

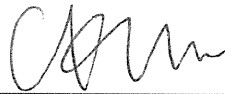
# **Development at West Kowloon Cultural District**

**Quarterly Environmental Monitoring and Audit (EM&A) Report  
(February 2022 – April 2022)**

**May 2022**

This Quarterly EM&A Report has been reviewed and certified by the Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC).

**Certified by:**



**CK WU**

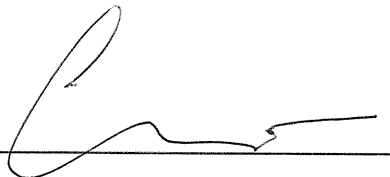
Environmental Team Leader (ETL)

West Kowloon Cultural District Authority

**Date**

31 MAY 2022

**Verified by:**



**Claudine LEE**

Independent Environmental Checker (IEC)

Meinhardt Infrastructure and Environment Ltd

**Date**

31 MAY 2022

This Report Consists of:

**Part-1: EM&A at Lyric Theatre Complex**

**and**

**Part-2: EM&A for Foundation and ELS  
Works in Zones 2A, 2B & 2C**

# **Part-1: EM&A at Lyric Theatre Complex**





# Lyric Theatre Complex

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# Executive summary

This Quarterly EM&A Report presents the monitoring works at Lyric Theatre Complex conducted from 1 February 2022 to 30 April 2022. The construction works and EM&A programme for M+ Museum was commenced on 31 October 2015 and completed on 28 February 2021; while the construction works and EM&A programme for Lyric Theatre Complex (L1 and L2 Contracts) was commenced on 1 March 2016, and the EM&A programme for L1 Contract was completed on 30 June 2021.

The impact stage EM&A programme for the Project includes air quality, noise, water quality, waste, landscape and visual monitoring. The recommended environmental mitigation measures were implemented on site and regular inspections were carried out to ensure that the environmental conditions are acceptable.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the contractors where appropriate in the reporting quarter.

## **Exceedance of Action and Limit Levels**

There was no breach of Action and Limit levels for Air Quality (1-hour TSP and 24-hour TSP) and Noise in this reporting quarter.

## **Implementation of Mitigation Measures**

Construction phase weekly site inspections were carried out to confirm the implementation measures undertaken by the Contractors in the reporting quarter. The status of implementation of mitigation measures during the reporting quarter is shown in **Appendix C**.

Landscape and visual impact inspections were conducted as part of the abovementioned weekly site inspections during the reporting quarter. No adverse comment on landscape and visual aspects were made during these inspections.

## **Record of Complaints**

Eleven complaints were received during the reporting quarter.

## **Record of Notifications of Summons and Successful Prosecutions**

No notifications of summons and successful prosecutions were recorded in the reporting quarter.

# 1 Introduction

## 1.1 Background

Mott MacDonald Hong Kong Limited (MMHK) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction of M+ Museum Main Works (Contract No.: CC/2015/3A/022) and Lyric Theatre Complex including the Foundation Works (Contract No.: CC/2015/3A/014), L1 Contract (Contract No. CC/2017/3A/030) and L2 Contract (Contract No. CC/2017/3A/031) at West Kowloon Cultural District (WKCD) (The Project) as part of the WKCD development. The Project Proponent is the West Kowloon Cultural District Authority (WKCDA). The construction works and EM&A programme for M+ Museum was commenced on 31 October 2015 and completed on 28 February 2021; while the construction works and EM&A programme for Lyric Theatre Complex (L1 and L2 Contracts) was commenced on 1 March 2016, and the EM&A programme for L1 Contract was completed on 30 June 2021.

The overall works for the WKCD fall under two separate categories of Designated Project (DP) of the Environmental Impact Assessment Ordinance (EIAO), namely an “engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000” (Item 1 of Schedule 3) and “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). An Environmental Permit No. EP-453/2013/B (EP) was issued with respect to the “Underpass Road and Austin Road Flyover Serving the West Kowloon Cultural District” which specifically includes the abovementioned category of DP under Item A.9, Part I, Schedule 2 of the EIAO. The captioned projects include part of the abovementioned underpass road located within the site boundary also falls under this same category.

The M+ museum development aims to provide an iconic presence for the M+ museum, semi-transparent vertical plane, housing education facilities, a public restaurant and museum offices. At ground and lower levels, generous access will be provided to the park and other West Kowloon Cultural District facilities, alongside a public resource centre, theatres, retail and dining, and back-of-house functions.

The 1,200-seat Lyric Theatre Complex will be Hong Kong's first world-class facility for dance performances, including ballet, contemporary and Chinese dance forms. In the run up to the opening of further major performing arts venues in the WKCD, it will also be used for a wide variety of performing arts events including drama, opera and musical performances. The Lyric Theatre Complex will act as a platform for Hong Kong's leading arts organisations and be a new major venue to show programmes from Asia and worldwide.

The Quarterly EM&A Report is prepared in accordance with the Clause 3.4 of the Environmental Permit No. EP-453/2013/B. This Quarterly EM&A Report presents the monitoring works conducted from 1 February 2022 to 30 April 2022. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

## 1.2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix A**.

### 1.3 Status of Construction Works in the Reporting Period

During the reporting period, construction works at L2 undertaken include:

- LTC construction
  - Structure (Slab, wall, columns and beam)
    - Falsework and formwork erection
    - Reinforcement work
    - Concrete work
  - ABWF & MEP work
- ASDA and Lyric Theatre Promenade
  - Structure and BS works
- DSC cofferdam (Cofferdam A)
  - Backfilling
  - Removal of S1 strut and trim down portion of pipe pile
- Extended basement
  - ABWF & MEP work
  - RC water tank
  - RC duct slab (Forms/Rebar/Concrete)
  - Carpark area plaster and paint
- Underpass and Associated Area
  - RC Structure
  - ABWF & MEP work
- M+ Day 2 Works
  - Remove Plenum Block Wall & make good opening for Louvre
- P32 Interim Development
  - Structure works (Scaffold/forms/rebar concrete)

The Construction Works Programme of the Project is provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**.

## 2 Summary of EM&A Requirements and Mitigation Measures

### 2.1 Monitoring Requirements

In accordance with the EM&A Manual, environmental parameters including air quality, noise, landscape and visual have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit levels are given in **Table 2.1**. Locations of the monitoring stations are provided in **Figure 1**.

**Table 2.1: Summary of Impact EM&A Requirements**

Parameters	Descriptions	Locations	Frequencies	Action level	Limit level
Air Quality	24-Hour TSP	AM1 - International Commerce Centre	At least once every 6 days	143.6 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM1 - International Commerce Centre	At least 3 times every 6 days	273.7 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
	24-Hour TSP	AM2 - The Harbourside Tower 1	At least once every 6 days	151.1 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM2 - The Harbourside Tower 1	At least 3 times every 6 days	274.2 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
Noise	Leq, 30 minutes	NM1- The Harbourside Tower 1	Weekly	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
Landscape & Visual	Monitor implementation of proposed mitigation measures during the construction stage	As described in Table 9.1 and 9.2 of the EM&A Manual	Bi-weekly	N/A	N/A

In the context of the monitoring activities at M+ Museum and the Lyric Complex, three monitoring stations had been considered, including AM1 (International Commerce Centre), AM2 (The Harbourside Tower 1) for air monitoring, and NM1 (The Harbourside Tower 1) for noise monitoring. Other monitoring locations were so far away from M+ Museum and the Lyric Complex and could not be representative for impact monitoring.

The Harbourside management office formally rejected our proposal of setting up air quality and noise monitoring equipment on its premises at the podium level of Tower 1 (AM2/NM1) on 10 November 2015. Nevertheless, a suitable air quality monitoring location at AM2 was identified on the ground floor in front of The Harbourside Tower 1, which is at the same location as that of baseline monitoring for consistency. No management approval is required on the ground floor for conducting the air monitoring. However, the electricity supply at AM2 was suspended from 31 August 2016. In order to have a more secure electricity supply, an alternative air monitoring location (AM2A) was identified at Austin Road West opposite to The Harbourside Tower 1, which

is close to Lyric Theatre Complex site entrance. This alternative air monitoring location was approved by EPD on 28 September 2016. Due to the works programme, the air monitoring location AM2A has been relocated to the alternative monitoring location AM2B at the 1st floor of Gammon's site office, which was approved by EPD on 21 February 2019. In view of the upcoming construction works to be undertaken at the air monitoring station AM2B, AM2B was no longer available for conducting the impact air quality monitoring. Hence, an alternative air monitoring location was identified on the ground floor in front of The Harbourside Tower 1 (AM2) which is at the same location as the baseline monitoring and this previously approved monitoring location had also been used for the EM&A Programme from November 2015 to August 2016, the relocation was approved by EPD on 27 May 2021.

Alternative noise monitoring location was identified at The Arch (NM2); however, The Arch management office formally rejected our proposal of setting up noise monitoring equipment on its premises on 23 November 2015. On the other hand, noise monitoring at G/F of Harbourside could not be representative. However, approval from the management office of the International Commerce Centre has been granted on 29 February 2016 for conducting noise monitoring at the alternative noise monitoring location identified at the podium floor (NM1A) which is free from screening to the construction activities.

In short, 2 air quality monitoring stations and 1 noise impact monitoring station were confirmed for the impact monitoring.

## 2.2 Environmental Mitigation Measures

Environmental mitigation measures have been recommended in the EM&A Manual. Summary of implementation status of the environmental mitigation measures is provided in **Appendix C**.



## 3 Summary of EM&A Results

### 3.1 Monitoring Data

Impact monitoring has been conducted in the reporting quarter. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and presented in **Appendix D**. Monitoring data with graphical presentation for the reporting quarter are shown in **Appendix E**. A summary on the monitoring results is presented in **Table 3.1**.

**Table 3.1: Summary of Monitoring Data**

Parameter	Monitoring Location	Minimum	Maximum	Average
<b>Air Quality</b>				
1 hour TSP	AM1	14	74	36
	AM2	23	82	46
24 hour TSP	AM1	3	47	29
	AM2	10	52	34
<b>Construction Noise</b>				
Leq(30min)	NM1A	67	69	68

### 3.2 Monitoring Exceedances

Summary of the exceedances in the reporting quarter is tabulated in **Table 3.2**.

**Table 3.2: Summary of Exceedances**

Monitoring Station	Parameter	No. of Exceedance		Action Taken
		Action Level	Limit Level	
<b>Air Quality</b>				
AM1	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
AM2	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
<b>Construction Noise</b>				
NM1A	Leq(30min)	0	0	N/A

#### 3.2.1 1-hour TSP Monitoring

All 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance was recorded.

#### 3.2.2 24-hour TSP Monitoring

All 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance was recorded.

#### 3.2.3 Construction Noise Monitoring

All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance was recorded.

### 3.2.4 Landscape and Visual Monitoring

All landscape and visual impact inspections were conducted as scheduled in the reporting quarter. No adverse comment on landscape and visual aspects were recorded.

## 4 Waste Management

### 4.1 Lyric Theatre Complex

As advised by the Contractor (L2 Contract), 572.6 tonnes, 281.5 tonnes and 7.7 tonnes of inert C&D material were disposed of as public fill to Tseung Kwan O Area 137, Tuen Mun Area 38, and Chai Wan Public Fill Barging Point respectively in the reporting quarter, while 902.9 tonnes of general refuse were disposed of at SENT and WENT landfill. 37.2 tonnes of metals, 0.3 tonnes of paper/cardboard packaging, 0.0 tonne of plastic and 0.0 tonne of timber were collected by recycling contractors in the reporting quarter. 0.0 tonne of inert C&D materials was reused on site. 0.0 tonne of fill materials was imported for use at site and 0.0 tonne of inert C&D materials was reused in other projects. 0.0 tonnes of inert C&D materials were disposed to sorting facility and 0.0 tonne of chemical waste were collected by licensed contractors in the reporting quarter.

The actual amount of different types of waste generated by the activities of construction works at Lyric Theatre Complex in the reporting quarter are shown in **Appendix F**.

## 5 Environmental Non-conformance

There was no breach of Action or Limit levels for Air Quality (1-hour TSP and 24-hour TSP) and Noise in the reporting quarter.

Eleven complaints were received in the reporting quarter: one complaint in February, five complaints in March and five complaints in April. No notifications of summons and successful prosecutions were received in the reporting quarter.

On 23 February 2022, Environmental Protection Department (EPD) has received a complaint regarding construction noise at WKCD construction site and the complaint was referred by EPD on 24 February 2022. The complainant claimed that construction noise continued until 7:15 pm on 23 February 2022 which affected the students who were taking online school classes and preparing for examination at home. The complainant also claimed that the noise has become louder recently even on weekend. Thus, the complainant would like to seek if construction noise could be reduced by constructing high fences around the construction site and implementing plans for noise-generating process within a certain period of intense time. After investigation, it was found that no noisy works were undertaken during the weekends, and no construction activities were undertaken with all generators turned off after 7:00 pm on 23 February 2022. The noise monitoring results in February 2022 also show that the noise levels were well below the corresponding limit levels. Therefore, the complaint could not be attributable to Lyric Theatre Complex.

On 1 March 2022, EPD received a complaint regarding muddy water discharge at the WKCD construction site opposite to the Elements. It was concluded that the complaint was not related to Lyric Theatre Complex. As from the photo provided by the complainant, the concerned area was not within Lyric Theatre Complex's site boundary, hence it could not directly imply the complaint was attributable to Lyric Theatre Complex.

On 2 March 2022, a noise-related complaint was received from the security control room of The Arch through the WKCD Hotline and the case was referred by WKCDA on 2 March 2022. A resident from The Arch claimed that there was loud noise coming from the construction site next to M+ and opposite to the Harbourside in the early morning, and the construction noise was generated at around 7:00 a.m. during 28 February 2022 to 2 March 2022 which caused disturbance. The complainant also enquired about the schedule of the construction. Based on the investigation findings, it was found that no noisy works were undertaken before 9:30 a.m. between 28 February and 2 March 2022. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

On 11 March 2022, EPD received a complaint from a district councillor Mr Hung, who received a complaint from nearby resident claiming that the construction sites of WKCD have been continuously generating high frequency construction noise for several consecutive Sundays. The complainant also requested that no works with high intrusive noise shall be conducted on Sundays. On 15 March 2022, additional information was received from the same complainant, claiming that several construction sites of WKCD near to The Harbourside were undertaking construction works which generated construction noise on 13 March 2022 with no noise barrier being observed, which seriously affected the nearby residents. After the investigation, it was concluded that the complaint was not related to Lyric Theatre Complex. As confirmed by the Contractor, no construction works were carried out on Sundays in February and March 2022,

such that there was no possible noise source that would generate high frequency construction noise, hence it could not directly imply the complaint was attributable to Lyric Theatre Complex.

On 11 March 2022, EPD received a complaint from a public regarding construction dust issue at WKCD construction site and referred the case on 21 March 2022. The complainant claimed that the M+ construction site opposite to The Arch generated rocks and debris on the ground with no water spraying undertaken, which damaged the complainant's car. Based on the investigation, it was found that no earth work and excavation works were undertaken from 1 to 11 March 2022. Proper dust mitigation measures have been actively carried out by the contractor of Lyric Theatre Complex (L2 Contract), including the concrete-paved haul road at the vehicle gate entrance, proper wheel washing facility with designated personnel to ensure all vehicle wheels are washed, and the mechanical cover of dump trucks are properly closed before leaving the construction site. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

On 21 March 2022, EPD received a complaint from a public regarding construction dust and muddy water issue at WKCD construction site and referred the case on the same day. The complainant claimed that the M+ and nearby construction sites generated muddy water and dust which discharged to the public road, seriously affecting the environment. Based on the investigation, it was found that the site boundary of Lyric Theatre Complex (L2 Contract) is not adjacent to the public road, and the condition of the wastewater treatment facility on-site was closely monitored that was within compliance. The discharge point of Lyric Theatre Complex (L2 Contract) is properly maintained to ensure there is no potential leakage to the public road. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

On 4 April 2022, EPD has received a complaint regarding construction noise at WKCD construction site and the complaint was referred by EPD on the same day. The complainant claimed that the construction site at the WKCD produced construction noise at daytime. Based on the investigation findings together with the noise monitoring results, it was found that no construction activities were undertaken before 8 am from 1 to 4 April, while the construction activities carried out from 8 am to 7 pm were within compliance and with proper mitigation measures deployed. The noise monitoring results in March 2022 also show that the noise levels were well below the corresponding limit levels. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

On 6 April 2022, EPD received a complaint from a public regarding construction dust issue at WKCD construction site and referred the case on the same day. The complainant claimed that debris and dust were observed at the Gammon construction site near to the Museum Drive M+ Park entrance, and the complainant's car was scratched. The complainant requested the cleaning of the road near to the Museum Drive M+ Park entrance, and enquired if compensation could be made in the case of the car getting scratched. Photos were provided by the complainant showing the concerned location. Based on the investigation, it was found that the concerned location was not within the site boundary of Lyric Theatre Complex (L2 Contract). In spite of that, proper dust mitigation measures have been actively carried out by the contractor of Lyric Theatre Complex (L2 Contract), including the concrete-paved haul road at the vehicle gate entrance, proper wheel washing facility with designated personnel to ensure all vehicle wheels are washed, and the mechanical cover of dump trucks are properly closed before leaving the construction site. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

On 21 April 2022, EPD has received a complaint regarding construction noise at WKCD construction site and the complaint was referred by EPD on the same day. The complainant claimed that the construction site opposite to The Harbourside generated construction noise from around 6 am to 11 pm. The complainant also acknowledged that the construction site holds valid construction noise permit. Based on the investigation findings together with the noise monitoring

results, it was found that no construction activities were undertaken before 8 am, and all generators for construction works were turned off after 7 pm, while the construction activities carried out from 8 am to 7 pm were within compliance and with proper mitigation measures deployed. The noise monitoring results in April 2022 also show that the noise levels were well below the corresponding limit levels. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

On 24 April 2022, EPD received a complaint from a public regarding construction noise at WKCD construction site, the complaint was referred by EPD on 25 April 2022. The complainant claimed that there were construction works even it was a Sunday (24 April 2022), and a video clip was provided by the complainant. As confirmed by the Contractor, no construction works were carried out on 24 April 2022 (Sunday), such that there was no possible noise source that would generate construction noise. Moreover, as from the video provided by the complainant, the concerned area was not within the boundary of Lyric Theatre Complex (L2 Contract), hence it could not directly imply the complaint was attributable to Lyric Theatre Complex.

On 27 April 2022, EPD and West Kowloon Cultural District Contact Centre have received a complaint regarding construction noise at WKCD construction site. The complainant claimed that there was serious noise problem in recent months from the WKCD construction site, which is in close proximity to The Harbourside, and construction noise was also heard in early morning and on public holidays. The complainant demanded higher standard of mitigation measures, which include rescheduling of construction works, no undertaking of construction works during public holidays, regular noise monitoring, and implementation of further sound-proofing equipment. Based on the investigation findings, it was found that no construction activities were undertaken on public holidays. For weekdays (except public holidays), no construction activities were undertaken before 8:00 a.m., and all generators for construction works were turned off after 7:00 p.m., while the construction activities carried out from 8:00 a.m. to 7:00 p.m. were within compliance and with proper mitigation measures deployed. The noise monitoring results in April 2022 also show that the noise levels were well below the corresponding limit levels. Therefore, the complaint could not be attributable to Lyric Theatre Complex (L2 Contract).

Although the above complaints may not be attributable to Lyric Theatre Complex, noise, dust and water mitigation measures will continue to be strictly implemented on site. Nevertheless, the contractors are reminded to strengthen the implementation of the recommendations for dust and noise mitigation measures to reduce impacts to the nearby residents, while at the same time strictly implement and maintain good site practices to avoid water pollution to the water body of Victoria Harbour.

The cumulative statistics on complaints, notifications of summons and successful prosecutions were provided in **Appendix G**.

## 6 Comments, Recommendations and Conclusion

### 6.1 Comments

Based on the observations made during site audits, landscape inspections, and construction dust and noise monitoring results, no non-compliances and exceedances of air quality and noise were recorded in the reporting quarter.

### 6.2 Recommendations

Reviewing the implementation of the recommended mitigation measures in the EM&A Manual, it was observed that they were effective and efficient in controlling the potential impacts due to construction of the project during the reporting period. Review of the effectiveness and efficiency of the EM&A programme will continue, and recommendations will be provided to remediate any potential impacts due to the project and to improve the EM&A programme if deficiencies of the existing EM&A programme are identified.

### 6.3 Conclusion

The EM&A programme as recommended in the EM&A Manual has been undertaken. The construction works and EM&A programme for M+ Museum was commenced on 31 October 2015 and completed on 28 February 2021; while the construction works and EM&A programme for Lyric Theatre Complex (L1 and L2 Contracts) was commenced on 1 March 2016, and the EM&A programme for L1 Contract was completed on 30 June 2021.

Monitoring of air quality and noise with respect to the Project is underway. In particular, the 1-hour TSP, 24-hour TSP and noise level (as Leq, 30 minutes) under monitoring have been checked against established Action and Limit levels. There was no breach of Action and Limit levels for Air Quality (1-hour TSP and 24-hour TSP) and Noise in this reporting quarter.

Eleven complaints were received in the reporting quarter. No notifications of summons and successful prosecutions were received during the reporting quarter.

Weekly construction phase site inspections and bi-weekly landscape and visual impact inspections were conducted during the reporting quarter as required. It was observed that the Contractor had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during construction phase works.

## **Figure 1    Site Layout Plan and Monitoring Stations**

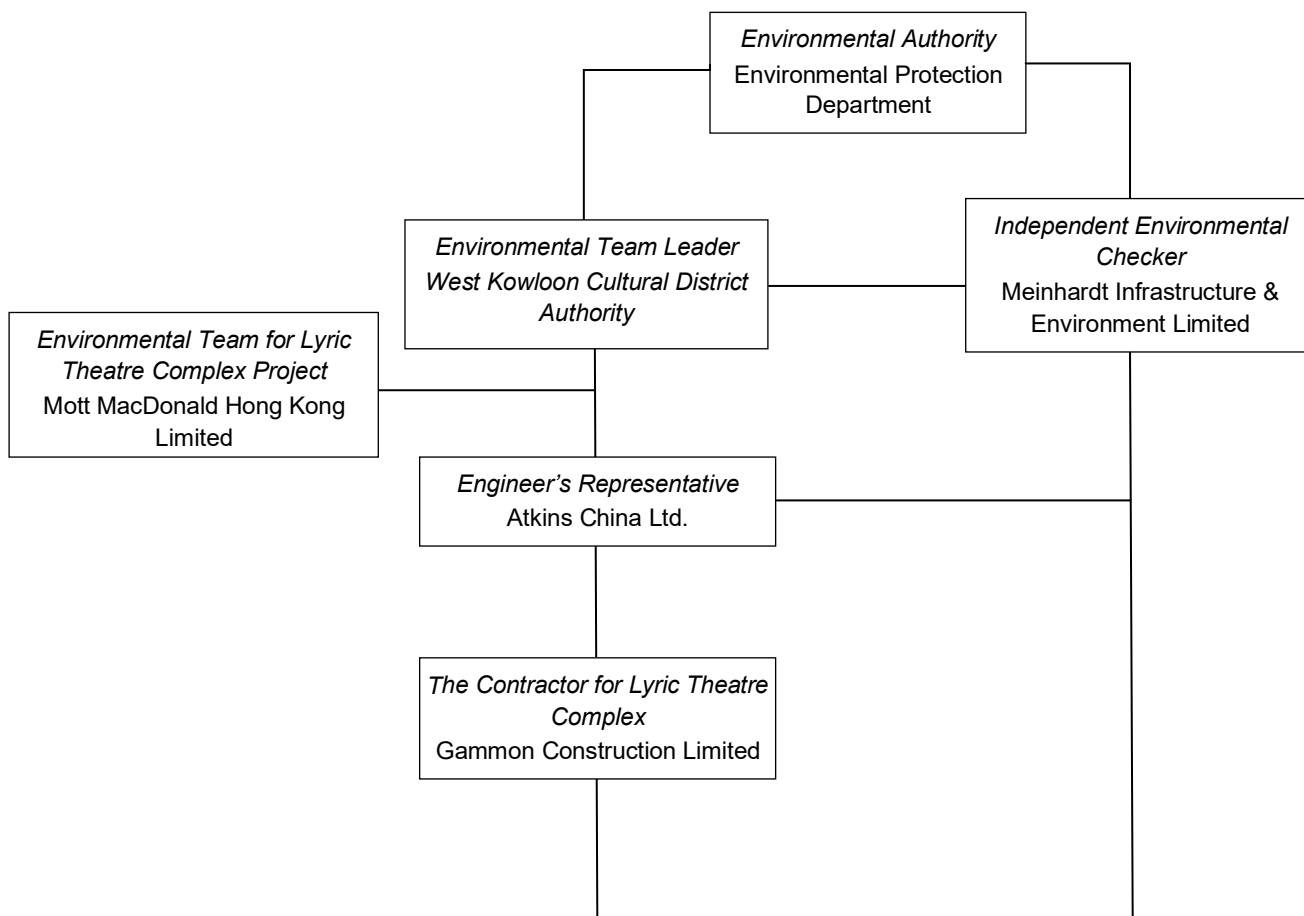




# Appendices

- A. Project Organisation
- B. Construction Programme
- C. Environmental Mitigation Measures – Implementation Status
- D. Meteorological Data Extracted from Hong Kong Observatory
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- F. Waste Flow table
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## A. Project Organisation



**Table A-1: Contact information**

Company Name	Role	Name	Telephone	Email
Atkins China Ltd.	Resident Engineer	Ms. Gloria Lui	5506 6361	gloria.lui@atkinglobal.com
Meinhardt Infrastructure & Environment Limited	Independent Environmental Checker	Ms. Claudine Lee	2859 5409	claudinelee@meinhardt.com.hk
Gammon Construction Limited (L2)	Environmental Manager	Mr. Ivan Chiu	9416 1664	ivan.chiu@gammonconstruction.com
Mott MacDonald Hong Kong Ltd.	Contractor's Environmental Team Leader	Mr. Thomas Chan	2828 5757	thomas.chan@mottmac.com
West Kowloon Cultural District Authority	Senior Project Manager (Safety, Health and Environment)	Mr. C.K. Wu	5506 9178	ck.wu@wkda.hk

## B. Construction Programme

ID	Activity	RD	BL1 Finish	R_1 BL Start	R_1 BL Finish	CURR Start	CURR Finish	LoE SUMM TF (approx, not for use)	R_0 BL VAR	R_1 BL VAR	2020			2021			2022			2023			2024			025
											Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
L2 CMWP_R01_17 Approved 29Sep20 - 17th Update DD=31 Jan 2022																										
<b>GENERAL &amp; PRELIMINARIES</b>																										
<b>Contract Significant Dates</b>																										
<b>Commencement &amp; Completion Dates - CMWP_Rev_01</b>																										
<b>Section Keydates</b>																										
KD05A	Complete Required Pedestrian Access Corridor and Floor Finishes at AURW	0	12-Nov-21		13-May-22		12-Nov-21 A		0	183																
KD05B	Complete Required Pedestrian Access Corridor & associated top slab at Avenue Level [if instructed]	0	12-Nov-21		13-May-22		12-Nov-21 A		0	183																
KD05	PC for HO of Landscape Area at Avenue & Pedestrian level between P31 & P34 [if instructed]	0	03-Sep-22		13-May-22		05-Oct-22*	-145	-32	-145																
KD05	PC for HO of the Remaining Works for M+ Promenade South	0	07-Nov-22		21-Sep-21		13-Jan-23*	-478	-67	-479																
KD08	PC for HO Loc ICT/Risers Rms to APC for ICT Sys Instn Wrks	0	10-Sep-24		30-Oct-23		10-Sep-24*	-316	0	-316																
KD10	PC for HO of ASDA, Lyric Theatre Promenade South to Authority	0	10-Sep-24		30-Oct-23		10-Sep-24*	-316	0	-316																
KD09	PC for HO of RDE areas for Tenancy Fit-out Wrks	0	10-Sep-24		30-Oct-23		10-Sep-24*	-316	0	-316																
KD11	PC for HO of Extended Basement for HO to Authority & HO of Carriageway to Relevant Govt Authority	0	12-Nov-24		30-Dec-23		12-Nov-24*	-318	0	-318																
KD07	PRACTICAL COMPLETION for CWay 3A (M+ Day 2 Works)	0	09-Dec-24		27-Jan-24		09-Dec-24*	-317	0	-317																
KD13	PRACTICAL COMPLETION for Lyric Theatre, Extended Basement & CWay 3B (Excl. PPE License)	0	09-Dec-24		27-Jan-24		09-Dec-24*	-317	0	-317																
<b>Stage Keydates</b>																										
KD01	Compl Dsgn Coor/Subm and obtn NNO for L1 Contr Bsmt constn wrks	0	20-Jul-19		20-Jul-19		20-Jul-19 A		0	0																
KD06	PC for Fountain Related Plantroom(s) (allow access to Project Contractor)	0	07-Jun-22		30-Apr-22		07-Jun-22*	-38	0	-38																
KD03	OBTAIN OP for Lyric Theatre & Extended Basement	0	10-Sep-24		30-Oct-23		10-Sep-24*	-316	0	-316																
KD14	Complete U/G road and the associated plantrooms at Zone 3A&3B Integrated Basement	0	26-Sep-24		14-Nov-23		26-Sep-24*	-317	0	-317																
KD02	Obtain BA14 Acknowledge from BD for M+ Day2 A&A Works	0	08-Nov-24		27-Dec-23		08-Nov-24*	-317	0	-317																
<b>CMWP_Rev_01 - Summary Program - Level 1</b>																										
SUM10	[LoE] CC_B Lyric Theatre - Substructure RC Structural Concrete	0	22-Jan-22	02-May-20	24-May-21	06-May-20 A	22-Jan-22 A		1	-182																
SUM30	[LoE] CC_H - Vibration Isolation Spring System Remaining as of 30Apr2020 (AS=30Sep19)	0	10-Feb-21	02-May-20	29-Dec-20	09-May-20 A	10-Feb-21 A		0	-35																
SUM25	[LoE] CC_E - DCS Cofferdam A Works & Obtain BA14	323	06-Jun-23	22-Jun-20	25-Apr-22	23-Jun-20 A	12-Apr-23	-160	39	-262																
SUM24	[LoE] CC_D - Remaining Works for M+ Promenade South	257	07-Nov-22	07-Nov-20	21-Sep-21	18-Feb-21 A	13-Jan-23	-361	-55	-361																
SUM21	[LoE] CC_C - LT EVA1 & EVA2	702	09-Sep-24	27-Oct-20	09-Oct-23	12-Apr-21 A	09-Sep-24	365	0	-252																
SUM27	[LoE] CC_G Extended Basement - ABWF Works (Incl. Deferred Areas Under Deck)	596	17-Feb-24	24-Nov-20	17-Mar-23	15-May-21 A	17-Feb-24	-47	0	-269																
SUM28	[LoE] CC_G Extended Basement - MEP 1st Fix to Final Fix (Incl. Deferred Areas Under Deck)	578	20-Jan-24	04-Feb-21	24-Feb-23	17-May-21 A	20-Jan-24	-220	0	-269																
SUM14	[LoE] CC_B Lyric Theatre - ABWF Work Including Theatres (Excl. Punch List Works)	789	02-Oct-24	24-Nov-20	01-Nov-23	28-May-21 A	12-Oct-24	-205	-8	-277																
SUM35	[LoE] CC_J - M+ Day 2 Works (excl. connections to M+ and SZ_1 FS Changeover)	699	25-Jun-24	23-Mar-21	03-Aug-23	03-Jun-21 A	25-Jun-24	-233	0	-261																
SUM23	[LoE] CC_C - Artist SQ. Bridge (ASB_1/2/3; ASB_3; P31_2; P34_2; AS_1/2; ASB-6/P31 EVA)	631	01-Jun-24	11-Feb-21	27-Oct-23	21-Jun-21 A	01-Jun-24	436	0	-167																
SUM11	[LoE] CC_B Lyric Theatre - Superstructure RC Structural Concrete	388	12-Jul-23	08-Mar-21	26-Jul-22	02-Jul-21 A	12-Jul-23	-216	0	-262																
SUM22	[LoE] CC_C - HoR Development (P32-1, P29-1, P31-EVA)	606	27-Apr-24	02-Nov-22	27-Oct-23	03-Aug-21 A	27-Apr-24	-140	0	-142																
SUM31	[LoE] CC_I Carriageway 3B - ABWF Works	340	17-Mar-23	24-Nov-20	27-Oct-22	12-Aug-21 A	01-Apr-23	183	-13	-125																
SUM42	[LoE] CC_E - DCS Outside of Cofferdam A Works (Connect DIA1,600 & Remove Temp O'fall)	461	20-Sep-23	11-Jul-22	08-Oct-22	08-Sep-21 A	24-Oct-23	-223	-22	-283																
SUM40	[LoE] CC_N Lifts & Escalators	597	19-Feb-24	23-Aug-21	28-Apr-23	14-Dec-21 A	19-Feb-24	-173	0	-238																
SUM26	[LoE] CC_F - Mods to Existing Pump Cell Civil & MEP Works (Excl. Options 2 Add. Pumps)	153	26-Sep-22	30-Nov-20	31-Aug-21	01-Mar-22	26-Sep-22	-12	0	-290																
SUM15	[LoE] CC_B Lyric Theatre - MEP 1st to Final Fix (Excl. TH SYS, TH Non-FSD in Walls, etc.)	645	16-May-2	20-Mar-21	30-May-23	04-Mar-22	16-May-24	-198	0	-282																
SUM32	[LoE] CC_I Carriageway 3B - MEP Works (1st Fix to Final Fix)	278	28-Jan-23	14-May-21	02-Sep-22	04-Mar-22	13-Feb-23	23	-13	-129																
SUM41	[LoE] CC_B Lyric Theatre - Structural Steel by CSD	438	20-Oct-23	05-Jun-21	01-Nov-22	04-Mar-22	20-Oct-23	-216	0	-262																
SUM20	[LoE] CC_C - LT Promenade & Pocket Square Bridge	597	23-Jul-24	08-May-21	07-Aug-23	10-Jun-22	21-Aug-24	-223	-22	-283																
SUM12	[LoE] CC_B Lyric Theatre - EWS Weather Tight Type	320	09-Sep-23	03-Nov-21	30-Sep-22	06-Jul-22	09-Sep-23	-66	0	-257																
SUM29	[LoE] CC_G Extended Basement - T&C	369	17-Feb-24	13-May-22	17-Mar-23	11-Nov-22	17-Feb-24	-220	0	-269																
SUM17	[LoE] CC_B Lyric Theatre - Theatre Specialist Systems Incl. T&C, Precom. & Commissioning	551	09-Dec-24	21-Dec-21	27-Jan-24	14-Jan-23	29-Nov-24	-246	8	-246																
SUM13	[LoE] CC_B Lyric Theatre - EWS Non-Weather Tight Type 4.1 & 4.3	271	25-Mar-24	27-May-22	29-Apr-23	27-Mar-23	25-Mar-24	-145	0	-247																
SUM33	[LoE] CC_I Underpass 3B & Associated Area - T&C	159	12-Oct-23	08-Jul-22	12-Nov-22	30-Mar-23	12-Oct-23	-120	0	-267																
SUM39	[LoE] CC_K - Water Main at Promenade	216	30-Dec-23	26-Apr-22	12-Jan-23	13-Apr-23	26-Jan-24	-223	-22	-283																
SUM16	[LoE] CC_B Lyric Theatre - T&C (Excluding Non-FSD ELV & Electrical)	126	16-May-2	07-Jan-23	04-Jul-23	05-Dec-23	16-May-24	-254	0	-254																
SUM18	[LoE] CC_B Lyric Theatre, EB, CWay 3B - Stat. Insp. & Approval (from Form 314/501 to BD OP)	98	10-Sep-24	05-Jul-23	30-Oct-23	17-May-24	10-Sep-24	-254	0	-254																
SUM38	[LoE] CC_J - M+ Day 2 FS Changeover in 3A SZ_1, Connections to M+, Integrated T&C	51	26-Sep-24	19-Jul-23	14-Nov-23	29-Jul-24	26-Sep-24	-254	0	-254																
SUM34	[LoE] CC_J Carriageway 3A - Stat. Insp. & Approvals (from Form 314A to BA14)	56	08-Nov-24	20-Oct-23	27-Dec-23	02-Sep-24	08-Nov-24	-254	0	-254																



- Base Line ACT
- Base Line MS
- ▼ Milestone
- Current - Other Works
- Current - Struct Works
- Current - MEP Works
- Current - ABWF Works
- Current - Facade Works
- Critical Works
- Actual

**L2 CMWP\_R01\_17 Approved 29Sep20 - 17th Update DD=31 Jan 2022**

Date	Revision	Checked	Approved
14-Feb-22	CMWP Rev_1_17 - 17th Update DD 31Jan22	NS	IH

## **C. Environmental Mitigation Measures – Implementation Status**

**Table C-1: Environmental Mitigation Measures Implementation Status**

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
<b>Air Quality Impact (Construction)</b>				
2.1 & 10.3.1	<b>General Dust Control Measures</b> Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)	✓	Obs	Obs
2.1 & 10.3.1	<b>Best Practice For Dust Control</b> The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include: <i>Good Site Management</i> <ul style="list-style-type: none"> <li>Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.</li> </ul> <i>Disturbed Parts of the Roads</i> <ul style="list-style-type: none"> <li>Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or</li> <li>Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.</li> </ul> <i>Exposed Earth</i> <ul style="list-style-type: none"> <li>Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seeding with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.</li> </ul> <i>Loading, Unloading or Transfer of Dusty Materials</i>	Obs	Obs	Obs
		✓	✓	✓
		✓	✓	✓
		N/A	N/A	N/A



EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.</li> </ul>	✓	✓	✓
	<i>Debris Handling</i>			
	<ul style="list-style-type: none"> <li>Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.</li> </ul>	✓	✓	✓
	<i>Transport of Dusty Materials</i>			
	<ul style="list-style-type: none"> <li>Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.</li> </ul>	✓	✓	✓
	<i>Wheel washing</i>			
	<ul style="list-style-type: none"> <li>Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> </ul>	✓	✓	✓
	<i>Use of vehicles</i>			
	<ul style="list-style-type: none"> <li>The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.</li> </ul>	✓	✓	✓
	<i>Site hoarding</i>			
	<ul style="list-style-type: none"> <li>Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.</li> </ul>	✓	✓	✓
2.1 & 10.3.1	<p><b>Best Practicable Means for Cement Works (Concrete Batching Plant)</b></p> <p>The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include: Exhaust from Dust Arrestment Plant</p>			

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection</li> </ul>	N/A	N/A	N/A
	<p>Emission Limits</p> <ul style="list-style-type: none"> <li>All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke</li> </ul>	N/A	N/A	N/A
	<p>Engineering Design/Technical Requirements</p> <ul style="list-style-type: none"> <li>As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions</li> </ul>	N/A	N/A	N/A
	<p><b>Non-Road Mobile Machinery (NRMM):</b> All NRMMs operating on-site which are subject to emission control of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation are approved/exempted (as the case may be) and affixed with the requisite approval/exemption labels.</p>	✓	✓	✓
<b>Noise Impact (Construction)</b>				
3.1 & 10.4.1	<p><b>Good Site Practice</b> Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:</p> <ul style="list-style-type: none"> <li>only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works;</li> <li>machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum</li> <li>plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;</li> <li>mobile plant should be sited as far away from NSRs as possible; and</li> <li>material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	✓	✓	✓
	<p><b>Adoption of Quieter PME</b></p>	✓	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
3.1 & 10.4.1	The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in <b>Table 4.26</b> in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.	✓	✓	✓
3.1 & 10.4.1	<b>Use of Movable Noise Barriers</b> Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	✓	✓	✓
3.1 & 10.4.1	<b>Use of Noise Enclosure/ Acoustic Shed</b> The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No. 9/2010.	✓	✓	✓
3.1 & 10.4.1	<b>Use of Noise Insulating Fabric</b> Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, piling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	✓	Rem	✓
3.1 & 10.4.1	<b>Scheduling of Construction Works outside School Examination Periods</b> During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	N/A	N/A	N/A
<b>Water Quality Impact (Construction)</b>				
<b>Construction site runoff and drainage</b>				

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
4.1 & 10.5.1	<p>The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:</p> <ul style="list-style-type: none"> <li>At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction;</li> <li>Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction.</li> <li>All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.</li> <li>Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities.</li> </ul>	✓	✓	✓
		✓	✓	✓
		✓	✓	✓
		✓	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers.</li> </ul>	✓	✓	✓
	<ul style="list-style-type: none"> <li>Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.</li> </ul>	✓	✓	Obs
	<ul style="list-style-type: none"> <li>Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.</li> </ul>	N/A	N/A	N/A
	<p><b>Barging facilities and activities</b></p> <p>Recommendations for good site practices during operation of the proposed barging point include:</p>			
	<ul style="list-style-type: none"> <li>All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> </ul>	N/A	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation;</li> <li>All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and</li> <li>Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.</li> </ul>	N/A	N/A	N/A
4.1 & 10.5.1	<p><b>Sewage effluent from construction workforce</b></p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	✓	✓	✓
4.1 & 10.5.1	<p><b>General construction activities</b></p> <ul style="list-style-type: none"> <li>Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used.</li> <li>Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.</li> </ul>	✓	✓	✓
		Obs	Obs	Obs
<b>Waste Management Implications (Construction)</b>				
6.1 & 10.7.1	<p><b>Good Site Practices</b></p> <p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> <li>Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>Training of site personnel in proper waste management and chemical handling procedures</li> </ul>	✓	Obs	✓
		✓	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Provision of sufficient waste disposal points and regular collection of waste</li> <li>Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers</li> <li>Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads</li> <li>Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&amp;D materials is not anticipated</li> </ul>	✓	✓	✓
6.1 & 10.7.1	<p><b>Waste Reduction Measures</b></p> <p>Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>Sort inert C&amp;D material to recover any recyclable portions such as metals</li> <li>Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal</li> <li>Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force</li> <li>Proper site practices to minimise the potential for damage or contamination of inert C&amp;D materials</li> <li>Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of wastes</li> </ul>	✓	✓	✓
6.1 & 10.7.1	<p><b>Inert and Non-inert C&amp;D Materials</b></p> <p>In order to minimise impacts resulting from collection and transportation of inert C&amp;D material for off-site disposal, the excavated materials should be reused on-site as fill material as far as practicable. In addition, inert C&amp;D material generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.</p> <ul style="list-style-type: none"> <li>The surplus inert C&amp;D material will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong.</li> <li>Liaison with the CEDD Public Fill Committee (PFC) on the allocation of space for disposal of the inert C&amp;D materials at PFRF is underway. No construction work is allowed to proceed until all issues on management of inert C&amp;D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD.</li> </ul>	✓	✓	✓

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>The C&amp;D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site.</li> <li>In order to monitor the disposal of inert and non-inert C&amp;D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the Technical Circular (Works) No. 6/2010 for Trip Ticket System for Disposal of Construction &amp; Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site.</li> </ul>	✓	✓	✓
6.1 & 10.7.1	<p><b>Chemical Waste</b></p> <ul style="list-style-type: none"> <li>If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the "Code of Practice on the Packaging Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> <li>Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended.</li> </ul>	✓	✓	✓
6.1 & 10.7.1	<p><b>General Refuse</b></p> <p>General refuse should be stored in enclosed bins or compaction units separated from inert C&amp;D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&amp;D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	✓	✓	Obs



EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
<b>Land Contamination (Construction)</b>				
7.1 & 10.8.1	<p>The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials.</p> <p>The following measures are proposed for excavation and transportation of contaminated material:</p> <ul style="list-style-type: none"> <li>To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed;</li> <li>Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when interacting directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site;</li> <li>Stockpiling of contaminated excavated materials on site should be avoided as far as possible;</li> <li>The use of contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out;</li> <li>Vehicles containing any contaminated excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater;</li> <li>Truck bodies and tailgates should be sealed to stop any discharge;</li> <li>Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping;</li> <li>Speed control for trucks carrying contaminated materials should be exercised;</li> <li>Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354) and obtain all necessary permits where required; and</li> </ul>	N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A
		N/A	N/A	N/A

EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Maintain records of waste generation and disposal quantities and disposal arrangements.</li> </ul>	N/A	N/A	N/A
<b>Ecological Impact (Construction)</b>				
No mitigation measure is required.				
<b>Landscape and Visual Impact (Construction)</b>				
Table 9.1 & 10.8 (CM1)	Trees should be retained in situ on site as far as possible. Should tree removal be unavoidable due to construction impacts, trees will be transplanted or felled with reference to the stated criteria in the Tree Removal Applications to be submitted to relevant government departments for approval in accordance to ETWB TCW No. 29/2004 and 3/2006.	✓	✓	✓
Table 9.1 & 10.8 (CM2)	Compensatory tree planting shall be incorporated to the proposed project and maximize the new tree, shrubs and other vegetation planting to compensate tree felled and vegetation removed. Also, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of quality and quantity within the site.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM3)	Buffer trees for screening purposes to soften the hard architectural and engineering structures and facilities.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	N/A	N/A	N/A
Table 9.1 & 10.8 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	N/A	N/A	N/A
Table 9.1 (CM9)	Minimize the structure of marine facilities to be built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A	N/A

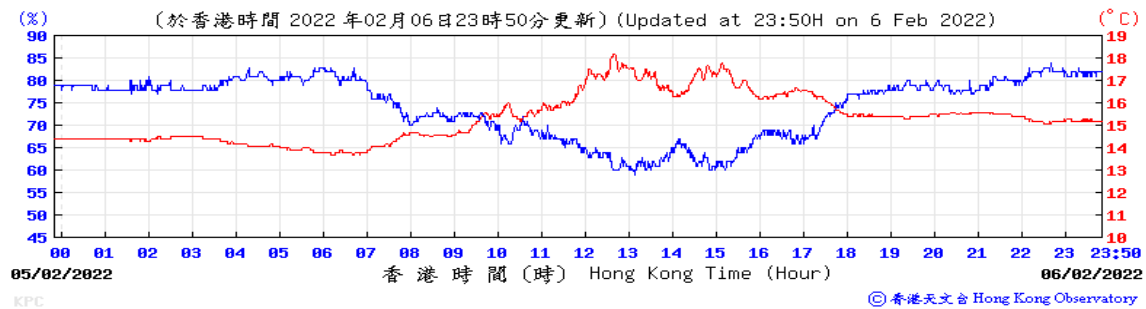
EM&A Ref.	Recommendation Measures	Implementation Stage		
		Feb 2022	L2 Mar 2022	Apr 2022
Table 9.2 & 10.9 (MCP1)	Use of decorative screen hoarding/boards	✓	✓	✓
Table 9.2 & 10.9 (MCP2)	Early introduction of landscape treatments	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	N/A	N/A	N/A
Table 9.2 & 10.9 (MCP4)	Control of night time lighting	✓	✓	✓
Table 9.2 & 10.9 (MCP5)	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and soften the hard edges of the structures.	N/A	N/A	N/A

N/A	-	Not Applicable
✓	-	Implemented
Obs	-	Observed
Rem	-	Reminder

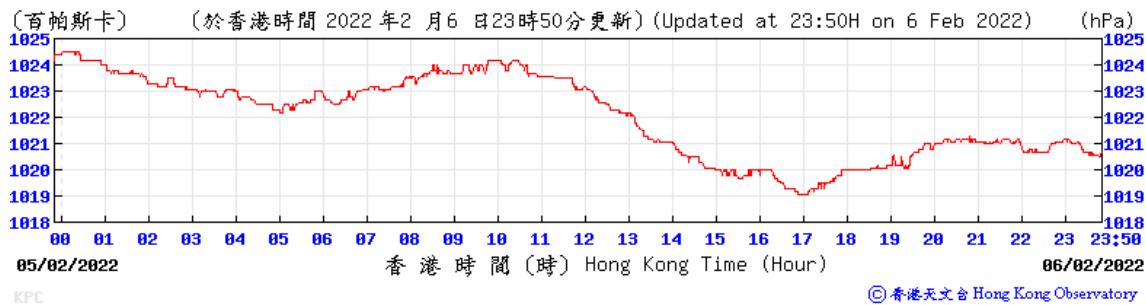
## **D. Meteorological Data Extracted from Hong Kong Observatory**

**Table D-1: Extract of Meteorological Observations for King's Park Automatic Weather Station in the reporting quarter**

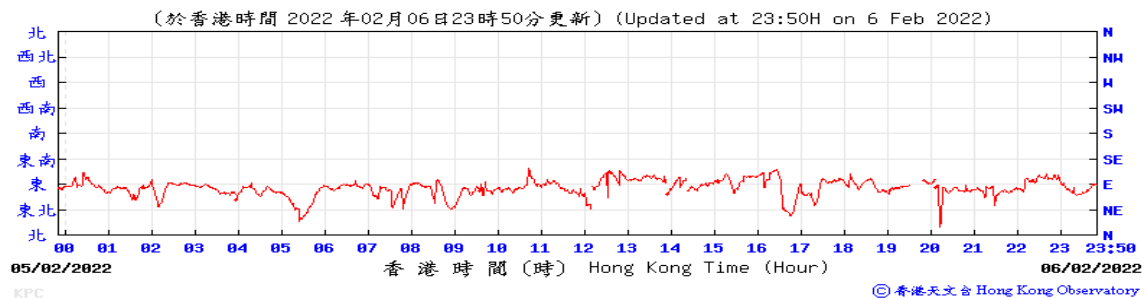
Temperature/Humidity:



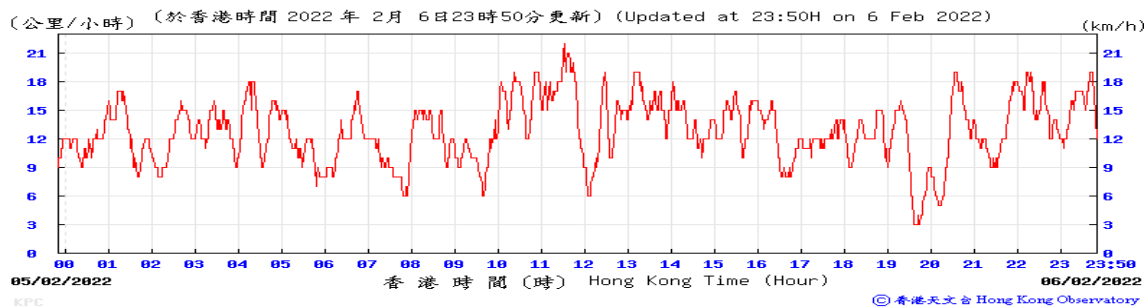
Pressure:



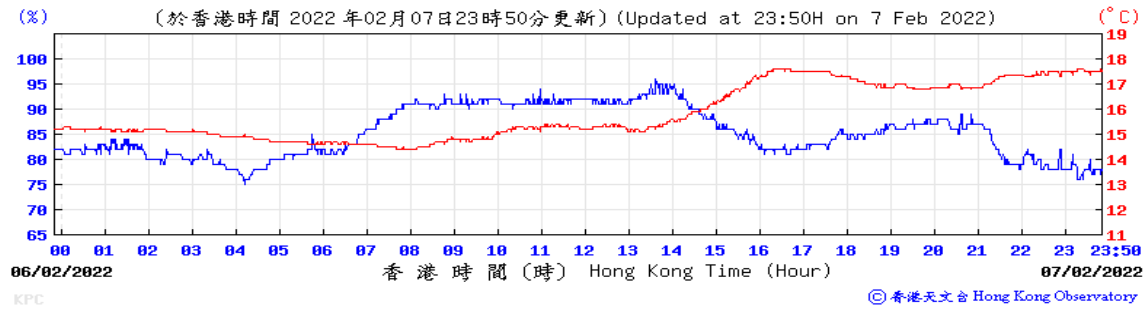
Wind Direction:



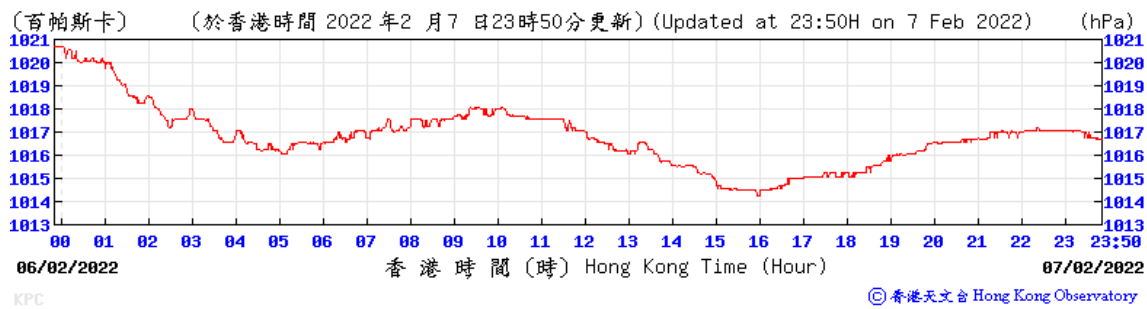
Wind Speed:



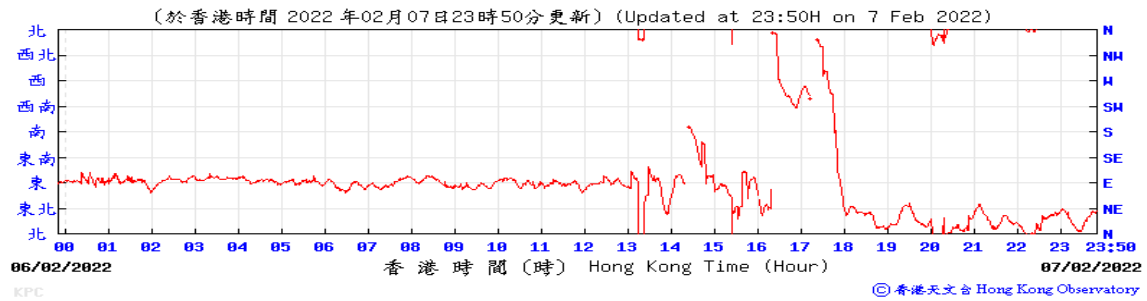
Temperature/Humidity:



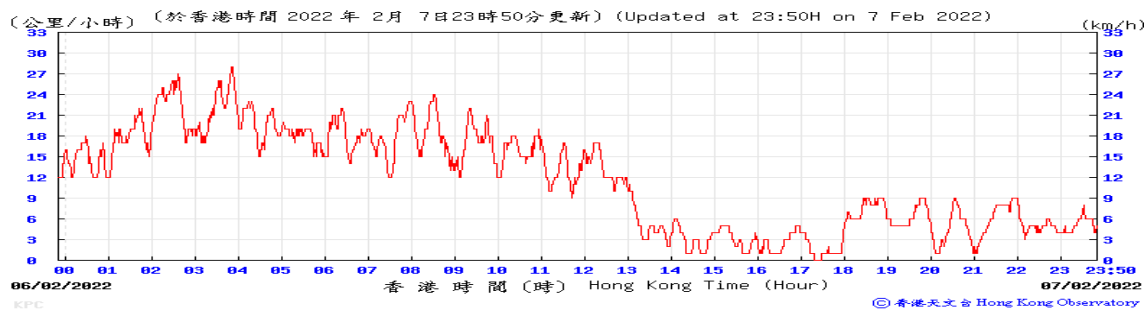
Pressure:



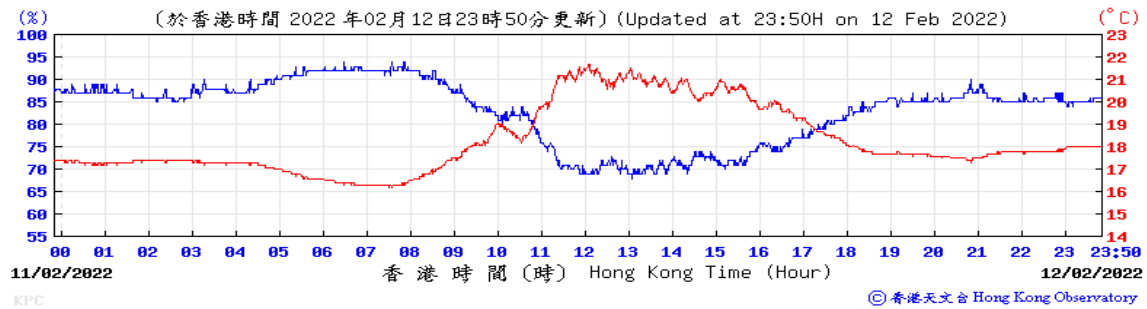
Wind Direction:



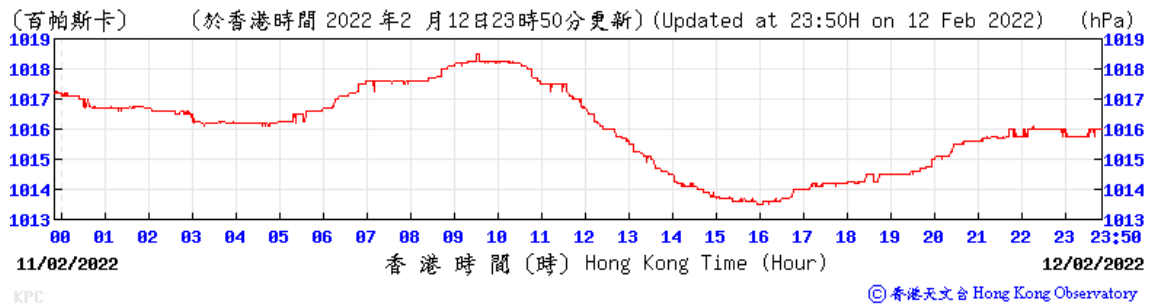
Wind Speed:



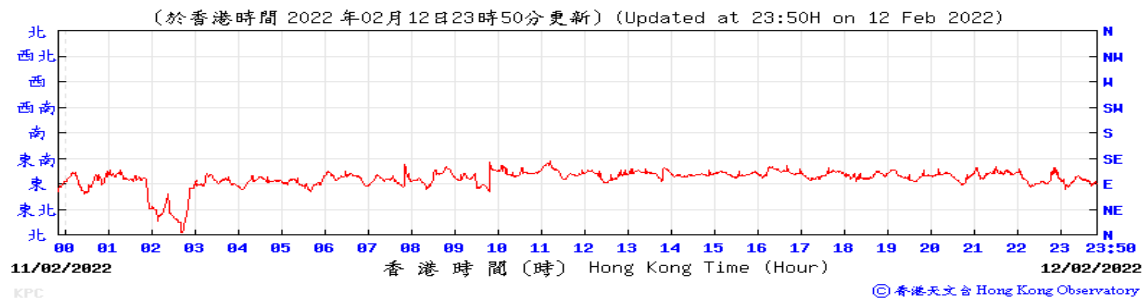
Temperature/Humidity:



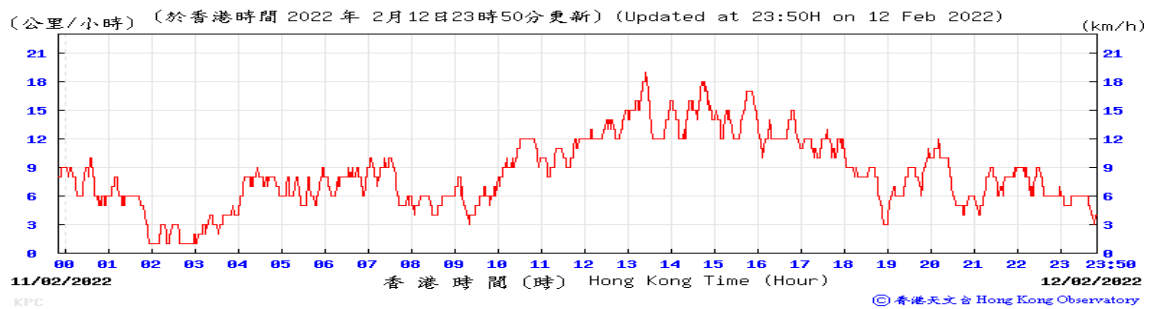
Pressure:



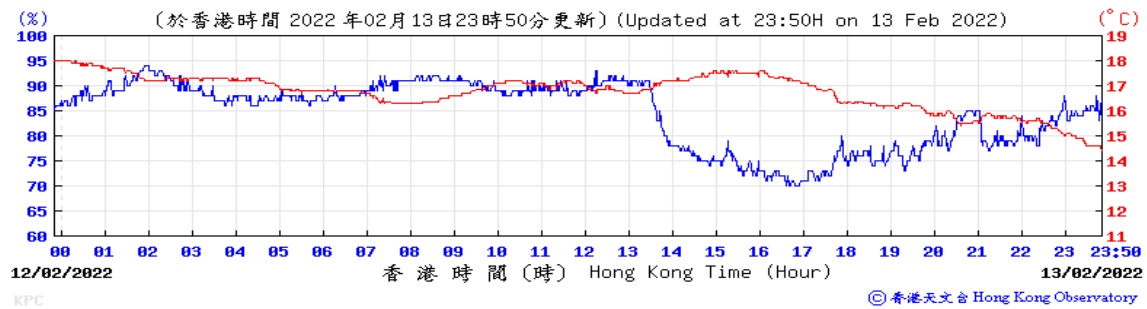
Wind Direction:



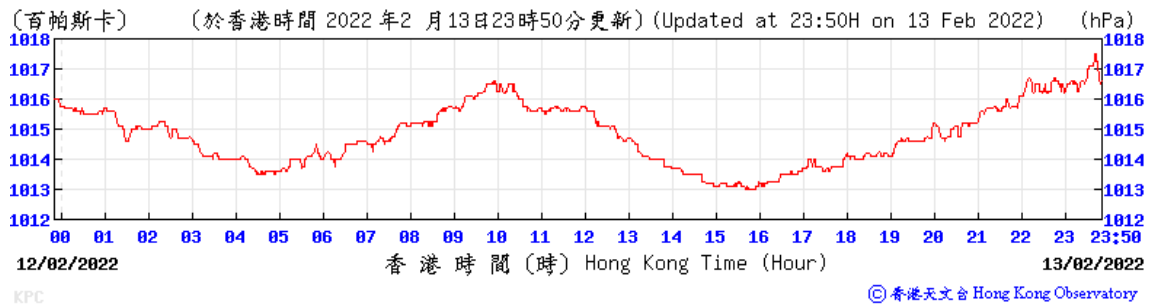
Wind Speed:



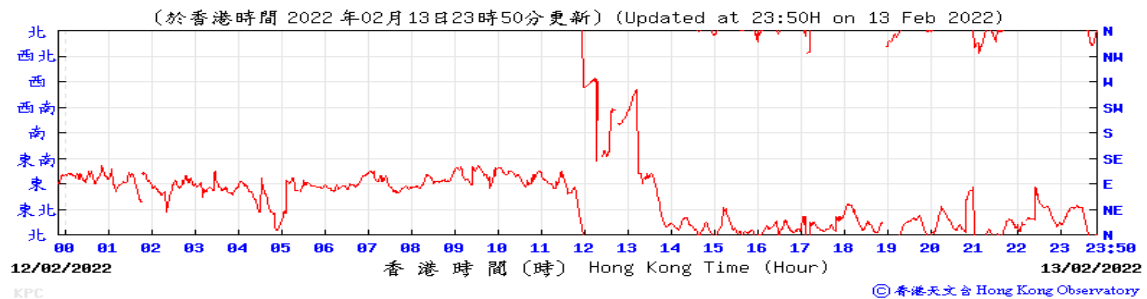
Temperature/Humidity:



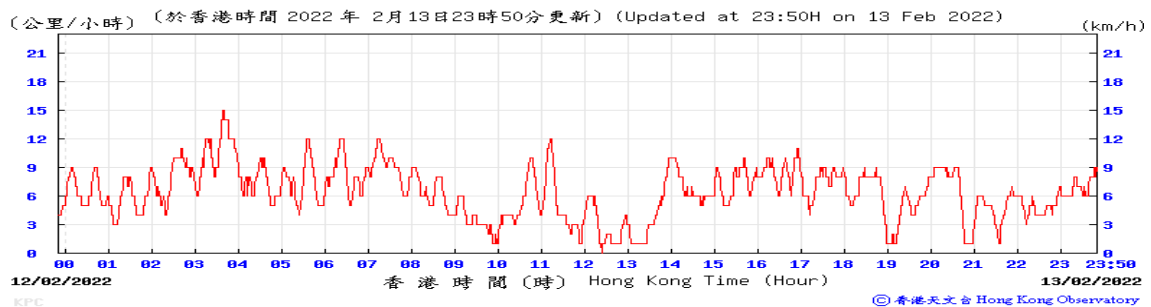
Pressure:



Wind Direction:

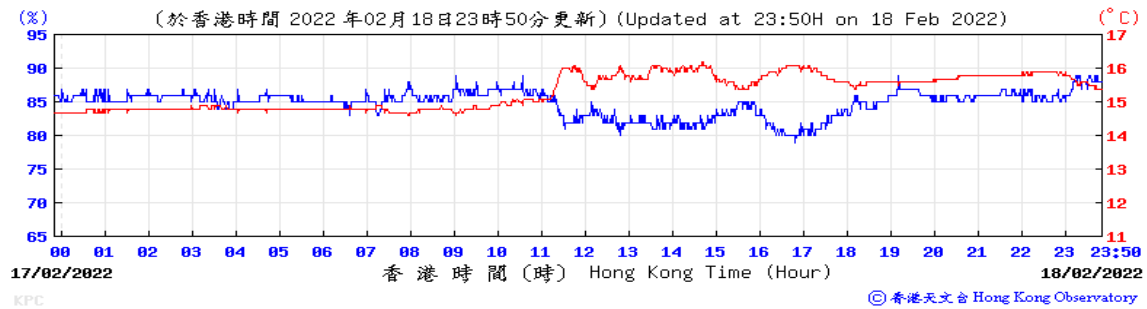


Wind Speed:

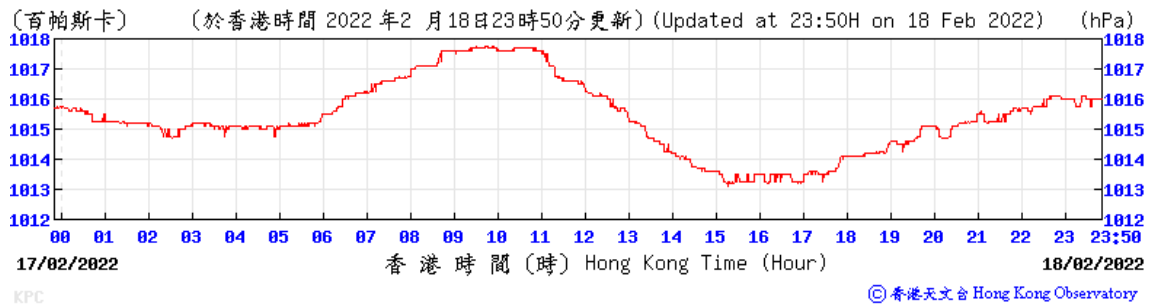




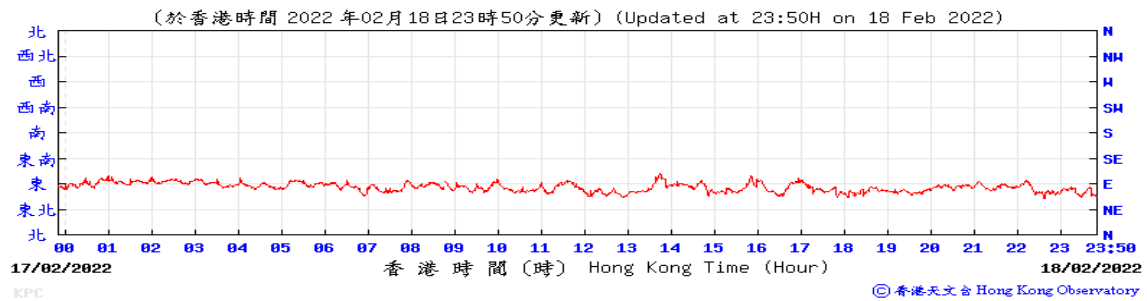
Temperature/Humidity:



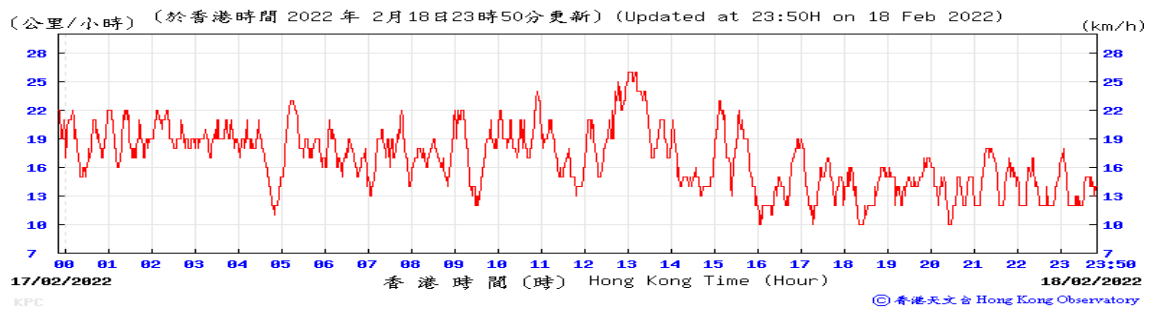
Pressure:



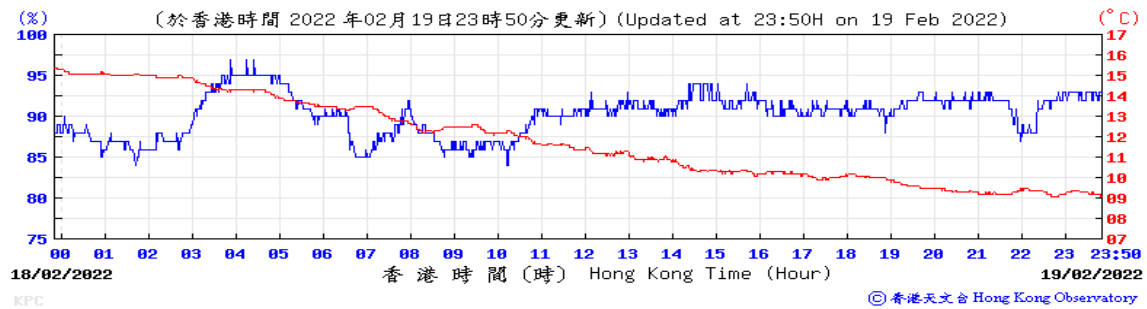
Wind Direction:



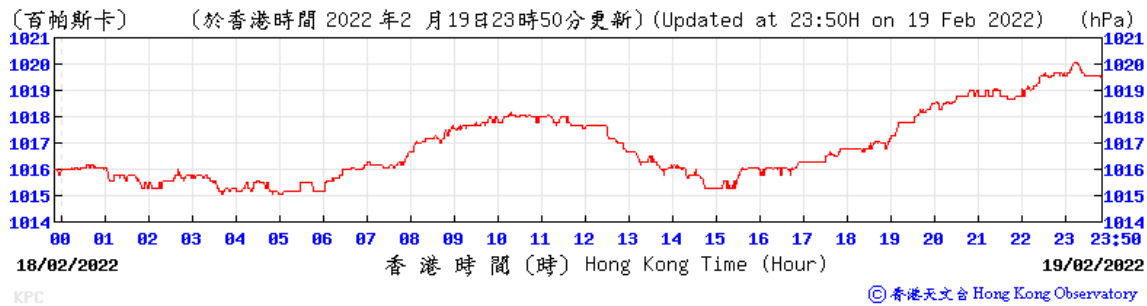
Wind Speed:



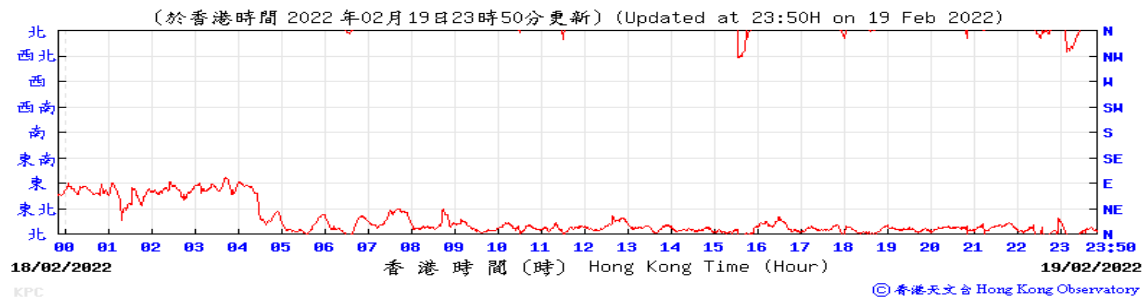
Temperature/Humidity:



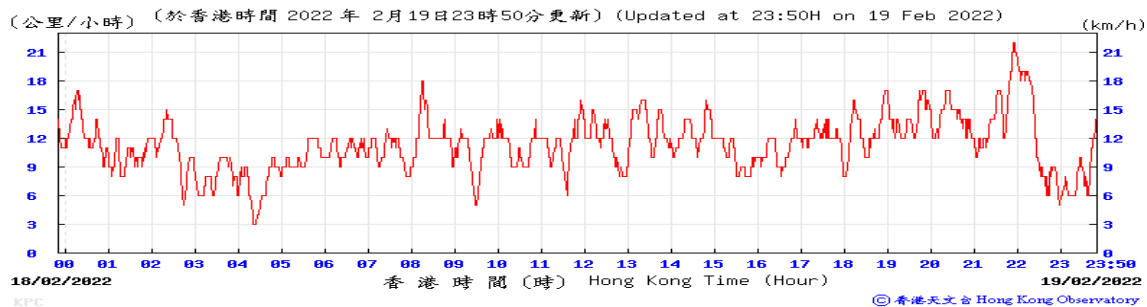
Pressure:



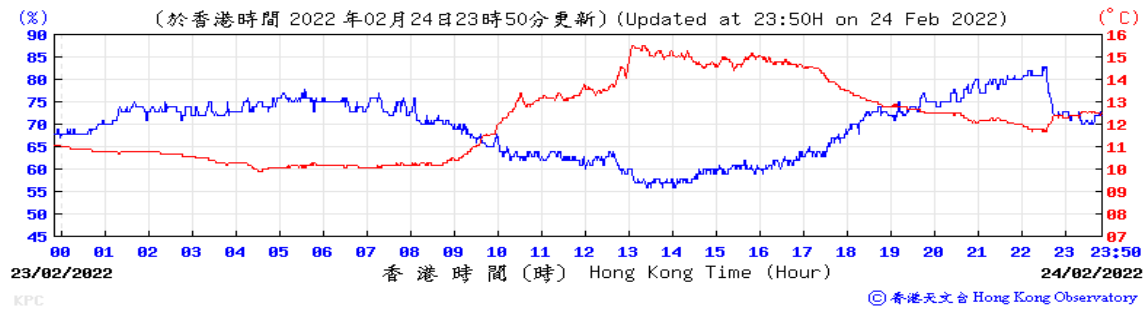
Wind Direction:



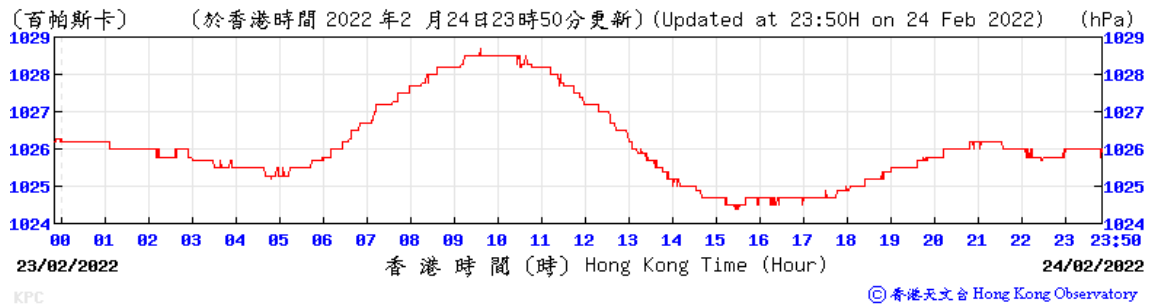
Wind Speed:



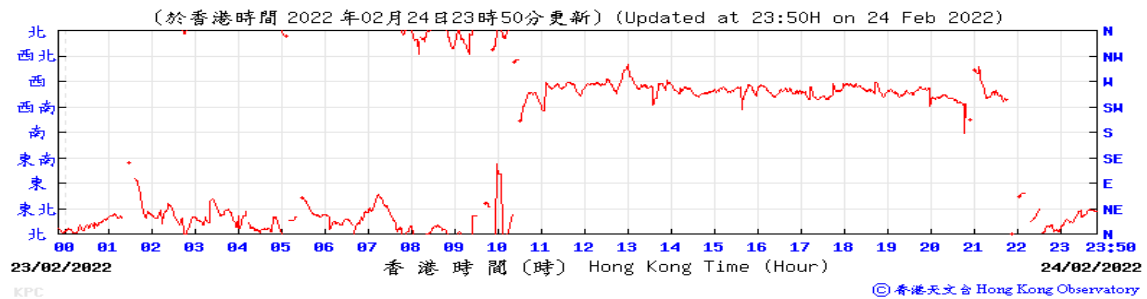
Temperature/Humidity:



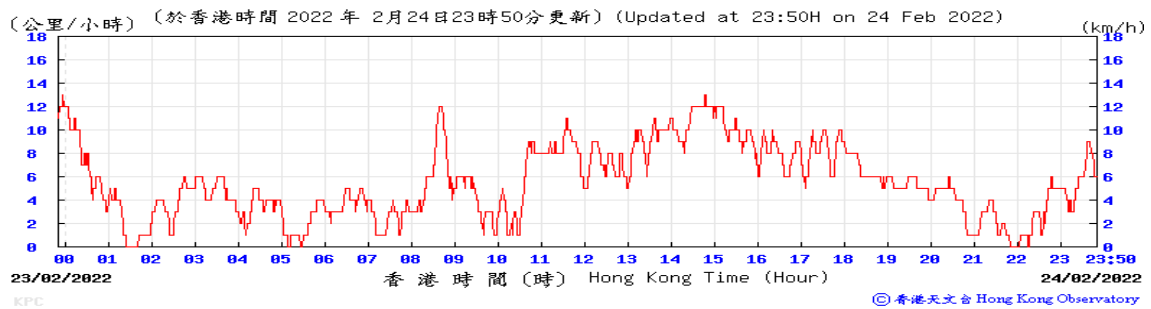
Pressure:



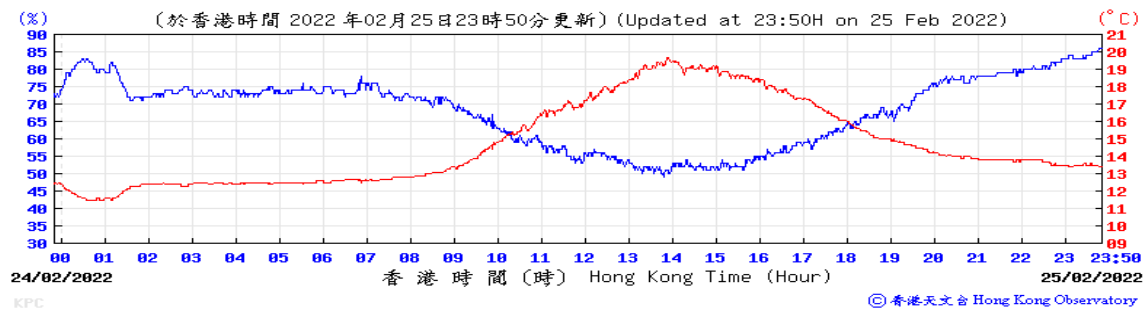
Wind Direction:



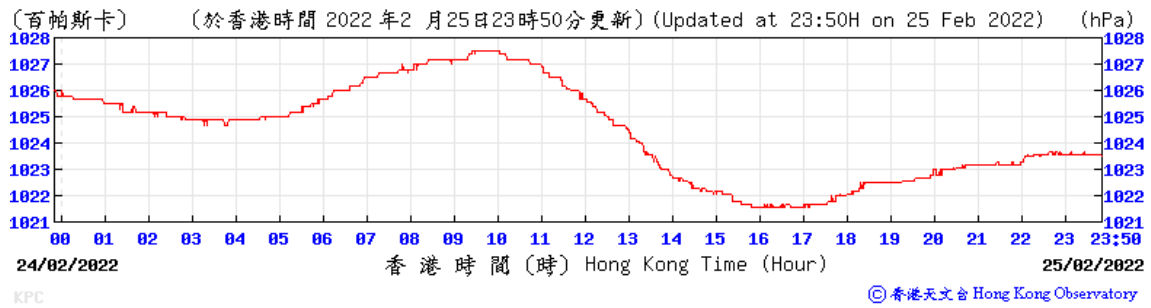
Wind Speed:



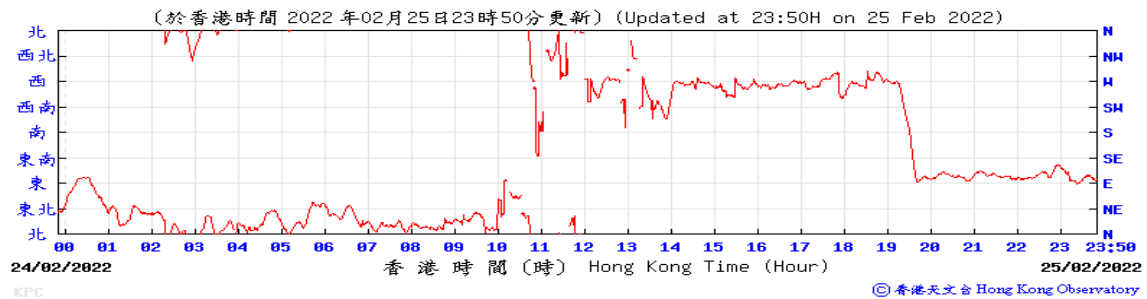
Temperature/Humidity:



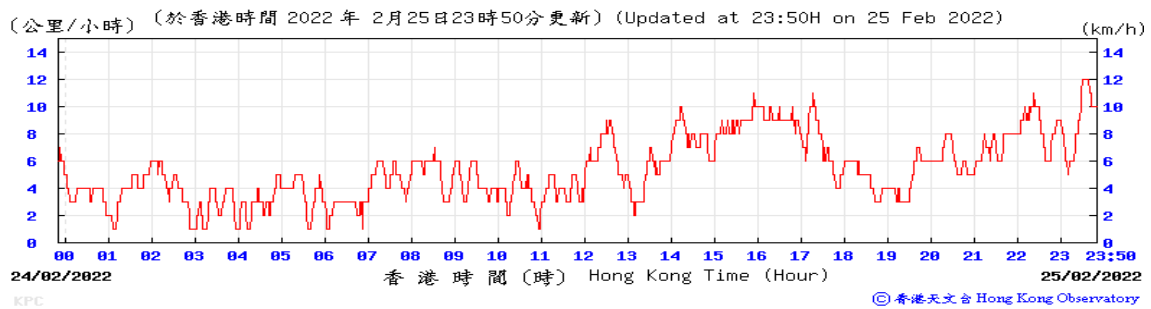
Pressure:



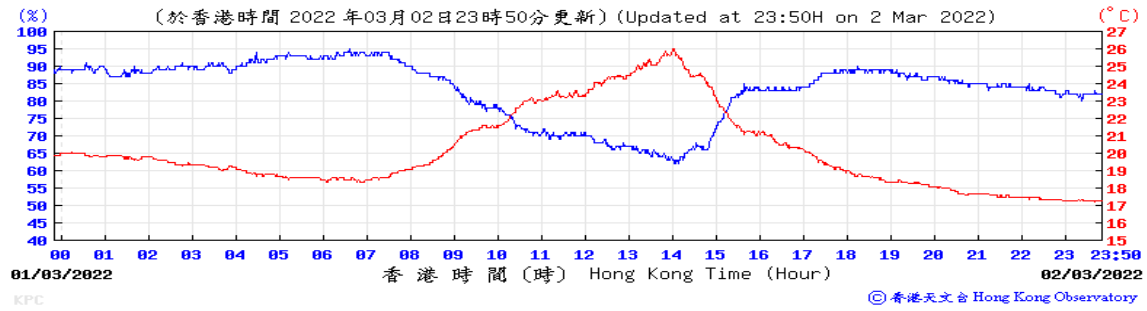
Wind Direction:



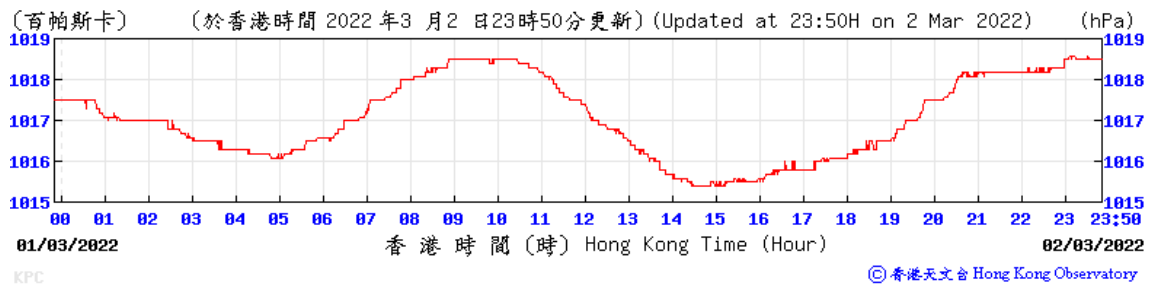
Wind Speed:



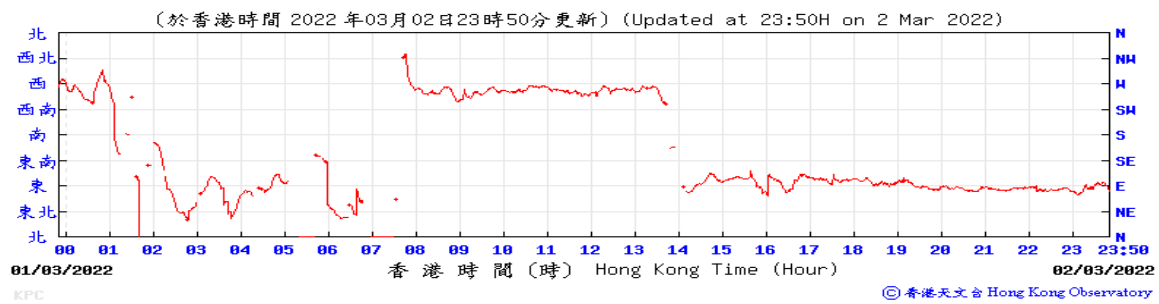
Temperature/Humidity:



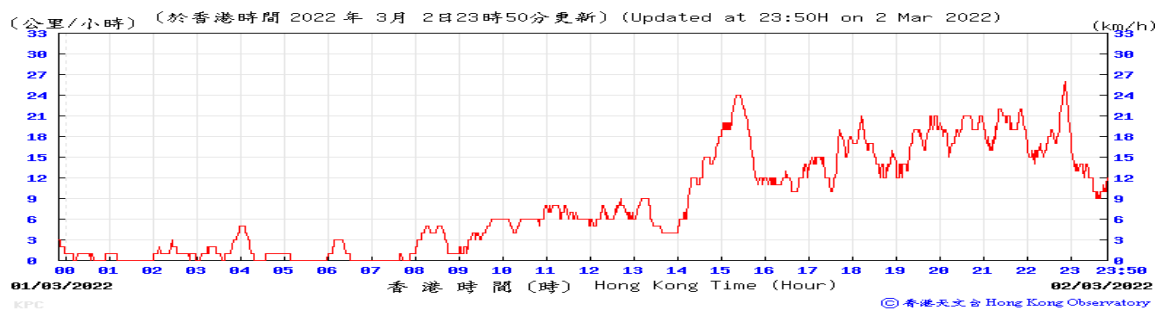
Pressure:



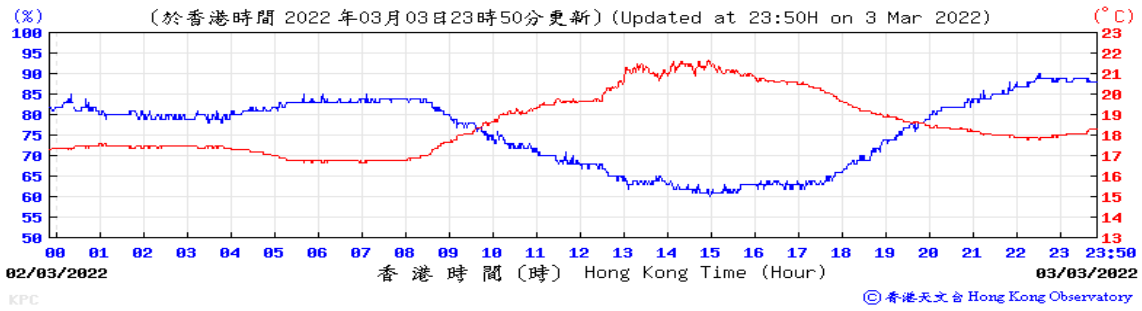
Wind Direction:



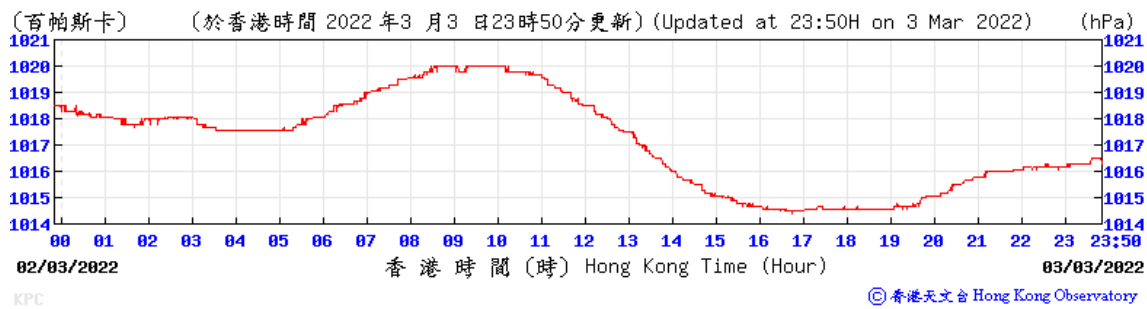
Wind Speed:



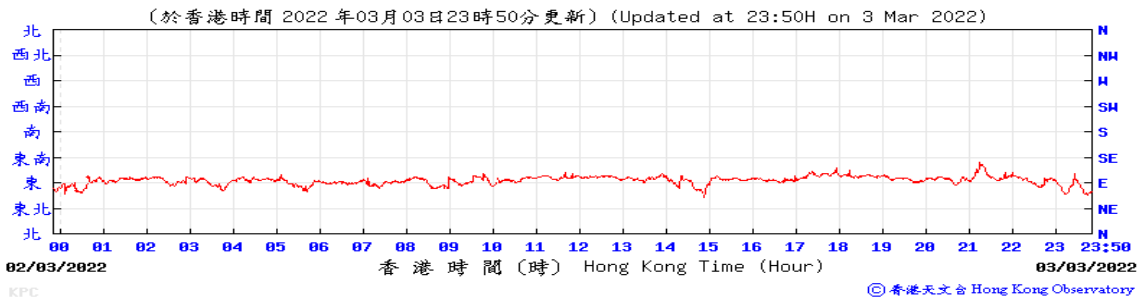
Temperature/Humidity:



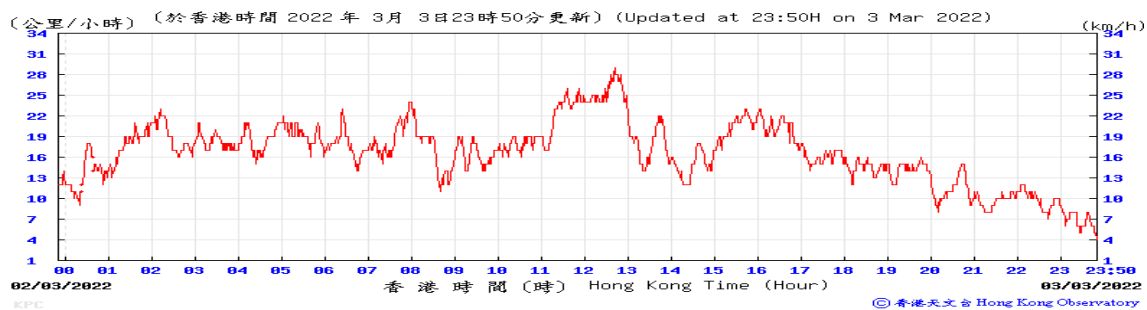
Pressure:



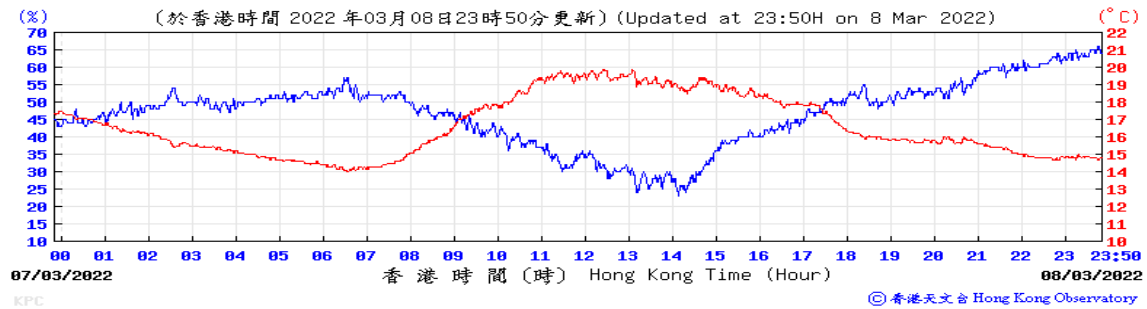
Wind Direction:



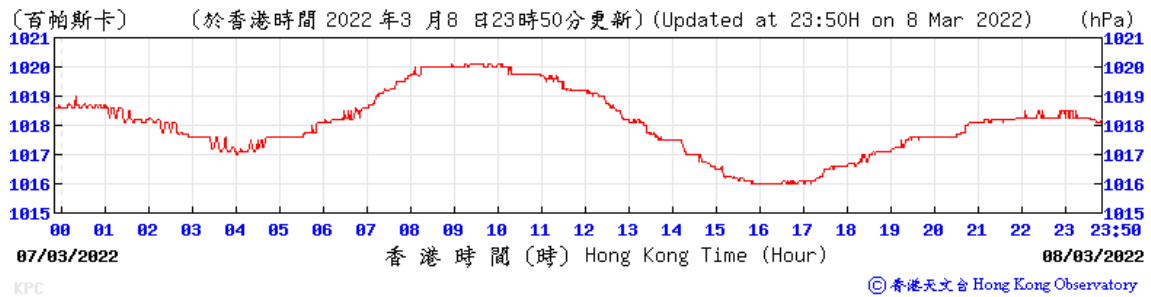
Wind Speed:



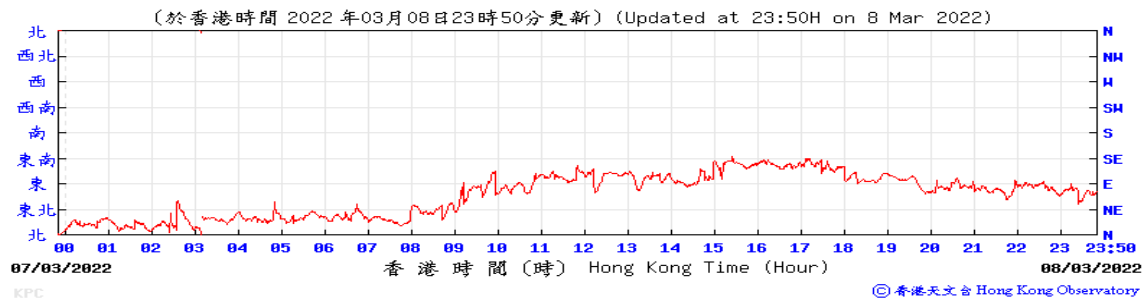
Temperature/Humidity:



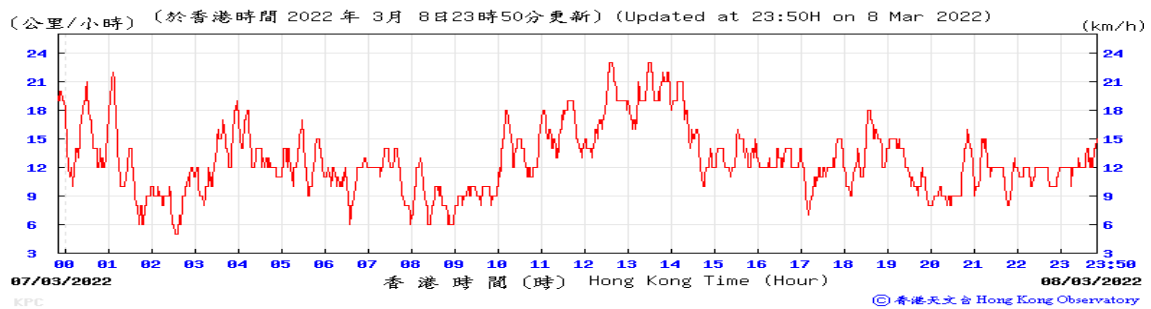
Pressure:



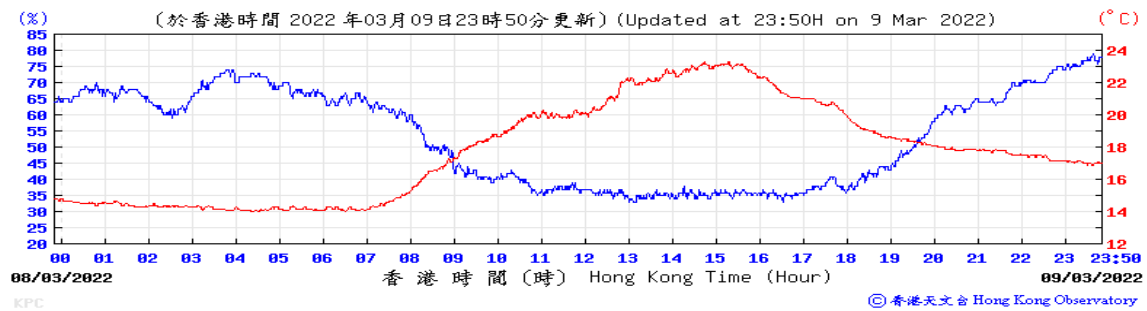
Wind Direction:



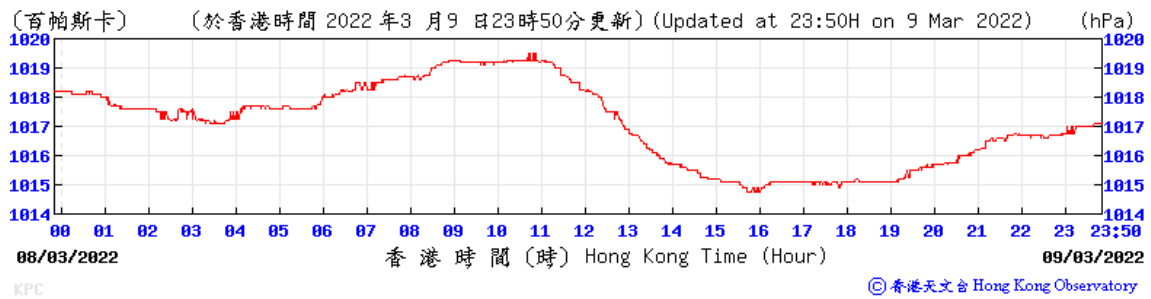
Wind Speed:



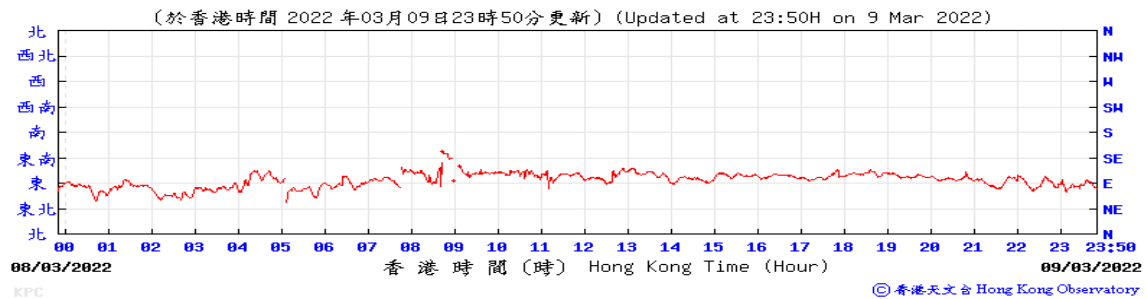
Temperature/Humidity:



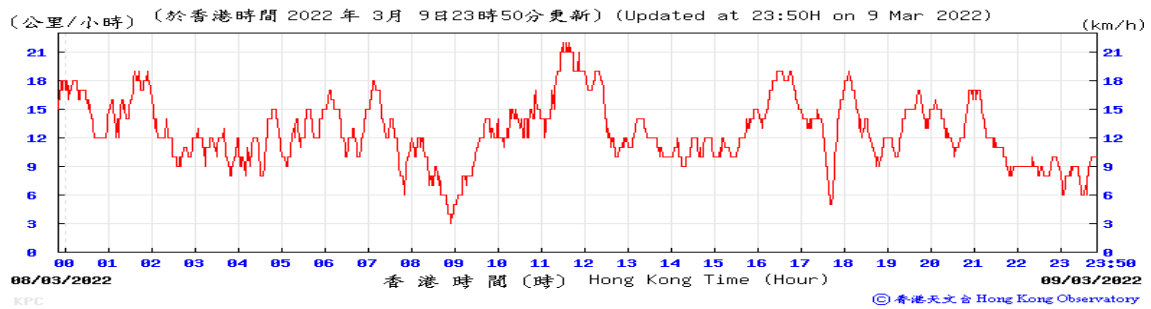
Pressure:



Wind Direction:

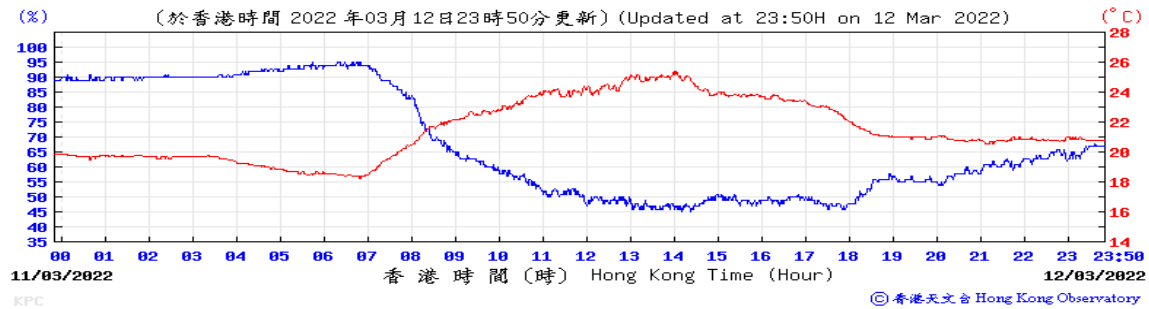


Wind Speed:

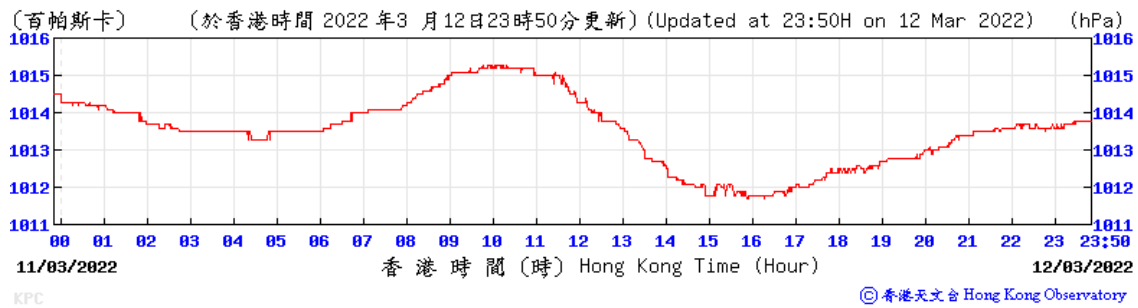




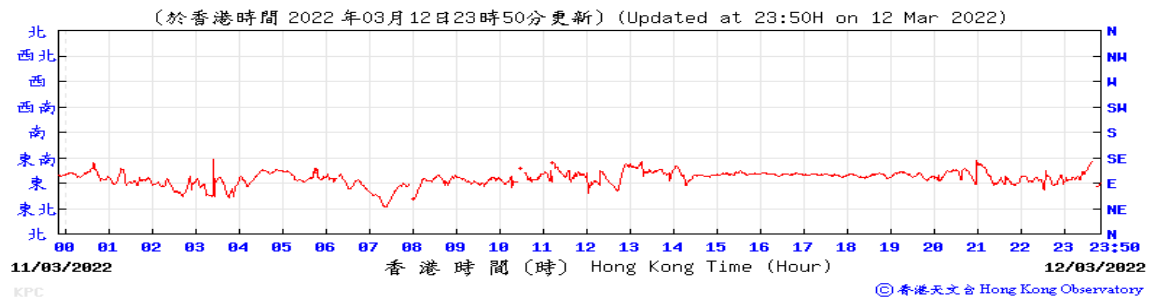
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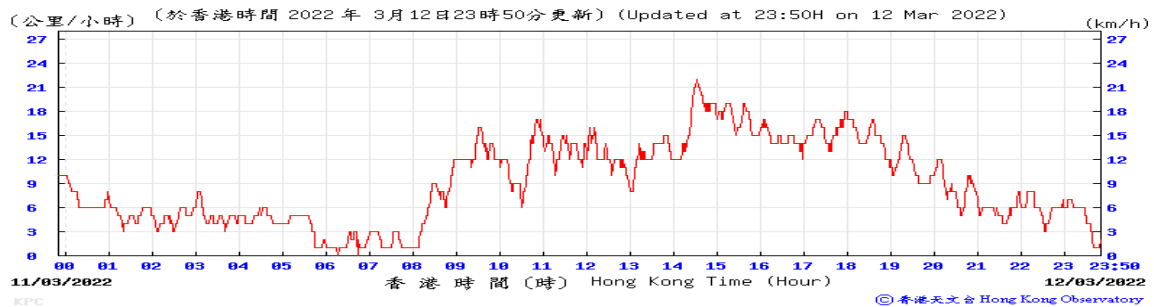
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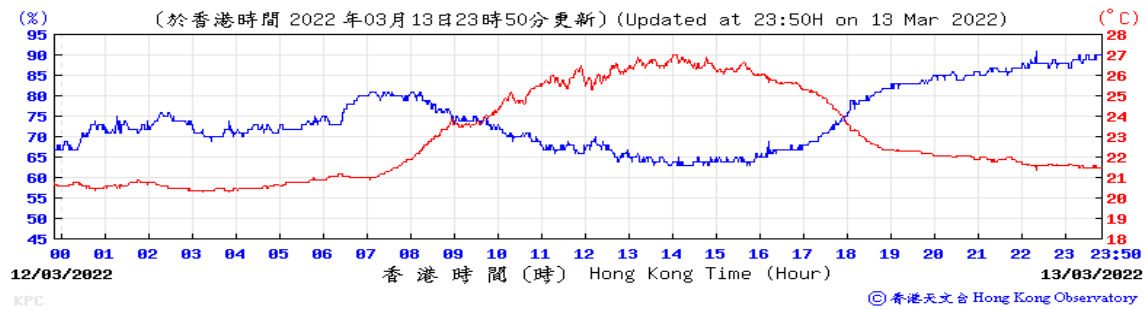
Wind Direction:



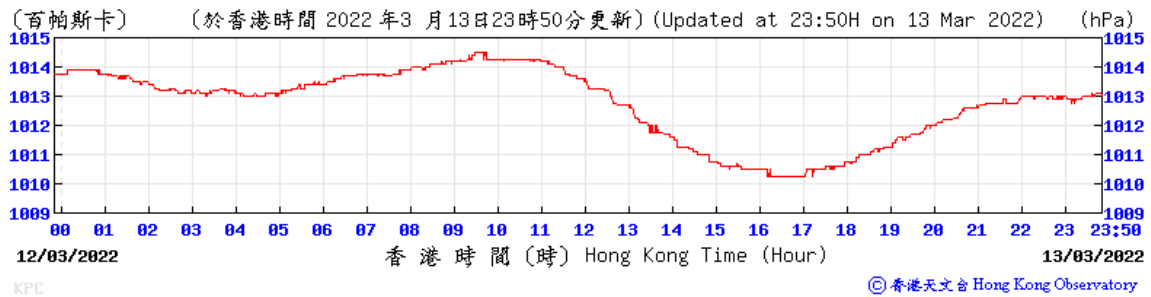
Wind Speed:



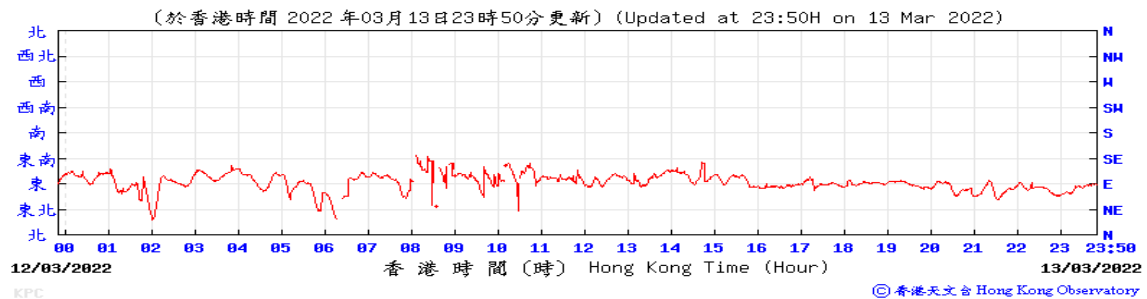
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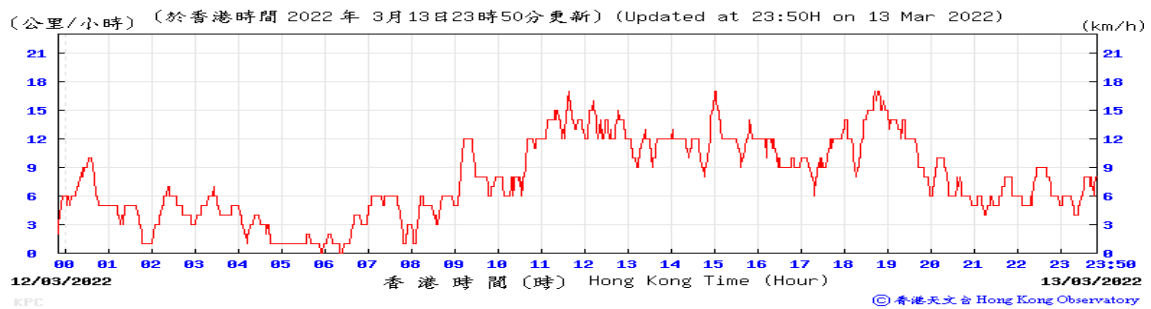
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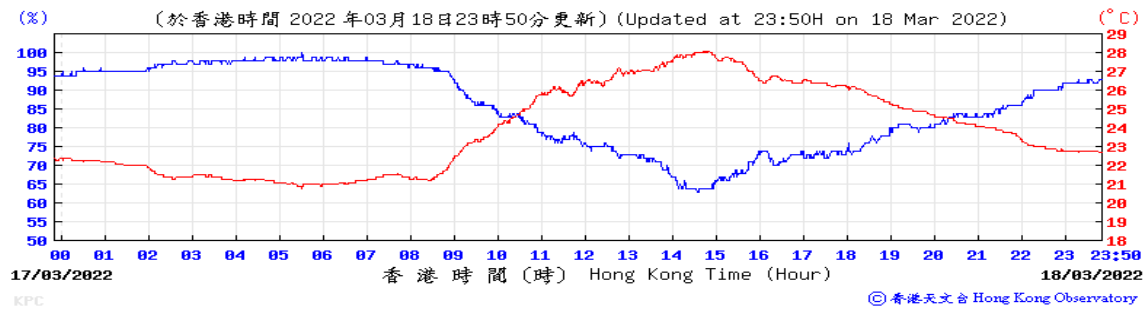
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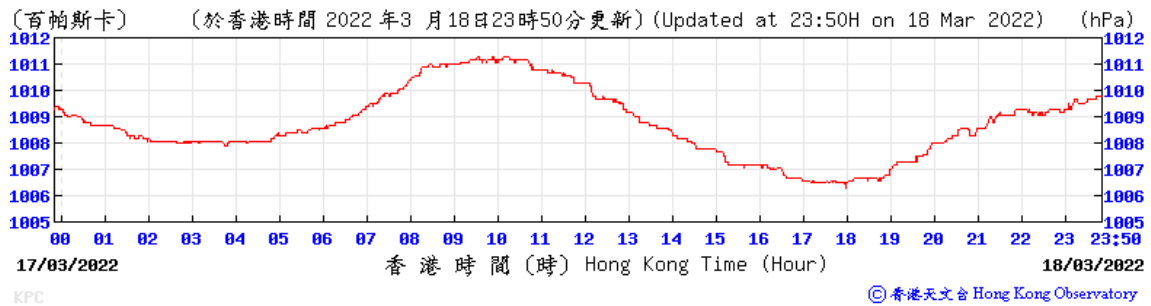
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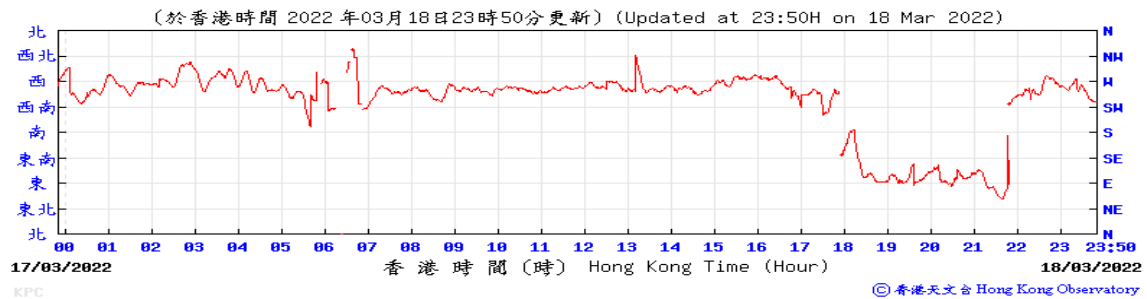
Temperature/Humidity:



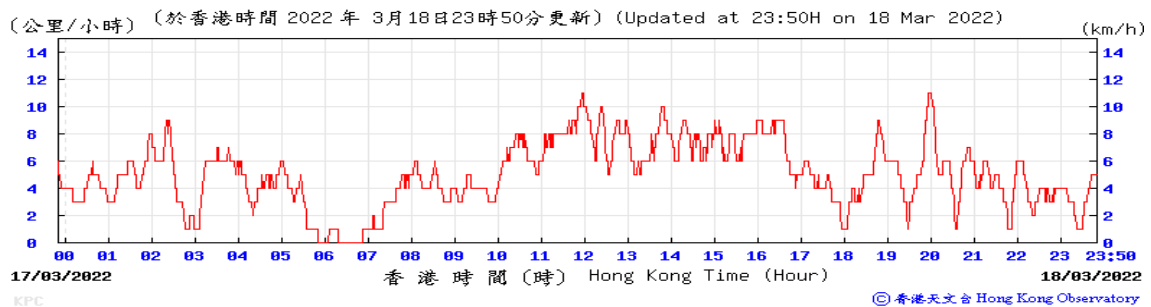
Pressure:



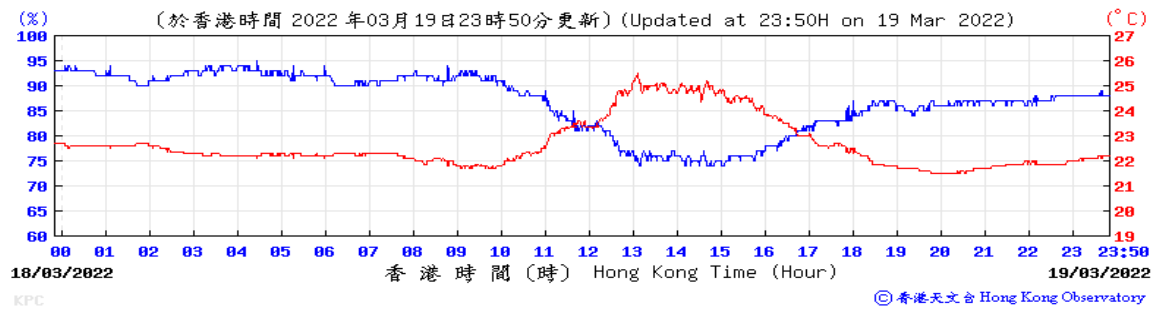
Wind Direction:



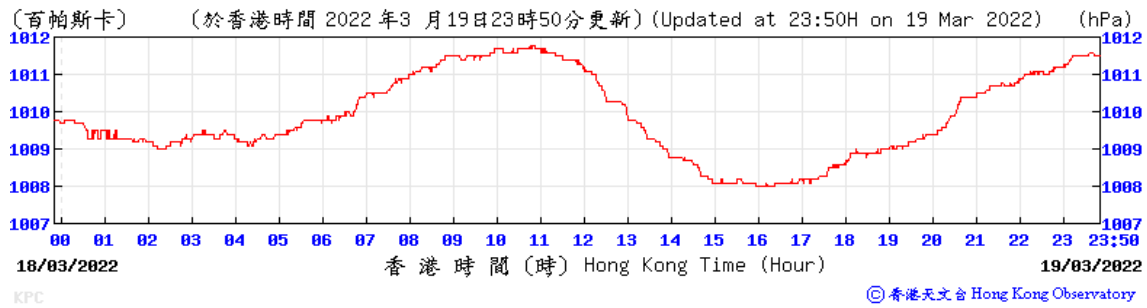
Wind Speed:



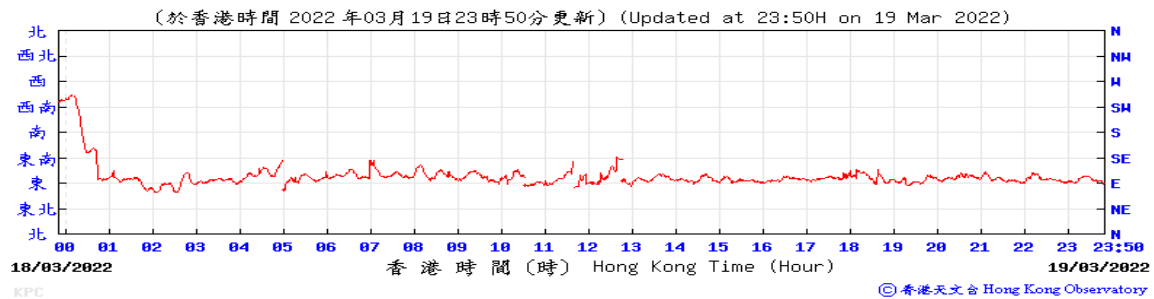
Temperature/Humidity:



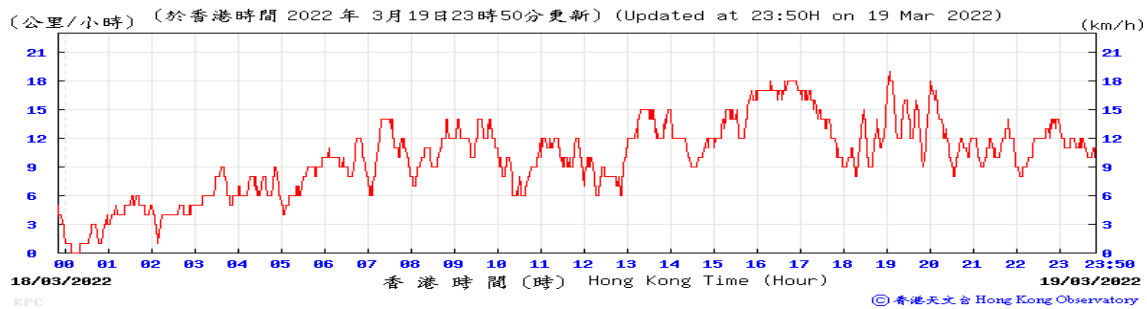
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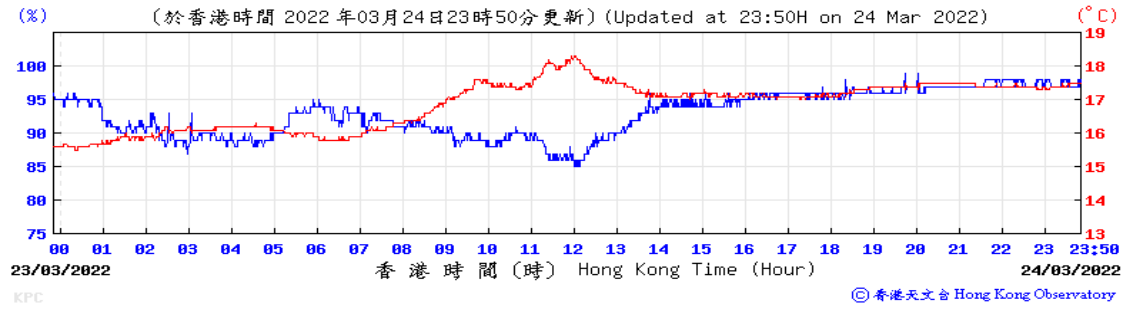
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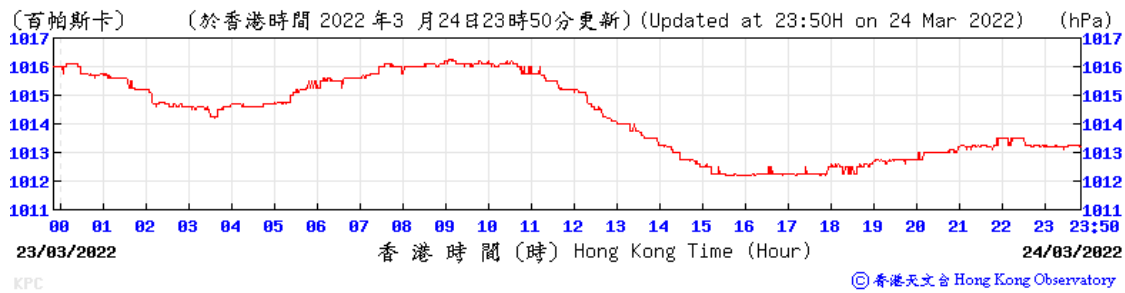
Wind Speed:



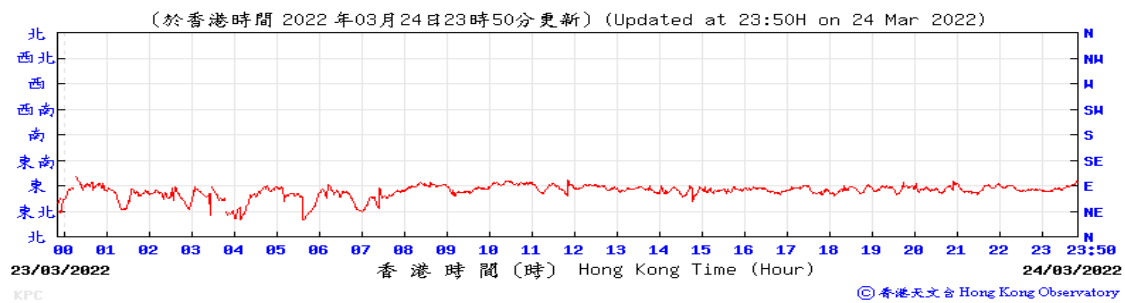
Temperature/Humidity:



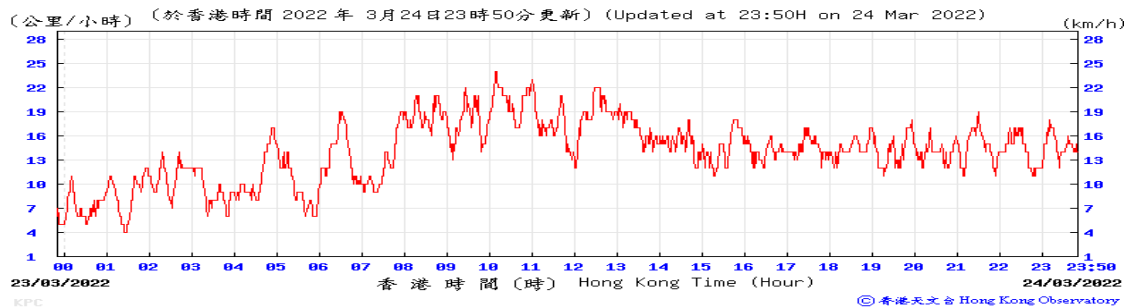
Pressure:



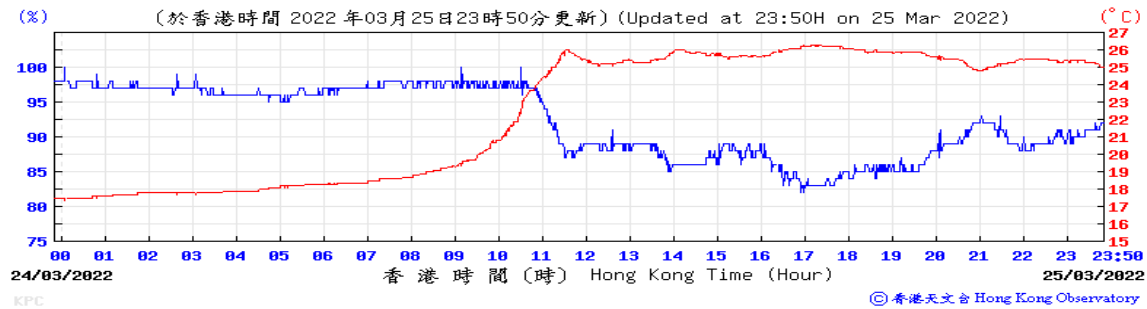
Wind Direction:



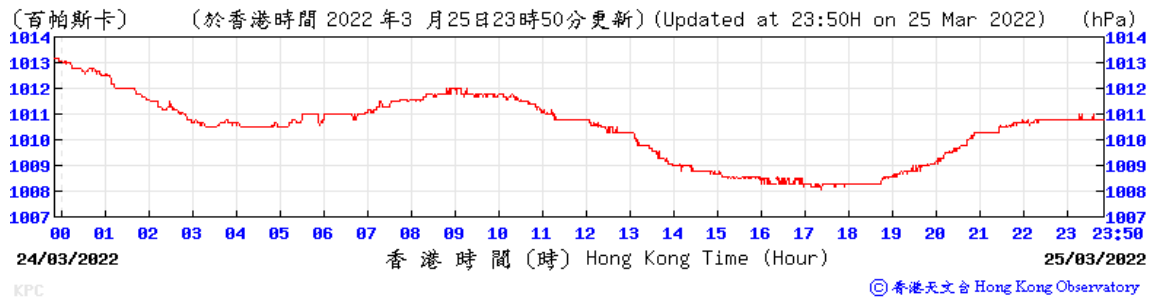
Wind Speed:



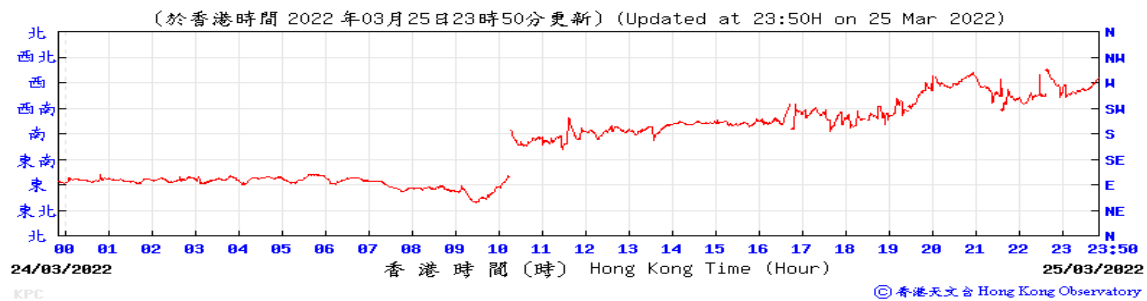
Temperature/Humidity:



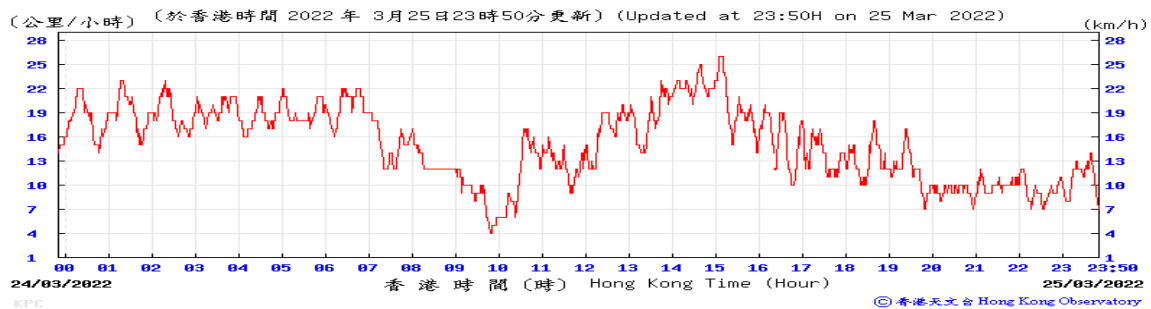
Pressure:



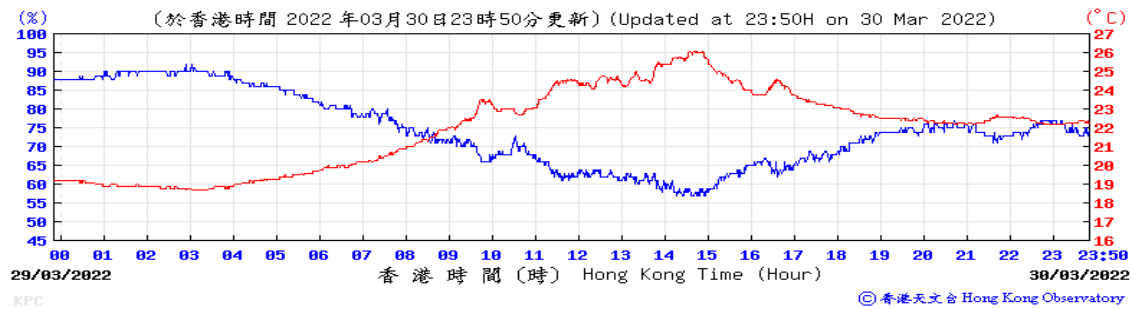
Wind Direction:



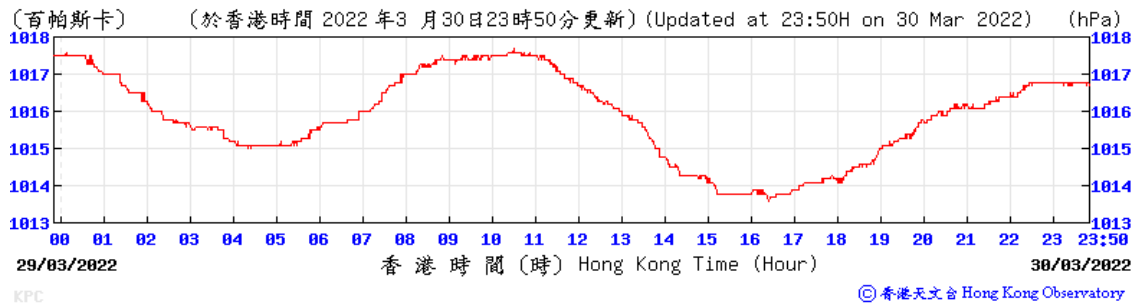
Wind Speed:



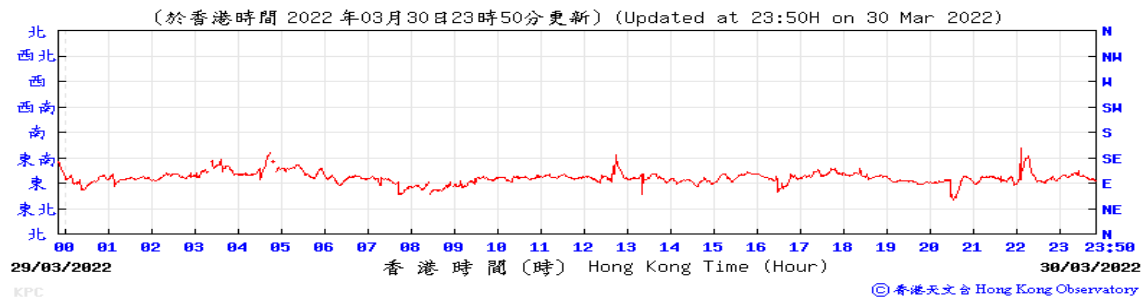
Temperature/Humidity:



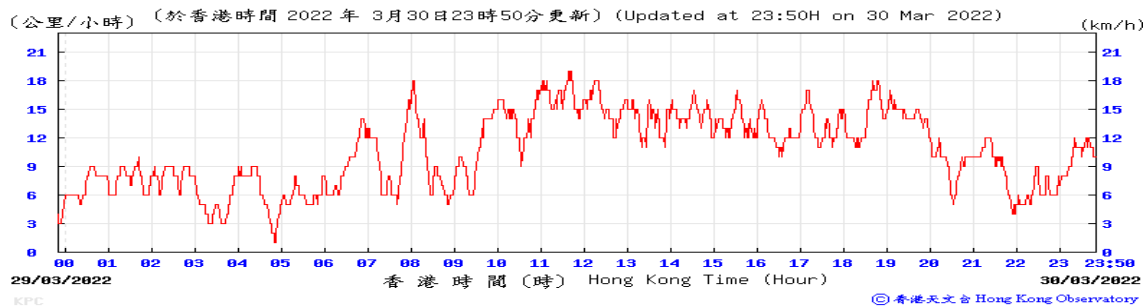
Pressure:



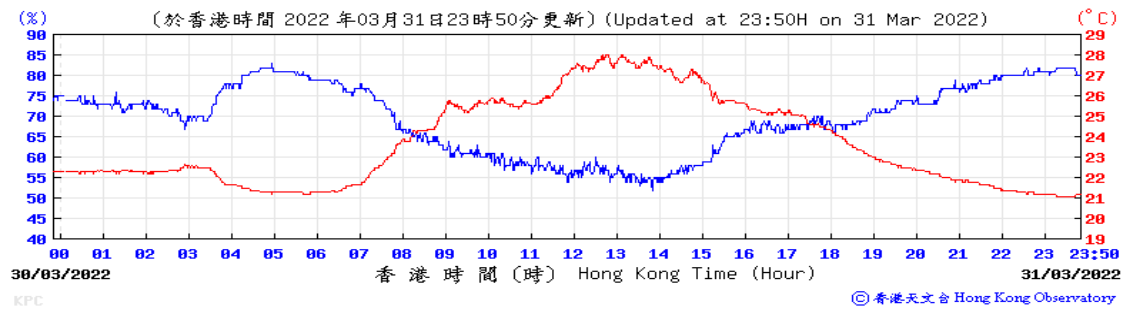
Wind Direction:



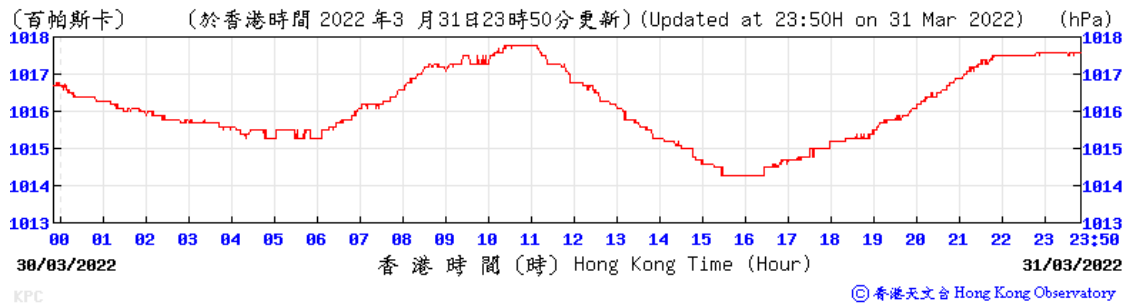
Wind Speed:



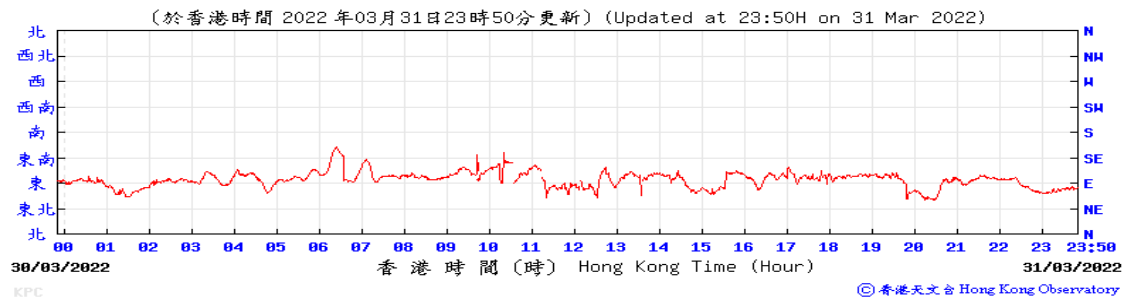
Temperature/Humidity:



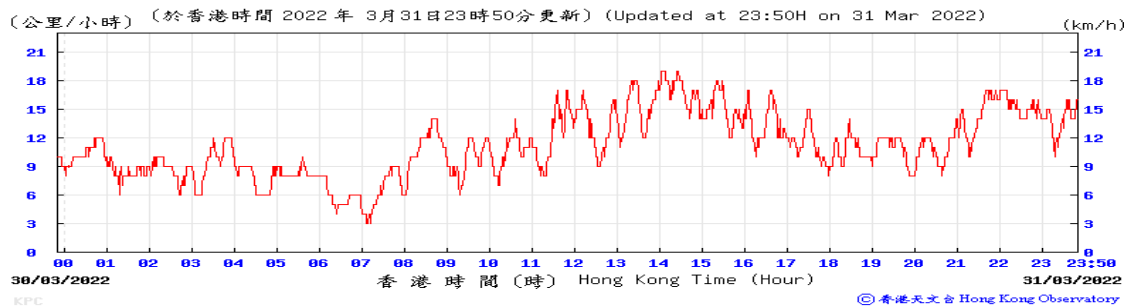
Pressure:



Wind Direction:

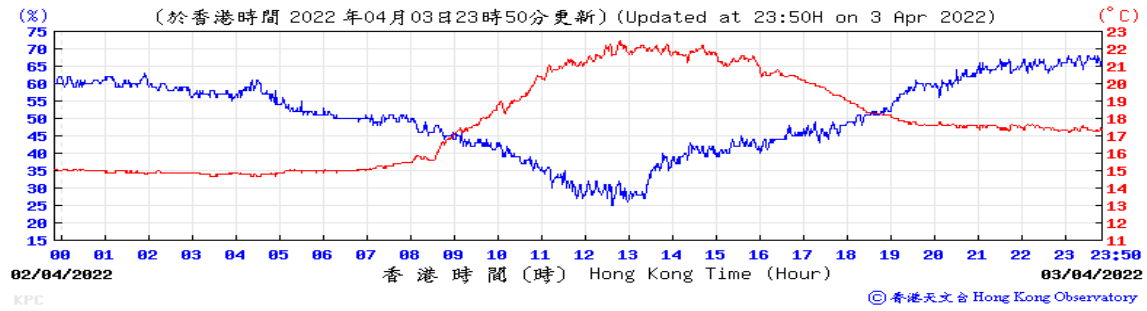


Wind Speed:

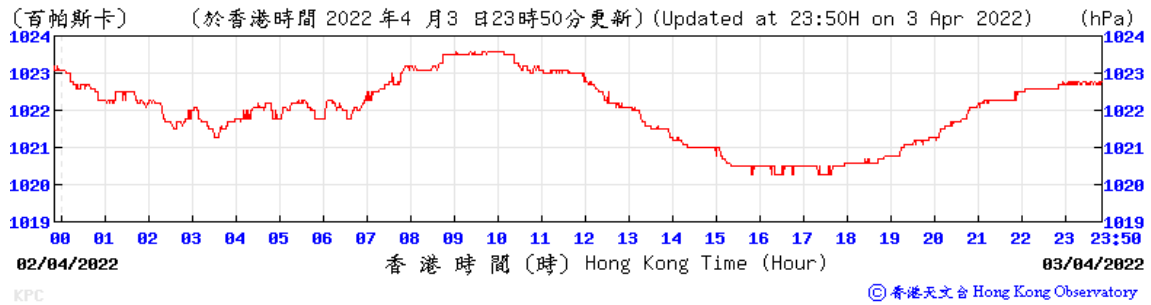




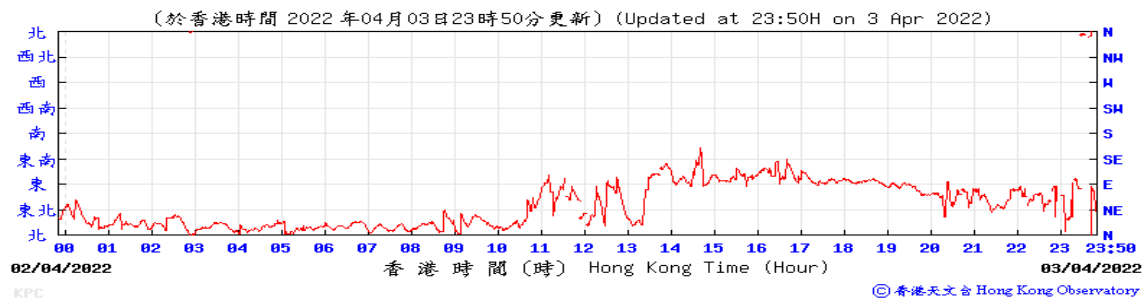
Temperature/Humidity:



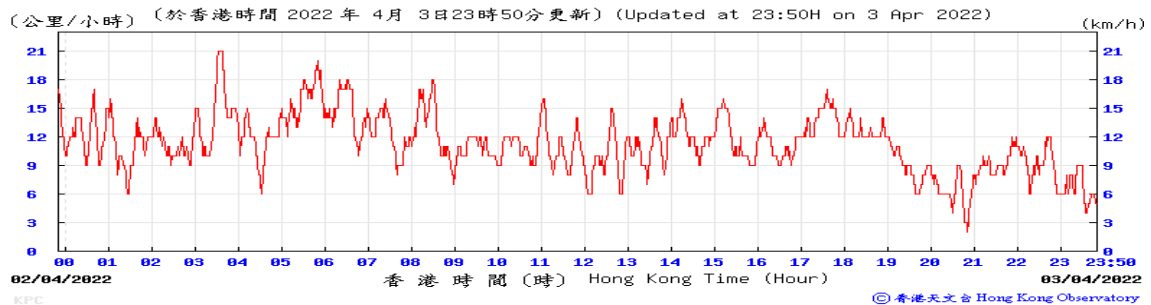
Pressure:



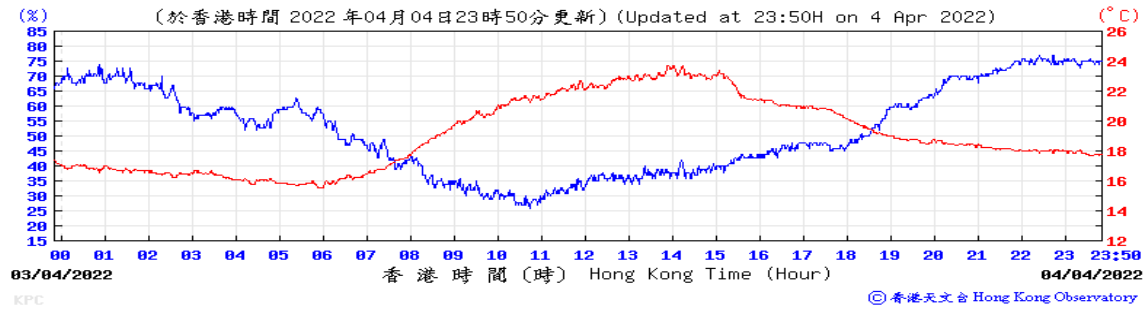
Wind Direction:



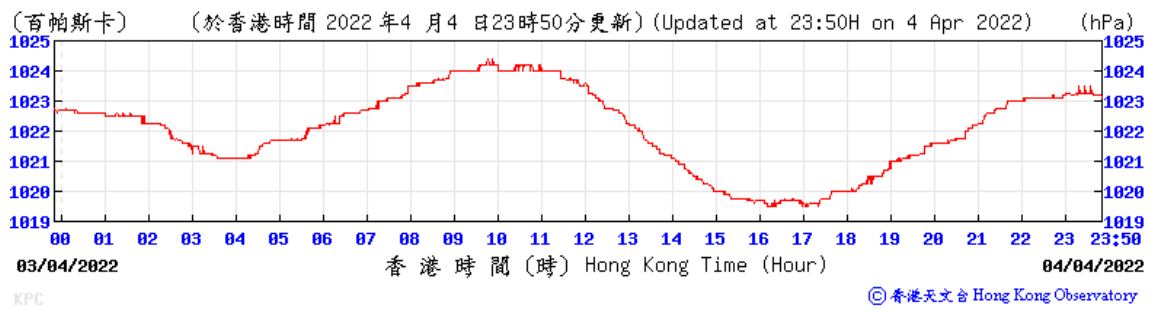
Wind Speed:



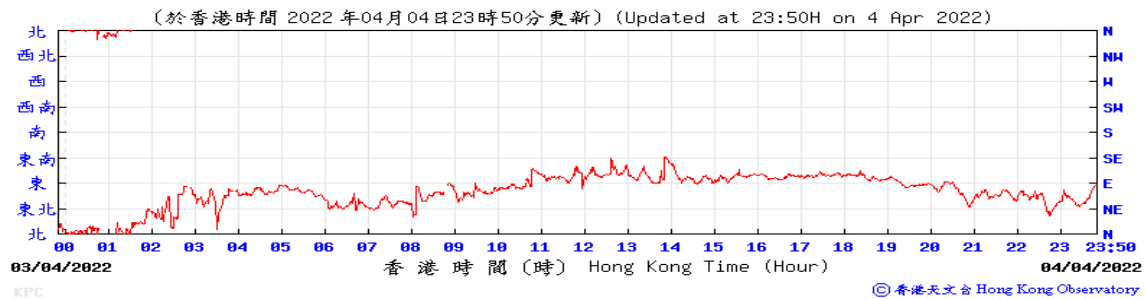
Temperature/Humidity:



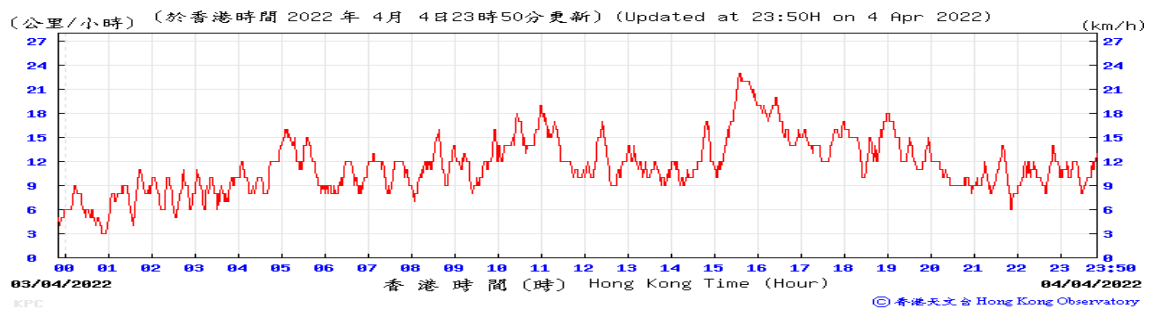
Pressure:



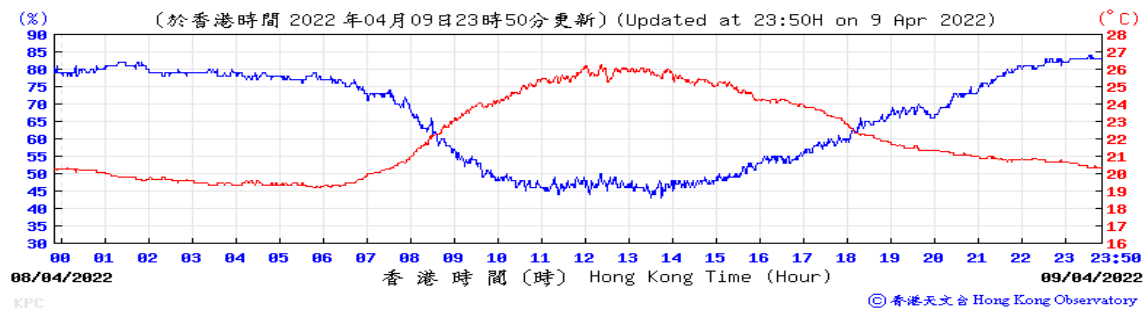
Wind Direction:



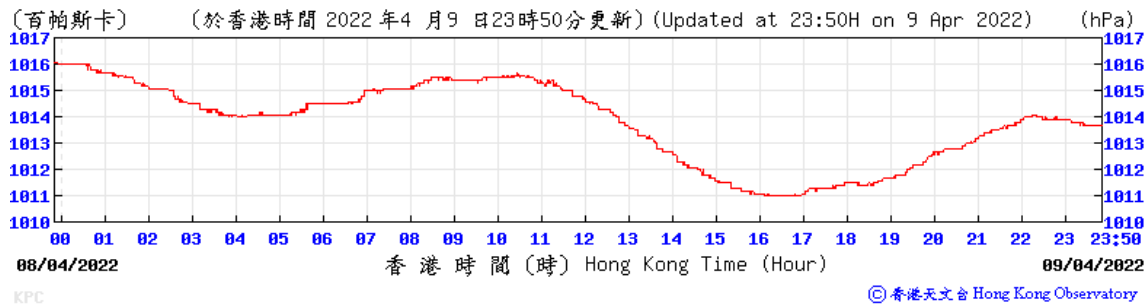
Wind Speed:



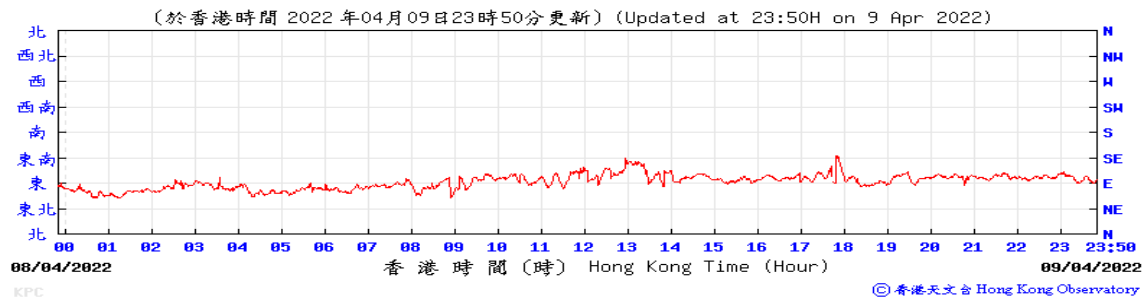
Temperature/Humidity:



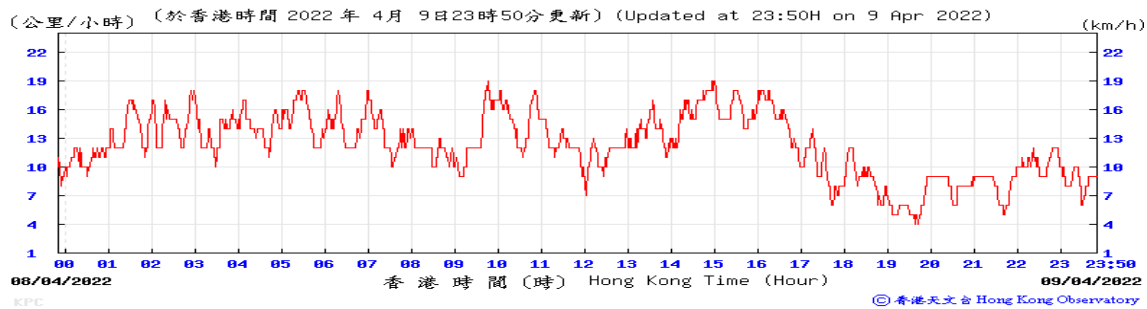
Pressure:



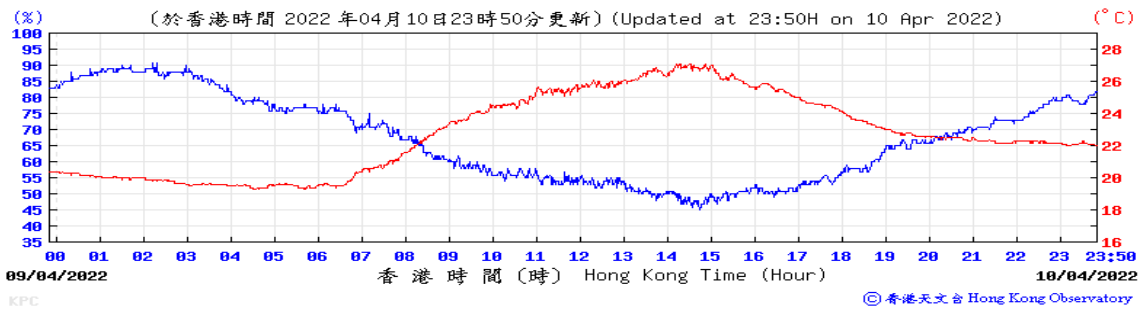
Wind Direction:



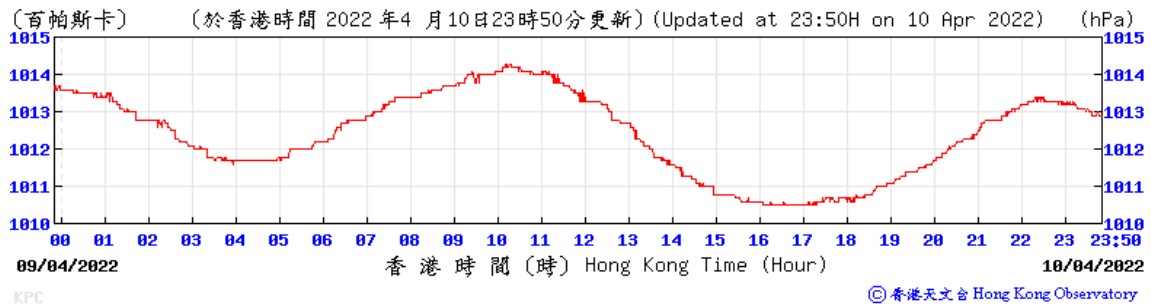
Wind Speed:



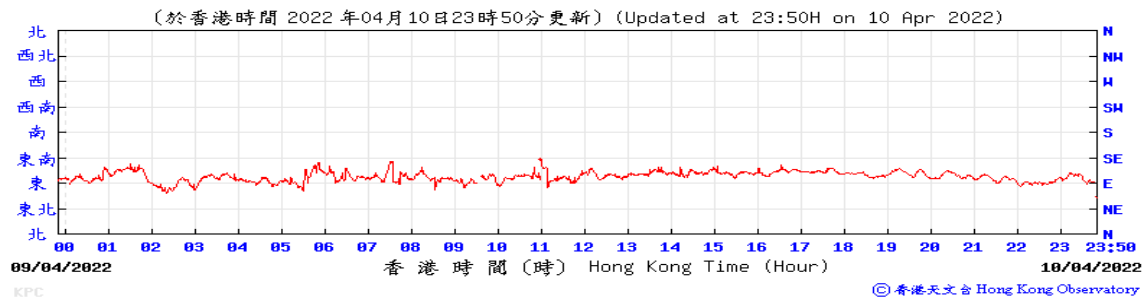
Temperature/Humidity:



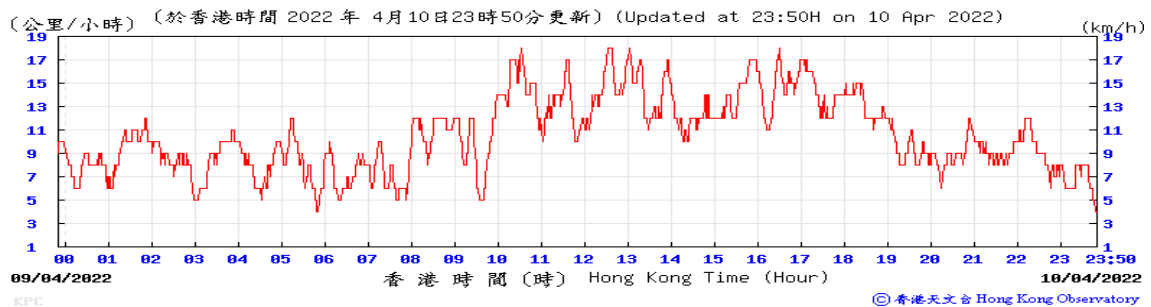
Pressure:



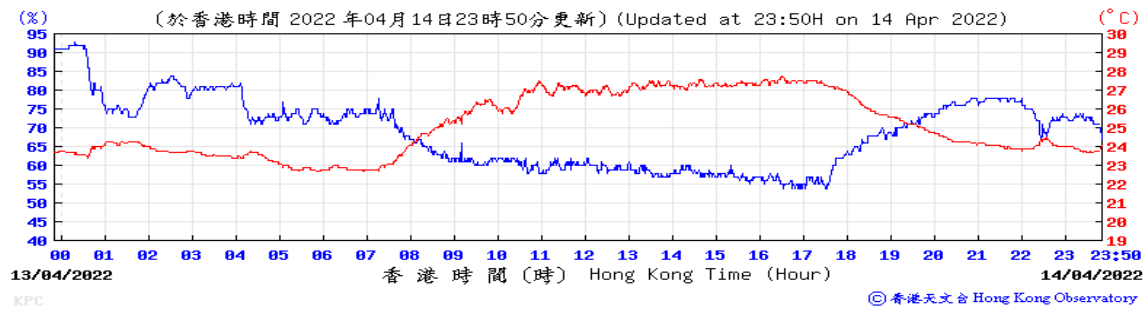
Wind Direction:



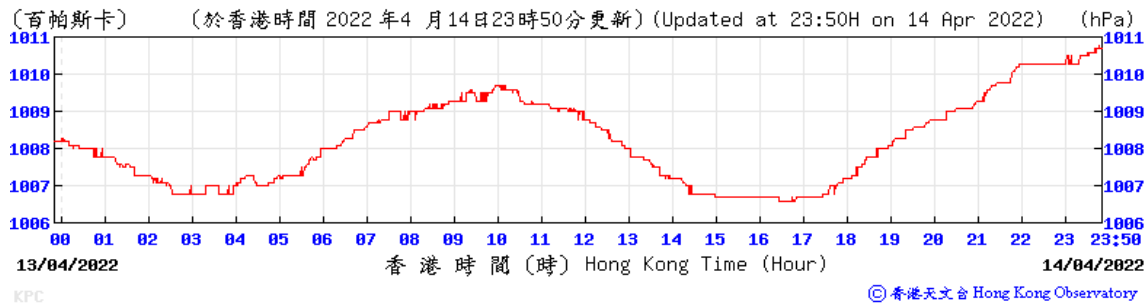
Wind Speed:



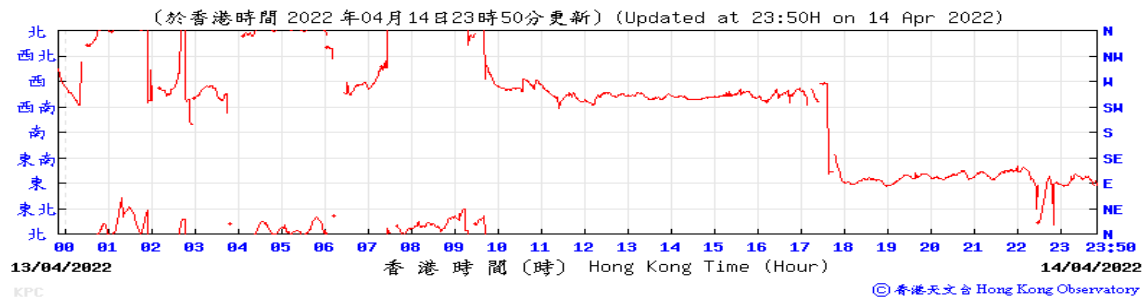
Temperature/Humidity:



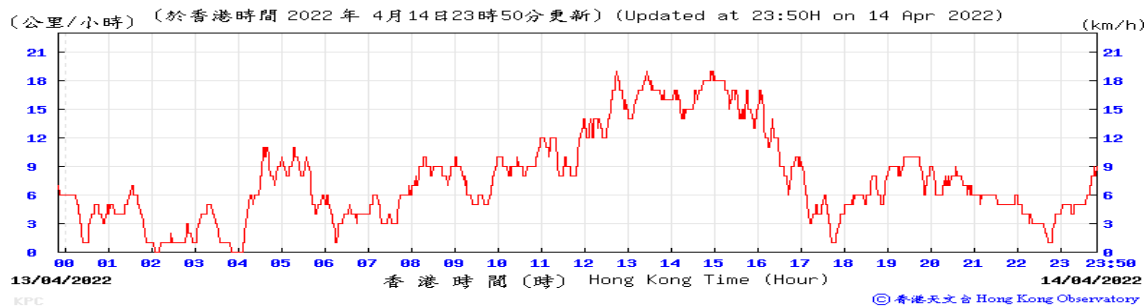
Pressure:



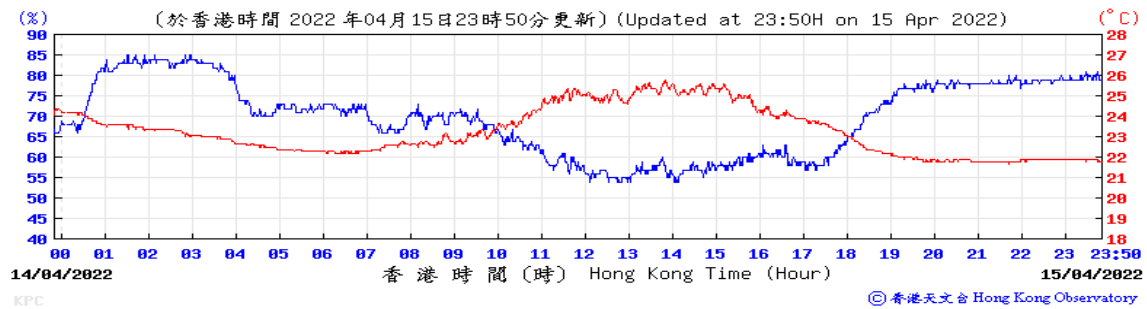
Wind Direction:



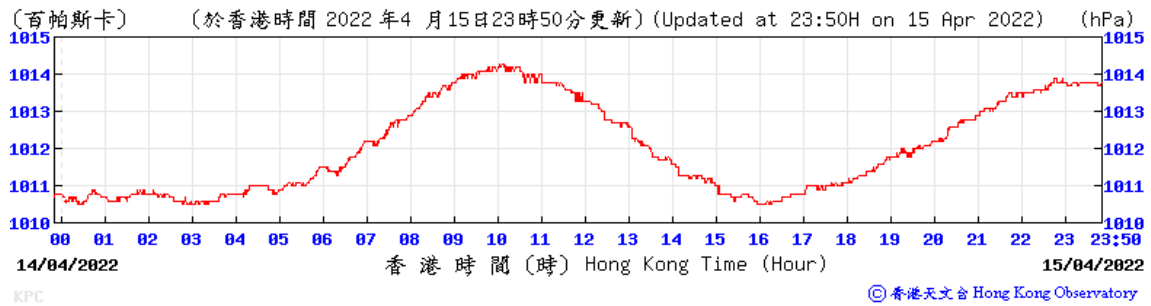
Wind Speed:



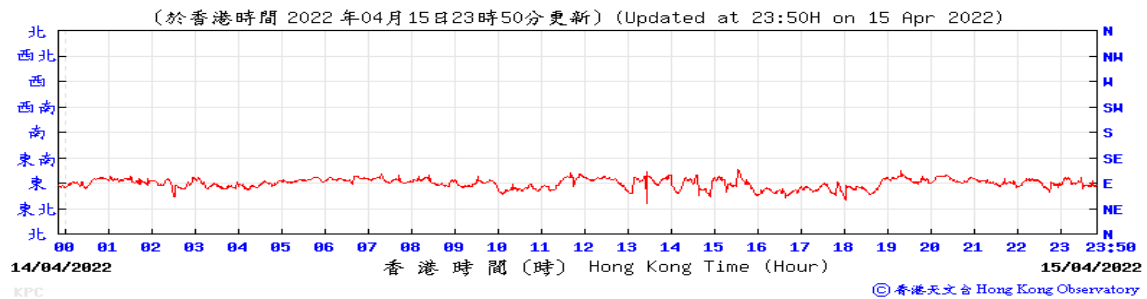
Temperature/Humidity:



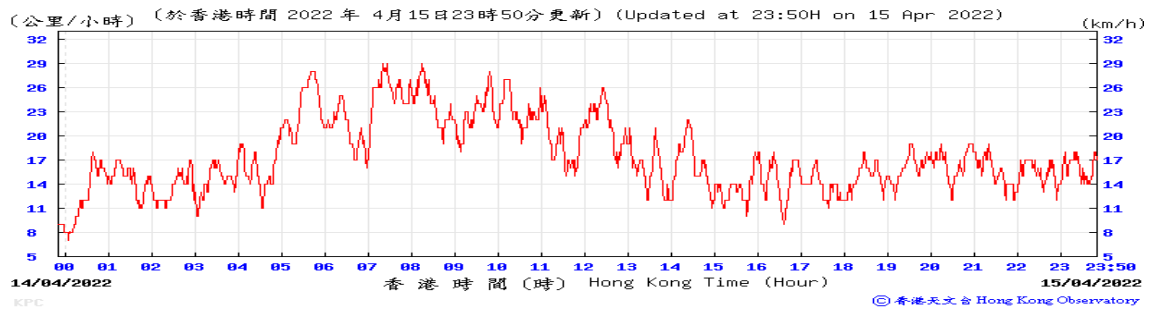
Pressure:



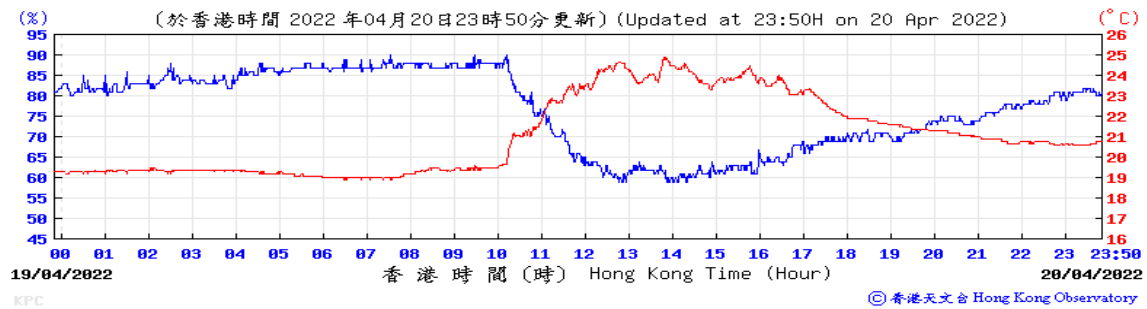
Wind Direction:



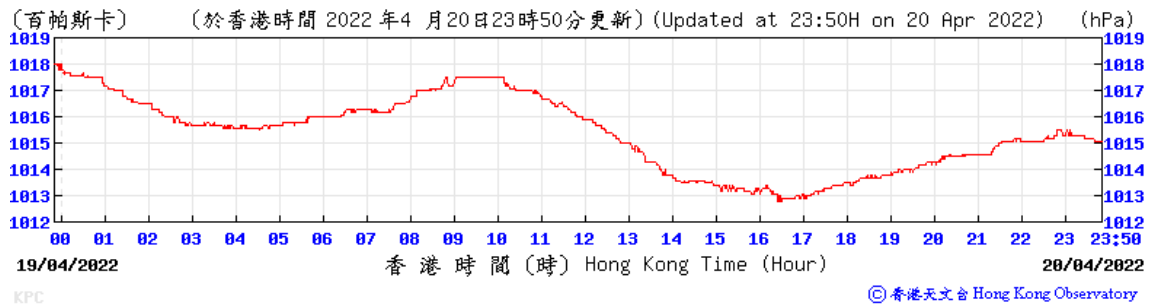
Wind Speed:



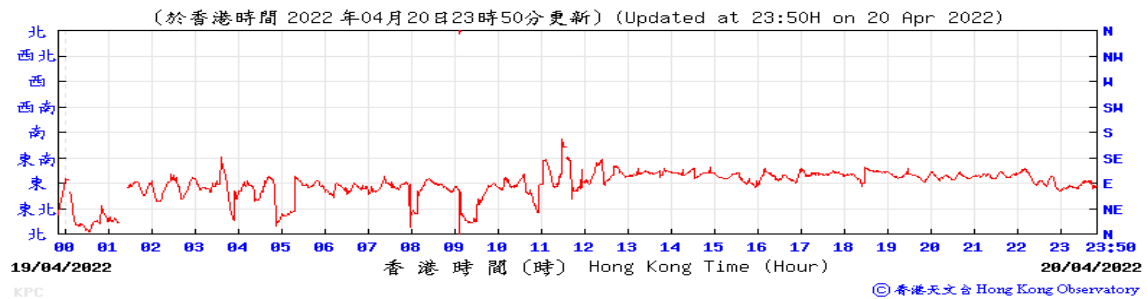
Temperature/Humidity:



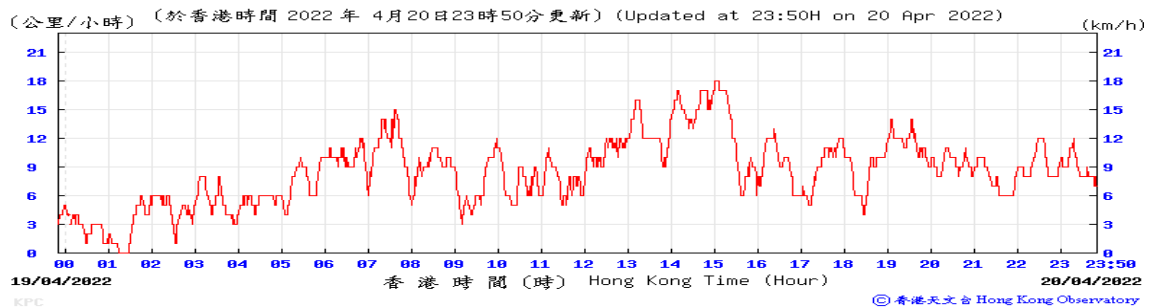
Pressure:



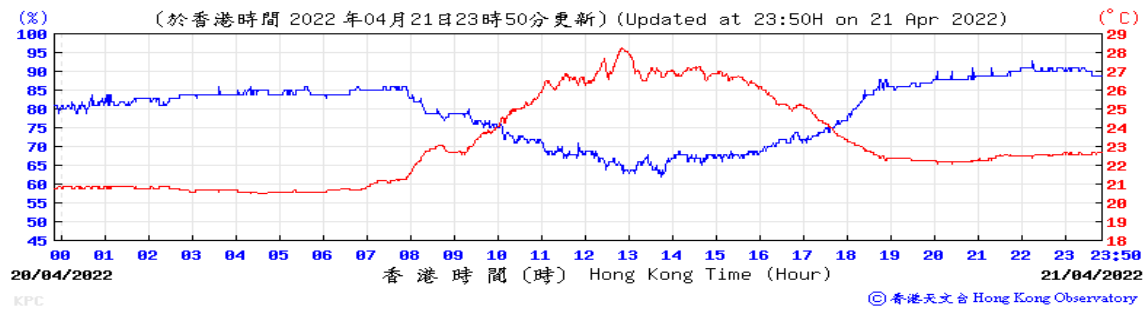
Wind Direction:



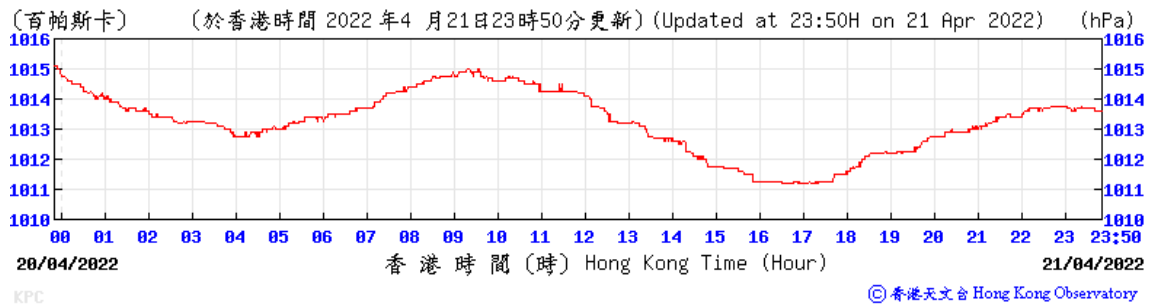
Wind Speed:



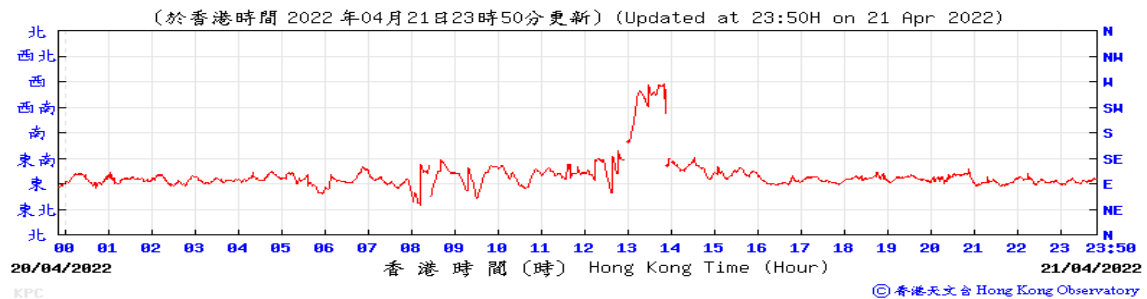
Temperature/Humidity:



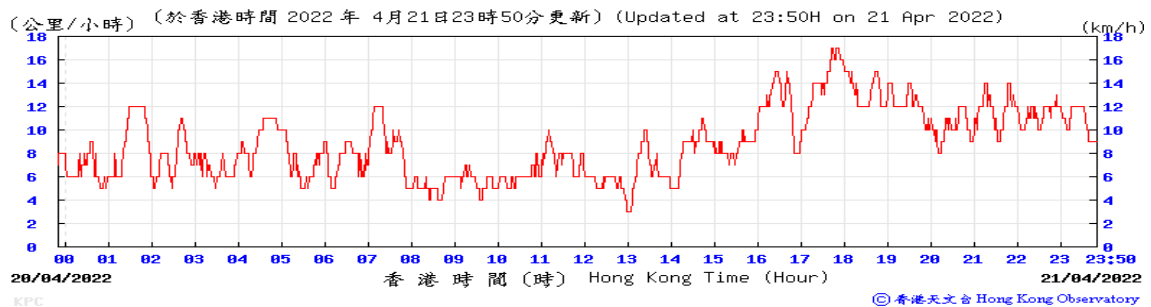
Pressure:



Wind Direction:

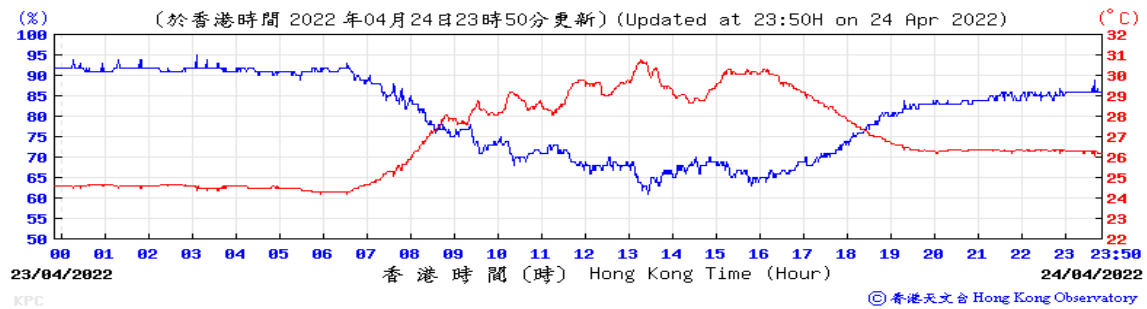


Wind Speed:

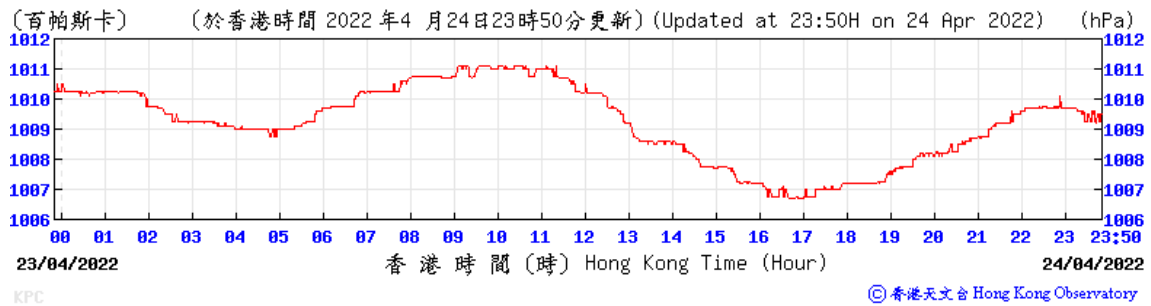




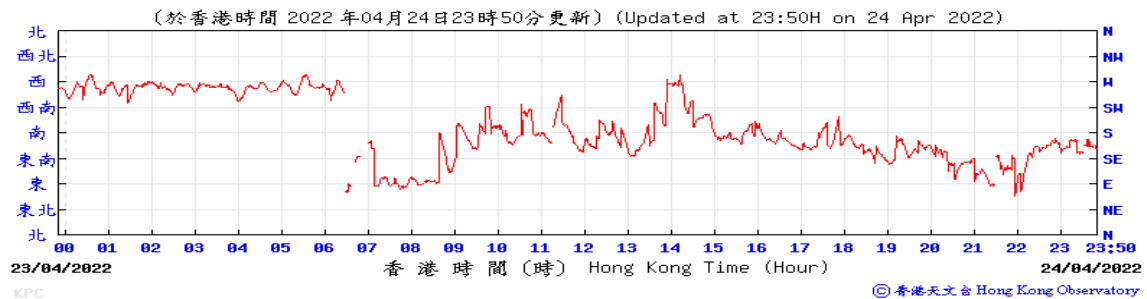
Temperature/Humidity:



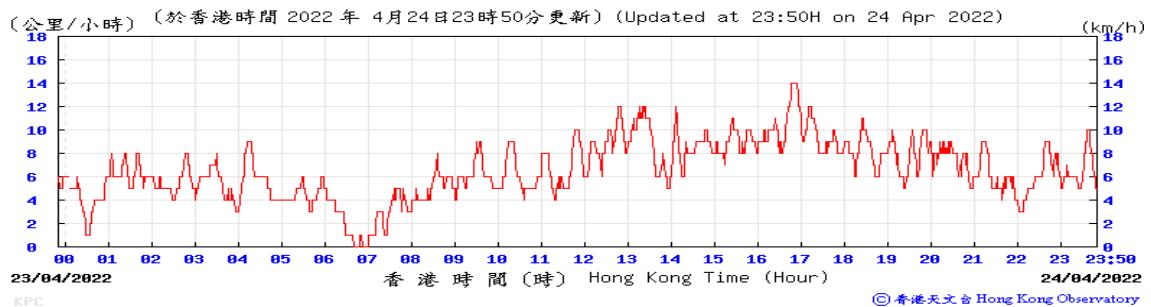
Pressure:



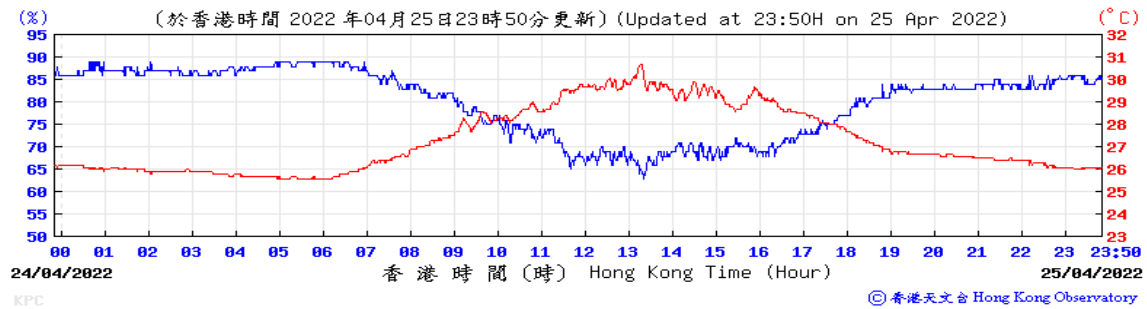
Wind Direction:



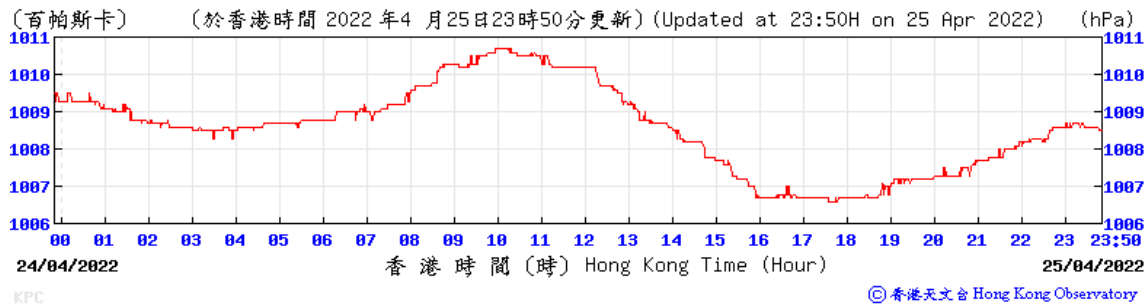
Wind Speed:



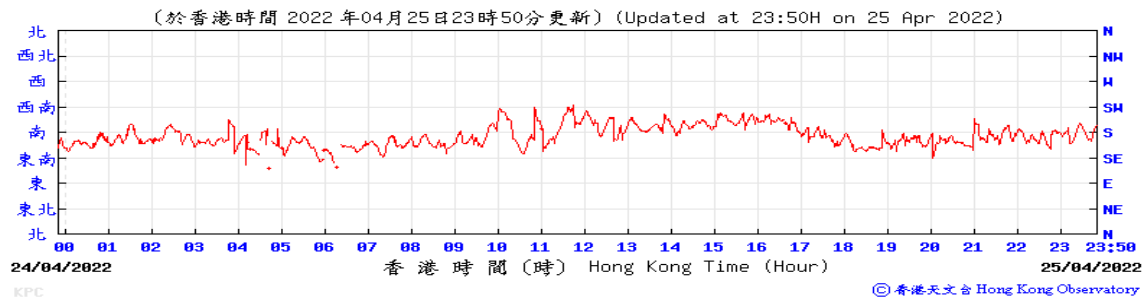
Temperature/Humidity:



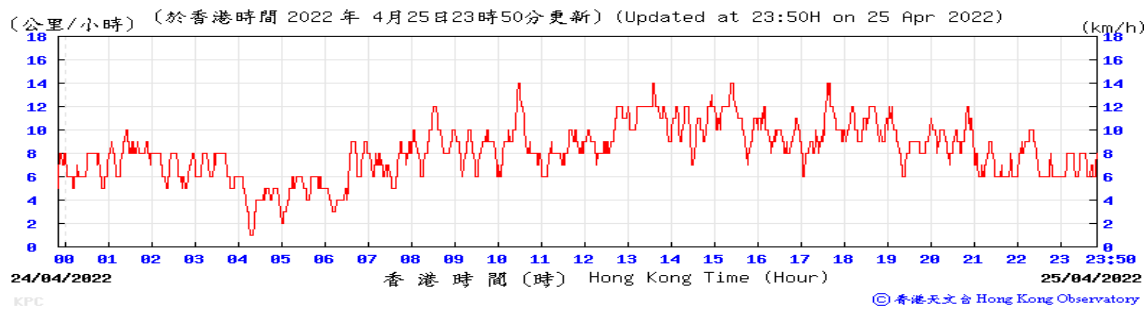
Pressure:



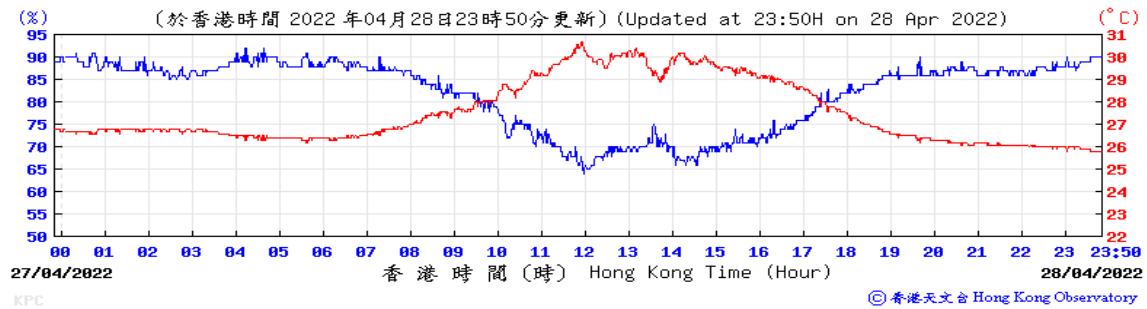
Wind Direction:



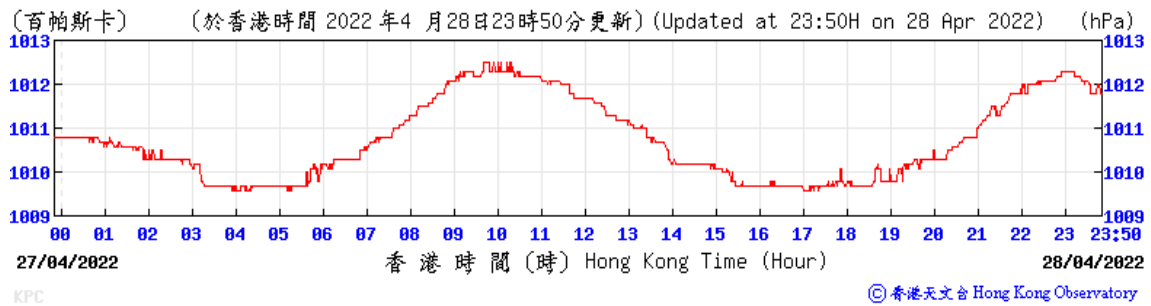
Wind Speed:



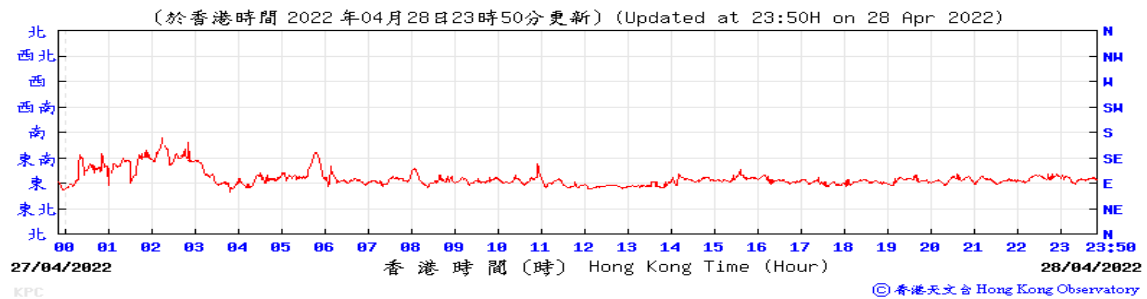
Temperature/Humidity:



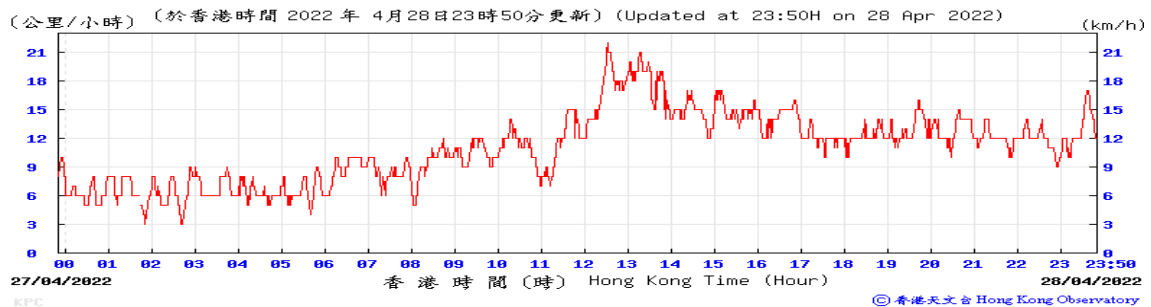
Pressure:



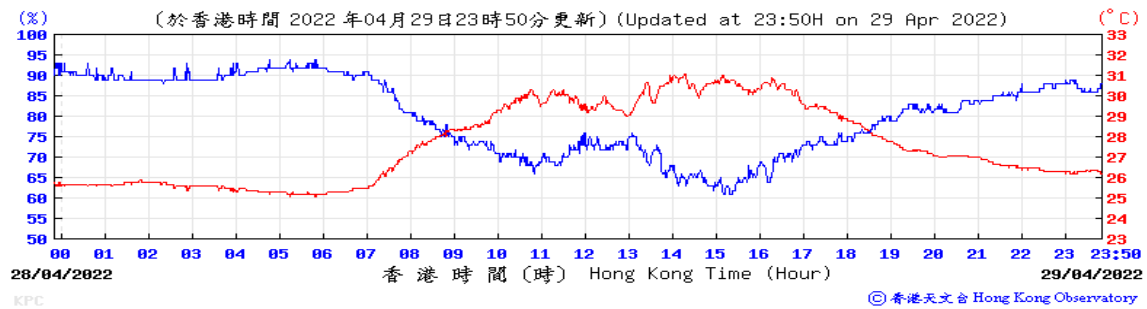
Wind Direction:



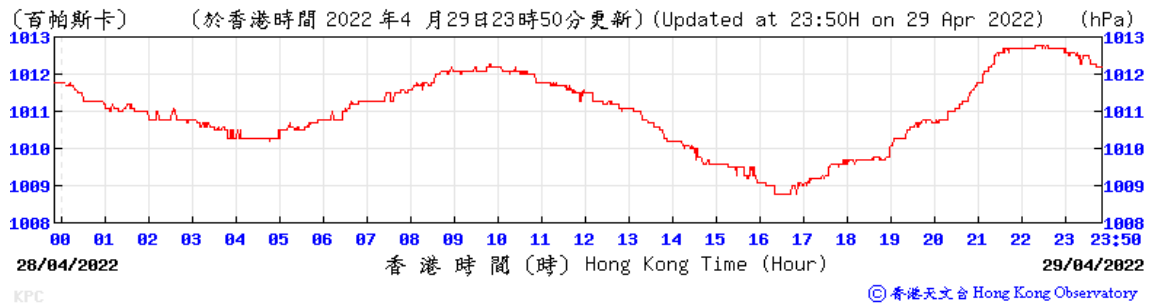
Wind Speed:



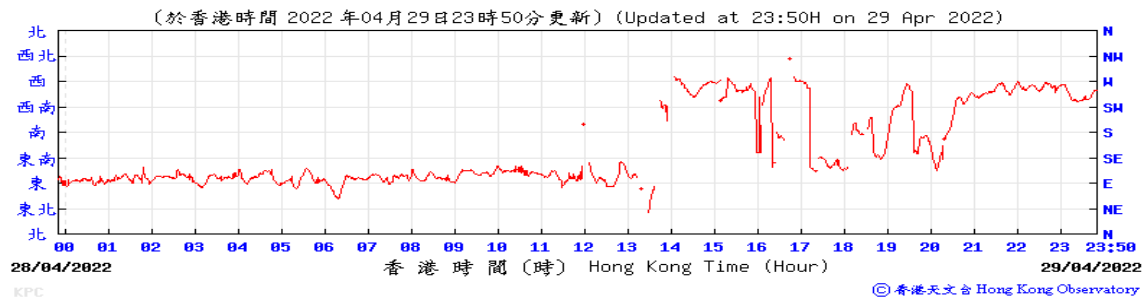
Temperature/Humidity:



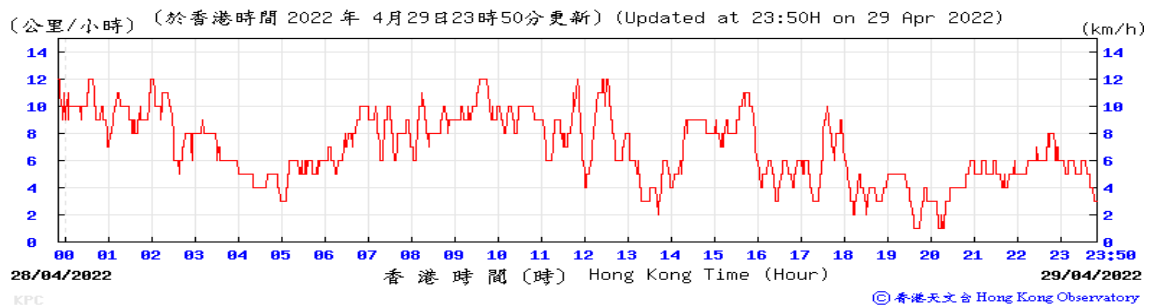
Pressure:



Wind Direction:



Wind Speed:

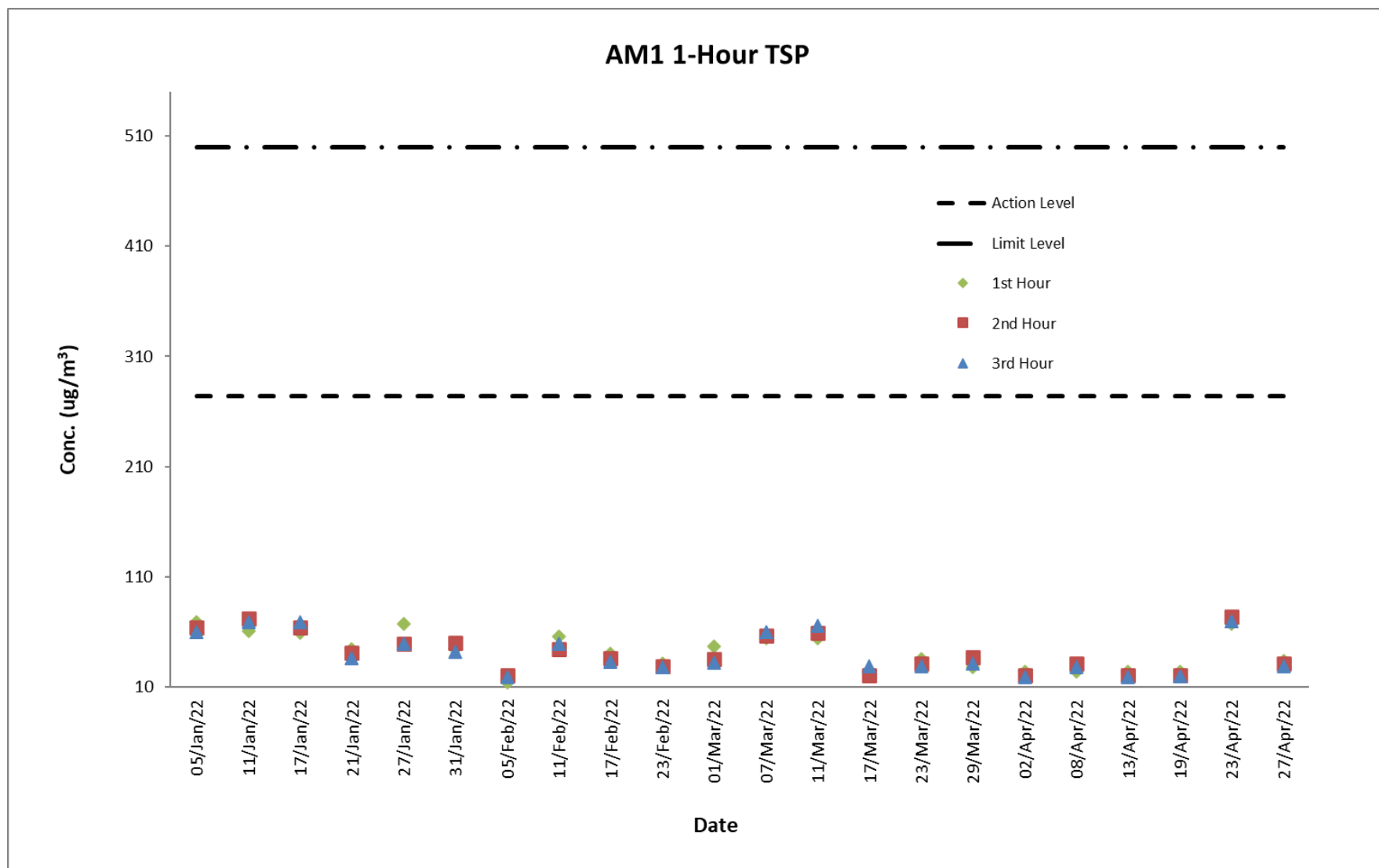


## **E. Graphical Plots of the Monitoring Results**

**Air Quality Monitoring Result at Station AM1 (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Feb-22	Fine	8:28 - 11:28	14	21	19	273.7	500
11-Feb-22	Sunny	8:23 - 11:23	56	44	49	273.7	500
17-Feb-22	Cloudy	8:28 - 11:28	40	36	33	273.7	500
23-Feb-22	Cloudy	8:28 - 11:28	31	29	28	273.7	500
01-Mar-22	Fine	8:28 - 11:28	47	35	32	273.7	500
07-Mar-22	Cloudy	8:31 - 11:31	54	57	60	273.7	500
11-Mar-22	Sunny	8:23 - 11:23	54	59	66	273.7	500
17-Mar-22	Cloudy	8:28 - 11:28	24	21	29	273.7	500
23-Mar-22	Cloudy	8:33 - 11:33	35	31	29	273.7	500
29-Mar-22	Cloudy	8:33 - 11:33	28	37	31	273.7	500
02-Apr-22	Cloudy	8:32 - 11:32	24	21	19	273.7	500
08-Apr-22	Sunny	8:33 - 11:33	24	31	28	273.7	500
13-Apr-22	Cloudy	8:28 - 11:28	24	21	19	273.7	500
19-Apr-22	Cloudy	8:23 - 11:23	24	21	20	273.7	500
23-Apr-22	Fine	8:23 - 11:23	67	74	70	273.7	500
27-Apr-22	Fine	8:23 - 11:23	34	31	29	273.7	500

Graphical Presentation of Air Quality Monitoring Result at Station AM1 (1-hour TSP)

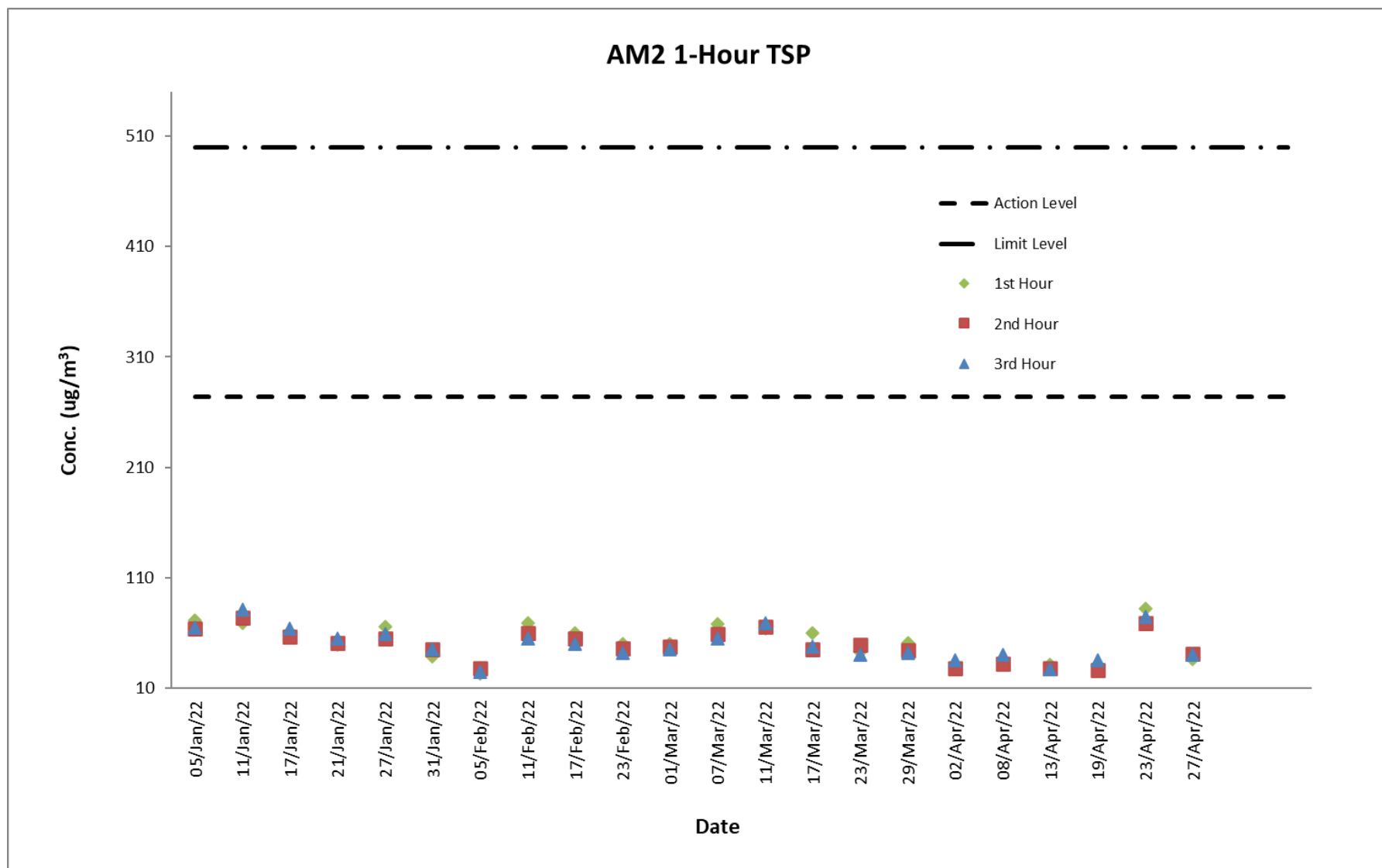


**Air Quality Monitoring Result at Station AM2 (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Feb-22	Fine	8:43 - 11:43	23	28	25	274.2	500
11-Feb-22	Sunny	8:38 - 11:38	69	60	55	274.2	500
17-Feb-22	Cloudy	8:43 - 11:43	60	55	50	274.2	500
23-Feb-22	Cloudy	8:44 - 11:44	50	46	42	274.2	500
01-Mar-22	Fine	8:43 - 11:43	50	48	45	274.2	500
07-Mar-22	Cloudy	8:47 - 11:47	68	59	55	274.2	500
11-Mar-22	Sunny	8:37 - 11:37	64	66	69	274.2	500
17-Mar-22	Cloudy	8:43 - 11:43	60	45	48	274.2	500
23-Mar-22	Cloudy	8:48 - 11:48	43	49	40	274.2	500
29-Mar-22	Cloudy	8:46 - 11:46	51	44	42	274.2	500
02-Apr-22	Cloudy	8:45 - 11:45	30	28	35	274.2	500
08-Apr-22	Sunny	8:47 - 11:47	35	32	40	274.2	500
13-Apr-22	Cloudy	8:41 - 11:41	31	28	27	274.2	500
19-Apr-22	Cloudy	8:38 - 11:38	31	26	35	274.2	500
23-Apr-22	Fine	8:37 - 11:37	82	69	75	274.2	500
27-Apr-22	Fine	8:36 - 11:36	36	41	40	274.2	500



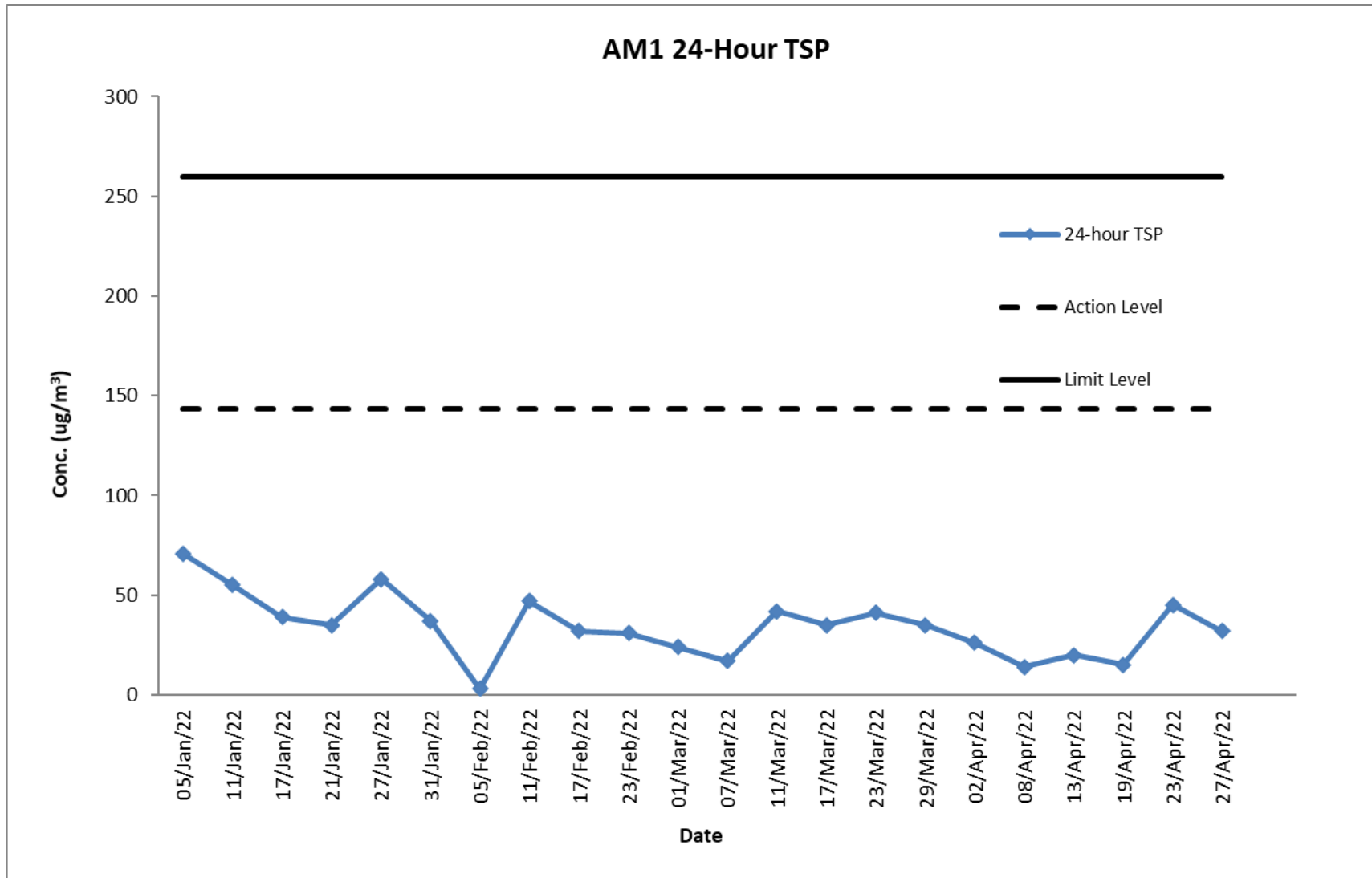
Graphical Presentation of Air Quality Monitoring Result at Station AM2 (1-hour TSP)



### Air Quality Monitoring Result at Station AM1 (24-hour TSP)

Start		Finish		Filter Weight (g)		Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Feb-22	08:25	06-Feb-22	08:25	2.7849	2.7896	24512.38	24536.38	24	1.25	1.25	1.25	3	Fine	143.6	260
11-Feb-22	08:20	12-Feb-22	08:20	2.79	2.8743	24536.38	24560.38	24	1.25	1.25	1.25	47	Sunny	143.6	260
17-Feb-22	08:25	18-Feb-22	08:25	2.7401	2.7981	24560.38	24584.38	24	1.25	1.25	1.25	32	Cloudy	143.6	260
23-Feb-22	08:25	24-Feb-22	08:25	2.747	2.8034	24584.38	24608.38	24	1.25	1.25	1.25	31	Cloudy	143.6	260
01-Mar-22	08:25	02-Mar-22	08:25	2.7449	2.7881	24608.38	24632.38	24	1.25	1.25	1.25	24	Fine	143.6	260
07-Mar-22	08:28	08-Mar-22	08:28	2.7678	2.7981	24632.38	24656.38	24	1.25	1.25	1.25	17	Cloudy	143.6	260
11-Mar-22	08:20	12-Mar-22	08:20	2.7567	2.8316	24656.38	24680.38	24	1.25	1.25	1.25	42	Sunny	143.6	260
17-Mar-22	08:25	18-Mar-22	08:25	2.7348	2.7986	24680.38	24704.38	24	1.26	1.26	1.26	35	Cloudy	143.6	260
23-Mar-22	08:30	24-Mar-22	08:30	2.7543	2.8286	24704.38	24728.38	24	1.26	1.26	1.26	41	Cloudy	143.6	260
29-Mar-22	08:30	30-Mar-22	08:30	2.7538	2.8182	24728.38	24752.38	24	1.26	1.26	1.26	35	Cloudy	143.6	260
02-Apr-22	08:30	03-Apr-22	08:30	2.7333	2.7813	24752.38	24776.38	24	1.26	1.26	1.26	26	Cloudy	143.6	260
08-Apr-22	08:30	09-Apr-22	08:30	2.7395	2.7642	24776.38	24800.38	24	1.26	1.26	1.26	14	Sunny	143.6	260
13-Apr-22	08:25	14-Apr-22	08:25	2.7765	2.8127	24800.38	24824.38	24	1.26	1.26	1.26	20	Cloudy	143.6	260
19-Apr-22	08:20	20-Apr-22	08:20	2.7725	2.7997	24824.38	24848.38	24	1.26	1.26	1.26	15	Cloudy	143.6	260
23-Apr-22	08:20	24-Apr-22	08:20	2.7739	2.8556	24848.38	24872.38	24	1.26	1.26	1.26	45	Fine	143.6	260
27-Apr-22	08:20	28-Apr-22	08:20	2.7777	2.8350	24872.38	24896.38	24	1.26	1.26	1.26	32	Fine	143.6	260

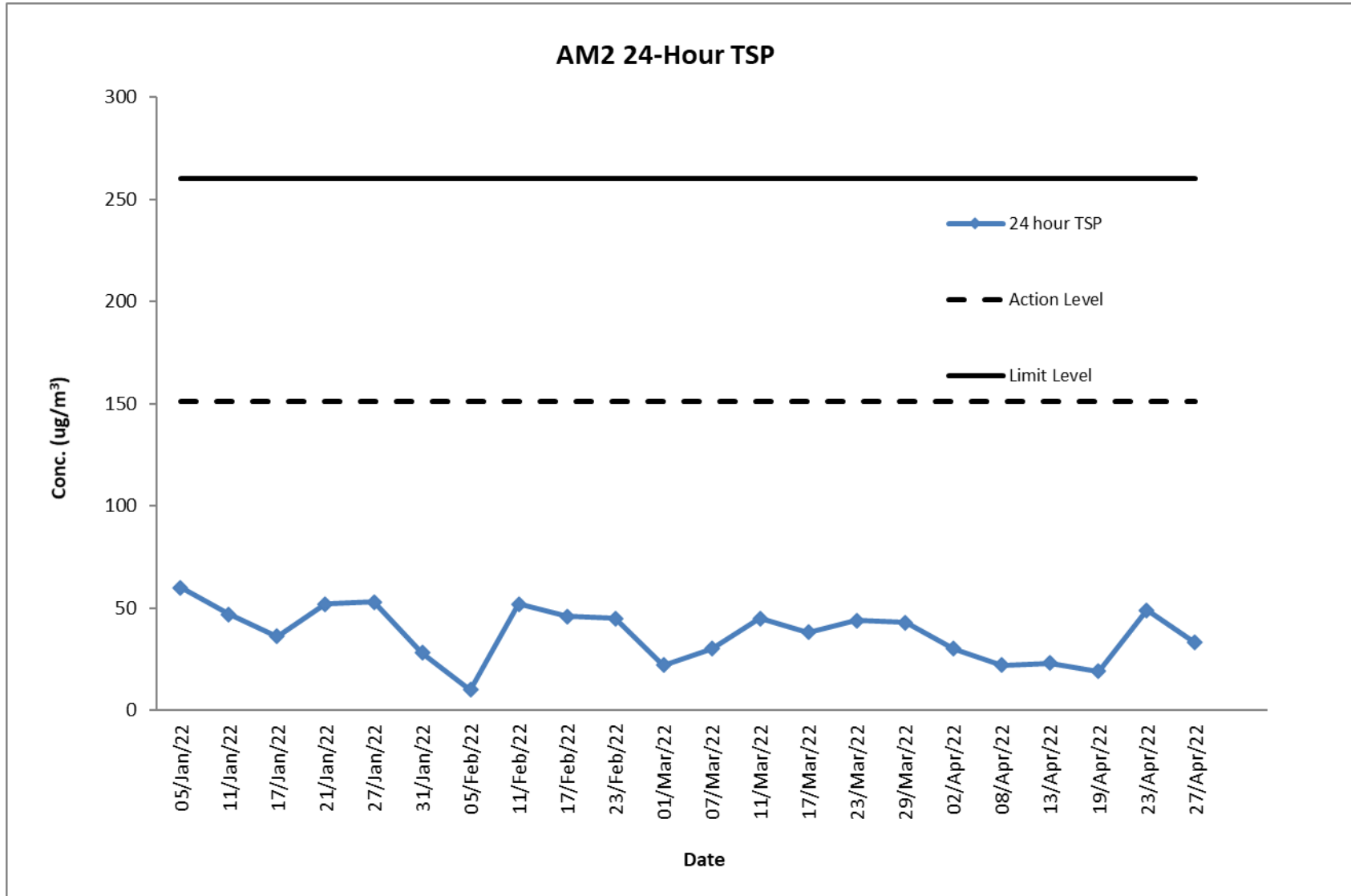
Graphical Presentation of Air Quality Monitoring Result at Station AM1 (24-hour TSP)



**Air Quality Monitoring Result at Station AM2 (24-hour TSP)**

Start		Finish		Sampling Time (hrs)	Conc. ( $\mu\text{g}/\text{m}^3$ )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time					
05-Feb-22	08:40	06-Feb-22	08:40	24	10	Fine	151.1	260
11-Feb-22	08:35	12-Feb-22	08:35	24	52	Sunny	151.1	260
17-Feb-22	08:39	18-Feb-22	08:39	24	46	Cloudy	151.1	260
23-Feb-22	08:40	24-Feb-22	08:40	24	45	Cloudy	151.1	260
01-Mar-22	08:39	02-Mar-22	08:39	24	22	Fine	151.1	260
07-Mar-22	08:43	08-Mar-22	08:43	24	30	Cloudy	151.1	260
11-Mar-22	08:34	12-Mar-22	08:34	24	45	Sunny	151.1	260
17-Mar-22	08:40	18-Mar-22	08:40	24	38	Cloudy	151.1	260
23-Mar-22	08:45	24-Mar-22	08:45	24	44	Cloudy	151.1	260
29-Mar-22	08:43	30-Mar-22	08:43	24	43	Cloudy	151.1	260
02-Apr-22	08:42	03-Apr-22	08:42	24	30	Cloudy	151.1	260
08-Apr-22	08:44	09-Apr-22	08:44	24	22	Sunny	151.1	260
13-Apr-22	08:38	14-Apr-22	08:38	24	23	Cloudy	151.1	260
19-Apr-22	08:35	20-Apr-22	08:35	24	19	Cloudy	151.1	260
23-Apr-22	08:34	24-Apr-22	08:34	24	49	Fine	151.1	260
27-Apr-22	08:34	28-Apr-22	08:34	24	33	Fine	151.1	260

Graphical Presentation of Air Quality Monitoring Result at Station AM2 (24-hour TSP)



**Noise Monitoring Result at Station NM1A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
11-Feb-22	09:21	68.5	64.0	69
11-Feb-22	09:26	67.4	63.1	
11-Feb-22	09:31	67.2	63.9	
11-Feb-22	09:36	68.5	64.2	
11-Feb-22	09:41	67.8	63.5	
11-Feb-22	09:46	68.7	64.5	
17-Feb-22	09:26	66.1	62.0	68
17-Feb-22	09:31	67.3	63.7	
17-Feb-22	09:36	67.6	63.4	
17-Feb-22	09:41	66.5	62.6	
17-Feb-22	09:46	66.7	62.9	
17-Feb-22	09:51	67.8	63.5	
23-Feb-22	09:28	66.2	62.1	68
23-Feb-22	09:33	67.2	63.9	
23-Feb-22	09:38	66.4	62.8	
23-Feb-22	09:43	66.5	62.6	
23-Feb-22	09:48	66.7	62.6	
23-Feb-22	09:53	67.0	63.1	
01-Mar-22	09:27	66.4	62.0	68
01-Mar-22	09:32	65.1	61.2	
01-Mar-22	09:37	66.2	62.8	
01-Mar-22	09:42	67.5	63.7	
01-Mar-22	09:47	67.4	63.6	
01-Mar-22	09:52	66.6	62.7	
07-Mar-22	09:32	66.2	62.0	68
07-Mar-22	09:37	67.1	63.7	
07-Mar-22	09:42	66.3	62.4	
07-Mar-22	09:47	66.5	62.4	
07-Mar-22	09:52	65.3	61.9	
07-Mar-22	09:57	66.7	62.2	
17-Mar-22	09:27	65.7	61.0	68
17-Mar-22	09:32	66.1	62.2	
17-Mar-22	09:37	67.3	63.7	
17-Mar-22	09:42	65.9	61.9	
17-Mar-22	09:47	66.5	62.6	
17-Mar-22	09:52	67.7	63.6	
23-Mar-22	09:33	66.0	62.4	67
23-Mar-22	09:38	65.1	61.9	
23-Mar-22	09:43	66.2	62.6	
23-Mar-22	09:48	67.3	63.5	
23-Mar-22	09:53	65.4	61.1	
23-Mar-22	09:58	65.5	61.9	
29-Mar-22	09:30	65.2	61.0	67
29-Mar-22	09:35	66.1	62.9	
29-Mar-22	09:40	66.9	62.3	
29-Mar-22	09:45	65.2	61.4	
29-Mar-22	09:50	65.6	61.3	
29-Mar-22	09:55	66.7	62.4	

08-Apr-22	09:30	65.0	61.6	67
08-Apr-22	09:35	66.1	62.3	
08-Apr-22	09:40	66.2	62.5	
08-Apr-22	09:45	67.5	63.7	
08-Apr-22	09:50	65.4	61.1	
08-Apr-22	09:55	66.9	62.0	
13-Apr-22	09:24	66.0	61.1	68
13-Apr-22	09:29	67.2	62.4	
13-Apr-22	09:34	65.3	60.1	
13-Apr-22	09:39	66.5	61.4	
13-Apr-22	09:44	66.7	61.1	
13-Apr-22	09:49	66.8	61.2	
19-Apr-22	09:21	66.7	62.0	67
19-Apr-22	09:26	65.1	61.2	
19-Apr-22	09:31	66.7	62.2	
19-Apr-22	09:36	67.3	63.8	
19-Apr-22	09:41	66.5	62.9	
19-Apr-22	09:46	65.7	61.5	
27-Apr-22	09:26	65.9	61.8	67
27-Apr-22	09:31	66.7	62.0	
27-Apr-22	09:36	67.1	63.6	
27-Apr-22	09:41	66.3	62.1	
27-Apr-22	09:46	65.4	61.5	
27-Apr-22	09:51	66.7	62.9	

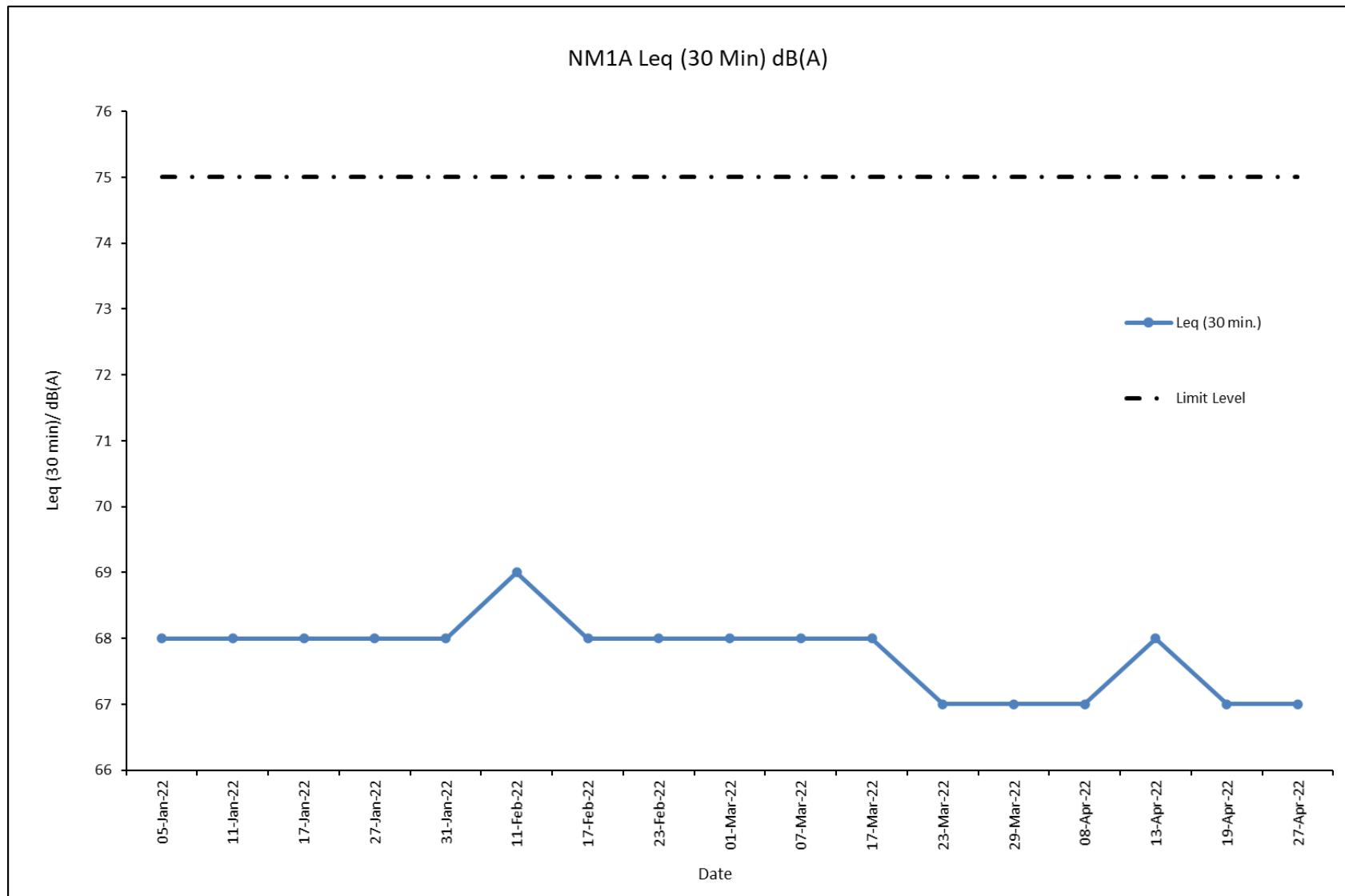
**Remarks:**

+3dB (A) correction was applied to free-field measurement.



The station set-up of a free-field measurement at Station NM1A.

### Graphical Presentation Noise Monitoring Result at Station NM1A





## F. Waste Flow table

**Table F-1: Monthly Waste Flow Table for Lyric Theatre Complex**

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
<b>2016</b>													
Mar	2702.1	0.0	0.0	0.0	2702.1	0.0	0.0	4.5	0.1	0.0	0.0	0.0	30.6
Apr	8631.5	0.0	0.0	0.0	8631.5	0.0	0.0	16.0	0.0	0.0	0.0	0.0	19.2
May	12487.8	0.0	0.0	0.0	12487.8	0.0	0.0	34.0	0.0	0.0	0.0	0.7	60.5
Jun	8600.8	0.0	0.0	0.0	8600.8	0.0	0.0	31.4	0.2	0.0	0.0	0.5	13.5
Jul	12624.2	0.0	0.0	0.0	12624.2	0.0	0.0	19.6	0.0	0.0	0.0	2.0	9.9
Aug	14419.9	0.0	0.0	0.0	14419.9	0.0	0.0	43.9	0.0	0.0	0.0	0.0	11.1
Sep	13671.3	0.0	0.0	0.0	13671.3	0.0	0.0	59.8	0.0	0.0	0.0	1.6	12.4
Oct	13088.9	0.0	0.0	0.0	13088.9	0.0	0.0	36.9	0.2	1.5	0.0	0.0	15.2
Nov	12424.7	0.0	0.0	0.0	12424.7	0.0	0.0	74.7	0.0	0.0	0.0	1.4	10.2
Dec	12487.6	0.0	0.0	0.0	12487.6	0.0	0.0	13.9	0.0	0.0	0.0	1.3	9.0
Sub-total (2016)	111138.8	0.0	0.0	0.0	111138.8	0.0	0.0	334.5	0.4	1.5	0.0	7.6	191.6
<b>2017</b>													
Jan	9607.8	0.0	0.0	0.0	9607.8	0.0	0.0	29.5	0.0	0.0	0.0	0.0	7.3
Feb	9108.2	0.0	0.0	0.0	9108.2	0.0	0.0	50.2	0.2	0.0	0.0	0.7	9.8
Mar	11361.7	0.0	0.0	0.0	11361.7	0.0	0.0	16.1	0.0	0.0	0.0	1.4	8.5
Apr	2591.5	0.0	0.0	0.0	2591.5	0.0	0.0	35.7	0.0	0.0	0.0	0.0	4.7
May	2579.3	0.0	0.0	99.0	2480.3	0.0	0.0	20.9	0.1	0.0	0.0	0.5	10.0
Jun	476.0	0.0	0.0	341.0	129.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	7.6
Jul	3419.0	0.0	0.0	804.0	2615.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
Aug	3730.9	0.0	0.0	1377.5	2353.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
Sep	2108.2	0.0	0.0	1133.5	974.7	0.0	0.0	34.6	0.2	0.0	0.0	0.0	10.8
Oct	9159.0	0.0	0.0	7868.0	1291.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	9.3
Nov	5095.4	0.0	0.0	4352.0	725.2	18.1	0.0	0.0	0.0	0.0	0.0	0.0	38.8
Dec	3856.2	0.0	0.0	3076.0	780.2	0.0	0.0	0.0	0.2	0.0	0.0	0.4	8.4
Sub-total (2017)	63093.1	0.0	0.0	19051.0	44018.7	23.4	0.0	187.1	0.7	0.0	0.0	3.8	137.3

**Table F-1: Monthly Waste Flow Table for Lyric Theatre Complex**

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
<b>2018</b>													
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Mar	6120.2	0.0	0.0	5782.0	338.2	0.0	0.0	0.0	0.0	1.0	0.0	0.5	17.6
Apr	14460.3	0.0	0.0	12484.1	1976.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	7.6
May	59783.7	0.0	0.0	46989.0	12794.7	0.0	0.0	59.6	0.0	0.0	0.0	0.0	9.4
Jun	53117.5	0.0	0.0	37642.8	15474.7	0.0	0.0	51.5	0.2	0.0	0.0	0.0	12.8
Jul	89901.5	0.0	0.0	85317.1	4584.4	0.0	165.1	114.6	0.0	0.0	0.0	0.0	41.3
Aug	35137.3	0.0	0.0	33731.6	1405.7	0.0	214.3	148.1	0.0	0.0	0.0	0.0	48.5
Sep	4924.3	0.0	0.0	4641.2	196.1	87.0	174.6	40.0	0.0	0.0	0.0	0.0	179.2
Oct	19099.9	0.0	0.0	11301.0	7642.8	156.1	0.0	106.3	0.4	0.0	0.0	0.0	528.5
Nov	104168.0	0.0	0.0	79811.6	24351.0	5.3	0.0	54.5	0.0	0.6	0.0	0.0	31.5
Dec	62989.9	0.0	0.0	51284.4	11699.9	5.6	0.0	95.1	0.0	0.6	0.0	0.0	65.9
Sub-total (2018)	449702.6	0.0	0.0	368984.8	80463.7	254.0	553.9	669.7	0.5	2.4	0.0	0.5	943.7
<b>2019</b>													
Jan	74479.1	0.0	0.0	69249.5	5229.7	0.0	318.0	326.7	0.2	0.0	0.0	0.0	76.3
Feb	21969.9	0.0	0.0	17723.9	4246.0	0.0	16.5	55.2	0.0	0.0	0.0	0.0	26.7
Mar	19311.9	0.0	0.0	8569.9	10742.0	0.0	337.8	61.5	0.0	0.0	0.0	0.0	36.3
Apr	28559.9	0.0	0.0	21280.3	7279.6	0.0	0.0	32.6	0.0	0.8	0.0	0.0	24.9
May	45418.0	0.0	0.0	11200.6	34217.4	0.0	0.0	27.4	0.2	0.5	0.0	0.0	33.7
Jun	66633.4	0.0	0.0	23874.5	42748.0	10.9	59.2	11.9	0.0	0.9	0.0	0.0	35.3
Jul	36619.6	0.0	0.0	1632.7	34960.9	26.0	64.4	120.7	0.0	0.0	0.0	0.0	57.9
Aug	2526.8	0.0	0.0	0.0	2499.0	27.8	31.9	40.2	0.0	0.8	0.0	0.0	66.3
Sep	4117.6	0.0	0.0	0.0	4088.7	28.9	95.2	19.0	0.0	0.6	0.0	0.0	127.4
Oct	6974.2	0.0	0.0	0.0	6948.1	26.1	15.9	11.4	0.2	1.0	0.0	0.6	223.6
Nov	5334.4	0.0	0.0	0.0	5304.1	30.3	0.0	8.9	0.0	0.0	0.0	0.0	151.6
Dec	6236.8	0.0	0.0	0.0	6236.8	0.0	0.0	70.6	0.0	0.0	0.0	0.0	98.9
Sub-total (2019)	318181.6	0.0	0.0	153531.3	164500.1	150.1	938.9	785.8	0.6	4.6	0.0	0.6	959.0

**Table F-1: Monthly Waste Flow Table for Lyric Theatre Complex**

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
<b>2020</b>													
Jan	7089.9	0.0	0.0	0.0	7089.9	0.0	0.0	10.6	0.2	0.0	0.0	0.0	65.7
Feb	16822.3	0.0	0.0	0.0	16822.3	0.0	0.0	232.2	0.1	0.0	0.0	0.0	66.3
Mar	6559.0	0.0	0.0	0.0	6559.0	0.0	110.4	63.1	0.0	0.9	0.0	0.0	138.3
Apr	4997.9	0.0	0.0	1615.7	3382.2	0.0	159.2	1123.9	1.9	0.0	0.0	0.0	113.2
May	2236.0	0.0	0.0	452.3	1783.6	0.0	0.0	406.5	0.0	0.0	0.0	0.0	188.8
Jun	1134.3	0.0	0.0	0.0	1134.3	0.0	31.5	262.6	0.2	0.6	0.0	0.0	210.6
Jul	148.8	0.0	0.0	0.0	148.8	0.0	31.5	458.5	0.5	0.0	0.0	0.0	220.0
Aug	540.7	0.0	0.0	0.0	540.7	0.0	0.0	340.8	0.0	0.0	0.0	0.0	238.3
Sep	1432.3	0.0	0.0	0.0	1432.3	0.0	0.0	750.7	0.2	0.0	0.0	0.0	291.9
Oct	1381.5	0.0	0.0	0.0	1381.5	0.0	0.0	717.9	0.2	0.0	0.0	0.0	400.2
Nov	1444.1	0.0	0.0	0.0	1437.4	6.7	475.8	473.6	0.2	0.5	0.0	0.0	377.8
Dec	793.8	0.0	0.0	0.0	793.8	0.0	0.0	478.3	0.2	0.0	0.0	0.0	435.8
Sub-total (2020)	44580.6	0.0	0.0	2068.1	42505.8	6.7	808.3	5318.7	3.7	2.0	0.0	0.0	2746.8
<b>2021</b>													
Jan	881.4	0.0	0.0	0.0	881.4	0.0	0.0	835.1	0.4	0.0	0.0	0.0	497.0
Feb	544.7	0.0	0.0	0.0	544.7	0.0	0.0	100.5	0.3	0.0	0.0	0.0	504.7
Mar	406.1	0.0	0.0	0.0	406.1	0.0	0.0	455.8	0.3	0.0	0.0	0.0	881.7
Apr	633.0	0.0	0.0	0.0	633.0	0.0	0.0	429.9	0.7	0.0	0.0	0.0	613.0
May	1125.8	0.0	0.0	0.0	1125.8	0.0	0.0	355.1	0.2	0.1	0.0	0.0	355.2
Jun	877.3	0.0	0.0	0.0	877.3	0.0	0.0	98.4	0.2	0.0	0.0	0.4	420.3
Jul	8.9	0.0	0.0	0.0	0.0	8.9	0.0	43.9	2.0	0.0	0.0	0.0	278.2
Aug	1296.2	0.0	0.0	0.0	1296.2	0.0	0.0	161.5	0.0	0.0	0.0	0.0	459.1
Sep	1040.5	0.0	0.0	0.0	490.9	549.6	0.0	62.9	0.0	0.0	0.0	0.0	620.8
Oct	311.0	0.0	0.0	0.0	311.0	0.0	0.0	85.9	0.3	0.0	0.0	0.0	485.6
Nov	203.9	0.0	0.0	0.0	203.9	0.0	0.0	65.9	0.0	0.0	0.0	0.0	609.6
Dec	576.6	0.0	0.0	0.0	576.6	0.0	0.0	13.4	0.0	0.0	0.0	0.0	590.6
Sub-total (2021)	7905.3	0.0	0.0	0.0	7346.9	558.5	0.0	2708.2	4.4	0.1	0.0	0.4	6315.9

**Table F-1: Monthly Waste Flow Table for Lyric Theatre Complex**

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)	(in ton)
<b>2022</b>													
Jan	579.3	0.0	0.0	0.0	579.3	0.0	0.0	23.5	0.4	0.0	0.0	0.0	565.5
Feb	58.9	0.0	0.0	0.0	58.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	172.2
Mar	412.8	0.0	0.0	0.0	412.8	0.0	0.0	12.4	0.3	0.0	0.0	0.0	339.8
Apr	390.2	0.0	0.0	0.0	390.2	0.0	0.0	24.8	0.0	0.0	0.0	0.0	390.9
Sub-total (2022)	1441.2	0.0	0.0	0.0	1441.2	0.0	0.0	60.7	0.7	0.0	0.0	0.0	1468.4
<b>Total</b>	<b>996043.1</b>	<b>0.0</b>	<b>0.0</b>	<b>543635.2</b>	<b>451415.1</b>	<b>992.7</b>	<b>2301.1</b>	<b>10064.5</b>	<b>10.9</b>	<b>10.5</b>	<b>0.0</b>	<b>12.9</b>	<b>12762.7</b>

**Note:**

(1) 572.63, 281.54 and 7.66 tonnes of inert C&D material were disposed of as public fill to Tseung Kwan O Area 137, Tuen Mun Area 38, and Chai Wan Public Fill Barging Point respectively in the reporting quarter.

(2) The values in the table are rounded off to 1 decimal place.

## **G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions**

Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works to the end of the reporting quarter are summarized in **Table G-1** below.

**Table G-1: Statistics for complaints, notifications of summons and successful prosecutions for Lyric Theatre Complex**

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting quarter (Feb 22 – Apr 22)	11	0	0
From 1 March 2016 to end of the reporting quarter	41	0	0

**END OF PART-1**

# **Part-2: EM&A for Foundation and ELS Works in Zones 2A, 2B & 2C**



# Foundation and ELS Works in Zones 2A, 2B & 2C

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

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# Executive summary

This Quarterly EM&A Report presents the monitoring works conducted at Zone 2A and Zone 2B & 2C from 1 February 2022 to 30 April 2022.

The impact stage EM&A programme for the Project includes air quality, noise, water quality, waste, landscape and visual monitoring. The recommended environmental mitigation measures were implemented on site and regular inspections were carried out to ensure that the environmental conditions are acceptable.

The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the environmental monitoring and audit works that adequate environmental mitigation measures have been implemented by the contractors where appropriate in the reporting quarter.

## **Exceedance of Action and Limit Levels**

There was no breach of Action or Limit Levels for Air Quality (1-hour TSP and 24-hour TSP) in the reporting quarter.

Seven Action Level exceedances (due to noise related environmental complaints) with no Limit Level exceedance of Construction Noise was recorded in the reporting quarter.

## **Implementation of Mitigation Measures**

Construction phase weekly site inspections were carried out to confirm the implementation measures undertaken by the Contractors in the reporting quarter. The status of implementation of mitigation measures during the reporting quarter is shown in **Appendix C**.

Landscape and visual impact inspections were conducted as part of the above-mentioned weekly site inspections during the reporting quarter. No adverse comment on landscape and visual aspects were made during these inspections.

## **Record of Complaints**

Eleven environmental complaints were received during the reporting quarter.

## **Record of Notifications of Summons and Successful Prosecutions**

No notifications of summons and successful prosecutions were recorded in the reporting quarter.

# 1 Introduction

## 1.1 Background

Apex Testing & Certification Limited (Apex) was commissioned to undertake the Environmental Team (ET) services (including environmental monitoring and audit (EM&A)) for the construction activities in Zone 2A, consisting of Foundation, Excavation and Lateral Support Works for Integrated Basement and Underground Road (Contract No.: GW/2020/05/073) ; and Zone 2B & 2C consisting of Piling Works for Integrated Basement and Underground Road (Contract No.: CC/2020/2B/088) at WKCD. The major construction works and EM&A programme for Zone 2A and Zone 2B & 2C commenced on 3 October 2020 and 30 September 2021 respectively.

The overall works for the WKCD fall under two separate categories of Designated Project (DP) of the Environmental Impact Assessment Ordinance (EIAO), namely an “engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000” (Item 1 of Schedule 3) and “an underpass more than 100m in length under the built areas” (Item A.9, Part I, Schedule 2). An Environmental Permit No. EP-453/2013/B (EP) was issued with respect to the “Underpass Road and Austin Road Flyover Serving the West Kowloon Cultural District” which specifically includes the abovementioned category of DP under Item A.9, Part I, Schedule 2 of the EIAO. The captioned projects include part of the abovementioned underpass road located within the site boundary falls under this same category.

The purpose of the development in Zone 2A and Zone 2B & 2C is to reserve for Integrated Basement (IB) and Underground Road (UR). The Zone 2A construction activities involve the foundation, excavation and lateral support (ELS) works, road works, drainage diversion works, and temporary car parking. The Zone 2B & 2C construction activities involve the piling works.

The Quarterly EM&A Report is prepared in accordance with the Clause 3.4 of the Environmental Permit No. EP-453/2013/B. This Quarterly EM&A Report presents the monitoring works at Zone 2A and Zone 2B & 2C from 1 February 2022 to 30 April 2022. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting period.

## 1.2 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in **Appendix A**.

## 1.3 Environmental Status in the Reporting Period

During the reporting period, construction works at Zone 2A undertaken include:

Zone 2A-1

- ELS (Stage 1) – Grouting / Pipe Pile Works
  - King Post & Erection of Steel Column for Working Platform
  - Stage 2 Grouting

Zone 2A-2

- ELS (Stage 1) – Grouting / Pipe Pile Works
  - Stage 1a & 1b Grouting
  - Pipe Pile Construction
  - Stage 2 Grouting
- Pumping Test
  - Installation of Pump Wells

During the reporting period, construction works at Zone 2B & 2C undertaken include:  
KD01 (Stage 1-1), KD05 (Section 1), KD06 (Section 2)

- Predrilling
- Bored Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation

KD02 (Stage 5-1)

- Bored Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation

KD03 (Stage 3-1)

- Predrilling
- Bored Pile Works
  - RCD Drilling and Excavation

KD04 (Stage 4-1)

- Bored Pile Works
  - RCD Drilling and Excavation

KD07 (Section 3)

- Predrilling
- Trial Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation
- Bored Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation

KD08 (Section 4)

- Bored Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation
- Socketed Steel H Piling

KD09 (Section 5)

- Predrilling
- Trial Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation
- Bored Pile Works
  - RCD Drilling, Airlifting, Cage Installation & Concreting and Excavation
- Socketed Steel H Piling

The Construction Works Programme of the Project is provided in **Appendix B**. A layout plan of the Project is provided in **Figure 1**.

## 2 Summary of EM&A Requirements and Mitigation Measures

### 2.1 Monitoring Requirements

In accordance with the EM&A Manual, environmental parameters including air quality, noise, landscape and visual have been monitored. The specific parameters, monitoring frequency and the respective Action and Limit Levels are given in **Table 2.1**. Locations of the monitoring stations are provided in **Figure 1**.

**Table 2.1: Summary of Impact EM&A Requirements**

Parameters	Descriptions	Locations	Frequencies	Action Level	Limit Level
Air Quality	24-Hour TSP	AM3 - The Victoria Towers Tower 1	At least once every 6 days	152.4 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM3 - The Victoria Towers Tower 1	At least 3 times every 6 days	280.4 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
	24-Hour TSP	AM4 - Canton Road Government Primary School	At least once every 6 days	152.6 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM4 - Canton Road Government Primary School	At least 3 times every 6 days	278.5 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
	24-Hour TSP	AM5 - Topside Developments at West Kowloon Terminus Site	At least once every 6 days	141.1 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
	1-Hour TSP	AM5 - Topside Developments at West Kowloon Terminus Site	At least 3 times every 6 days	275.4 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
Noise	Leq, 30 minutes	NM2 - The Arch, Sun Tower	Weekly	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
	Leq, 30 minutes	NM3 - The Victoria Towers Tower 1	Weekly	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
	Leq, 30 minutes	NM4 - Canton Road Government Primary School	Weekly	When one documented complaint is received from any one of the sensitive receivers	70/65 dB(A) <sup>^</sup>
	Leq, 30 minutes	NM5 -Development next to Austin Station	Weekly	When one documented complaint is received from any one of the sensitive receivers	75 dB(A)
Landscape & Visual	Monitor implementation of proposed mitigation measures during the construction stage	As described in Table 9.1 and 9.2 of the EM&A Manual	Bi-weekly	N/A	N/A

Note:

<sup>^</sup>70 dB(A) for schools and 65 dB(A) during school examination periods.

The EM&A programme for the Project require 5 air monitoring stations and 5 noise quality monitoring stations located closest to the Project area. With regard to the monitoring activities at M+ Museum and the Lyric Complex, three monitoring stations had been considered, including AM1, AM2 for air monitoring, and NM1 for noise monitoring. In the context of the construction activities in Zone 2A and Zone 2B & 2C, all other monitoring locations including AM3, AM4, and AM5 for air monitoring; and NM2, NM3, NM4 and NM5 for noise monitoring, have been taken into account. However, access to all these originally designated monitoring stations was declined. Therefore, alternative monitoring stations was identified and proposed.

With regard to air monitoring, alternative monitoring locations (AM3A, AM4A, and AM5A) were identified at ground floor at the Northeast corner of West Kowloon Station's station box, at ground floor at the Southeast corner of West Kowloon Station's station box, and at ground floor at the North of West Kowloon Station's station box respectively. AM3A, AM4A, and AM5A were set in same direction to the area of major construction site activities in Zone 2A0. These alternative air monitoring locations (AM3A, AM4A, and AM5A) were approved by EPD on 29 September 2020.

For noise monitoring, alternative noise monitoring location (NM2A) was identified at the ground floor in front of The Arch - Sun Tower, which is at the same location as stated in the EM&A Manual for consistency. This alternative noise monitoring location was approved by EPD on 29 September 2020. Other alternative noise monitoring locations (NM3A, NM4A, and NM5A) were identified at the ground floor in front of the Xiqu Centre, at the ground floor next to Tsim Sha Tsui Fire Station, and at the Pedestrian road (ground floor) outside West Kowloon Station respectively. NM3A, NM4A and NM5A were set closer to the construction site boundary with more direct line sight to the major site activities and higher exposure to the construction noise with no disturbance to the premises' occupants during noise monitoring activities. These alternative noise monitoring locations (NM3A, NM4A, and NM5A) were approved by EPD on 29 September 2020.

Therefore, 3 air quality monitoring stations and 4 noise impact monitoring station were confirmed for the impact monitoring for construction activities in Zone 2A and Zone 2B & 2C.

## 2.2 Environmental Mitigation Measures

Environmental mitigation measures have been recommended in the EM&A Manual. Summary of implementation status of the environmental mitigation measures is provided in **Appendix C**.



## 3 Summary of EM&A Results

### 3.1 Monitoring Data

In accordance with the EM&A Manual, impact monitoring has been conducted in the reporting quarter. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and presented in **Appendix D**. Monitoring data with graphical presentation for the reporting quarter are shown in **Appendix E**. A summary on the monitoring results are presented in **Table 3.1**.

**Table 3.1: Summary of Monitoring Data**

Parameter	Monitoring Location	Minimum	Maximum	Average
<b>Air Quality</b>				
1 hour TSP	AM3A	35	85	54
1 hour TSP	AM4A	31	83	54
1 hour TSP	AM5A	31	85	54
24 hour TSP	AM3A	38	79	54
24 hour TSP	AM4A	36	79	55
24 hour TSP	AM5A	33	87	56
<b>Construction Noise</b>				
Leq(30min)	NM2A	58	62	60
Leq(30min)	NM3A	65	70	69
Leq(30min)	NM4A	64	68	68
Leq(30min)	NM5A	64	67	66

### 3.2 Monitoring Exceedances

Summary of the exceedances in the reporting quarter is tabulated in **Table 3.2**.

**Table 3.2: Summary of Exceedances**

Monitoring Station	Parameter	No. of Exceedance		Action Taken
		Action Level	Limit Level	
<b>Air Quality</b>				
AM3A	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
AM4A	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
AM5A	1 hour TSP	0	0	N/A
	24 hour TSP	0	0	N/A
<b>Construction Noise</b>				
NM2A	Leq(30min)	7 exceedances due to noise related environmental complaints	0	Strengthen the implementation of noise mitigation measures
NM3A	Leq(30min)		0	
NM4A	Leq(30min)		0	
NM5A	Leq(30min)		0	

### **3.2.1 1-hour TSP Monitoring**

All 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance of 1-hour TSP for Air Quality was recorded.

### **3.2.2 24-hour TSP Monitoring**

All 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/ Limit Level exceedance of 24-hour TSP for Air Quality was recorded.

### **3.2.3 Construction Noise Monitoring**

All construction noise monitoring was conducted as scheduled in the reporting quarter. Seven Action Level exceedances (due to noise related environmental complaints) with no Limit Level exceedance of Noise was recorded in the reporting quarter.

### **3.2.4 Landscape and Visual Monitoring**

All landscape and visual impact inspections were conducted as scheduled in the reporting quarter. No adverse comment on landscape and visual aspects were recorded.

## 4 Waste Management

### 4.1 Zone 2A

As advised by the Contractor, 32.09 tonnes, 708.14 tonnes, 3019.99 tonnes of inert C&D material were disposed of as public fill to Chai Wan Public Fill Barging Point, Tseung Kwan O Area 137 Public Fill, and Tuen Mun Area 38 respectively in the reporting quarter, while 25.02 tonnes of general refuse were disposed of at SENT landfill. 19.88 tonnes of metals, 0.0 tonne of paper/cardboard packaging, 0.0 tonne of plastic and 0.0 tonne of timber were collected by recycling contractors in the reporting quarter. 0.0 tonne of inert C&D materials were reused on site. 0.0 tonne of fill materials were imported for use at site and 1077.83 tonnes of inert C&D materials was reused in other projects. 0.0 tonne of inert C&D materials was disposed to sorting facility and 0.40 tonnes of chemical wastes was collected by licensed contractors in the reporting quarter.

### 4.2 Zone 2B & 2C

As advised by the Zone 2B & 2C Contractor, 23066.25 tonnes and 11279.51 tonnes of inert C&D material were disposed of at Tuen Mun Area 38 and Tseung Kwan O Area 137 Public Fill in the reporting quarter, while 39.84 tonnes of general refuse were disposed of at SENT landfill. 0.0 tonne of metals, 0.0 tonne of paper/cardboard packaging, 0.0 tonne of plastics and 0.0 tonne of timber was collected by recycling contractors in the reporting quarter. 5576.85 tonnes of inert C&D material were reused on site. 0.0 tonne of inert C&D material was imported for reuse at site and 35835.07 tonne of inert C&D material were reused in other projects. 0.0 tonne of inert C&D material was disposed to sorting facility and 1.40 tonne of chemical waste was collected by licensed contractors in the reporting quarter.

The actual amounts of different types of waste generated by the activities of construction works at Zone 2A and Zone 2B & 2C in the reporting quarter are shown in **Appendix F**.

## 5 Environmental Non-conformance

There was no breach of Action or Limit Levels for Air Quality (1-hour TSP and 24-hour TSP) in the reporting quarter.

Seven Action Level exceedances due to noise related environmental complaints with no Limit Level exceedance of Construction Noise was recorded in the reporting quarter.

Eleven complaints were received in the reporting quarter. One complaint in February, five complaints in March and five complaints in April. No notifications of summons and successful prosecutions were received in the reporting quarter.

On 24 February 2022, WKCDA has received a complaint from EPD regarding construction noise at WKCD construction site on 23 February 2022. The complainant has expressed concern about the construction noise in WKCD site area, which continued until 7:15pm during weekday. The continuous noise nuisance was heard even on the weekend. Investigation revealed that the identified major noise source by the complainant on 23 February 2022, might be possibly due to casing extraction (with mobile crane) and site tidying up activities over 19:00-19:30 on WKCD Zone 2B & 2C site. One unit of generator (for site lighting) and one unit of mobile crane (for casing extraction and site tidying up activities) from Group C powered mechanical equipment were used over 19:00-19:30 on 23 February 2022. However, the mobile crane has been labelled as QPME by EPD. Also, these site activities were in compliance with the permitted nighttime working hours in accordance with the CNP No: GW-RE0148-22. No construction work was carried out in nighttime in Zone 2A site in February 2022. Noise mitigation measures have already been implemented and maintained on both Zone 2A and 2B & 2C sites. Moreover, noise measurement and monitoring were carried out with no exceedance. Nonetheless, the Contractors are recommended to maintain good practice on site, and strengthen the implementation of noise mitigation measures to reduce impacts to the nearby neighbors.

The second complaint was referred by EPD on 01 March 2022. Referring to the photo provided by the complainant, feculent water was spotted in the waterbody of Victoria Harbour near WKCD construction site on 01 March 2022. Investigation revealed that, feculent water was observed near the coastal area of Zone 2B & 2C site on 01 March 2022. After investigation, there was no identified source of wastewater leakage from Zone 2 sites into the waterbody of Victoria Harbor. In addition, good effluent quality has been properly maintained on both sites. Thereby, the complaint might not be attributable to Zone 2 sites. Nonetheless, the Contractors are recommended to strictly maintain good site practices to avoid wastewater flowing into to the waterbody of Victoria Harbor.

On 02 March 2022, a noise-related complaint was received from the security control room of The Arch through the WKCD Hotline and the case was referred by WKCDA on 02 March 2022. The complainant (a resident from The Arch) claimed that construction noise was from WKCD construction site next to M+ and opposite to the Harbourside in the early morning (around 7am) from 28 February to 02 March 2022. which caused disturbance. Investigation revealed that no noisy construction work was conducted before 9:00am on WKCD Zone 2A site at the concerned period. The identified construction noise source at 7:00am on 28 February to 02 March 2022 might possibly due to site preparation for concreting and air-lifting activities over 7:00am-7:30am on WKCD Zone 2B & 2C site. The complaint might be possibly attributable to Zone 2B & 2C site.

Accordingly, in addition to existing noise mitigation measures (which have been properly maintained daily on site), prompt actions have been taken (after notification of the complaint) to enhance the noise barriers in order to minimize the noise. Moreover, noise measurement and monitoring were carried out with no exceedance. Nonetheless, the Contractors are reminded and recommended to avoid noisy works before 9am, maintain good practices on site, and strengthen the implementation of noise mitigation measures to reduce impact to the nearby neighbors. Main contractors will carry out inspection and close supervision to ensure noise mitigation measures had been implemented.

On 11 March 2022, WKCD has received a noise-related complaint referred by EPD. On 11 March 2022, EPD has received a complaint referred by Mr. Hung, member of Yau Tsim Mong District Council (YTMDC). YTMDC has recently received a complaint from a resident who lived near Kowloon Station and expressed concern about noise disturbance in high frequency was being generated from WKCD construction site for consecutive Sundays. On 15 March 2022, additional information was received from the same complainant, claiming that construction activity was observed in WKCD construction sites near which generated construction noise on 13 March 2022. The complainant expressed concern about noise disturbance to the nearby resident and noise mitigation measures on site. Investigation revealed that some noise emissions on Sundays in February 2022 might possibly due to the construction activities carried out on WKCD Zone 2B & 2C site on Sundays 13 and 27 February 2022. Therefore, the noise source on 13 and 27 February 2022 might be possibly attributable to Zone 2B & 2C site. However, no construction work was conducted on Zone 2B & 2C site on 06 and 13 March 2022 (only one generator was used). In addition, the site activities on 13 February 2022 were in compliance with the permitted working hours (09:00-23:00) in accordance with the CNP No: GW-RE1288-21. The site activities on 27 February 2022 were in compliance with the permitted working hours (09:00-23:00) in accordance with the CNP No: GW-RE0148-22. The air compressor and generator are labelled as QPME by EPD. No construction work was undertaken on recent Sundays on WKCD Zone 2A site over the concerned period. Noise mitigation measures have already been implemented and maintained on both Zone 2A and 2B & 2C sites. Moreover, noise measurement and monitoring were carried out with no exceedance. Nonetheless, the Contractors are reminded maintain good practices on site, and strengthen the implementation of noise mitigation measures to reduce impact to the nearby neighbors. On the other hand, construction works not related to WKCD project were observed close to the noise sensitive receivers nearby the Austin Road Flyover on 13 March 2022. These activities might be possibly the noise source identified by the complainant on 13 March 2022.

The fifth complaint was received on 21 March 2022. WKCD has received a complaint referred by EPD regarding dust emission generated from WKCD construction site on 11 March 2022. The complainant has expressed concern of construction sand and rock on the ground without proper dust mitigation measures near M+ Construction Site (opposite to The Arch), which has caused damage to the private car. Investigation revealed that there was no finding of dust pollution from WKCD-Zone 2A and 2B & 2C sites on 11 March 2022. However, some sand on public road might possibly due to WKCD Zone 2B & 2C site activities. Thereby, the identified sand on public road might be attributable to Zone 2B & 2C site activities. In response, prompt actions have been taken to clean the public road in addition to existing mitigation measures on Zone 2B & 2C site (wheel washing, on-site dust suppression, regular removal of sand from the public road at the boundary of Zone 2B & 2C site). Moreover, dust monitoring is regularly conducted at the site boundary with no exceedance. Nonetheless, the Contractors are recommended to maintain good practice on site, and strengthen the implementation of mitigation measures to reduce impacts to the nearby neighbors.

On 21 March 2022, WKCD has also received a complaint referred by EPD regarding construction dust pollution and muddy water discharge generated from WKCD construction site. On 21 March 2022, the complainant has expressed concern of muddy water and sand flow into public road without proper mitigation measures near WKCD Construction Site which seriously affecting the environment. Investigation revealed that, there was no dust pollution or muddy water discharge from Zone 2A and 2B & 2C sites. However, some sand on the nearby public road might possibly due to Zone 2B & 2C site activities. Thereby, observed sand on the public road (by the complainant) might be attributable to Zone 2B & 2C site activities. In response, prompt actions have been taken by the Contractor to clean the public road in addition to existing migration measures (dust control, wheel washing, regular cleaning of sand from the public road at the site boundary, sealing of the bottom of site hoarding with concrete) to avoid disturbance to the public. Dust monitoring is also regularly conducted at the site boundary with no exceedance. Nonetheless, the Contractors are recommended to maintain good practice on site, and strengthen the implementation of dust water control measures to reduce impacts to the nearby neighbors.

On 04 April 2022, EPD has received a complaint regarding construction noise at WKCD construction site and the complaint was referred by EPD on the same day. The complainant has expressed concern about the construction noise was being generated from WKCD construction site during daytime. Investigation revealed that the identified noise by the complainant might possibly come from WKCD Zone 2B & 2C site. Thereby, the complaint might possibly attributable to the Zone 2B & 2C site. No construction activities were undertaken before 8am at Zone 2A site, while the construction activities carried out from 8am to 7pm were within compliance. However, noise mitigation measures have already been implemented and maintained on both Zone 2A and 2B & 2C sites. Moreover, noise measurement and monitoring were carried out with no exceedance. Nonetheless, the Contractors are reminded maintain good practices on site, and strengthen the implementation of noise mitigation measures to reduce impact to the nearby neighbors.

On 06 April 2022, EPD has received a complaint from a public regarding construction dust pollution at WKCD construction site and the complaint was referred by EPD on the same day. The complainant claimed that dust and debris were observed at the Gammon construction site near the Museum Drive M+ Park entrance, and the complainant's car was scratched while he passed the road every day. Investigation revealed that the identified location (Gammon construction site near the Museum Drive M+ Park entrance) was not related to WKCD Zone 2A and 2B & 2C sites (Zone 2 sites). Also, there was no dust pollution on Zone 2 sites during the concerned period. Moreover, dust monitoring is regularly conducted at the site boundary with no exceedance. Thereby, the complaint might not be attributable to Zone 2 sites. However, as the public road at the site boundary is also used by on-road construction trucks of Zone 2B & 2C project, regular cleaning of the public road (daily basis) has been implemented and properly maintained at Zone 2B & 2C site boundary. In addition, wheel washing system has been set and properly maintained at Zone 2B & 2C site entrance to prevent debris and sand spreading on the nearby public road. Moreover, after notification of the complaint, further action has been taken to enhance the road cleaning along Zone 2B & 2C site boundary. Nonetheless, the Contractors are recommended to maintain good practice on site, and strengthen the implementation of mitigation measures to reduce impacts to the nearby neighbors.

The ninth complaint was received on 21 April 2022. EPD has received a complaint regarding construction noise at WKCD construction site on 21 April 2022 and the complaint was referred to WKCD on the same day. The complainant has expressed concern about the construction noise during restricted hours and claimed that construction noise was observed from about 6am to 11pm. Knowing that CNP has been issued to WKCD construction sites, however the complainant did not understand why EPD would issue the CNPs that caused serious noise disturbance.

Investigation revealed that based on the investigation of site activities on 20 and 21 April 2022, no construction works were carried out during restricted hours on WKCD Zone 2A site. Some noise emissions might be possibly related to construction works on Zone 2B & 2C site. However, these construction activities were in compliance with the permitted nighttime working hours. No construction activities were carried out on site before 7am and after 9pm over the concerned period. The nighttime works (19:00-21:00) were carried out in compliance with the CNP No: GWRE0148-22 on Zone 2B & 2C site. Noise mitigation measures on Zone 2 sites have been also implemented and properly maintained to reduce the noise impact to the neighbors. Moreover, after notification of the complaint, actions have been promptly taken to further adjust and enhance the noise mitigation measures with self-monitoring of construction in night (with no exceedance) on Zone 2B & 2C site. Regular statutory noise measurements were also carried out with no exceedance. Nonetheless, the Contractor is recommended to maintain good practice on site, and strengthen the implementation of mitigation measures to reduce impacts to the nearby neighbors.

On 25 April 2022, WKCD has received a complaint referred by EPD regarding construction noise at WKCD construction site on 24 April 2022. A video was recorded by complainant and reported that construction work was conducted on Sunday. Further to the complaint email dated 25 April 2022 referred by EPD, investigation was carried out at WKCD Zone 2A, 2B & 2C (Zone 2) sites. Investigation revealed that no construction work was conducted on WKCD Zone 2A site on 24 April 2022 (Sunday). Some noise emissions might be possibly related to drilling and maintenance works on Zone 2B & 2C site. However, these construction activities on Zone 2B & 2C site were in compliance with the permitted working hours on Sundays in accordance with the CNP No: GW-RE0148-22. Moreover, noise mitigation measures have been implemented and properly maintained on Zone 2B & 2C site on 24 April 2022 with self-monitoring of construction noise in order to reduce the noise impact to the neighbors. In addition, after notification of the complaint, actions have been promptly taken to further adjust and enhance the noise mitigation measures on Zone 2B & 2C site. Regular statutory noise measurements were also carried out with no exceedance. Nonetheless, the Contractor is recommended to maintain good practice on site, and strengthen the implementation of mitigation measures to reduce impacts to the nearby neighbors.

The eleventh complaint was received on 27 April 2022. EPD and WKCD Contact Centre have received the same complaint regarding construction noise at WKCD construction site on 26 and 27 April 2022 respectively, and the complaint was referred on 27 April 2022. The complainant (Ms Chung) has expressed concern about the construction noise during restricted hours and public holidays. Noise generated from WKCD construction site at 7am has seriously disturbed the sleep quality of the complainant, especially on public holiday (i.e. 15 April 2022). The complainant suggested the Contractors to implement further sound proof equipment to reduce the noise level to a minimum. Based on site investigation relating to the complaint dated 27 April 2022 referred by EPD, possible noise emission from Zone 2A site might due to drilling / piling activities. However, these construction activities were in compliance with the statutory weekdays working hours. In addition, the drilling / piling machine has been set with noise insulating fabric and enclosure to reduce the noise in accordance with the EIA requirements. No construction activity was undertaken on Zone 2A site during nighttime hours, general holidays and Sundays in April 2022. On the other hand, the investigation also highlighted that some noise emissions might be possibly related to construction activities carried out on Zone 2B & 2C site. However, these construction activities were in compliance with the statutory working hours on weekdays (7:00-19:00) and the CNP No: GW-RE0148-22 (for nighttime, public holidays and Sundays). No construction activities were carried out before 9am on 15 April 2022 (public holiday) on Zone 2B & 2C site. Moreover, noise mitigation measures have been implemented and properly maintained on Zone 2B & 2C site over the concerned period with self-monitoring of construction noise in order to reduce the noise impact to the neighbors. In addition, after notification of the complaint, actions have been promptly taken to enhance the noise mitigation measures on Zone 2B & 2C site. Regular statutory

noise measurements were also carried out with no exceedance. Nonetheless, the Contractor is recommended to maintain good practice on site, and strengthen the implementation of mitigation measures to reduce impacts to the nearby neighbors.

The cumulative statistics on complaints, notifications of summons and successful prosecutions were provided in **Appendix G**.



## 6 Comments, Recommendations and Conclusion

### 6.1 Comments

Based on the observations made during site audits and landscape inspections, and construction dust and noise monitoring results, no non-compliances and exceedances of air quality were recorded while seven Action Level exceedances (due to noise related environmental complaints) with no Limit Level exceedance of construction noise was recorded in the reporting quarter.

### 6.2 Recommendations

Reviewing the implementation of the recommended mitigation measures in the EM&A Manual, it was observed that they were effective and efficient in controlling the potential impacts due to construction of the project during the reporting period. Review of the effectiveness and efficiency of the EM&A programme will continue, and recommendations will be provided to remediate any potential impacts due to the project and to improve the EM&A programme if deficiencies of the existing EM&A programme are identified.

### 6.3 Conclusion

The EM&A programme as recommended in the EM&A Manual has been undertaken since the construction works of Zone 2A and Zone 2B & 2C commenced on 3 October 2020 and 30 September 2021 respectively.

Monitoring of air quality and noise with respect to the Project is underway. In particular, the 1-hour TSP, 24-hour TSP and noise level (as Leq, 30 minutes) under monitoring have been checked against established Action and Limit Levels. There was no breach of Action and Limit Levels for Air Quality (1-hour TSP and 24-hour TSP) in this reporting quarter. Seven Action Level exceedances (due to noise related environmental complaints) with no Limit Level exceedance of Construction Noise was recorded in the reporting quarter.

Eleven complaints were received in the reporting quarter. No notifications of summons and successful prosecutions were received during the reporting quarter.

Weekly construction phase site inspections and bi-weekly landscape and visual impact inspections were conducted during the reporting quarter as required. It was observed that the Contractor had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during construction phase works.

# **Figure 1    Site Layout Plan and Monitoring Stations**

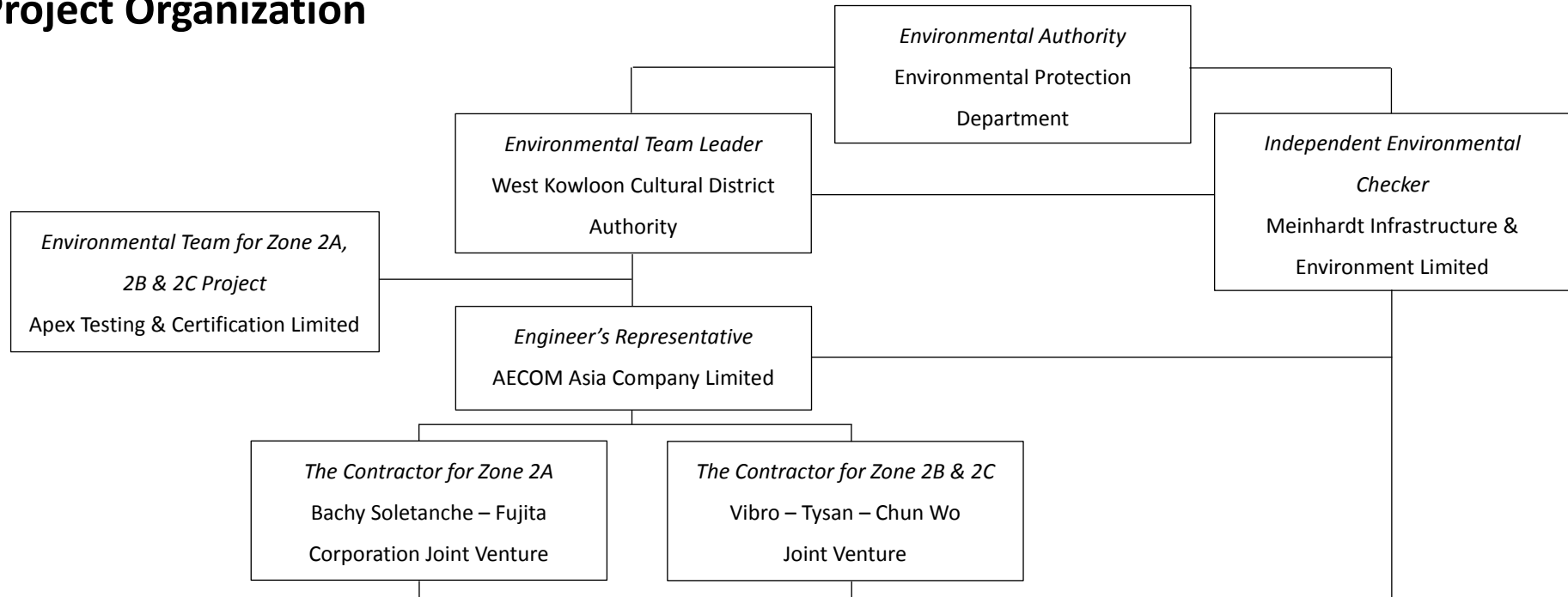


# Appendices

- A. Project Organisation
- B. Construction Programme
- C. Environmental Mitigation Measures – Implementation Status
- D. Meteorological Data Extracted from Hong Kong Observatory
- E. Graphical Plots of the Monitoring Results
- F. Waste Flow table
- G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

## A. Project Organisation

# Project Organization



**Table A-1: Contract Information**

Company Name	Role	Name	Telephone	Email
West Kowloon Cultural District Authority	WKCDA Representative & Project ETL	Mr. C.K. WU	5506 9178	ck.wu@wkcd.a.hk
Meinhardt Infrastructure & Environment Limited	Independent Environmental Checker	Ms. Claudine LEE	2859 5409	caludinelee@meinhardt.com.hk
AECOM Asia Company Limited	Resident Engineer	Mr. Alex GBAGUIDI	3619 6287	alex.gbaguidi@aecom.com
Bachy Soletanche – Fujita Corporation Joint Venture	Interface & Environmental Manager	Mr. Philip CHAN	9668 8403	philip.chan@soletanche-bachy.com
Bachy Soletanche – Fujita Corporation Joint Venture	Environmental Engineer	Mr. William CHAN	54083045	william-hou.chan@soletanche-bachy.com
Vibro – Tysan – Chun Wo Joint Venture	Environmental Sustainability Manager	Mr. Tony YAM	2137 5586	tony_yam@vibro.com.hk
Apex Testing & Certification Limited	Contractor's Environmental Team Leader	Mr. Calvin LUI	9629 9718	calvinlui@apextestcert.com

## B. Construction Programme

**Zone 2A**





Project Name: Foundation and ELS Works for Integrated Basement and Underground Road in Zone 2A of the West Kowloon Cultural District

3-Month Rolling Programme

Activity Description	Duration (Cal. Day)	Start Date	Finish Date	2022															
				March				April				May				June			
				4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17
W95	W96	W97	W98	W99	W100	W101	W102	W103	W104	W105	W106	W107	W108	W109	W110	W111			
<b>Zone 2A-1 Foundation, ELS Works and Blinding to Formation (KD01)</b>																			
<b>ELS (Stage 1) - Grouting / Pipe Pile Works</b>																			
King Post (8/64 Nos Completed) & Erection of Steel Column for Working Platform (13/41 Nos completed)	423	15-May-21	11-Jul-22	█				█											
Stage 2 grouting (221/314 Nos Completed)	343	28-Sep-21	5-Sep-22	█				█											
Pumping Test	62	1-Jun-22	1-Aug-22	█															
<b>Zone 2A-2 Foundation, ELS Works and Blinding to Formation (KD02)</b>																			
<b>ELS (Stage 1) - Grouting / Pipe Pile Works</b>																			
King Post (0/86 Nos Completed) & Erection of Steel Column for Working Platform (0/65 Nos Completed)	187	26-Mar-22	28-Sep-22	█															
Pipe Pile Construction (433.5/457 Nos Completed)	544	17-Nov-20	14-May-22	█				█											
Stage 2 grouting (393/470 Nos Completed)	305	2-Oct-21	2-Aug-22	█				█											

- █ - Actual
- █ - Remaining Works
- █ - Critical Remaining Works

Project Name: Foundation and ELS Works for Integrated Basement and Underground Road in Zone 2A of the West Kowloon Cultural District

3-Month Rolling Programme

Activity Description	Duration (Cal. Day)	Start Date	Finish Date	2022															
				April					May				June				July		
				1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15
W99	W100	W101	W102	W103	W104	W105	W106	W107	W108	W109	W110	W111	W112	W113	W114	W115			
<b>Zone 2A-1 Foundation, ELS Works and Blinding to Formation (KD01)</b>																			
<b>ELS (Stage 1) - Grouting / Pipe Pile Works</b>																			
King Post (8/64 Nos Completed) & Erection of Steel Column for Working Platform (11/41 Nos completed)	446	15-May-21	3-Aug-22	█					█										
Stage 2 grouting (221/314 Nos Completed)	345	28-Sep-21	7-Sep-22	█					█										
<b>Pumping Test</b>																			
Installation of Pump Wells (0/24 Nos completed)	61	4-Jun-22	3-Aug-22											█					
<b>Zone 2A-2 Foundation, ELS Works and Blinding to Formation (KD02)</b>																			
<b>ELS (Stage 1) - Grouting / Pipe Pile Works</b>																			
King Post (0/86 Nos Completed) & Erection of Steel Column for Working Platform (0/65 Nos Completed)	185	23-Apr-22	24-Oct-22						█										
Pipe Pile Construction (452/461 Nos Completed)	540	17-Nov-20	10-May-22	█					█										
Stage 2 grouting (405/475 Nos Completed)	292	2-Oct-21	20-Jul-22	█					█										
<b>Pumping Test</b>																			
Installation of Pump Wells (3/102 Nos completed)	57	11-Apr-22	6-Jun-22						█										
Baseline Monitoring	1	7-Jun-22	7-Jun-22											█					
Pumping Test	14	21-Jul-22	3-Aug-22											█					

- █ - Actual
- █ - Remaining Works
- █ - Critical Remaining Works

**Zone 2B & 2C**

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete	Activity											
									February				March				April			
									21	28	04	11	18	25	04	11	18	25	01	08

## Piling for Integrated Basement and U/G Road in Zone 2B & 2C

### Contract Dates

### Key Dates

### KD for Zone 2C

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete
KD02	KD02 (Stage 5-1) - 200 days after Commencement (7 Feb 2022)		06-Feb-22	0		04-Apr-22*	-56	0%

### Optional Works subjected to CA's Instruction

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete
CO3A	Last CAI date for Optional Works Item No.3 (within 280 Days after Commencement)	28-Apr-22		0	28-Apr-22		2	0%

### Access Dates of Site Portion

#### 120 days after Commencement

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete
ACB10	Access to Site Portion B10	19-Nov-21		0	19-Feb-22		-63	0%

#### 150 days after Commencement

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete
ACB34	Access to Site Portion B34	19-Dec-21		0	11-Feb-22 A			100%

#### 270 days after Commencement

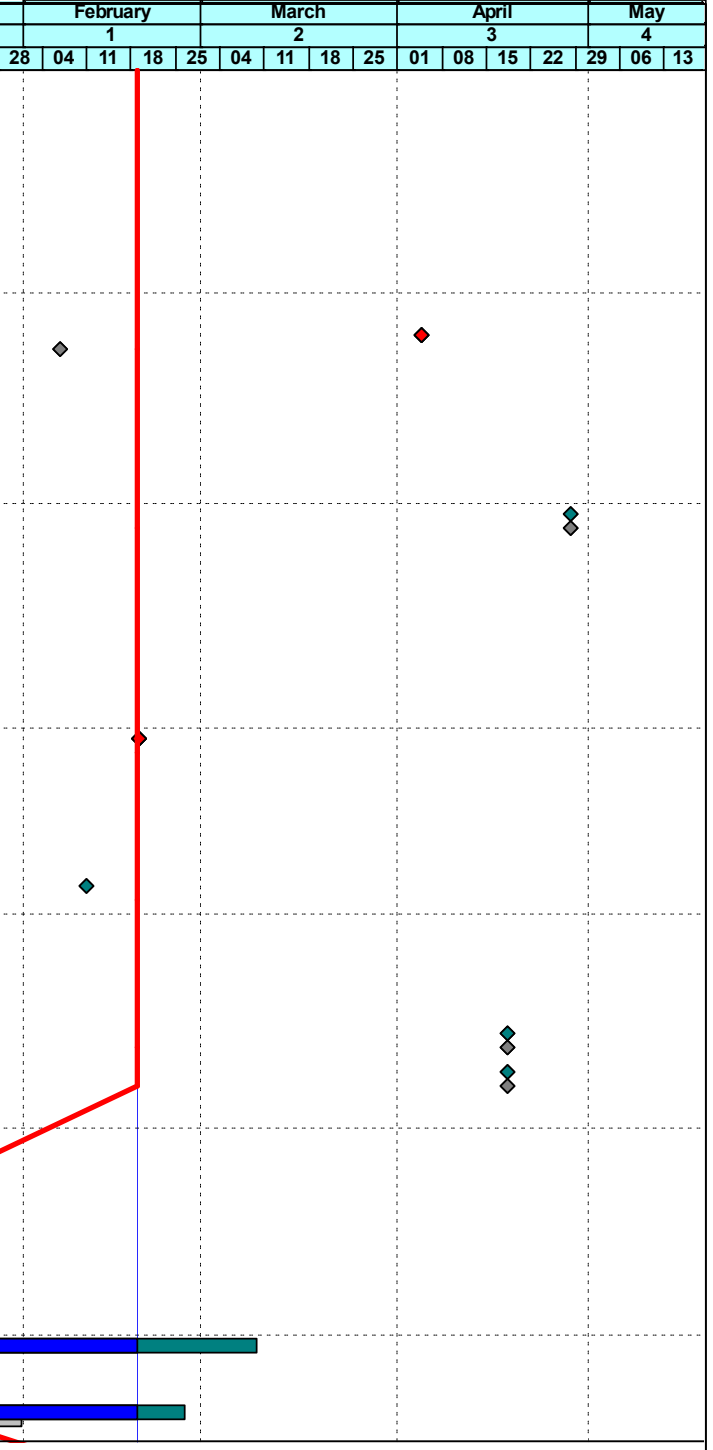
Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete
ACB12	Access to Site Portion B12	18-Apr-22		0	18-Apr-22		28	0%
ACB35	Access to Site Portion B35 (To be agreed with the Zone 2A contractor)	18-Apr-22		0	18-Apr-22		28	0%

### Mobilization Stage

#### Site Mobilization Works

#### Pre-Construction Works before Piling Commencement

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finish	Total Float	Activity % Complete
MOBP.10.1200	Installation of Monitoring Check Points (Stage 2) [33 nos.]	20-Nov-21	08-Dec-21	59	10-Jan-22 A	09-Mar-22	40	0%
MOBP.10.1260	Erection of Hoardings (Stage 2)	20-Dec-21	31-Jan-22	50	08-Jan-22 A	26-Feb-22	111	80%



Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	Gantt Chart													
									February				March				April				May	
									21	28	04	11	18	25	04	11	18	25	01	08	15	22

MOBP.10.1300	Trial Pit for Drillholes & Removal of Existing Substructures / Ground Slab [503 nos]	19-Aug-21	30-Apr-22	263	19-Aug-21 A	08-May-22	129	69%
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**Construction Stage**

**Pile Construction**

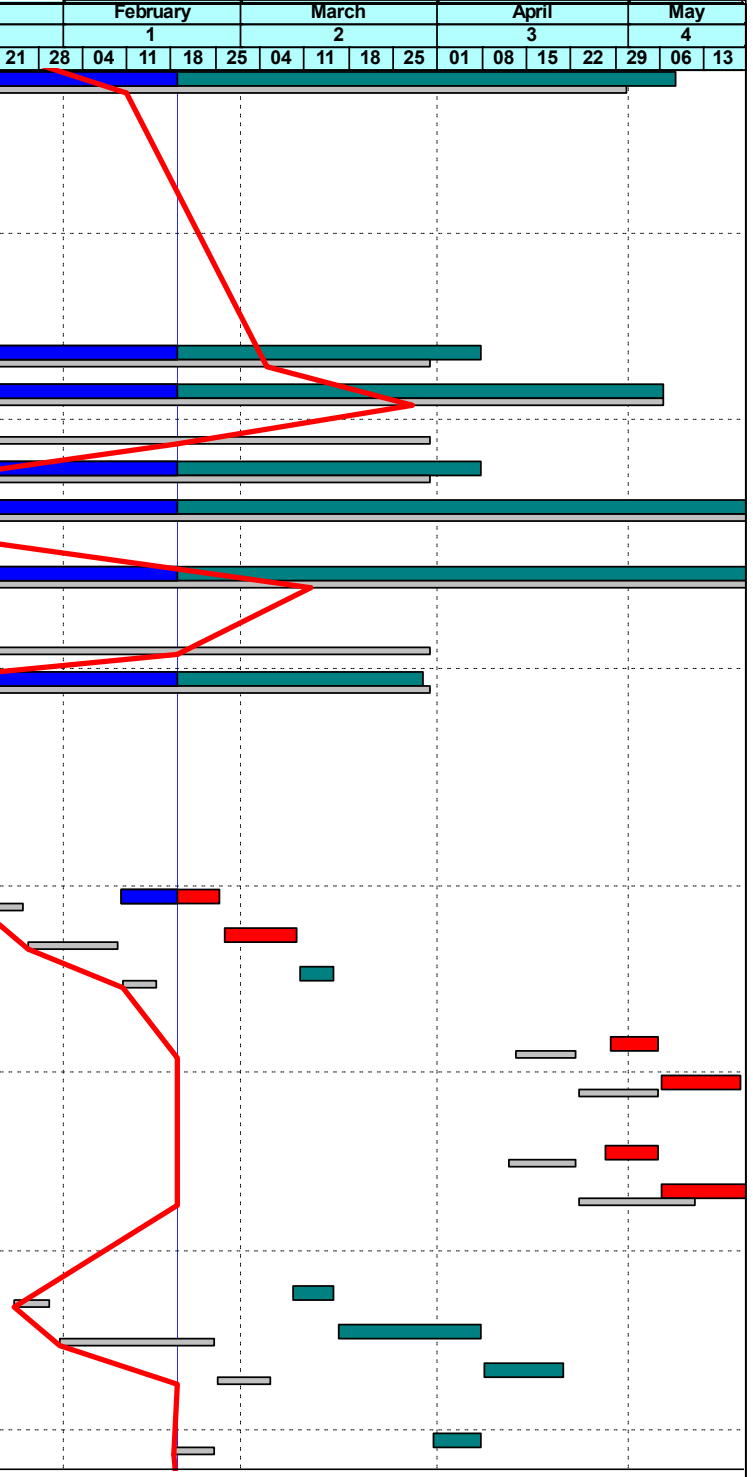
**Predrilling**

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete
PD.1000	Predrilling for BP in KD01 [8 nos.]	30-Sep-21	30-Mar-22	144	30-Sep-21 A	07-Apr-22	30	87%
PD.1040	Predrilling for BP in KD03 [5 nos.]	20-Oct-21	06-May-22	160	20-Oct-21 A	06-May-22	93	80%
PD.1060	Predrilling for BP in KD04 [3 nos.] incl. 1 additional no.	30-Sep-21	30-Mar-22	86	30-Sep-21 A	21-Jan-22 A		100%
PD.1080	Predrilling for BP in KD05 [76 nos.]	30-Sep-21	30-Mar-22	154	30-Sep-21 A	07-Apr-22	36	58%
PD.1100	Predrilling for BP in KD06 [95 nos.] incl. 5 additional nos.	30-Sep-21	23-May-22	188	16-Sep-21 A	24-May-22	129	41%
PD.1120	Predrilling for BP in KD07 [90 nos.] incl. 2 additional nos.	30-Sep-21	23-May-22	188	30-Sep-21 A	24-May-22	221	71%
PD.1140	Predrilling for BP in KD08 [74 nos.] incl. 1 additional no.	30-Sep-21	30-Mar-22	92	30-Sep-21 A	21-Jan-22 A		100%
PD.1160	Predrilling for BP in KD09 [149 nos.] incl. 4 additional nos.	30-Sep-21	30-Mar-22	148	30-Sep-21 A	29-Mar-22	171	48%

**KD01 (Stage 1-1)**

**Bored Piles**

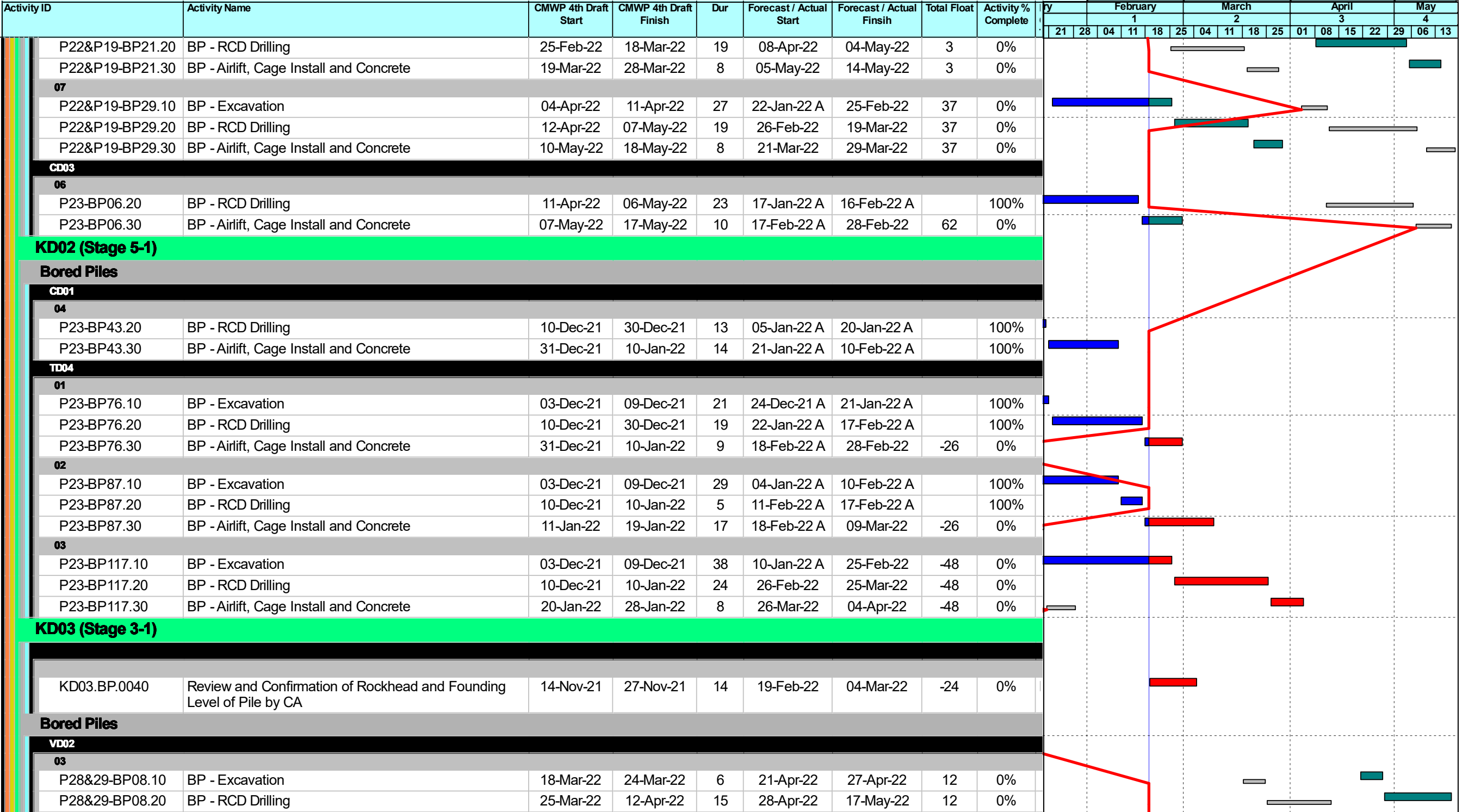
CD07									
01									
CBA-BPC41K.10	BP - Excavation	19-Jan-22	25-Jan-22	14	10-Feb-22 A	25-Feb-22	-10	0%	
CBA-BPC41K.20	BP - RCD Drilling	26-Jan-22	09-Feb-22	10	26-Feb-22	09-Mar-22	-10	0%	
CBA-BPC41K.30	BP - Airlift, Cage Install and Concrete	10-Feb-22	15-Feb-22	5	10-Mar-22	15-Mar-22	23	0%	
07									
CBA-BPC41Jb.10	BP - Excavation	13-Apr-22	22-Apr-22	6	28-Apr-22	05-May-22	-5	0%	
CBA-BPC41Jb.20	BP - RCD Drilling	23-Apr-22	05-May-22	10	06-May-22	18-May-22	-5	0%	
14									
CBA-BP04.10	BP - Excavation	12-Apr-22	22-Apr-22	7	27-Apr-22	05-May-22	-10	0%	
CBA-BP04.20	BP - RCD Drilling	23-Apr-22	11-May-22	14	06-May-22	23-May-22	-10	0%	
CD05									
04									
P22&P19-BP11.10	BP - Excavation	24-Jan-22	29-Jan-22	6	09-Mar-22	15-Mar-22	3	0%	
P22&P19-BP11.20	BP - RCD Drilling	31-Jan-22	24-Feb-22	19	16-Mar-22	07-Apr-22	3	0%	
P22&P19-BP11.30	BP - Airlift, Cage Install and Concrete	25-Feb-22	05-Mar-22	8	08-Apr-22	20-Apr-22	14	0%	
05									
P22&P19-BP21.10	BP - Excavation	18-Feb-22	24-Feb-22	6	31-Mar-22	07-Apr-22	3	0%	



Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**

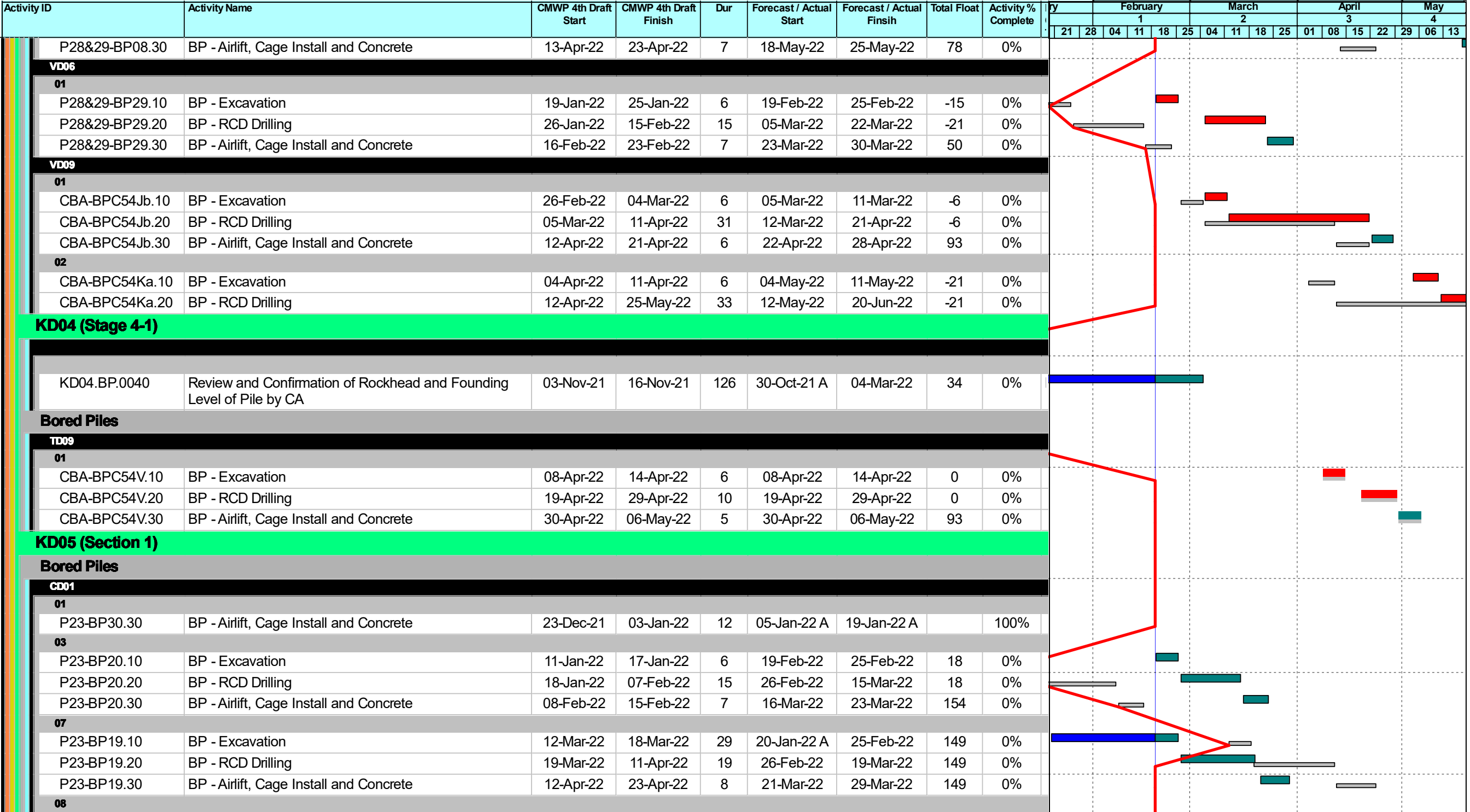
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	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



 Planned Bar	 Milestone
 Critical Bar	 Critical MS
 Baseline	 Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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	Date	Revision	Checked	Approved
	06-Aug-21	1st Draft	KL	N
	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B

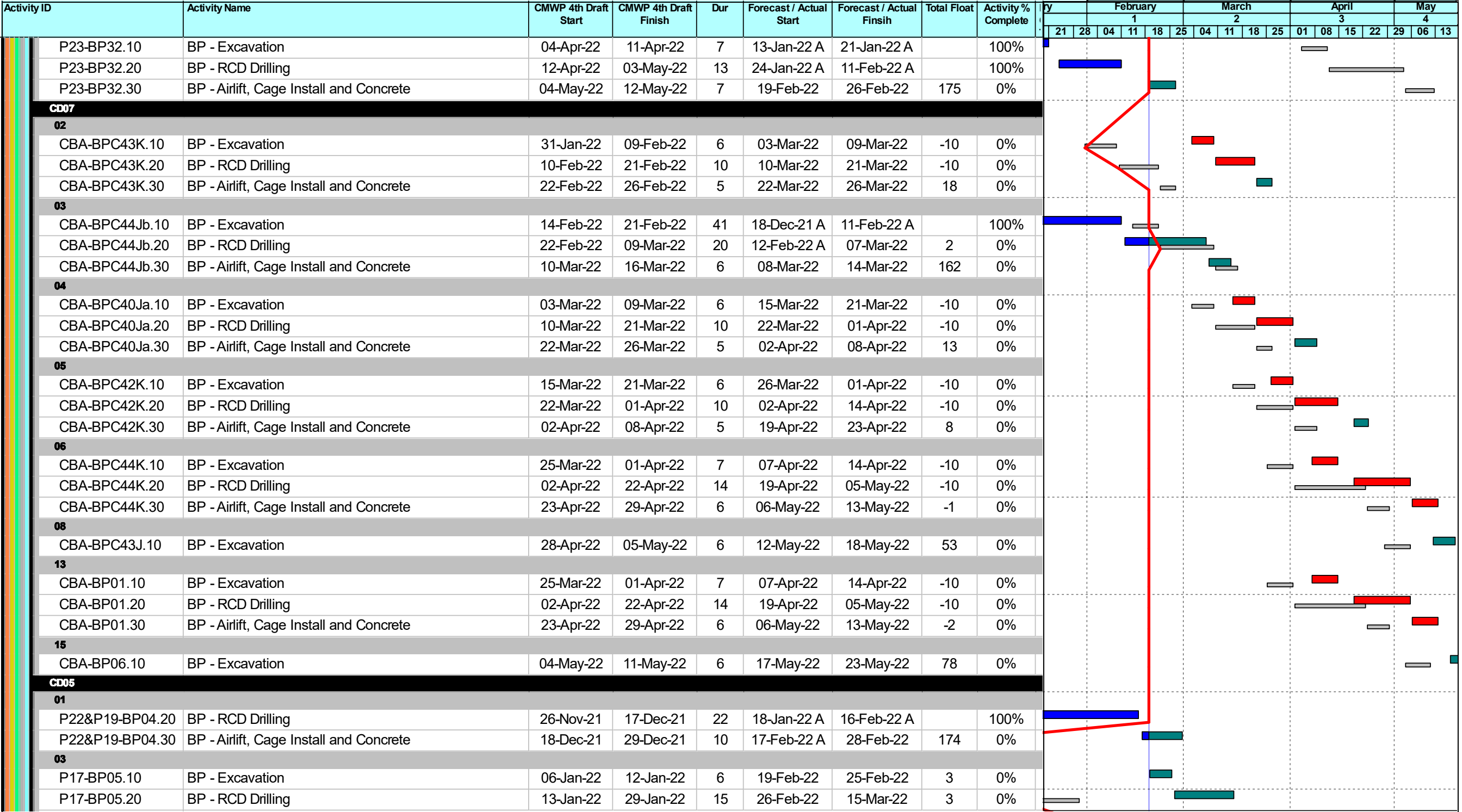








Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**

	Date	Revision	Checked	Approved
	06-Aug-21	1st Draft	KL	N
	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



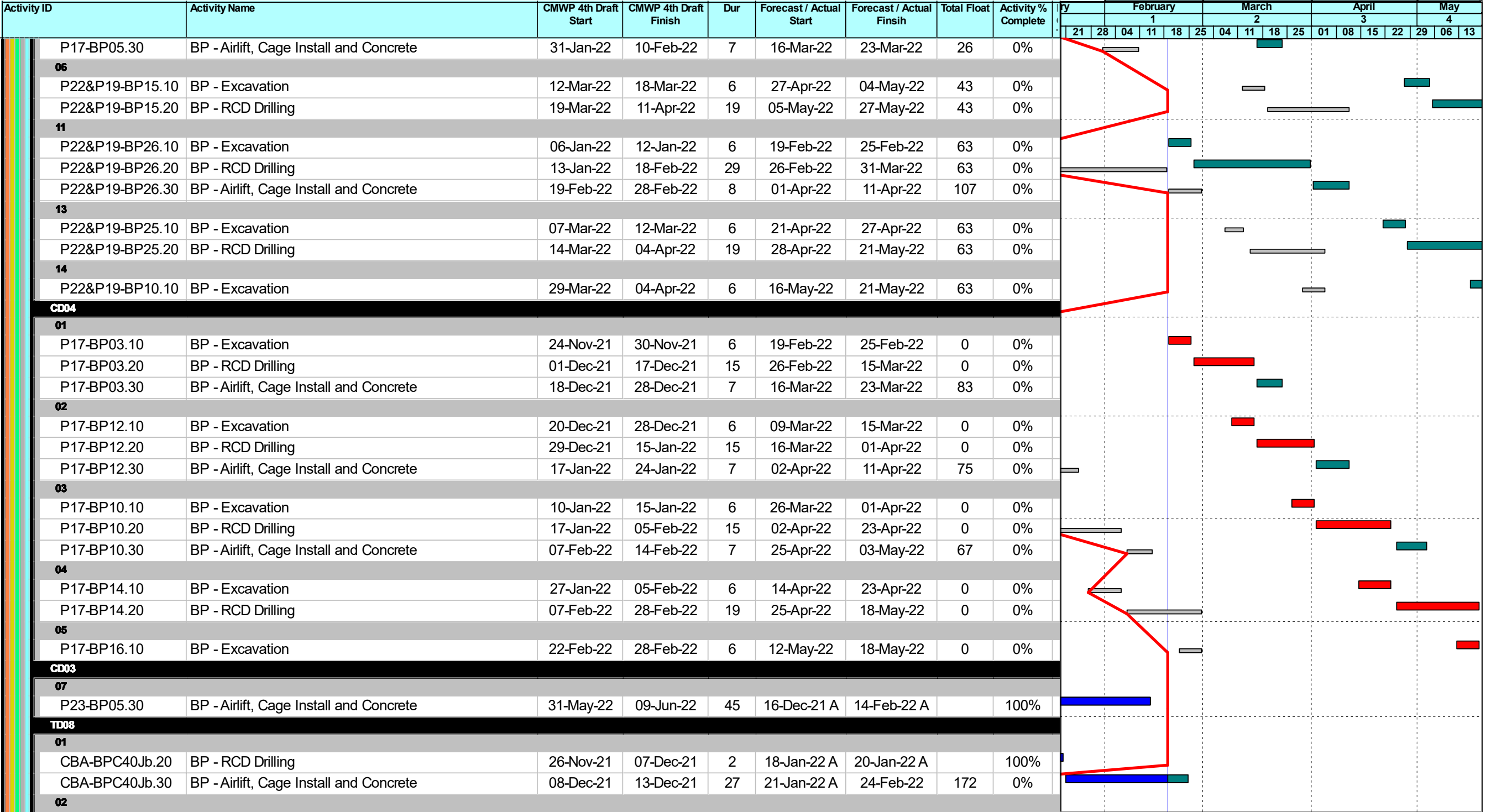


 Planned Bar	 Milestone
 Critical Bar	 Critical MS
 Baseline	 Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
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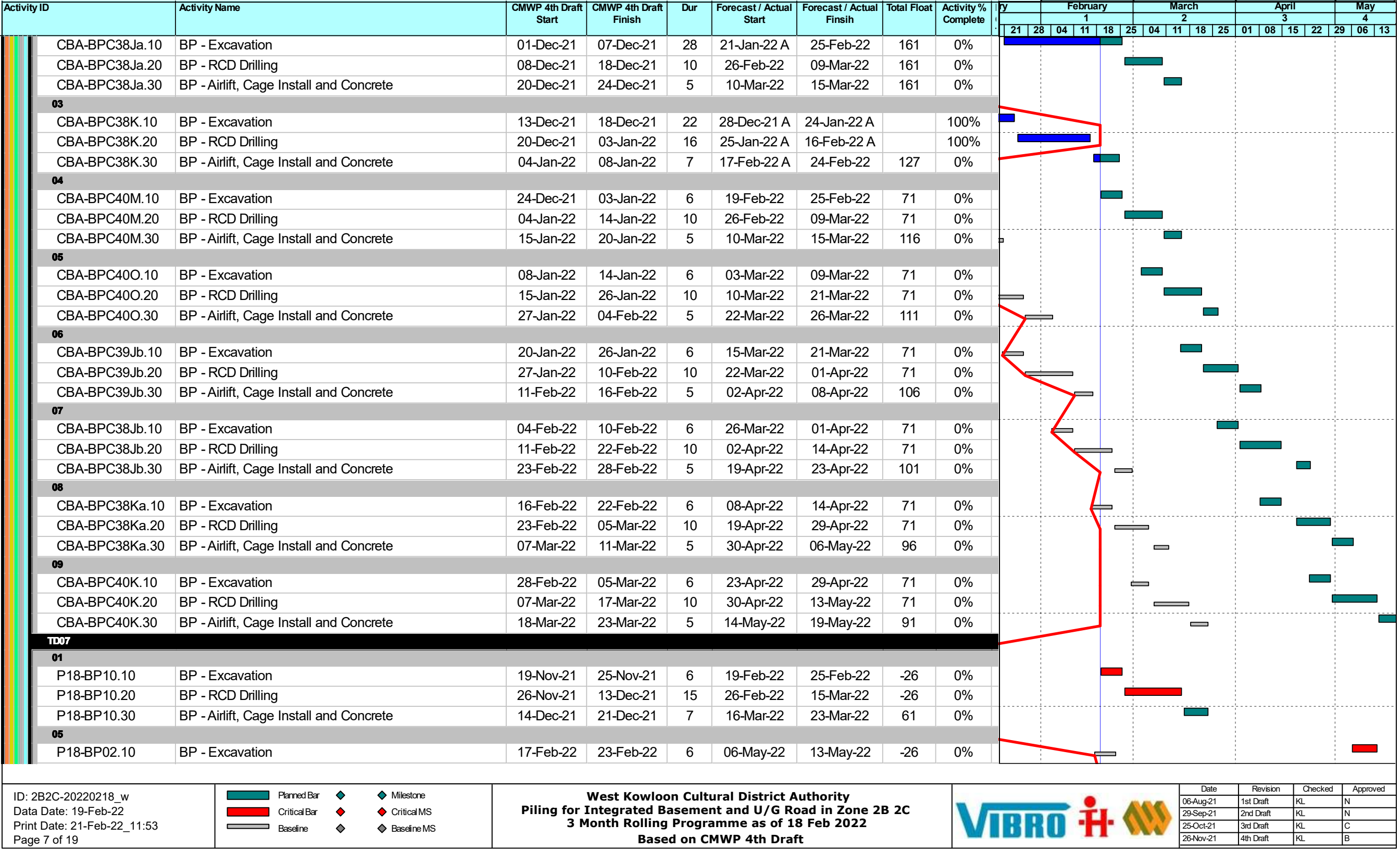
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29-Sep-21	2nd Draft	KL	N
25-Oct-21	3rd Draft	KL	C
26-Nov-21	4th Draft	KL	B



Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**

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	06-Aug-21	1st Draft	KL	N
	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**



Date	Revision	Checked	Approved
06-Aug-21	1st Draft	KL	N
29-Sep-21	2nd Draft	KL	N
25-Oct-21	3rd Draft	KL	C
26-Nov-21	4th Draft	KL	B

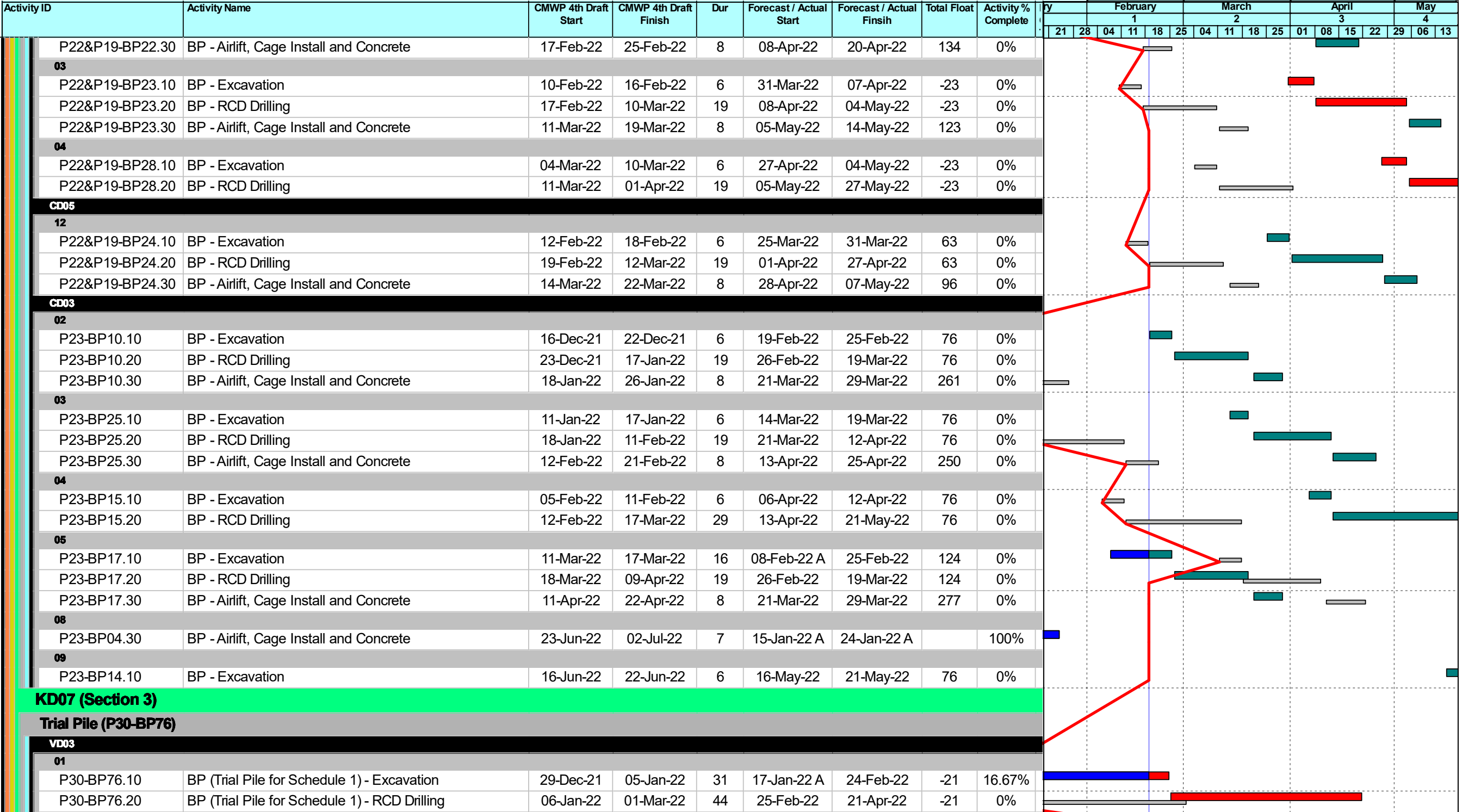
Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	Gantt Chart											
									February				March			April			May	
									21	28	04	11	18	25	04	11	18	25	01	08
P18-BP02.20	BP - RCD Drilling	24-Feb-22	12-Mar-22	15	14-May-22	31-May-22	-26	0%												
<b>Optional Item no. 3</b>																				
<b>CD04</b>																				
<b>12</b>																				
P17-BP22.10	BP (Optional Item no.3) - Excavation	03-May-22	10-May-22	6	03-May-22	10-May-22	0	0%												
P17-BP22.20	BP (Optional Item no.3) - RCD Drilling	11-May-22	27-May-22	15	11-May-22	27-May-22	0	0%												
<b>TD08</b>																				
<b>10</b>																				
CBA-BPC36Jb.10	BP (Optional Item no.3) - Excavation	28-Apr-22	05-May-22	6	06-May-22	13-May-22	71	0%												
CBA-BPC36Jb.20	BP (Optional Item no.3) - RCD Drilling	06-May-22	18-May-22	10	14-May-22	25-May-22	71	0%												
<b>KD06 (Section 2)</b>																				
<b>Bored Piles</b>																				
<b>VD07</b>																				
<b>02</b>																				
P24&27-BP27.10	BP - Excavation	24-Feb-22	02-Mar-22	6	25-Mar-22	31-Mar-22	-5	0%												
P24&27-BP27.20	BP - RCD Drilling	03-Mar-22	24-Mar-22	19	01-Apr-22	27-Apr-22	-5	0%												
P24&27-BP27.30	BP - Airlift, Cage Install and Concrete	25-Mar-22	02-Apr-22	8	28-Apr-22	07-May-22	184	0%												
<b>03</b>																				
P24&27-BP28.10	BP - Excavation	18-Mar-22	24-Mar-22	6	21-Apr-22	27-Apr-22	-5	0%												
P24&27-BP28.20	BP - RCD Drilling	25-Mar-22	20-Apr-22	19	28-Apr-22	21-May-22	-5	0%												
<b>VD10</b>																				
<b>09</b>																				
CBA-BPC49J.10	BP - Excavation	19-Apr-22	25-Apr-22	6	19-Apr-22	25-Apr-22	21	0%												
CBA-BPC49J.20	BP - RCD Drilling	26-Apr-22	02-Jun-22	31	26-Apr-22	02-Jun-22	21	0%												
<b>CD08</b>																				
<b>01</b>																				
CBA-BPC45Jb.10	BP - Excavation	09-Aug-22	16-Aug-22	14	05-Jan-22 A	21-Jan-22 A		100%												
CBA-BPC45Jb.20	BP - RCD Drilling	17-Aug-22	01-Sep-22	10	22-Jan-22 A	07-Feb-22 A		100%												
CBA-BPC45Jb.30	BP - Airlift, Cage Install and Concrete	02-Sep-22	08-Sep-22	7	08-Feb-22 A	16-Feb-22 A		100%												
<b>CD06</b>																				
<b>01</b>																				
P24&27-BP30.10	BP - Excavation	28-Dec-21	04-Jan-22	6	19-Feb-22	25-Feb-22	-23	0%												
P24&27-BP30.20	BP - RCD Drilling	05-Jan-22	21-Jan-22	15	26-Feb-22	15-Mar-22	-23	0%												
P24&27-BP30.30	BP - Airlift, Cage Install and Concrete	22-Jan-22	29-Jan-22	7	16-Mar-22	23-Mar-22	146	0%												
<b>02</b>																				
P22&P19-BP22.10	BP - Excavation	15-Jan-22	21-Jan-22	6	09-Mar-22	15-Mar-22	-23	0%												
P22&P19-BP22.20	BP - RCD Drilling	22-Jan-22	16-Feb-22	19	16-Mar-22	07-Apr-22	-23	0%												

	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**



Date	Revision	Checked	Approved
06-Aug-21	1st Draft	KL	N
29-Sep-21	2nd Draft	KL	N
25-Oct-21	3rd Draft	KL	C
26-Nov-21	4th Draft	KL	B

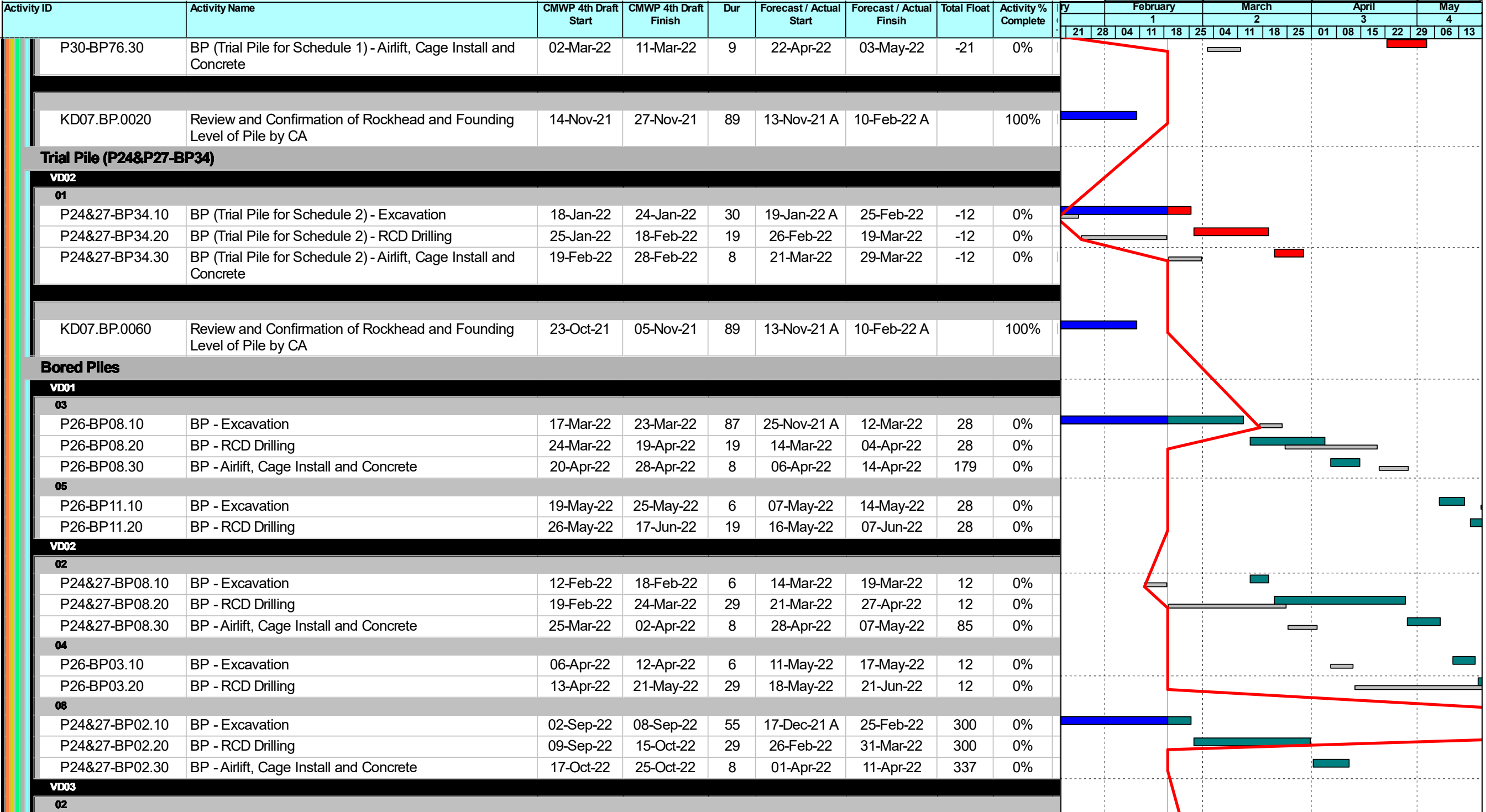


Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B

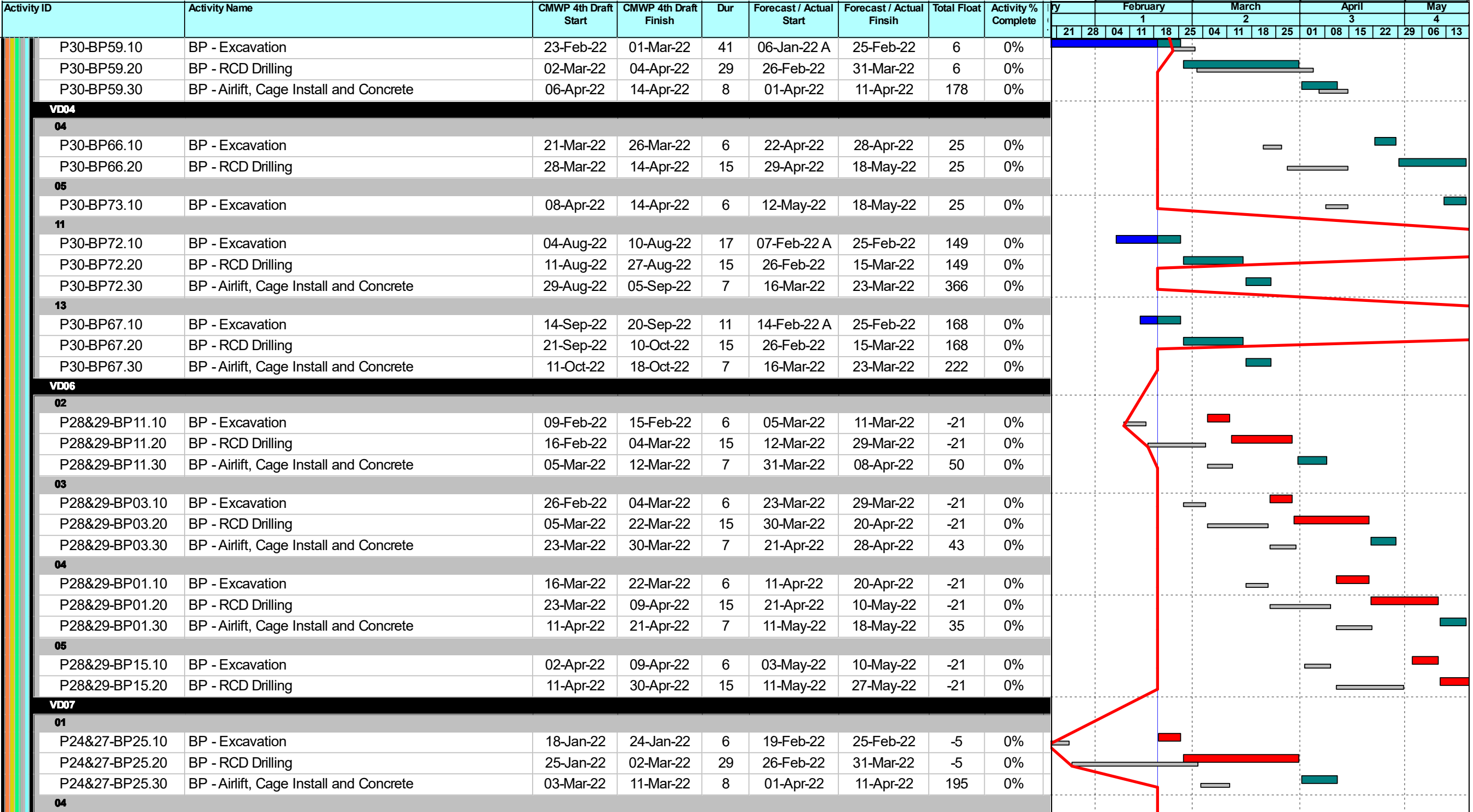




Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**

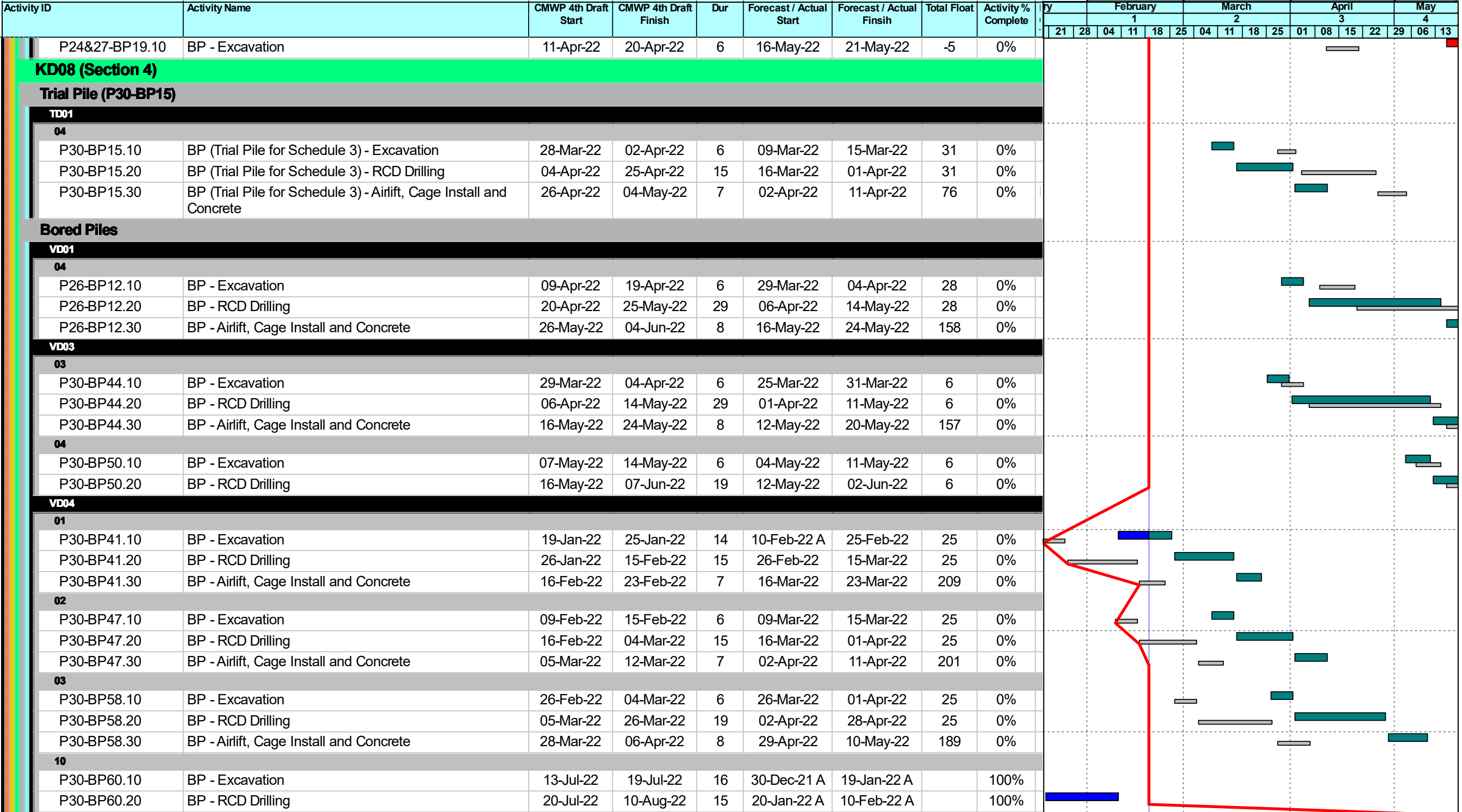
	Date	Revision	Checked	Approved
	06-Aug-21	1st Draft	KL	N
	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B

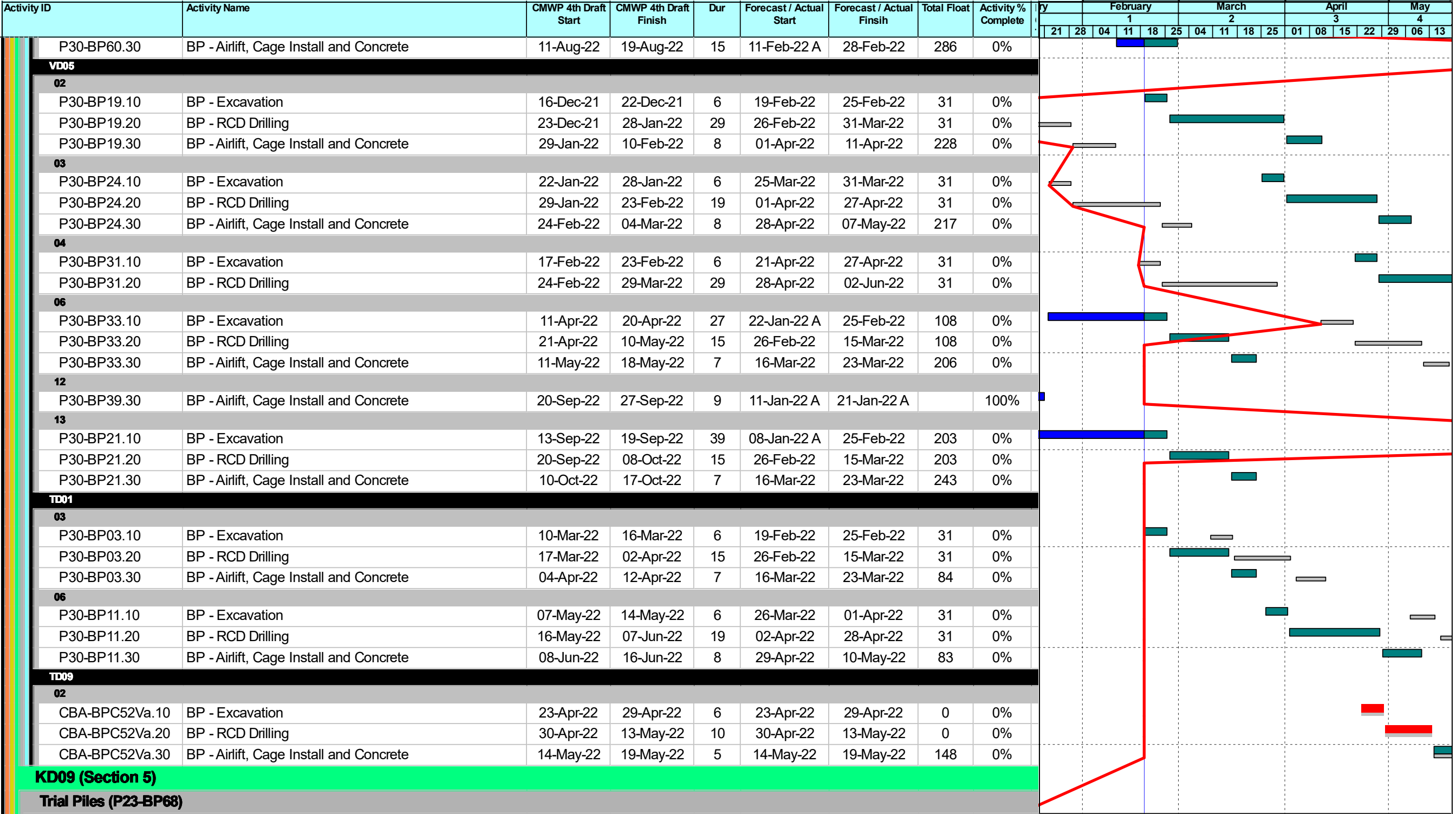


 Planned Bar	 Milestone
 Critical Bar	 Critical MS
 Baseline	 Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**

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	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B





**KD09 (Section 5)**

**Trial Piles (P23-BP68)**

	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**



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06-Aug-21	1st Draft	KL	N
29-Sep-21	2nd Draft	KL	N
25-Oct-21	3rd Draft	KL	C
26-Nov-21	4th Draft	KL	B

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	Gantt Chart												
									January			February			March			April			May
									21	28	04	11	18	25	04	11	18	25	01	08	15

TD03									
01									
P23-BP68.10	BP (Trial Pile for Schedule 4) - Excavation	14-Dec-21	20-Dec-21	26	24-Jan-22 A	25-Feb-22	9	0%	
P23-BP68.20	BP (Trial Pile for Schedule 4) - RCD Drilling	21-Dec-21	26-Jan-22	29	26-Feb-22	31-Mar-22	9	0%	
P23-BP68.30	BP (Trial Pile for Schedule 4) - Airlift, Cage Install and Concrete	27-Jan-22	08-Feb-22	8	01-Apr-22	11-Apr-22	37	0%	

**Bored Piles**

VD01									
01									
P23-BP44.10	BP - Excavation	05-Feb-22	11-Feb-22	66	01-Nov-21 A	20-Jan-22 A		100%	
P23-BP44.20	BP - RCD Drilling	12-Feb-22	05-Mar-22	41	21-Jan-22 A	12-Mar-22	28	0%	
P23-BP44.30	BP - Airlift, Cage Install and Concrete	07-Mar-22	15-Mar-22	8	14-Mar-22	22-Mar-22	190	0%	

CD01									
05									
P23-BP53.10	BP - Excavation	28-Jan-22	07-Feb-22	6	09-Mar-22	15-Mar-22	18	0%	
P23-BP53.20	BP - RCD Drilling	08-Feb-22	01-Mar-22	19	16-Mar-22	07-Apr-22	18	0%	
P23-BP53.30	BP - Airlift, Cage Install and Concrete	02-Mar-22	10-Mar-22	8	08-Apr-22	20-Apr-22	255	0%	

06									
P23-BP40.10	BP - Excavation	23-Feb-22	01-Mar-22	6	31-Mar-22	07-Apr-22	18	0%	
P23-BP40.20	BP - RCD Drilling	02-Mar-22	18-Mar-22	15	08-Apr-22	28-Apr-22	18	0%	
P23-BP40.30	BP - Airlift, Cage Install and Concrete	19-Mar-22	26-Mar-22	7	29-Apr-22	07-May-22	248	0%	

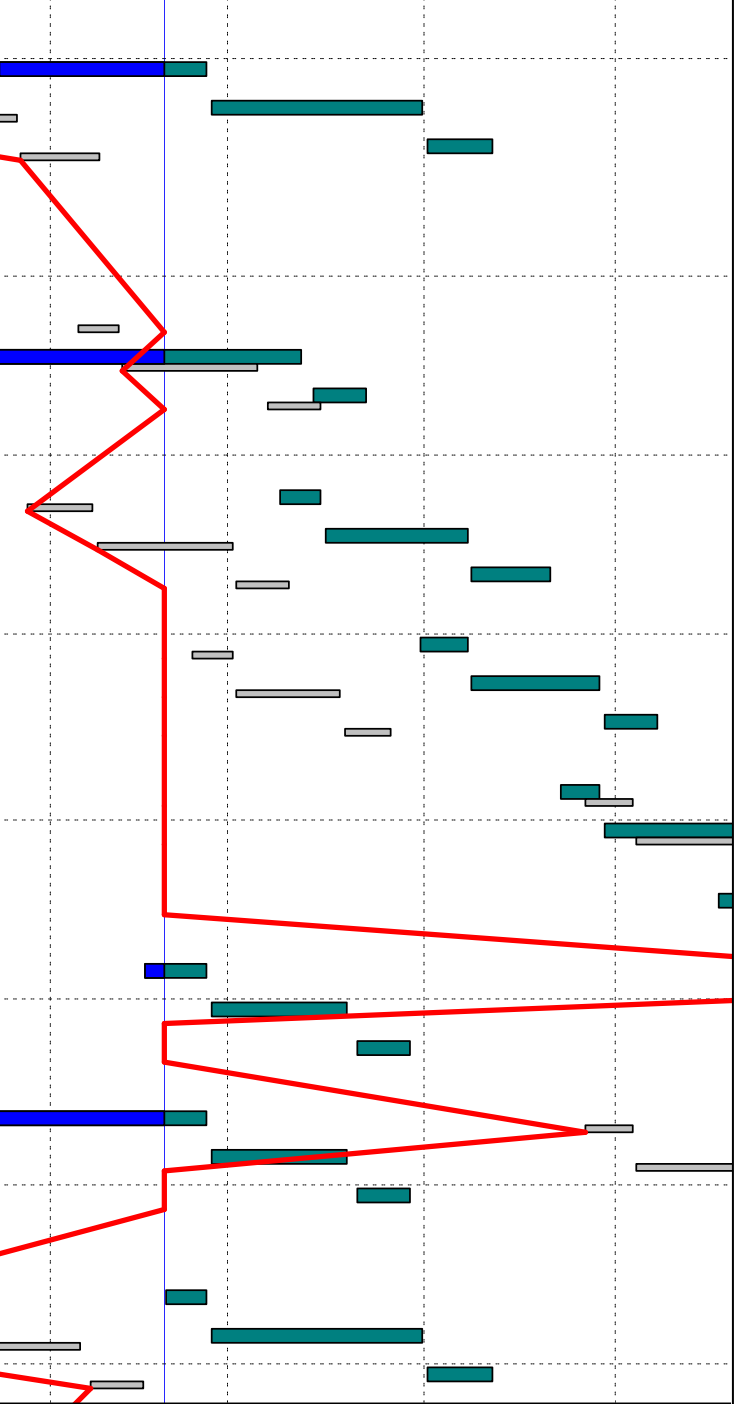
09									
P23-BP64.10	BP - Excavation	26-Apr-22	03-May-22	6	22-Apr-22	28-Apr-22	18	0%	
P23-BP64.20	BP - RCD Drilling	04-May-22	26-May-22	19	29-Apr-22	23-May-22	18	0%	

10									
P23-BP62.10	BP - Excavation	20-May-22	26-May-22	6	17-May-22	23-May-22	18	0%	

13									
P23-BP54.10	BP - Excavation	19-Jul-22	25-Jul-22	9	16-Feb-22 A	25-Feb-22	277	0%	
P23-BP54.20	BP - RCD Drilling	26-Jul-22	16-Aug-22	19	26-Feb-22	19-Mar-22	277	0%	
P23-BP54.30	BP - Airlift, Cage Install and Concrete	17-Aug-22	25-Aug-22	8	21-Mar-22	29-Mar-22	277	0%	

14									
P23-BP63.10	BP - Excavation	26-Apr-22	03-May-22	31	18-Jan-22 A	25-Feb-22	116	0%	
P23-BP63.20	BP - RCD Drilling	04-May-22	26-May-22	19	26-Feb-22	19-Mar-22	116	0%	
P23-BP63.30	BP - Airlift, Cage Install and Concrete	27-May-22	06-Jun-22	8	21-Mar-22	29-Mar-22	134	0%	

CD02									
02									
P23-BP37.10	BP - Excavation	21-Dec-21	29-Dec-21	6	19-Feb-22	25-Feb-22	3	0%	
P23-BP37.20	BP - RCD Drilling	30-Dec-21	05-Feb-22	29	26-Feb-22	31-Mar-22	3	0%	
P23-BP37.30	BP - Airlift, Cage Install and Concrete	07-Feb-22	15-Feb-22	8	01-Apr-22	11-Apr-22	227	0%	

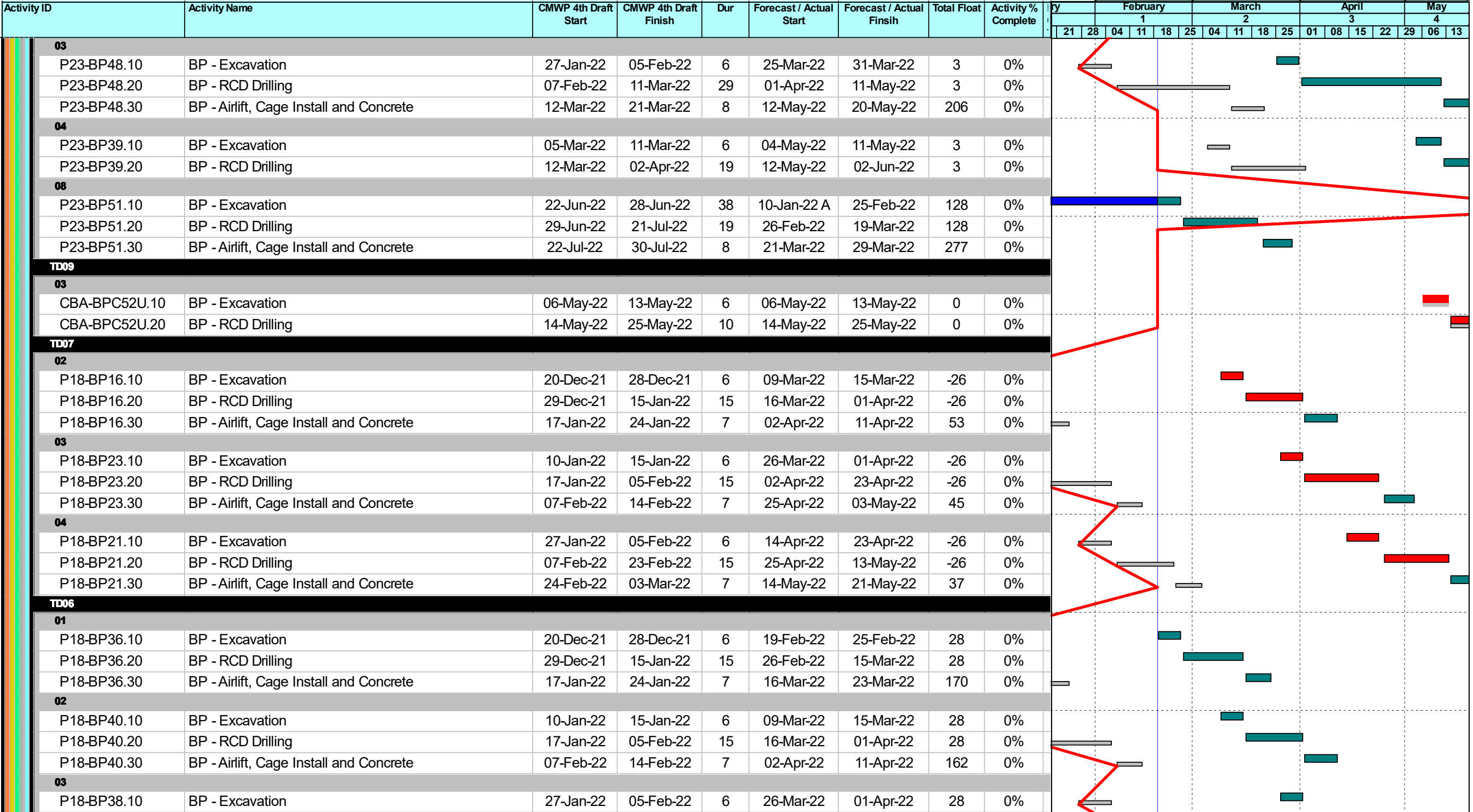


Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
**Based on CMWP 4th Draft**



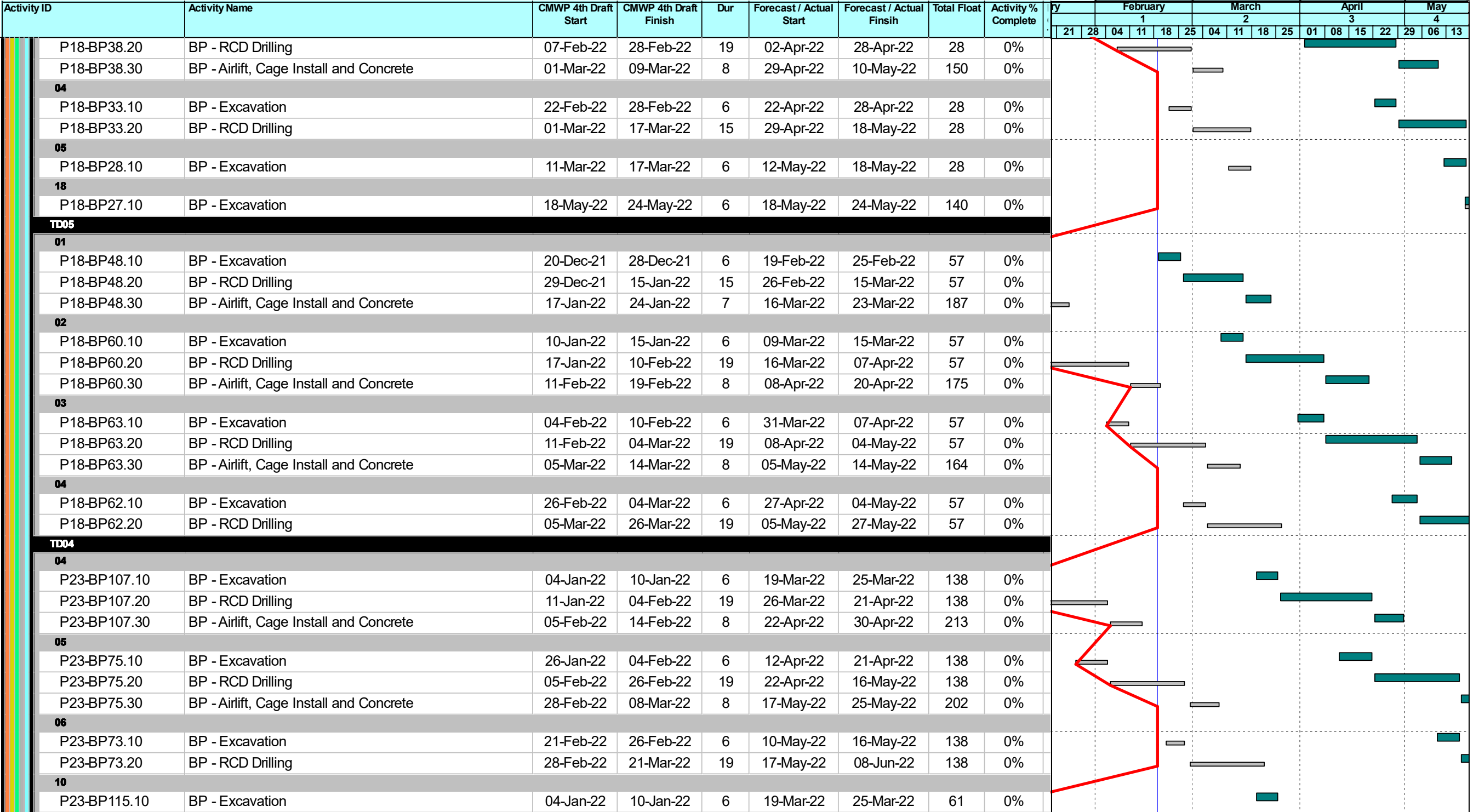
Date	Revision	Checked	Approved
06-Aug-21	1st Draft	KL	N
29-Sep-21	2nd Draft	KL	N
25-Oct-21	3rd Draft	KL	C
26-Nov-21	4th Draft	KL	B



	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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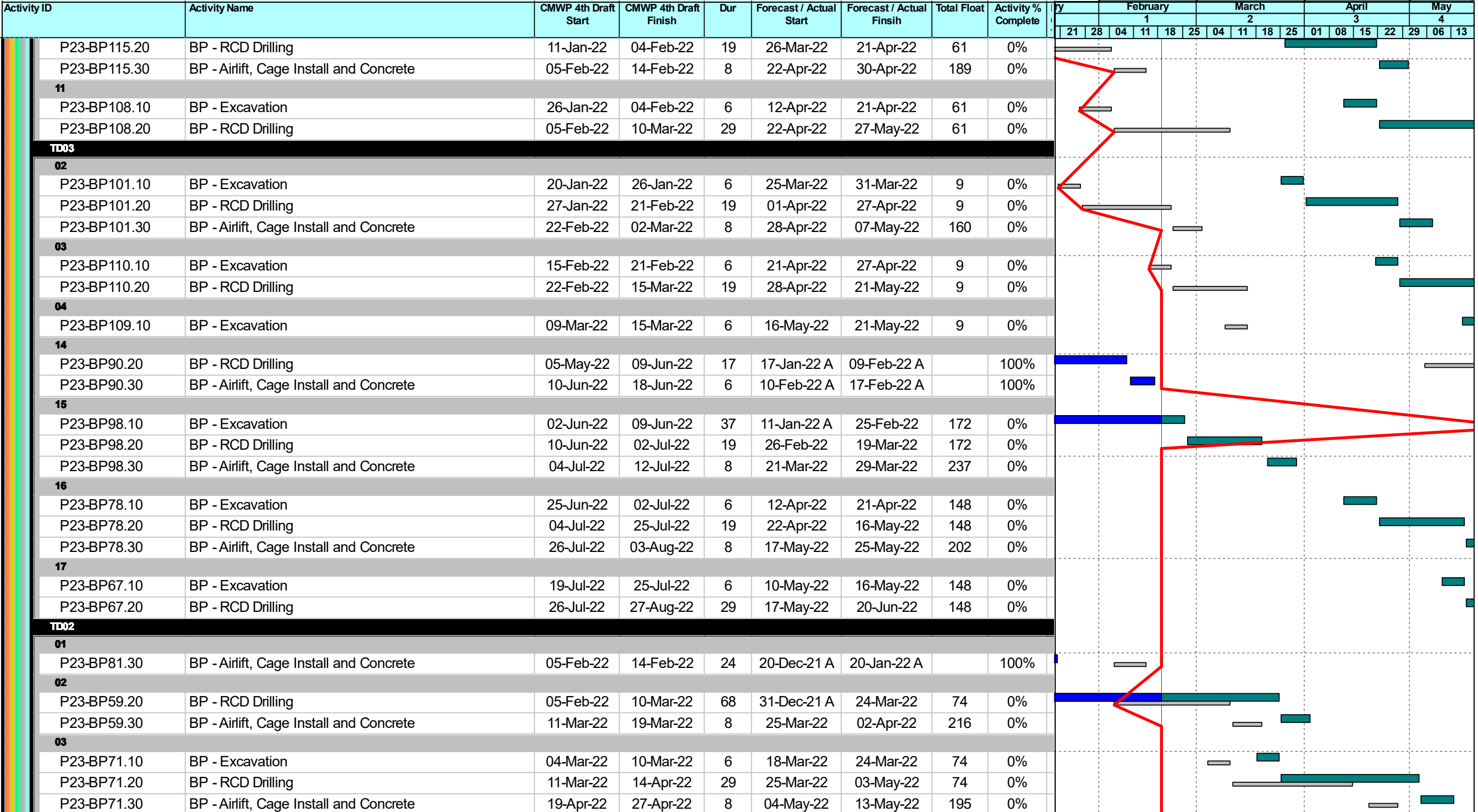
	Date	Revision	Checked	Approved
	06-Aug-21	1st Draft	KL	N
	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



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	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 18 Feb 2022**  
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	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B



Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	Gantt Chart													
									January				February			March			April		May	
									21	28	04	11	18	25	04	11	18	25	01	08	15	22

04									
P23-BP83.10	BP - Excavation	08-Apr-22	14-Apr-22	6	26-Apr-22	03-May-22	74	0%	
P23-BP83.20	BP - RCD Drilling	19-Apr-22	24-May-22	29	04-May-22	08-Jun-22	74	0%	
10									
P23-BP94.10	BP - Excavation	26-Jan-22	04-Feb-22	31	18-Jan-22 A	25-Feb-22	17	0%	
P23-BP94.20	BP - RCD Drilling	05-Feb-22	10-Mar-22	29	26-Feb-22	31-Mar-22	17	0%	
P23-BP94.30	BP - Airlift, Cage Install and Concrete	11-Mar-22	19-Mar-22	8	01-Apr-22	11-Apr-22	187	0%	
11									
P23-BP113.10	BP - Excavation	04-Mar-22	10-Mar-22	6	25-Mar-22	31-Mar-22	17	0%	
P23-BP113.20	BP - RCD Drilling	11-Mar-22	01-Apr-22	19	01-Apr-22	27-Apr-22	17	0%	
P23-BP113.30	BP - Airlift, Cage Install and Concrete	02-Apr-22	12-Apr-22	8	28-Apr-22	07-May-22	176	0%	
12									
P23-BP111.10	BP - Excavation	26-Mar-22	01-Apr-22	6	21-Apr-22	27-Apr-22	17	0%	
P23-BP111.20	BP - RCD Drilling	02-Apr-22	28-Apr-22	19	28-Apr-22	21-May-22	17	0%	
13									
P23-BP92.10	BP - Excavation	22-Apr-22	28-Apr-22	6	16-May-22	21-May-22	17	0%	

**Optional Item no. 3**

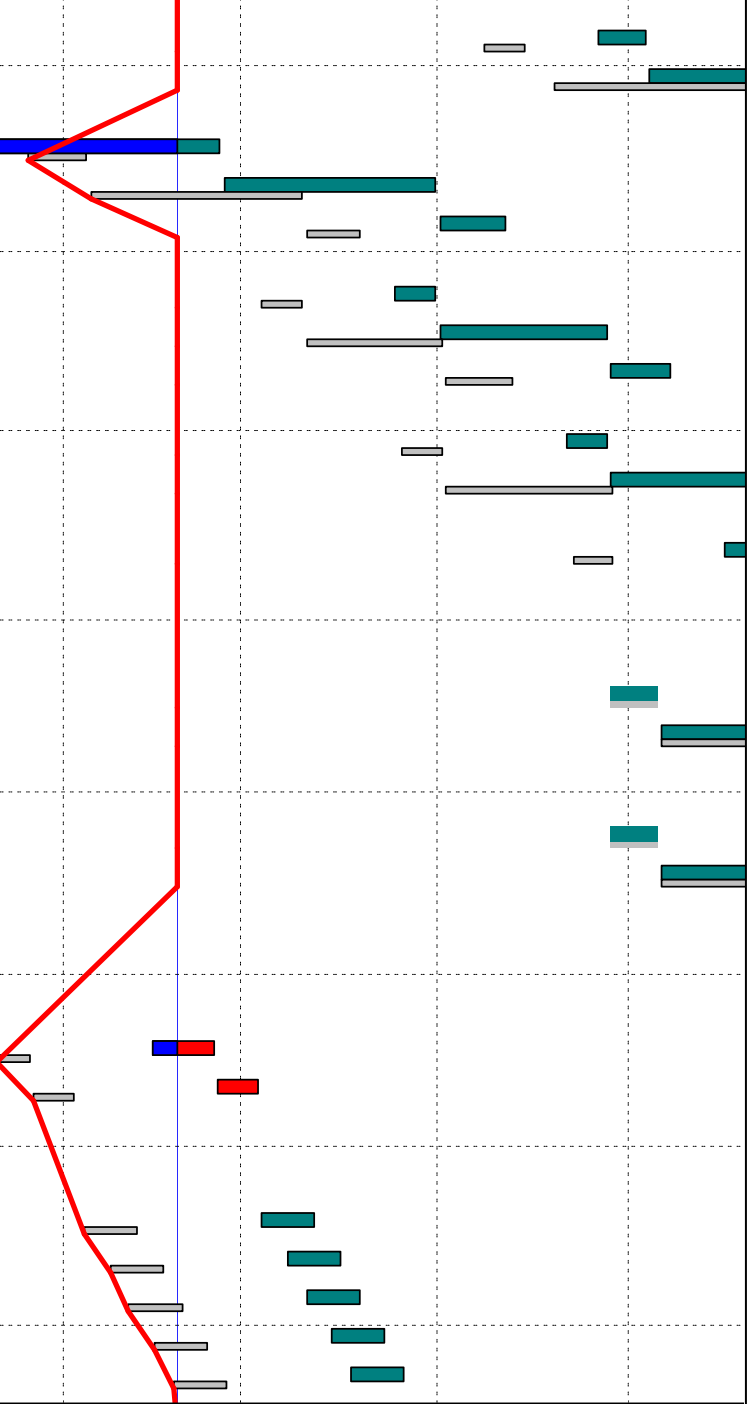
TD07									
15									
P18-BP18.10	BP (Optional Item no.3) - Excavation	28-Apr-22	05-May-22	6	28-Apr-22	05-May-22	32	0%	
P18-BP18.20	BP (Optional Item no.3) - RCD Drilling	06-May-22	24-May-22	15	06-May-22	24-May-22	32	0%	
TD06									
17									
P18-BP30.10	BP (Optional Item no.3) - Excavation	28-Apr-22	05-May-22	6	28-Apr-22	05-May-22	140	0%	
P18-BP30.20	BP (Optional Item no.3) - RCD Drilling	06-May-22	24-May-22	15	06-May-22	24-May-22	140	0%	

**Socketed Steel H- Piles**

Trial Pile									
KD09.SSHP.0000	Test Installation of Pile (SHP-C52Xa-P6)	17-Jan-22	26-Jan-22	9	15-Feb-22 A	24-Feb-22	-3	44.44%	
KD09.SSHP.0020	Submission and Approval of Installation Report by BD	27-Jan-22	02-Feb-22	7	25-Feb-22	03-Mar-22	-3	0%	

**Socketed Steel H- Pile Construction**

SHP-BW-52Y1b-P	Socketed Steel H-Piling	04-Feb-22	12-Feb-22	8	04-Mar-22	12-Mar-22	69	0%	
SHP-BW-52Y1b-P	Socketed Steel H-Piling	08-Feb-22	16-Feb-22	8	08-Mar-22	16-Mar-22	69	0%	
SHP-C52W-P1	Socketed Steel H-Piling	11-Feb-22	19-Feb-22	8	11-Mar-22	19-Mar-22	69	0%	
SHP-C52W-P2	Socketed Steel H-Piling	15-Feb-22	23-Feb-22	8	15-Mar-22	23-Mar-22	69	0%	
SHP-C52W-P3	Socketed Steel H-Piling	18-Feb-22	26-Feb-22	8	18-Mar-22	26-Mar-22	69	0%	



Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
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**Based on CMWP 4th Draft**

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	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B

Activity ID	Activity Name	CMWP 4th Draft Start	CMWP 4th Draft Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	Gantt Chart											
									February				March				April			
									21	28	04	11	18	25	04	11	18	25	01	08
SHP-C52W-P4	Socketed Steel H-Piling	22-Feb-22	02-Mar-22	8	22-Mar-22	30-Mar-22	69	0%												
SHP-C52W-P5	Socketed Steel H-Piling	25-Feb-22	05-Mar-22	8	25-Mar-22	02-Apr-22	69	0%												
SHP-C52W-P6	Socketed Steel H-Piling	01-Mar-22	09-Mar-22	8	29-Mar-22	07-Apr-22	69	0%												
SHP-C52X-P1	Socketed Steel H-Piling	04-Mar-22	12-Mar-22	8	01-Apr-22	11-Apr-22	69	0%												
SHP-C52X-P2	Socketed Steel H-Piling	08-Mar-22	16-Mar-22	8	06-Apr-22	14-Apr-22	69	0%												
SHP-C52X-P3	Socketed Steel H-Piling	11-Mar-22	19-Mar-22	8	09-Apr-22	21-Apr-22	69	0%												
SHP-C52X-P4	Socketed Steel H-Piling	15-Mar-22	23-Mar-22	8	13-Apr-22	25-Apr-22	69	0%												
SHP-C52X-P5	Socketed Steel H-Piling	18-Mar-22	26-Mar-22	8	20-Apr-22	28-Apr-22	69	0%												
SHP-C52X-P6	Socketed Steel H-Piling	22-Mar-22	30-Mar-22	8	23-Apr-22	03-May-22	69	0%												
SHP-C52Xa-P1	Socketed Steel H-Piling	25-Mar-22	02-Apr-22	8	27-Apr-22	06-May-22	69	0%												
SHP-C52Xa-P2	Socketed Steel H-Piling	29-Mar-22	07-Apr-22	8	30-Apr-22	11-May-22	69	0%												
SHP-C52Xa-P3	Socketed Steel H-Piling	01-Apr-22	11-Apr-22	8	05-May-22	14-May-22	69	0%												
SHP-C52Xa-P4	Socketed Steel H-Piling	06-Apr-22	14-Apr-22	8	10-May-22	18-May-22	69	0%												
SHP-C52Xa-P5	Socketed Steel H-Piling	09-Apr-22	21-Apr-22	8	13-May-22	21-May-22	69	0%												



Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
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	29-Sep-21	2nd Draft	KL	N
	25-Oct-21	3rd Draft	KL	C
	26-Nov-21	4th Draft	KL	B





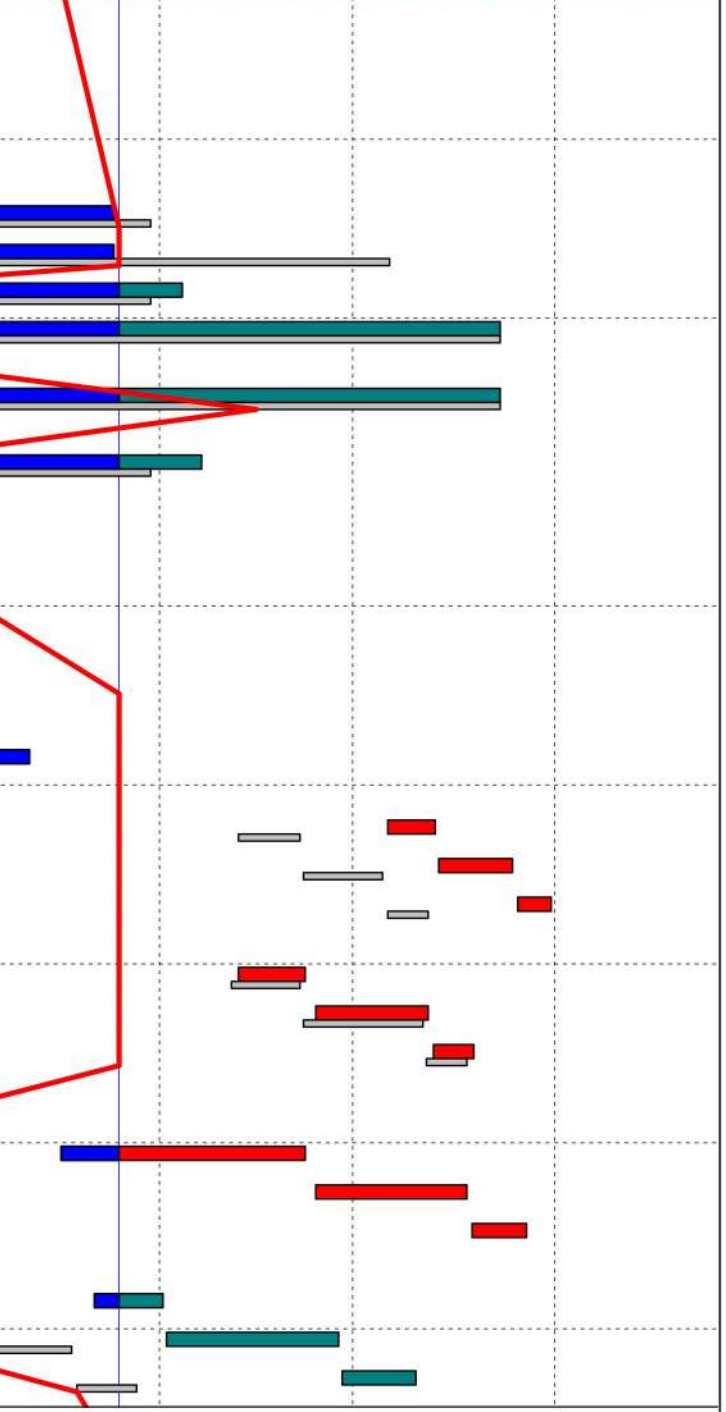
Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	March					April				May			June		
									25	04	11	18	25	01	08	15	22	29	06	13	20	27	03

**Construction Stage**

**Pile Construction**

**Predrilling**

Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete
PD.1000	Predrilling for BP in KD01 [8 nos.]	30-Sep-21	30-Mar-22	143	30-Sep-21 A	25-Mar-22 A		87%
PD.1040	Predrilling for BP in KD03 [5 nos.]	20-Oct-21	06-May-22	128	20-Oct-21 A	25-Mar-22 A		80%
PD.1080	Predrilling for BP in KD05 [76 nos.]	30-Sep-21	30-Mar-22	152	30-Sep-21 A	04-Apr-22	26	58%
PD.1100	Predrilling for BP in KD06 [95 nos.] incl. 5 additional nos.	30-Sep-21	23-May-22	187	30-Sep-21 A	23-May-22	119	53%
PD.1120	Predrilling for BP in KD07 [90 nos.] incl. 2 additional nos.	30-Sep-21	23-May-22	187	30-Sep-21 A	23-May-22	211	85%
PD.1160	Predrilling for BP in KD09 [149 nos.] incl. 4 additional nos.	30-Sep-21	30-Mar-22	155	30-Sep-21 A	07-Apr-22	151	70%



**KD01 (Stage 1-1)**

**Bored Piles**

Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete
<b>CD07</b>								
<b>01</b>								
CBA-BPC41K.10	BP - Excavation	19-Jan-22	25-Jan-22	15	10-Feb-22 A	28-Feb-22 A		100%
CBA-BPC41K.20	BP - RCD Drilling	26-Jan-22	09-Feb-22	2	01-Mar-22 A	03-Mar-22 A		100%
CBA-BPC41K.30	BP - Airlift, Cage Install and Concrete	10-Feb-22	15-Feb-22	7	04-Mar-22 A	12-Mar-22 A		100%
<b>07</b>								
CBA-BPC41Jb.10	BP - Excavation	13-Apr-22	22-Apr-22	6	06-May-22	13-May-22	-11	0%
CBA-BPC41Jb.20	BP - RCD Drilling	23-Apr-22	05-May-22	10	14-May-22	25-May-22	-11	0%
CBA-BPC41Jb.30	BP - Airlift, Cage Install and Concrete	06-May-22	12-May-22	5	26-May-22	31-May-22	-11	0%
<b>14</b>								
CBA-BP04.10	BP - Excavation	12-Apr-22	22-Apr-22	7	13-Apr-22	23-Apr-22	-1	0%
CBA-BP04.20	BP - RCD Drilling	23-Apr-22	11-May-22	14	25-Apr-22	12-May-22	-1	0%
CBA-BP04.30	BP - Airlift, Cage Install and Concrete	12-May-22	18-May-22	6	13-May-22	19-May-22	-1	0%
<b>CD05</b>								
<b>04</b>								
P22&P19-BP11.10	BP - Excavation	24-Jan-22	29-Jan-22	29	17-Mar-22 A	23-Apr-22	-8	0%
P22&P19-BP11.20	BP - RCD Drilling	31-Jan-22	24-Feb-22	19	25-Apr-22	18-May-22	-8	0%
P22&P19-BP11.30	BP - Airlift, Cage Install and Concrete	25-Feb-22	05-Mar-22	8	19-May-22	27-May-22	-8	0%
<b>05</b>								
P22&P19-BP21.10	BP - Excavation	18-Feb-22	24-Feb-22	10	22-Mar-22 A	01-Apr-22	7	0%
P22&P19-BP21.20	BP - RCD Drilling	25-Feb-22	18-Mar-22	19	02-Apr-22	28-Apr-22	7	0%
P22&P19-BP21.30	BP - Airlift, Cage Install and Concrete	19-Mar-22	28-Mar-22	8	29-Apr-22	10-May-22	7	0%

	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS







**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 25 Mar 2022**  
 Based on CMWP Rev.0



Date	Revision	Checked	Approved
01-Mar-22	Rev.0	KL	B



Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	March				April				May				June							
									25	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24		
07	P22&P19-BP29.20	BP - RCD Drilling	12-Apr-22	07-May-22	5	21-Feb-22 A	26-Feb-22 A		100%																			
	P22&P19-BP29.30	BP - Airlift, Cage Install and Concrete	10-May-22	18-May-22	12	28-Feb-22 A	14-Mar-22 A		100%																			
<b>CD03</b>																												
06	P23-BP06.30	BP - Airlift, Cage Install and Concrete	07-May-22	17-May-22	10	17-Feb-22 A	01-Mar-22 A		100%																			
<b>KD02 (Stage 5-1)</b>																												
<b>Bored Piles</b>																												
<b>TD04</b>																												
01	P23-BP76.30	BP - Airlift, Cage Install and Concrete	31-Dec-21	10-Jan-22	23	18-Feb-22 A	17-Mar-22 A		100%																			
02	P23-BP87.30	BP - Airlift, Cage Install and Concrete	11-Jan-22	19-Jan-22	11	18-Feb-22 A	03-Mar-22 A		100%																			
03	P23-BP117.10	BP - Excavation	03-Dec-21	09-Dec-21	68	10-Jan-22 A	01-Apr-22	31	0%																			
	P23-BP117.20	BP - RCD Drilling	10-Dec-21	10-Jan-22	24	02-Apr-22	05-May-22	31	0%																			
	P23-BP117.30	BP - Airlift, Cage Install and Concrete	20-Jan-22	28-Jan-22	8	06-May-22	16-May-22	194	0%																			
<b>KD03 (Stage 3-1)</b>																												
	KD03.BP.0040	Review and Confirmation of Rockhead and Founding Level of Pile by CA	14-Nov-21	27-Nov-21	14	26-Mar-22	08-Apr-22	-59	0%																			
<b>Bored Piles</b>																												
<b>VD02</b>																												
03	P28&29-BP08.10	BP - Excavation	18-Mar-22	24-Mar-22	6	05-May-22	12-May-22	1	0%																			
	P28&29-BP08.20	BP - RCD Drilling	25-Mar-22	12-Apr-22	15	13-May-22	30-May-22	1	0%																			
	P28&29-BP08.30	BP - Airlift, Cage Install and Concrete	13-Apr-22	23-Apr-22	7	31-May-22	08-Jun-22	67	0%																			
<b>VD06</b>																												
01	P28&29-BP29.10	BP - Excavation	19-Jan-22	25-Jan-22	6	26-Mar-22	01-Apr-22	-45	0%																			
	P28&29-BP29.20	BP - RCD Drilling	26-Jan-22	15-Feb-22	15	09-Apr-22	29-Apr-22	-50	0%																			
	P28&29-BP29.30	BP - Airlift, Cage Install and Concrete	16-Feb-22	23-Feb-22	7	30-Apr-22	10-May-22	21	0%																			
<b>VD09</b>																												
01	CBA-BPC54Jb.10	BP - Excavation	26-Feb-22	04-Mar-22	6	09-Apr-22	19-Apr-22	-35	0%																			
	CBA-BPC54Jb.20	BP - RCD Drilling	05-Mar-22	11-Apr-22	31	20-Apr-22	27-May-22	-35	0%																			
	CBA-BPC54Jb.30	BP - Airlift, Cage Install and Concrete	12-Apr-22	21-Apr-22	6	28-May-22	04-Jun-22	64	0%																			
02																												

	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 25 Mar 2022**  
 Based on CMWP Rev.0



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01-Mar-22	Rev.0	KL	B

















Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	March				April				May				June			
									1				2				3				4			
									25	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10
<b>CD05</b>																								
<b>03</b>																								
P17-BP05.10	BP - Excavation	06-Jan-22	12-Jan-22	6	26-Mar-22	01-Apr-22	-8	0%																
P17-BP05.20	BP - RCD Drilling	13-Jan-22	29-Jan-22	15	02-Apr-22	23-Apr-22	-8	0%																
P17-BP05.30	BP - Airlift, Cage Install and Concrete	31-Jan-22	10-Feb-22	7	25-Apr-22	03-May-22	4	0%																
<b>06</b>																								
P22&P19-BP15.10	BP - Excavation	12-Mar-22	18-Mar-22	6	12-May-22	18-May-22	32	0%																
P22&P19-BP15.20	BP - RCD Drilling	19-Mar-22	11-Apr-22	19	19-May-22	10-Jun-22	32	0%																
P22&P19-BP15.30	BP - Airlift, Cage Install and Concrete	12-Apr-22	23-Apr-22	8	11-Jun-22	20-Jun-22	85	0%																
<b>08</b>																								
P17-BP01.10	BP - Excavation	30-Apr-22	07-May-22	6	04-Jun-22	10-Jun-22	32	0%																
P17-BP01.20	BP - RCD Drilling	10-May-22	26-May-22	15	11-Jun-22	28-Jun-22	32	0%																
<b>09</b>																								
P17-BP09.10	BP - Excavation	20-May-22	26-May-22	6	22-Jun-22	28-Jun-22	32	0%																
<b>11</b>																								
P22&P19-BP26.10	BP - Excavation	06-Jan-22	12-Jan-22	6	26-Mar-22	01-Apr-22	33	0%																
P22&P19-BP26.20	BP - RCD Drilling	13-Jan-22	18-Feb-22	29	02-Apr-22	12-May-22	33	0%																
P22&P19-BP26.30	BP - Airlift, Cage Install and Concrete	19-Feb-22	28-Feb-22	8	13-May-22	21-May-22	77	0%																
<b>13</b>																								
P22&P19-BP25.10	BP - Excavation	07-Mar-22	12-Mar-22	6	28-May-22	04-Jun-22	33	0%																
P22&P19-BP25.20	BP - RCD Drilling	14-Mar-22	04-Apr-22	19	06-Jun-22	27-Jun-22	33	0%																
<b>14</b>																								
P22&P19-BP10.10	BP - Excavation	29-Mar-22	04-Apr-22	6	21-Jun-22	27-Jun-22	33	0%																
<b>CD04</b>																								
<b>01</b>																								
P17-BP03.10	BP - Excavation	24-Nov-21	30-Nov-21	6	26-Mar-22	01-Apr-22	-30	0%																
P17-BP03.20	BP - RCD Drilling	01-Dec-21	17-Dec-21	15	02-Apr-22	23-Apr-22	-30	0%																
P17-BP03.30	BP - Airlift, Cage Install and Concrete	18-Dec-21	28-Dec-21	7	25-Apr-22	03-May-22	53	0%																
<b>02</b>																								
P17-BP12.10	BP - Excavation	20-Dec-21	28-Dec-21	6	14-Apr-22	23-Apr-22	-30	0%																
P17-BP12.20	BP - RCD Drilling	29-Dec-21	15-Jan-22	15	25-Apr-22	13-May-22	-30	0%																
P17-BP12.30	BP - Airlift, Cage Install and Concrete	17-Jan-22	24-Jan-22	7	14-May-22	21-May-22	45	0%																
<b>03</b>																								
P17-BP10.10	BP - Excavation	10-Jan-22	15-Jan-22	6	06-May-22	13-May-22	-30	0%																
P17-BP10.20	BP - RCD Drilling	17-Jan-22	05-Feb-22	15	14-May-22	31-May-22	-30	0%																
P17-BP10.30	BP - Airlift, Cage Install and Concrete	07-Feb-22	14-Feb-22	7	01-Jun-22	09-Jun-22	37	0%																
<b>04</b>																								
P17-BP14.10	BP - Excavation	27-Jan-22	05-Feb-22	6	25-May-22	31-May-22	-30	0%																
P17-BP14.20	BP - RCD Drilling	07-Feb-22	28-Feb-22	19	01-Jun-22	23-Jun-22	-30	0%																

 Planned Bar	 Milestone
 Critical Bar	 Critical MS
 Baseline	 Baseline MS

**West Kowloon Cultural District Authority**  
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**3 Month Rolling Programme as of 25 Mar 2022**  
 Based on CMWP Rev.0



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01-Mar-22	Rev.0	KL	B





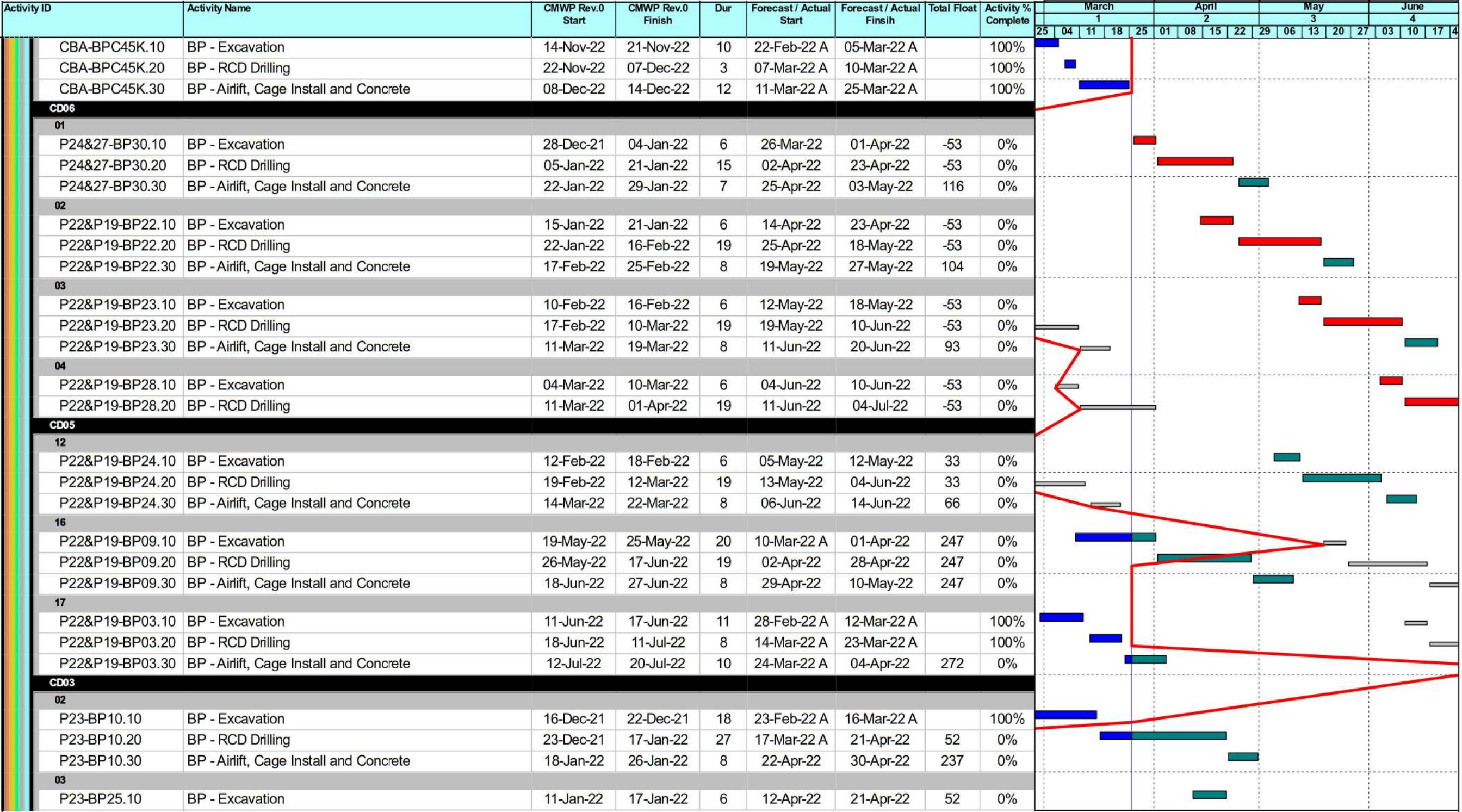


















	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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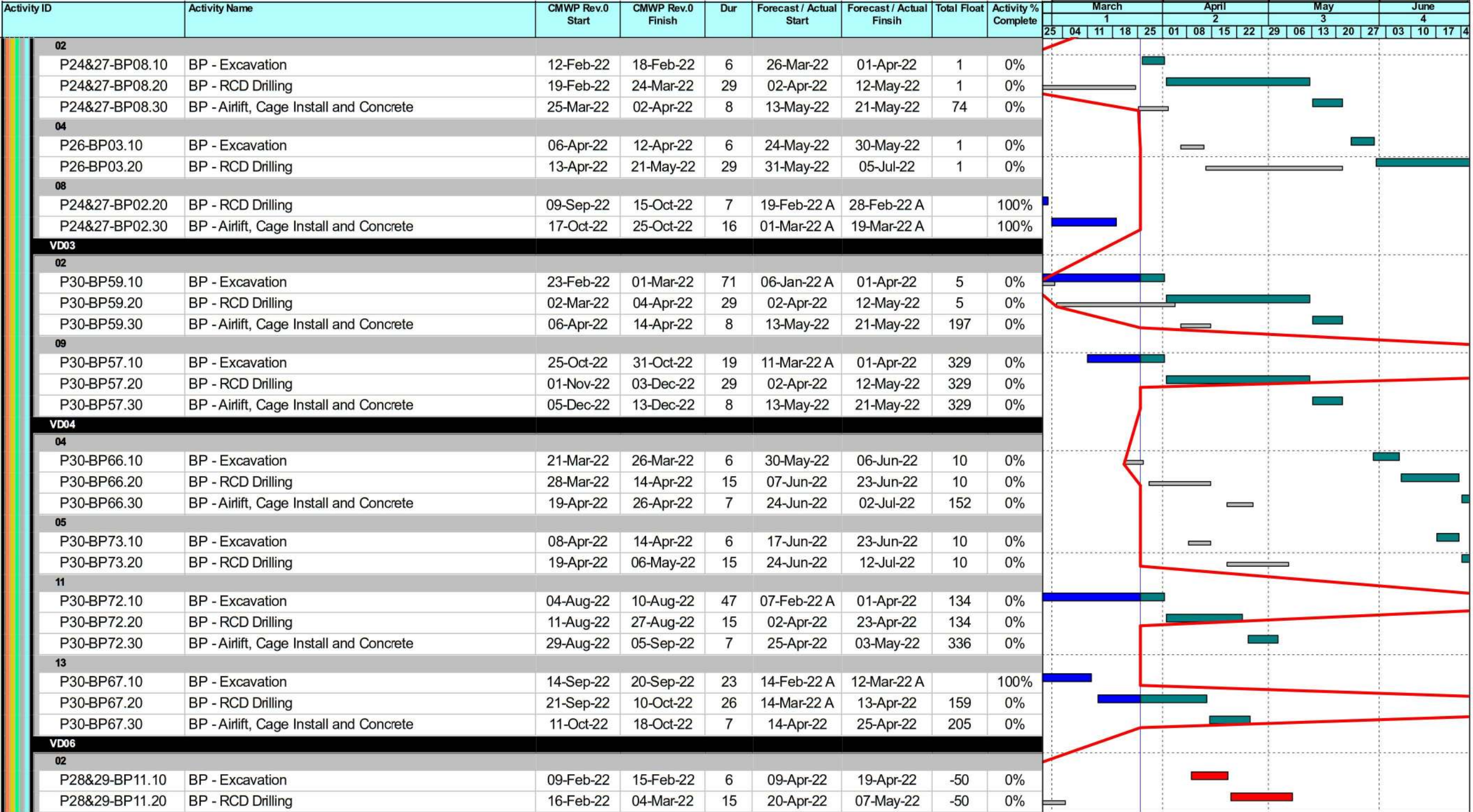


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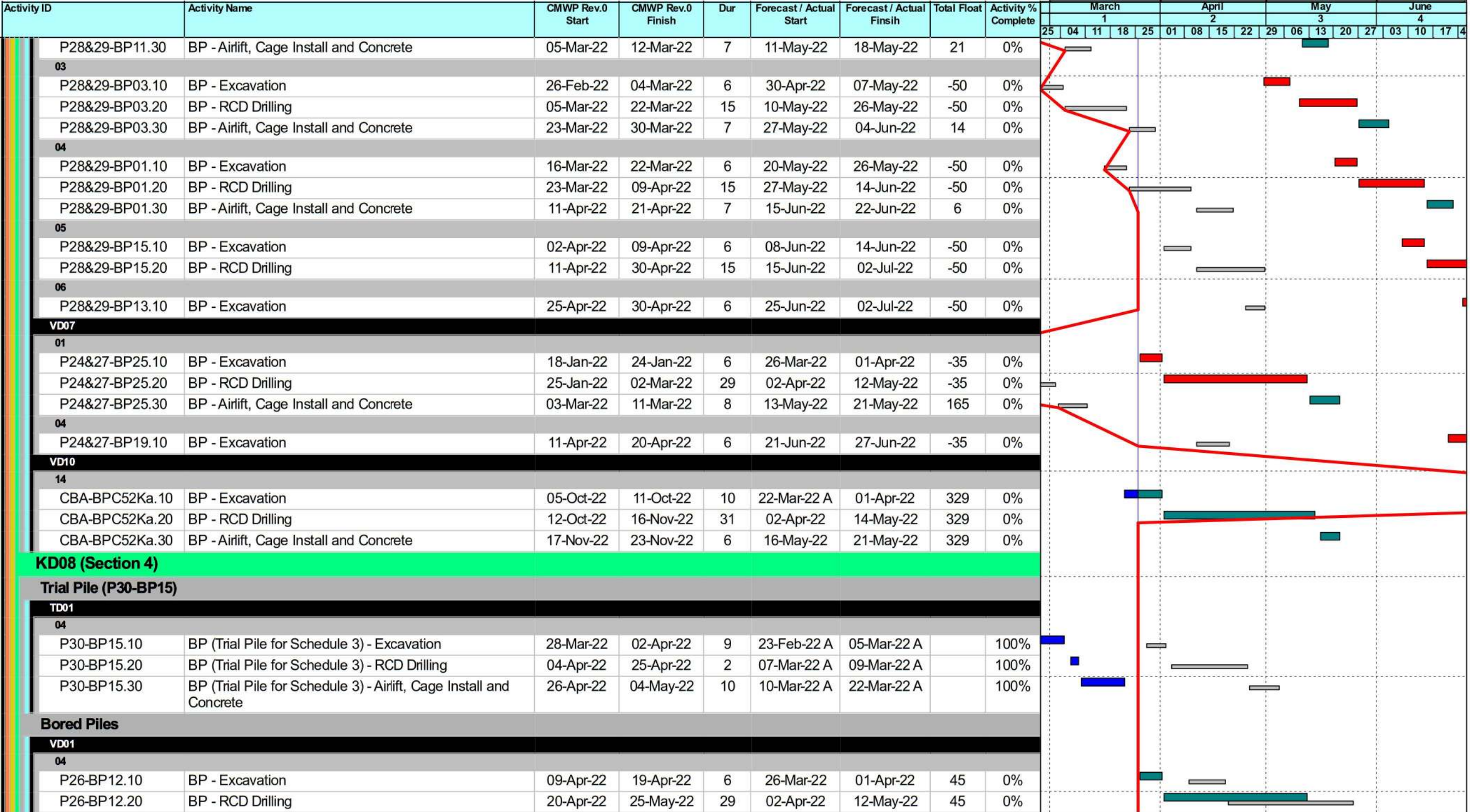
	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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Planned Bar	Milestone
Critical Bar	Critical MS
Baseline	Baseline MS

**West Kowloon Cultural District Authority**  
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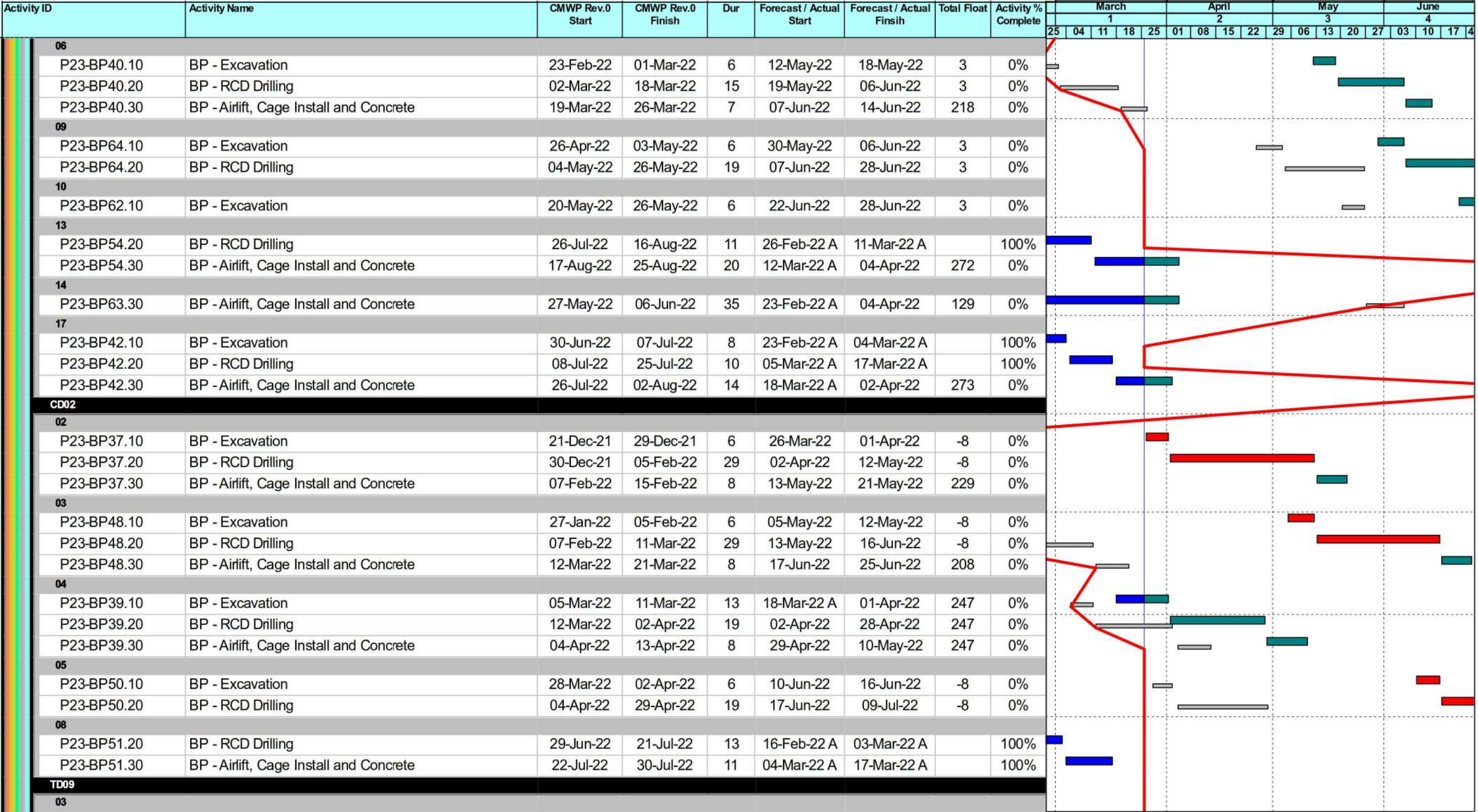


















 Planned Bar	 Milestone
 Critical Bar	 Critical MS
 Baseline	 Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	April				May				June				July			
									1				2				3				4			
									25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08

## Piling for Integrated Basement and U/G Road in Zone 2B & 2C

### Contract Dates

### Key Dates

#### KD for Zone 2B

KD01	KD01 (Stage 1-1) - 300 days after Commencement (18 May 2022)		18-May-22	0		24-Jun-22*	-37	0%
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#### Optional Works subjected to CA's Instruction

CO3A	Last CAI date for Optional Works Item No.3 (within 280 Days after Commencement)	28-Apr-22		0	28-Apr-22		2	0%
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#### Access Dates of Site Portion

##### 120 days after Commencement

ACB10	Access to Site Portion B10	19-Nov-21		0	23-Apr-22		-93	0%
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##### 270 days after Commencement

ACB12	Access to Site Portion B12	18-Apr-22		0	23-Apr-22		24	0%
ACB35	Access to Site Portion B35 (To be agreed with the Zone 2A contractor)	18-Apr-22		0	23-Apr-22		24	0%

### Mobilization Stage

#### Site Mobilization Works

##### Pre-Construction Works before Piling Commencement

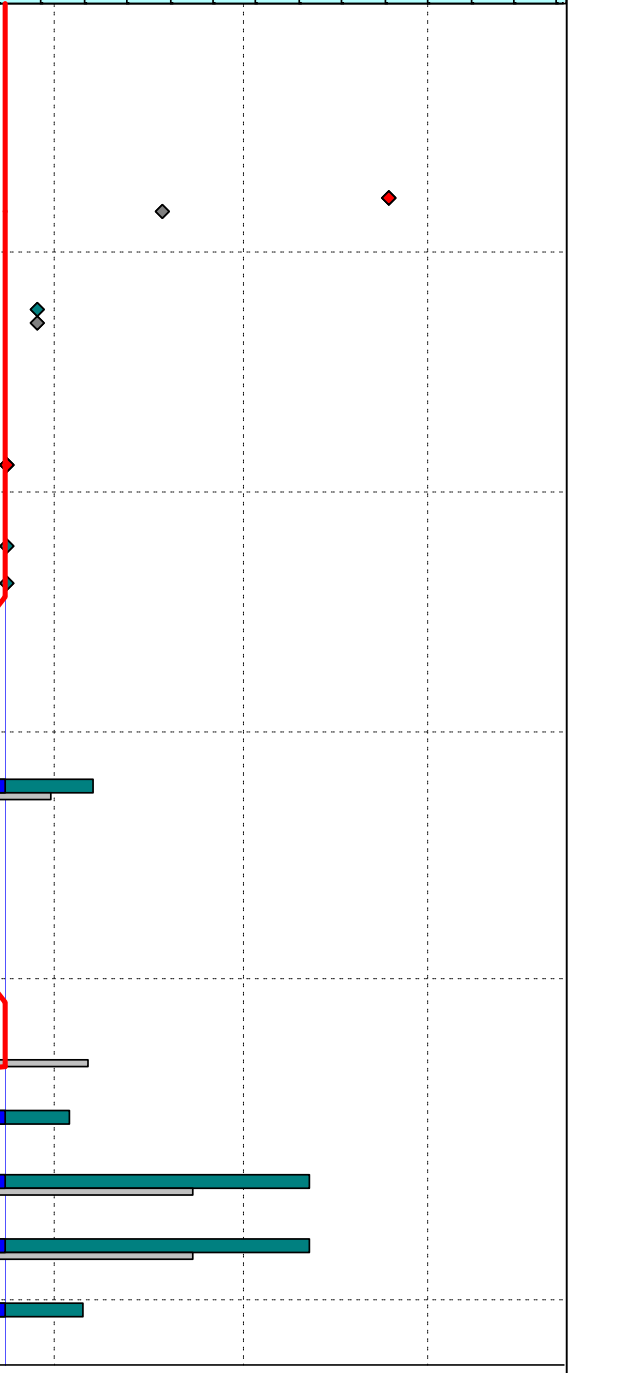
MOBP.10.1300	Trial Pit for Drillholes & Removal of Existing Substructures / Ground Slab [503 nos]	19-Aug-21	30-Apr-22	262	19-Aug-21 A	07-May-22	130	87%
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### Construction Stage

#### Pile Construction

##### Predrilling

PD.1000	Predrilling for BP in KD01 [8 nos.]	30-Sep-21	30-Mar-22	143	30-Sep-21 A	25-Mar-22 A		100%
PD.1040	Predrilling for BP in KD03 [5 nos.]	20-Oct-21	06-May-22	128	20-Oct-21 A	25-Mar-22 A		100%
PD.1080	Predrilling for BP in KD05 [76 nos.]	30-Sep-21	30-Mar-22	172	30-Sep-21 A	03-May-22	6	58%
PD.1100	Predrilling for BP in KD06 [95 nos.] incl. 5 additional nos.	30-Sep-21	23-May-22	203	30-Sep-21 A	11-Jun-22	103	55%
PD.1120	Predrilling for BP in KD07 [90 nos.] incl. 2 additional nos.	30-Sep-21	23-May-22	200	30-Sep-21 A	11-Jun-22	195	85%
PD.1160	Predrilling for BP in KD09 [149 nos.] incl. 4 additional nos.	30-Sep-21	30-Mar-22	175	30-Sep-21 A	05-May-22	131	70%



	Planned Bar		Milestone
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	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 22 Apr 2022**  
 Based on CMWP Rev.0

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		4-Mar-22	Rev.0	KL	B

Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	April				May				June				July			
									1				2				3				4			
									25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08

**KD01 (Stage 1-1)**

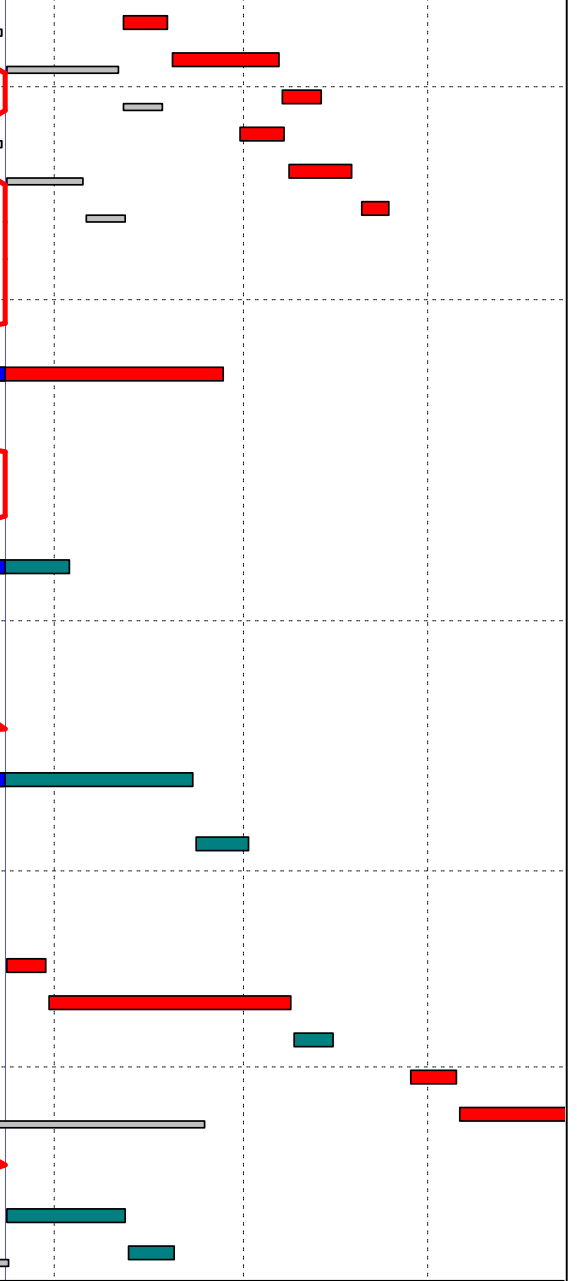
Bored Piles									
CBA-BP04.10	BP - Excavation	12-Apr-22	22-Apr-22	7	12-May-22	19-May-22	-21	0%	
CBA-BP04.20	BP - RCD Drilling	23-Apr-22	11-May-22	14	20-May-22	06-Jun-22	-21	0%	
CBA-BP04.30	BP - Airlift, Cage Install and Concrete	12-May-22	18-May-22	6	07-Jun-22	13-Jun-22	-21	0%	
CBA-BPC41Jb.10	BP - Excavation	13-Apr-22	22-Apr-22	6	31-May-22	07-Jun-22	-31	0%	
CBA-BPC41Jb.20	BP - RCD Drilling	23-Apr-22	05-May-22	10	08-Jun-22	18-Jun-22	-31	0%	
CBA-BPC41Jb.30	BP - Airlift, Cage Install and Concrete	06-May-22	12-May-22	5	20-Jun-22	24-Jun-22	-31	0%	
P22&P19-BP11.10	BP - Excavation	24-Jan-22	29-Jan-22	8	17-Mar-22 A	26-Mar-22 A		100%	
P22&P19-BP11.20	BP - RCD Drilling	31-Jan-22	24-Feb-22	8	28-Mar-22 A	07-Apr-22 A		100%	
P22&P19-BP11.30	BP - Airlift, Cage Install and Concrete	25-Feb-22	05-Mar-22	39	08-Apr-22 A	28-May-22	-9	0%	
P22&P19-BP21.10	BP - Excavation	18-Feb-22	24-Feb-22	15	22-Mar-22 A	09-Apr-22 A		100%	
P22&P19-BP21.20	BP - RCD Drilling	25-Feb-22	18-Mar-22	4	11-Apr-22 A	19-Apr-22 A		100%	
P22&P19-BP21.30	BP - Airlift, Cage Install and Concrete	19-Mar-22	28-Mar-22	11	20-Apr-22 A	03-May-22	12	0%	

**KD02 (Stage 5-1)**

Bored Piles									
P23-BP117.10	BP - Excavation	03-Dec-21	09-Dec-21	80	10-Jan-22 A	21-Apr-22 A		100%	
P23-BP117.20	BP - RCD Drilling	10-Dec-21	10-Jan-22	25	22-Apr-22 A	23-May-22	36	0%	
P23-BP117.30	BP - Airlift, Cage Install and Concrete	20-Jan-22	28-Jan-22	8	24-May-22	01-Jun-22	180	0%	

**KD03 (Stage 3-1)**

Bored Piles									
CBA-BPC54Jb.10	BP - Excavation	26-Feb-22	04-Mar-22	6	23-Apr-22	29-Apr-22	-44	0%	
CBA-BPC54Jb.20	BP - RCD Drilling	05-Mar-22	11-Apr-22	31	30-Apr-22	08-Jun-22	-44	0%	
CBA-BPC54Jb.30	BP - Airlift, Cage Install and Concrete	12-Apr-22	21-Apr-22	6	09-Jun-22	15-Jun-22	55	0%	
CBA-BPC54Ka.10	BP - Excavation	04-Apr-22	11-Apr-22	6	28-Jun-22	05-Jul-22	-66	0%	
CBA-BPC54Ka.20	BP - RCD Drilling	12-Apr-22	25-May-22	33	06-Jul-22	12-Aug-22	-66	0%	
P28&29-BP08.10	BP - Excavation	18-Mar-22	24-Mar-22	24	21-Mar-22 A	22-Apr-22 A		100%	
P28&29-BP08.20	BP - RCD Drilling	25-Mar-22	12-Apr-22	15	23-Apr-22	12-May-22	82	0%	
P28&29-BP08.30	BP - Airlift, Cage Install and Concrete	13-Apr-22	23-Apr-22	7	13-May-22	20-May-22	82	0%	



	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

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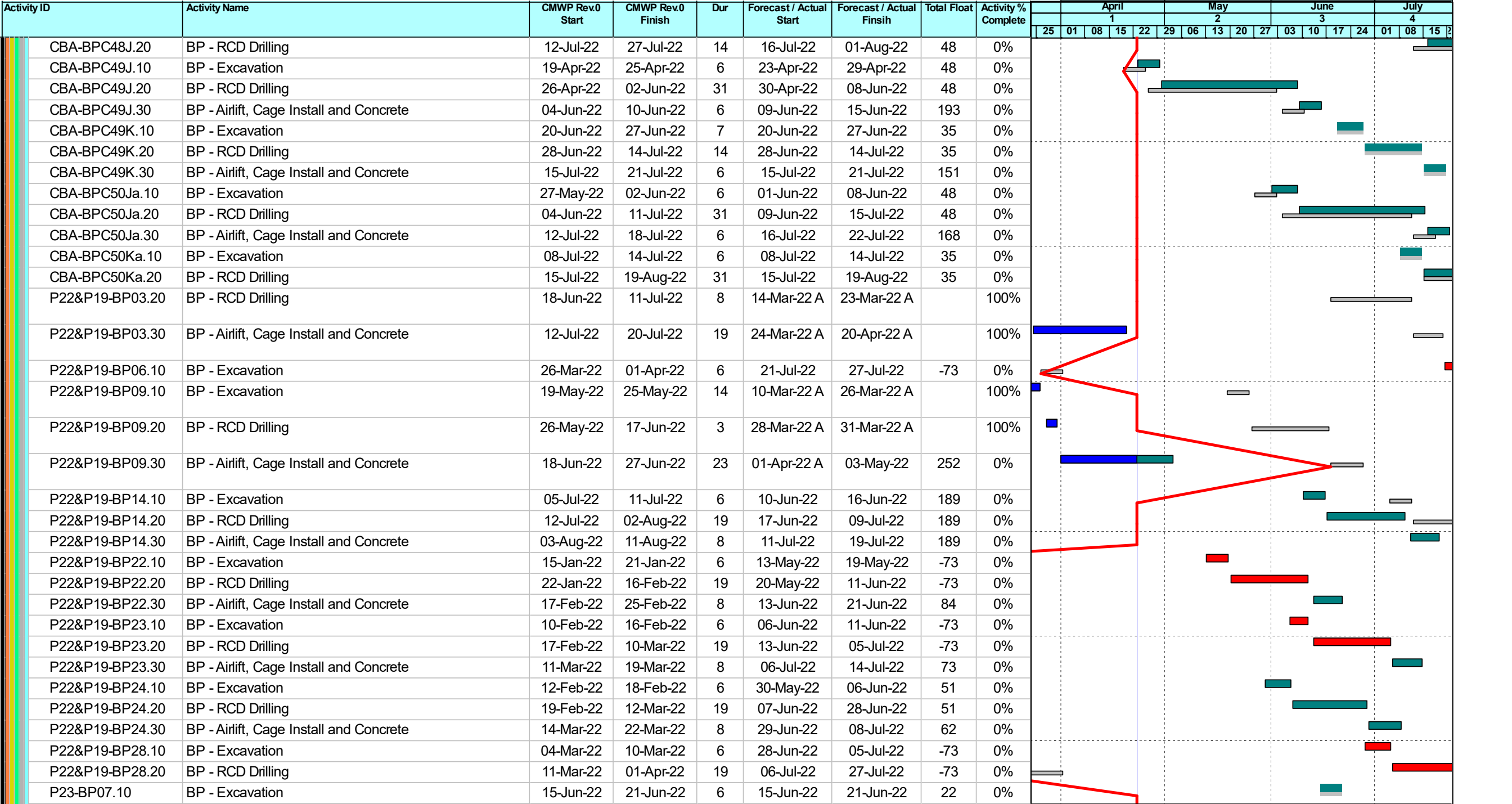














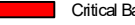

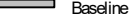

	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
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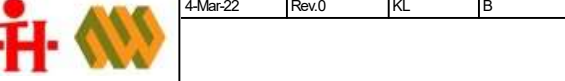


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4-Mar-22	Rev.0	KL	B

Activity ID	Activity Name	CMWP Rev.0 Start	CMWP Rev.0 Finish	Dur	Forecast / Actual Start	Forecast / Actual Finsih	Total Float	Activity % Complete	Gantt Chart															
									April				May				June				July			
									25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08
P23-BP07.20	BP - RCD Drilling	22-Jun-22	14-Jul-22	19	22-Jun-22	14-Jul-22	22	0%																
P23-BP07.30	BP - Airlift, Cage Install and Concrete	15-Jul-22	23-Jul-22	8	15-Jul-22	23-Jul-22	137	0%																
P23-BP10.20	BP - RCD Drilling	23-Dec-21	17-Jan-22	14	17-Mar-22 A	02-Apr-22 A		100%																
P23-BP10.30	BP - Airlift, Cage Install and Concrete	18-Jan-22	26-Jan-22	8	23-Apr-22	03-May-22	236	0%																
P23-BP12.10	BP - Excavation	29-Jun-22	06-Jul-22	6	22-Jun-22	28-Jun-22	35	0%																
P23-BP12.20	BP - RCD Drilling	07-Jul-22	28-Jul-22	19	29-Jun-22	21-Jul-22	35	0%																
P23-BP12.30	BP - Airlift, Cage Install and Concrete	29-Jul-22	06-Aug-22	8	22-Jul-22	30-Jul-22	179	0%																
P23-BP13.10	BP - Excavation	09-Jan-23	14-Jan-23	14	11-Apr-22 A	29-Apr-22	232	0%																
P23-BP13.20	BP - RCD Drilling	16-Jan-23	04-Feb-23	15	30-Apr-22	19-May-22	232	0%																
P23-BP13.30	BP - Airlift, Cage Install and Concrete	06-Feb-23	13-Feb-23	7	20-May-22	27-May-22	232	0%																
P23-BP14.10	BP - Excavation	16-Jun-22	22-Jun-22	6	22-Jun-22	28-Jun-22	64	0%																
P23-BP14.20	BP - RCD Drilling	23-Jun-22	15-Jul-22	19	29-Jun-22	21-Jul-22	64	0%																
P23-BP14.30	BP - Airlift, Cage Install and Concrete	16-Jul-22	25-Jul-22	8	22-Jul-22	30-Jul-22	155	0%																
P23-BP15.10	BP - Excavation	05-Feb-22	11-Feb-22	6	18-May-22	24-May-22	64	0%																
P23-BP15.20	BP - RCD Drilling	12-Feb-22	17-Mar-22	29	25-May-22	28-Jun-22	64	0%																
P23-BP15.30	BP - Airlift, Cage Install and Concrete	18-Mar-22	26-Mar-22	8	29-Jun-22	08-Jul-22	198	0%																
P23-BP17.30	BP - Airlift, Cage Install and Concrete	11-Apr-22	22-Apr-22	13	08-Mar-22 A	23-Mar-22 A		100%																
P23-BP18.10	BP - Excavation	27-Sep-22	05-Oct-22	11	26-Mar-22 A	09-Apr-22 A		100%																
P23-BP18.20	BP - RCD Drilling	06-Oct-22	27-Oct-22	27	11-Apr-22 A	17-May-22	233	0%																
P23-BP18.30	BP - Airlift, Cage Install and Concrete	28-Oct-22	05-Nov-22	8	18-May-22	26-May-22	233	0%																
P23-BP25.10	BP - Excavation	11-Jan-22	17-Jan-22	6	23-Apr-22	29-Apr-22	64	0%																
P23-BP25.20	BP - RCD Drilling	18-Jan-22	11-Feb-22	19	30-Apr-22	24-May-22	64	0%																
P23-BP25.30	BP - Airlift, Cage Install and Concrete	12-Feb-22	21-Feb-22	8	25-May-22	02-Jun-22	219	0%																
P23-BP26.10	BP - Excavation	09-Jul-22	15-Jul-22	6	15-Jul-22	21-Jul-22	64	0%																
P23-BP26.20	BP - RCD Drilling	16-Jul-22	18-Aug-22	29	22-Jul-22	24-Aug-22	64	0%																
P24&27-BP06.10	BP - Excavation	08-Jul-22	14-Jul-22	6	08-Jul-22	14-Jul-22	51	0%																
P24&27-BP06.20	BP - RCD Drilling	15-Jul-22	17-Aug-22	29	15-Jul-22	17-Aug-22	51	0%																
P24&27-BP09.10	BP - Excavation	23-Jul-22	29-Jul-22	6	04-Jul-22	09-Jul-22	54	0%																
P24&27-BP09.20	BP - RCD Drilling	30-Jul-22	01-Sep-22	29	11-Jul-22	12-Aug-22	54	0%																
P24&27-BP27.10	BP - Excavation	24-Feb-22	02-Mar-22	6	30-May-22	06-Jun-22	-55	0%																
P24&27-BP27.20	BP - RCD Drilling	03-Mar-22	24-Mar-22	19	07-Jun-22	28-Jun-22	-55	0%																
P24&27-BP27.30	BP - Airlift, Cage Install and Concrete	25-Mar-22	02-Apr-22	8	29-Jun-22	08-Jul-22	134	0%																
P24&27-BP28.10	BP - Excavation	18-Mar-22	24-Mar-22	6	22-Jun-22	28-Jun-22	-55	0%																

	Planned Bar		Milestone
	Critical Bar		Critical MS
	Baseline		Baseline MS

**West Kowloon Cultural District Authority**  
**Piling for Integrated Basement and U/G Road in Zone 2B 2C**  
**3 Month Rolling Programme as of 22 Apr 2022**  
 Based on CMWP Rev.0

	Date	Revision	Checked	Approved
	4-Mar-22	Rev.0	KL	B









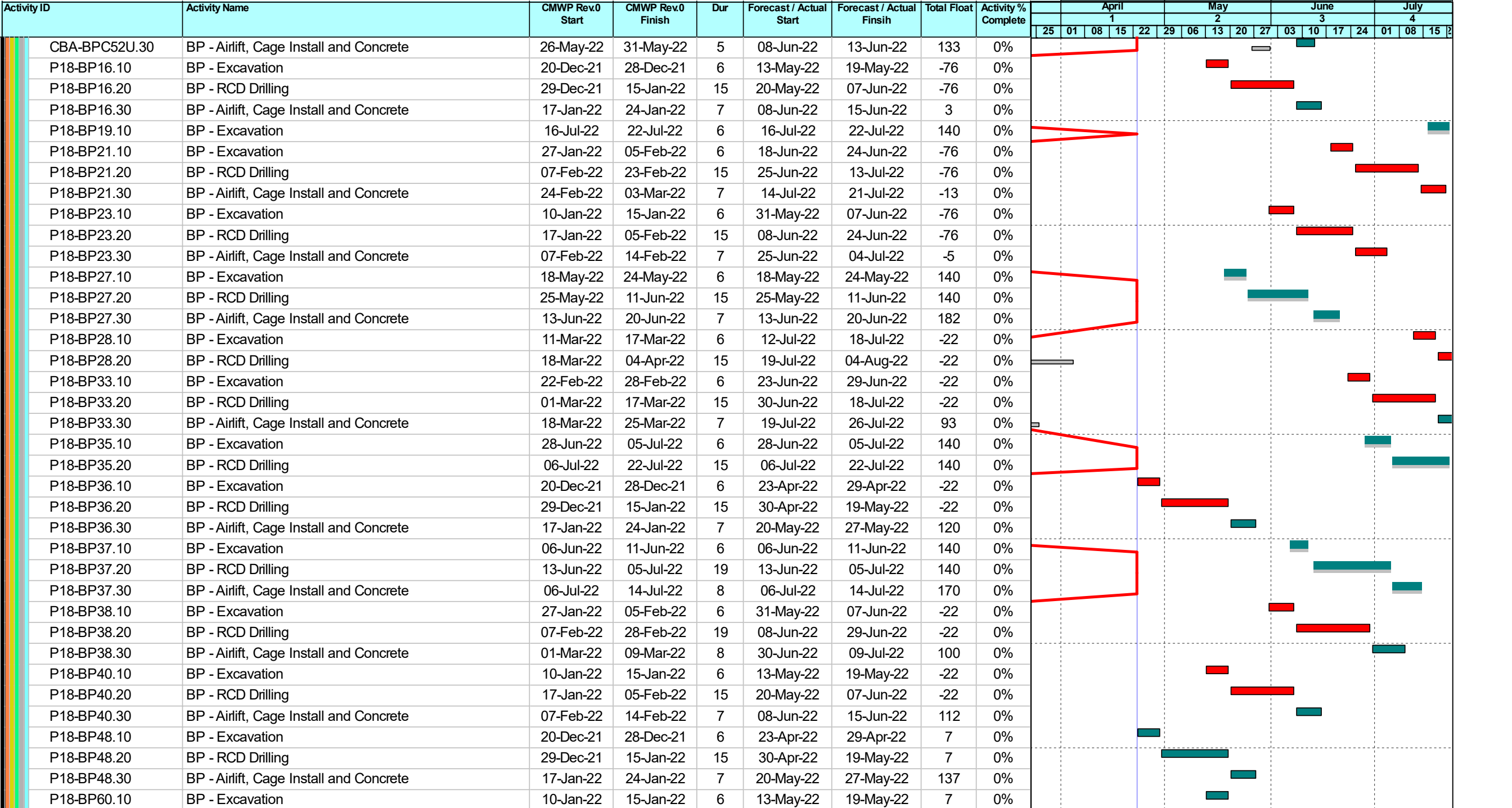


























## **C. Environmental Mitigation Measures – Implementation Status**

**Table C-1: Environmental Mitigation Measures Implementation Status**

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
<b>Air Quality Impact (Construction)</b>							
2.1	<b>General Dust Control Measures</b> Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)	✓	✓	✓	✓	Obs	✓
2.1	<b>Best Practice For Dust Control</b> The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include: <i>Good Site Management</i> <ul style="list-style-type: none"> <li>Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.</li> </ul>	✓	Obs	Obs	✓	✓	✓

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<i>Disturbed Parts of the Roads</i>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or</li> <li>Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.</li> </ul>	✓	✓	✓	✓	✓	✓
	<i>Exposed Earth</i>	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> <li>Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seeding with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.</li> </ul>						
	<i>Loading, Unloading or Transfer of Dusty Materials</i>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.</li> </ul>						
	<i>Debris Handling</i>	✓	✓	Obs	✓	✓	✓
	<ul style="list-style-type: none"> <li>Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides.</li> <li>Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.</li> </ul>	N/A	N/A	N/A	N/A	N/A	N/A
	<i>Transport of Dusty Materials</i>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.</li> </ul>						

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<i>Wheel washing</i>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> </ul>						
	<i>Use of vehicles</i>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site.</li> <li>Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.</li> <li>Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.</li> </ul>						
	<i>Site hoarding</i>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.</li> </ul>						

2.1 **Best Practicable Means for Cement Works (Concrete Batching Plant)**

The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include:

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<i>Exhaust from Dust Arrestment Plant</i>	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> <li>Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection</li> </ul>						
	<i>Emission Limits</i>	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> <li>All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke</li> </ul>						
	<i>Engineering Design/Technical Requirements</i>	N/A	N/A	N/A	N/A	N/A	N/A
	<ul style="list-style-type: none"> <li>As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions</li> </ul>						
	<b>Non-Road Mobile Machinery (NRMM):</b>	✓	Obs	✓	✓	✓	✓
	All NRMMs operating on-site which are subject to emission control of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation are approved/exempted (as the case may be) and affixed with the requisite approval/exemption labels.						
<b>Noise Impact (Construction)</b>							
3.1	<b>Good Site Practice</b>						
	<ul style="list-style-type: none"> <li>Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:</li> </ul>						
	<ul style="list-style-type: none"> <li>only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works;</li> </ul>	✓	✓	✓	✓	✓	✓

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum</li> <li>plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs;</li> <li>mobile plant should be sited as far away from NSRs as possible; and</li> <li>material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	✓	✓	✓	✓	✓	✓
3.1	<p><b>Adoption of Quieter PME</b></p> <p>The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in <b>Table 4.26</b> in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.</p>	✓	✓	✓	✓	✓	✓
3.1	<p><b>Use of Movable Noise Barriers</b></p> <p>Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.</p>	Obs	✓	✓	✓	✓	Obs
3.1	<p><b>Use of Noise Enclosure/ Acoustic Shed</b></p> <p>The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No. 9/2010.</p>	✓	✓	✓	✓	Obs	✓



		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
3.1	<p><b>Use of Noise Insulating Fabric</b></p> <p>Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, pilling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.</p>	✓	✓	✓	Obs	✓	✓
3.1	<p><b>Scheduling of Construction Works outside School Examination Periods</b></p> <p>During construction phase, the contractor should liaise with the educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.</p>	✓	✓	✓	✓	✓	✓
<b>Water Quality Impact (Construction)</b>							
4.1	<p><b>Construction site runoff and drainage</b></p> <p>The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:</p> <ul style="list-style-type: none"> <li>At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction;</li> </ul>	✓	✓	✓	✓	Obs	Obs

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction.</li> </ul>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.</li> </ul>	✓	Obs	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities.</li> </ul>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</li> </ul>	✓	Obs	✓	✓	✓	✓

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Open stockpiles of construction materials or construction wastes onsite should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</li> </ul>	Obs	Obs	Obs	✓	Obs	Obs
	<ul style="list-style-type: none"> <li>Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers.</li> </ul>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.</li> </ul>	✓	✓	✓	✓	✓	✓
	<ul style="list-style-type: none"> <li>Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.</li> </ul>	N/A	N/A	N/A	N/A	N/A	N/A
4.1	<p><b>Barging facilities and activities</b></p> <p>Recommendations for good site practices during operation of the proposed barging point include:</p>						
	<ul style="list-style-type: none"> <li>All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> </ul>	N/A	N/A	N/A	N/A	N/A	N/A

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Loading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation;</li> <li>All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and</li> <li>Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site.</li> </ul>	N/A	N/A	N/A	N/A	N/A	N/A
4.1	<p><b>Sewage effluent from construction workforce</b></p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	✓	✓	✓	✓	✓	✓
4.1	<p><b>General construction activities</b></p> <ul style="list-style-type: none"> <li>Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used.</li> <li>Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.</li> </ul>	Obs	Obs	Obs	✓	Obs	Obs
		✓	✓	✓	✓	✓	✓
<b>Waste Management Implications (Construction)</b>							

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
6.1	<b>Good Site Practices</b>						
	<ul style="list-style-type: none"> <li>Recommendations for good site practices during the construction activities include:</li> <li>Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>Training of site personnel in proper waste management and chemical handling procedures</li> <li>Provision of sufficient waste disposal points and regular collection of waste</li> <li>Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers</li> <li>Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads</li> <li>Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&amp;D materials is not anticipated</li> </ul>	✓	✓	✓	✓	✓	✓
6.1	<b>Waste Reduction Measures</b>						
	<p>Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>Sort inert C&amp;D material to recover any recyclable portions such as metals</li> <li>Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal</li> <li>Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force</li> </ul>	✓	Obs	✓	✓	✓	✓
		✓	Obs	✓	✓	✓	✓
		✓	✓	✓	✓	✓	✓

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Proper site practices to minimise the potential for damage or contamination of inert C&amp;D materials</li> <li>Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of wastes</li> </ul>	✓	✓	✓	✓	✓	✓
6.1	<p><b>Inert and Non-inert C&amp;D Materials</b></p> <p>In order to minimise impacts resulting from collection and transportation of inert C&amp;D material for off-site disposal, the excavated materials should be reused on-site as fill material as far as practicable. In addition, inert C&amp;D material generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.</p> <ul style="list-style-type: none"> <li>The surplus inert C&amp;D material will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong.</li> <li>Liaison with the CEDD Public Fill Committee (PFC) on the allocation of space for disposal of the inert C&amp;D materials at PFRF is underway. No construction work is allowed to proceed until all issues on management of inert C&amp;D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD.</li> <li>The C&amp;D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site.</li> </ul>	✓	✓	✓	✓	✓	✓



		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>In order to monitor the disposal of inert and non-inert C&amp;D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the Technical Circular (Works) No. 6/2010 for Trip Ticket System for Disposal of Construction &amp; Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site.</li> </ul>	✓	✓	✓	✓	✓	✓
6.1	<b>Chemical Waste</b> <ul style="list-style-type: none"> <li>If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the “Code of Practice on the Packaging Labelling and Storage of Chemical Wastes”. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> </ul>	✓	✓	✓	Obs	✓	✓

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
	<ul style="list-style-type: none"> <li>Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended.</li> </ul>	✓	✓	✓	✓	Obs	Obs
6.1	<p><b>General Refuse</b></p> <p>General refuse should be stored in enclosed bins or compaction units separated from inert C&amp;D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&amp;D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	✓	✓	✓	✓	✓	✓
<b>Land Contamination (Construction)</b>							
7.1	<p>The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials. The following measures are proposed for excavation and transportation of contaminated material:</p> <ul style="list-style-type: none"> <li>To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed;</li> </ul>	N/A	N/A	N/A	N/A	N/A	N/A



		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
Table 9.1 (CM1)	Trees should be retained in situ on site as far as possible. Should tree removal be unavoidable due to construction impacts, trees will be transplanted or felled with reference to the stated criteria in the Tree Removal Applications to be submitted to relevant government departments for approval in accordance to ETWB TCW No. 29/2004 and 3/2006.	✓	✓	✓	✓	✓	✓
Table 9.1 (CM2)	Compensatory tree planting shall be incorporated to the proposed project and maximize the new tree, shrubs and other vegetation planting to compensate tree felled and vegetation removed. Also, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of quality and quantity within the site.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM3)	Buffer trees for screening purposes to soften the hard architectural and engineering structures and facilities.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.1 (CM9)	Minimize the structure of marine facilities to be built on the seabed and foreshore in order to minimize the affected extent to the waterbody	N/A	N/A	N/A	N/A	N/A	N/A

		Implementation Stage					
		Zone 2A			Zone 2B & 2C		
EM&A Ref.	Recommendation Measures	Feb 2022	Mar 2022	Apr 2022	Feb 2022	Mar 2022	Apr 2022
Table 9.2 (MCP1)	Use of decorative screen hoarding/boards	✓	✓	✓	✓	✓	✓
Table 9.2 (MCP2)	Early introduction of landscape treatments	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.2 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	N/A	N/A	N/A	N/A	N/A	N/A
Table 9.2 (MCP4)	Control of night time lighting	✓	✓	✓	✓	✓	✓
Table 9.2 (MCP5)	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and soften the hard edges of the structures.	N/A	N/A	N/A	N/A	N/A	N/A

N/A - Not Applicable

✓ - Implemented

Obs - Observed

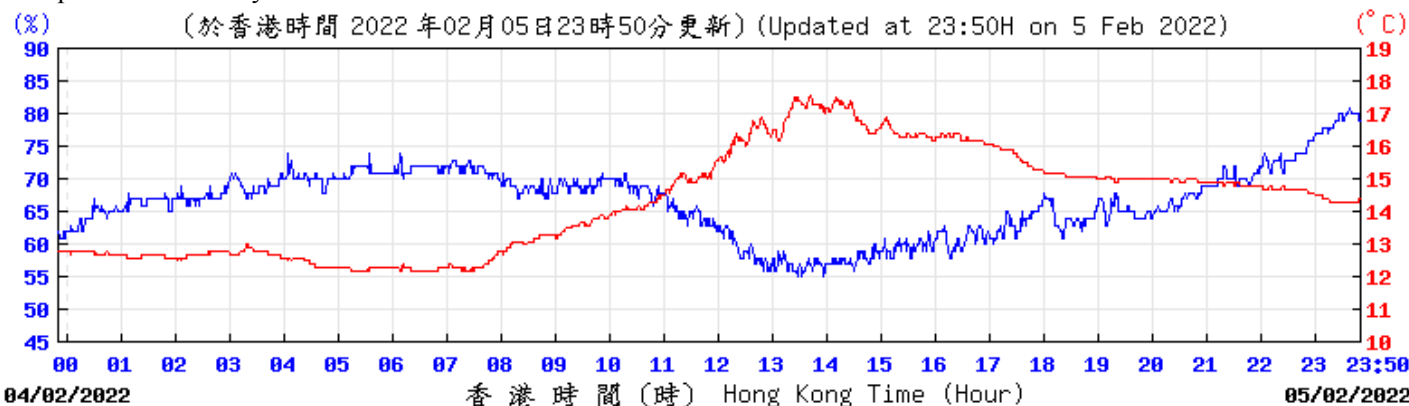
Rem - Reminder

## **D. Meteorological Data Extracted from Hong Kong Observatory**



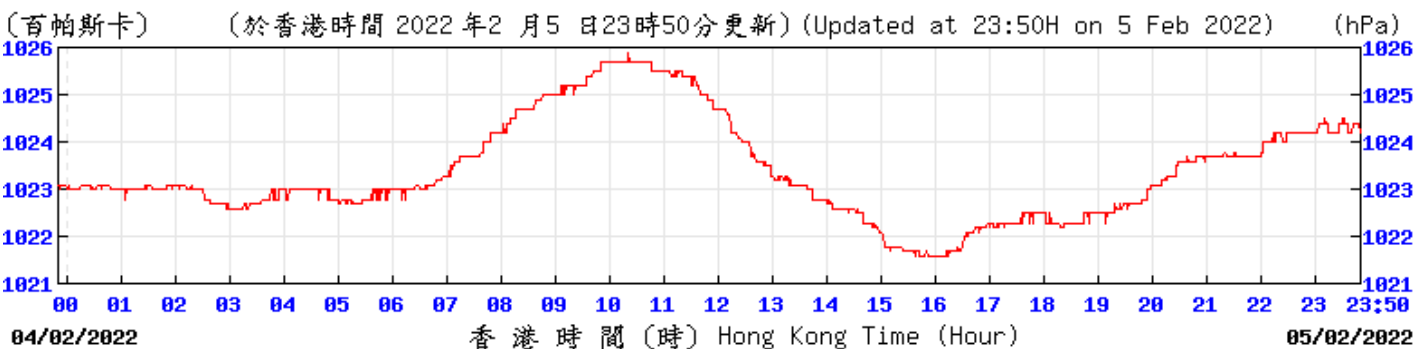
# Extract of Meteorological Observations for King's Park Automatic Weather Station, February 2022

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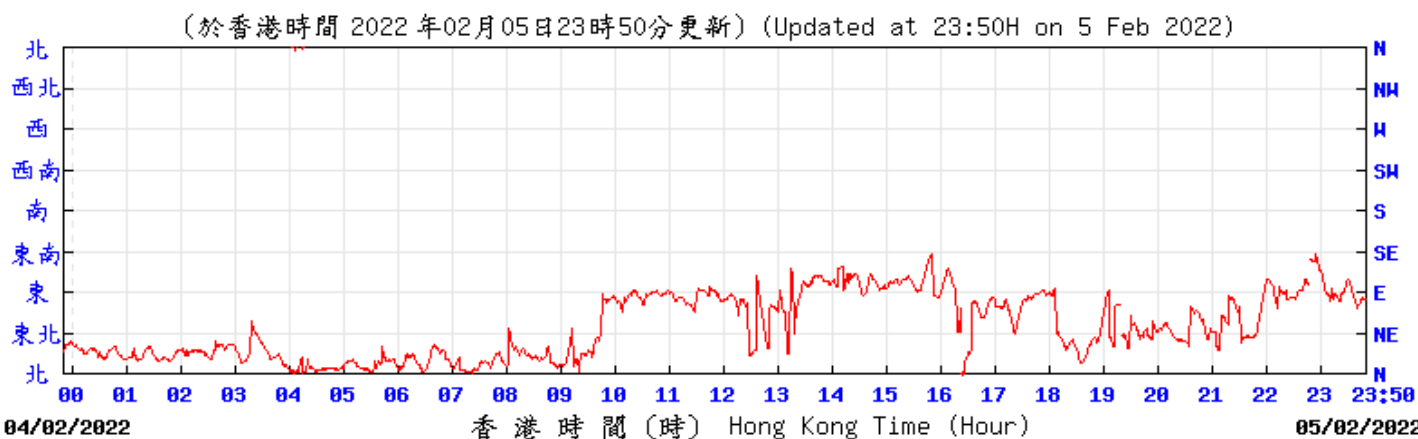
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Pressure:



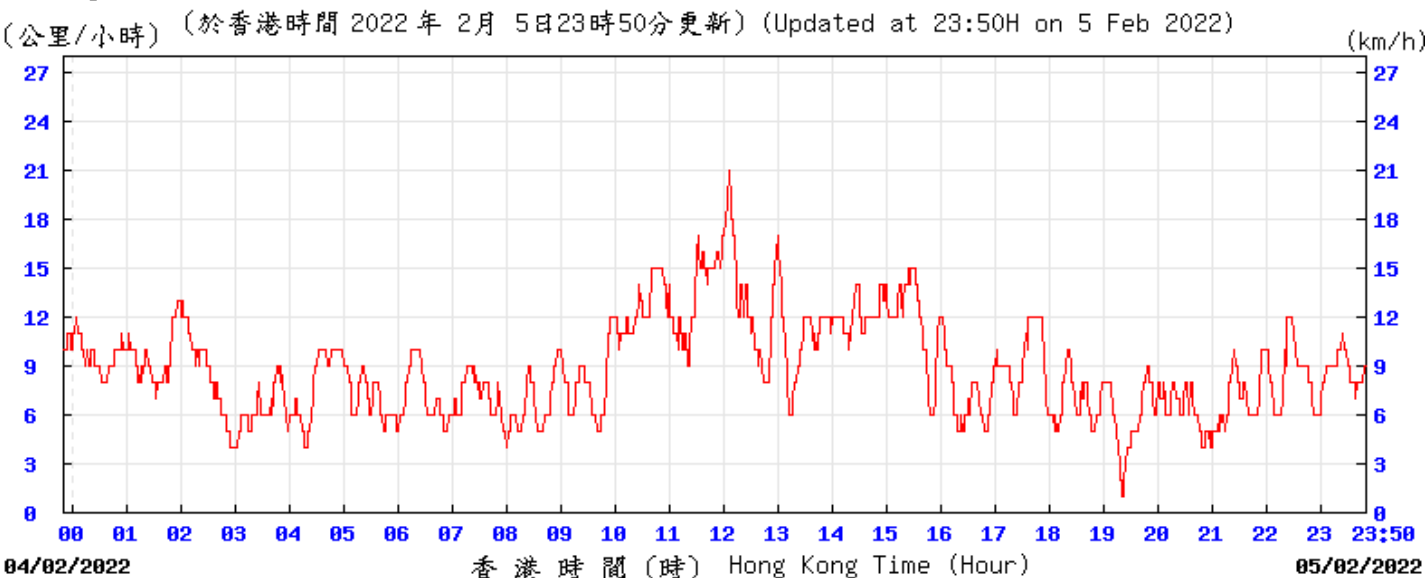
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Wind Direction:



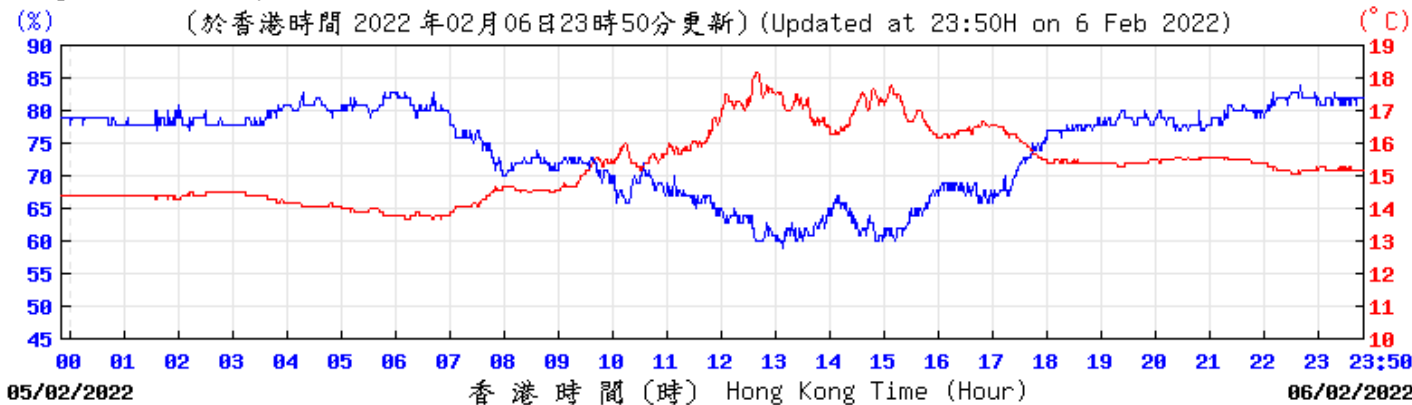
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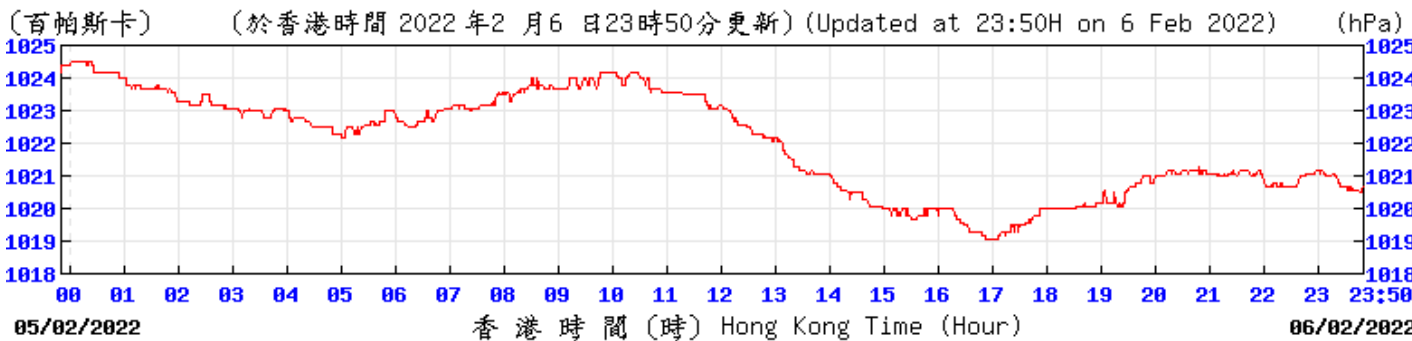
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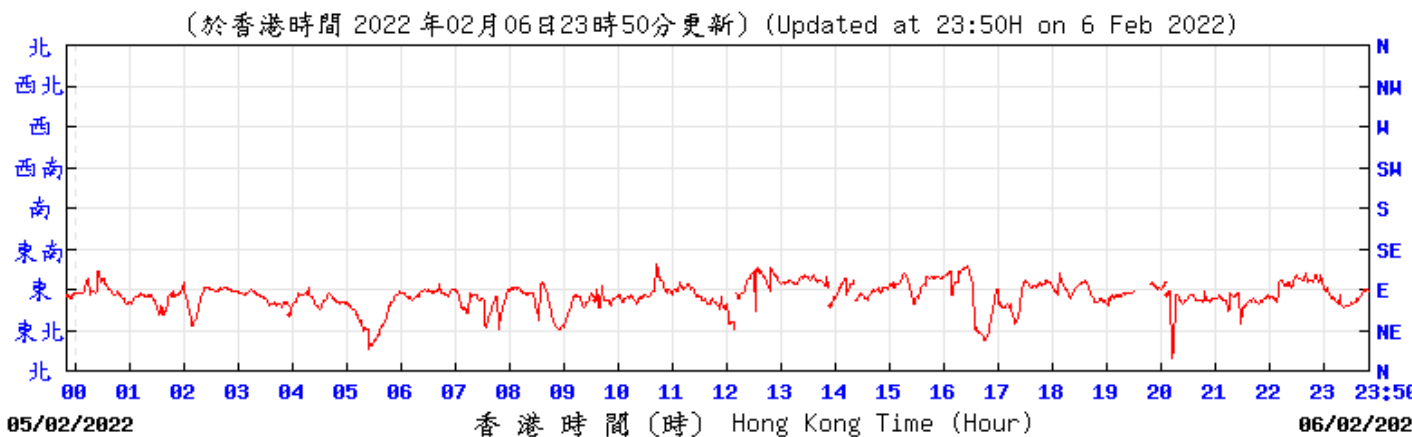
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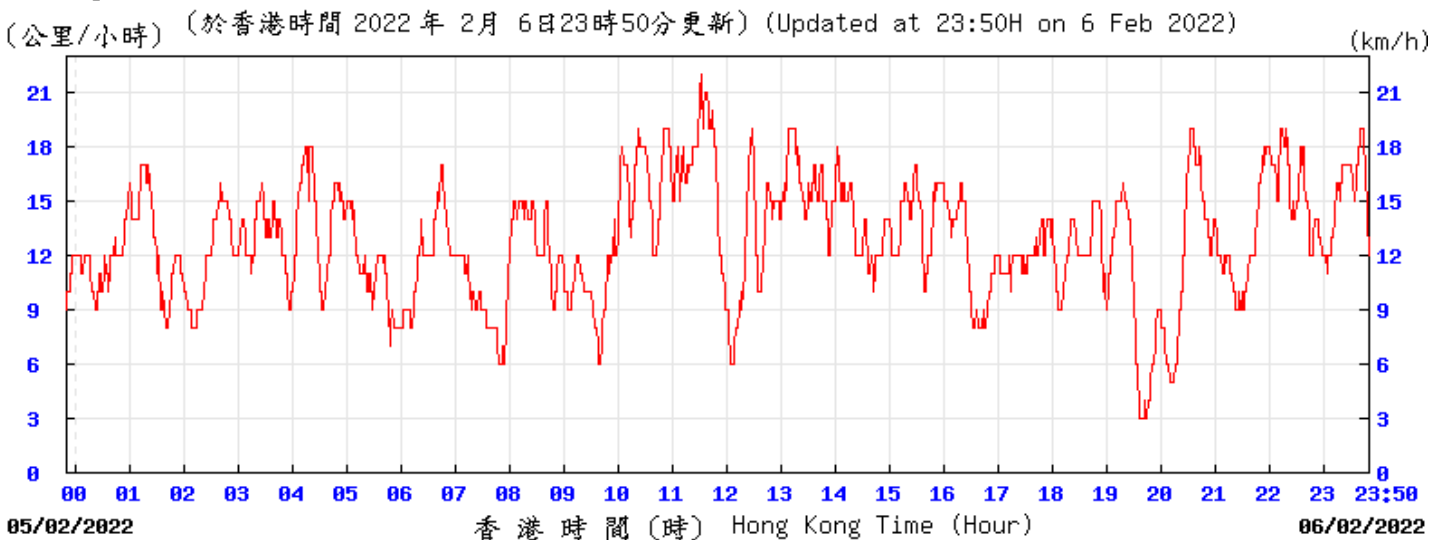
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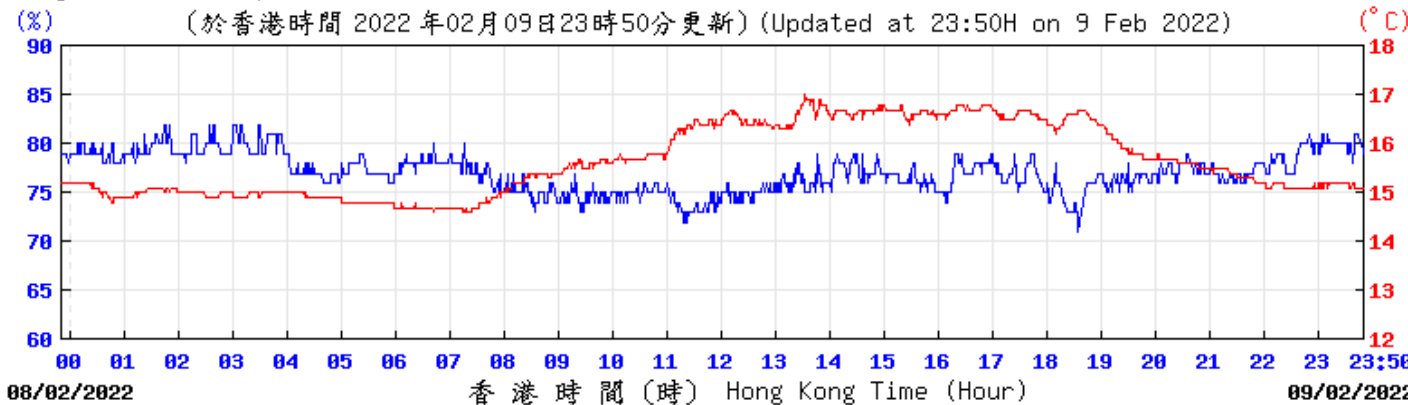
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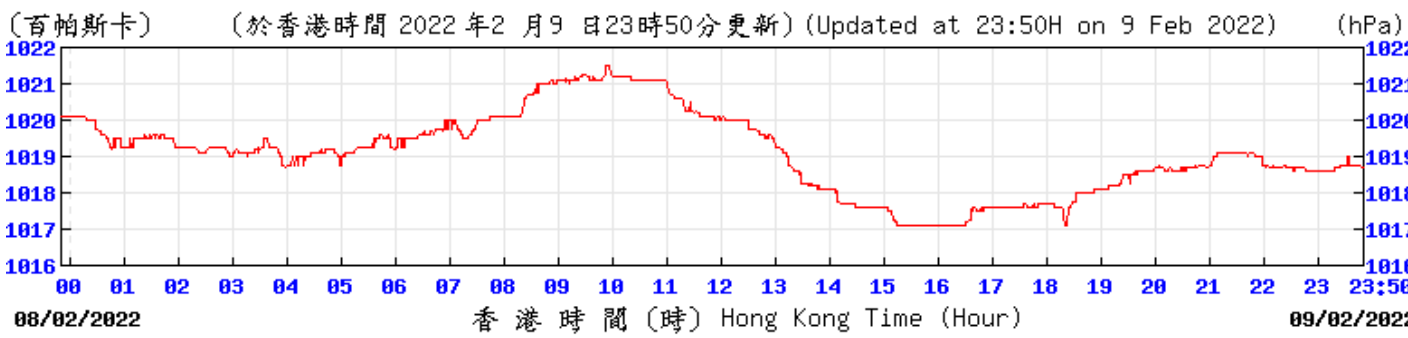
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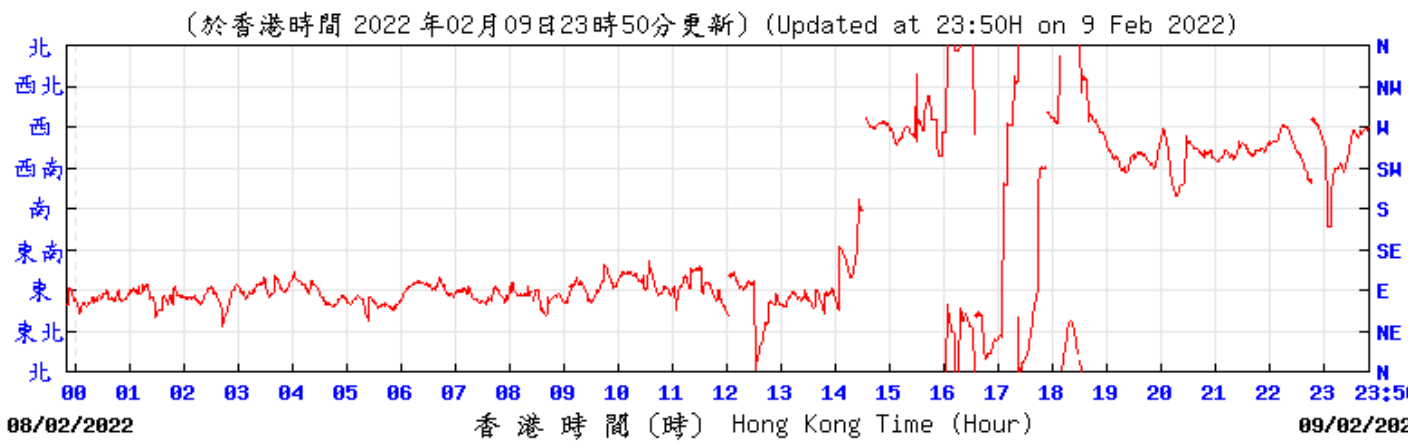
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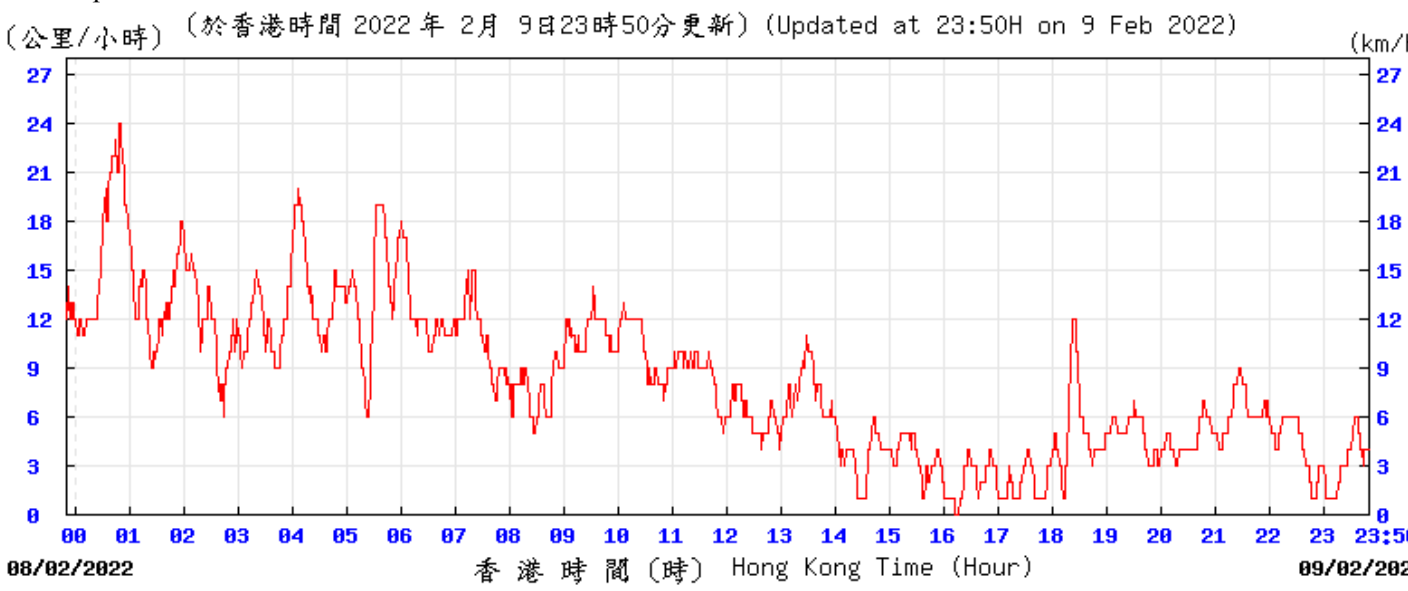
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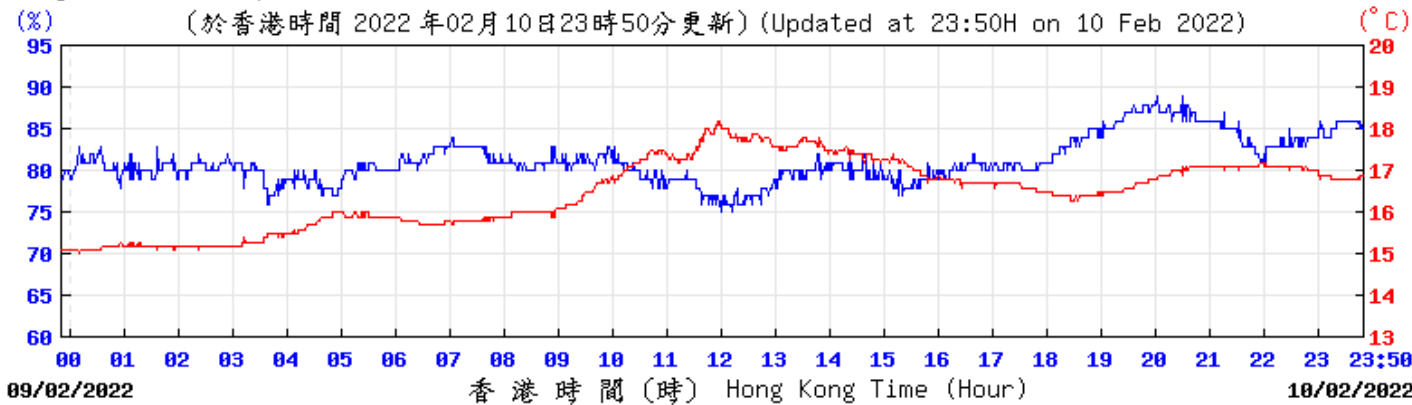
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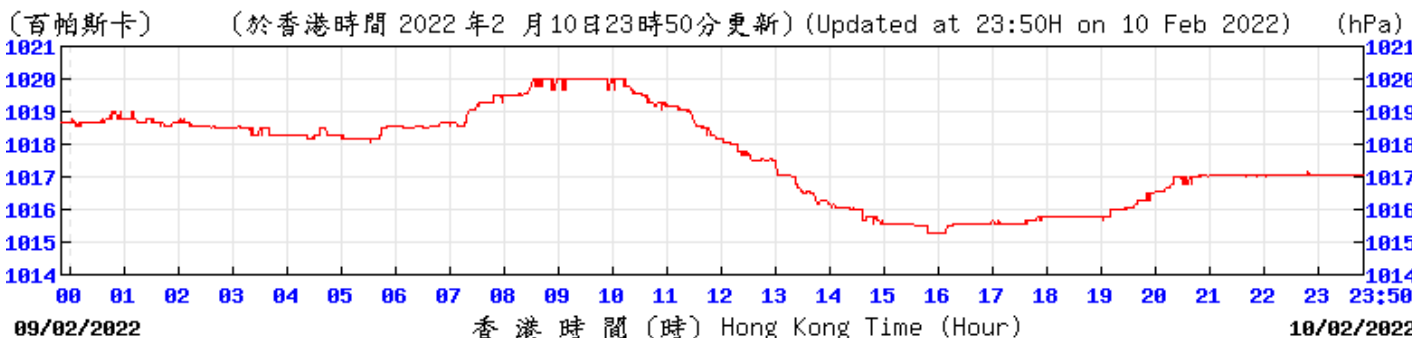
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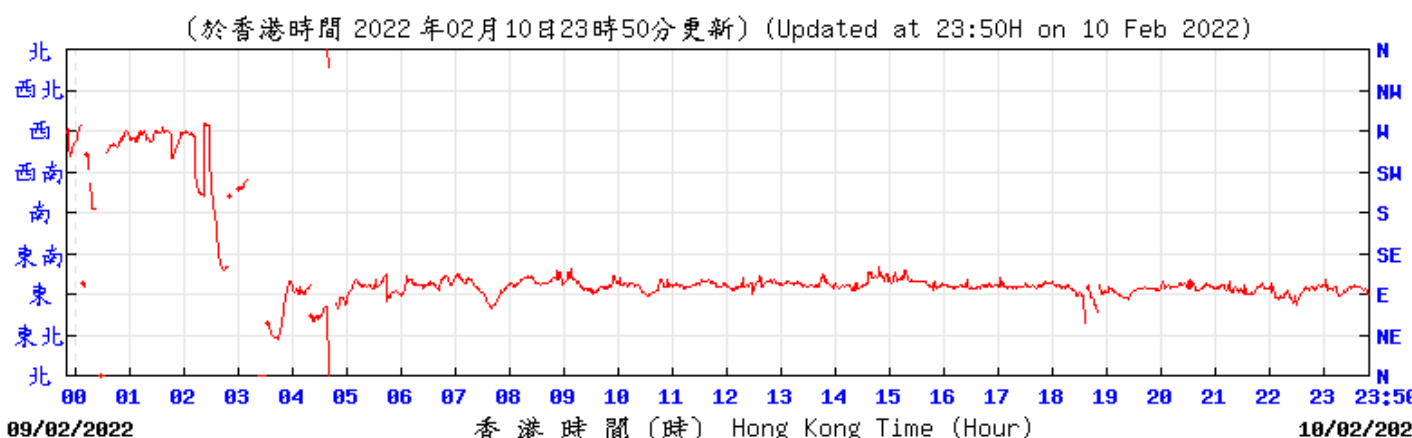
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KPC Pressure:



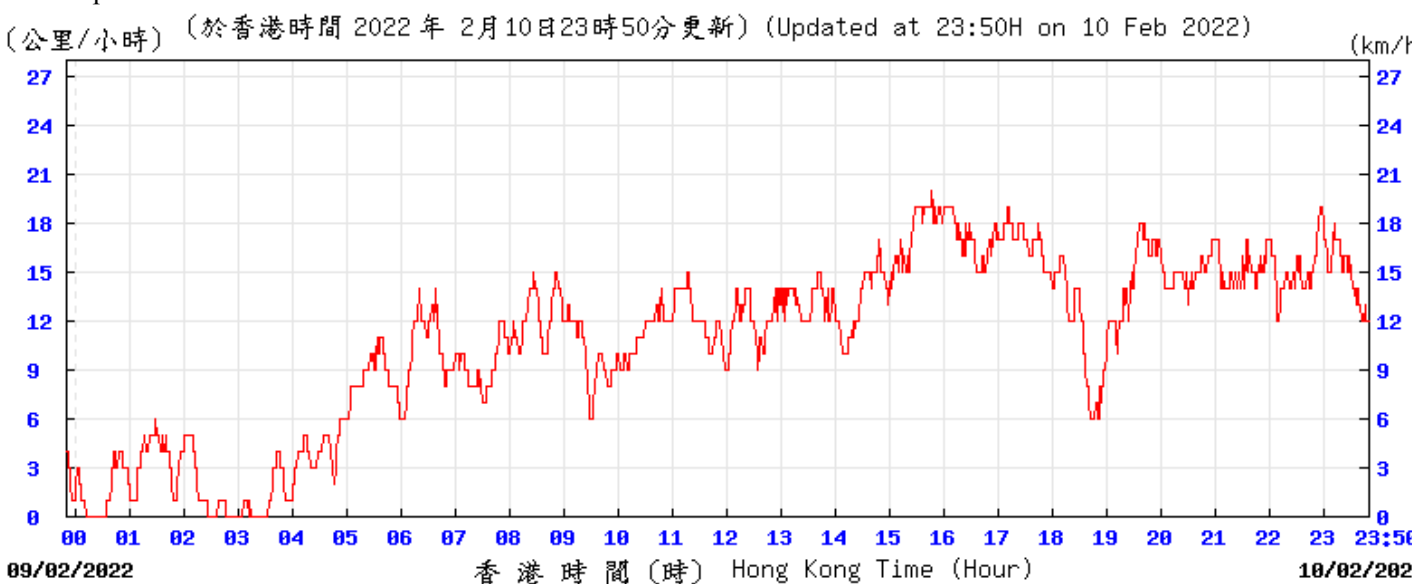
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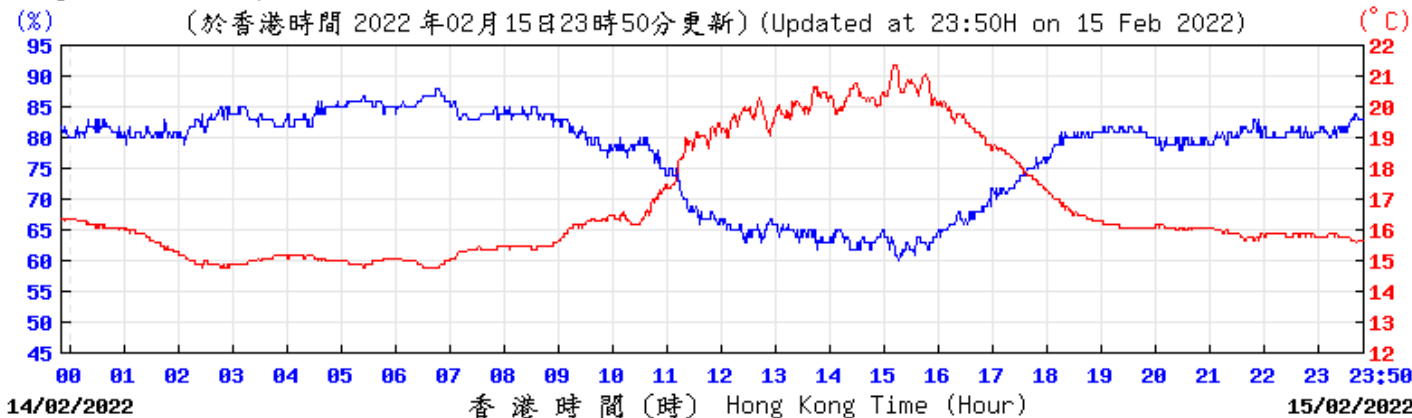
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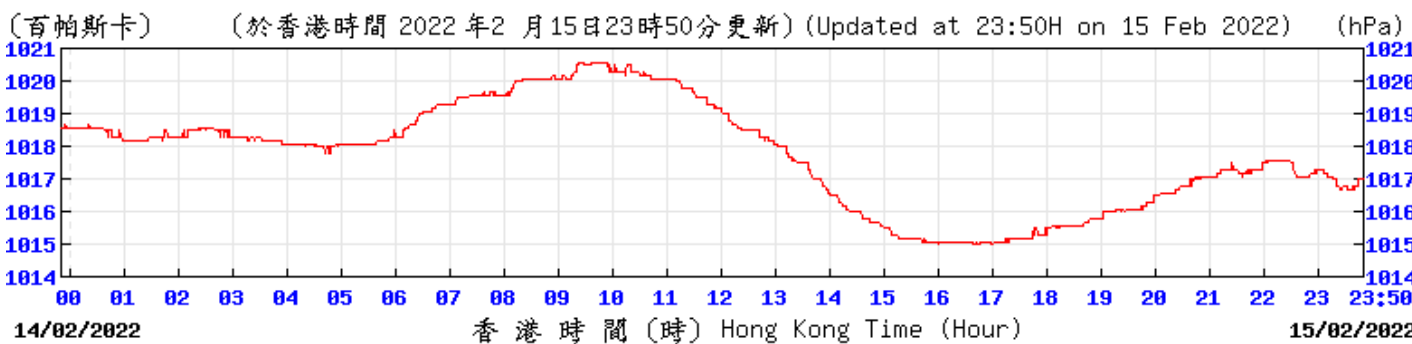
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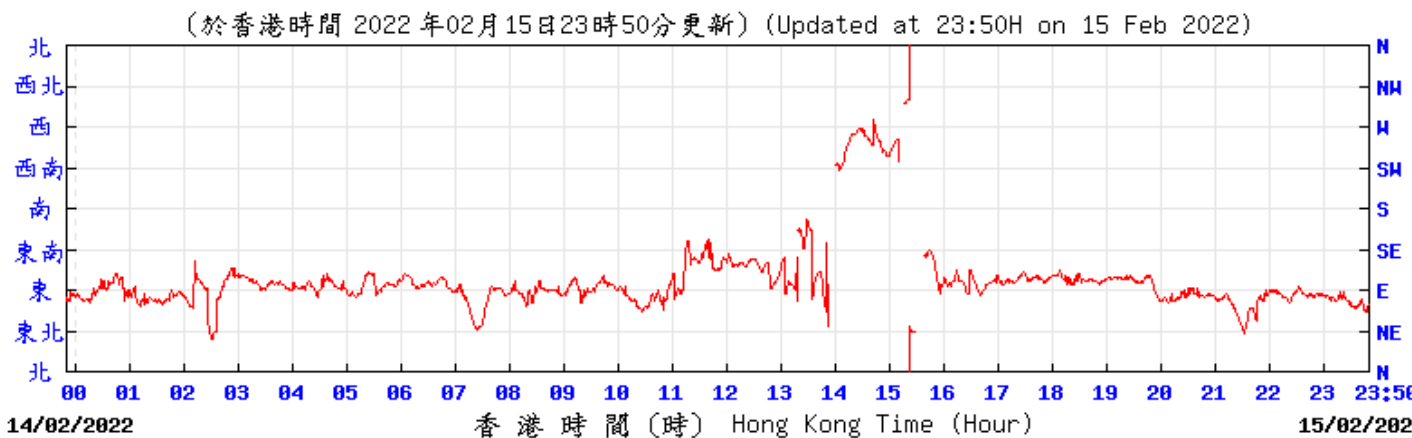
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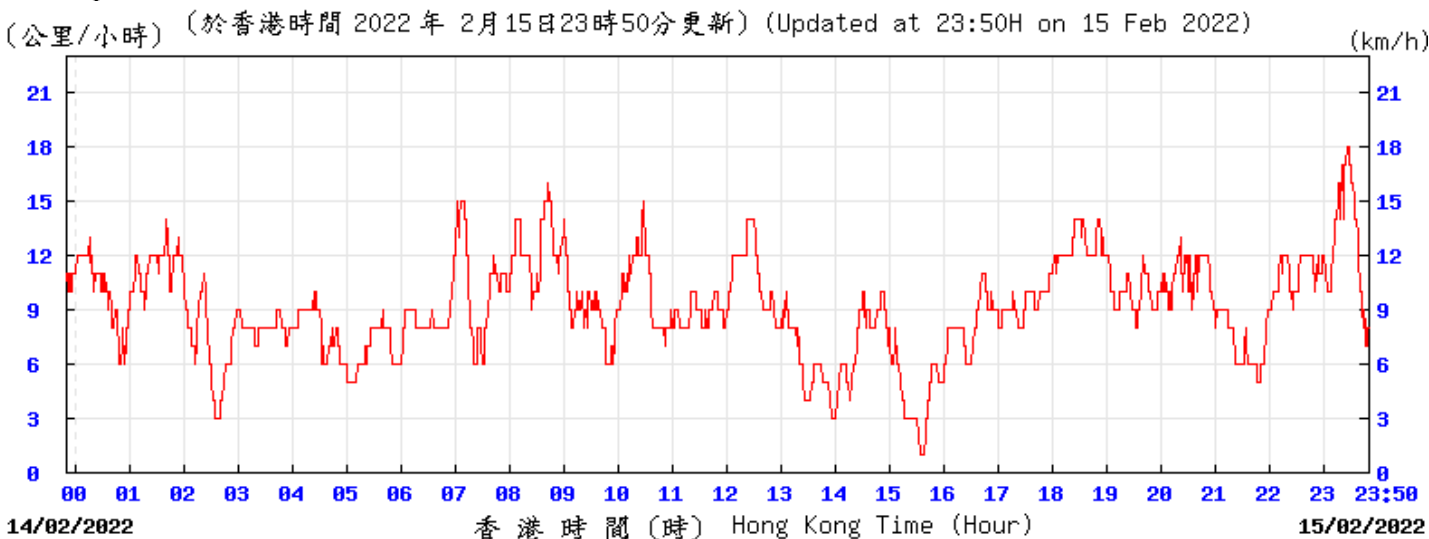
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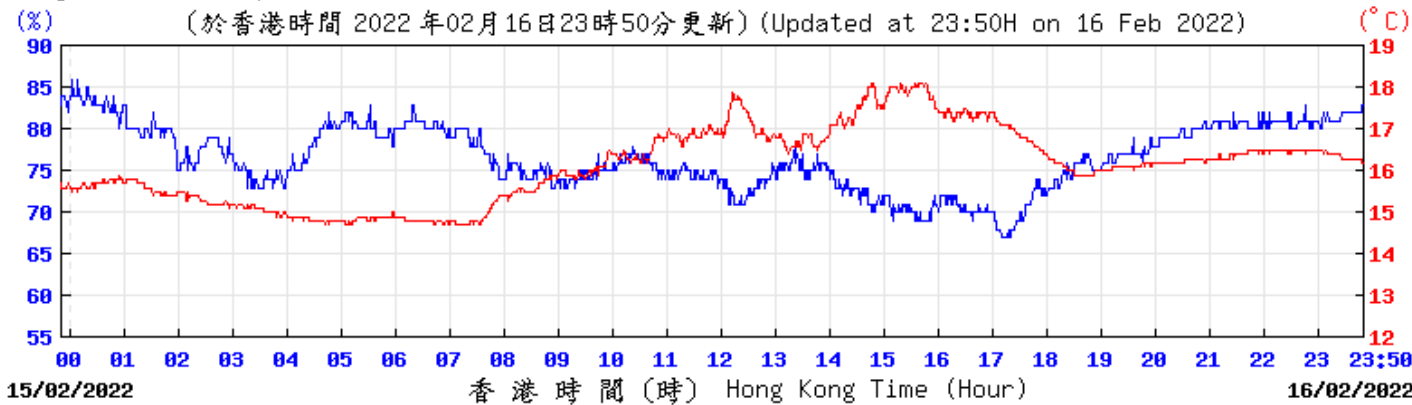
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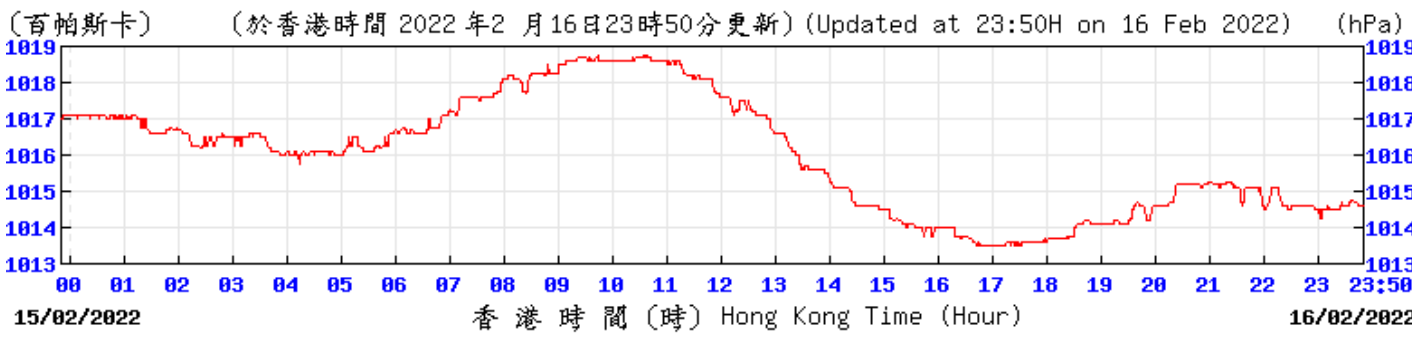
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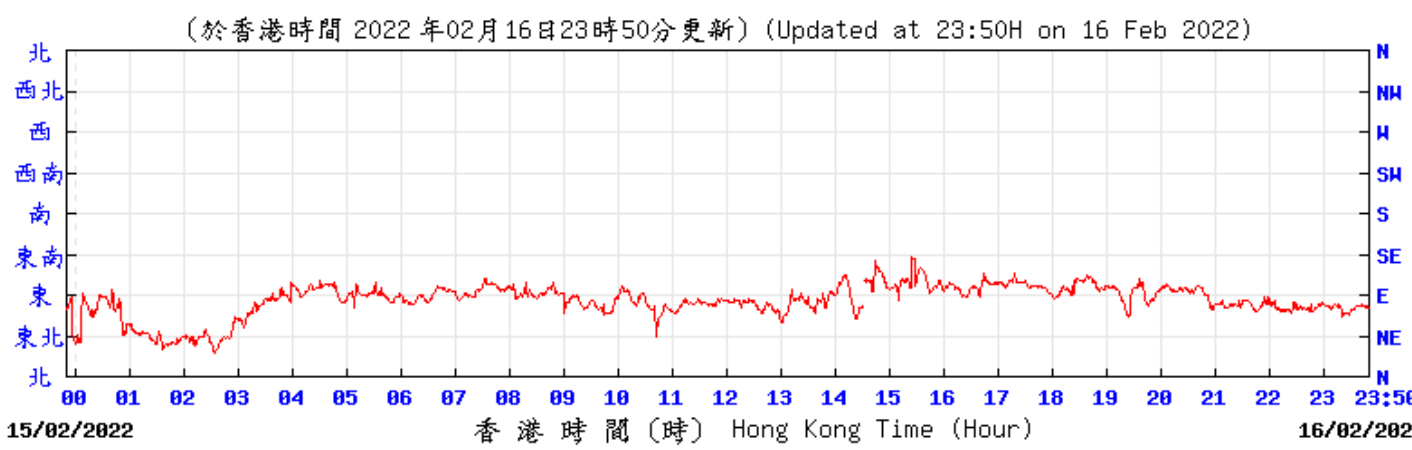
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KPC  
Pressure:



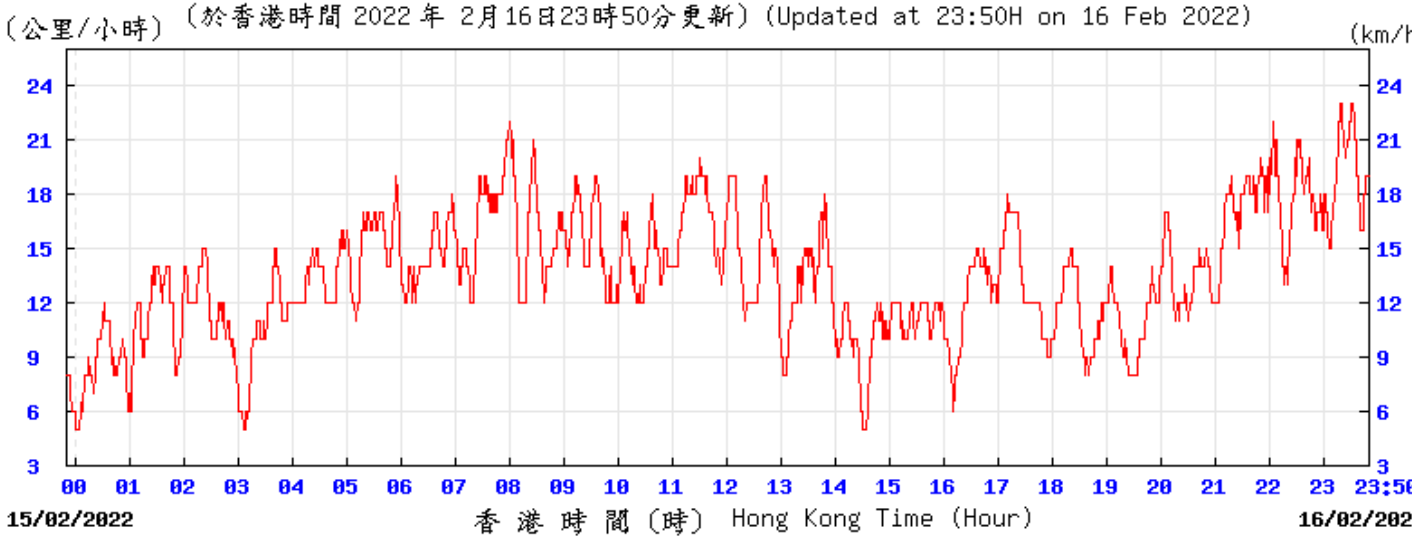
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KPC  
Wind Direction:



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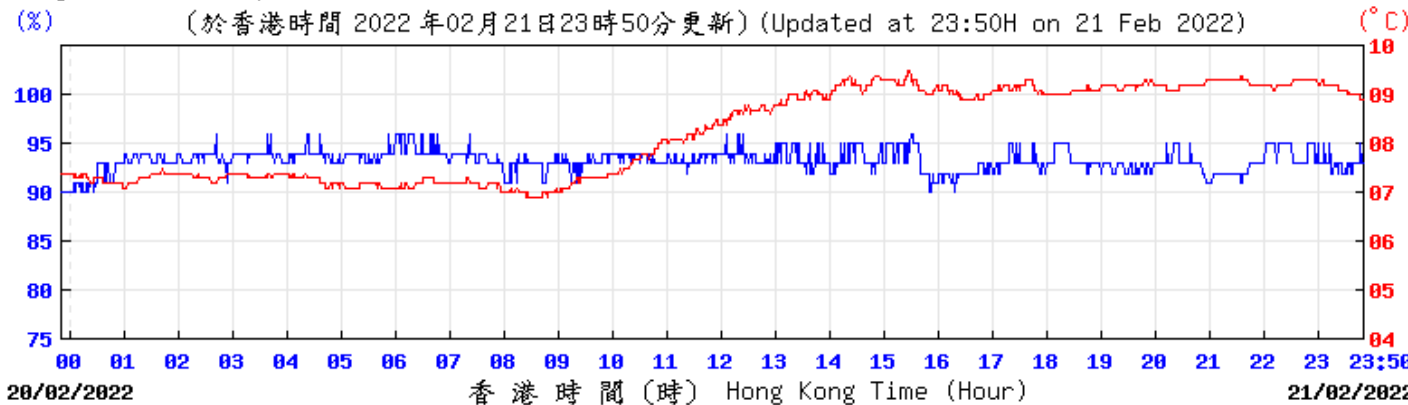
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Wind Speed:



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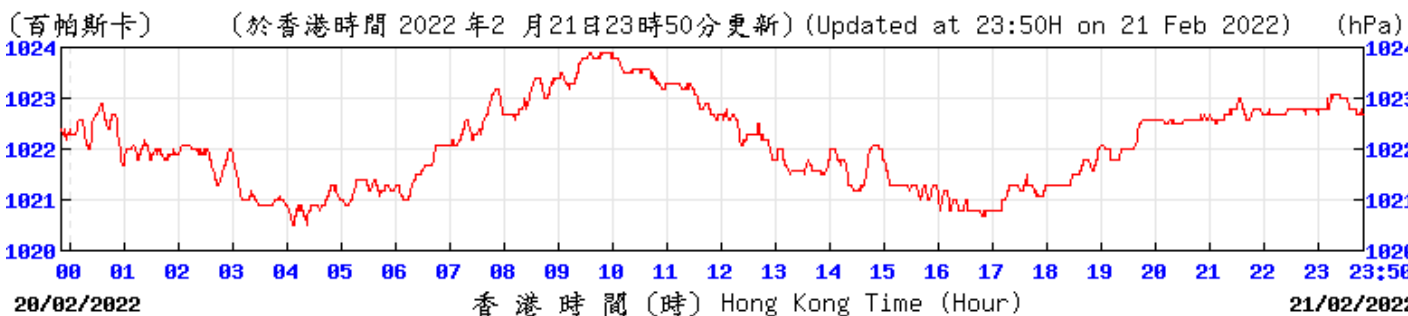


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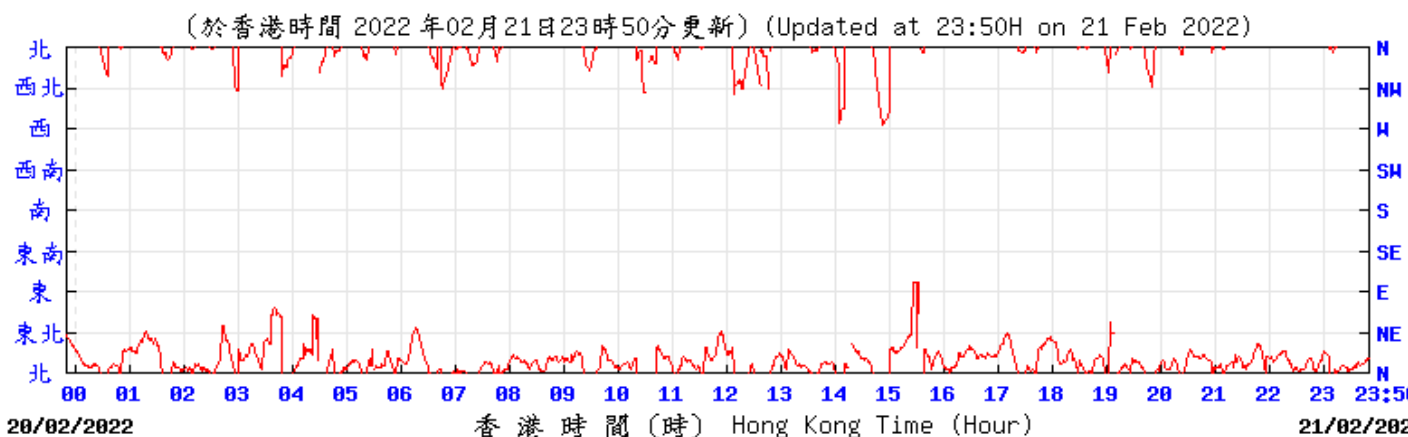
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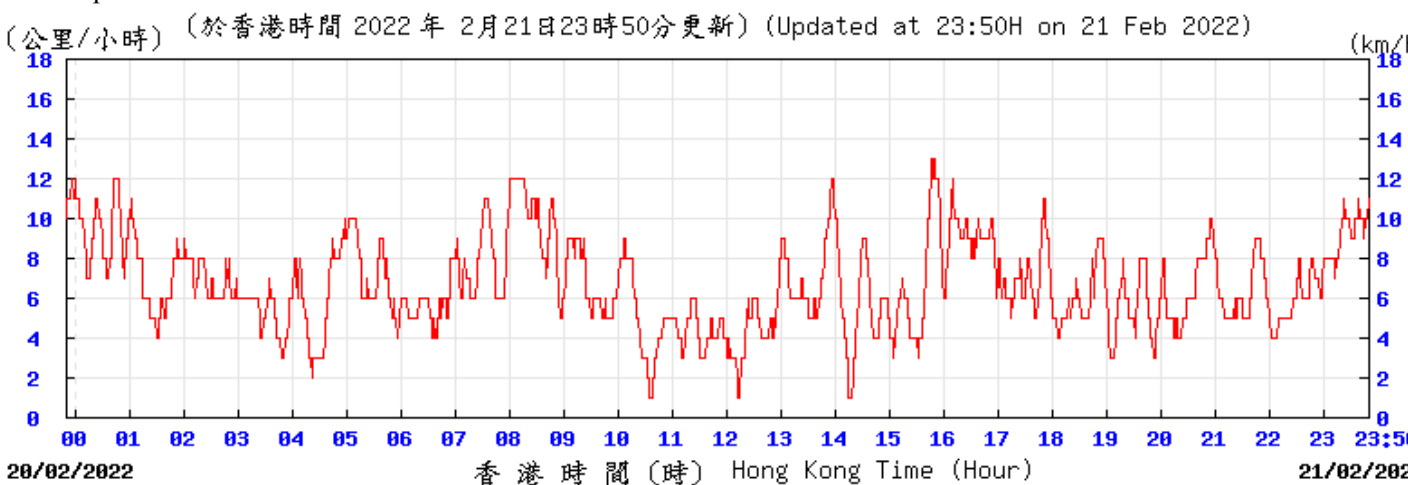
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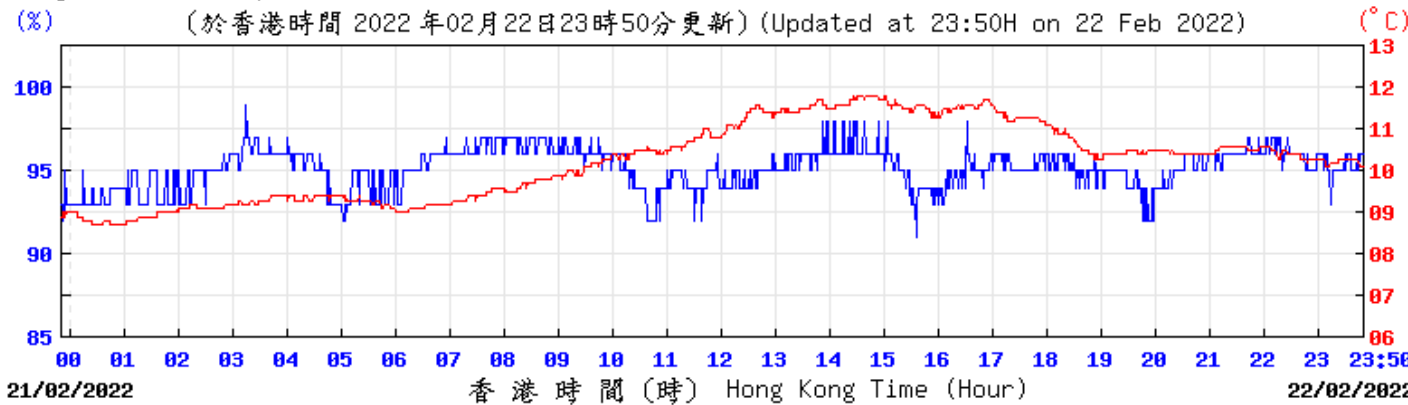
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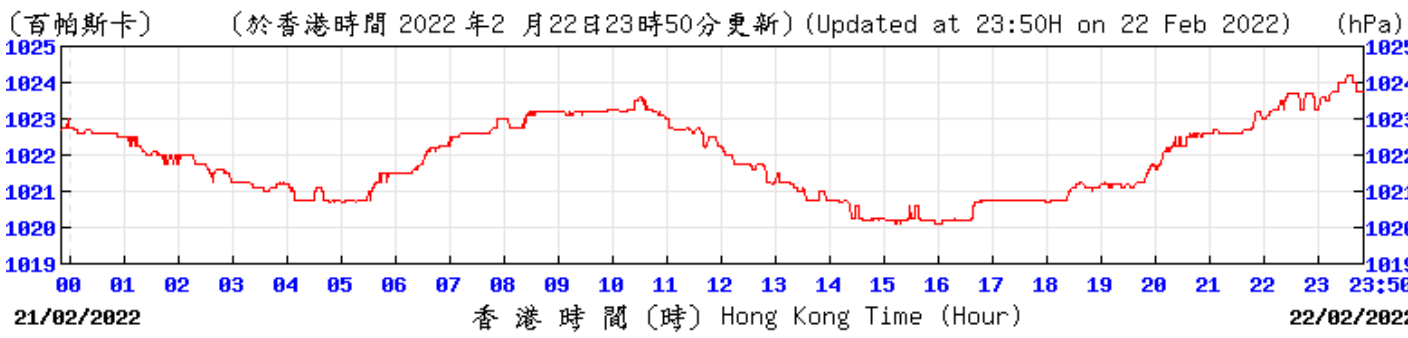
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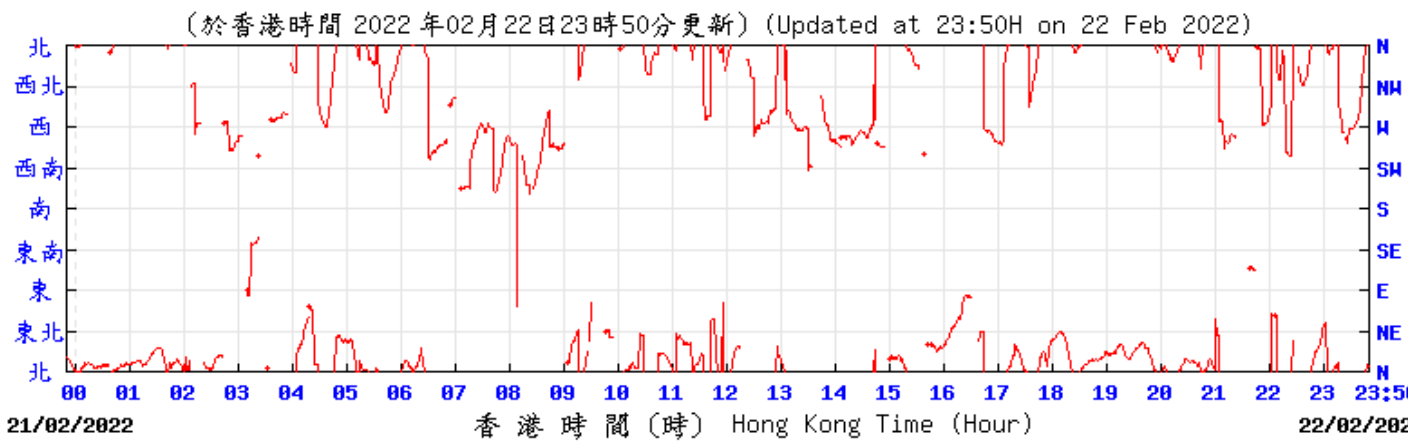
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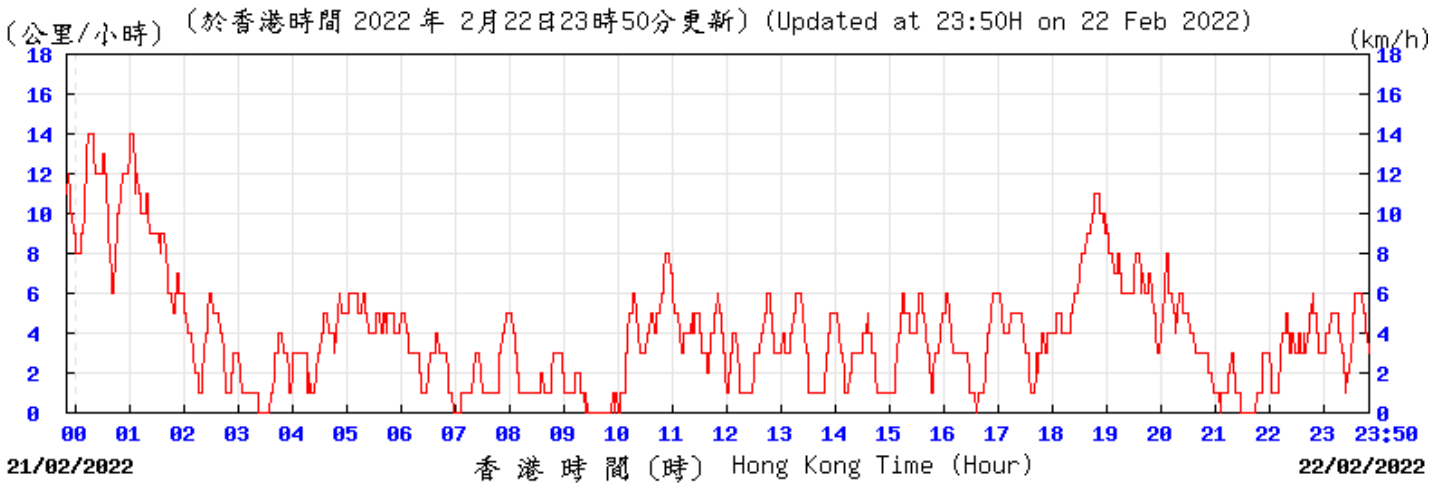
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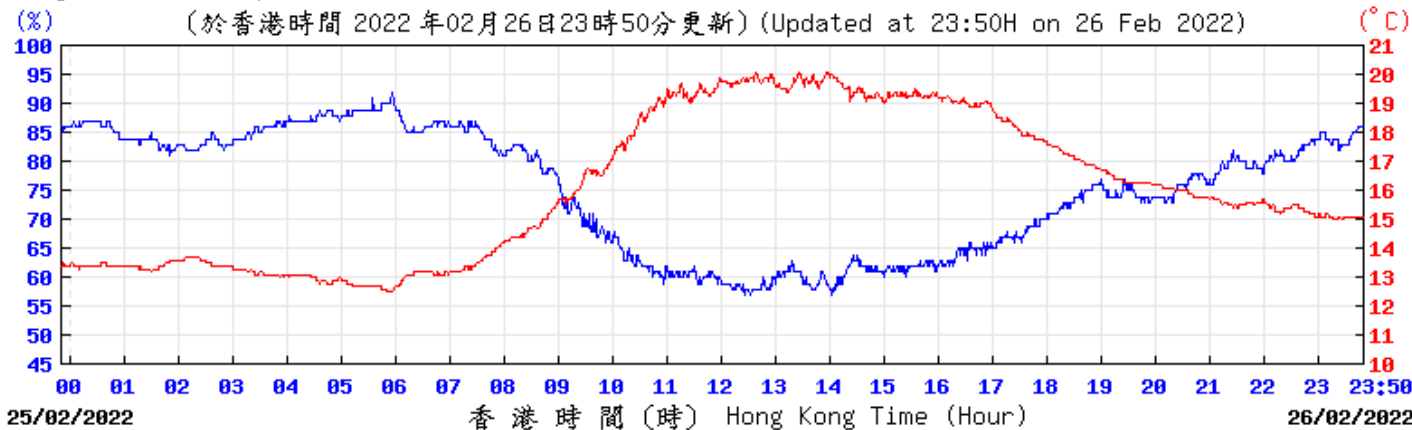
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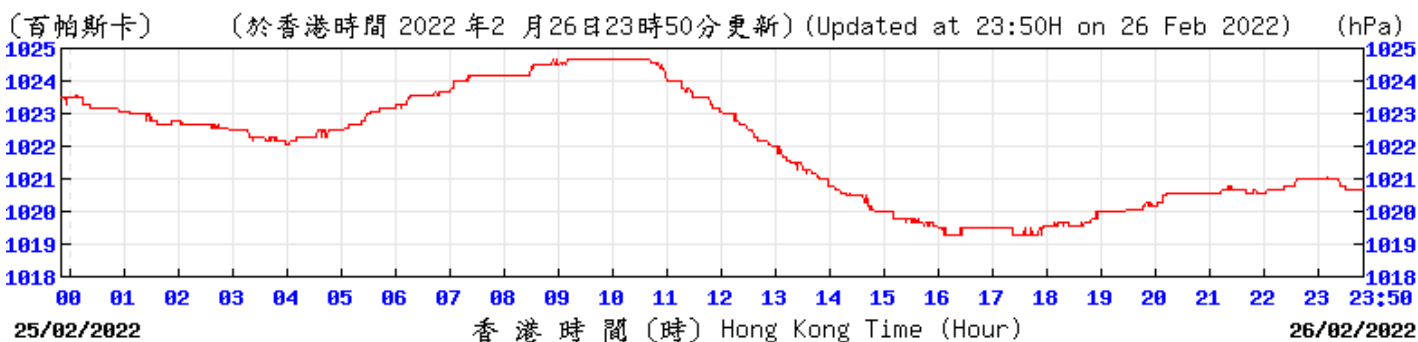
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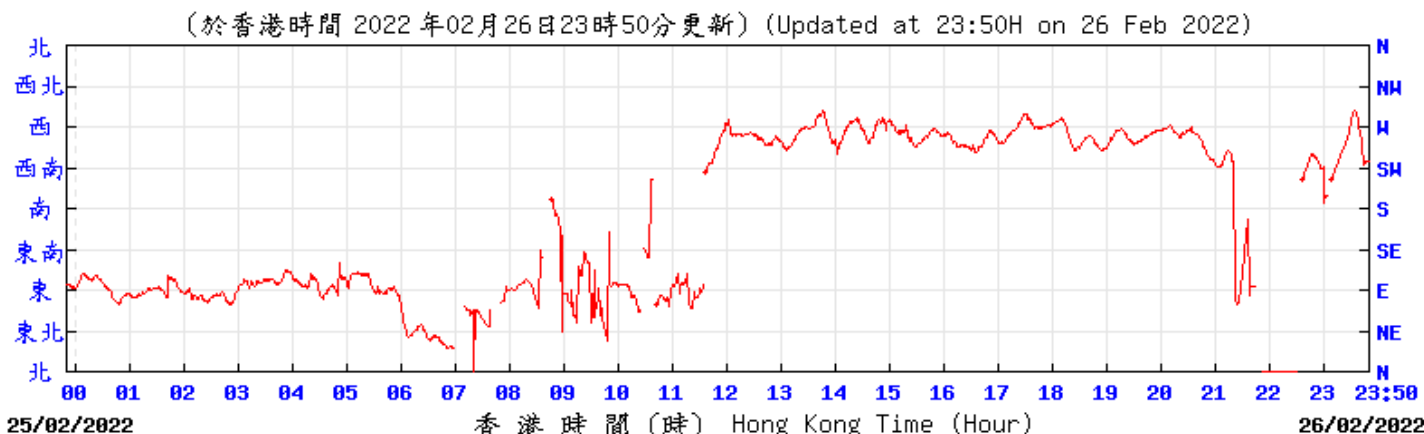
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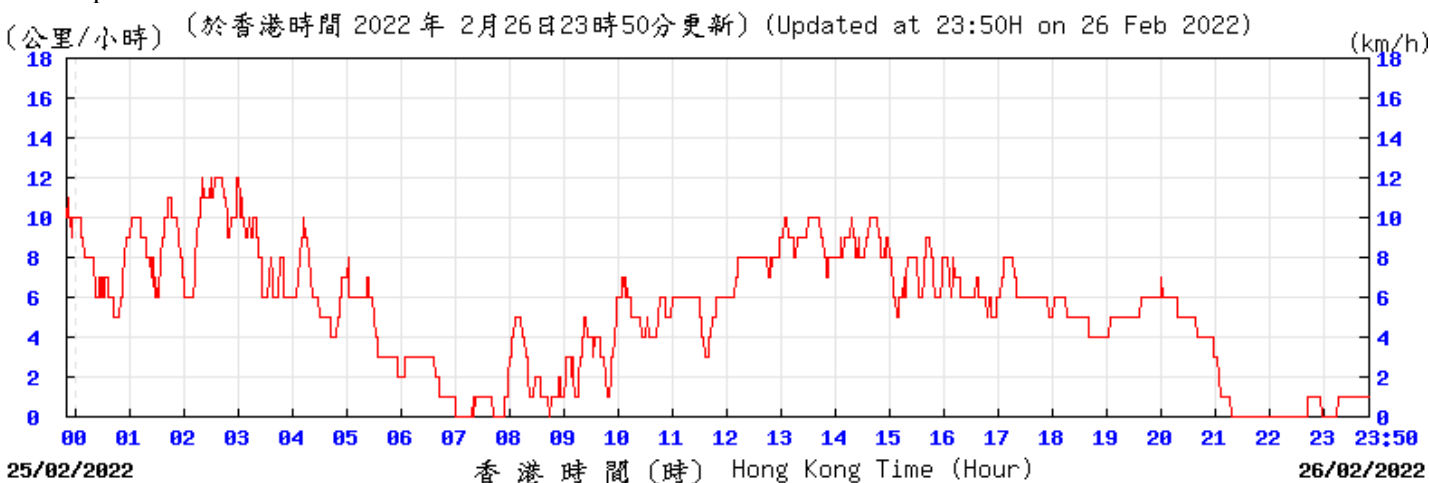
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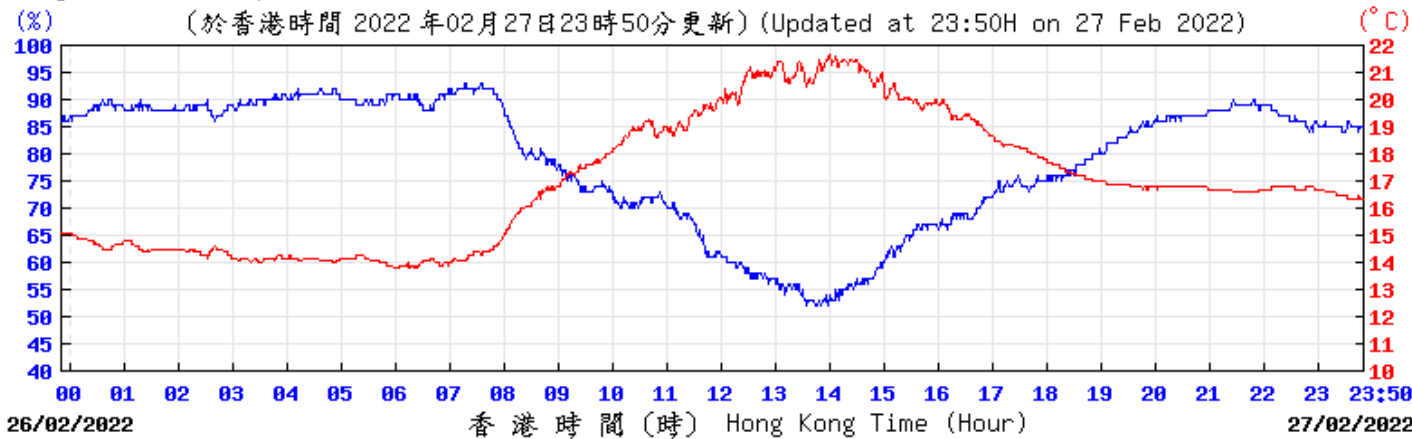
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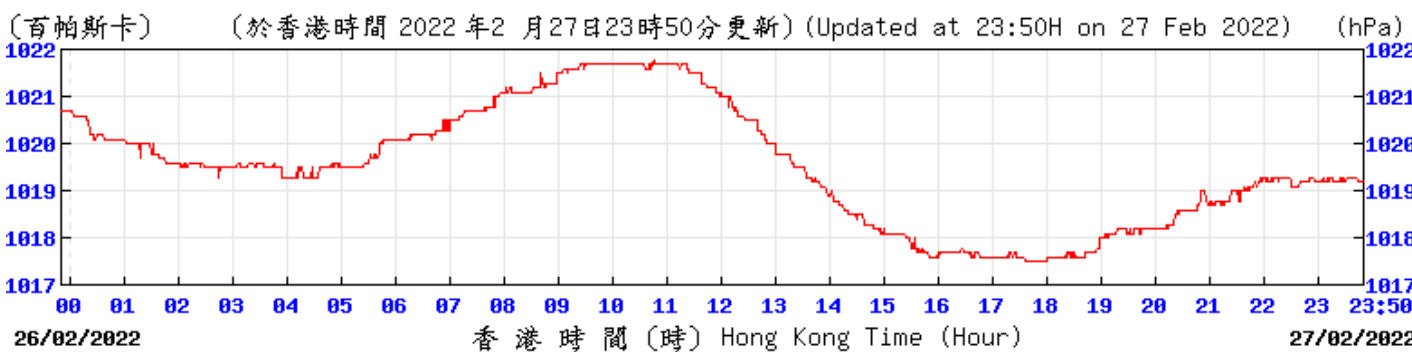
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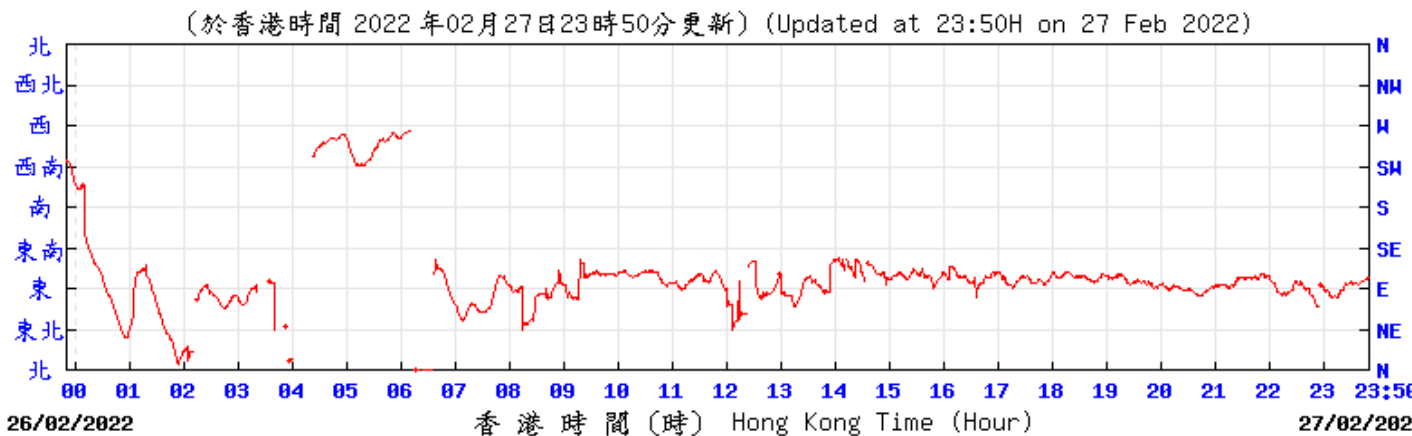
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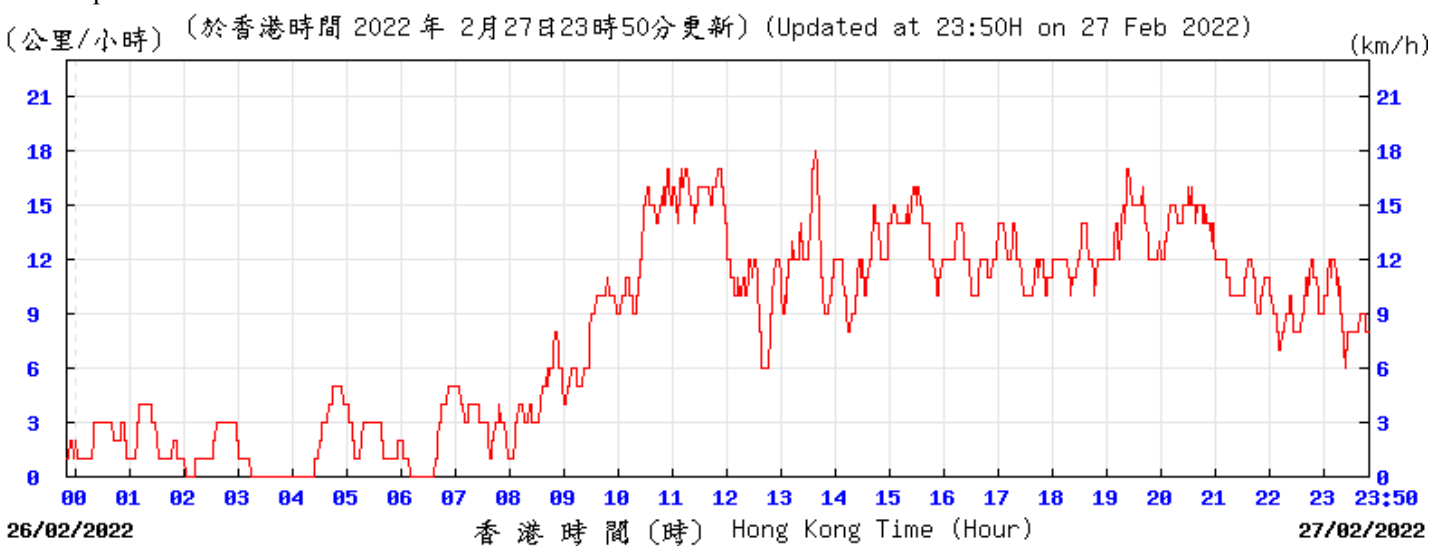
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Wind Direction:



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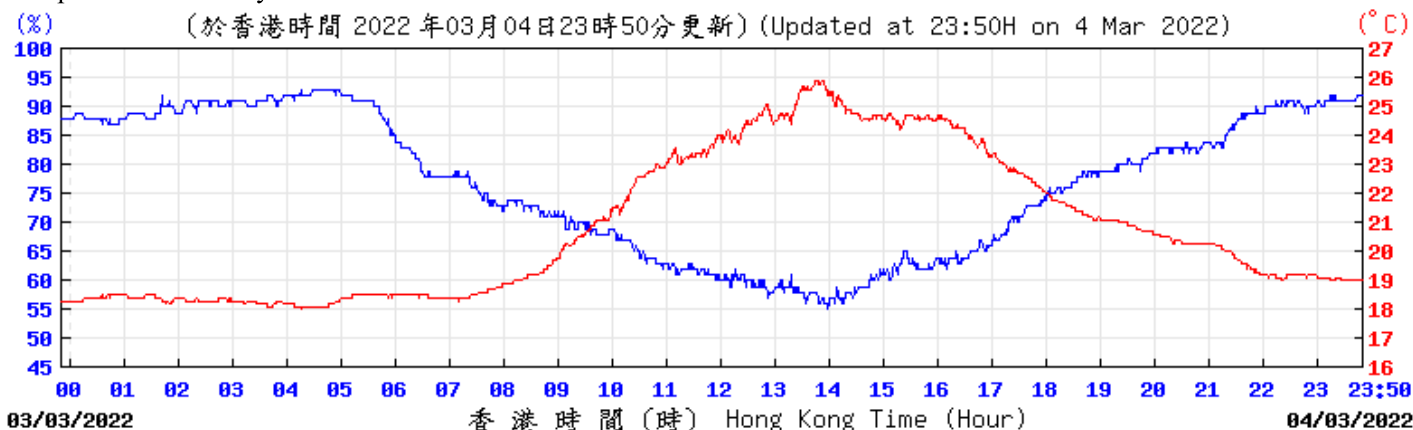
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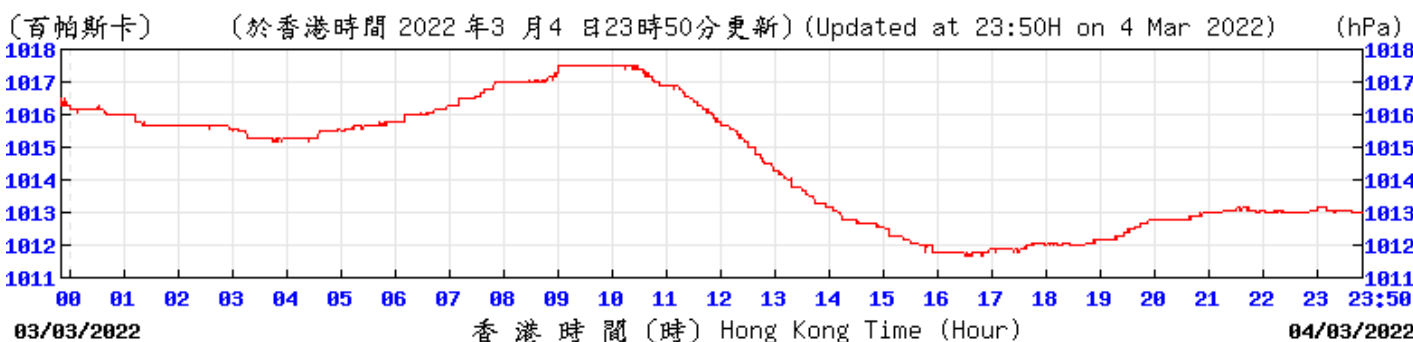
# Extract of Meteorological Observations for King's Park Automatic Weather Station, March 2022

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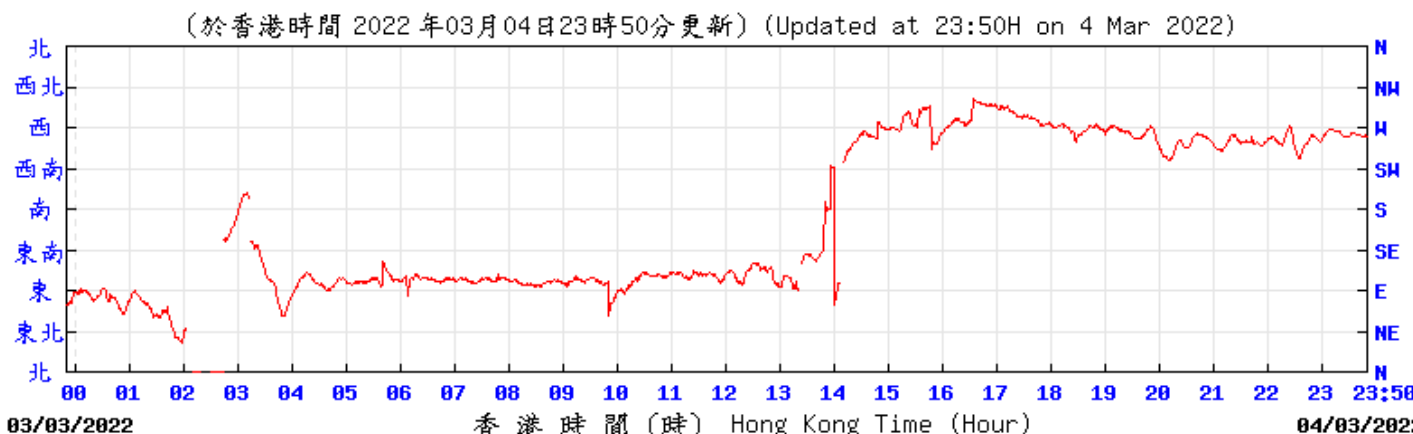
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## Pressure:



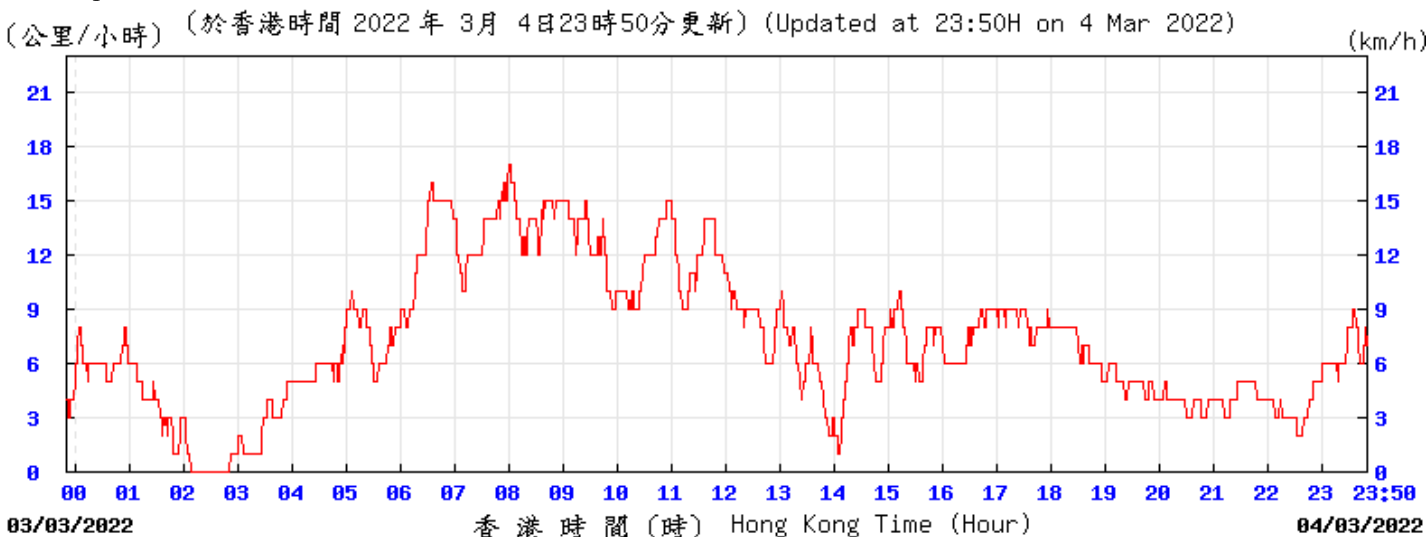
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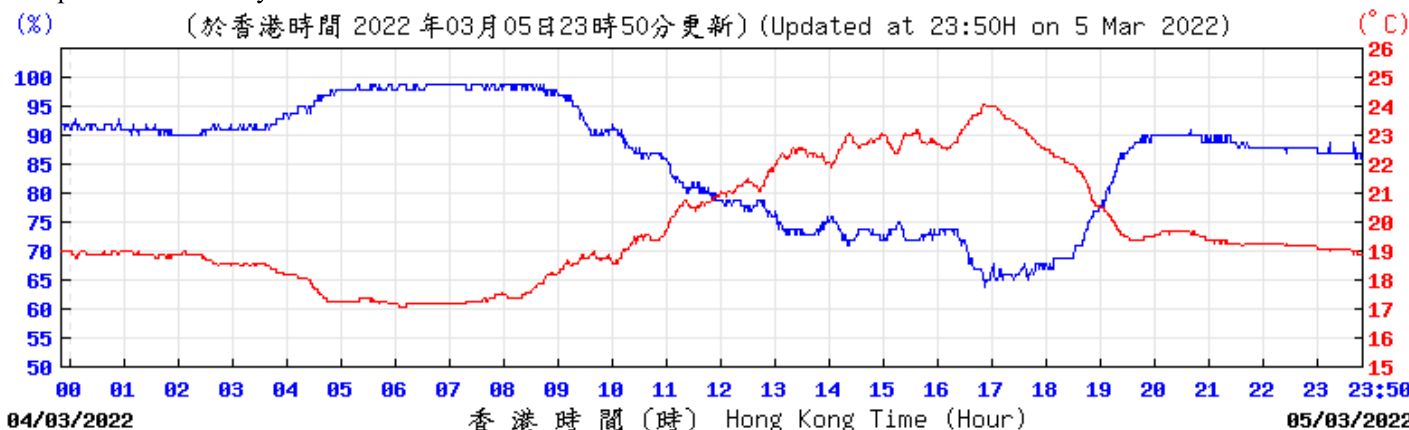
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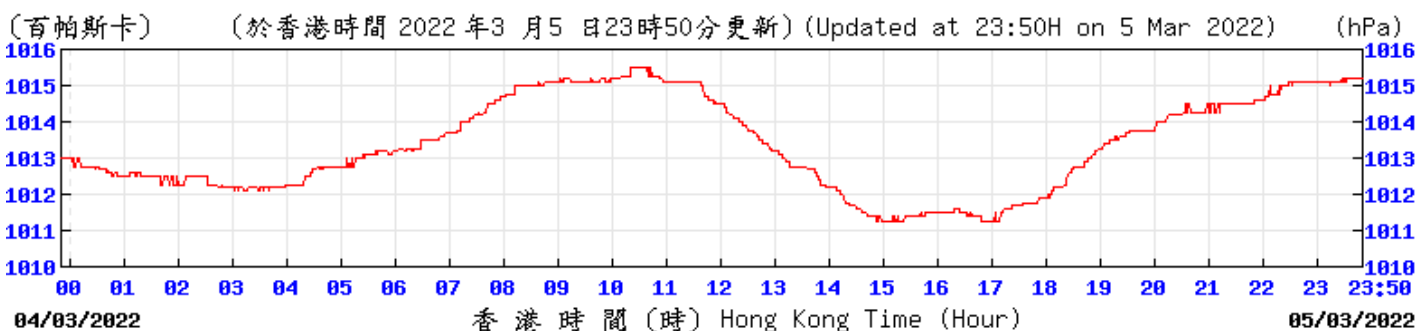
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Temperature/Humidity:



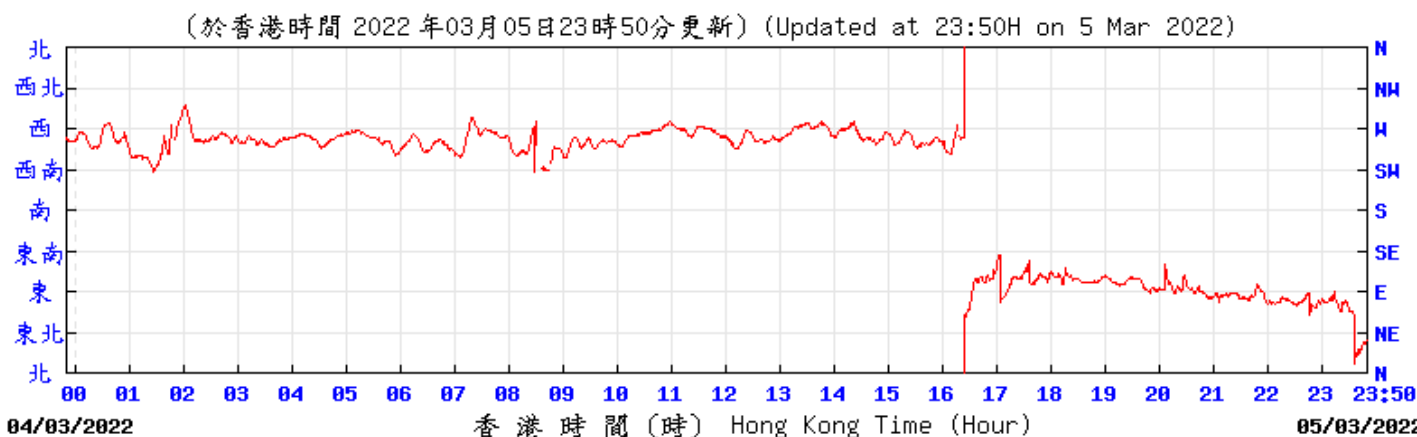
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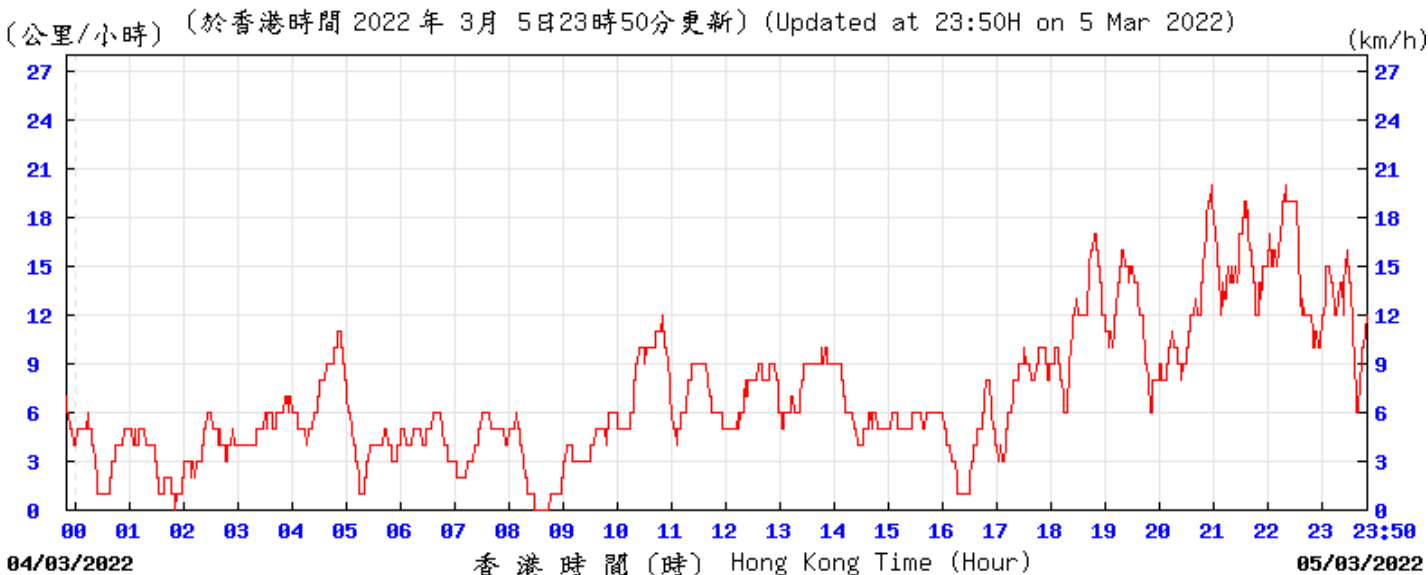
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Wind Direction:



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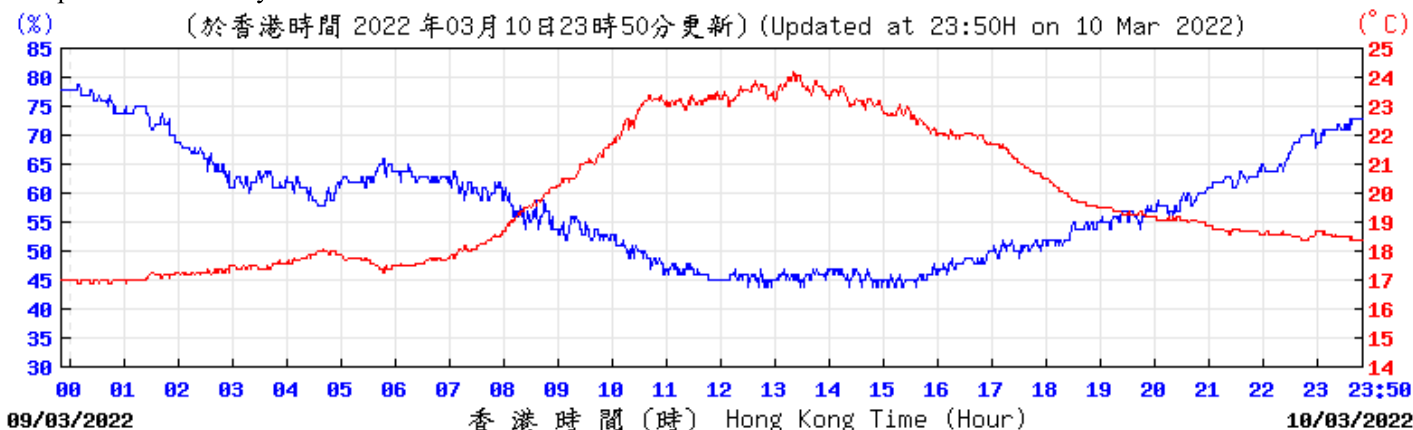
Wind Speed:



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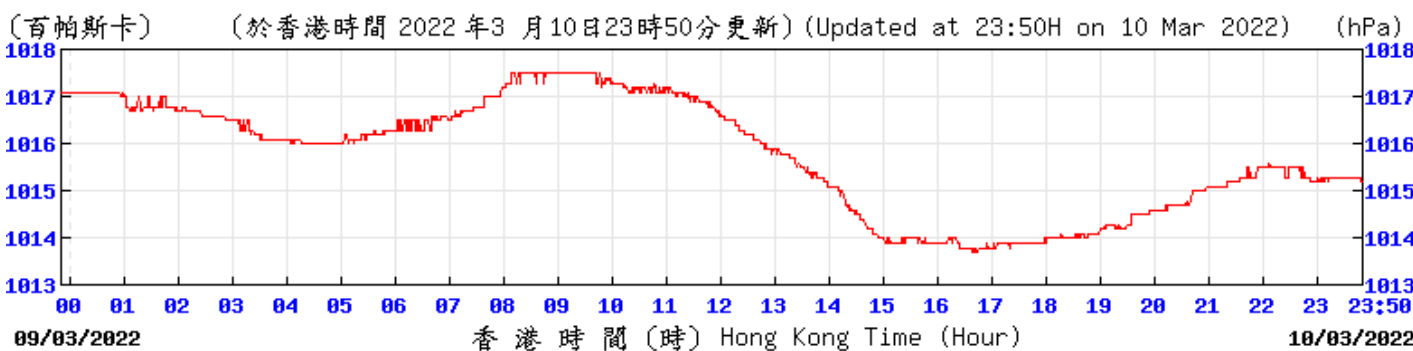


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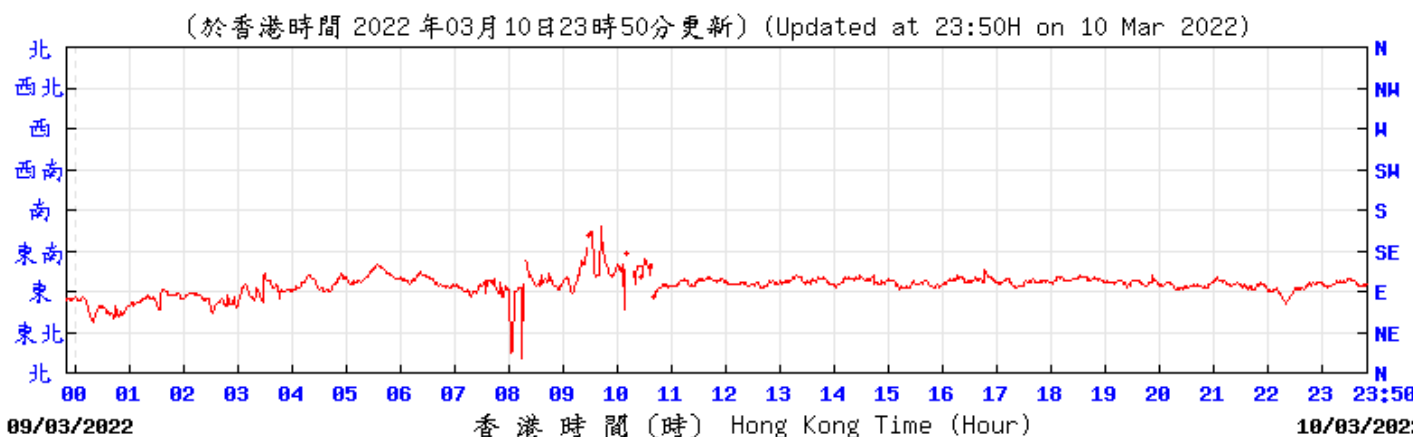
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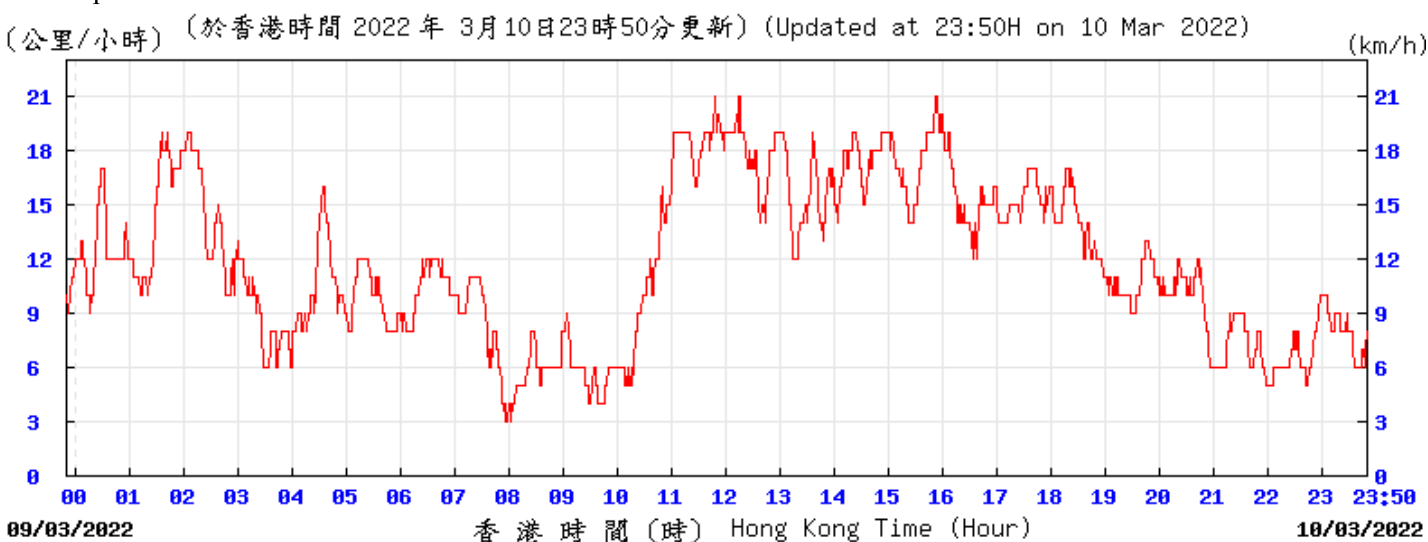
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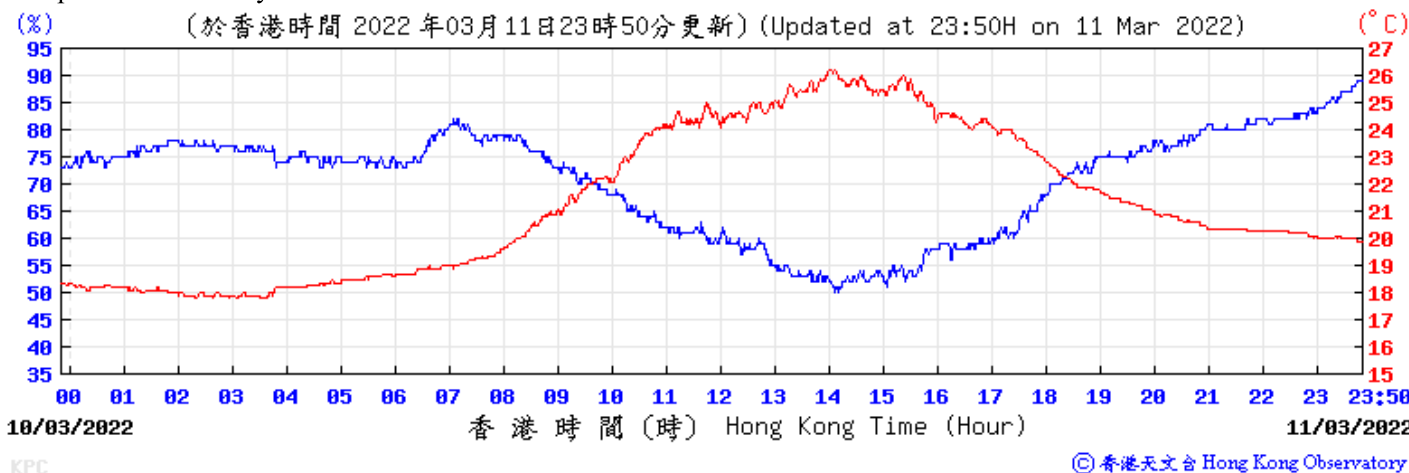
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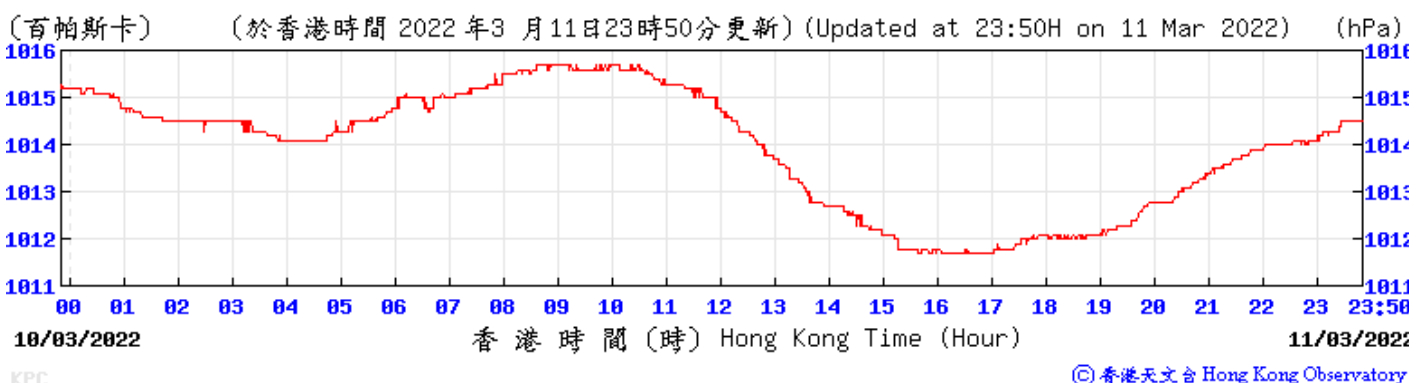


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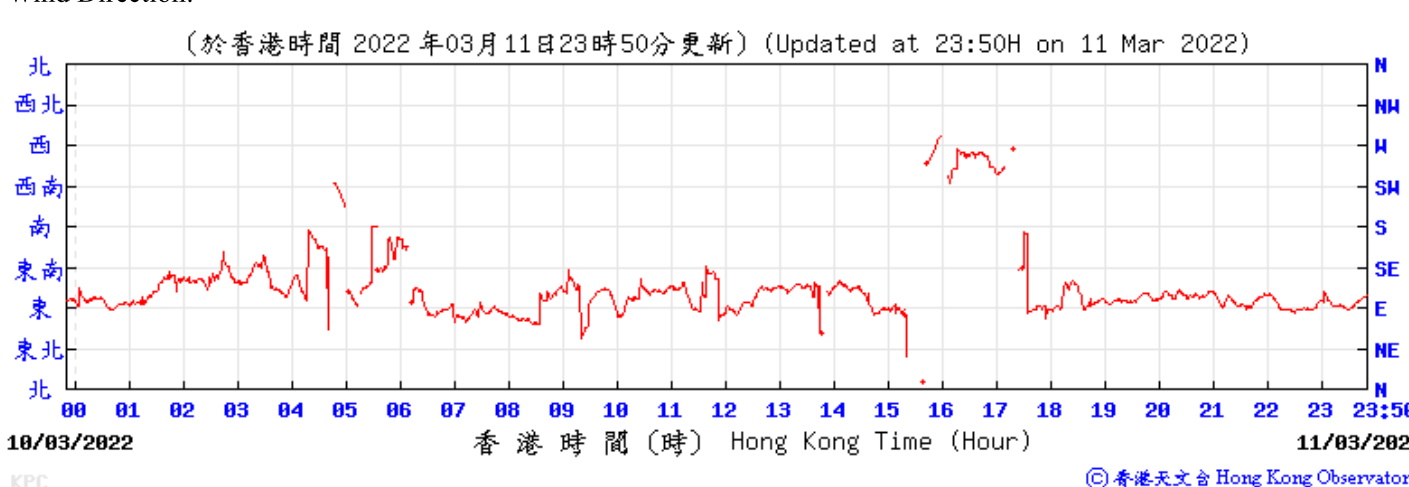
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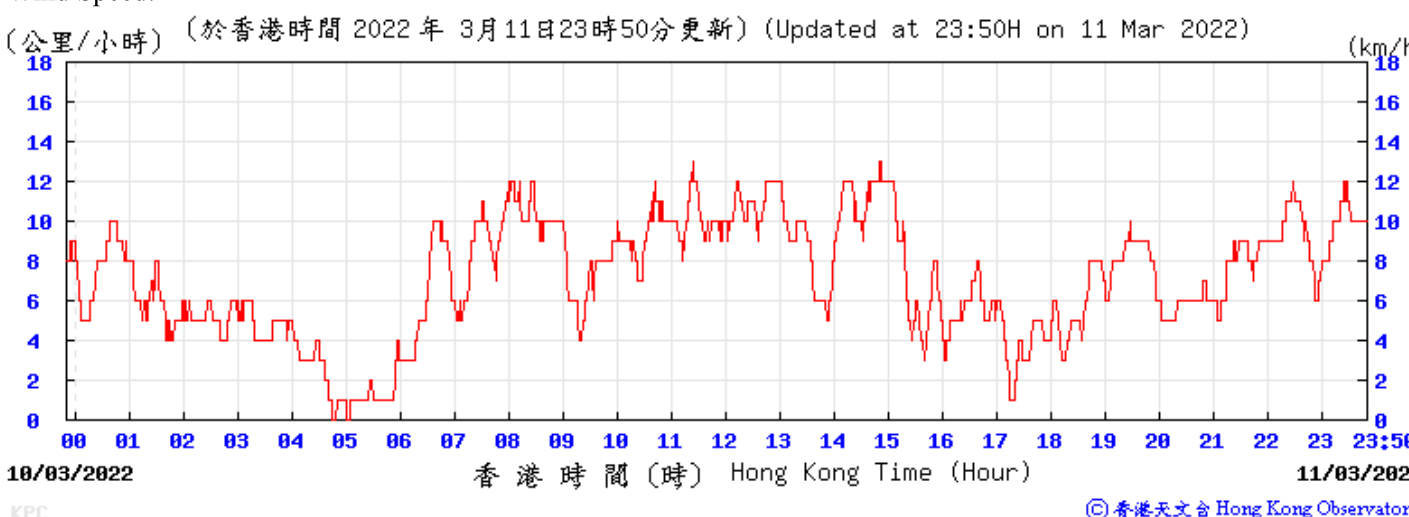
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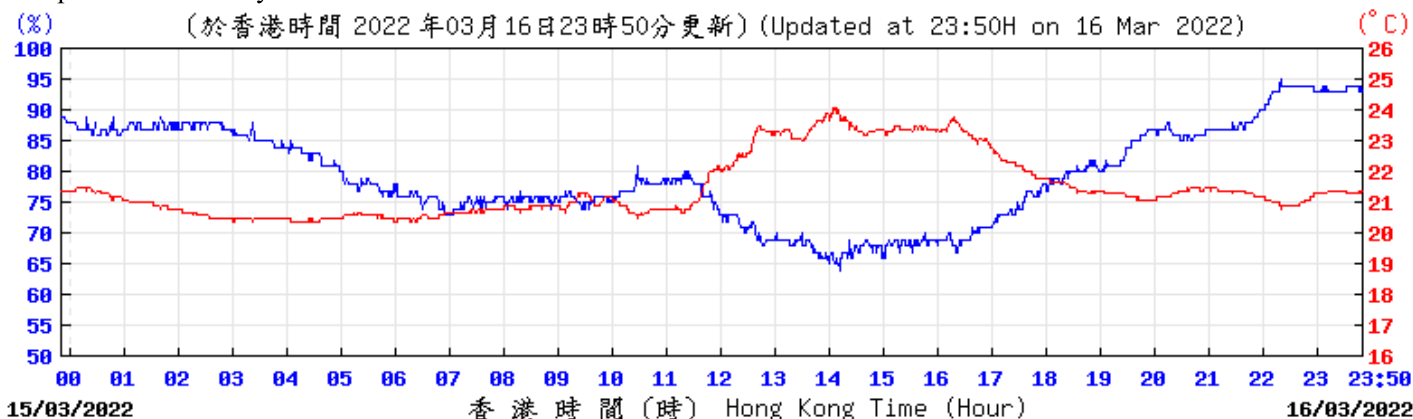
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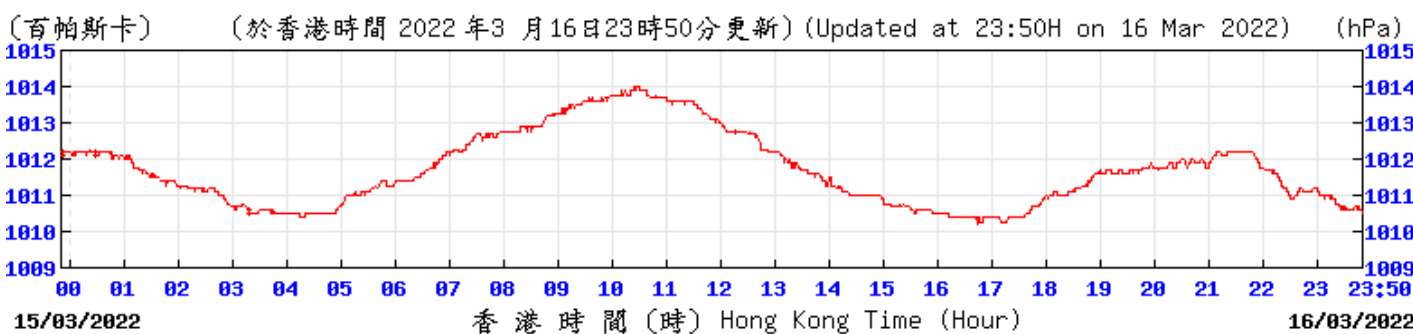


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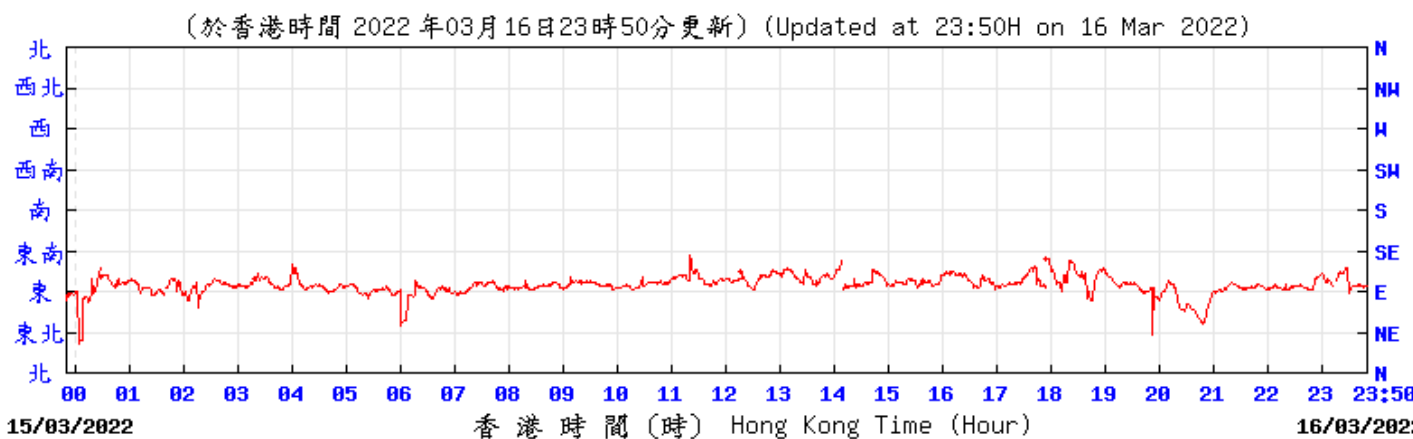
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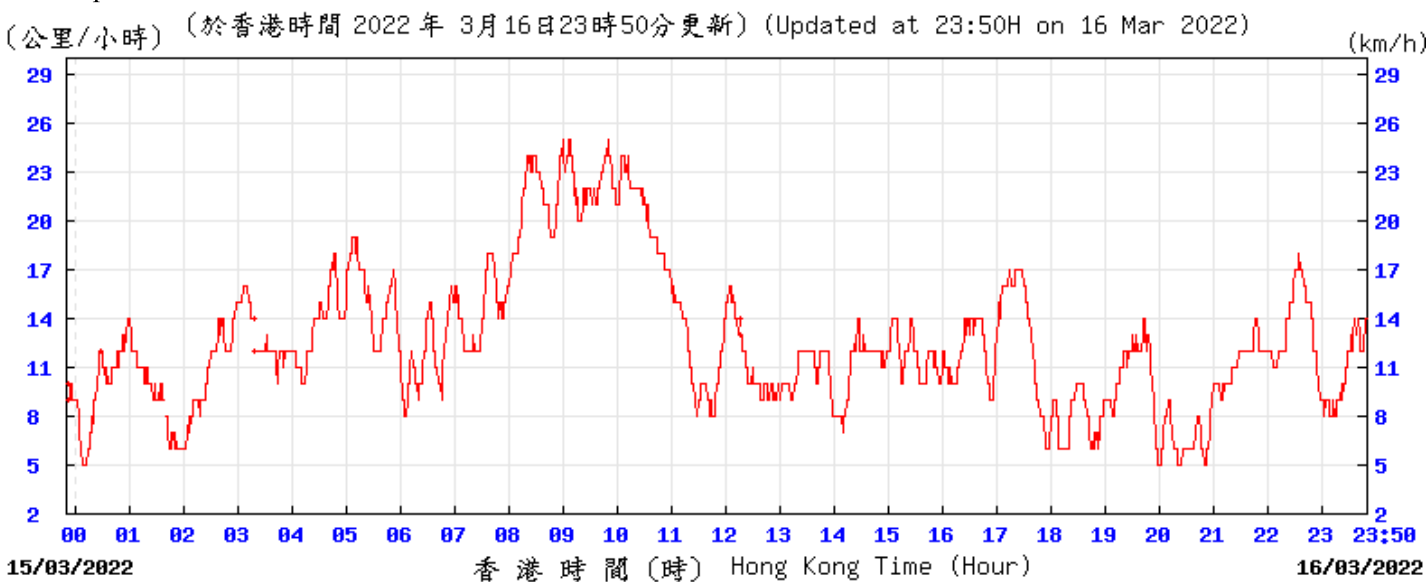
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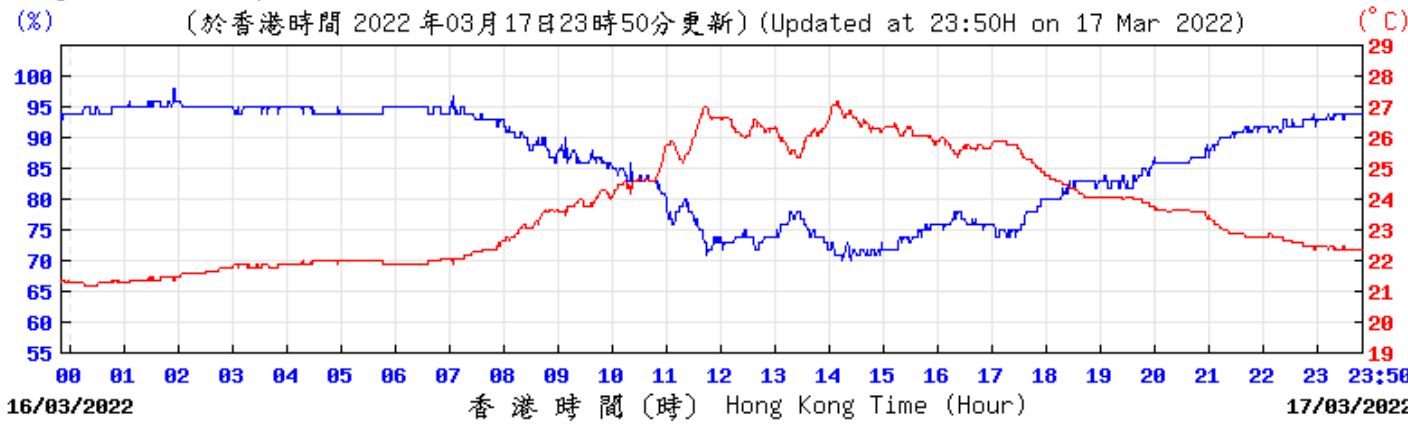
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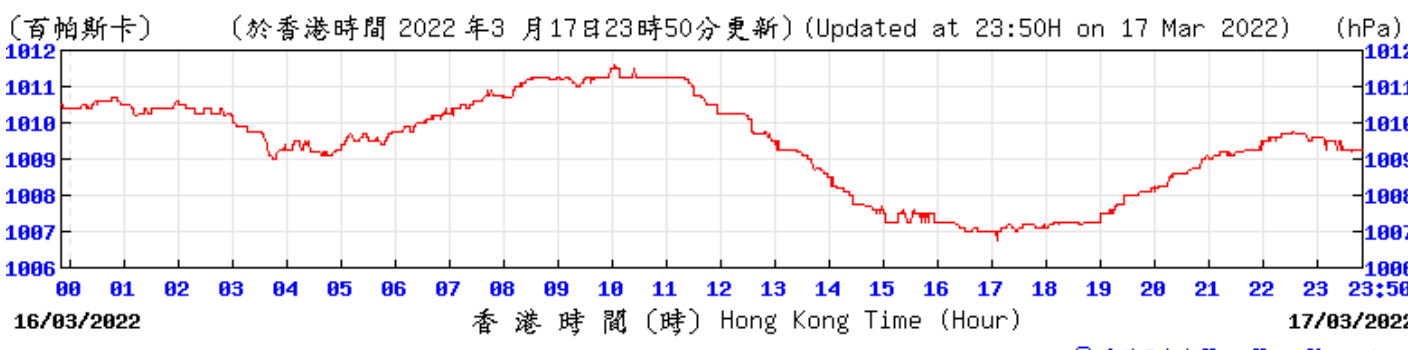
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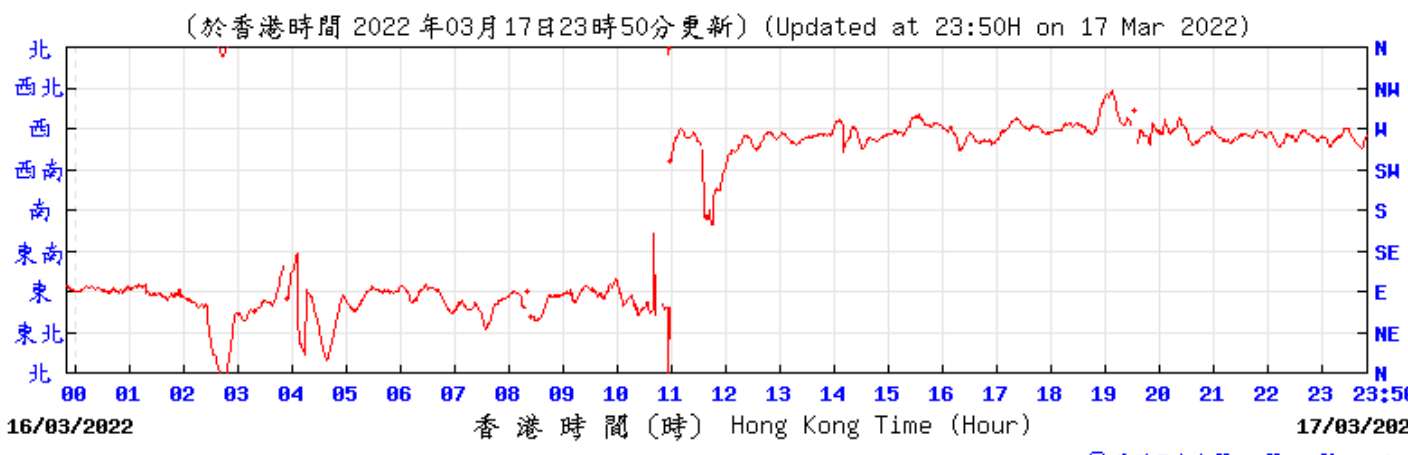
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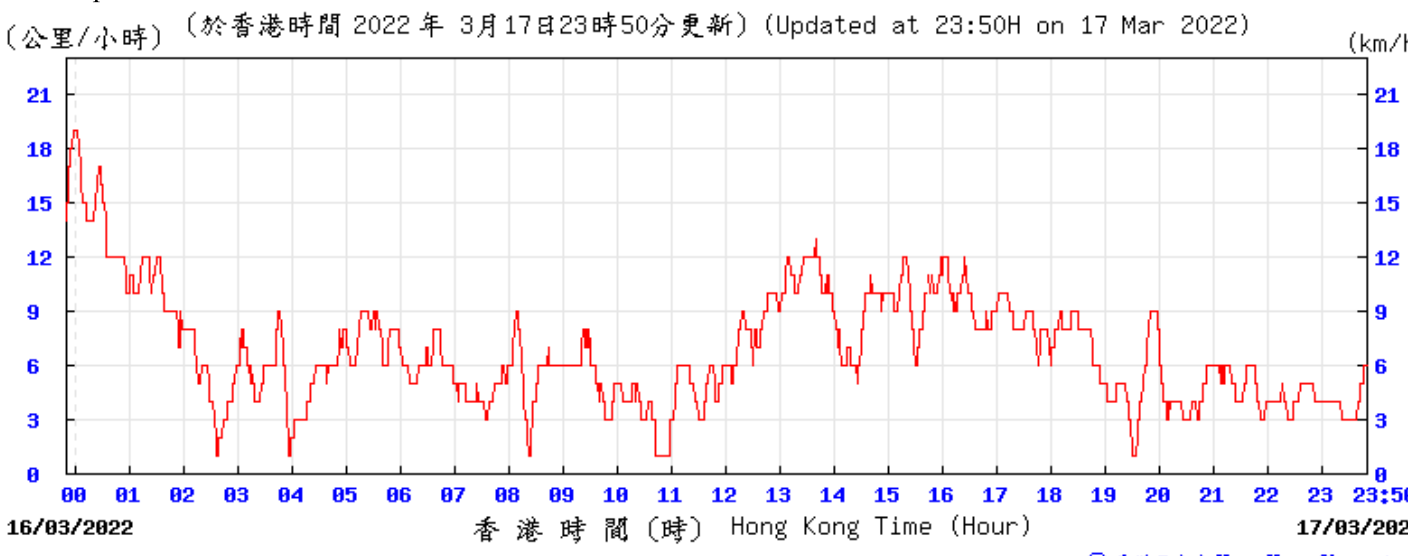
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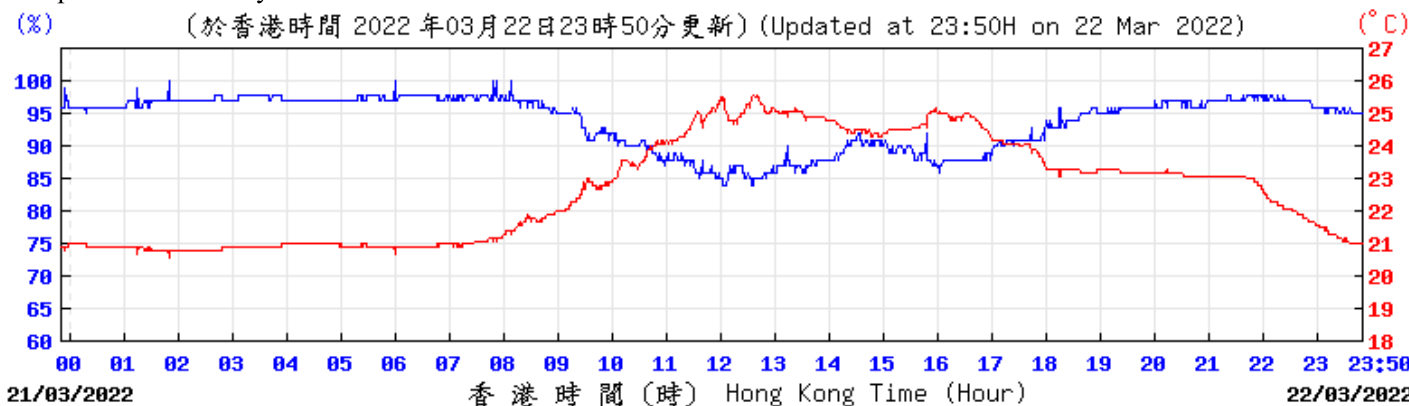
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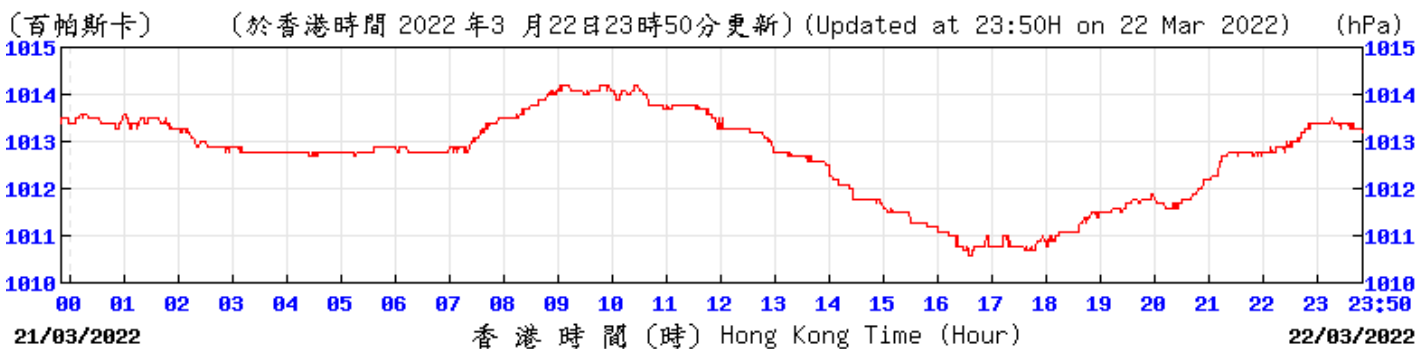
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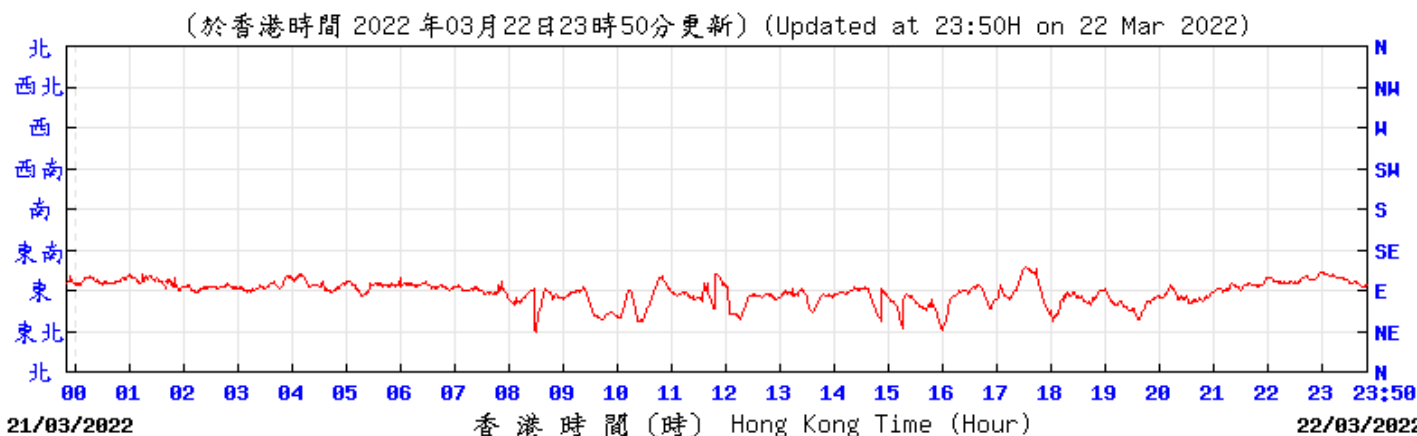
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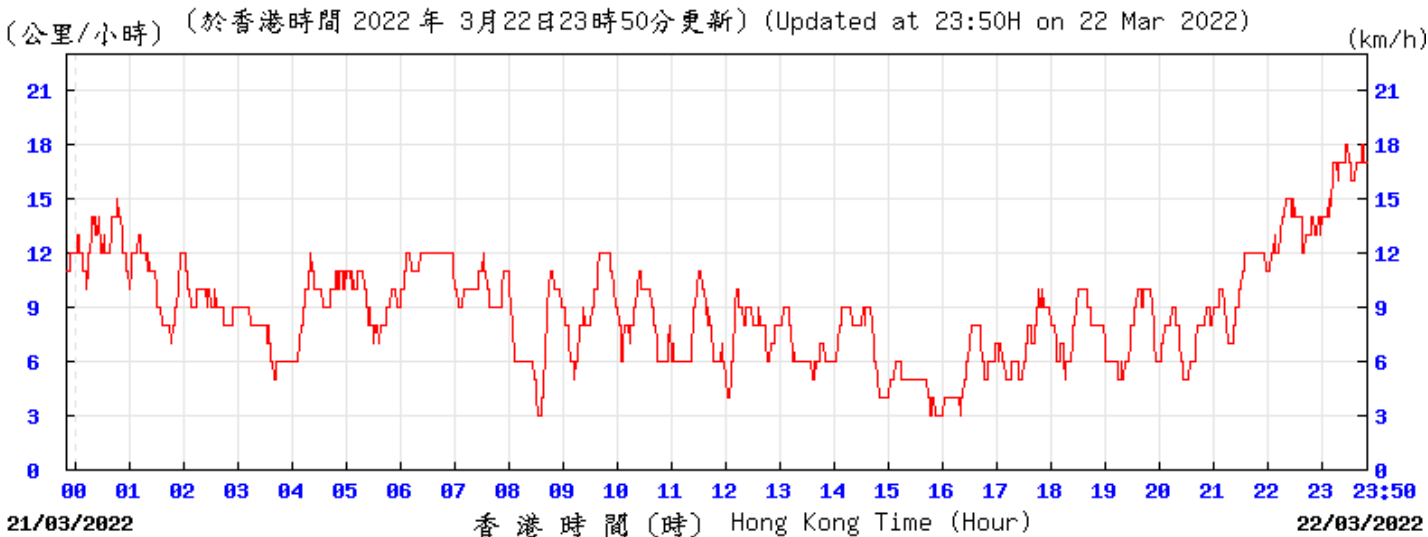
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Wind Direction:



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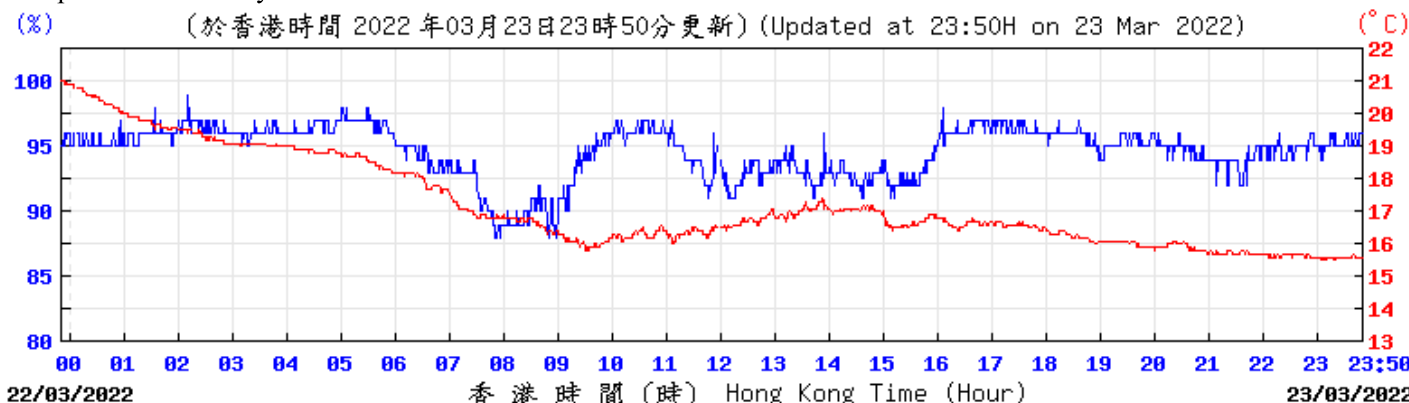
Wind Speed:



KPC

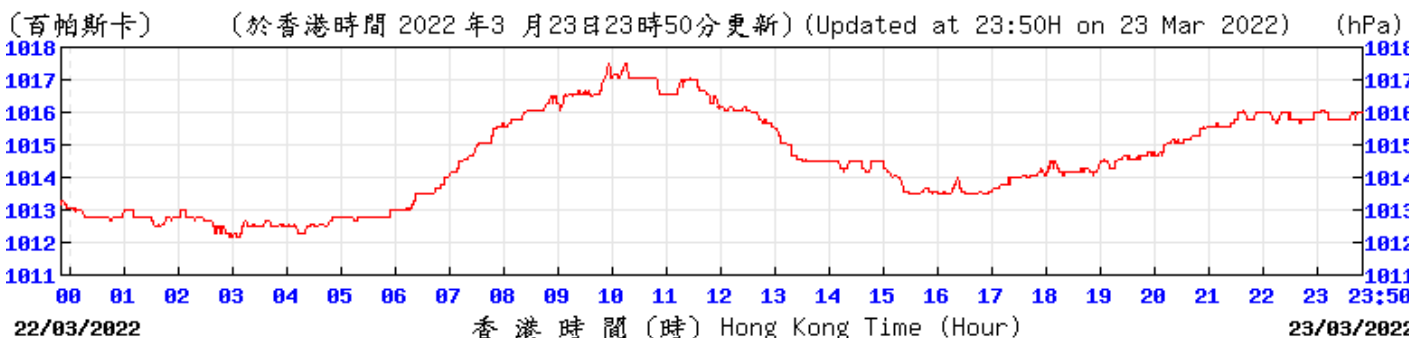
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Temperature/Humidity:



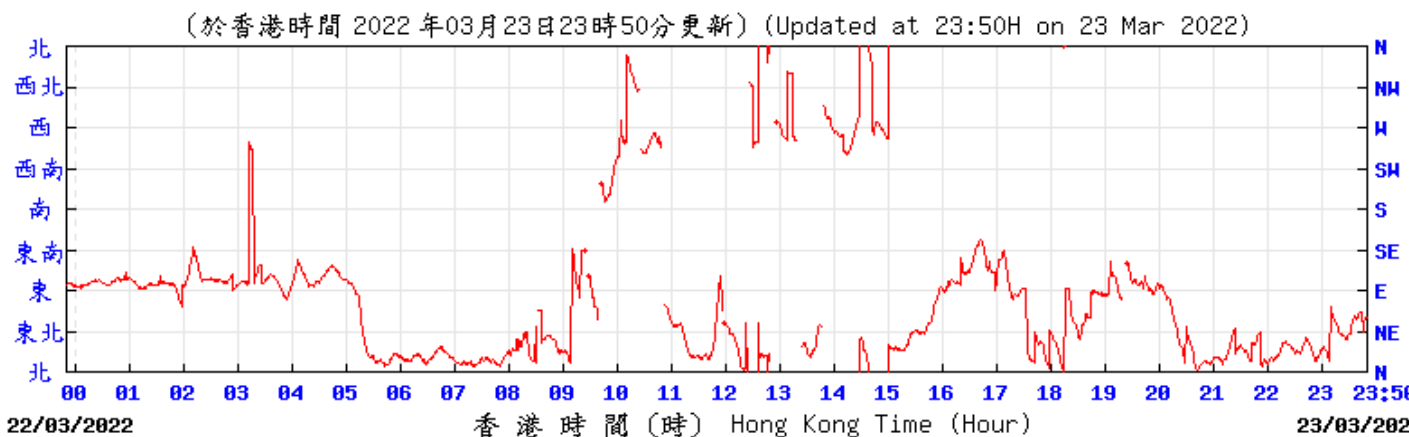
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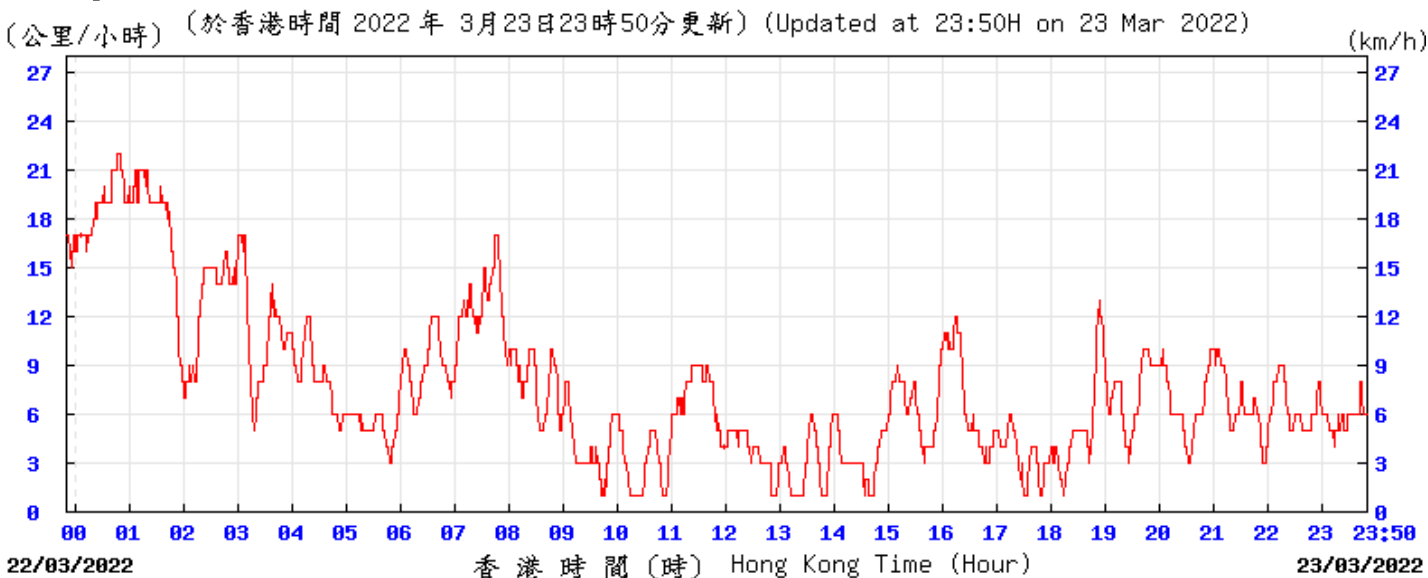
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Wind Direction:



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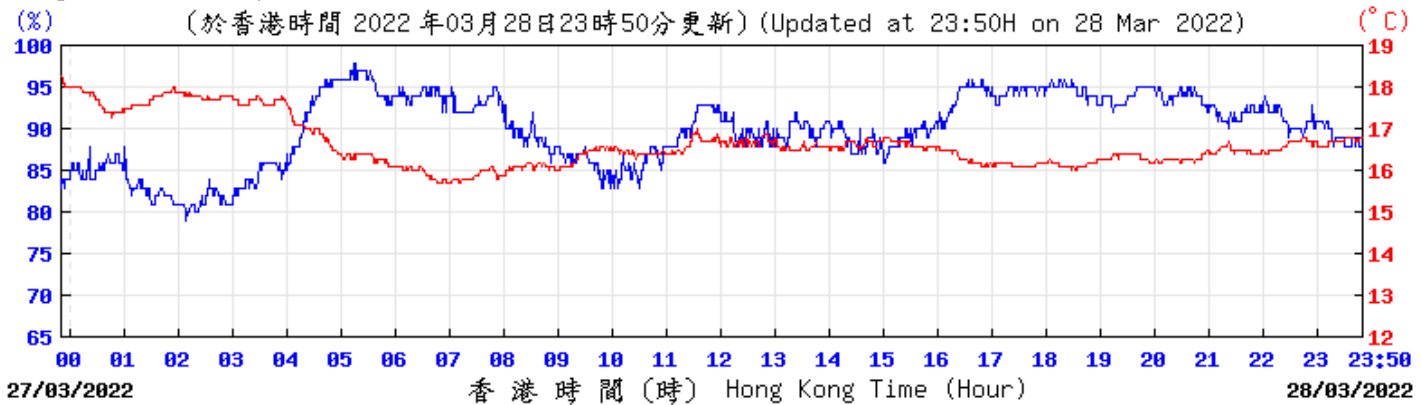


KPC

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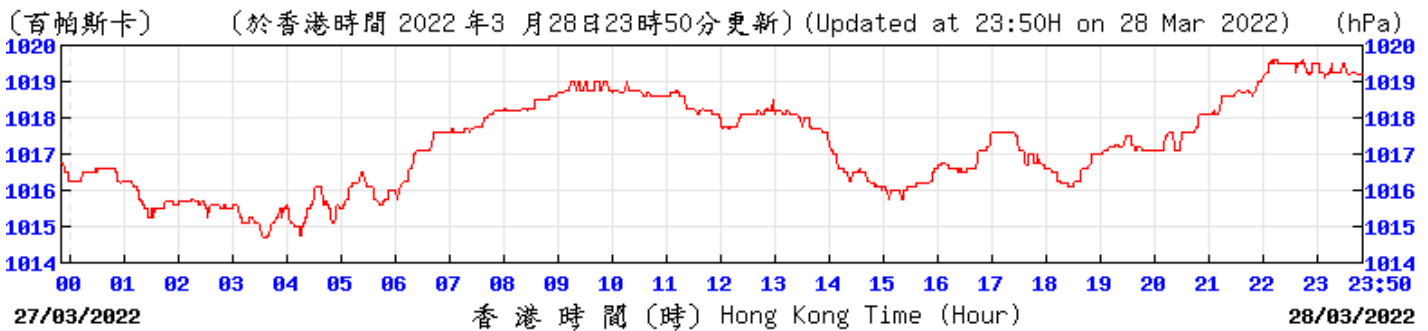


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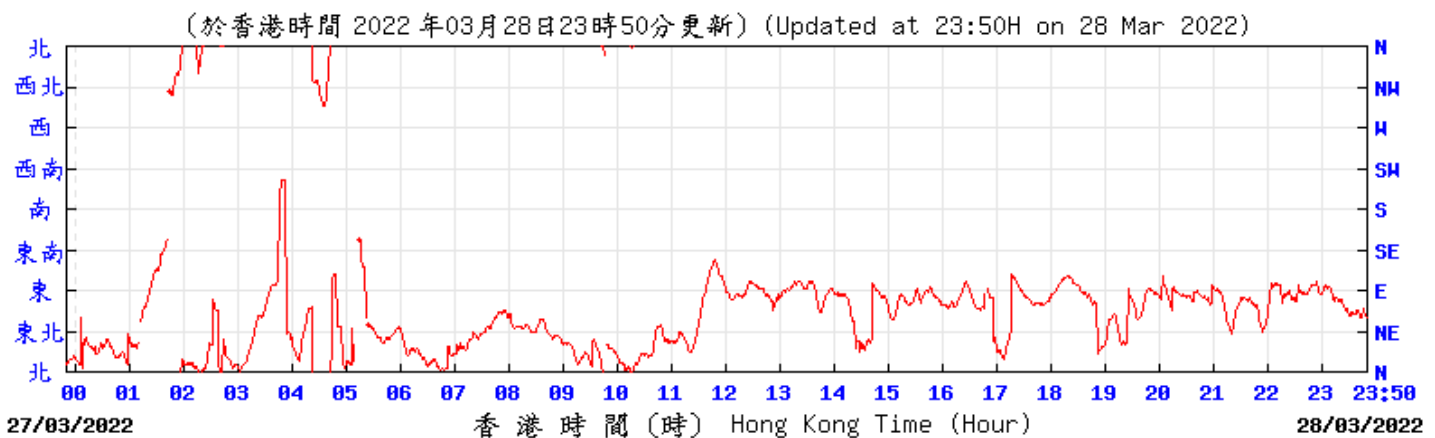
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Pressure:



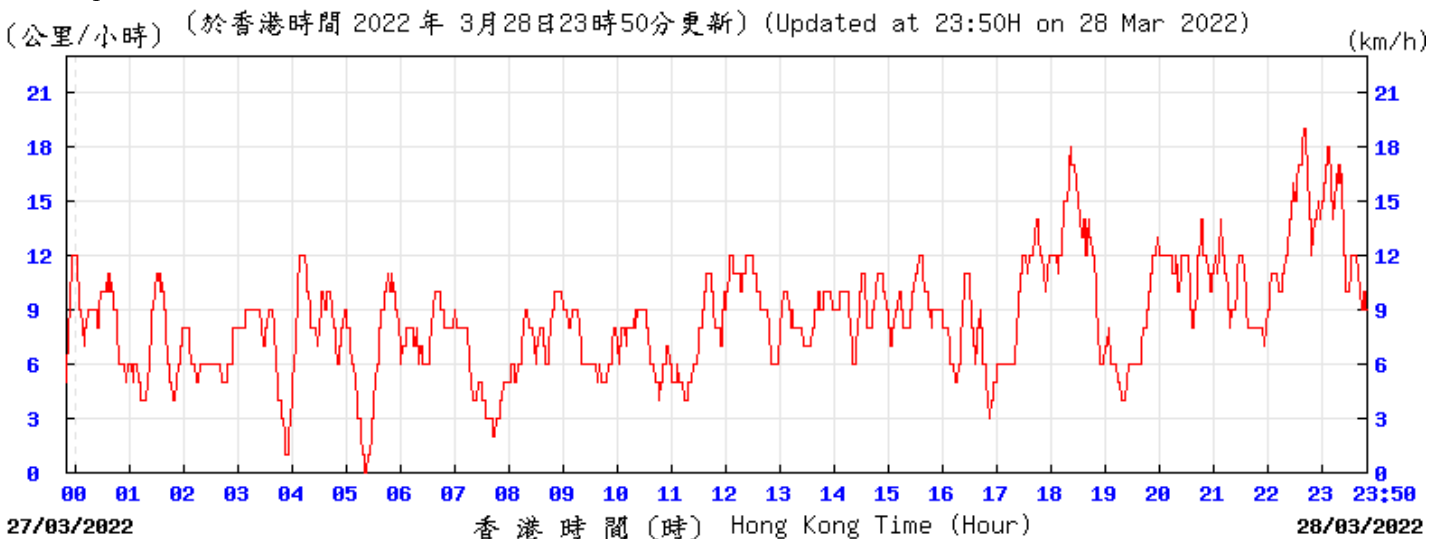
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Wind Direction:



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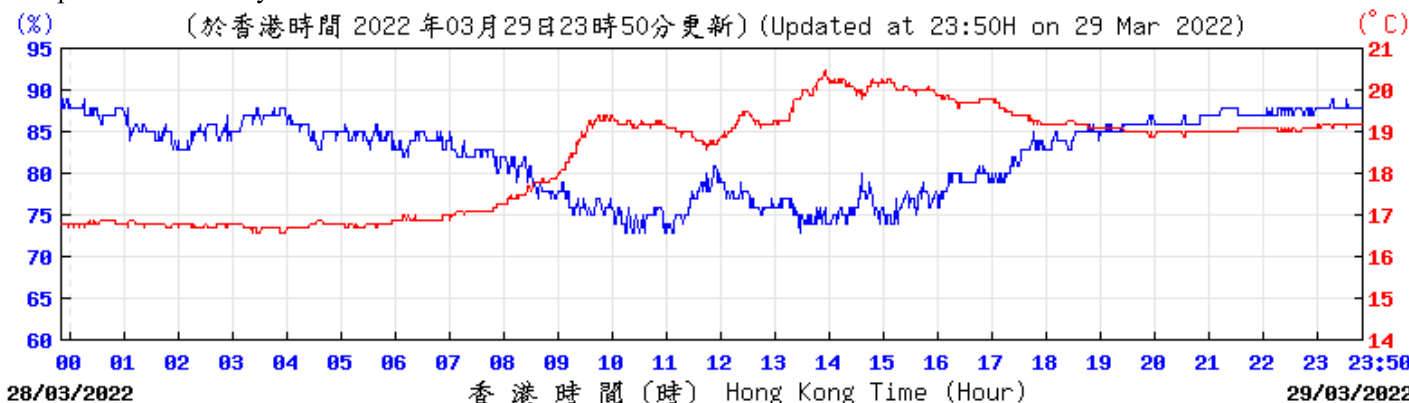
Wind Speed:



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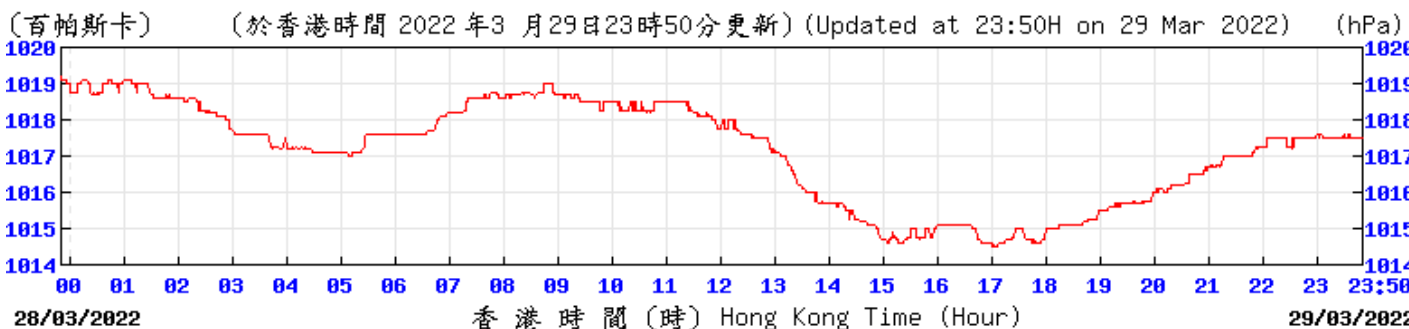
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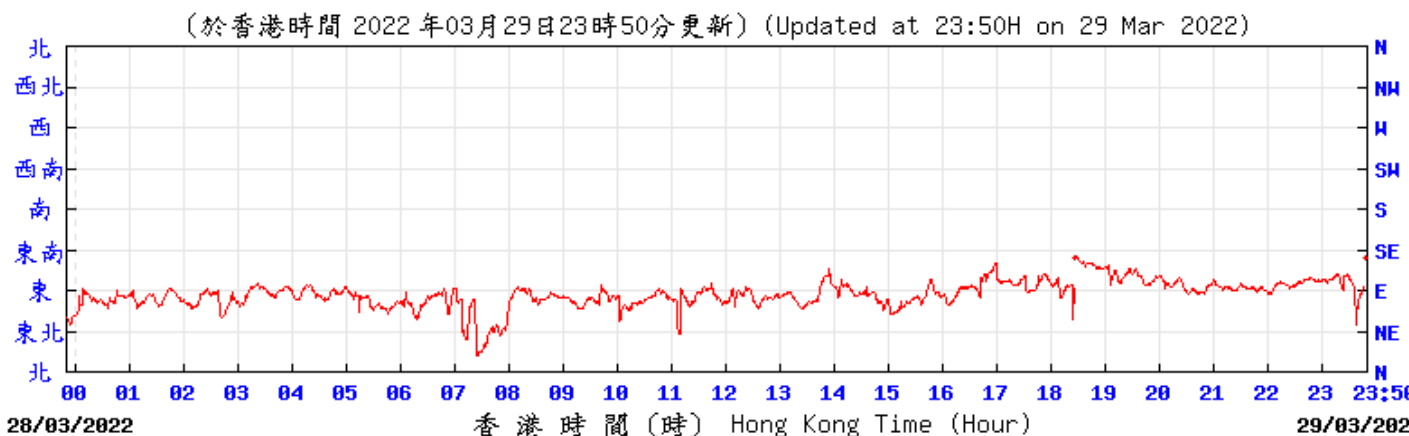
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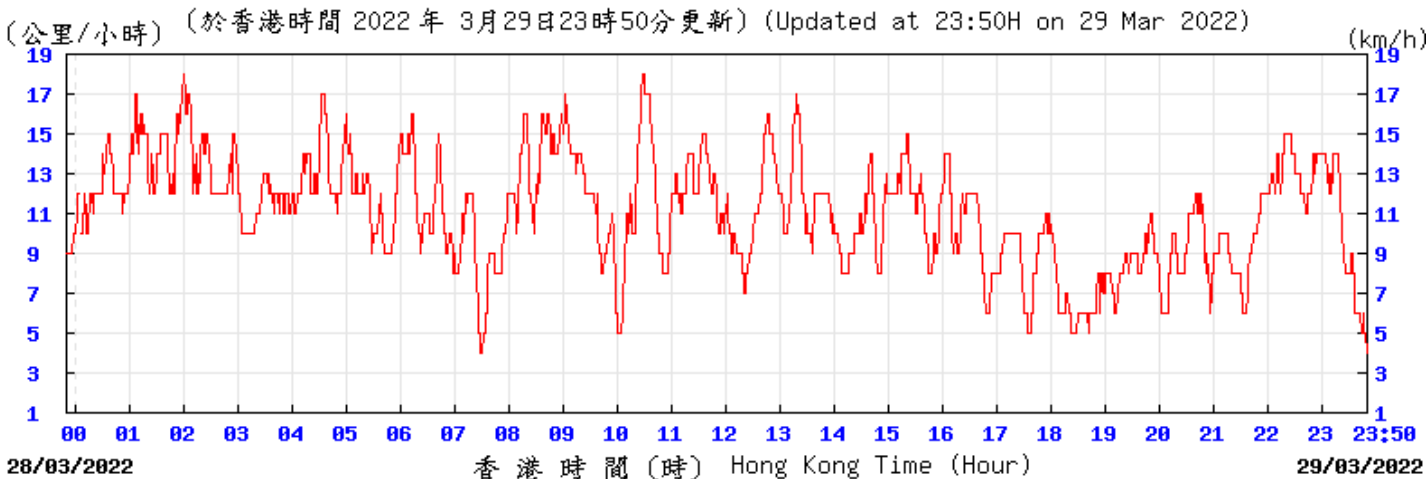
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Wind Direction:



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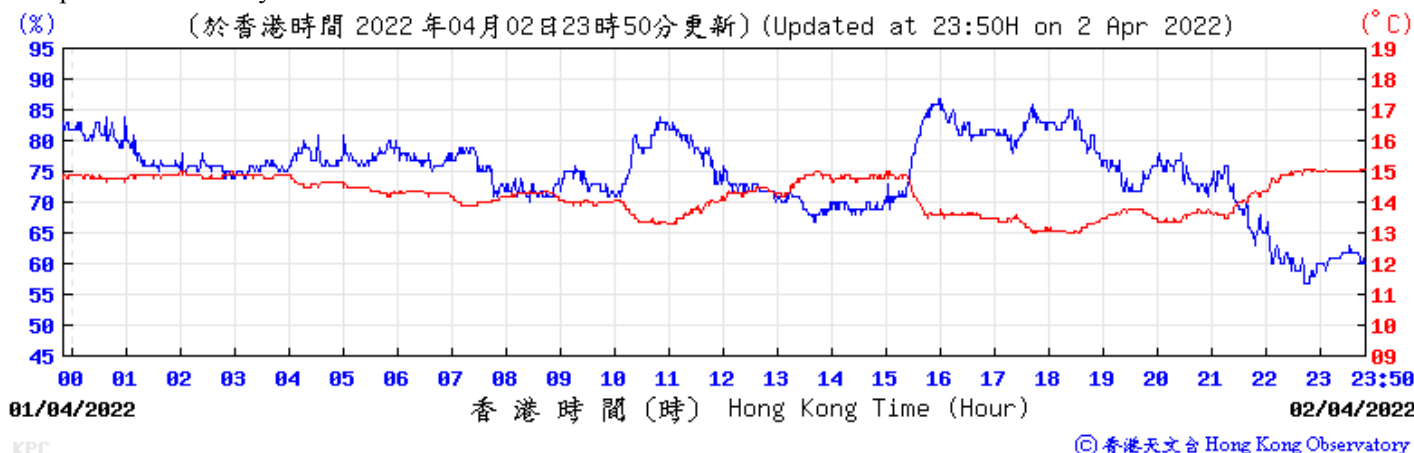
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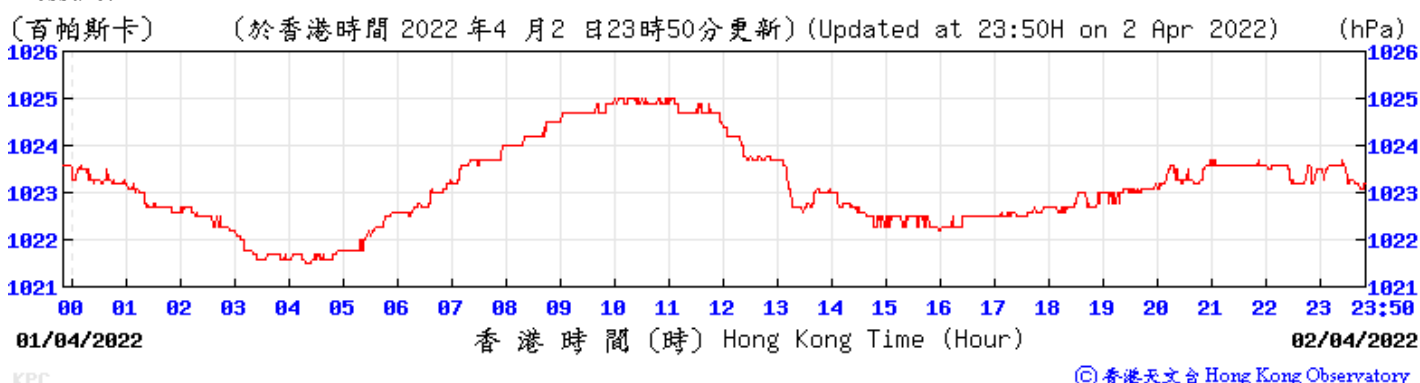
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# Extract of Meteorological Observations for King's Park Automatic Weather Station, April 2022

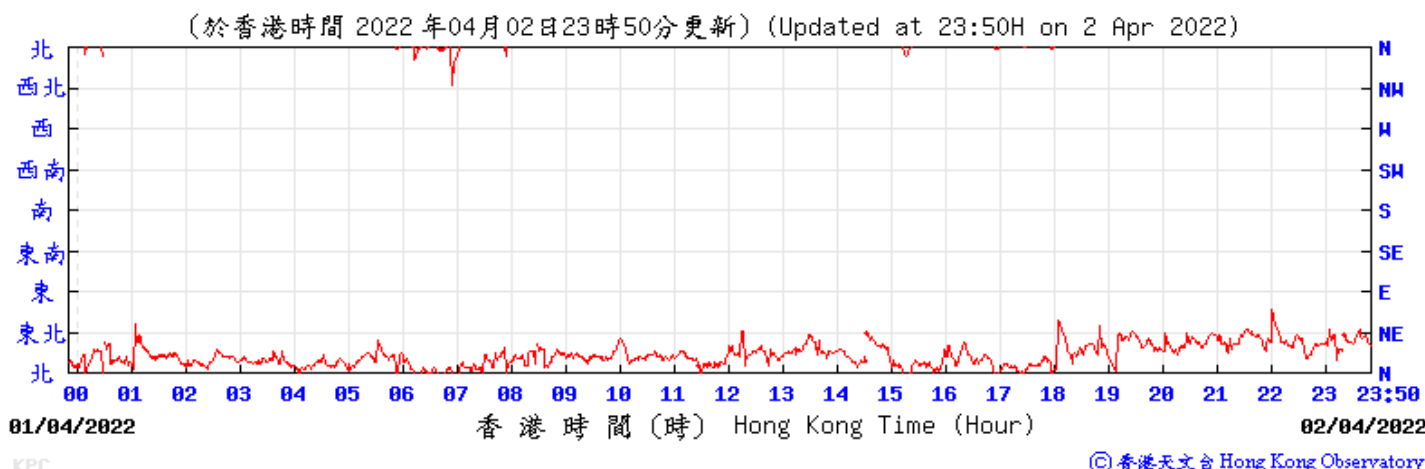
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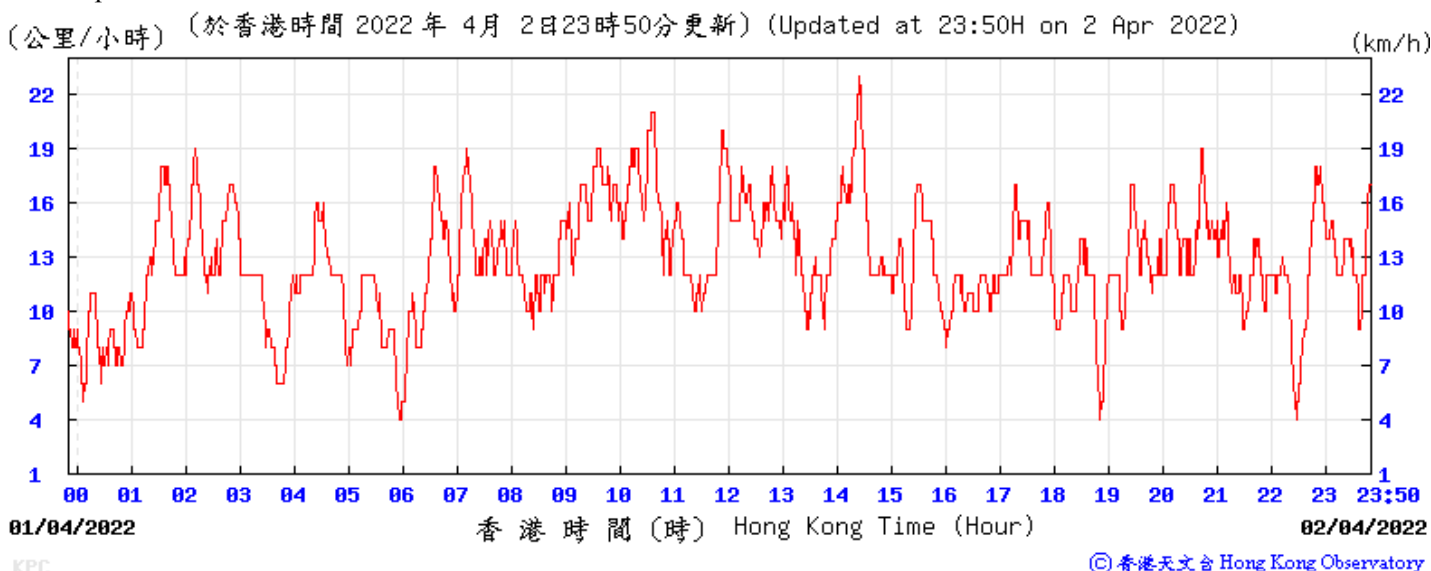
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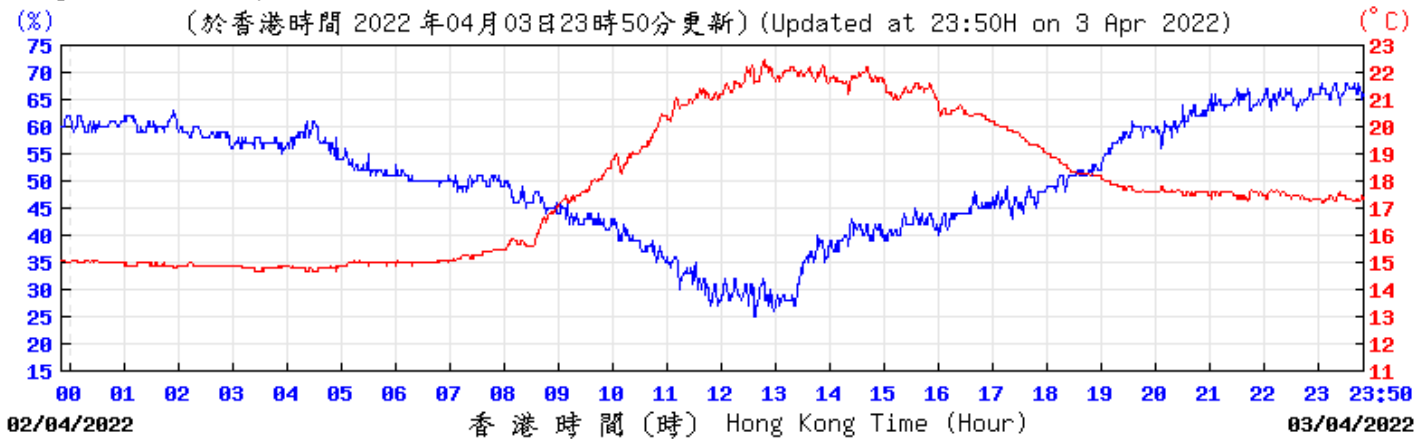
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## Wind Speed:

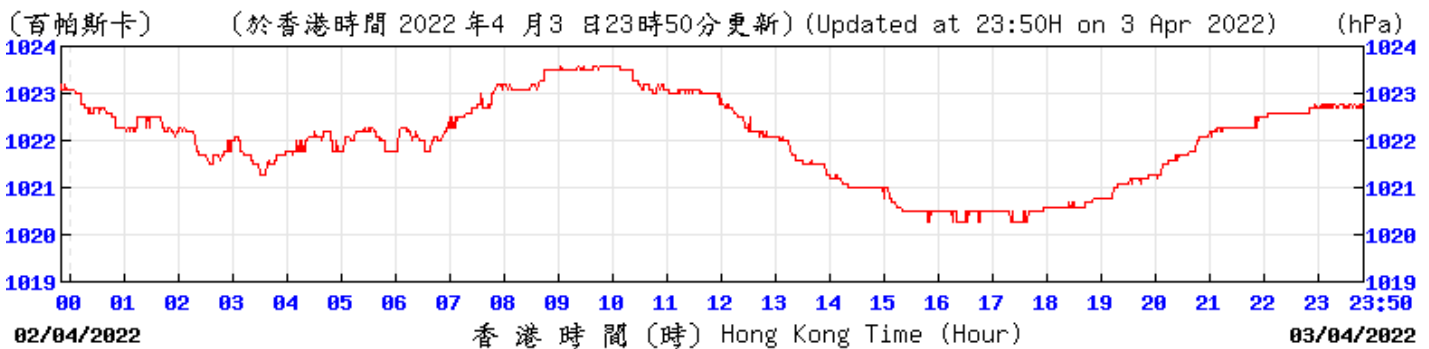


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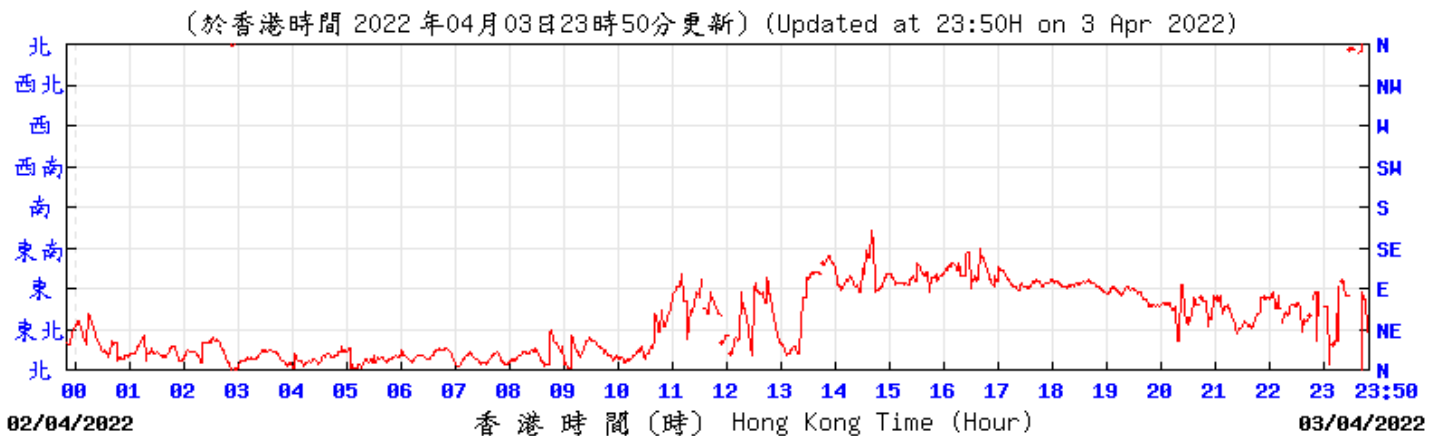
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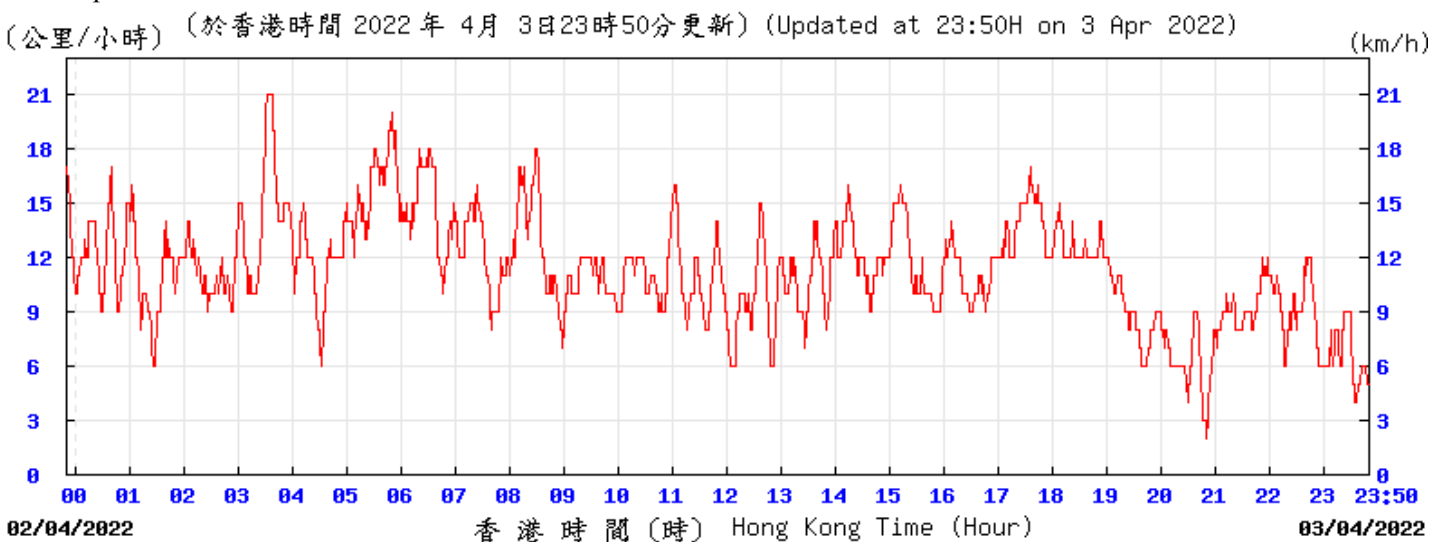
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Wind Direction:



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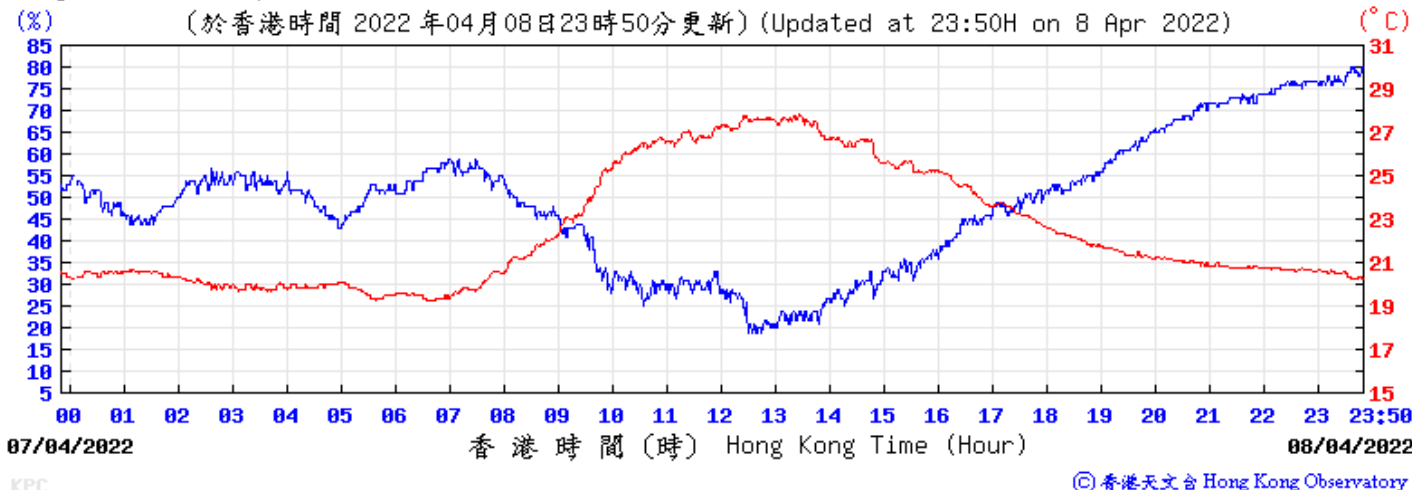
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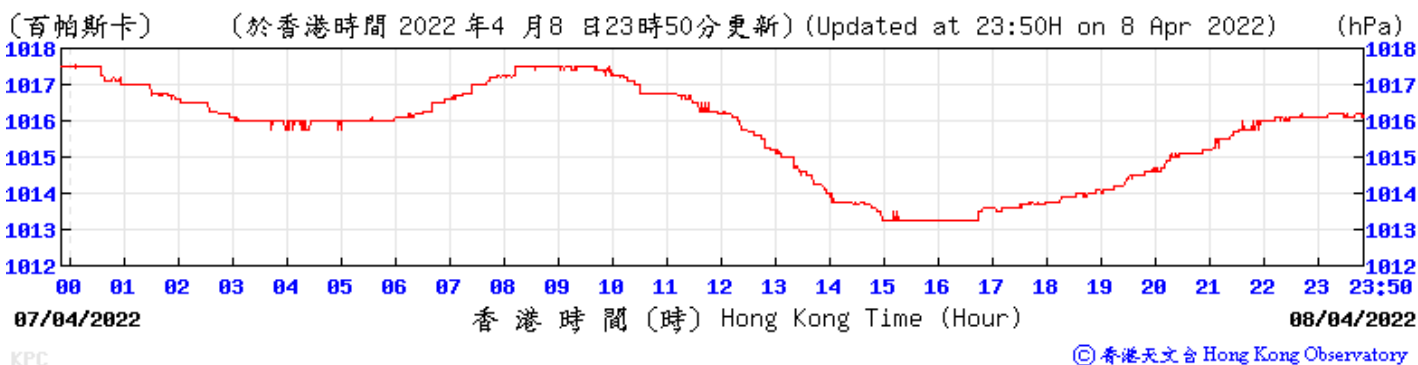
KPC

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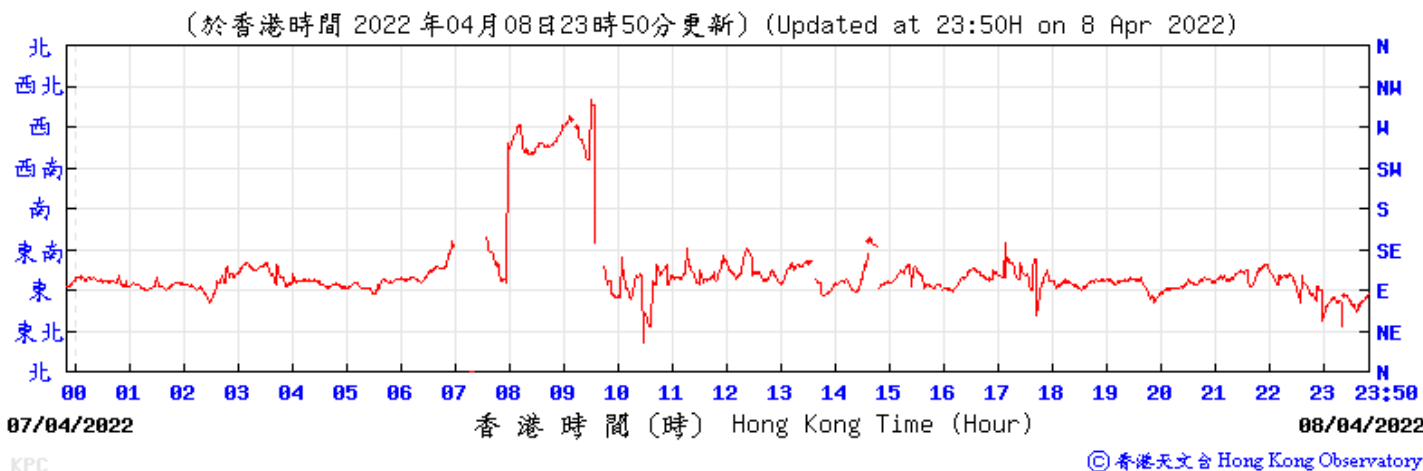
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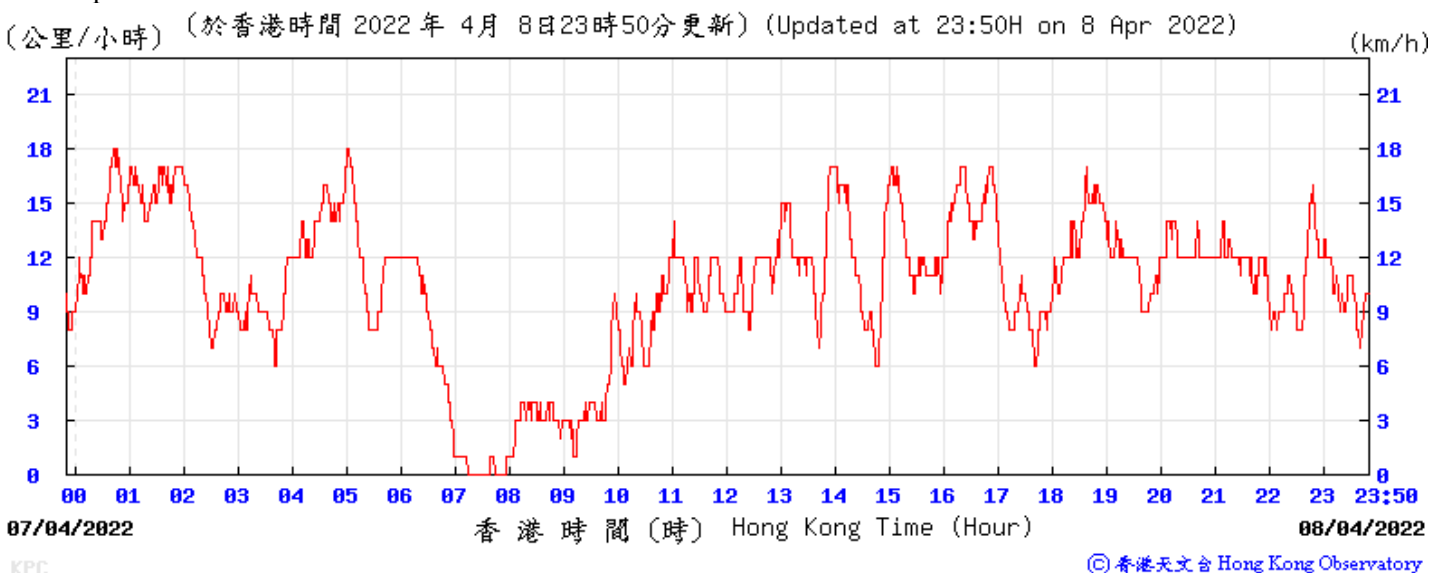
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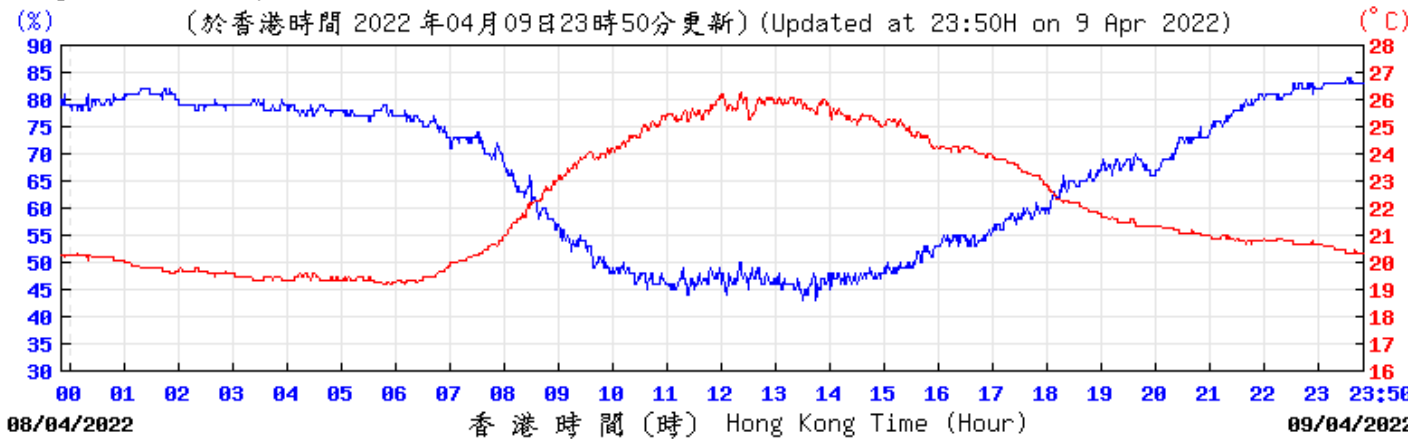
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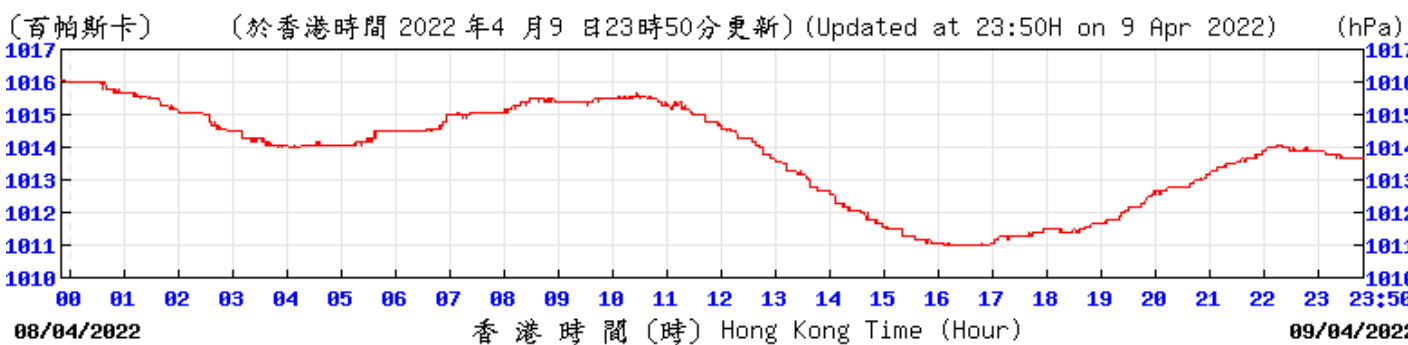


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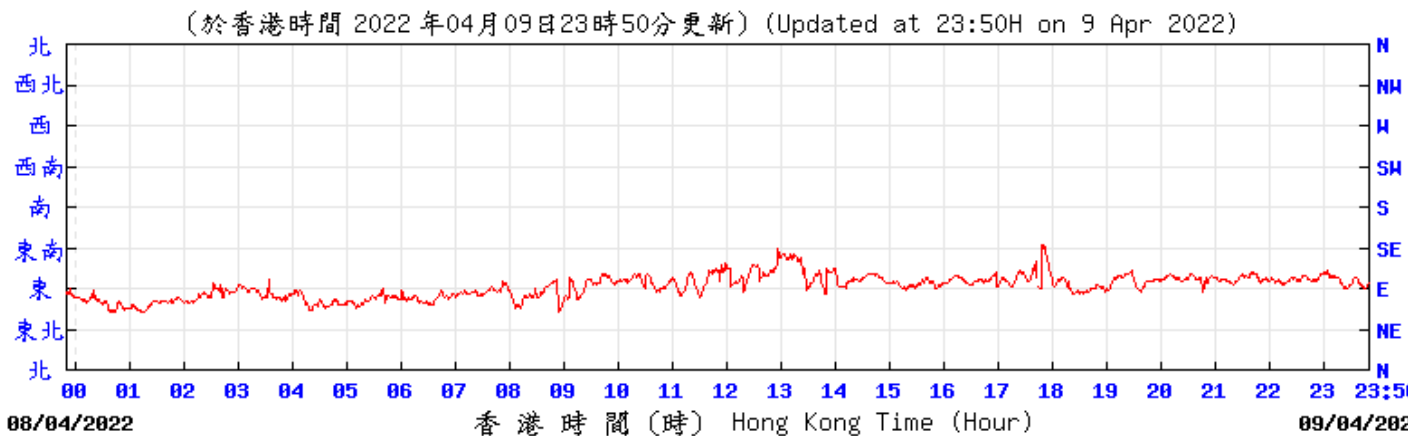
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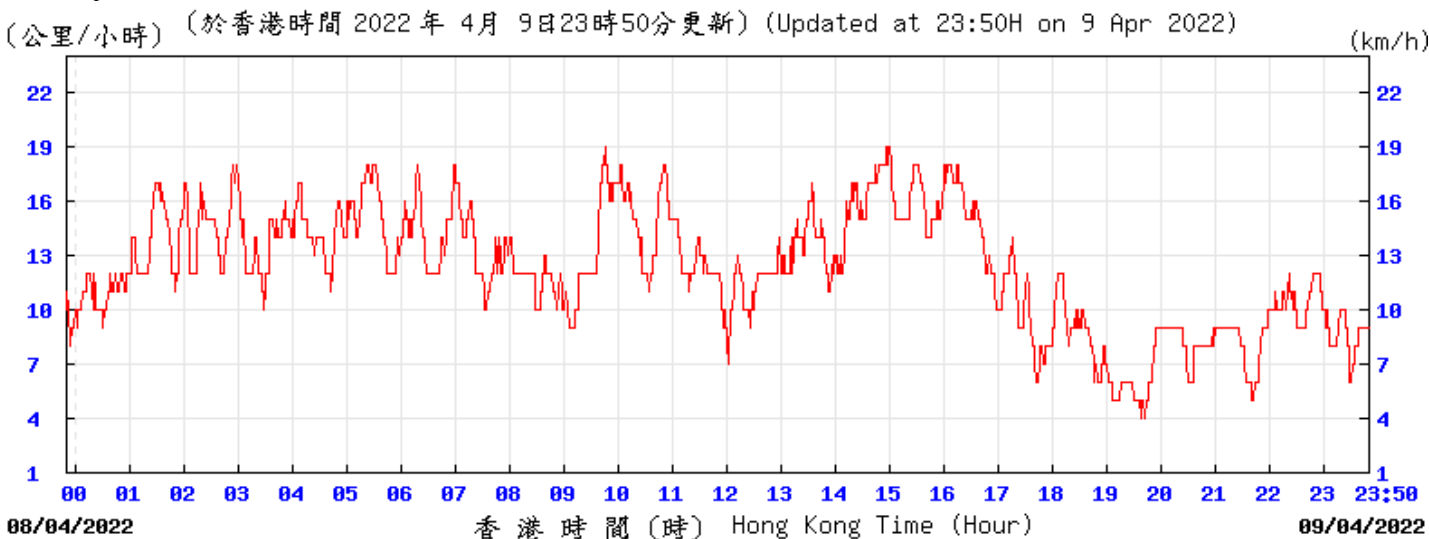
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Wind Direction:



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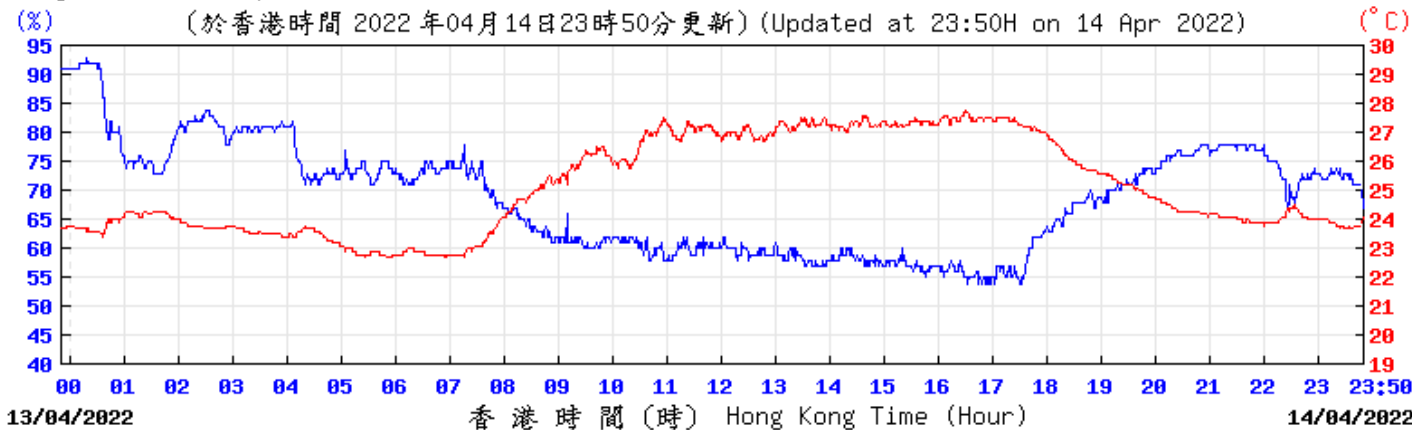
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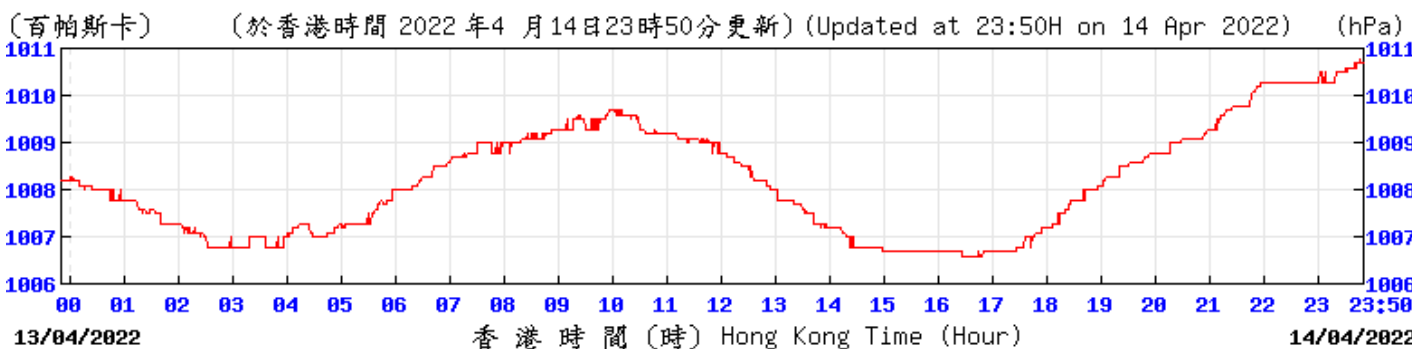


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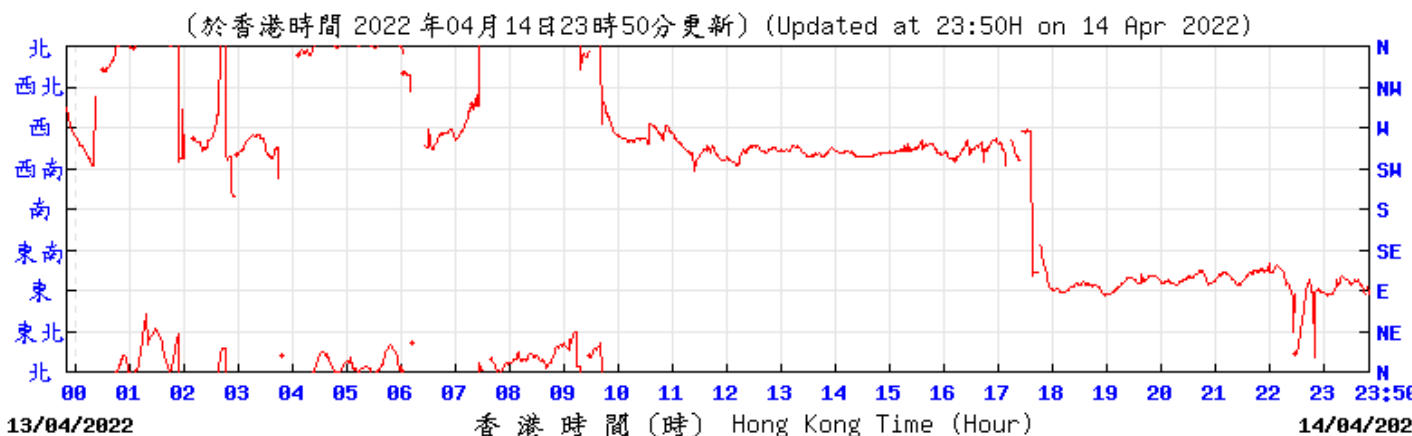
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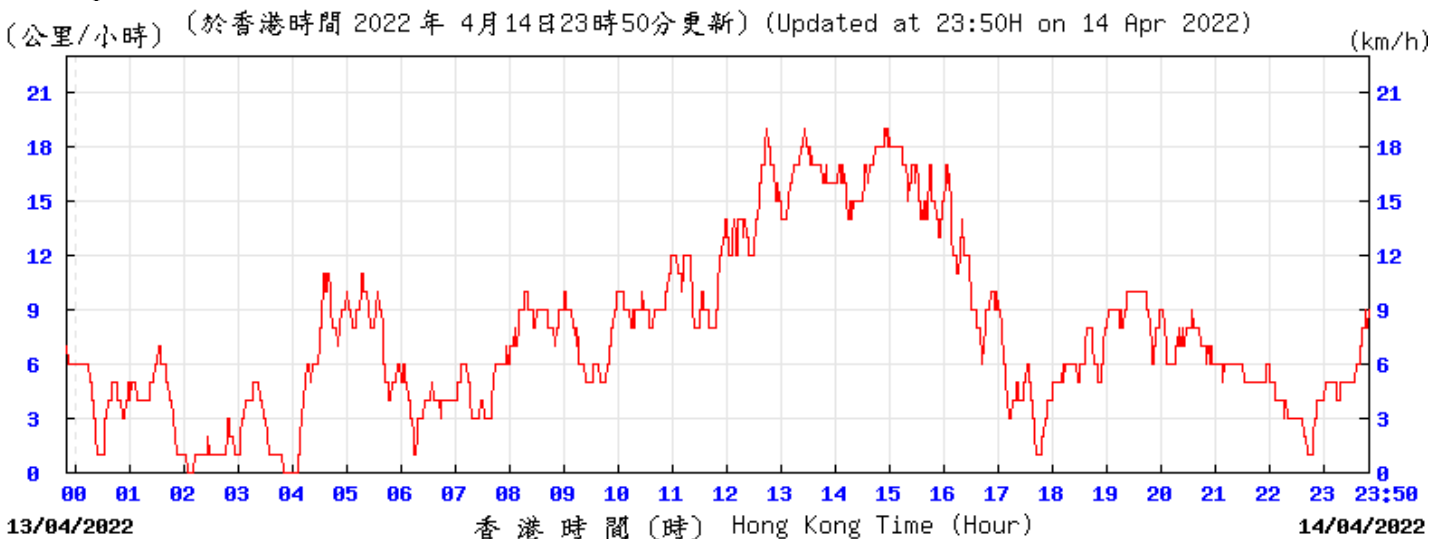
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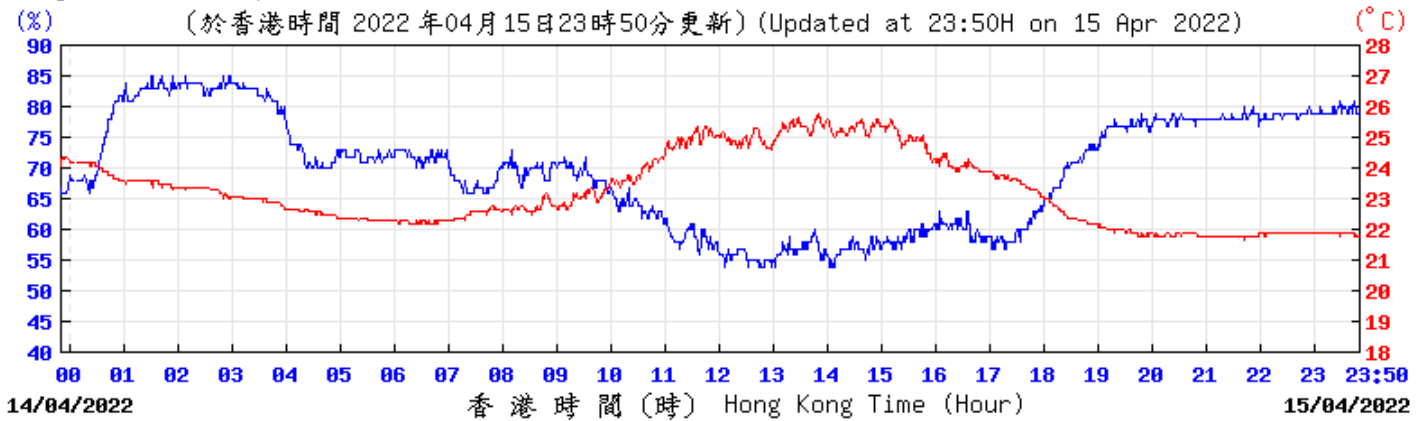
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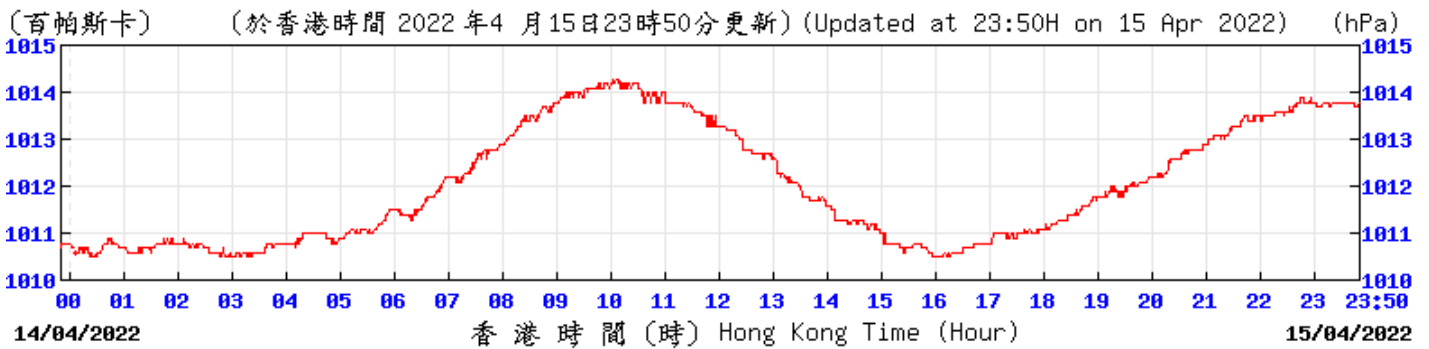
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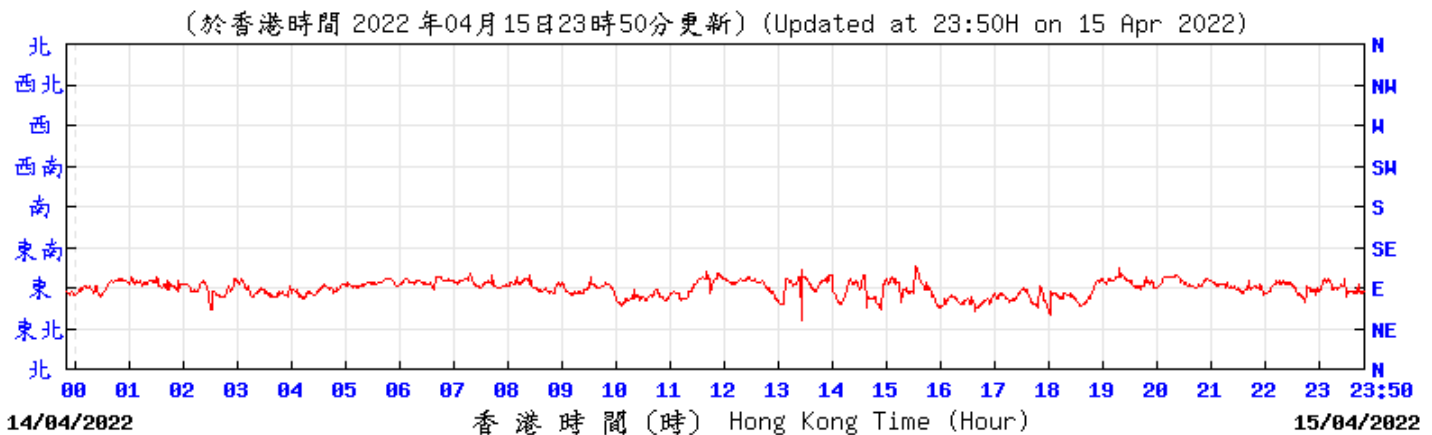
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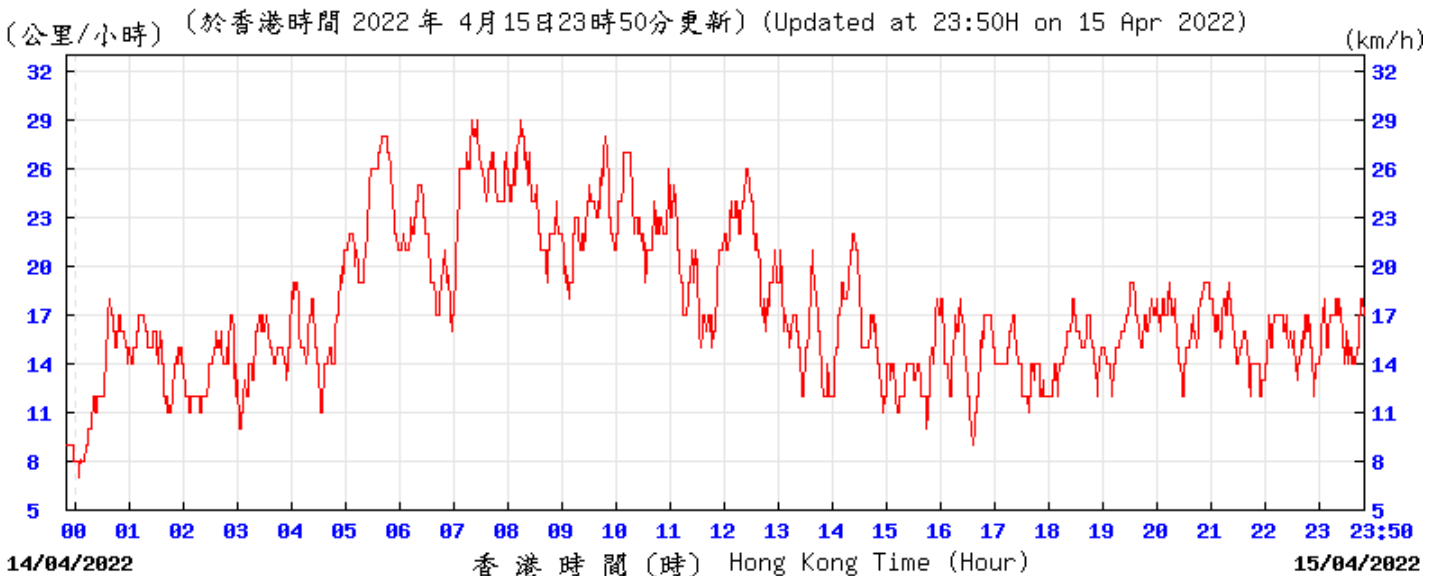
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Wind Direction:



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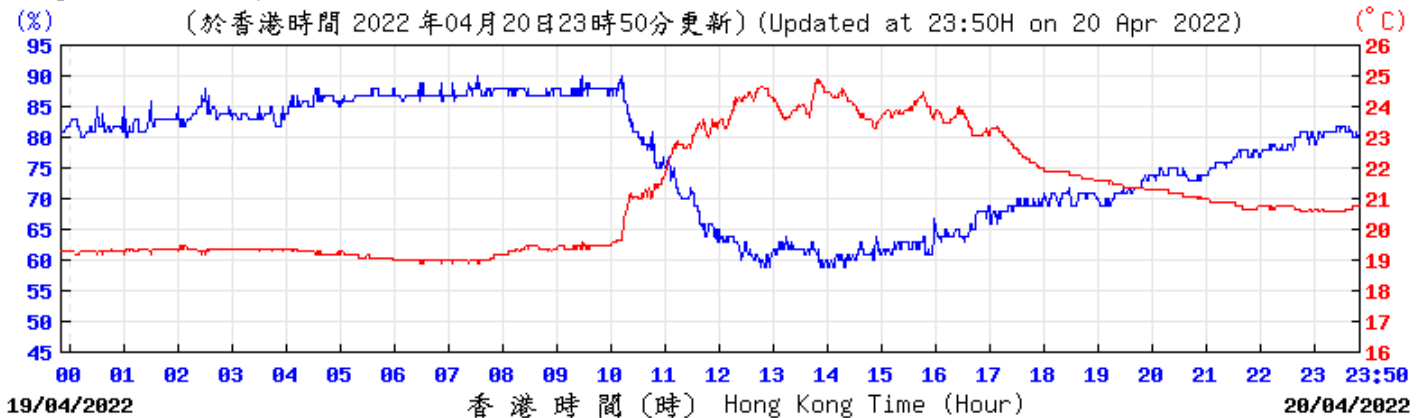
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KPC

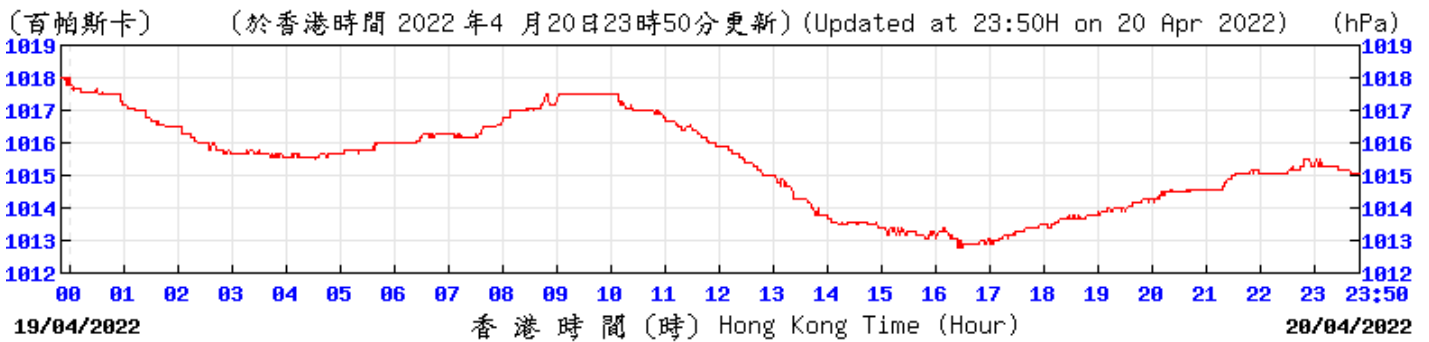
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Temperature/Humidity:



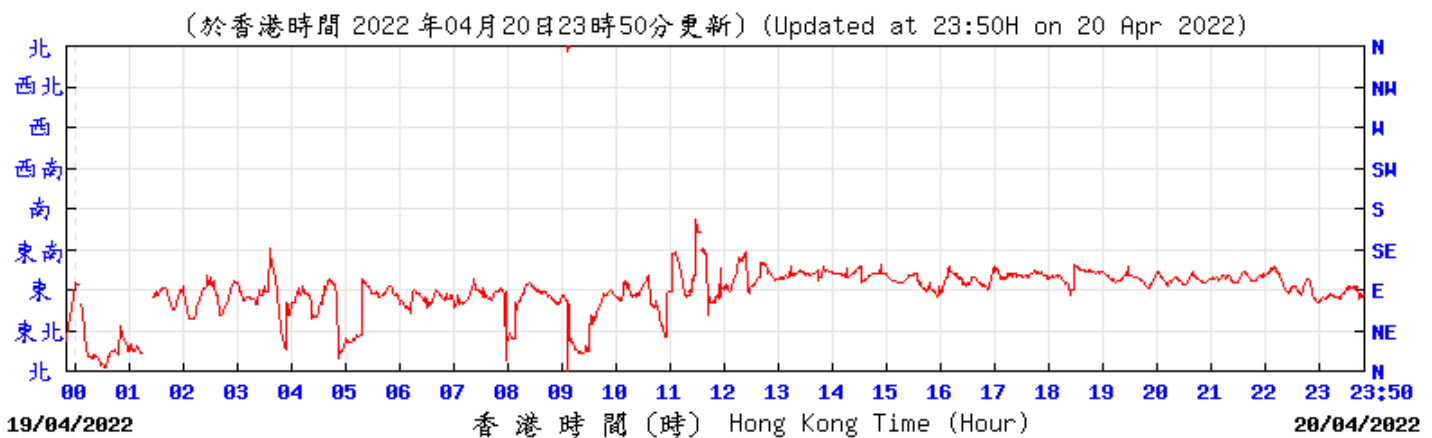
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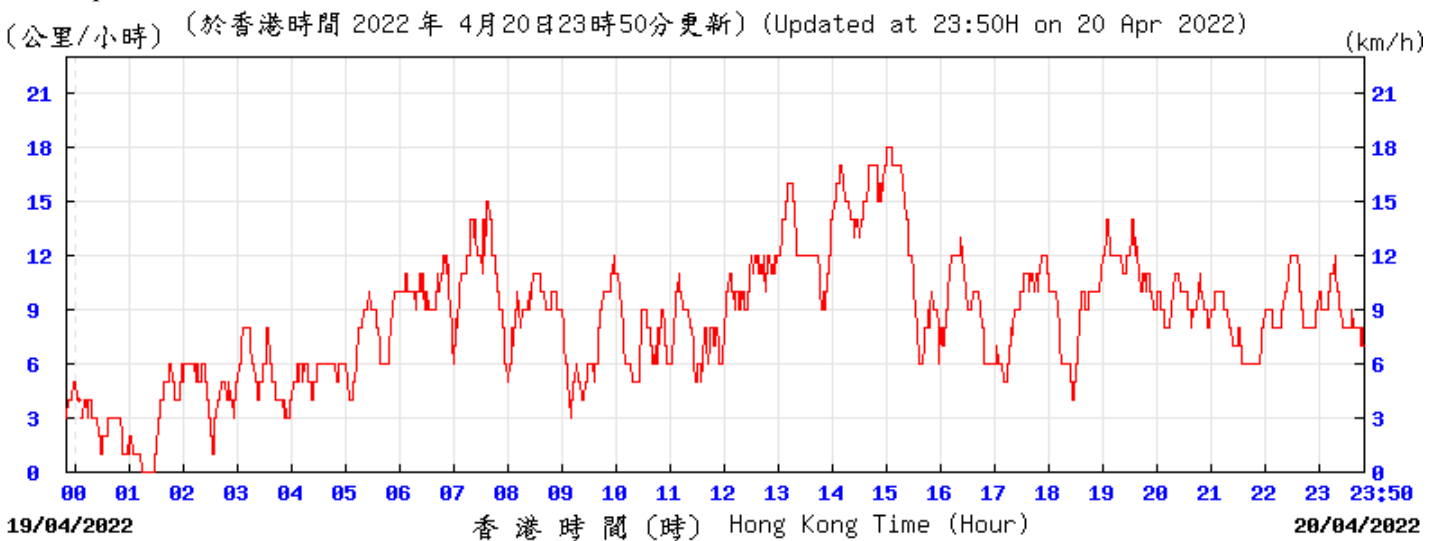
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Wind Direction:



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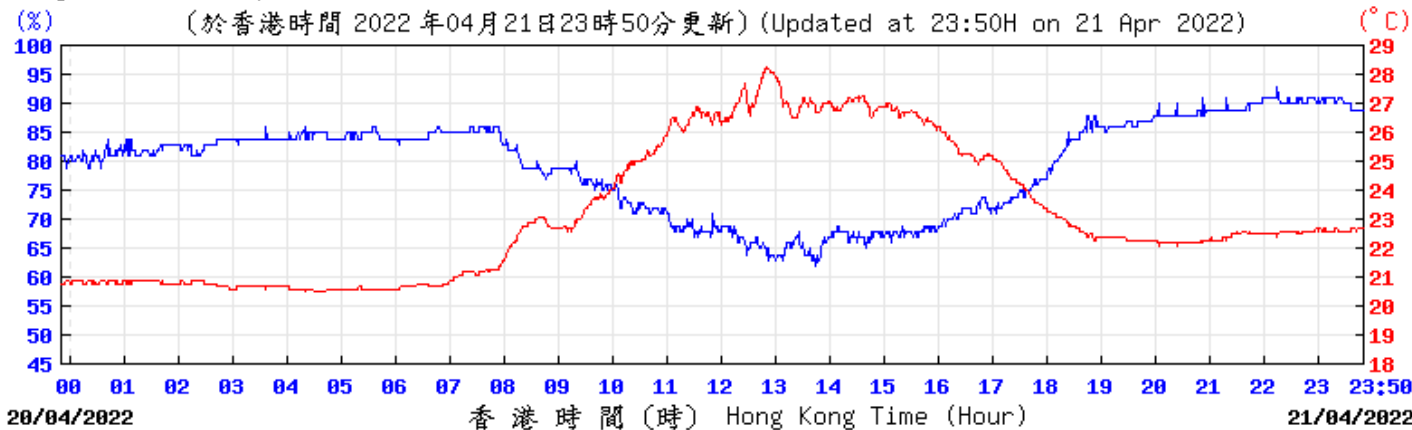
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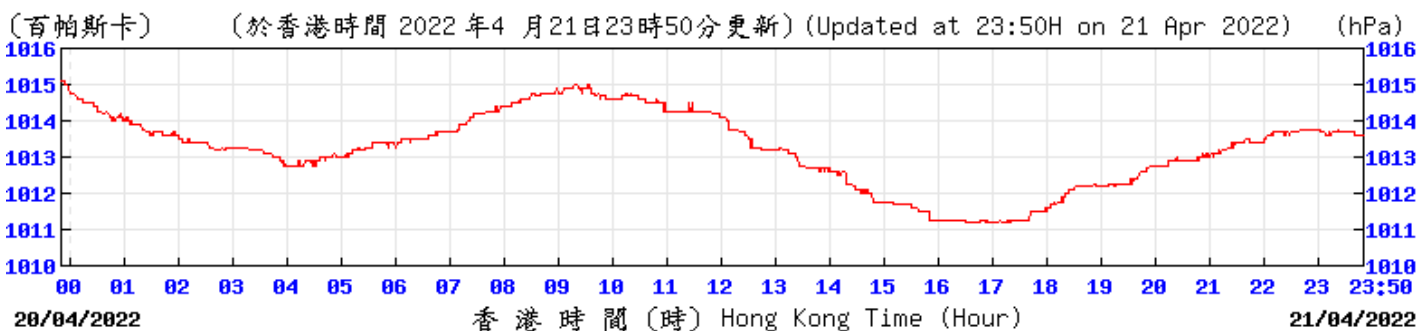
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Temperature/Humidity:



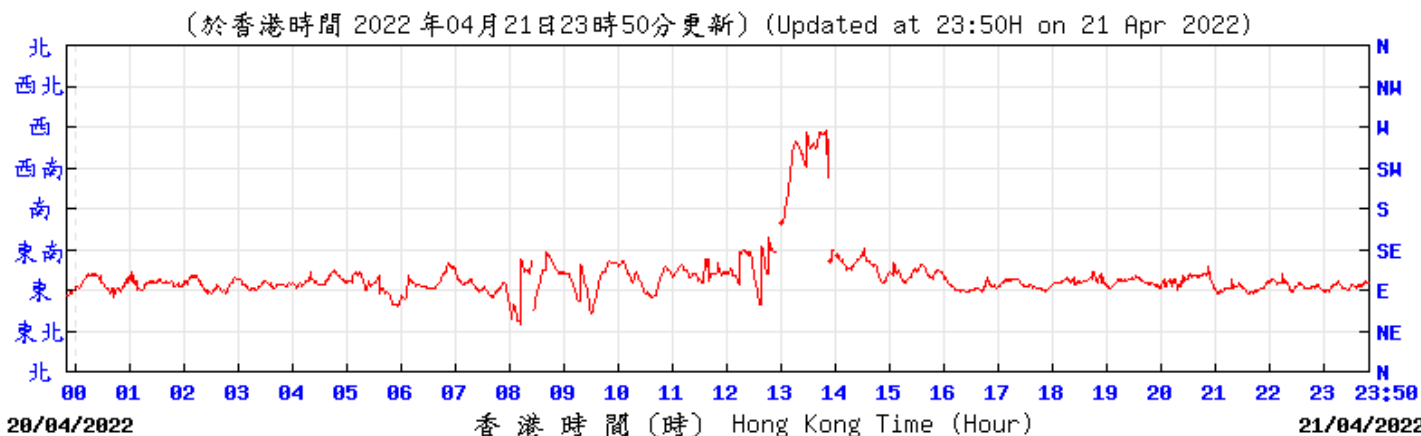
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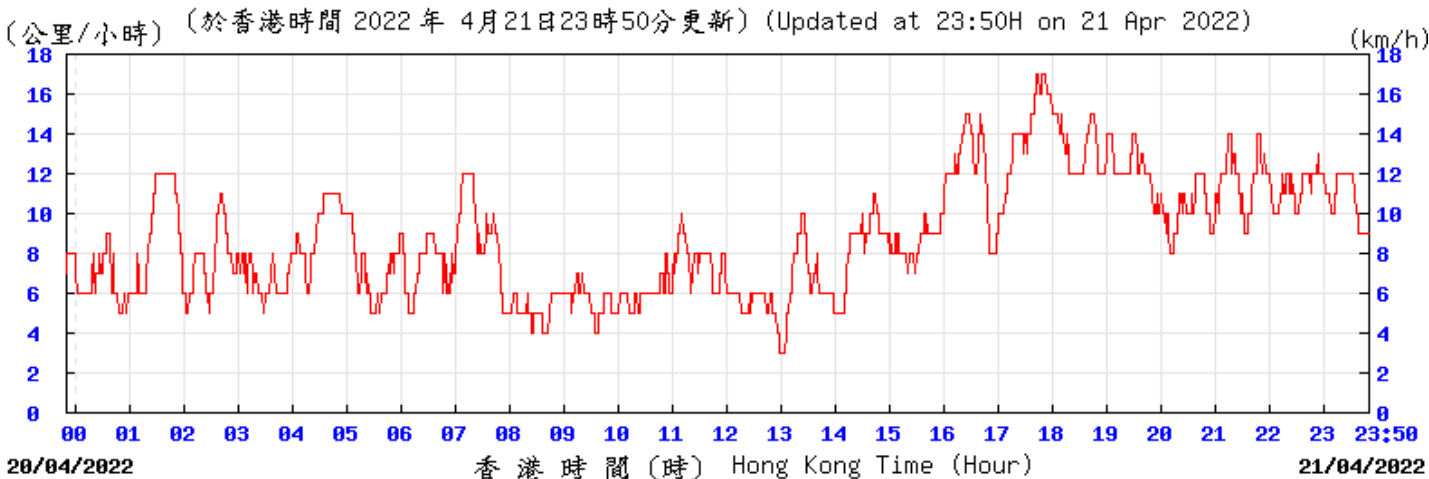
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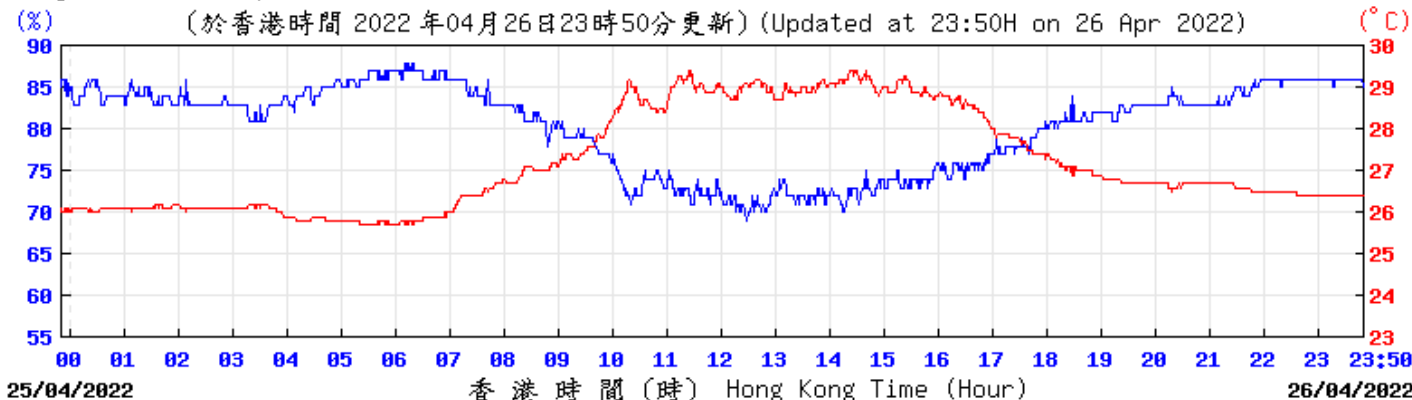
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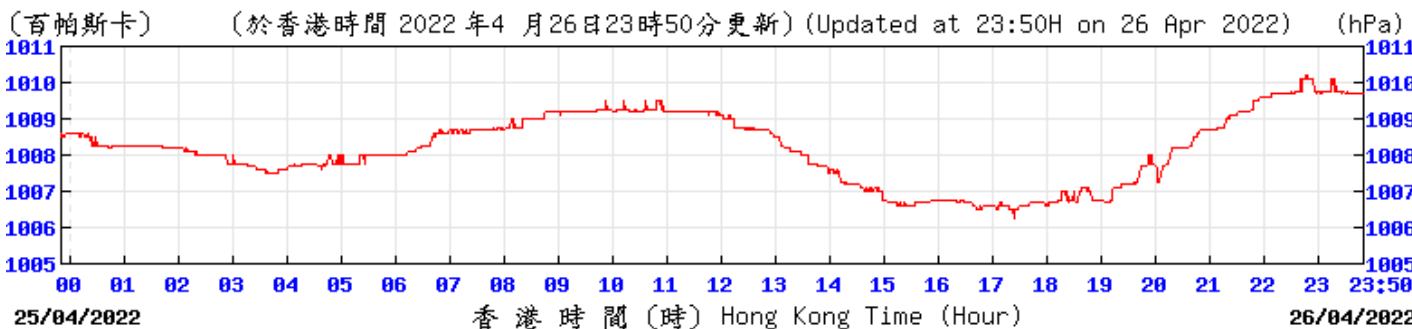
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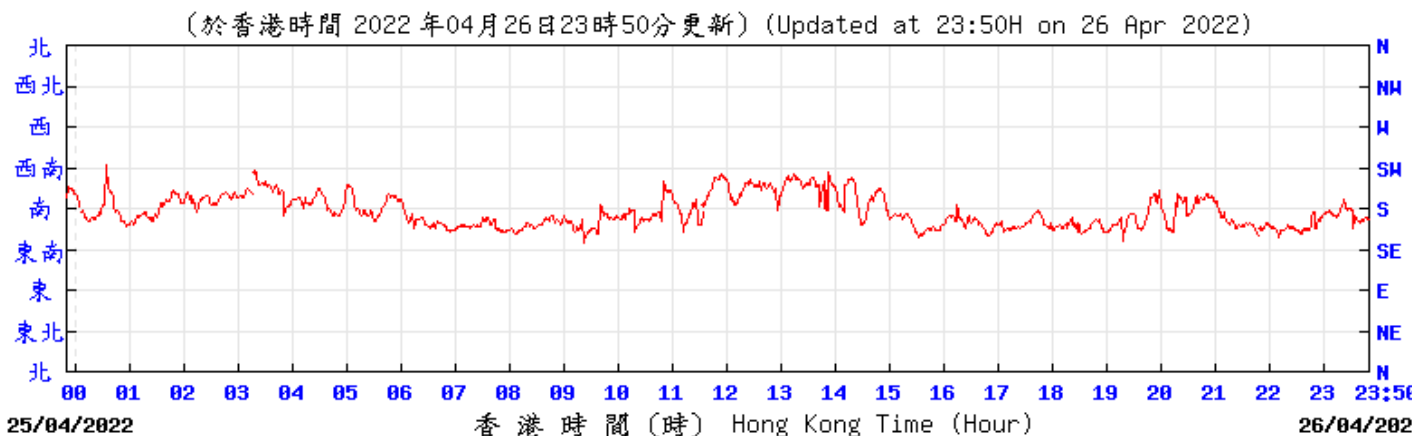
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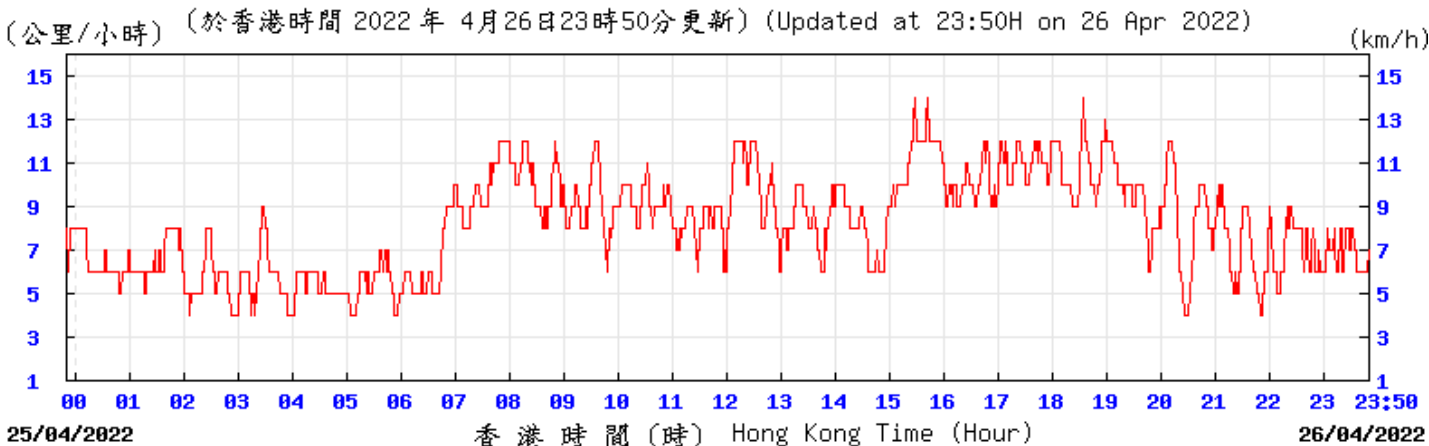
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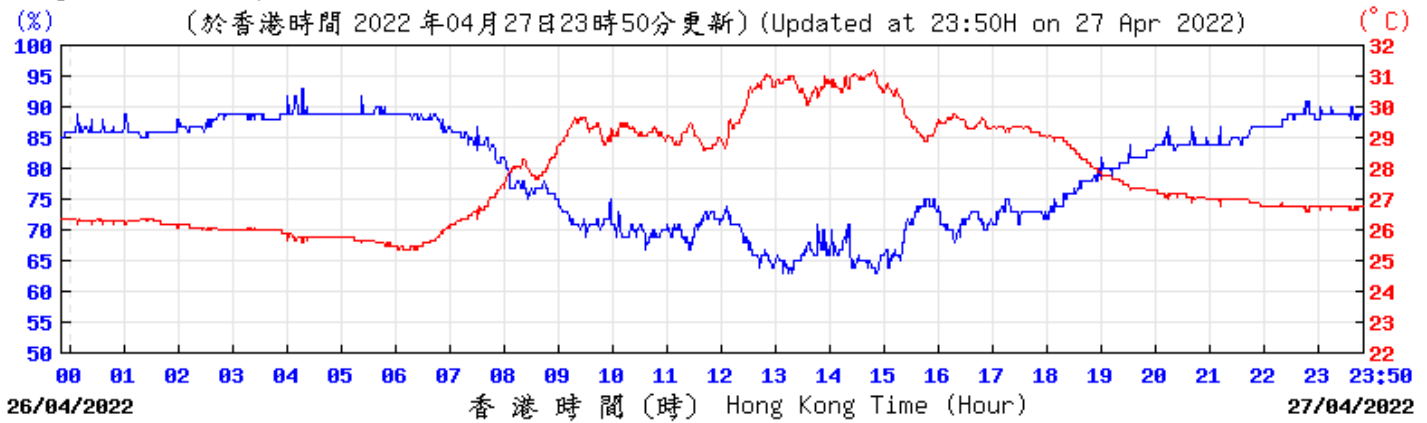
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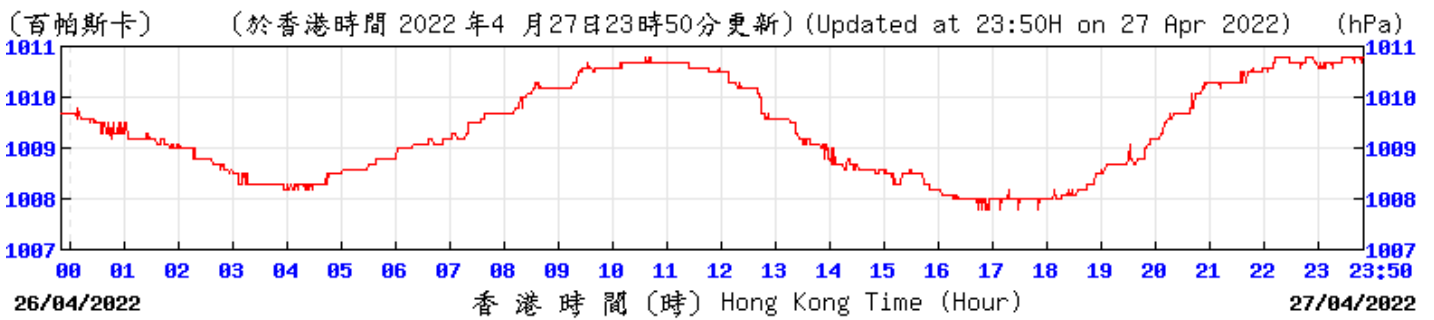
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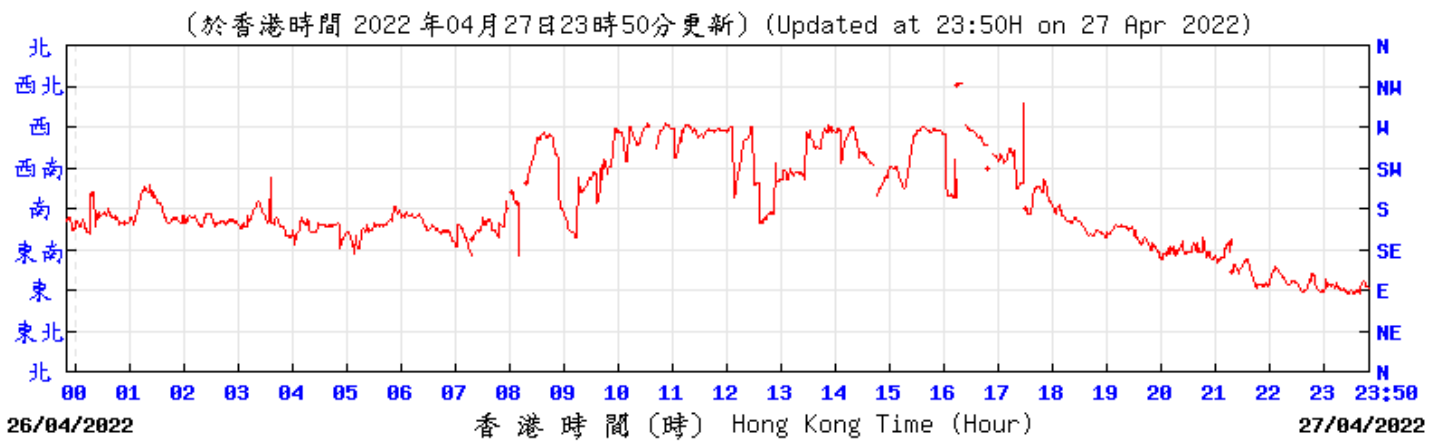
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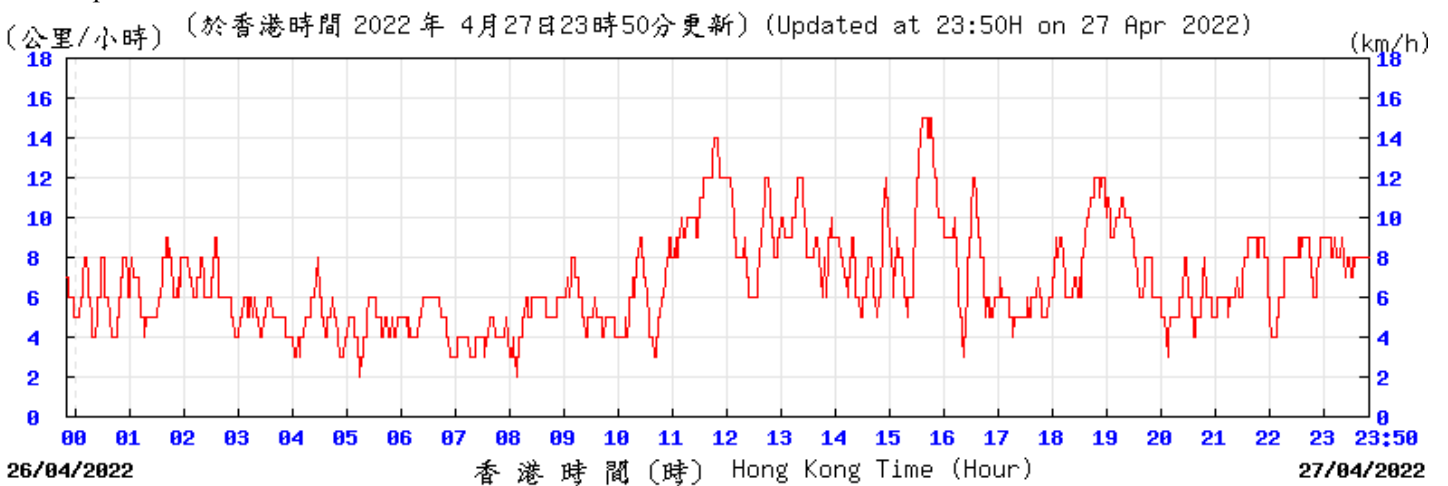
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Wind Direction:



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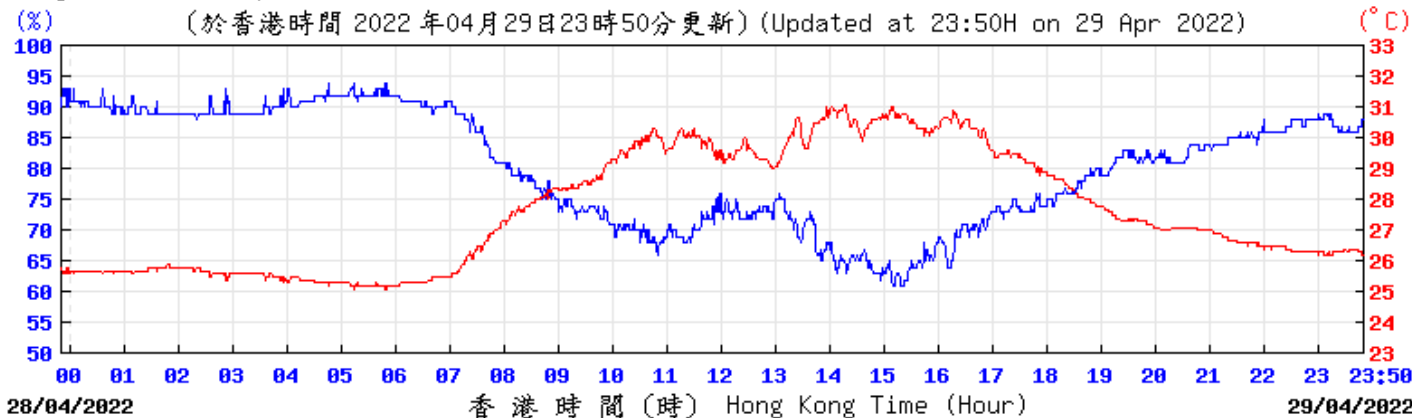
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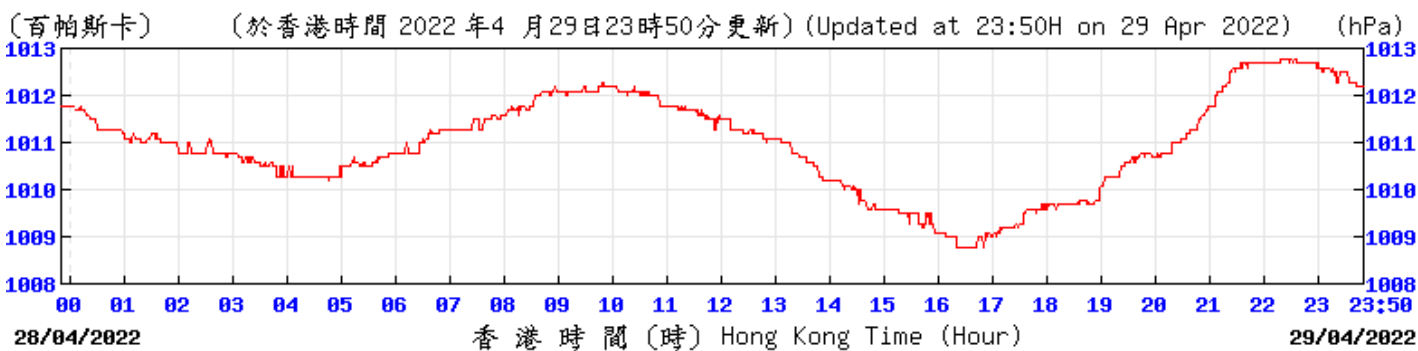


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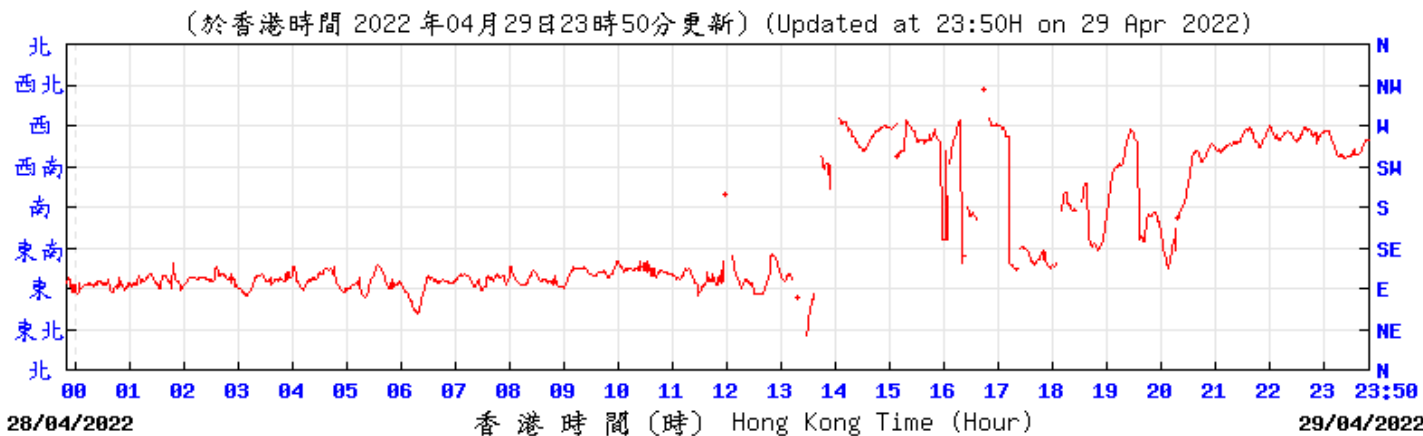
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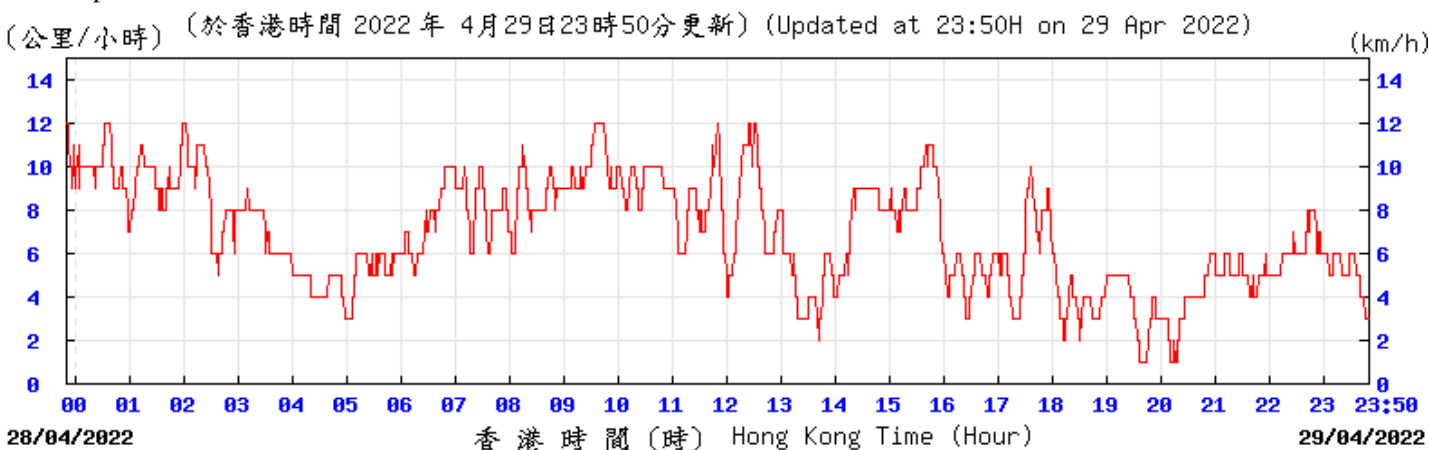
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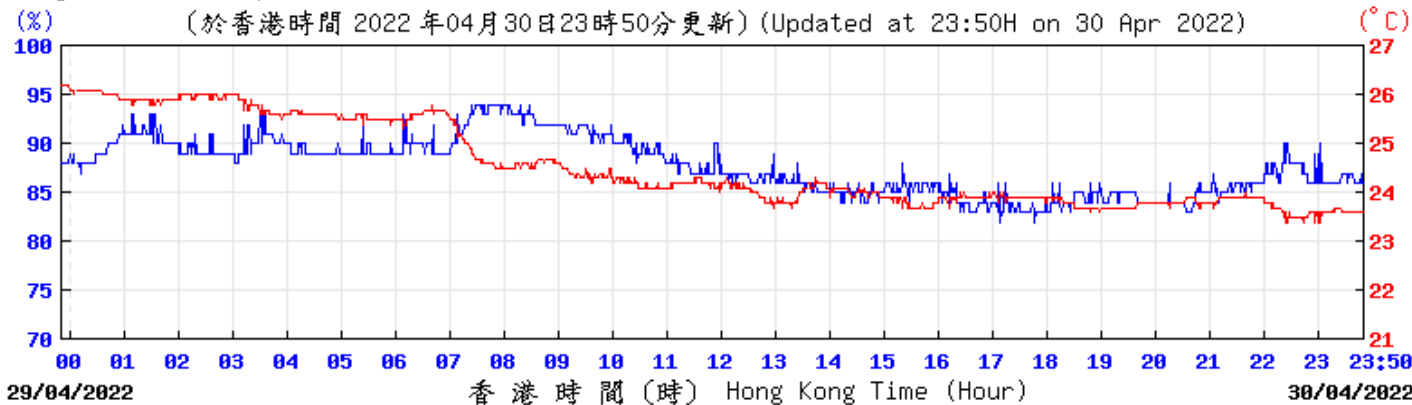
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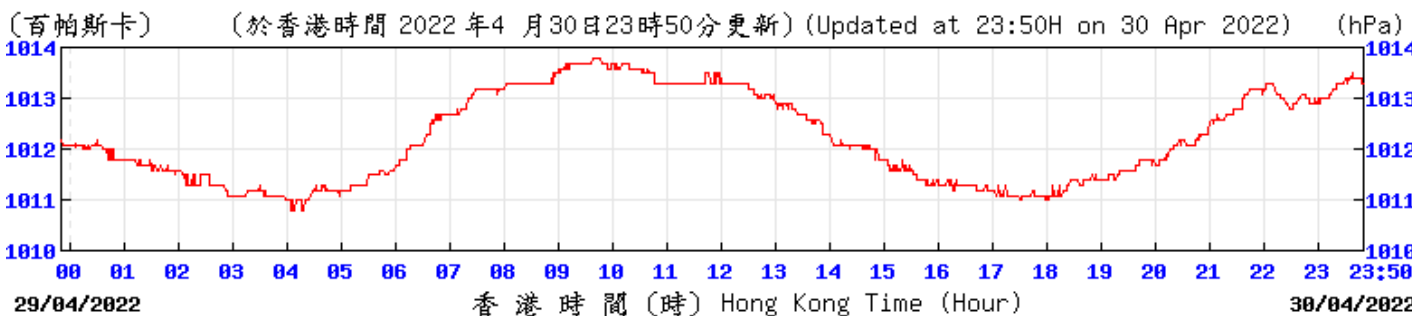
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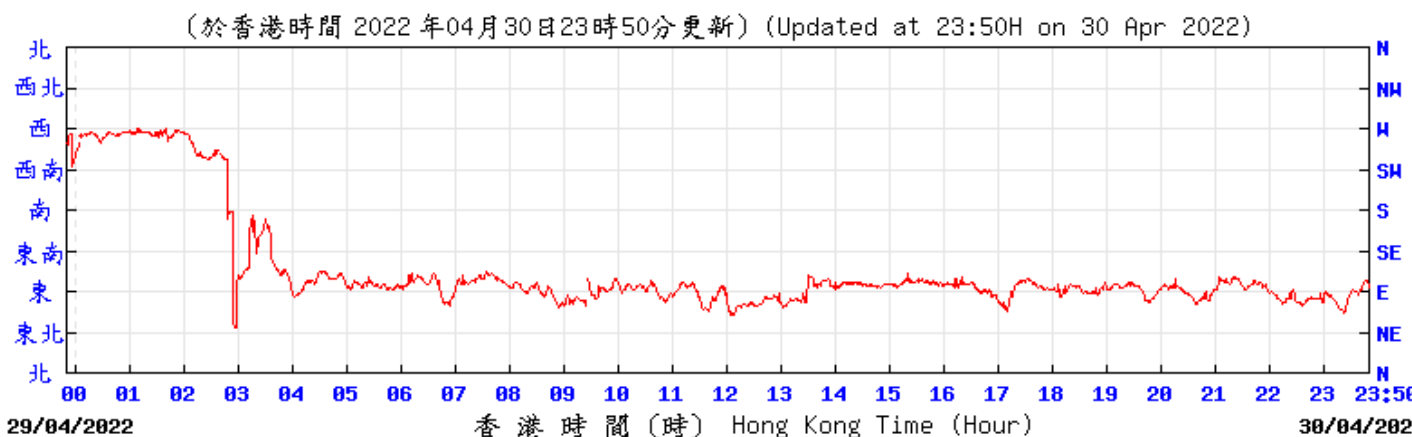
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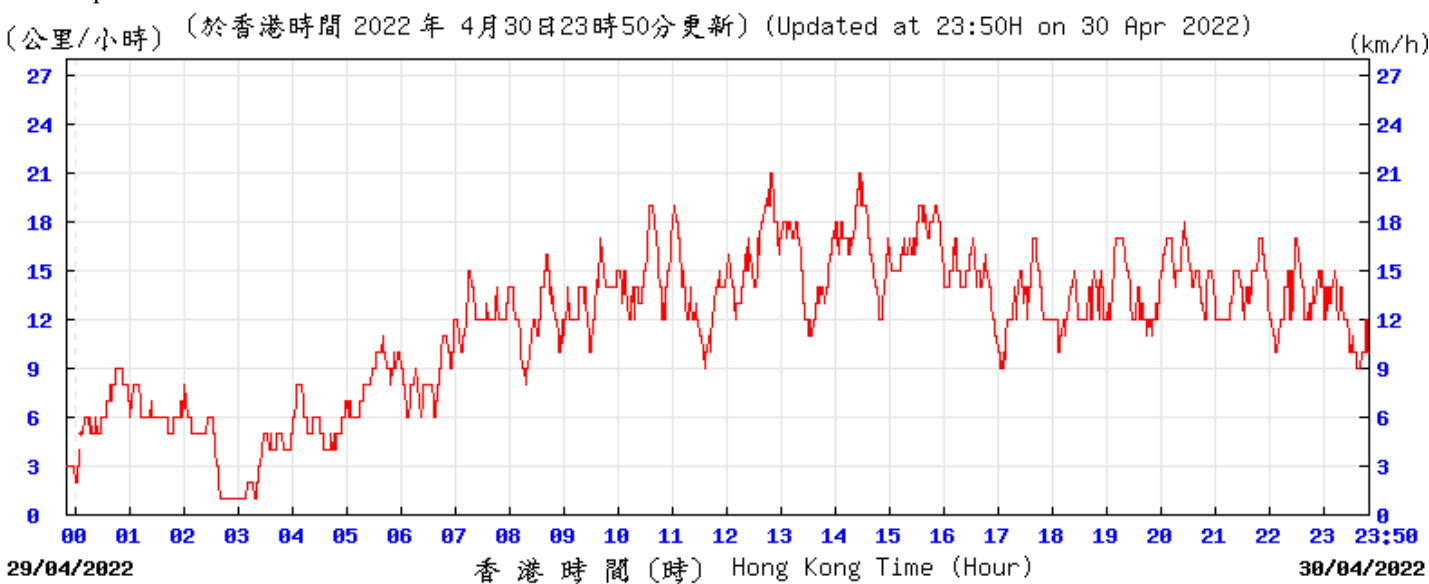
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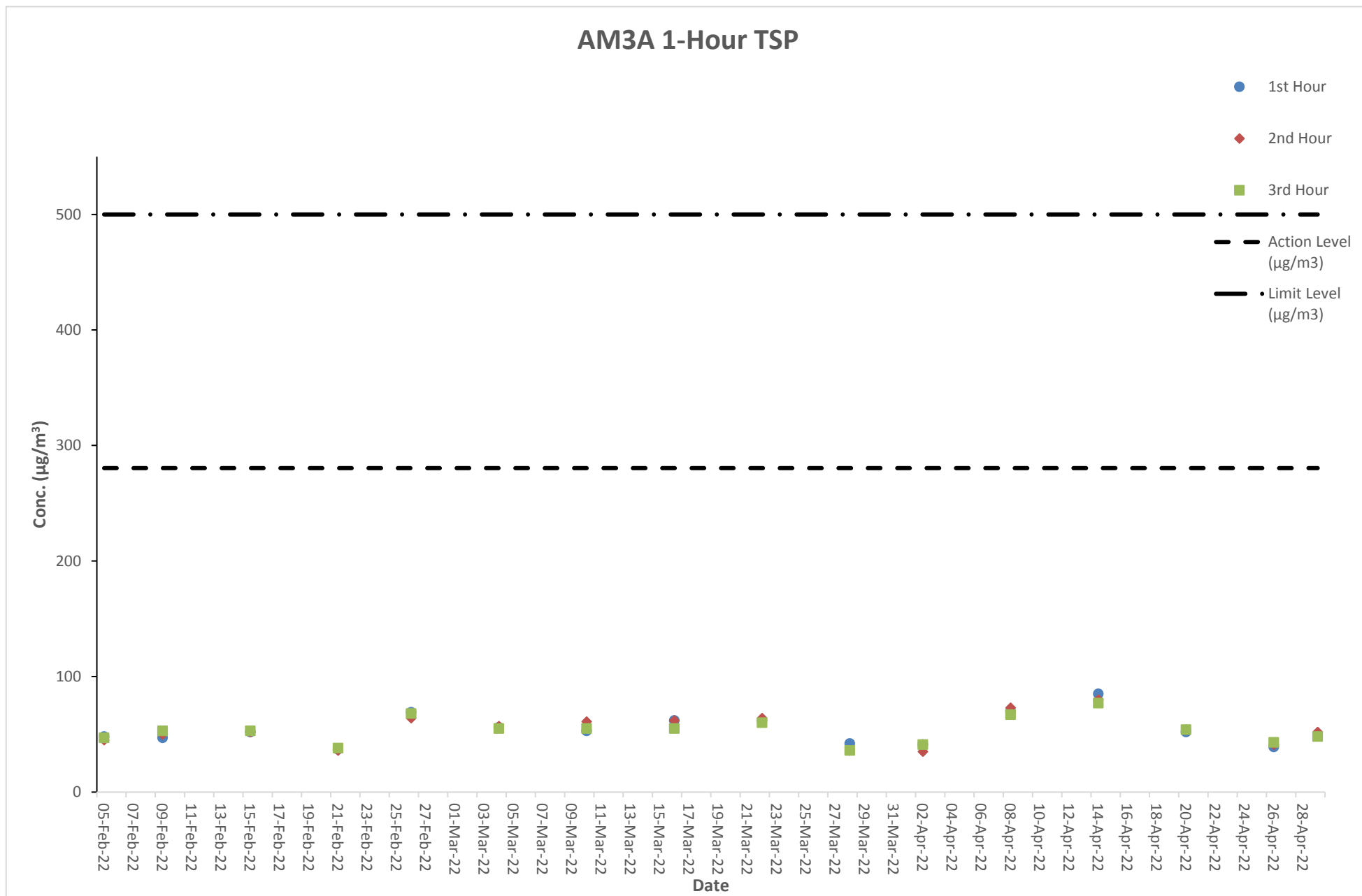
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## **E. Graphical Plots of the Monitoring Results**

**Air Quality Monitoring Result at Station AM3A (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Feb-22	Fine	8:15 - 11:15	48	45	47	280.4	500
09-Feb-22	Fine	14:13 - 17:13	47	50	53	280.4	500
15-Feb-22	Fine	8:10 - 11:10	52	52	53	280.4	500
21-Feb-22	Cloudy	14:23 - 17:23	37	36	38	280.4	500
26-Feb-22	Fine	8:01 - 11:01	69	64	68	280.4	500
04-Mar-22	Fine	14:09 - 17:09	56	57	55	280.4	500
10-Mar-22	Fine	8:02 - 11:02	53	61	55	280.4	500
16-Mar-22	Cloudy	14:18 - 17:18	62	62	55	280.4	500
22-Mar-22	Cloudy	8:07 - 11:07	62	64	60	280.4	500
28-Mar-22	Cloudy	14:01 - 17:01	42	36	36	280.4	500
02-Apr-22	Cloudy	8:03 - 11:03	41	35	41	280.4	500
08-Apr-22	Fine	14:09 - 17:09	70	73	67	280.4	500
14-Apr-22	Cloudy	8:07 - 11:07	85	80	77	280.4	500
20-Apr-22	Cloudy	14:04 - 17:04	52	54	54	280.4	500
26-Apr-22	Cloudy	8:15 - 11:15	39	41	43	280.4	500
29-Apr-22	Fine	14:13 - 17:13	50	52	48	280.4	500

# Graphical Presentation of Air Quality Monitoring Result at Station AM3A (1-hour TSP)

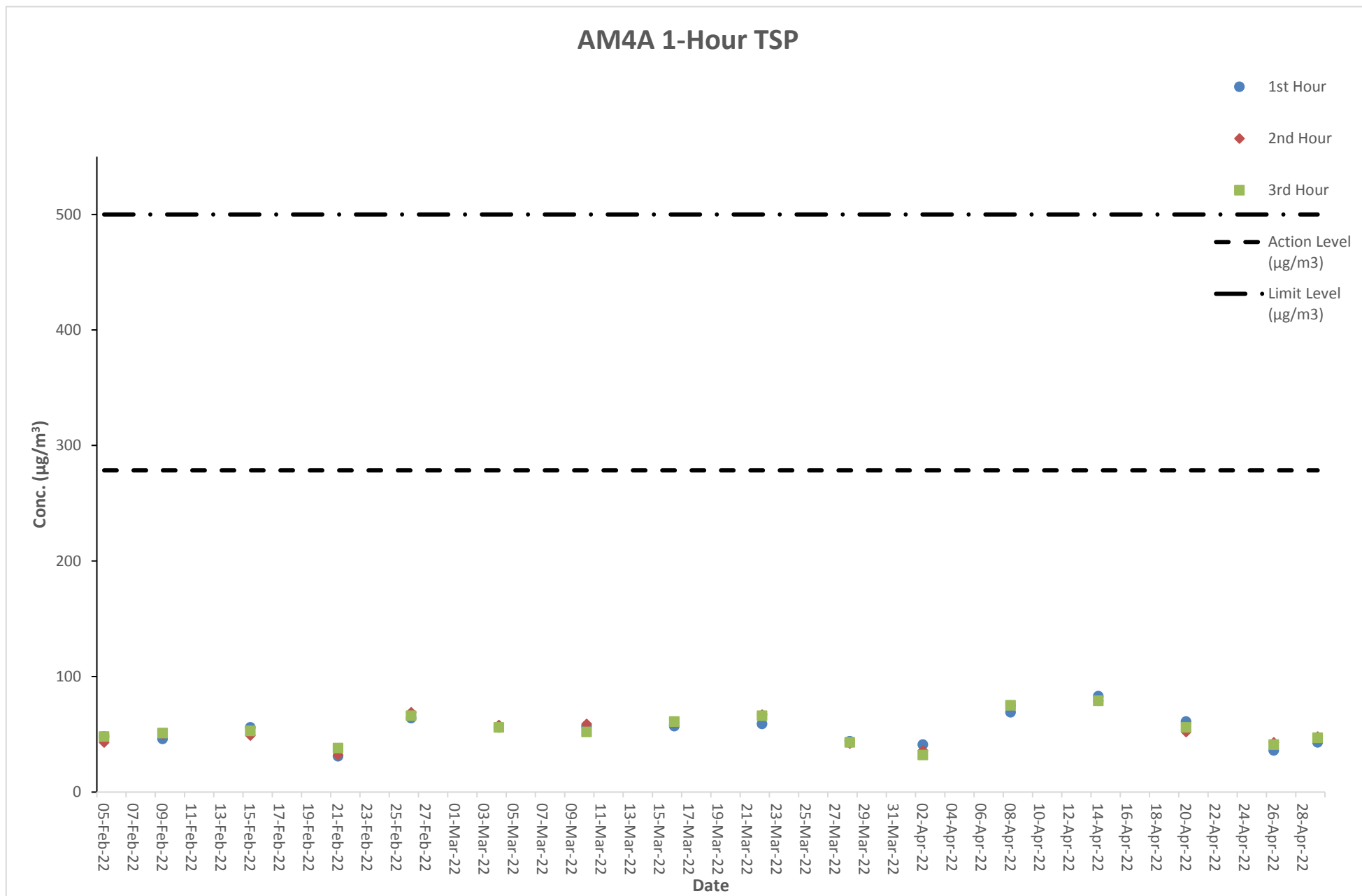


**Air Quality Monitoring Result at Station AM4A (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Feb-22	Fine	8:23 - 11:23	48	43	48	278.5	500
09-Feb-22	Fine	14:21 - 17:21	46	50	51	278.5	500
15-Feb-22	Fine	8:18 - 11:18	56	49	53	278.5	500
21-Feb-22	Cloudy	14:31 - 17:31	31	32	38	278.5	500
26-Feb-22	Fine	8:09 - 11:09	64	69	66	278.5	500
04-Mar-22	Fine	14:17 - 17:17	56	58	56	278.5	500
10-Mar-22	Fine	8:10 - 11:10	57	59	52	278.5	500
16-Mar-22	Cloudy	14:26 - 17:26	57	60	61	278.5	500
22-Mar-22	Cloudy	8:15 - 11:15	59	67	66	278.5	500
28-Mar-22	Cloudy	14:09 - 17:09	44	42	43	278.5	500
02-Apr-22	Cloudy	8:11 - 11:11	41	36	32	278.5	500
08-Apr-22	Fine	14:17 - 17:17	69	75	75	278.5	500
14-Apr-22	Cloudy	8:15 - 11:15	83	79	79	278.5	500
20-Apr-22	Cloudy	14:12 - 17:12	61	52	56	278.5	500
26-Apr-22	Cloudy	8:23 - 11:23	36	43	41	278.5	500
29-Apr-22	Fine	14:21 - 17:21	43	48	47	278.5	500



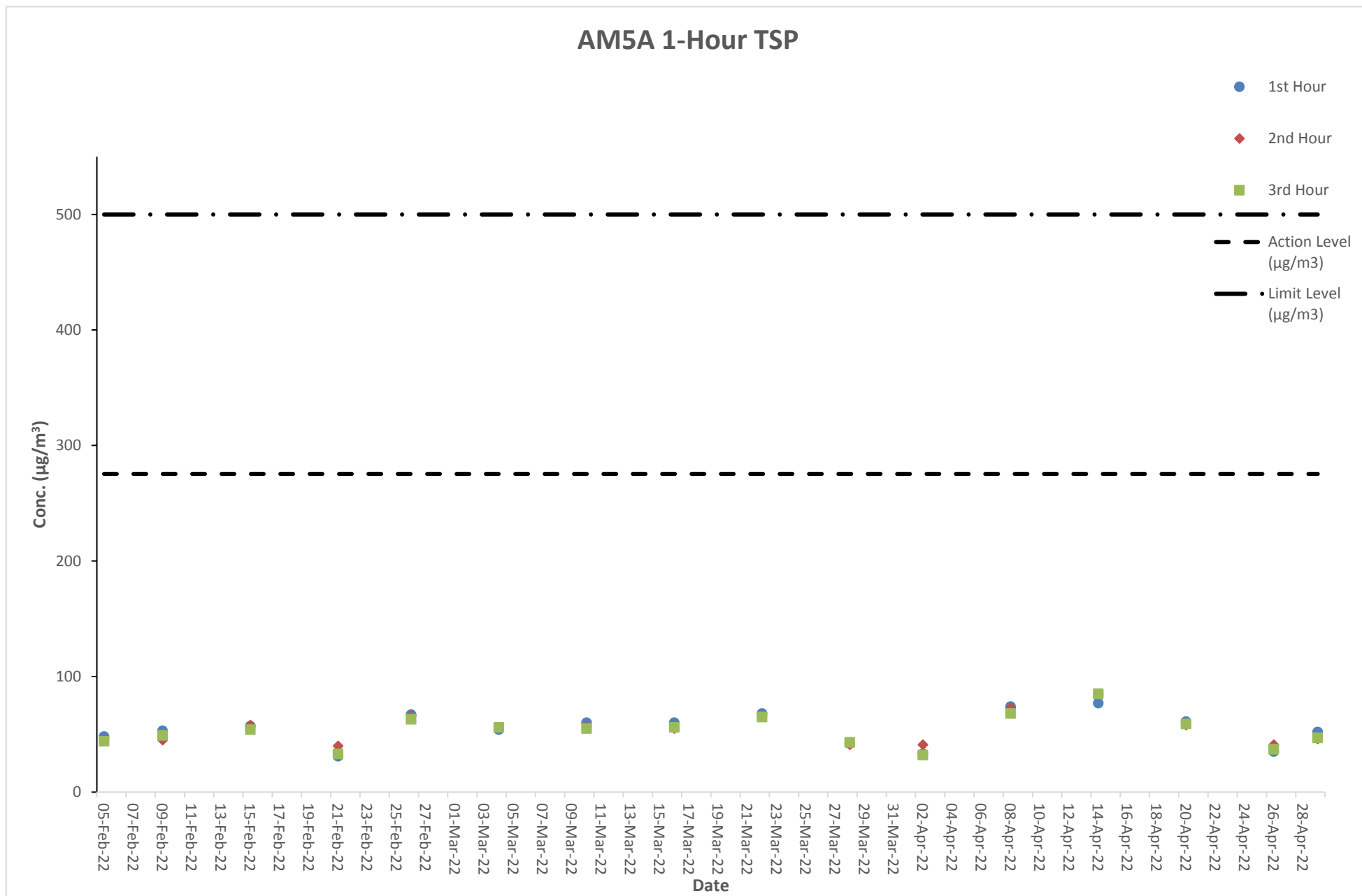
# Graphical Presentation of Air Quality Monitoring Result at Station AM4A (1-hour TSP)



**Air Quality Monitoring Result at Station AM5A (1-hour TSP)**

Date	Weather Condition	Time	Conc. ( $\mu\text{g}/\text{m}^3$ )			Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
			1 <sup>st</sup> Hour	2 <sup>nd</sup> Hour	3 <sup>rd</sup> Hour		
05-Feb-22	Fine	8:38 - 11:38	48	45	44	275.4	500
09-Feb-22	Fine	14:38 - 17:38	53	45	49	275.4	500
15-Feb-22	Fine	8:33 - 11:33	57	58	54	275.4	500
21-Feb-22	Cloudy	14:48 - 17:48	31	40	33	275.4	500
26-Feb-22	Fine	8:24 - 11:24	67	66	63	275.4	500
04-Mar-22	Fine	14:32 - 17:32	54	56	56	275.4	500
10-Mar-22	Fine	8:27 - 11:27	60	57	55	275.4	500
16-Mar-22	Cloudy	14:41 - 17:41	60	55	56	275.4	500
22-Mar-22	Cloudy	8:32 - 11:32	68	66	65	275.4	500
28-Mar-22	Cloudy	14:24 - 17:24	42	41	43	275.4	500
02-Apr-22	Cloudy	8:26 - 11:26	33	41	32	275.4	500
08-Apr-22	Fine	14:34 - 17:34	74	73	68	275.4	500
14-Apr-22	Cloudy	8:30 - 11:30	77	85	85	275.4	500
20-Apr-22	Cloudy	14:29 - 17:29	61	58	59	275.4	500
26-Apr-22	Cloudy	8:38 - 11:38	35	41	37	275.4	500
29-Apr-22	Fine	14:29 - 17:29	52	46	47	275.4	500

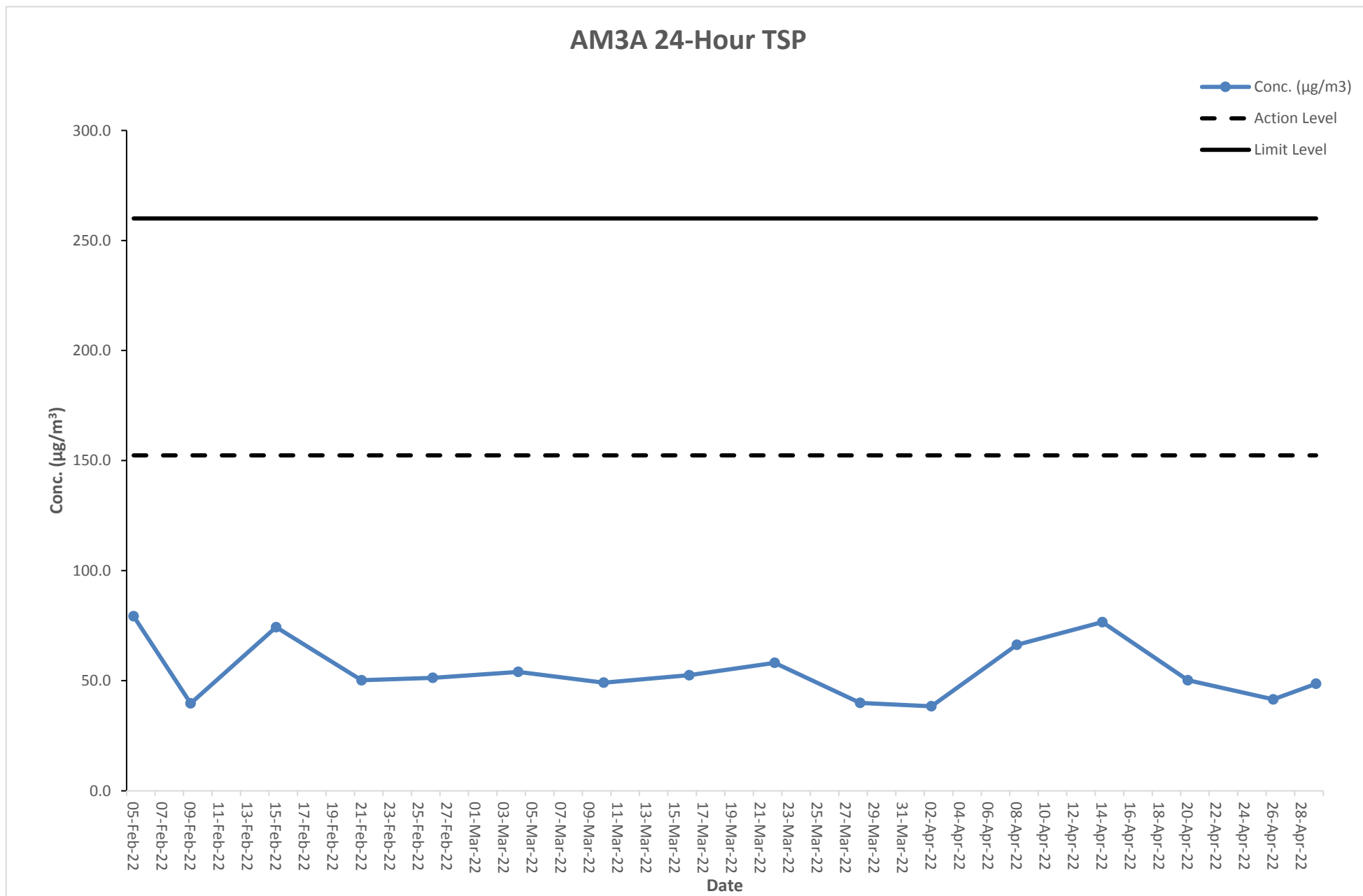
# Graphical Presentation of Air Quality Monitoring Result at Station AM5A (1-hour TSP)



**Air Quality Monitoring Result at Station AM3A (24-hour TSP)**

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Feb-22	10:00	06-Feb-22	10:00	2.8075	2.9352	3144.8	3168.8	24	1.12	1.12	1.12	79.3	Sunny	152.4	260
09-Feb-22	10:00	10-Feb-22	10:00	2.8070	2.8708	3168.8	3192.8	24	1.12	1.12	1.12	39.7	Sunny	152.4	260
15-Feb-22	10:00	16-Feb-22	10:00	2.8018	2.9213	3192.8	3216.8	24	1.12	1.12	1.12	74.3	Sunny	152.4	260
21-Feb-22	10:00	22-Feb-22	10:00	2.8010	2.8817	3216.8	3240.8	24	1.12	1.12	1.12	50.2	Rainy	152.4	260
26-Feb-22	10:00	27-Feb-22	10:00	2.8083	2.8908	3240.8	3264.8	24	1.12	1.12	1.12	51.3	Fine	152.4	260
04-Mar-22	10:00	05-Mar-22	10:00	2.8026	2.8895	3264.8	3288.8	24	1.12	1.12	1.12	54.0	Sunny	152.4	260
10-Mar-22	10:00	11-Mar-22	10:00	2.8086	2.8877	3288.8	3312.8	24	1.12	1.12	1.12	49.1	Sunny	152.4	260
16-Mar-22	10:00	17-Mar-22	10:00	2.8016	2.8861	3312.8	3336.8	24	1.12	1.12	1.12	52.5	Fine	152.4	260
22-Mar-22	10:00	23-Mar-22	10:00	2.8081	2.9015	3336.8	3360.8	24	1.12	1.12	1.12	58.1	Cloudy	152.4	260
28-Mar-22	10:00	29-Mar-22	10:00	2.8050	2.8692	3360.8	3384.8	24	1.12	1.12	1.12	39.9	Rainy	152.4	260
02-Apr-22	10:00	03-Apr-22	10:00	2.8071	2.8690	3385.8	3409.8	24	1.12	1.12	1.12	38.4	Rainy	152.4	260
08-Apr-22	10:00	09-Apr-22	10:00	2.8034	2.9102	3409.8	3433.8	24	1.12	1.12	1.12	66.3	Sunny	152.4	260
14-Apr-22	10:00	15-Apr-22	10:00	2.8022	2.9255	3433.8	3457.8	24	1.12	1.12	1.12	76.6	Fine	152.4	260
20-Apr-22	10:00	21-Apr-22	10:00	2.8033	2.8841	3457.8	3481.8	24	1.12	1.12	1.12	50.2	Sunny	152.4	260
26-Apr-22	10:00	27-Apr-22	10:00	2.8066	2.8735	3481.8	3505.8	24	1.12	1.12	1.12	41.5	Sunny	152.4	260
29-Apr-22	10:00	30-Apr-22	10:00	2.8025	2.8808	3505.8	3529.8	24	1.12	1.12	1.12	48.6	Sunny	152.4	260

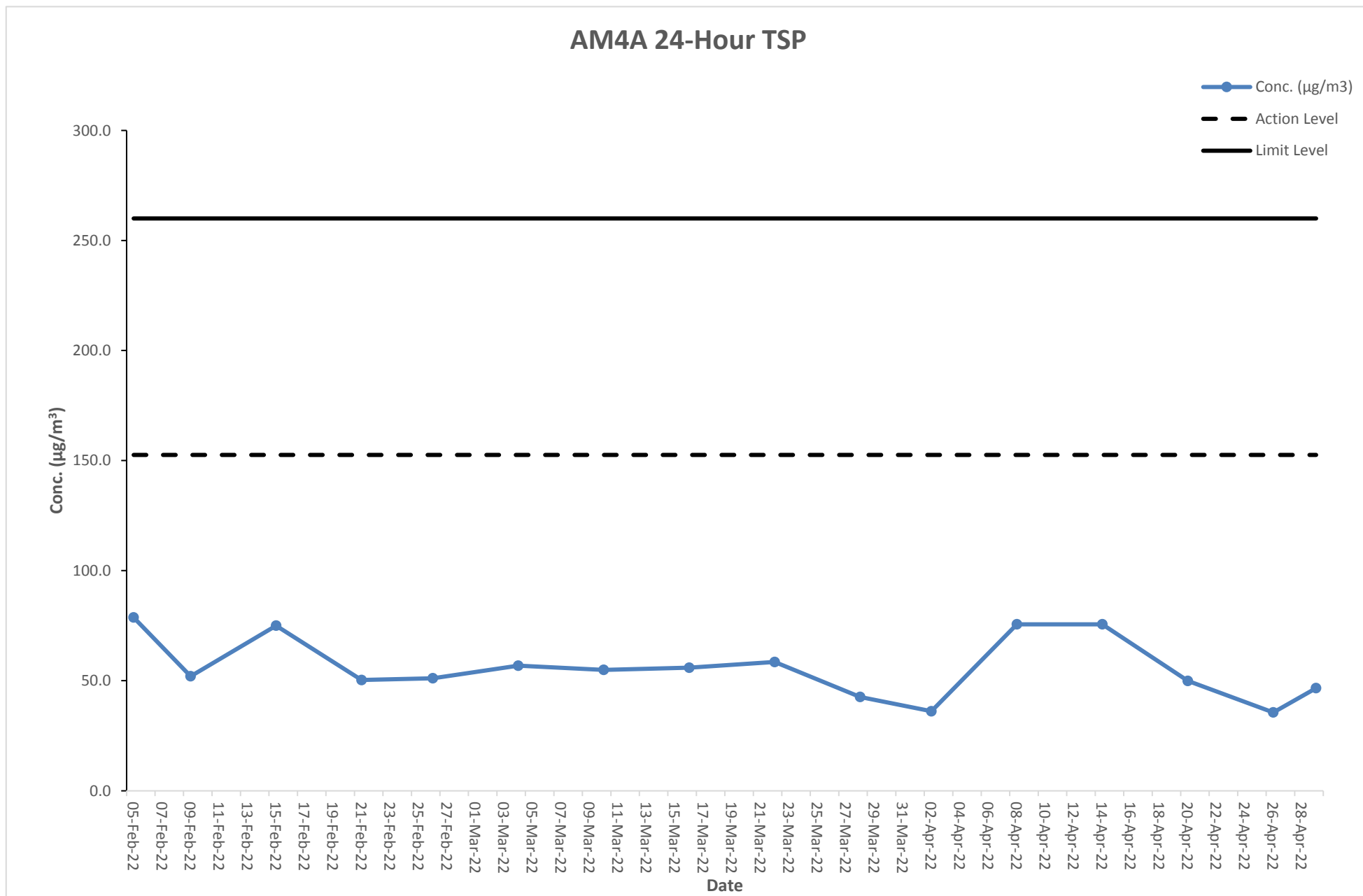
# Graphical Presentation of Air Quality Monitoring Result at Station AM3A (24-hour TSP)



**Air Quality Monitoring Result at Station AM4A (24-hour TSP)**

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Feb-22	10:00	06-Feb-22	10:00	2.8061	2.9328	3564.4	3588.4	24	1.12	1.12	1.12	78.7	Sunny	152.6	260
09-Feb-22	10:00	10-Feb-22	10:00	2.8012	2.8849	3588.4	3612.4	24	1.12	1.12	1.12	52.0	Sunny	152.6	260
15-Feb-22	10:00	16-Feb-22	10:00	2.8079	2.9287	3612.4	3636.4	24	1.12	1.12	1.12	75.0	Sunny	152.6	260
21-Feb-22	10:00	22-Feb-22	10:00	2.8048	2.8858	3636.4	3660.4	24	1.12	1.12	1.12	50.3	Rainy	152.6	260
26-Feb-22	10:00	27-Feb-22	10:00	2.8057	2.8879	3660.4	3684.4	24	1.12	1.12	1.12	51.1	Fine	152.6	260
04-Mar-22	10:00	05-Mar-22	10:00	2.8012	2.8926	3684.4	3708.4	24	1.12	1.12	1.12	56.8	Sunny	152.6	260
10-Mar-22	10:00	11-Mar-22	10:00	2.8081	2.8966	3708.4	3732.4	24	1.12	1.12	1.12	54.9	Sunny	152.6	260
16-Mar-22	10:00	17-Mar-22	10:00	2.8027	2.8927	3732.4	3756.4	24	1.12	1.12	1.12	55.9	Fine	152.6	260
22-Mar-22	10:00	23-Mar-22	10:00	2.8041	2.8983	3756.4	3780.4	24	1.12	1.12	1.12	58.5	Cloudy	152.6	260
28-Mar-22	10:00	29-Mar-22	10:00	2.8085	2.8770	3780.4	3804.4	24	1.12	1.12	1.12	42.6	Rainy	152.6	260
02-Apr-22	10:00	03-Apr-22	10:00	2.8068	2.8650	3805.4	3829.4	24	1.12	1.12	1.12	36.1	Rainy	152.6	260
08-Apr-22	10:00	09-Apr-22	10:00	2.8011	2.9228	3829.4	3853.4	24	1.12	1.12	1.12	75.6	Sunny	152.6	260
14-Apr-22	10:00	15-Apr-22	10:00	2.8059	2.9276	3853.4	3877.4	24	1.12	1.12	1.12	75.6	Fine	152.6	260
20-Apr-22	10:00	21-Apr-22	10:00	2.8046	2.8850	3877.4	3901.4	24	1.12	1.12	1.12	49.9	Sunny	152.6	260
26-Apr-22	10:00	27-Apr-22	10:00	2.8086	2.8660	3901.4	3925.4	24	1.12	1.12	1.12	35.6	Sunny	152.6	260
29-Apr-22	10:00	30-Apr-22	10:00	2.8056	2.8805	3925.4	3949.4	24	1.12	1.12	1.12	46.6	Sunny	152.6	260

# Graphical Presentation of Air Quality Monitoring Result at Station AM4A (24-hour TSP)

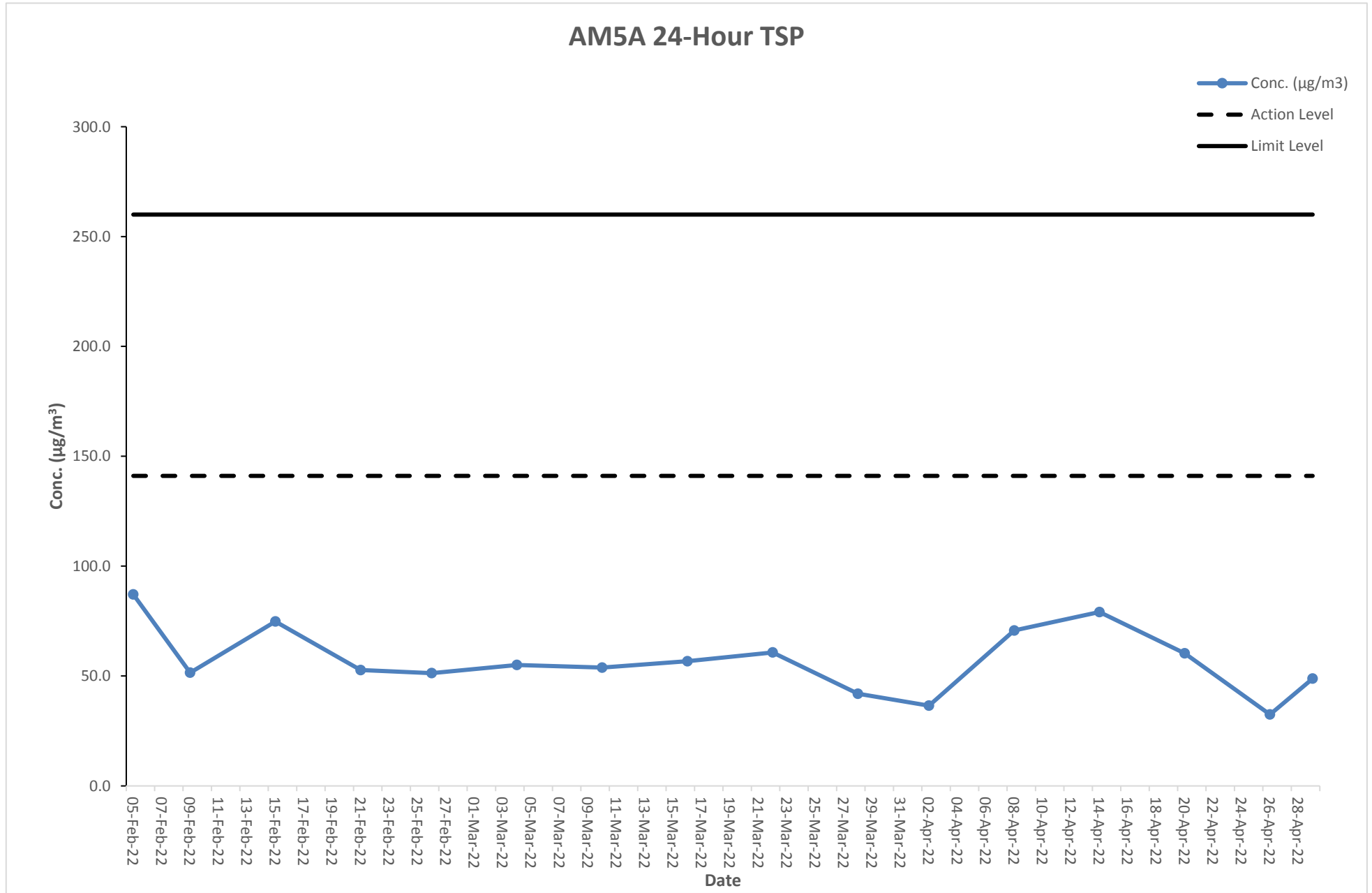




**Air Quality Monitoring Result at Station AM5A (24-hour TSP)**

Start		Finish		Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m <sup>3</sup> /min)			Conc. (µg/m <sup>3</sup> )	Weather Condition	Action Level	Limit Level
Date	Time	Date	Time	Initial	Final	Initial	Final		Initial	Final	Average				
05-Feb-22	10:00	06-Feb-22	10:00	2.8063	2.9465	3704.6	3728.6	24	1.12	1.12	1.12	87.1	Sunny	141.1	260
09-Feb-22	10:00	10-Feb-22	10:00	2.8060	2.8888	3728.6	3752.6	24	1.12	1.12	1.12	51.5	Sunny	141.1	260
15-Feb-22	10:00	16-Feb-22	10:00	2.8050	2.9254	3752.6	3776.6	24	1.12	1.12	1.12	74.8	Sunny	141.1	260
21-Feb-22	10:00	22-Feb-22	10:00	2.8061	2.8909	3776.6	3800.6	24	1.12	1.12	1.12	52.7	Rainy	141.1	260
26-Feb-22	10:00	27-Feb-22	10:00	2.8083	2.8909	3800.6	3824.6	24	1.12	1.12	1.12	51.3	Fine	141.1	260
04-Mar-22	10:00	05-Mar-22	10:00	2.8073	2.8958	3824.6	3848.6	24	1.12	1.12	1.12	55.0	Sunny	141.1	260
10-Mar-22	10:00	11-Mar-22	10:00	2.8064	2.8929	3848.6	3872.6	24	1.12	1.12	1.12	53.8	Sunny	141.1	260
16-Mar-22	10:00	17-Mar-22	10:00	2.8014	2.8927	3872.6	3896.6	24	1.12	1.12	1.12	56.7	Fine	141.1	260
22-Mar-22	10:00	23-Mar-22	10:00	2.8018	2.8995	3896.6	3920.6	24	1.12	1.12	1.12	60.7	Cloudy	141.1	260
28-Mar-22	10:00	29-Mar-22	10:00	2.8053	2.8727	3920.6	3944.6	24	1.12	1.12	1.12	41.9	Rainy	141.1	260
02-Apr-22	10:00	03-Apr-22	10:00	2.8048	2.8635	3945.6	3969.6	24	1.12	1.12	1.12	36.5	Rainy	141.1	260
08-Apr-22	10:00	09-Apr-22	10:00	2.8071	2.9209	3969.6	3993.6	24	1.12	1.12	1.12	70.7	Sunny	141.1	260
14-Apr-22	10:00	15-Apr-22	10:00	2.8032	2.9305	3993.6	4017.6	24	1.12	1.12	1.12	79.1	Fine	141.1	260
20-Apr-22	10:00	21-Apr-22	10:00	2.8071	2.9042	4017.6	4041.6	24	1.12	1.12	1.12	60.3	Sunny	141.1	260
26-Apr-22	10:00	27-Apr-22	10:00	2.8057	2.8580	4041.6	4065.6	24	1.12	1.12	1.12	32.5	Sunny	141.1	260
29-Apr-22	10:00	30-Apr-22	10:00	2.8067	2.8853	4065.6	4089.6	24	1.12	1.12	1.12	48.8	Sunny	141.1	260

# Graphical Presentation of Air Quality Monitoring Result at Station AM5A (24-hour TSP)



**Noise Monitoring Result at Station NM2A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
05-Feb-22	8:45	64.2	54.7	58.2
05-Feb-22	8:50	65.7	54.4	
05-Feb-22	8:55	65.1	54.8	
05-Feb-22	9:00	63.7	55.8	
05-Feb-22	9:05	63.3	54.1	
05-Feb-22	9:10	64.7	54.2	
09-Feb-22	14:43	63.2	54.7	58.4
09-Feb-22	14:48	63.9	55.4	
09-Feb-22	14:53	63.7	54.2	
09-Feb-22	14:58	65.0	54.4	
09-Feb-22	15:03	65.6	55.1	
09-Feb-22	15:08	64.4	56.0	
15-Feb-22	8:40	63.3	54.6	58.4
15-Feb-22	8:45	66.0	54.2	
15-Feb-22	8:50	65.5	55.5	
15-Feb-22	8:55	65.9	55.6	
15-Feb-22	9:00	66.0	55.5	
15-Feb-22	9:05	64.8	54.7	
21-Feb-22	14:53	63.4	55.8	58.0
21-Feb-22	14:58	63.8	54.4	
21-Feb-22	15:03	63.7	55.8	
21-Feb-22	15:08	65.2	54.8	
21-Feb-22	15:13	66.0	55.6	
21-Feb-22	15:18	65.9	55.4	
26-Feb-22	8:31	64.9	55.8	58.2
26-Feb-22	8:36	63.3	55.8	
26-Feb-22	8:41	65.7	54.3	
26-Feb-22	8:46	64.6	55.2	
26-Feb-22	8:51	63.4	55.6	
26-Feb-22	8:56	63.6	54.4	
04-Mar-22	14:39	66.2	56.6	59.8
04-Mar-22	14:44	66.9	55.9	
04-Mar-22	14:49	66.5	56.7	
04-Mar-22	14:54	65.4	57.1	
04-Mar-22	14:59	64.9	56.0	
04-Mar-22	15:04	65.1	57.4	
10-Mar-22	8:32	67.7	58.0	59.9
10-Mar-22	8:37	67.8	57.5	
10-Mar-22	8:42	66.2	56.1	
10-Mar-22	8:47	65.7	56.6	
10-Mar-22	8:52	65.4	58.0	
10-Mar-22	8:57	67.8	56.7	
16-Mar-22	14:48	66.5	57.6	60.2
16-Mar-22	14:53	65.6	56.9	
16-Mar-22	14:58	68.0	56.3	
16-Mar-22	15:03	66.0	57.5	
16-Mar-22	15:08	65.4	56.1	
16-Mar-22	15:13	67.3	57.9	
22-Mar-22	8:37	67.9	57.0	59.7
22-Mar-22	8:42	66.8	56.8	
22-Mar-22	8:47	65.2	57.0	
22-Mar-22	8:52	65.7	56.4	
22-Mar-22	8:57	66.1	56.8	
22-Mar-22	9:02	66.8	57.8	
28-Mar-22	14:31	66.9	57.2	59.5
28-Mar-22	14:36	65.1	57.0	
28-Mar-22	14:41	65.9	57.6	
28-Mar-22	14:46	67.1	56.8	
28-Mar-22	14:51	67.8	57.5	
28-Mar-22	14:56	66.3	57.4	

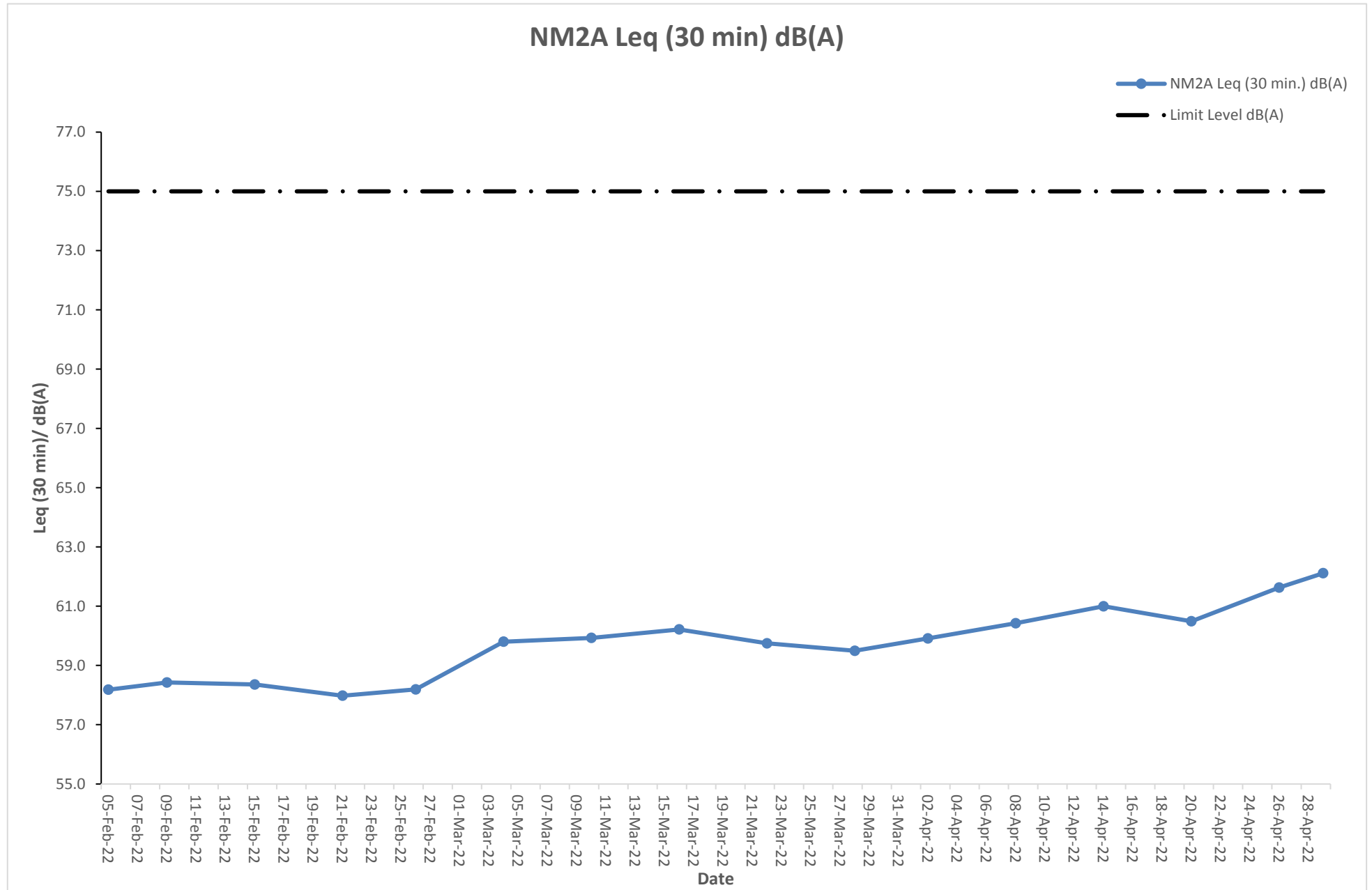
**Noise Monitoring Result at Station NM2A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
02-Apr-22	8:33	67.4	56.4	59.9
02-Apr-22	8:38	66.3	57.9	
02-Apr-22	8:43	67.1	57.6	
02-Apr-22	8:48	66.7	57.6	
02-Apr-22	8:53	65.7	57.2	
02-Apr-22	8:58	65.8	58.0	
08-Apr-22	14:39	67.3	57.8	60.4
08-Apr-22	14:44	66.4	57.1	
08-Apr-22	14:49	65.6	58.1	
08-Apr-22	14:54	67.3	57.7	
08-Apr-22	14:59	65.8	58.3	
08-Apr-22	15:04	66.0	58.4	
14-Apr-22	8:37	66.3	58.1	61.0
14-Apr-22	8:42	65.8	58.3	
14-Apr-22	8:47	66.0	58.4	
14-Apr-22	8:52	65.7	57.9	
14-Apr-22	8:57	65.7	57.2	
14-Apr-22	9:02	66.1	58.5	
20-Apr-22	14:34	66.9	56.8	60.5
20-Apr-22	14:39	67.7	58.0	
20-Apr-22	14:44	67.7	57.3	
20-Apr-22	14:49	66.5	58.4	
20-Apr-22	14:54	65.7	57.0	
20-Apr-22	14:59	68.1	58.4	
26-Apr-22	8:45	62.9	58.7	61.6
26-Apr-22	8:50	63.2	59.6	
26-Apr-22	8:55	63.7	59.5	
26-Apr-22	9:00	62.8	60.3	
26-Apr-22	9:05	63.5	60.2	
26-Apr-22	9:10	63.2	58.8	
29-Apr-22	14:13	64.2	60.1	62.1
29-Apr-22	14:18	63.7	59.0	
29-Apr-22	14:23	64.3	59.0	
29-Apr-22	14:28	62.8	59.6	
29-Apr-22	14:33	64.6	59.7	
29-Apr-22	14:38	64.3	58.8	



The station set-up of a façade measurement at station NM2A.

# Graphical Presentation of Noise Monitoring Result at Station NM2A



**Noise Monitoring Result at Station NM3A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
05-Feb-22	10:15	73.2	66.4	69.3
05-Feb-22	10:20	72.6	66.8	
05-Feb-22	10:25	74.2	64.4	
05-Feb-22	10:30	74.3	66.9	
05-Feb-22	10:35	72.6	65.9	
05-Feb-22	10:40	72.7	64.4	
09-Feb-22	16:16	74.1	67.0	70.0
09-Feb-22	16:21	73.4	64.4	
09-Feb-22	16:26	73.3	65.1	
09-Feb-22	16:31	73.0	66.6	
09-Feb-22	16:36	74.2	67.0	
09-Feb-22	16:41	74.4	65.3	
15-Feb-22	10:10	73.2	64.8	69.7
15-Feb-22	10:15	73.8	65.8	
15-Feb-22	10:20	72.6	66.6	
15-Feb-22	10:25	72.9	66.6	
15-Feb-22	10:30	73.3	65.5	
15-Feb-22	10:35	73.8	66.7	
21-Feb-22	16:26	73.7	65.8	70.4
21-Feb-22	16:31	74.3	65.0	
21-Feb-22	16:36	73.4	65.2	
21-Feb-22	16:41	74.2	67.0	
21-Feb-22	16:46	73.1	65.1	
21-Feb-22	16:51	72.8	64.9	
26-Feb-22	10:01	72.9	64.4	69.2
26-Feb-22	10:06	73.3	64.1	
26-Feb-22	10:11	73.0	64.5	
26-Feb-22	10:16	73.9	64.4	
26-Feb-22	10:21	73.5	65.8	
26-Feb-22	10:26	73.6	64.2	
04-Mar-22	16:09	73.3	65.2	70.1
04-Mar-22	16:14	73.1	64.6	
04-Mar-22	16:19	74.5	65.9	
04-Mar-22	16:24	73.2	65.5	
04-Mar-22	16:29	72.8	64.4	
04-Mar-22	16:34	73.0	66.4	
10-Mar-22	10:05	74.2	65.5	69.6
10-Mar-22	10:10	73.1	66.8	
10-Mar-22	10:15	74.2	65.7	
10-Mar-22	10:20	74.4	65.4	
10-Mar-22	10:25	73.6	66.2	
10-Mar-22	10:30	73.6	66.6	
16-Mar-22	16:18	74.2	64.7	69.8
16-Mar-22	16:23	73.6	66.4	
16-Mar-22	16:28	73.5	64.3	
16-Mar-22	16:33	72.7	64.8	
16-Mar-22	16:38	73.5	64.2	
16-Mar-22	16:43	73.0	66.3	
22-Mar-22	10:10	73.0	64.2	69.6
22-Mar-22	10:15	72.8	65.4	
22-Mar-22	10:20	74.0	66.8	
22-Mar-22	10:25	73.1	66.8	
22-Mar-22	10:30	73.2	64.6	
22-Mar-22	10:35	73.7	65.9	
28-Mar-22	16:01	73.9	67.0	69.2
28-Mar-22	16:06	73.9	66.0	
28-Mar-22	16:11	74.2	64.1	
28-Mar-22	16:16	73.8	66.8	
28-Mar-22	16:21	72.7	65.7	
28-Mar-22	16:26	73.9	66.3	

**Noise Monitoring Result at Station NM3A**

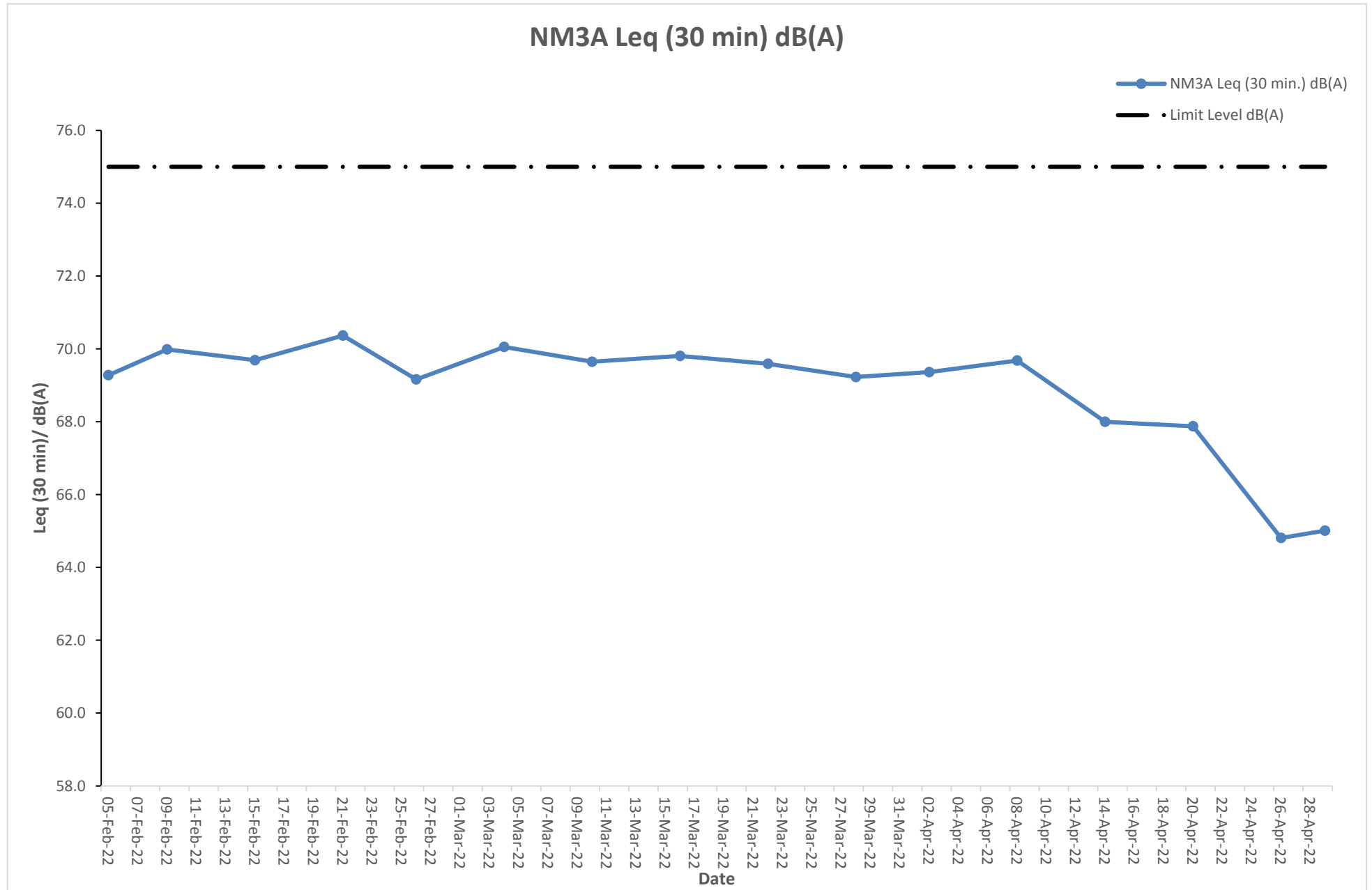
Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
02-Apr-22	10:03	74.2	66.7	69.4
02-Apr-22	10:08	74.2	65.3	
02-Apr-22	10:13	74.1	65.2	
02-Apr-22	10:18	73.2	65.8	
02-Apr-22	10:23	74.3	65.5	
02-Apr-22	10:28	74.0	64.2	
08-Apr-22	16:12	73.3	65.7	69.7
08-Apr-22	16:17	73.0	66.2	
08-Apr-22	16:22	72.6	66.8	
08-Apr-22	16:27	72.7	64.7	
08-Apr-22	16:32	72.8	66.0	
08-Apr-22	16:37	73.4	65.3	
14-Apr-22	10:07	71.4	62.4	68.0
14-Apr-22	10:12	71.5	62.2	
14-Apr-22	10:17	71.2	64.8	
14-Apr-22	10:22	71.1	62.9	
14-Apr-22	10:27	71.7	62.2	
14-Apr-22	10:32	71.9	64.1	
20-Apr-22	16:07	70.8	64.2	67.9
20-Apr-22	16:12	71.3	65.0	
20-Apr-22	16:17	70.6	64.3	
20-Apr-22	16:22	72.2	62.4	
20-Apr-22	16:27	70.6	64.9	
20-Apr-22	16:32	72.2	62.5	
26-Apr-22	10:15	66.0	61.7	64.8
26-Apr-22	10:20	65.7	61.0	
26-Apr-22	10:25	66.2	62.0	
26-Apr-22	10:30	65.4	61.3	
26-Apr-22	10:35	65.8	61.1	
26-Apr-22	10:40	66.0	61.5	
29-Apr-22	15:55	67.7	61.5	65.0
29-Apr-22	16:00	67.6	61.2	
29-Apr-22	16:05	67.1	62.1	
29-Apr-22	16:10	67.3	60.6	
29-Apr-22	16:15	66.9	62.1	
29-Apr-22	16:20	67.4	61.7	



The station set-up of a façade measurement at station NM3A.



# Graphical Presentation of Noise Monitoring Result at Station NM3A



**Noise Monitoring Result at Station NM4A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
05-Feb-22	10:50	71.3	65.1	68.1
05-Feb-22	10:55	69.4	63.8	
05-Feb-22	11:00	69.3	65.8	
05-Feb-22	11:05	70.2	65.5	
05-Feb-22	11:10	70.3	64.0	
05-Feb-22	11:15	70.4	65.2	68.4
09-Feb-22	16:51	69.6	64.1	
09-Feb-22	16:56	70.3	63.8	
09-Feb-22	17:01	69.3	64.7	
09-Feb-22	17:06	71.4	64.8	
09-Feb-22	17:11	70.3	64.5	68.0
09-Feb-22	17:16	70.7	65.3	
15-Feb-22	10:45	69.8	64.0	
15-Feb-22	10:50	69.3	64.6	
15-Feb-22	10:55	71.9	63.2	
15-Feb-22	11:00	69.8	65.6	68.2
15-Feb-22	11:05	69.4	64.6	
15-Feb-22	11:10	69.4	65.7	
21-Feb-22	17:01	70.4	63.4	
21-Feb-22	17:06	71.9	64.8	
21-Feb-22	17:11	71.0	63.5	68.2
21-Feb-22	17:16	71.2	65.7	
21-Feb-22	17:21	70.5	64.8	
21-Feb-22	17:26	69.5	66.0	
26-Feb-22	10:36	72.0	63.4	
26-Feb-22	10:41	69.2	64.1	
26-Feb-22	10:46	70.1	64.0	
26-Feb-22	10:51	71.6	66.0	
26-Feb-22	10:56	69.1	63.2	
26-Feb-22	11:01	69.1	63.9	67.8
04-Mar-22	16:44	69.7	65.5	
04-Mar-22	16:49	69.7	64.5	
04-Mar-22	16:54	71.9	63.8	
04-Mar-22	16:59	69.3	63.2	
04-Mar-22	17:04	69.1	63.3	68.1
04-Mar-22	17:09	69.1	64.3	
10-Mar-22	10:40	70.3	64.2	
10-Mar-22	10:45	71.8	65.7	
10-Mar-22	10:50	72.0	65.4	
10-Mar-22	10:55	71.2	63.5	68.0
10-Mar-22	11:00	69.7	65.4	
10-Mar-22	11:05	70.1	65.2	
16-Mar-22	16:53	70.8	64.6	
16-Mar-22	16:58	71.9	63.3	
16-Mar-22	17:03	69.6	65.6	67.9
16-Mar-22	17:08	70.9	63.6	
16-Mar-22	17:13	69.1	64.4	
16-Mar-22	17:18	71.0	64.9	
22-Mar-22	10:45	71.2	65.5	
22-Mar-22	10:50	70.4	64.6	68.3
22-Mar-22	10:55	70.7	65.0	
22-Mar-22	11:00	70.5	63.2	
22-Mar-22	11:05	70.3	65.3	
22-Mar-22	11:10	69.8	65.1	
28-Mar-22	16:36	71.9	63.1	68.3
28-Mar-22	16:41	71.5	64.9	
28-Mar-22	16:46	72.0	64.1	
28-Mar-22	16:51	71.6	64.2	
28-Mar-22	16:56	70.8	63.3	
28-Mar-22	17:01	71.9	64.0	

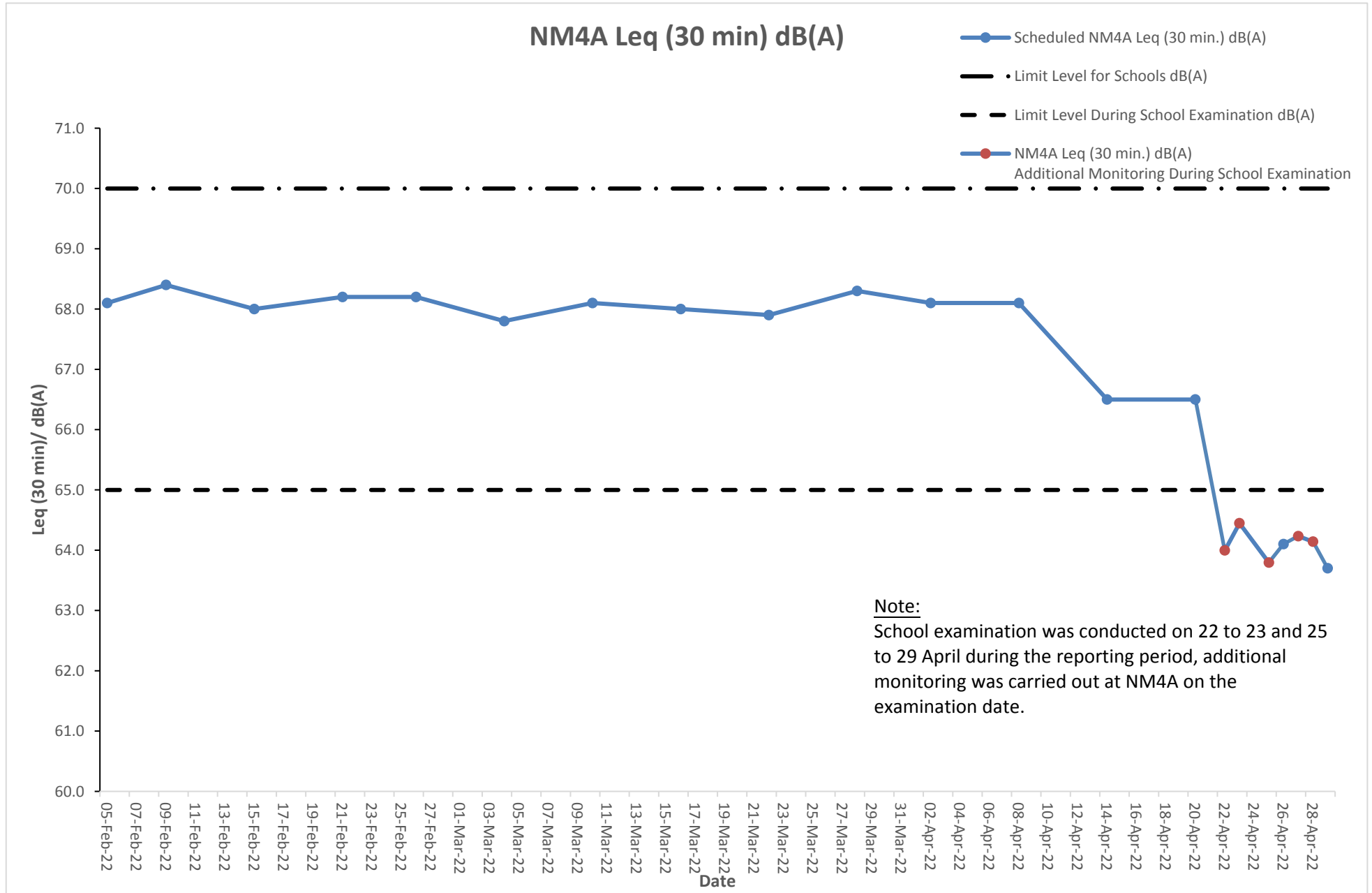
**Noise Monitoring Result at Station NM4A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)
02-Apr-22	10:38	70.0	65.9	68.1
02-Apr-22	10:43	69.6	65.2	
02-Apr-22	10:48	71.9	64.8	
02-Apr-22	10:53	71.3	65.1	
02-Apr-22	10:58	70.1	65.9	
02-Apr-22	11:03	71.2	64.9	
08-Apr-22	16:47	69.8	65.6	68.1
08-Apr-22	16:52	71.1	64.9	
08-Apr-22	16:57	69.9	64.2	
08-Apr-22	17:02	69.6	63.9	
08-Apr-22	17:07	69.7	64.6	
08-Apr-22	17:12	69.6	65.6	
14-Apr-22	10:42	68.1	61.1	66.5
14-Apr-22	10:47	67.3	62.6	
14-Apr-22	10:52	68.5	63.4	
14-Apr-22	10:57	69.7	62.5	
14-Apr-22	11:02	67.9	62.8	
14-Apr-22	11:07	67.6	63.3	
20-Apr-22	16:42	67.4	63.5	66.5
20-Apr-22	16:47	70.0	61.2	
20-Apr-22	16:52	67.9	63.7	
20-Apr-22	16:57	69.3	62.9	
20-Apr-22	17:02	67.4	61.1	
20-Apr-22	17:07	69.2	63.0	
26-Apr-22	10:50	64.7	63.0	64.1
26-Apr-22	10:55	64.5	62.8	
26-Apr-22	11:00	64.9	61.0	
26-Apr-22	11:05	65.0	62.4	
26-Apr-22	11:10	64.0	61.5	
26-Apr-22	11:15	65.3	62.4	
29-Apr-22	16:30	65.4	63.0	63.7
29-Apr-22	16:35	65.5	61.5	
29-Apr-22	16:40	65.4	63.2	
29-Apr-22	16:45	65.4	62.1	
29-Apr-22	16:50	65.5	62.5	
29-Apr-22	16:55	65.4	63.0	



The station set-up of a façade measurement at station NM4A.

**Graphical Presentation of Noise Monitoring Result at Station NM4A**



**Noise Monitoring Result at Station NM5A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)	Leq (30 min.) +3 dB(A)
05-Feb-22	9:35	64.4	56.7	63.1	66.1
05-Feb-22	9:40	66.9	57.7		
05-Feb-22	9:45	66.7	56.4		
05-Feb-22	9:50	66.3	59.0		
05-Feb-22	9:55	65.2	58.7		
05-Feb-22	10:00	64.6	58.8	61.9	64.9
09-Feb-22	15:35	65.2	58.9		
09-Feb-22	15:40	65.7	58.5		
09-Feb-22	15:45	64.4	58.6		
09-Feb-22	15:50	65.2	58.3		
09-Feb-22	15:55	66.7	57.4	63.5	66.5
09-Feb-22	16:00	66.0	58.0		
15-Feb-22	9:30	66.8	57.4		
15-Feb-22	9:35	64.9	56.6		
15-Feb-22	9:40	64.7	58.8		
15-Feb-22	9:45	66.6	56.5	62.8	65.8
15-Feb-22	9:50	64.6	56.8		
15-Feb-22	9:55	64.6	56.8		
21-Feb-22	15:45	67.0	56.2		
21-Feb-22	15:50	67.1	56.5		
21-Feb-22	15:55	67.0	56.4	62.8	65.8
21-Feb-22	16:00	67.1	56.3		
21-Feb-22	16:05	64.5	58.4		
21-Feb-22	16:10	65.3	57.0		
26-Feb-22	9:21	65.8	58.5		
26-Feb-22	9:26	67.0	58.2		
26-Feb-22	9:31	67.0	58.2		
26-Feb-22	9:36	65.9	56.9		
26-Feb-22	9:41	66.8	56.1		
26-Feb-22	9:46	66.7	57.2	62.8	65.8
04-Mar-22	15:29	66.1	56.9		
04-Mar-22	15:34	66.6	57.6		
04-Mar-22	15:39	64.9	57.3		
04-Mar-22	15:44	64.8	58.8		
04-Mar-22	15:49	67.0	57.4	62.8	65.8
04-Mar-22	15:54	67.1	56.7		
10-Mar-22	9:24	66.7	56.3		
10-Mar-22	9:29	67.0	56.8		
10-Mar-22	9:34	64.2	59.0		
10-Mar-22	9:39	64.9	58.5	63.0	66.0
10-Mar-22	9:44	65.1	56.2		
10-Mar-22	9:49	67.1	58.7		
16-Mar-22	15:38	64.2	57.9		
16-Mar-22	15:43	65.8	58.6		
16-Mar-22	15:48	66.3	58.7		
16-Mar-22	15:53	65.9	58.6		
16-Mar-22	15:58	65.5	56.3		
16-Mar-22	16:03	66.8	56.9		
22-Mar-22	9:29	65.1	56.7	63.1	66.1
22-Mar-22	9:34	64.9	56.4		
22-Mar-22	9:39	66.4	57.5		
22-Mar-22	9:44	65.1	57.9		
22-Mar-22	9:49	66.0	58.3		
22-Mar-22	9:54	66.7	58.1	62.8	65.8
28-Mar-22	15:21	64.4	57.1		
28-Mar-22	15:26	64.3	58.1		
28-Mar-22	15:31	65.2	58.4		
28-Mar-22	15:36	64.9	58.7		
28-Mar-22	15:41	64.9	57.4		
28-Mar-22	15:46	65.7	56.5		

**Noise Monitoring Result at Station NM5A**

Date	Time	Measured L10 dB(A)	Measured L90 dB(A)	Leq (30 min.) dB(A)	Leq (30 min.) +3 dB(A)
02-Apr-22	9:23	65.5	56.5	62.2	65.2
02-Apr-22	9:28	66.9	57.0		
02-Apr-22	9:33	64.7	58.0		
02-Apr-22	9:38	65.6	58.3		
02-Apr-22	9:43	65.9	58.3		
02-Apr-22	9:48	65.9	56.4		
08-Apr-22	15:31	67.0	59.0	62.7	65.7
08-Apr-22	15:36	66.2	57.7		
08-Apr-22	15:41	65.1	56.9		
08-Apr-22	15:46	64.8	56.1		
08-Apr-22	15:51	64.4	58.1		
08-Apr-22	15:56	64.9	58.7		
14-Apr-22	9:27	64.9	56.2	63.0	66.0
14-Apr-22	9:32	64.8	58.6		
14-Apr-22	9:37	65.4	56.4		
14-Apr-22	9:42	65.9	57.9		
14-Apr-22	9:47	64.6	57.6		
14-Apr-22	9:52	66.5	56.1		
20-Apr-22	15:26	65.3	58.2	62.8	65.8
20-Apr-22	15:31	65.1	56.1		
20-Apr-22	15:36	65.1	57.1		
20-Apr-22	15:41	65.1	57.0		
20-Apr-22	15:46	65.0	58.7		
20-Apr-22	15:51	66.1	58.6		
26-Apr-22	9:35	62.1	59.1	61.3	64.3
26-Apr-22	9:40	61.5	59.0		
26-Apr-22	9:45	61.9	57.6		
26-Apr-22	9:50	62.4	58.6		
26-Apr-22	9:55	61.7	59.1		
26-Apr-22	10:00	63.6	59.0		
29-Apr-22	15:14	62.9	59.1	61.5	64.5
29-Apr-22	15:19	64.2	59.2		
29-Apr-22	15:24	62.5	59.1		
29-Apr-22	15:29	63.5	59.7		
29-Apr-22	15:34	62.3	58.7		
29-Apr-22	15:39	63.3	58.3		

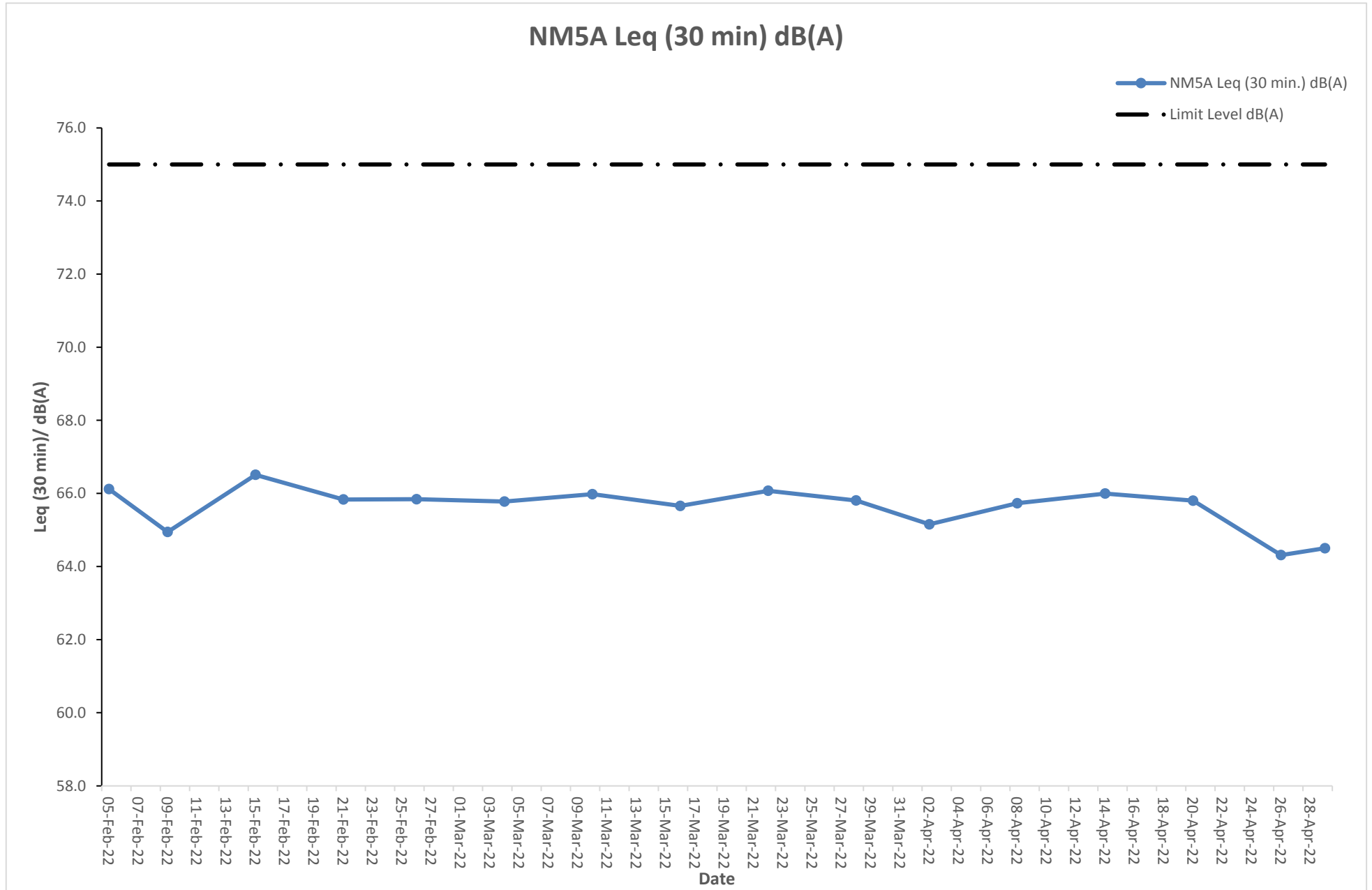
**Remarks:**

+3dB(A) correction was applied to free-field measurement.



The station set-up of a free-field measurement at station NM5A.

# Graphical Presentation of Noise Monitoring Result at Station NM5A





## F. Waste Flow table

**Zone 2A**



**Table F-1: Monthly Waste Flow Table for Zone 2A**

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Materials Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Srotng Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Aug													
Sep													
Oct													
Nov													
Dec													
Sub-total (2022)	6706.26	0.00	120.00	1077.83	5508.43	0.00	0.00	19.88	0.00	0.00	0.00	0.80	41.35
<b>Total</b>	<b>95262.46</b>	<b>0.00</b>	<b>1392.72</b>	<b>11808.81</b>	<b>82060.93</b>	<b>0.00</b>	<b>1246.44</b>	<b>240.28</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>3.40</b>	<b>430.87</b>

Note:

- 32.09 tonnes, 708.14 tonnes, 3019.99 tonnes of inert C&D material were disposed of as public fill to Chai Wan Public Fill Barging Point, Tseung Kwan O Area 137 Public Fill, and Tuen Mun Area 38 respectively in the reporting quarter.
- For inert C&D materials reused in other projects, the projects refer to (1) EcoPark at Tuen Mun, and (2) Green Valley.

**Zone 2B & 2C**

**Table I-1: Monthly Waste Flow Table for Zone 2B & 2C**

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Materials Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Srotting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
<b>2021</b>													
Sep	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct	22.58	22.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.19
Nov	9265.04	10.45	125.93	0.00	9128.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.12
Dec	13462.30	62.94	1041.17	0.00	12358.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.62
Sub-total (2021)	22749.92	95.97	1167.10	0.00	21486.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.93
<b>2022</b>													
Jan	17427.64	0.00	2091.32	100.04	15236.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.60
Feb	18230.98	0.00	991.53	1719.99	15519.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.90
Mar	24777.12	0.00	2176.32	11721.21	10879.59	0.00	0.00	0.00	0.00	0.00	0.00	1.40	16.15
Apr	32749.58	0.00	2409.00	22393.87	7946.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.79
May													
Jun													
Jul													
Aug													
Sub-total (2022)	93185.31	0.00	7668.16	35935.11	49582.04	0.00	0.00	0.00	0.00	0.00	0.00	1.40	47.44
<b>Total</b>	<b>115935.23</b>	<b>95.97</b>	<b>8835.26</b>	<b>35935.11</b>	<b>71068.89</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1.40</b>	<b>91.37</b>

Note:

- 11279.51 tonnes and 23066.25 tonnes of inert C&D material were disposed of as public fill to Tseung Kwan O Area 137 Public Fill and Tuen Mun Area 38 respectively in the reporting quarter.

- For inert C&D materials reused in other projects, the projects refer to (1) Ting On Street, (2) Sai Sha (Site B), (3) Poly U, and (4) Tung Chung.

## **G. Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions**



Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works (i.e. 3 October 2020 for Zone 2A Foundation, Excavation and Lateral Support Works; 30 September 2021 for Zone 2B & 2C Piling Works) to the end of the reporting quarter and are summarized in the **Table G-1** and **Table G-2** below respectively.

**Table G-1: Statistics for complaints, notifications of summons and successful prosecutions for Zone 2A Foundation, Excavation and Lateral Support Works**

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting quarter (Feb 22 – Apr 22)	11	0	0
From 03 October 2020 to end of the reporting quarter	28	0	0

**Table G-2: Statistics for complaints, notifications of summons and successful prosecutions for Zone 2B & 2C Piling Works**

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of summons	Successful prosecutions
This reporting quarter (Feb 22 – Apr 22)	11	0	0
From 30 September 2021 to end of the reporting quarter	13	0	0

**END OF THE REPORT**