmental site inspections were conducted for the Contact No. ED/2020/03 in the reporting month.

# Complaint, Notification of Summons and Successful Prosecution

13.7 No environmental complaint was received in the reporting month. No notifications of summons and successful prosecutions were received in the reporting month.

#### Recommendations

13.8 According to the environmental audit performed in the reporting month, the following recommendations was made:

# ED/2018/04

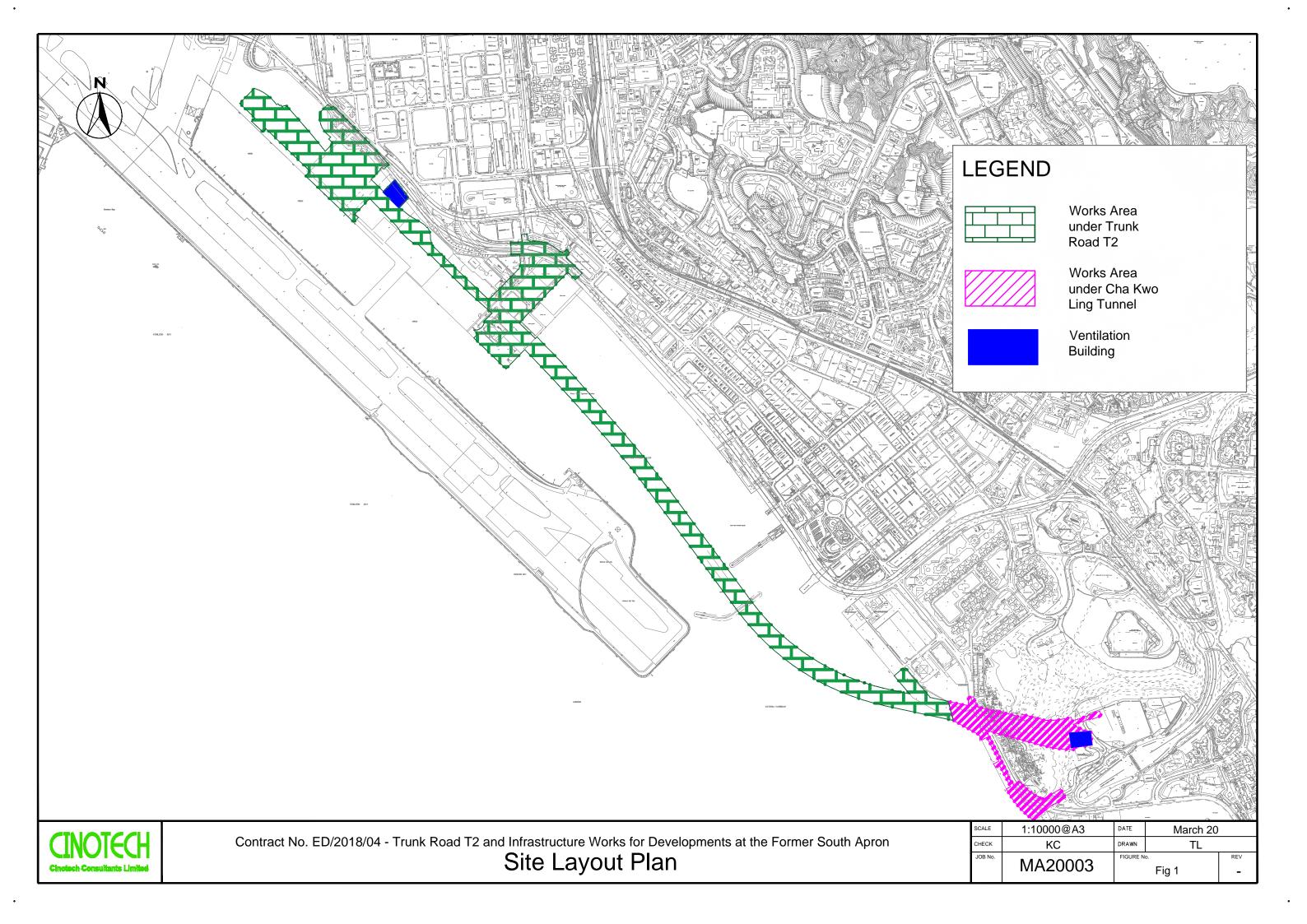
# Air Quality

- More than 20 cement bags should be covered by impervious sheeting.
- The valid NRMM label should be provided to the PMEs.
- Water spraying should be conducted to suppress the dust.

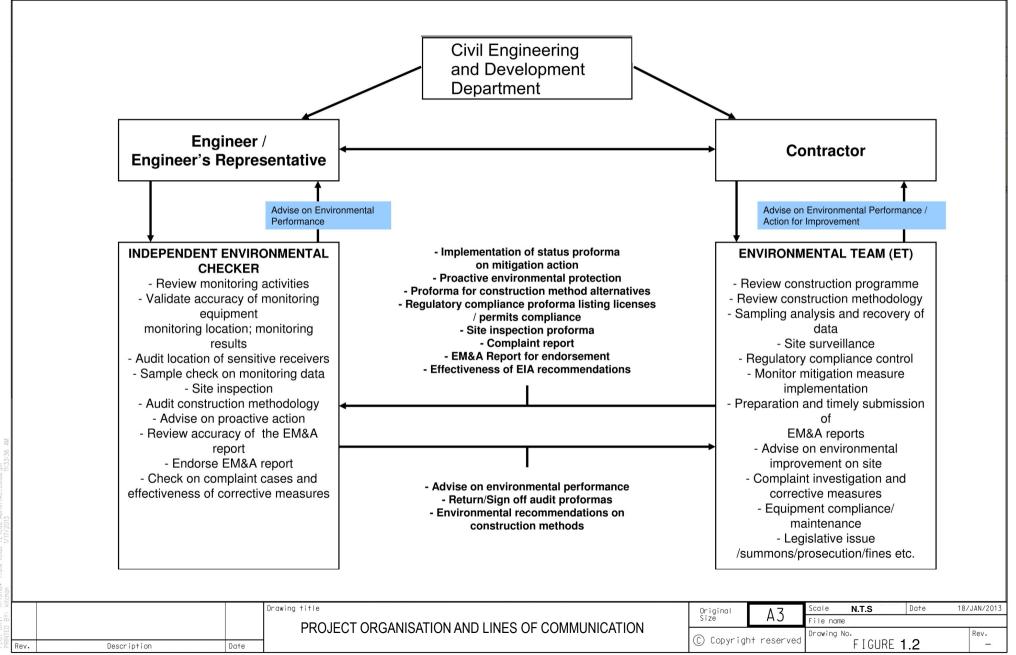
#### Waste / Chemical Management

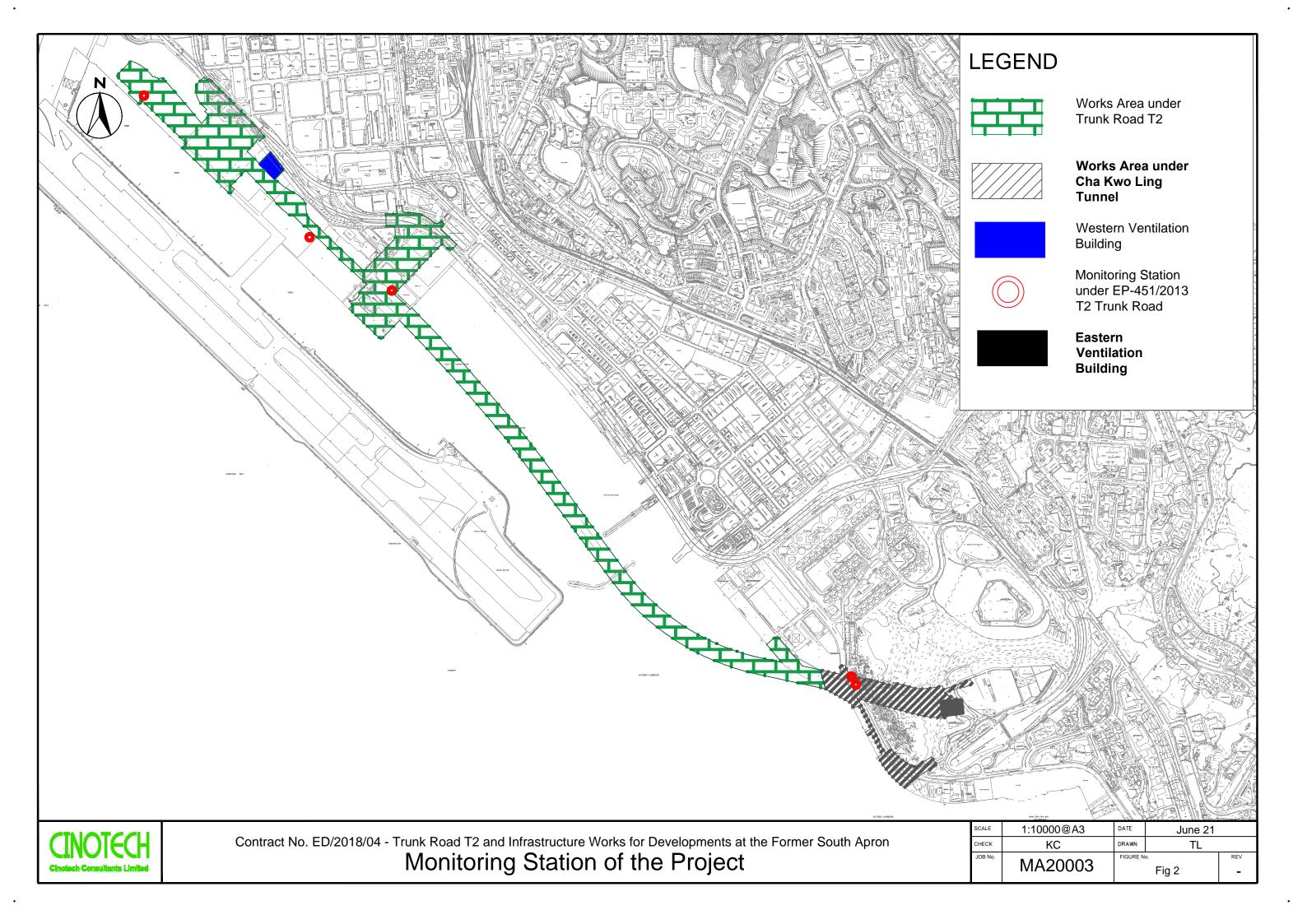
- The drip tray should be provided for the chemical container / oil drums to avoid the chemical leakage and remove the used chemical containers / oil drums regularly.
- The waste in the skips should be cleared regularly, the site and surrounding should be kept tidy and litter free

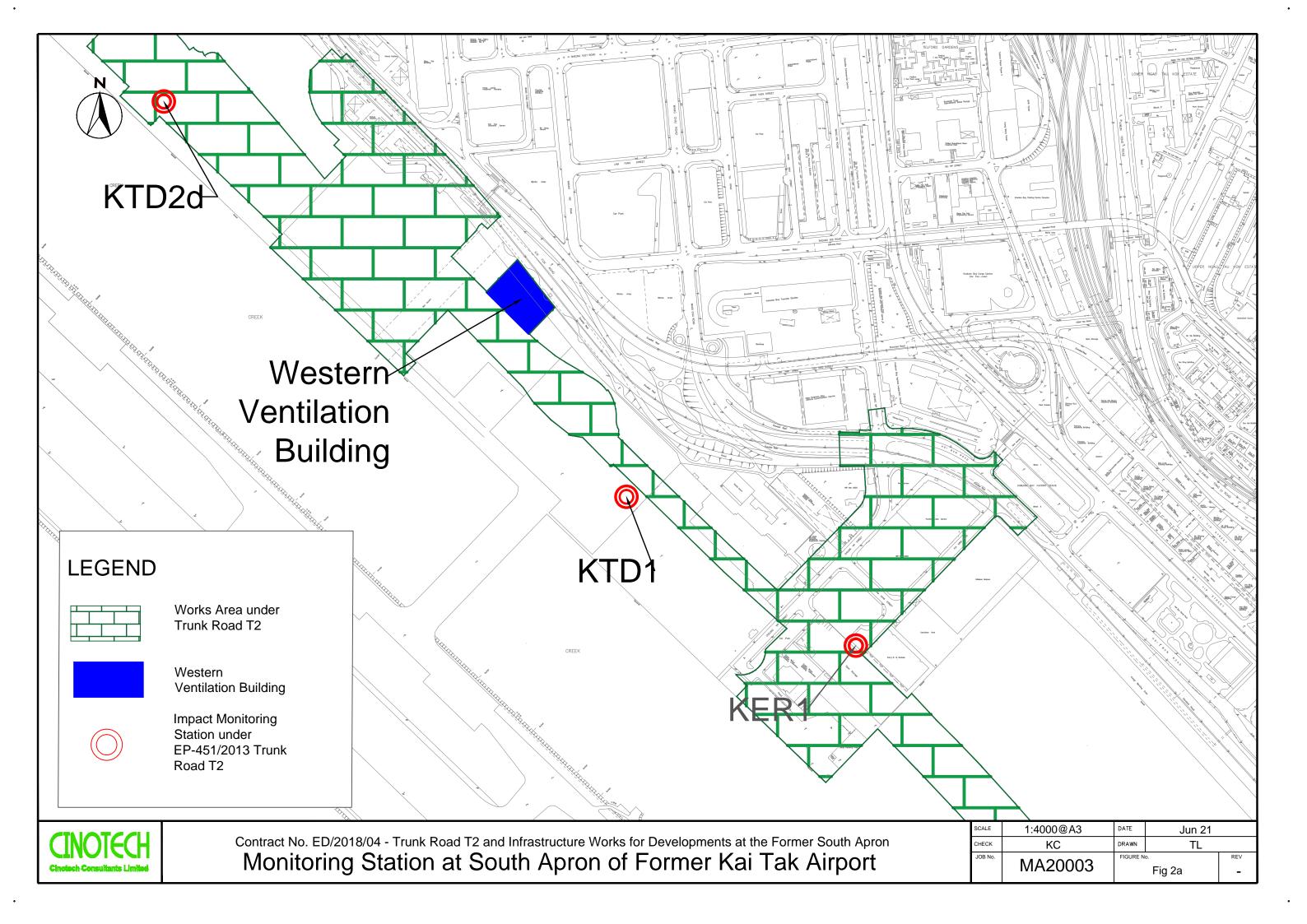
**FIGURES** 

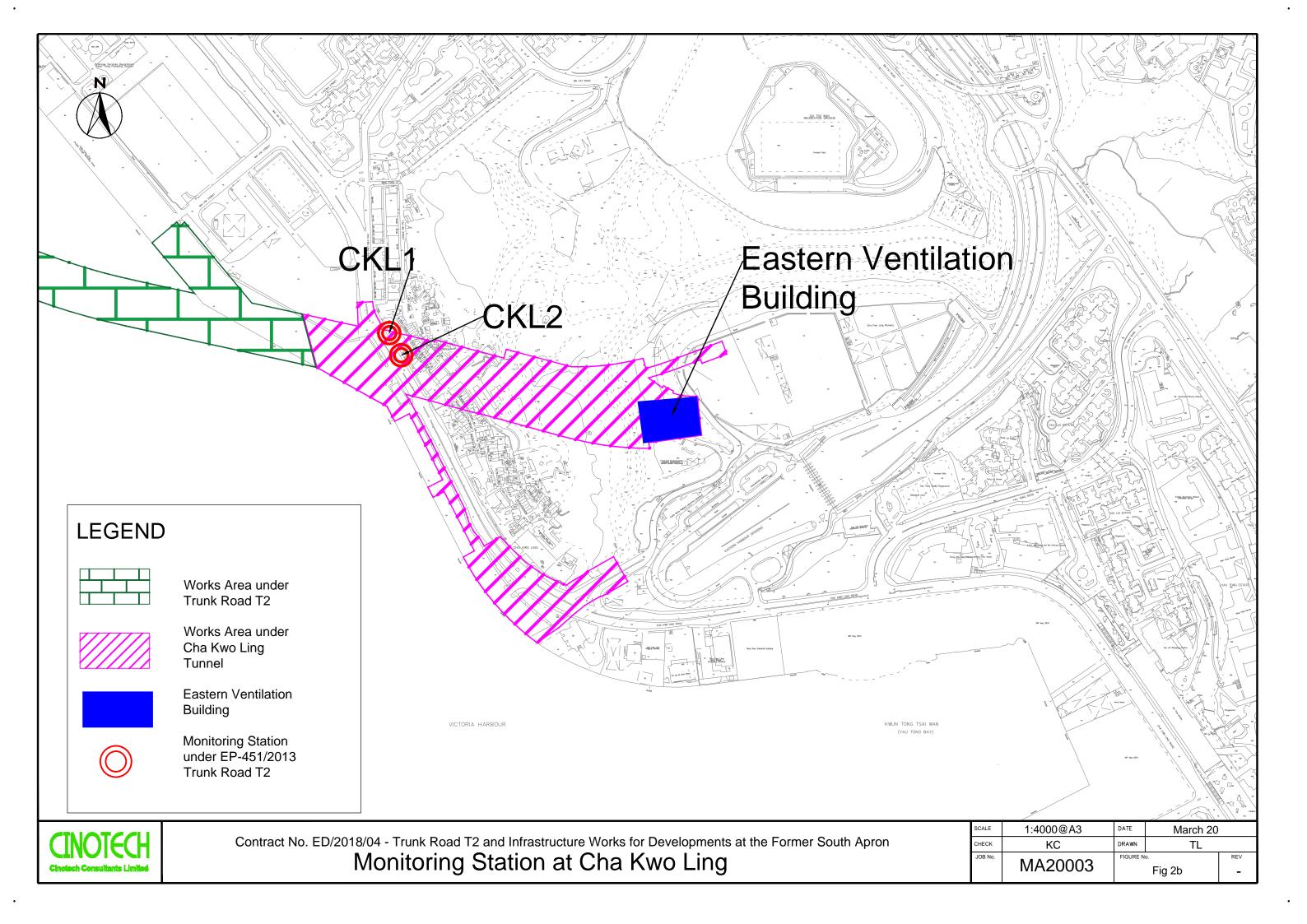












## APPENDIX A ACTION AND LIMIT LEVELS

## Appendix A - Action and Limit Levels

**Table A-1** Action and Limit Levels for 1-hour TSP (in case of complaints)

Location	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m <sup>3</sup>
KTD1	285	
KTD2d	279	
KER1	295	500
CKL1	323	
CKL2	327	

Table A-2 Action and Limit Levels for 24-hour TSP

Location	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m³
KTD1	177	
KTD2d	157	
KER1	172	260
CKL1	191	
CKL2	183	

Table A-3 Action and Limit Levels for Noise during Construction Period

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) <sup>(1)</sup>

Note:

<sup>(1)</sup> If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

APPENDIX B ENVIRONMENTAL MONITORING SCHEDULES

#### Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron Impact Air and Noise Monitoring Schedule (May 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-May	2-May	3-May	4-May
					24-hr TSP	
5-May	6-May	7-May	8-May	9-May	10-May	11-May
				24-hr TSP	Noise	
12-May	13-May	14-May	15-May	16-May	17-May	18-May
		24-hr TSP		Noise		
19-May	20-May	21-May	22-May	23-May	24-May	25-May
	24-hr TSP		Noise			24-hr TSP
26-May	27-May	28-May	29-May	30-May	31-May	
	Noise			24-hr TSP		

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

#### Air Quality Monitoring Station

24-hr TSP

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

KER1 - Future Residential Development at Kerry Godown

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

#### Noise Monitoring Station

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KER1 - Future Residential Development at Kerry Godown

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

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

\*Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

\*\*24-hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*</sup>Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*\*24-</sup>hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

#### Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron Tentative Impact Air and Noise Monitoring Schedule (June 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		·	-	•	•	1-Jun
2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun
			24-hr TSP	Noise		
			24 III 151	110100		
9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun
		24-hr TSP	Noise			
16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun
10-3411	17-3411	10-Juii	17-Juii	20-3011	Z1-Juli	22-Juli
	24-hr TSP	Noise				24-hr TSP
23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun
	Noise			24-hr TSP		
30-Jun						

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

#### Air Quality Monitoring Station

24-hr TSP

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital) KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

KER1 - Future Residential Development at Kerry Godown

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

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

\*Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

\*\*24-hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

#### Noise Monitoring Station

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KER1 - Future Residential Development at Kerry Godown

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

<sup>\*</sup>Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*\*24-</sup>hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

### Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron Tentative Impact Air and Noise Monitoring Schedule (July 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul
			24-hr TSP	Noise		
7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul
		24-hr TSP	Noise			
14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul
	24-hr TSP	Noise				24-hr TSP
21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul
	Noise				24-hr TSP	
28-Jul	29-Jul	30-Jul	31-Jul			

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

#### Air Quality Monitoring Station

24-hr TSP

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

KER1 - Future Residential Development at Kerry Godown

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

#### Noise Monitoring Station

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KER1 - Future Residential Development at Kerry Godown

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area  $\,$ 

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

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

\*Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

\*\*24-hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*</sup>Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*\*24-</sup>hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

#### Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron Tentative Impact Air and Noise Monitoring Schedule (August 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Aug	2-Aug	3-Aug
				24-hr TSP	Noise	
4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug
		_	24-hr TSP	Noise		
11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug
		24-hr TSP	Noise			
18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug
	24-hr TSP	Noise				24-hr TSP
25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug
	Noise				24-hr TSP	

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

#### Air Quality Monitoring Station

24-hr TSP

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

KER1 - Future Residential Development at Kerry Godown

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

#### Noise Monitoring Station

KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

KER1 - Future Residential Development at Kerry Godown

KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area  $\,$ 

CKL1 - Flat 121 Cha Kwo Ling Village

CKL2 - Flat 103 Cha Kwo Ling Village

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

\*Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

\*\*24-hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*</sup>Noise: Noise Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

<sup>\*\*24-</sup>hr TSP:24-hr TSP Monitoring works in both Kai Tak and Cha Kwo Ling (KTD1, KTD2d, KER1, CKL1 and CKL2)

APPENDIX C COPIES OF CALIBRATION CERTIFICATES FOR AIR QUALITY MONITORING

## **High-Volume TSP Sampler** 5-POINT CALIBRATION DATA SHEET



						File No. N	/IA20003/18/025
Project No.	CKL 1 - Flat 12	1 Cha Kwo Ling	Village				
Date:			Next Due Date:	: 4-N	1av-24	Operator:	SK
	nt No.: A-01-18				5170		
equipment ivo	11-0	1-10	. Wiodel Ivo.		7.5170	Schai ivo.	0723
			Ambient	Condition			
Temperatu	re, Ta (K)	292.7	Pressure, Pa	ı (mmHg)		759.3	
~			rifice Transfer St				
Serial		3864	Slope, mc	0.05976	Intercept $c = [\Delta H \times (Pa/76)]$		-0.05018
Last Calibra		15-Jan-24			к (Pa/760) x (298)		
Next Calibra	ation Date:	14-Jan-25		<b>Qstu</b> = {[Δ <b>H</b> 2	K (Fa/700) X (290)	/1a)j -bc}/m	<u>c</u>
		•	Calibration of	f TSP Sampler			
Calibration		Or	fice	•		HVS	
Point	AII (amifina)		50) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water		x (298/Ta)] <sup>1/2</sup> <b>Y-</b> axis
1	13.7	,	3.73		9.4	(	3.09
2	10.3	,	3.24	55.00	7.3	2	2.72
3	8.6		2.96	50.33	5.5	2	2.37
4	6.3		2.53	43.20	3.6	1.91	
5	3.7		1.94	33.30	2.0		1.43
	ression of Y on X	K		T	0.500	\ <del>-</del>	
Slope, mw =		_		intercept, bw :	-0.503	<u> </u>	
Correlation			.9968	-			
TI Correlation C	Coefficient < 0.99	90, check and rec	canbrate.				
			Set Point (	Calculation			
From the TSP Fi	ield Calibration (	Curve, take Qstd					
From the Regres	ssion Equation, th	ne "Y" value acco	ording to				
			0.41.1	(D. 15(0) (A	11/2		
		mw x C	$\mathbf{Qstd} + \mathbf{bw} = [\Delta \mathbf{W}]$	x (Pa//60) x (2	298/1a)]		
Therefore, Se	et Point; W = ( m	w x Qstd + bw)	<sup>2</sup> x ( 760 / Pa ) x (	Ta / 298 ) =	3.77		
Remarks:							
				1			
Conducted by:	Wong Sh	ing Kwai	Signature	. <i>X</i> ′	<u>}</u>	Date:	4-Mar-24
•					<u>,</u> X27	<u> </u>	
Checked by:	Henry	Leung	Signature	· lem	, Don	Date:	4-Mar-24

## **High-Volume TSP Sampler** 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/025 Project No. CKL 2 - Flat 103 Cha Kwo Ling Village 4-Mar-24 Next Due Date: 4-May-24 Operator: SK Date: Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956 **Ambient Condition** Temperature, Ta (K) 292.7 Pressure, Pa (mmHg) 759.3 **Orifice Transfer Standard Information** 0.05976 Intercept, bc -0.05018 3864 Slope, mc Serial No. mc x Qstd + bc =  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 15-Jan-24 Qstd =  $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ Next Calibration Date: 14-Jan-25 **Calibration of TSP Sampler** Orfice HVS Calibration  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$  $\Delta H$  (orifice), Ostd (CFM)  $\Delta W$  (HVS), in. Point  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ in. of water X - axis of water Y-axis 13.7 3.73 63.31 9.8 3.16 1 2.82 11.4 3.41 57.82 7.8 52.86 3.11 6.1 2.49 4 5.7 2.41 41.13 3.1 1.78 2.0 5 3.6 1.91 32.86 1.43 By Linear Regression of Y on X Slope , mw = 0.0577 Intercept, bw : -0.5305 Correlation coefficient\* = \*If Correlation Coefficient < 0.990, check and recalibrate. **Set Point Calculation** From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.75 Remarks: Signature: Date: 4-Mar-24

Signature: Date: 4-Mar-24 Conducted by: Wong Shing Kwai Checked by: Henry Leung

## 5-POINT CALIBRATION DATA SHEET



ار	1/	ı	L\	

						File No. N	IA20003/04/0023
Project No.	KER 1 - Future	Residential Deve	elopment at Kerry C	Godown		_	
Date:	10-M	ar-24	Next Due Date:	10-1	May-24	Operator:	SK
Equipment No.:	A-0	1-04			E 5170		10595
• •			•			· · · · · · · · · · · · · · · · · · ·	
			Ambient C	ondition			
Temperatur	re, Ta (K)	289	Pressure, Pa	(mmHg)		765.8	
		Ow	ifice Transfer Star	adoud Informa	ation .		
Serial	No	3864	Slope, mc	0.05976	Intercept	t he	-0.05018
Last Calibra		15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibra		14-Jan-25			(Pa/760) x (298/7		
	<u> </u>					-	
			Calibration of T	TSP Sampler			
Calibration		Or	fice			HVS	. 10
Point	$\Delta H$ (orifice), in. of water	[ΔH x (Pa/76	(60) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta$ W (HVS), in. of water		50) x (298/Ta)] <sup>1/2</sup> -axis
1	13.4		3.73	63.28	9.2	3	3.09
2	10.7		3.33	56.63	7.3	2	2.75
3	8.6		2.99	50.86	5.5	2	2.39
4	5.5		2.39	40.84	3.6	1.93	
5	3.7		1.96	33.65	2.3	1	1.55
-	ession of Y on X		_		0.204		
Slope , mw = Correlation		-	.9991	ntercept, bw =	-0.204	<u> 14                                     </u>	
	coefficient < 0.99						
The Correlation C	oemelent < 0.99	o, check and rec	anorate.				
			Set Point Ca	lculation			
From the TSP Fi	eld Calibration C	Curve, take Qstd	= 43 CFM				
From the Regress	sion Equation, th	e "Y" value acco	ording to				
			A-4-J . L	(D- /7(0) (20	NO/TE - \11/2		
		mw x Ç	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) X (25	78/1a)]		
Therefore, Se	et Point; W = ( m	w x Qstd + bw)	<sup>2</sup> x ( 760 / Pa ) x ( 7	Ta / 298) =	3.96		
Remarks:							
Conducted by:	Wong Sh	ina Kwai	Signature:	X	J\ .	Date:	10-Mar-24
Conducted by:	wong Sn	ing Kwai	Signature:		<i>)</i>	Date:	10-Mar-24
Checked by:	Henry	Leung	Signature:	1_0	y ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Date:	10-Mar-24
Checkeu by.	1 ICHI Y	Lang	Signature.	1 cem	<u>~,                                    </u>	Date	10-1 <b>v1</b> a1-24

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0022

Project No.	KTD1 - Centre	of Excellence in	Paediatrics (Childr	en's Hospital)			
Date:	10-M	10-Mar-24 Next Due Date:		10-1	10-May-24		SK
Equipment No.:	uipment No.: A-01-44		Model No.:	TE	E-5170	Serial No.	1316
			Ambient C	ondition			
Temperatu	re, Ta (K)	289	Pressure, Pa			765.8	
	-				-		
		Or	fice Transfer Star	ndard Informa	ation		
Serial	l No.	3864	Slope, mc	0.05976	Intercept		-0.05018
Last Calibra	ation Date:	15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibra	ation Date:	14-Jan-25		$\mathbf{Qstd} = \{ [\Delta \mathbf{H} \ \mathbf{x} ] \}$	(Pa/760) x (298/7	Γa)] <sup>1/2</sup> -bc} / m	ıc
			Calibration of	TSP Sampler			
Calibration		Or	fice	1		HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	(0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water		60) x (298/Ta)] <sup>1/</sup> / <b>-axis</b>
1	13.6	:	3.76	63.74	9.7		3.17
2	11.3	:	3.43	58.18	7.5	2.79	
3	9.0	:	3.06	52.01	5.7	2.43	
4	6.4	:	2.58		3.9	2.01	
5	3.9	2	2.01	34.52	2.3		1.55
By Linear Regr Slope , mw =	ression of Y on Y 0.0552	K	1	Intercept, bw :	-0.394	15	
Correlation	coefficient* =	0.	9980				
*If Correlation C	Coefficient < 0.99	90, check and rec	alibrate.	•			
			Set Point Ca	alculation			
From the TSP Fi	eld Calibration (	Curve, take Qstd					
		ne "Y" value acco					
	•		_				
		mw x Q	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] <sup>1/2</sup>		
Therefore, Se	et Point; W = ( m	nw x Qstd + bw )	<sup>2</sup> x ( 760 / Pa ) x ( 7	Γa / 298 ) =	3.77		
Remarks:							
remuns.							
				b	al .		
Conducted by:	Wong Sh	ning Kwai	Signature:		ソレー	Date:	10-Mar-24
				1 0	,		
Checked by:	Henry	Leung	Signature:	1-Pa.	a Mari	Date:	10-Mar-24

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0023

Project No.	KTD 2D - Next	to the SOR Offic	ce of Trunk Road T	2 in Kai Tak A	area		
Date:	10-M	Iar-24	Next Due Date:	10-1	May-24	Operator:	SK
Equipment No.:	A-0	01-41	Model No.:	TE	E 5170	Serial No.	5280
			Ambient C	ondition			
Temperatur	re, Ta (K)	289	Pressure, Pa	(mmHg)		765.8	
Caria1	No		ifice Transfer Star			. ha	0.05010
Serial Last Calibra		3864 15-Jan-24	Slope, mc	0.05976 mc x Ostd + bo	Intercept $c = [\Delta H \times (Pa/760)]$	-	-0.05018
Next Calibra		13-Jan-24 14-Jan-25			$(Pa/760) \times (298/7)$		
TVOXE CUITOTE	ation Date.			<b>Q</b> = = = = = = = = = = = = = = = = = = =	(- ***		-
			Calibration of	TSP Sampler			
Calibration		Or	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] <sup>1/2</sup> -axis
1	14.0		3.81	64.66	9.6		3.16
2	11.5		3.46	58.68	8.6		2.99
3	9.5		3.14		6.4		2.58
5	7.0 4.0		2.70 2.04	45.97 34.95	4.5 2.2		2.16 1.51
Slope , mw = Correlation of	0.0573 coefficient* =	0	. <b>9955</b>	Intercept, bw :	-0.474	16	
*If Correlation C	Coefficient < 0.99	90, check and rec	ealibrate.				
			Set Point Ca	alculation			
From the TSP Fig	eld Calibration (	Curve, take Qstd	= 43 CFM				
From the Regress	sion Equation, th	ne "Y" value acco	ording to				
		mw x Q	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] <sup>1/2</sup>		
Therefore, Se	et Point; W = ( m	nw x Qstd + bw)	<sup>2</sup> x (760 / Pa) x (7	Γa / 298 ) =	3.81		
Remarks:							
Conducted by:	Wong Sh	ning Kwai	Signature:	K	<u></u>	Date:	10-Mar-24
Checked by:	Henry	Leung	Signature:	\-le	J Xon	Date:	10-Mar-24

## **High-Volume TSP Sampler** 5-POINT CALIBRATION DATA SHEET



						File No. N	MA20003/18/026
Project No.	CKL 1 - Flat 12	1 Cha Kwo Ling	Village			_	
Date:	4-M	ay-24	Next Due Date:	4-J	Jul-24	Operator:	SK
Equipment No.:	A-0				5170		
			Ambient	Condition			
Temperatur	re, Ta (K)	297	Pressure, Pa	(mmHg)		757	
G : 1	137		rifice Transfer Sta	1		. 1	0.05010
Serial		3864 15 Jan 24	Slope, mc	0.05976	Intercept $c = [\Delta H \times (Pa/76)]$		-0.05018
Last Calibra Next Calibra		15-Jan-24 14-Jan-25			с – <sub>[</sub> ДП х (F а/76 к (Pa/760) х (298/		
Next Canora	ation Date.	14-Jan-23		ζεια – ([ΔΠ 2	(1 a/ 100) A (2)0/	/1a)j -bcj/m	
		•	Calibration of	TSP Sampler			
Calibration		Or	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	(0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water		x (298/Ta)] <sup>1/2</sup> <b>Y- axis</b>
1	13.8		3.71	62.98	9.3	(	3.05
2	10.4	:	3.22	54.79	7.2	2	2.68
3	8.7		2.95	50.18	5.4	2	2.32
4	6.4		2.53	43.16	3.5		1.87
5	3.8		1.95	33.45	2.0		1.41
D T ! D		17					
Slope , mw =	ression of Y on Y	1		Intercent by	-0.532	26	
Correlation		-	.9962	intercept, bw .	-0.332	<u> </u>	
		90, check and red		-			
			Set Point (	Calculation			
From the TSP Fi	eld Calibration (	Curve, take Qstd	= 43 CFM				
From the Regres	sion Equation, th	ne "Y" value acco	ording to				
		mw x (	$Qstd + bw = [\Delta W]$	x (Pa/760) x (2	$(98/Ta)^{1/2}$		
		111,72	25tu   511 = [211	A (1 W / 00) A (2	30,14,1		
Therefore, Se	et Point; W = ( m	w x Qstd + bw)	$^{2}$ x ( 760 / Pa ) x (	Ta / 298 ) =	3.72		
Remarks:							
				1.	. 1		
Conducted by:	Wong Sh	ning Kwai	Signature	X	<u></u>	Date:	4-May-24
•		-					
Checked by:	Henry	Leung	Signature:	\-lem	, don	Date:	4-May-24

## **High-Volume TSP Sampler** 5-POINT CALIBRATION DATA SHEET



CIN®TECH

						File No.	MA20003/55/026
Project No.	CKL 2 - Flat 10	3 Cha Kwo Ling	Village			_	
Date:	4-May-24		Next Due Date: 4-Jul-24		Jul-24	Operator:	SK
Fauinment No ·		)1-55			E 5170		
Equipment 1 vo.:	71 (	,1 33	. Wiodel 110		23170	Seriai 110.	1730
			Ambient C	ondition			
Temperatu	re, Ta (K)	297	Pressure, Pa	(mmHg)		757	
		Or	ifice Transfer Star	ndard Informa	ation		
Serial		3864	Slope, mc	0.05976	Intercept		-0.05018
Last Calibra		15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x]$	(Pa/760) x (298/7	l'a)]" <sup>2</sup> -bc} / n	ıc
			Calibert	FCD C 1			
		0-	Calibration of T	15P Sampler		шле	
Calibration	ΔH (orifice),		fice	Qstd (CFM)	ΔW (HVS), in.	HVS  [AW x (Pa/7)	(60) x (298/Ta)] <sup>1/2</sup>
Point	in. of water	[ΔH x (Pa/76	50) x (298/Ta)] <sup>1/2</sup>	X - axis	of water		Y-axis
1	13.8		3.71	62.98	9.7		3.11
2	11.5		3.39	57.57	7.7		2.77
3	9.6		3.10	52.67	6.0		2.45
4	5.8		2.41	41.13	3.0		1.73
5	3.7		1.92	33.02	2.0		1.41
By Linear Regr	ression of Y on 2	X					
Slope, $mw =$	0.0578	<u> </u>	]	Intercept, bw :	-0.565	54	
	coefficient* =		.9965	-			
*If Correlation C	Coefficient < 0.9	90, check and rec	calibrate.				
			Sat Daint Co	alaulatian			
From the TSD Ei	ald Calibration	Curve, take Qstd	Set Point Ca	aicuiation			
		he "Y" value acco					
Tom the Regres	sion Equation, u	ne i value acco	nuing to				
		mw x Q	$\mathbf{Qstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	$[98/Ta)]^{1/2}$		
			2	- /			
Therefore, Se	et Point; W = ( n	nw x Qstd + bw)	$^{2}$ x ( 760 / Pa ) x ( $^{7}$	Ta / 298) =	3.70		
Remarks:							
				10			
Conducted by:	Wong Sl	ning Kwai	Signature:		<u> </u>	Date:	4-May-24
-		-	-	1	<del></del>	_	· · · · · ·
Checked by:	Henry	Leung	Signature:	\-l.	, Oron	Date:	4-May-24
7				- \ ~~~	7	-	

## 5-POINT CALIBRATION DATA SHEET



						File No. M	A20003/04/0024
Project No.	KER 1 - Future I	Residential Deve	elopment at Kerry (	Godown			
Date:	10-Ma	ay-24	Next Due Date:	10-	Jul-24	Operator:	SK
Equipment No.:	A-01	-04	Model No.:	TE	E 5170	Serial No.	10595
			Ambient C	ondition			
Temperatui	re, Ta (K)	298.3	Pressure, Pa			761.4	
	T		fice Transfer Star			_	
Serial		3864	Slope, mc	0.05976	Intercept		-0.05018
Last Calibra		15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x]$	(Pa/760) x (298/7	Γa)] <sup>1/2</sup> -bc} / mo	2
		•	Calibration of T	ΓSP Sampler			
Calibration		Or	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of water		0) x (298/Ta)] <sup>1/2</sup> -axis
1	13.5	3	3.68	62.35	9.1	3	3.02
2	10.8	3	3.29	55.85	7.2	2	2.68
3	8.7	2	2.95	50.22	5.4	2	2.32
4	5.6	2	2.37	40.46	3.5	1	.87
5	3.8		1.95	33.47	2.2	1	.48
-	ession of Y on X		-		0.207	- 4	
Slope, mw =		-		ntercept, bw =	-0.286	<u> </u>	
	coefficient* =		9991				
II Correlation C	Coefficient < 0.99	o, check and rec	anorate.				
			Set Point Ca	lculation			
From the TSP Fi	eld Calibration C	urve, take Qstd	= 43 CFM				
From the Regress	sion Equation, the	e "Y" value acco	ording to				
			[A337	(D- /7(0) (20	NO/TE - \11/2		
		mw x Q	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa//60) x (25	78/1a)]		
Therefore, Se	et Point; W = ( m	w x Qstd + bw)	<sup>2</sup> x ( 760 / Pa ) x ( 7	Ta / 298) =	3.95		
Remarks:							
Conducted by:	Wong Shi	ing Kwai	Signature:	X	<u> </u>	Date:	10-May-24
Checked by:	Henry	Leung	Signature:	\-lem	, Olon	Date:	10-May-24

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0023

Project No.	KTD1 - Centre	of Excellence in		_			
Date:	10-May-24         Next Due Date:         10-Jul-24           No.:         A-01-44         Model No.:         TE-5170		Next Due Date: 10-Ju		-Jul-24	Operator:	SK
Equipment No.:			E-5170	Serial No.	1316		
			Ambient C	ondition			
Temperatu	re, Ta (K)	298.3	Pressure, Pa			761.4	
		Or	ifice Transfer Star	ndard Informa	ation		
Serial	l No.	3864	Slope, mc	0.05976	Intercept		-0.05018
Last Calibra	ation Date:	15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x] $	(Pa/760) x (298/	Γa)] <sup>1/2</sup> -bc} / mo	,
	I		Calibration of	<b>ΓSP Sampler</b>	l l		
Calibration	AII (c.::4:)		fice	0-41/053/0	AM (IBIO)	HVS	0) (200 / 32 ) 21/2
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	$\Delta$ W (HVS), in. of water		0) x (298/Ta)] <sup>1/2</sup> -axis
1	13.7		3.70	62.80	9.6	3	3.10
2	11.4		3.38	57.36	7.4	2	2.72
3	9.2		3.03	51.62	5.6	2	2.37
4	6.5		2.55	43.52	3.8	1	.95
5	3.9		1.98	33.90	2.2	1	.48
Slope , mw = Correlation	coefficient < 0.99	0	.9972	Intercept, bw	-0.433	<u> </u>	
			Set Point Ca	alculation			
	ield Calibration (	ne "Y" value acco		(Pa/760) x (29	98/Ta)] <sup>1/2</sup>		
Therefore, Se	et Point; W = ( m	nw x Qstd + bw )	<sup>2</sup> x ( 760 / Pa ) x ( 7	Γa / 298 ) =	3.78		
Remarks:							
Conducted by:	Wong Sl	ning Kwai	Signature:	<u> </u>	<u></u>	Date:	10-May-24
Checked by:	Henry	Leung	Signature:	-tem	J Oronz	Date:	10-May-24

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0024 KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area Project No. 10-May-24 Next Due Date: 10-Jul-24 Operator: SK Date: Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280 **Ambient Condition** 298.3 Temperature, Ta (K) Pressure, Pa (mmHg) 761.4 **Orifice Transfer Standard Information** 0.05976 Intercept, bc 3864 Slope, mc Serial No. -0.05018  $mc \times Ostd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 15-Jan-24 Qstd =  $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ 14-Jan-25 Next Calibration Date: **Calibration of TSP Sampler** Orfice Calibration  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$  $\Delta H$  (orifice), Ostd (CFM)  $\Delta W$  (HVS), in. Point  $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ in. of water X - axis of water Y-axis 1 14.2 3.77 63.92 9.5 3.08 2.92 2 11.7 3.42 58.10 8.5 9.7 3.12 52.98 6.3 2.51 4 7.2 2.68 45.76 4.4 2.10 2.1 5 4.0 2.00 34.32 1.45 By Linear Regression of Y on X Slope , mw = 0.0572 Intercept, bw : -0.5068 Correlation coefficient\* = \*If Correlation Coefficient < 0.990, check and recalibrate. **Set Point Calculation** From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Qstd + bw =  $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point;  $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.81 Remarks:

Conducted by: Wong Shing Kwai

Checked by: Henry Leung



## RECALIBRATION DUE DATE:

January 15, 2025

# Certificate of Calibration

**Calibration Certification Information** 

Cal. Date: January 15, 2024

Rootsmeter S/N: 438320

Ta: 294

°K

Operator: Jim Tisch

Pa: 755.4

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 3864

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4380	3.3	2.00
2	3	4	1	1.0270	6.4	4.00
3	5	6	1	0.9180	8.0	5.00
4	7	8	1	0.8750	8.9	5.50
5	9	10	1	0.7230	12.9	8.00

	Data Tabulation					
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	√∆H(Ta/Pa)	
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)	
1.0031	0.6975	1.4195	0.9956	0.6924	0.8823	
0.9989	0.9727	2.0075	0.9915	0.9655	1.2477	
0.9968	1.0858	2.2444	0.9894	1.0778	1.3950	
0.9956	1.1378	2.3539	0.9882	1.1294	1.4631	
0.9903	1.3697	2.8390	0.9829	1.3595	1.7645	
	m=	2.11196		m=	1.32248	
QSTD	b=	-0.05043	QA	b=	-0.03134	
	r=	0.99998		r=	0.99998	

Calculations				
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)	
Qstd=	Vstd/ΔTime	Qa= Va/ΔTime		
For subsequent flow rate calculations:				
Qstd=	$1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$	Qa=	$1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$	

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

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002

www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009



## **Certificate of Calibration - Wind Monitoring Station**

Description: Yau Lai Estate, Bik Lai House

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis7440</u>

Serial No.: <u>MC01010A44</u>

Equipment No.: <u>SA-03-04</u>

Date of Calibration <u>18-Feb-2024</u>

Next Due Date <u>18-Aug-2024</u>

### 1. Performance check of Wind Speed

Wind Sp	peed, m/s	Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	D = V1 - V2
0.0	0.0	0.0
1.5	1.7	-0.2
2.5	2.4	0.1
4.0	3.8	0.2

### 2. Performance check of Wind Direction

Wind Di	rection (°)	Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

### **Test Specification:**

- 1. Performance Wind Speed Test The wind meter was on-site calibrated against the anemometer
- 2. Performance Wind Direction Test The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:

Wong Shing Kwai

Approved by:

Henry/Leung

### APPENDIX D WEATHER INFORMATION

Appendix D - Weather Conditions During Impact Monitoring Period

Date	Mean Air Temperature (°C) <sup>1</sup>	Mean Relative Humidity $(\%)^2$	Precipitation (mm) <sup>3</sup>
1-May-24	23.7	92	52.9
2-May-24	24.6	88	1.1
3-May-24	24.3	87	Trace
4-May-24	24.0	93	75.1
5-May-24	25.3	86	5.3
6-May-24	27.7	82	0.0
7-May-24	27.2	80	0.0
8-May-24	26.7	76	Trace
9-May-24	25.8	68	0.0
10-May-24	25.3	72	Trace
11-May-24	26.7	81	Trace
12-May-24	27.1	85	3.1
13-May-24	26.4	81	0.7
14-May-24	25.5	64	0.0
15-May-24	26.4	62	0.0
16-May-24	26.2	60	0.0
17-May-24	25.9	71	Trace
18-May-24	26.3	71	Trace
19-May-24	25.1	83	17.5
20-May-24	24.5	92	30.7
21-May-24	25.3	95	45.3
22-May-24	26.1	91	Trace
23-May-24	25.9	91	2.5
24-May-24	25.3	92	17.6
25-May-24	26.3	91	7.8
26-May-24	27.4	87	0.3
27-May-24	28.4	85	6.7
28-May-24	28.1	83	8.9
29-May-24	25.8	70	0.0
30-May-24	25.5	86	3.7
31-May-24	27.2	91	13.4

(Reporting Month:May 2024)

### Remarks:

Source - Hong Kong Observatory

<sup>&</sup>lt;sup>1-3</sup>Retrieved from Manned Weather Station (Hong Kong Observatory) (22°18'07" N, 114°10'27" E)

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
1 May 2024	12:00 AM	WNW	0.1
1 May 2024	1:00 AM	WNW	0.1
1 May 2024	2:00 AM	ENE	0.1
1 May 2024	3:00 AM	ESE	0.1
1 May 2024	4:00 AM	Е	0.1
1 May 2024	5:00 AM	ENE	0.1
1 May 2024	6:00 AM	NE	0.1
1 May 2024	7:00 AM	NE	0.1
1 May 2024	8:00 AM	Е	0.2
1 May 2024	9:00 AM	Е	0.1
1 May 2024	10:00 AM	Е	0.2
1 May 2024	11:00 AM	Е	0.2
1 May 2024	12:00 PM	SE	0.2
1 May 2024	1:00 PM	ESE	0.2
1 May 2024	2:00 PM	Е	0.2
1 May 2024	3:00 PM	Е	0.2
1 May 2024	4:00 PM	SE	0.5
1 May 2024	5:00 PM	ENE	0.2
1 May 2024	6:00 PM	Е	0.1
1 May 2024	7:00 PM	Е	0.2
1 May 2024	8:00 PM	SE	0.1
1 May 2024	9:00 PM	ENE	0.1
1 May 2024	10:00 PM	ENE	0.1
1 May 2024	11:00 PM	E	0.1
2 May 2024	12:00 AM	ESE	0.1
2 May 2024	1:00 AM	NE	0.1
2 May 2024	2:00 AM	Е	0.1
2 May 2024	3:00 AM	ENE	0.1
2 May 2024	4:00 AM	NE	0.1

May 2024				
Wind Speed and Directions				
Date	Time	Direction	Wind Speed m-s	
2 May 2024	5:00 AM	SSE	0.1	
2 May 2024	6:00 AM	ENE	0.1	
2 May 2024	7:00 AM	E	0.1	
2 May 2024	8:00 AM	E	0.1	
2 May 2024	9:00 AM	ENE	0.1	
2 May 2024	10:00 AM	ESE	0.1	
2 May 2024	11:00 AM	ESE	0.1	
2 May 2024	12:00 PM	ESE	0.1	
2 May 2024	1:00 PM	SSE	0.1	
2 May 2024	2:00 PM	ENE	0.1	
2 May 2024	3:00 PM	ENE	0.1	
2 May 2024	4:00 PM	SE	0.1	
2 May 2024	5:00 PM	SSW	0.1	
2 May 2024	6:00 PM	SSW	0.1	
2 May 2024	7:00 PM	S	0.1	
2 May 2024	8:00 PM	W	0.1	
2 May 2024	9:00 PM	WSW	0.1	
2 May 2024	10:00 PM	ESE	0.1	
2 May 2024	11:00 PM	ESE	0.1	
3 May 2024	12:00 AM	WNW	0.1	
3 May 2024	1:00 AM	S	0.2	
3 May 2024	2:00 AM	W	0.4	
3 May 2024	3:00 AM	WSW	0.2	
3 May 2024	4:00 AM	ESE	0.1	
3 May 2024	5:00 AM	ESE	0.1	
3 May 2024	6:00 AM	WNW	0.1	
3 May 2024	7:00 AM	WNW	0.1	
3 May 2024	8:00 AM	ENE	0.9	
3 May 2024	9:00 AM	SE	0.1	

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
3 May 2024	10:00 AM	E	0.6
3 May 2024	11:00 AM	Е	0.8
3 May 2024	12:00 PM	ESE	0.1
3 May 2024	1:00 PM	S	0.1
3 May 2024	2:00 PM	SSE	0.1
3 May 2024	3:00 PM	ESE	0.7
3 May 2024	4:00 PM	S	0.1
3 May 2024	5:00 PM	Е	0.4
3 May 2024	6:00 PM	ESE	1.0
3 May 2024	7:00 PM	Е	0.1
3 May 2024	8:00 PM	Е	0.1
3 May 2024	9:00 PM	ESE	0.8
3 May 2024	10:00 PM	ENE	0.1
3 May 2024	11:00 PM	Е	0.2
4 May 2024	12:00 AM	S	0.1
4 May 2024	1:00 AM	SE	0.1
4 May 2024	2:00 AM	Е	0.1
4 May 2024	3:00 AM	Е	0.1
4 May 2024	4:00 AM	ESE	0.2
4 May 2024	5:00 AM	Е	0.1
4 May 2024	6:00 AM	ESE	0.1
4 May 2024	7:00 AM	NE	0.1
4 May 2024	8:00 AM	ESE	0.1
4 May 2024	9:00 AM	SSW	0.1
4 May 2024	10:00 AM	S	0.1
4 May 2024	11:00 AM	W	0.1
4 May 2024	12:00 PM	WSW	0.1
4 May 2024	1:00 PM	ESE	0.1
4 May 2024	2:00 PM	ESE	0.1

May 2024				
Wind Speed and Directions				
Date	Time	Direction	Wind Speed m-s	
4 May 2024	3:00 PM	WNW	0.1	
4 May 2024	4:00 PM	S	0.4	
4 May 2024	5:00 PM	W	0.1	
4 May 2024	6:00 PM	WSW	0.1	
4 May 2024	7:00 PM	ESE	0.2	
4 May 2024	8:00 PM	ESE	0.1	
4 May 2024	9:00 PM	WNW	0.4	
4 May 2024	10:00 PM	WNW	0.1	
4 May 2024	11:00 PM	NE	0.3	
5 May 2024	12:00 AM	NE	0.2	
5 May 2024	1:00 AM	NE	0.2	
5 May 2024	2:00 AM	ENE	0.2	
5 May 2024	3:00 AM	W	0.1	
5 May 2024	4:00 AM	ENE	0.1	
5 May 2024	5:00 AM	ENE	0.4	
5 May 2024	6:00 AM	NE	0.1	
5 May 2024	7:00 AM	ENE	0.2	
5 May 2024	8:00 AM	ENE	0.2	
5 May 2024	9:00 AM	SSW	0.2	
5 May 2024	10:00 AM	S	0.2	
5 May 2024	11:00 AM	W	0.2	
5 May 2024	12:00 PM	WSW	0.3	
5 May 2024	1:00 PM	ESE	0.4	
5 May 2024	2:00 PM	ESE	1.0	
5 May 2024	3:00 PM	WNW	0.4	
5 May 2024	4:00 PM	S	0.4	
5 May 2024	5:00 PM	W	0.3	
5 May 2024	6:00 PM	WSW	0.3	
5 May 2024	7:00 PM	ESE	0.3	

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
5 May 2024	8:00 PM	ESE	0.2
5 May 2024	9:00 PM	WNW	0.2
5 May 2024	10:00 PM	WNW	0.1
5 May 2024	11:00 PM	Е	0.1
6 May 2024	12:00 AM	ESE	0.1
6 May 2024	1:00 AM	Е	0.1
6 May 2024	2:00 AM	Е	0.1
6 May 2024	3:00 AM	ENE	0.1
6 May 2024	4:00 AM	Е	0.1
6 May 2024	5:00 AM	ENE	0.1
6 May 2024	6:00 AM	ESE	0.1
6 May 2024	7:00 AM	SE	0.1
6 May 2024	8:00 AM	SE	0.2
6 May 2024	9:00 AM	Е	0.1
6 May 2024	10:00 AM	ESE	0.1
6 May 2024	11:00 AM	NE	0.1
6 May 2024	12:00 PM	SE	0.2
6 May 2024	1:00 PM	SSE	0.1
6 May 2024	2:00 PM	SSE	0.1
6 May 2024	3:00 PM	S	0.1
6 May 2024	4:00 PM	SSE	0.1
6 May 2024	5:00 PM	SSE	0.1
6 May 2024	6:00 PM	SSE	0.1
6 May 2024	7:00 PM	SE	0.1
6 May 2024	8:00 PM	ENE	0.1
6 May 2024	9:00 PM	S	0.1
6 May 2024	10:00 PM	SSW	0.2
6 May 2024	11:00 PM	S	0.1
7 May 2024	12:00 AM	W	0.2

May 2024				
Wind Speed and Directions				
Date	Time	Direction	Wind Speed m-s	
7 May 2024	1:00 AM	WSW	0.2	
7 May 2024	2:00 AM	ESE	0.2	
7 May 2024	3:00 AM	ESE	0.2	
7 May 2024	4:00 AM	WNW	0.2	
7 May 2024	5:00 AM	ENE	0.2	
7 May 2024	6:00 AM	NE	0.2	
7 May 2024	7:00 AM	ESE	0.9	
7 May 2024	8:00 AM	ENE	0.1	
7 May 2024	9:00 AM	Е	0.1	
7 May 2024	10:00 AM	ENE	1.0	
7 May 2024	11:00 AM	NE	0.1	
7 May 2024	12:00 PM	N	0.1	
7 May 2024	1:00 PM	SE	0.2	
7 May 2024	2:00 PM	S	0.1	
7 May 2024	3:00 PM	SE	0.4	
7 May 2024	4:00 PM	ESE	2.2	
7 May 2024	5:00 PM	S	0.1	
7 May 2024	6:00 PM	ESE	0.2	
7 May 2024	7:00 PM	ENE	0.1	
7 May 2024	8:00 PM	ENE	0.1	
7 May 2024	9:00 PM	WNW	0.1	
7 May 2024	10:00 PM	ESE	0.1	
7 May 2024	11:00 PM	ESE	0.1	
8 May 2024	12:00 AM	SE	0.1	
8 May 2024	1:00 AM	ESE	0.1	
8 May 2024	2:00 AM	ESE	0.1	
8 May 2024	3:00 AM	E	0.2	
8 May 2024	4:00 AM	SSW	0.1	
8 May 2024	5:00 AM	S	0.2	

May 2024				
Wind Speed and Directions				
Date	Time	Direction	Wind Speed m-s	
8 May 2024	6:00 AM	W	0.2	
8 May 2024	7:00 AM	WSW	0.2	
8 May 2024	8:00 AM	ESE	0.3	
8 May 2024	9:00 AM	ESE	0.3	
8 May 2024	10:00 AM	WNW	0.5	
8 May 2024	11:00 AM	S	0.5	
8 May 2024	12:00 PM	W	0.4	
8 May 2024	1:00 PM	WSW	0.4	
8 May 2024	2:00 PM	ESE	0.6	
8 May 2024	3:00 PM	ESE	0.5	
8 May 2024	4:00 PM	WNW	0.6	
8 May 2024	5:00 PM	WNW	0.5	
8 May 2024	6:00 PM	NE	0.4	
8 May 2024	7:00 PM	ESE	0.4	
8 May 2024	8:00 PM	Е	0.3	
8 May 2024	9:00 PM	Е	0.2	
8 May 2024	10:00 PM	NE	0.2	
8 May 2024	11:00 PM	SE	0.2	
9 May 2024	12:00 AM	SSE	0.2	
9 May 2024	1:00 AM	S	1.0	
9 May 2024	2:00 AM	W	0.1	
9 May 2024	3:00 AM	WSW	1.6	
9 May 2024	4:00 AM	ESE	1.9	
9 May 2024	5:00 AM	ESE	1.3	
9 May 2024	6:00 AM	WNW	0.6	
9 May 2024	7:00 AM	WNW	0.1	
9 May 2024	8:00 AM	W	0.1	
9 May 2024	9:00 AM	WSW	0.1	
9 May 2024	10:00 AM	Е	0.2	

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
9 May 2024	11:00 AM	W	0.2
9 May 2024	12:00 PM	SSW	0.2
9 May 2024	1:00 PM	S	0.1
9 May 2024	2:00 PM	NW	2.8
9 May 2024	3:00 PM	W	2.4
9 May 2024	4:00 PM	W	2.7
9 May 2024	5:00 PM	WSW	1.6
9 May 2024	6:00 PM	SSW	1.4
9 May 2024	7:00 PM	SSW	1.7
9 May 2024	8:00 PM	SSW	1.8
9 May 2024	9:00 PM	SW	1.4
9 May 2024	10:00 PM	SSW	0.8
9 May 2024	11:00 PM	WSW	0.9
10 May 2024	12:00 AM	SSW	0.7
10 May 2024	1:00 AM	SSW	0.8
10 May 2024	2:00 AM	S	1.3
10 May 2024	3:00 AM	SSW	0.9
10 May 2024	4:00 AM	SSW	1.0
10 May 2024	5:00 AM	SSW	0.7
10 May 2024	6:00 AM	SSW	0.8
10 May 2024	7:00 AM	SSW	1.5
10 May 2024	8:00 AM	SSW	1.4
10 May 2024	9:00 AM	S	2.0
10 May 2024	10:00 AM	SSW	1.7
10 May 2024	11:00 AM	S	1.4
10 May 2024	12:00 PM	SSW	1.6
10 May 2024	1:00 PM	SSW	1.7
10 May 2024	2:00 PM	W	2.3
10 May 2024	3:00 PM	W	2.1

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
10 May 2024	4:00 PM	WSW	1.5
10 May 2024	5:00 PM	SW	1.9
10 May 2024	6:00 PM	SW	1.8
10 May 2024	7:00 PM	SSW	1.6
10 May 2024	8:00 PM	WSW	1.5
10 May 2024	9:00 PM	SW	1.6
10 May 2024	10:00 PM	SW	1.6
10 May 2024	11:00 PM	SSW	1.6
11 May 2024	12:00 AM	S	1.0
11 May 2024	1:00 AM	S	1.2
11 May 2024	2:00 AM	S	0.8
11 May 2024	3:00 AM	S	1.1
11 May 2024	4:00 AM	SSE	1.0
11 May 2024	5:00 AM	S	1.3
11 May 2024	6:00 AM	S	1.5
11 May 2024	7:00 AM	SSW	1.2
11 May 2024	8:00 AM	S	1.1
11 May 2024	9:00 AM	SSW	0.7
11 May 2024	10:00 AM	SSW	1.0
11 May 2024	11:00 AM	SSW	1.4
11 May 2024	12:00 PM	SSE	1.3
11 May 2024	1:00 PM	SSW	1.3
11 May 2024	2:00 PM	S	1.3
11 May 2024	3:00 PM	SSE	1.4
11 May 2024	4:00 PM	S	0.9
11 May 2024	5:00 PM	SSE	1.1
11 May 2024	6:00 PM	SSE	0.7
11 May 2024	7:00 PM	SSW	0.6
11 May 2024	8:00 PM	SSW	0.8

May 2024				
	Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s	
11 May 2024	9:00 PM	S	0.7	
11 May 2024	10:00 PM	SSE	0.4	
11 May 2024	11:00 PM	SSE	0.5	
12 May 2024	12:00 AM	S	0.6	
12 May 2024	1:00 AM	WSW	0.6	
12 May 2024	2:00 AM	S	0.7	
12 May 2024	3:00 AM	S	0.6	
12 May 2024	4:00 AM	S	0.4	
12 May 2024	5:00 AM	S	0.7	
12 May 2024	6:00 AM	S	0.6	
12 May 2024	7:00 AM	S	0.9	
12 May 2024	8:00 AM	SSE	0.4	
12 May 2024	9:00 AM	SSE	0.7	
12 May 2024	10:00 AM	S	0.9	
12 May 2024	11:00 AM	SSE	1.2	
12 May 2024	12:00 PM	SSE	1.5	
12 May 2024	1:00 PM	S	1.9	
12 May 2024	2:00 PM	SSE	1.3	
12 May 2024	3:00 PM	SSE	2.4	
12 May 2024	4:00 PM	SSW	1.1	
12 May 2024	5:00 PM	SSW	0.4	
12 May 2024	6:00 PM	SSE	0.8	
12 May 2024	7:00 PM	SSW	0.4	
12 May 2024	8:00 PM	SE	0.6	
12 May 2024	9:00 PM	S	0.8	
12 May 2024	10:00 PM	S	1.0	
12 May 2024	11:00 PM	SSE	0.2	
13 May 2024	12:00 AM	SSW	0.5	
13 May 2024	1:00 AM	S	0.6	

May 2024				
	Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s	
13 May 2024	2:00 AM	S	0.5	
13 May 2024	3:00 AM	S	0.2	
13 May 2024	4:00 AM	SSE	1.1	
13 May 2024	5:00 AM	SSE	1.3	
13 May 2024	6:00 AM	S	0.7	
13 May 2024	7:00 AM	S	1.4	
13 May 2024	8:00 AM	SSW	2.3	
13 May 2024	9:00 AM	S	2.4	
13 May 2024	10:00 AM	S	2.0	
13 May 2024	11:00 AM	S	1.6	
13 May 2024	12:00 PM	S	1.5	
13 May 2024	1:00 PM	SSE	1.9	
13 May 2024	2:00 PM	SSE	1.1	
13 May 2024	3:00 PM	S	1.3	
13 May 2024	4:00 PM	SW	1.8	
13 May 2024	5:00 PM	S	0.8	
13 May 2024	6:00 PM	SW	0.7	
13 May 2024	7:00 PM	SSE	0.9	
13 May 2024	8:00 PM	SSW	0.9	
13 May 2024	9:00 PM	SSW	1.5	
13 May 2024	10:00 PM	SSW	1.6	
13 May 2024	11:00 PM	SSW	1.0	
14 May 2024	12:00 AM	WSW	1.5	
14 May 2024	1:00 AM	SW	1.0	
14 May 2024	2:00 AM	WSW	1.4	
14 May 2024	3:00 AM	SSW	0.9	
14 May 2024	4:00 AM	SW	1.0	
14 May 2024	5:00 AM	SSW	0.8	
14 May 2024	6:00 AM	SSW	0.8	

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
			+
14 May 2024	7:00 AM	S	1.2
14 May 2024	8:00 AM	S	+
14 May 2024	9:00 AM	S	1.7
14 May 2024	10:00 AM	S	1.6
14 May 2024	11:00 AM	S	1.9
14 May 2024	12:00 PM	S	1.4
14 May 2024	1:00 PM	SSE	1.6
14 May 2024	2:00 PM	SE	1.7
14 May 2024	3:00 PM	SSE	1.7
14 May 2024	4:00 PM	S	1.4
14 May 2024	5:00 PM	SSE	0.9
14 May 2024	6:00 PM	W	1.8
14 May 2024	7:00 PM	SSE	0.9
14 May 2024	8:00 PM	WSW	1.1
14 May 2024	9:00 PM	WNW	1.6
14 May 2024	10:00 PM	W	1.2
14 May 2024	11:00 PM	SW	0.9
15 May 2024	12:00 AM	WSW	1.3
15 May 2024	1:00 AM	WSW	1.0
15 May 2024	2:00 AM	SSW	0.6
15 May 2024	3:00 AM	SSE	0.4
15 May 2024	4:00 AM	SSE	0.5
15 May 2024	5:00 AM	S	0.5
15 May 2024	6:00 AM	S	0.3
15 May 2024	7:00 AM	S	1.0
15 May 2024	8:00 AM	S	1.0
15 May 2024	9:00 AM	SSW	1.1
15 May 2024	10:00 AM	S	1.5
15 May 2024	11:00 AM	SSW	1.4

		2024			
		May 2024 Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s		
15 May 2024	12:00 PM	SSW	1.6		
15 May 2024	1:00 PM	S	1.5		
15 May 2024	2:00 PM	SE	1.8		
15 May 2024	3:00 PM	SE	1.4		
15 May 2024	4:00 PM	S	1.0		
15 May 2024	5:00 PM	WSW	1.2		
15 May 2024	6:00 PM	S	0.5		
15 May 2024	7:00 PM	SE	0.5		
15 May 2024	8:00 PM	S	0.2		
15 May 2024	9:00 PM	S	0.3		
15 May 2024	10:00 PM	SSE	0.2		
15 May 2024	11:00 PM	SSE	0.3		
16 May 2024	12:00 AM	S	0.1		
16 May 2024	1:00 AM	S	0.2		
16 May 2024	2:00 AM	SSE	0.0		
16 May 2024	3:00 AM	S	0.0		
16 May 2024	4:00 AM	S	0.0		
16 May 2024	5:00 AM	S	0.3		
16 May 2024	6:00 AM	SSW	1.2		
16 May 2024	7:00 AM	SSW	1.5		
16 May 2024	8:00 AM	SSW	2.3		
16 May 2024	9:00 AM	SSW	2.8		
16 May 2024	10:00 AM	SSW	2.8		
16 May 2024	11:00 AM	SW	2.7		
16 May 2024	12:00 PM	SSW	2.8		
16 May 2024	1:00 PM	S	2.6		
16 May 2024	2:00 PM	SSW	2.5		
16 May 2024	3:00 PM	SSW	2.5		
16 May 2024	4:00 PM	SSW	2.0		

May 2024				
	Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s	
16 May 2024	5:00 PM	WNW	3.0	
16 May 2024	6:00 PM	WNW	2.5	
16 May 2024	7:00 PM	WNW	2.8	
16 May 2024	8:00 PM	WSW	1.8	
16 May 2024	9:00 PM	W	3.0	
16 May 2024	10:00 PM	W	2.2	
16 May 2024	11:00 PM	SSW	1.6	
17 May 2024	12:00 AM	SW	1.3	
17 May 2024	1:00 AM	SSW	0.9	
17 May 2024	2:00 AM	S	0.8	
17 May 2024	3:00 AM	S	0.7	
17 May 2024	4:00 AM	S	1.3	
17 May 2024	5:00 AM	SSW	0.4	
17 May 2024	6:00 AM	S	1.0	
17 May 2024	7:00 AM	S	1.4	
17 May 2024	8:00 AM	S	1.6	
17 May 2024	9:00 AM	SSE	1.3	
17 May 2024	10:00 AM	SSE	1.4	
17 May 2024	11:00 AM	SSW	1.1	
17 May 2024	12:00 PM	SSW	1.0	
17 May 2024	1:00 PM	S	1.2	
17 May 2024	2:00 PM	SSE	1.4	
17 May 2024	3:00 PM	SSE	1.4	
17 May 2024	4:00 PM	SSW	1.0	
17 May 2024	5:00 PM	SSW	1.0	
17 May 2024	6:00 PM	WNW	1.5	
17 May 2024	7:00 PM	W	1.5	
17 May 2024	8:00 PM	SSE	0.6	
17 May 2024	9:00 PM	S	0.9	

M. 2024			
May 2024 Wind Speed and Directions			
7			
Date	Time	Direction	Wind Speed m-s
17 May 2024	10:00 PM	SSW	0.7
17 May 2024	11:00 PM	SSW	0.7
18 May 2024	12:00 AM	SSW	0.3
18 May 2024	1:00 AM	S	0.7
18 May 2024	2:00 AM	S	0.5
18 May 2024	3:00 AM	SSE	0.3
18 May 2024	4:00 AM	S	0.4
18 May 2024	5:00 AM	S	0.3
18 May 2024	6:00 AM	SSE	0.8
18 May 2024	7:00 AM	S	0.9
18 May 2024	8:00 AM	SSE	0.9
18 May 2024	9:00 AM	S	1.7
18 May 2024	10:00 AM	SSW	1.8
18 May 2024	11:00 AM	SW	1.2
18 May 2024	12:00 PM	SW	1.1
18 May 2024	1:00 PM	SW	1.3
18 May 2024	2:00 PM	WSW	1.5
18 May 2024	3:00 PM	W	1.5
18 May 2024	4:00 PM	SSW	1.1
18 May 2024	5:00 PM	SSW	1.0
18 May 2024	6:00 PM	SW	1.4
18 May 2024	7:00 PM	SSW	1.8
18 May 2024	8:00 PM	SSW	1.2
18 May 2024	9:00 PM	SSW	0.6
18 May 2024	10:00 PM	SW	1.0
18 May 2024	11:00 PM	SSW	0.9
19 May 2024	12:00 AM	SSW	0.8
19 May 2024	1:00 AM	S	0.8
19 May 2024	2:00 AM	S	0.7

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
19 May 2024	3:00 AM	SW	0.9
19 May 2024	4:00 AM	WSW	1.1
19 May 2024	5:00 AM	SW	1.6
19 May 2024	6:00 AM	SSW	1.0
19 May 2024	7:00 AM	WSW	1.4
19 May 2024	8:00 AM	SW	2.0
19 May 2024	9:00 AM	SW	1.2
19 May 2024	10:00 AM	SW	1.5
19 May 2024	11:00 AM	SW	2.1
19 May 2024	12:00 PM	SW	1.6
19 May 2024	1:00 PM	SW	1.9
19 May 2024	2:00 PM	SW	1.7
19 May 2024	3:00 PM	SSW	1.5
19 May 2024	4:00 PM	SW	1.6
19 May 2024	5:00 PM	SSW	1.6
19 May 2024	6:00 PM	S	1.6
19 May 2024	7:00 PM	S	1.1
19 May 2024	8:00 PM	SSW	1.3
19 May 2024	9:00 PM	SSW	1.0
19 May 2024	10:00 PM	S	1.3
19 May 2024	11:00 PM	SSW	1.1
20 May 2024	12:00 AM	SSE	1.0
20 May 2024	1:00 AM	S	1.3
20 May 2024	2:00 AM	S	1.2
20 May 2024	3:00 AM	SSW	0.8
20 May 2024	4:00 AM	S	0.7
20 May 2024	5:00 AM	SSW	1.1
20 May 2024	6:00 AM	S	1.4
20 May 2024	7:00 AM	S	1.2

	May	ZUZ4		
	May 2024 Wind Speed and Directions			
Distri	_		West Consider	
Date 2024	Time	Direction	Wind Speed m-s	
20 May 2024	8:00 AM	SSW	1.2	
20 May 2024	9:00 AM	S	1.0	
20 May 2024	10:00 AM	SSW	1.8	
20 May 2024	11:00 AM	SSW	1.6	
20 May 2024	12:00 PM	SW	2.3	
20 May 2024	1:00 PM	SW	1.7	
20 May 2024	2:00 PM	SSW	1.9	
20 May 2024	3:00 PM	SSW	1.1	
20 May 2024	4:00 PM	SSW	1.0	
20 May 2024	5:00 PM	SSW	1.7	
20 May 2024	6:00 PM	SSW	1.1	
20 May 2024	7:00 PM	SSW	1.2	
20 May 2024	8:00 PM	S	1.3	
20 May 2024	9:00 PM	S	1.3	
20 May 2024	10:00 PM	SSW	1.1	
20 May 2024	11:00 PM	S	0.9	
21 May 2024	12:00 AM	S	1.0	
21 May 2024	1:00 AM	S	0.8	
21 May 2024	2:00 AM	SSE	1.0	
21 May 2024	3:00 AM	SSE	1.2	
21 May 2024	4:00 AM	S	0.7	
21 May 2024	5:00 AM	SSE	0.3	
21 May 2024	6:00 AM	S	0.7	
21 May 2024	7:00 AM	SSE	0.7	
21 May 2024	8:00 AM	SSE	0.9	
21 May 2024	9:00 AM	SSE	0.5	
21 May 2024	10:00 AM	S	0.4	
21 May 2024	11:00 AM	SSW	0.5	
21 May 2024	12:00 PM	S	1.0	

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
21 May 2024	1:00 PM	S	0.9
21 May 2024 21 May 2024	2:00 PM	S	0.4
21 May 2024	3:00 PM	SSE	1.1
21 May 2024	4:00 PM	SSE	1.0
21 May 2024	5:00 PM	SE	0.5
21 May 2024	6:00 PM	SSE	0.2
21 May 2024	7:00 PM	SSE	0.6
21 May 2024	8:00 PM	SE	0.6
21 May 2024	9:00 PM	S	0.4
21 May 2024	10:00 PM	SSW	0.3
21 May 2024	11:00 PM	SSE	0.5
22 May 2024	12:00 AM	S	0.3
22 May 2024	1:00 AM	SSE	0.3
22 May 2024	2:00 AM	SSE	0.8
22 May 2024	3:00 AM	SSE	1.0
22 May 2024	4:00 AM	S	0.8
22 May 2024	5:00 AM	S	0.2
22 May 2024	6:00 AM	SSE	0.6
22 May 2024	7:00 AM	S	1.1
22 May 2024	8:00 AM	S	1.2
22 May 2024	9:00 AM	S	1.0
22 May 2024	10:00 AM	S	0.8
22 May 2024	11:00 AM	SSE	1.0
22 May 2024	12:00 PM	S	1.0
22 May 2024	1:00 PM	SSW	0.8
22 May 2024	2:00 PM	SSE	1.0
22 May 2024	3:00 PM	S	0.9
22 May 2024	4:00 PM	SW	1.5
22 May 2024	5:00 PM	SE	0.8

May 2024				
	Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s	
22 May 2024	6:00 PM	S	0.6	
22 May 2024	7:00 PM	S	0.3	
22 May 2024	8:00 PM	SSE	0.5	
22 May 2024	9:00 PM	S	0.6	
22 May 2024	10:00 PM	SSE	0.6	
22 May 2024	11:00 PM	SSE	0.3	
23 May 2024	12:00 AM	SSE	0.5	
23 May 2024	1:00 AM	SSE	0.6	
23 May 2024	2:00 AM	SSE	0.3	
23 May 2024	3:00 AM	S	0.3	
23 May 2024	4:00 AM	S	0.3	
23 May 2024	5:00 AM	SSW	0.3	
23 May 2024	6:00 AM	SSE	0.4	
23 May 2024	7:00 AM	SSE	0.3	
23 May 2024	8:00 AM	SSE	0.6	
23 May 2024	9:00 AM	SSE	0.6	
23 May 2024	10:00 AM	S	0.6	
23 May 2024	11:00 AM	SSW	0.8	
23 May 2024	12:00 PM	SSE	0.9	
23 May 2024	1:00 PM	SSE	1.2	
23 May 2024	2:00 PM	SE	1.1	
23 May 2024	3:00 PM	SSW	0.8	
23 May 2024	4:00 PM	SSW	1.1	
23 May 2024	5:00 PM	S	2.1	
23 May 2024	6:00 PM	S	1.2	
23 May 2024	7:00 PM	S	1.3	
23 May 2024	8:00 PM	SSE	0.8	
23 May 2024	9:00 PM	S	0.9	
23 May 2024	10:00 PM	SSE	0.7	

May 2024			
Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s
23 May 2024	11:00 PM	S	0.6
24 May 2024	12:00 AM	SSW	0.2
24 May 2024	1:00 AM	S	0.3
24 May 2024	2:00 AM	S	0.3
24 May 2024	3:00 AM	SSE	0.2
24 May 2024	4:00 AM	SSE	0.1
24 May 2024	5:00 AM	SSE	0.5
24 May 2024	6:00 AM	SSE	0.3
24 May 2024	7:00 AM	SSE	0.6
24 May 2024	8:00 AM	SSE	0.6
24 May 2024	9:00 AM	S	0.6
24 May 2024	10:00 AM	SSW	0.7
24 May 2024	11:00 AM	SSE	0.5
24 May 2024	12:00 PM	SSW	0.4
24 May 2024	1:00 PM	SW	0.6
24 May 2024	2:00 PM	SSW	0.7
24 May 2024	3:00 PM	S	0.4
24 May 2024	4:00 PM	S	0.9
24 May 2024	5:00 PM	S	1.5
24 May 2024	6:00 PM	S	1.0
24 May 2024	7:00 PM	SSE	0.8
24 May 2024	8:00 PM	S	0.6
24 May 2024	9:00 PM	SSE	0.4
24 May 2024	10:00 PM	W	1.5
24 May 2024	11:00 PM	W	1.3
25 May 2024	12:00 AM	SW	0.9
25 May 2024	1:00 AM	S	0.2
25 May 2024	2:00 AM	S	0.0
25 May 2024	3:00 AM	S	0.2

May 2024				
	Wind Speed and Directions			
Date	Time	Direction	Wind Speed m-s	
25 May 2024	4:00 AM	S	0.1	
25 May 2024	5:00 AM	SSE	0.0	
25 May 2024	6:00 AM	S	0.7	
25 May 2024	7:00 AM	SSW	0.6	
25 May 2024	8:00 AM	S	1.3	
25 May 2024	9:00 AM	SSE	1.3	
25 May 2024	10:00 AM	SSW	0.8	
25 May 2024	11:00 AM	S	0.6	
25 May 2024	12:00 PM	ESE	1.0	
25 May 2024	1:00 PM	SSE	1.1	
25 May 2024	2:00 PM	SSW	1.0	
25 May 2024	3:00 PM	SW	1.3	
25 May 2024	4:00 PM	WSW	1.2	
25 May 2024	5:00 PM	WSW	1.2	
25 May 2024	6:00 PM	SW	0.9	
25 May 2024	7:00 PM	WSW	0.6	
25 May 2024	8:00 PM	SSW	0.6	
25 May 2024	9:00 PM	SW	0.6	
25 May 2024	10:00 PM	SW	0.3	
25 May 2024	11:00 PM	WSW	0.6	
26 May 2024	12:00 AM	S	0.2	
26 May 2024	1:00 AM	SSE	0.3	
26 May 2024	2:00 AM	SSE	0.2	
26 May 2024	3:00 AM	S	0.2	
26 May 2024	4:00 AM	S	0.3	
26 May 2024	5:00 AM	S	0.6	
26 May 2024	6:00 AM	SSE	0.1	
26 May 2024	7:00 AM	S	0.0	
26 May 2024	8:00 AM	S	0.4	

May 2024										
		and Directions								
Date	Time	Direction	Wind Speed m-s							
26 May 2024	9:00 AM	S	0.4							
26 May 2024	10:00 AM	SE	0.7							
26 May 2024	11:00 AM	S	1.0							
26 May 2024	12:00 PM	SSE	1.1							
26 May 2024	1:00 PM	SSE	1.2							
26 May 2024	2:00 PM	S	1.1							
26 May 2024	3:00 PM	SSE	1.0							
26 May 2024	4:00 PM	SE	1.1							
26 May 2024	5:00 PM	SSE	0.9							
26 May 2024	6:00 PM	SE	1.0							
26 May 2024	7:00 PM	SSE	0.7							
26 May 2024	8:00 PM	SW	0.9							
26 May 2024	9:00 PM	S	0.6							
26 May 2024	10:00 PM	SSE	0.6							
26 May 2024	11:00 PM	SE	0.4							
27 May 2024	12:00 AM	S	0.4							
27 May 2024	1:00 AM	SSE	0.6							
27 May 2024	2:00 AM	SE	0.8							
27 May 2024	3:00 AM	SE	0.7							
27 May 2024	4:00 AM	SE	0.7							
27 May 2024	5:00 AM	SE	0.9							
27 May 2024	6:00 AM	ESE	1.0							
27 May 2024	7:00 AM	SE	0.7							
27 May 2024	8:00 AM	SW	0.8							
27 May 2024	9:00 AM	SSW	0.8							
27 May 2024	10:00 AM	SSE	0.9							
27 May 2024	11:00 AM	SSE	1.2							
27 May 2024	12:00 PM	SSE	1.2							
27 May 2024	1:00 PM	S	1.2							

May 2024										
		and Directions								
Date	Time	Direction	Wind Speed m-s							
27 May 2024	2:00 PM	SSE	1.5							
27 May 2024	3:00 PM	SSE	1.4							
27 May 2024	4:00 PM	S	1.8							
27 May 2024	5:00 PM	SSE	1.9							
27 May 2024	6:00 PM	SE	1.5							
27 May 2024	7:00 PM	S	0.8							
27 May 2024	8:00 PM	S	0.7							
27 May 2024	9:00 PM	SSW	1.2							
27 May 2024	10:00 PM	SW	1.2							
27 May 2024	11:00 PM	SSE	0.9							
28 May 2024	12:00 AM	WSW	1.3							
28 May 2024	1:00 AM	W	1.1							
28 May 2024	2:00 AM	SW	0.6							
28 May 2024	3:00 AM	SSE	0.3							
28 May 2024	4:00 AM	SSW	0.5							
28 May 2024	5:00 AM	SSW	0.9							
28 May 2024	6:00 AM	SE	0.8							
28 May 2024	7:00 AM	S	0.2							
28 May 2024	8:00 AM	S	0.8							
28 May 2024	9:00 AM	S	0.9							
28 May 2024	10:00 AM	S	1.6							
28 May 2024	11:00 AM	S	1.3							
28 May 2024	12:00 PM	S	1.3							
28 May 2024	1:00 PM	SW	0.9							
28 May 2024	2:00 PM	WSW	1.3							

	May 2024											
	Wind Speed a	and Directions										
Date	Time	Direction	Wind Speed m-s									
28 May 2024	3:00 PM	WSW	1.9									
28 May 2024	4:00 PM	WSW	2.7									
28 May 2024	5:00 PM	WSW	1.5									
28 May 2024	6:00 PM	W	1.0									
28 May 2024	7:00 PM	W	1.7									
28 May 2024	8:00 PM	SW	1.6									
28 May 2024	9:00 PM	WSW	1.6									
28 May 2024	10:00 PM	SSW	1.1									
28 May 2024	11:00 PM	SSW	1.2									
29 May 2024	12:00 AM	SW	1.7									
29 May 2024	1:00 AM	SW	1.6									
29 May 2024	2:00 AM	SW	1.8									
29 May 2024	3:00 AM	SSW	0.9									
29 May 2024	4:00 AM	S	1.8									
29 May 2024	5:00 AM	SW	2.3									
29 May 2024	6:00 AM	SSW	1.1									
29 May 2024	7:00 AM	SSW	1.4									
29 May 2024	8:00 AM	SW	2.4									
29 May 2024	9:00 AM	SSW	2.4									
29 May 2024	10:00 AM	SSW	2.8									
29 May 2024	11:00 AM	SW	2.3									
29 May 2024	12:00 PM	SW	2.3									
29 May 2024	1:00 PM	SSW	2.6									
29 May 2024	2:00 PM	SW	1.9									
29 May 2024	3:00 PM	SSW	2.1									
29 May 2024	4:00 PM	WSW	2.5									
29 May 2024	5:00 PM	SW	1.6									
29 May 2024	6:00 PM	SW	1.5									

Wind Speed and Direction         Wind Speed medical           29 May 2024         7:00 PM         SW         1.0           29 May 2024         8:00 PM         SSW         1.0           29 May 2024         9:00 PM         SSW         1.3           29 May 2024         10:00 PM         SSW         0.9           29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         3:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSE         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         10:00 AM         S         2	May 2024												
Date         Time         Direction         Wind Speed medical speed           29 May 2024         7:00 PM         SW         1.0           29 May 2024         8:00 PM         SSW         1.0           29 May 2024         10:00 PM         SSW         0.9           29 May 2024         10:00 PM         SW         0.9           29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         1:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         3:00 AM         SW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSE         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         9:00 AM         S         2.1           30 May 2024         10:00 AM		·											
29 May 2024         7:00 PM         SW         1.0           29 May 2024         8:00 PM         SSW         1.0           29 May 2024         9:00 PM         SSW         1.3           29 May 2024         10:00 PM         SSW         0.9           29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         3:00 AM         SW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         9:00 AM         S         2.1           30 May 2024         10:00 AM         S         2.1           30 May 2024         1:00 PM         S	Distri			XX2 1 C 1									
29 May 2024         8:00 PM         SSW         1.0           29 May 2024         9:00 PM         SSW         0.9           29 May 2024         10:00 PM         SSW         0.9           29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         3:00 AM         SW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         9:00 AM         SSW         1.5           30 May 2024         10:00 AM         S         2.1           30 May 2024         10:00 AM         S         1.5           30 May 2024         10:00 AM         S         1.5           30 May 2024         1:00 PM         SW <t< th=""><th></th><th></th><th></th><th>+</th></t<>				+									
29 May 2024         9:00 PM         SSW         1.3           29 May 2024         10:00 PM         SSW         0.9           29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSE         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.5           30 May 2024         11:00 PM         S         1.5           30 May 2024         1:00 PM         S	•												
29 May 2024         10:00 PM         SSW         0.9           29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         10:00 AM         S         1.5           30 May 2024         11:00 AM         S         1.5           30 May 2024         11:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         3:00 PM         SW         1.	·			•									
29 May 2024         11:00 PM         SW         1.1           30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.5           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         3:00 PM         S         1.5           30 May 2024         5:00 PM         SW         1.7 <td>•</td> <td></td> <td></td> <td></td>	•												
30 May 2024         12:00 AM         SSW         1.6           30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.5           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         3:00 PM         SW         1.3           30 May 2024         5:00 PM         SW         1.7           30 May 2024         5:00 PM         SW         1.7 <td>•</td> <td></td> <td></td> <td></td>	•												
30 May 2024         1:00 AM         SSW         1.4           30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         5:00 AM         SSW         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.5           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         3:00 PM         S         1.5           30 May 2024         3:00 PM         SW         1.7           30 May 2024         5:00 PM         SW         1.7           30 May 2024         7:00 PM         SW         1.5	•												
30 May 2024         2:00 AM         SW         1.8           30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         6:00 AM         S         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.5           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         3:00 PM         S         1.5           30 May 2024         3:00 PM         SW         1.7           30 May 2024         5:00 PM         SW         1.7           30 May 2024         5:00 PM         SW         1.7           30 May 2024         7:00 PM         SW         1.5				•									
30 May 2024         3:00 AM         SW         1.7           30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         6:00 AM         S         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.9           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         2:00 PM         SW         1.3           30 May 2024         3:00 PM         S         1.9           30 May 2024         5:00 PM         SW         1.7           30 May 2024         5:00 PM         SW         1.7           30 May 2024         7:00 PM         SW         1.7           30 May 2024         8:00 PM         SW         1.5           30 May 2024         9:00 PM         SW         1.5	•												
30 May 2024         4:00 AM         SSW         1.5           30 May 2024         5:00 AM         SSW         1.0           30 May 2024         6:00 AM         S         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.9           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         2:00 PM         SW         1.3           30 May 2024         3:00 PM         S         1.9           30 May 2024         4:00 PM         SSW         2.1           30 May 2024         5:00 PM         SW         1.7           30 May 2024         6:00 PM         SW         1.7           30 May 2024         7:00 PM         SW         1.4           30 May 2024         8:00 PM         SW         1.5           30 May 2024         9:00 PM         SW         1.5	•												
30 May 2024         5:00 AM         SSW         1.0           30 May 2024         6:00 AM         S         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.9           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         2:00 PM         SW         1.3           30 May 2024         3:00 PM         S         1.9           30 May 2024         3:00 PM         SW         1.7           30 May 2024         5:00 PM         SW         1.7           30 May 2024         7:00 PM         SW         1.7           30 May 2024         8:00 PM         SW         1.4           30 May 2024         9:00 PM         SW         1.5           30 May 2024         9:00 PM         SW         1.5           30 May 2024         10:00 PM         SW         1.6	30 May 2024	3:00 AM	SW										
30 May 2024         6:00 AM         S         1.5           30 May 2024         7:00 AM         SSE         1.5           30 May 2024         8:00 AM         SSW         1.5           30 May 2024         9:00 AM         S         2.0           30 May 2024         10:00 AM         S         2.1           30 May 2024         11:00 AM         S         1.9           30 May 2024         12:00 PM         S         1.5           30 May 2024         1:00 PM         S         1.5           30 May 2024         2:00 PM         SW         1.3           30 May 2024         3:00 PM         S         1.9           30 May 2024         4:00 PM         SSW         2.1           30 May 2024         5:00 PM         SW         1.7           30 May 2024         7:00 PM         SW         1.7           30 May 2024         8:00 PM         SW         1.4           30 May 2024         9:00 PM         SW         1.5           30 May 2024         10:00 PM         SW         1.5           30 May 2024         10:00 PM         SW         1.6	30 May 2024	4:00 AM	SSW	1.5									
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30 May 2024       11:00 AM       S       1.9         30 May 2024       12:00 PM       S       1.5         30 May 2024       1:00 PM       S       1.5         30 May 2024       2:00 PM       SW       1.3         30 May 2024       3:00 PM       S       1.9         30 May 2024       4:00 PM       SSW       2.1         30 May 2024       5:00 PM       SW       1.7         30 May 2024       6:00 PM       SW       1.7         30 May 2024       7:00 PM       SW       1.7         30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6	30 May 2024	9:00 AM	S	2.0									
30 May 2024       12:00 PM       S       1.5         30 May 2024       1:00 PM       S       1.5         30 May 2024       2:00 PM       SW       1.3         30 May 2024       3:00 PM       S       1.9         30 May 2024       4:00 PM       SSW       2.1         30 May 2024       5:00 PM       SW       1.7         30 May 2024       6:00 PM       SW       1.8         30 May 2024       7:00 PM       SW       1.7         30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6	30 May 2024	10:00 AM	S	2.1									
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30 May 2024       3:00 PM       S       1.9         30 May 2024       4:00 PM       SSW       2.1         30 May 2024       5:00 PM       SW       1.7         30 May 2024       6:00 PM       SW       1.8         30 May 2024       7:00 PM       SW       1.7         30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6	30 May 2024	1:00 PM	S	1.5									
30 May 2024       4:00 PM       SSW       2.1         30 May 2024       5:00 PM       SW       1.7         30 May 2024       6:00 PM       SW       1.8         30 May 2024       7:00 PM       SW       1.7         30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6	30 May 2024	2:00 PM	SW	1.3									
30 May 2024       5:00 PM       SW       1.7         30 May 2024       6:00 PM       SW       1.8         30 May 2024       7:00 PM       SW       1.7         30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6	30 May 2024	3:00 PM	S	1.9									
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30 May 2024       7:00 PM       SW       1.7         30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6		6:00 PM	SW	1.8									
30 May 2024       8:00 PM       SW       1.4         30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6		7:00 PM	SW	1.7									
30 May 2024       9:00 PM       SW       1.5         30 May 2024       10:00 PM       SSW       1.6	•	8:00 PM	SW	1.4									
30 May 2024 10:00 PM SSW 1.6	•	9:00 PM	SW	1.5									
	•	10:00 PM	SSW	1.6									
30 may 2024   11.00 mm   1.3	30 May 2024	11:00 PM	SSW	1.3									

May 2024										
	Wind Speed a	and Directions								
Date	Time	Direction	Wind Speed m-s							
31 May 2024	12:00 AM	SW	1.2							
31 May 2024	1:00 AM	SSW	1.4							
31 May 2024	2:00 AM	SSW	1.4							
31 May 2024	3:00 AM	SSW	1.3							
31 May 2024	4:00 AM	S	0.9							
31 May 2024	5:00 AM	SSE	0.6							
31 May 2024	6:00 AM	S	0.8							
31 May 2024	7:00 AM	WSW	1.4							
31 May 2024	8:00 AM	W	2.5							
31 May 2024	9:00 AM	WNW	3.3							
31 May 2024	10:00 AM	WSW	1.9							
31 May 2024	11:00 AM	W	2.1							
31 May 2024	12:00 PM	W	2.4							
31 May 2024	1:00 PM	WSW	2.1							
31 May 2024	2:00 PM	WNW	2.9							
31 May 2024	3:00 PM	SSW	1.2							
31 May 2024	4:00 PM	SSW	0.8							
31 May 2024	5:00 PM	SSE	0.8							
31 May 2024	6:00 PM	W	2.1							
31 May 2024	7:00 PM	WNW	2.7							
31 May 2024	8:00 PM	W	1.8							
31 May 2024	9:00 PM	SW	0.9							
31 May 2024	10:00 PM	WSW	1.4							
31 May 2024	11:00 PM	WNW	3.0							

APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

#### Appendix F - 24-hour TSP Impact Monitoring Results

#### Location CKL1 - Flat 121 Cha Kwo Ling Village

Start Date	Weather	Air Temp.	Atmospheric Pressure,	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	(m³/min.)	Av. Flow	Total vol.	Conc.	Action Level	Limit Level
Olari Dalo	Condition	(K)	Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)	(µg/m3)
3-May-24	Cloudy	297.2	759.1	3.3204	3.4135	0.0931	7656.8	7680.8	24.0	1.21	1.21	1.21	1740.1	53.5		
9-May-24	Fine	298.6	762.4	3.3153	3.4792	0.1639	7680.8	7704.8	24.0	1.22	1.22	1.22	1754.5	93.4		
14-May-24	Sunny	299.0	761.6	3.3766	3.5213	0.1447	7704.8	7728.8	24.0	1.22	1.22	1.22	1752.8	82.5	191.0	260.0
20-May-24	Cloudy	297.9	756.7	3.3990	3.7080	0.3090	7728.8	7752.8	24.0	1.22	1.22	1.22	1750.8	176.5	191.0	200.0
25-May-24	Fine	299.9	757.9	3.3721	3.4593	0.0872	7752.8	7776.8	24.0	1.21	1.21	1.21	1747.4	49.9		
30-May-24	Rainy	299.4	755.6	3.3666	3.4672	0.1006	7776.8	7800.8	24.0	1.21	1.21	1.21	1746.5	57.6		
Note:	Bold Italic means A	Action Level exce	edance										Min	49.9		
	Bold Italic with und	derline means l	Limit Level exceedance										Max	176.5		
													Average	85.6		

#### Location CKL2 - Flat 103 Cha Kwo Ling Village

Start Date	Weather	Air Temp.	Atmospheric Pressure,	Filter W	'eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	(m³/min.)	Av. Flow	Total vol.	Conc.	Action Level	Limit Level
Start Date	Condition	(K)	Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)	(µg/m3)
3-May-24	Cloudy	297.2	759.1	3.3290	3.4836	0.1546	20110.7	20134.7	24.0	1.21	1.21	1.21	1743.5	88.7		
9-May-24	Cloudy	298.6	762.4	3.3332	3.5138	0.1806	20134.7	20158.7	24.0	1.22	1.22	1.22	1755.7	102.9		
14-May-24	Fine	299.0	761.6	3.3941	3.5321	0.1380	20158.7	20182.7	24.0	1.22	1.22	1.22	1754.1	78.7	183.0	260.0
20-May-24	Fine	297.9	756.7	3.3280	3.4987	0.1707	20182.7	20206.7	24.0	1.22	1.22	1.22	1752.1	97.4	100.0	200.0
25-May-24	Cloudy	299.9	757.9	3.3295	3.5039	0.1744	20206.7	20230.7	24.0	1.22	1.21	1.21	1748.8	99.7		
30-May-24	Rainy	299.4	755.6	3.3121	3.4506	0.1385	20230.7	20254.7	24.0	1.22	1.21	1.21	1747.9	79.2		
Note:	Bold Italic means A	ction Level exce	edance										Min	78.7		-
	Bold Italic with und	derline means l	Limit Level exceedance										Max	102.9		
													Average	91.1		

#### Location KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

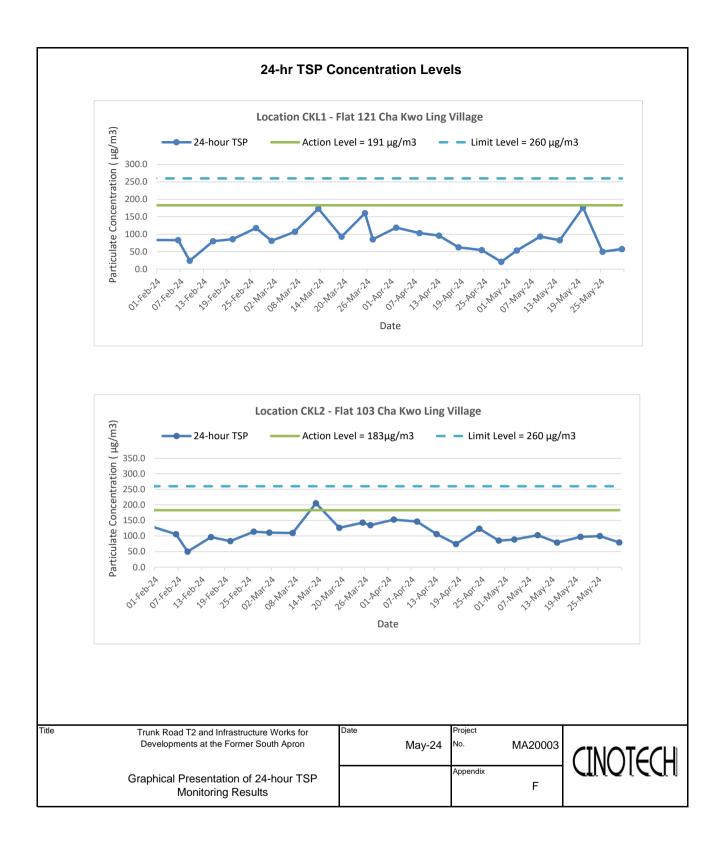
Start Date	Weather	Air Temp.	Atmospheric Pressure,	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m³/min.)	Av. Flow	Total vol.	Conc.	Action Level	Limit Level
Otari Date	Condition	(K)	Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m³)	(µg/m3)	(µg/m3)
3-May-24	Cloudy	297.2	759.1	3.3682	3.4505	0.0824	19004.0	19028.0	24.0	1.20	1.20	1.20	1723.7	47.8		
9-May-24	Fine	298.6	762.4	3.3279	3.4083	0.0804	19028.1	19052.1	24.0	1.20	1.20	1.20	1725.6	46.6		
14-May-24	Sunny	299.0	761.6	3.3766	3.5213	0.1447	19052.1	19076.1	24.0	1.22	1.22	1.22	1751.5	82.6	177.0	260.0
20-May-24	Cloudy	297.9	756.7	3.3681	3.4233	0.0553	19076.1	19100.1	24.0	1.22	1.21	1.21	1749.4	31.6	177.0	200.0
25-May-24	Fine	299.9	757.9	3.3599	3.3938	0.0339	19076.1	19100.1	24.0	1.21	1.21	1.21	1745.9	19.4	1	
30-May-24	Rainy	299.4	755.6	3.3284	3.3639	0.0356	19124.1	19148.1	24.0	1.21	1.21	1.21	1744.9	20.4		
Note:	Bold Italic means A	ction Level exce	edance										Min	19.4		
	Bold Italic with und	derline means l	imit Level exceedance										Max	82.6		
													Average	41.4		

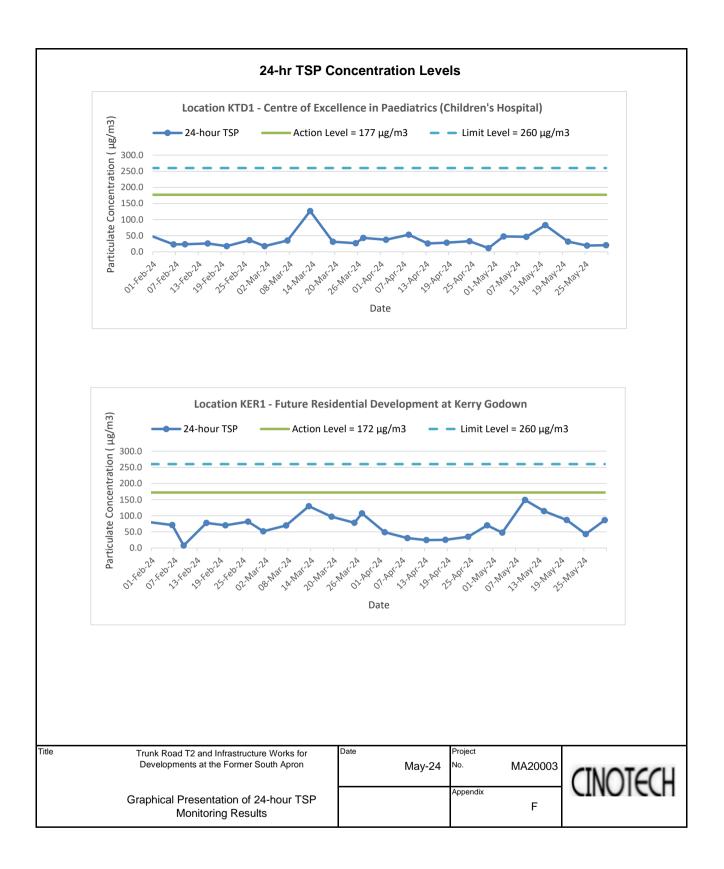
#### Location KER1 - Future Residential Development at Kerry Godown

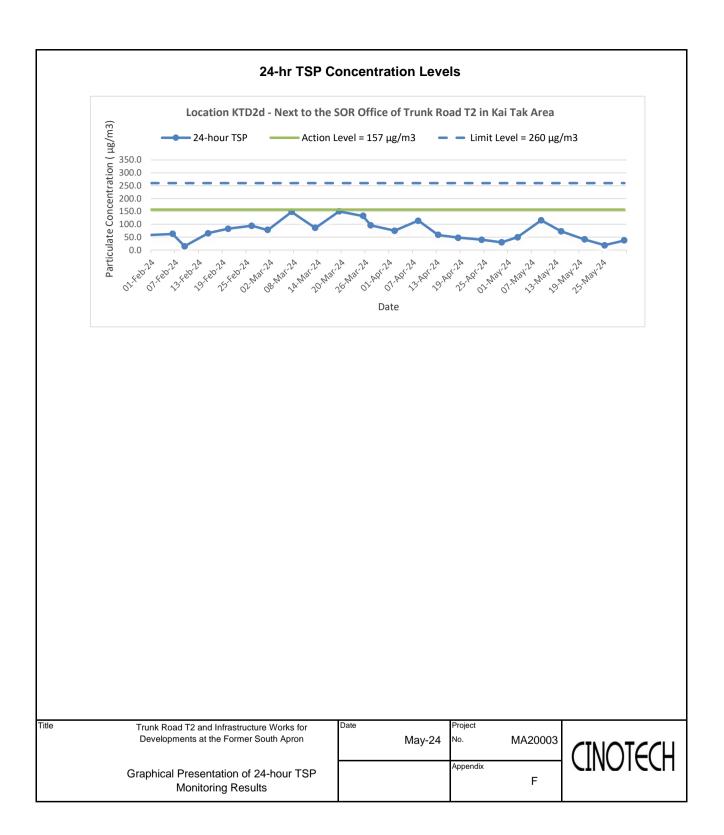
Start Date	Weather		Atmospheric Pressure,	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m³/min.)	Av. Flow	Total vol.	Conc.	Action Level	
Otan Date	Condition	(K)	Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)	(µg/m3)
3-May-24	Cloudy	297.2	759.1	3.3608	3.4426	0.0818	16801.3	16825.3	24.0	1.20	1.20	1.20	1724.3	47.4		
9-May-24	Fine	298.6	762.4	3.2924	3.5493	0.2569	16825.3	16849.3	24.0	1.20	1.20	1.20	1724.1	149.0		
14-May-24	Sunny	299.0	761.6	3.2817	3.4819	0.2003	16849.3	16873.3	24.0	1.22	1.22	1.22	1750.9	114.4	172.0	260.0
20-May-24	Cloudy	297.9	756.7	3.3388	3.4903	0.1515	16873.3	16897.3	24.0	1.21	1.21	1.21	1748.6	86.6	172.0	200.0
25-May-24	Fine	299.9	757.9	3.3353	3.4106	0.0754	16897.3	16921.3	24.0	1.21	1.21	1.21	1744.8	43.2		
30-May-24	Rainy	299.4	755.6	3.3617	3.5123	0.1506	16921.3	16945.3	24.0	1.21	1.21	1.21	1743.9	86.4		
Note:	Bold Italic means A												Min	43.2		
	Bold Italic with und	derline means L	imit Level exceedance										Max	149.0		
													Average	87.8		

#### Location KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

Start Date	Weather	Air Temp.	Atmospheric Pressure,	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	(m³/min.)	Av. Flow	Total vol.	Conc.	Action Level	
Otall Date	Condition	(K)	Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m3)	(µg/m3)
3-May-24	Cloudy	297.2	759.1	3.3139	3.3999	0.0859	17535.9	17559.9	24.0	1.20	1.20	1.20	1726.9	49.8		
9-May-24	Fine	298.6	762.4	3.6841	3.8837	0.1996	17559.9	17583.9	24.0	1.20	1.20	1.20	1726.7	115.6		
14-May-24	Sunny	299.0	761.6	3.3360	3.4637	0.1277	17583.9	17607.9	24.0	1.22	1.22	1.22	1751.0	72.9	157.0	260.0
20-May-24	Cloudy	297.9	756.7	3.3678	3.4388	0.0710	17607.9	17631.9	24.0	1.21	1.21	1.21	1748.9	40.6	107.0	200.0
25-May-24	Cloudy	299.9	757.9	3.3823	3.4151	0.0328	17631.9	17655.9	24.0	1.21	1.21	1.21	1745.5	18.8		
30-May-24	Rainy	299.4	755.6	3.3343	3.3988	0.0645	17655.9	17679.9	24.0	1.21	1.21	1.21	1744.6	37.0		
Note:	Bold Italic means A	Action Level exce	edance										Min	18.8		
	Bold Italic with un	derline means	Limit Level exceedance										Max	115.6		
													Average	55.8	]	







APPENDIX G COPIES OF CALIBRATION CERTIFICATES FOR NOISE MONITORING

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00568 | Issue Date : 14 Feb 2024

Application No. : HP00436

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-03

Manufacturer: : BSWA Technology

Other information : I

Model No.	BSWA 308
Serial No.	570188
Microphone No.	570608

Date Received : 05 Feb 2024

Test Period : 07 Feb 2024 to 07 Feb 2024

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the

documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark: 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00568 | Issue Date : 14 Feb 2024

Application No. : HP00436

# **Certificate of Calibration**

Measuring equipment

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result

Reference value, dB Indication value, dB		Deviation, dB	Allowed deviation, dB	
94.0 94.0		± 0.0	± 1.5	
114.0 113.9		- 0.1	± 1.5	

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00396 | Issue Date : 02 Aug 2023

Application No. : HP00278

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-13-02

Manufacturer: : SOUNDTEK

Other information : Model No. ST-120

Serial No. 181001636

Date Received : 01 Aug 2023

Test Period : 01 Aug 2023 to 01 Aug 2023

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with

the documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Application No. : HP00278

# **Certificate of Calibration**

Measuring equipment

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Description	Sound Meter	
Manufacturer	SVANTEK	
Model No.	SVAN 977	
Serial No.	92677	
Microphone No.	10352	
Equipment No.	N-14-01	

Test Result

Reference value, dB Indication value, dB		Deviation, dB	Allowed deviation, dB	
94.0 94.1		+ 0.1	± 0.3	
114.0 114.3		+ 0.3	± 0.5	

### Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

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NT, Hong Kong

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Report No. : 00389 | Issue Date : 20 Jul 2023

Application No. : HP00262

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-16-01

Manufacturer: : Hangzhou Aihua Instruments Co., Ltd.

Other information : Model No.

Model No. AWA6021A
Serial No. 1023253

Date Received : 18 Jul 2023

Test Period : 19 Jul 2023 to 19 Jul 2023

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with

the documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00389 Issue Date : 20 Jul 2023

Application No. : HP00262

# **Certificate of Calibration**

Measuring equipment

Description	Sound Calibrator		
Manufacturer	Brüel & Kjær		
Model No.	TYPE 4231		
Serial No.	2326353		
Equipment No.	N-02-01		

Description	Sound Meter		
Manufacturer	BSWA Technology		
Model No.	BSWA 308		
Serial No.	570183		
Microphone No.	570605		
Equipment No.	N-12-01		

Test Result

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB	
94.0 94.2		+ 0.2	± 0.3	
114.0 114.2		+ 0.2	± 0.5	

#### Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

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NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00676 Issue Date : 03 May 2024

Application No. : HP00537

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : SN-01-01

Manufacturer: : SVANTEK

Other information : | Model No. | SVAN 979

Serial No. 27189
Microphone No. 25202

Date Received : 02 May 2024

Test Period : 02 May 2024 to 02 May 2024

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the

documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark: 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00676 | Issue Date : 03 May 2024

Application No. : HP00537

# **Certificate of Calibration**

Measuring equipment

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result

Reference value, dB Indication value, dB		Deviation, dB	Allowed deviation, dB	
94.0 94.0		± 0.0	± 1.5	
114.0 114.1		+ 0.1	± 1.5	

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

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NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00583 | Issue Date : 16 Feb 2024

Application No. : HP00452

**Certificate of Calibration** 

Applicant : Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-08-07

Manufacturer: : SVANTEK

Other information : | Model No. | SVAN 957

Serial No. 21455
Microphone No. 17204

Date Received : 14 Feb 2024

Test Period : 15 Feb 2024 to 15 Feb 2024

Test Requested : Performance checking for Sound Level Meter

Test Method : The Sound Level Calibrator has been calibrated in accordance with the

documented procedures and using standard and instrument which are

recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius

Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark: 1. Information of the sample description provided by the Applicant.

2. The result(s) relate only to the items tested or calibrated.

For and on behalf of HIGH PRECISION CHEMICAL TESTING LIMITED

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: https://www.hpct.com.hk



Report No. : 00583 | Issue Date : 16 Feb 2024

Application No. : HP00452

# **Certificate of Calibration**

Measuring equipment

Description	Sound Calibrator		
Manufacturer	Brüel & Kjær		
Model No.	TYPE 4231		
Serial No.	2326353		
Equipment No.	N-02-01		

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.1	+ 0.1	± 1.5
114.0	114.1	+ 0.1	± 1.5

Note

- : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
  - 2. The indication value was obtained from the average of ten replicated measurement.

APPENDIX H NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

### Appendix H - Noise Monitoring Results

### (0700-1900 hrs on Normal Weekdays)

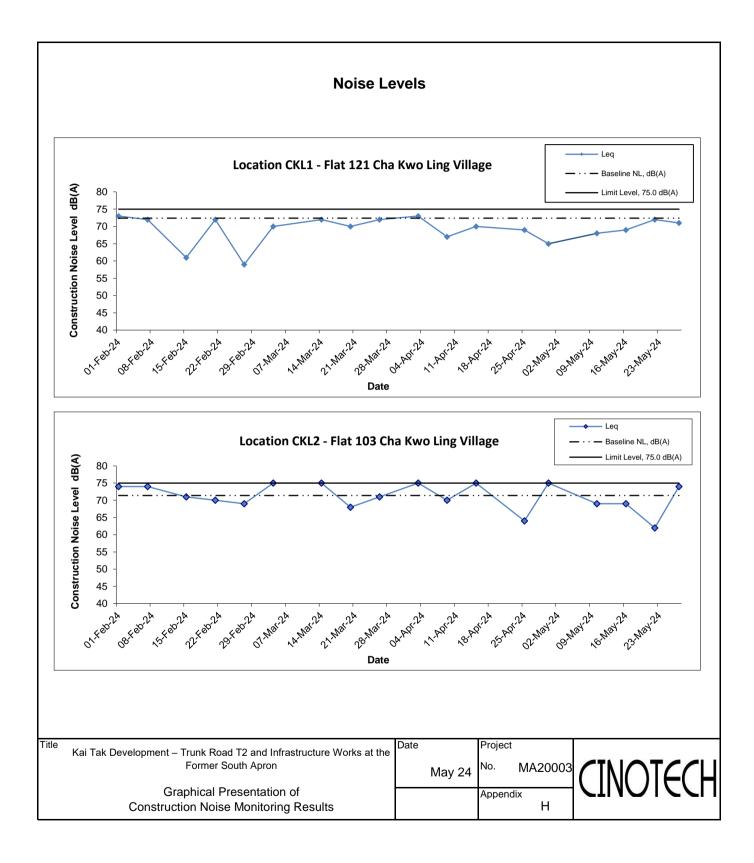
Location CKL1 - Flat 121 Cha Kwo Ling Village							
			Unit: dB (A) (30-min)				
Date	Date Time Weather		Measured Noise Level		Baseline Level	Construction Noise Level	
Date							_
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>
10-May-24	9:40	Fine	73.8	77.3	62.3	72.4	68
16-May-24	12:02	Sunny	74.1	77.4	66.7	72.4	69
22-May-24	10:00	Cloudy	75.0	78.9	64.1	72.4	72
27-May-24	14:08	Fine	74.6	78.5	63.7	72.4	71

Location CKL2 - Flat 103 Cha Kwo Ling Village									
	Time	Weather		Unit: dB					
Date			Measured Noise Level			Baseline Level	Construction Noise Level		
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>		
10-May-24	10:13	Fine	69.4	73.3	59.3	71.4	69.4 Measured ≤ Baseline		
16-May-24	12:37	Sunny	73.5	77.8	64.2	71.4	69		
22-May-24	13:00	Cloudy	61.6	63.2	59.0	71.4	61.6 Measured ≦ Baseline		
27-May-24	14:40	Cloudy	76.0	80.0	64.5	71.4	74		

Location KTD1 - Centre of Excellence in Paediatrics (Rooftop of Children's Hospital)								
	Time	Weather	Unit: dB (A) (30-min)					
Date			Measured Noise Level			Baseline Level	Construction Noise Level	
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>	
10-May-24	14:55	Fine	70.3	71.5	68.8	78.0	70.3 Measured ≤ Baseline	
16-May-24	16:06	Cloudy	67.7	71.0	65.0	78.0	67.7 Measured ≦ Baseline	
22-May-24	13:07	Fine	67.8	69.4	66.2	78.0	67.8 Measured ≦ Baseline	
27-May-24	11:15	Cloudy	74.2	76.0	69.4	78.0	74.2 Measured ≤ Baseline	

Location VED4. Future Recidential Development at Verm Code									
Location KER1 - Future Residential Development at Kerry Godown									
	Time	Weather	Unit: dB (A) (30-min)						
Date			Measured Noise Level			Baseline Level	Construction Noise Level		
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>		
10-May-24	14:01	Fine	72.8	75.5	68.4	65.0	72		
16-May-24	15:05	Cloudy	69.6	71.8	65.9	65.0	68		
22-May-24	12:13	Cloudy	71.9	73.9	67.8	65.0	71		
27-May-24	15:34	Fine	71.5	74.0	66.3	65.0	70		

Location KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area								
	Time	Weather	Unit: dB (A) (30-min)					
Date			Measured Noise Level			Baseline Level	Construction Noise Level	
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>	L <sub>eq</sub>	
10-May-24	13:02	Fine	61.2	63.0	58.4	64.0	61 Measured ≤ Baseline	
16-May-24	17:26	Cloudy	58.4	59.6	57.0	64.0	58 Measured ≦ Baseline	
22-May-24	11:13	Fine	62.9	66.0	58.7	64.0	63 Measured ≤ Baseline	
27-May-24	16:56	Cloudy	59.7	62.3	55.5	64.0	60 Measured ≤ Baseline	



#### **Noise Levels Location KTD1 - Centre of Excellence in Paediatrics** Baseline NL. dB(A) (Children's Hospital) Limit Level, 75.0 dB(A) Construction Noise Level dB(A) 80 75 70 65 60 55 50 45 40 ~5.F80.7A 05.Way.74 Date Location KTD2d - Next to the SOR Office of Trunk Road T2 in Kai Tak Area Limit Level, 75.0 dB(A) Construction Noise Level dB(A) 90 85 80 75 70 60 55 50 45 40 02.May 2A 01.F80:2A Date **Location KER1 - Future Residential Development at Kerry** Baseline NL dB(A) Godown Limit Level, 75.0 dB(A) Construction Noise Level dB(A) 80 75 70 65 60 55 50 45 40 05.W81.7g 09.N8Y.ZA Date Date Project Kai Tak Development - Trunk Road T2 and Infrastructure Works at the Former South Apron MA20003 May 24 Graphical Presentation of Appendix Н Construction Noise Monitoring Results

#### Environmental Team for Trunk Road T2 and Infrastructure Works at the Former South Apron

Checklist Reference Number	240502
Date	02 May 2024 (Thursday)
Time	09:30 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
240502-EP451-R1	NRMM label was broken.	C21
240502-EP451-R2	More than 20 bags of cements should be covered.	C20
	D. Construction Noise Impact	
	No environmental deficiency was identified during site inspection.	
	E. Waste/Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	H. Marine Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	• No environmental deficiency was identified in previous session (Ref No.: 240425)	

	Name	Signature	Date
Recorded by	Eric Hung		02 May 2024
Checked by	Karina Chan	Zalle	03 May 2024

#### Environmental Team for Trunk Road T2 and Infrastructure Works at the Former South Apron

Checklist Reference Number	240509
Date	09 May 2024 (Thursday)
Time	09:30 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
240509-EP451-R1	<ul> <li>B. Water Quality</li> <li>No environmental deficiency was identified during site inspection.</li> <li>C. Air Quality</li> <li>No environmental deficiency was identified during site inspection.</li> <li>D. Construction Noise Impact</li> <li>No environmental deficiency was identified during site inspection.</li> <li>E. Waste/Chemical Management</li> <li>Chemical waste should be placed at designated area. (OHVD)</li> <li>F. Visual and Landscape</li> <li>No environmental deficiency was identified during site inspection.</li> <li>G. Permits/Licences</li> <li>No environmental deficiency was identified during site inspection.</li> <li>H. Marine Ecology</li> <li>No environmental deficiency was identified during site inspection.</li> <li>I. Others</li> </ul>	E2i
	• Follow up on the previous session (Ref No.:240502), all the items have been rectified.	

	Name	Signature	Date
Recorded by	Eric Hung		09 May 2024
Checked by	Karina Chan	Zalle	10 May 2024

#### Environmental Team for Trunk Road T2 and Infrastructure Works at the Former South Apron

Checklist Reference Number	240516
Date	16 May 2024 (Thursday)
Time	09:30 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality     No environmental deficiency was identified during site inspection.	
240516-EP451-R1	<ul><li>C. Air Quality</li><li>More than 20 cement bags should be covered at WVB G/F.</li></ul>	C20
	<ul> <li>D. Construction Noise Impact</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<ul> <li>E. Waste/Chemical Management</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<ul> <li>F. Visual and Landscape</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<ul> <li>G. Permits/Licences</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<ul><li>H. Marine Ecology</li><li>No environmental deficiency was identified during site inspection.</li></ul>	
	<ul> <li>I. Others</li> <li>Follow up on the previous session (Ref No.:240509), all the items have been rectified.</li> </ul>	

	Name	Signature	Date
Recorded by	Eric Hung		16 May 2024
Checked by	Karina Chan	Zalle	17 May 2024

Checklist Reference Number	240523
Date	23 May 2024 (Thursday)
Time	09:30 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
240523-EP451-R1	• NRMM Label was broken. (Mobile machinery 06-0168)	C21
240523-EP451-R2	More than 20 bags of cements should be covered. (WVB G/F)	C20
	D. Construction Noise Impact	
	No environmental deficiency was identified during site inspection.	
	E. Waste/Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	H. Marine Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow up on the previous session (Ref No.:240516), all the items have been rectified.	

	Name	Signature	Date
Recorded by	Eric Hung		23 May 2024
Checked by	Karina Chan	Zalle	24 May 2024

#### Environmental Team for Trunk Road T2 and Infrastructure Works at the Former South Apron

Checklist Reference Number	240529
Date	29 May 2024 (Wednesday)
Time	09:30 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality     No environmental deficiency was identified during site inspection.	
240529-EP451-R1	<ul> <li>C. Air Quality</li> <li>Water should be sprayed on ground to prevent dust. (West Tunnel)</li> </ul>	C1
	<ul> <li>D. Construction Noise Impact</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
240529-EP451-R2	<ul> <li>E. Waste/Chemical Management</li> <li>Drip trays should be provided for chemical/oil containers to prevent leakage. (West Tunnel)</li> </ul>	E9
	<ul> <li>F. Visual and Landscape</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<ul> <li>G. Permits/Licences</li> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<ul><li>H. Marine Ecology</li><li>No environmental deficiency was identified during site inspection.</li></ul>	
	<ul> <li>I. Others</li> <li>Follow up on the previous session (Ref No.:240523), all the items have been rectified.</li> </ul>	

	Name	Signature	Date
Recorded by	Eric Hung		29 May 2024
Checked by	Karina Chan	Zelle	30 May 2024

# Environmental Team for Trunk Road T2 – Traffic Control and Surveillance System (TCSS) and

#### **Associated Works**

Checklist Reference Number	240502
Date	02 May 2024 (Thursday)
Time	09:30 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Construction Noise Impact	
	No environmental deficiency was identified during site inspection.	
	E. Waste/Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	• No environmental deficiency was identified during site inspection.	
	G. Permits/Licences	
	No environmental deficiency was identified during site inspection	
	I. Others	
	• Follow up on the previous session (Ref No.:240425), no major environmental deficiency was	
	identified during site inspection.	

	Name	Signature	Date
Recorded by	Eric Hung		02 May 2024
Checked by	Karina Chan	Jalle	03 May 2024

# Environmental Team for Trunk Road T2 – Traffic Control and Surveillance System (TCSS) and

#### **Associated Works**

Checklist Reference Number	240509
Date	09 May 2024 (Thursday)
Time	09:30 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Construction Noise Impact	
	No environmental deficiency was identified during site inspection.	
	E. Waste/Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	• No environmental deficiency was identified during site inspection.	
	G. Permits/Licences	
	No environmental deficiency was identified during site inspection	
	I. Others	
	• Follow up on the previous session (Ref No.:240502), no major environmental deficiency was	
	identified during site inspection.	

	Name	Signature	Date
Recorded by	Eric Hung		09 May 2024
Checked by	Karina Chan	Zalle	10 May 2024

## Environmental Team for Trunk Road T2 – Traffic Control and Surveillance System (TCSS) and

#### **Associated Works**

Checklist Reference Number	240516
Date	16 May 2024 (Thursday)
Time	09:30 – 12:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Construction Noise Impact	
	No environmental deficiency was identified during site inspection.	
	E. Waste/Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits/Licences	
	No environmental deficiency was identified during site inspection	
	I. Others	
	• Follow up on the previous session (Ref No.:240509), no major environmental deficiency was	
	identified during site inspection.	

	Name	Signature	Date
Recorded by	Eric Hung		16 May 2024
Checked by	Karina Chan	Zalle	17 May 2024

#### Environmental Team for Trunk Road T2 – Traffic Control and Surveillance System (TCSS) and **Associated Works**

Checklist Reference Number	240517
Date	17 May 2024 (Thursday)
Time	09:30 – 12:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations		
	B. Water Quality		
	No environmental deficiency was identified during site inspection.		
	C. Air Quality		
	No environmental deficiency was identified during site inspection.		
	D. Construction Noise Impact		
	No environmental deficiency was identified during site inspection.		
	E. Waste/Chemical Management		
	No environmental deficiency was identified during site inspection.		
	F. Visual and Landscape		
	No environmental deficiency was identified during site inspection.		
	G. Permits/Licences		
	No environmental deficiency was identified during site inspection		
	I. Others		
	• Follow up on the previous session (Ref No.:240516), no major environmental deficiency was identified during site inspection.		

	Name	Signature	Date
Recorded by	Alex Ng	Als	17 May 2024
Checked by	Karina Chan	Zalle	20 May 2024

## Environmental Team for Trunk Road T2 – Traffic Control and Surveillance System (TCSS) and

#### **Associated Works**

#### **Site Inspection Record Summary**

**Inspection Information** 

Checklist Reference Number	240523
Date	23 May 2024 (Thursday)
Time	09:30 – 12:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations			
	B. Water Quality			
	No environmental deficiency was identified during site inspection.			
	C. Air Quality			
	No environmental deficiency was identified during site inspection.			
	D. Construction Noise Impact			
	No environmental deficiency was identified during site inspection.			
	E. Waste/Chemical Management			
	No environmental deficiency was identified during site inspection.			
	F. Visual and Landscape			
	No environmental deficiency was identified during site inspection.			
	G. Permits/Licences			
	No environmental deficiency was identified during site inspection			
	I. Others			
	• Follow up on the previous session (Ref No.:240516), no major environmental deficiency was			
	identified during site inspection.			

	Name	Signature	Date
Recorded by	Eric Hung		23 May 2024
Checked by	Karina Chan	Zalle	24 May 2024

## Environmental Team for Trunk Road T2 – Traffic Control and Surveillance System (TCSS) and

#### **Associated Works**

**Site Inspection Record Summary** 

**Inspection Information** 

Checklist Reference Number	240529
Date	29 May 2024 (Wednesday)
Time	09:30 – 12:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations			
	B. Water Quality			
	No environmental deficiency was identified during site inspection.			
	C. Air Quality			
	No environmental deficiency was identified during site inspection.			
	D. Construction Noise Impact			
	No environmental deficiency was identified during site inspection.			
	E. Waste/Chemical Management			
	No environmental deficiency was identified during site inspection.			
	F. Visual and Landscape			
	No environmental deficiency was identified during site inspection.			
	G. Permits/Licences			
	No environmental deficiency was identified during site inspection			
	I. Others			
	• Follow up on the previous session (Ref No.:240523), no major environmental deficiency was			
	identified during site inspection.			

	Name	Signature	Date
Recorded by	Eric Hung		29 May 2024
Checked by	Karina Chan	Jalle	30 May 2024

#### APPENDIX I SITE AUDIT SUMMARY

#### APPENDIX J EVENT AND ACTION PLANS

**Table J-1** Event/Action Plan for Air Construction Dust Monitoring

Table J-1	Event/Action Figure 101 Air Construction Dust Mointoring			
Event		Ac	tion	
Event	ET	IEC	ER	Contractor
<b>Action Level</b>				
1. Exceedance for	1. Identify source, investigate	Check monitoring data	1. Notify Contractor.	1. Rectify any unacceptable
one sample	the causes of complaint and	submitted by ET;		practice;
	propose remedial measures;	2. Check Contractor's working		2. Amend working methods
	2. Inform IEC and ER;	method.		agreed with the ER as
	3. Repeat measurement to			appropriate.
	confirm finding;			
	4. Increase monitoring			
	frequency.			
2. Exceedance by	1. Identify source;	Check monitoring data	1. Notify Contractor;	1. Submit proposals for
two or more	2. Inform IEC and ER;	submitted by ET;	2. Ensure remedial measures	remedial actions to IEC
consecutive	3. Advise the ER on the	2. Check Contractor's working	properly implemented.	within three working days of
samples	effectiveness of the proposed	method;		notification;
	remedial measures;	3. Discuss with ET, ER and		2. Implement the agreed
	4. Repeat measurements to	Contractor on possible		proposals;
	confirm findings;	remedial measures if		3. Amend proposal if
	5. Increase monitoring	required;		appropriate.
	frequency to daily;	4. Advise the ER on the		
	6. Discuss with IEC, ER and	effectiveness of the proposed		
	Contractor on remedial	remedial measures;		
	actions required;			

E4	Action			
Event	ET	IEC	ER	Contractor
Limit level  1. Exceedance for one sample	7. If exceedance continues, arrange meeting with IEC, Contractor and ER;  8. If exceedance stops, cease additional monitoring.  1. Identify source, investigate the causes of exceedance and propose remedial measures;  2. Inform the IEC, ER, and Contractor;  3. Repeat measurement to confirm finding;  4. Increase monitoring frequency to daily;  5. Assess effectiveness of Contractor's remedial actions	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET, ER and Contractor on possible remedial measures;</li> <li>Advise the ER and ET on the effectiveness of the proposed remedial measures;</li> <li>Supervise implementation of</li> </ol>	Confirm receipt of notification of exceedance in writing;     Notify Contractor;     Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance;  2. Submit proposals for remedial actions to the ER and copy to the ET and IEC within three working days of notification;  3. Implement the agreed proposals;  4. Amend proposal if appropriate.
	and keep IEC and ER informed of the results.	remedial measures.		
Exceedance for two or more	Notify IEC, ER and     Contractor;	Discuss amongst ER, ET, and     Contractor on the potential	notification of exceedance in	Take immediate action to avoid further exceedance;
consecutive	2. Identify source;	remedial actions;	writing;	2. Submit proposals for remedial

E4	Action				
Event	ET	IEC ER	Contractor		
samples	3. Repeat measurement to	<ol> <li>Review Contractor's</li> <li>Notify Contractor;</li> </ol>	actions to ER and copy to the		
	confirm findings;	remedial actions whenever 3. In consolidation with the IEC	IEC and ET within three		
	4. Increase monitoring	necessary to assure their and ET, agree with the	working days of notification;		
	frequency to daily;	effectiveness and advise the Contractor on the remedial	3. Implement the agreed		
	5. Carry out analysis of	ER and ET accordingly; measures to be implemented;	proposals;		
	Contractor's working	3. Supervise the 4. Ensure remedial measures	4. Resubmit proposals if		
	procedures with the ER to	implementation of remedial properly implemented;	problem still not under		
	determine possible mitigation	measures. 5. If exceedance continues,	control;		
	to be implemented;	consider what portion of the	5. Stop the relevant portion of		
	6. Arrange meeting with IEC	work is responsible and	works as determined by the		
	and ER to discuss the	instruct the Contractor to	ER until the exceedance is		
	remedial actions to be taken;	stop that portion of work	abated.		
	7. Assess effectiveness of	until the exceedance is			
	Contractor's remedial actions	abated.			
	and keep IEC, EPD and ER				
	informed of the results;				
	8. If exceedance stops, cease				
	additional monitoring.				

**Table J-2 Event/Action Plan for Construction Noise Monitoring** 

TO 4	Action					
Event	ET	IEC ER	Contractor			
Action Level	1. Notify IEC, ER and	1. Review the monitoring data 1. Notify Contractor;	1. Submit noise mitigation			
	Contractor;	submitted by the ET;  2. Require Contractor to propose	proposals to the ER and copy			
	2. Carry out investigation;	2. Review the construction remedial measures for	to the IEC and ET;			
	3. Report the results of	methods and proposed redial implementation if required.	2. Implement noise mitigation			
	investigation to the IEC and	measures by the Contractor,	proposals.			
	Contractor;	and advise the ET and ER if				
	4. Discuss jointly with the ER	the proposed remedial				
	and formulate remedial	measures would be				
	measures;	sufficient.				
	5. Increase monitoring					
	frequency to check					
	mitigation effectiveness.					
Limit Level	1. Notify IEC, ER and	1. Discuss amongst ER, ET, and 1. Confirm receipt of	1. Take immediate action to			
	Contractor;	Contractor on the potential notification of failure in	avoid further exceedance;			
	2. Identify source;	remedial actions; writing;	2. Submit proposals for			
	3. Repeat measurements to	2. Review the Contractor's 2. Notify Contractor;	remedial actions to the ER			
	confirm findings;	remedial actions whenever 3. Require Contractor to	and copy to the ET and IEC			
	4. Carry out analysis of	necessary to assure their propose remedial measures	within 3 working days of			
	Contractor's working	effectiveness and advise the for the analysed noise	notification;			

T4		Acı	tion	
Event	ET	IEC	ER	Contractor
	procedures to determine	ER accordingly;	problem;	3. Implement the agreed
	possible mitigation to be	3. Supervise the	4. Ensure remedial measures	proposals;
	implemented;	implementation of remedial	properly implemented;	4. Resubmit proposals if
	5. Record the causes and action	measures.	5. If exceedance continues,	problem still not under
	taken for the exceedances;		consider what portion of the	control;
	6. Increase the monitoring		work is responsible and	5. Stop the relevant portion of
	frequency;		instruct the Contractor to stop	works as determined by the
	7. Assess the effectiveness of		that portion of work until the	ER until the exceedance is
	the Contractor's remedial		exceedance is abated.	abated.
	action with the ER and keep			
	the IEC informed of the			
	results;			
	8. If exceedance stops, cease			
	additional monitoring.			

Table J-3 Event/Action Plan for Landscape and Visual

Event			Action	
	ET	IEC	ER	Contractor
Non-conformity	1. Identify Source;	1. Check report;	1. Notify Contractor;	1. Amend working methods;
on one occasion	2. Inform the IEC and the ER;	2. Check Contractor's working	2. Ensure remedial measures	2. Rectify damage and undertake
	3. Discuss remedial actions with	method;	are properly implemented.	any necessary replacement.
	IEC, ER and Contractor	3. Discuss with ET and the		
	4. Monitor remedial actions until	Contractor on possible		
	rectification has been	remedial measures;		
	completed.	4. Advise ER on effectiveness		
		of proposed remedial		
		measures;		
		5. Check implementation of		
		remedial measures		

Event		Action	
	ET	IEC ER	Contractor
Repeated	1. Identify source;	1. Check monitoring report; 1. Notify Contra	actor; 1. Amend working methods;
Non-conformity	2. Inform the IEC and the ER;	2. Check Contractor's working 2. Ensure remed	dial measures 2. Rectify damage and undertake
	3. Increase monitoring frequency;	method; are properly i	mplemented. any necessary replacement.
	4. Discuss remedial actions with	3. Discuss with ET and the	
	the IEC, the ER and the	Contractor on possible	
	Contractor;	remedial measures;	
	5. Monitor remedial actions until	4. Advise ER on effectiveness	
	rectification has been	of proposed remedial	
	completed;	measures;	
	6. If exceedance stops, cease	5. Check implementation of	
	additional monitoring.	remedial measures	

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Impler	Implementation Stages		Status
						D	С	0	
<b>Air Quality Imp</b>	act								
S2.3.1.1	The specific mitigation comprises the following:  watering of the construction areas 12 times per day to reduce dust emissions by 91.7%, with reference to the "Control of Open Fugitive Dust Sources" (USEPA AP-42). The amount of water to be applied would be 0.91L/m² for the respective	To minimize dust emission during construction works	All relevant works sites, conveyor belts and stockpiles	Contractor and Sub- contractors	APCO / EIAO	Y	Y		^
	watering frequency;  Dust enclosures with watering would be provided along the loading ramps and conveyor belts for unloading the C&D materials to the barge for dust suppression; and								N/A(1)
	3-sided barriers around the stockpiling areas WA3 and WA4.								٨
S2.3.1.2	The dust control measures detailed below shall also be incorporated into the Contract Specification where practicable as an integral part of good construction practice:	To minimize dust emission during construction works	All relevant works sites	Contractor and Sub- contractors	APCO / EIAO	Y	Y		*
	Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;								
	Use of frequent watering for particularly dusty construction areas and areas close to ASRs;								*
	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 shall be applied to aggregate fines;								*

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implen	Implementation Stages		Status
						D	С	0	
	Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs;								3/4
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;								۸
	Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;								^
	Imposition of speed controls for vehicles on unpaved site roads, 8 km per hour is the recommended limit;								N/A(1)
	Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs;								^
	Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;								*
	Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and								N/A(1)
	Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.								N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	nended & Main	Implementation Agent	Relevant Standard or Requirement	Implementation Stages		Status	
						D	С	0	
Noise Impact		-							
S3.4.1.1	The use of quieter plant, including Quality Powered Mechanical Equipment (QPME) is specified for the list of equipment:  - Concrete lorry mixer  - Dump Truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne  - Generator, Super Silenced, 70 dB(A) at 7m  - Poker, vibratory, Hand-held (electric)  - Water Pump, Submersible (Electric)  - Mobile Crane - KOBELCO CKS900  - Excavator, wheeled/tracked - HYUNDAI R80CR-9	To minimise airborne noise impacts	All relevant works sites	Contractor and Sub- contractors	NCO / EIAO		Y		۸
S3.4.1.1	Use of temporary or fixed noise barriers with a surface density of at least $10 \text{kg/m}^2$ to screen noise from movable and stationary plant.	To minimise airborne noise impacts	All relevant works sites	Contractor and Sub- contractors	NCO / EIAO		Y		۸
S3.4.1.1	Use of enclosures with covers at top and three sides and a surface density of at least 10kg/m <sup>2</sup> to screen noise from generally static noisy plant such as air compressors.	To minimise air- borne noise impacts	All relevant works sites	Contractor and Sub- contractors	NCO / EIAO		Y		N/A(1)
S3.4.1.1	Use of acoustic fabric for the silent piling system, drill rigs, rock drills etc.	To minimise air- borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		۸
S3.4.1.1	Proper fitting of silencers and mufflers on the ventilation fans.	To minimise air- borne noise impacts	All relevant works sites	Contractor and Sub-contractors	NCO / EIAO		Y		N/A(1)
S3.4.1.1	Implementation of good site practice:  Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction period;  Mobile plant, if any, should be sited as far from NSRs as possible;	To minimise airborne noise impacts	All relevant works sites	Contractor and Sub- contractors	NCO / EIAO		Y		٨
	Plant known to emit noise strongly in one direction should, wherever possible, be properly orientated so that the noise is directed away from the nearby NSRs;								٨

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Impler	nentatio	n Stages	Status
						D	С	0	
	Use of site hoarding as a noise barrier to screen noise at low level NSRs;								۸
	Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum; and								۸
	Any material stockpiles and other structures should be effectively utilised, wherever practicable, to screen the noise from on-site construction activities.								٨
	The advancing speed of the TBM should be restricted to 2m/hr in order to ensure compliance with the daytime ground-borne noise limits.								N/A
Water Quality									
S4.2.1.1	In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures shall include the following:  Surface run-off from the construction site, including all Works Areas, will be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. At the establishment of works sites and works areas including the barging point, 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 to divert the storm water to the silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction and the catch-pits and perimeter channels would be constructed in advance of site formation works and earthworks;	To control water quality impact from construction site runoff and general construction activities	All works sites	Contractor and Sub- contractors	Water Pollution Control Ordinance / ProPECC PN 1/94		Y		^
	Dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas and Works Areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap;								۸

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implem	nentatio	n Stages	Status
						D	С	0	
	The design of efficient silt removal facilities should be based on the guidelines in Appendix AI of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. The sizes may vary depending upon the flow rate, but for a flow rate of $0.1 \text{m}^3$ /s, a sedimentation basin of $30 \text{m}^3$ would be required and for a flow rate of $0.5 \text{m}^3$ /s the basin would be $150 \text{m}^3$ . All effluent discharged from the construction site should comply with the standards stipulated in the TM-DSS. The detailed design of the sand/silt traps shall be undertaken by the Contractor prior to the commencement of construction;								N/A(1)
	In accordance with ProPECC PN 1/94, the construction works should be programmed to minimise surface excavation works during rainy seasons (April to September), as far as practicable. All exposed earth areas should be completed and vegetated as soon as possible after the earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means;								۸
	The overall slope of works sites should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads should be protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during the prolonged periods of inclement weather and the reduction of surface sheet flows;								۸
	All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure their proper and efficient operation at all times particularly following rainstorms. Deposited silts and grits should be removed regularly and disposed of by spreading evenly over stable, vegetated areas;								۸
	Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet season is inevitable, they should be dug and backfilled in short sections wherever practicable. The water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;								۸

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Impler	nentatio	n Stages	Status
						D	С	0	
	Open stockpiles of construction materials (for example, aggregates, sand and fill material) should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;								۸
	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers;								٨
	Precautions to be taken at any time of the year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted and during or after rainstorms, are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events;								N/A(1)
	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at the exit of every construction site where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-washing bay to public roads should be paved with sufficient backfall toward the wheel- washing bay to prevent vehicle tracking of soil and silty water to public roads and drains;								۸
	Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources, specifically Works Areas WA1, WA2, WA4 and WA5 where plant maintenance is proposed. Oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for oil interceptors to prevent flushing during heavy rain;								N/A(1)
	The construction solid waste, debris and rubbish on-site should be collected, handled and disposed of properly to avoid causing any water quality impacts. The requirements for solid waste management are detailed in Section 11 Waste Management of this EIA report; and								*
	All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching the nearby WSRs.								۸

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implen	nentatio	n Stages	Status
						D	С	0	
S4.2.1.1 and 4.3.1.5	There is a need to apply to the EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distances of 100m should be maintained between the discharge points of construction site effluent and the existing seawater intakes. The beneficial uses of the treated effluent for other onsite activities such as dust suppression, wheel washing and general cleaning etc, can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license	To control water quality impact from effluent discharge from construction site	All works sites	Contractor and Sub- contractors	Water Pollution Control Ordinance		Y		N/A(1)
S4.2.1.1	Specific mitigation measures for the tunnelling works using TBM, soft ground and mechanical excavation techniques should include the following:  The cut-and-cover tunnelling works should be conducted sequentially as far as practicable to limit the amount of construction wastewater generated from the exposed areas during the wet season (April to September);	To minimize construction water quality impact from tunnelling and excavation works	All tunnelling and excavation portion	Contractor and Sub- contractors	TMEIA TMwater ProPECC PN 1/94 WPCO		Y		N/A
	Uncontaminated discharge should pass through settlement tanks prior to discharge;  If contaminated groundwater is found during the course of the works, no direct discharge of groundwater from contaminated areas should be adopted. Any								N/A N/A
	contaminated groundwater should be properly treated in compliance with the requirements of the TM-DSS. If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit should deploy suitable treatment processes (e.g. oil interceptor/activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (such as TPH) to an undetectable range;								
	If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-DSS;								N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implen	nentation	n Stages	Status
						D	С	0	
	The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor;								N/A
	The wastewater with high concentrations of SS should be treated such as by settlement in tanks with sufficient retention time before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.								N/A
S4.2.1.1	surrounding environment, the following specific control measures shall be followed to reduce the risk and impacts of accidental spillage:  All bentonite slurry should be stored in a container that resistant to corrosion, maintained in good conditions and securely closed;	To control water quality impact from bentonite slurry	All relevant works sites	Contractor and Sub- contractors	WPCO		Y		۸
	The container should be labelled in English and Chinese and note that the container is for storage of bentonite slurry only;  The storage container should be placed on an area of impermeable flooring and bunded with capacity to accommodate 110% of the volume of the container size or 20% by volume stored in the area and enclosed with at least 3 sides;								N/A(1)
	The storage container should be sufficiently covered to prevent rainfall entering the container or bunded area (water collected within the bund must be tested and disposed of as chemical waste, if necessary);								۸
	An emergency clean up kit shall be readily available where bentonite fluid will be stored or used; and								N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implen	nentatio	n Stages	Status
						D	С	0	
	The handling and disposal of bentonite slurries should be undertaken in accordance within ProPECC PN 1/94. Surplus bentonite slurries used in construction works shall be reconditioned and reused wherever practicable. Residual bentonite slurry shall be disposed of from the site as soon as possible as stipulated in Clause 8.56 of the General Specification for Civil Engineering Works. The Contractor should explore alternative disposal outlets for the residual bentonite slurry (dewatered bentonite slurry to be disposed to a public filling area and liquid bentonite slurry, if mixed with inert fill material, to be disposed to a public filling area) and disposal at landfill should be the last resort.								N/A(1)
S4.2.1.1		To minimize construction water quality impact from barging point	Barging Point	Contractor and Sub- contractors	EIAO-TM WPCO		Y		N/A(1)
	All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;								
	All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;								٨
	Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site; and								N/A(1)
	Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation.								N/A
S4.2.1.1	If chemical toilets and sewage holding tanks are required for handling sewage generated by the construction workforce, a licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize construction water quality impact from sewage and effluent	All works sites	Contractor	WPCO		Y		۸

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implen	nentatio	Status	
						D	С	0	
S4.2.1.1	In order to protect against impacts to the surrounding marine waters of the KTTS and Victoria Harbour in the event of an accidental spillage of fuel or oil, the Contractor will be required to prepare a spill response plan to the satisfaction of AFCD, EPD, FSD, Police, TD and WSD to define procedures for the control, containment and clean-up of any spillage that could occur on the construction site.	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
S4.2.1.1	The Contractor must, also, register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
S4.2.1.1	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided.  Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		N/A(1)
S4.2.1.1	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:	To control water quality impact from accidental chemical spillage	All works sites	Contractor	EIAO-TM WPCO WDO		Y		*
	Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;								
	Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and								N/A(1)
	Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.								۸

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages		n Stages	Status
						D	С	0	
S4.2.1.1	The road drainage in the tunnel should pass through oil interceptors to remove oil, and grease before being discharged into the public storm water drainage system;	To mitigate runoff from tunnel during the operational phase	Tunnel	CEDD	WPCO			Y	N/A
	Silt traps and oil interceptors should be cleaned and maintained regularly; and								N/A
	The oily contents of oil interceptors should be transferred to an appropriate disposal facility, or to be collected for reuse, if possible.								N/A
Marine Ecology									
S5.3.1.1	Good construction practice measures have been recommended to be implemented as follows:	Minimize waste generation during construction	Contractor	Work Sites	Construction phase of Main Works Stage 1, Stage 2 and Stage 3		Y		N/A(1)
	Avoid damage and disturbance to the remaining and surrounding natural habitat;								
	Placement of equipment in designated areas within the existing disturbed land;								N/A(1)
	Spoil heaps should be covered at all times;	]							N/A(1)
	Construction activities should be restricted to the designated works areas; and								N/A(1)
	Disturbed areas to be reinstated immediately after completion of the works.								N/A(1)
Fisheries									
S6.2.1.2	No fisheries specific mitigation measures.								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address		Implementation Agent	Relevant Standard or Requirement	Impler	nentatio	Status	
						D	С	0	
Landscape and	Visual	•		•	•				
\$7.2.1.2	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y	Y		۸
S7.2.1.2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y	Y		N/A
\$7.2.1.2	Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	To prevent unnecessary dust and dirt contaminating the air and adjacent areas.	All relevant works sites	CEDD's Contractor	EIAO TM		Y		۸
\$7.2.1.2	Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.	To mitigate potential visually obtrusive areas	All relevant works sites	CEDD's Contractor	EIAO TM		Y		۸
\$7.2.1.2	Erection of decorative screen hoarding should be designed to be compatible with the existing urban context.	To mitigate and screen any potential visually obtrusive areas and enhance urban environment	All relevant works sites	CEDD's Contractor	EIAO TM		Y		۸
S7.2.1.2	All lighting in construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC user. The contractor shall consider other security measures, which shall minimize the visual impacts.	To mitigate light pollution and adverse visual impacts on surrounding environment	All relevant works sites	CEDD's Contractor	EIAO TM		Y		۸
S7.2.1.2	Compensatory tree planting shall be incorporated along all roadside amenity areas affected by the construction works. The required numbers and locations of compensatory trees shall be determined and agreed with the Government during Tree Removal Application process under ETWB TCW No. 3/2006.	To reinstate and maximise compensatory tree numbers to equal or greater conditions	All relevant works sites	CEDD's Contractor	EIAO TM		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Impler	nentatio	Status	
						D	С	0	
S7.2.1.2	Compensatory tree planting shall be incorporated by the Project. The required numbers of compensatory trees shall follow the requirements of ETWB TCW No. 3/2006. Loss of amenity area adjacent to the Kwun Tong By-pass and planting areas in KTD South Apron will be mitigated by the creation of the Kai Tak South Apron: Amenity Area, which will be equal to or larger than the current provision.	To reinstate and maximise compensatory tree	All relevant works sites	CEDD's Contractor	EIAO TM		Y		N/A(1)
\$7.2.1.2	Trees and shrubs and climbers etc. shall be planted to soften and screen proposed roads, central strip and associated structure, and to enhance streetscape greening effect where appropriate.	To mitigate hard surfaces and hard standing landscape areas and to soften and enhance proposed design features	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	All works area, excavated area and disturbed area for tunnel construction and temporary road diversion or any other proposed works shall be reinstated to former conditions or better, with reasonable landscape treatment and to the satisfaction of the relevant Government departments.	To reinstate and maximise hard and soft landscape areas to equal or greater conditions	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
\$7.2.1.2	Tunnel portals and all above ground structures shall be sensitively designed to ensure the element with colour, texture and tonal quality being compatible to the existing urban context. Trees and shrub planting to minimize the potential adverse landscape and visual impacts shall be included where space permits. Roof top greening and vertical greening shall also be provided.	To mitigate hard surfaces and hard standing landscape areas and to soften and enhance proposed design features	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	All works shall be carefully designed to minimize impacts on existing landscape resources and visually sensitive receivers. Existing trees within works area shall be retained and protected.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
S7.2.1.2	Existing trees of good quality and condition that are unavoidably affected by the works should be transplanted.	To minimise impact on existing trees	All relevant works sites	CEDD's Contractor	EIAO TM	Y		Y	N/A
ultural Heritag	e								
S8.2.1.1 and 8.2.1.2	No culture heritage specific mitigation measures								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address		Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	С	0	
Waste Managen	ent Implication			1	1			I	
S9.2.1.2	The requirements as stipulated in the ETWB TC(W) No.19/2005 Environmental Management on Construction Sites and the other relevant guidelines should be included in the Particular Specification for the future contractor as appropriate.	To keep trace of the generation, minimization, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	ETWB TC(W) No.19/2005		Y		N/A
\$9.2.1.2	The future contractor should be requested to submit an outline Waste Management Plan (WMP) prior to the commencement of construction work, in accordance with the ETWB TC(W) No.19/2005 so as to provide an overall framework of waste management and reduction. The WMP should include:  - Waste management policy; - Record of generated waste; - Waste reduction target; - Waste reduction programme; - Role and responsibility of waste management team; - Benefit of waste management; - Analysis of waste materials; - Reuse, recycling and disposal plans; - Transportation process of waste products; and - Monitoring and action plan.	To keep trace of the generation, minimization, reuse and disposal of C&D	All areas / throughout construction period	Contractor	ETWB TC(W) No.19/2005		Y		N/A(1)
S9.2.1.2	The waste management hierarchy should be strictly followed. This hierarchy should be adopted to evaluate the waste management options in order to maximise the extent of waste reduction and cost reduction. The records of quantities of waste generated, recycled and disposed (locations) should be properly documented.	To keep trace of the generation, minimization, reuse and disposal of C&D	All areas / throughout construction period	Contractor	ETWB TC(W) No.19/2005		Y		N/A(1)
\$9.2.1.2	A trip-ticket system should be established in accordance with DevB TC(W) No. 6/2010 and Waste Disposal (Charges for Disposal of Construction Waste) Regulation to monitor the disposal of public fill and solid wastes at public filling facilities and landfills, and to control fly-tipping. A trip-ticket system would be included as one of the contractual requirements for the future contractor to strictly implement. The Engineer would also regularly audit the effectiveness of the system.	To monitor disposal of waste and control fly-tipping	All areas / throughout construction period	Contractor	DEVB TC(W) No. 6/2010		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Relevant Standard or Requirement	Imple	mentatio	Status		
						D	С	0	
S9.2.1.2	A recording system for the amount of waste generated, recycled and disposed (locations) should be established. The future contractor should also provide proper training to workers regarding the appropriate concepts of site cleanliness and waste management procedures, e.g. waste reduction, reuse and recycling all the time.	To monitor disposal of waste and control fly-tipping	All areas / throughout construction period	Contractor	DEVB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	The CEDD should be timely notified of the estimated spoil volumes to be generated and the PFC should be notified and agreement sort on the disposal of surplus inert C&D materials e.g. good quality rock during detailed design of the Trunk Road T2 Project. Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and to ensure acceptability at public filling areas or reclamation sites.	To monitor disposal of waste and control fly-tipping	All areas / throughout construction period	Contractor	DEVB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	The extent of cutting operation should be optimised where possible. Earth retaining structures and bored pile walls should be proposed to minimise the extent of cutting.	To minimize, reuse and disposal of C&D materials	_	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)
S9.2.1.2	Inert C&D materials from road pavement would be reused for backfilling where possible	To minimize, reuse and disposal of C&D materials	_	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)
S9.2.1.2	TBM generated alluvium and other C&D materials should be treated at a slurry treatment plant prior to transferring to Public Fill Reception Facilities.	To minimize, reuse and disposal of C&D materials	TMB works area / during TBM works	Contractor	DevB TC(W) No.6/2010		Y		۸
S9.2.1.2	The site and surroundings should be kept tidy and litter free.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		۸

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	nended & Main	Implementation Agent	Relevant Standard or Requirement	Implem	nentation	n Stages	Status
						D	С	0	
S9.2.1.2	No waste is allowed to be burnt on site.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		۸
S9.2.1.2	Make provisions in contract documents to allow and promote the use of recycled aggregates where appropriate.	To implement good site practice for handling, sorting reuse and recycling of wastes	Detailed Design	Design Consultant	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010	Y			N/A(1)
S9.2.1.2	Prohibit the future contractor to dispose of C&D materials at any sensitive locations e.g. natural habitat, etc. The future contractor should propose the final disposal sites in the WMP for approval before implementation.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	Stockpiled C&D materials should be covered by tarpaulin and/or watered as appropriate to prevent windblown dust and surface run off.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		۸
S9.2.1.2	Excavated C&D materials in trucks should be covered by tarpaulins to reduce the potential for spillage and dust generation.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		۸
S9.2.1.2	Wheel washing facilities should be used by all trucks leaving the site to prevent transferring mud trails onto public roads.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		۸
S9.2.1.2	Excavated marine deposit (sediment) should be disposed of in a gazetted marine disposal ground under the requirements of the DASO or treated for backfilling.	To ensure proper disposal of marine sediment	All areas / throughout construction period	Contractor	ETWB TC(W) No.34/2002		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	С	0	
S9.2.1.2	Standard formwork or pre-fabrication should be used as far as practicable to minimise the C&D materials arising. The use of more durable formwork or plastic facing for construction works should also be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should be carefully planned in order to avoid over-ordering and wastage.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		N/A(1)
\$9.2.1.2	The future contractor should recycle as many C&D materials as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		^
\$9.2.1.2	All falsework should be steel instead of wood as far as practicable.	To minimize, reuse and disposal of C&D materials	All areas / throughout construction period	Contractor	DevB TC(W) No.6/2010		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures		Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status	
						D	С	0	
S9.2.1.2	Chemical waste producers should register with the EPD and chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows:  - Suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed; - Having a capacity of <450L unless the specifications have been approved by the EPD; and - Displaying a label in English and Chinese according to the instructions prescribed in Schedule 2 of the Regulations Clearly labelled and used solely for the storage of chemical wastes; - Enclosed with at least 3 sides; - Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest; - Adequate ventilation; - Sufficiently covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and - Incompatible materials are adequately separated.	chemical waste within works sites and works areas	All areas / throughout construction period	Contractor	Code of Practice on the Packaging, Handling and Storage of Chemical Wastes		Y		*
S9.2.1.2	Waste oils, chemicals or solvents should not be disposed of to drain.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	EIAO TM		Y		۸

EM&A Ref.	Recommended Mitigation Measures	S Objectives of the Recommended Measures & Main Concern to Address		Implementation Agent	Relevant Standard or Requirement	Imple	mentatio	Status	
						D	С	0	
S9.2.1.2	Adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them. Night soil should be regularly collected by licensed collectors.	To ensure proper disposal of sewage sludge	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance, DevB TC(W) No. 6/2010		Y		N/A(1)
S9.2.1.2	General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. Sufficient dustbins should be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By- laws. In addition, general refuse should be cleared daily and disposed of to the nearest licensed landfill. Burning of refuse on construction sites is prohibited.	To separate the general refuse from other waste types and proper disposal of the refuse		Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		۸
S9.2.1.2	All waste containers should be in a secure area on hardstanding.	To implement good site practice for handling, sorting reuse and recycling of wastes	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		۸
S9.2.1.2	Aluminium cans should be collected and recovered from the waste stream by reputable collectors if they are segregated and easily accessible. Separately labelled bins for their deposition should be provided as far as practicable.	To implement on-site sorting facilitating reuse and recycling of materials as well as proper disposal of waste	All areas / throughout construction period	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		N/A(1)
S9.2.1.2	Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the future contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on-site.	To separate the general refuse from other waste types and proper disposal of the refuse	*	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		N/A(1)

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Location/Timing	Implementation Agent	Relevant Standard or Requirement	Implen	Implementation Stages		implementation Stages		Status
						D	С	0			
S9.2.1.2	Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	To implement good site practice for handling, sorting reuse and recycling of wastes	Contract Mobilisation	Contractor	WDO, Land (Miscellaneous Provisions) Ordinance		Y		N/A(1)		
S9.2.1.2	During construction phase, regular site inspections and supervision of the waste management procedures shall be undertaken as part of the EM&A procedures.	To ensure proper control, all waste is removed from site areas as appropriate and illegal disposal of waste is not being undertaken	All areas / throughout construction period	Contractor	EIAO TM		Y		۸		

Remarks: EM&	&A Programme under EP-451/2013
D	Design
С	Construction
Y	Yes
О	Operation
^	Compliance of mitigation measure;
N/A	Not applicable at this stage;
N/A(1)	Not observed;
*	Recommendation was made during site audit but improved/retified by the contractor;
#	Recommendation was made during site audit but not yet improved/retified by the contractor;
X	Non-compliance of mitigation measure;
•	Non-compliance but rectified by the contractor.

APPENDIX L SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

**Reporting Month**: May 2024

Log Ref.	Location	Received Date	Details of Complaint/war ning/summon and prosecution	Investigation/Mitigation Action	Status
-	-	-	-	-	-

#### Remarks:

No environmental complaint/warning/summon and prosecution were received in the reporting period.

Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Table L2 Cumulative Log for Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Log Ref.	Location	Received Date	Details of Complaint/w arning/summ on and prosecution	Investigation/Mitigation Action	Nature	Status
#A01	The Launching Shaft	24 June 2020	A complaint regarding dust nuisance possible caused by the construction works at the Launching Shaft area was received.	<ul> <li>Training regarding the loading and unloading height control was provided to the labourers to ensure dusty materials are transported under a minimum practical height.</li> <li>Water sprays system was installed around the location of complaint to prevent dust generated from wind erosion on the stockpile.</li> <li>Contractor was reminded to further enhance the dust mitigation measures to minimize the dust nuisance.</li> </ul>	Air	Closed
#N01	The Launching Shaft	03 & 13 July 2020	The verbal complaint regarding the noise nuisance generated from D-wall cutter operation nearby the PWCL	<ul> <li>Noise barrier was erected between noise source and the PWCL building.</li> <li>Construction programme was reviewed as to minimize operation of PME nearby the PWCL building</li> <li>Contractor was recommended to implement the noise mitigation measures and other good site practices to minimize the noise nuisance.</li> </ul>	Noise	Closed

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Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Log Ref.	Location	Received Date	Details of Complaint/w arning/summ on and prosecution	Investigation/Mitigation Action	Nature	Status
			building was received by CEDD			
#N03	The Launching Shaft	03 December 2020	A verbal complaint regarding the noise nuisance, generated from the construction works nearby PWCL building, was received by CEDD.	- Contractor has taken the remedial action (i.e. Some of the breakers in which were operated nearby the concerned area were wrapped up with the acoustic insulation sheets) and noise mitigation measures (i.e. Noise barrier was installed adjoining the building to minimize the influence of construction noise, maintenance for all Powered Mechanical Equipment was conducted regularly, review on the construction programme to minimize the operations of PMEs near the PWCL) to minimize the noise impact generated from breaking activities.	Noise	Closed
#N10	Launching Shaft and Barging Point	28 February 2023	A Complaint of Noise Nuisance caused by the nighttime construction	<ul> <li>The cause of the noise nuisance may cause by the operation of Derrick Barge and the Conveyors.</li> <li>No limit level exceedance was recorded for additional noise monitoring and the weekly construction noise monitoring.</li> </ul>	Noise	Closed

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Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Log Ref.	Location	Received Date	Details of Complaint/w arning/summ on and prosecution	Investigation/Mitigation Action	Nature	Status
			activities was received.	<ul> <li>In addition, the Contractor shall review the construction schedule, priorities the work sequence and maintain good site practices, such as erecting noise barrier as close as possible to the noise source, replace damaged semi- enclosure/noise barrier and provide regularly maintenance for PMEs.</li> </ul>		
		7 March 2023	Follow up complaint from the same complainant was received and he/she informed that the construction noise nuisance at 09:50pm.	<ul> <li>The cause of the noise nuisance may cause by the operation of Derrick Barge and the Conveyors.</li> <li>No limit level exceedance was recorded for additional noise monitoring and the weekly construction noise monitoring.</li> <li>In addition, the Contractor shall review the construction schedule, priorities the work sequence and maintain good site practices, such as erecting noise barrier as close as possible to the noise source, replace damaged semienclosure/noise barrier and provide regularly maintenance for PMEs.</li> </ul>	Noise	Closed

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Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Log Ref.	Location	Received Date	Details of Complaint/w arning/summ on and prosecution	Investigation/Mitigation Action	Nature	Status
#W01	Launching Shaft and Barging Point	13 March 2023	A complaint regarding to the silt/dirt being swept into the sea from the operation of barge under Trunk Road T2.	<ul> <li>There is no direct evidence that the Silt/ Dirt being swept into the sea from the barge of T2.</li> <li>The following recommendations are made to further enhance the mitigation measures:</li> <li>Provide regular training to site personnel on proper waste management and appropriate handling procedures.</li> <li>Provide sufficient waste disposal points and regular collection for disposal.</li> <li>Closely monitor the barge operation.</li> <li>The Contractor has implemented the above environmental mitigation measures (As mentioned in Section 2.6) on site to ensure that no silt and household waste being swept into any water body.</li> </ul>	Water	Closed
#N12	Launching Shaft Area, Barging Point, Cheung Yip Street	17 November 2023	A verbal complaint regarding the noise nuisance, generated from the	<ul> <li>The cleaning work using the water jetting unit may be the cause of noise nuisance.</li> <li>No limit level exceedance was recorded for additional noise monitoring and the weekly construction noise monitoring.</li> <li>In addition, the Contractor shall review the construction schedule, priorities the work</li> </ul>	Noise	Closed

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Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Log Ref.	Location	Received Date	Details of Complaint/w arning/summ on and prosecution	Investigation/Mitigation Action	Nature	Status
			construction works near Cheung Yip Street after 21:00.	sequence and maintain good site practices, such as erecting noise barrier as close as possible to the noise source, replace damaged semienclosure/noise barrier and provide regularly maintenance for PMEs.		
#W02	Launching Shaft Area	22 November 2023	A complaint regarding to the number of fish die-off at the Kwun Tong Typhoon Shelter.	<ul> <li>There is no direct evidence that the dead fish floating near the Kwun Tong Pier were caused by the construction activities.</li> <li>The following recommendations are made to contractor to further enhance the mitigation measures:</li> <li>1) Conduct regular maintenance for wastewater treatment facilities to maintain the quality of effluent.</li> <li>2) Conduct regular water quality monitoring</li> <li>3) Carry out regular visual inspection to the Kai Tak Approach Channel (near the outfall of discharge point) to prevent illegal discharge of untreated water.</li> </ul>	Water	Closed
#N13	Portion Q1	23 April 2024	A verbal complaint regarding the	<ul> <li>The complaint is considered as project-related.</li> <li>Despite the lifting operation being carried out at the site during the night, the contractor was in</li> </ul>	Noise	Closed

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Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

Log Ref.	Location	Received Date	Details of Complaint/w arning/summ on and prosecution	Investigation/Mitigation Action	Nature	Status
			noise nuisance, generated from the construction works nearby the Wai Lok Street building at 10:20 pm, was received by EPD	possession of a valid construction noise permit (GW-RE0328-24). All construction activities were performed in accordance with legal regulations, and no violations of the law were found.  In addition, the Contractor shall review the construction schedule, priorities the work sequence and maintain good site practices, such as erecting noise barrier as close as possible to the noise source, replace damaged semi enclosure/noise barrier and provide regularly maintenance for PMEs.  As the complaint was considered as project related, the contractor had implemented the relevant mitigation measures to minimize the noise impact including:1) Conduct regular noise monitoring.2) Conduct regular maintenance for all Powered Mechanical Equipment to minimize the noise generated from engines.  Displayed the CNP at the gates of Portion Q.		

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### APPENDIX M SUMMARY OF EXCEEDANCE

### **Appendix M – Summary of Exceedance**

**Reporting Month:** May 2024

#### (A) Exceedance Report for Air Quality

No Action Level and No Limit Level exceedance of 24hr TSP monitoring was recorded in this reporting month.

#### (B) Exceedance Report for Construction Noise

#### **Action Level for Construction Noise**

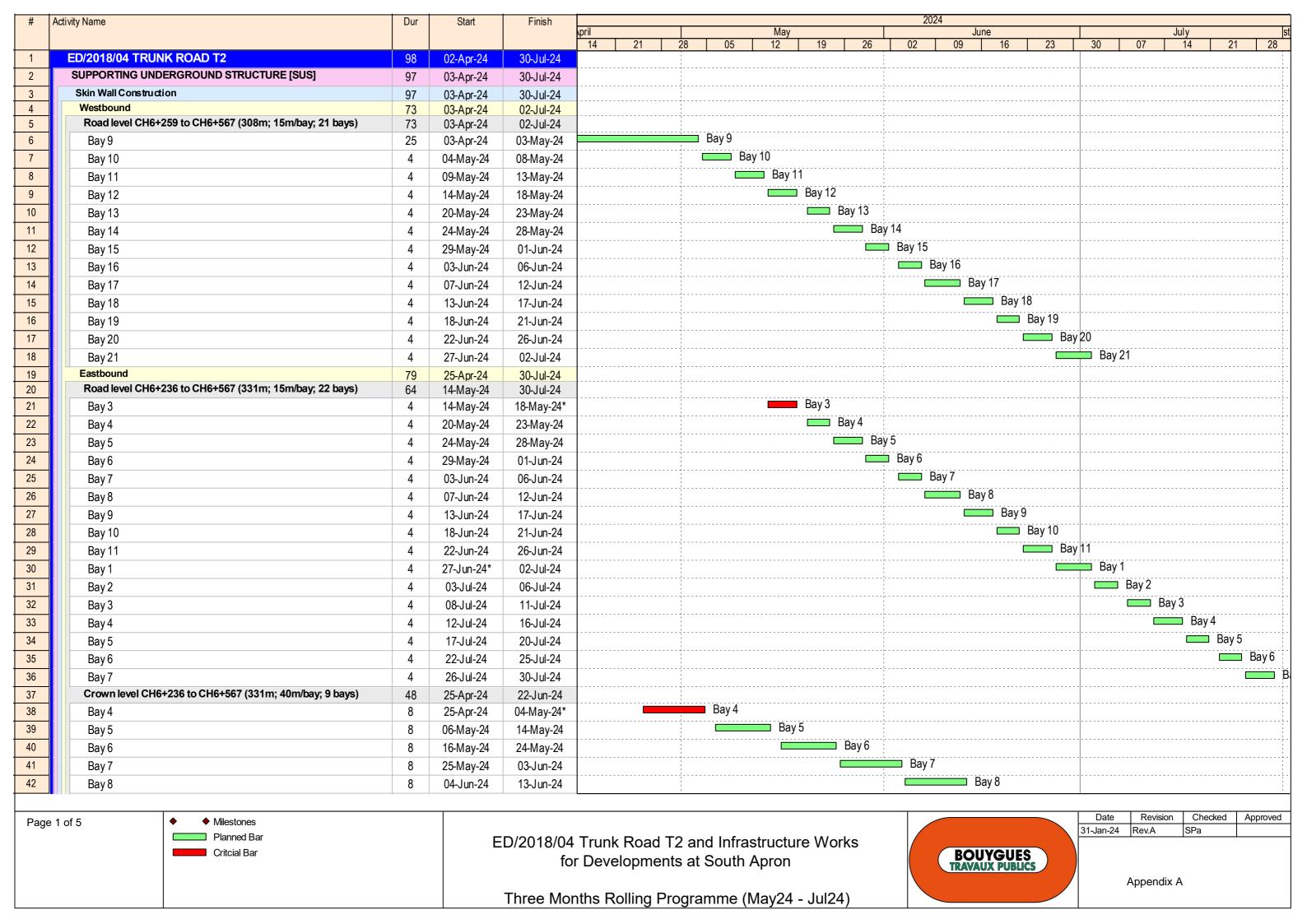
No Action Level exceedance was recorded due to no documented complaint received in this reporting month.

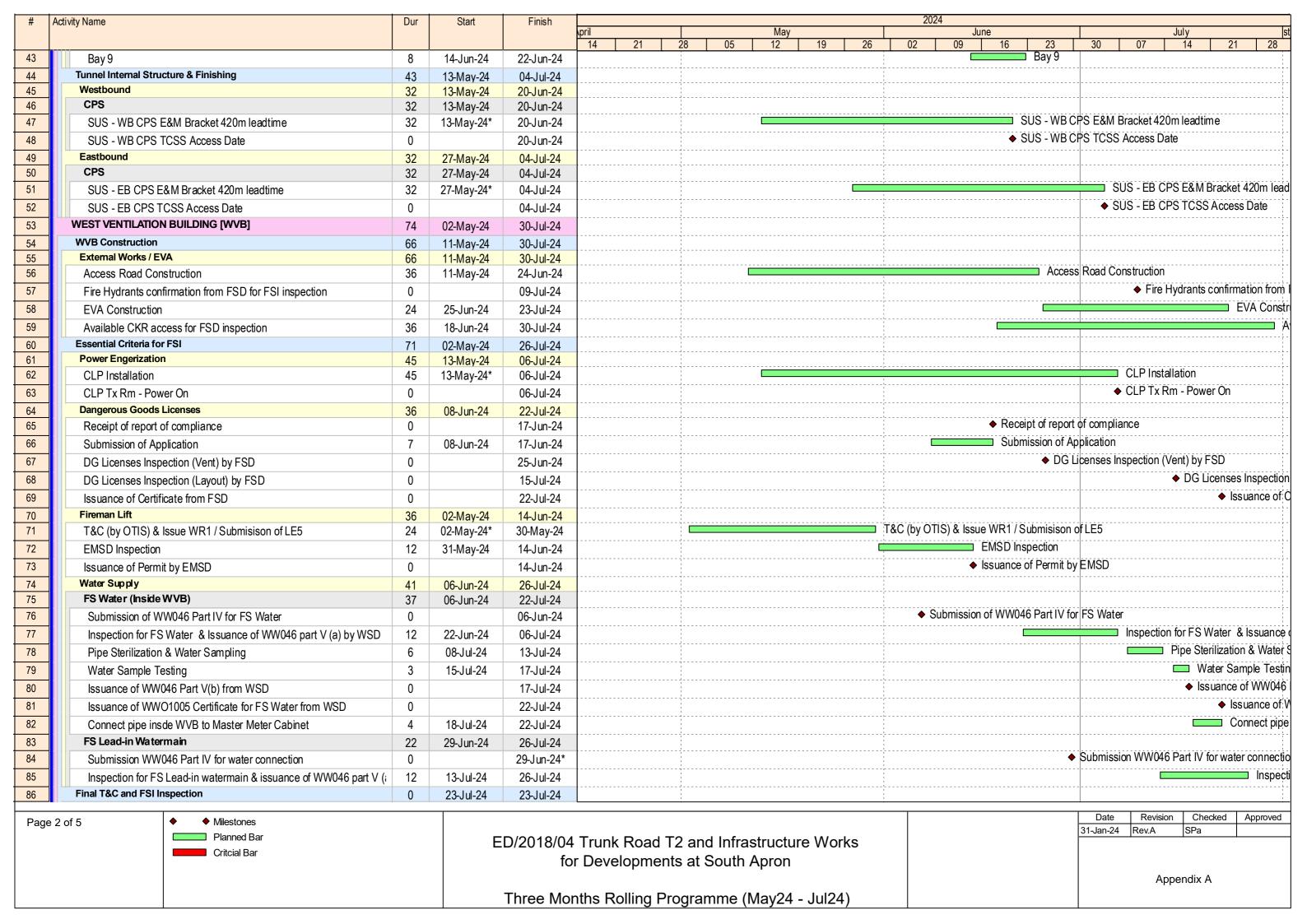
#### **Limit Level for Construction Noise**

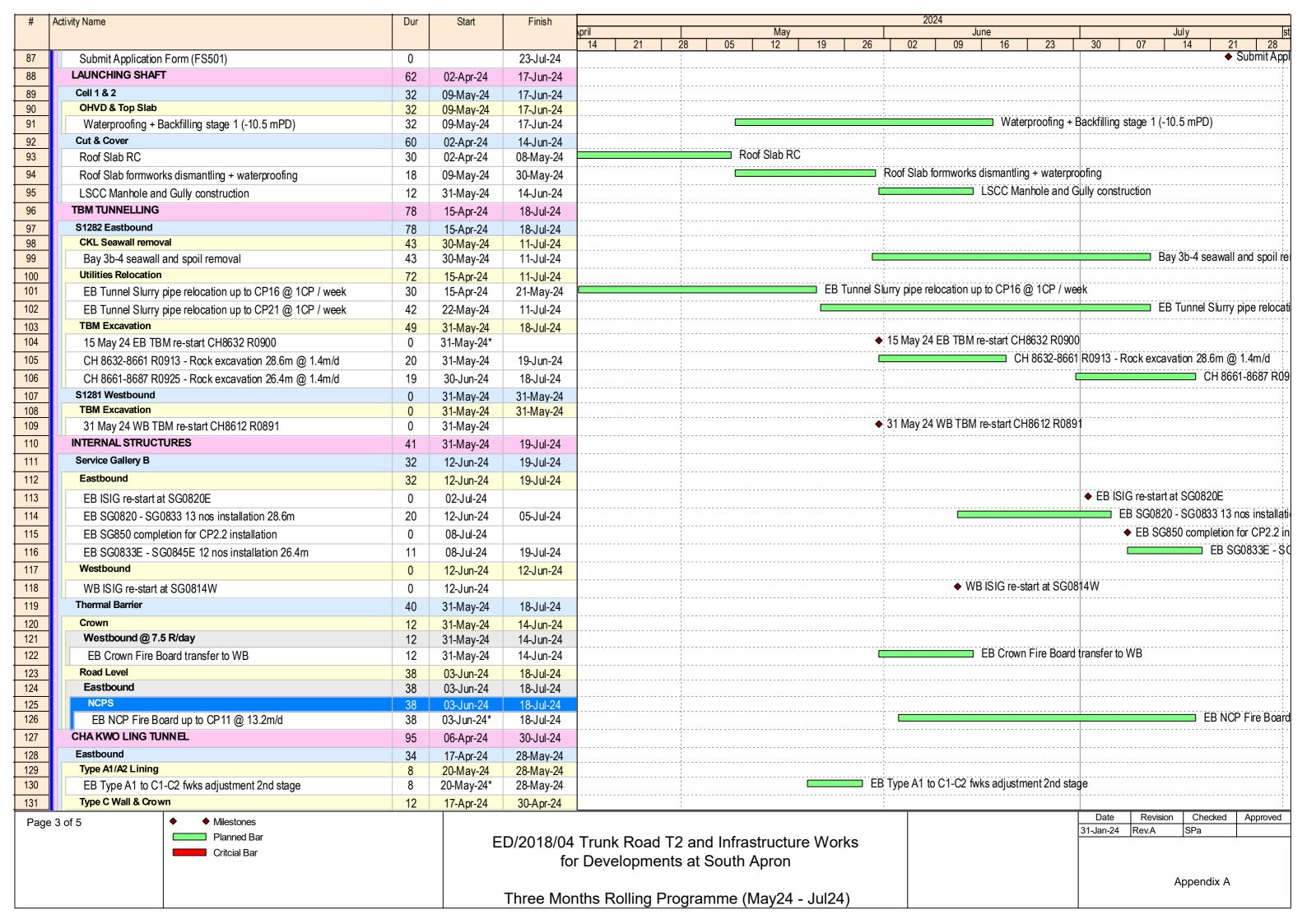
No exceedance for daytime construction noise monitoring was recorded in the reporting month.

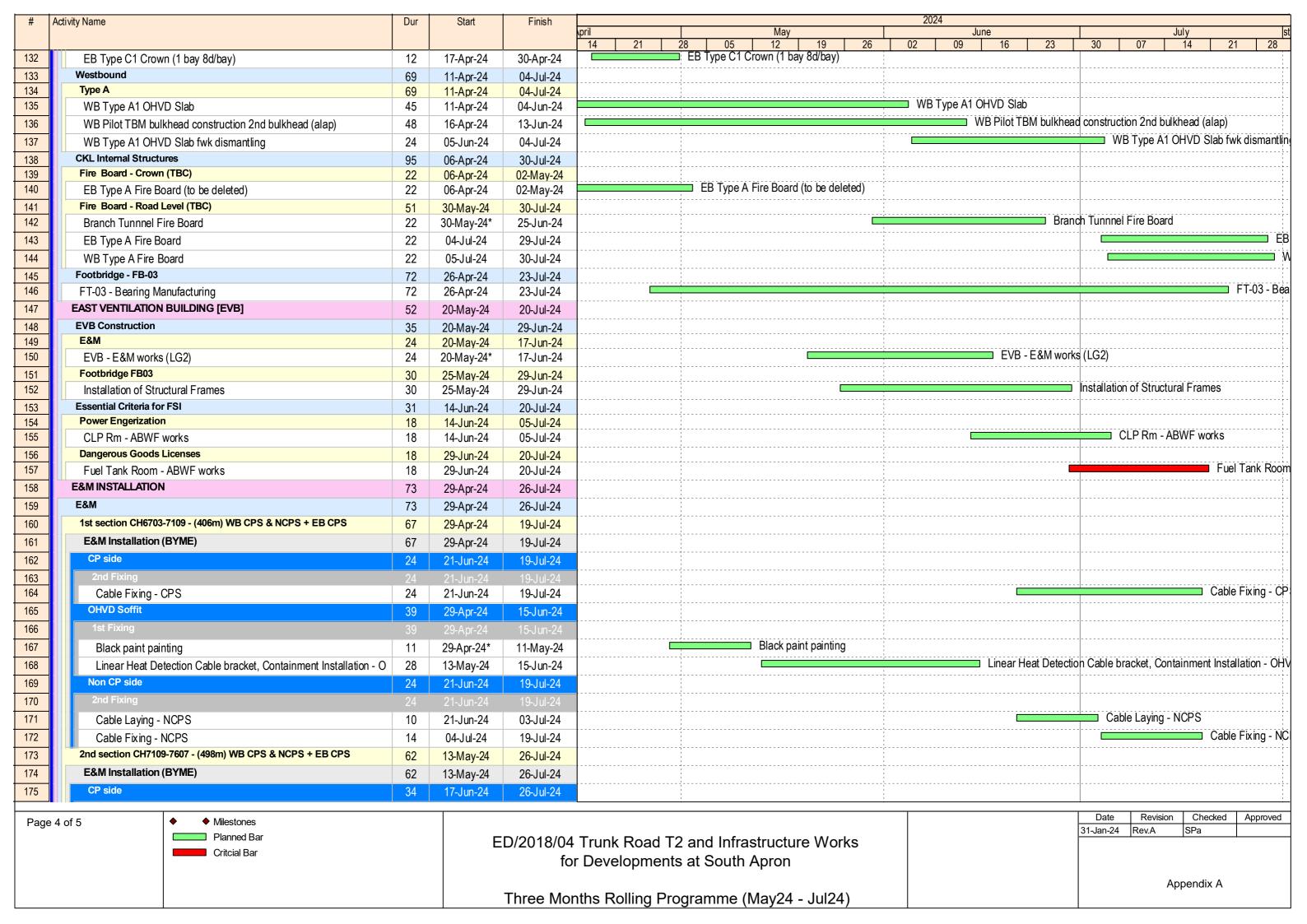
## (C) Summary of Landscape and Visual Non-Conformity (NIL in the reporting month)

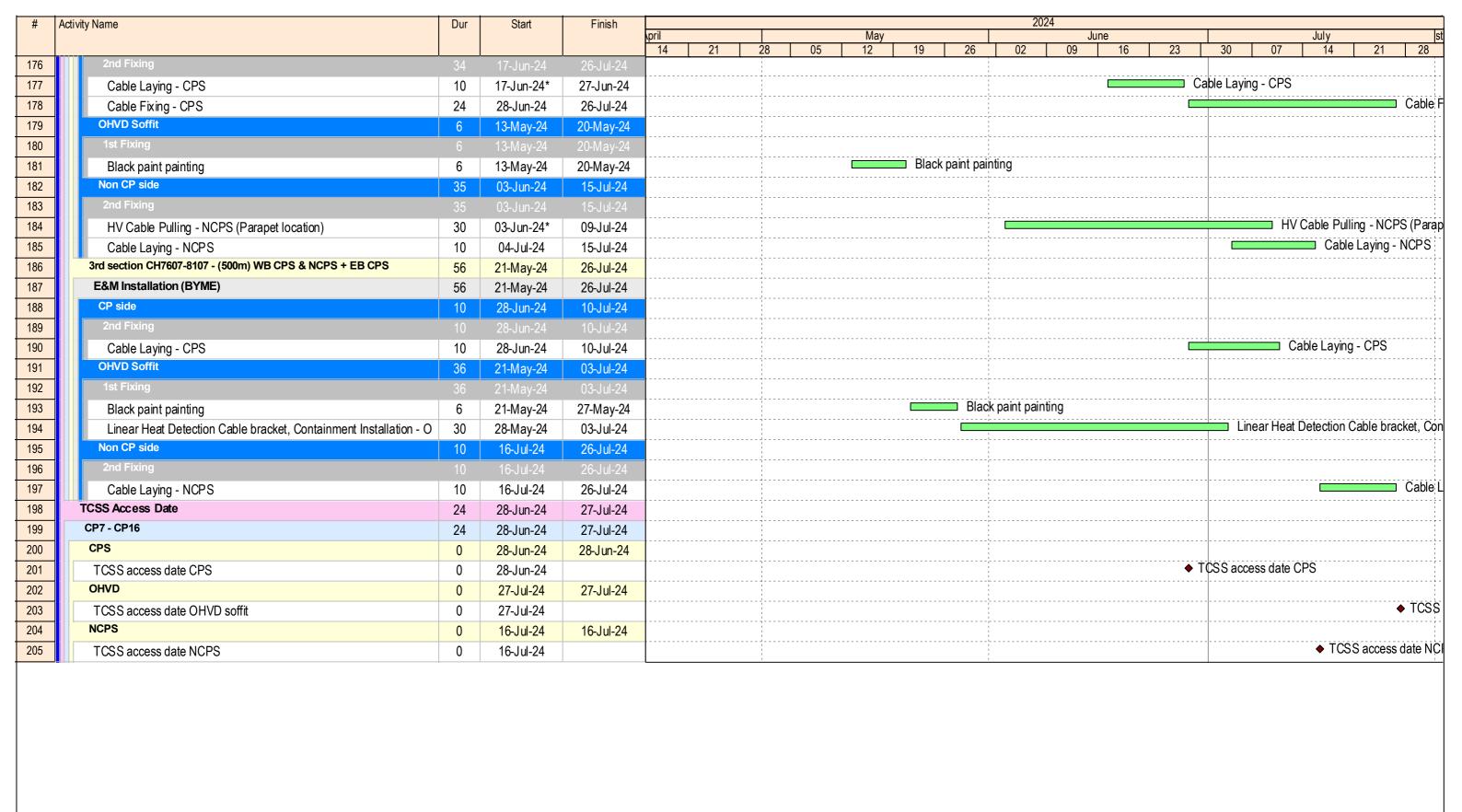
APPENDIX N TENTATIVE CONSTRUCTION PROGRAMME



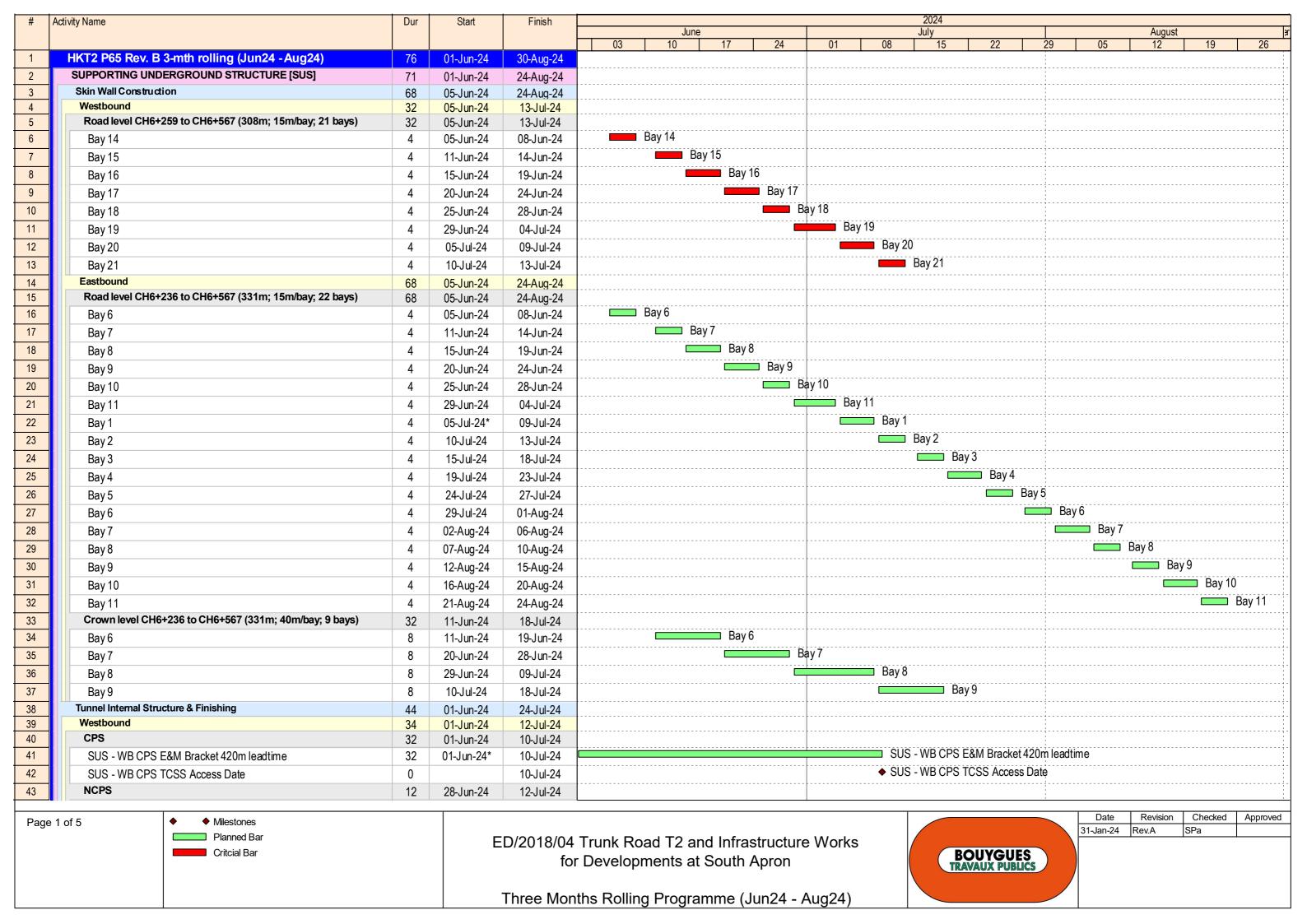


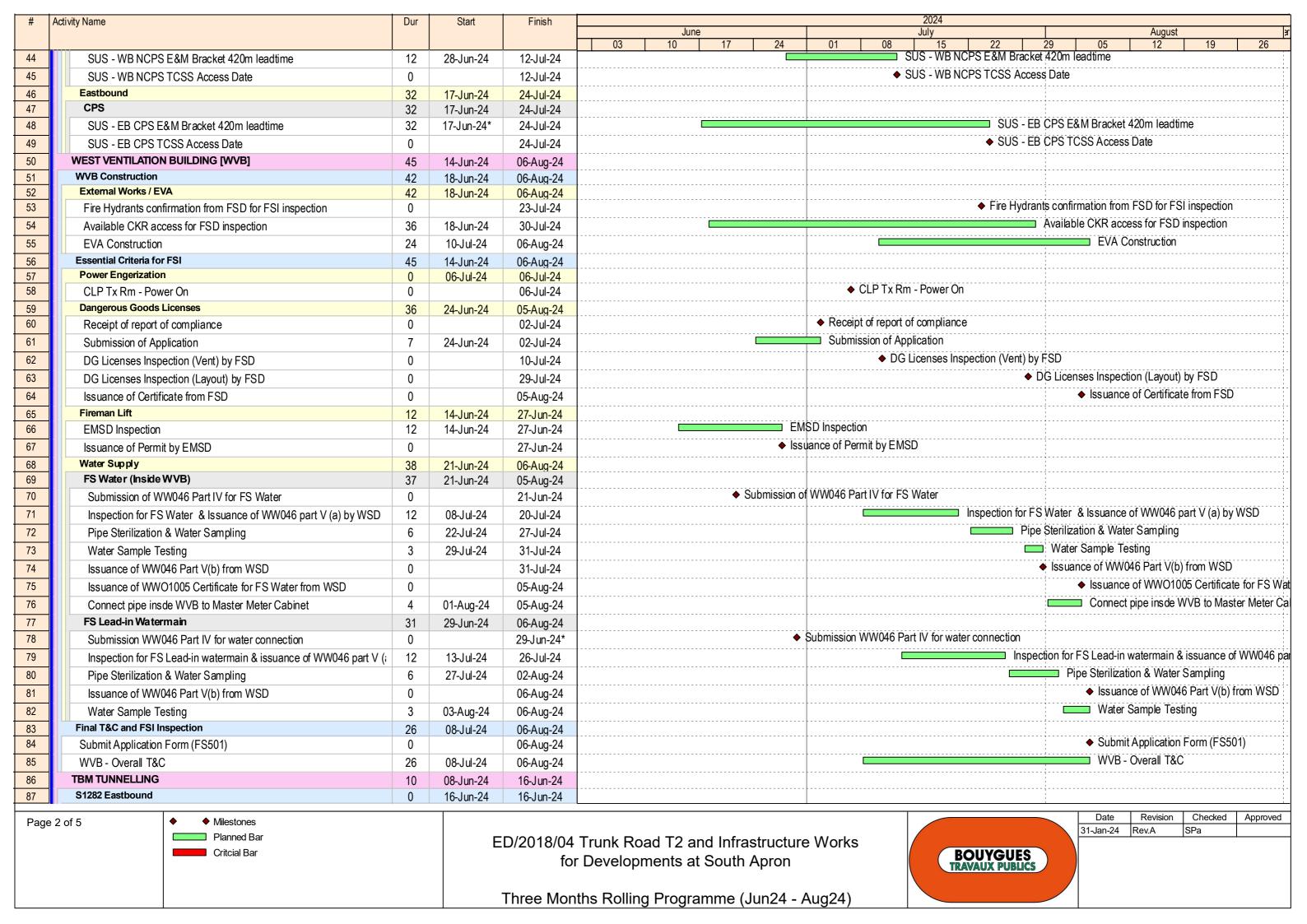


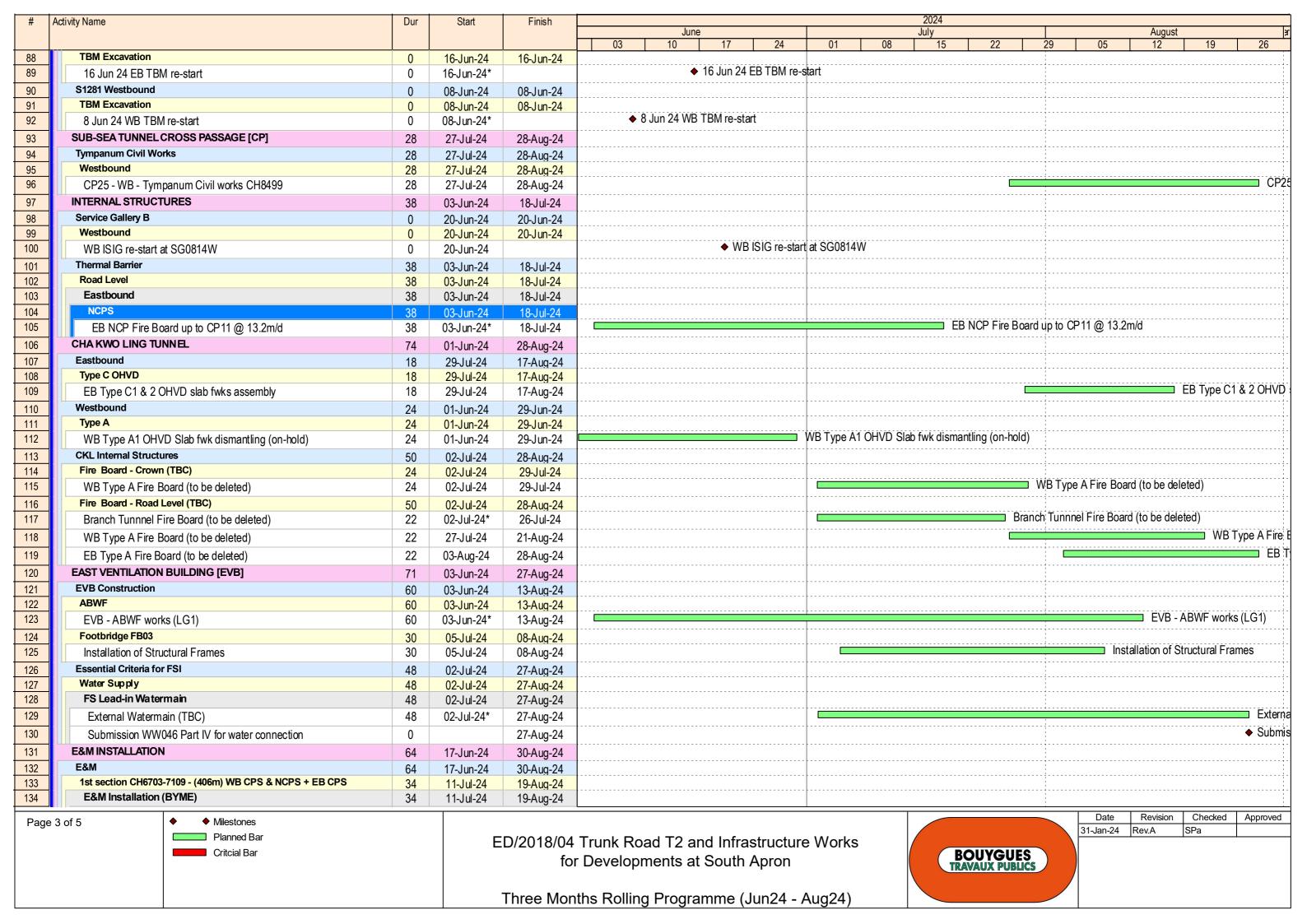


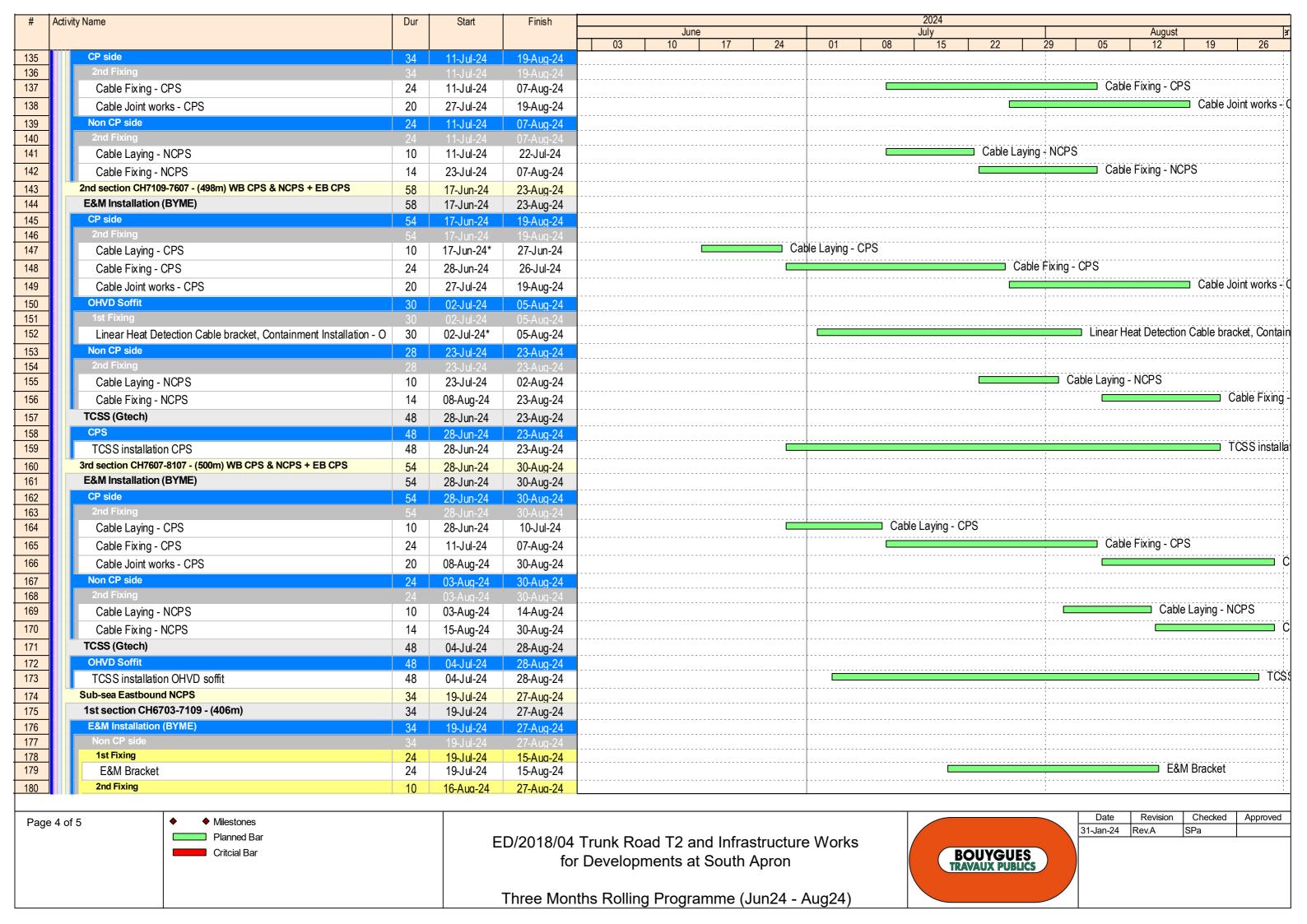


Page 5 of 5	◆ Milestones		Date 31-Jan-24	Revision Rev.A	Checked SPa	Approved
	Planned Bar Critcial Bar	ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron		Appen		
		Three Months Rolling Programme (May24 - Jul24)				









#	Activity Name	Dur	Start	Finish									2	024										
	,					June July					_		Au	ıgust			æ							
					03		10	17		24	01	80		15	2	22	29		05	12	2	19	26	
181	Cable Laying - NCPS	10	16-Aug-24	27-Aug-24																			Cal	· · · · ]
182	TCSS Access Date	30	28-Jun-24	03-Aug-24													1							
183	CP7 - CP16	30	28-Jun-24	03-Aug-24													:							
184	CPS	0	28-Jun-24	28-Jun-24													:							
185	TCSS access date CPS	0	28-Jun-24								7	 					:							: 1
186	OHVD	0	27-Jul-24	27-Jul-24													:							;
187	TCSS access date OHVD soffit	0	27-Jul-24														:							- i I
188	NCPS	0	03-Aug-24	03-Aug-24																				
189	TCSS access date NCPS	0	03-Aug-24															◆ TC	CSS acce	ss date I	NCPS			

ED/2018/04 Trunk Road T2 and Infrastructure Works for Developments at South Apron

Three Months Rolling Programme (Jun24 - Aug24)



Date	Revision	Checked	Approved
31-Jan-24	Rev.A	SPa	

### TRUNK ROAD T2

### TRAFFIC CONTROL SURVEILLANCE SYSTEM AND ASSOCIATED WORKS

### THREE MONTH ROLLING PROGRAMME

	JN 1 H RULLING PRUGRAMME	1							Ta			04	
Activity ID	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Actual Start	Actual Finish	Predecessor Details	May	Jun Jun	Jul	Aug
T 10 17	T. (C. O. J. 10.0	100	04.1 24	20 5 1 25	02.4	24 0 4 26	04.1422			29	30	31	32
	2 - Traffic Control & Surveillance System & Associated Works	466	01-Jun-24	20-Feb-25		31-Oct-26	01-Mar-23						
Access Date		73		13-Aug-24	12-Jun-24	22-Oct-26					[]		ļ
AC1000	Portion 1 - South Apron Up to SUS	0	01-Jun-24		12-Jun-24								ļ <b>.</b>
AC1020	Portion 3 - CKL Branch Tunnel in TKO-LTT Site	0	01-Jun-24		04-Jan-25								
AC1030	Portion 4 - TKO-LTT (LT Interchange)	0	01-Jun-24		17-Aug-24								
AC1040	Underpass S21	0	01-Jun-24		26-Apr-25					•	]		
AC1050	Portion 2 - LS - CKL Tunnel CH 6+568 to CH 7+100	0	01-Jun-24		22-Oct-26								
AC1060	Portion 2 - LS - CKL Tunnel CH 7+100 to CH 7+600	0	01-Jun-24		29-Aug-24								1
AC1070	Portion 2 - LS - CKL Tunnel CH 7+600 to CH 8+100	0	01-Jun-24		15-Oct-24							]	1
AC1080	Portion 2 - LS - CKL Tunnel CH 8+100 to CH 8+750	0	13-Aug-24		04-Oct-24								•
Summary by	Cost Center	466	01-Jun-24	20-Feb-25	03-Aug-23	31-Oct-26	01-Mar-23						
Cost Center	B - Central System	316	01-Jun-24	18-Nov-24	01-Nov-23	11-Apr-25	01-Aug-23						
SC1060	Configuration for Central System	76	01-Jun-24	02-Jul-24	31-Aug-24	31-Aug-24	01-Aug-23		EM1150: SS			<b>-</b>	
SC1040	FAT Plan Submission & Approval for Central System	81				_	20-Sep-23	29-May-24	DS4300: SS				
SC1050	FAT of Central System	59	01-Jun-24	11-Jul-24	01-Nov-23	09-Sep-24	31-Oct-23	,	EM1150: FS				
SC1070	SCT Plan Submission & Approval for Central System	84	19-Jul-24	28-Oct-24	02-Dec-24	14-Mar-25			DS2940: SS	†······			
SC1080	Site Installation of Central System	69	19-Jul-24	09-Oct-24		17-Feb-25			SW1100: SS, SW1120: SS, SW1960				
33233	Site and an addition of Section 1			05 000 = 1		27 . 65 25			SS, SW1090: SS, SW1670: SS,		1		1
									SW1770: SS	<u> </u>		1	i
SC1090	SAT Plan Submission & Approval for Central System	78	16-Aug-24	18-Nov-24	07-Jan-25	11-Apr-25			DS3500: SS				
Cost Center	C - Traffic Control Devices	370	01-Jun-24	03-Feb-25	30-Aug-24	07-May-25	31-Aug-23						
SC1150	Installation Drawing Preparation, Submission & Approval for Traffic Control Devices	72	01-Jun-24	27-Jun-24	30-Aug-24	30-Aug-24	31-Aug-23		DS5890: SS				
SC1190	Equipment Manufacturing & Delivery for Traffic Control Devices	135	01-Jun-24	30-Jun-24	30-Aug-24	30-Aug-24	16-Sep-23		EM1320: SS			1	
SC1200	SCT Plan Submission & Approval for Traffic Control Devices	84	02-Jul-24	09-Oct-24	12-Nov-24	22-Feb-25			DS2980: SS				
SC1210	Site Installation of Traffic Control Devices	157	26-Jul-24	03-Feb-25	31-Aug-24	07-May-25			SW1110: SS	1			
SC1220	SAT Plan Submission & Approval for Traffic Control Devices	84	30-Jul-24	07-Nov-24	30-Dec-24	11-Apr-25			DS3540: SS	1			
	D - Communication System	108	01-Jun-24	09-Oct-24	07-Oct-24	14-Mar-25	22-Apr-24						
SC1280	Installation Drawing Preparation, Submission & Approval for Communication System	60	01-Jun-24	27-Jun-24	07-Oct-24	07-Oct-24	22-Apr-24		DS5930: SS				
SC1340	SCT Plan Submission & Approval for Communication System	84	01-Jun-24	09-Sep-24	24-Oct-24	14-Mar-25			DS3020: SS				
SC1350	SAT Plan Submission & Approval for Communication System	80		19-Sep-24					DS3580: SS	† <b>†</b>			
SC1330	Site Installation of Communication System	54	06-Aug-24	09-Oct-24	23-Oct-24				SW1100: SS, SW1120: SS, SW1960	:			
00100			007.09 = 1	05 000 = 1		27 . 65 25			SS	1 1	1		1
Cost Center	E - CCTV System	383	01-Jun-24	09-Jan-25	01-Nov-23	31-Oct-26	01-Mar-23						
SC1410	Installation Drawing Preparation, Submission & Approval for CCTV System	99	01-Jun-24	27-Jun-24	31-Oct-26	31-Oct-26	01-Mar-23		DS5970: SS				
SC1450	Equipment Manufacturing & Delivery for CCTV System	89	01-Jun-24	20-Jun-24	26-Aug-24	26-Aug-24	01-Aug-23		EM1050: SS				
SC1440	FAT of CCTV System	96	01-Jun-24	22-Jun-24	01-Nov-23	28-Aug-24	31-Oct-23		EM1050: FS				
SC1430	FAT Plan Submission & Approval for CCTV System	72	01-Jun-24	20-Jun-24	26-Aug-24	26-Aug-24	13-Dec-23		DS4050: SS				
SC1460	SCT Plan Submission & Approval for CCTV System	84	01-Jun-24	09-Sep-24	24-Sep-24	01-Feb-25			DS3060: SS				
SC1470	Site Installation of CCTV System	139	26-Jul-24	09-Jan-25	· ·				SW1060: SS, SW1940: SS	T			
SC1480	SAT Plan Submission & Approval for CCTV System	84	30-Jul-24	07-Nov-24	-				DS3620: SS				
	F - PABX System	389	01-Jun-24	16-Jan-25	08-Oct-24	24-Apr-25	27-Jul-23			<b></b>			
SC1560	Installation Drawing Preparation, Submission & Approval for PABX System	68	01-Jun-24	27-Jun-24	08-Oct-24	08-Oct-24	27-Jul-23		DS6010: SS				
SC1600	SCT Plan Submission & Approval for PABX System	84	01-Jun-24	09-Sep-24	18-Oct-24	12-Mar-25			DS3100: SS	1			
SC1590	Site Installation of PABX System	133	09-Aug-24	16-Jan-25		12-Feb-25			SW2380: SS	<b>-</b>			
SC1590	SAT Plan Submission & Approval for PABX System	84		05-Dec-24		24-Apr-25			DS3660: SS	1	<b> </b>		
	G - ET System	215	01-Jun-24	16-Jan-25		12-Mar-25	26-Mar 24		233000.33		<b> </b>		<u> </u>
Sost Ceriter		213	01-3011-24	10-3411-25	17-3ep-24	12-11/01-23	20-Mai -24					<u></u>	
The second second second		-	-			-			Date	Reviei	·	hecked	Annroyed

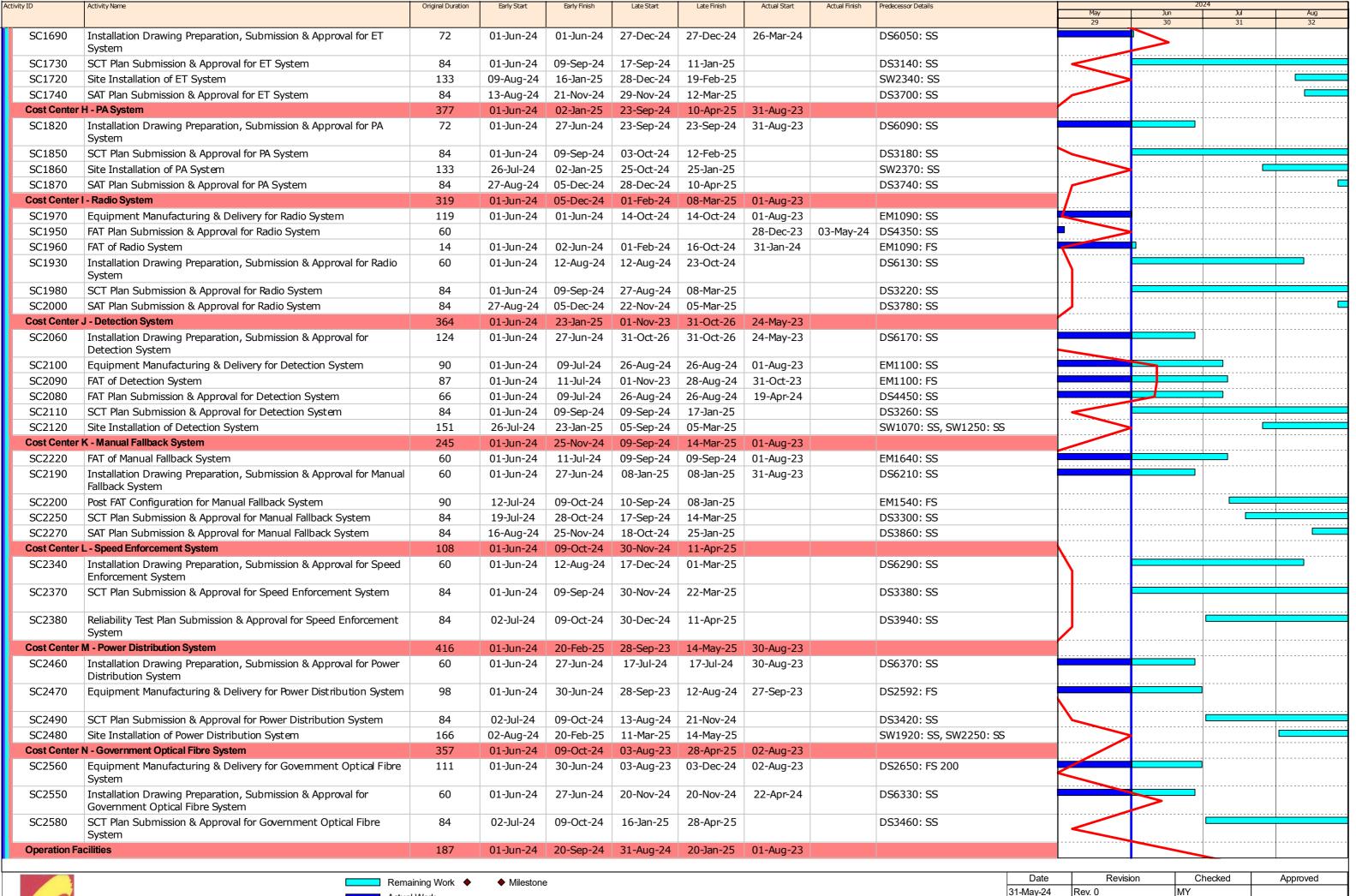
Remaining Work

Actual Work

Critical Activity

Milestone

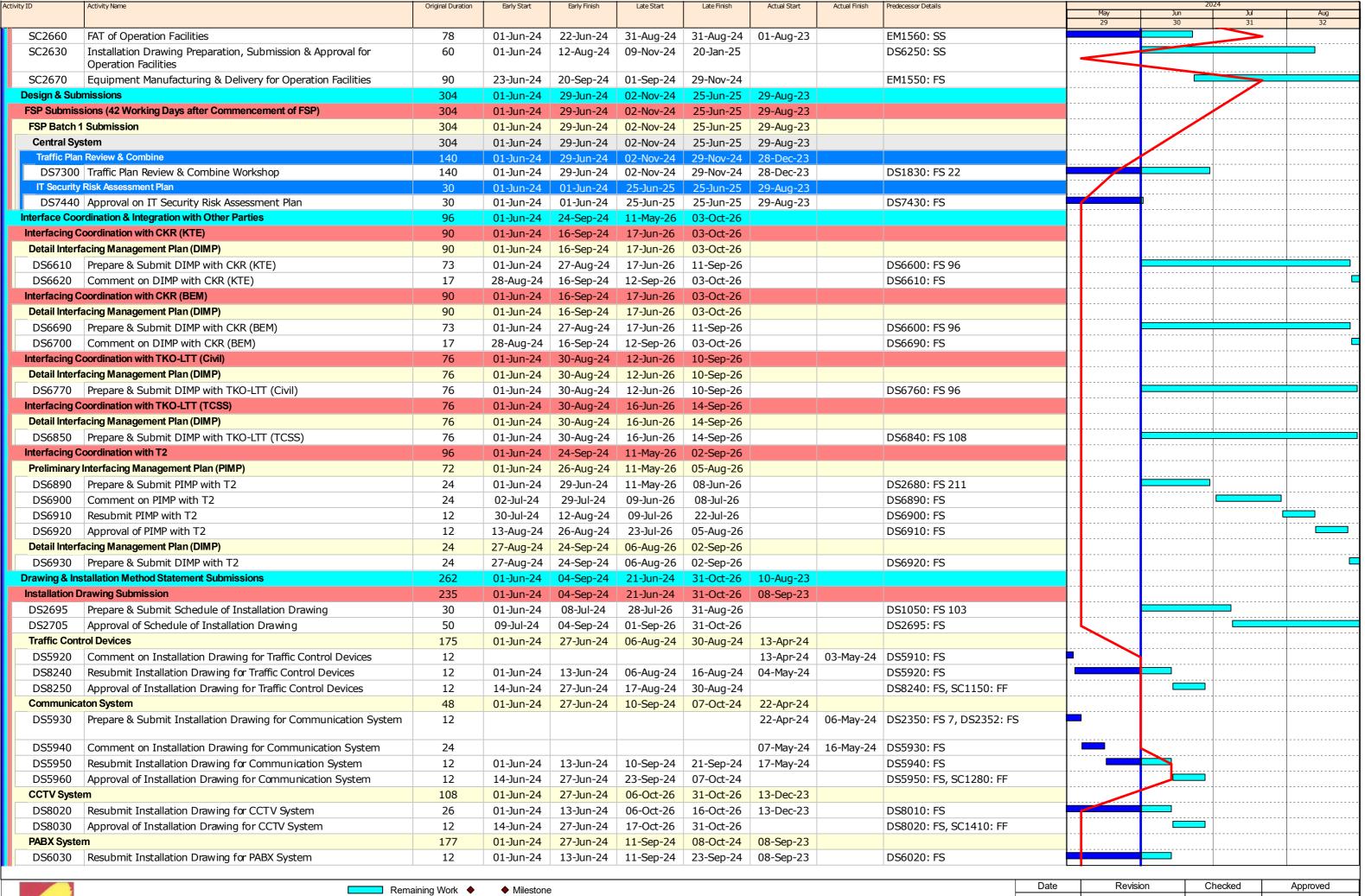
Date	Revision	Checked	Approved
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Actual Work

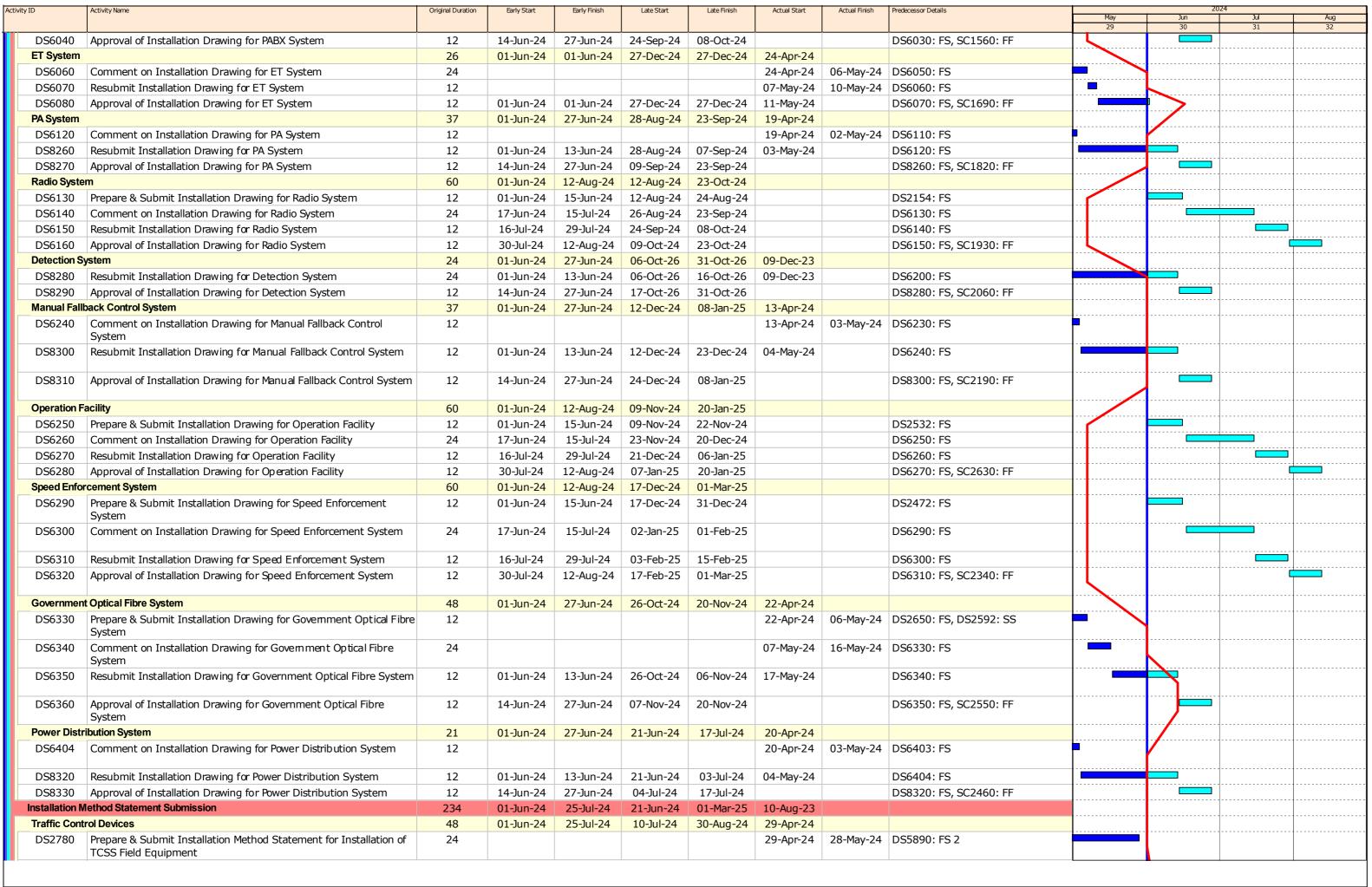
Critical Activity

Date	Revision	Checked	Approved
31-May-24	Rev. 0	MY	





Actual Work Critical Activity 31-May-24 MY Rev. 0

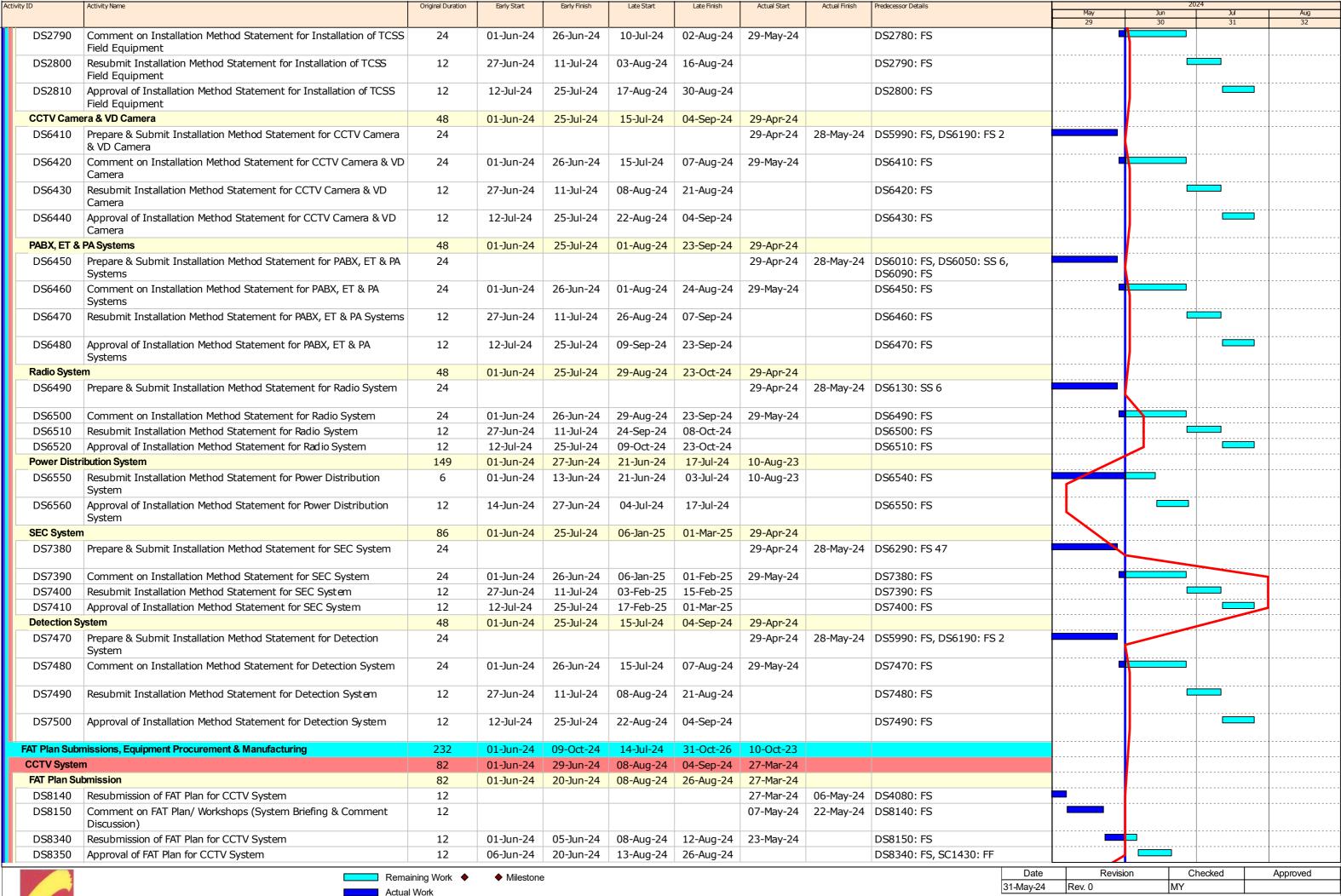




Remaining Work 
Actual Work
Critical Activity

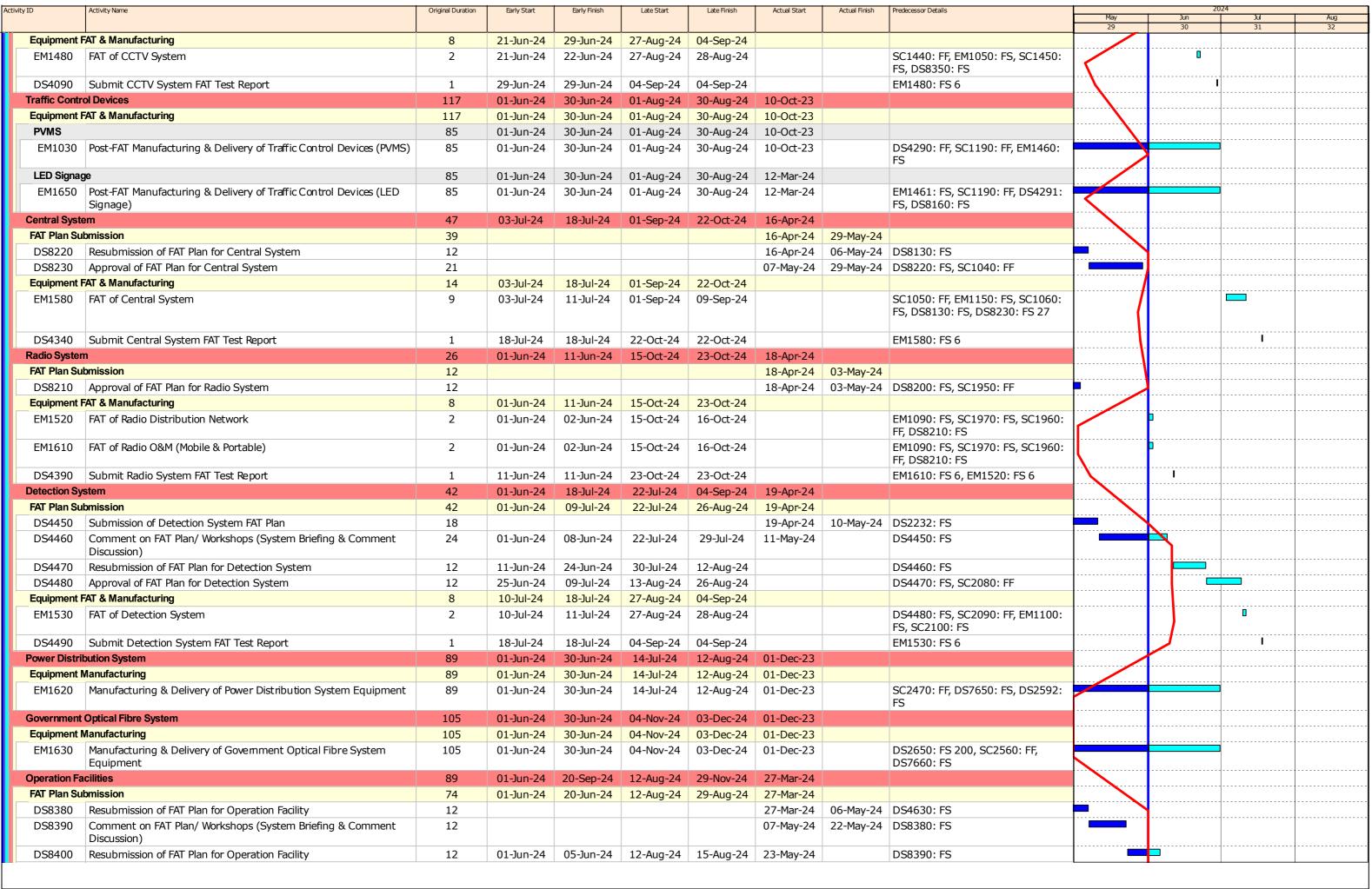
◆ Milestone

Date	Revision	Checked	Approved
31-May-24	Rev. 0	MY	



GTECH Services (Hong Kong) Limited

Critical Activity





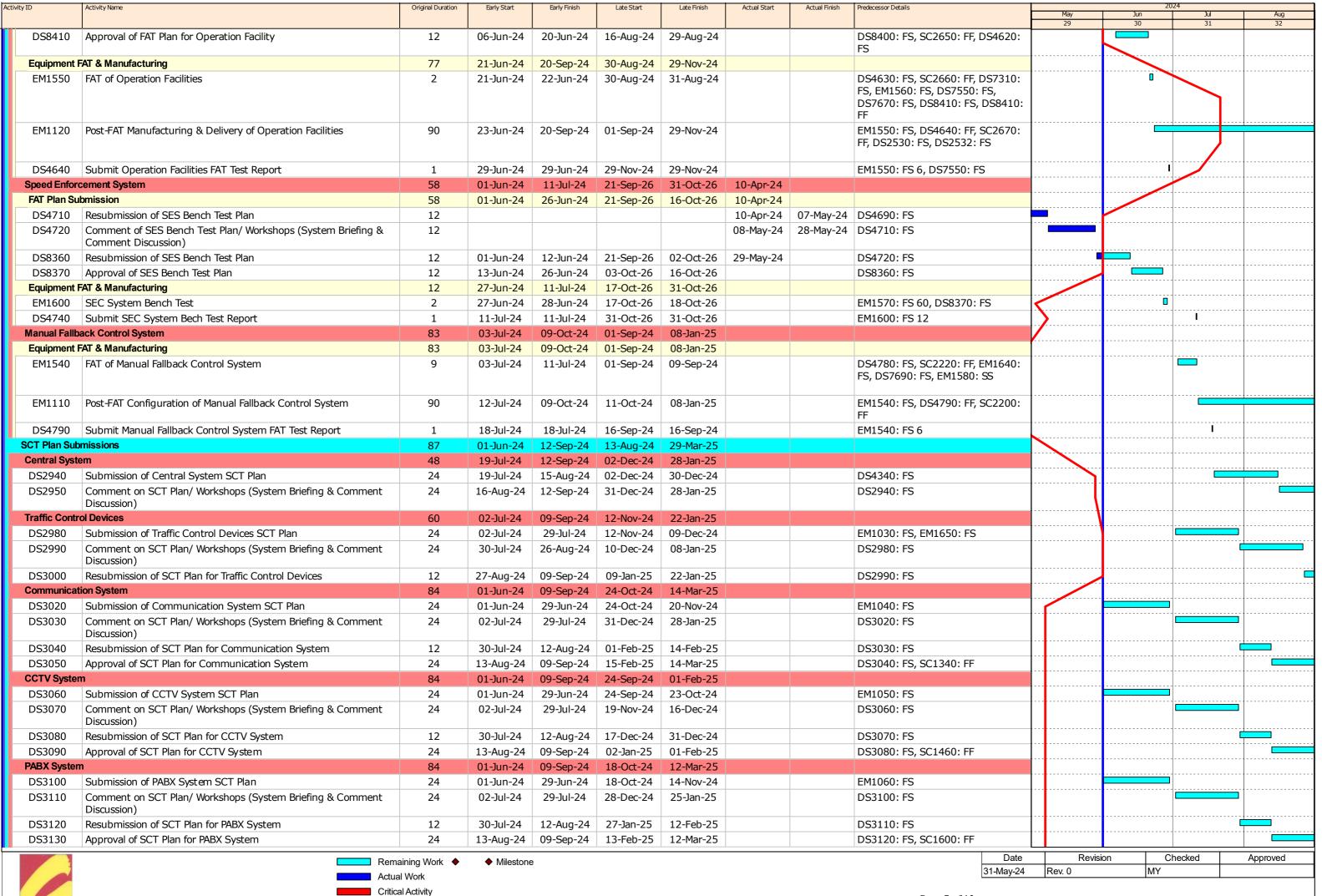
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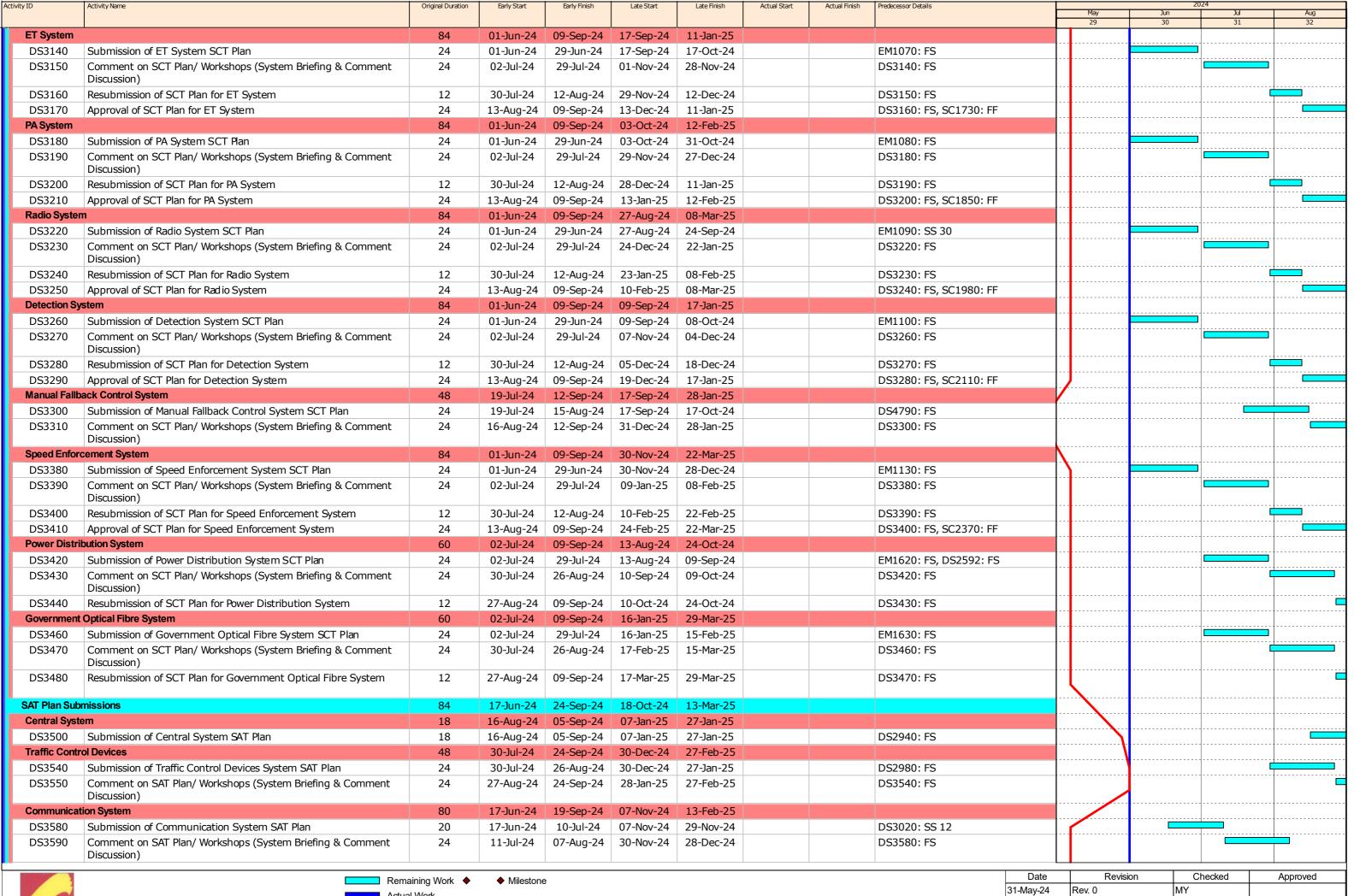
Actual Work

Critical Activity

◆ Milestone

Date	Revision	Checked	Approved
31-May-24	Rev. 0	MY	

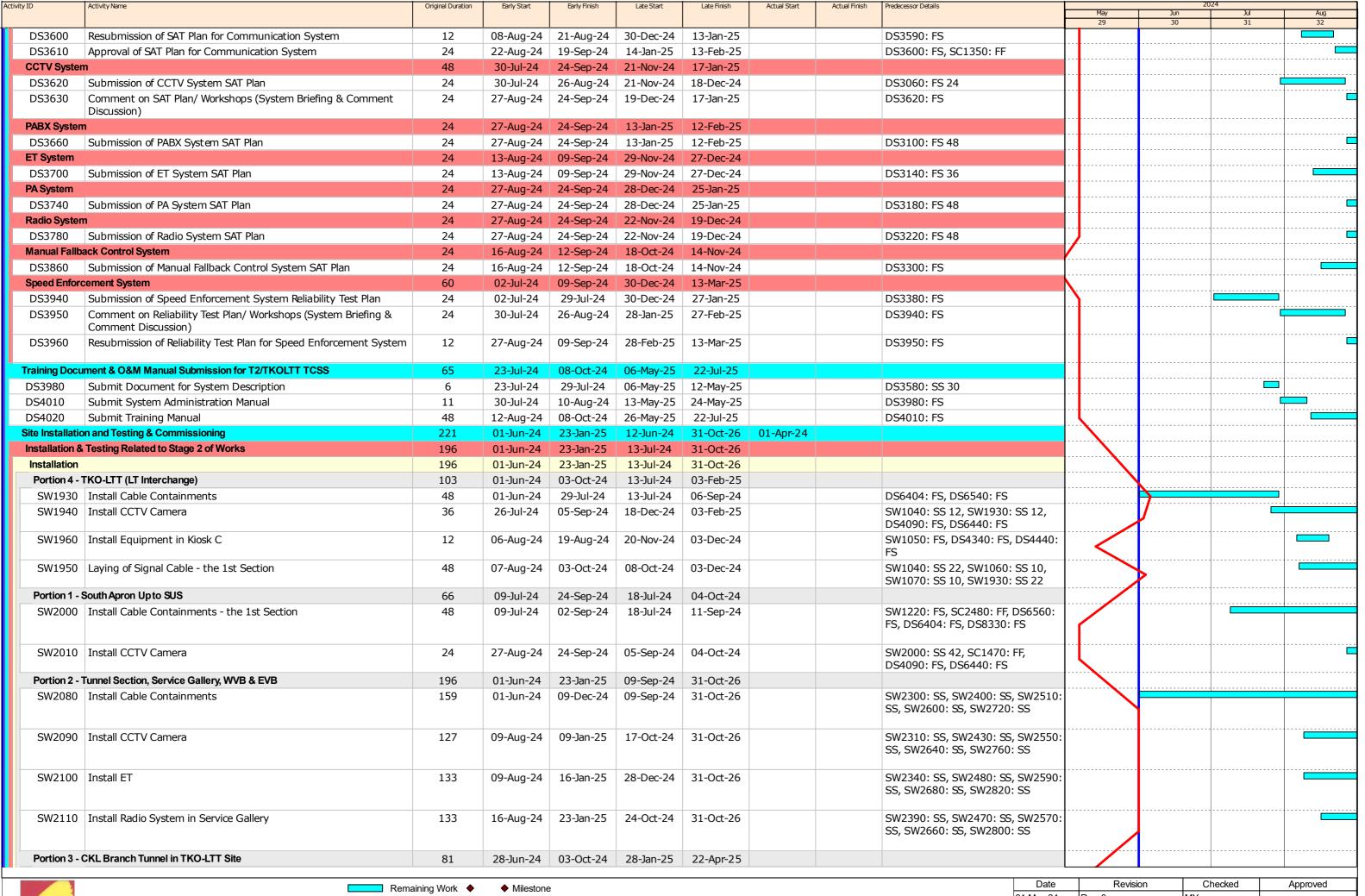




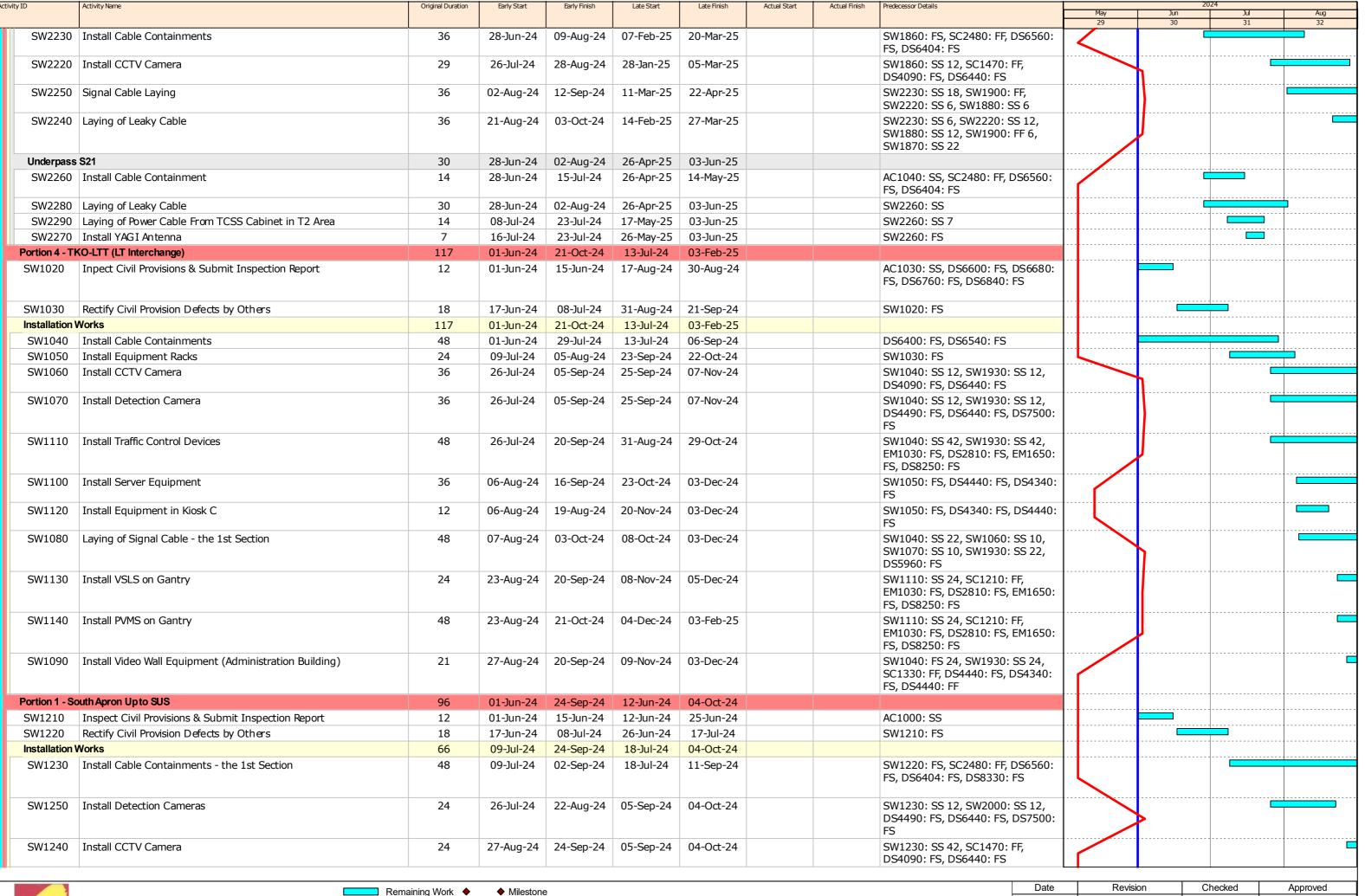
GTECH Services (Hong Kong) Limited

Actual Work

Critical Activity



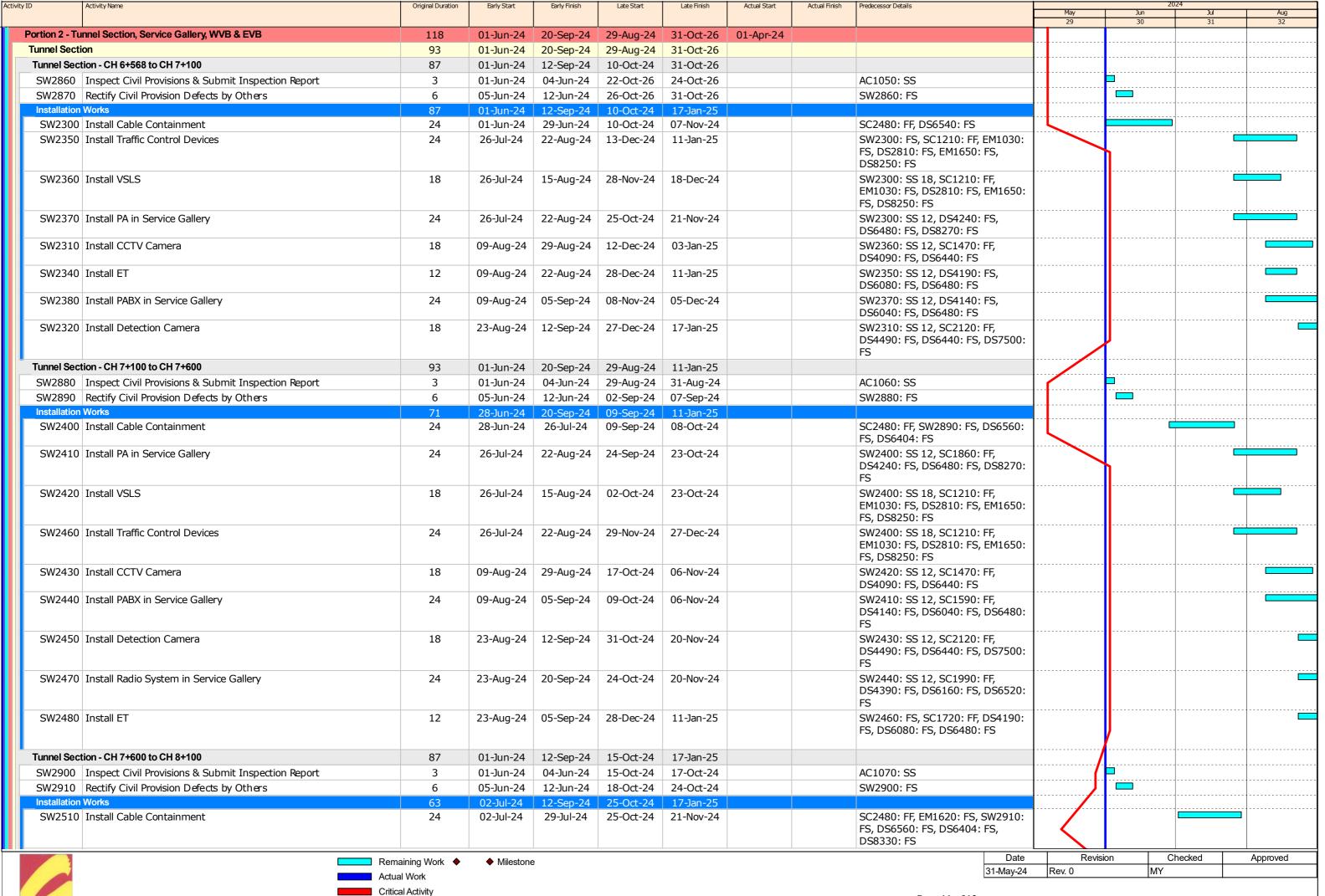
Actual Work Critical Activity 31-May-24 Rev. 0 MY

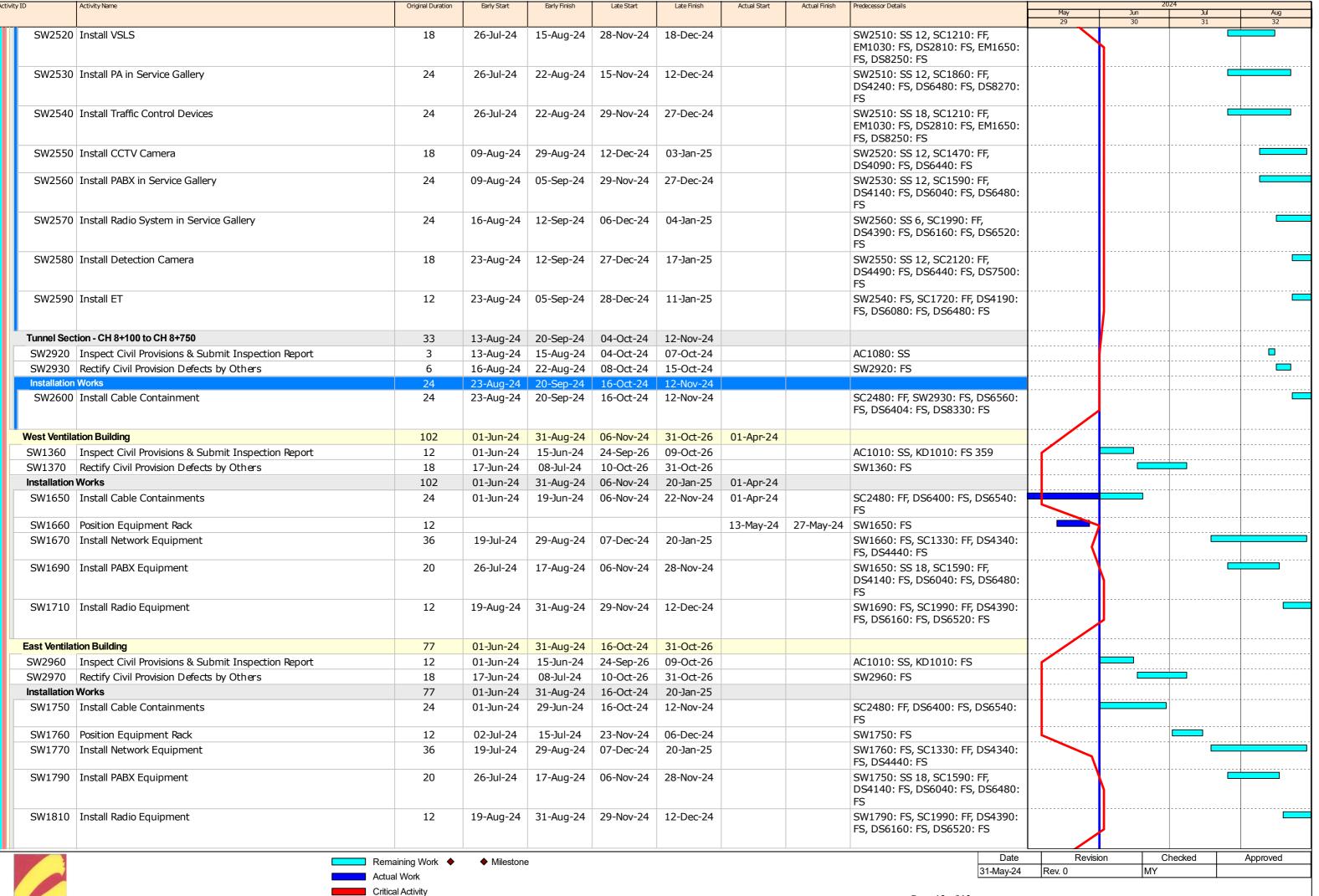




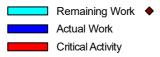
Actual Work Critical Activity

Date	Revision	Checked	Approved
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Activity I	ID.	Activity Name	Original Duration	Early Start	Early Finish	Late Start	Late Finish	Actual Start	Actual Finish	Predecessor Details	May	Jun	Jul J	Aug
											29 _	30	31	32
	Portion 3 - Ch	KL Branch Tunnel in TKO-LTT Site	103	01-Jun-24	03-Oct-24	04-Jan-25	22-Apr-25							
	SW1850	Inspect Civil Provisions & Submit Inspection Report	3	01-Jun-24	04-Jun-24	04-Jan-25	07-Jan-25			AC1020: SS				
	SW1860	Rectify Civil Provision Defects by Others	7	05-Jun-24	13-Jun-24	08-Jan-25	15-Jan-25			SW1850: FS				
	Installation \	Vorks	81	28-Jun-24	03-Oct-24	16-Jan-25	22-Apr-25							
	SW1890	Install Cable Containments	36	28-Jun-24	09-Aug-24	01-Feb-25	14-Mar-25			SW1860: FS, SC2480: FF, DS6560: FS, DS6404: FS				
	SW1870	Install CCTV Camera	29	26-Jul-24	28-Aug-24	16-Jan-25	21-Feb-25			SW1860: FS, SC1470: FF, DS4090: FS, DS6440: FS		1		
	SW1880	Install Detection Camera	29	26-Jul-24	28-Aug-24	28-Jan-25	05-Mar-25			SW1860: FS, SC2120: FF, DS4490: FS, DS6440: FS, DS7500: FS				
	SW1900	Install Traffic Control Devices	24	06-Aug-24	02-Sep-24	21-Feb-25	20-Mar-25			SW1870: SS 9, SW1880: SS 9, SW2220: SS 9, SC1210: FF, EM1030: FS, DS2810: FS, EM1650: FS, DS8250: FS				
	SW1920	Signal Cable Laying	36	06-Aug-24	16-Sep-24	11-Mar-25	22-Apr-25			SW1890: SS 32, SW1900: FF, SW1870: SS 6, SW1880: SS 6				
	SW1910	Laying of Leaky Cable	36	21-Aug-24	03-Oct-24	20-Feb-25	02-Apr-25			SW1890: SS 6, SW1870: SS 22, SW1880: SS, SW1900: FF 6		<b>)</b>		



Milestone

Date	Revision	Checked	Approved
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APPENDIX O WASTE GENERATED IN THE REPORTING MONTH



Name of Department: CEDD

Monthly Summary Waste Flow Table for 2024 (KT)

Trunk Road T2 and Infrastructure Works for Developments at the Former South Apron Contract No. ED/2018/04

	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly						
Month	a.Total Quantity Generated (a=c+d+e)	b. Hard Rock and Large Broken Concrete	c. Reused in the Contract	d. Reused in Other Projects  e. Disposed as Public Fill		f. Imported Fill	g. Metals	h. Paper / Cardboard Packaging		j. Chemical Waste	k. Others,			
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m³)	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )			
January	10.162	0.000	0.000	10.162	0.000	0.000	131.520	0.600	0.000	0.000	0.101			
February	6.052	0.000	0.000	6.052	0.000	0.000	49.890	0.660	0.000	0.000	0.104			
March	0.888	0.000	0.000	0.888	0.000	0.000	4.000	0.000	0.000	0.000	0.089			
April	0.716	0.000	0.000	0.000	0.716	0.000	99.870	0.000	0.000	0.000	0.088			
May	0.013	0.006	0.000	0.000	0.013	0.000	7.080	0.000	0.000	0.000	0.101			
June														
Sub-total	17.831	0.006	0.000	17.102	0.729	0.000	292.360	1.260	0.000	0.000	0.483			
July														
August														
September														
October														
November														
December														
Total	17.831	0.006	0.000	17.102	0.729	0.000	292.360	1.260	0.000	0.000	0.483			

Monthly Summary Waste Flow Table

#### Notes:

- (1) The performance targets are given in ER Appendix 8I Clause 14 and the EM&A Manual(s).
- (2)The waste flow table shall also include C&D materials to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (4)The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m3. (ER Part 8 Clause 8.8.5 (d) (ii) refers).

**Monthly Summary Waste Flow Table For 2024** 

Within Summary Waste Flow Table For 2024														
	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Waste Generated Monthly								
Month	Total Quantity Generated	Broken Concrete (see Note 4)	Estimated Quantities (Broken Concrete)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Estimated Quantities (Metals)	Paper/ cardboard packaging	Estimated Quantities (Paper/ cardboard packaging)	Plastics (see Note 3)	Estimated Quantities (Plastics)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun-24														
Sub-total														
Jul-24														
Aug-24														
Sep-24														
Oct-24														
Nov-24														
Dec-24														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

#### Notes:

- (1) The performance targets are given in PS Sub-clause 2(5) (c).
- (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (4) Broken concrete for recycling into aggregates.