14-5-2021

By hand

Environmental Protection Department Environmental Assessment Division

Metro Assessment Group

Kowloon Section (2)

27th floor, Southorn Centre,

130 Hennessy Road,

Wan Chai, Hong Kong

(Attn: Mr. TANG Ho Him, Matthew)

Dear Mr. TANG,

Contract No. EDO 2/2020 Environmental Monitoring Works for Contract No. ED/2018/05 – Kai Tak Development – Stage 5B Infrastructure Works at the Former North Apron Area <u>Submission of Monthly EM&A Report for April 2021 (Version 1.1)</u>

I refer to the Environment Permit (EP) No. EP-337/2009 and EP-445/2013/A for the captioned project.

Pursuant to Condition 3.3 of the EP-337/2009 and Condition of the 3.2 of the EP-445/2013/A, please find enclosed four hard copies and one electronic copy of Monthly EM&A Report for April 2021 (Version 1.1), which has been certified by the ET leader and verified by the IEC for your reference.

Thank you very much for your attention and please feel free to contact Mr. Lee at 2618 2166 should you require further information.

Yours faithfully,

For and on behalf of

Ka Shing Management Consultant Limited

AKCL

Applied knowledge center limited

Company Secretary

Encl. Monthly EM&A report for April 2021 (Version 1.1)

Environmental Monitoring and Audit Report for

Contract No. ED/2018/05 -

Kai Tak Development – Stage 5B infrastructure works at the former north apron area

Contract No.: EDO 2/2020

April 2021

(Version 1.1)

Certified By:	pm.
	(Environmental Team Leader)





Unit C, 11/F, Ford Glory Plaza, Nos. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon.

Website: www.acuityhk.com

Tel. : (852) 2698 6833 Fax.: (852) 2698 9383

Date: 13 May 2021 Your ref: Our ref: PL-202105012

AECOM Asia Company Limited 12/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, New Territories, Hong Kong

Attn.: Mr. LEUNG Man Kit, CRE

Dear Mr. Leung,

Re: Agreement No. EDO 6/2019 Independent Environmental Checker for Contract No. ED/2018/05 Kai Tak Development – Stage 5B Infrastructure works at the Former North Apron Area Verification of Monthly EM&A Report (April 2021)

Reference is made to the Monthly EM&A Report (April 2021) (Version 1.1) provided by the Environmental Team on 13 May 2021.

Please be informed that we have no adverse comment on the captioned submission. We hereby verify the Monthly EM&A Report (April 2021) in accordance with Condition 3.3 of Environmental Permit No. EP-337/2009.

Thank you for your attention.

Yours sincerely, For and on behalf of Acuity Sustainability Consulting Limited

Kevin Li Independent Environmental Checker

c.c.	CEDD	Attn.: Mr. Kinox Wong	By email
	Ka Shing	Attn.: Mr. Chan Pang (ETL)	By email

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EXECUTIVE SUMMARY

1. This is the 3rd Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 30 April 2021.

Breaches of Action and Limit Levels

- 2. 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3. 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 4. Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 5. Summary of the non-compliance in the reporting month for the Project is tabulated in Table I.

No. of Exceedance Action Taken Parameter Action Level Limit Level 1-hr TSP 0 0 N/A 24-hr TSP 0 0 N/A 0 0 Construction noise N/A

Table I Non-compliance Record in the Reporting Month

Complaint log

6. No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table II.

Date of complaint received	Date of compliant	Description of complaint	Recommendations / Action take	Close-out date / Status
No complaint was received in the reporting month.	NA	NA	NA	NA

Table II Summary of complaints in the Reporting Month

Notifications of summons and successful prosecutions

7. No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table III.

Table III Summary of summons and successful prosecutions in the Reporting Month

Date of receiving notification of summons or prosecutions	Date of event	Description of event	Action taken	Close-out date / Status
	NA	NA	NA	NA

Report changes

8. There was no reporting change in the reporting month.

Key construction works in the reporting month

- 9. Major construction activities undertake during the reporting month included:
 - Construction of box culvert
 - Pre-drilling works and trial pit excavation
 - Temporary road diversion at Sa Po Road
 - Bored pile works for landscape elevated walkway
 - Demolition of existing structure at SB-01
 - Pre-drilling work for S14 and KS10
 - Drainage works for Pedestrian Street No.1 & No.2
 - Drainage works for Crowd Dispersal Route

Future key issues

10. The future key issues and potential impact in the coming month are given in Table IV.

tuble 17 Summary of juliare key issues and potential impact in the coming month					
Future key issues in the coming month	Potential impact				
Construction of box culvert	Noise and Air Quality				
Pre-drilling works and trial pit excavation	Noise and Air Quality				
Temporary road diversion at Sa Po Road	Noise and Air Quality				
Bored pile works for landscape elevated walkway	Noise and Air Quality				
Demolition of existing structure and removal of existing piles	Noise and Air Quality				
Pre-drilling work for S14	Noise and Air Quality				
Diversion of rising mains	Noise and Air Quality				
Drainage works for Pedestrian Street No. 1 & No. 2	Noise and Air Quality				
Drainage and pavement works for Crowd Dispersal Route	Noise and Air Quality				

Table IV Summary of future key issues and potential impact in the coming month

1. INTRODUCTION

Project Background

- 1.1 The Kai Tak Development (KTD) is located in the southern part of Kowloon Peninsula of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.
- 1.2 Contract No. ED/2018/05 Kai Tak Development stage 5B infrastructure works at the former north apron area (The Project), comprises mainly the design and construction of a section of dual two-lane Road D1; single two-lane Road L9 and Road L16; a single-lane slip road S14; a pedestrian subway SB-01; an elevated walkway LW-02; renovation of the existing pedestrian subways KS9, KS10 and KS32, as well as modification of the southern end of the existing pedestrian subway KS10; associated footpaths, street lighting, traffic aids, drainage, sewerage, water mains, landscaping, electrical and mechanical works, and ancillary works. The proposed works are shown in Figure 1 and Figure 2. The proposed works and site boundary are shown in Figure 3 and Figure 4. Civil Engineering and Development Department (CEDD) had completed an Environmental Impact Assessment (EIA) and is the Permit Holder.
- 1.3 In accordance with the approved EIA Reports, Environmental Monitoring and Audit (EM&A) programmes are recommended to ensure compliance with the EIA study recommendations. The project proponent was the Civil Engineering and Development Department (CEDD). AECOM Asia Co. Ltd. (AECOM) was commissioned by CEDD as Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual). Acuity Sustainability Consulting Limited (Acuity) was commissioned as the Independent Environmental Checker (IEC). Build King STEC Joint Venture (Build King) was appointed as the main Contractor for the construction works of Contract No. ED/2018/05. Ka Shing was commissioned by CEDD to undertake the role of the Environmental Team (ET) to implement the EM&A programme for The Project.
- The construction work under ED/2018/05 comprises the EM&A Manual (EIA Register No. AEIAR-130/2009 for Kai Tak Development) and Environmental Permit No. EP- 337/2009.
- 1.5 Air quality and noise monitoring has been proposed in the EM&A Manual with EIA Register No. AEIAR-130/2009 for Kai Tak Development.

Project Organization

1.6 The project organization chart and with respect to the EM&A programme is shown in AppendixA. Information of key personnel contact names and telephone numbers are summarized in Table1.1.

Party	Role	Contact Person	Position	Phone No.	Fax No.
Civil Engineering and	Project	Mr. George Ng	Senior Engineer	3842 7107	3842 7107
Development Department (CEDD)	epartment Proponent		Engineer	3842 7137	3842 7137
AECOM Asia Co. Ltd. (AECOM)	Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual)	Mr. Leung Wai Kit	CRE	2412 3410	2798 0783
Acuity Sustainability Consulting Limited (Acuity)	Independent Environmental Checker (IEC)	Mr. Kevin Li	IEC	2698 6833	2698 9383
Ka Shing Management Consultant Limited (Ka Shing)	Environmental Team (ET)	Ir. Chan Pang	ET Leader	2618 2166	2120 7752
Build King – STEC Joint Venture (BK- STEC)	Contractor	Mr. Raymond Lam	Environmental Officer	9713 6817	3850 8508

Table 1.1 Contact Information of Key Personnel

Works Area and Construction Programme

1.7 The construction works commenced on 16 February 2021. The construction programme of the Project is given in Appendix B.

Construction works undertaken during reporting month

1.8 Major construction works of the Project in the reporting month are summarized in Table 1.2:

Construction of box culvertDemolition of existing structure at SB-01Pre-drilling works and trial pit excavationPre-drilling work for S14 and KS10Temporary road diversion at Sa Po RoadDrainage works for Pedestrian Street No. 1 & No. 2Bored pile works for landscape elevated walkwayDrainage works for Crowd Dispersal Route

Table 1.2 Major activities of the Project during reporting month

Submission Status under the Environmental Permits

1.9 The status of required submission under Environmental Permit (EP) conditions under EP-337/2009 are summarized in Table 1.3.

Table 1.3 Summary of Status of Required Submission of EPs

EP Condition EP-337/2009	Submission	Submission Date
Condition 1.11	Notification of Commencement Date of Construction of the Project	12 Jan 2021
Condition 2.3	Management Organization of Main Construction Companies	21 Sep 2020
Condition 2.4	Design Drawings	12 Jan 2021
Condition 2.11	Landscape Mitigation Plans	17 Dec 2020
Condition 3.2	Baseline Monitoring Report	12 Jan 2021
Condition 3.3	Monthly EM&A Report (March 2021)	16 April 2021

2. AIR QUALITY MONITORING

Monitoring Requirements

2.1 In accordance with EM&A Manual (EIA Register Nos. AEIAR-130/2009), impact air quality monitoring shall be carried out during the construction phase of the Project. For regular impact monitoring, a sampling frequency of at least once in every six days will be strictly observed at all of the monitoring stations for 24-hour TSP. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days will be undertaken when the highest dust impact occurs.

Monitoring Locations

2.2 Two designated monitoring stations were selected for air quality monitoring programme. Impact air quality monitoring was conducted at two air quality monitoring stations in the reporting month. Table 2.1 describes the air quality monitoring locations, which are also depicted in Figure 5.

Table 2.1 Locations of Air Quality Monitoring Stations

Air Quality Monitoring Locations for the Project	Location of Measurement
AM2(A) – Ng Wah Catholic Secondary School	Rooftop
AM3 – Sky Tower	Podium floor near T7

Monitoring Parameters, Frequency and Duration

2.3 The air quality monitoring locations and monitoring frequency are listed in Table 2.2.

Air Monitoring Station	Location for Measurement		Parameter		Duration		Frequency
AM2(A) – Ng Wah Catholic Secondary School	Rooftop	-	24-hour average TSP	-	24 hours	-	Once every 6 days
AM3 – Sky Tower	Podium Floor near Tower 7	-	1-hour average TSP	-	1 hour	-	Three times every 6 days

Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration

- 2.4 The monitoring schedule for reporting month and next month is presented in Appendix C.
- 2.5 Photographic records of the impact monitoring setup are shown in Appendix D.

Monitoring Equipment

2.6 24-hour average TSP and 1-hour average TSP levels were measured for impact monitoring. 24-hour average TSP levels were measured by the High Volume Samplers (HVS) and 1-hour average TSP levels were measured by direct reading method to indicate short-term impacts. Wind data monitoring equipment was set up at conspicuous locations for logging wind speed and wind direction near to the dust monitoring locations. Table 2.3 summarizes the equipment to be used in the air quality monitoring.

Equipment Model		Quantity	Calibration Interval
HVS Sampler	TE-5170 X c/w of TSP sampling inlet	2	2 months
HVS Calibrator	TISCH TE-5025A	1	1 year
1-hour TSP Dust Meter	TSI Model AM510 SidePak Personal Aerosol Monitor	2	1 year
Weather Station	Davis Vantage Pro2 Weather Station	1	6 months

Table 2.3 Air Quality Monitoring Equipment

- 2.7 High volume samplers (HVS) (TE-5170 X c/w of TSP sampling inlet) comprising with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).
- 2.8 Calibration certificates, catalogue of equipment are given in Appendix E.

Monitoring Methodology and QA/QC Procedure

24-hour TSP Monitoring

Operating/Analytical Procedures

2.9 Setup criteria of HVS are shown as follows:

- A horizontal platform with appropriate support to secure the samplers against gusty wind was provided.
- No two samplers were placed less than 2m apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2m of separation from walls, parapets and penthouses was set for the rooftop samples.
- A minimum of 2m separation from any supporting structure, measured horizontally was set.
- No furnaces or incineration flues was nearby.
- Airflow around the sampler was unrestricted.
- Any wire fence and gate, to protect the samplers, was not caused any obstruction during monitoring.
- Permission were obtained to setup the samplers and to obtain access to the monitoring stations.
- A secured supply of electricity was provided to operate the samplers.
- 2.10 Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 m³/min. and 1.7 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 2.11 For TSP sampling, Glass Fiber Filter Media 8" x 10" having a collection efficiency of > 99 % for particles of 0.3 μm diameter were used.
- 2.12 The power supply was checked to ensure the sampler worked properly and then placed any filter media at the designated air monitoring station.
- 2.13 The filter holding frame was removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 2.14 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure was sufficient to avoid air leakage at the edges.
- 2.15 The shelter lid was closed and secured with the aluminium strip.
- 2.16 The timer was programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper

can be found out by using the filter number).

2.17 After sampling, the filter was removed from the HVS and put into a clean and labeled seal plastic bag to avoid cross contamination. The elapsed time was also be recorded. The sampled filters were sent to the HOKLAS accredited or other internationally accredited laboratory for weighting.

Maintenance/Calibration

2.18 The following maintenance/calibration are required for the HVS:

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

1-hour TSP Monitoring

Measurement Procedures

- 2.19 The measurement procedures of the 1-hour TSP were conducted in accordance with the Manufacturer's Instruction Manual as follows:
 - Set up the dust meter on a tripod at 1.2m level.
 - Turned on the dust meter and check the battery, if too low, change new ones. Pointed the meter to the source area or the planned measurement area.
 - The zero calibration of the instrument was conducted before and after each sampling.
 - TSP levels were recorded for 1-hour with 5-minute data logging interval.
 - Recorded down the general meteorological conditions, Test ID no., start/end time, spot check reading at each sampling location for data processing.
 - Recorded any activities that may generate dust during measurement period.

Maintenance/Calibration

2.20 The following maintenance/calibration are required for the direct dust meters:

• To validate the accuracy of dust meter, compare the results measured by dust meter and HVS every 12 months throughout all stages of the air quality monitoring.

Wind Data Monitoring

- 2.21 Wind Anemometer was installed at the roof-top of AM2(A) Ng Wah Catholic Secondary School with 10m above ground and clear of constructions or turbulence caused by the buildings.
- 2.22 The wind data was captured by a data logger and the data was downloaded at least once per month for analysis.
- 2.23 The wind data monitoring equipment will be re-calibrated at least once every six months.
- 2.24 Wind direction is divided into 16 sectors of 22.5 degrees each.
- 2.25 Details of weather information during the monitoring period are shown in Appendix F.

Action and Limit Levels

2.26 The Action and Limit Levels of 24-hour average TSP and 1-hour average TSP are summarized in Table 2.4 and Table 2.5 respectively.

	CO (1	
Table 2.4 Action and Limit Levels of	t 24-hour average TSP	tor Construction Dust Monitoring

Parameter	Air Monitoring Station	Action Level, µg/m ³	Limit Level, µg/m ³
24 have average TCD	AM2(A)	175	260
24-hour average TSP	AM3	172	260

Table 2.5 Action and Limit Levels of 1-hour average TSP for Construction Dust Monitoring

Parameter	Air Monitoring Station	Action Level, µg/m ³	Limit Level, µg/m ³
1 hour more TOD	AM2(A)	302	500
1-hour average TSP	AM3	301	500

Impact Air Quality Monitoring results

2.27 Impact monitoring results for 24-hour average TSP and 1-hour average TSP levels at the designed air quality monitoring stations are summarized in Table 2.6 and Table 2.7 respectively.

Air Monitoring Station	Average TSP Concentration, µg/m ³	Range, μg/m ³	Action Level, µg/m ³	Limit Level, µg/m ³
AM2(A)	88	55-143	175	260
AM3	87	42-116	172	260

Table 2.6 Summary of 24-hour average TSP Monitoring Data during the reporting month

Table 2.7 Summary of 1-hour average TSP Monitoring Data during the reporting month

Air Monitoring Station	Average TSP Concentration, µg/m ³	Range, µg/m ³	Action Level, µg/m ³	Limit Level, µg/m ³
AM2(A)	80	50-115	302	500
AM3	62	31-102	301	500

- 2.28 There was no Action and Limit Level exceedance of 24-hour average TSP and 1-hour average TSP levels recorded during the reporting month.
- 2.29 Graphical presentation and detailed monitoring results of 24-hour average TSP and 1-hour average TSP levels are shown in Appendix G and Appendix H respectively.
- 2.30 The Event and Action Plan is provided in Appendix I.
- 2.31 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 2.32 Weather conditions during the monitoring periods were generally fine and did not affect the monitoring results.

3. NOISE MONITORING

Monitoring Requirements

- 3.1 In accordance with EM&A Manual (EIA Register No. AEIAR-130/2009), impact noise monitoring shall be carried out during the construction phase of the Project.
- 3.2 Regular monitoring, L_{Aeq, 30-minute}, for each station will be on a weekly basis and conduct one set of measurements between 0700 1900 on normal weekdays.
- 3.3 If construction works are extended to include works during 1900 0700 as well as public holidays and Sundays, additional weekly impact monitoring will be carried out during the respective restricted hours periods.

Monitoring Locations

3.4 Two designated monitoring stations were selected for noise monitoring programme. Impact noise monitoring was conducted at two noise monitoring stations in the reporting month. Table 3.1 describes the noise monitoring locations, which are also depicted in Figure 6.

Noise Monitoring Locations for the Project	Location of Measurement
M4(A) – Le Billionnaire	Podium (Façade)
M5(A) – Prince Ritz	Podium (Façade)

Table 3.1 Locations of Noise Monitoring Stations

Monitoring Parameters, Frequency and Duration

3.5 The noise monitoring locations and monitoring frequency are listed in Table 3.2.

Noise Monitoring Station	Location for Measurement	Parameter	Frequency and Duration	
M4(A) – Le Billionnaire	Podium (Façade)	L. L. ord	30 - minutes measurement at each monitoring station between 0700	
M5(A) – Prince Ritz	Podium (Façade)	L_{Aeq} , L_{A10} and L_{A90}	 1900 hrs on normal weekdays (Monday to Saturday) at frequency of once per week. 	

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

- 3.6 The monitoring schedule for reporting month and next month is presented in Appendix C.
- 3.7 Photographic records of the monitoring setup are shown in Appendix D.

Monitoring Equipment

3.8 As referred to the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), sound level meters in compliance with the IEC 61672-1 (Type 1) standard [this standard replaced the International Electrotechnical Commission Publications 60651:1979 (Type 1) and 60804:1985 (Type 1)] were used for noise monitoring. Table 3.3 summarizes the equipment to be used in the noise monitoring.

Table 3.3 Noise Monitoring Equipment

Equipment	Model	Quantity	Calibration Interval
Sound Level Meter	RION NL52	1	1 year
Sound Level Calibrator	RION NC 74	1	1 year
Air Flowmeter	TSI TA440 Air Velocity	1	1 year

3.9 Calibration certificates, catalogue of equipment are given in Appendix J.

Monitoring Methodology and QA/QC Procedure

3.10 The noise level measurement was conducted at 1m from the exterior of the nearby noise sensitive receivers building façade and at 1.2m above the ground and facing to the source area or the planned measurement area.

- 3.11 No noise measurement was conducted in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. Air flow was measured by air flow meter.
- 3.12 Turned on the sound level meter and check the battery, if too low, change new ones.
- 3.13 Calibration was conducted immediately prior to and after each noise measurement, the accuracy of the sound level meters was checked by using sound calibrator generating 1,000 Hz with 94dB. Measurement data was found to be valid only if the calibration levels from before and after the noise measurement agreed to within 1.0 dB.
- 3.14 Noise level was recorded.
- 3.15 Recorded any activities that may generate noise during measurement period.

Maintenance and Calibration

- 3.16 The microphone of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 3.17 The sound level meter and sound calibrator were calibrated annually.
- 3.18 Calibration for sound level meter was conducted immediately prior to and following each noise measurement by using sound calibrator generating a known sound pressure level at a known frequency (1,000 Hz with 94dB). Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Action and Limit Levels

3.19 The Baseline Noise Levels and Action and Limit Levels for construction noise is presented in Table 3.4.

Time Period	Noise Monitoring Station	Baseline Noise Levels, dB (A)	Action Level	Limit Level [^]
0700 – 1900 on	M4(A)	69.5	When one	75 ID(A)
normal weekdays	M5(A)	72.5	documented complaint is received.	75 dB(A)

Table 3.4 Baseline Noise Level and Action and Limit Levels for Construction Noise Monitoring

Note: ^ If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

Impact Noise Monitoring results

M5(A)

3.20 Impact noise monitoring results at the designed noise monitoring stations are summarized in Table 3.5 respectively.

Limit

Level

75

dB(A)

complaint is received

Noise
Monitoring
StationMeasured LAeq, 30-
min, Average, dB(A)Measured LAeq, 30-
min,
Range, dB(A)Measured LAeq, 30-
min,
Action LevelM4(A)69.669.3 - 69.9When one documented

Table 3.5 Summary of Noise Monitoring Data during the reporting month

Note: ^ If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

72.0 - 73.9

- 3.21 There was no Action and Limit Level exceedance of L_{Aeq, 30-min} recorded during the reporting month.
- 3.22 Graphical presentation and detailed monitoring results are shown in Appendix K.
- 3.23 The Event and Action Plan is provided in Appendix L.

72.9

- 3.24 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 3.25 Weather conditions during the monitoring periods were generally fine and did not affect the monitoring results.

4. COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1 The environmental impacts predictions were given in Agreement No. CE 35/2006(CE) Kai Tak Development Engineering Study cum Design and Construction of Advance Works -Investigation, Design and Construction - Kai Tak Development Environmental Impact Assessment Report, EIA Register No. AEIAR-130/2009 for Kai Tak Development (The EIA Report). The EM&A data was compared with the EIA predictions as summarized in Table 4.1 to Table 4.3.

Air Monitoring Station	ASR No. in EIA report	Montioring Data with EIA predictPredicted CumulativeMaximum 24-hour average TSP concentrationScenario 1Scenario 2(Mid 2009 to Mid 2013),Late 2016),		Measured 24-hr average TSP in Reporting Month (April 2021) µg/m ³
AM2(A) - Ng Wah Catholic Secondary School	NA	μg/m ³ NA	μg/m ³ NA	55 – 143
AM3 - Sky Tower	A40^	106	138	42 - 116

Table 4.1 Comparison of 24-hour average TSP Monitoring Data with EIA predictions

Note:

 $^{\wedge}$ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

Table 4.2 Comparison of 1-hour average TSP Monitoring Data with EIA predictions

Air Monitoring Station	ASR No. in EIA report	Maximum 1-ho	Cumulative our average TSP atration Scenario 2 (Mid 2013 to Late 2016), µg/m ³	Measured 1-hr average TSP in Reporting Month (April 2021) µg/m ³
AM2(A) - Ng Wah Catholic Secondary School	NA	NA	NA	50 - 115
AM3 - Sky Tower	A40	217^	247^	31 - 102

Note:

^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

Noise Monitoring Station	NSR No. in EIA report	Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour LAeq, 30min, dB(A)	Measured Noise Level in Reporting Month (April 2021) L _{Aeq, 30min} , dB(A)
M4(A) – Le Billionnaire	NA	NA	69.3 - 69.9
M5(A) – Prince Ritz	NA	NA	72.0 - 73.9

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

Note:

* Prediction results are given in the Table 3.20 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.

- 4.2 No prediction in the EIA Report for 24-hour TSP monitoring results at AM2(A).
- 4.3 24-hour TSP monitoring results at AM3 was recorded higher than the Scenario 1 (Mid 2009 to Mid 2013) prediction and lower than the prediction under Scenario 2 (Mid 2013 to Late 2016) in the EIA Report. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.
- 4.4 No prediction in the EIA Report for 1-hour TSP monitoring results at AM2(A).
- 4.5 1-hour TSP monitoring results at AM3 was recorded lower than the prediction in the EIA Report.
- 4.6 No prediction in the EIA Report for noise monitoring results at M4(A) and M5(A).

5. LANDSCAPE AND VISUAL MONITORING

5.1 In accordance with EM&A Manual (EIA Register No. AEIAR-130/2009), Landscape and Visual Monitoring shall be carried out during the construction phase of the Project. Regular impact monitoring will be conducted at least once per week.

Results and Observations

- 5.2 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 5.3 Site inspections were conducted on 1, 8, 15, 22 and 29 April 2021 in the reporting month.
- 5.4 The summary of site audits is attached in Table 5.1.

Close-out Date Inspection Date Key Observations **Recommendations / Actions** / Status 1 April 2021 No NA NA NA 8 April 2021 No NA 15 April 2021 No NA NA 22 April 2021 NA No NA 29 April 2021 No NA NA

Table 5.1 Summary of observations of Landscape and Visual impact during the reporting month

- 5.5 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 5.6 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in Appendix M shall be performed.

6. ENVIRONMENTAL SITE INSPECTION AND AUDIT

Site Inspection

- 6.1 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 6.2 Site inspections were conducted on 1, 8, 15, 22 and 29 April 2021 in the reporting month.
- 6.3 The summaries of site audits is attached in Table 6.1.

at the site (Sa Po Road).

Close-out Inspection Key Observations **Recommendations** / Actions Date / Date Status Closed out on 8 April 2021 Observation: Action Taken: No water spraying measure was Water spraying measure was found at the site (Sa Po Road). implemented at the site (Sa Po 1 April Road). 2021 Closed out on 8 April 2021 Action Taken: Observation: Waste was removed at the site (Sa Waste should be removed regularly

Table 6.1 Summar	v o	f site inspections	observations	during	the re	porting mor	nth

Po Road).

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
8 April 2021			Closed out on 15 April 2021
	Observation:	Action Taken:	
15 April	No dip tray was provided at B1.	The dip tray was provided at B1.	
2021		NA	NA
22 April 2021	Observation: Debris (C&D waste) should be removed at box culvert area.	Action Taken: Debris (C&D waste) was removed at box culvert area.	Closed out on 29 April 2021
29 April 2021	Observation: The rubbish bin should be covered near container of bored pile area.	Action Taken: The rubbish bin was covered near container of bored pile area.	Closed out on 6 May 2021

Status of Waste Management

- 6.4 The amount of wastes generated by the major site activities of the work contracts within the Project during the reporting month is shown in Appendix N.
- 6.5 The Contractor was registered as a chemical waste producer for the Project. The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

Status of Environmental Licenses, Notification and Permits

6.6 A summary of the relevant permits, licenses and/or notifications on environmental protection for the Project is shown in Table 6.2.

Environmental Licenses, Notifications and Permits	Ref. No.	Valid Form	Valid Till
Environmental Permit under EIAO	EP-337/2009	23 Apr 2009	N/A
Construction Dust Notification under APCO	HA/1826/1	29 Dec 2020	N/A
Waste Disposal Billing Account	7038086	21 Aug 2020	N/A
Registration as a Chemical Waste Producer	511-286-B2596-01	15 Sep 2020	N/A
Wastewater Discharge License under	WT00037618-2021	29 Mar 2021	31 Mar 2026
WPCO	WT00037370-2021	29 Ivial 2021	51 Iviai 2020
Construction Noise Permit	Application in progress	NA	NA

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

Implementation Status of Environmental Mitigation Measures

6.7 The Contractor has implemented environmental mitigation measures and requires as stated in the EIA reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures is summarized in Appendix O.

Environmental Complaint and Non-compliance

6.8 No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table 6.3.

Date of complaint received	Date of compliant	Description of complaint	Recommendations / Action take	Close-out date / Status
No complaint was received in the reporting month.	NA	NA	NA	NA

Table 6.3 Summary of complaints in the Reporting Month

6.9 Complaint log is shown in Appendix P.

Notifications of summons and successful prosecutions

6.10 No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table 6.4.

Tuble 0.4 Summary of summons and successful prosecutions in the Reporting month				
Date of receiving notification of summons or prosecutions	Date of event	Description of event	Action taken	Close-out date / Status
No	NA	NA	NA	NA
notification				
of summons				
and				
successful				
prosecutions				
were				
received in				
the reporting				
month.				

Table 6.4 Summary of summons and successful prosecutions in the Reporting Month

6.11 The summaries of cumulative environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in Appendix P.

7. FUTURE KEY ISSUES

Construction Programme in the coming month

7.1 The major construction activities and potential impacts in the next reporting month as follows:

Future key issues in the coming month	Potential impact	
Construction of box culvert	Noise and Air Quality	
Pre-drilling works and trial pit excavation	Noise and Air Quality	
Temporary road diversion at Sa Po Road	Noise and Air Quality	
Bored pile works for landscape elevated walkway	Noise and Air Quality	
Demolition of existing structure and removal of existing piles	Noise and Air Quality	
Pre-drilling work for S14	Noise and Air Quality	
Diversion of rising mains	Noise and Air Quality	
Drainage works for Pedestrian Street No. 1 & No. 2	Noise and Air Quality	
Drainage and pavement works for Crowd Dispersal Route	Noise and Air Quality	

Table 7.1 Summary of future key issues and potential impact in the coming month

- 7.2 The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented:
 - Sufficient watering of the works site with the active dust emitting activities,
 - Limitation of the speed for vehicles on unpaved site roads,
 - Properly cover the stockpiles,
 - Good maintenance to the plant and equipment,
 - Use of quieter plant and Quality Powered Mechanical Equipment (QPME),
 - Provide movable noise barriers,
 - Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,
 - Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,
 - Onsite waste sorting and implementation of trip ticket system,
 - Good management and control on construction waste reduction,
 - Erection of decorative screen hoarding,
 - Strictly following the Environmental Permits and Licenses, and
 - Provide sufficient mitigation measures as recommended in Approved EIA Reports.
- 7.3 The recommended environmental measures proposed in the EM&A Manual (EIA Register No. AEIAR-130/2009) shall be effectively implemented to minimize the potential environmental

impacts. The Contractor is reminded to implement the mitigation measures properly.

Environmental Site Inspection and Monitoring Schedule for next month

7.4 The tentative schedule for weekly site inspection and air quality and noise monitoring in the next month is provided in Appendix C.

8. CONCLUSIONS

- 8.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.
- 8.2 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 8.3 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 8.4 Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 8.5 No complaint was received in the reporting month.
- 8.6 No notification of summons and successful prosecutions was received in the reporting month.
- 8.7 Based on the site inspection and audits, impact air quality and noise monitoring results, it was considered that the mitigation measures were effective to control the potential environmental impacts from the Project during the reporting period.

Figure

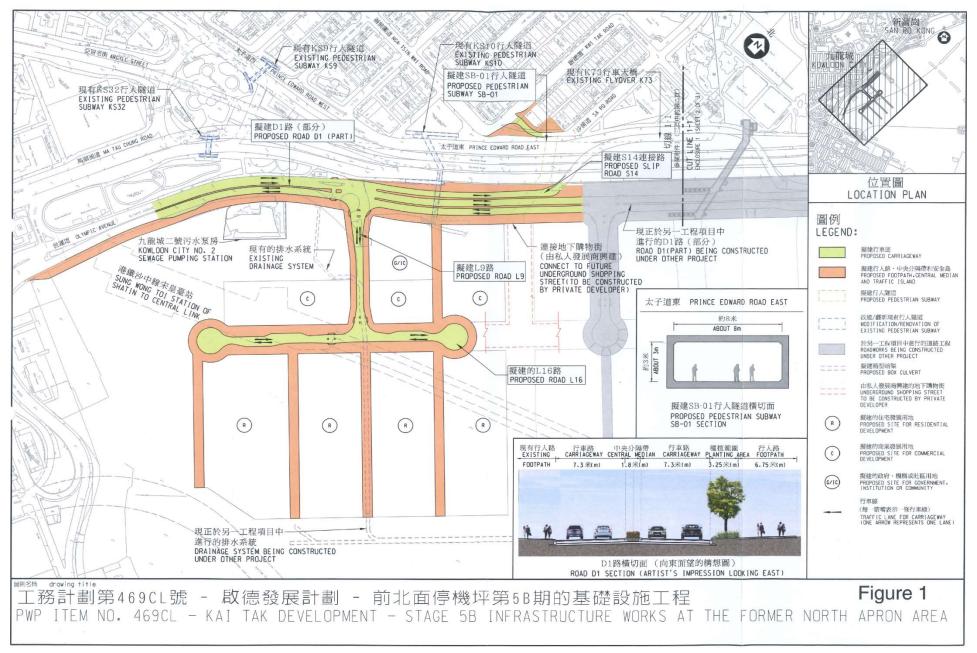


Figure 1 - Proposed works of Contract No. ED/2018/05

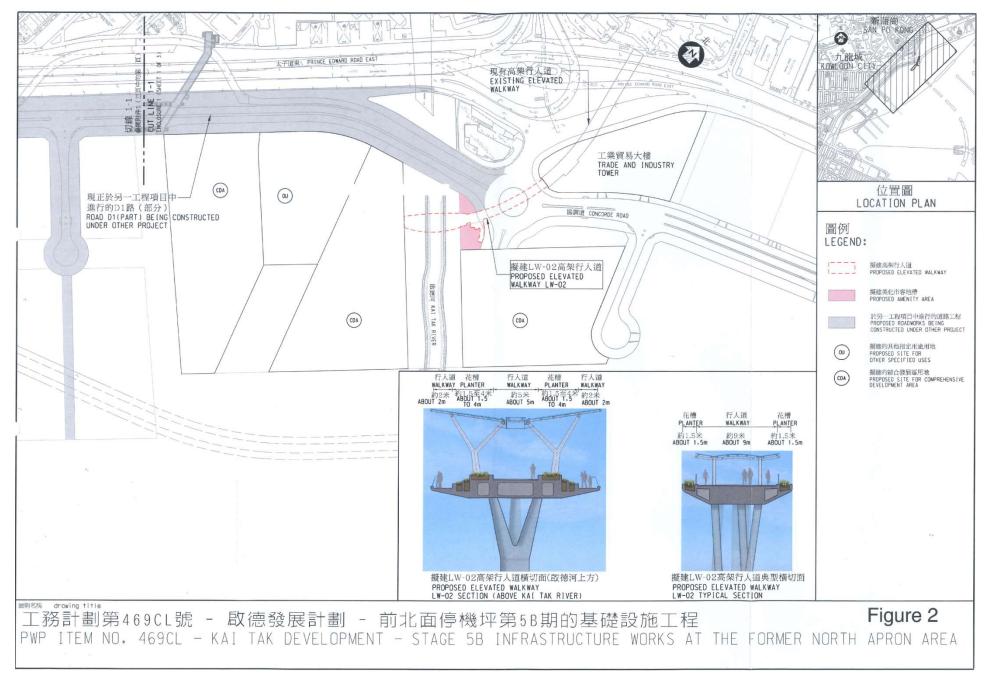


Figure 2 – Proposed works of Contract No. ED/2018/05

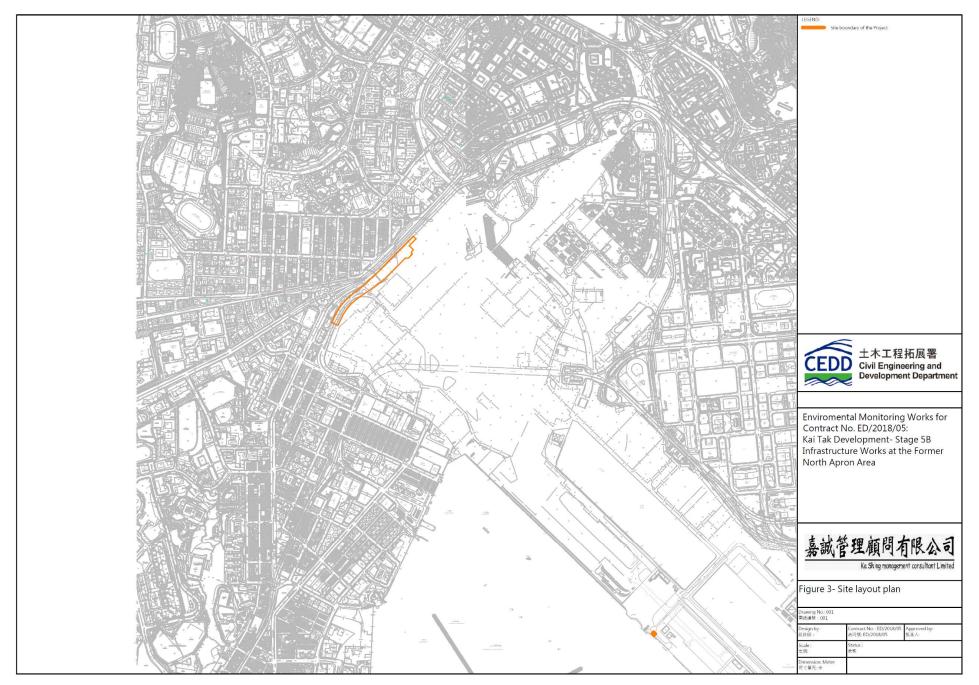


Figure 3 – D1 Road Site Layout Plan

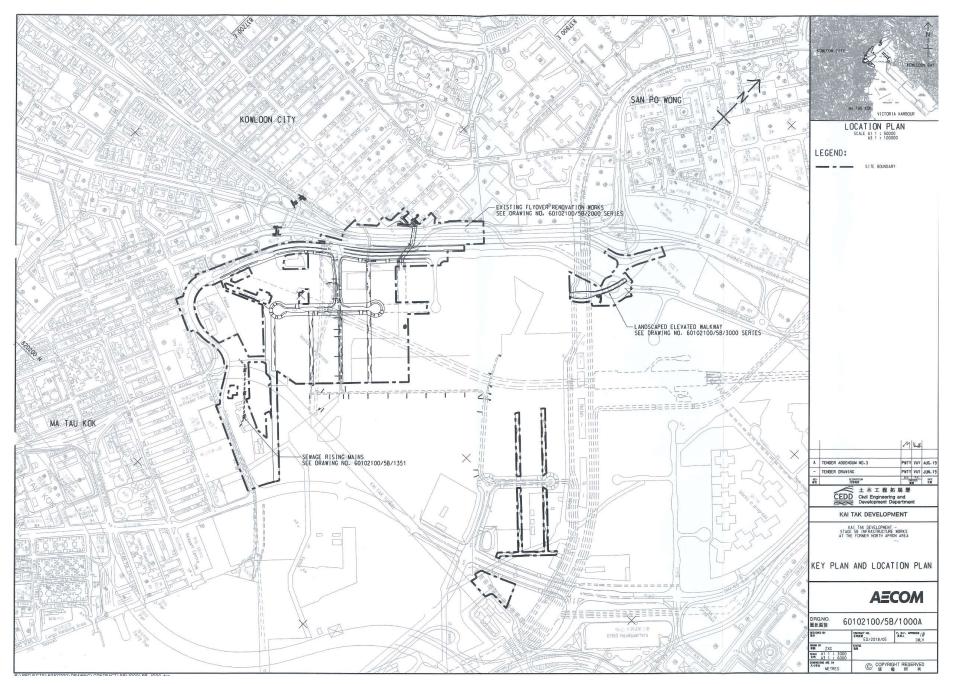


Figure 4 – Site Layout Plan

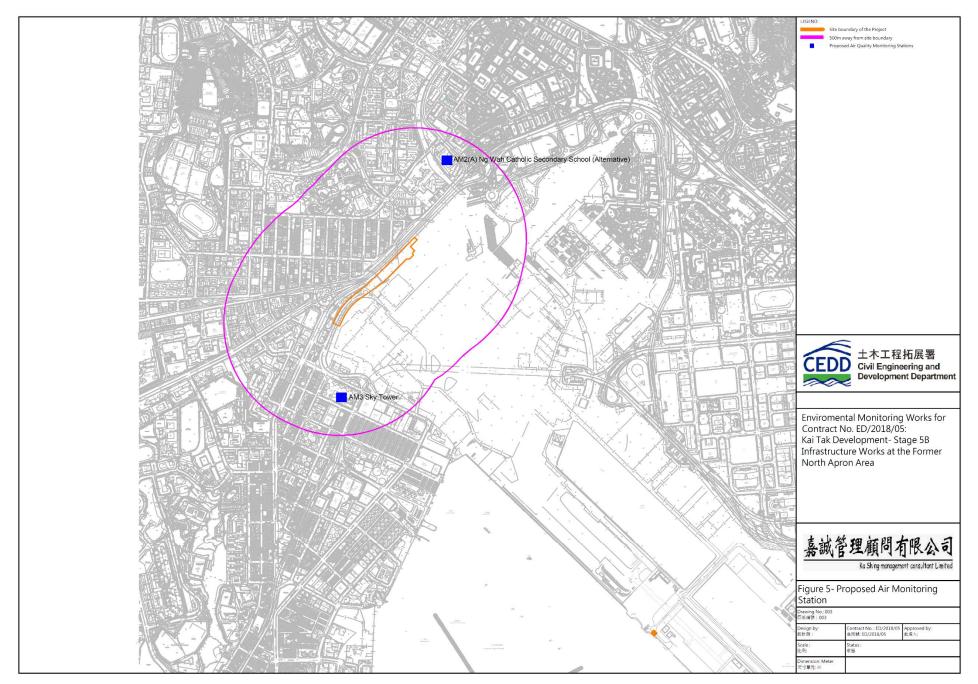


Figure 5 – Air Quality Monitoring Stations

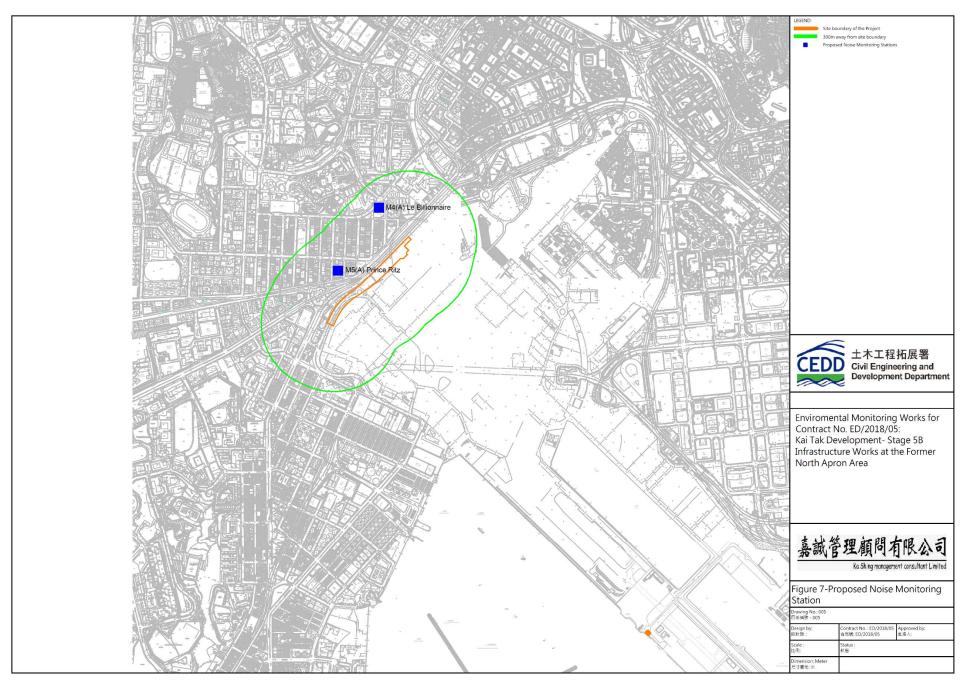
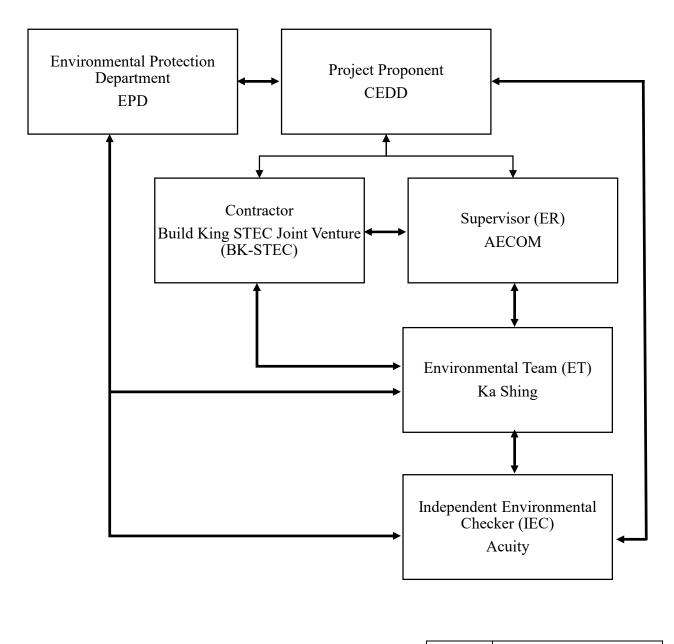
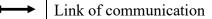


Figure 6 – Noise Monitoring Stations

Appendix A – Organization Chart of EM&A Team





Appendix B – Construction Programme

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(d) | Early Start | Early Finish | Late Start
 | Late Finish

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| Part 6A | 0 | 0d | 0d | 30-Jun-21 | | 30-Jun-21
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| Works Areas WA1, WA2, WA3, WA4, WA5, WA6 and WA7 | 0 | 0d | 0d | 31-Jul-20 | | 31-Jul-20
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| Section 16:Compl of establ work for landscape works within Part 6 | 0 | 0d | 0d | | 30-Jun-26 |
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| MISSIONS, PERMIT APPLICATION & APPROVAL | 240 | | | 22-Jul-20 | 18-Mar-21 | 22-Jul-20
 | 24-Feb-22

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| Prepare/submission of temporary works design | 30 | 30d | 0d | 22-Jul-20 | 20-Aug-20 | 22-Jul-20
 | 20-Aug-20

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| Consultation/approval of temporary works design | 60 | 60d | 0d | 21-Aug-20 | 19-Oct-20 | 21-Aug-20
 | 19-Oct-20

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| Prepare/submit Temp Geotechnical&Structural Works to HyD/TD/CEDD/GEO and others (incl SB-01 by RTBM, etc.) | 30 | 30d | 0d | 22-Jul-20 | 20-Aug-20 | 22-Jul-20
 | 20-Aug-20

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| Consult/approve Temp Geotechnical&Structural Works by HyD/TD/CEDD/GEO and others (incl SB-01 by RTBM, etc.) | 120 | 120d | 0d | 21-Aug-20 | 18-Dec-20 | 21-Aug-20
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| Prepare/submission of Temporary Drainage and Sewerage Management Plan to DSD/CEDD and others | 29 | 29d | 0d | 22-Jul-20 | 19-Aug-20 | 23-Jul-20
 | 20-Aug-20

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| Consultation/approval of Temporary Drainage and Sewerage Management Plan by DSD/CEDD and others | 60 | 60d | 0d | 20-Aug-20 | 18-Oct-20 | 21-Aug-20
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| Application/approval of CNP for night works by relevant authorities and liaison with projects nearby | | | 0d | 19-Dec-20 | 18-Mar-21 | 27-Nov-21
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| Prepare/Submit/Consult/Approval of TTA for road and drainage works along Olympic Avenue | 120 | 106d | 14d | 28-Nov-20 | 27-Mar-21 | 02-Nov-21
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| 2nd TMLG Meeting | 0 | | | | 19-Nov-20 |
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| ION HEALTH AND SAFETY MANAGEMENT | 1801 | | | 22-Jul-20 | 26-Jun-25 | 23-Jul-20
 | 26-Jun-25

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| Prepare/submit of Draft Safety Plan | 13 | 13d | 0d | 22-Jul-20 | 03-Aug-20 | 23-Jul-20
 | 04-Aug-20

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| Prepare/submit Safety Plan | 21 | 21d | 0d | 04-Aug-20 | 24-Aug-20 | 05-Aug-20
 | 25-Aug-20

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| Conduct meeting to discuss Draft Safety Plan | 0 | 0d | 0d | | 03-Aug-20 |
 | 03-Aug-20

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| Prepare/submit Site Traffic Safety Management Plan | 41 | 41d | 0d | 22-Jul-20 | 31-Aug-20 | 23-Jul-20
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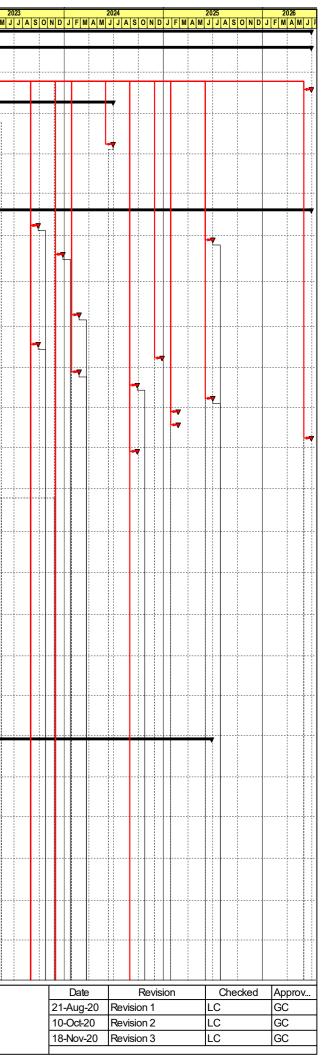
Critical Work

Summary



ED/2018/05 Kai Tak Development - Stage 5B Infrastructure Works at the Former North Apron Area WORKS PROGRAMME

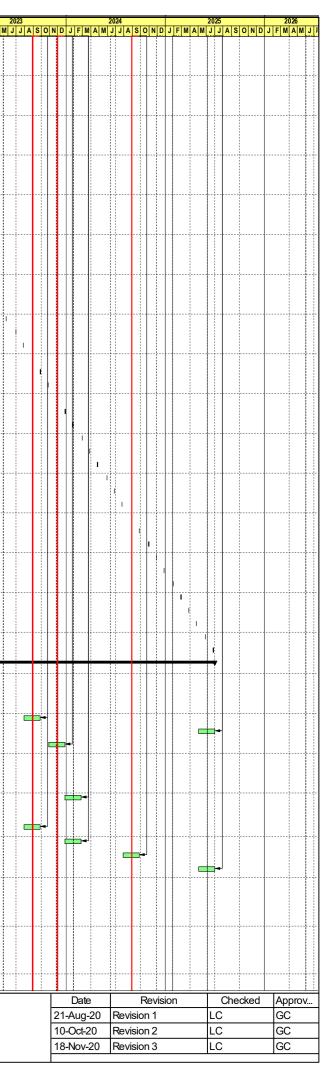
(Page 1 of 5)



Activity ID	Activity Name	Dur (d)	Ori. Dur	TRA	Early Start	Early Finish	Late Start	Late Finish	Total	Calenda	0			202	21			2022		
			(d)	(d)	-	-			Float			OND	JFM			ONDJ	FMA			MAM
KTD.KD.1590 KTD.KD.1600	13th SSMC Meeting 14th SSMC Meeting	1	1d 1d	0d 0d	26-Aug-21 30-Sep-21	26-Aug-21 30-Sep-21	26-Aug-21 30-Sep-21	26-Aug-21 30-Sep-21	0	2										
KTD.KD.1610	15th SSMC Meeting	1	1d	0d	28-Oct-21	28-Oct-21	28-Oct-21	28-Oct-21	0	2										
KTD.KD.1620	16th SSMC Meeting	1	1d	0d	25-Nov-21	25-Nov-21	25-Nov-21	25-Nov-21	0	2									11	
KTD.KD.1630	17th SSMC Meeting	1	1d	0d	30-Dec-21	30-Dec-21	30-Dec-21	30-Dec-21	0	2										
KTD.KD.1640	18th SSMC Meeting	1	1d	0d	27-Jan-22	27-Jan-22	27-Jan-22	27-Jan-22	0	2							1		ļ	
KTD.KD.1650	19th SSMC Meeting	1	1d	0d	24-Feb-22	24-Feb-22			0	2										
KTD.KD.1660 KTD.KD.1670	20th SSMC Meeting 21st SSMC Meeting	1	1d 1d	0d 0d	31-Mar-22 28-Apr-22	31-Mar-22 28-Apr-22	31-Mar-22 28-Apr-22	31-Mar-22 28-Apr-22	0	2										
KTD.KD.1680	22nd SSMC Meeting	1	1d	0d	26-May-22	26-May-22			0	2								1		
KTD.KD.1690	23rd SSMC Meeting	1	1d	0d	30-Jun-22	30-Jun-22	30-Jun-22	30-Jun-22	0	2										
KTD.KD.1700	24th SSMC Meeting	1	1d	0d	28-Jul-22	28-Jul-22	28-Jul-22	28-Jul-22	0	2								1		
KTD.KD.1710	25th SSMC Meeting	1	1d	0d	25-Aug-22	25-Aug-22	-	-	0	2										
KTD.KD.1720	26th SSMC Meeting	1	1d	0d	29-Sep-22	29-Sep-22	-	29-Sep-22	0	2										
KTD.KD.1730 KTD.KD.1740	27th SSMC Meeting 28th SSMC Meeting	1	1d 1d	0d 0d	27-Oct-22 24-Nov-22	27-Oct-22 24-Nov-22	27-Oct-22 24-Nov-22	27-Oct-22 24-Nov-22	0	2										
KTD.KD.1750	29th SSMC Meeting	1	1d	0d	29-Dec-22	29-Dec-22	29-Dec-22	29-Dec-22	0	2										
KTD.KD.1760	30th SSMC Meeting	1	1d	0d	26-Jan-23	26-Jan-23	26-Jan-23	26-Jan-23	0	2									1	
KTD.KD.1770	31st SSMC Meeting	1	1d	0d	23-Feb-23	23-Feb-23	23-Feb-23	23-Feb-23	0	2									1	
KTD.KD.1780	32nd SSMC Meeting	1	1d	0d	30-Mar-23	30-Mar-23	30-Mar-23	30-Mar-23	0	2										
KTD.KD.1790	33rd SSMC Meeting	1	1d	0d	27-Apr-23	27-Apr-23	27-Apr-23	27-Apr-23	0	2										
KTD.KD.1800 KTD.KD.1810	34th SSMC Meeting 35th SSMC Meeting	1	1d 1d	Od Od	25-May-23 29-Jun-23	25-May-23 29-Jun-23	25-May-23 29-Jun-23	25-May-23 29-Jun-23	0	2										
KTD.KD.1820	36th SSMC Meeting	1	1d	0d	27-Jul-23	23-Jul-23	23-Jul-23	23-Jul-23	0	2										
KTD.KD.1830	37th SSMC Meeting	1	1d	0d	31-Aug-23	31-Aug-23	31-Aug-23	31-Aug-23	0	2									†	
KTD.KD.1840	38th SSMC Meeting	1	1d	0d	28-Sep-23	28-Sep-23	28-Sep-23	28-Sep-23	0	2	1									
KTD.KD.1850	39th SSMC Meeting	1	1d	0d	26-Oct-23	26-Oct-23	26-Oct-23	26-Oct-23	0	2										
KTD.KD.1860	40th SSMC Meeting	1	1d	Od	30-Nov-23	30-Nov-23	30-Nov-23	30-Nov-23	0	2										
KTD.KD.1870	41st SSMC Meeting	1	1d	0d	28-Dec-23	28-Dec-23	28-Dec-23	28-Dec-23	0	2										
KTD.KD.1880 KTD.KD.1890	42nd SSMC Meeting 43rd SSMC Meeting	1	1d 1d	0d 0d	25-Jan-24 29-Feb-24	25-Jan-24 29-Feb-24	25-Jan-24 29-Feb-24	25-Jan-24 29-Feb-24	0	2										
KTD.KD.1900	44th SSMC Meeting	1	1d	0d	28-Mar-24	28-Mar-24	28-Mar-24	28-Mar-24	0	2										
KTD.KD.1910	45th SSMC Meeting	1	1d	0d	25-Apr-24	25-Apr-24	25-Apr-24	25-Apr-24	0	2										
KTD.KD.1920	46th SSMC Meeting	1	1d	0d	30-May-24	30-May-24	30-May-24	30-May-24	0	2										
KTD.KD.1930	47th SSMC Meeting	1	1d	0d	27-Jun-24	27-Jun-24	27-Jun-24	27-Jun-24	0	2										
KTD.KD.1940	48th SSMC Meeting	1	1d	0d	25-Jul-24	25-Jul-24	25-Jul-24	25-Jul-24	0	2	ļ.,								<u></u>	
KTD.KD.1950 KTD.KD.1960	49th SSMC Meeting 50th SSMC Meeting	1	1d 1d	0d 0d	29-Aug-24 26-Sep-24	29-Aug-24 26-Sep-24	29-Aug-24 26-Sep-24	29-Aug-24 26-Sep-24	0	2										
KTD.KD.1970	51st SSMC Meeting	1	1d	0d	31-Oct-24	31-Oct-24	31-Oct-24	31-Oct-24	0	2										
KTD.KD.1980	52nd SSMC Meeting	1	1d	0d	28-Nov-24	28-Nov-24	28-Nov-24	28-Nov-24	0	2										
KTD.KD.1990	53rd SSMC Meeting	1	1d	0d	26-Dec-24	26-Dec-24	26-Dec-24	26-Dec-24	0	2										
KTD.KD.2000	54th SSMC Meeting	1	1d	0d	30-Jan-25	30-Jan-25	30-Jan-25	30-Jan-25	0	2										
KTD.KD.2010	55th SSMC Meeting	1	1d	b0	27-Feb-25	27-Feb-25			0	2										
KTD.KD.2020 KTD.KD.2030	56th SSMC Meeting 57th SSMC Meeting	1	1d 1d	0d 0d	27-Mar-25 24-Apr-25	27-Mar-25 24-Apr-25	27-Mar-25 24-Apr-25	27-Mar-25 24-Apr-25	0	2										
KTD.KD.2040	58th SSMC Meeting	1	1d	0d	29-May-25	29-May-25	29-May-25	29-May-25	0	2										
KTD.KD.2050	59th SSMC Meeting	1	1d	0d	26-Jun-25	26-Jun-25	26-Jun-25	26-Jun-25	0	2										
BIM RELATED	DELIVERABLES	1796			31-Jul-20	30-Jun-25	01-Aug-20	30-Jun-26	365	2										
KTD.KD.2060	Prepare/submit BIM Execution Plan	29	29d	0d	31-Jul-20	28-Aug-20	01-Aug-20	29-Aug-20	1	2	-									
KTD.KD.2070	Prepare/submit Combined Services Drawings and CBWD generated from BIM	44	44d	0d	31-Jul-20	12-Sep-20	01-Aug-20	13-Sep-20	1	2										
KTD.KD.2080	Prepare/submit proposal of asset information requirement	364	364d	0d	31-Jul-20	29-Jul-21	01-Aug-20	30-Jul-21	1	2										
KTD.KD.2090 KTD.KD.2100	Prepare/submit Asset Data Deliverables for Section 1 Prepare/submit Asset Date Deliverables for Section 2	60 60	60d 60d	0d 0d	29-Jul-23 02-May-25	26-Sep-23 30-Jun-25	02-May-26 02-May-26	30-Jun-26 30-Jun-26		2										
KTD.KD.2110	Prepare/submit Asset Date Deliverables for Section 3	60	60d	0d	29-Oct-23	27-Dec-23	02-May-26	30-Jun-26	916	2	111									
KTD.KD.2120	Prepare/submit Asset Date Deliverables for Section 4	60	60d	0d	02-May-21	30-Jun-21	02-May-26	30-Jun-26	1826	2					•					
KTD.KD.2130	Prepare/submit Asset Date Deliverables for Section 5	60	60d	0d	19-Oct-21	17-Dec-21	02-May-26	30-Jun-26	1656	2						₽ ₽				
KTD.KD.2140	Prepare/submit Asset Date Deliverables for Section 6	60	60d	0d	29-Jan-22	29-Mar-22	02-May-26	30-Jun-26	1554	2	↓ ,,,,, 									
KTD.KD.2150	Prepare/submit Asset Date Deliverables for Section 7	60	60d	b0	28-Dec-23	25-Feb-24	02-May-26	30-Jun-26		2										
KTD.KD.2160	Prepare/submit Asset Date Deliverables for Section 8	60	60d	b0	31-May-21	29-Jul-21	02-May-26	30-Jun-26	1797	2					-					
KTD.KD.2170	Prepare/submit Asset Date Deliverables for Section 9 Prepare/submit Asset Date Deliverables for Section 11	60	60d	0d	29-Jul-23	26-Sep-23	02-May-26	30-Jun-26		2	 	 							+	
KTD.KD.2190 KTD.KD.2200	Prepare/submit Asset Date Deliverables for Section 11 Prepare/submit Asset Date Deliverables for Section 12	60 60	60d 60d	0d 0d	28-Dec-23 28-Jul-24	25-Feb-24 25-Sep-24	02-May-26 02-May-26	30-Jun-26 30-Jun-26		2										
KTD.KD.2200	Prepare/submit Asset Date Deliverables for Section 12 Prepare/submit Asset Date Deliverables for Section 13	60	60d	0d	02-May-25	30-Jun-25	02-May-20	30-Jun-26		2										
	IEERING SHCEME DROP-OFF SCHEDULE	833			31-Jul-20	10-Nov-22	31-Jul-20	10-Nov-22		2	+						++++		 • • · · ·	
KTD.VE.1000	Review/prepare/submit VE scheme for permanent concrete segment for Pedestrian Subway SB-01	153	96d	0d	31-Jul-20	30-Dec-20	31-Jul-20	30-Dec-20	0	2	┝╈═┥									
KTD.VE.1010	Review/prepare/submit VE scheme for alternative alignment for Pedestrian Subway SB-01	165	133d	0d	31-Jul-20	11-Jan-21	31-Jul-20	11-Jan-21	0	2	┟╧┛									
KTD.VE.1020	Review/prepare/submit VE scheme for pilling arrangement for new pier of existing Bridge K73	431	426d	0d	01-Aug-20	05-Oct-21	01-Aug-20	05-Oct-21	0	2									+	
KTD.VE.1020	Review/prepare/submit VE scheme for pilling arrangement for abutment of Slip Road S14	832	752d	0d	01-Aug-20 01-Aug-20	10-Nov-22	01-Aug-20	10-Nov-22	_	2	┟┿┻				_					
KTD.VE.1030	Review/prepare/submit VE scheme for piling arrangement for lift shaft of KS10	627	766d	0d	01-Aug-20	19-Apr-22	01-Aug-20	19-Apr-22	0	2	┟╧┻┛									
KTD.VE.1040	Review/prepare/submit VE scheme for piling arrangement for lift shaft and staircase of LW-02	677	288d		31-Jul-20	07-Jun-22	31-Jul-20	07-Jun-22			ļ.	 -					1 C C C C C C C C C C C C C C C C C C C			
KID.VE.1000		0//	2000	Od	JI-JUI-ZU	ur-Jun-22	J 1-JUI-ZU	UT-JUN-22	0	2										
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🔻 🔻 Criti	estone Planned W cal Milestone Summary Summary	2011						•								v				~
Criti	cal Work							WORK	3 P	RUG	RAN									

Build King – STEC Joint Venture

WORKS PROGRAMME (Page 2 of 5)



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22010 Over an and over subsect weak weak subsect weak subsect weak weak subsect weak subs	ID. GW. 1000 General and ID. GW. 1010 Construction ID. GW. 1020 Prepare/sub ID. GW. 1030 Design/subm ID. GW. 1030 Design/subm ID. GW. 1040 Construct for ID. GW. 1050 Tree Survey ID. GW. 1055 Initial tree su ID. GW. 1055 Initial tree su ID. GW. 1050 Tree felling v ID. GW. 1070 Protection to ONSTRUCTION OF PI EDESTRIAN SUBWAY CTD. SB. 1000 Liaison/coord CTD. SB. 1010 Expose and id CTD. SB. 1020 Installation of CTD. SB. 1040 Implementati CTD. SB. 1050 Installalion of CTD. SB. 1060 Construction CTD. SB. 1070 Backfilling for	preliminary works (inclu site formation, site set-up, access, temp drain. sys, ground investigation and etc) maintenance and removal of ICA, EVA, Crowd Dispersal Route and other temporary access nit site arrangement plan (inclu hoarding, project sign board and security arrangement) ti/approval site layout plan and Contractor's site accommodation using MiC method ndation and erect Contractor's site accommodation vey report and tree felling application orks retained trees and tree transplating works EDESTRIAN SUBWAY SB-01 SB-01 UNDER PERE AND PROPOSED ROAD D1 USING CUT AND COVER METHOD inate with utility and service undertakings on diversion works (including CLP, DCS work and etc.) nstall protect/support system for existing underground utilities and services (ind 132kV and 400kV cables)	1200 1383 13 44 76 27 120 60 234 234 1518 1138	1383d 13d 30d 62d 27d 120d 53d	0d 0d 14d 14d 0d	31-Jul-20 31-Jul-20 31-Jul-20 13-Aug-20	22-Aug-24 03-Apr-25 12-Aug-20 25-Sep-20	07-Jun-21 17-Oct-20 01-Aug-20	30-Jun-25 30-Jun-25	248 65	1 1 2									
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202000 Annotabel interaction structure	TD.GW.1020 Prepare/sub TD.GW.1030 Design/subm TD.GW.1040 Construct for TD.GW.1050 Tree Survey TD.GW.1050 Tree Survey TD.GW.1050 Tree felling v TD.GW.1050 Tree felling v TD.GW.1050 Protection to ONSTRUCTION OF PI EDESTRIAN SUBWAY CTD.SB.1000 Liaison/coord CTD.SB.1010 Expose and CTD.SB.1030 Construction CTD.SB.1040 Implementati CTD.SB.1050 Installation of CTD.SB.1060 Construction CTD.SB.1060 Construction	hit site arrangement plan (inclu hoarding, project sign board and security arrangement) ti/approval site layout plan and Contractor's site accommodation using MiC method indation and erect Contractor's site accommodation vey report and tree felling application orks retained trees and tree transplating works EDESTRIAN SUBWAY SB-01 SB-01 UNDER PERE AND PROPOSED ROAD D1 USING CUT AND COVER METHOD inate with utility and service undertakings on diversion works (including CLP, DCS work and etc.) nstall protect/support system for existing underground utilities and services (incl 132kV and 400kV cables)	13 44 76 27 120 60 234 1518 1138	13d 30d 62d 27d 120d 53d	0d 14d 14d 0d	31-Jul-20 13-Aug-20	12-Aug-20 25-Sep-20	01-Aug-20			2	•						1 1		
270000 Subscripting of Charles & Subscripting of Charles	TD.GW.1030 Design/subm TD.GW.1040 Construct for TD.GW.1050 Tree Survey TD.GW.1050 Tree Survey TD.GW.1050 Initial tree su TD.GW.1055 Initial tree su TD.GW.1050 Tree felling v TD.GW.1070 Protection to DNSTRUCTION OF PI EDESTRIAN SUBWAY KTD.SB.1000 Liaison/coord KTD.SB.1010 Expose and KTD.SB.1020 Installation of KTD.SB.1030 Construction KTD.SB.1040 Implementati KTD.SB.1050 Installation of KTD.SB.1060 Construction	t/approval site layout plan and Contractor's site accommodation using MiC method ndation and erect Contractor's site accommodation vey report and tree felling application orks retained trees and tree transplating works EDESTRIAN SUBWAY SB-01 SB-01 UNDER PERE AND PROPOSED ROAD D1 USING CUT AND COVER METHOD inate with utility and service undertakings on diversion works (including CLP, DCS work and etc.) nstall protect/support system for existing underground utilities and services (incl 132kV and 400kV cables)	76 27 120 60 234 1518 1138	30d 62d 27d 120d 53d	14d 14d 0d	13-Aug-20	25-Sep-20	-										<pre>{ : :</pre>		
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Decke Number of the second intervence of the second inte	TD.GW.1055 Initial tree su TD.GW.1050 Tree felling v TD.GW.1060 Tree felling v TD.GW.1070 Protection to DNSTRUCTION OF PI EDESTRIAN SUBWAY KTD.SB.1000 Liaison/coord KTD.SB.1010 Expose and KTD.SB.1020 Installation of KTD.SB.1030 Construction KTD.SB.1040 Implementati KTD.SB.1050 Installation of KTD.SB.1060 Construction KTD.SB.1070 Backfilling for	orks retained trees and tree transplating works DESTRIAN SUBWAY SB-01 SB-01 UNDER PERE AND PROPOSED ROAD D1 USING CUT AND COVER METHOD inate with utility and service undertakings on diversion works (including CLP, DCS work and etc.) nstall protect/support system for existing underground utilities and services (incl 132kV and 400kV cables)	120 60 234 1518 1138	120d 53d			29-Dec-20	03-Apr-26	30-Jun-26	1630	1	-								
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DBD 000 Converties of Conv	Construction Construction CTD.SB.1060 Backfilling for	on of traffic diversion for PERE westbound	0	0d	0d		23-Aug-21		23-Aug-21	0	1					7				
The Model Model Set is the Mathematican Mathematim Mathematim Mathematican Mathematican Mathematican Mat	TD.SB.1070 Backfilling for	ELS and excavation for South Shaft at Proposed Road D1	104	132d	12d	26-May-22	28-Sep-22	26-May-22	28-Sep-22	0	1								-	-
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1000000000000000000000000000000000000	TD.SB.1150 Installation of	ELS and excavation for Intermediate Shaft at PERE westbound and tunneling setup	78	72d	6d	24-Aug-21	25-Nov-21	24-Aug-21	25-Nov-21	0	1					-				
Den 1 Head is a local of the second of the CM and electron of the CM and electron of the CM and electron of the control of the CM and electron of the CM and elect	TD.SB.1160 Ground impr	vement works at Intermediate Shaft at PERE westbound for break-in	27	24d	3d	27-Nov-21	30-Dec-21	27-Nov-21	30-Dec-21	0	1						4			
Dia Hunding of FUNA waters also Products for Dia You Di	TD.SB.1170 Conduct seis	nic geophysical survey for PERE and other site investigation works	26	24d	2d	31-Dec-21	31-Jan-22	25-Feb-22	26-Mar-22	44	1						-			
19.00 Starting of TBM and mund is not learn obtained PEEL webboard 44 45 45 44 44 45 44 54.04/2 54.04/2 1	TD.SB.1180 Mobilization,	assembly and SAT of RTBM at Intermediate Shaft at PERE westbound	70	64d	6d	31-Dec-21	26-Mar-22	31-Dec-21	26-Mar-22	0	1						-			1
The NUMB of Mathematican Marked Forder Scatter Marked Ma	TD.SB.1190 Launching of	TBM towards North Shaft at Sa Po Road from CH57 to CH17 (38m, 1.5m/day)	60	48d	12d	27-Mar-22	25-May-22	27-Mar-22	25-May-22	0	2							╘╼╧	-	
103 & 120	TD.SB.1200 Dismantling	f RTBM and removal from Intermediate Shaft at PERE westbound	54	52d	2d	26-May-22	29-Jul-22	26-May-22	29-Jul-22	0	1								-	
103.8 120 Baskfirg for thermodule 3 bend at PERE westbound 4 40 64 64 158-p22 694-bv22 0 1	TD.SB.1210 Installation of	horizontal pipe pile and excavation from CH14 to CH17 (74nos HPP, 270m3 exca)	43	37d	6d	26-May-22	16-Jul-22	26-May-22	16-Jul-22	0	1						-	T	-	1
10.88 1/2 Particle Provide Profile Profi	TD.SB.1220 Construction	of RC structure at Intermediate Shaft at PERE westbound from CH57 to CH67	36	30d	6d	30-Jul-22	09-Sep-22	30-Jul-22	09-Sep-22	0	1								╞╼╤	1
10:88: 20 Conductor of Nothery at Name 10:80: 20 Solution of Name 10:80: 20 <	TD.SB.1230 Backfilling for	Intermediate Shaft at PERE westbound and reinstatement of existing road at PERE westbound	48	42d	6d	13-Sep-22	09-Nov-22	13-Sep-22	09-Nov-22	0	1								-	–
TDB 81/60 Budding Var Mc1 Sub at Sa Park 0			-								1								_	7
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IER 9 200 E-V30 07-Jul 21	TD.LW.1110 Construction	of RC structure (pile cap & pier column) (149m3, 1 team)	65	53d	12d	07-May-21	24-Jul-21	07-May-21		0	1			14	Ŧ	1				
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TDLW.160 Installation of ELS and excavation for pile cap construction (319.9m3 exca, 1 team) 26 22d 4d 19-Jun-21 20-Jul-21 07-Dec-21 142 1 TDLW.170 Construction of RC structure (pile cap & pier column) (138m3, 1 team) 65 53d 12d 21-Jul-21 06-Oct-21 10-Jan-22 29-Mar-22 142 1 OOTBRIDGE (PIER 10 TO PIER 11) 129 V 07-Oct-21 14-Mar-22 30-Mar-22 13-Sep-22 147 1 TDLW.1180 Implementation of TTA for Concorde Road roundabout and erecting temp. working platform across carriageway 12 12d 0d 07-Oct-21 30-Mar-22 13-Apr-22 142 1								-			1		1	-			-			
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TD.LW.1180 Implementation of TTA for Concorde Road roundabout and erecting temp. working platform across carriageway 12 12d 0d 07-Oct-21 21-Oct-21 30-Mar-22 13-Apr-22 142 1				53d	12d				29-Mar-22	142	1				40					
	OOTBRIDGE (PIER 10	O PIER 11)	129			07-Oct-21	14-Mar-22	30-Mar-22	13-Sep-22	147	1					-		-		
	TD.LW.1180 Implementati	on of TTA for Concorde Road roundabout and erecting temp. working platform across carriageway	12	12d	Od	07-Oct-21	21-Oct-21	30-Mar-22	13-Apr-22	142	1					<u> </u>				
V Milestone Planned W / / / / / / / / / / / / / / / / /	✓ Milestone	Planned W																		
✓ Milestone Planned W ✓ Critical Milestone Summary							Develop	ment - C	Stage St	אזווו ס	astru	iciui	e wu	102	αιιί	IE FC				

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Build King – STEC Joint Venture

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Activity ID	Activity Name	Dur (d)	Ori. Dur	TRA	Early Start	Early Finish	Late Start	Late Finish	Total	Calendar	0	ſ		2021		_	2022	2		_
			(d)	(d)	-				Float			OND	JFM			NDJF	MAMJJ	ASO	NDJFM	AM
	Erecting temp. working platform at roadside	26	24d	2d	22-Oct-21 22-Nov-21	20-Nov-21	23-Apr-22	25-May-22	147	1										
	Construction of RC bridge structure (434m3, 2 teams) Prestressing works	65 26	65d 26d	0d 0d	12-Feb-22	11-Feb-22 14-Mar-22	26-May-22 12-Aug-22	11-Aug-22 13-Sep-22	147 147	1										
	(PIER 11 TO PIER 12)	122	200	ou	22-Oct-21	19-Mar-22	14-Apr-22	13-Sep-22		1					-	╋╋┷┿	▼			
	Implementation of TTA for Concorde Road roundabout and erecting temp. working platform across carriageway	12	12d	0d	22-Oct-21	04-Nov-21	14-Apr-22	30-Apr-22	142	1					-					
KTD.LW.1230	Erecting temp. working platform at roadside	26	24d	2d	05-Nov-21	04-Dec-21	03-May-22	02-Jun-22	142	1					┝					
KTD.LW.1240	Construction of RC bridge structure (311m3, 2 teams)	58	58d	0d	06-Dec-21	17-Feb-22	04-Jun-22	11-Aug-22	142	1										
KTD.LW.1250	Prestressing works and bearing installation works	26	26d	0d	18-Feb-22	19-Mar-22	12-Aug-22	13-Sep-22	142	1						-	۹			
	STAIR CASE, SOFT LANDSCAPING & OTHER WORKS	787			25-Jan-21	26-Sep-23	17-Nov-21	26-Sep-23	0	1										
	Pre-drilling works (6 nos, 2 rig)	48	46d	2d	25-Jan-21	24-Mar-21	17-Nov-21	14-Jan-22		1					-+					
	Piling works for pre-bored H-piles for PC1, PC2, PC3 and PC4 (19 nos, 610dia x 70m, 2 rigs)	78	72d	6d	15-Jan-22	23-Apr-22	15-Jan-22	23-Apr-22	0	1							7			
KTD.LW.1280	Installation of ELS and excavation for pile caps construction (PC1, PC2, PC3 and PC4, 379.1m3 exca, 1 team)	38	34d	4d	25-Apr-22	10-Jun-22	25-Apr-22	10-Jun-22	0	1							_			
KTD.LW.1290 KTD.LW.1300	Construction of RC structures (inclu. pile caps, pier column, lift shaft, staircase, etc.) Lift and other E&M installation, testing and commissioning	78 156	64d 144d	14d 12d	11-Jun-22 14-Sep-22	13-Sep-22 23-Mar-23	11-Jun-22 16-Nov-22	13-Sep-22 30-May-23	0 52	1										
KTD.LW.1300	Construction of roof, planter, landscape softworks, other facilities and ABWF works for whole walkway	208	182d	26d	14-Sep-22	30-May-23	14-Sep-22	30-May-23	0	1									L	-
	Planned Completion of Landscaped Elevated Walkway LW-02 (Related to Section 1)	0	0d	Od	11 000 22	30-May-23	11 000 22	30-May-23	0	1										F
	Advance Completion of Landscaped Elevated Walkway LW-02 to Specific Contract Completion Date (Section 1)	101	101d	0d	30-May-23	26-Sep-23	30-May-23	26-Sep-23	0	1					-					- F
CONSTRUCT	ION OF BOX CULVERT B1	364			31-Jul-20	29-Jul-21	20-Oct-20	29-Jul-21	0						•					
KTD.BC.1000	Prepare/submission of temporary EVA diversion scheme with SCL	60	60d	0d	31-Jul-20	28-Sep-20	02-Nov-20	31-Dec-20	94	2	اظ									
KTD.BC.1010	Consult/liaison/vetting/approval of temporary EVA diversion scheme with SCL	120	120d	0d	30-Aug-20	27-Dec-20	02-Dec-20	31-Mar-21	94	2	-									
BOX CULVER	T B1 (CHB1 364.584 TO CHB1 168.00)	225			20-Oct-20	29-Jul-21	13-Nov-20	29-Jul-21	0						7					
KTD.BC.1020	Installation of ELS and excavation for CHB1 364.584 to CHB1 348.00 (24m ELS, 523.8m3 exca, 2 team)	26	24d	2d	20-Oct-20	19-Nov-20	13-Nov-20	12-Dec-20	20	1										
KTD.BC.1030	Installation of ELS and excavation for CHB1 348.00 to CHB1 216.00 (12718m3, 2 teams)	78	72d	6d	02-Nov-20	03-Feb-21	25-Nov-20	02-Mar-21	20	1				,						
KTD.BC.1040	Construction of RC box culvert structure (1435m3, 4 teams)	78	74d	2d	05-Jan-21	16-Apr-21	28-Jan-21	11-May-21	20	1				· · · · · ·						
KTD.BC.1050	Backfiling from CHB1 364.584 to CHB1 216.00 (10043m3, 4 teams)	78	74d	2d	25-Mar-21	06-Jul-21	26-Apr-21	29-Jul-21	20	1										
KTD.BC.1060	Excavation for CHB1 216.00 to CHB1 168.00 by ELS/open-cut/other accepted method (4600m3, 2 teams) Construction of RC box culvert structure from CHB1 216.00 to CHB1 168.00 (370m3, 3 teams)	32 52	32d 48d	7d	01-Apr-21	13-May-21	01-Apr-21	13-May-21	0	1			L.							
KTD.BC.1070 KTD.BC.1080	Backfilling from CHB1 216.00 to CHB1 168.00 (3800m3, 4 teams)	52	400 48d	4d 4d	19-Apr-21 28-May-21	21-Jun-21 29-Jul-21	19-Apr-21 28-May-21	21-Jun-21 29-Jul-21	0	1										
	T B1 (CHB1 168.00 TO CH. 89.123)	225	-100	τu	20-Oct-20	29-Jul-21	20-0ct-20	29-Jul-21	0	1										
KTD.BC.1090	Installation of ELS and excavation for CHB1 115.392 to CHB1 168.00 (114m ELS, 3400m3 exca, 2 teams)	51	33d	6d	20-Oct-20	18-Dec-20	20-Oct-20	18-Dec-20	0	1										
KTD.BC.1095	Encounter CLP cables at CHB1 143.3 to CHB1 131.125 and removal by CLP	12	12d	0d	03-Nov-20	16-Nov-20	03-Nov-20	16-Nov-20	0	1										
KTD.BC.1100	Construction of RC box culvert structure for CHB1 115.392 to CHB1 168.00 (434m3, 2 teams)	78	78d	0d	28-Nov-20	05-Mar-21	28-Nov-20	05-Mar-21	0	1										
KTD.BC.1110	Backfilling from CHB1 168.00 to CHB1 115.392 and construct temporary diversion EVA with facilities (2374m3, 2 teams)	52	46d	6d	23-Jan-21	31-Mar-21	23-Jan-21	31-Mar-21	0	1										
KTD.BC.1120	Traffic diversion for MTRC EVA of SCL Station and SUA	0	0d	0d		31-Mar-21		31-Mar-21	0	1			7							
KTD.BC.1130	Installation of ELS and excavation for CHB1 115.392 to CHB1 89.123 (90m ELS, 1860m 3 exca, 2 teams)	29	26d	3d	01-Apr-21	10-May-21	01-Apr-21	10-May-21	0	1										
KTD.BC.1140	Construction of RC box culbert structure for CBB1 115.392 to CHB1 89.123 (236m3, 2 teams)	42	39d	3d	30-Apr-21	21-Jun-21	30-Apr-21	21-Jun-21	0	1				TE						
KTD.BC.1150	Temporary drain. diversion (inclu temporary connection works and breakthrough at upstream)	7	6d	1d	22-Jun-21	29-Jun-21	22-Jun-21	29-Jun-21	0	1				12		.				
KTD.BC.1160 KTD.BC.1170	Construct the remaining RC structure within existing box culvert and abandon the existing box culvert Permanent drain. diversion (inclu connection works at upstream)	18	18d 6d	0d 1d	30-Jun-21 22-Jul-21	21-Jul-21 29-Jul-21	30-Jun-21 22-Jul-21	21-Jul-21 29-Jul-21	0	1										
KTD.BC.1180	Backfilling from CHB1 115.392 to CHB1 89.123 (1050m3, 2 teams)	49	48d	4d	01-Jun-21	29-Jul-21	01-Jun-21	29-Jul-21	0	1						+				
	Planned Completion of Box Culvert B1 (Related to Section 8)	0	Od	0d	or our 21	29-Jul-21	or our 21	29-Jul-21	0	1					,					
	N OF EXISTING SUBWAY KS10	1129			24-Nov-20		24-Nov-20		0						+-	╡╋╋┿		_		-
	Liaison/coordinate with HyD structure/HyD lighting/EMSD and other utility and service undertakings	180	180d	0d	24-Nov-20	22-May-21	24-Nov-20	22-May-21	0	2		. ∳ ⇔								
KTD.MS.1010	Pre-drilling works (1 no, 1 rig)	12	10d	2d	24-May-21	05-Jun-21	24-May-21	05-Jun-21	0	1	++++			۴Ľ						
KTD.MS.1020	Piling works for pre-bored H-piles (4 nos, 610dia x 75m, 1 rig)	48	42d	6d	07-Jun-21	03-Aug-21	07-Jun-21	03-Aug-21	0	1										
KTD.MS.1030	Installation of ELS for demolition of existing str. & construction of entrance at Road D1 (77m ELS, 900m3 exca, 1 teams)	39	33d	6d	04-Aug-21	17-Sep-21	04-Aug-21	17-Sep-21	0	1					-					
KTD.MS.1035	Demolition of existing subway structures (inclu. ramp and staircase)	78	64d	14d	18-Sep-21	21-Dec-21	18-Sep-21	21-Dec-21	0	1						†				
KTD.MS.1040	Construction of RC structures (inclu. lift shaft, staircase, pump house and etc.) (365m3, 1 team)	104	92d	12d	22-Dec-21	04-May-22	22-Dec-21	04-May-22	0	1										
KTD.MS.1045	Backfiling of ELS to ground level	78	64	14d	05-May-22	06-Aug-22	05-May-22	06-Aug-22	0	1						.				
KTD.MS.1050	Lift and other E&M installation, testing and commissioning	156	156d	0d	08-Aug-22	16-Feb-23	17-Feb-23	26-Aug-23		1										
KTD.MS.1060 KTD.MS.1070	Construction of roof, steelworks, other facilities and ABWF works Planned Completion of modification of existing Subway KS10 (Related to Section 3)	312 0	300d 0d	12d 0d	08-Aug-22	26-Aug-23	08-Aug-22	26-Aug-23	0	1										
KTD.MS.1070	Advance Completion of modification of existing Subway KS10 to Specific Contract Completion Date (Section 3)	100	178d	0d	28-Aug-23	26-Aug-23 27-Dec-23	28-Aug-23	26-Aug-23 27-Dec-23	0	1										
	ION OF DISTRICT COOLING SYSTEM WORKS (SUBJECTED TO EXCISION)	914	1700	Uu	27-Mar-21	26-Sep-23	20-Aug-23	26-Sep-23		1			- I +			╪┿┿		_		-
KTD.DCS.1000	Liaison/coordinate with utility and service undertakings on connection works of DCS works	180	180d	0d	27-Mar-21	22-Sep-21	22-Nov-21	20-May-22		2			L_							
	Installation of ELS and excavation and construction of DCS pipes from CH80 to CH145 (2 teams)	91	79d	12d	23-Sep-21	12-Jan-22	24-Apr-23	11-Aug-23		1					•					
KTD.DCS.1020	Backfilling for CH80 to CH145 (780m3, 2 teams)	39	33d	6d	13-Jan-22	02-Mar-22	12-Aug-23	26-Sep-23		1						4				
KTD.DCS.1030	Installation of ELS and excavation and construction of DCS pipes from CH170 to CH334 (2 teams)	208	194d	14d	23-Sep-21	09-Jun-22	21-May-22	01-Feb-23	192	1					╘╾╪══	++++	—			
KTD.DCS.1040	Backfilling for CH170 to CH334 (1900m3, 2 teams)	78	72d	6d	10-Jun-22	09-Sep-22	04-Mar-23	09-Jun-23	218	1							-			
KTD.DCS.1050	Installation of ELS and excavation of temporary pits for construction of DCS works from CH145 to CH170 (1 team)	78	66d	12d	10-Jun-22	09-Sep-22	02-Feb-23	09-May-23	192	1										
KTD.DCS.1060	Construction of chilled water pipes from CH145 to CH170 by trenchless method (inclu DAV and washout pit, 1 team)	78	64d	14d	13-Sep-22	14-Dec-22	10-May-23	11-Aug-23		1										
KTD.DCS.1070	Backfilling for temporary pits (900m3, 2 teams)	39	33d	6d	15-Dec-22	04-Feb-23	12-Aug-23	26-Sep-23	192	1									-	
KTD.DCS.1080	Installation of ELS and excavation and construction of DCS works from CH0 to CH80 (2 teams)	52	40d	12d	10-Jun-23	11-Aug-23	10-Jun-23	11-Aug-23	0	1										
KTD.DCS.1090	T&C of the installed DCS pipes before connection to existing DCS system	26	26d	0d	12-Aug-23	11-Sep-23	28-Aug-23	26-Sep-23	13	1	 					 				
	Backfilling for CH0 to CH80 (960m3, 2 teams)	39	33d	6d	12-Aug-23		12-Aug-23	26-Sep-23	0	1										
	Planned Completion of DCS works within Parts 1 and 1A (Related to Section 9)	0	0d	Od	21 1.1 00	26-Sep-23	21 1.1 20	26-Sep-23	0	1										
	I OF EXISTING SUBWAYS KS9 AND KS32	1153	205.1	6.2	31-Jul-20	26-Sep-23	31-Jul-20	26-Sep-23		0										
KTD.RS.1000 KTD.RS.1010	Liasion with UAP project and relevant departments for possession approval/consent Construction of shelter for subways KS9 and KS32	365 156	365d 130d	0d 26d	31-Jul-20 31-Jul-21	30-Jul-21 08-Feb-22	31-Jul-20 31-Jul-21	30-Jul-21 08-Feb-22	0	2						╧╧╧╤				
	Construction of steelworks, other facilities, E&M installation and ABWF works for KS9 and KS32								_	1										
KTD.RS.1020	CONSULCTION OF STREAMORKS, OTHER RECEIPTERS, EQUIVERSING AND ABAME MOLKS IN KRYS AND KRYS	156	1420	1240	03-Nov-21	17-May-22	03-Nov-21	17-May-22	0	I					-					

▼ Milestone
▼ Critical Milestone

Critical Work

Planned W...

Summary



ED/2018/05 Kai Tak Development - Stage 5B Infrastructure Works at the Former North Apron Area WORKS PROGRAMME (Page 4 of 5)

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Activity ID	Activity Name	Dur (d)	Ori. Dur (d)	TRA (d)	Early Start	Early Finish	Late Start	Late Finish	Total Float	Calendar				021 . A S C		2022 M A M J J	ASON	DJFMAM	2
KTD.RS.1030	Planned Completion of renovation of existing Subways KS9 and KS32 (Related to Section 1)	0	0d	0d		17-May-22		17-May-22		1									<u></u>
KTD.RS.1040	Advance Completion of renovation of existing Subways KS9 and KS32 to Specific Contract Completion Date (Section 1)	406	406d	Od	18-May-22	26-Sep-23	18-May-22		_	1								┿━━┿┛	÷
DIVERSION	OF EXISTING RISING MAIN AND DEMOLITION OF EXISTING STRUCTURES AT SITE 2C2 & 2C3	458			16-Sep-20	17-Dec-21	17-Sep-20	17-Dec-21											
KTD.RM.1000	Liasion with relevant departments for removal of abandoned motorcycles under existing structures at Site 2C2 and 2C3	60	60d	0d	16-Sep-20	14-Nov-20	17-Sep-20	15-Nov-20		2	-			+	-				ŕ٢
KTD.RM.1000	Removal of abandoned motorcycles and clearance for demolition works	14	14d	2d	16-Nov-20	01-Dec-20	16-Nov-20	01-Dec-20		1	Ļ								
KTD.RM.1005	Demolition of existing structures at Site 2C2 and 2C3	78	66d	12d	02-Dec-20	09-Mar-21	02-Dec-20	09-Mar-21	0	1									
KTD.RM.1010	Installation of ELS and excavate for construction of twin rising main from CH0 to CH184 (400m ELS, 4059m3 exca, 2 teams)	65	53d	12d	10-Mar-21	03-Jun-21	10-Mar-21	03-Jun-21	0	1		╈	- <u> </u>	1					d-
KTD.RM.1020	Construction of twin rising main from CH0 to CH184 and connect to existing sewage rising main	104	98d	6d	04-Jun-21	07-Oct-21	04-Jun-21	07-Oct-21	0	1									1
KTD.RM.1030	Backfilling works and abandon the existing sewage rising main	52	46d	6d	08-Oct-21	08-Dec-21	08-Oct-21	08-Dec-21	0	1									
KTD.RM.1040	Planned Completion of diversion and demolition of existing structures at Site 2C2 and 2C3 (Related to Section 5)	0	Od	0d	00 00021	08-Dec-21	00 00(2)	08-Dec-21	0	1				1	F				d l
KTD.RM.1050	Advance Completion of diversion and demolition works to Specific Contract Completion Date (Section 5)	8	8d	0d	09-Dec-21	17-Dec-21	09-Dec-21	17-Dec-21	0	1									
	TION OF ROAD WORKS	1720			31-Jul-20	15-Apr-25	12-Sep-20	30-Jun-25	76		-	-	-			-	_	+	÷
	TION OF SLIP ROAD S14	1245			31-Jul-20	27-Dec-23	14-Oct-20	27-Dec-23	0									<u></u>	-
KTD.RW.0000		180	180d	0d	31-Jul-20	26-Jan-21	14-Oct-20	11-Apr-21	75	2									
KTD.RW.1000	Expose and install protect/support system for existing underground utilities and services (incl 132kV and 400kV cables)	100	98d	6d	21-Oct-20	26-Feb-21	04-Jan-21	17-May-21	60	1	-								
KTD.RW.1000	Pre-driling works for all pile caps PC1 to PC7 (9 nos, 1 rig)	40	30d	10d	27-Feb-21	22-Apr-21	18-May-21	06-Jul-21	60	1	····	: 🗲		<u>†</u>				-+	đ
KTD.RW.1010	Piling works of pre-bored H-piles (14 nos, 610dia x 70m, 1 rig)	91	85d	6d	23-Apr-21	11-Aug-21	07-Jul-21	23-Oct-21	60	1			-						
KTD.RW.1020	Installation of ELS and excavation and construction for pile cap PC1 (60m3 exca, 30m3 conc, 1 team)	26	24d	2d	12-Aug-21	10-Sep-21	25-Oct-21	23-Nov-21	60	1				F					
KTD.RW.1040	Construction of temporary supporting system for existing bridge K73	39	34d	5d	11-Sep-21	29-Oct-21	24-Nov-21	11-Jan-22	60	1		· · · · · · · · · · · · · · · · · · ·							ri-
KTD.RW.1050	Demolition of existing bearing wall	26	24d	2d	30-Oct-21	29-Nov-21	12-Jan-22	14-Feb-22		1									
KTD.RW.1060	Installation of ELS and excavation and construction for pile cap PC2 (60m3 exca, 30m3 conc, 1 team)	26	24d	2d	30-Nov-21	31-Dec-21	15-Feb-22	16-Mar-22		1					F				
KTD.RW.1070	Construction of remaining foundation and pier structures (incl. columns, portal beams and etc.) (169m3, 1 team)	52	48d	4d	03-Jan-22	07-Mar-22	17-Mar-22	23-May-22		1		-							
KTD.RW.1080	Construction of cantilever slab extended from ext. bridge K73 (150m3, 1 team)	39	34d	5d	08-Mar-22	26-Apr-22	24-May-22	09-Jul-22	60	1									
KTD.RW.1090	Backfilling for pile caps (PC1 and PC2)	26	24d	2d	27-Apr-22	28-May-22	11-Jul-22	09-Aug-22		1									
KTD.RW.1100	Installation of ELS and excavation for Retaining Wall S14 (Bay5-12, 3600m3 exca, 2 team)	90	78d	12d	30-May-22	15-Sep-22	10-Aug-22	26-Nov-22		1		++							dт
KTD.RW.1110	Construction of Retaining Wall S14 (Bay5-12, 800m3, 2 teams)	184	172d	12d	16-Sep-22	03-May-23	28-Nov-22	15-Jul-23	60	1									
KTD.RW.1120	Backfiling for Retaining Wall S14 (Bay8-12, 1100m3, 2 teams)	90	78d	12d	04-May-23	19-Aug-23	17-Jul-23	01-Nov-23		1									ė.
KTD.RW.1130	Piling works for bored piles (20 nos, 1200dia x 70m, 2 rigs)	130	116d	14d	10-Nov-22	21-Apr-23	10-Nov-22	21-Apr-23	0	1		1							d-
KTD.RW.1140	Installation of ELS and excavation and construction for pile caps (P3-P7,1110m3 exca, 800m3 conc, 2 teams)	52	48d	4d	22-Apr-23	24-Jun-23	22-Apr-23	24-Jun-23	0	1									ė,
KTD.RW.1150	Construction of Retaining Wall S14 (Bay1-4, 460m3, 2 teams)	39	21d	2d	26-Jun-23	10-Aug-23	26-Jun-23	10-Aug-23		1									F
KTD.RW.1160	Construction of bridge S14 decking structures (320m3, 1 teams)	32	26d	6d	11-Aug-23	16-Sep-23	11-Aug-23	16-Sep-23		1		1		1	-				i†
KTD.RW.1170	Prestressing works and bearing installation works	26	24d	2d	18-Sep-23	19-Oct-23	29-Sep-23	01-Nov-23	10	1									
KTD.RW.1180	Backfilling for Retaining Wall S14 (Bay 1-7, 1800m3, 2 teams)	36	32d	4d	18-Sep-23	01-Nov-23	18-Sep-23	01-Nov-23	0	1									
KTD.RW.1190	Construction of road pavement, road marking, street and other facilities	46	39d	7d	02-Nov-23	27-Dec-23	02-Nov-23	27-Dec-23	0	1		1							i T
KTD.RW.1200	Planned Completion of Slip Road S14 (Related to Section 3)	0	0d	0d		27-Dec-23		27-Dec-23	0	1									
CONSTRUC	TION OF ROADS D1, L9, L16, PEDESTRIAN STREETS AND OPEN SPACES	1688			01-Sep-20	15-Apr-25	12-Sep-20	30-Jun-25	76		-							+	÷
KTD.RW.1220	Construct roadwork, UUs/services & landscape softworks within Part 1 (incl Road L9 and part of Road L16)	563	542d	21d	30-Jul-21	26-Jun-23	02-Nov-21	26-Sep-23	78	1				-					Ë
KTD.RW.1230	Construct roadwork, UUs/services & landscape softworks within Part 1A (incl Sa Po Road, pedestrian street and Road D1)	153	132d	21d	10-Jun-23	11-Dec-23	26-Jun-23	27-Dec-23	12	1									+
KTD.RW.1240	Construct underground utilities/services within Parts 1B, 6A and 7 and remaining works of all Parts	1321	1300d	21d	20-Oct-20	15-Apr-25	02-Jan-21	30-Jun-25	60	1	-					-		÷	ŧ
KTD.RW.1245	Liasion/coordinate with CLP for new 132kV and 11kV cable laying at Road L16, Part 3 and Crowd Dispersal Route	122	122d	0d	01-Sep-20	31-Dec-20	12-Sep-20	11-Jan-21	11	2	-								T
KTD.RW.1250	Construct roadwork and UUs/services within Parts 2 and 10 (incl Crowd Dispersal Route)	270	249d	21d	02-Jan-21	02-Dec-21	05-May-21	29-Mar-22	94	1					.				
KTD.RW.1260	Construct underground utilities/services within Part 3	275	254d	21d	02-Jan-21	08-Dec-21	12-Jan-21	17-Dec-21	8	1		-	+ + +		i				
KTD.RW.1270	Construct roadwork and landscape softworks within Part 3 (incl pedestrian streets)	342	321d	21d	09-Dec-21	08-Feb-23	29-Dec-22	24-Feb-24	310	1							:	#	T
KTD.RW.1280	Construct underground utilities/services within Part 4	156	135d	21d	23-Nov-20	09-Jun-21	12-Dec-20	30-Jun-21	17	1	ن ه ا		֠						
KTD.RW.1290	Construct roadwork and landscape softworks within Part 4 (incl pedestrian street)	156	135d	21d	10-Jun-21	14-Dec-21	17-Aug-23	24-Feb-24	647	1			-						
KTD.RW.1300	Construct roadwork, underground utilities/services within Part 5	312	291d	21d	10-Nov-22	28-Nov-23	07-Dec-22	27-Dec-23	23	1		1					-		Ŧ
KTD.RW.1310	Liasion with developer of the sites 2A4, 2A5(B) and 2A10 and construction of drainage and sewage works within Part 6	156	135d	21d	23-Dec-23	08-Jul-24	15-Mar-24	23-Sep-24	65	1									
KTD.RW.1320	Construct roadwork, remaining UUs/services and landscape softworks within Part 6 (incl remaining Road L16)	222	201d	21d	09-Jul-24	03-Apr-25	24-Sep-24	30-Jun-25	65	1									
PROJECT ES	STABLISHMENT WORKS	1571			15-Dec-21	03-Apr-26	27-Sep-23	30-Jun-26	88	2					-				Ť
KTD.EW.1000	Establishment works for all landscape softworks (except Parts 3, 4 and 6)	365	365d	0d	12-Dec-23	10-Dec-24	28-Dec-23	26-Dec-24	16	2									
KTD.EW.1010	Establishment works for landscape softworks within Part 3 (Subj to excision within 416 days)	365	365d	0d	09-Feb-23	08-Feb-24	26-Feb-24	24-Feb-25	382	2									ŧ
KTD.EW.1020	Establishment works for landscape softworks within Part 4 (Subj to excision within 244 days)	365	365d	0d	15-Dec-21	14-Dec-22	26-Feb-24	24-Feb-25	803	2					-			-	T
KTD.EW.1030	Establishment works for landscape softworks within Part 6	365	365d	0d	04-Apr-25	03-Apr-26	01-Jul-25	30-Jun-26	88	2									
KTD.EW.1040	Establishment works for landscape softworks under Section 1	365	365d	0d	27-Jun-23	25-Jun-24	27-Sep-23	25-Sep-24	92	2									4
KTD.EW.1050	Planned Contract Completion Date	0	0d	0d		03-Apr-26		30-Jun-26	88	2									
•																			

▼ Milestone ∇

▼

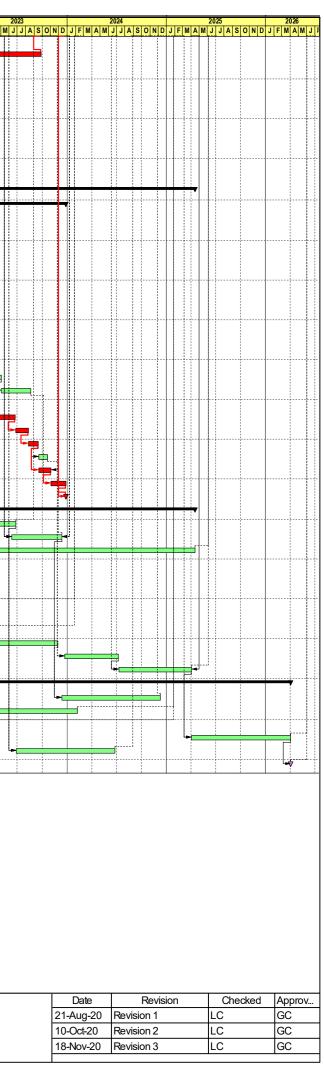
Critical Milestone

Critical Work

Planned W...

Summary





Appendix C – Environmental monitoring schedules

Contract No. EDO 2/2020 Environmental Monitoring at Kai Tak Development – Stage 5B infrastructure works at the former north apron area Environmental Monitoring and Weekly Site Inspection Schedule for April 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Weekly Site Inspection 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3	2	3
4	5	6	7 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	8 Weekly Site Inspection	9	10
11	12	13 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	14	15 Weekly Site Inspection	16	17
18	19 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	20	21	22 Weekly Site Inspection	23	24 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3
25	26	27	28	29 Weekly Site Inspection + SSMC meeting	30 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	

April 2021

Air Quality Monitoring Station AM2(A) Ng Wah Catholic Secondary School AM3 - Sky Tower **Noise Quality Monitoring Station** M4(A) - Le Billionnaire M5(A) - Prince Ritz

Contract No. EDO 2/2020 Environmental Monitoring at Kai Tak Development - Stage 5B infrastructure works at the former north apron area

Proposed Environmental Monitoring and Weekly Site Inspection Schedule for May 2021

May 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6 Weekly Site Inspection 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	7	8
9	10	11	12 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	13 Weekly Site Inspection	14	15
16	17	18 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	19	20 Weekly Site Inspection	21	22
23	24 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3 30-min Noise: M4(A), M5(A)	25	26	27 Weekly Site Inspection + SSMC meeting	28	29 24-hr TSP and 1-hrX3 TSP: AM2(A), AM3
30	31					

NOTE:

-Site inspection schedule and Impact monitoring schedule may be changed due to unforeseen circumstance (e.g. adverse weather).

Air Quality Monitoring Station

AM2(A) Ng Wah Catholic Secondary School AM3 - Sky Tower **Noise Quality Monitoring Station** M4(A) - Le Billionnaire M5(A) - Prince Ritz

Appendix D – Photographic records

Impact Air Quality Monitoring



Measurement setup at AM2(A)



Measurement setup at AM3

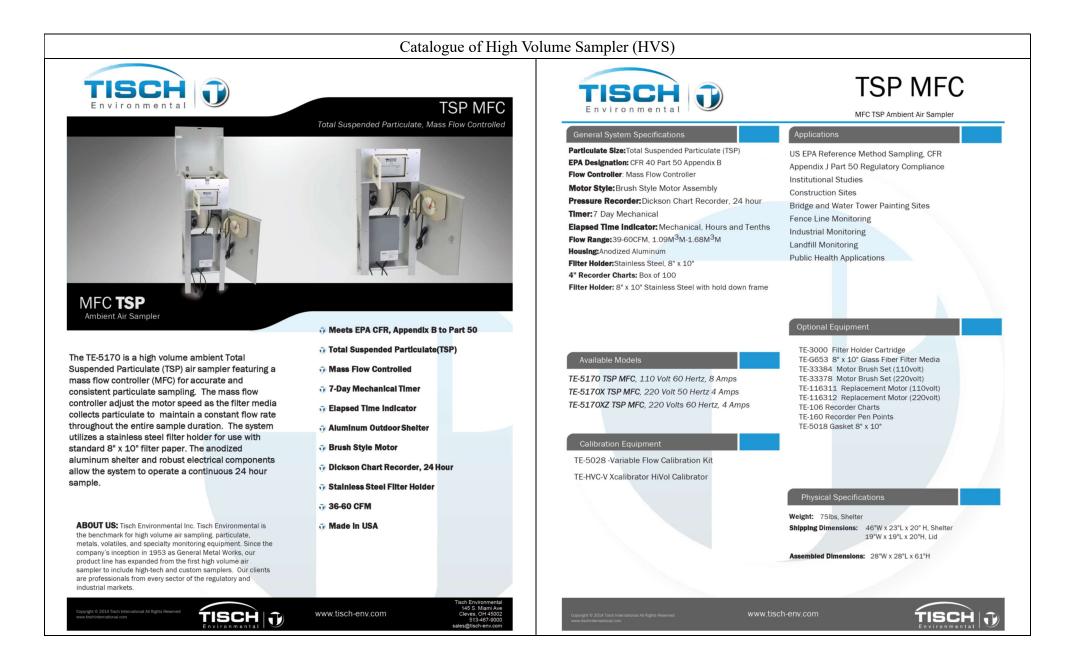


Weather Station at the rooftop of Ng Wah Catholic Secondary School

Impact Noise Monitoring



Appendix E – Calibration certificates, catalogue of air quality monitoring equipment

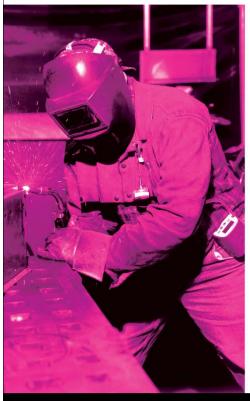


	Air Sampler Ca	alibration Curve Plo (Dickson recorder)	0	on		Air Sampler	Calibration Curve (Dickson reco	Plotting & Calculat [.] der)	ion
Calibration curve ref.	. No. : ATSPC-01-20	021033102 Date of	calibration :	31/03/2021	Calibration curve re	f. No. : ATSPC-0	-2021033104 Da	te of calibration :	31/03/2021
Location :	Sky Tower	Sample	r :	TE-5170X	Location : N	g Wah Catholic Second	lary School Sa	npler :	TE-5170X
Calibration Data		Serial	Numbers :	4687	Calibration Data		Sei	ial Numbers:	4360
Ambient barometric p	pressure, Pa = 754.6		it temperature, Ta =	302.15 (deg K)	Ambient barometric	pressure, Pa = 754		bient temperature, Ta =	302.15 (deg K)
Qstd Slope, m =	2.04882		tercept, b = -0.01		Qstd Slope, m =	2.04882			11270
Calibration Curve	. <u></u>				Calibration Curve	1			1
Plate No.	H ₂ O	Qstd	I	IC	Plate No.	H ₂ O	Qstd	I (abort)	IC (corrected)
18	(in) 7,40	(m ³ /min) 1.319	(chart) 49.0	(corrected) 48,49	18	(in) 7,50	(m ³ /min) 1.328	(chart) 47.0	(corrected) 46.51
18	6,70	1.256	45.0	48.49	13	6,40	1.328	44.0	43.54
13	4.50	1.030	38.0	37.60	10	4,60	1.041	38.0	37.60
7	3.60	0.922	34.0	33.65	7	3.45	0.903	34.0	33.65
5	2.30	0.738	27.0	26.72	5	2.60	0.784	30.0	29.69
Dickson recorder	Qstd = 1 / m1 [(1) (Sqr 75.00 65.00 55.00 45.00 35.00	t ((Pav / 760) (298 / Tav)))-b1] 36.037	0.2509 0.9974	Dickson recorder	Qstd = 1 / m1 [(1) (75.00 (g) 65.00 (g) 55.00 (g) 45.00 (g) 35.00 (g)	Sqrt ((Pav / 760) (298 / '	fav))) - b1] 30.837	5.6156 0.9998
Remark : Q	25.00 15.00 15.00 0.6 0.8 0.8 0.8 0.6 0.8	qrt (H ₂ O (Pa / 760) (29 (Pa / 760) (298 / Ta))	Curve numbers are in the TS 08 / Ta)) - b].].	SP range (1.1 - 1.7 m3 / min).	Remark :	quirements : (A). $r >$ Qstd (m^3 / min) = 1/m IC (corrected) = I [Sq	[Sqrt (H ₂ O (Pa / 760 rt ((Pa / 760) (298 /]	on Curve Qstd numbers are in the T) (298 / Ta)) - b].	SP range (1.1 - 1.7 m3 / min)
F				4	1				A
F Calibrated by :	31/03	/2021 Checke	/	31/03/2021	Calibrated by :	03	/03/2021 Ch	ecked by :	31/03/2021

Calibration Certificate of HVS	
TISCH Environmental Certificate of Calibration Calibration	
Cal. Date: July 17, 2020 Rootsmeter S/N: 438320 Ta: 296 °K	
Operator: Jim Tisch Pa: 753.4 mm Hg Calibration Model #: TE-5025A Calibrator S/N: 0006	
Run Vol. Init (m3) Vol. Final (m3) ATime (m3) AP AH 1 1 2 1 1.4300 3.2 2.00 2 3 4 1 1.0100 6.4 4.00 3 5 6 1 0.000 7.9 5.00 4 7 8 1 0.8570 8.8 5.50 5 9 10 1 0.7090 12.8 8.00	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	
Calculations Vstd= ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta) Va= ΔVol((Pa-ΔP)/Pa)	
Qstd= Vstd/ATime Qa=Va/ATime Grad= Vstd/ATime Call	
$\mathbf{Qstd=1/m}\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Patd}\right)\left(\frac{Tstd}{Ta}\right)}\right)\cdot\mathbf{b}\right) \qquad \mathbf{Qa=1/m}\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)\cdot\mathbf{b}\right)$	
Standard Conditions Tstd: 298.15 *K Pstd: 760 mm Hg Key US EPA recommends annual recalibration per 1998 AH: calibrator manometer reading (mm Hg) Ap code of Federal Regulations Part 50 to 51, Ta: actual absolute temperature (*K) Appendix BL oparts 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30 b: intercept m: slope	
Tisch Environmental, Inc. www.tisch-env.com 145 South Miami Avenue TOLL FREE: (877)263-7610	
Village of Cleves, OH 45002 FAX: (513)467-9009	

Catalogue of Dust Meter (TSI Sidepak AM510)

The SidePak AMS10 monitor's easy-to-read display shows your data as both real-time aerosol mass-concentration and 8-hour time-weighted average (TWA). With its convenient data logging and long battery life, the AM510 is also ideal for extended sampling. The easy-to-use TrakPro Data Analysis Software lets you create effective graphs and reports.



User Friendly

+ Small, lightweight and quiet to maximize worker acceptance + Rugged design with secure belt clip + Easy-to-understand user interface with only four keys + Lockable keypad prevents tampering while sampling + User-adjustable sample flow rate + Define, label and store multiple calibration constants + Easy-to-read LCD display + Convenient, threaded tripod socket accommodates area sampling

Advanced Features

Smart Battery Management System provides precise run time information, maximizes battery capacity and speeds charging + Integrated pump allows use of size-selective aerosol inlet conditioners + Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off + 10-mm Dorr-Oliver cyclone for respirable sampling + Display shows real-time concentrations (mg/m³) and "on-the-fly" TWA as you data log + Display statistics: max, min and average readings, elapsed time and 8-hour TWA

Ouick and Easy Reports

+ Convenient preprogramming for occupational exposure sampling + Data log for long periods and store multiple tests + Analyze data, print graphs and create reports with TrakPro Data Analysis Software + USB port lets you conveniently connect to your computer

Power to Spare

+ Long-lasting NiMH rechargeable battery packs eliminate "memory" issues + Choice of rechargeable NiMH smart battery packs or AA-cell pack

Model AM510 SidePak Personal Aerosol Monitor

Sensitivity Sensor Type
Aerosol Concentration Range

Zero stability

```
0.001 to 20 mg/m<sup>3</sup>
                               (calibrated to respirable
                                fraction of ISO 12103-1,
                               A1 test dust)
Particle Size Range
                               0.1 to 10 micrometer (um)
Minimum Resolution
                                0.001 mg/m<sup>3</sup>
                                ±0.001 mg/m<sup>3</sup> over 24 hours
                                using 10-second time-constant
Temperature Coefficient
                                Approximately +0.0005 mg/m<sup>3</sup> per
                                 °C (for variations from temperature
                               at which instrument was last zeroed)
```

90° light scattering,

670 nm laser diode

Flow Rate Range

User-adjustable, 0.7 to 1.8 liters/min (L/min)

Temperature Range Operating Range 32 to 120°F (0 to 50°C) Storage Range -4 to 140°F (-20 to 60°C)

Operational Humidity 0 to 95% RH, non-condensing

Time Constant (LCD display) Jser-adjustable, 1 to 60 seconds Range

Data Logging Approx. 31.000 Data Points Logging Interval User-adjustable, 1 second to 1 hour

User-Select Calibration Factors

Factory Setting 1.0 (non-adjustable) User-defined Settings 3, with user-defined labels 0.1 to 10.0, user-adjustable

Physical External Dimensions

Range

4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or 801743 battery 5.1 x 3.7 x 2.8 in. (130 x 92 x 70 mm) with 801708, 801722, 801728, 801735, or 801736 battery 16 oz (0.46 kg) with 801723, 801724, Weight 801729 or 801743 battery 19 oz (0.54 kg) with 801708, 01722, 801728, 801735, or 801736 battery Display Tripod Socket 2 line x 12 character LCD 1/4-20 female thread

Power Supply/Charger (P/N 2613210) Input Voltage Range 100 to 240 VAC. 50 to 60 Hz

Input Voltage Range Output Voltage 9 VDC @10 A

Maintenance Factory Clean/Calibrate Recommended annually User Zero Calibration Before each use User Flow Calibration As needed

Communications Interface USB 1.1 Type Connector, Instrument

USB Mini-B (socket)

Minimum Computer Requirements for TrakPro™ Data Analysis Software

Universal Serial Bus (USB) **Communications** Port v 1.1 or higher Microsoft Windows® XP, or 7 Operating System (32-bit or 64-bit) operating systems

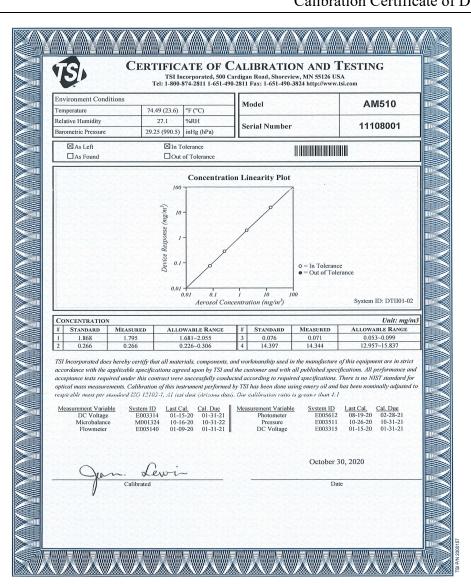
Battery Performance

Battery Options	Charge Time (hrs)*	Intrinsic Safety Rating	Run Time (hrs @ 1.7 L/min)
1600 mAH NiMH Pack, 4.8 V (P/N 801723)	3.0	No	7.1
1650 mAH NiMH Pack, 4.8V (P/N 801724, 801729 or 801743)	3.5	CSA**	7.5
2700 mAH NiMH Pack, 4.8 V (P/N 801722 or 801728)	5.5	No	12.0
2700 mAH NiMH Pack, 4.8 V (P/N 801735)	5.5	No	12.0
6-Cell AA-size Alkaline Pack*** (P/N 801708 or 801736 with six user-supplied AA cells)	N/A	No	22.5

*Of a fully depleted battery **All dust plugs and dust gaskets must be installed. ***Using Energizer AA-size, E91 alkaline batteries.

Battery Level Indicator

The Smart Battery Management System™ technology utilizes a built-in "gauge" in the SidePak™ battery packs. The gauge monitors battery capacity and calculates run time information by dividing capacity of the battery (mAH) by the instantaneous current consumed by the instrument (mA). This calculation is correct for current operating conditions and can change due to current (mA) consumption or changes in battery capacity.



Calibration Certificate of Dust Meter (TSI Sidepak AM510)

Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No. :	AS0210201-2	Report Issue Date:	01/02/2021	
Date of performance check :	25/01/2021			

Objective:

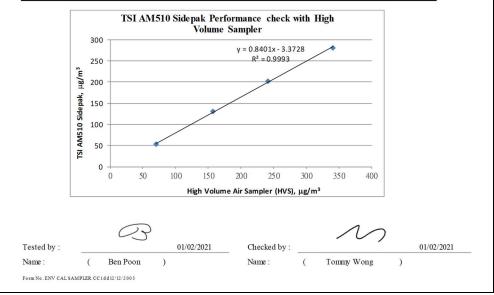
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

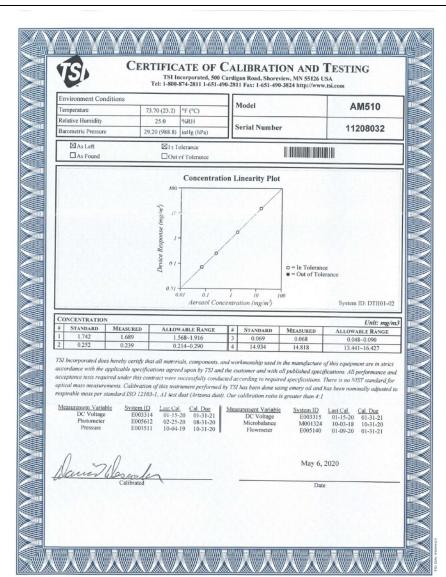
Equipment Used:

Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11108001
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

Resust:

Equipment	Measurement Result, µg/m ³							
TSI AM510 Sidepak	70	157	242	341				
High Volume Air Sampler (HVS)	53	131	202	281				





Calibration Certificate of Dust Meter (TSI Sidepak AM510)

Personal Aerosol Monitor Performance check with High Volume Sampler

01/02/2021

Preformance Check ref. No. :	AS0210201-1	Report Issue Date
Date of performance check :	25/01/2021	

Objective:

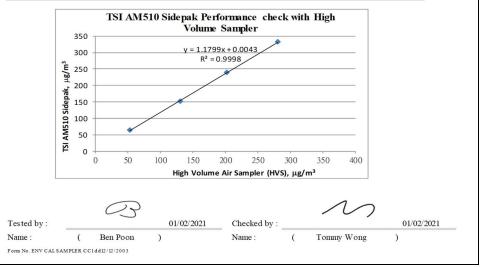
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

Equipment Used:

Equipment	Manufacturer and Model	Serial Number		
Personal Aeros ol Monitor	TSI AM510 Sidepak	11208032		
Total Suspended Particulate High Volume Air Sampler	G\$2310	10346		

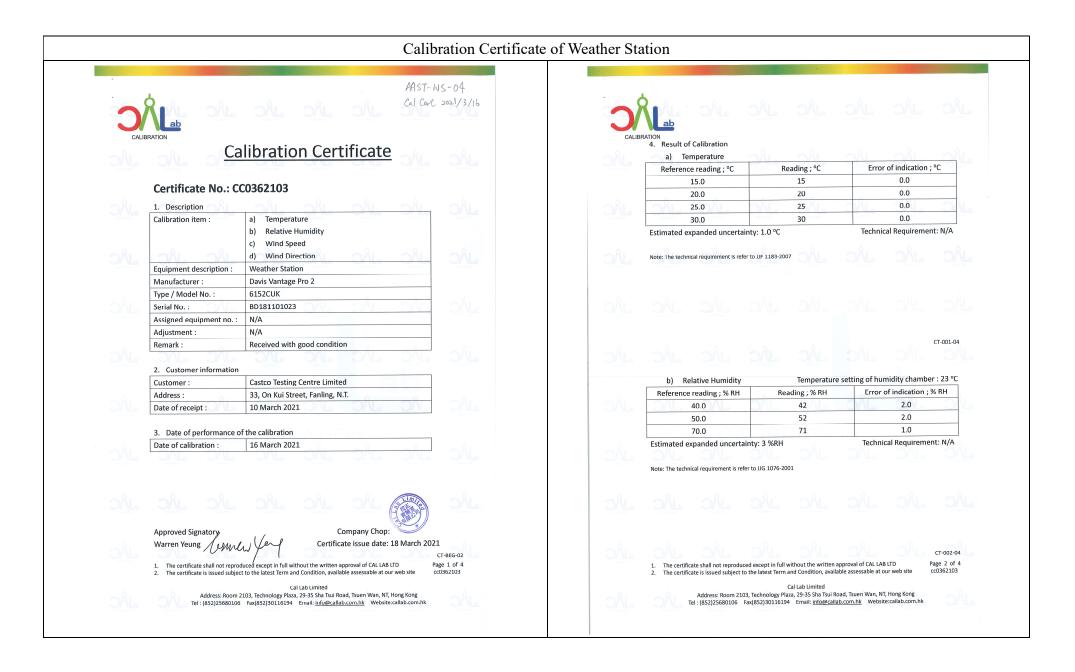
Resust:

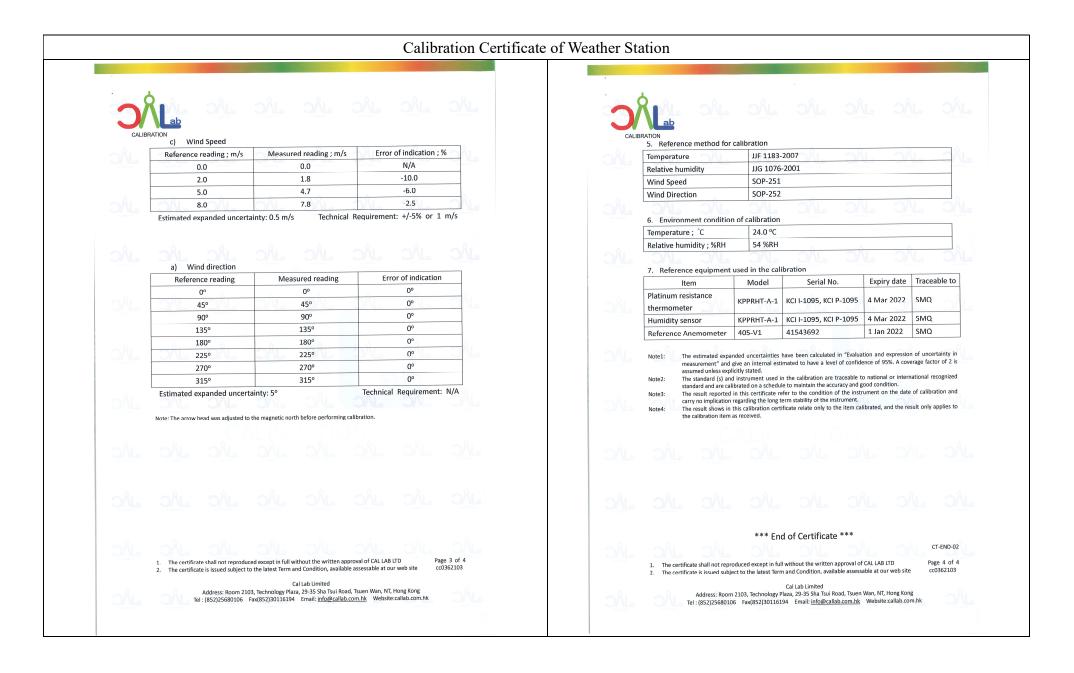
	Equipment	Measurement Result, µg/m ³							
ſ	TSI AM510 Sidepak	64	152	239	332				
	High Volume Air Sampler (HVS)	53	131	202	281				



Catalogue of Weather Station 7 Cabled Vantage Pro2™ 6152C Vantage Pro2 & Vantage Pro2 Plus[™] Stations 6162C Ultra Violet (UV) Radiation Index (requires UV sensor) Resolution and Units 0.1 Index Vantage Pro2[™] Range 0 to 16 Index The Vantage Pro2[™] (# 6152C) and Vantage Pro2[™] Plus (# 6162C) cabled weather stations include two components: High)) the Integrated Sensor Suite (ISS) and the console. The ISS contains the sensor interface module (SIM), rain collector, an anemometer, and a passive radiation shield. The Vantage Pro2 console provides the user interface, data display, and calculations. The Vantage Pro2 Plus weather station includes two additional sensors that are optional on the Current Graph Data..... Instant Reading and Hourly Average; Daily, Monthly High Vantage Pro2 and purchased separately: the UV Sensor and the Solar Radiation Sensor. The console and ISS are powered by an AC-power adapter connected to the console. Batteries can be installed in the console to provide a backup power supply. Use WeatherLink* to let your weather station interface with a computer, log data, and upload Alarm High Threshold from Instant Calculation weather information to the Internet. The 6152C and 6162C models rely on passive shielding to reduce solar-radiation induced temperature errors in the outside temperature sensor readings. Wind Wind Chill (Calculated) Integrated Sensor Suite (ISS) the nearest 1°C console and ISS Source..... United States National Weather Service (NWS)/NOAA Equation Used Osczevski (1995) (adopted by US NWS in 2001) Cable Type 4-conductor, 26 AWG Variables Used Avg. Wind Speed Current Display Data Instant Calculation Maximum displayable wind decreases as the length of cable increases, at 140 (42 m) of cable, the maximum wind speed displayed is 135 mph (60 Note Current Graph Data Instant Calculation; Hourly, Daily and Monthly Low m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s) Historical Graph Data. Hourly, Daily and Monthly Lows Alarm. Low Threshold from Instant Calculation Wind Direction Sensor Wind vane with potentiometer Wind Direction (214 cm²) collection area Temperature Sensor Type..... PN Junction Silicon Diode Relative Humidity Sensor Type Film capacitor element Accuracy ±3° Housing Material UV-resistant ABS, polypropylene Update Interval 2.5 to 3 seconds Sensor Inputs RF Filtering RC low-pass filter on each signal line Monthly Dominant ISS Dimensions(not including anemometer or bird spikes): Monthly Dominants Vantage Pro2 with Standard Rad Shield 14.0" x 9.4" x 14.5" (356 mm x 239 mm x 368 mm) Wind Speed Resolution and Units 1 mph, 1 km/h, 0.4 m/s, or 1 knot (user-selectable) Measured in mph; Vantage Pro2 with Fan-Asprated Rad Shield..... 20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm) other units are converted from mph and rounded to nearest 1 km/hr, 0.1 Vantage Pro2 Plus with Standard Rad Shield 14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm) m/s or 1 knot Vantage Pro2 Plus with Fan-Aspirated Rad Shield 21,1" x 9,7" x 16.0" (536 mm x 246 mm x 406 mm) Update Interval Instant Reading: 2.5 to 3 seconds, 10-minute Average: 1 minute length of cable from anemometer to ISS increases.) Current Display Data Instant Current Graph Data Instant Reading; 10-minute and Hourly Average; Hourly High; Daily, Davis Instruments 3465 Diablo Ave., Hayward, CA 94545-2778 USA (510) 732-9229 - FAX (510) 670-0589 - sales@davisinstruments.com - www.davisinstruments.com Monthly and Yearly High with Direction of High Historical Graph Data...... 10-min. and Hourly Averages; Hourly Highs; Daily, Monthly and Yearly DS6152C, 6162C Rev. W 12/7/18 Highs with Direction of Highs

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Appendix F – Weather information

General Information

Date	Absolute Daily Min Temperature (°C)	Absolute Daily Max Temperature (°C)	Total Rainfall (mm)	Mean Relative Humidity (%)
01/04/2021	25.2	29.4	Trace	79
02/04/2021	25.0	30.5	0.0	79
03/04/2021	24.4	30.6	0.0	74
04/04/2021	22.6	26.8	0.8	86
05/04/2021	21.6	23.2	0.7	84
06/04/2021	22.1	27.9	0.0	77
07/04/2021	21.8	26.0	0.0	76
08/04/2021	22.2	25.5	0.0	74
09/04/2021	19.7	22.4	7.5	82
10/04/2021	20.2	25.9	0.0	65
11/04/2021	20.9	27.0	0.0	73
12/04/2021	22.2	28.7	0.0	80
13/04/2021	23.0	31.2	0.0	77
14/04/2021	23.3	27.0	Trace	84
15/04/2021	21.4	23.4	8.3	91
16/04/2021	21.5	25.1	1.5	88
17/04/2021	22.3	23.1	2.5	88
18/04/2021	22.3	25.6	Trace	67
19/04/2021	21.2	24.9	0.0	67
20/04/2021	21.4	27.1	0.0	73
21/04/2021	22.1	28.7	0.0	74
22/04/2021	22.5	29.4	0.0	74
23/04/2021	23.9	32.6	0.0	75
24/04/2021	24.5	26.6	Trace	82
25/04/2021	22.4	26.5	0.9	85
26/04/2021	21.8	25.3	0.3	80
27/04/2021	22.7	23.7	5.7	90
28/04/2021	23.0	26.9	4.2	88
29/04/2021	21.7	28.2	0.1	74
30/04/2021	22.5	30.8	0.0	77
01/05/2021	23.8	30.0	0.0	76

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory. NOTE2: Trace means rainfall less than 0.05 mm

https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2021&m=04 https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2021&m=05 Kai Tak Runway Park Information

Date	Absolute Daily Min Temperature (°C)	Absolute Daily Max Temperature (°C)
01/04/2021	24.7	30.0
02/04/2021	24.0	30.3
03/04/2021	23.0	32.1
04/04/2021	22.1	26.1
05/04/2021	21.3	22.5
06/04/2021	22.1	24.7
07/04/2021	21.6	23.7
08/04/2021	22.0	24.3
09/04/2021	19.5	22.2
10/04/2021	20.3	23.5
11/04/2021	20.7	24.5
12/04/2021	21.7	25.7
13/04/2021	22.0	27.9
14/04/2021	22.9	25.4
15/04/2021	21.4	22.9
16/04/2021	21.5	23.7
17/04/2021	22.0	23.4
18/04/2021	22.2	24.3
19/04/2021	21.1	23.4
20/04/2021	21.3	24.9
21/04/2021	21.9	25.8
22/04/2021	22.3	28.6
23/04/2021	23.5	32.9
24/04/2021	23.6	25.3
25/04/2021	21.9	25.5
26/04/2021	21.5	24.0
27/04/2021	22.3	23.7
28/04/2021	22.8	26,5
29/04/2021	21.9	27.6
30/04/2021	22.4	28.2
01/05/2021	23.7	30.0

NOTE1: The above weather information was obtained from manned weather station of Kai Tak Runway Park.

https://i-lens.hk/hkweather/history_chart.php?date=2021-04-01&ch24art_type=DG_TEMP

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
01/04/2021	0:00	1.8	45	02/04/2021	0:00	1.3	90	03/04/2021	0:00	0.9	67.5	04/04/2021	0:00	1.3	112.5
01/04/2021	1:00	0.9	22.5	02/04/2021	1:00	0.9	315	03/04/2021	1:00	0.4	337.5	04/04/2021	1:00	1.3	270
01/04/2021	2:00	0.4	90	02/04/2021	2:00	0.9	90	03/04/2021	2:00	0.4	247.5	04/04/2021	2:00	1.3	135
01/04/2021	3:00	0.9	135	02/04/2021	3:00	1.3	22.5	03/04/2021	3:00	2.2	45	04/04/2021	3:00	1.3	90
01/04/2021	4:00	1.8	90	02/04/2021	4:00	1.3	22.5	03/04/2021	4:00	1.3	112.5	04/04/2021	4:00	1.3	90
01/04/2021	5:00	0.9	22.5	02/04/2021	5:00	0.9	67.5	03/04/2021	5:00	1.3	112.5	04/04/2021	5:00	1.3	67.5
01/04/2021	6:00	0.4	292.5	02/04/2021	6:00	1.3	0	03/04/2021	6:00	0.9	90	04/04/2021	6:00	1.3	112.5
01/04/2021	7:00	0.9	112.5	02/04/2021	7:00	0.9	22.5	03/04/2021	7:00	1.3	45	04/04/2021	7:00	0.9	90
01/04/2021	8:00	1.8	90	02/04/2021	8:00	1.3	45	03/04/2021	8:00	1.3	67.5	04/04/2021	8:00	1.8	0
01/04/2021	9:00	1.8	67.5	02/04/2021	9:00	0.9	90	03/04/2021	9:00	1.3	67.5	04/04/2021	9:00	1.8	22.5
01/04/2021	10:00	0.4	247.5	02/04/2021	10:00	1.3	90	03/04/2021	10:00	1.3	292.5	04/04/2021	10:00	2.7	90
01/04/2021	11:00	0.9	90	02/04/2021	11:00	1.3	90	03/04/2021	11:00	1.8	337.5	04/04/2021	11:00	2.2	90
01/04/2021	12:00	1.8	67.5	02/04/2021	12:00	1.3	112.5	03/04/2021	12:00	2.2	67.5	04/04/2021	12:00	1.8	45
01/04/2021	13:00	1.8	90	02/04/2021	13:00	1.3	112.5	03/04/2021	13:00	1.3	0	04/04/2021	13:00	2.7	90
01/04/2021	14:00	1.8	90	02/04/2021	14:00	1.3	112.5	03/04/2021	14:00	1.3	90	04/04/2021	14:00	2.2	112.5
01/04/2021	15:00	2.2	112.5	02/04/2021	15:00	0.9	135	03/04/2021	15:00	1.3	90	04/04/2021	15:00	1.8	112.5
01/04/2021	16:00	1.3	135	02/04/2021	16:00	0.9	337.5	03/04/2021	16:00	0.4	135	04/04/2021	16:00	0.9	135
01/04/2021	17:00	1.8	112.5	02/04/2021	17:00	0.9	112.5	03/04/2021	17:00	0.9	0	04/04/2021	17:00	2.2	112.5
01/04/2021	18:00	1.3	112.5	02/04/2021	18:00	1.3	112.5	03/04/2021	18:00	1.3	22.5	04/04/2021	18:00	0.9	90
01/04/2021	19:00	1.3	112.5	02/04/2021	19:00	1.3	112.5	03/04/2021	19:00	0.9	247.5	04/04/2021	19:00	1.3	157.5
01/04/2021	20:00	1.3	90	02/04/2021	20:00	0.9	90	03/04/2021	20:00	1.3	67.5	04/04/2021	20:00	0.9	90
01/04/2021	21:00	1.8	90	02/04/2021	21:00	0.9	90	03/04/2021	21:00	1.3	90	04/04/2021	21:00	1.3	90
01/04/2021	22:00	1.3	135	02/04/2021	22:00	1.8	22.5	03/04/2021	22:00	0.9	112.5	04/04/2021	22:00	0.9	337.5
01/04/2021	23:00	0.9	90	02/04/2021	23:00	1.3	22.5	03/04/2021	23:00	1.3	90	04/04/2021	23:00	1.8	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
05/04/2021	0:00	1.3	90	06/04/2021	0:00	0	337.5	07/04/2021	0:00	0.4	90	08/04/2021	0:00	0.4	67.5
05/04/2021	1:00	1.3	67.5	06/04/2021	1:00	0.4	337.5	07/04/2021	1:00	0.9	90	08/04/2021	1:00	0.9	67.5
05/04/2021	2:00	1.8	67.5	06/04/2021	2:00	0.4	112.5	07/04/2021	2:00	0.9	90	08/04/2021	2:00	0.9	112.5
05/04/2021	3:00	1.8	90	06/04/2021	3:00	0.4	67.5	07/04/2021	3:00	0	67.5	08/04/2021	3:00	0.4	247.5
05/04/2021	4:00	1.3	45	06/04/2021	4:00	0.9	67.5	07/04/2021	4:00	0.4	67.5	08/04/2021	4:00	0.4	67.5
05/04/2021	5:00	2.2	22.5	06/04/2021	5:00	0.4	67.5	07/04/2021	5:00	0.4	67.5	08/04/2021	5:00	0.4	90
05/04/2021	6:00	1.8	67.5	06/04/2021	6:00	0	90	07/04/2021	6:00	1.3	0	08/04/2021	6:00	0.4	90
05/04/2021	7:00	1.8	22.5	06/04/2021	7:00	0.4	0	07/04/2021	7:00	0	67.5	08/04/2021	7:00	1.3	67.5
05/04/2021	8:00	1.3	67.5	06/04/2021	8:00	0.9	112.5	07/04/2021	8:00	0.4	90	08/04/2021	8:00	1.3	67.5
05/04/2021	9:00	1.8	67.5	06/04/2021	9:00	1.3	112.5	07/04/2021	9:00	0.4	90	08/04/2021	9:00	0.9	337.5
05/04/2021	10:00	1.3	90	06/04/2021	10:00	0.4	112.5	07/04/2021	10:00	0.4	67.5	08/04/2021	10:00	1.3	45
05/04/2021	11:00	1.3	90	06/04/2021	11:00	1.3	112.5	07/04/2021	11:00	0.9	90	08/04/2021	11:00	1.3	67.5
05/04/2021	12:00	1.3	90	06/04/2021	12:00	1.3	90	07/04/2021	12:00	1.3	135	08/04/2021	12:00	1.3	90
05/04/2021	13:00	1.8	67.5	06/04/2021	13:00	1.3	112.5	07/04/2021	13:00	0.9	67.5	08/04/2021	13:00	1.3	90
05/04/2021	14:00	2.2	112.5	06/04/2021	14:00	1.3	112.5	07/04/2021	14:00	1.3	90	08/04/2021	14:00	0.9	90
05/04/2021	15:00	1.8	112.5	06/04/2021	15:00	2.2	112.5	07/04/2021	15:00	1.3	90	08/04/2021	15:00	1.3	67.5
05/04/2021	16:00	1.8	90	06/04/2021	16:00	1.8	90	07/04/2021	16:00	0.9	90	08/04/2021	16:00	1.3	67.5
05/04/2021	17:00	1.3	112.5	06/04/2021	17:00	1.3	90	07/04/2021	17:00	0.4	90	08/04/2021	17:00	0.9	90
05/04/2021	18:00	1.3	90	06/04/2021	18:00	0.9	67.5	07/04/2021	18:00	0.9	67.5	08/04/2021	18:00	0.9	90
05/04/2021	19:00	0.4	90	06/04/2021	19:00	0.9	90	07/04/2021	19:00	0.4	247.5	08/04/2021	19:00	1.3	90
05/04/2021	20:00	0.9	112.5	06/04/2021	20:00	0.9	90	07/04/2021	20:00	0.4	67.5	08/04/2021	20:00	0.9	135
05/04/2021	21:00	1.3	112.5	06/04/2021	21:00	0.9	90	07/04/2021	21:00	0.4	202.5	08/04/2021	21:00	1.3	90
05/04/2021	22:00	0.9	135	06/04/2021	22:00	1.3	90	07/04/2021	22:00	0.9	202.5	08/04/2021	22:00	1.3	90
05/04/2021	23:00	0.4	22.5	06/04/2021	23:00	0.9	90	07/04/2021	23:00	0.4	90	08/04/2021	23:00	1.3	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
09/04/2021	0:00	1.3	90	10/04/2021	0:00	0.4	112.5	11/04/2021	0:00	0.9	135	12/04/2021	0:00	0.4	90
09/04/2021	1:00	2.2	90	10/04/2021	1:00	0.9	112.5	11/04/2021	1:00	0.4	112.5	12/04/2021	1:00	0.9	90
09/04/2021	2:00	1.8	67.5	10/04/2021	2:00	1.3	67.5	11/04/2021	2:00	0.9	90	12/04/2021	2:00	0.4	112.5
09/04/2021	3:00	1.3	22.5	10/04/2021	3:00	1.3	22.5	11/04/2021	3:00	0.4	90	12/04/2021	3:00	1.3	337.5
09/04/2021	4:00	1.8	67.5	10/04/2021	4:00	1.8	22.5	11/04/2021	4:00	0.4	90	12/04/2021	4:00	0.9	112.5
09/04/2021	5:00	1.8	112.5	10/04/2021	5:00	0.9	90	11/04/2021	5:00	0.9	90	12/04/2021	5:00	0.4	45
09/04/2021	6:00	2.2	90	10/04/2021	6:00	0.9	135	11/04/2021	6:00	0	135	12/04/2021	6:00	1.3	135
09/04/2021	7:00	1.3	90	10/04/2021	7:00	0.9	67.5	11/04/2021	7:00	0.4	67.5	12/04/2021	7:00	1.3	45
09/04/2021	8:00	1.8	45	10/04/2021	8:00	0.9	90	11/04/2021	8:00	0.9	45	12/04/2021	8:00	0.9	180
09/04/2021	9:00	1.8	90	10/04/2021	9:00	0.9	67.5	11/04/2021	9:00	0.4	135	12/04/2021	9:00	1.8	112.5
09/04/2021	10:00	1.3	135	10/04/2021	10:00	1.8	0	11/04/2021	10:00	0.4	135	12/04/2021	10:00	2.2	67.5
09/04/2021	11:00	1.8	45	10/04/2021	11:00	1.3	135	11/04/2021	11:00	0.4	112.5	12/04/2021	11:00	2.2	112.5
09/04/2021	12:00	0.9	112.5	10/04/2021	12:00	1.8	67.5	11/04/2021	12:00	0.9	22.5	12/04/2021	12:00	1.8	112.5
09/04/2021	13:00	0.9	112.5	10/04/2021	13:00	1.8	67.5	11/04/2021	13:00	0.9	90	12/04/2021	13:00	1.8	90
09/04/2021	14:00	0.9	112.5	10/04/2021	14:00	1.8	22.5	11/04/2021	14:00	0.4	135	12/04/2021	14:00	1.3	90
09/04/2021	15:00	0.9	45	10/04/2021	15:00	1.3	337.5	11/04/2021	15:00	0.4	225	12/04/2021	15:00	0.9	112.5
09/04/2021	16:00	1.3	67.5	10/04/2021	16:00	1.3	67.5	11/04/2021	16:00	0.4	157.5	12/04/2021	16:00	1.8	112.5
09/04/2021	17:00	0.9	90	10/04/2021	17:00	1.3	45	11/04/2021	17:00	1.3	90	12/04/2021	17:00	2.2	112.5
09/04/2021	18:00	0.9	67.5	10/04/2021	18:00	0.9	45	11/04/2021	18:00	0.9	45	12/04/2021	18:00	2.2	90
09/04/2021	19:00	0.9	90	10/04/2021	19:00	1.3	112.5	11/04/2021	19:00	0.9	90	12/04/2021	19:00	1.8	90
09/04/2021	20:00	0.9	90	10/04/2021	20:00	0.9	90	11/04/2021	20:00	0.4	0	12/04/2021	20:00	1.3	90
09/04/2021	21:00	1.3	67.5	10/04/2021	21:00	0.9	112.5	11/04/2021	21:00	0.4	247.5	12/04/2021	21:00	2.2	90
09/04/2021	22:00	0.9	67.5	10/04/2021	22:00	0.4	247.5	11/04/2021	22:00	0.4	337.5	12/04/2021	22:00	1.8	0
09/04/2021	23:00	0.4	90	10/04/2021	23:00	0.4	112.5	11/04/2021	23:00	0.4	45	12/04/2021	23:00	2.2	67.5

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
13/04/2021	0:00	1.8	90	14/04/2021	0:00	1.3	112.5	15/04/2021	0:00	0.9	90	16/04/2021	0:00	0.9	112.5
13/04/2021	1:00	2.2	112.5	14/04/2021	1:00	1.3	90	15/04/2021	1:00	0.4	112.5	16/04/2021	1:00	0.9	45
13/04/2021	2:00	0.9	67.5	14/04/2021	2:00	1.3	135	15/04/2021	2:00	0.9	45	16/04/2021	2:00	1.3	90
13/04/2021	3:00	1.3	67.5	14/04/2021	3:00	1.3	90	15/04/2021	3:00	0.9	112.5	16/04/2021	3:00	0.9	112.5
13/04/2021	4:00	1.8	45	14/04/2021	4:00	1.8	90	15/04/2021	4:00	0.4	315	16/04/2021	4:00	0.9	135
13/04/2021	5:00	1.3	45	14/04/2021	5:00	1.3	45	15/04/2021	5:00	1.8	67.5	16/04/2021	5:00	1.3	22.5
13/04/2021	6:00	1.8	45	14/04/2021	6:00	1.8	112.5	15/04/2021	6:00	1.3	22.5	16/04/2021	6:00	0.4	135
13/04/2021	7:00	1.8	67.5	14/04/2021	7:00	1.3	90	15/04/2021	7:00	1.8	112.5	16/04/2021	7:00	0.9	22.5
13/04/2021	8:00	2.2	22.5	14/04/2021	8:00	2.2	90	15/04/2021	8:00	1.3	45	16/04/2021	8:00	0.9	135
13/04/2021	9:00	2.2	67.5	14/04/2021	9:00	1.3	0	15/04/2021	9:00	1.8	90	16/04/2021	9:00	1.3	22.5
13/04/2021	10:00	1.8	67.5	14/04/2021	10:00	1.8	90	15/04/2021	10:00	1.3	90	16/04/2021	10:00	0.9	112.5
13/04/2021	11:00	1.3	90	14/04/2021	11:00	1.3	90	15/04/2021	11:00	1.3	135	16/04/2021	11:00	0.9	135
13/04/2021	12:00	1.3	90	14/04/2021	12:00	1.3	112.5	15/04/2021	12:00	1.3	112.5	16/04/2021	12:00	1.8	90
13/04/2021	13:00	1.8	112.5	14/04/2021	13:00	0.9	90	15/04/2021	13:00	1.3	67.5	16/04/2021	13:00	1.8	135
13/04/2021	14:00	0.9	90	14/04/2021	14:00	1.8	270	15/04/2021	14:00	1.3	90	16/04/2021	14:00	0.9	112.5
13/04/2021	15:00	1.8	90	14/04/2021	15:00	1.3	45	15/04/2021	15:00	1.8	112.5	16/04/2021	15:00	0.9	135
13/04/2021	16:00	2.2	112.5	14/04/2021	16:00	1.3	90	15/04/2021	16:00	2.2	90	16/04/2021	16:00	0.9	225
13/04/2021	17:00	1.8	112.5	14/04/2021	17:00	1.3	45	15/04/2021	17:00	2.2	112.5	16/04/2021	17:00	1.3	225
13/04/2021	18:00	1.3	135	14/04/2021	18:00	0.9	315	15/04/2021	18:00	1.3	90	16/04/2021	18:00	0.9	112.5
13/04/2021	19:00	1.3	67.5	14/04/2021	19:00	0.9	67.5	15/04/2021	19:00	0.9	45	16/04/2021	19:00	1.3	157.5
13/04/2021	20:00	1.8	90	14/04/2021	20:00	1.3	45	15/04/2021	20:00	1.3	180	16/04/2021	20:00	0.4	225
13/04/2021	21:00	0.9	90	14/04/2021	21:00	0.9	90	15/04/2021	21:00	0.4	180	16/04/2021	21:00	1.3	90
13/04/2021	22:00	1.3	112.5	14/04/2021	22:00	1.3	90	15/04/2021	22:00	0.4	135	16/04/2021	22:00	0.4	112.5
13/04/2021	23:00	1.8	90	14/04/2021	23:00	1.8	90	15/04/2021	23:00	1.3	112.5	16/04/2021	23:00	1.3	180

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
17/04/2021	0:00	1.3	202.5	18/04/2021	0:00	1.3	112.5	19/04/2021	0:00	1.3	90	20/04/2021	0:00	1.3	90
17/04/2021	1:00	0.9	225	18/04/2021	1:00	1.3	90	19/04/2021	1:00	0.4	112.5	20/04/2021	1:00	1.8	112.5
17/04/2021	2:00	0.9	202.5	18/04/2021	2:00	1.3	112.5	19/04/2021	2:00	0.9	22.5	20/04/2021	2:00	1.3	112.5
17/04/2021	3:00	0.4	270	18/04/2021	3:00	0.9	90	19/04/2021	3:00	0.4	90	20/04/2021	3:00	1.3	90
17/04/2021	4:00	1.3	112.5	18/04/2021	4:00	0.9	112.5	19/04/2021	4:00	0.9	112.5	20/04/2021	4:00	0.9	90
17/04/2021	5:00	0.4	0	18/04/2021	5:00	0.4	135	19/04/2021	5:00	0.4	90	20/04/2021	5:00	1.3	90
17/04/2021	6:00	0.9	225	18/04/2021	6:00	0.4	90	19/04/2021	6:00	0.4	135	20/04/2021	6:00	1.8	112.5
17/04/2021	7:00	0	112.5	18/04/2021	7:00	0.9	135	19/04/2021	7:00	0.4	90	20/04/2021	7:00	1.3	112.5
17/04/2021	8:00	0.4	112.5	18/04/2021	8:00	0.4	112.5	19/04/2021	8:00	1.3	90	20/04/2021	8:00	1.8	90
17/04/2021	9:00	0.4	180	18/04/2021	9:00	1.8	45	19/04/2021	9:00	0.4	112.5	20/04/2021	9:00	1.3	45
17/04/2021	10:00	0.4	157.5	18/04/2021	10:00	1.3	112.5	19/04/2021	10:00	0.9	67.5	20/04/2021	10:00	2.2	45
17/04/2021	11:00	0.4	180	18/04/2021	11:00	1.8	67.5	19/04/2021	11:00	0.9	135	20/04/2021	11:00	1.3	90
17/04/2021	12:00	1.3	270	18/04/2021	12:00	0.9	112.5	19/04/2021	12:00	0.9	112.5	20/04/2021	12:00	1.3	45
17/04/2021	13:00	1.3	247.5	18/04/2021	13:00	1.3	90	19/04/2021	13:00	1.3	135	20/04/2021	13:00	1.8	22.5
17/04/2021	14:00	1.3	112.5	18/04/2021	14:00	1.3	90	19/04/2021	14:00	1.3	90	20/04/2021	14:00	2.2	90
17/04/2021	15:00	0.4	67.5	18/04/2021	15:00	0.9	112.5	19/04/2021	15:00	1.8	0	20/04/2021	15:00	0.9	315
17/04/2021	16:00	0.4	135	18/04/2021	16:00	0.9	90	19/04/2021	16:00	1.3	112.5	20/04/2021	16:00	1.3	67.5
17/04/2021	17:00	0.9	45	18/04/2021	17:00	1.8	112.5	19/04/2021	17:00	0.9	112.5	20/04/2021	17:00	1.3	112.5
17/04/2021	18:00	0.4	45	18/04/2021	18:00	1.3	90	19/04/2021	18:00	1.3	135	20/04/2021	18:00	1.3	112.5
17/04/2021	19:00	1.3	90	18/04/2021	19:00	0.4	90	19/04/2021	19:00	1.3	67.5	20/04/2021	19:00	1.3	112.5
17/04/2021	20:00	0.4	90	18/04/2021	20:00	1.3	112.5	19/04/2021	20:00	1.3	67.5	20/04/2021	20:00	0.9	202.5
17/04/2021	21:00	0.9	112.5	18/04/2021	21:00	0.9	67.5	19/04/2021	21:00	1.8	22.5	20/04/2021	21:00	1.3	22.5
17/04/2021	22:00	1.3	112.5	18/04/2021	22:00	0.4	112.5	19/04/2021	22:00	1.3	22.5	20/04/2021	22:00	1.8	90
17/04/2021	23:00	0.9	90	18/04/2021	23:00	0.4	0	19/04/2021	23:00	0.9	45	20/04/2021	23:00	1.8	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
21/04/2021	0:00	1.3	90	22/04/2021	0:00	1.3	67.5	23/04/2021	0:00	0.4	0	24/04/2021	0:00	0.4	270
21/04/2021	1:00	1.3	67.5	22/04/2021	1:00	0.9	45	23/04/2021	1:00	0.4	270	24/04/2021	1:00	0.4	270
21/04/2021	2:00	0.9	22.5	22/04/2021	2:00	0.9	45	23/04/2021	2:00	1.3	112.5	24/04/2021	2:00	0	22.5
21/04/2021	3:00	1.3	270	22/04/2021	3:00	0.9	90	23/04/2021	3:00	1.8	45	24/04/2021	3:00	0.4	112.5
21/04/2021	4:00	1.8	67.5	22/04/2021	4:00	0.4	337.5	23/04/2021	4:00	1.3	270	24/04/2021	4:00	0.9	112.5
21/04/2021	5:00	1.8	67.5	22/04/2021	5:00	1.3	0	23/04/2021	5:00	0.9	22.5	24/04/2021	5:00	0.4	45
21/04/2021	6:00	1.3	45	22/04/2021	6:00	1.3	22.5	23/04/2021	6:00	0.9	67.5	24/04/2021	6:00	0.4	112.5
21/04/2021	7:00	1.8	67.5	22/04/2021	7:00	1.3	22.5	23/04/2021	7:00	1.3	180	24/04/2021	7:00	1.3	90
21/04/2021	8:00	1.8	90	22/04/2021	8:00	0.9	45	23/04/2021	8:00	0.9	0	24/04/2021	8:00	0.4	112.5
21/04/2021	9:00	1.3	67.5	22/04/2021	9:00	0.9	0	23/04/2021	9:00	0.4	270	24/04/2021	9:00	0.4	67.5
21/04/2021	10:00	2.2	67.5	22/04/2021	10:00	0.4	112.5	23/04/2021	10:00	0.9	0	24/04/2021	10:00	1.3	135
21/04/2021	11:00	1.8	67.5	22/04/2021	11:00	0.4	315	23/04/2021	11:00	0.4	225	24/04/2021	11:00	1.3	112.5
21/04/2021	12:00	1.3	67.5	22/04/2021	12:00	0.4	90	23/04/2021	12:00	0.4	90	24/04/2021	12:00	0.9	135
21/04/2021	13:00	0.9	22.5	22/04/2021	13:00	0.9	135	23/04/2021	13:00	0.4	157.5	24/04/2021	13:00	1.3	90
21/04/2021	14:00	0.9	112.5	22/04/2021	14:00	1.3	112.5	23/04/2021	14:00	0.9	112.5	24/04/2021	14:00	0.9	112.5
21/04/2021	15:00	0.4	90	22/04/2021	15:00	1.3	135	23/04/2021	15:00	1.3	112.5	24/04/2021	15:00	1.3	90
21/04/2021	16:00	0.4	112.5	22/04/2021	16:00	1.3	112.5	23/04/2021	16:00	0.9	135	24/04/2021	16:00	0.4	112.5
21/04/2021	17:00	0.4	90	22/04/2021	17:00	0.9	112.5	23/04/2021	17:00	0.9	135	24/04/2021	17:00	0.4	112.5
21/04/2021	18:00	0.9	112.5	22/04/2021	18:00	1.3	135	23/04/2021	18:00	0.9	112.5	24/04/2021	18:00	1.8	180
21/04/2021	19:00	0.4	135	22/04/2021	19:00	0.9	112.5	23/04/2021	19:00	0.4	112.5	24/04/2021	19:00	0.4	112.5
21/04/2021	20:00	0.9	112.5	22/04/2021	20:00	0.4	112.5	23/04/2021	20:00	1.3	90	24/04/2021	20:00	0.9	135
21/04/2021	21:00	1.3	90	22/04/2021	21:00	0.4	135	23/04/2021	21:00	0.4	112.5	24/04/2021	21:00	0.4	112.5
21/04/2021	22:00	1.3	0	22/04/2021	22:00	1.3	135	23/04/2021	22:00	0.9	112.5	24/04/2021	22:00	0.4	270
21/04/2021	23:00	0.9	45	22/04/2021	23:00	0.9	112.5	23/04/2021	23:00	0.4	22.5	24/04/2021	23:00	1.3	112.5

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
25/04/2021	0:00	0.4	225	26/04/2021	0:00	0.9	225	27/04/2021	0:00	1.3	22.5	28/04/2021	0:00	0.4	90
25/04/2021	1:00	0.4	112.5	26/04/2021	1:00	0.4	202.5	27/04/2021	1:00	0.9	337.5	28/04/2021	1:00	0.9	90
25/04/2021	2:00	1.3	270	26/04/2021	2:00	0.4	270	27/04/2021	2:00	1.3	112.5	28/04/2021	2:00	0.9	90
25/04/2021	3:00	0.4	270	26/04/2021	3:00	1.3	112.5	27/04/2021	3:00	1.3	135	28/04/2021	3:00	0	67.5
25/04/2021	4:00	0.4	225	26/04/2021	4:00	0.4	225	27/04/2021	4:00	0.4	90	28/04/2021	4:00	0.4	67.5
25/04/2021	5:00	1.3	112.5	26/04/2021	5:00	0.4	112.5	27/04/2021	5:00	1.3	90	28/04/2021	5:00	0.4	67.5
25/04/2021	6:00	0.4	270	26/04/2021	6:00	0.4	112.5	27/04/2021	6:00	0.4	112.5	28/04/2021	6:00	1.3	0
25/04/2021	7:00	0.4	112.5	26/04/2021	7:00	1.3	90	27/04/2021	7:00	1.3	45	28/04/2021	7:00	0	67.5
25/04/2021	8:00	1.8	90	26/04/2021	8:00	0.4	112.5	27/04/2021	8:00	1.3	112.5	28/04/2021	8:00	0.4	90
25/04/2021	9:00	0.4	112.5	26/04/2021	9:00	1.3	112.5	27/04/2021	9:00	1.3	157.5	28/04/2021	9:00	0.4	90
25/04/2021	10:00	0.4	270	26/04/2021	10:00	0.9	135	27/04/2021	10:00	0.9	90	28/04/2021	10:00	0.4	67.5
25/04/2021	11:00	0.4	135	26/04/2021	11:00	0.9	135	27/04/2021	11:00	1.3	67.5	28/04/2021	11:00	0.9	112.5
25/04/2021	12:00	0.4	135	26/04/2021	12:00	1.8	112.5	27/04/2021	12:00	0.9	90	28/04/2021	12:00	1.3	135
25/04/2021	13:00	1.3	90	26/04/2021	13:00	1.3	90	27/04/2021	13:00	0.4	112.5	28/04/2021	13:00	1.3	90
25/04/2021	14:00	0.9	90	26/04/2021	14:00	0.9	112.5	27/04/2021	14:00	1.8	90	28/04/2021	14:00	1.8	0
25/04/2021	15:00	0.4	90	26/04/2021	15:00	0.9	112.5	27/04/2021	15:00	2.2	112.5	28/04/2021	15:00	1.3	112.5
25/04/2021	16:00	1.3	67.5	26/04/2021	16:00	1.3	90	27/04/2021	16:00	0.4	135	28/04/2021	16:00	0.9	112.5
25/04/2021	17:00	0.4	45	26/04/2021	17:00	0.9	112.5	27/04/2021	17:00	0.9	112.5	28/04/2021	17:00	1.3	135
25/04/2021	18:00	0.4	45	26/04/2021	18:00	0.4	90	27/04/2021	18:00	1.8	90	28/04/2021	18:00	1.3	67.5
25/04/2021	19:00	1.3	112.5	26/04/2021	19:00	0.4	45	27/04/2021	19:00	1.8	112.5	28/04/2021	19:00	1.3	67.5
25/04/2021	20:00	0.4	225	26/04/2021	20:00	0.9	67.5	27/04/2021	20:00	0.4	112.5	28/04/2021	20:00	1.8	22.5
25/04/2021	21:00	0.4	202.5	26/04/2021	21:00	1.3	22.5	27/04/2021	21:00	0.4	112.5	28/04/2021	21:00	1.3	22.5
25/04/2021	22:00	0.4	112.5	26/04/2021	22:00	0.9	225	27/04/2021	22:00	1.3	90	28/04/2021	22:00	0.9	45
25/04/2021	23:00	1.8	225	26/04/2021	23:00	0.9	112.5	27/04/2021	23:00	1.3	112.5	28/04/2021	23:00	1.3	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
29/04/2021	0:00	0	67.5	30/04/2021	0:00	1.8	22.5	1/05/2021	0:00	1.3	112.5				
29/04/2021	1:00	0.4	67.5	30/04/2021	1:00	2.7	90	1/05/2021	1:00	0.9	67.5				
29/04/2021	2:00	0.4	67.5	30/04/2021	2:00	2.2	90	1/05/2021	2:00	0.9	90				
29/04/2021	3:00	1.3	0	30/04/2021	3:00	1.8	45	1/05/2021	3:00	0.9	45				
29/04/2021	4:00	0	67.5	30/04/2021	4:00	2.7	90	1/05/2021	4:00	0.9	337.5				
29/04/2021	5:00	0.4	90	30/04/2021	5:00	2.2	112.5	1/05/2021	5:00	0.4	112.5				
29/04/2021	6:00	0.4	90	30/04/2021	6:00	1.8	112.5	1/05/2021	6:00	0.9	292.5				
29/04/2021	7:00	0.4	67.5	30/04/2021	7:00	0.9	135	1/05/2021	7:00	0.9	157.5				
29/04/2021	8:00	0.9	90	30/04/2021	8:00	2.2	112.5	1/05/2021	8:00	0.9	67.5				
29/04/2021	9:00	1.3	135	30/04/2021	9:00	0.9	90	1/05/2021	9:00	1.8	22.5				
29/04/2021	10:00	0.9	67.5	30/04/2021	10:00	1.3	157.5	1/05/2021	10:00	0.4	90				
29/04/2021	11:00	1.3	90	30/04/2021	11:00	0.9	90	1/05/2021	11:00	0.4	112.5				
29/04/2021	12:00	1.3	90	30/04/2021	12:00	1.3	90	1/05/2021	12:00	1.3	112.5				
29/04/2021	13:00	1.3	112.5	30/04/2021	13:00	2.7	90	1/05/2021	13:00	1.8	112.5				
29/04/2021	14:00	0.9	112.5	30/04/2021	14:00	2.2	112.5	1/05/2021	14:00	0.9	112.5				
29/04/2021	15:00	1.3	135	30/04/2021	15:00	1.8	112.5	1/05/2021	15:00	0.9	112.5				
29/04/2021	16:00	1.3	67.5	30/04/2021	16:00	0.9	135	1/05/2021	16:00	0.9	247.5				
29/04/2021	17:00	1.3	67.5	30/04/2021	17:00	2.2	112.5	1/05/2021	17:00	0	157.5				
29/04/2021	18:00	1.8	22.5	30/04/2021	18:00	0.9	90	1/05/2021	18:00	0	157.5				
29/04/2021	19:00	1.3	22.5	30/04/2021	19:00	1.3	157.5	1/05/2021	19:00	0	247.5				
29/04/2021	20:00	0.9	45	30/04/2021	20:00	0.9	90	1/05/2021	20:00	0.4	270				
29/04/2021	21:00	0.9	90	30/04/2021	21:00	1.3	90	1/05/2021	21:00	0	292.5				
29/04/2021	22:00	0.4	112.5	30/04/2021	22:00	0.4	112.5	1/05/2021	22:00	0.4	112.5				
29/04/2021	23:00	0.4	112.5	30/04/2021	23:00	0.9	90	1/05/2021	23:00	0.9	112.5				

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Ng Wah Catholic Secondary School

Appendix G – 24-hr TSP monitoring results and graphical presentation

Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter w	eight (g)	Particulate	Elapse	e Time	Sampling Time	Flow (cf		Av. Flow	Total vol.	Conc.
		(°C)	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m ³ /min)	(m^3)	$(\mu g/m^3)$
01/04/2021	Sunny	30.0	1007.6	15.1606	15.2739	0.1133	5293.15	5317.16	1441	50	50	1.42	2048	55
07/04/2021	Sunny	23.7	1016.0	15.7105	15.8732	0.1627	5320.74	5344.76	1441	50	50	1.45	2083	78
13/04/2021	Sunny	30.6	1013.6	11.5906	11.7346	0.1440	5345.33	5369.35	1441	50	50	1.42	2053	70
19/04/2021	Sunny	23	1013.2	15.1739	15.4710	0.2971	5369.81	5393.82	1441	50	50	1.44	2081	143
24/04/2021	Sunny	25.3	1010.9	11.4324	11.6534	0.2210	5394.8	5418.82	1441	50	50	1.44	2070	107
30/04/2021	Sunny	27	1012.5	18.5704	18.7255	0.1551	5419.13	5443.14	1441	50	50	1.43	2065	75
												Maxir	num	143
												Minin	num	55
												Aver	age	88
												Action	Level	175
												Limit I	Level	260

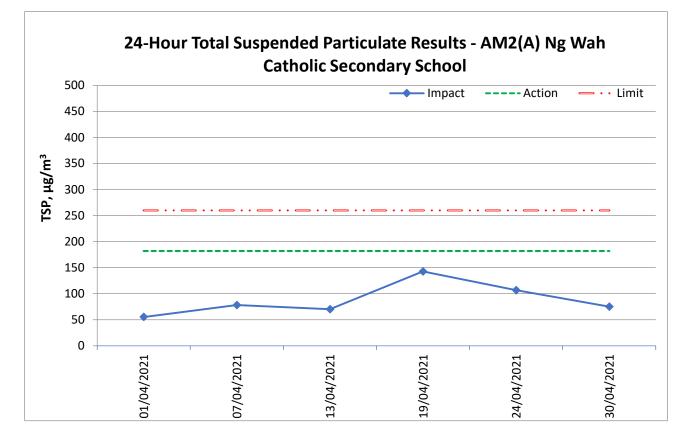
Location: AM2(A) – Ng Wah Catholic Secondary School

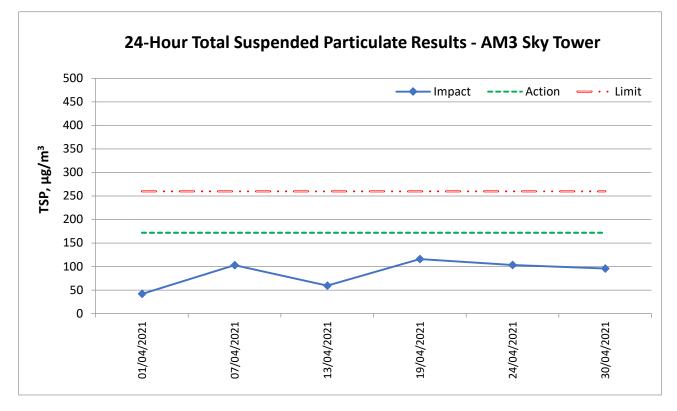
Location: AM3 – Sky Tower

Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter we	eight (g)	Particulate	_	e Time	Sampling Time	Flow (cf		Av. Flow	Total vol.	Conc.
		(°C)	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m ³ /min)	(m^3)	$(\mu g/m^3)$
01/04/2021	Sunny	30.0	1007.6	14.9077	14.9901	0.0824	2745.16	2769.18	1441	50	50	1.37	1967	42
07/04/2021	Sunny	23.7	1016.0	15.8683	16.0739	0.2056	2770.45	2794.47	1441	50	50	1.39	1997	103
13/04/2021	Sunny	30.6	1013.6	11.6400	11.7525	0.1125	2794.81	2818.84	1442	48	48	1.31	1893	59
19/04/2021	Sunny	23	1013.2	15.8151	16.0373	0.2222	2821.48	2845.51	1442	48	48	1.33	1917	116
24/04/2021	Sunny	25.3	1010.9	15.6636	15.8601	0.1965	2848.58	2872.59	1441	48	48	1.32	1906	103
30/04/2021	Sunny	27	1012.5	11.7511	11.9332	0.1821	2875.07	2899.09	1441	48	48	1.32	1902	96
												Max	imum	116
												Mini	imum	42
												Ave	erage	87
												Action	n Level	172

Limit Level 260

24-hour average TSP





Appendix H – 1-hr TSP monitoring results and graphical presentation

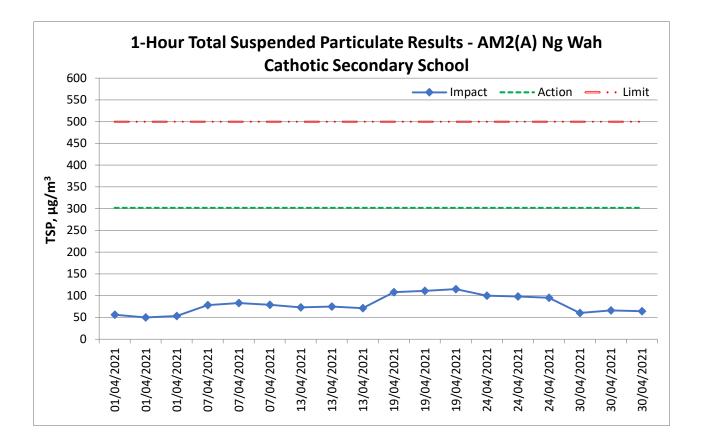
	Date	Measure	eme	nt Period	1-hr TSP concentration, $\mu g/m^3$	Weather
Location:		9:00	-	10:00	56	
AM2(A) –	01/04/2021	10:00	-	11:00	50	Sunny
Ng Wah Catholic		11:00	-	12:00	53	
e		13:00	-	14:00	78	
Secondary School	07/04/2021	14:00	-	15:00	83	Sunny
		15:00	-	16:00	79	
		13:00	-	14:00	73	
	13/04/2021	14:00	-	15:00	75	Sunny
		15:00	-	16:00	71	
		9:00	-	10:00	108	
	19/04/2021	10:00	-	11:00	111	Sunny
		11:00	-	12:00	115	
		9:00	-	10:00	100	
	24/04/2021	10:00	-	11:00	98	Sunny
		11:00	-	12:00	95	
		13:00	-	14:00	60	
	30/04/2021	14:00	-	15:00	66	Sunny
		15:00	-	16:00	64	
		laximum			115	
	Ν	linimum			50	
		Average			80	
		tion Level			302	
	Li	mit Level			500	

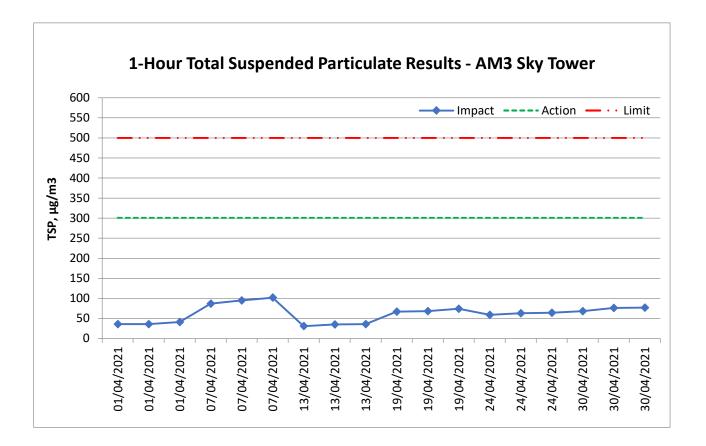
Date	Measure	emer	nt Period	1-hr TSP concentration, µg/m ³	Weather
	9:00	-	10:00	36	
01/04/2021	10:00	-	11:00	36	Sunny
	11:00	-	12:00	41	
	13:00	-	14:00	87	
07/04/2021	14:00	-	15:00	95	Sunny
	15:00	-	16:00	102	
	9:00	-	10:00	31	
13/04/2021	10:00	-	11:00	35	Sunny
	11:00	-	12:00	36	
	9:00	-	10:00	67	
19/04/2021	10:00	-	11:00	68	Sunny
	11:00	-	12:00	74	
	13:00	-	14:00	59	
24/04/2021	14:00	-	15:00	63	Sunny
	15:00	-	16:00	64	
	9:15	-	10:15	68	
30/04/2021	10:15	-	11:15	76	Sunny
	13:00	-	14:00	77	
Ν	laximum			102	
Ν	/linimum			31	
	Average			62	
Ac	tion Level	[301	
Li	mit Level			500	

Location:

AM3 -

Sky Tower





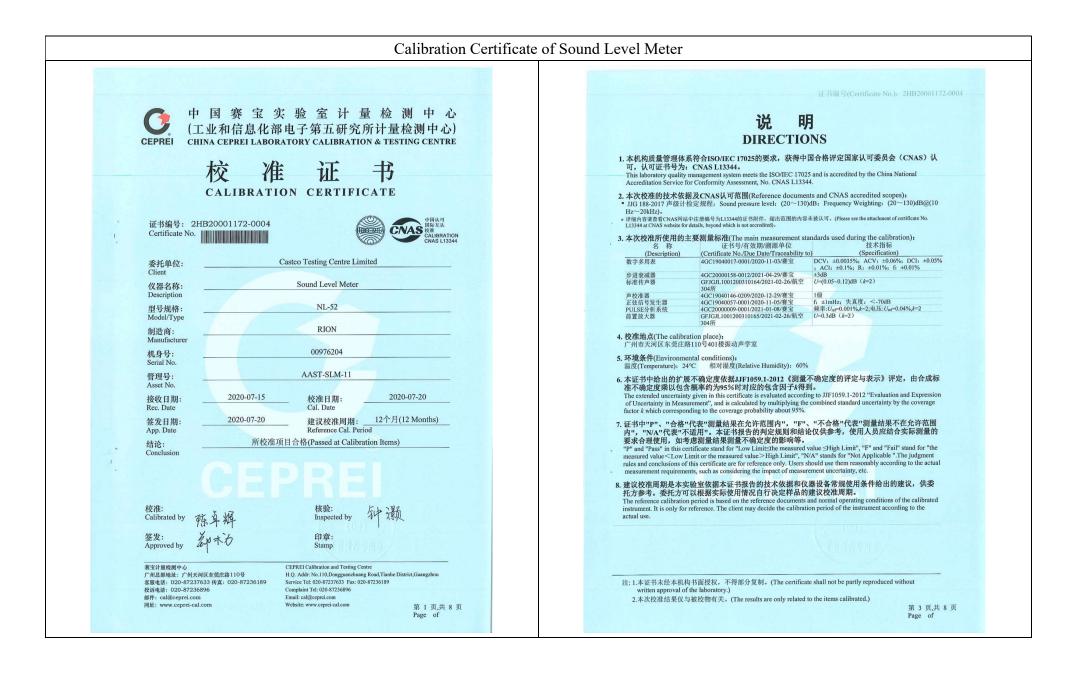
Appendix I – Event and Action Plan for air quality

		Ac	tion	
Event	ET	IEC	Supervisor / ER	Contractor
Action Level being exceeded by one sampling	 Identify source and investigate the causes of exceedance; Inform Contractor, IEC and Supervisor /ER; Repeat measurement to confirm finding. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	 Rectify any unacceptable practice; Amend working methods if appropriate.
Action Level being exceeded by two or more consecutive	1. Identify source and investigate the causes of exceedance;	 Check monitoring data submitted by ET; Check Contractor's 	1. Confirm receipt of notification of exceedance in writing;	1. Discuss with ET and IEC on proper remedial actions;
sampling	2. Inform Contractor, IEC and Supervisor /ER;	working method; 3. Discuss with ET and		2. Submit proposals for remedial actions to
	3. Increase monitoring frequency to daily;	Contractor on possible remedial measures;	IEC, agree with the Contractor on the remedial	Supervisor /ER and IEC within three working day
	4. Discuss with IEC and Contractor on remedial actions required;	4. Advise the Supervisor /ER on the effectiveness of the proposed remedial	measures to be implemented;4. Supervise implementation	of notification; 3. Implement the agreed proposals;
	5. Assess the effectiveness of Contractor's remedial actions;	measures.	of remedial measures;5. Conduct meeting with ET and IEC if exceedance	4. Amend proposal if appropriate.
	6. If exceedance continues, arrange meeting with IEC and Supervisor /ER;		continues.	
	7. If exceedance stops, cease additional monitoring.			
Limit Level being		1. Check monitoring data	1	1. Take immediate action to
exceeded by one sampling	investigate the causes of exceedance;	submitted by ET; 2. Check Contractor's	notification of exceedance in writing;	avoid further exceedance;2. Discuss with ET and IEC
	2. Inform Contractor, IEC, Supervisor / EP, and EPD;	working method;	 Notify Contractor; In consolidation with the 	on proper remedial
	Supervisor /ER, and EPD;Repeat measurement to confirm finding;	3. Discuss possible remedial measures with ET and Contractor;	3. In consolidation with the IEC, agree with the Contractor on the remedial	actions; 3. Submit proposal for remedial actions to
	4. Assess effectiveness of	4. Advise the Supervisor /ER	measures to be	Supervisor /ER and IEC

E (Ac	tion	
Event	ЕТ	IEC	Supervisor / ER	Contractor
	Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results.	on the effectiveness of the proposed remedial measures.	 implemented; 4. Supervise implementation of remedial measures; 5. Conduct meeting with ET and IEC if exceedance continues. 	within three working days of notification;4. Implement the agreed proposals.
Limit Level being exceeded by two or more consecutive sampling	 Notify IEC, Supervisor /ER, Contractor and EPD; Repeat measurement to confirm findings; Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance; Increase monitoring frequency to daily; Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken; Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER 	 submitted by ET; Check Contractor's working method; 	 notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise implementation of remedial measures; 	 Take immediate action to avoid further exceedance; Discuss with ET and IEC on proper remedial actions; Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification; Implement the agreed proposals; Submit further remedial actions if problem still not under control; Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.
	 If exceedance stop, cease additional monitoring. 			

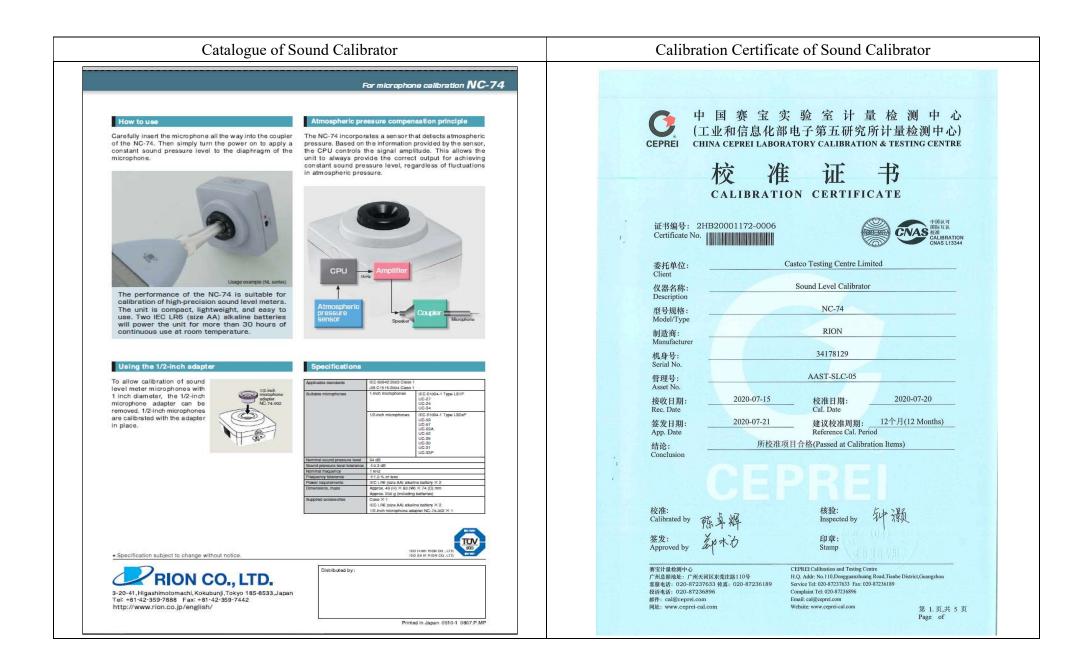
Appendix J – Calibration certificates, catalogue of noise monitoring equipment

		ll	Ц					
Spec	ifications							
	•			Data			Allows viewing of stored data	
Angligght	le standards	NL-52	NL-42	Setup	memory		Up to five setup configurations ca Start up via file settings previou	an be saved in internal memory, for later re sly stored on SD card possible
Аррисари	le standards	ANSI S1.4-1983 Type 1	ANSI S1.4-1983 Type 2		orm recordi	ng * 3		
		ANSI S1.4A-1985 Type 1 ANSI S1.43-1997 Type 1	ANSI S1.4A-1985 Type 2 ANSI S1.43-1997 Type 2		e format mpling frequ	iency	Uncompressed waveform WAV Select 48 kHz, 24 kHz or 12 kH	
		JIS C 1509-1: 2005 Class 1	IIS C 1509-1: 2005 Class 2		DC outp		Select 24 bit or 16 bit	cy weighting characteristic selected by proces
		C Marking CMC Dec.vc 2001/08 WEEE Directives, Chinese RoHS (e	C, Low Voltage Directive 2006/95/EC),	Coupuis	Outpu	it voltage	2.5 V, 25 mV / dB at bar graph	display full scale
Measure	ment functions	Simultaneous measurement of the f			AC output	ut	Output AC signals using a freque processing or by A. C. Z-weight	ency weighting characteristic selected b ing.
Proces	ssing (main ch)	weighting and frequency weighting Instantaneous sound pressure level	Lp			it voltage	1 V (rms values) at bar graph d	
		Equivalent continuous sound pressu Sound exposure level: Le	re level: Leq		Compara output * 2		Turns on when the open-collect (max. applied voltage 24 V, max.	or output exceeds the set value current 60 mA, allowable dissipation 300 m
		Maximum sound pressure level: Lma	x	USB			Allows USB to be connected to a Allows USB to be controlled via c	computer and recognized as a removable
		Minimum sound pressure level: Lmin Percentile sound levels: LN (0.1 to 99	9 %, 0.1-increment steps, max. 5 values)	RS-23	32C comm			ation via use of a dedicated cable
	ssing (sub ch)	Instantaneous sound pressure level	Lp		continuous pe of Instar		Lp	
Additic	onal processing	In addition to main processing items for simultaneous processing:	, one of the following can be selected	dat	ta Proc	essed value	Leq, Lmax, Lmin, Lpeak	
		C-weighted equivalent continuous se		Ou Print o	utput interv	ral	100 ms Printing of measurement results	s on dedicated printer DPU-414
		C-weighted peak sound level: Lcpeak Z-weighted peak sound level: Lcpeak		Power	r requirem		Four IEC R6 (size AA) batteries (alkalin	ne or rechargeable batteries) or external power su Ni-MH secondary battery: 25 h
		I-time-weighted equivalent continuous Maximum I-time-weighted equivalent c		Ba	ittery life (2	(3 C)	At the maximum * Depends on	the setting
		The power average of the maximum level	el of each 5 second interval: LAtm5		C adapter ternal pow	er voltage	NC-98C (NC-34 for previous methods) 5 to 7 \lor (rated voltage: 6 \lor)	odels cannot be used)
		The frequency weighting for the additional pro of the sub-channel, so when the sub-channel I	bessing synchronizes with the frequency weighting las A-weighting, LAtm3 can be selected.	Cu	irrent cons	umption	Approximately 90 mA (normal of	peration, rated voltage)
		When C-weighting (Z-weighting) is selected	d, the additional processing Lceq and Lcpeak	Ambie condit		nperature nidity	-10 to +50 °C 10 to 90 % RH (non-condensing	3)
Measurin	ig time	(Lzprak) are selectable. 10 s, 1, 5, 10, 15, 30 m, 1, 8, 24 h, a	nd manual (maximum 24 h)	Dustp	roof / wate		IP code: IP54 (except for micro See precautions regarding wate	phone)
Microphone	Type Sensitivity level	UC-59 -27 dB	UC-52 33 dB	Dimer	mance*4 nsions, we		Approx. 250 (H) x 76 (W) x 33 m	m(D), approx. 400 g (with batteries)
Measurer	ment range	A-weighting: 25 dB to 138 dB		Suppl	lied access	sories		5-10 x 1, Windscreen fall prevention rubber > batteries x 4, SD card 512 MB×1 (NX-42EX
		C-weighting: 33 dB to 138 dB Z-weighting: 38 dB to 138 dB					preinstalled model only)	
		C-weighting peak sound level: 55 dB		Opti	ions			
Inherent	A-weighting	Z-weighting peak sound level: 60 dE 17 dB or less	19 dB or less	Exton	adad functi		duct name m (Inst.on 512 MB SD card)	Product number NX-42EX
noise	C-weighting Z-weighting	25 dB or less 30 dB or less	27 dB or less 32 dB or less	Wave	eform reco	rding progr	ram*2 (Inst.on 2 GB SD card)	NX-42WR
Frequenc	cy range	20 Hz to 20 kHz	20 Hz to 8 kHz				ysis program *2 (Inst.on 512 MB SD card) Inst.on 512 MB SD card)	NX-42RT NX-42FT
Frequence Time weight	cy weighting ghting	A, C, and Z F (Fast) and S (Slow)		Data r	manageme	ent software	of or environmental measurement	AS-60
Level ran		Single range (Linearity range: 113 d Max. 110 dB (20 to 130 dB)	3)	(Includ	des the octa	ave and 1/3	octave data management software)	AS-60RT
Switchin	ng of bar graph display	Set the upper/ lower limit in 10 dB in	crements.	(Inclu	ides the vi	bration leve	of or environmental measurement el data management software)	AS-60VM
RMS dete Sampling	ection circuit cycle	Digital processing method 20.8 µs (Lp, Leq, LE, Lmax, Lmin, Lpeak	; sampling frequency; 48 kHz)		ard 512 M		ire	CAT-WAVE SD-512M
		100 ms (LN)			ard 2 GB dapter (10	0.V.to 240	VA.	SD-2G NC-98C
Calibratic	n	Measurement Law: electrical calibration p using internally generated signals: acoust	erformed according to IEC and JIS standards, c calibration performed with the NC-74.	Batter	ry pack			BP-21
Correctio	n functions	Windscreen correction:	9-1 standards when the windscreen is installed.		phone ext Pin output		bles	EC-04 (from 2 m) CC-24
		Diffuse sound field correction:		Comp	parator out			CC-42C
		Correction of frequency characteris (ANSI S1.4) in diffuse sound field.	tics in order to comply with standards	Printe Printe	er er cable			DPU-414 CC-42P
Delay tim	10	The meter can be set to start measuring	ng a specified time (OFF, 1, 3, 5 or 10 s)	RS 23 USB	32C serial cable	1/O cable		CC-42R
Back era:	se function	after the start button has been presse When the PAUSE key is pressed to	d or when a user-set trigger is exceeded. pause measurement, the preceding	Soun	d calibrato			NC-74
Display		(user selectable) 0, 1, 3 or 5 s data a Backlit semitransparent color TFT L		7 01 110	eather win screen mo	00010011	apter	WS-15 WS-15006
Crapitay		* LCD with touch panel (Capacitive	Touch Panel)	Rain-	protection	windscree	n	WS-16
Store	anual		Bar graph update frequency: 100 ms ad manually in single address increments.		id level me eather win		pod	ST-80 ST-81
	Number of data	Internal memory: max. 1000 sets					products. *2 NX-42EX required (sold ful dust and water splashing from	separately). *3 NX-42WR required (sold separ any direction.
EEEA	uto*2	SD Card: depends on the capacity of Instantaneous values (Lp mode) and		Preca	utions reg	garding w	aterproofing bber bottom cover and the battery	
	Lp sampling cycle	stored continuously and automatical 100 ms, 200 ms, 1 s, Leg 1s	ly at preset intervals.					compartment lid are firmly closed. placement is required every two years (at c
	Leg sampling cycle	10 s, 1, 5, 10, 15, 30 ms, 1, 8, 24 h						
	Measurement Time	Max. 1000 h (depends on the capac	ity of the SD Card)*1					ISO 14001
		rk of Microsoft Corporation. to change without notice.						ISO 14001 RION CO., LTD. ISO 9001 RION CO., LTD.
Distribu	uted by:			/				
				C				O., LTD.
						ht	tp://www.rion.co.jp/eng	glish/
								nji, Tokyo 185-8533, Jap
				rel:	-01-4	2-359-	7888 Fax: +81-42-	309-1442
		nent-friendly. It does not include to	xic chemicals on our policy. protected and resistant to splashing water).					



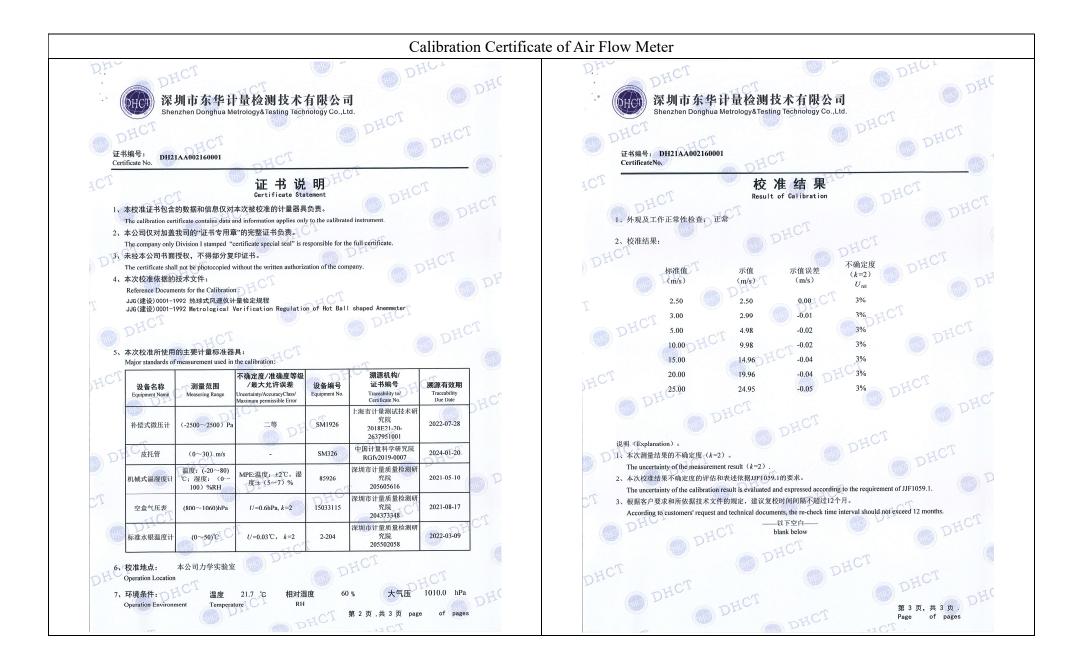
CEPREI	证书编号(Certificate No.): 2HB20001172-0004	CEPREI			证书编	号(Certificate No.):	2HB2000117	2-0004
1 外观与工作正常性检查	(Appearance and Function Check)	4 A计权特性(A-V	Veighting Cha	racteristic)				
	吉果准确度的因素和缺陷。	频率	实测值	理论值	误差	允许误差	结论	U
There are no factor a	nd defect that affect the calibration result accuracy of the certificate.	(Frequency)	(Actual)	(Theoretical value)	(Error)	(Limit)	(Pass/Fail)	(<i>k</i> =2)
		(Hz)	(dB)	(dB)	(dB)	(dB)	(P/F)	(dB)
2 指示声级调整 (Indicatio		20	-50.6	-50.5	-0.1	±2.0	Р	0.5
传声器型号	传声器编号 放大器型号 放大器编号	25	-44.9	-44.7	-0.2	+2.0 ~ -1.5	Р	0.5
(Microphone Type)	(Microphone SN.) (Preamplifier Type) (Preamplifier SN.)	31.5 40	-39.8	-39.4	-0.4	±1.5	Р	0.5
UC-59	12133 NH-25 76321	40 50	-34.6 -30.4	-34.6 -30.2	0.0	±1.0	P	0.5
-to Lie Mie BB 201 C1	标准声压级 校准前示值 校准后示值 U	63	-30.4	-30.2	-0.2	±1.0 ±1.0	P	0.5 0.5
声校准器型号	标准声压级 校准前示值 校准后示值 U (Reference SPL) (Before Calibration) (After Calibration) (标2)	80	-20.3	-20.2	-0.1	± 1.0 ± 1.0	P	0.5
(Calibrator Type)		100	-19.1	-19.1	0.0	±1.0	p	0.5
4231	(dB) (dB) (dB) (dB) 94,0 93.9 94.0 0.2	125	-16.2	-16.1	-0.1	±1.0	Р	0.5
4231	94.0 75.7 74.0 0.2	160	-13.2	-13.4	0.2	±1.0	Р	0.5
3 级线性 (Level Linearity)		200	-10.8	-10.9	0.1	±1.0	Р	0.5
3.1 参考级量程 (Reference	e Range) 频率(Frequency): 8000Hz	250	-8.7	-8.6	-0.1	±1.0	Р	0.5
SIT S SEATER (Reference	起始点指示声级(Sound Level Indication of Start Point): 90.0 dB	315	-6.7	-6.6	-0.1	±1.0	Р	0.4
起始点以上间隔10	dB点的最大误差(Maximum Error for each 10dB above Start Point): -0.1 dB	400	-4.8	-4.8	0.0	±1.0	Р	0.4
	U(k=2) = 0.6 dB	500	-3.2	-3.2	0.0	±1.0	Р	0.4
上限以下5dB间隔1dB点	的最大误差(Maximum Error for each 1dB below Upper Limit 5dB): -0.1 dB	630	-1.9	-1.9	0.0	±1.0	Р	0.4
	U (k=2) 0.6 dB	800	-0.8	-0.8	0.0	±1.0	Р	0.4
起始点以下间隔10	IB点的最大误差(Maximum Error for each 10dB below Start Point): -0.1 dB	1000(Ref.)	0.0	0.0	0.0	±0.7	Р	0.4
	U (k=2) 0.6 dB	1250	0.6	0.6	0.0	±1.0	Р	0.6
下限以上5dB间隔1dB点	的最大误差(Maximum Error for each 1dB above Lower Limit 5dB): -0.1 dB	1600	1.0	1.0	0.0	±1.0	Р	0.6
	U (k=2) 0.6 dB	2000	1.2	1.2	0.0	±1.0	Р	0.6
		2500	1.3	1.3	0.0	±1.0	Р	0.6
3.2 其它级量程 (Other Ran		3150	1.2	1.2	0.0	±1.0	Р	0.6
	起始点指示声级(Sound Level Indication of Start Point): 90.0 dB	4000	1.0	1.0	0.0	±1.0	Р	0.6
起始点以上间隔10	IB点的最大误差(Maximum Error for each 10dB above Start Point): -0.2 dB	5000	0.6	0.5	0.1	±1.5	Р	0.6
	U (k=2) 0.4 dB	6300 8000	0.0 -1.0	-0.1	0.1	+1.5 ~ -2.0	Р	0.6
上限以下5dB间隔1dB点	的最大误差(Maximum Error for each 1dB below Upper Limit 5dB): -0.2 dB			-1.1	0.1	+1.5 ~ -2.5	Р	0.6
	U(k=2) 0.4 dB	10000 12500	-2.4 -4.4	-2.5	0.1	$+2.0 \sim -3.0$	P	0.6
起始点以下间隔100	IB点的最大误差(Maximum Error for each 10dB below Start Point): -0.1 dB	12300	-4.4	-4.3 -6.6	-0.1 -1.3	$+2.0 \sim -5.0$ $+2.5 \sim -16.0$	P P	1.0
and set to be any designed on the		20000	-14.2	-9.3	-1.5	$+2.3 \sim -10.0$ +3.0 ~ -∞	P P	1.0 1.0
下限以上5dB间隔1dB点	的最大误差(Maximum Error for each 1dB above Lower Limit 5dB): -0.1 dB U (k=2) 0.4 dB			-9.5	4.5	13.0 ~ 105	r	1.0
	数据页(Data sheet) 1D: U071288 第 5 页,共 8 页 Page of	第6页,共8页 Page of		数据页(Data she	et) ID: U	071288		

CEPREI			证书编	号(Certificate No.):	2HB2000117	2-0004
5 C计权特性(C	-Weighting Cl	naracteristic)				
频率	实测值	理论值	误差	允许误差	结论	U
(Frequency)	(Actual)	(Theoretical value)	(Error)	(Limit)	(Pass/Fail)	(<i>k</i> =2)
(Hz)	(dB)	(dB)	(dB)	(dB)	(P/F)	(dB)
20	-6.4	-6.2	-0.2	±2.0	Р	0.5
25	-4.5	-4.4	-0.1	+2.0 \sim -1.5	Р	0.5
31.5	-3.1	-3.0	-0.1	±1.5	Р	0.5
40	-2.1	-2.0	-0.1	±1.0	Р	0.5
50	-1.3	-1.3	0.0	±1.0	Р	0.5
. 63	-0.9	-0.8	-0.1	±1.0	P	0.5
80	-0.5	-0.5	0.0	±1.0	Р	0.5
100	-0.3	-0.3	0.0	±1.0	P P	0.5 0.5
125	-0.1	-0.2	0.1	±1.0 ±1.0	P P	0.5
160	-0.1	-0.1	0.0 0.0	±1.0 ±1.0	P	0.5
200 250	0.0 0.0	0.0	0.0	±1.0	P	0.5
315	0.0	0.0	0.0	±1.0	P	0.4
400	0.0	0.0	0.0	±1.0	р	0.4
500	0.0	0.0	0.0	±1.0	р	0.4
630	0.0	0.0	0.0	±1.0	P	0.4
800	0.0	0.0	0.0	±1.0	Р	0.4
1000(Ref.)	0.0	0.0	0.0	±0.7	р	0.4
1250	0.0	0.0	0.0	±1.0	Р	0.6
1600	-0.1	-0.1	0.0	±1.0	Р	0.6
2000	-0.1	-0.2	0.1	±1.0	Р	0.6
2500	-0.3	-0.3	0.0	±1.0	Р	0.6
3150	-0.5	-0.5	0.0	±1.0	Р	0.6
4000	-0.8	-0.8	0.0	±1.0	Р	0.6
. 5000	-1.2	-1.3	0.1	±1.5	Р	0.6
6300	-1.9	-2.0	0.1	+1.5 ~ -2.0	Р	0.6
8000	-2.9	-3.0	0.1	+1.5 ~ -2.5	Р	0.6
10000	-4.3	-4.4	0.1	+2.0 ~ -3.0	Р	0.6
12500	-6.4	-6.2	-0.2	+2.0 ~ -5.0	Р	1.0
16000	-9.9	-8.5	-1.4	+2.5 ~ -16.0	Р	1.0
20000	-16.2	-11.2	-5.0	+3.0 ~ -00	Р	1.0
		数据页(Data she	eet) ID: U	J071288	第7页, Page of	共 8 页



if 书稿 \${(Certificate No.): 2HB20001172-0006 	CEPREI 证书编号(C 1 外观与工作正常性检查 (Appearance and Function Check)	Certificate No.): 2HB20001172-0006
DIRECTIONS 1. 本机构质量管理体系符合ISO/IEC 17025的要求,获得中国合格评定国家认可委员会(CNAS)认	CEPREI	Certificate No.): 2HB20001172-0006
DIRECTIONS 1. 本机构质量管理体系符合ISO/IEC 17025的要求,获得中国合格评定国家认可委员会(CNAS)认	1 外观与工作正常性检查 (Appearance and Function Check)	
	无影响证书中校准结果准确度的因素和缺陷。	
可,认可证书号为: CNAS L13344。 This laboratory quality management system meets the ISO/IEC 17025 and is accredited by the China National	There are no factor and defect that affect the calibration result accu	aracy of the certificate.
Accreditation Service for Conformity Assessment, No. CNAS L13344.	2 声压级 (Sound Pressure Level)	
 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes); JJG 176-2005 声校准器检定规程; Sound Pressure Level: 94dB, 104dB、114dB, 124dB(63Hz~8kHz); 94dB 、104dB、114dB,(31.5Hz~16kHz); Frequency; 31.5Hz~16kHz; Harmonic Distortion; 0~10%, (20Hz~20 kHz); 	规定声压级 测量声压级 声压级差的绝对值 允许	许范围 结论 U
, ALLZ/。 # 详细内容语查看CNAS网站中注册编号为L1344的证书附件, 超出范围的内容未被认可。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited).		Limit) (Pass/Fail) (k=2)
3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):		(dB) (dB)
名称 证书号/有效期/溯源单位 技术指标 (Description) (Certificate No./Due Date/Traceable) (Specification) 标准传声器 GFGUI10012030164/2021-02-26航空 U=(0.05-0.12)dB (k=2) 304所 304所 U=0.3dB (k=2)	94 94.38 0.38	≤0.40 P 0.10
304所 PULSE分析系统 4GC20000024-0064/2021-02-12/赛宝 频率:Ure=0.001%,k=2;电压:Ure=0.04%,k=2	3 频率 (Frequency)	
4. 校准地点(The calibration place): 广州市天河区东莞庄路110号401楼振动声学室	規定频率 测量频率 频率误差的绝对值 允许	午范围 结论 Urel
5. 环境条件(Environmental conditions):	(Prescribed Fre.) (Measured Fre.) (Absolute value of Fre.) (L	.imit) (Pass/Fail) (k=2)
温度(Temperature): 24℃ 相对湿度(Relative Humidity): 60%	(Hz) (Hz) (%)	(%)
6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定,由合成标 准不确定度乘以包含概率约为95%的对应的包含因子4%到多。 The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.	1000 1002.0 0.20 4 总失真 (Distortion)	≤1.00 P 0.10
7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围		
内", "N/A"代表"不适用"。本证书报告的判定规则和结论仅供参考,使用人员应结合实际测量的 要求合理使用,如考虑测量结果测量不确定度的影响等。		午范围 结论 Urel imit) (Pass/Fail) (k=2)
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value <low limit="" measured="" or="" the="" value="">High Limit", "N/A" stands for "Not Applicable ".The judgment</low>		imit) (Pass/Fail) (<i>k</i> =2) %) (%)
rules and conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.		≤3.00 P 5.0
8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委托方参考。委托方可以根据实际使用情况自行决定样品的建议校准周期。 The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.	以下堂白/No data hereafter	E
注: 1.本证书未经本机构书面授权,不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.) 2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.) 第 3 页共 5 页	数据页(Data sheet) ID: U013	393 第 5 页,共 5 页 Page of

Catalo	gue of Air Flow	v Meter ('	TSI TA	A440)		Calibration Certificate of Air Flow Meter
SPECIFICATIONS THERMAL ANEMO MODELS TA410, TA	METERS					AAST-FLow-03, Gl Get 2021/2/26 深圳市东华计量检测技术有限公司 Shenzhen Donghua Metrology&Testing Technology Co.,Ltd.
elocity ange (TA410) ange (TA430, TA440) ccuracy (TA430, TA440) ¹⁶² ccuracy (TA430, TA440) ¹⁶²	0 to 20 m/s (0 to 4,000 ft/min) 0 to 30 m/s (0 to 6,000 ft/min) ±5% of reading or ±0.025 m/s (±5 ft/min), whichever is greater ±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater	Time Constant (T User selectable External Meter D 8.4 cm x 17.8 cm x 4 Meter Weight wit	imensions 4.4 cm (3.3 in. x			DHCT DHCT CALIBRATION CERTIFICATE
Resolution Duct Size (TA430, TA44 Dimensions	0.01 m/s (1 ft/min)) 1 to 635 cm in increments of 0.1 cm (1 to 250 inches in increments of 0.1 in.)	0.27 kg (0.6 lbs.) Meter Probe Dime Probe Length Probe Diameter of 7	101.6 Tip 7.0 mr	cm (40 in.) n (0.28 in.)		委托方名称: Client name The table to the table of the table of the table of the table of
Volumetric Flow Rate (T Range	A430, TA440) Actual range is a function of velocity, and duct size	Probe Diameter of I Articulating Prob Articulating Section	oe Dimensions	ım (0.51 in.) 1 n (7.8 in.)		委托方地址: Add.of Client 计量器具名称: 风速计
Temperature Range (TA410, TA430) Range (TA440) Accuracy ⁸ Resolution	-18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) ±0.3°C (±0.5°F) 01°C (0.1°F)	Diameter of Articulating Knuckle Power Requireme Four AA-size batter	9.5 m	n (0.38 in.)		Name of Instrument 型号/规格: Type/Specification
Relative Humidity (TA4 Range	40 only) 5 to 95% RH		TA410	TA430, TA430-A	TA440, TA440-A	制造单位: Manufacturer 器具编号: AAST-FLOW_02/TA4401704002
Accuracy ⁴ Resolution	±3% RH 0.1% RH	Velocity range 0 to 20.00 m/s (0 to 4000 ft/min) Velocity range 0 to 30.00 m/s	+	+	+	Serial No.
Wet Bulb Temperature (Range Resolution	FA440 only) 5 to 60°C (40 to 140°F) 0.1°C (0.1°F)	(0 to 6000 ft/min) Temperature Flow	+	+	+	接收日期: Date of Receipt 校准日期: CT 2021 年 02 月 23 日 Month 23 Day
Dew Point (TA440 only) Range Resolution	-15 to 49°C (5 to 120°F) 0.1°C (0.1°F)	Flow Humidity, wet bulb, dew point Probe	Straight	+ Straight or -A articulated	+ + Straight or -A articulated	校准日期: Date of calibration 2021 年 02 月 26 日 Year, 02 Month 26 Day
Instrument Temperatur Operating (Electronics) Model TA410, TA430 Operating (Probe)	5 to 45°C (40 to 113°F) -18 to 93°C (0 to 200°F)	Variable time constant Manual data logging Auto save		articulated + +	+	批准人: Approved by
Model TA440 Operating (Probe) Storage	-10 to 60°C (14 to 140°F) -20 to 60°C (-4 to 140°F)	data logging Statistics		+	+	核验员: 张 ぢ 庆 张吉庆 Checked by
Data Storage Capabilitie Range	12,700+ samples and 100 test IDs	Review data LogDat2 downloading software		+	+ +	校准员: 蒋新建 蒋新建 Stamp
Logging Interval (TA430 1 second to 1 hour	, TA440)	Free Certificate of Calibration	+	+	+	Calibrated by
Spedications subject to change within TSI and the TSI logo are registered trad the Arthwine and Legibital are tradi- tion of the tradition of the tradition of the tradition of the tradition of the tradition of the tradition Visit our website at www.aitf	emarka and Akflow marks of TSI Incorporated. TLEDENE MEENTS truments Ltd. covinstruments.co.uk for more information		egins at 30 ft/min thr 30 ft/min through 6,0 t case at 25°C (77°F), a temperature. i°C (77°F), Add uncert	ough 4000 ft/min (0. 100 ft/min (0.15 m/s t xld uncertainty of 0.0 ainty of 0.2% RH/PC (15 m/s through 20 m/s) nrough 30 m/s) for 3°C/°C (0.05°F/°F)	 計量校准机构备案号, 粤校备2017B010 地址:深圳市龙华区大浪街道同群社区浦华科技图厂房 A1层 电话: 0755-28161768/28162768/28166778 竹養: 0755-28104376 邮编: 518109 两址: www.szdhjl.com 电子邮箱: szdhjl@163.com
France Tel: +33 491 11 8		v				DHCT 第1页,共3页 page of pages DI



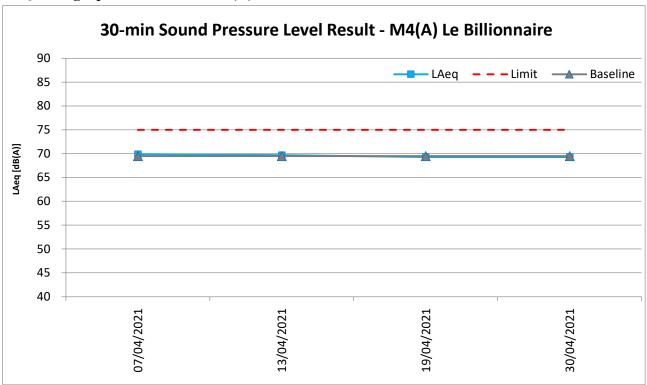
Appendix K – Noise monitoring results and graphical presentation

M4(A) – Le Billionnaire

	Temp	W7 (1		Measured Noise Level at M11, c						T · · ·
Date	(°C)	Weather	,	Time		Baseline	L_{Aeq}	L _{A10}	L _{A90}	Limit
07/04/2021	23.7	Sunny	10:14	-	10:44	69.5	69.9	70.8	68.9	75
13/04/2021	30.6	Sunny	9:55	-	10:25	69.5	69.7	70.9	68.7	75
19/04/2021	23.0	Sunny	13:30	-	14:00	69.5	69.3	71.0	67.8	75
30/04/2021	27.0	Sunny	9:21	-	9:51	69.5	69.3	70.4	68.0	75
					Maximum		69.9			
				Minimum			69.3			
					Average		69.6			

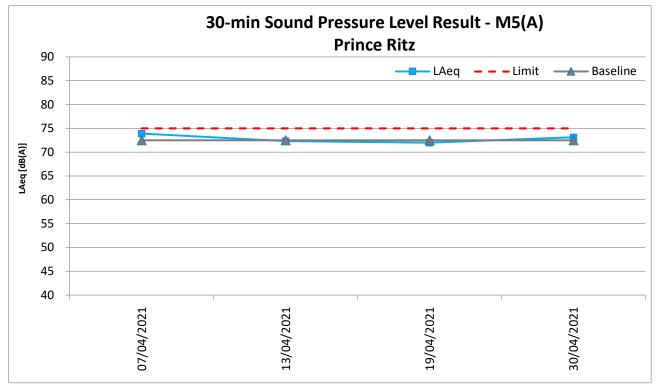
M5(A) – Prince Ritz

	Temp	W 7 (1		Measured Noise			2, dB(A)		т,
Date	(°C)	Weather	T	Time		L _{Aeq}	L _{A10}	L _{A90}	Limit
07/04/2021	23.7	Sunny	11:23	- 11:53	72.5	73.9	75.2	72.1	75
13/04/2021	30.6	Sunny	10:45	- 11:15	72.5	72.3	73.8	69.8	75
19/04/2021	23.0	Sunny	14:30	- 15:00	72.5	72.0	74.0	68.8	75
30/04/2021	27.0	Sunny	10:37	- 11:07	72.5	73.1	74.5	71.2	75
				Maximu	m	73.9			
				Minimu	m	72.0			
				Averag	e	72.9			



LAeq, 30-min graphical results of M4(A) – Le Billionnaire

LAeq, 30-min graphical results of M5(A) – Prince Ritz



Appendix L – Event and Action Plan for noise

E		Act	tion	
Event	ЕТ	IEC	Supervisor / ER	Contractor
Action Level being exceeded	 Notify Supervisor / ER, IEC and Contractor; Carry out investigation; Report the results of investigation to the IEC, Supervisor / ER and Contractor; Discuss with the IEC and Contractor on remedial measures required; Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified.) 	 Review the investigation results submitted by the ET; Review the proposed remedial measures submitted by the Contractor and advise the ER accordingly; Advise the Supervisor / ER on the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified.) 	3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;	 Submit noise mitigation proposal to IEC and Supervisor / ER; Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified.)
Limit Level being exceeded	 Inform IEC, Supervisor /ER, Contractor and EPD; Repeat measurement to confirm findings; Increase monitoring frequency; Identify source and investigate the cause of exceedance; Carry out analysis of Contract's working procedure; Discuss remedial measures required with the IEC, Contractor and Supervisor /ER; Assess effectiveness of 	 Discuss the potential remedial actions with Supervisor /ER, ET and Contractor; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified.) 	 Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Supervise the implementation of remedial measures; If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification; Implement the agreed proposal; Submit further proposal if problem still not under control; Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated. (The above actions should be

Event		Act	tion				
Event	ЕТ	IEC	Supervisor / ER	Contractor			
	Contractor's remedial		exceedance until the	taken within 2 working days			
	actions and keep IEC,		exceedance is abated.	after the exceedance is			
	EPD, and Supervisor /ER		(The above actions should be	identified.)			
	informed of the results;		taken within 2 working days after				
	8. If exceedance stops, cease		the exceedance is identified.)				
	additional monitoring.						
	(The above actions should be						
	taken within 2 working days						
	after the exceedance is						
	identified.)						

Appendix M – Event and Action Plan for Landscape and Visual Impact

Event		Act	tion	
Event	ЕТ	IEC	Supervisor / ER	Contractor
Design Check	1. Check final design conforms to the requirements of EP and prepare report.	 Check report. Recommend remedial design if necessary. 	1. Undertake remedial design if necessary.	
Non-conformity on one occasion	 Identify Source. Inform IEC and Supervisor /ER. Discuss remedial actions with IEC, Supervisor /ER and Contractor. Monitor remedial actions until rectification has been completed. 	 Check report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise Supervisor /ER on effectiveness of proposed remedial measures. Check implementation of remedial measures. 	 Notify Contractor. Ensure remedial measures are properly implemented. 	 Amend working methods. Rectify damage and undertake any necessary replacement.
Repeated Non-conformity	 Identify Source. Inform IEC and Supervisor /ER. Increase monitoring frequency. Discuss remedial actions with IEC, Supervisor /ER and Contractor. Monitor remedial actions until rectification has been completed. If non-conformity stops, cease additional monitoring. 	method. 3. Discuss with ET and Contractor on possible remedial measures.	 Notify Contractor. Ensure remedial measures are properly implemented. 	 Amend working methods. Rectify damage and undertake any necessary replacement.

Appendix N – Waste Flow Table

Name of Department : Civil Engineering and Development Department

	Α	ctual Quantitie	es of Inert C&D) Materials Ger	nerated Monthl	у	Actu	al Quantities o	f C&D Wastes	Generated M	onthly
Month	Total Quantity Generated	Borken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]
JAN	0.191597506	0.028739612	0	0	0.162857895	0	0	0	0	0	0.007013333
FEB	1.108290924	0.166243555	0	0	0.942047368	0	0	0	0	0	0.011833333
MAR	0.416297177	0.062444545	0	0	0.353852632	0	0	0	0	0	0.017520000
APR	0.020390091	0.003058512	0	0	0.017331579	0	0	0	0	0	0.002420000
MAY											
JUNE											
SUB- TOTAL	1.736575698	0.260486224	0	0	1.476089474	0	0	0	0	0	0.038786666
JULY											
AUG											
SEPT											
OCT											
NOV											
DEC											
TOTAL	1.736575698	0.260486224	0	0	1.476089474	0	0	0	0	0	0.038786666

MONTHLY SUMMARY WASTE FLOW TABLE FOR 2021 (YEAR)

	Forecast of Total Quantities of C&D materials to be Generated from the Contracts *											
Total	Total Borken Reused in the Reused in Disposal as Import Fill Metals Paper / Plastics (3) Chemical Other, e.g.											
[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]		

Notes : (1) The performance targets are given in PS Clause 25.24.

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the site.

(3) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.

* (4) The summary table shall be submitted to *the Project Manager/Supervisor* monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

Appendix O – Environmental Mitigation Implementation Schedule (EMIS)

Table 1.1 Implementation Schedule for Air Quality Measures

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Im	plem Sta	entat ges*	ion	Relevant Legislation and
	Measures	J	Agent	Des	С	0	Dec	Guidelines
S3.2	8 times daily watering of the work site with active dust emitting activities.	Work site / during construction	Contractor		√			EIAO-TM
\$3.2	 Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts. Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission. Misting for the dusty material should be carried out before being loaded into the vehicle. Any vehicle with an open load carrying area should have properly fitted side and tail boards. Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin. The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary, before transportation. The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. Onsite unpaved roads should be compacted and kept free of lose materials. Vehicle washing facilities should be provided at every vehicle exit point. The area where vehicle washing takes place and the 		Contractor					EIAO-TM & Air Quality Objective

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Im	plem Stag	entati ges*	ion	Relevant Legislation and
	Measures	C C	Agent	Des	С	ο	Dec	Guidelines
	section of the road between the washing facilities and							
	the exit point should be paved with concrete,							
	bituminous materials or hardcores.							
	- Every main haul road should be scaled with concrete							
	and kept clear of dusty materials or sprayed with							
	water so as to maintain the entire road surface wet.							
	- Every stock of more than 20 bags of cement should							
	be covered entirely by impervious sheeting placed in							
	an area sheltered on the top and the three sides.							
	- Every vehicle should be washed to remove any dusty							
	materials from its body and wheels before leaving							
	the construction sites.							

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table 1.2 Implementation Schedule for Noise Measures

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Im	plem Sta	entat ges*	ion	Relevant Legislation and
	Measures	g	Agent	Des	С	0	Dec	Guidelines
S3.3	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	Work Sites / Construction Period	Contractor		1			EIAO-TM, NCO
S3.3	 Good Site Practice: Only well-maintained plant should be operated onsite and plant should be serviced regularly during the construction program. Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. Mobile plant, if any, should be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. 	Work Sites / Construction Period	Contractor		✓			EIAO-TM, NCO
S3.3	- Scheduling of Construction Works during School Examination Period.	Construction site near to school / Examination Period	Contractor		\checkmark			

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Table 1.3 Implementation Schedule for Water Quality Measures

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Im	plem Sta	entat ges*	ion	Relevant Legislation and Guidelines
				Des	С	0	Dec	
S3.4	Operational Phase A surface water drainage system should be provided to collect road runoff. It is recommended that the road drainage should be provided with adequately designed silt trap and oil interceptors, as necessary. The design of the operational stage mitigation measures for the road works shall take into account the guidelines published in ProPECC PN 5/93 "Drainage Plans subject to Comment by the EPD".	Project site / during design and operational stages	CEDD	✓		1		EIAO-TM, WPCO, ProPECC PN 5/93
S3.4	Construction Phase Construction Runoff Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include: use of sediment traps adequate maintenance of drainage systems to prevent flooding and overflow. 	Work Sites / during construction	Contractor		~			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	Work Sites / during construction	Contractor		√ 			EIAO-TM, WPCO, ProPECC PN 1/94

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	In	plem Stag	entat ges*	ion	Relevant Legislation and
				Des	С	ο	Dec	Guidelines
S3.4	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Work Sites / during construction	Contractor		✓ 			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Sediment tanks of sufficient capacity, constructed from pre- formed individual cells of approximately 6 to 8 m ³ capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Work Sites / during construction	Contractor		✓			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m ³ 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.	Work Sites / during construction	Contractor		√			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	Work Sites / during construction	Contractor		√			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.	Work Sites / during construction	Contractor		√			EIAO-TM, WPCO, ProPECC PN 1/94

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	ning Implementation Agent	Im	nplem Sta	entat ges*	ion	Relevant Legislation and
				Des	С	0	Dec	Guidelines
S3.4	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	Work Sites / during construction	Contractor		1			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Wheel Washing Water 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 located wheel washing bay should be provided at every site exit, and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-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.	Work Sites / during construction	Contractor		✓ 			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	Drainage It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.	Work Sites / during construction	Contractor		1			EIAO-TM, WPCO, ProPECC PN 1/94
S3.4	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms.The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Work Sites / during construction	Contractor		✓ 			EIAO-TM, WPCO, ProPECC PN 1/94

EIA Ref	EIA Ref Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation	Implementation Stages*			ion	Relevant Legislation and
			Agent	Des	С	0	Dec	Guidelines
S3.4	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.	Work Sites / during construction	Contractor		√			EIAO-TM, WPCO, ProPECC PN 1/94, WDO
S3.4	Sewage Effluent Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices.	Work Sites / during construction	Contractor		✓ 			EIAO-TM, WPCO
S3.4	Stormwater Discharges Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes.	Work Sites / during construction	Contractor		√			EIAO-TM, WPCO, TM-DSS
S3.4	Debris and Litter In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur.	Work Sites / during construction	Contractor		\checkmark			EIAO-TM, WPCO, WDO

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Im	plem Sta	entat ges*	Relevant Legislation and	
				Des	С	0	Dec	Guidelines
\$3.5	 Good Site Practices It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include: 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. Training of site personnel in proper waste management and chemical waste handling procedures Provision of sufficient waste disposal points and regular collection for disposal Appropriate measures to minimise windblown litter and dust during transportation of wastes in enclosed containers. A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) 	Work Sites / during construction	Contractor					EIAO-TM, WDO
S3.5	 Waste Reduction Measures Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals. Segregation and storage of different types of waste in 	Work Sites / during construction	Contractor					EIAO-TM, WDO

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Implementation Stages*			ion	Relevant Legislation and
	Measures	g	Agent	Des	С	0	Dec	Guidelines
	 different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force. Any unused chemicals or those with remaining functional capacity should be recycled. Proper storage and site practices to minimise the potential for damage or contamination of construction materials. 							
S3.5	 Construction and Demolition Materials Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. Skip hoist for material transport should be totally enclosed by impervious sheeting. Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site. The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, 	Work sites / during construction	Contractor and Independent Environmental Checker					ETWB TCW No. 33/2002, 31/2004, 19/2005

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			ion	Relevant Legislation and
				Des	С	0	Dec	Guidelines
	 bituminous materials or hardcores. The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle. All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading. When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the 			Des	C	0	Dec	Guidelines
	ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.							
S3.5	System. Chemical Waste After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the	Work Sites / during construction	Contractor					Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Im	plem Sta	entati ges*	ion	Relevant Legislation and
	Measures	3	Agent	Des	С	0	Dec	Guidelines
	CWTF or other licensed facility, in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulation</i> .							Storage of Chemical Wastes
S3.5	General Refuse	Work Sites / during construction	Contractor					Waste Disposal Ordinance
	General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem.							Water Pollution Control Ordinance

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EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Im	plem Sta	entati ges*	ion	Relevant Legislation and
	Measures		Agent	Des	С	ο	Dec	Guidelines
S3.8.12	 Construction Phase All existing trees should be carefully protected during construction. Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work. Control of night-time lighting. Erection of decorative screen hoarding. 	Works area / During Construction Phase	Contractor	✓ 	1			EIAO-TM
S3.8.13	 Operation Phase Compensatory tree planting should be incorporated into the proposed projects where trees are affected. Tall buffer screen tree / shrub / climber planting should be incorporated to soften hard engineering structures and facilities. Sensitive streetscape design should be incorporated along all new roads to reflect the new urban development in Kai Tak. Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips and central dividers to enhance the townscape quality, where space is available. Aesthetically pleasing design as regard to the form, material and finishes should be incorporated to all buildings, engineering structures and associated infrastructure facilities. 	Project area / During Design stage and Operation Phase	CEDD			✓		EIAO-TM

Table 1.5 Implementation Schedule for Landscape and Visual Impacts

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Appendix P – Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Reporting Month: April 2021

Contract No.	Record of Complaint (Yes/No)	Record of Warning (Yes/No)	Notification of Summons and Successful Prosecutions (Yes/No)
ED/2018/05	No	No	No

Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions upto reporting month

Contract No.	Record of Complaint	Record of Warning	Notification of Summons and Successful Prosecutions
ED/2018/05	0	0	0

Complaint Log for ED/2018/05				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Recommendations / Actions	Close-Out Date / Status