CONTRACT NO: HY/2019/14

NEW WANG TONG RIVER BRIDGE

UNDER ENVIRONMENTAL PERMIT NO. EP-555/2018/A

QUARTERLY ENVIRONMENTAL MONITORING & AUDIT REPORT

APRIL - JUNE 2024

CLIENTS:

Highways Department

PREPARED BY:

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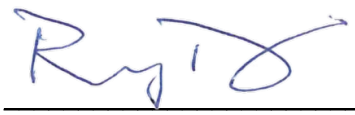

Raymond Dai
Environmental Team Leader

DATE:

29 August 2024

ANEWR

Highways Department
Works Division
5th & 7th Floor, Trade and Industry Tower
3 Concorde Road
Kowloon
Hong Kong

Your reference:

Our reference: HKHYD202/50/109645

Date: 29 August 2024

Attention: Mr Coleman Chan

BY EMAIL & POST
(email: e3-3.wd@hyd.gov.hk)

Dear Sirs

Agreement No. WD 23/2020
Environmental Monitoring and Audit for New Wang Tong River Bridge
Quarterly Environmental Monitoring & Audit Report (April 2024 – June 2024)

We refer to emails of 13 and 22 August 2024 attaching a Quarterly Environmental Monitoring & Audit Report (April 2024 – June 2024) prepared by the Environmental Team (ET) of the captioned.

We have no comment and hereby verified the Quarterly Environmental Monitoring & Audit Report (April 2024 – June 2024) in accordance with Clause 1.9 of the Environmental Permit no. EP-555/2018/A.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Chris Ip on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/ICHC/thy

cc Highways Department – Mr Terry Chung (email: sek3.wd@hyd.gov.hk)
Lam Environmental Services Limited – Mr Raymond Dai (Fax no.: 2882 3331)

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Quarterly Report – April 2024 to June 2024 of New Wang Tong River Bridge under Environmental Permit no. EP-555/2018/A (Hereafter as "the Project"). The construction works of the Project was commenced on 12 July 2021 and the tentative completion date is Q3 2024. This is the 12th Quarter EM&A report presenting the environmental monitoring findings and information recorded during the period of 01 April 2024 to 30 June 2024.

ii. In the reporting month, the principal work activities conducted are as follow:

April 2024	May 2024	June 2024
• Bridge Deck Construction • MCS4 Construction	• MCS4 Construction • Removal of temporary platform • Trial trench inspection for sea wall	• Trial trench inspection for sea wall • Construction Type D retaining wall

Air Quality Monitoring

iii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was conducted at two monitoring station. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 day in the reporting period.

iv. No action or limit level exceedance was recorded in this reporting period.

Noise Monitoring

v. Noise monitoring was conducted at one noise monitoring station once per week in the reporting period.

vi. No action or limit level exceedance was recorded in this reporting period.

Water Quality Monitoring

vii. Owing to accessibility and safety issues, water quality monitoring at Station W3 was cancelled with verification from the IEC in November 2020 and approval from the EPD in December 2020.

viii. With the completion of all piling and substructure works for new footbridge and Cycle Bridge and the associated cofferdam removal on 8 March 2024, water quality impact monitoring is temporary suspended with no exceedance recorded in the week after 8 March 2024.

ix. No water quality monitoring was conducted at seven monitoring stations three days per week in the reporting month due to no marine-based construction works.

x. No action or limit level exceedance was recorded in this reporting period as water quality impact monitoring is temporary suspended.

Site Inspections and Audit

xi. During the reporting period, the Environmental Team (ET) conducted weekly site inspections and monthly landscape site inspections and IEC attended the joint site inspection monthly.

xii. No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

Complaints, Notifications of Summons and Successful Prosecutions

xiii. No environmental complaint, notification of summons and successful prosecution regarding the construction works was recorded in the reporting period.

Reporting Changes

xiv. There are no particular reporting changes.

1 Introduction

1.1 Scope of the Report

1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) under Environmental Permit (EP) no. EP-555/2018/A to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for New Wang Tong River Bridge (Register No.: AEIAR-199/2016).

1.1.2. According to Section 10.6 of the Project EM&A Manual, the Quarterly EM&A Report should be submitted.

1.2 Structure of the Report

Section 1 ***Introduction*** – details the scope and structure of the report.

Section 2 ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.

Section 3 ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.

Section 4 ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring criteria and respective event and action plan.

Section 5 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 6 ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

Section 7 **Environmental Site Audit** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

Section 8 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 9 ***Conclusion***

2 Project Background

2.1 Background

2.1.1. Silver Mine Bay is a popular bathing beach in Mui Wo, Lantau that attracted 4,550 visitors on a peak day and over 69,000 visitors utilized the beach in 2012.

2.1.2. In order to relieve the overcrowding problem and the road safety concern of Wang Tong Bridge (hereafter called "Old Bridge"), two bridges (pedestrian bridge and cycle bridge) are proposed to replace the Old Bridge. The new pedestrian bridge and the new cycle bridge (hereafter called "New Bridge") are also designed to align with the future amenity development on the northern side of the Old Bridge. The location of the project site is shown in ***Figure 2.1***.

2.1.3. The Project consists of a designated project under Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) which is Item C.12 – (a)…a dredging operation which is less than 500m from the nearest boundary of an existing…(iii) bathing beach…

2.1.4. The major components of the Project under Environmental Permit (EP) (EP No. EP-555/2018/A) comprises: (i) demolition of the existing Wang Tong River Bridge; and (ii) construction of a new twin bridge with segregation for pedestrians and cyclists.

2.2 Project Organization and Contact Personnel

2.2.1 Highways Department is the overall project controllers for the Project. For the construction phase of the Project, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.2.2 The project organization and lines of communication with respect to environmental protection works are shown in ***Figure 2.2***. Key personnel and contact particulars are summarized in ***Table 2.2***:

Table 2.2 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
Highways Department (HyD)	The Engineer for the Contract	Senior Engineer	Mr. Terry Chung	3903 6799	3188 3418
	Engineer's Representative	Engineer	Mr. Yeung Sui Chung	3903 6813	3188 3418
Unison Construction Engineering Limited	Contractor	Site Agent	Mr. Peter Lui	2690 2232	2363 3199
		Environmental Officer	Ms. Rita Fong		
ANewR Consulting Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. James Choi	2618 2831	3007 8648
Lam Environmental Services Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.3 Construction Activities

2.3.1 In the reporting period, the principal work activities conducted are as follows.

April 2024	May 2024	June 2024
• Bridge Deck Construction • MCS4 Construction	• MCS4 Construction • Removal of temporary platform • Trial trench inspection for sea wall	• Trial trench inspection for sea wall • Construction Type D retaining wall

2.3.2 Overall layout showing work areas is shown in ***Figure 2.1***.

3 Status of Regulatory Compliance

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in ***Table 3.1***.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits and/or Licences	Permit. No. / Account No.	Valid From	Expiry Date	Status
Notification pursuant to Air Pollution Control (Construction Dust) Regulation	Form NA submitted to EPD on 25 June 2021.			
Environmental Permit	EP-555/2018/A	16 Dec 2020	N/A	Valid
Billing Account for Disposal of Construction Waste	7038550	29 Mar 2021	End of the Project	Valid
Registration as a Chemical Waste Producer	5213-962-U2333-01	28 Jun 2021	N/A	Valid
Discharge Licence	WT00040069-2021	10/1/2022	31/1/2027	Valid
Construction Noise Permit	N/A			

3.2 Status of Submission under the EP-555/2018/A

3.2.1. A summary of the current status on submission under EP-555/2018/A is shown in ***Table 3.2***.

Table 3.2 Summary of submission status under EP-555/2018/A

EP Condition	Submission	Date of Latest Submission^ or Approval#
Condition 1.12	Notification of Commencement Date of Works	3 June 2021 ^
Condition 2.7	Submission of Management Organization of Main Construction Companies, the ET and the IEC	20 May 2021 ^
Condition 2.8	Submission of Construction Works Schedule and Location Plan	22 June 2021 #
Condition 2.9	Submission of Breeding Bird Survey Report	29 December 2020 #
Condition 3.3	Submission of Baseline Monitoring Report	24 June 2021 #
Condition 4.2	Setting up Dedicated Internet Website	28 April 2021 ^

3.3 Status of Submission under the EP-555/2018/A

3.3.1 Mitigation measures according to the environmental mitigation implementation schedule and the EIA were generally implemented by the Contractor as listed and shown in ***Appendix 3.1.***

4 Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

4.1.1. The noise monitoring stations for the Project are listed and shown in ***Table 4.1*** and ***Figure 4.1.***

Table 4.1 Noise Monitoring Station

Monitoring Station ID	Monitoring Location	Measurement Type	Level (in terms of no. of floor)
NMS1 A	1 Tung Wan Tau Road	Free-field	G/F

Remarks A: As discussed with the lot owner, a fine adjustment of location at the boundary of 1 Tung Wan Tau Road was proposed and approved in the Baseline Monitoring Report, in order to prevent access obstruction.

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

4.1.2. For daytime construction work on normal weekdays (0700-1900 Monday to Saturday), one set of 30-min measurement shall be carried out at each NMS every week. Measurement procedures shall be referred to the Noise Control Ordinance-TM. Construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq\ 30min}$ shall be used as the monitoring parameter. As supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

EVENT AND ACTION PLAN

4.1.3. Noise Standards for Daytime Construction Activities are specified under EIAO-TM. The Action and Limit levels for construction noise are defined in ***Table 4.3*** and ***Appendix 4.1.*** Should non-compliance of the criteria occurs, action in accordance with the Event and Action Plan in ***Appendix 6.1*** shall be carried out.

Table 4.3 Action and Limit Level for Noise Monitoring

Monitoring Station	Action Level	Limit Level
NMS1	When one documented complaint is received	75 dB(A)

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

4.2.1. The air monitoring stations for the Project are listed and shown in ***Table 4.4*** and ***Figure 4.3.***

Table 4.4 Air Monitoring Station

Monitoring Station	Location	Level (in terms of no. of floor)
AMS1 [A]	Silvermine Beach Resort	G/F
AMS2 [B, C]	1 Tung Wan Tau Road	G/F

Remarks A: AMS1 recommended under EM&A manual is at the north of boundary wall of Silvermine Beach Resort. Positioning of HVS on a narrow road at the northern boundary wall would obstruct access of passengers. After liaison with the resort owner, HVS is located near the eastern boundary wall, which is representative and suitable for air quality monitoring. Thus, fine adjustment of location at the boundary of Silvermine Beach Resort was therefore proposed and approved in the Baseline Monitoring Report.

Remarks B: As discussed with the lot owner, a fine adjustment of location at the boundary of 1 Tung Wan Tau Road was proposed and approved in the Baseline Monitoring Report, in order to prevent access obstruction and to minimize noise nuisance induced from HVS operation.

Remarks C: As the agreement of ER and IEC, a fine adjustment of location at the boundary of 1 Tung Wan Tau Road was proposed and approved in the impact monitoring, in order to prevent the interruption of GI working area conducted by contractor.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

4.2.2. One-hour and 24-hour TSP levels shall be measured to indicate the impacts of construction dust on air quality.

4.2.3. 24-hour TSP shall be sampled at least once in every 6 days, while sampling for 1-hour TSP shall be at least 3 times in every 6 days when the highest dust impact takes place.

WIND DATA

4.2.4. Hong Kong Observatory (HKO) meteorological information is widely accepted to be used in various environmental monitoring practices within HKSAR due to its professional quality and precision. Therefore, the daily wind data including Prevailing Wind Direction (degrees) and Mean Wind Speed (km/h) were obtained from Peng Chau Automatic Weather Station to serve as the representative data for meteorological condition during monitoring. The method was agreed by the IEC and approved by the ER on 4 December 2020. The representative wind data from Peng Chau Station were obtained covering the 1-hour and 24-hour TSP monitoring periods. The wind data were extracted and shown in ***Appendix 4.3.***

EVENT AND ACTION PLAN

4.2.5. The Action and Limit levels for construction air quality are defined in ***Table 4.6*** and ***Appendix 4.1***. Should non-compliance of the air quality criteria occur, action in accordance with the Event and Action Plan in ***Appendix 6.1*** shall be carried out.

Table 4.6 Action and Limit Level for Air Quality Monitoring

Parameter	Monitoring Station	Action Level (μg/m^3)	Limit Level (μg/m^3)
24-hour TSP Level	AMS1	176.0	260.0
	AMS2	176.0	260.0
1-hour TSP Level	AMS1	276.5	500.0
	AMS2	283.7	500.0

4.3 Water Quality Monitoring

WATER QUALITY MONITORING STATIONS

4.3.1. Water quality monitoring shall be undertaken at 7 monitoring stations in the reporting month. The proposed water quality monitoring stations of the Project are shown in ***Table 4.7*** and ***Figure 4.3***.

Table 4.7 Marine Water Quality Stations for Water Quality Monitoring

Station	Description	Monitoring Period	Monitoring Station	Easting	Northing
W1	Wang Tong River (Major tributary)	Mid-Flood	Impact	817747	814519
		Mid-Ebb	Control		
W2	Wang Tong River (Major tributary)	Mid-Flood	Impact	817775	814471
		Mid-Ebb	Control		
W3 *	Wang Tong River (Minor tributary to Tai Wai Yuen)	Mid-Flood	Impact	817803	814537
		Mid-Ebb	Control		
W4	Wang Tong River (Minor tributary to Tai Wai Yuen)	Mid-Flood	Impact	817825	814481
		Mid-Ebb	Control		
W5	Silvermine Bay (Near Silvermine Bay Beach)	Mid-Flood	Control	817909	814452
		Mid-Ebb	Impact		
W6	Silvermine Bay (Near Silvermine Bay Beach)	Mid-Flood	Control	818024	814447
		Mid-Ebb	Impact		
W7	Silvermine Bay (Open Water)	Mid-Flood	Control	818061	814277
		Mid-Ebb	Impact		
W8	Silvermine Bay (Open Water)	Mid-Flood	Control	818224	814444
		Mid-Ebb	Impact		

Remark *: Water quality monitoring at Station W3 was cancelled with verification from the IEC and approval from the EPD.

WATER QUALITY PARAMETERS, FREQUENCY AND DURATION

4.3.2. The levels of dissolved oxygen (DO), turbidity, salinity and pH shall be measured in situ while suspended solids (SS) is determined by laboratory analysis at all the designated monitoring stations.

4.3.3. In association with the water quality parameters, other relevant data shall also be recorded, such as monitoring location / position, time, water temperature, DO saturation, weather conditions, and any special phenomena underway near the monitoring station.

4.3.4. Impact Monitoring shall be carried out 3 days per week, at mid-flood and mid-ebb tides (within ± 1.75 hour of the predicted time). The interval between two sets of monitoring shall not be less than 36 hours. The monitoring period should avoid concurrent marine project in the vicinity.

4.3.5. The sampling frequency of at least three days per week should be undertaken when the highest dust impact occurs. Upon completion of the construction works, the monitoring exercise at the designated monitoring locations should be continued for four weeks in the same manner as the impact monitoring. In case exceedance of Action/Limit Level is recorded, the frequency shall be increased as per the Event and Action Plan.

4.3.6. To ensure the robustness of in-situ measurement, parameters shall be measured in duplicate. In case the difference between duplicates is larger than 25%, a third set of measurement shall be carried out.

EVENT AND ACTION PLAN

4.3.7. The Action and Limit levels for construction water quality are defined in **Table 4.9** and ***Appendix 4.1***. Should the monitoring results of the water quality parameters at any designated monitoring station exceed the water quality criteria, action in accordance with the Event and Action Plan in ***Appendix 6.1*** shall be carried out.

Table 4.9 Action and Limit Level for Water Quality Monitoring

Monitoring Station	Depth	DO (mg/L) +		Turbidity (NTU) ~		SS (mg/L) ~	
		Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
W1	Surface, Middle & Bottom	6.5	5.3	7.7 NTU or 120% of upstream control station's turbidity at the same tide of the same day, whichever is higher	12.4 NTU or 130% of upstream control station's turbidity at the same tide of the same day, whichever is higher	8.9 mg/L or 120% of upstream control station's SS at the same tide of the same day, whichever is higher	11.3 mg/L or 130% of upstream control station's SS at the same tide of the same day, whichever is higher
W2							
W4							
W5	Surface, Middle & Bottom	5.9	5.5	9.8 NTU or 120% of upstream control station's turbidity at the same tide of the same day, whichever is higher	10.5 NTU or 130% of upstream control station's turbidity at the same tide of the same day, whichever is higher	12.6 mg/L or 120% of upstream control station's SS at the same tide of the same day, whichever is higher	15.0 mg/L or 130% of upstream control station's SS at the same tide of the same day, whichever is higher
W6							
W7							
W8	Surface & Middle						
	Bottom	5.9	5.5				

Remarks +: For DO, non-compliance occurs when monitoring results is lower than the limits.
Remarks ~: For SS and Turbidity, non-compliance occurs when monitoring results is larger than the limits

5 Monitoring Results

5.0.1 The environmental monitoring were implemented as per the environment monitoring schedules for reporting period**.**

5.1 Noise Monitoring Results

5.1.1 Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in ***Appendix 5.2***.

5.1.2 No action or limit level exceedance was recorded in this reporting period.

5.2 Air Monitoring Results

5.2.1 Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in ***Appendix 5.3***.

5.2.2 No action or limit level exceedance was recorded in this reporting period.

5.3 Water Quality Monitoring Results

5.3.1 With the completion of all piling and substructure works for new footbridge and Cycle Bridge and the associated cofferdam removal on 8 March 2024, water quality impact monitoring is temporary suspended with no exceedance recorded in the week after 8 March 2024.

5.3.2 Due to no marine-based construction works in the reporting period, no water quality monitoring was conducted.

5.3.3 No action or limit level exceedance was recorded in this reporting period as there are no water quality impact monitoring.

5.4 Waste Management

5.4.1 The quantities of waste for disposal in the Reporting Period are summarized in ***Table 5.3*** and ***Table 5.4***.

Table 5.3 Summary of Quantities of Inert C&D Materials

Waste Type	Quantity (this period)	Quantity (Project commencement to the end of the last quarter)	Cumulative Quantity-to-Date
Hard Rock and Large Broken Concrete (Inert) (in '000m^3)	0	0.007	0.007
Reused in this Contract (Inert) (in '000m^3)	0	0	0
Reused in other Projects (Inert) (in '000m^3)	0	0	0
Disposal as Public Fill (Inert) (in '000m^3)	0.1908	0.79446	0.98521*

*Quantity for "Dispose as Public Fill (Inert) was revised from 0.91538 to 0.91583 in May EM&A report, the revised number will be also show case in August EM&A report.

Table 5.4 Summary of Quantities of C&D Wastes

Waste Type	Quantity (this quarter)	Quantity (Project commencement to the end of last quarter)	Cumulative Quantity-to-Date
Metals (in '000kg)	0	0	0
Paper / Cardboard Packing (in '000kg)	0	0	0
Plastics (in '000kg)	0	0.003	0.003
Chemical Wastes (in '000kg)	0	0	0
General Refuses (in '000m^3)	0.28425	0.2393	0.52355

6 Compliance Audit

6.1 Noise Monitoring.

6.1.1 No action or limit level exceedance was recorded in this reporting period.

6.2 Air Quality Monitoring

6.2.1 No action or limit level exceedance was recorded in this reporting period.

6.3 Water Quality Monitoring

6.3.1 No action or limit level exceedance was recorded in this reporting period as water quality impact monitoring is temporary suspended.

6.4 Summary of Exceedance

6.4.1 The Event Action Plan for construction noise, air quality and water quality are presented in ***Appendix 6.1.***

6.4.2 The summary of exceedance is presented in ***Appendix 6.2.***

6.5 Environmental Site Audit

6.5.1 During the reporting period, the Environmental Team (ET) conducted weekly site inspections and IEC attended the joint site inspection monthly.

6.5.2 During this reporting month, monthly landscape site audits were conducted monthly.

6.5.3 No non-compliance was found during the site inspection while reminders on environmental measures were recommended.

6.6 Review of the Reasons for and the Implications of Non-compliance

6.6.1 No environmental non-compliance was recorded in the reporting period.

6.7 Summary of action taken in the event of and follow-up on non-compliance

6.7.1 There was no particular action taken since no non-compliance was recorded in the reporting period.

7 Complaints, Notification of Summons and Prosecution

7.0.1. 1 environmental complaint, notification of summons and successful prosecution regarding construction works was recorded in the reporting period.

7.0.2. The details of cumulative complaint log and updated summary of complaints are presented in ***Appendix 8.1.***

7.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in ***Table 8.1*** and ***Table 8.2*** respectively.

Table 8.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
April 2024 – June 2024	1
Project commencement to the end of last reporting month	-
Total	**1**

Table 8.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Water	-	0	0
Waste	-	0	0
Total	**-**	**0**	**0**

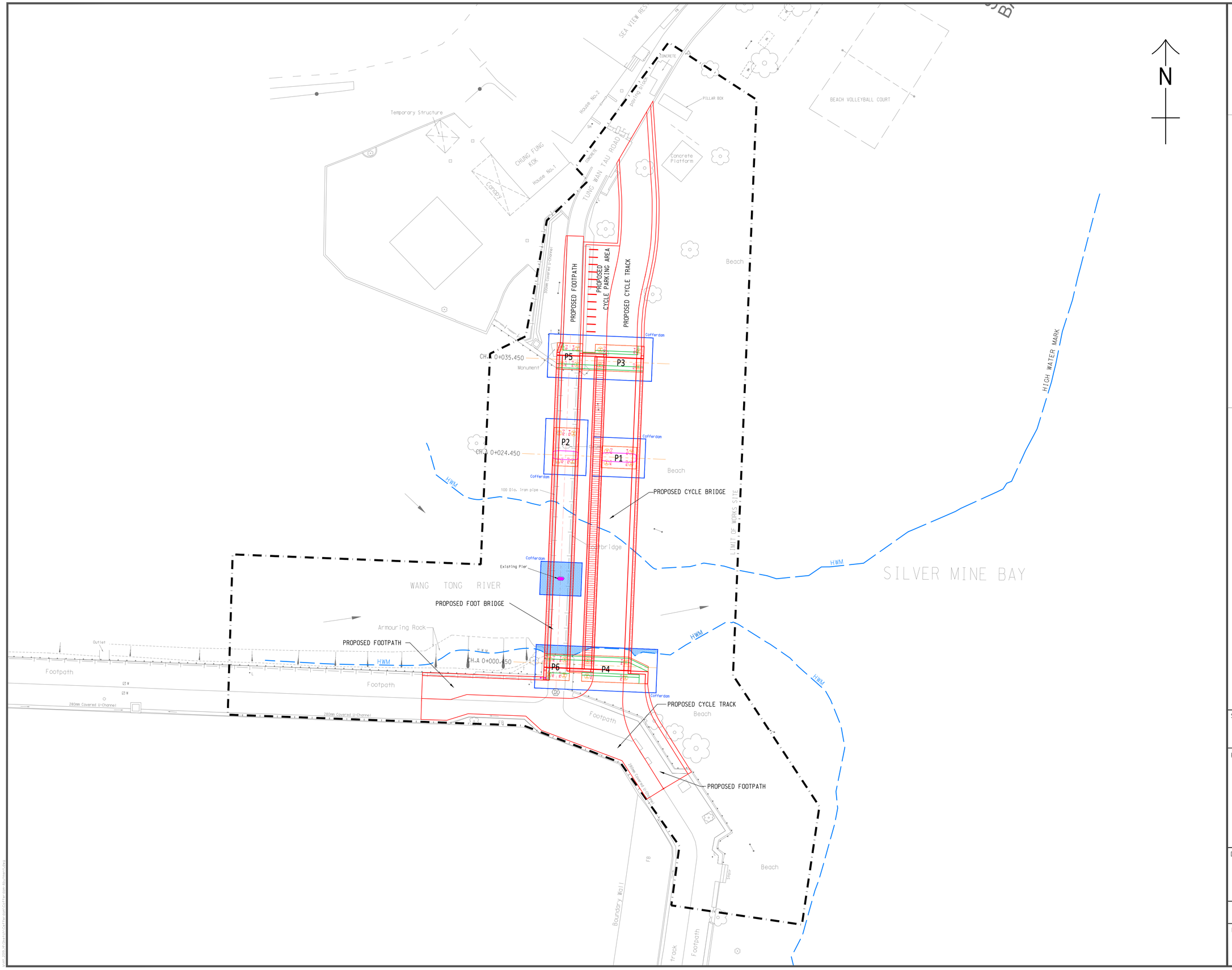
8 Conclusion

8.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.

8.0.2. The EM&A programme was considered effective and no change is anticipated as reviewed for this quarter.

Figure 2.1

Project Layout



NOTES

1. ALL LEVELS ARE IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
2. CO-ORDINATES ARE OF HONG KONG 1980 GRID SYSTEM.
3. ALL LEVELS ALONG KERB ARE KERB BOTTOM LEVEL.
4. CHANNELS ARE U SHAPED EXCEPT WHERE STATED, WIDTHS ARE GIVEN.
5. DATE OF SURVEY FOR HIGH WATER MARK : NOV 2020

LEGEND:

- LIMIT OF WORKS SITE
- HWM — HIGH WATER MARK (AS AT NOV.2020)
- PROPOSED PILECAP AND SOCKETED H PILES
- EXCAVATION AND PILING WORKS AREA WITHIN COFFERDAM
- EXCAVATION AREAS BELOW HIGH WATER MARK
- PROPOSED BRIDGE PIERS
- EXTENT OF ABUTMENTS
- WORKS LAYOUT

SOURCE

PROJECT

HY/2019/14

NEW WANG TONG RIVER BRIDGE

DRAWING TITLE

LOCATION PLAN

SCALE 1:200 A1 594X841

DRAWING NO. CLP-EP-01

REV. -

Figure 2.2

Project Organization Chart

Project Organization Chart

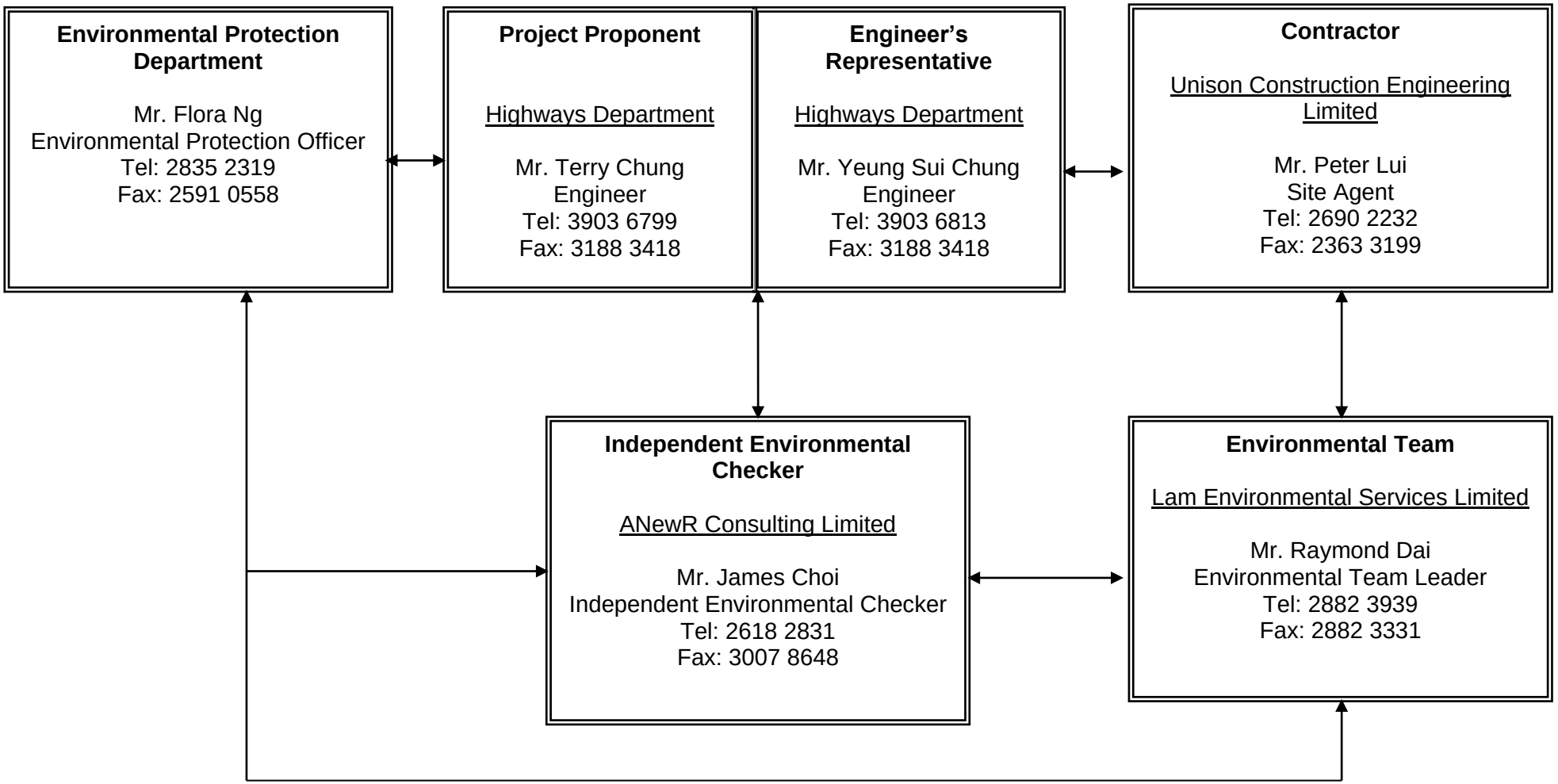
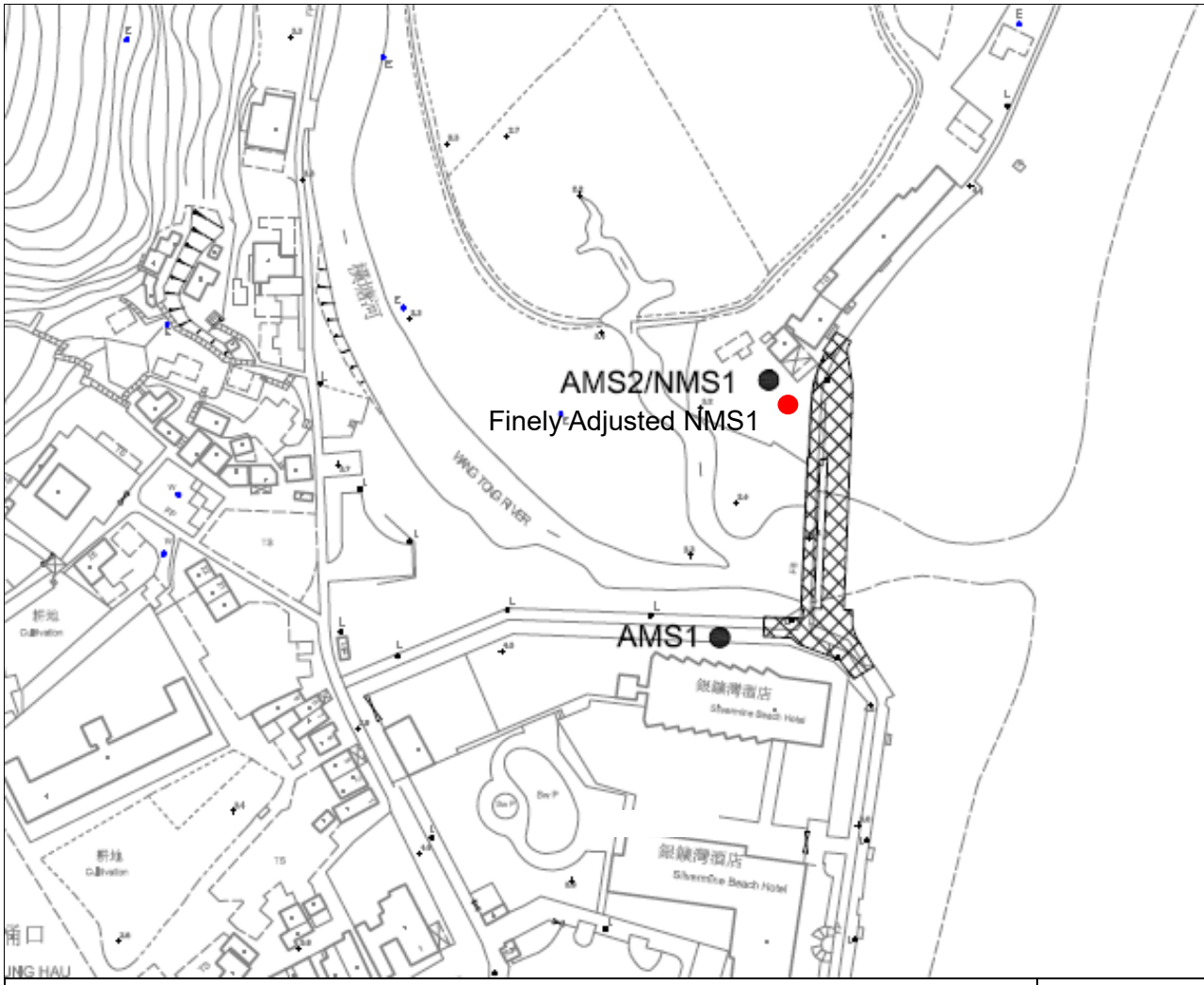


Figure 4.1 to Figure 4.3

Locations of Monitoring Stations



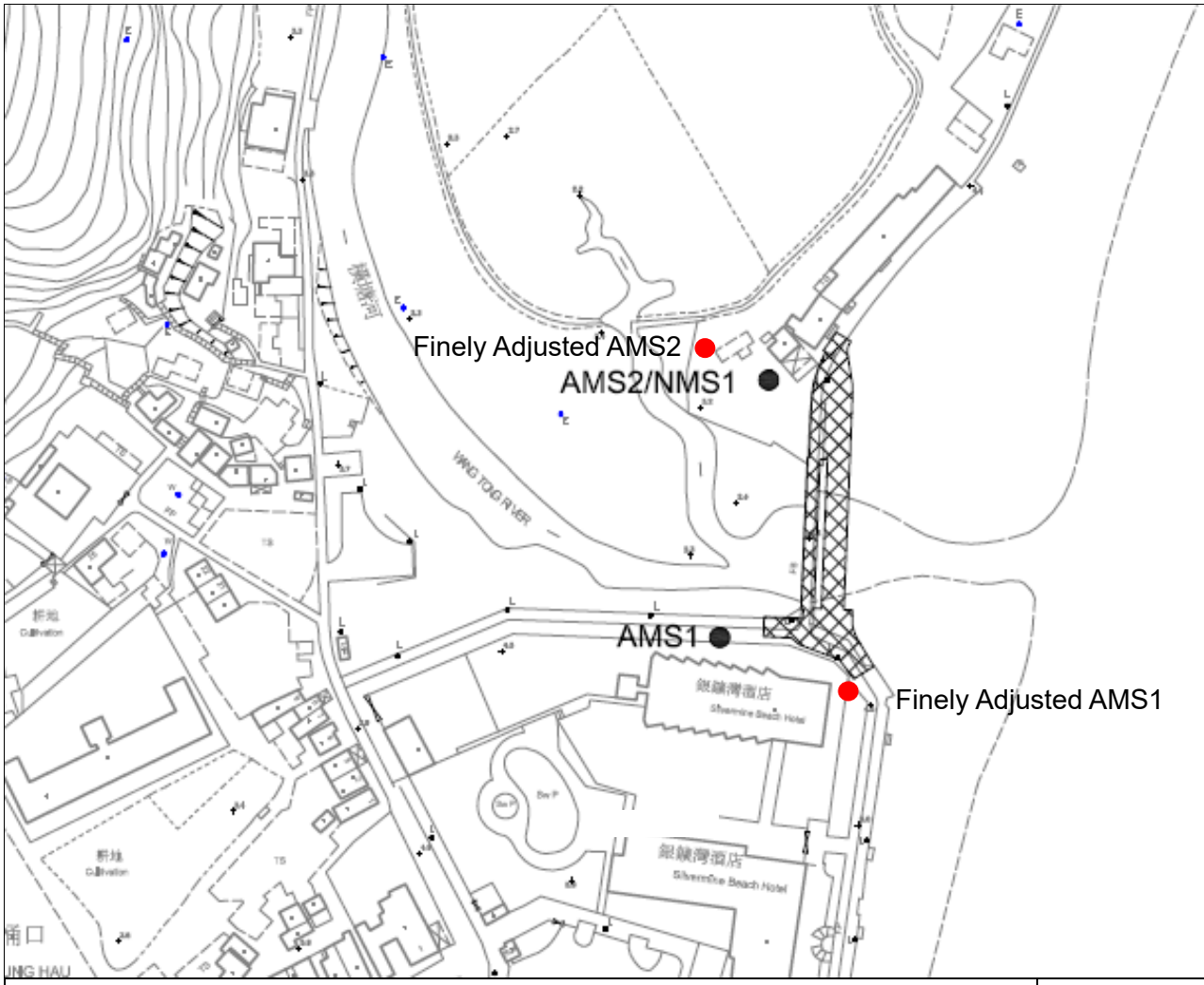
Station	Description
AMS2/NMS1	1 Tung Wan Tau Road

Legend:

- Finely Adjusted Location of Noise Monitoring Station
- Original Noise Monitoring Station stated in EM&A Manual

Figure 4.1

Location of Noise Monitoring Stations



Station	Description
AMS1	Silver Beach Resort
AMS2/NMS1	1 Tung Wan Tau Road

Legend:

- Finely Adjusted Location of Air Quality Monitoring Station
- Original Air Quality Monitoring Station stated in EM&A Manual

Figure 4.2

Location of Air Quality Monitoring Stations

Station	Description	Easting	Northing
W1	Wang Tong River (Major tributary)	817747	814519
W2	Wang Tong River (Major tributary)	817775	814471
W4	Wang Tong River (Minor tributary to Tai Wai Yuen)	817825	814481
W5	Silvermine Bay (Near Silvermine Bay Beach)	817909	814452
W6	Silvermine Bay (Near Silvermine Bay Beach)	818024	814447
W7	Silvermine Bay (Open Water)	818061	814277
W8	Silvermine Bay (Open Water)	818224	814444

Legend:

- Cancelled Water Quality Monitoring Station
- Original Water Quality Monitoring Station stated in EM&A Manual

Figure 4.3

Location of Water Quality Monitoring Stations

Appendix 3.1

Environmental Mitigation Implementation Schedule

Appendix 3.1 - Implementation of Recommended Mitigation Measures

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
Air Quality Impact						
Construction Phase						
A1	Good housekeeping to minimize dust generation, e.g. by properly handling and storing dusty materials	To minimize dust generation	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A2	Adopt dust control measures, such as dust suppression using water spray on exposed soil, in areas with dusty construction activities, and during material handling	To minimize dust generation due to erosion	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A3	Dust suppression shall be applied to the working area immediately before, during and immediately after site clearance, excavation or earth moving operation to keep the surface wet.	To minimize dust generation due to erosion	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A4	Use water spray to wet the remaining dusty materials on the floor after removing stockpile. The surface of roads or streets shall be free from dust	To minimize dust generation due to erosion	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A5	Storage of dusty materials and debris shall be either entirely covered by impervious sheeting or stored in a three-side and top enclosed area. Alternatively, it should be sprayed with water or a dust suppression chemical to maintain the entire surface wet	To minimize dust generation due to erosion	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A6	All demolished items (e.g. trees, vegetation, structures, debris and rubbish) that may dislodge dust particles shall be covered entirely by impervious sheeting or placed in a three-side and top enclosed area within a day of demolition.	To minimize dust generation	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A7	Store cement bags in shelter with 3 sides and the top covered by impervious materials if the stack exceeds 20 bags	To prevent leakage of cement	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A8	Cement bag shall be debagged, batched and mixed in a three- side and top enclosed area	To minimize dust generation	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A9	Maintain a reasonable height when dropping excavated materials to limit dust generation	To minimize dust generation during movement of excavated materials	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A10	Minimize exposed earth after completion of work in a certain area by hydroseeding, vegetating, soil compacting or paving	To minimize dust generation due to erosion	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
A11	Cover materials on trolleys and trucks before leaving the site to prevent debris from dropping during traffic movement or being blown away by wind	To prevent falling of debris during traffic movement and by wind	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A12	Water or a dust suppression chemical shall be continuously sprayed on the surface where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation is carried out, unless the process is accompanied by the operation of an effective dust extraction and filtering device	To minimize dust emission	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A13	Regular maintenance of plant equipment to prevent black smoke emission	To minimize black smoke emission	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A14	Throttle down or switch off unused machines or machine in intermittent use	To minimize unncessary emission	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A15	Minimize excavation area as far as possible	To minimize dust emission and potential release of odour from exposed ground	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A16	Cover open stockpiles of construction materials (e.g. aggregates, sand and fill materials) with impermeable materials such as tarpaulin during rainstorms.	To prevent soil erosion under rainstorm	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A17	Hoarding of not less than 2.4 m high shall be erected from ground level to surround the work area except for a site entrance or exit	To minimize dust emission	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO
A18	Carry out air quality monitoring throughout the construction period	To monitor construction dust level	HyD's Contractor	At representative ASRs	Prior to and throughout construction phase	EIAO-TM
A19	Carry out regular site inspection to audit the implementation of mitigation measures	To check the implemenation status and effectiveness of mitigation measures	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
Noise Impact						
Construction Phase						
N1	Schedule noisy activities to minimise exposure of nearby NSRs to high levels of construction noise	To minimize construction noise level	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N2	Use hand-held plant equipment or manual equipment as far as possible	To minimize construction noise level	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N3	Use Quality Powered Mechanical Equipment (QPME) which produces lower noise level	To minimize construction noise level	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N4	In the direction of noise sensitive receivers, erect mobile barriers with 3m in height from a few metres of stationary plants, and from about 5m of more mobile plant such as hydraulic breaker to prevent direct view. The barrier should have skid footing and a small cantilevered upper portion. The minimum surface density of the movable noise barrier is 7 kg/m²and provide with noise absorbing material.	To lower noise transmission	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N5	Position mobile noisy equipment in location and direction away from NSR	To minimize noise transmission to NSR	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N6	Use silencer or muffler on plant equipment and should be properly maintained	To minimize noise transmission	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N7	Operate noisy plant equipment such as air compressor, generator and concrete pump within enclosure	To minimize noise transmission	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N8	Cover the noisy part of piling machine with acoustic mat	To minimize noise transmission	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N9	Throttle down or switch off unused machines or machine in intermittent use between work	To mimize noise production	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N10	Avoid carrying out noisy activities at the same time	To mimize noise production	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
N11	Reduce the percentage on-time for some noisy PMEs	To mimize noise production	HyD's Contractor	Whole construction site	Throughout construction phase	NCO, EIAO-TM
N12	Carry out noise monitoring throughout the construction period	To monitor construction noise level	HyD's Contractor	At representative NSRs	Prior to and throughout construction phase	EIAO-TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
Water Quality Impact						
Construction Phase						
W1	Works in the river (excavation within highwater mark and cutting of pier of Old Bridge) shall be carried out inside the watertight cofferdam. The cofferdam can only be removed after completion of work.	To prevent the excavated materials or cuttings from falling into the water and being carried into the sea	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W2	Install sheet piles by vibratory action.	To minimize dispersion of sand	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W3	Erect water-tight temporary working platform that can contain falling debris above Wang Tong River. The platform shall be sheltered by tarpaulin for directing rainwater away from the working platform.	To prevent falling of debris and generation of surface runoff into the river	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W4	Water removed from the cofferdam should be desilted before discharge.	To prevent discharge of silty water	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W5	Surface run-off from construction sites should be discharged into storm waterdrains via adequately designed sand/silt removal facilities such as sand traps, silt traps, sedimentation tanks and sediment basins.	To reduce the amount of suspended solid in wastewater	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM
W6	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times	To prevent silt, construction materials or debris from getting into the drainage system and prevent failure that may lead to flooding	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM
W7	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly.	To prevent blockage that may lead to flooding	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM
W8	Design works program carefully to minimize work areas, hence minimize soil exposure and site runoff.	To minimize surface runoff and chance of erosion	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM
W9	Construction works should be programmed to minimize soil excavation works in rainy seasons (generally from April to September) as far as possible. If this cannot be achieved, the following measures should be implemented: 1. Temporarily exposed slope surfaces should be covered (e.g. by tarpaulin)" 2. Temporary access roads should be protected by crushed stone or gravel 3. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	To minimize surface runoff and chance of erosion	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
W10	Minimize exposed earth after completion of work in a certain area by hydroseeding, vegetating, soil compacting or paving	To prevent soil erosion under rainstorm	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W11	Open stockpiles of construction materials (e.g. aggregates, sand and fill material)	To prevent soil erosion under rainstorm	HyD's Contractor	Whole construction	Throughout construction	ProPECC PN 2/23, EIAO-TM
W12	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent surface run-off from getting into foul sewers.	To prevent overloading of foul sewers	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM
W13	Placing equipment, materials and wastes away from Wang Tong River and Silver Mine Bay	To prevent water contamination	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W14	Remove waste from the site regularly.	To prevent waste accumulation	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM
W15	Apply discharge license for effluent discharge. Treat the discharge to comply with the requirement in TM-DSS.	To ensure compliance with effluent discharge requirement	HyD's Contractor	Whole construction site	Throughout construction phase	WPCO, TM-DSS, EIAO-TM
W16	Reuse treated effluent onsite, e.g. dust suppression and general cleaning.	To minimize wastewater generation	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
W17	Monitor effluent water quality.	To ensure compliance with effluent discharge requirement	HyD's Contractor	Whole construction site	Throughout construction phase	WPCO, EIAO-TM
W18	Register as chemical waste producer if chemical waste will be generated.	To control chemical waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal (Chemical Waste) (General) Regulation, EIAO-TM
W19	Perform maintenance of vehicles and equipment that have oil leakage and spillage potential on hard standings within a bunded area with sumps and oil interceptors.	To prevent oil leakage or spillage	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal (Chemical Waste) (General) Regulation, EIAO-TM
W20	Dispose chemical waste in accordance to Waste Disposal Ordinance. Follow the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes* , examples as follows: - Store chemical wastes at designated safe location with adequate space	To avoid accident in waste storage and handling	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
W21	Placing chemical toilet away from waterbodies as far as possible and on stable, impermeable surface	To minimize accidental leakage of sewage into waterbodies	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
W22	Carry out water quality monitoring at water sensitive receivers	To identify any water quality impact due to the project	HyD's Contractor	Whole construction site	Before, throughout and after construction phase	EIAO-TM
W23	Carry out regular site inspection to audit the implementation of mitigation measures	To check the implemenation status and effectiveness of mitigation measures	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM, APCO

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
Ecological Impact						
Construction Phase						
E1	Before site clearance, the work area should be inspected by ecologist to confirm no active bird nest is present. If any active bird nest is identified, suitable size of buffer area should be established until the nest is abandoned.	To minimize direct impact on the breeding activity of Black- collared Starling	HyD's Contractor	Whole construction site	Before site clearance	EIAO-TM
E2	Erection of hoarding, fencing or provision of clear demarcation of work zones	To minimize direct impact outside work boundary	HyD's Contractor	Whole construction site	Throughout construction phase	EIAO-TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
Waste Management						
Construction Phase						
WM1	Allocate an area for waste sorting and storage of C&D materials into the following categories for reuse, recycle or disposal if possible. Remove waste from the Site for sorting once generated if no suitable space can be identified.	To minimize waste generation	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
	- excavated material suitable for reuse					
	- inert C&D materials for reuse/disposal offsite					
	- non-inert C&D materials for disposal at landfills					
	- chemical waste					
	- general refuse					
WM2	Adopt good site practice as follows:	To proper handling of waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
	- Provide training to workers on site cleanliness, waste management (waste reduction, reuse and recycle) and chemical handling procedures					
	- Provide sufficient waste collection points and regular removal					
	- Cover waste materials with tarpaulin or in enclosure during transportation					
	- Maintain drainage systems, sumps and oil interceptors					
	- Sort out chemical waste for proper handling and treatment onsite or offsite					
WM3	Adopt waste reduction measures as follows:	To minimize waste generation	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
	- Allocate area/containers for sorting, recovering and storing waste for reuse, recycle or disposal (e.g. demolition debris and excavated materials, general refuse like aluminium cans). Remove waste from the Site for sorting once generated if no suitable space can be identified.					
	- Allocate area for proper storage of construction materials to prevent contamination					

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
WM4	Prepare and implement a site specific Waste Management Plan (WMP) as part of Environmental Management Plan (EMP) in accordance with ETWB TCW No. 19/25. Detail waste management method in the form of avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal according to the recommendations on the EIA and EM&A Manual. It should be approved by the ER and regularly reviewed.	To provide guidance to waste management	HyD's Contractor	Whole construction site	Throughout construction phase	ETWB TCW No. 19/2005, EIAO- TM
WM5	Store waste materials properly as follows: - Avoid contamination by proper handling and storing waste - Prevent erosion by covering waste - Maintain and clean storage area regularly - Sort and stockpile different materials at designated location to enhance reuse	To properly store waste	HyD's Contractor	Whole construction site	Throughout construction phase	ProPECC PN 2/23, EIAO-TM
WM6	Apply for relevant waste disposal permits in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28).	To properly dispose waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28), Dumping at Sea Ordinance (Cap. 466), EIAO- TM
WM7	Implement trip-ticket system for recording the amount of waste generated, recycled and disposed, including chemical wastes	To monitor movement of waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal (Chemical Waste) (General) Regulation, Waste Disposal Ordinance, EIAO-TM
WM8	Reduce water content in wet spoil generated from piling work by mixing with dry materials. Only dispose treated spoil with less than 25% dry density to Public Fill Reception Facilities	To minimize load to reception facilities	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
WM9	Dispose dry waste or waste with less than 70% water content by weight to landfill	To minimize load to reception facilities	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
WM10	Follow the *Code of Practice on the Packaging, Labelling and Storage of Chemical Waste* as follows: - Store chemical wastes with suitable containers. Seal and maintain the container to avoid leakage or spillage during storage, handling and transport - Label chemical waste containers in both English and Chinese with instructions in accordance to Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation - The container capacity should be smaller than 450 litres unless agreed by the EPD	To avoid accident in waste storage and handling	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
WM11	Comply with the requirement of the chemical storage area: - Store only chemical waste and label clearly the chemical characters of the waste - Have at least 3 sides enclosed and protected from rainfall with cover - Provide sufficient ventilation - Have impermeable floor and has bunds to contain 110% of the capacity of the largest container or 20% of the total volume of the stored waste in the area, whichever is larger - Adequately spaced incompatible materials	To ensure proper storage of chemical waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
WM12	Transfer used lubricants, waste oils and other chemicals to oil recycling companies, if possible, and empty oil drums for reuse or refill. No direct or indirect discharge is permitted	To ensure proper disposal of chemical waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal (Chemical Waste) (General) Regulation, EIAO-TM
WM13	Hire licensed chemical waste disposal contractors for waste collection and removal. Dispose chemical waste at the approved CWTC at Tsing Yi or other licensed facility	To ensure proper disposal of chemical waste	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal (Chemical Waste) (General) Regulation, EIAO-TM
WM14	Provide recycling bins for sorting out recyclables for collection by recycling companies. Non-recyclables should be removed to designated landfills every day by licensed collectors to prevent environmental and health nuisance.	To ensure proper recycling and disposal of general refuse	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM
WM15	Terminate excavation work if contaminated soil is found. Prepare Land Contamination Plan (CAP) in accordance with EPD's Guidance Note for Contaminated Land Assessment and Remediation for identifying soil and groundwater sampling locations, followed by testing and remediation where necessary.	To identify presence of contaminated soil and provide proper remediation	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
WM16	Marine sediment shall be cement solidified and and sent to laboratory for Toxicity Characteristics Leaching Procedure (TCLP) test according to USEPA Method 1311 and 6020. The results are considered satisfactory if Universal Treatment Standards (UTS) are being met as per Table 4.6 of Practice Guide of Investigation and Remediation of Contaminated Land. The Unconfined Compressive Strength (UCS) of the solidified sediment shall also reach 1000kPa according to the above Practice Guide.If the TCLP and UCS testing results cannot meet the criteria, the sediment shall be retreated by cement solidification. After passing the tests, the solidified sediment shall be backfilled on land after the piling work (e.g. for construction of new piers and abutments). Alternatively, the solidified sediment shall be delivered to public fill reception facilities for beneficial reuse as the last resort.	To prevent leakage of contaminants to water.	HyD's Contractor	Whole construction site	Throughout construction phase	Waste Disposal Ordinance, EIAO- TM, Practice Guide of Investigation and Remediation of Contaminated Land

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
Landscape and Visual						
Construction Phase						
CM1	The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape. (Measure for mitigating Landscape and Visual impacts)	To minimise landscape footprint and reduce potential for visual impact	HyD's Contractor	Adjacent to existing bridge	Construction Phase	To approved Detailed Design and RLA's Approval
CM2	Reduction of construction period to practical minimum. (Measure for mitigating Visual impact)	To reduce duration of impacts	HyD's Contractor	N/A	Construction Phase	To approved Detailed Design and RLA's Approval
CM3	Construction traffic (land and sea) including construction plant, construction vessels and barges should be kept to a practical minimum. (Measure for mitigating Visual impact)	To minimise temporary visual impacts	HyD's Contractor	Connecting roads to site and Silver Mine Bay	Construction Phase	To approved Detailed Design and RLA's Approval
CM4	Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours. (Measure for mitigating Visual impact)	To screen works sites and plant	HyD's Contractor	Around works areas	Construction Phase	To approved Detailed Design and RLA's Approval
CM5	Avoidance of excessive height and bulk of site buildings and structures. (Measure for mitigating Visual impact)	To reduce temporary visual impacts	HyD's Contractor	Within works sites	Construction Phase	To approved Detailed Design and RLA's Approval
CM6	Control of night-time lighting by hooding all lights and through minimisation of night working periods. (Measure for mitigating Visual impact)	To reduce temporary visual impacts	HyD's Contractor	Within works sites	Construction Phase	To approved Detailed Design and RLA's Approval

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to Implement the measure	Location of the measure	When to implement the measure	What requirements or standard for the measure to achieve
CM7	All existing trees shall be carefully protected before, during construction and after construction. A Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees or trees to be transplanted, including trees in contractor's works areas for approval by the Registered Landscape Architect (RLA). This method statement for tree protection and transplanting shall make reference to "Guidelines on Tree Preservation during Construction" and "Guidelines on Tree Transplanting" published by GLTM of the DEVB. Early preparation of trees to be transplanted shall be undertaken to increase their likely survival rate following transplanting. (Measure for mitigating Landscape impact)	To minimise tree impacts and maximise tree preservation	HyD's Contractor	Within and adjacent to works sites	Construction Phase	To approved Detailed Design and RLA's Approval
CM8	Minimisation of Impacts to Wang Tong River through minimised and carefully controlled dredging for pile/abutment removal/construction works. (Measure for mitigating Landscape impact)	To minimise contamination of Wang Tong River	HyD's Contractor	Wang Tong River	Construction Phase	To approved Detailed Design and RLA's Approval

Appendix 4.1

Action and Limit Level

Action and Limit Level

Action and Limit Level for Noise Monitoring

Monitoring Station ID	Time Period	Parameter	Action Level	Limit Level dB(A)
NMS1	0700-1900 hrs on normal weekdays	$L_{eq, 30min}$	When one documented complaint is received	75

Baseline Level for Noise Monitoring
(For reference and calculation of Construction Noise Levels (CNLs))

Monitoring Station ID	Monitoring Station	0700-1900 hrs on normal weekdays	
		$L_{eq (30min)}$, dB(A)	
		Average	Range
NMS1	1 Tung Wan Tau Road	60.1	52.7 – 64.4

Remark:

Each of daily 30-minute sampling period includes six consecutive $L_{eq (5min)}$ readings.

Due to free-field measurement, a correction factor of +3 dB(A) is adopted.

All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = CNL), in order to facilitate the interpretation of the noise exceedance.

Action and Limit Level for Air Quality Monitoring

Monitoring Station ID	1-hour TSP Level		24-hour TSP Level	
	Action Level (μg/m^3)	Limit Level (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
AMS1	276.5	500.0	176.0	260.0
AMS2	283.7	500.0	176.0	260.0

Action and Limit Level for Water Monitoring

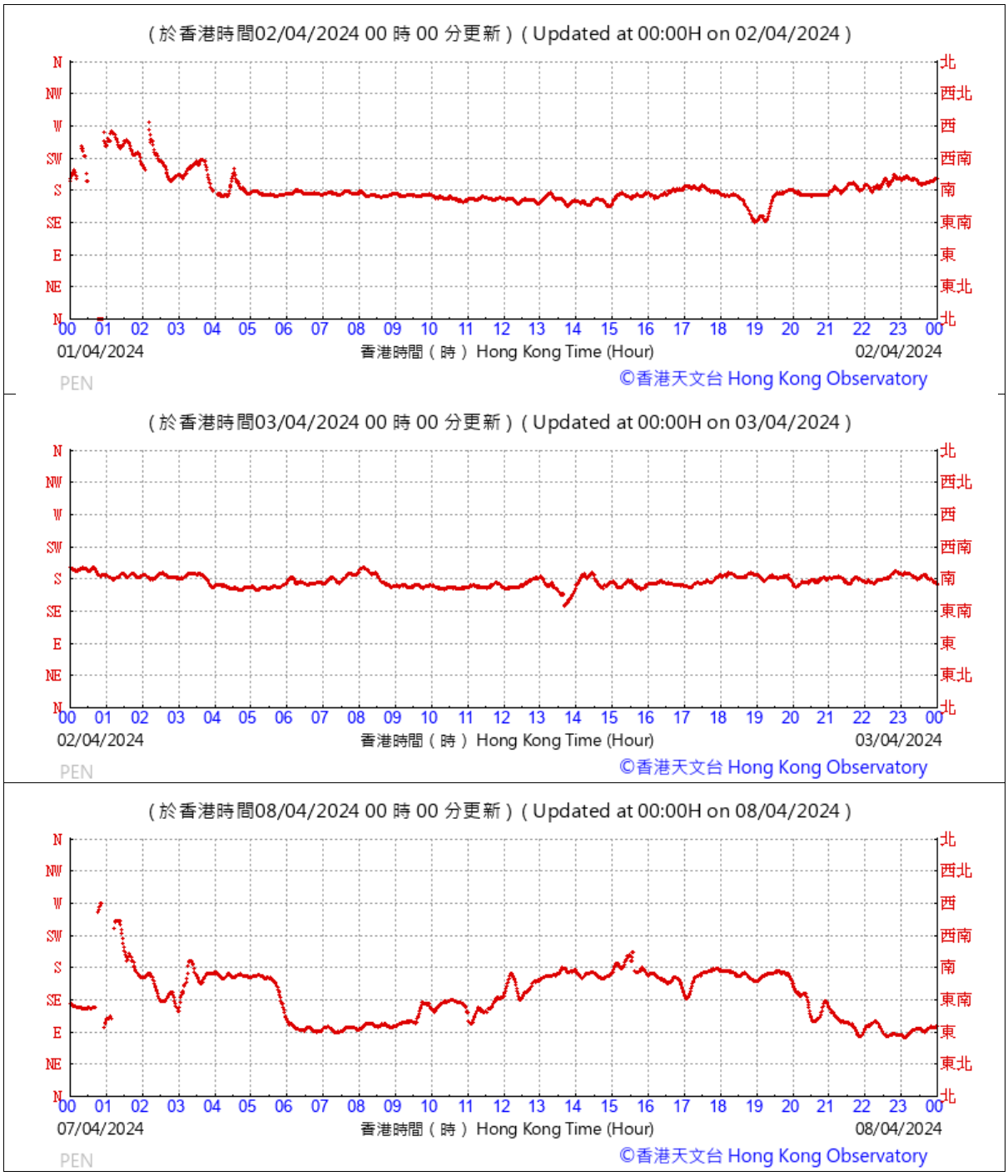
Monitoring Station	Depth	DO (mg/L) +		Turbidity (NTU) ~		SS (mg/L) ~	
		Action Level	Limit Level	Action Level	Limit Level	Action Level	Limit Level
W1	Middle	6.5	5.3	7.7 NTU or 120% of upstream control station's turbidity at the same tide of the same day, whichever is higher	12.4 NTU or 130% of upstream control station's turbidity at the same tide of the same day, whichever is higher	8.9 mg/L or 120% of upstream control station's SS at the same tide of the same day, whichever is higher	11.3 mg/L or 130% of upstream control station's SS at the same tide of the same day, whichever is higher
W2							
W4							
W5	Middle	5.9	5.5	9.8 NTU or 120% of upstream control station's turbidity at the same tide of the same day, whichever is higher	10.5 NTU or 130% of upstream control station's turbidity at the same tide of the same day, whichever is higher	12.6 mg/L or 120% of upstream control station's SS at the same tide of the same day, whichever is higher	15.0 mg/L or 130% of upstream control station's SS at the same tide of the same day, whichever is higher
W6							
W7							
W8	Surface & Middle						
	Bottom	5.9	5.5				

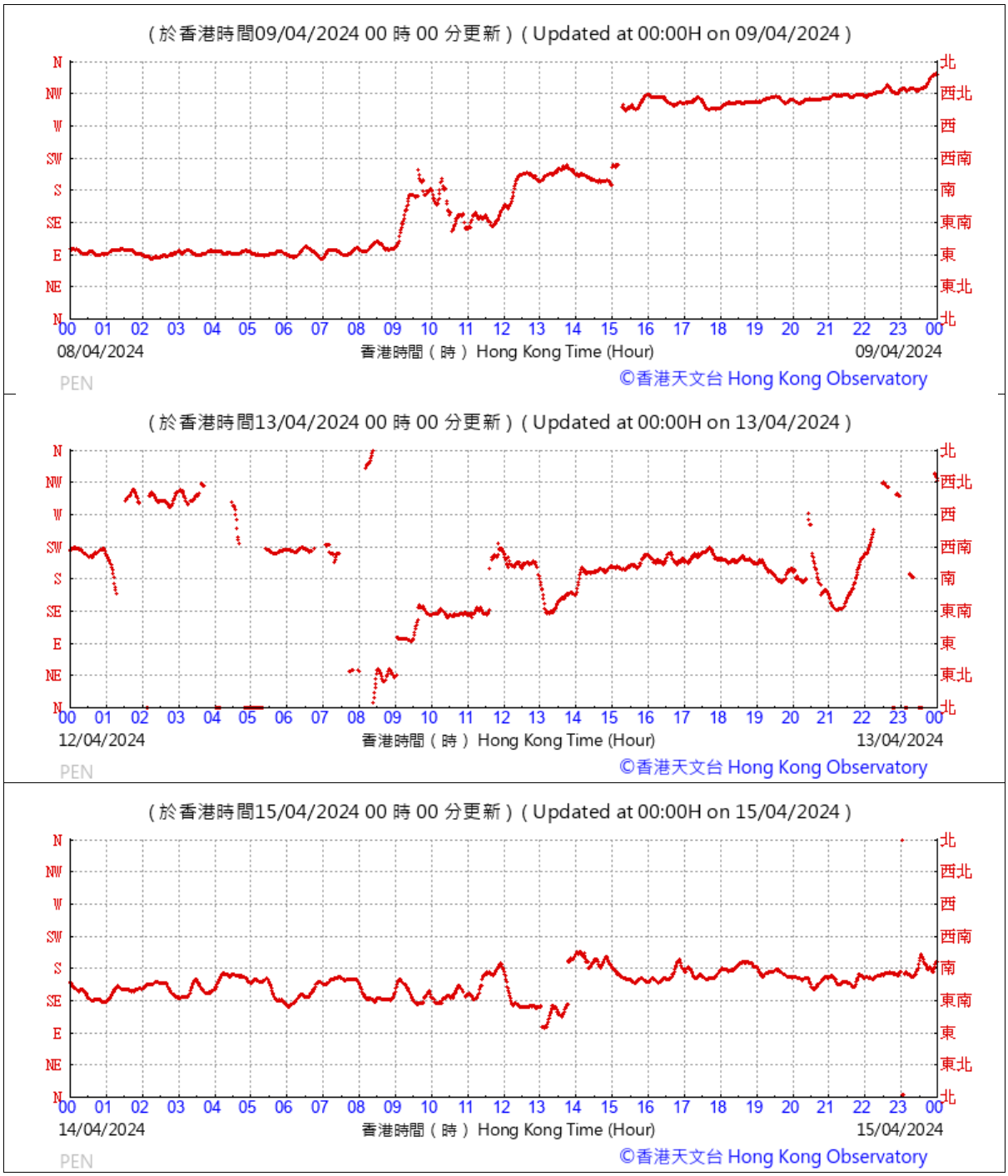
Remarks +: For DO, non-compliance occurs when monitoring results is lower than the limits.
Remarks ~: For SS and Turbidity, non-compliance occurs when monitoring results is larger than the limits.

Appendix 4.3

Wind data extracted from HKO Automatic Weather Station

A. Wind Direction extracted from Peng Chau Automatic Weather

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©香港天文台 Hong Kong Observatory
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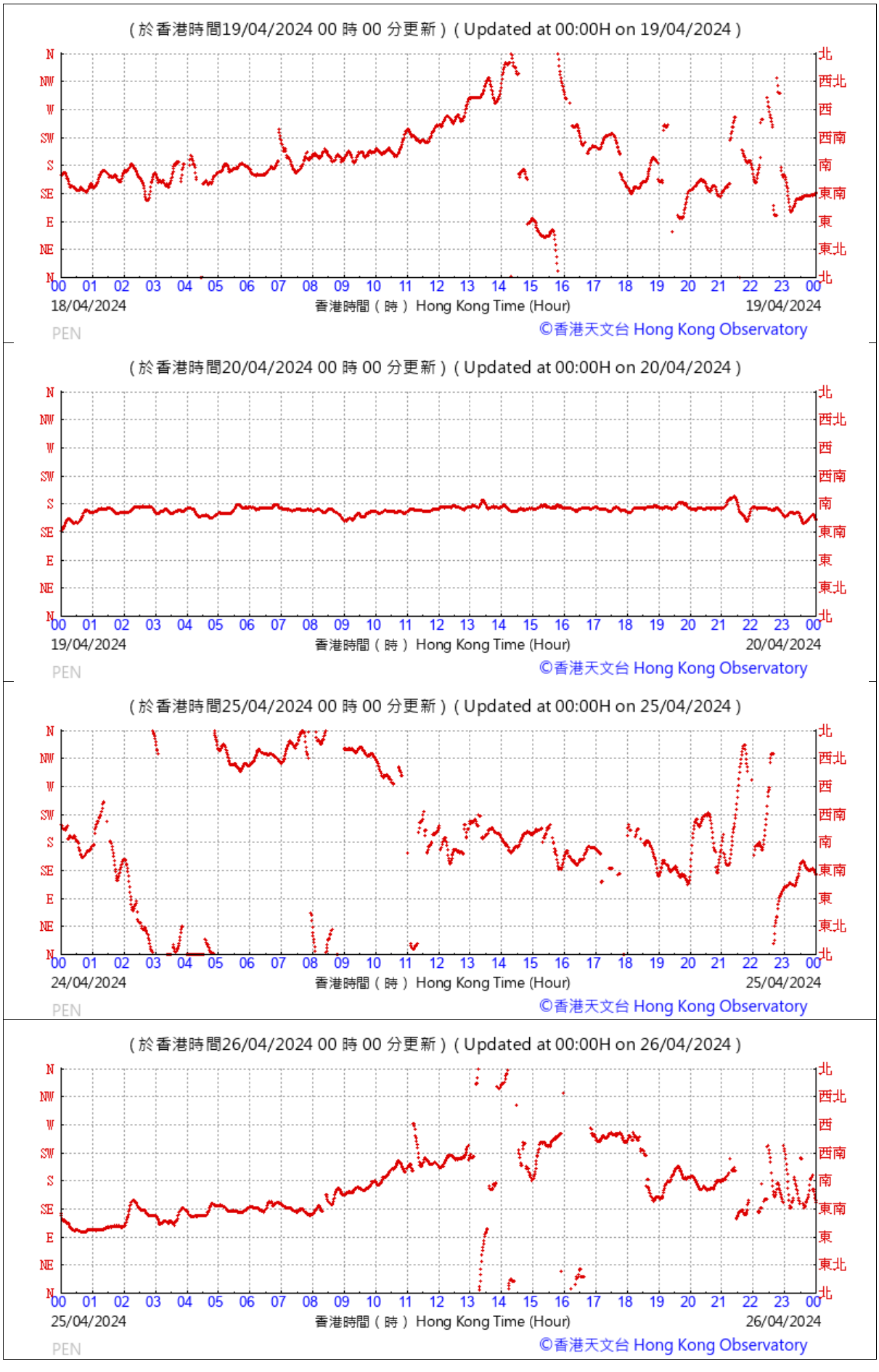
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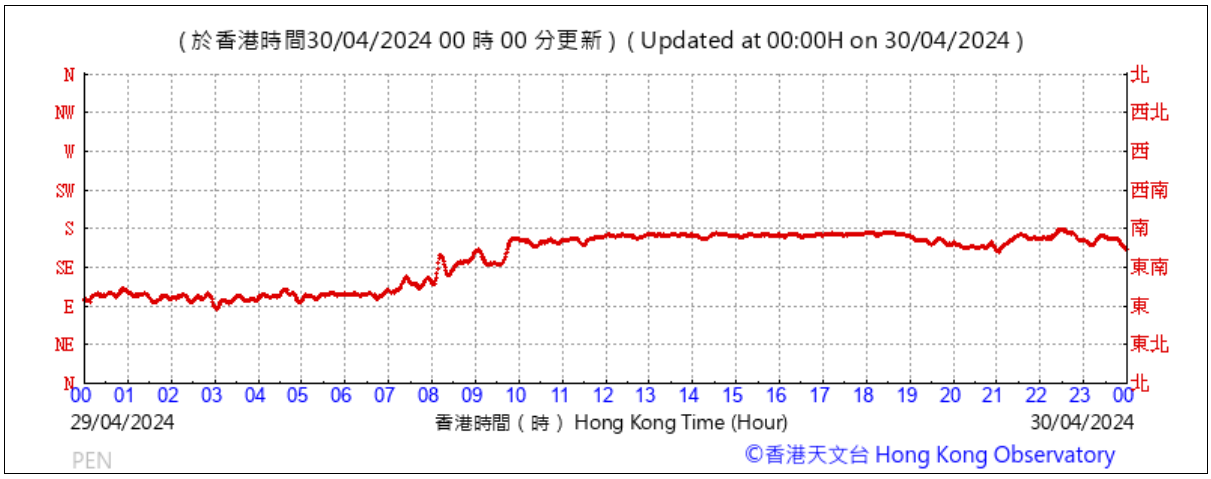
ppendix 4.3 Wind Data



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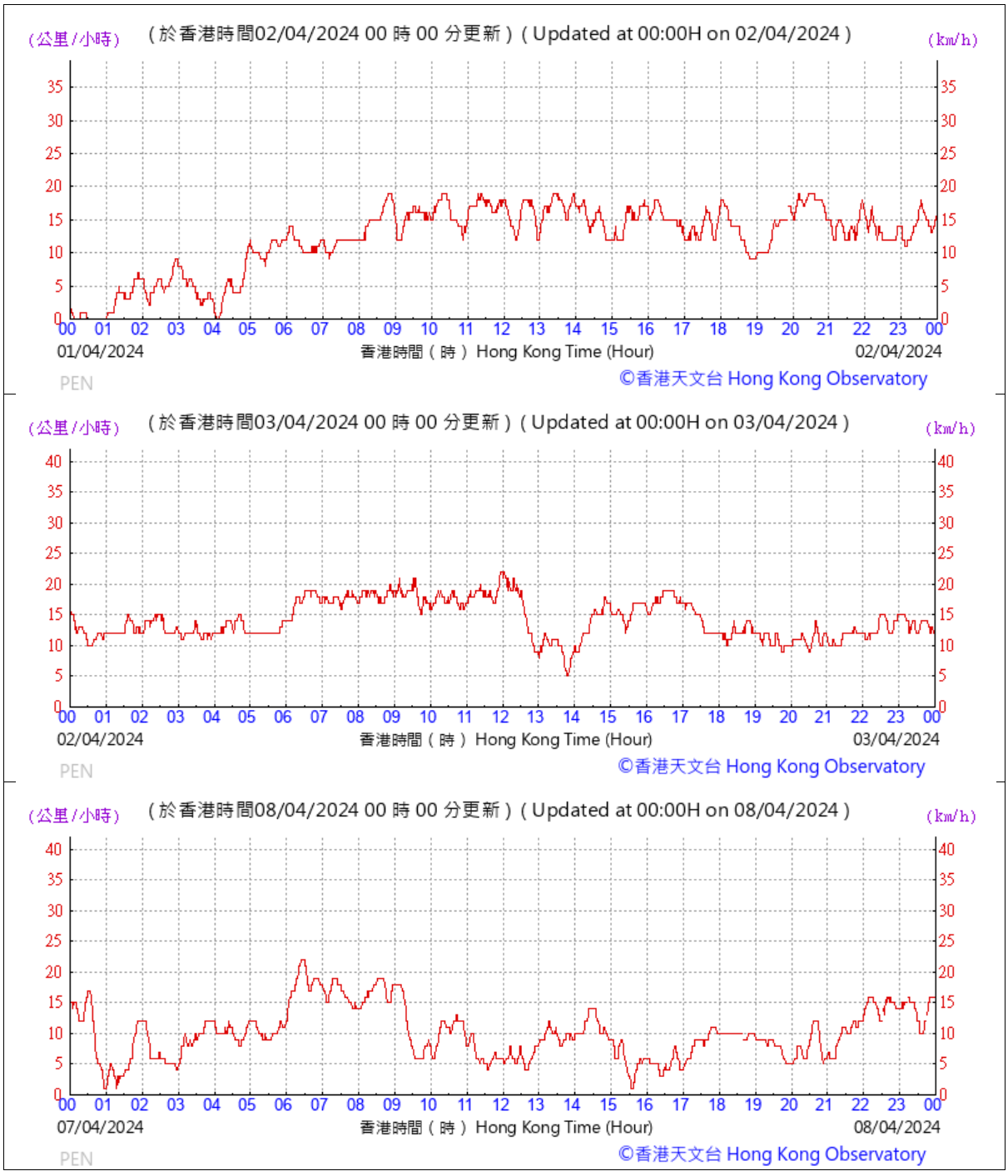

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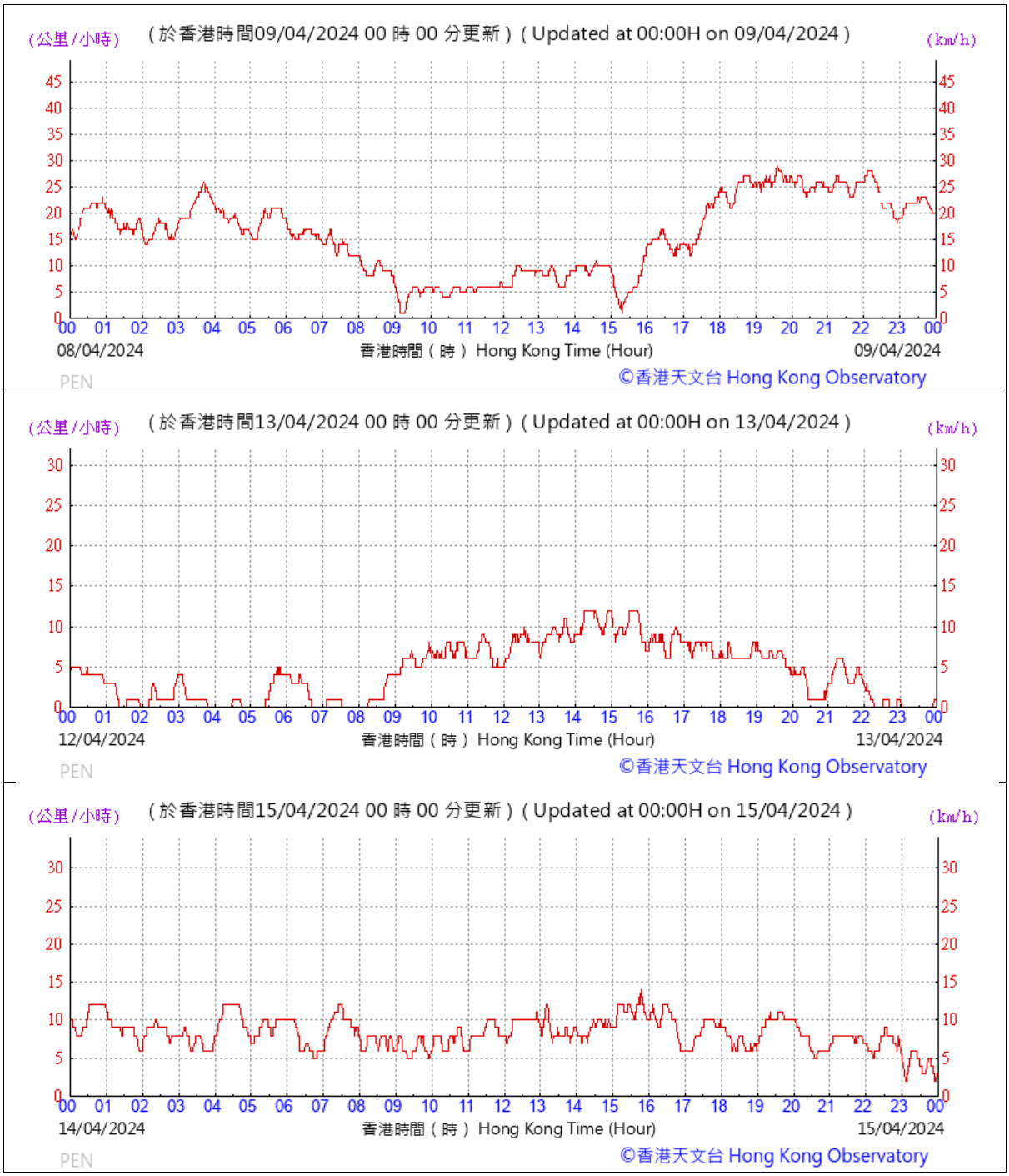

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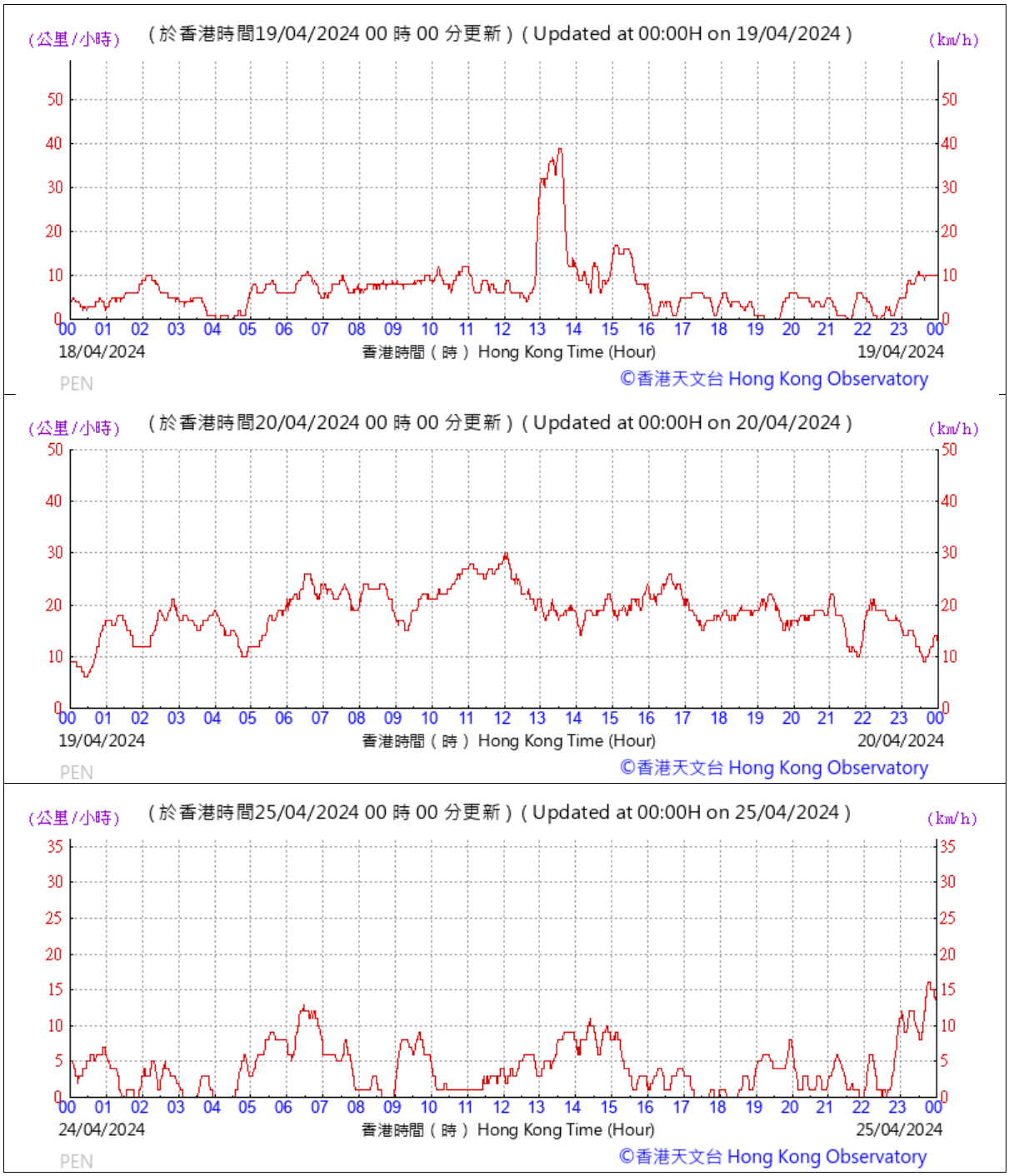

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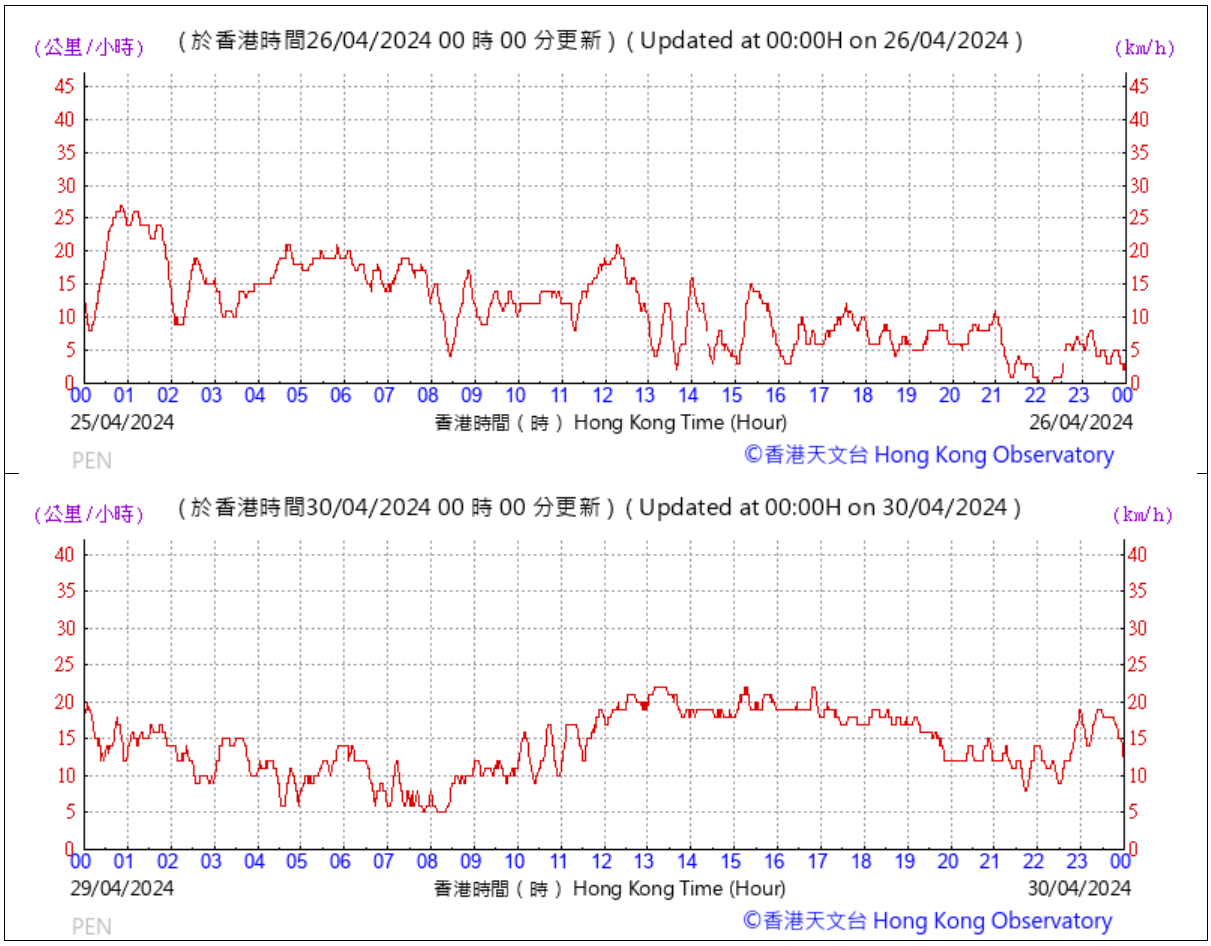

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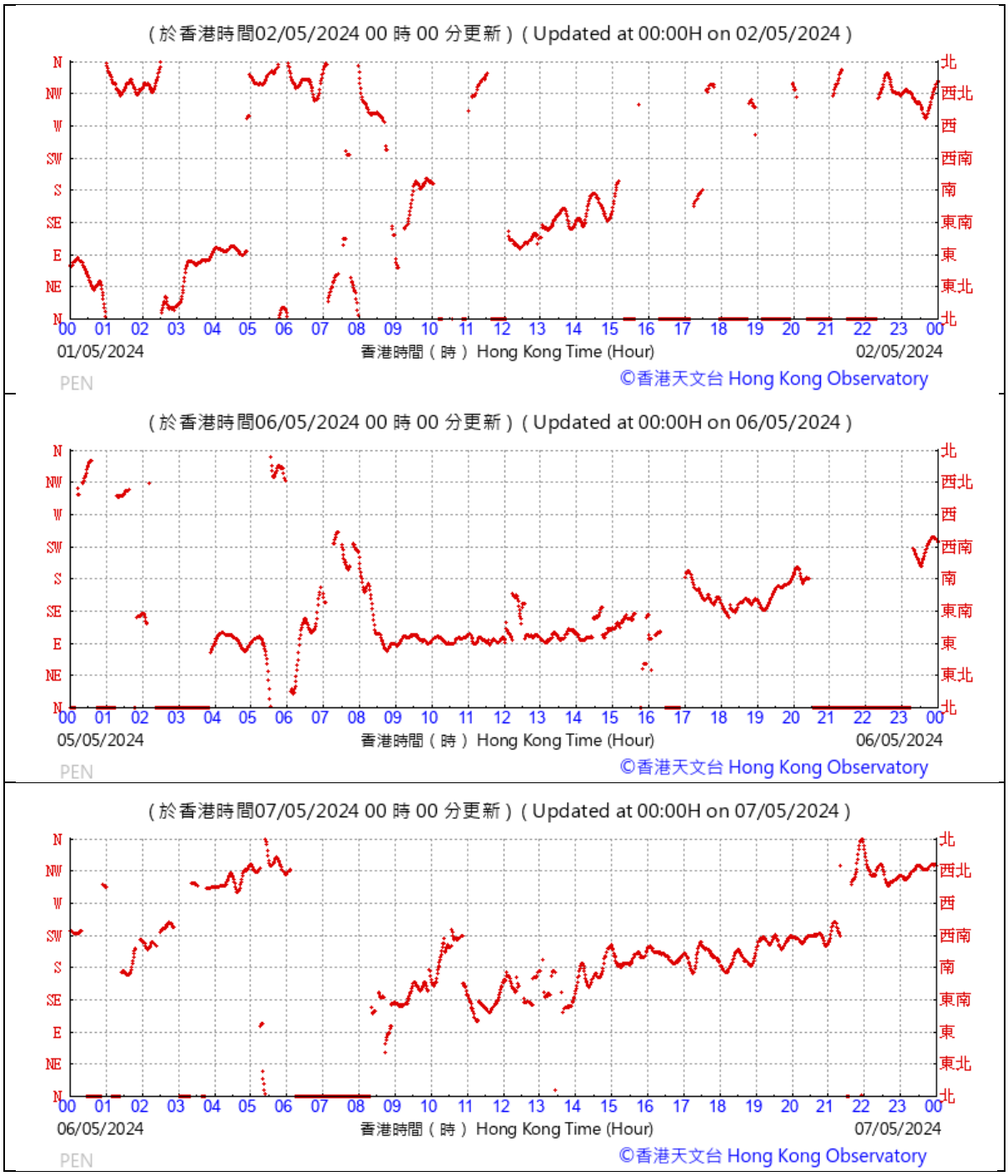

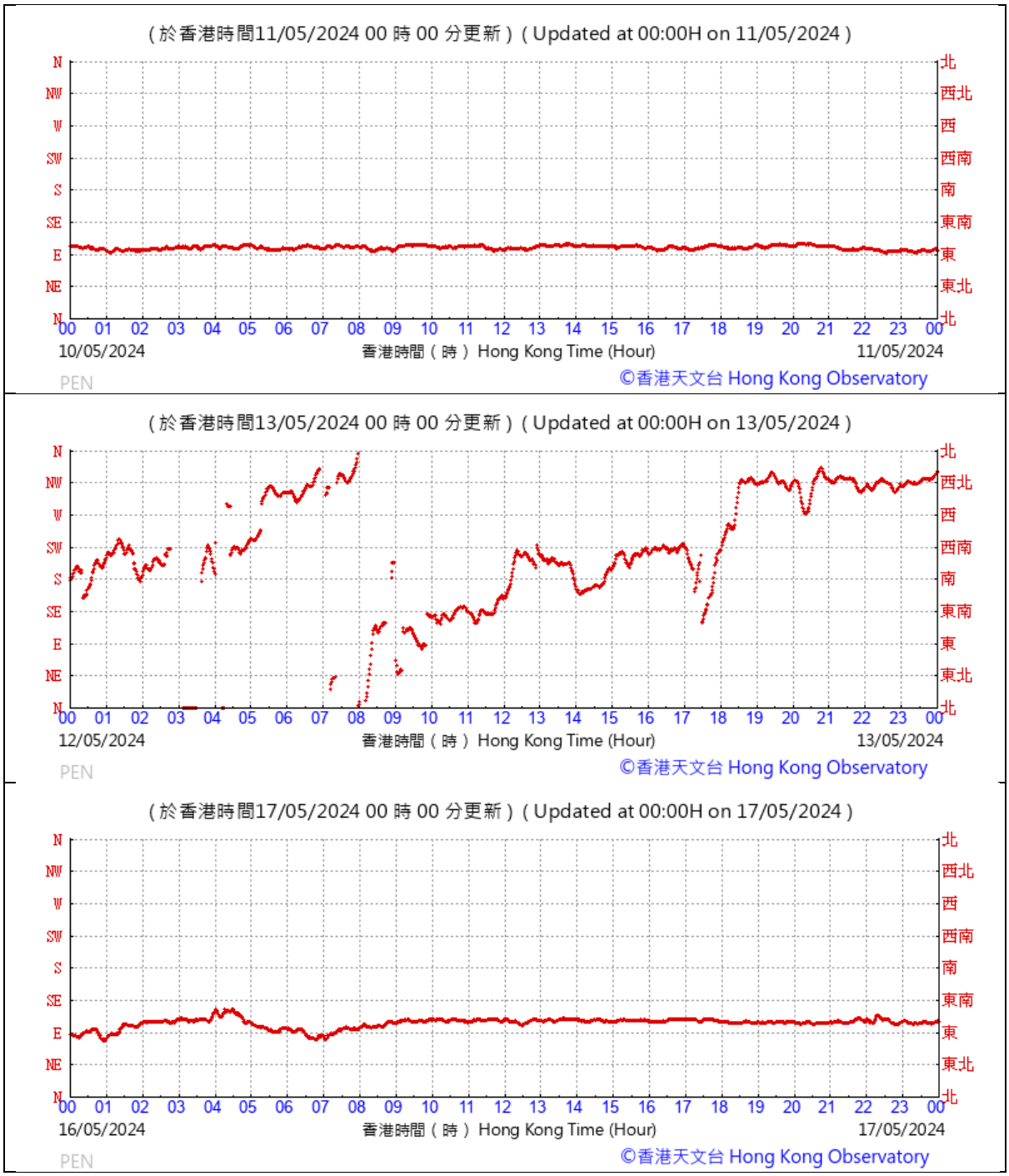
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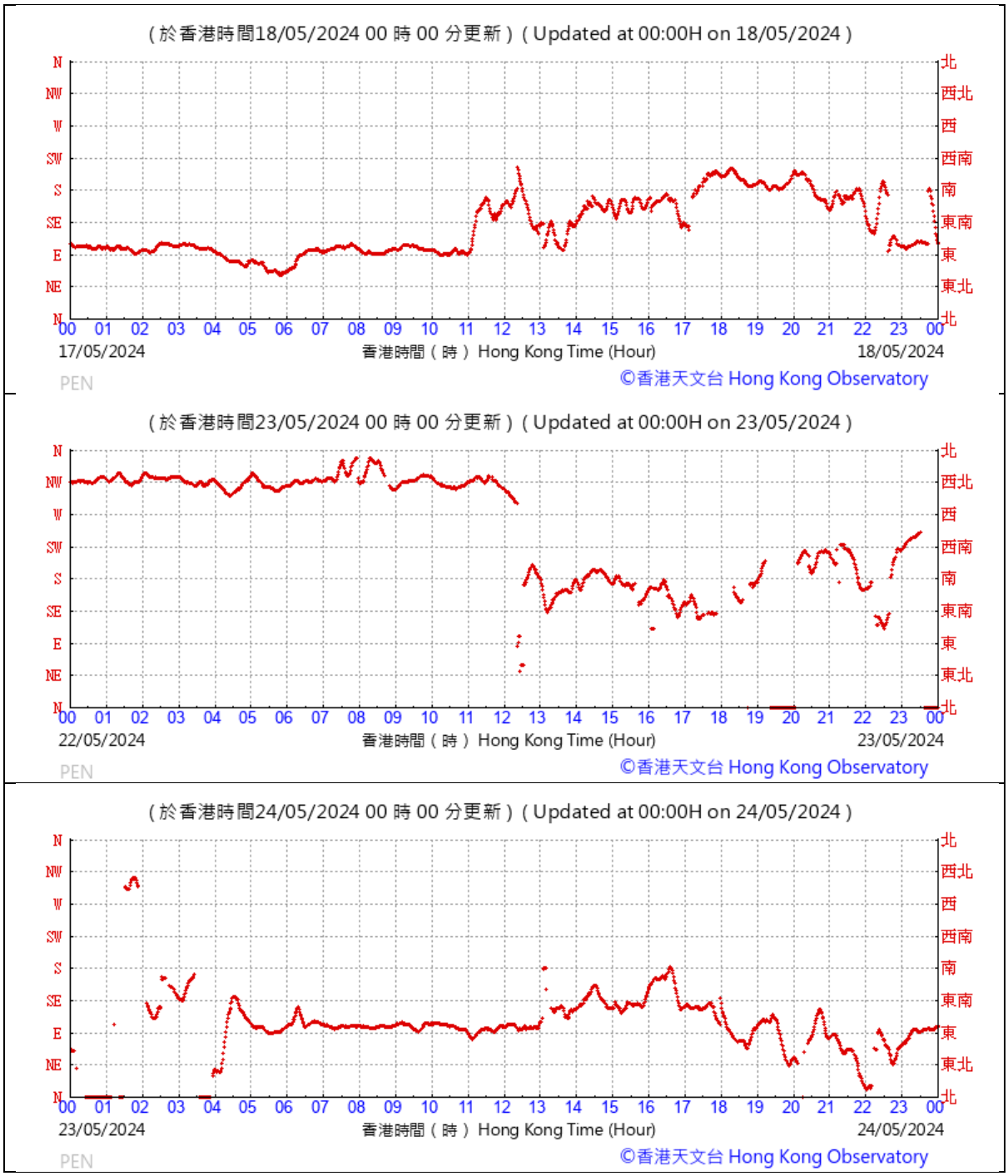
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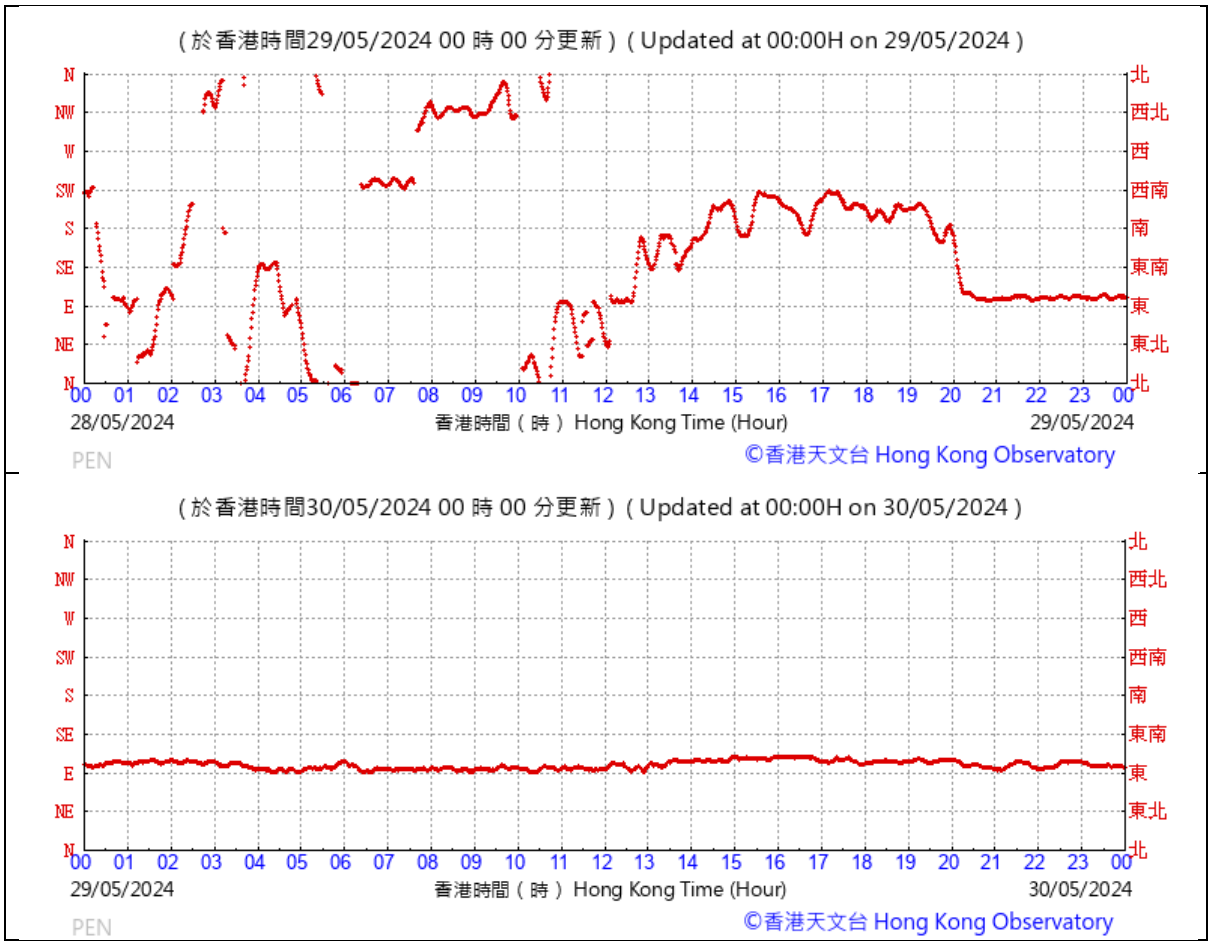
ppendix 4.3 Wind Data



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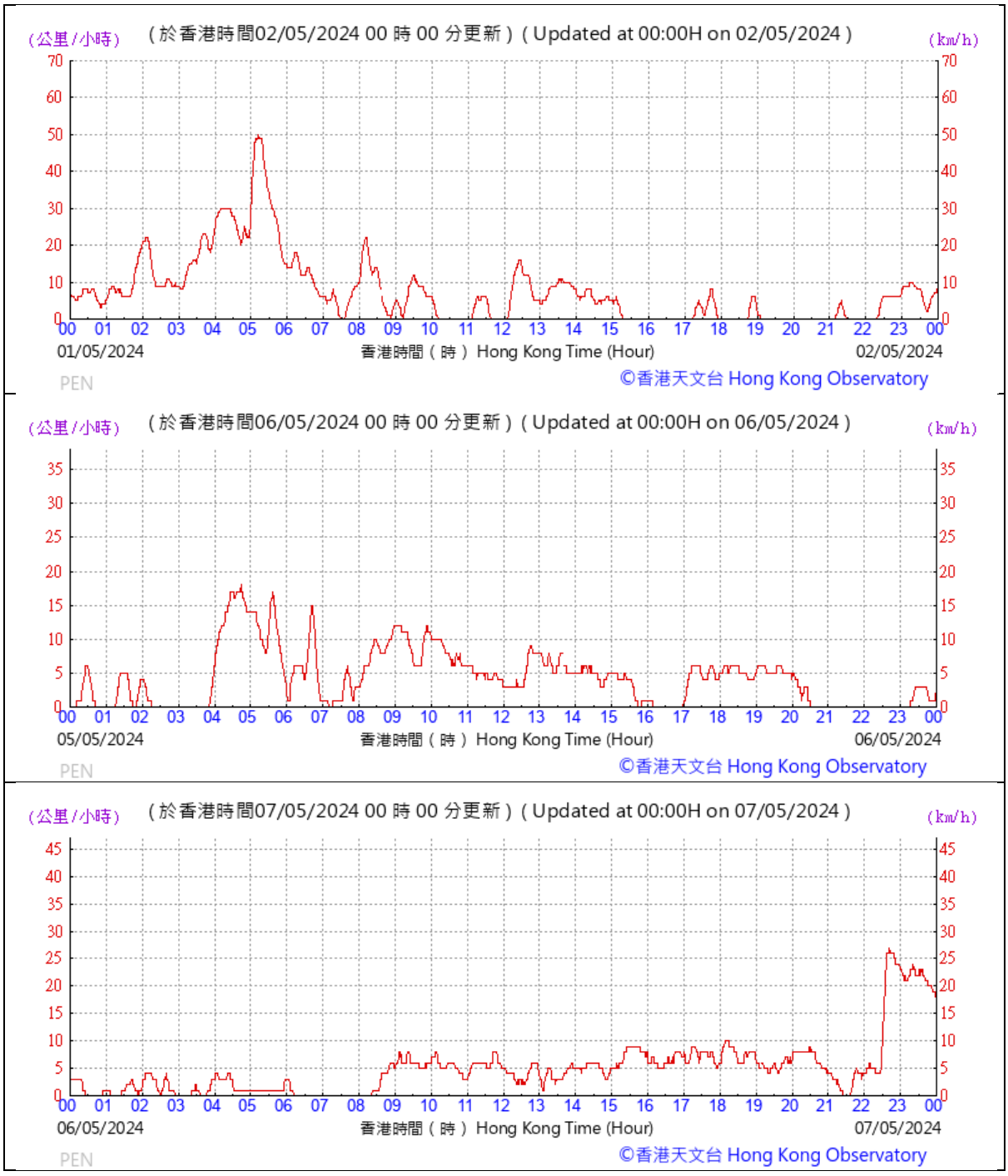

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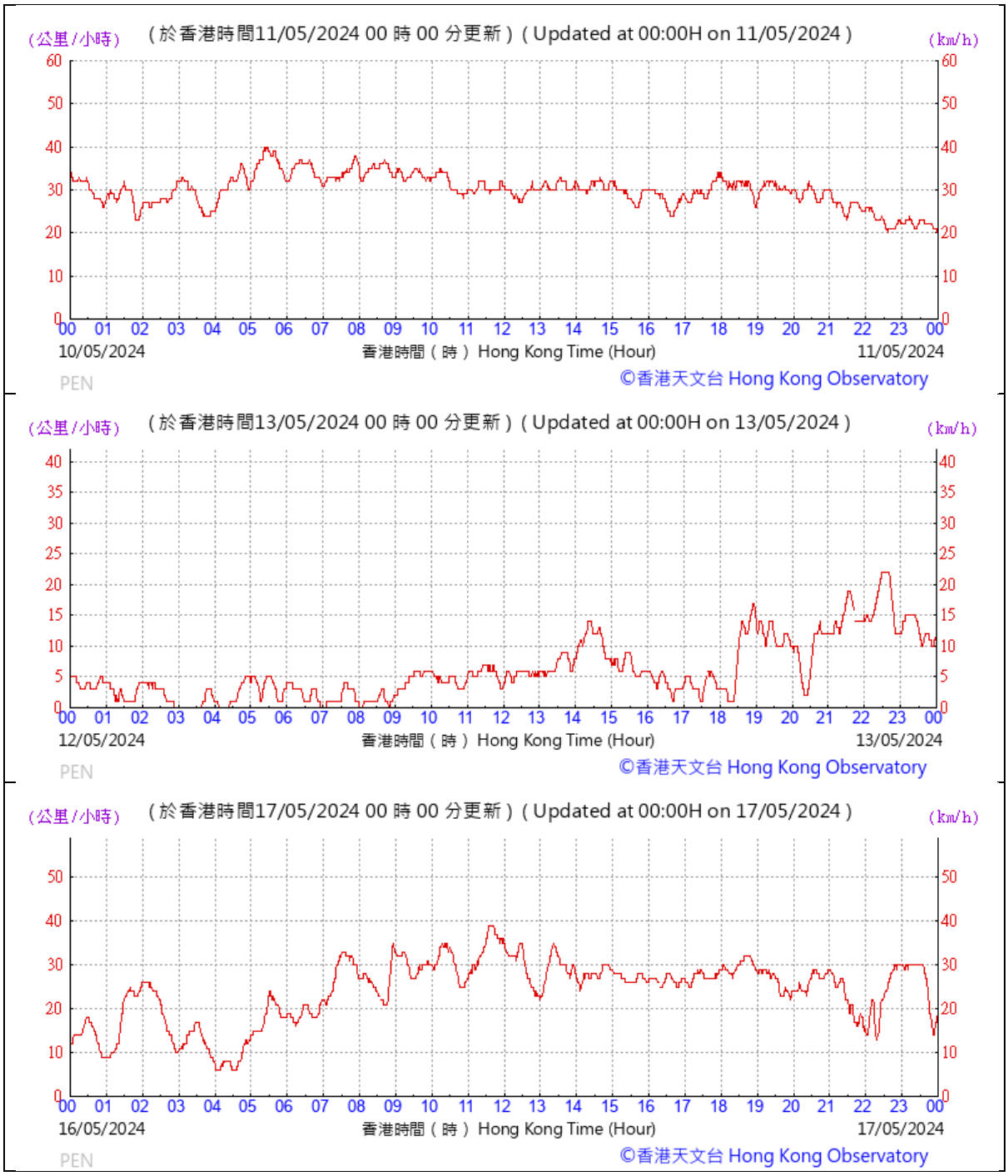

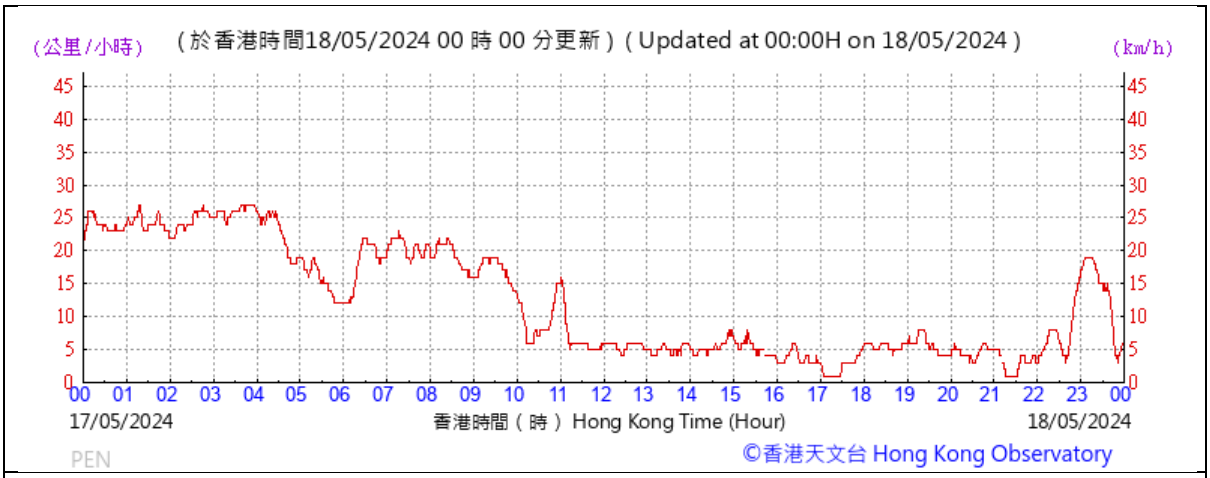
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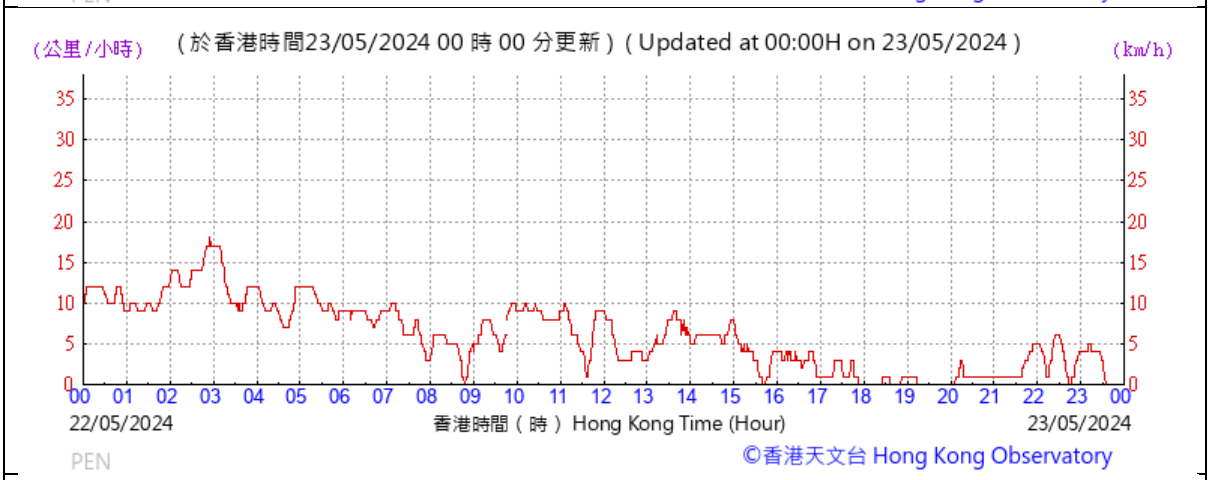
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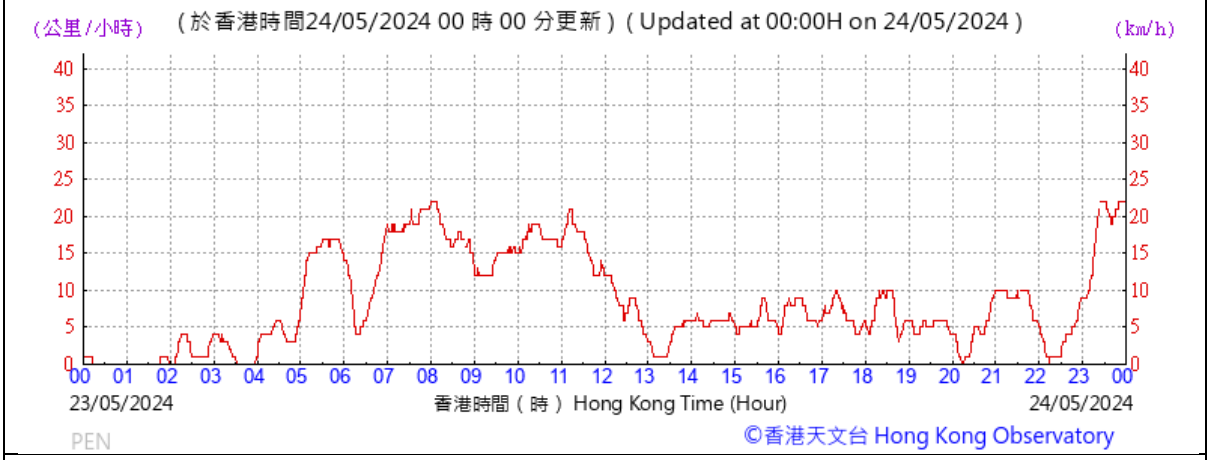
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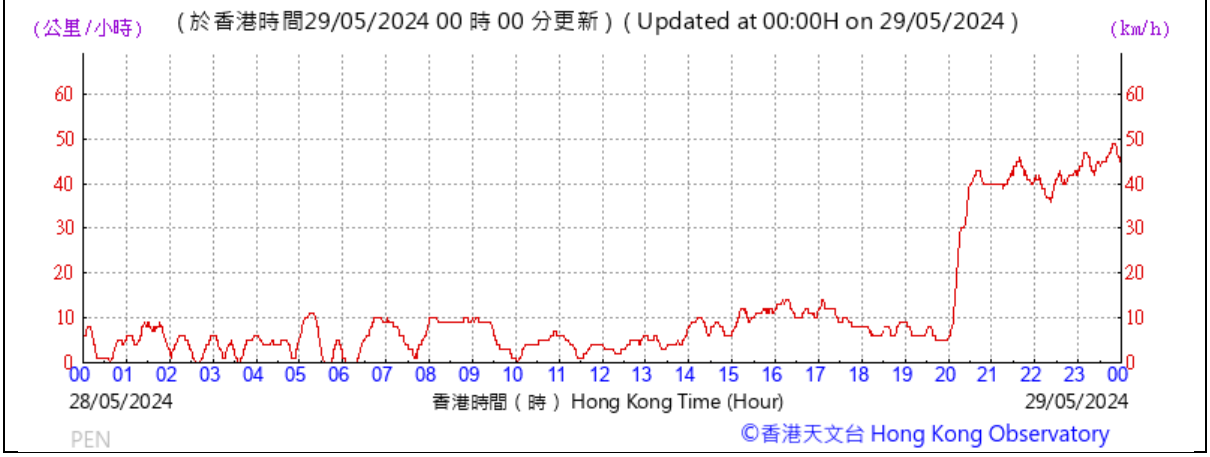
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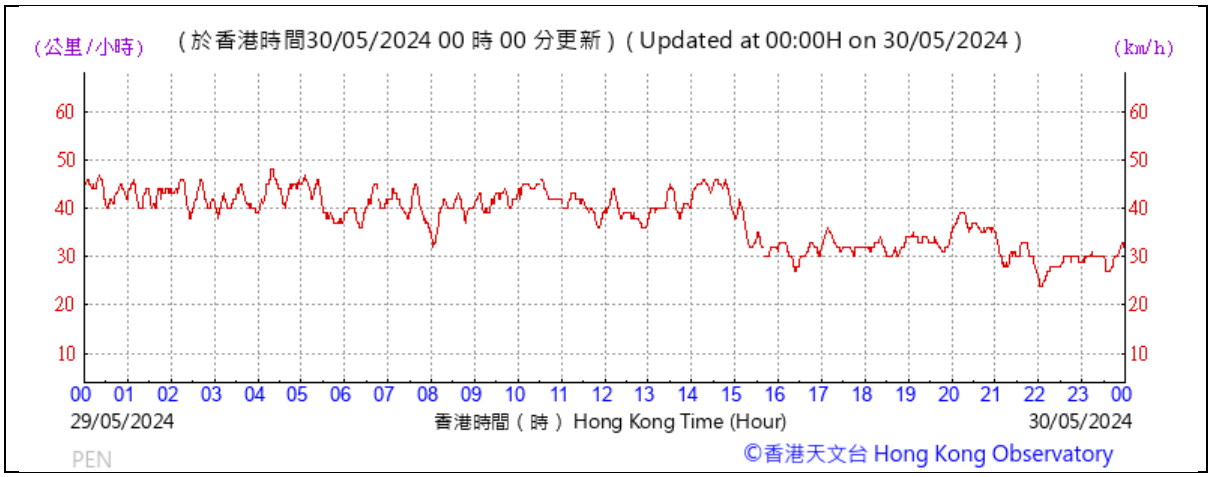

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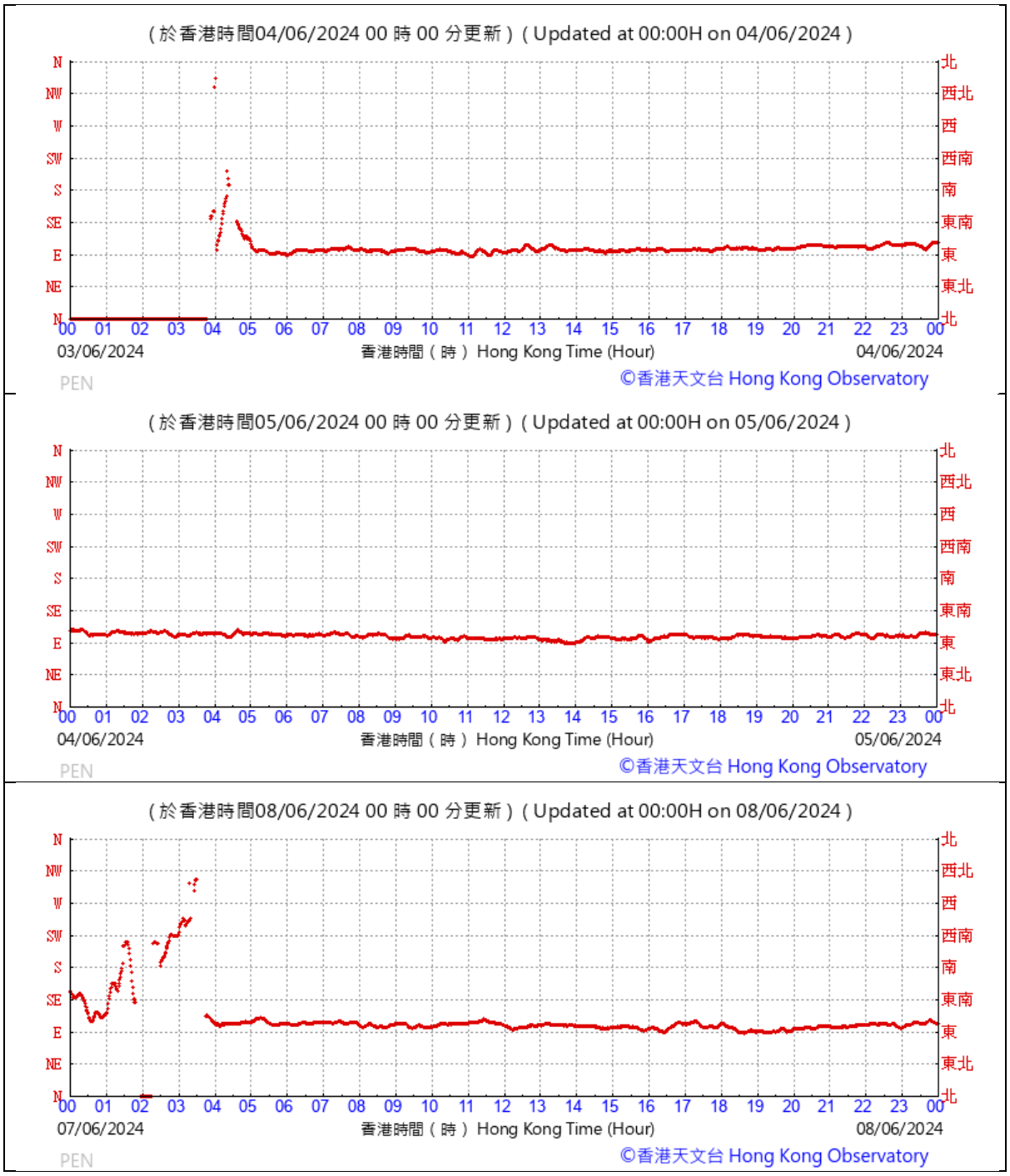

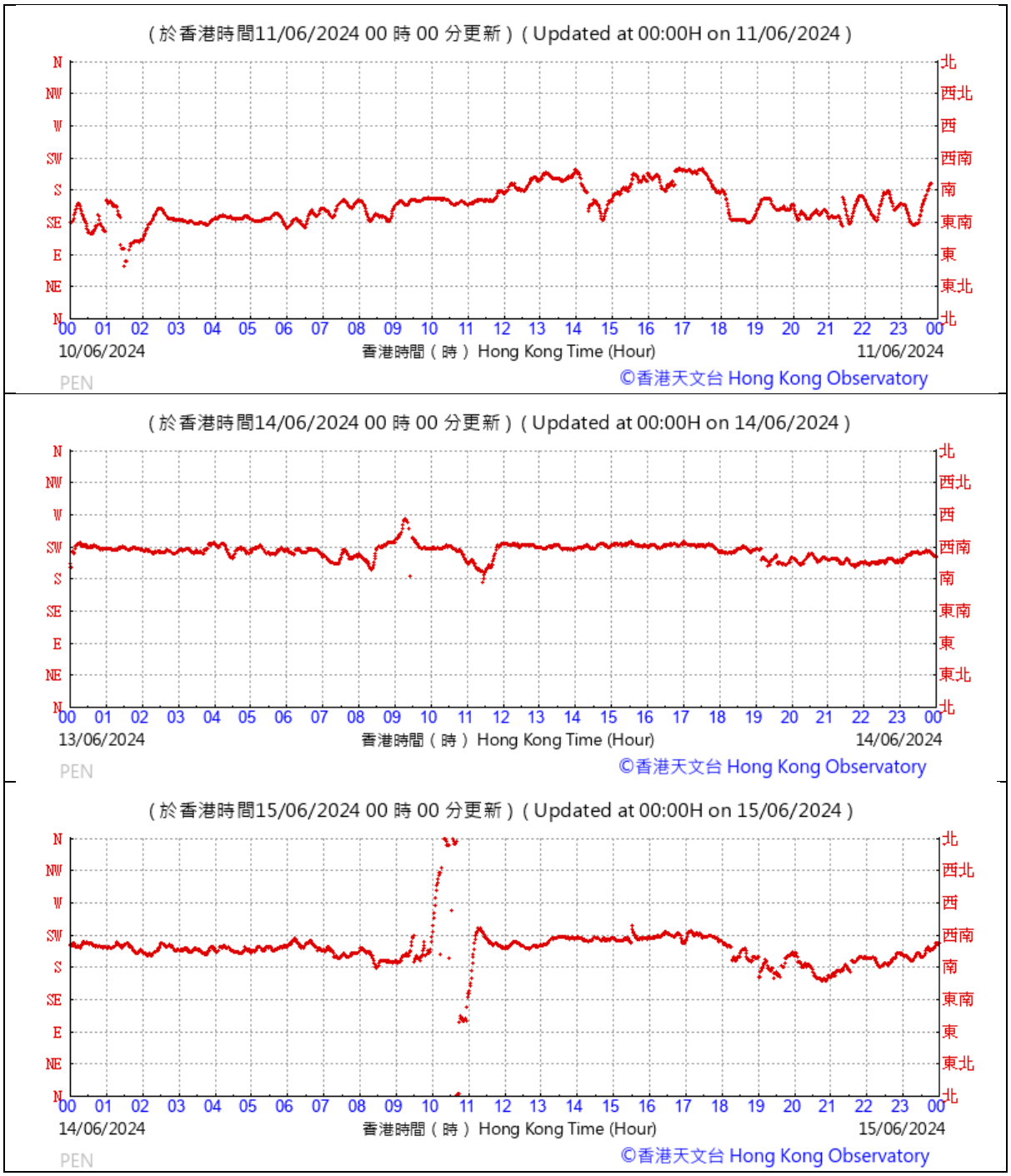
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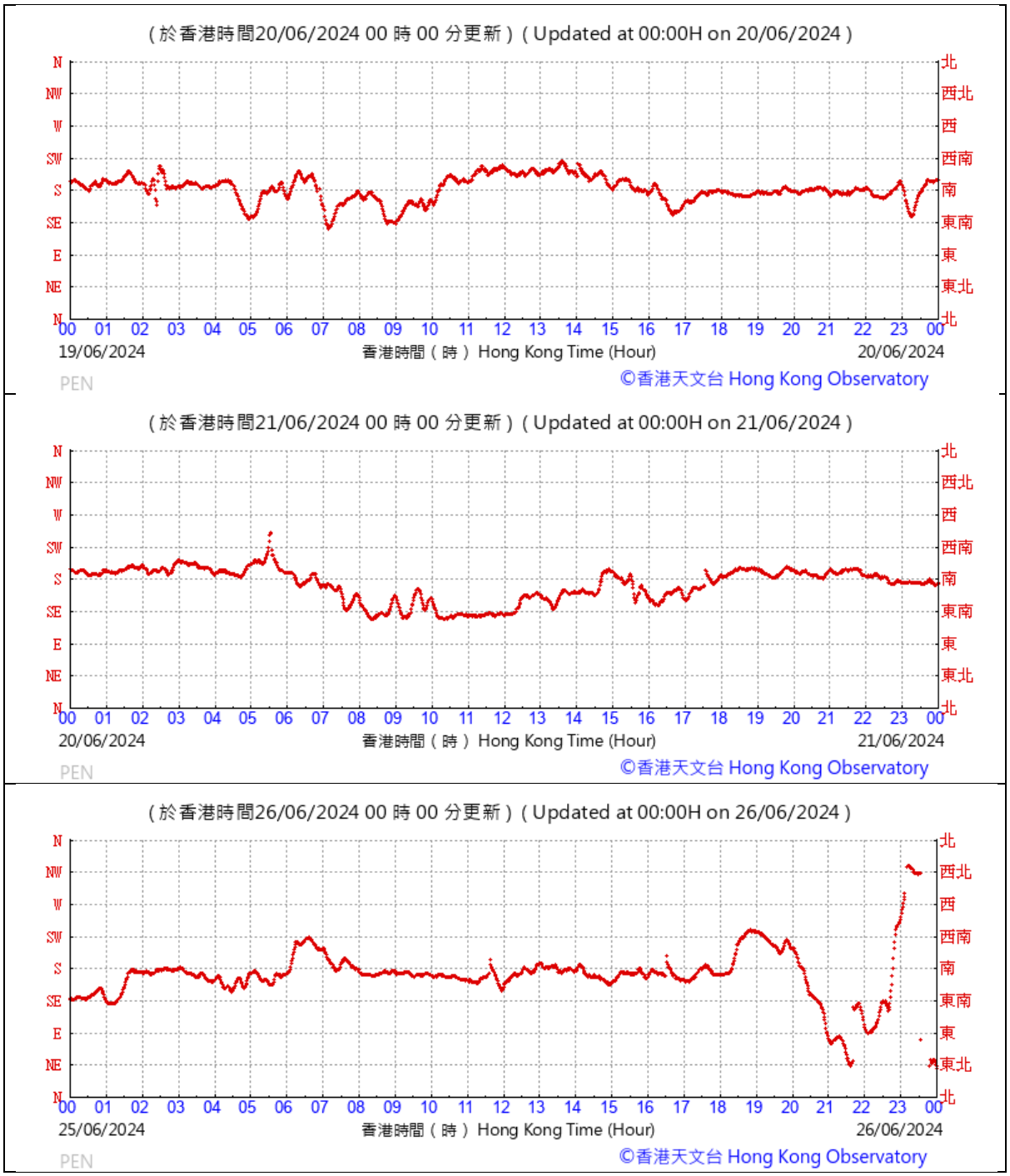
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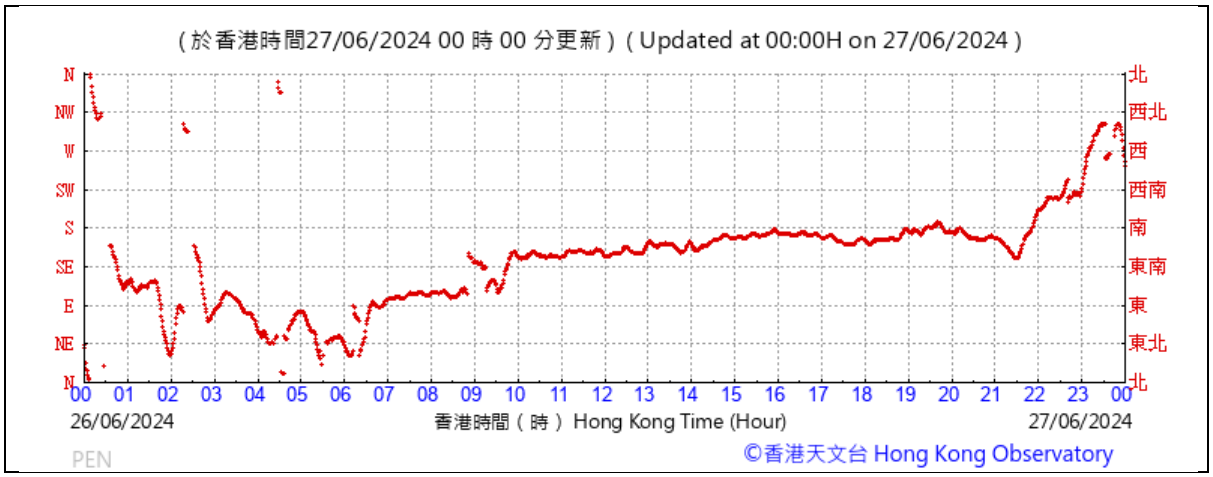
ppendix 4.3 Wind Data



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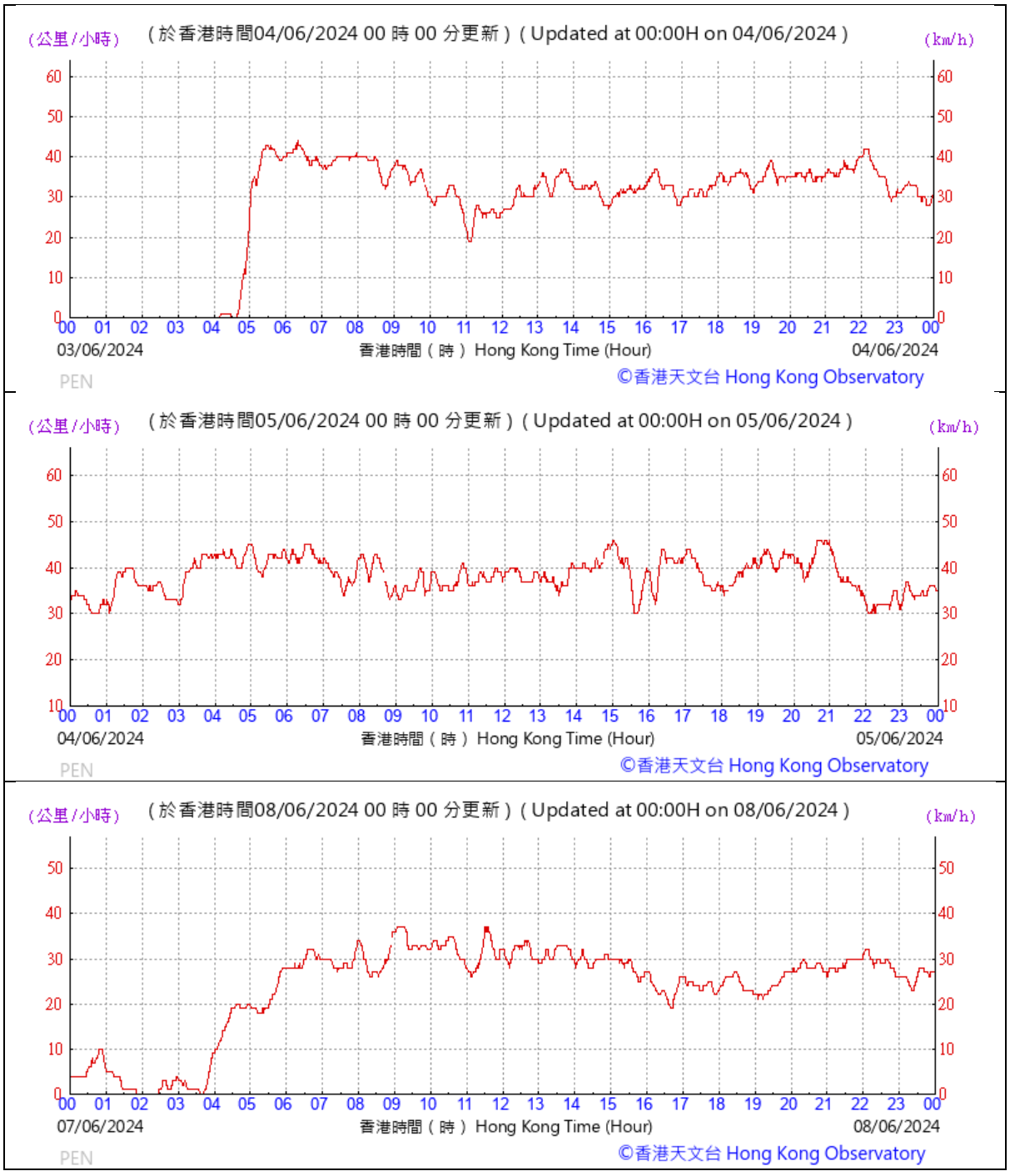

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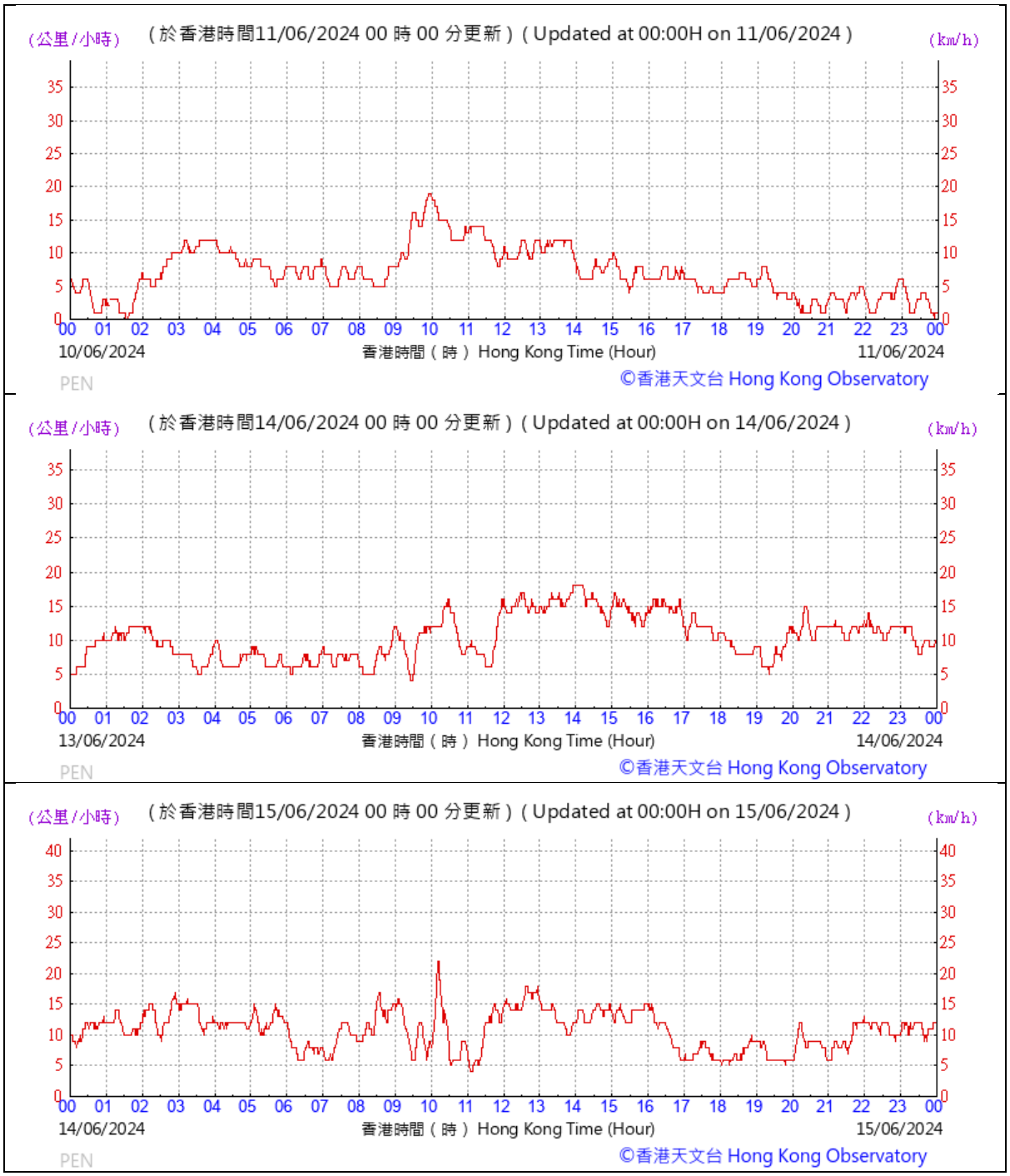

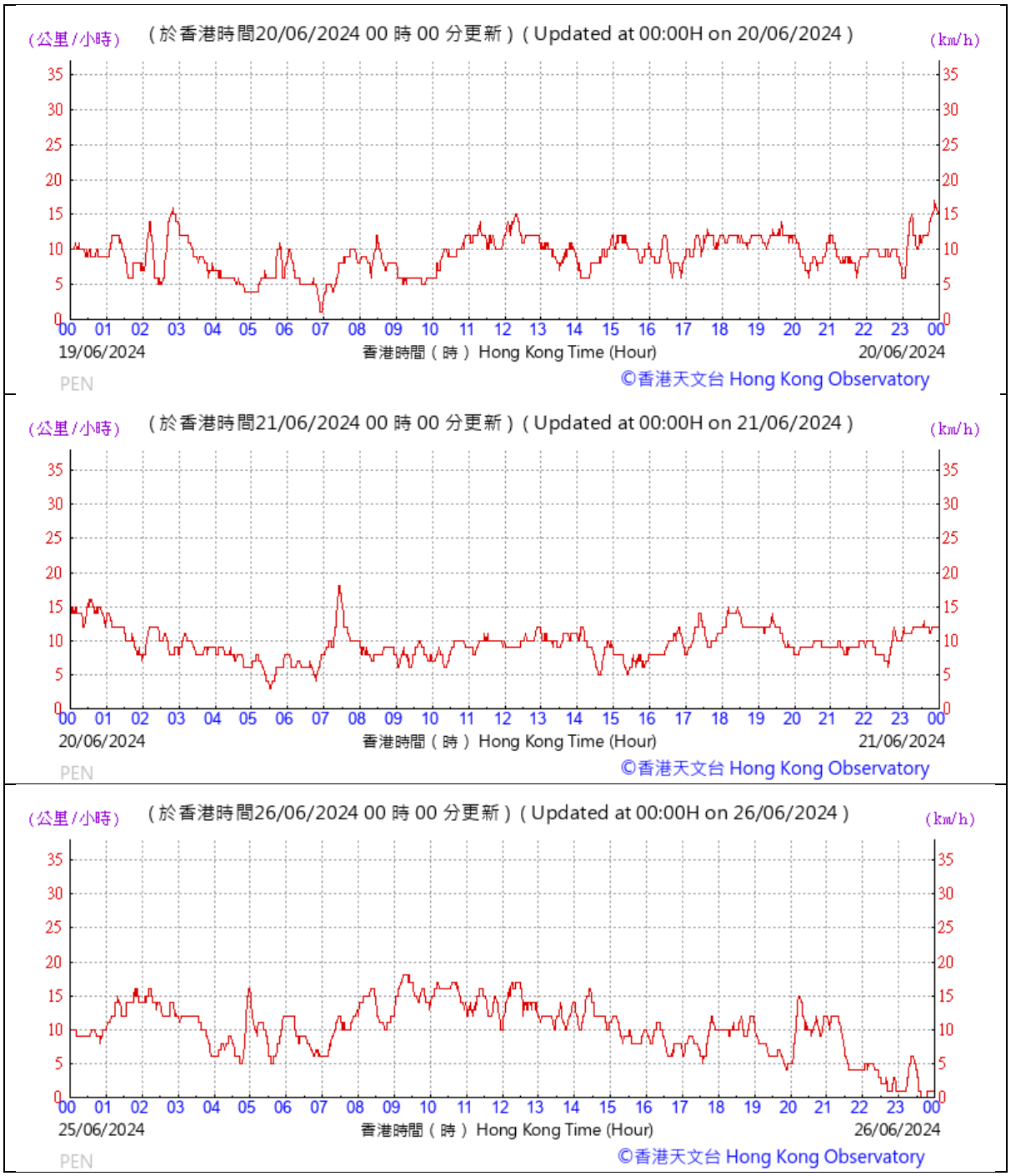
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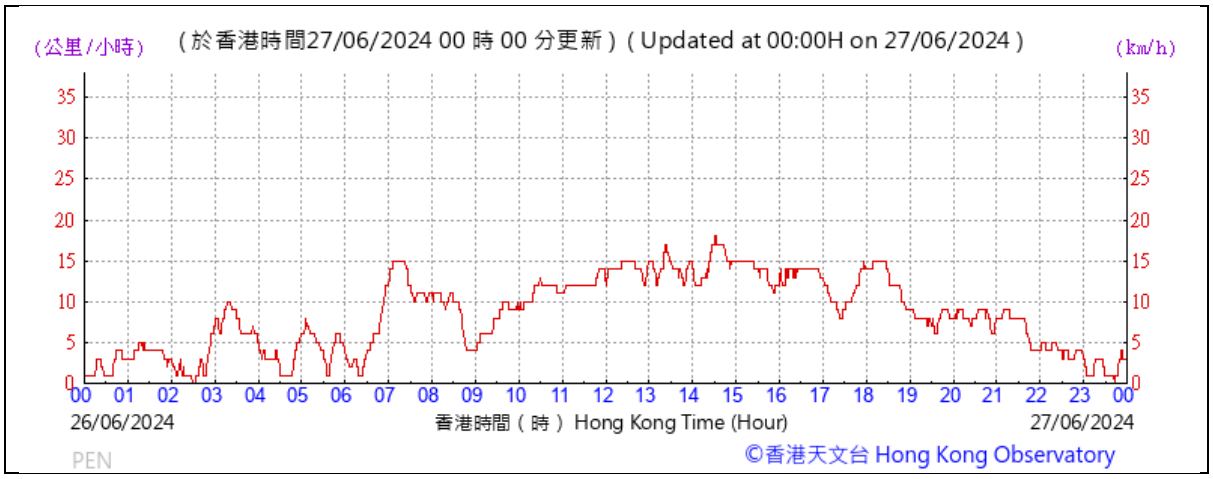


Appendix 5.2

Noise Monitoring Results and Graphical Presentations

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMS1 - 1 Tung Wan Tau Road

Date	Weather	Time	Measurement Noise Level			Average Noise Level#	Baseline Level	Construction Noise Level	Limit Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}	L_{eq}
			Unit: dB(A), (30-min)			Unit: dB(A), (30-min)			
3 Apr 2024	Sunny	10:30	53.6	57.1	48.7	53.6	60.1	<Baseline Level	75
9 Apr 2024	Sunny	10:30	55.8	59.1	48.9	55.8	60.1	<Baseline Level	75
15 Apr 2024	Cloudy	10:30	50.1	53.5	44.2	50.1	60.1	<Baseline Level	75
26 Apr 2024	Cloudy	10:30	51.6	55.0	45.6	51.6	60.1	<Baseline Level	75

Remark:
Due to free-field measurement, a correction factor of +3 dB(A) is adopted.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: NMS1 - 1 Tung Wan Tau Road

Date	Weather	Time	Measurement Noise Level			Average Noise Level#	Baseline Level	Construction Noise Level	Limit Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}	L_{eq}
			Unit: dB(A), (30-min)			Unit: dB(A), (30-min)			
2 May 2024	Sunny	10:30	45.3	47.7	40.8	45.3	60.1	<Baseline Level	75
7 May 2024	Sunny	10:30	51.2	53.6	44.9	51.2	60.1	<Baseline Level	75
13 May 2024	Cloudy	10:30	47.4	50.0	41.2	47.4	60.1	<Baseline Level	75
24 May 2024	Cloudy	10:30	52.6	55.2	46.3	52.6	60.1	<Baseline Level	75
30 May 2024	Cloudy	10:30	53.6	56.3	47.9	53.6	60.1	60.3	75

Remark:
Due to free-field measurement, a correction factor of +3 dB(A) is adopted.

Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

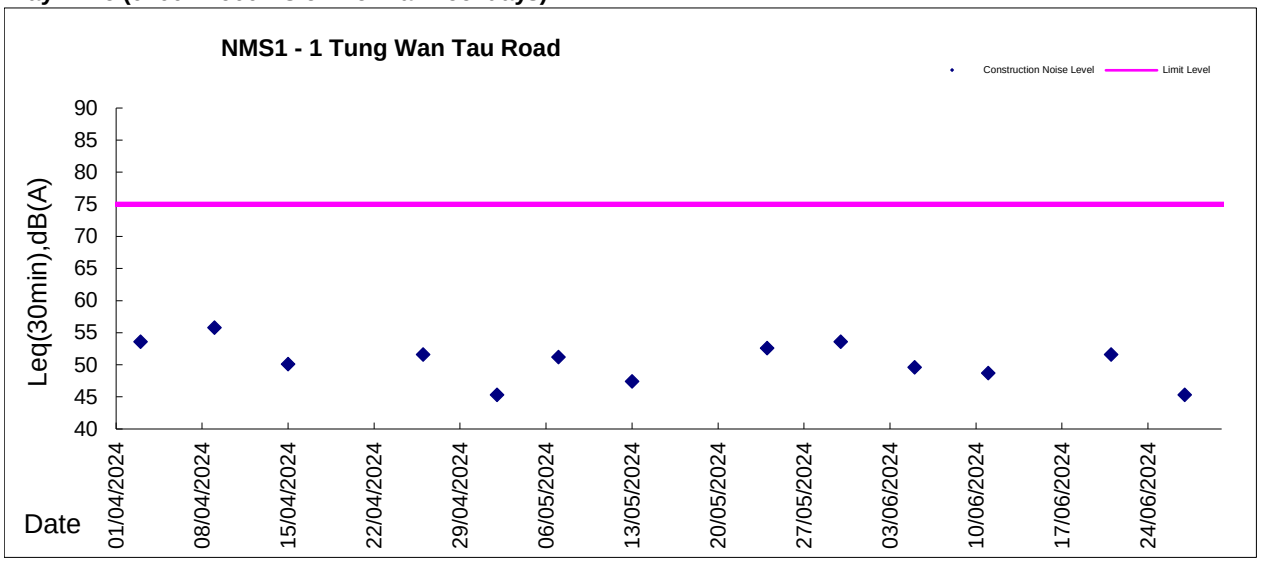
Location: NMS1 - 1 Tung Wan Tau Road

Date	Weather	Time	Measurement Noise Level			Average Noise Level#	Baseline Level	Construction Noise Level	Limit Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}	L_{eq}
			Unit: dB(A), (30-min)			Unit: dB(A), (30-min)			
5 Jun 2024	Sunny	10:30	49.6	52.1	41.0	49.6	60.1	<Baseline Level	75
11 Jun 2024	Sunny	10:30	48.7	51.2	40.1	48.7	60.1	<Baseline Level	75
21 Jun 2024	Sunny	10:30	47.8	50.4	40.2	47.8	60.1	<Baseline Level	75
27 Jun 2024	Sunny	10:30	48.8	51.4	41.3	48.8	60.1	<Baseline Level	75

Remark:
Due to free-field measurement, a correction factor of +3 dB(A) is adopted.

Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)



Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations

Report on 1-hour TSP monitoring at AMS1 - Slivermine Beach Resort
Limit Level (μg/m^3) - 500.0

Date	Weather Condition	Time	TSP Level (μg/m^3)
3-Apr-24	Sunny	9:28	47.8
3-Apr-24	Sunny	10:28	49.4
3-Apr-24	Sunny	11:28	50.1
9-Apr-24	Sunny	9:54	70.2
9-Apr-24	Sunny	10:54	78.8
9-Apr-24	Sunny	11:54	79.1
15-Apr-24	Cloudy	10:03	44.6
15-Apr-24	Cloudy	11:03	48.9
15-Apr-24	Cloudy	12:03	47.4
20-Apr-24	Cloudy	13:03	50.3
20-Apr-24	Cloudy	14:03	56.2
20-Apr-24	Cloudy	15:03	55.8
26-Apr-24	Sunny	8:58	67.9
26-Apr-24	Sunny	9:58	68.2
26-Apr-24	Sunny	10:58	63.4

Report on 1-hour TSP monitoring at AMS2 - 1 Tung Wan Tau Road
Limit Level (μg/m^3) - 500.0

Date	Weather Condition	Time	TSP Level (μg/m^3)
3-Apr-24	Sunny	9:41	24.3
3-Apr-24	Sunny	10:41	27.8
3-Apr-24	Sunny	11:41	28.9
9-Apr-24	Sunny	10:08	14.7
9-Apr-24	Sunny	11:08	15.6
9-Apr-24	Sunny	12:08	19.9
15-Apr-24	Cloudy	10:17	21.3
15-Apr-24	Cloudy	11:17	20.6
15-Apr-24	Cloudy	12:17	31.7
20-Apr-24	Cloudy	13:26	24.8
20-Apr-24	Cloudy	14:26	25.9
20-Apr-24	Cloudy	15:26	23.2
26-Apr-24	Sunny	9:17	37.7
26-Apr-24	Sunny	10:17	30.6
26-Apr-24	Sunny	11:17	40.9

Contract No. HY/2019/04

New Wang Tong River Bridge

	Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling	Flow Rate, m^3/min			Total	TSP Level,
					Initial	Final	Initial	Final	Time, hr	Initial, Qsi	Final, Qsf	Average	Volume, m^3	$\mu g/m^3$
AMS1	02/04/24	8:00	Sunny	011687	2.7601	2.7924	5152.41	5176.41	24.00	0.36	0.65	0.51	730	44.2
AMS1	08/04/24	8:00	Sunny	011686	2.7532	2.8024	5176.41	5200.41	24.00	0.37	0.65	0.51	732	67.2
AMS1	13/04/24	8:00	Cloudy	011685	2.7519	2.7826	5200.41	5224.41	24.00	0.55	0.64	0.59	854	35.9
AMS1	19/04/24	8:00	Cloudy	011684	2.7621	2.7977	5224.41	5248.41	24.00	0.54	0.64	0.59	848	42.0
AMS1	25/04/24	8:00	Cloudy	011683	2.7605	2.7901	5248.41	5272.41	24.00	0.54	0.64	0.59	846	35.0
AMS1	30/04/24	8:00	Sunny	011682	2.7635	2.8098	5272.41	5296.41	24.00	0.45	0.64	0.55	791	58.6
AMS2	02/04/24	8:00	Sunny	011650	2.7925	2.8327	5634.46	5658.46	24.00	1.67	1.67	1.67	2407	16.7
AMS2	08/04/24	8:00	Sunny	011649	2.7647	2.7776	5658.46	5682.46	24.00	1.66	1.67	1.66	2396	5.4
AMS2	13/04/24	8:00	Cloudy	011648	2.7670	2.8094	5682.46	5706.46	24.00	1.65	1.65	1.65	2370	17.9
AMS2	19/04/24	8:00	Cloudy	011647	2.7770	2.8286	5706.46	5730.46	24.00	1.64	1.64	1.64	2367	21.8
AMS2	25/04/24	8:00	Cloudy	011646	2.7710	2.8364	5730.46	5754.46	24.00	1.64	1.64	1.64	2366	27.6
AMS2	30/04/24	8:00	Sunny	011645	2.7783	2.8651	5754.46	5778.46	24.00	1.64	1.65	1.65	2369	36.6

Remarks:

Report on 1-hour TSP monitoring at AMS1 - Slivermine Beach Resort

Limit Level (μg/m^3) - 500.0

Date	Weather Condition	Time	TSP Level (μg/m^3)
2-May-24	Sunny	13:28	17.8
2-May-24	Sunny	14:28	19.3
2-May-24	Sunny	15:28	26.4
7-May-24	Sunny	9:37	28.9
7-May-24	Sunny	10:37	32.4
7-May-24	Sunny	11:37	33.6
13-May-24	Sunny	9:17	17.3
13-May-24	Sunny	10:17	19.5
13-May-24	Sunny	11:17	18.7
18-May-24	Sunny	13:25	26.8
18-May-24	Sunny	14:25	23.4
18-May-24	Sunny	15:25	25.9
24-May-24	Sunny	9:31	18.8
24-May-24	Sunny	10:31	21.4
24-May-24	Sunny	11:31	25.5
30-May-24	Sunny	13:48	19.6
30-May-24	Sunny	14:48	24.3
30-May-24	Sunny	15:48	25.8

Report on 1-hour TSP monitoring at AMS2 - 1 Tung Wan Tau Road
Limit Level (μg/m^3) - 500.0

Date	Weather Condition	Time	TSP Level (μg/m^3)
2-May-24	Sunny	13:43	45.6
2-May-24	Sunny	14:43	44.7
2-May-24	Sunny	15:43	49.6
7-May-24	Sunny	9:52	60.2
7-May-24	Sunny	10:52	67.6
7-May-24	Sunny	11:52	66.3
13-May-24	Sunny	9:32	48.6
13-May-24	Sunny	10:32	49.5
13-May-24	Sunny	11:32	51.7
18-May-24	Sunny	13:40	32.6
18-May-24	Sunny	14:40	33.9
18-May-24	Sunny	15:40	34.8
24-May-24	Sunny	9:46	31.7
24-May-24	Sunny	10:46	36.9
24-May-24	Sunny	11:46	38.4
30-May-24	Sunny	14:03	21.7
30-May-24	Sunny	15:03	25.8
30-May-24	Sunny	16:03	26.9

Contract No. HY/2019/04

New Wang Tong River Bridge

	Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling	Flow Rate, m^3/min			Total	TSP Level,
					Initial	Final	Initial	Final	Time, hr	Initial, Qsi	Final, Qsf	Average	Volume, m^3	$\mu g/m^3$
AMS1	06/05/24	8:00	Sunny	0011681	2.7610	2.8001	5296.41	5320.41	24.00	0.85	1.21	1.03	1483	26.4
AMS1	11/05/24	8:00	Sunny	0011680	2.7568	2.7937	5320.41	5344.41	24.00	0.85	1.21	1.03	1481	24.9
AMS1	17/05/24	8:00	Sunny	0011679	2.7663	2.7902	5344.41	5368.41	24.00	0.82	1.21	1.01	1458	16.4
AMS1	23/05/24	8:00	Sunny	0011678	2.7641	2.7819	5368.41	5392.41	24.00	0.77	1.21	0.99	1430	12.5
AMS1	29/05/24	8:00	Sunny	0011677	2.7775	2.8030	5392.41	5416.41	24.00	0.78	1.21	0.99	1432	17.8
AMS2	06/05/24	8:00	Sunny	0011644	2.7659	2.8948	5773.27	5797.27	24.00	1.69	1.69	1.69	2433	53.0
AMS2	11/05/24	8:00	Sunny	0011643	2.7769	2.8563	5797.27	5821.27	24.00	1.69	1.69	1.69	2434	32.6
AMS2	17/05/24	8:00	Sunny	0011642	2.7722	2.8037	5821.27	5845.27	24.00	1.69	1.69	1.69	2435	12.9
AMS2	23/05/24	8:00	Sunny	0011641	2.7751	2.8271	5845.27	5869.27	24.00	1.69	1.69	1.69	2435	21.4
AMS2	29/05/24	8:00	Sunny	0011640	2.7721	2.8045	5869.27	5893.27	24.00	1.69	1.69	1.69	2431	13.3

Remarks:

Report on 1-hour TSP monitoring at AMS1 - Slivermine Beach Resort

Limit Level (μg/m^3) - 500.0

Date	Weather Condition	Time	TSP Level (μg/m^3)
5-Jun-24	Cloudy	9:31	24.3
5-Jun-24	Cloudy	10:31	28.7
5-Jun-24	Cloudy	11:31	29.5
11-Jun-24	Cloudy	9:44	43.6
11-Jun-24	Cloudy	10:44	48.9
11-Jun-24	Cloudy	11:44	41.2
15-Jun-24	Cloudy	13:21	18.6
15-Jun-24	Cloudy	14:21	21.3
15-Jun-24	Cloudy	15:21	16.7
21-Jun-24	Sunny	9:14	21.4
21-Jun-24	Sunny	10:14	22.6
21-Jun-24	Sunny	11:14	23.8
27-Jun-24	Sunny	13:28	9.7
27-Jun-24	Sunny	14:28	8.6
27-Jun-24	Sunny	15:28	10.4

Report on 1-hour TSP monitoring at AMS2 - 1 Tung Wan Tau Road
Limit Level (μg/m^3) - 500.0

Date	Weather Condition	Time	TSP Level (μg/m^3)
5-Jun-24	Cloudy	9:52	36.9
5-Jun-24	Cloudy	10:52	48.6
5-Jun-24	Cloudy	11:52	42.7
11-Jun-24	Cloudy	10:13	66.8
11-Jun-24	Cloudy	11:13	67.4
11-Jun-24	Cloudy	12:13	65.6
15-Jun-24	Cloudy	13:48	27.8
15-Jun-24	Cloudy	14:48	26.3
15-Jun-24	Cloudy	15:48	22.0
21-Jun-24	Sunny	9:26	17.9
21-Jun-24	Sunny	10:26	18.6
21-Jun-24	Sunny	11:26	16.5
27-Jun-24	Sunny	13:46	10.1
27-Jun-24	Sunny	14:46	17.6
27-Jun-24	Sunny	15:46	12.4

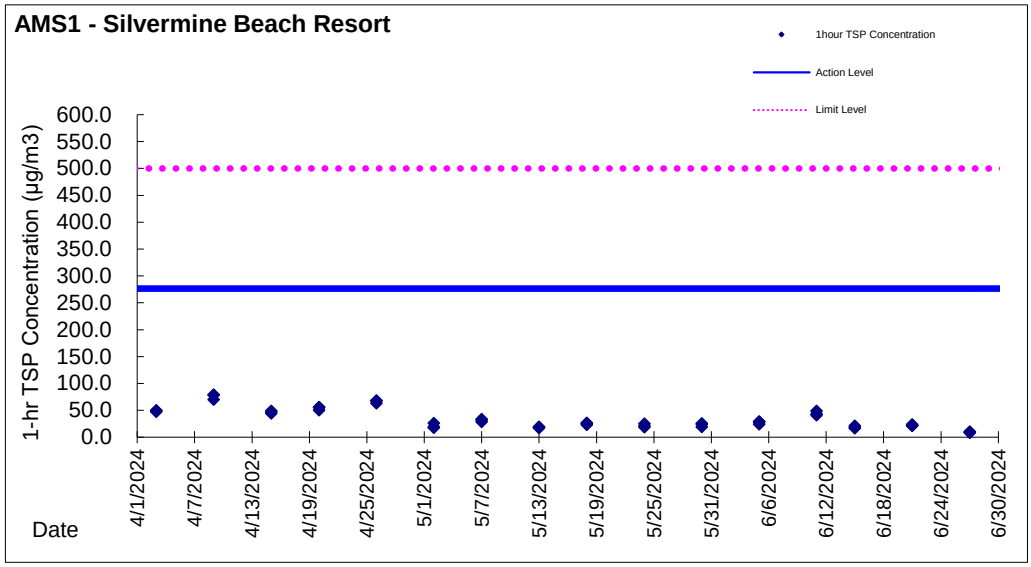
Contract No. HY/2019/04

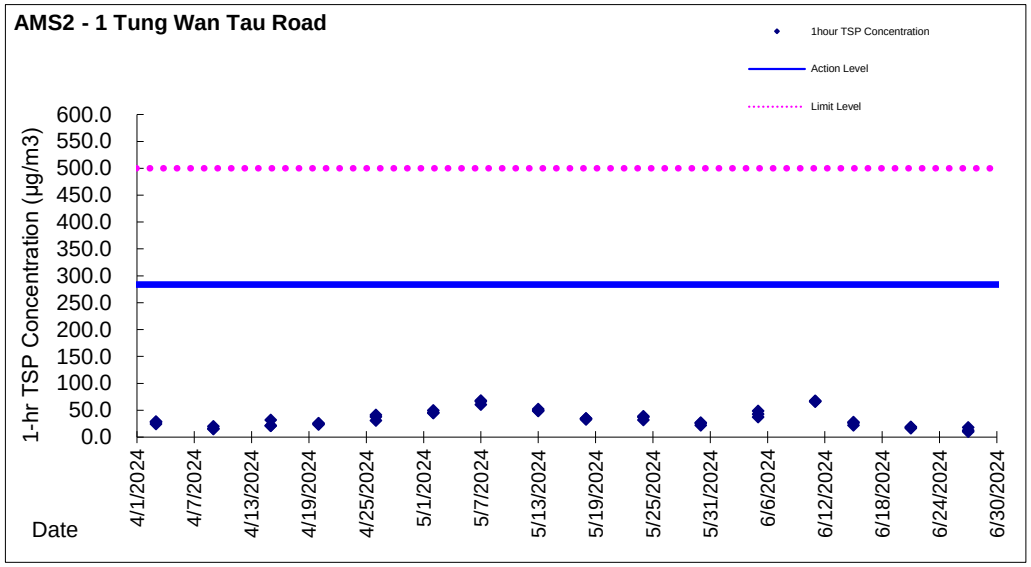
New Wang Tong River Bridge

	Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling	Flow Rate, m^3/min			Total	TSP Level,
					Initial	Final	Initial	Final	Time, hr	Initial, Qsi	Final, Qsf	Average	Volume, m^3	$\mu g/m^3$
AMS1	04/06/24	8:00	Cloudy	011676	2.7712	2.7884	5416.41	5440.41	24.00	0.74	1.21	0.98	1407	12.2
AMS1	08/06/24	8:00	Cloudy	011675	2.7591	2.7832	5440.41	5464.41	24.00	0.82	1.21	1.02	1463	16.5
AMS1	14/06/24	8:00	Cloudy	011674	2.7772	2.7982	5464.41	5488.41	24.00	0.88	1.20	1.04	1500	14.0
AMS1	20/06/24	8:00	Sunny	011673	2.7687	2.7920	5488.41	5512.41	24.00	0.99	1.20	1.09	1573	14.8
AMS1	26/06/24	8:00	Sunny	011672	2.7771	2.7959	5512.41	5536.41	24.00	0.99	1.20	1.09	1575	11.9
AMS2	04/06/24	8:00	Cloudy	011639	2.7733	2.8142	5893.27	5917.27	24.00	1.69	1.69	1.69	2440	16.8
AMS2	08/06/24	8:00	Cloudy	011638	2.7759	2.7947	5917.27	5941.27	24.00	1.47	1.47	1.47	2117	8.9
AMS2	14/06/24	8:00	Cloudy	011637	2.7612	2.8107	5941.27	5965.27	24.00	1.68	1.68	1.68	2420	20.5
AMS2	20/06/24	8:00	Sunny	011636	2.7706	2.8134	5965.27	5989.27	24.00	1.68	1.68	1.68	2417	17.7
AMS2	26/06/24	8:00	Sunny	011635	2.7634	2.7865	5989.27	6013.27	24.00	1.68	1.68	1.68	2422	9.5

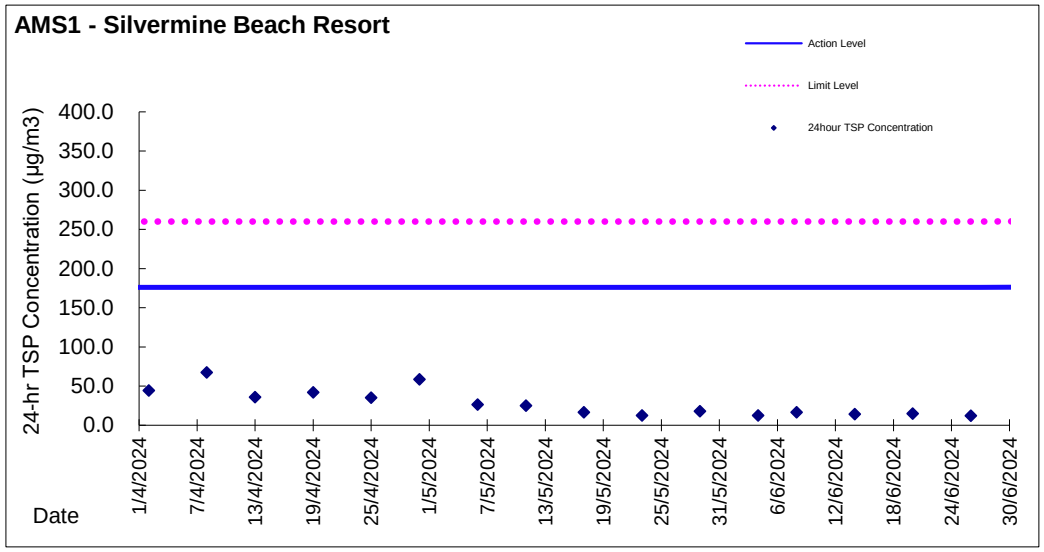
Remarks:

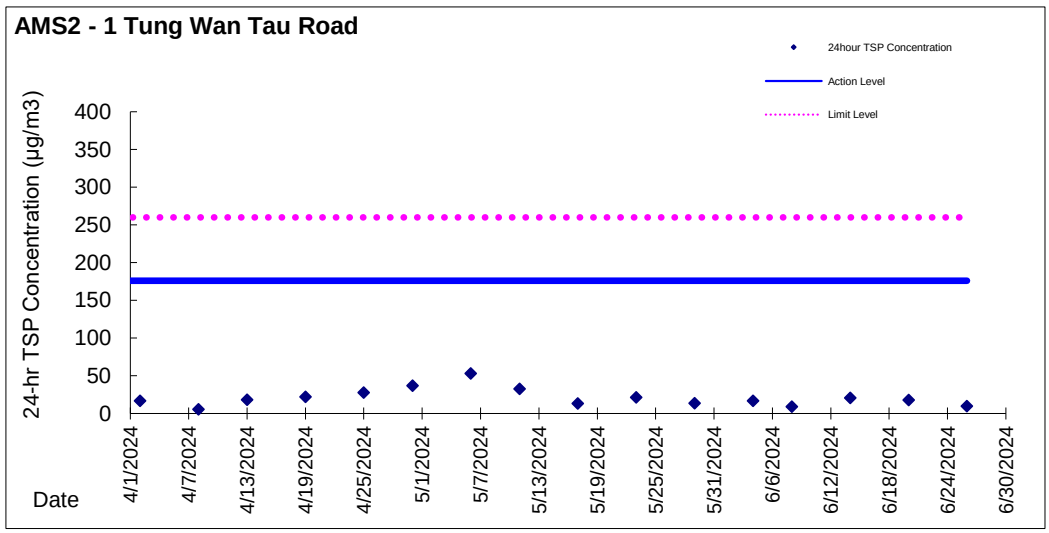
Graphic Presentation of TSP Result





Graphic Presentation of TSP Result





Appendix 5.4

Water Quality Monitoring Results and Graphical Presentations

Water Quality Monitoring Data

Due to no marine-based construction works in the reporting period, no water quality monitoring was conducted. Thus, no water quality monitoring data is presented.

Appendix 6.1

Event Action Plans

Appendix 6.1 Event and Action Plan

Event and Action Plan for Construction Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Inform IEC, ER and Contractor; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Repeat measurement to confirm finding.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Inform IEC, ER and Contractor; 2. Identify source; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET/ER on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER and IEC within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

Event and Action Plan for Construction Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1.Exceedance for one sample	1. Inform IEC, ER, Contractor and EPD; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Discuss with ET and IEC on remedial actions 3. Submit proposals for remedial actions to IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER and Contractor to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to terminate that portion of work until the exceedance ceases.	1. Take immediate action to avoid further exceedance; 2. Discuss with ET and IEC on remedial actions 3. Submit proposals for remedial actions to ER and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance ceases.

Event and Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify IEC, ER and Contractor of exceedance; 2. Identify source 3. Investigate the causes of exceedance and propose remedial measures; 4. Report the results of investigation to the IEC, ER and Contractor; 5. Discuss with the IEC, ER and Contractor and formulate remedial measures; 6. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to ER with copy to ET and IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER, EPD and Contractor; 2. Identify source; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; 5. If exceedance continues, investigate what portion of the work is responsible and instruct the Contractor to terminate that portion of work until the exceedance ceases.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER with copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Terminate the relevant portion of works as determined by the ER until the exceedance ceases.

Event and Action Plan for Water Quality

EVENT	ACTION			
	ET Leader	**IEC**	**ER**	**Contractor**
ACTION LEVEL				
Action level being exceeded by one sampling day	1. Repeat in situ measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor and ER; 4. Check monitoring data, all plant, equipment and Contractor's working methods.	1. Check monitoring data submitted by ET and Contractor's working methods.	1. Confirm receipt of notification of non-compliance in writing; 2. Notify Contractor.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Action level.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Supervise the implementation of mitigation measures.	. Discuss with IEC on the proposed mitigation measures; 2. Ensure mitigation measures are properly implemented; 3. Assess the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of additional mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; 5. Implement the agreed mitigation measures.

Event and Action Plan for Water Quality

EVENT	ACTION			
	ET Leader	**IEC**	**ER**	**Contractor**
LIMIT LEVEL				
Limit level being exceeded by one sampling day	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to review the working methods.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment and consider changes of working methods; 4. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER.
Limit level being exceeded by two or more consecutive sampling days	1. Repeat measurement on next day of exceedance to confirm findings; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	1. Check monitoring data submitted by ET and Contractor's working method; 2. Discuss with ET and Contractor on possible remedial actions; 3. Review the Contractor's mitigation measures whenever necessary to assure their effectiveness and advise the ER accordingly; 4. Supervise the implementation of mitigation measures.	1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	1. Take immediate action to avoid further exceedance; 2. Submit proposal of mitigation measures to ER within 3 working days of notification and discuss with ET, IEC and ER; 3. Implement the agreed mitigation measures; 4. Resubmit proposals of mitigation measures if problem still not under control; 5. As directed by the Supervising Officer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level.

Appendix 6.2

Summary for Notification of Exceedance

Summary for Notification of Exceedance

Ref No.	Date	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up Action
-	-	-	-	-	-	-	-

Ref. No.	Date	Time	Location	Construction Noise Level	Parameter	Action Level	Limit Level	Follow-up action
-	-	-	-	-	-	-	-	-

Appendix 8.1

Complaint Log

Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
C001	05 May 2024	Received from EPD	Silver Mine Bay Beach	The complainant reported that they were covered with polluting matter after swimming in the Silver Mine Bay Beach. The complainant suspected that this was caused by the construction site for the New Wang Tong Bridge and filed the complaint.	The complaint was considered as non-project related based on the fact that: • No effluent nor wastewater discharge within the site boundary from entering into the Wang Tong River and the adjacent beach area on 2 May 2024. • All piling and substructure works for new footbridge and cycle bridge and the associated cofferdam interfacing Wang Tong River were completed since 8 March 2024. • Other than site investigation, strong wind and severe rainstorm were recorded territory-wide on 30 April and 1 May 2024 which could create water turbulence and stir up sediments around Silver Mine Beach Bay and rainstorm flushing of polluting matter from Wang Tong River upstream to the project site.	No further follow-up enquiry received from the complainant as noted from EPD on 31 May 2024