Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852 2450 8233 : +852 2450 6138 Fax E-mail : matlab@fugro.com Website: www.fugro.com



# 56th CONSOLIDATED MONTHLY **EM&A REPORT**

June 2021

Client Civil Engineering and Development Department, HKSAR

EP No. EP-337/2009 -

New Distributor Roads Serving the Planned Kai Tak

**Development Area** 

KLN/2016/05 -Contract No.

Independent Environmental Checker for

Contract No. KL/2015/02 Kai Tak Development -Stage 5A Infrastructure at Former North Apron Area

0087/16/ED/1127 Report No.

> Prepared by Wingo So

Reviewed by Calvin Leung

**Certified by** Colin Yuna

Independent Environmental Checker Fugro Technical Services Limited

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



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Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel :+852 2450 8233
Fax :+852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



#### **EXECUTIVE SUMMARY**

- i. This is the 56th Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 June and 30 June 2021.
- ii. The construction activities undertaken in the reporting month are summarized as follow:

#### Contract No. KL/2014/01:

- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
- Laying of paving blocks for footpath;
- · Erection of noise barrier panels;
- Planting works along footpath and at deck level;
- Architectural features works at landscaped deck and ground floor open space;
- E&M works:
- Remedial Work of Holding Down Bolts of noise barrier;
- Construction of pedestrian streets; and
- Dismantle of temporary working platform at Kai Tak Bridge.

#### Contract No. KL/2015/02:

- · Carry out finishing works inside the subway
- Carry out structural works for subway at SKLR Playground
- Demobilize the silent pier with associated power pad and equipment after the completion of sheet piling works at TTA Stage 4-3
- Installation of traffic signs and directional signs along Bridge K72
- Installation of cover plates for movement joint
- Re-construction of E&M and ATC at J/O Road D1 and L7
- Road Works at Road D1 and near PERE
- Modification of existing sewerage manhole Road D1
- Landscaping works at Road L7 and Road D1
- Making-good works for drainage before CCTV inspection at Road D1

#### Contract No. ED/2018/01:

- North Approach Ramp Construction of wall, intermediate slab and column
- Bridge D3 Construction of pile cap and pier
- North Depressed Road Construction of wall & top slab / dismantling of wailing & strut of cofferdam
- Underpass Excavation, construction of base slab and backfilling, Construction of wall & top slab
- South Approach Ramp Installation of sheet pile and excavation, construction of base slab and erection of formwork
- Landscaped Deck Construction of bored piles
- District Cooling System seawater intake box culvert Construction of cofferdam and box structure
- Noise barrier Installation of steel structure and PMMA panel, backfilling of haul road
- Lift 3 Construction of cofferdam for footing
- Lift 4 Excavation for footing
- South Depressed Road Excavation and Installation of Lateral Support works

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel :+852 2450 8233
Fax :+852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



#### Contract No. ED/2018/05:

- Trial pit excavation
- Drainage works for Pedestrian Street No.1, No.2 & No.3
- · Advance works for traffic diversion at Sa Po Road
- Construction of Crowd Dispersal Route
- Bored pile works for landscape elevated walkway
- Removal existing piles at Road D1
- Instrumentation installation at SB-01 Rising main construction
- Pre-drilling work for S14

# **Breaches of the Action and Limit Levels**

- iii. No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.
- iv. No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.
- v. No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.

#### Complaint, Notification of Summons and Successful Prosecution

vi. No complaint, notification of summons or prosecution was received in this reporting month.

# **Reporting Changes**

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

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



# **Future Key Issues**

viii. The potential environmental impacts for the coming month and the control measures are shown in **Table I**:

Table I Summary of Key Issues for the Coming Month and Control Measures

Major Impact	Control Measures			
Prediction Control Measures  Contract No. KL/2014/01:				
Air quality	Frequent watering of haul road and unpaved/exposed areas;     Frequent watering or covering stockpiles with tarpaulin or similar means;			
impact (dust)	and  Watering of any earth moving activities.			
Water quality impact (surface run-off)	<ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul>			
Noise Impact	<ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>			
Waste/ Chemical Management	<ul> <li>Maintenance involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</li> <li>Chemical wastes should be hold by suitable containers with clear label and stored at a safe location.</li> </ul>			
Contract No. KL/2	<u>015/02:</u>			
Air quality impact (dust)	<ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>			
Water quality impact (surface run-off)	<ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul>			
Noise Impact	<ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>			
Contract No. ED/2018/01:				
Air Quality, Construction Noise, Water Quality,	<ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> </ul>			
Chemical and	Use of quieter plant and Quality Powered Mechanical Equipment (QPME),			

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Major Impact Prediction	Control Measures
Waste Management, Landscape and Visual	<ul> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul>
Contract No. ED/2	<u>018/05:</u>
Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual	<ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul>

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



#### 1. INTRODUCTION

# 1.1 Background

- 1.1.1 The Kai Tak Development is located in the south-eastern 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.
- 1.1.2 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 March 2009.
- 1.1.3 The EP-337/2009 was issued on 23 April 2009 for the new distributor roads serving the planned Kai Tak Development to the following scale and slope:
  - a) Road D1 a dual 2-lane carriageway of approximately 1.3 km long.
  - b) Road D2 a dual 3-lane carriageway of approximately 1.1 km long.
  - c) Road D3 a dual 2-lane carriageway of approximately 2.3 km long.
  - d) Road D4 a dual 2-lane carriageway of approximately 0.9 km long.
- 1.1.4 The Civil Engineering and Development Department HKSAR has appointed Fugro Technical Services Limited (FTS) to undertake the role of Independent Environmental Checker (IEC) for the Contract No. KL/2015/02.
- 1.1.5 This is the 56<sup>th</sup> Consolidated Monthly EM&A Report which summaries the EM&A works undertaken by respective contract under EP-337/2009 within the period between 1 June and 30 June 2021.

# 1.2 Summary of relevant Contract Information of Key Personnel

Party	Position	Name	Telephone	Fax
Contract No. KL/2014/0	1:		•	
Project Proponent	Senior Engineer	Mr. Keith Chu	3579 2450	3579 4516
(CEDD)	Engineer	Ms. Adonia Yung	3579 2124	3379 4310
Engineer's Representative (AECOM)	CRE	Mr. Clive Cheng	3746 1801	2798 0783
IEC (KSMC)	IEC	Dr. Douglas Wong	2618 2166	2120 7752
	ET Leader	Mr. K.S Lee	2151 2091	
ET (Cinotech)	Audit Team Leader	Ms. Betty Choi	2151 2072	3107 1388
Main Contractor (CCJV)	EO	Mr. Jack Lai	2960 1398	2960 1399
Contract No. KL/2015/0	2:			
Project Proponent (CEDD)	Senior Engineer	Mr. Ricky Chan	2116 3753	2116 0714
Engineer's Representative (AECOM)	SRE	Mr. Vincent Lee	2798 0771	2210 6110
IEC (FTS)	IEC	Mr. Colin Yung	3565 4114	2450 8032
	ET Leader	Mr. K.S Lee	2151 2091	
ET (Cinotech)	Audit Team Leader	Ms. Betty Choy	2151 2072	3107 1388
Main Contractor	Site Agent	Mr. W. M. Wong	6386 3535	2398 8301

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Party	Position	Name	Telephone	Fax
(PWHJV)				
Contract No. ED/2018/0	<u>)1:</u>			
Project Proponent	Senior Engineer	Mr. Ronald Siu	3579 2452	2739 0076
(CEDD)	Engineer	Ms. Chan Ka Yan	3579 2458	2739 0076
Engineer's Representative (AECOM)	CRE	Mr. Clive Cheng	3911 4201	3911 4288
IEC (Ramboll)	IEC	Mr. Y H Hui	3465 2850	3465 2899
ET (Ka Shing)	ET Leader	Mr. Chan Pang	6082 2973	2120 7752
Main Contractor (Penta-Ocean)	EO	Mr. Lulu Mar	6845 0626	3465 8898
Contract No. ED/2018/0	)5:			
Project Proponent	Senior Engineer	Mr. George Ng	3842 7107	3842 7107
(CEDD)	Engineer	Mr. Kinox Wong	3842 7137	3842 7137
Engineer's Representative (AECOM)	CRE	Mr. Leung Wai Kit	2412 3410	2798 0783
IEC (Acuity)	IEC	Mr. Kevin Li	2698 6833	2698 9383
ET (Ka Shing)	ET Leader	Ir. Chan Pang	2618 2166	2120 7752
Main Contractor (BK- STEC)	EO	Mr. Raymond Lam	9713 6817	3850 8508

# 1.3 Summary of Construction Programme and Activities

- 1.3.1 The construction programme of each Contract is summarized in the appendices of the corresponding Monthly EM&A report.
- 1.3.2 The major construction activities undertaken in the reporting month are summarized as follow:

#### Contract No. KL/2014/01:

- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
- Laying of paving blocks for footpath;
- Erection of noise barrier panels;
- Planting works along footpath and at deck level;
- Architectural features works at landscaped deck and ground floor open space;
- E&M works;
- Remedial Work of Holding Down Bolts of noise barrier;
- Construction of pedestrian streets; and
- Dismantle of temporary working platform at Kai Tak Bridge.

#### Contract No. KL/2015/02:

- Carry out finishing works inside the subway
- Carry out structural works for subway at SKLR Playground
- Demobilize the silent pier with associated power pad and equipment after the completion of sheet piling works at TTA Stage 4-3
- Installation of traffic signs and directional signs along Bridge K72
- Installation of cover plates for movement joint
- Re-construction of E&M and ATC at J/O Road D1 and L7
- Road Works at Road D1 and near PERE
- Modification of existing sewerage manhole Road D1
- Landscaping works at Road L7 and Road D1

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Fax : +852 2450 6138
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Making-good works for drainage before CCTV inspection at Road D1

#### Contract No. ED/2018/01:

- North Approach Ramp Construction of wall, intermediate slab and column
- Bridge D3 Construction of pile cap and pier
- North Depressed Road Construction of wall & top slab / dismantling of wailing & strut of cofferdam
- Underpass Excavation, construction of base slab and backfilling, Construction of wall & top slab
- South Approach Ramp Installation of sheet pile and excavation, construction of base slab and erection of formwork
- Landscaped Deck Construction of bored piles
- District Cooling System seawater intake box culvert Construction of cofferdam and box structure
- Noise barrier Installation of steel structure and PMMA panel, backfilling of haul road
- Lift 3 Construction of cofferdam for footing
- Lift 4 Excavation for footing
- South Depressed Road Excavation and Installation of Lateral Support works

#### Contract No. ED/2018/05:

- Trial pit excavation
- Drainage works for Pedestrian Street No.1, No.2 & No.3
- Advance works for traffic diversion at Sa Po Road
- Construction of Crowd Dispersal Route
- Bored pile works for landscape elevated walkway
- Removal existing piles at Road D1
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Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



# 1.4 Summary of Inter-relationship with the environmental protection/ mitigation measures with the construction programme

1.4.1 The summary of inter-relationship with environmental protection/mitigation measures are presented as follow:

Major Environmental Impact	Control Measures
Contract No. KL/2014/01:	
Noise, dust impact, water quality and waste generation	<ul> <li>Sufficient watering of the works site with active dust emitting activities;</li> <li>Properly cover the stockpiles;</li> <li>On-site waste sorting and implementation of trip ticket system</li> <li>Appropriate desilting/sedimentation devices provided on site for treatment before discharge;</li> <li>Use of quiet plant and well-maintained construction plant;</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;</li> <li>Provide mitigation measure to temporary use of chemicals;</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.</li> </ul>
Contract No. KL/2015/02:	
Noise, dust impact, water quality and waste generation	<ul> <li>Sufficient watering of the works site with active dust emitting activities;</li> <li>Properly cover the stockpiles;</li> <li>On-site waste sorting and implementation of trip ticket system</li> <li>Appropriate desilting/sedimentation devices provided on site for treatment before discharge;</li> <li>Use of quiet plant and well-maintained construction plant;</li> <li>Provide movable noise barrier;</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.</li> </ul>
Contract No. ED/2018/01:	
The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented:	<ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses,</li> </ul>

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Major Environmental Impact	Control Measures
	<ul> <li>and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul>
Contract No. ED/2018/05:	
The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented:	- Carrierent matering of the mente one man the detire duet

# 1.5 Summary Status of Environmental Licences, Notifications and Permits

1.5.1 Detailed relevant environmental licenses, permits and/or notifications on environmental protection for this EP are presented in the appendices of the corresponding Monthly EM&A report.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



#### 2. ENVIRONMENTAL MONITORING AND AUDIT

#### 2.1 Results and Observations

## Air Quality

- 2.1.1 The schedule of air quality monitoring in reporting month is provided in the appendices of the corresponding Monthly EM&A report.
- 2.1.2 The weather conditions during the monitoring are provided in the appendices of the corresponding Monthly EM&A report.
- 2.1.3 The monitoring data of 24-hr TSP and 1 hour TSP are summarized in **Table 2.1**. Detailed monitoring data are presented in the appendices of the corresponding Monthly EM&A report.

Table 2.1 Summary of 24-hr and 1 hour TSP Monitoring Results

Parameter	Monitoring Station	Average (μg/m³)	Range (µg/ m³)	Action Level (µg/ m³)	Limit Level (µg/ m³)
Contract No.	KL/2014/01:				
N.A (No air qu	uality monitoring is re	quired for the Proje	ect)		
Contract No.	KL/2015/02:				
1-hr TSP	AM2	35	15-55	346	500
24-hr TSP	AM2(A)	34	23 – 49	157	260
Contract No.	ED/2018/01:				
	AM3	50	36 – 59	182	260
24-hr TSP	AM4(A)	48	37 – 64	187	
	AM7	44	32 – 55	181	
	AM3	33	24 – 39	297	
1-hr TSP	AM4(A)	35	27 – 45	326	500
	AM7	30	23 – 40	315	
Contract No. ED/2018/05:					
04 by TCD	AM2(A)	48	30-62	175	000
24-hr TSP	AM3	49	36-59	172	260
1 hr TCD	AM2(A)	35	23-42	302	F00
1-hr TSP	AM3	33	24-39	301	500

- 2.1.4 No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.
- 2.1.5 No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.
- 2.1.6 The monitoring data of 24-hr TSP was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A report.
- 2.1.7 The Event and Action Plan for air quality is given in the appendices of the corresponding Monthly EM&A report.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
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#### Noise

- 2.1.8 The schedule of noise monitoring in reporting month is provided in in the appendices of the corresponding Monthly EM&A report.
- 2.1.9 The noise monitoring data are summarized in **Table 2.2**. Detailed monitoring data are presented in the appendices of the corresponding Monthly EM&A report.

Table 2.2 Summary of Noise Impact Monitoring Results

Monitoring Stations	Construction Noise Level Leq <sub>(30min)</sub> dB(A) (Range)	Action Level	Limit Level dB (A)
Contract No. KL/2014/01:			
(No Construction noise m		NA	
Contract No. KL/2015/02:			
M3(A)	72 – 75 #	10/1	75
M4	65 – 76 #	When one	70*
M5(C)	64 – 75 #	documented complaint is	75
Contract No. ED/2018/01:	received.		
M11	67.1 – 72.6		75
M12	62.2 – 65.9		75
Contract No. ED/2018/05:			
M4(A)	69.1 – 70.1		75
M5(A)	71.8 – 73.6		75

<sup>(\*)</sup> Noise Limit Level is 65 dB(A) during school examination periods.

- 2.1.10 The noise monitoring data was compared with the EIA predictions are presented in the appendices of the corresponding Monthly EM&A report.
- 2.1.11 No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.
- 2.1.12 The Event and Action Plan for noise is given in in the appendices of the corresponding Monthly EM&A report.

#### Landscape and Visual

2.1.13 Site audits were carried out on a weekly basis to monitor and audit the landscape and visual mitigation measures within the site boundaries of this Project. Detailed of observations are presented in the appendices of the corresponding Monthly EM&A report.

<sup>(&</sup>lt;sup>#</sup>) Measured noise level ≤ background / baseline noise level, detailed data refer to the corresponding Monthly EM&A report.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



#### 3. SITE INSPECTION

# 3.1 Site Inspection

- 3.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project.
- 3.1.2 Detailed of observation, recommendation of site inspections and summary of the mitigation measures implementation schedule is provided in the appendices of the corresponding Monthly EM&A Report.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



# 4. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

# 4.1 Complaints, Notification of Summons and Prosecution

4.1.1 The summary of complaints, notification of summons and prosecution in the reporting month are shown as **Table 4.1**.

Table 4.1 Summary of Complaints, Notification of Summons and Prosecution

Event	No. of Event This Month	Remark
Contract No. KL/2014/01:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. KL/2015/02:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. ED/2018/01:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA
Contract No. ED/2018/05:		
Complaint received	0	NA
Notifications of any summons & prosecutions received	0	NA

4.1.2 Detailed records are presented in the appendices of the corresponding Monthly EM&A report.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



#### 5. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

# 5.1 Implementation Status

5.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month are presented in the appendices of the corresponding Monthly EM&A report.

#### 5.2 Waste Management

5.2.1 The amount of wastes generated of this Project during the reporting month is shown in the appendices of the corresponding Monthly EM&A report.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel :+852 2450 8233
Fax :+852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



#### 6. FUTURE KEY ISSUES

# 6.1 Construction Programme for the Next Two Months

6.1.1 The major site activities undertaken for the coming two months are summarized in follow:

#### Contract No. KL/2014/01:

- TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
- · Laying of paving blocks for footpath;
- · Erection of noise barrier panels;
- · Planting works along footpath and at deck level;
- Architectural features works at landscaped deck and ground floor open space;
- E&M works:
- · Remedial Work of Holding Down Bolts of noise barrier;
- Construction of pedestrian streets; and
- Dismantle of temporary working platform at Kai Tak Bridge.

#### Contract No. KL/2015/02:

- Carry out finishing works inside the subway
- Carry out structural works for subway at SKLR Playground
- Carry out grouting works at TTA stage 4-3
- Erect mass concrete platform at Stage 3
- Installation of traffic signs and directional signs along Bridge K72
- Installation of cover plates for movement joint
- Re-construction of E&M and ATC at J/O Road D1 and L7
- Modification of existing sewerage manhole Road D1
- Landscaping works at Road L7 and Road D1
- Making-good works for drainage before CCTV inspection at Road D1

## Contract No. ED/2018/01:

- North Approach Ramp Construction of wall, intermediate slab and column
- Bridge D3 Construction of pile cap and pier
- North Depressed Road Construction of wall & top slab / dismantling of wailing & strut of cofferdam and removal of sheet pile
- Underpass Excavation, construction of base slab and backfilling, Construction of wall & top slab
- South Approach Ramp Installation of sheet pile and excavation
- Landscaped Deck Construction of bored piles
- District Cooling System seawater intake box culvert Construction of cofferdam and box structure

#### Contract No. ED/2018/05:

- Advance works for traffic diversion at Sa Po Road
- · Bored pile works for landscape elevated walkway
- Pre-drilling work for S14
- Drainage works for Pedestrian Street No. 1, No. 2 & No.3
- Construction of Crowd Dispersal Route
- Rising main construction
- Sheetpile installation for launching shaft of SB-01

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website: www.fugro.com



The potential environmental impacts arising from the above construction activities and the control measures are shown in Table 6.1:

Table 6.1 Summar	y of Key Issues for the Coming Month and Control Measures				
Major Impact Prediction	Control Measures				
Contract No. KL/2014/01:					
Air quality impact (dust)	<ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>				
Water quality impact (surface run-off)	<ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul>				
Noise Impact	<ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>				
Waste/ Chemical Management	<ul> <li>Maintenance involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</li> <li>Chemical wastes should be hold by suitable containers with clear label and stored at a safe location.</li> </ul>				
Contract No. KL/2	015/02:				
Air quality impact (dust)	<ul> <li>Frequent watering of haul road and unpaved/exposed areas;</li> <li>Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>Watering of any earth moving activities.</li> </ul>				
Water quality impact (surface run-off)	<ul> <li>Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and</li> <li>Provision of measures to prevent discharge into the stream.</li> </ul>				
Noise Impact	<ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>Controlling the number of plants use on site;</li> <li>Regular maintenance of machines; and</li> <li>Use of acoustic barriers if necessary.</li> </ul>				
Contract No. ED/2018/01:					
Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and	<ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> </ul>				

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



Major Impact Prediction	Control Measures
Visual	<ul> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul>
Contract No. ED/2	018/05:
Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual	<ul> <li>Sufficient watering of the works site with the active dust emitting activities,</li> <li>Limitation of the speed for vehicles on unpaved site roads,</li> <li>Properly cover the stockpiles,</li> <li>Good maintenance to the plant and equipment,</li> <li>Use of quieter plant and Quality Powered Mechanical Equipment (QPME),</li> <li>Provide movable noise barriers,</li> <li>Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall,</li> <li>Onsite waste sorting and implementation of trip ticket system,</li> <li>Good management and control on construction waste reduction,</li> <li>Erection of decorative screen hoarding,</li> <li>Strictly following the Environmental Permits and Licenses, and</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Reports.</li> </ul>

# 6.2 Monitoring Schedules for the Next Three Months

6.2.1 The tentative schedules for environmental monitoring in the coming three months are provided in in the appendices of the corresponding Monthly EM&A.

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



## 7. CONCLUSIONS

- 7.1.1 No Action / Limit Level exceedance was recorded for 24-hr TSP monitoring in the reporting month.
- 7.1.2 No Action / Limit Level exceedance was recorded for 1-hr TSP monitoring in the reporting month.
- 7.1.3 No Action / Limit Level exceedance was recorded for noise monitoring in the reporting month.
- 7.1.4 No complaint, notification of summons or prosecution was received in this reporting month.
- 7.1.5 The potential environmental impacts arising from the coming two months of major construction activities and the control measures are shown in **Table 6.1.**

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
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Website : www.fugro.com



# Appendix A

Monthly EM&A Report
For
Contract No. KL/2014/01
Kai Tak Development - Stage 2 Infrastructure works for Developments at Southern Part of the Former Runway

# **Civil Engineering and Development Department**

# EP-337/2009 & EP-445/2013/A Contract No. KL/2014/01

# Kai Tak Development – Stage 2 Infrastructure works for Developments at Southern Part of the Former Runway

Monthly EM&A Report June 2021

(Version 1.1)

Approved By

(Environmental Team Leader)

#### REMARKS:

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

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

## CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong

Tel: (852) 2151 2083 Fax: (852) 3107 1388

Email: info@cinotech.com.hk

# 嘉誠管理顧問有限公司







Our ref: 14-7-2021

14-7-2021 By email: clive.cheng@aecom-ktd.com and By hand

Supervising Officer Representative

Aecom Asia Co Ltd.

8/F Grand Central Plaza Tower 2

138 Shatin Rural Committee Road

Sha Tin, N.T. Hong Kong

(Attn: Mr. Cheng Chi Hung)

Dear Mr. Cheng,

Re: Contract No. KL/2014/01 (Environmental Permit Nos. EP-337/2009 and EP-445/2013/A)

Kai Tak Development - Stage 2 Infrastructure Works for Developments at Southern Part of the Former Runway

Monthly EM&A report for June 2021 (version 1.1)

Reference is made to the Environmental Team's submission of the draft Monthly EM&A Report (version 1.1) for June 2021 provided to Independent Environmental Checker (IEC) via email dated on 13-7-2021 for review and comment.

Please be informed that IEC has no adverse comment on the captioned submission. IEC writes to verify the captioned submission in accordance with Specific Condition 2.2 of the Environmental Permit No. 337/2009 and 445/2013/A.

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

Yours faithfully,

For and on behalf of

Ka Shing Management Consultant Limited

Ir. Dr. Douglas WONG

Independent Environmental Checker

c.c. CEDD Mr. Patrick Lee (By email: patricksllee@cedd.gov.hk)

AECOM Mr. Anthony Lok (By email: anthony.lok@aecom-ktd.com)

CEC-CCC Mr. Eric Fong (By email: eric-cs-fong@continental-engineering.com)

Cinotech Mr. K.S Lee (By email: ks.lee@cinotech.com.hk)

Unit 2, 13/F Kai Yue Commercial Building, 2C Argyle St, Mong Kok, Kowloon 九龍旺角亞皆老街 2C 號啟如商業大廈 13 樓 2 室

Tel: (852) 2618 2166 電話: (852) 2618 2166

Fax: (852) 2120 7752 傳真: (852) 2120 7752 Web Site: www.ka-shing.net 網站: www.ka-shing.net ISO 9001 Quality Management

ISO 14001 Environmental Management ISO 45001 Occupational Health and Safety Management

FS 681274 EMS 717625

OHS 717629

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#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 63<sup>rd</sup> Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2014/01 Kai Tak Development Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway" (Hereafter referred to as "the Project"). This contract work comprises two Schedule 2 designated projects (DP), namely the new distributor road D4 (part) and roads D3A & D4A serving the planned KTD. The DPs are part of the designated projects under Environmental Permits (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") and EP-445/2013/A ("Kai Tak Development Roads D3A & D4A") respectively. This report documents the findings of EM&A Works conducted in June 2021.
- 2. With reference to the same principle of EIA report of the Project, air quality monitoring station should be provided at the Air Sensitive Receivers (ASR) within 500 m from the boundary of this Project while construction noise monitoring station should be provided at the Noise Sensitive Receivers (NSR) within 300 m from the boundary of this Project. Since the opening of the Centre of Excellence in Paediatrics (Children's Hospital) on 18 December 2018, the hospital is considered as the only relevant monitoring location and therefore the monitoring is required.
- 3. The major site activities undertaken in the reporting month included:
  - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
  - Laying of paving blocks for footpath;
  - Erection of noise barrier panels:
  - Planting works along footpath and at deck level;
  - Architectural features works at landscaped deck and ground floor open space;
  - E&M works;
  - Remedial Work of Holding Down Bolts of noise barrier;
  - Construction of pedestrian streets; and
  - Dismantle of temporary working platform at Kai Tak Bridge.

## **Environmental Monitoring Works**

- 4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 5. Summary of the non-compliance in the reporting month for the Project is tabulated in **Table** I.

 Table I
 Non-compliance Recorded for the Project in the Reporting Month

Parameter	No. of Project-rela	Action Taken	
rarameter	Action Level	Limit Level	Action Taken
Noise	0	0	N/A

Environmental Monitoring for Air Quality and Construction Noise

6. No monitoring for air quality and construction noise is required. No Action/Limit Level exceedance was recorded.

#### **Environmental Licenses and Permits**

- 7. Licenses/Permits granted to the Project include the Environmental Permits (EP) for the Project, EP-337/2009 issued on 23 April 2009 and EP-445/2013 issued on 3 May 2013 (Amended Environmental Permit (No.: EP-445/2013/A) issued on 13 August 2014).
- 8. Billing Account for Disposal of Construction Waste (A/C No. 7024073)
- 9. Registration of Chemical Waste Producer (License: 5213-247-C4004-01).
- 10. Water Discharge License (License: WT00023634-2016).
- 11. Construction Noise Permits (Permit: GW-RE0442-20, GW-RE0639-20 & GW-RE0045-21)

## **Key Information in the Reporting Month**

12. Summary of key information in the reporting month is tabulated in **Table II**.

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0		N/A	N/A	
Reporting Changes	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

# **Future Key Issues**

- 13. The future key environmental issues in the coming month include:
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
  - Water spraying for dust generating activity and on haul road;
  - Proper storage of construction materials on site;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;

- Accumulation of general and construction waste on site;
- Noise from operation of the equipment, especially for excavation activities and machinery on-site;
- Wastewater and runoff discharge from site;
- Regular removal of silt, mud and sand along u-channels and sedimentation tanks; and
- Review and implementation of temporary drainage system for the surface runoff.

# **Reporting Changes**

14. Since the major parts of Works under Contract no. KL/2014/03 has been completed, the environmental monitoring works of EM&A monitoring station, KTD1a, was then handed over to the ET of Contract no. ED/2018/04 in August, 2020. In order to obtain the environmental impact monitoring data with higher representativeness based on several factors, such as distance between monitoring location and the sensitive receiver, non-project related interference, obstruction to the construction works on site and the power supply problem, the monitoring location KTD1a was relocated to the original location as proposed in the EM&A manual (AEIAR-174/2013), and renamed as KTD1 on 3 August 2020.

#### 1. INTRODUCTION

#### **Background**

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, 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. It covers a land area of about 328 hectares. Stage 2 Infrastructure Works for Developments for Southern Part of the Former Runway is one of the construction stages of KTD. It contains two Schedule 2 DPs including new distributor roads serving the planned KTD and KTD Roads D3A & D4A. The general layout of the Project is shown in **Figure 1.**
- 1.2 One Environmental Permit (EP) No.: EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD and one Environmental Permit No.: EP-445/2013 was issued on 3 May 2013 for Kai Tak Development Roads D3A & D4A to Civil Engineering and Development Department (CEDD) as the Permit Holder. Pursuant to Section 13 of the EIAO, the Director of Environmental Protection Department amended the Environmental Permit No.: EP-445/2013 based on the Application No. VEP-449/2014 and the Environmental Permit (No.: EP-445/2013/A) was issued on 13 August 2014.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. EIA Reports (Register No. AEIAR-130/2009 and AEIAR-170/2013) were approved by the Environmental Protection Department (EPD) on 4 March 2009 and 3 May 2013 respectively.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2014/01 Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway. The construction work under KL/2014/01 comprises the construction of part of the Road D4 under the EP (EP-337/2009) and the construction of Roads D3A & D4A under the EP (EP-445/2013/A).
- 1.5 Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract is on 13 April 2016. This is the 63<sup>rd</sup> Monthly EM&A report summarizing the EM&A works for the Project in June 2021.
- 1.6 All project information since the commencement of work under EPs including Monthly EM&A Reports is made available to the public via internet access at the website: https://www.epd.gov.hk/eia/english/register/index8/vep4492014\_content.html

# **Project Organizations**

- 1.7 Different parties with different levels of involvement in the project organization include:
  - Project Proponent Civil Engineering and Development Department (CEDD).
  - The Supervising Officer and the Supervising Officer's Representative (SO) AECOM Asia Co. Ltd. (AECOM).
  - Environmental Team (ET) Cinotech Consultants Limited (CCL).
  - Independent Environmental Checker (IEC) Ka Shing Management Consultant Ltd. (KSMC).
  - Contractor Continental Engineering Corp. and Chit Cheung Construction Co. Ltd. Joint Venture (CCJV).
- 1.8 The key contacts of the Project are shown in **Table III.**

**Table III Key Project Contacts** 

Party	Role	<b>Contact Person</b>	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Keith Chu	Senior Engineer	3579 2450	3579 4516
		Ms. Adonia Yung	Engineer	3579 2124	
AECOM	Supervising Officer	Mr. Clive Cheng	CRE	3746 1801	2798 0783
	Environmental Team	Mr. K S Lee	Environmental Team Leader	2151 2091	3107
Cinotech		Ms. Betty Choi	Audit Team Leader	2151 2072	1388
KSMC	Independent Environmental Checker	Dr. Douglas Wong	IEC	2618 2166	2120 7752
CCJV	Contractor	Mr. Jack Lai	Environmental Officer	2960 1398	2960 1399

#### **Construction Activities undertaken during the Reporting Month**

- 1.9 The site activities undertaken in the reporting month included:
  - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
  - Laying of paving blocks for footpath;
  - Erection of noise barrier panels;
  - Planting works along footpath and at deck level;
  - Architectural features works at landscaped deck and ground floor open space;
  - E&M works;
  - Remedial Work of Holding Down Bolts of noise barrier;
  - Construction of pedestrian streets; and
  - Dismantle of temporary working platform at Kai Tak Bridge.

1.10 The construction programme showing the inter-relationship with environmental protection/mitigation measures is presented in **Table IV**.

Table IV Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Construction Works	Major Environmental Impact	Control Measures
As mentioned in Section 1.8	Noise, dust impact, water quality and waste generation	Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system; Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained construction plant; Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall; Provide mitigation measure to temporary use of chemicals; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.

# **Summary of EM&A Requirements**

- 1.11 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
  - All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event Action Plans;
  - Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.

# 2. AIR QUALITY

#### **Monitoring Requirements**

- 2.1 With reference to the same principle of EIA report of the Project, air quality monitoring station should be provided at the Air Sensitive Receivers (ASR) within 500 m from the boundary of this Project. Since the opening of the Centre of Excellence in Paediatrics (Children's Hospital) on 18 December 2018, the hospital is considered as the only relevant monitoring location and therefore the monitoring is required.
- 2.2 As the monitoring works for the hospital is covered by the Contract KL/2014/03 (Kai Tak Development Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway) at the monitoring station (KTD1), the corresponding monitoring results for March 2021 should be accessed in the EM&A report for the reporting month. Appendix A shows the established Action and Limit Levels for the environmental monitoring works.

#### **Observations**

- 2.3 No monitoring for air quality is required for this report. No Action/Limit Level exceedance at KTD1 was recorded. The summary of exceedance record in reporting month is shown in **Appendix B**.
- 2.4 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of air quality mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C.**

#### 3. NOISE

# **Monitoring Requirements**

- 3.1 With reference to the same principle of EIA report of the Project, construction noise monitoring station should be provided at the Noise Sensitive Receivers (NSR) within 300 m from the boundary of this Project. Since the opening of the Centre of Excellence in Paediatrics (Children's Hospital) on 18 December 2018, the hospital is considered as the only relevant monitoring location and therefore the monitoring is required.
- 3.2 As the monitoring works for the hospital is covered by the Contract KL/2014/03 (Kai Tak Development Stage 3 Infrastructure Works for Developments at the Southern Part of the Former Runway) at the monitoring station (KTD1), the corresponding monitoring results for June 2021 should be accessed in the EM&A report for the reporting month. Appendix A shows the established Action and Limit Levels for the environmental monitoring works.

#### **Observations**

- 3.3 No monitoring for construction noise is required for this report. No Action/Limit Level exceedance at KTD1 was recorded. The summary of exceedance record in reporting month is shown in **Appendix B**.
- 3.4 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of construction noise mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C**.

## 4. LANDSCAPE AND VISUAL

# **Monitoring Requirements**

4.1 According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

# **Results and Observations**

- 4.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix C**.
- 4.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 4.4 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix D** shall be performed.

# 5. ENVIRONMENTAL AUDIT

#### **Site Audits**

- 5.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix C**.
- 5.2 Site audits were conducted by representatives of the Contractor, Supervising Officer and ET on 3, 10, 17, 24 & 30 June 2021 in the reporting month. IEC joint site inspection was conducted on 30 June 2021. No non-compliance was observed during the site audits.

# Status of Environmental Licensing and Permitting

5.3 All permits/licenses obtained for the Project are summarized in **Table V**.

Table V Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		- Details	Status		
Permit No.	From	To	Details	Status		
Environmental Permit (EP)						
EP-337/2009	Construction of new distributor roads serving the planned Kai Tak development.		Valid			
EP-445/2013/A	13/08/14	N/A	Construction of Kai Tak Development roads D3A and D4A	Valid		
Effluent Discharge l	License					
WT00023634-2016		31/03/21	Wastewater from the construction site including effluent treated by screen and sedimentation tank; There are no more need for the license after 31 March 2021 as the project is close to completion and no significant waste water is being generated from site.	Expired on 31 March 2021		
Registration of Cher	micai vyaste F		CI : 1 XV . T	37 11 1		
5213-247-C4004- 01		N/A	Chemical Waste Types: Surplus paint, waste contaminated by paint, diesel, waste contaminated by diesel, spent lubricating oil and waste, soil contaminated by lubricating oil.	Valid		
<b>Construction Noise</b>	Permit (CNP)	)				
GW-RE0442-20	14/06/20	13/12/20	Construction Noise Permit for the use of powered mechanical	Expired on 13 December 2020		
GW-RE0639-20	3/8/20	19/1/21	equipment for carrying out construction work other than percussive pilling and performing prescribed	Expired on 19 February 2021		
GW-RE0045-21	20/1/21	19/7/21	construction work.	Valid		

### **Status of Waste Management**

- 5.4 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix G**.
- 5.5 In respect of the dump truck cover, the Contractor is reminded to take record photos and inspection to ensure that all dump trucks have fully covered the skip before leaving the site.

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

5.6 During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Table VI**.

Table VI Observations and Recommendations of Site Inspections

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality			
Air Quality			
Noise			
Waste/ Chemical Management			
Landscape and Visual			
Permits/ Licenses			

### **Summary of Mitigation Measures Implemented**

5.7 An updated summary of the EMIS is provided in **Appendix E**.

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

5.8 The Event Action Plans for noise and landscape and visual are presented in **Appendix D**. No Event Action Plan for air quality is considered necessary.

### **Construction Dust**

5.9 No Action/Limit Level exceedance was recorded in the reporting month.

### **Construction Noise**

5.10 No Action/Limit Level exceedance was recorded in the reporting month.

## Landscape and visual

5.11 No non-compliance was recorded in the reporting month.

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

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

#### 6. FUTURE KEY ISSUES

- 6.1 Major site activities undertaken for the coming two months include:
  - TTA implementation, minor works at Shing Fung Road and Wang Chiu Road / Kai Cheung Road;
  - Laying of paving blocks for footpath;
  - Erection of noise barrier panels;
  - Planting works along footpath and at deck level;
  - Architectural features works at landscaped deck and ground floor open space;
  - E&M works;
  - Remedial Work of Holding Down Bolts of noise barrier;
  - Construction of pedestrian streets; and
  - Dismantle of temporary working platform at Kai Tak Bridge.
- 6.2 Key environmental issues in the coming month include:
  - Wastewater and runoff discharge from site;
  - Silt, mud and sand along u-channels and sedimentation tanks;
  - Review and implementation of temporary drainage system for the surface runoff;
  - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
  - Dust generating activity and on haul road;
  - Storage of construction materials on site;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Accumulation of general and construction waste on site

6.3 The tentative program of major site activities and the impact prediction and control measures for the coming two months, i.e. June 2021 and July 2021 are summarized as follows:

Construction Works	Major Impact Prediction	Control Measures
As mentioned in Section 6.1	Air quality impact (dust)  Water quality impact (surface run-off)	<ul> <li>a) Frequent watering of haul road and unpaved/exposed areas;</li> <li>b) Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>c) Watering of any earth moving activities.</li> <li>a) Diversion of the collected effluent to desilting facilities for treatment prior to discharge to public storm water drains;</li> <li>b) Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>c) Provision of perimeter protection such as</li> </ul>
		sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and d) Provision of measures to prevent discharge into the stream.
	Noise Impact	<ul> <li>a) Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>b) Controlling the number of plants use on site;</li> <li>c) Regular maintenance of machines; and</li> <li>d) Use of acoustic barriers if necessary.</li> </ul>
	Waste/ Chemical Management	a) Maintenance involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.
		b) Chemical wastes should be hold by suitable containers with clear label and stored at a safe location.

#### 7. CONCLUSIONS AND RECOMMENDATIONS

#### **Conclusions**

7.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken in June 2021.

### Air Quality and Construction Noise

7.2 No regular monitoring air quality and noise monitoring is required for the Project. No Action/Limit Level exceedance was recorded.

### Landscape and visual

7.3 No non-compliance was recorded in the reporting month.

#### Complaint and Prosecution

- 7.4 No environmental complaints and environmental prosecution were received in the reporting month.
- 7.5 The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

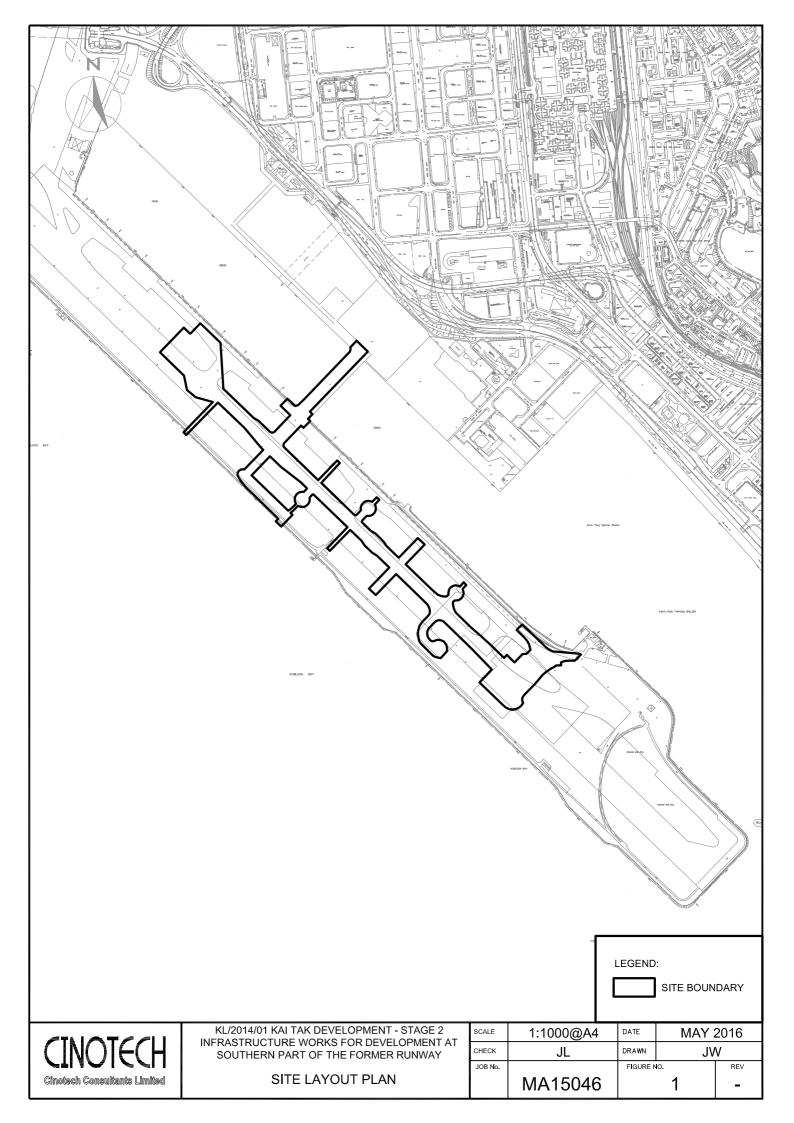
#### **Recommendations**

7.6 According to the environmental audit performed in the reporting month, the following recommendations were made:

### Waste/ chemical management

• To avoid the accumulation of general refuse.

## **FIGURES**



# APPENDIX A ACTION AND LIMIT LEVELS

## **Appendix A - Action and Limit Levels**

Table A-1 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Parameter	Action Level (μg/ m³)	Limit Level <sup>(1)(2)</sup> (μg/ m³)
KTD1	24-hr TSP	177	260
KTD1*	1-hr TSP	285	500

<sup>\* 1-</sup>hr TSP monitoring should be required in case of complaints.

**Table A-2** Action and Limit Levels for Construction Noise Monitoring

Time Period	Action Level	Limit Level <sup>(1)(2)</sup>
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

Remarks: (1) 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.

<sup>(2)</sup> No regular noise impact monitoring station for this Contract. It is subject to the noise sensitive receiver(s) and additional monitoring work.

<sup>(\*) 70</sup>dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods respectively.

### APPENDIX B SUMMARY OF EXCEEDANCE

# Contract No. KL/2014/01 Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

# Appendix B – Summary of Exceedance

Exceedance Record for Contract No. KL/2014/01

Reporting Month: June 2021

(A) Exceedance Record for Construction Dust

(NIL in the reporting month)

(B) Exceedance Record for Construction Noise

(NIL in the reporting month)

(C) Exceedance Record for Landscape and Visual

(NIL in the reporting month)

## APPENDIX C SITE AUDIT SUMMARY

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

EP-337/2009 & EP-445/2013/A

# **Weekly Site Inspection Record Summary Inspection Information**

Checklist Reference Number	210603
Date	3 June 2021 (Thursday)
Time	14:30 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	• F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licenses	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow up on the previous audit session (Ref. No:210526): No environmental deficiencies were identified in the previous inspection	

	Name	Signature	Date
Recorded by	Sam Au	YAA	3 June 2021
Checked by	Colman Wong	Colman	4 June 2021

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

EP-337/2009 & EP-445/2013/A

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210603
Date	10 June 2021 (Thursday)
Time	14:30 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	• F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licenses	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow up on the previous audit session (Ref. No:210603): No environmental deficiencies were identified in the previous inspection	

	Name	Signature	Date
Recorded by	Sam Au	YAA	10 June 2021
Checked by	Colman Wong	Colman	11 June 2021

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

EP-337/2009 & EP-445/2013/A

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210617
Date	17 June 2021 (Thursday)
Time	14:30 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	• F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licenses	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow up on the previous audit session (Ref. No:210610): No environmental deficiencies were identified in the previous inspection	

	Name	Signature	Date
Recorded by	Sam Au	YAA	17 June 2021
Checked by	Colman Wong	Colman	18 June 2021

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

EP-337/2009 & EP-445/2013/A

# **Weekly Site Inspection Record Summary Inspection Information**

Checklist Reference Number	210624
Date	24 June 2021 (Thursday)
Time	14:30 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
	Trone identified	Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	• F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licenses	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow up on the previous audit session (Ref. No:210617): No environmental deficiencies were identified in the previous inspection	

	Name	Signature	Date
Recorded by	Sam Au	YAA	24 June 2021
Checked by	Colman Wong	Colman	25 June 2021

# Kai Tak Development - Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

EP-337/2009 & EP-445/2013/A

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210630
Date	30 June 2021 (Wednesday)
Time	14:30 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	• F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licenses	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow up on the previous audit session (Ref. No:210625): No environmental deficiencies were identified in the previous inspection	

	Name	Signature	Date
Recorded by	Sam Au	YAA	30 June 2021
Checked by	Colman Wong	Colman	30 June 2021

### APPENDIX D EVENT ACTION PLANS

# **Appendix D - Event Action Plans**

# Event/Action Plan for Construction Noise

EVENT		ACTIO	ON			
	ET	IEC	ER	CONTRACTOR		
Action Level being exceeded	<ol> <li>Notify ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol>	<ol> <li>Review the investigation results submitted by the ET;</li> <li>Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol>	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.  (The above actions should be taken within 2 working days after the exceedance is identified)	Submit noise mitigation proposals to IEC and ER;     Implement noise mitigation proposals.     (The above actions should be taken within 2 working days after the exceedance is identified)		
Limit Level being exceeded	<ol> <li>Inform IEC, ER, Contractor and EPD;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency;</li> <li>Identify source and investigate the cause of exceedance;</li> <li>Carry out analysis of Contractor's working procedures;</li> <li>Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol>	Discuss amongst ER, ET, and Contractor on the potential remedial actions;     Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.     (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 exceedance until the exceedance is abated.  (The above actions should be taken within 2 working days after the exceedance is identified)	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the ER until the exceedance is abated.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol>		

# **Appendix D - Event Action Plans**

# Event/Action Plan for Landscape and Visual

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

APPENDIX E ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Appendix E - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

EIA Ref.	Mitigation Measures	Status		
Construction Air Qu	Construction Air Quality			
S3.2 (AEIAR-130/2009)	8 times daily watering of the work site with active dust emitting activities.	٨		
S4.8 (AEIAR-170/2013)	Control measures stipulated in the approved KTD Schedule 3 EIA Report should be strictly followed.	٨		
S3.2 (AEIAR-130/2009) and S4.8 (AEIAR-170/2013)	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	^		
(ALIMIC 170/2013)	<ul> <li>stockpring site(s) should be fined with imperincable sheeting and builded. Stockprice should be fully covered by impermeable sheeting to reduce dust emission.</li> <li>Misting for the dusty material should be carried out before being loaded into the vehicle.</li> <li>Any vehicle with an open load carrying area should have properly fitted side and tail</li> </ul>	^		
	<ul> <li>Any vehicle with an open load earlying area should have properly fitted side and tail boards.</li> <li>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.</li> </ul>			
	• 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.	۸		
	Vehicle washing facilities should be provided at every vehicle exit point.	۸		

EIA Ref.	Mitigation Measures	Status
	<ul> <li>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, bituminous materials or hardcores.</li> <li>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.</li> <li>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; and</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>	
<b>Construction Noise</b>		
S3.3 (AEIAR-130/2009)	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.	^
S3.3 (AEIAR-130/2009)	Good Site Practice:	
(ALIAK-130/2009)	• Only well-maintained plant should be operated on-site 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.	٨
	<ul> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> </ul>	٨
	• 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.	۸
	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.	۸
	Material stockpiles and other structures should be effectively utilized, wherever	۸

EIA Ref.	Mitigation Measures	Status
	practicable, in screening noise from on-site construction activities.	
S3.3 (AEIAR-130/2009)	Scheduling of Construction Works during School Examination Period	N/A
S3.8 (AEIAR-170/2013)	Provision of a landscaped deck along Roads D3A & D4A.	N/A
S3.8 (AEIAR-170/2013)	<ul> <li>Provision of about 1090 m length of vertical noise barrier (connected to the deck) at Roads D3A &amp; D4A;</li> <li>Provision of about 60 m length of overhang vertical noise barrier (connected to the deck) at Road D4A; and</li> <li>Provision of staircases with noise barriers next to Sites 4A1 and 4B1</li> <li>It should be noted that the exact length of the mitigation measures would be subject to minor refinement during the detailed design stage.</li> </ul>	N/A N/A N/A
S3.8 (AEIAR-170/2013)	Non-noise sensitive use areas within Sites 4A1 and 4B1.	N/A
S3.8 (AEIAR-170/2013)	Avoid sensitive façade with openable window facing Road D3A.	N/A
<b>Construction Water</b>	Quality	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	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	^ ^

EIA Ref.	Mitigation Measures	Status
	Construction site should be provided with adequately designed perimeter channel and pretreatment 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.	^
	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.	^
S5.8 (AEIAR-170/2013)	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	^
	Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	^
S3.4 (AEIAR-130/2009)	Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m <sup>3</sup> capacity, are recommended as a general mitigation measure	٨

EIA Ref.	Mitigation Measures	Status	
	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.		
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m <sup>3</sup> 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.	^	
()	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	٨	
S3.4 (AEIAR-130/2009)	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.	٨	
	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.	٨	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	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	٨	

EIA Ref.	Mitigation Measures	Status
	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.	
S5.8 (AEIAR-170/2013)	Boring and Drilling Water Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	۸
	Acid Cleaning, Etching and Pickling Wastewater Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers	^
S3.4 (AEIAR-130/2009)	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.	٨
S3.4 (AEIAR-130/2009)	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.	٨

EIA Ref.	Mitigation Measures	Status
S3.4 (AEIAR-130/2009)	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.	^
S5.8 (AEIAR-170/2013)	There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Minimum distance of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes and the planned WSR mentioned in S5.3.1 as appropriate. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence which is under the ambit of regional office (RO) of EPD.	^
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	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.	٨
S5.8	Notices should be posted at conspicuous locations to remind the workers not to discharge	٨

EIA Ref.	Mitigation Measures	Status
(AEIAR-170/2013)	any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures.	
S3.4 (AEIAR-130/2009) and S5.8 (AEIAR-170/2013)	Stormwater Discharges  Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes.	٨
	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.	٨
S5.8 (AEIAR-170/2013)	Accidental Spillage  Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	^

EIA Ref.	Mitigation Measures	
	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:  Suitable containers should be used to hold the chemical wastes to avoid leakage or	^
	<ul> <li>spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> </ul>	^
	• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	۸
<b>Construction Waste</b>	Management	
S6.7 (AEIAR-170/2013)	Prepare a Waste Management Plan, which becomes a part of the Environmental Management Plan, in accordance with the requirements stipulated in ETWB TC (W) No. 19/2005, approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites.	٨
S3.5 (AEIAR-130/2009) and S6.7 (AEIAR-170/2013)	<ul> <li>Good Site Practices</li> <li>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:         <ul> <li>Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>Training of site personnel in proper waste management and chemical waste handling procedures</li> </ul> </li> </ul>	^
	<ul> <li>Provision of sufficient waste disposal points and regular collection for disposal</li> </ul>	٨

EIA Ref.	Mitigation Measures	Status
	Appropriate measures to minimise windblown litter and dust during transportation of	٨
	waste by either covering trucks or by transporting wastes in enclosed containers	
	• A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites)	^
	Regular cleaning and maintenance systems, sumps and oil interceptors	^
	Separation of chemical wastes for special handling and appropriate treatment	٨
	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:	
	<ul> <li>Sort C&amp;D waste from demolition of the remaining structures to recover recyclable portions such as metals</li> </ul>	^
	<ul> <li>Segregation and storage of different types of waste in different containers, skips or</li> </ul>	٨
	stockpiles to enhance reuse or recycling of materials and their proper disposal	
	<ul> <li>Encourage collection of aluminium cans, PET bottles and paper by providing separate</li> </ul>	٨
	labelled bins to enable these wastes to be segregated from other general refuse generated by the work force	
	<ul> <li>Any unused chemicals or those with remaining functional capacity should be recycled</li> </ul>	٨
	<ul> <li>Proper storage and site practices to minimise the potential for damage or</li> </ul>	٨
	contamination of construction materials	
	Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste  generated and avoid unnecessary generation of waste	۸
	<ul> <li>Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.</li> </ul>	۸

EIA Ref.	Mitigation Measures	Status
S3.5	Construction and Demolition Materials	
(AEIAR-130/2009)	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:	
	<ul> <li>Where it is unavoidable to have transient stockpiles of C&amp;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.</li> </ul>	^
	• Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	٨
	• Skip hoist for material transport should be totally enclosed by impervious sheeting.	٨
	• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	٨
	• 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, bituminous materials or hardcores.	۸
	• 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.	۸
	• All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	٨
	• The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	٨
	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	۸
	tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket	

EIA Ref.	Mitigation Measures	Status
	System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirement sand 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 (AEIAR-130/2009)	General Refuse 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	
<b>Construction Lands</b>	cape and Visual	
S3.8.12	Minimized construction area and contractor's temporary works areas.	٨
(AEIAR-130/2009)	• All existing trees should be carefully protected during construction.	٨
and	• Trees unavoidably affected by the works should be transplanted where practical.	٨
S7.9 (AEIAR-170/2013)	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.	٨
	<ul> <li>Erection of decorative screen hoarding.</li> </ul>	٨
	Reduction of construction period to practical minimum.	٨
	• Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.	٨
	• Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open.	٨

Remarks:	EIA Report (AEIAR-130/2009) – Kai Tak Development			
	EIA Report (AEIAR-170/2013) – Kai Tak Development – Roads D3A & D4A			
	^ Compliance of mitigation measure; N/A Not Applicable at this stage;	<ul> <li>X Non-compliance of mitigation measure;</li> <li>Non-compliance but rectified by the</li> </ul>		
	N/A(1) Not observed;	contractor;		
	* Recommendation was made during site audit	# Recommendation was made during site		
	but improved/rectified by the contractor.	audit but not yet improved/rectified by the contractor.		

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

# Kai Tak Development –Stage 2 Infrastructure Works for Developments at the Southern Part of the Former Runway

 $\label{eq:complaint} \textbf{Appendix} \ \textbf{F} - \textbf{Summary} \ \textbf{of} \ \textbf{environmental} \ \textbf{complaint}, \ \textbf{warning}, \ \textbf{summon} \ \textbf{and} \ \textbf{notification} \ \textbf{of} \ \textbf{successful} \ \textbf{prosecution}$ 

**Reporting Month**: June 2021

### Contract No. KL/2014/01

Log Ref.	Location	Received Date	Details of Complaint/warning/summon and prosecution	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A	N/A

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

# Appendix G. Monthly Summary Waste Flow Table

Name of Department:	CEDD	Contract No	: KL/2014/01
---------------------	------	-------------	--------------

## **Monthly Summary Waste Flow Table for 2021**

	Actual Quantities of Inert C&D Materials Generated Monthly  Actual Quantities of C&D Wastes Generated Monthly										
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects *	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in tonne)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in tonne)
Jan	35.46	0	0	0	35.46	0	0	0	0	0	212.30
Feb	5.63	0	0	0	5.63	0	0	0	0	0	4.18
Mar	0.00	0	0	0	0.00	0	0	0	0	0	2.50
Apr	0.00	0	0	0	0.00	0	0	0	0	0	9.65
May	0	0	0	0	0.00	0	0	0	0	0	17.89
June	0.00	0	0	0	0.00	0	0	0	0	0	13.55
Sub-total		0	0	0		0	0	0	0	0	
July		0	0	0		0	0	0	0	0	
Aug		0	0	0		0	0	0	0	0	
Sept		0	0	0		0	0	0	0	0	
Oct		0	0	0		0	0	0	0	0	
Nov		0	0	0		0	0	0	0	0	
Dec											
Total	41.09	0	0	0	41.09	0	0	0	0	0	260.07

<sup>\*</sup> Transfer to alterative disposal ground at Lung Kwu Sheung Tan EPD approved recycler

# APPENDIX G WASTE GENERATED QUANTITY

## **FUGRO TECHNICAL SERVICES LIMITED**

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



# Appendix B

Monthly EM&A Report
For
Contract No. KL/2015/02
Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area

# **Civil Engineering and Development Department**

# EP-337/2009 – New Distributor Roads Serving the Planned KTD

Contract No. KLN/2016/04
Environmental Monitoring Works for
Contract No. KL/2015/02
Kai Tak Development – Stage 5A Infrastructure
at Former North Apron Area

Monthly EM&A Report June 2021

(version 1.1)

Certified By

(Environmental Team Leader)

#### REMARKS:

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

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

#### CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388 Email: info@cinotech.com.hk



#### **FUGRO TECHNICAL SERVICES LIMITED**

Fugro Development Centre 5 Lok Yi Street, Tai Lam Tuen Mun, NT Hong Kong

Date

14 July 2021

Our Ref.

MCL/ED/0287/2021/C

Cinotech Consultants Limited Rm 1710, Technology Park, 18 On Lai Street, Shatin, New Territories, Hong Kong

**BY EMAIL** 

Attn.: Mr. K.S Lee

Dear Sir,

Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron Verification of Monthly EM&A Report for June 2021

We refer to your emails dated 7 and 13 July 2021 for the captioned report prepared by the ET.

We have no further comment and hereby verify the Report in accordance with Clause 3.3 of Environmental Permit no. EP-337/2009.

Should you require further information, please do not hesitate to contact me on 3565 4114 or our Wingo So on 3565 4374.

Assuring you of our best attention at all times.

Yours faithfully, For and on behalf of

FUGRO TECHNICAL SERVICES LIMITED

Colin K. L. Yung

Independent Environmental Checker

CY/ws

c.c. CEDD -

Attn.: Mr. Ricky Chan

AECOM -

Attn.: Mr. Vincent Yip

Attn.: Mr. Vincent Lee

Attn.: Mr. Teddy Shih

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#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 54<sup>th</sup> Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2015/02 Kai Tak Development Stage 5A Infrastructure at Former North Apron Area" (Hereafter referred to as "the Project"). This contract comprises one Schedule 2 designated project (DP), namely the new distributor road D1 serving the planned KTD. The DP is part of the designated project under Environmental Permit (EP) No.: EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") respectively. This report documents the findings of EM&A Works conducted during June 2021.
- 2. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in **Table I** (see **Figure 2 and 3** for their locations).

Table I – Air Quality and Noise Monitoring Stations for this Project

Locations	Monitoring Stations In accordance with EM&A Manual	Alternative Monitoring Stations
Air Quality Monitoring Stations		
	Yes (1-hour TSP)	N/A
AM2 - Lee Kau Yan Memorial School	No (24-hour TSP)	AM2(A) – Ng Wah Catholic Secondary School
Noise Monitoring Stations		-
M3 - Cognitio College	No	M3(A) – The Bridge connecting The Latitude
M4 - Lee Kau Yan Memorial School	Yes	N/A
M5 – Nam Yuen	No	M5(C) – Mercy Grace's Home

- 3. The major site activities undertaken in the reporting month included:
  - Carry out finishing works inside the subway
  - Carry out structural works for subway at SKLR Playground
  - Demobilize the silent pier with associated power pad and equipment after the completion of sheet piling TTA Stage 4-3
  - Installation of traffic signs and directional signs along Bridge K72
  - Installation of cover plates for movement joint
  - Re-construction of E&M and ATC at J/O Road D1 and L7
  - Road Works at Road D1 and near PERE

- Modification of existing sewerage manhole Road D1
- Landscaping works at Road L7 and Road D1
- Making-good works for drainage before CCTV inspection at Road D1

## **Environmental Monitoring Works**

- 4. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 5. Summary of the non-compliance in the reporting month for the Project is tabulated in **Table II**.

Table II Non-compliance Recorded for the Project in the Reporting Month

_	No. of Project-rel		
Parameter	Action Level	Limit Level	Action Taken
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A

1-hour & 24-hour TSP Monitoring

- 6. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 7. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

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

#### **Environmental Licenses and Permits**

- 9. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, EP-337/2009 issued on 23 April 2009. All valid Licenses/Permits for this Project are shown in **Table 6.1**.
  - Billing Account for Construction Waste Disposal (A/C# 7026164).
  - Effluent Discharge License (WT00027495-2017).
  - Registration of Chemical Waste Producer (WPN5213-286-P3271-01).

# **Key Information in the Reporting Month**

10. Summary of key information in the reporting month is tabulated in **Table III**.

Table III Summary Table for Key Information in the Reporting Month

Event	<b>Event Details</b>		Action Taken	Status	Domoule	
Event	Number	Nature	Action Taken	Status	Remark	
Complaint received			N/A	N/A		
Reporting Changes			N/A	N/A		
Notifications of any summons & prosecutions received			N/A	N/A		

#### **Future Key Issues**

- 11. The future key environmental issues in the coming two months include:
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation
  - works and rock breaking activities;
  - Water spraying for dust generating activity and on haul road;
  - Proper storage of construction materials on site;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Accumulation of general and construction waste on site;
  - Noise from operation of the equipment, especially for rock-breaking activities,
  - piling works and machinery on-site;
  - Wastewater and runoff discharge from site;
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation

#### 1 INTRODUCTION

#### **Background**

- 1.1. The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, 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. It covers a land area of about 328 hectares. Stage 5A Infrastructure at Former North Apron Area is one of the construction stages of KTD. It contains one Schedule 2 DP including new distributor roads serving the planned KTD. The general layout of the Project is shown in **Figure 1.**
- 1.2. An Environmental Permit (EP) No. EP-337/2009 was issued on 23 April 2009 for new distributor roads serving the planned KTD to Civil Engineering and Development Department as the Permit Holder.
- 1.3. A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4. Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2015/02 Stage 5A Infrastructure at Former North Apron Area. The construction work under KL/2015/02 comprises the construction of part of the Road D1 under the EP (EP-337/2009).
- 1.5. Cinotech Consultants Limited was commissioned by Civil Engineering and Development Department (CEDD) to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The commencement date of construction of Road D1 (part) under this Contract was on 16 January 2017.

## **Project Organizations**

- 1.6. Different parties with different levels of involvement in the project organization include:
  - Project Proponent Civil Engineering and Development Department (CEDD).
  - The Engineer and the Engineer's Representative (ER) AECOM Asia Co. Ltd (AECOM).
  - Environmental Team (ET) Cinotech Consultants Limited (Cinotech).
  - Independent Environmental Checker (IEC) Fugro Technical Services Limited (FTS).
  - Contractor Peako Wo Hing Joint Venture (PWHJV).

1.7. The key contacts of the Project are shown in **Table 1.1**.

**Table 1.1 Key Project Contacts** 

Party	Role	Contact Person	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. CHAN Wai Kit, Ricky	Senior Engineer	2116 3753	2116 0714
AECOM	Engineer's Representative	Mr. Vincent Lee	SRE	2798 0771	2210 6110
Cinotech	Environmental	Mr. K.S Lee	Environmental Team Leader	2151 2091	3107 1388
	Team	Ms. Betty Choi	Audit Team Leader	2151 2072	3107 1300
FTS	Independent Environmental Checker	Mr. Colin Yung	Independent Environmental Checker	3565 4114	2450 8032
PWHJV	Contractor	Mr. W.M. Wong	Site Agent	6386 3535	2398 8301

# Construction Activities undertaken during the Reporting Month

- 1.8. The site activities undertaken in the reporting month included:
  - Carry out finishing works inside the subway
  - Carry out structural works for subway at SKLR Playground
  - Demobilize the silent pier with associated power pad and equipment after the completion of sheet piling works at TTA Stage 4-3
  - Installation of traffic signs and directional signs along Bridge K72
  - Installation of cover plates for movement joint
  - Re-construction of E&M and ATC at J/O Road D1 and L7
  - Road Works at Road D1 and near PERE
  - Modification of existing sewerage manhole Road D1
  - Landscaping works at Road L7 and Road D1
  - Making-good works for drainage before CCTV inspection at Road D1
- 1.9. The construction programme for the Project is shown in **Appendix N**.
- 1.10. The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in **Table 1.2**.

Monthly EM&A Report – June 2021

Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Construction Works	Major Environmental Impact	Control Measures
Refer to Section 1.8	Noise, dust impact, water quality and waste generation	<ul> <li>Sufficient watering of the works site with active dust emitting activities;</li> <li>Properly cover the stockpiles;</li> <li>On-site waste sorting and implementation of trip ticket system</li> <li>Appropriate desilting/sedimentation devices provided on site for treatment before discharge;</li> <li>Use of quiet plant and well-maintained construction plant;</li> <li>Provide movable noise barrier;</li> <li>Well maintain the drainage system to prevent the spillage of wastewater during heavy rainfall;</li> <li>Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.</li> </ul>

#### **Summary of EM&A Requirements**

- 1.11. The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:
  - All monitoring parameters;
  - Action and Limit levels for all environmental parameters;
  - Event Action Plans;
  - Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.
- 1.12. The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 1.13. This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality and noise levels and audit works for the Project during the reporting month.

# 2 AIR QUALITY

#### **Monitoring Requirements**

2.1. According to EM&A Manual under the EP, 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

#### **Monitoring Locations**

- 2.2. 1-hour TSP impact dust monitoring was conducted at the air quality monitoring station, AM2 Lee Kau Yan Memorial School and 24-hour TSP impact dust monitoring were conducted at the air quality monitoring station, AM2(A) Ng Wah Catholic Secondary School in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.3. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

**Table 2.1** Locations for Air Quality Monitoring

<b>Monitoring Stations</b>	Locations	<b>Location of Measurement</b>
AM2 (1-hour TSP)	Lee Kau Yan Memorial School	Rooftop (about 8/F) Area
AM2(A) (24-hour TSP)	Ng Wah Catholic Secondary School	Rooftop (about 8/F) Area

#### **Monitoring Equipment**

2.4. **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix B**.

**Table 2.2 Air Quality Monitoring Equipment** 

Equipment	Model and Make	Quantity
Calibrator	• TISCH TE-5025A	1
1-hour TSP Dust Meter	<ul> <li>Sibata Scientific Technology LD-5R</li> </ul>	3
HVS Sampler	• TE-5170 c/w of TSP sampling inlet	1
Wind Anemometer	<ul> <li>Davis Instruments 6152</li> </ul>	1

## **Monitoring Parameters, Frequency and Duration**

2.5. **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

 Table 2.3
 Impact Dust Monitoring Parameters, Frequency and Duration

Parameters	Frequency
1-hr TSP	Three times / 6 days
24-hr TSP	Once / 6 days

#### Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

#### **Measuring Procedures**

2.6. The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

(Equipment: Sibata Scientific Technology; Model no. LD-3B, LD-5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display.
- Finally, push the start/stop switch to stop the measuring after 1 hour sampling.

• Information such as sampling date, time, count value and site condition were

• Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

#### Maintenance/Calibration

2.7. The following maintenance/calibration was required for the direct dust meters:

Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

#### 24-hour TSP Monitoring

#### Instrumentation

2.8. High volume (HVS) samplers (Model TE-5170), completed 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). Moreover, the HVS also met all the requirements in section 2.5 of the updated EM&A Manual.

# Operating/Analytical Procedures

- 2.9. Operating/analytical procedures for the operation of HVS were as follows:
  - A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
  - No two samplers were placed less than 2 meters 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 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
  - A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
  - No furnaces or incineration flues were nearby.
  - Airflow around the sampler was unrestricted.
  - The sampler was more than 20 meters from the drip line.
  - Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- 2.10. Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m3/min. and 1.4 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, fiberglass filters have a collection efficiency of > 99% for particles of 0.3μm diameter were used.

- 2.12. The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- 2.13. The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- 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 should be 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 then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- 2.17. After sampling, the filter was removed and sent to the HOKLAS laboratory (High Precision Chemical Testing Ltd.) for weighing. The elapsed time was also recorded.
- 2.18. Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

#### Maintenance/Calibration

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

#### **Results and Observations**

- 2.20. All 1-hour and 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.21. The weather information for the reporting month is summarized in **Appendix C.**
- 2.22. The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E and F** respectively.
- 2.23. The summary of exceedance record in reporting month is shown in **Appendix H**. No exceedance was recorded for the air quality monitoring.

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- 2.24. According to our field observations during the monitoring, the major dust source identified at the two designated air quality monitoring stations are road traffic dust, exposed site area and open stockpiles, excavation works and site vehicle movements.
- 2.25. The summary of 1-hour and 24-hour TSP air quality monitoring results during the reporting month are shown in **Appendix E** and **Appendix F** respectively.

#### 3 NOISE

#### **Monitoring Requirements**

3.1. According to EM&A Manuals under the EP, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities within KTD. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

## **Monitoring Locations**

3.2. Three designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at three designated monitoring stations (M3(A), M4, and M5(C)). **Figure 3** shows the locations of these stations.

**Table 3.1 Noise Monitoring Stations** 

<b>Monitoring Stations</b>	Locations	<b>Location of Measurement</b>
M3(A)	The Bridge connecting The Latitide	In the middle of the foot bridge connecting The Latitude
<b>M</b> 4	Lee Kau Yan Memorial School	Rooftop (about 7/F) Area
M5(C)	Mercy Grace's Home	Ground in front of the building entrance facing Prince Edward Road East (noise monitoring is not allowed on the rooftop from 27 February 2020, due to the coronavirus countermeasure in Mercy Grace's Home)

## **Monitoring Equipment**

3.3. **Table 3.2** summarizes the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix B**.

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Table 3.2 **Noise Monitoring Equipment** 

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	• SVANTEK SVAN 957/ 979	1
integrating Sound Level Meter	BSW Atech BSWA 308	2
	SOUNDTEK ST-120	2
Calibrator	Bruel & Kjaer B&K4231	0
	SVAN 30A	0

## Monitoring Parameters, Frequency and Duration

3.4. **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**.

**Table 3.3 Noise Monitoring Parameters, Frequency and Duration** 

Monitoring Stations	Parameter	Period	Frequency	Measurement
M3(A)	$L_{10}(30 \text{ min.}) dB(A)$	0700-1900 hrs on	Once nor	
M4	$L_{90}(30 \text{ min.}) dB(A)$		Once per	Façade
M5(C)	$L_{eq}(30 \text{ min.}) dB(A)$	normal weekdays	week	_

#### Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

frequency weighting : A time weighting : Fast time measurement : 30 minutes

- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

#### **Maintenance and Calibration**

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

# **Results and Observations**

- 3.8. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix H**.
- 3.9. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.5**.
- 3.10. Noise monitoring results and graphical presentations are shown in **Appendix G**.
- 3.11. The major noise source identified at the designated noise monitoring stations are shown in **Table 3.4**.

Table 3.4 Major Noise Source identified at the Designated Noise Monitoring Stations

<b>Monitoring Stations</b>	Locations	Major Noise Source
M3(A)	The Bridge connecting The Latitude	Traffic Noise Site vehicle movement
M4	Lee Kau Yan Memorial School	Traffic Noise Site vehicle movement Excavation works Piling works Daily school activities
M5(C)	Mercy Grace's Home	Traffic Noise Site vehicle movement

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

Station	Baseline Noise Level, dB (A)	Noise Limit Level, dB (A)
	N/A <sup>(1)</sup>	75
M3(A)	(at 0700 – 1900 hrs on normal	(at 0700 – 1900 hrs on
	weekdays)	normal weekdays)
	76.7 <sup>(2)</sup>	70
M4	(at 0700 – 1900 hrs on normal	(at 0700 – 1900 hrs on
	weekdays)	normal weekdays)
	N/A <sup>(1)</sup>	75
M5(C)	(at 0700 – 1900 hrs on normal	(at 0700 – 1900 hrs on
	weekdays)	normal weekdays)

<sup>(\*)</sup> Noise Limit Level is 65 dB(A) during school examination periods.

 $CNL = 10 \log (10^{MNL/10} - 10^{BNL/10})$ 

Remarks: MNL = Measured Noise Level, BNL = Baseline Noise Level

Note (1): The background Noise Level was recorded during the Lunch Hour of Construction Site

<sup>(</sup>i.e. 12:00-13:00) and to be used as the referencing value for compliance checking for Noise Action and Limit Level.

Note (2): The noise level due to the construction work (CNL) was calculated by the following formula:

#### 4 COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1. The EM&A data was compared with the EIA predictions as summarized in **Tables 4.1** to **4.3**.

Table 4.1 Comparison of 1-hr TSP data with EIA predictions

	Predicted 1-hr TSP conc.		Measured 1-hr TSP conc.	
Station	Scenario1 (Mid       Scenario2 (Mid         2009 to Mid-       2013 to Late         2013), μg/m³       2016), μg/m³			ng Month 21), μg/m³
			Average	Range
AM2 – Lee Kau Yan Memorial School	290	312	35	15-55

Table 4.2 Comparison of 24-hr TSP data with EIA predictions

Predicted 24-hr TSP conc.		Predicted 24-hr TSP conc.		ured SP conc.
Station	Scenario1 (Mid 2009 to Mid-2013),	Scenario2 (Mid 2013 to Late 2016), µg/m <sup>3</sup>	Reporting Month (June 2021), µg/m³	
	μg/m <sup>3</sup>		Average	Range
AM2(A) – Ng Wah				
Catholic Secondary School	145	169	34	23 - 49

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (Leq (30min) dB(A))	Reporting Month (June 2021), L <sub>eq (30min)</sub> dB(A)	
M3(A) – The Bridge connecting The Latitude	Not predicted in EIA Report	$72 - 75^{(2)}$	
M4 – Lee Kau Yan Memorial School	47 – 74	$65 - 76^{(1)}$	
M5(C) – Mercy Grace's Home	Not predicted in EIA Report	$64 - 75^{(2)}$	

#### Remarks:

- 4.2. The average 1-hour TSP concentrations at AM2 in the reporting month were below the prediction in the approved Environmental Impact Assessment (EIA) Report.
- 4.3. The average 24-hour TSP concentrations at AM2(A) in the reporting month were below the prediction in the approved EIA Report.

<sup>(1)</sup> Since the baseline noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

<sup>(2)</sup> Since the background noise level was higher than those recorded during the construction period, the recorded noise levels were considered non-valid exceedance of Noise Limit Level.

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- 4.4. The noise monitoring results in the reporting month from M4 were outside the ranges of the predicted mitigated constriction noise levels in the EIA Report.
- 4.5. Construction noise levels at M3(A) and M5(C) were not predicted in EIA Report.

#### 5 LANDSCAPE AND VISUAL

#### **Monitoring Requirements**

5.1. According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

#### **Results and Observations**

- 5.2. Site audits were conducted on a weekly basis to monitor the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix I**.
- 5.3. No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 5.4. Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix J** shall be performed.

#### **6** ENVIRONMENTAL INSPECTION

#### **Site Inspections**

- 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. The summaries of site inspections are attached in **Appendix I**.
- 6.2. Site inspections were conducted on 9, 15, 21 and 28 June 2021 in the reporting month. A joint site inspection with the representative of IEC, ER, the Contractor and the ET was conducted on 9 June 2021. The details of the observations during site inspection are summarized in **Table 6.2**.

#### **Review of Environmental Monitoring Procedures**

6.3. The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

#### Air Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

#### *Noise Monitoring*

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

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

6.4. All permits/licenses obtained for the Project are summarized in **Table 6.1**.

**Table 6.1** Summary of Environmental Licensing and Permit Status

D. W.Y.	Valid F	G	
Permit No.	From	То	Status
Environmental Permit (EP)			
EP-337/2009	23/04/09	N/A	Valid
Effluent Discharge License			
WT00027495-2017	28/03/17	31/03/22	Valid
Billing Account for Construction Wa	aste Disposal		
A/C# 7026164	20/10/16	N/A	Valid
Registration of Chemical Waste Pro	ducer		
WPN5213-229-P3271-01	14/08/17	N/A	Valid
<b>Construction Noise Permit (CNP)</b>			
GW-RE0915-19	08/11/19	04/05/20	Expired
GW-RE0984-19	15/12/19	24/02/20	Expired
GW-RE0083-20	01/03/20	01/06/20	Expired
GW-RE0266-20	02/05/20	31/07/20	Expired

# **Status of Waste Management**

6.5. The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix M**.

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

6.6. During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in **Table 6.2**.

 Table 6.2
 Observations and Recommendations of Site Inspections

Table 012 Object (actions and recommendations of blue inspections					
Parameters	Ref No.	Date	Observations and Recommendations	Follow-up/Rectification	
Water Quality	N/A	N/A	N/A	N/A	
Ala O all'o	N/A	N/A	N/A	N/A	
Air Quality	N/A	N/A	N/A	N/A	
Noise	N/A	N/A	N/A	N/A	
Waste/ Chemical Management	N/A	N/A	N/A	N/A	
Landscape and Visual	N/A	N/A	N/A	N/A	
Permits/ Licenses	N/A	N/A	N/A	N/A	

# **Summary of Mitigation Measures Implemented**

6.7. An updated summary of the EMIS is provided in **Appendix K**.

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

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

#### 1-hr TSP Monitoring

6.9. No Action/Limit Level exceedance was recorded in the reporting month.

## 24-hr TSP Monitoring

6.1 No Action/Limit Level exceedance was recorded in the reporting month.

#### Construction Noise

6.10. No Action/Limit Level exceedance was recorded in the reporting month.

#### Landscape and visual

6.11. No non-compliance was recorded in the reporting month.

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

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

#### 7 FUTURE KEY ISSUES

- 7.1. Major site activities undertaken for the coming two months include:
  - Carry out finishing works inside the subway
  - Carry out structural works for subway at SKLR Playground
  - Carry out grouting works at TTA stage 4-3
  - Erect mass concrete platform at Stage 3
  - Installation of traffic signs and directional signs along Bridge K72
  - Installation of cover plates for movement joint
  - Re-construction of E&M and ATC at J/O Road D1 and L7
  - Modification of existing sewerage manhole Road D1
  - Landscaping works at Road L7 and Road D1
  - Making-good works for drainage before CCTV inspection at Road D1
- 7.2. Key environmental issues in the coming month include:
  - Wastewater and runoff discharge from site;
  - Regular removal of silt, mud and sand along u-channels and sedimentation tanks;
  - Review and implementation of temporary drainage system for the surface runoff;
  - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
  - Water spraying for dust generating activity and on haul road;
  - Proper storage of construction materials on site;
  - Storage of chemicals/fuel and chemical waste/waste oil on site; and
  - Accumulation of general and construction waste on site.
  - Wastewater and runoff discharge from site;
  - Regular removal of silt, mud and sand along u-channels and sedimentation tanks;
- 7.3. The tentative major site activities is mentioned in Section 7.1 of this report. The impact prediction and control measures for the coming two months are summarized as follows:

#### Air quality impact (dust)

- Frequent watering of haul road and unpaved/exposed areas;
- Frequent watering or covering stockpiles with tarpaulin or similar means; and
- Watering of any earth moving activities.

## Water quality impact (surface run-off)

- Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;
- Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;
- Provision of perimeter protection such as sealing of hoarding footings to avoid runoff from entering the existing storm water drainage system via public road; and

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• Provision of measures to prevent discharge into the stream.

## Noise Impact

- Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;
- Controlling the number of plants use on site;
- Regular maintenance of machines; and
- Use of acoustic barriers if necessary.

# **Monitoring Schedule for Next Month**

7.4. The tentative environmental monitoring schedules for next month are shown in **Appendix D**.

#### 8 CONCLUSIONS AND RECOMMENDATIONS

#### **Conclusions**

8.1. Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

## 1-hr TSP Monitoring

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

#### 24-hr TSP Monitoring

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

## **Construction Noise Monitoring**

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

## Landscape and visual

8.5. No non-compliance was recorded in the reporting month.

## Complaint and Prosecution

8.6. No environmental complaint and environmental prosecution was received in the reporting month.

#### Recommendations

8.7. According to the environmental audit performed in the reporting month, the following recommendations were made:

## Water Quality

• The public drainage gully within the construction site shall be bounded by sand bags.

#### Air Quality

• The Contractor should cover the dusty material by dust screen.

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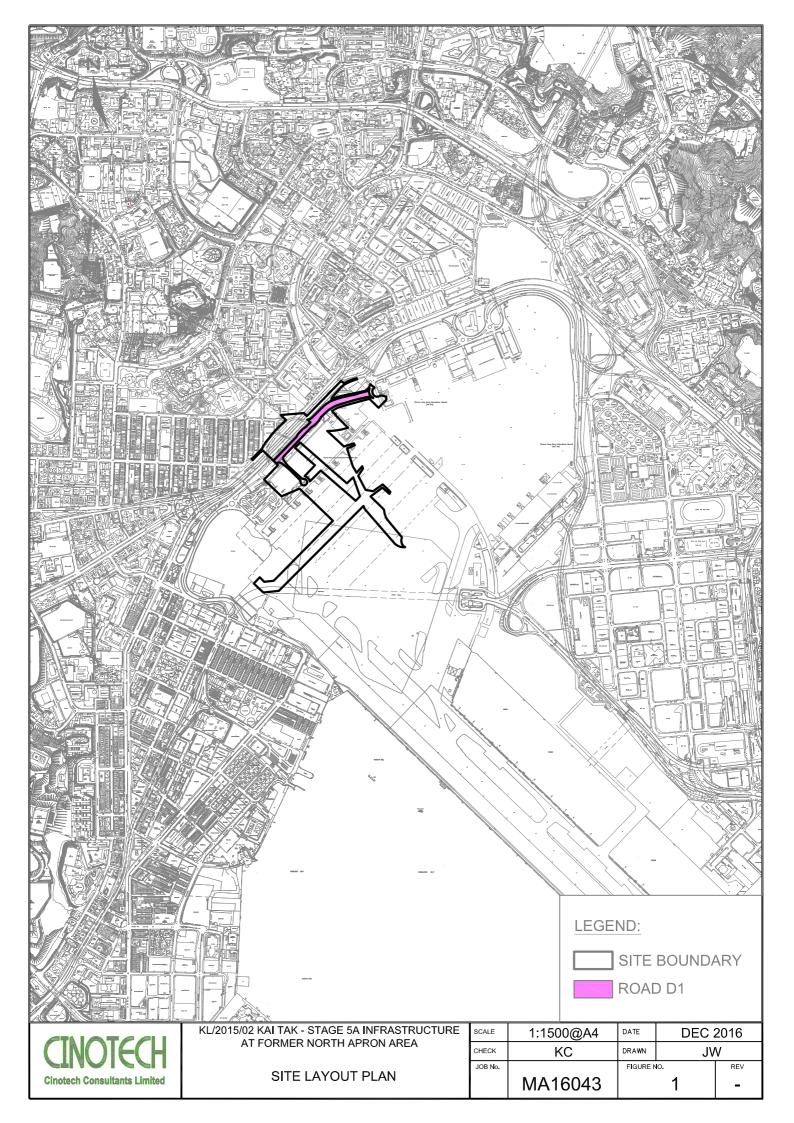
# Waste/Chemical Management

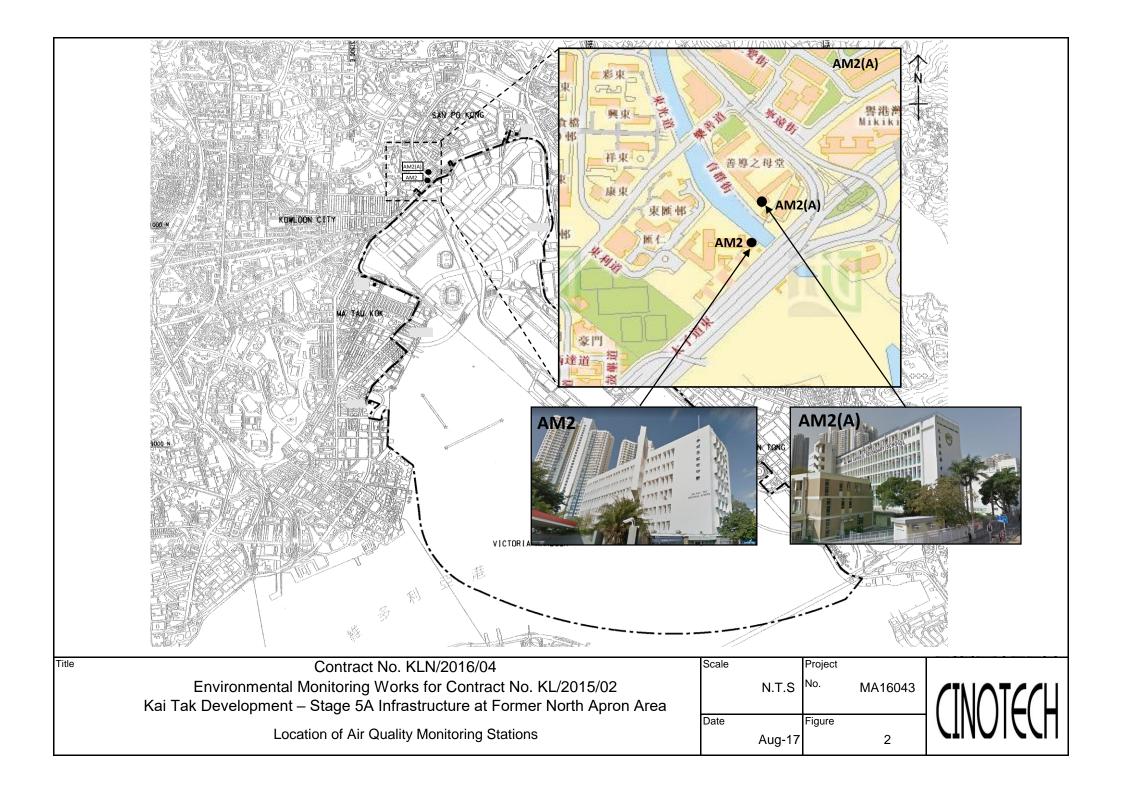
- The Contractor should store the construction/chemical material at the proper place.
- The Contractor was reminded to remove accumulated waste from the site.

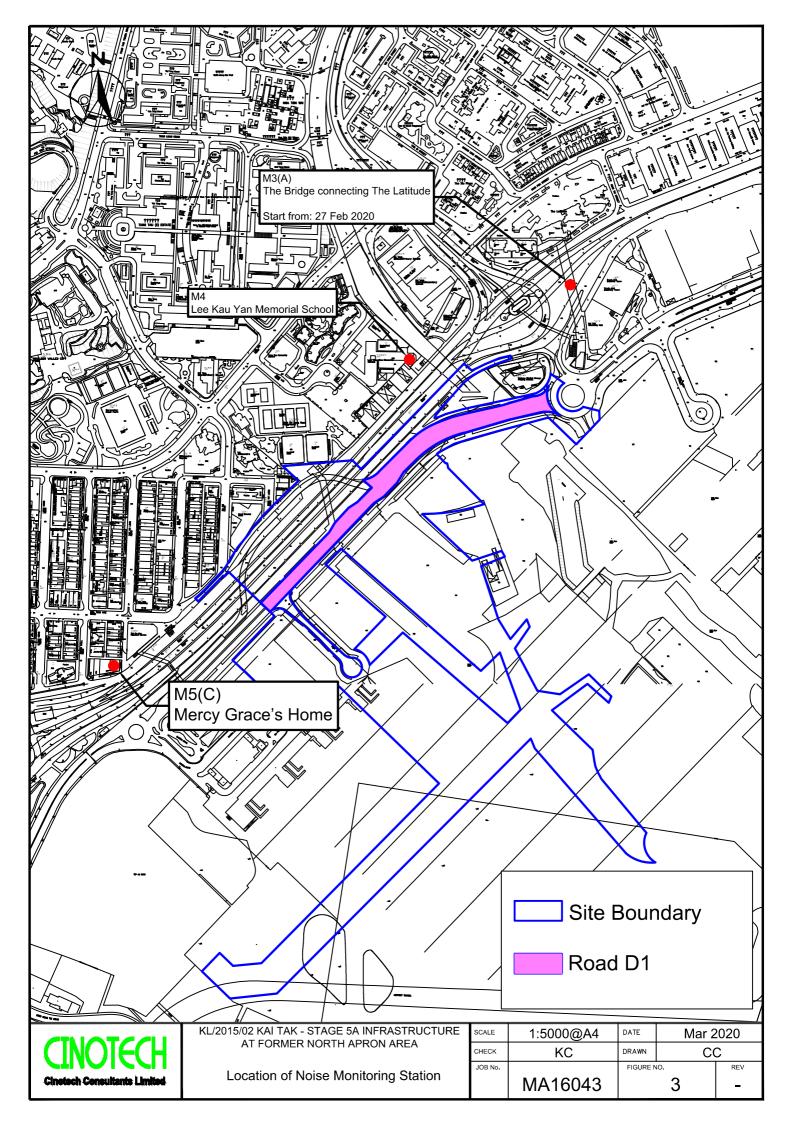
# Landscape and Visual

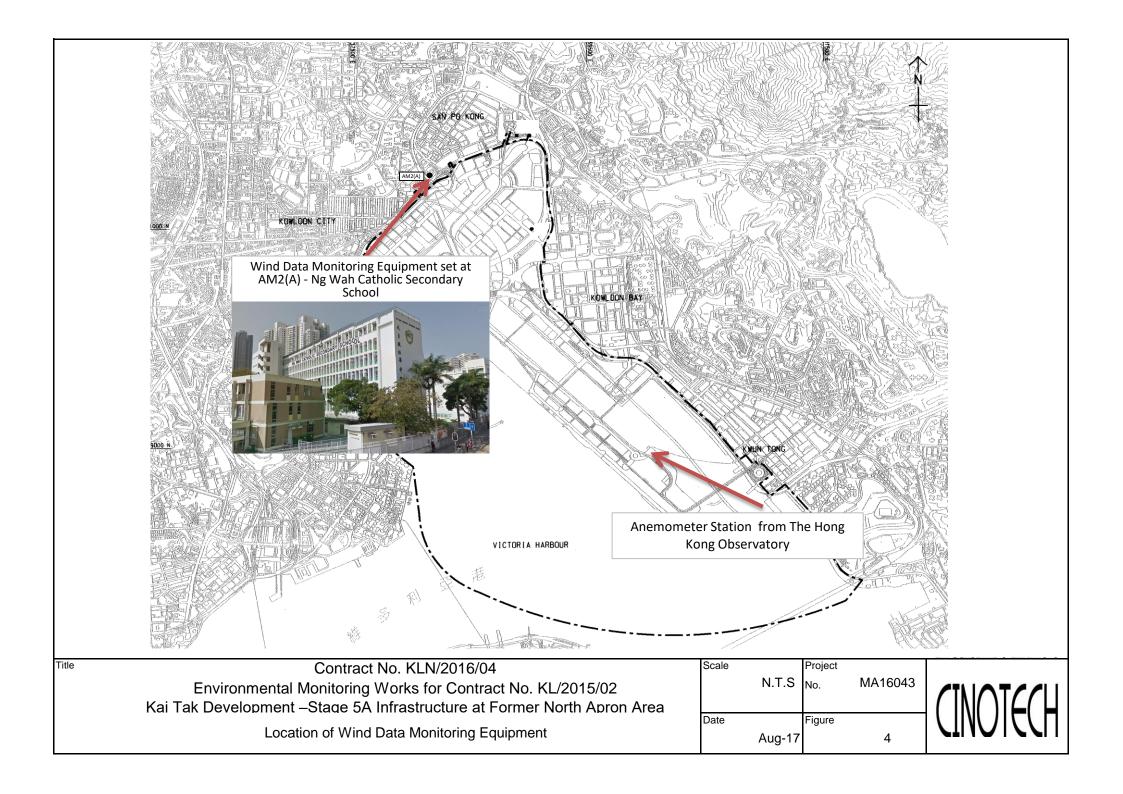
• The Contractor should review the condition of all tree protection area frequently.

# **FIGURES**









APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR
QUALITY AND NOISE

# **Appendix A - Action and Limit Levels**

Table A-1 Action and Limit Levels for 1-Hour TSP

Location	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m³
AM2	346	500

#### Table A-2 Action and Limit Levels for 24-Hour TSP

Location	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m³
AM2(A)	157	260

**Table A-3** Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

Remarks: 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. \*70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX B-1 COPIES OF CALIBRATION CERTIFCATES (AIR)



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

Description:	Ng Wah Catholic Seconda	y School - Weather Stations

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis 6152, Vantage Pro2</u>

Serial No.: <u>BC180522050</u>

Equipment No.: SA-03-03

Date of Calibration 9-Apr-21

Next Due Date 9-Oct-21

#### 1. Performance check of Wind Speed

Wind Sp	peed, m/s	Difference D (m/s)
Wind Speed Reading (V1) Anemometer Value (V1)		D = V1 - V2
0.0	0.0	0.0
1.6	1.5	0.1
2.0	2.0	0.0
3.0	3.1	-0.1

#### 2. Performance check of Wind Direction

Wind Di	rection (°)	Difference D (°)	
Wind Direction Reading (V1)  Marine Compass Value (V1)		D = W1 - W2	
0	0	0.0	
90	90	0.0	
180	180	0.0	
270	270	0.0	

#### **Test Specification:**

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

Calibrated by:	<del></del>	Approved by:	-lem day
	Wong Shing Kwai		Henry Leung

# **High-Volume TSP Sampler**

# 5-POINT CALIBRATION DATA SHEET

						File No.	MA16043/13/0023
Project No.	AM2(A) - Ng V	Vah Catholic Sec	ondary School				
Date:		ay-21	Next Due Date:	5	Jul-21	Operator:	SK
Equipment No.:			•	TE			1352
Equipment Ivo	710	1 13	Wiodel Ivo		23170	Scriai ivo.	1332
			Ambient C	ondition			
Temperatur	re, Ta (K)	299.6	Pressure, Pa	(mmHg)		759.5	
~			fice Transfer Stan				0.00010
Serial		3864	Slope, mc	0.05846	Intercept		-0.00313
Last Calibra	İ	11-Jan-21			$c = [\Delta H \times (Pa/760)]$		
Next Calibration Date: $ 11-Jan-22 \qquad \qquad \mathbf{Qstd} = \{ [\Delta \mathbf{H} \times (\mathbf{Pa}/760) \times (\mathbf{298/Ta})]^{1/2} - \mathbf{bc} \} / \mathbf{mc} $							
		•	Calibration of T	SP Sampler			
Calibration		Or	fice	•		HVS	
Calibration Point	DH (orifice), in. of water		0) x (298/Ta)] 1/2	Qstd (CFM) X - axis	DW (HVS), in. of water		760) x (298/Ta)] <sup>1/2</sup> <b>Y-axis</b>
1	14.1	3	3.74	64.09	10.2		3.18
2	11.4		3.37	57.64	7.8		2.78
3	8.0	2	2.82		5.6	2.36	
4	5.7		2.38	40.77	3.3	1.81	
5	3.3		1.81	31.03	1.9		1.37
D 1' D	637 3	7					
By Linear Regressions.  Slope, mw =	0.0552	<b>\</b>	T	ntorgont hay	-0.366	:1	
-	coefficient* =		9974	mercept, bw -	-0.300	<u> </u>	
		90, check and rec					
ii conclution c	ocincient (0.9)	o, encek and rec	unoruic.				
			Set Point Ca	lculation			
From the TSP Fi	eld Calibration (	Curve, take Qstd	= 43 CFM				
From the Regres	sion Equation, tl	ne "Y" value acco	ording to				
		mw v O	$std + bw = [\Delta W x]$	(Da/760) v (20	19/Ta)  <sup>1/2</sup>		
		IIIW X Q	stu · bw – įΔw x	(1 a/ /00) X (2)	76/1a)j		
Therefore, Se	et Point; W = ( m	$(x + bw)^2$	x ( 760 / Pa ) x ( T	Ta / 298 ) =	4.05		
Remarks:							
•							
•							
Conducted by:	SK Wong	Signature:	<i>₩</i> .			Date:	5 May 2021
Checked by:	Henry Leung	Signature:	leng 0	hoz		Date:	5 May 2021

# **CINOTECH CONSULTANTS LIMITED**



# **Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler
---------------------------------------------------------------------------------------------------------------------

Description:	Digital Dust Indicator	Dat	e of Calibration	1-Jun-21	
Manufacturer:	Sibata Scientific Technology LTD.	Validity of Cal	bration Record	1-Aug-21	
Model No.:	LD-5R				
Serial No.:	972778				
Equipment No.:	SA-01-07	Sensitivity 0.001 mg/m3	<u></u>		
High Volume Sa	ampler No.: A-01-03	Before Sensitivity Adjustment	735 CPM		
Tisch Calibratio	on Orifice No.: 3864	After Sensitivity Adjustment	735 CPM		
	C	alibration of 1 hr TSP			
Calibration	Laser Dust Monito		HVS		
Point	Mass Concentration (μg <b>X-axis</b>	/m3) M	lass concentration (μ <b>Y-axis</b>	$g/m^3$ )	
1	62.0		146.0		
2	57.0		139.0		
3	49.0		130.0		
Average	56.0		138.3		
Slope, mw = Correlation c		Intercept, bw =	69.9612	<del></del>	
	S	et Correlation Factor			
Particaulate Cor	ncentration by High Volume Sampler	$(\mu g/m^3)$	138.3		
Particaulate Cor	ncentration by Dust Meter (µg/m³)		56.0		
Measureing time	e, (min)		60.0		
Set Correlation					
SCF = [ K=Hig	h Volume Sampler / Dust Meter, (μ	ug/m3) ] 2.	.5		
The Dust Monit Factor (CF) betw	d in according to the instruction manu- or was compared with a calibrated Hi- ween the Dust Monitor and High Volu- pers are weighted by HOKLAS lab	igh Volume Sampler and The resume Sampler.	alt was used to gener	ate the Correlation	
Calibrated by	:eal Officer (Wong Shing Kwai)		y: ect Manager (Henry		
1 CCIIIIC	an officer (wong billing Kwar)	110	cot manager (memy	Leans)	

# **CINOTECH CONSULTANTS LIMITED**



# **Certificate of Calibration**

T+	is cortified that	tha itam	under colik	ration has	haan aali	ibrated by	corresponding	calibrated High	Voluma Sampl	-
Iι	is cerumea inai	i ine item	i under came	ration nas	been can	ibraied by	corresponding	cambrated High	volume Sambi	.ei

Description:	Digital Dust Indicator		Date	of Calibration	1-Jun-21
Manufacturer:	Sibata Scientific Technology LTD.		Validity of Calibr	ration Record	1-Aug-21
Model No.:	LD-5R				
Serial No.:	972779				
Equipment No.:	SA-01-08	Sensitivity	0.001 mg/m3	_	
High Volume Sa	ampler No.: <u>A-01-03</u>	Before Sensiti	vity Adjustment	744 CPM	
Tisch Calibratio	on Orifice No.: 3864	After Sensitivi	ty Adjustment	744 CPM	
	C	alibration of 1 h	r TSP		
Calibration	Laser Dust Monito	or		HVS	
Point	Mass Concentration (μg	g/m3)	Mas	ss concentration (µ	$g/m^3$ )
	X-axis			Y-axis	
2	63.0 58.0			146.0	
3	51.0			139.0	
Average	57.3		138.3		
Slope, mw = Correlation c			cept, bw =	62.0642	
	S	et Correlation F	actor		
Particaulate Cor	ncentration by High Volume Sampler	$(\mu g/m^3)$		138.3	
Particaulate Cor	ncentration by Dust Meter (µg/m³)			57.3	
Measureing time	e, (min)			60.0	
Set Correlation					
SCF = [ K=Hig	th Volume Sampler / Dust Meter, (p	.g/m3) ]	2.4		
The Dust Monit Factor (CF) bety	d in according to the instruction manuor was compared with a calibrated Howen the Dust Monitor and High Volumers are weighted by HOKLAS lab	igh Volume Sam ume Sampler.		was used to gener	ate the Correlation
Calibrated by	:	_	Approved by:		
	eal Officer (Wong Shing Kwai)	<u> </u>		et Manager (Henry	

# **CINOTECH CONSULTANTS LIMITED**



# **Certificate of Calibration**

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler
---------------------------------------------------------------------------------------------------------------------

Description:	Digital Dust I	ndicator		Date	of Calibration	1-Jun-21
Manufacturer:	Sibata Scienti	fic Technology LTD.	<u>_</u>	Validity of Calib	ration Record	1-Aug-21
Model No.:	LD-5R					
Serial No.:	972781					
Equipment No.:	SA-01-10		Sensitivity	0.001 mg/m3	_	
High Volume Sa	mpler No.:	A-01-03	Before Sensit	ivity Adjustment	734 CPM	
Tisch Calibration	n Orifice No.:	3864	After Sensitiv	rity Adjustment	734 CPM	
		Ca	libration of 1 l	nr TSP		
Calibration		Laser Dust Monitor	r		HVS	
Point	M	[ass Concentration (μg/ <b>X-axis</b>	<sup>7</sup> m3)	Ma	ss concentration (µ <b>Y-axis</b>	$g/m^3$ )
1		69.0			146.0	
2		60.0			139.0	
3		48.0			130.0	
Average		59.0			138.3	
Slope , mw = Correlation co	0.76 pefficient* =	0.9999		cept, bw = -	93.4189	
		Se	et Correlation 1	Factor		
Particaulate Con	centration by I	High Volume Sampler	$(\mu g/m^3)$		138.3	
Particaulate Con	centration by I	Oust Meter (μg/m <sup>3</sup> )			59.0	
Measureing time	e, (min)				60.0	
Set Correlation l						
SCF = [ K=Hig	h Volume San	npler / Dust Meter, (μ	g/m3) ]	2.3		
The Dust Monito Factor (CF) betv	or was compare veen the Dust N	o the instruction manused with a calibrated Hig Monitor and High Volu ted by HOKLAS labo	gh Volume Sam ıme Sampler.		was used to gener	ate the Correlation
Calibrated by:			_	Approved by:		
		ng Shing Kwai)			et Manager (Henry	



RECALIBRATION
DUE DATE:

January 11, 2022

# Certificate of Calibration

**Calibration Certification Information** 

Cal. Date: January 11, 2021

Rootsmeter S/N: 438320

°K

Operator: Jim Tisch

Ta: 297
Pa: 750.1

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 3864

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4470	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9140	8.0	5.00
4	, 7	8	1	0.8670	8.8	5.50
5	9	10	1	0.7140	12.9	8.00

	Data Tabulation						
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	$\sqrt{\Delta H (Ta/Pa)}$		
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)		
0.9860	0.6814	1.4073	0.9957	0.6881	0.8899		
0.9818	0.9616	1.9902	0.9915	0.9711	1.2585		
0.9797	1.0719	2.2251	0.9893	1.0824	1.4071		
0.9786	1.1288	2.3337	0.9883	1.1399	1.4757		
0.9732	1.3630	2.8146	0.9828	1.3765	1.7798		
	m=	2.06566		m=	1.29348		
QSTD	b=	0.00315	QA	b=	0.00199		
	r=	0.99996		r=	0.99996		

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

Standard Conditions					
Tstd:	298.15 °K				
Pstd:	760 mm Hg				
	Key				
ΔH: calibrator manometer reading (in H2O)					
ΔP: rootsmeter manometer reading (mm Hg)					
Ta: actual absolute temperature (°K)					
Pa: actual barometric pressure (mm Hg)					
b: intercept					
m: slope					

#### RECALIBRATION

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

FAX: (513)467-9009

www.tisch-env.com

APPENDIX B-2 COPIES OF CALIBRATION CERTIFCATES (NOISE)



# **Calibration Certificate**

0025914

Object 1: SVAN957 SLM Customer: Cinotech Consultants Limited Serial No. /Ref. No. : 23851 / N-08-12 RM 1710, Technology Park, Object 2: Microphone Serial No. /Ref. No. : 18 On Lai Street, Shatin, N.T. 43676 Hong Kong Customer Code: Manufacturer: SVEC09005 Svantek 0025914 Date of calibration: 22/01/2021 Certificate No.: Date of the recommended re-calibration: 22/01/2022 Handle by: E0002

**Measuring results** 

	Reference value	Indication value	Deviation	Allowed deviation	Object
	94.0dB	93.6dB	-0.4dB	+/- 1.5dB	1
ſ	114.0dB	113.5dB	-0.5dB	+/- 1.5dB	1

#### Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

#### **Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

#### Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

#### **Uncertainty**

+/- 0.2 dB for probability not less than 95%.

#### **Conformity**

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)	within	the allowable deviation.
-------------------	--------	--------------------------

Performed by

Approved by

Calibration Technician

Quality Manager

Appleone Calibration Laboratory Ltd.

Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR

Tel: +852 2370 4437 Fax: +852 2114 0393



Equipment no.: N-12-01

# **Calibration Certificate**

0024993

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code:

SVEC09005

Date of calibration:

Date of the recommended re-calibration:

Object 1:

BSWA 308 SLM

Serial No. /Ref. No. :

570183 / 550233

Object 2:

Serial No. /Ref. No. :

Manufacturer:

BSWAtech

Certificate No.:

Handle by:

0024993 E0002

Measuring results

Reference	value	Indication value	Deviation	Allowed deviation	Object
94.0	dB	93.4dB	-0.6dB	+/- 1.5dB	1
114.0	)dB	113.2dB	-0.8dB	+/- 1.5dB	1

07/10/2020

07/10/2021

#### **Measuring equipment**

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

#### **Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

#### Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

#### **Uncertainty**

+/- 0.2 dB for probability not less than 95%.

#### Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)

within

the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Mr. K.S. N

Quality Manager

Appleone Calibration Laboratory Ltd.

Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR

Tel: +852 2370 4437 Fax: +852 2114 0393



Equipment no.: N-12-02

# **Calibration Certificate**

0024995

Customer: Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Object 1: Serial No. /Ref. No. :

BSWA 308 SLM 570187 / 550841

Object 2:

Serial No. /Ref. No.

Hong Kong

SVEC09005

Manufacturer:

**BSWAtech** 

Customer Code Date of calibration:

07/10/2020

Certificate No.:

0024995

Date of the recommended re-calibration:

07/10/2021

Handle by:

E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.1dB	-0.9dB	+/- 1.5dB	1
114.0dB	113.1dB	-0.9dB	+/- 1.5dB	1

#### Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

## **Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

#### Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

#### Uncertainty

+/- 0.2dB for probability not less than 95%.

#### Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)

the allowable deviation.

Performed by

Mr. K.L. Ng

Approved by

Mr. K.S. Na

Calibration Technician

Quality Manager



Equipment no.: N-13-01

# **Calibration Certificate**

0025247

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code:

Date of calibration:

SVEC09005

V EC09005

Date of the recommended re-calibration:

Object 1:

ST-120 sound calibrator

Serial No. /Ref. No.: 181001608

Object 2 :

Serial No. /Ref. No. :

Manufacturer :

Soundtek

Certificate No.:

0025247

Handle by:

E0002

#### Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

05/11/2020

05/11/2021

#### Measuring equipment

index		Calibrator / Master Traceability		
	1	Master Sound Meter, SVAN949,sn:8571	IEC61672	
	2	Sound Calibrator, SV30A sn:32580	IEC60942	

#### **Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

#### Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

#### Uncertainty

+/- 0.2 dB for probability not less than 95%.

#### Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)

within

the allowable deviation.

Performed by

Mr. K.L. Ng

Approved by

Quality Manager

Calibration Technician



Equipment no.: N-13-02

# **Calibration Certificate**

0025249

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code: SVEC09005

Date of calibration:

Date of the recommended re-calibration:

Object 1:

ST-120 sound calibrator

Serial No. /Ref. No. :

Object 2:

Serial No. /Ref. No.

Manufacturer:

Soundtek

Certificate No.:

Handle by:

0025249 E0002

181001636

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

05/11/2020

05/11/2021

#### Measuring equipment

index		Calibrator / Master Traceability		
	1	Master Sound Meter, SVAN949,sn:8571	IEC61672	
	2	Sound Calibrator, SV30A sn:32580	IEC60942	

## **Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

#### Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source ..

#### Uncertainty

+/- 0.2 dB for probability not less than 95%.

#### Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s) within

the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

**Quality Manager** 

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR

Tel: +852 2370 4437 Fax: +852 2114 0393

## APPENDIX C WEATHER INFORMATION

June 2021

		June 2021		
Day	Mean Pressure (hPa)	Air Temperature	Mean Relative Humidity (%)	Total Rainfall (mm)
		Mean (deg. C)		
1	1006.6	26.5	91	45.8
2	1006.9	28.3	85	2.4
3	1006.3	30.3	77	0
4	1004.7	28.4	84	7.5
5	1004.3	27.3	73	Trace
6	1004.6	28.2	74	Trace
7	1007.3	28.7	78	Trace
8	1008	29.3	79	0.9
9	1007.2	27.9	87	48.6
10	1005.6	28.8	83	29.4
11	1005.4	29.1	82	31.2
12	1007.5	27.7	89	30.3
13	1008.5	28.9	85	2.8
14	1006.1	29.3	81	0.3
15	1004.4	29.6	79	6.2
16	1006.3	30.6	76	0
17	1007.7	30.4	77	9.6
18	1006.9	30.6	77	3.9
19	1004.8	30.6	77	Trace
20	1003	30.7	78	0
21	1003.1	30.4	80	1.2
22	1005.1	27	87	75.3
23	1005.9	26.4	88	66.4
24	1006	26	91	20.8
25	1006.3	27.1	87	6.8
26	1007.2	27.9	90	61.3
27	1006.4	29.4	84	5.8
28	1005.2	27.7	89	166.5
29	1005.2	29.6	82	4.6
30	1006.1	30.1	79	0.4

June 2021						
Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction			
01-Jun-21	00:00	ENE	0.1			
01-Jun-21	01:00	ENE	0.1			
01-Jun-21	02:00	SW	0.1			
01-Jun-21	03:00	E	0.1			
01-Jun-21	04:00	ESE	0.1			
01-Jun-21	05:00	NE	0.1			
01-Jun-21	06:00	SW	0.1			
01-Jun-21	07:00	SW	0.1			
01-Jun-21	08:00	WSW	0.1			
01-Jun-21	09:00	W	0.1			
01-Jun-21	10:00	SSW	0.1			
01-Jun-21	11:00	WSW	0.1			
01-Jun-21	12:00	SSW	0.1			
01-Jun-21	13:00	SSE	0.1			
01-Jun-21	14:00	SSW	0.1			
01-Jun-21	15:00	SSE	0.1			
01-Jun-21	16:00	ENE	0.1			
01-Jun-21	17:00	Е	0.2			
01-Jun-21	18:00	ENE	0.2			
01-Jun-21	19:00	ENE	0.2			
01-Jun-21	20:00	ENE	0.1			
01-Jun-21	21:00	Е	0.1			
01-Jun-21	22:00	NE	0.1			
01-Jun-21	23:00	SSW	0.1			
02-Jun-21	00:00	NW	0.1			
02-Jun-21	01:00	<u>NE</u>	0.1			
02-Jun-21	02:00	E	0.2			
02-Jun-21	03:00	ENE	0.1			
02-Jun-21	04:00	WNW	0.1			
02-Jun-21	05:00	SSW	0.1			
02-Jun-21	06:00	NE ENE	0.1			
02-Jun-21	07:00	ENE	0.1			
02-Jun-21	08:00	E	0.1			
02-Jun-21	09:00	WSW ENE	0.2			
02-Jun-21	10:00	WSW	0.2			
02-Jun-21 02-Jun-21	11:00 12:00	WSW	1.2			
02-Jun-21 02-Jun-21	13:00	W SW	1.5			
02-Jun-21 02-Jun-21	14:00 15:00	WNW	1.9 0.5			
02-Jun-21 02-Jun-21	16:00	WNW	1			
02-Jun-21 02-Jun-21	17:00	WSW	0.6			
02-Jun-21 02-Jun-21	18:00	ESE	0.0			
02-Jun-21 02-Jun-21	19:00	ESE	0.1			
02-Jun-21 02-Jun-21	20:00	ENE	0.1			
02-Jun-21	21:00	SW	0.1			
02-Jun-21	22:00	SW	0.1			
02-Jun-21	23:00	ESE	0.1			
02 Jun-21	23.00	LDL	0.1			

June 2021						
Table	Table II: Wind Speed and Directions					
Date	Time	Wind Speed m/s	Direction			
03-Jun-21	00:00	W	0.1			
03-Jun-21	01:00	ENE	0.1			
03-Jun-21	02:00	NNE	0.1			
03-Jun-21	03:00	ENE	0.1			
03-Jun-21	04:00	W	0.1			
03-Jun-21	05:00	WSW	0.1			
03-Jun-21	06:00	ENE	0.1			
03-Jun-21	07:00	ENE	0.1			
03-Jun-21	08:00	WSW	0.7			
03-Jun-21	09:00	W	0.3			
03-Jun-21	10:00	WSW	1.8			
03-Jun-21	11:00	W	0.7			
03-Jun-21	12:00	W	2.5			
03-Jun-21	13:00	WSW	2.6			
03-Jun-21	14:00	WSW	3.6			
03-Jun-21	15:00	W	1.7			
03-Jun-21	16:00	WNW	1.9			
03-Jun-21	17:00	W	1.3			
03-Jun-21	18:00	WSW	0.4			
03-Jun-21	19:00	SSW	0.1			
03-Jun-21	20:00	S	0.1			
03-Jun-21	21:00	WSW	0.2			
03-Jun-21	22:00	W	0.1			
03-Jun-21	23:00	WSW	0.1			
04-Jun-21	00:00	WSW	1.3			
04-Jun-21	01:00	WSW	0.1			
04-Jun-21	02:00	WNW	0.3			
04-Jun-21	03:00	W	0.1			
04-Jun-21	04:00	SSW	0.1			
04-Jun-21	05:00	NE	0.1			
04-Jun-21	06:00	WSW	0.1			
04-Jun-21	07:00	WSW	0.1			
04-Jun-21	08:00	SSW	0.1			
04-Jun-21	09:00	W	0.3			
04-Jun-21	10:00	SSW	0.2			
04-Jun-21	11:00	W	0.3			
04-Jun-21	12:00	WSW	0.2 2.8			
04-Jun-21	13:00	WSW	2.8			
04-Jun-21	14:00	NW	1.4			
04-Jun-21	15:00	WSW	0.8			
04-Jun-21	16:00	SSW	0.7			
04-Jun-21	17:00	SW	3.2			
04-Jun-21	18:00	SSW	0.7			
04-Jun-21	19:00	W	0.1			
04-Jun-21	20:00	SSE	0.2			
04-Jun-21	21:00	W	0.1			
04-Jun-21	22:00	WSW	0.8			
04-Jun-21	23:00	WSW	0.2			

June 2021							
Т	Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction				
05-Jun-21	00:00	SW	0.1				
05-Jun-21	01:00	SW	0.1				
05-Jun-21	02:00	SW	0.2				
05-Jun-21	03:00	SW	0.1				
05-Jun-21	04:00	NW	0.1				
05-Jun-21	05:00	SW	0.1				
05-Jun-21	06:00	SSW	0.1				
05-Jun-21	07:00	WSW	0.1				
05-Jun-21	08:00	S	0.2				
05-Jun-21	09:00	WSW	0.5				
05-Jun-21	10:00	WSW	1.1				
05-Jun-21	11:00	W	1.6				
05-Jun-21	12:00	WSW	0.9				
05-Jun-21	13:00	SSW	1.1				
05-Jun-21	14:00	WSW	2.4				
05-Jun-21	15:00	WSW	4.4				
05-Jun-21	16:00	S	4.1				
05-Jun-21	17:00	WSW	3.2				
05-Jun-21	18:00	SSW	0.3				
05-Jun-21	19:00	S	0.8				
05-Jun-21	20:00	S	0.6				
05-Jun-21	21:00	SSW	0.1				
05-Jun-21	22:00	SW	0.1				
05-Jun-21	23:00	SW	0.1				
06-Jun-21	00:00	S	0.1				
06-Jun-21	01:00	S	0.1				
06-Jun-21	02:00	SSW	0.1				
06-Jun-21	03:00	Е	0.1				
06-Jun-21	04:00	NE	0.1				
06-Jun-21	05:00	ESE	0.1				
06-Jun-21	06:00	Е	0.1				
06-Jun-21	07:00	NE	0.1				
06-Jun-21	08:00	W	0.1				
06-Jun-21	09:00	SSW	1.3				
06-Jun-21	10:00	SW	3.2				
06-Jun-21	11:00	SSW	3.1				
06-Jun-21	12:00	S	1.1				
06-Jun-21	13:00	WSW	0.5				
06-Jun-21	14:00	SW	1.4				
06-Jun-21	15:00	SW	1.7				
06-Jun-21	16:00	S	1 1 0				
06-Jun-21	17:00	SSW	1.8				
06-Jun-21	18:00	SSW	1.2				
06-Jun-21	19:00	SW	0.1				
06-Jun-21	20:00	SSW	0.1				
06-Jun-21	21:00	S	0.1				
06-Jun-21	22:00	SSW	0.6				
06-Jun-21	23:00	SSE	0.2				

June 2021				
Table	e II: Wind S	Speed and Directions	S	
Date	Time	Wind Speed m/s	Direction	
07-Jun-21	00:00	SSW	0.3	
07-Jun-21	01:00	S	0.2	
07-Jun-21	02:00	SW	0.1	
07-Jun-21	03:00	SW	0.1	
07-Jun-21	04:00	SW	1.1	
07-Jun-21	05:00	Е	0.2	
07-Jun-21	06:00	NE	0.1	
07-Jun-21	07:00	SSW	0.1	
07-Jun-21	08:00	SSW	0.1	
07-Jun-21	09:00	SSE	0.7	
07-Jun-21	10:00	S	0.5	
07-Jun-21	11:00	SW	2	
07-Jun-21	12:00	WSW	0.7	
07-Jun-21	13:00	S	0.8	
07-Jun-21	14:00	WSW	2.1	
07-Jun-21	15:00	SSW	0.8	
07-Jun-21	16:00	SSW	0.1	
07-Jun-21	17:00	S	0.5	
07-Jun-21	18:00	SW	1	
07-Jun-21	19:00	SSE	0.3	
07-Jun-21	20:00	SSW	0.2	
07-Jun-21	21:00	SW	0.4	
07-Jun-21	22:00	SW	0.1	
07-Jun-21	23:00	SSW	0.2	
08-Jun-21	00:00	WSW	0.2	
08-Jun-21	01:00	SW	0.2 0.3	
08-Jun-21	02:00	SW	0.3	
08-Jun-21	03:00	WSW	0.2	
08-Jun-21	04:00	SSW	0.6	
08-Jun-21	05:00	S	0.4	
08-Jun-21	06:00	SW	0.6	
08-Jun-21	07:00	SW	0.4	
08-Jun-21	08:00	SW	1.4	
08-Jun-21	09:00	SW	0.1	
08-Jun-21	10:00	SSW	0.9	
08-Jun-21	11:00	SSW	2.2	
08-Jun-21	12:00	SSW	2.2	
08-Jun-21	13:00	WSW	1.2 1.7	
08-Jun-21	14:00	S SW		
08-Jun-21	15:00		2.1	
08-Jun-21	16:00	SW	2.8	
08-Jun-21	17:00	WSW	0.6	
08-Jun-21	18:00	S SSW	0.2	
08-Jun-21 08-Jun-21	19:00	SW	0.8	
08-Jun-21 08-Jun-21	20:00	SW	0.3	
08-Jun-21		SSW	0.2	
08-Jun-21	22:00	SSW		
00-juii-21	23:00	N GG	0.1	

June 2021						
Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction			
09-Jun-21	00:00	WSW	0.1			
09-Jun-21	01:00	SSW	0.1			
09-Jun-21	02:00	SW	0.1			
09-Jun-21	03:00	SW	0.1			
09-Jun-21	04:00	S	0.1			
09-Jun-21	05:00	S	0.1			
09-Jun-21	06:00	SW	0.1			
09-Jun-21	07:00	S	0.1			
09-Jun-21	08:00	SW	0.2			
09-Jun-21	09:00	W	0.5			
09-Jun-21	10:00	WSW	0.7			
09-Jun-21	11:00	WSW	0.1			
09-Jun-21	12:00	WSW	0.1			
09-Jun-21	13:00	SW	2.5			
09-Jun-21	14:00	SSW	1.5			
09-Jun-21	15:00	SW	2.3			
09-Jun-21	16:00	SSW	1.1			
09-Jun-21	17:00	SW	2.2			
09-Jun-21	18:00	SW	0.9			
09-Jun-21	19:00	SSW	0.1			
09-Jun-21	20:00	S	0.2			
09-Jun-21	21:00	SW	0.1			
09-Jun-21	22:00	SSW	0.1			
09-Jun-21	23:00	SSW	0.1			
10-Jun-21	00:00	SSW	0.1			
10-Jun-21	01:00	SSW	0.1			
10-Jun-21	02:00	N	0.1			
10-Jun-21	03:00	SSW	0.1			
10-Jun-21	04:00	SSW	0.4			
10-Jun-21	05:00	SSW	0.1			
10-Jun-21	06:00	WNW	0.1			
10-Jun-21	07:00	NE	0.1			
10-Jun-21	08:00	SW	0.3			
10-Jun-21	09:00	WSW	0.9			
10-Jun-21	10:00	W	0.6			
10-Jun-21	11:00	WNW	1.7			
10-Jun-21	12:00	WSW	2.1			
10-Jun-21	13:00	NW	1.1			
10-Jun-21	14:00	WNW	1.7			
10-Jun-21	15:00	E	0.2			
10-Jun-21	16:00	NE SE	1			
10-Jun-21	17:00	SE	0.1			
10-Jun-21	18:00	SSW	0.1			
10-Jun-21	19:00	SSW	0.1			
10-Jun-21	20:00	E	0.1			
10-Jun-21	21:00	ENE	0.2			
10-Jun-21	22:00	SW	0.2			
10-Jun-21	23:00	NE	0.2			

June 2021					
Table II: Wind Speed and Directions					
Date	Time	Wind Speed m/s	Direction		
11-Jun-21	00:00	NNE	0.1		
11-Jun-21	01:00	W	0.1		
11-Jun-21	02:00	SSW	0.1		
11-Jun-21	03:00	WSW	0.1		
11-Jun-21	04:00	N	0.1		
11-Jun-21	05:00	NE	0.1		
11-Jun-21	06:00	NNE	0.1		
11-Jun-21	07:00	SSW	0.1		
11-Jun-21	08:00	WSW	0.1		
11-Jun-21	09:00	N	0.1		
11-Jun-21	10:00	W	0.2		
11-Jun-21	11:00	NNW	0.2		
11-Jun-21	12:00	W	0.7		
11-Jun-21	13:00	Е	0.1		
11-Jun-21	14:00	ENE	0.1		
11-Jun-21	15:00	ENE	0.2		
11-Jun-21	16:00	ESE	0.1		
11-Jun-21	17:00	SSW	0.1		
11-Jun-21	18:00	ESE	0.1		
11-Jun-21	19:00	ENE	0.1		
11-Jun-21	20:00	ENE	0.1		
11-Jun-21	21:00	NW	8.2		
11-Jun-21	22:00	WSW	0.2		
11-Jun-21	23:00	ENE	0.2		
12-Jun-21	00:00	ESE	0.1		
12-Jun-21	01:00	WSW	0.1		
12-Jun-21	02:00	SW	0.1		
12-Jun-21	03:00	SSW	0.1		
12-Jun-21	04:00	SW	0.1		
12-Jun-21	05:00	WSW	0.1		
12-Jun-21	06:00	WSW	0.1		
12-Jun-21	07:00	ENE	0.4		
12-Jun-21	08:00	SSE	0.4		
12-Jun-21	09:00	ENE	0.2		
12-Jun-21	10:00	NE NNE	0.3		
12-Jun-21	11:00	NNE	0.5		
12-Jun-21	12:00	ENE	0.5		
12-Jun-21	13:00	NNW	0.2		
12-Jun-21	14:00	NNE	0.1		
12-Jun-21	15:00	ENE	0.2		
12-Jun-21	16:00	E	0.1		
12-Jun-21	17:00	SE SW	0.1		
12-Jun-21	18:00		0.1		
12-Jun-21 12-Jun-21	19:00	WSW W	0.1		
12-Jun-21 12-Jun-21	20:00	N N	0.1		
12-Jun-21	22:00	WSW	0.1		
12-Jun-21	23:00	SW	0.1		
1 2-Juli-2 1	45.00	D VV	0.1		

	June 2021					
Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction			
13-Jun-21	00:00	SW	0.1			
13-Jun-21	01:00	SW	0.1			
13-Jun-21	02:00	NNE	0.1			
13-Jun-21	03:00	NNE	0.1			
13-Jun-21	04:00	SW	0.1			
13-Jun-21	05:00	WNW	0.1			
13-Jun-21	06:00	ENE	0.1			
13-Jun-21	07:00	SSE	0.3			
13-Jun-21	08:00	ENE	0.1			
13-Jun-21	09:00	SE	0.1			
13-Jun-21	10:00	S	0.7			
13-Jun-21	11:00	ESE	0.3			
13-Jun-21	12:00	ESE	0.1			
13-Jun-21	13:00	ESE	0.1			
13-Jun-21	14:00	ESE	0.3			
13-Jun-21	15:00	E	0.5			
13-Jun-21	16:00	Е	0.4			
13-Jun-21	17:00	Е	0.3			
13-Jun-21	18:00	ESE	0.1			
13-Jun-21	19:00	ESE	0.2			
13-Jun-21	20:00	SSE	0.1			
13-Jun-21	21:00	SE	1.9			
13-Jun-21	22:00	Е	0.1			
13-Jun-21	23:00	ENE	0.1			
14-Jun-21	00:00	ENE	0.1			
14-Jun-21	01:00	ENE	0.1			
14-Jun-21	02:00	ESE	0.1			
14-Jun-21	03:00	ESE	0.1			
14-Jun-21	04:00	E	0.1			
14-Jun-21	05:00	Е	0.1			
14-Jun-21	06:00	SSE	0.1			
14-Jun-21	07:00	SE	0.1			
14-Jun-21	08:00	ESE	0.1			
14-Jun-21	09:00	NE ENE	0.1			
14-Jun-21	10:00	ENE	0.1			
14-Jun-21	11:00	ENE	0.1			
14-Jun-21	12:00	ENE	0.1			
14-Jun-21	13:00	E	0.2			
14-Jun-21	14:00	SSW	1.2			
14-Jun-21	15:00	SSW E	0.2			
14-Jun-21 14-Jun-21	16:00 17:00	E E	0.1			
14-Jun-21	18:00	ENE	0.1			
14-Jun-21 14-Jun-21	19:00	ESE	0.1			
14-Jun-21	20:00	ESE	0.1			
14-Jun-21	21:00	ESE	0.1			
14-Jun-21	22:00	ESE	0.1			
14-Jun-21	23:00	ENE	0.1			
17-Juii-21	23.00	LIL	0.1			

June 2021				
Table	e II: Wind S	Speed and Directions	3	
Date	Time	Wind Speed m/s	Direction	
15-Jun-21	00:00	ENE	0.1	
15-Jun-21	01:00	Е	0.1	
15-Jun-21	02:00	ENE	0.1	
15-Jun-21	03:00	ENE	0.2	
15-Jun-21	04:00	ESE	0.2	
15-Jun-21	05:00	ENE	0.2 0.1	
15-Jun-21	06:00	ENE	0.1	
15-Jun-21	07:00	ESE	0.1	
15-Jun-21	08:00	Е	0.1	
15-Jun-21	09:00	S	0.3	
15-Jun-21	10:00	SSE	0.2	
15-Jun-21	11:00	SE	0.7	
15-Jun-21	12:00	SSE	0.1	
15-Jun-21	13:00	ESE	0.1	
15-Jun-21	14:00	ENE	0.1	
15-Jun-21	15:00	SE	0.4	
15-Jun-21	16:00	NE	0.8	
15-Jun-21	17:00	SSE	0.3	
15-Jun-21	18:00	Е	0.2	
15-Jun-21	19:00	ESE	0.2	
15-Jun-21	20:00	ENE	0.2	
15-Jun-21	21:00	SE	0.1	
15-Jun-21	22:00	Е	0.1	
15-Jun-21	23:00	ENE	0.2	
16-Jun-21	00:00	ENE	0.3	
16-Jun-21	01:00	NE	0.2	
16-Jun-21	02:00	ENE	0.1	
16-Jun-21	03:00	SE	0.1	
16-Jun-21	04:00	E	0.1	
16-Jun-21	05:00	N	0.1	
16-Jun-21	06:00	N	0.1	
16-Jun-21	07:00	WSW	0.1	
16-Jun-21	08:00	N	0.1	
16-Jun-21	09:00	ENE	0.1	
16-Jun-21	10:00	SW	0.1	
16-Jun-21	11:00	NW	0.1	
16-Jun-21	12:00	SSE	0.1	
16-Jun-21	13:00	ESE	0.1	
16-Jun-21	14:00	SE	0.2	
16-Jun-21	15:00	NE ENE	0.1	
16-Jun-21	16:00	ENE	0.1	
16-Jun-21	17:00	SSW	0.7	
16-Jun-21	18:00	E ENE	0.1	
16-Jun-21	19:00 20:00	ENE ENE	0.2 0.1	
16-Jun-21 16-Jun-21		SE	0.1	
16-Jun-21 16-Jun-21	21:00 22:00	E E	0.1	
16-Jun-21	23:00	Е	0.1	

June 2021						
Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction			
17-Jun-21	00:00	E	0.1			
17-Jun-21	01:00	W	0.1			
17-Jun-21	02:00	ENE	0.1			
17-Jun-21	03:00	N	0.1			
17-Jun-21	04:00	ENE	0.1			
17-Jun-21	05:00	W	0.2			
17-Jun-21	06:00	E	0.2			
17-Jun-21	07:00	SW	0.2			
17-Jun-21	08:00	NNW	0.2			
17-Jun-21	09:00	W	0.1			
17-Jun-21	10:00	W	0.1			
17-Jun-21	11:00	WSW	0.7			
17-Jun-21	12:00	W	1.1			
17-Jun-21	13:00	W	0.4			
17-Jun-21	14:00	WNW	0.7			
17-Jun-21	15:00	WNW	1.9			
17-Jun-21	16:00	W	2.7			
17-Jun-21	17:00	SW	0.8			
17-Jun-21	18:00	SW	2.1			
17-Jun-21	19:00	WSW	0.3			
17-Jun-21	20:00	SW	0.2			
17-Jun-21	21:00	W	0.1			
17-Jun-21	22:00	SSW	0.2			
17-Jun-21	23:00	WSW	0.2			
18-Jun-21	00:00	WSW	0.2			
18-Jun-21	01:00	SSW	0.1			
18-Jun-21	02:00	WSW	0.2			
18-Jun-21	03:00	SSW	0.1			
18-Jun-21	04:00	WSW	0.1			
18-Jun-21	05:00	SW	0.1			
18-Jun-21	06:00	NW	0.1			
18-Jun-21	07:00	ENE	0.1			
18-Jun-21	08:00	SSW	0.2			
18-Jun-21	09:00	NE	0.1			
18-Jun-21	10:00	WNW	0.1			
18-Jun-21	11:00	SW	0.4			
18-Jun-21	12:00	W	0.3			
18-Jun-21	13:00	WSW	0.9			
18-Jun-21	14:00	WSW	0.9			
18-Jun-21	15:00	WNW	1.2			
18-Jun-21	16:00	W	1.5			
18-Jun-21	17:00	WSW	0.2			
18-Jun-21	18:00	SSE SSW	0.1			
18-Jun-21	19:00		0.4			
18-Jun-21	20:00	ENE	0.1			
18-Jun-21	21:00	WSW SE	0.1			
18-Jun-21 18-Jun-21	22:00 23:00	SE SW	0.2			
10-JUII-21	23.00	S W	0.2			

June 2021				
Tabl	e II: Wind S	Speed and Directions	S	
Date	Time	Wind Speed m/s	Direction	
19-Jun-21	00:00	WSW	0.2	
19-Jun-21	01:00	E	0.1	
19-Jun-21	02:00	Е	0.1	
19-Jun-21	03:00	N	0.1	
19-Jun-21	04:00	ENE	0.1	
19-Jun-21	05:00	ENE	0.1	
19-Jun-21	06:00	ENE	0.2	
19-Jun-21	07:00	NNE	0.2	
19-Jun-21	08:00	E	0.1	
19-Jun-21	09:00	E	0.2	
19-Jun-21	10:00	SW	0.1	
19-Jun-21	11:00	Е	0.2	
19-Jun-21	12:00	NE	0.1	
19-Jun-21	13:00	SW	0.6	
19-Jun-21	14:00	SE	0.2	
19-Jun-21	15:00	SSE	0.4	
19-Jun-21	16:00	Е	0.2 0.3	
19-Jun-21	17:00	NE	0.3	
19-Jun-21	18:00	ENE	0.3	
19-Jun-21	19:00	ESE	0.2	
19-Jun-21	20:00	Е	0.2 0.2	
19-Jun-21	21:00	ENE	0.2	
19-Jun-21	22:00	ENE	0.2	
19-Jun-21	23:00	ENE	0.1	
20-Jun-21	00:00	ENE	0.1	
20-Jun-21	01:00	E	0.1	
20-Jun-21	02:00	E	0.1	
20-Jun-21	03:00	NE	0.1	
20-Jun-21	04:00	ESE	0.1	
20-Jun-21	05:00	ENE	0.1	
20-Jun-21	06:00	E	0.1	
20-Jun-21	07:00	ENE	0.1	
20-Jun-21	08:00	Ege	0.1	
20-Jun-21	09:00	ESE E	0.1	
20-Jun-21 20-Jun-21	10:00 11:00	SSW	0.3	
20-Jun-21 20-Jun-21	12:00	SSE	0.2	
		Г		
20-Jun-21 20-Jun-21	13:00 14:00	ESE	0.2	
20-Jun-21	15:00	ESE	0.0	
20-Jun-21	16:00	ESE	0.7	
20-Jun-21	17:00	ESE	0.2	
20-Jun-21	18:00	ENE	0.3	
20-Jun-21	19:00	SSE	0.1	
20-Jun-21	20:00	ESE	0.2	
20-Jun-21	21:00	ENE	0.1	
20-Jun-21	22:00	ESE	0.1	
20-Jun-21	23:00	ENE	0.1	
		,		

June 2021						
Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction			
21-Jun-21	00:00	E	0.2			
21-Jun-21	01:00	ENE				
21-Jun-21	02:00	ENE	0.2			
21-Jun-21	03:00	SW	0.3			
21-Jun-21	04:00	SE	0.3			
21-Jun-21	05:00	NE	0.3			
21-Jun-21	06:00	ENE	0.3			
21-Jun-21	07:00	E	0.3			
21-Jun-21	08:00	E	0.5			
21-Jun-21	09:00	SE	0.6			
21-Jun-21	10:00	SE	0.5			
21-Jun-21	11:00	SE	0.3			
21-Jun-21	12:00	ESE	0.6			
21-Jun-21	13:00	ESE	0.5			
21-Jun-21	14:00	Е	0.5			
21-Jun-21	15:00	Е	0.5			
21-Jun-21	16:00	Е	0.5			
21-Jun-21	17:00	Е	0.4			
21-Jun-21	18:00	SSE	0.4			
21-Jun-21	19:00	NE	0.3			
21-Jun-21	20:00	Е	0.7			
21-Jun-21	21:00	ENE	0.3			
21-Jun-21	22:00	ESE	0.4			
21-Jun-21	23:00	SSW	0.4			
22-Jun-21	00:00	SSW	0.4			
22-Jun-21	01:00	SSW	0.4			
22-Jun-21	02:00	NW	0.4			
22-Jun-21	03:00	S	0.4			
22-Jun-21	04:00	W	0.4			
22-Jun-21	05:00	WSW	0.5			
22-Jun-21	06:00	W	0.5			
22-Jun-21	07:00	W	0.5			
22-Jun-21	08:00	WSW W	0.8			
22-Jun-21	09:00	WSW	2.2			
22-Jun-21 22-Jun-21	10:00 11:00	WSW	2.6 9.7			
22-Jun-21 22-Jun-21	12:00	WNW	3			
22-Jun-21	13:00	W	2.6			
22-Jun-21	14:00	SW	0.9			
22-Jun-21	15:00	W	0.9			
22-Jun-21	16:00	S	0.5			
22-Jun-21	17:00	WSW	0.6			
22-Jun-21	18:00	SSW	0.6			
22-Jun-21	19:00	SW	0.5			
22-Jun-21	20:00	SW	0.4			
22-Jun-21	21:00	ENE	0.4			
22-Jun-21	22:00	NE	0.4			
22-Jun-21	23:00	ENE	0.5			

June 2021					
Table	e II: Wind S	Speed and Directions	3		
Date	Time	Wind Speed m/s	Direction		
23-Jun-21	00:00	Е	0.4		
23-Jun-21	01:00	ENE	0.5		
23-Jun-21	02:00	NE	0.6		
23-Jun-21	03:00	Е	0.5		
23-Jun-21	04:00	S	0.5		
23-Jun-21	05:00	Е	0.5		
23-Jun-21	06:00	ENE	0.5		
23-Jun-21	07:00	ESE	0.5		
23-Jun-21	08:00	NE	0.6		
23-Jun-21	09:00	Е	0.6		
23-Jun-21	10:00	Е	0.5		
23-Jun-21	11:00	ENE	0.6		
23-Jun-21	12:00	Е	0.8		
23-Jun-21	13:00	ESE	0.8		
23-Jun-21	14:00	ESE	0.5		
23-Jun-21	15:00	Е	0.5		
23-Jun-21	16:00	Е	0.6		
23-Jun-21	17:00	Е	0.7		
23-Jun-21	18:00	ENE	0.3		
23-Jun-21	19:00	SE	0.4		
23-Jun-21	20:00	Е	0.4		
23-Jun-21	21:00	Е	0.4		
23-Jun-21	22:00	Е	0.4		
23-Jun-21	23:00	NNE	0.3		
24-Jun-21	00:00	ESE	0.3		
24-Jun-21	01:00	ENE	0.3		
24-Jun-21	02:00	E	0.2		
24-Jun-21	03:00	E	0.2		
24-Jun-21	04:00	E	0.2		
24-Jun-21	05:00	ENE	0.2		
24-Jun-21	06:00	E	0.2		
24-Jun-21	07:00	ENE	0.2		
24-Jun-21	08:00	ENE	0.1		
24-Jun-21	09:00	SE	0.1		
24-Jun-21	10:00	SE	0.2		
24-Jun-21	11:00	NE E	0.3		
24-Jun-21	12:00	E E	0.4		
24-Jun-21	13:00	<u>Е</u> Е	0.4		
24-Jun-21	14:00		0.5 0.4		
24-Jun-21	15:00	SE ENE			
24-Jun-21	16:00	ENE SSE	0.5		
24-Jun-21	17:00	E SSE	0.4		
24-Jun-21 24-Jun-21	18:00 19:00	ESE	0.3		
24-Jun-21	20:00	ENE	0.3		
24-Jun-21	21:00	ENE	0.2		
24-Jun-21	22:00	E E	0.2		
24-Jun-21	23:00	ENE	0.2		
2-1 3 an 1-21	25.00	T1.1T	0.2		

June 2021						
Table II: Wind Speed and Directions						
Date	Time	Wind Speed m/s	Direction			
25-Jun-21	00:00	ESE	0.1			
25-Jun-21	01:00	ENE	0.1			
25-Jun-21	02:00	ENE	0.1			
25-Jun-21	03:00	E	0.1			
25-Jun-21	04:00	ENE	0.1			
25-Jun-21	05:00	NE	0.1			
25-Jun-21	06:00	ENE	0.1			
25-Jun-21	07:00	N	0.1			
25-Jun-21	08:00	SSE	0.1			
25-Jun-21	09:00	SE	0.1			
25-Jun-21	10:00	E	0.1			
25-Jun-21	11:00	SSE	0.1			
25-Jun-21	12:00	SW	0.2			
25-Jun-21	13:00	SW	0.2			
25-Jun-21	14:00	E	0.2			
25-Jun-21	15:00	ENE	0.3			
25-Jun-21	16:00	SSE	0.5			
25-Jun-21	17:00	NE	0.2			
25-Jun-21	18:00	ESE	0.3			
25-Jun-21	19:00	ESE	0.4			
25-Jun-21	20:00	SE	0.4			
25-Jun-21	21:00	Е	0.4			
25-Jun-21	22:00	Е	0.4			
25-Jun-21	23:00	Е	0.4			
26-Jun-21	00:00	ENE	0.4			
26-Jun-21	01:00	SE	0.4			
26-Jun-21	02:00	Е	0.4			
26-Jun-21	03:00	E	0.4			
26-Jun-21	04:00	ENE	0.3			
26-Jun-21	05:00	ENE	0.3			
26-Jun-21	06:00	ENE	0.3			
26-Jun-21	07:00	NNE	0.3			
26-Jun-21	08:00	SE	0.1			
26-Jun-21	09:00	E	0.2			
26-Jun-21	10:00	SSE	0.3			
26-Jun-21	11:00	W	0.2			
26-Jun-21	12:00	SW	2.5			
26-Jun-21	13:00	SW	0.5			
26-Jun-21	14:00	N	0.2			
26-Jun-21	15:00	SE	0.4			
26-Jun-21	16:00	ENE	0.6			
26-Jun-21	17:00	NE ENE	0.5			
26-Jun-21	18:00	ENE W	0.5 0.4			
26-Jun-21	19:00 20:00	SW	0.4			
26-Jun-21		SSW	0.3			
26-Jun-21 26-Jun-21	21:00 22:00	SS W 	0.3			
26-Jun-21	23:00	WSW	0.3			
∠0-Jun-∠1	23.00	VV O VV	0.5			

June 2021				
Tabl	e II: Wind S	Speed and Directions	3	
Date	Time	Wind Speed m/s	Direction	
27-Jun-21	00:00	SSW	0.3	
27-Jun-21	01:00	WSW	0.2	
27-Jun-21	02:00	SW	0.2	
27-Jun-21	03:00	SSE	0.2	
27-Jun-21	04:00	SW	0.2	
27-Jun-21	05:00	NW	0.2 0.2	
27-Jun-21	06:00	ESE	0.2	
27-Jun-21	07:00	ENE	0.2	
27-Jun-21	08:00	ESE	0.2	
27-Jun-21	09:00	NE	0.1	
27-Jun-21	10:00	SE	0.2	
27-Jun-21	11:00	ENE	0.3	
27-Jun-21	12:00	SE	0.3	
27-Jun-21	13:00	WNW	0.4	
27-Jun-21	14:00	SW	0.5	
27-Jun-21	15:00	WNW	1.1	
27-Jun-21	16:00	WSW	0.7	
27-Jun-21	17:00	ESE	0.4	
27-Jun-21	18:00	Е	0.3	
27-Jun-21	19:00	Е	0.4	
27-Jun-21	20:00	ENE	0.4	
27-Jun-21	21:00	Е	0.4	
27-Jun-21	22:00	ENE	0.4	
27-Jun-21	23:00	NNE	0.3	
28-Jun-21	00:00	NNE	0.3	
28-Jun-21	01:00	ENE	0.3	
28-Jun-21	02:00	NE	0.2	
28-Jun-21	03:00	ENE	0.2 0.2 0.2	
28-Jun-21	04:00	E	0.2	
28-Jun-21	05:00	E	0.2	
28-Jun-21	06:00	ENE	0.2	
28-Jun-21	07:00	NE E	0.2	
28-Jun-21	08:00	Egg	0.2	
28-Jun-21	09:00	ESE ENE	0.2	
28-Jun-21 28-Jun-21	10:00 11:00	ENE ENE	0.4	
	12:00	ENE E		
28-Jun-21		~~-	0.4	
28-Jun-21	13:00	SSE E	0.8	
28-Jun-21	14:00	W	0.5	
28-Jun-21 28-Jun-21	15:00 16:00	S	0.6	
28-Jun-21 28-Jun-21	17:00	<u>S</u> E	0.5	
28-Jun-21	18:00	E E	0.5	
28-Jun-21	19:00	E E	0.5	
28-Jun-21	20:00	E E	0.5	
28-Jun-21	21:00	ENE	0.5	
28-Jun-21	22:00	E	0.5	
28-Jun-21	23:00	ESE	0.4	
20 Jun-21	25.00	LUL	U.T	

June 2021						
Table II: Wind Speed and Directions						
	Time		Direction			
Date 21		Wind Speed m/s				
29-Jun-21	00:00	ESE	0.4			
29-Jun-21	01:00	ESE	0.3			
29-Jun-21	02:00	ENE	0.3			
29-Jun-21	03:00	ESE	0.2			
29-Jun-21	04:00	E	0.2			
29-Jun-21	05:00	ESE E	0.2 0.2			
29-Jun-21	06:00	SE	0.2			
29-Jun-21 29-Jun-21	07:00 08:00	SE SSE	0.2			
		SSE E	0.2			
29-Jun-21	09:00	E E	0.3			
29-Jun-21	10:00 11:00	SSE	0.3			
29-Jun-21	12:00	SSE E	0.4			
29-Jun-21 29-Jun-21	13:00	SSE	0.4			
29-Jun-21 29-Jun-21	14:00	SSW	0.6			
29-Jun-21	15:00	S	1			
29-Jun-21	16:00	ENE	0.4			
29-Jun-21	17:00	ENE	0.4			
29-Jun-21	18:00	SE	0.3			
29-Jun-21	19:00	SSE	0.3			
29-Jun-21	20:00	NE	0.2			
29-Jun-21	21:00	NE NE	0.2			
29-Jun-21	22:00	N	0.1			
29-Jun-21	23:00	N	0.1			
30-Jun-21	00:00	NE	0.1			
30-Jun-21	01:00	SE	0.1			
30-Jun-21	02:00	NE	0.1			
30-Jun-21	03:00	SSE	0.1			
30-Jun-21	04:00	SSW	0.2			
30-Jun-21	05:00	ESE	0.2			
30-Jun-21	06:00	NE	0.2			
30-Jun-21	07:00	SSE	0.3			
30-Jun-21	08:00	SSW	0.3			
30-Jun-21	09:00	S	0.3			
30-Jun-21	10:00	NW	0.3			
30-Jun-21	11:00	SW	0.3			
30-Jun-21	12:00	S	0.3			
30-Jun-21	13:00	Е	0.3			
30-Jun-21	14:00	ENE	0.2			
30-Jun-21	15:00	ESE	0.5			
30-Jun-21	16:00	NE	0.4			
30-Jun-21	17:00	ENE	0.4			
30-Jun-21	18:00	Е	0.4			
30-Jun-21	19:00	NE	0.4			
30-Jun-21	20:00	ENE	0.3			
30-Jun-21	21:00	Е	0.3			
30-Jun-21	22:00	N	0.3			
30-Jun-21	23:00	Е	0.3			

June 2021					
Table	Table II: Wind Speed and Directions				
Date Time Wind Speed m/s Direction					

## APPENDIX D ENVIRONMENTAL MONITORING SCHEDULES

#### Contract No. KLN/2016/04

#### **Environmental Monitoring Works for Contract No. KL/2015/02**

#### Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area Tentative Impact Air and Noise Monitoring Schedule for June 2021

31-May 1-hr TSP x 3 [AM2]	1-Jun	2-Jun	2.1		
1-hr TSP x 3 [AM2]		Z-Jun	3-Jun	4-Jun	5-Jun
Noise [M3(A), M4 &			24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2]	
M5(C)]					
7-Jun		9-Jun	10-Jun	11-Jun	12-Jun
	24-hr TSP [AM2(A)]	Noise [M3(A), M4 & M5(C)]			24-hr TSP [AM2(A)]
		1-hr TSP x 3 [AM2]			
14-Jun	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun
	1-hr TSP x 3 [AM2] Noise [M3(A), M4 &			24-hr TSP [AM2(A)]	
21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun
Noise [M3(A), M4 & M5(C)]					
28-Jun	29-Jun		1-Jul	2-Jul	3-Jul
	24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2] Noise [M3(A), M4 & M5(C)]			
	M5(C)] 7-Jun 14-Jun 21-Jun 1-hr TSP x 3 [AM2] Noise [M3(A), M4 &	M5(C)]  7-Jun 8-Jun  24-hr TSP [AM2(A)]  14-Jun 15-Jun  1-hr TSP x 3 [AM2]  Noise [M3(A), M4 & M5(C)]  21-Jun 22-Jun  1-hr TSP x 3 [AM2]  Noise [M3(A), M4 & M5(C)]  28-Jun 29-Jun	M5(C)	M5(C)   7-Jun   8-Jun   9-Jun   10-Jun	M5(C)   S-Jun   S-Jun   9-Jun   10-Jun   11-Jun

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

**Air Quality Monitoring Station** 

**Noise Monitoring Station** 

AM2 - Lee Kau Yan Memorial School AM2(A) - Ng Wah Catholic Secondary School M3(A) - The Bridge connecting The Latitude M4 - Lee Kau Yan Memorial School M5(C) - Mercy Grace's Home

<sup>\*</sup> The noise level limit is 65dB(A) during the exam period

#### Contract No. KLN/2016/04

#### Environmental Monitoring Works for Contract No. KL/2015/02 Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area Tentative Impact Air and Noise Monitoring Schedule for July 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul
		24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2]			
			Noise [M3(A), M4 & M5(C)]			24-hr TSP [AM2(A)]
4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul
	24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2]				24-hr TSP [AM2(A)]
		Noise [M3(A), M4 & M5(C)]				
11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul
	1-hr TSP x 3 [AM2]			24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2]	
	Noise [M3(A), M4 & M5(C)]					
18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul
			24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2] Noise [M3(A), M4 & M5(C)]		
25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul
		24-hr TSP [AM2(A)]	1-hr TSP x 3 [AM2] Noise [M3(A), M4 & M5(C)]			
1-Aug						

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

**Air Quality Monitoring Station** 

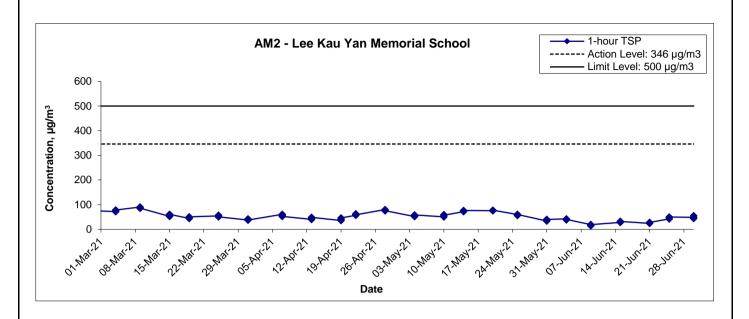
**Noise Monitoring Station** 

AM2 - Lee Kau Yan Memorial School AM2(A) - Ng Wah Catholic Secondary School M3(A) - The Bridge connecting The Latitude M4 - Lee Kau Yan Memorial School M5(C) - Mercy Grace's Home

<sup>\*</sup> The noise level limit is 65dB(A) during the exam period

## APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

#### 1-hr TSP Concentration Levels



Title Contract No. KLN/2016/04
Environmental Monitoring Works for Contract No. KL/2015/02
Kai Tak Development –Stage 5A Infrastructure at Former North Apron Area

Graphical Presentation of 1-hour TSP Monitoring Results

le Project
N.T.S No. MA16043

Appendix E

CINOTECH

# **Appendix E - 1-hour TSP Monitoring Results**

Location AM2 - Lee Kau Yan Memorial School									
Date	Time	Weather	Particulate Concentration (µg/m3)						
4-Jun-21	10:00	Sunny	42						
4-Jun-21	11:00	Sunny	38						
4-Jun-21	12:00	Sunny	40						
9-Jun-21	14:00	Sunny	19						
9-Jun-21	15:00	Sunny	15						
9-Jun-21	16:00	Sunny	19						
15-Jun-21	10:00	Sunny	28						
15-Jun-21	11:00	Sunny	32						
15-Jun-21	12:00	Sunny	32						
21-Jun-21	9:00	Sunny	24						
21-Jun-21	10:00	Sunny	26						
21-Jun-21	11:00	Sunny	28						
25-Jun-21	10:00	Sunny	42						
25-Jun-21	11:00	Sunny	48						
25-Jun-21	12:00	Sunny	50						
30-Jun-21	9:00	Sunny	48						
30-Jun-21	10:00	Sunny	44						
30-Jun-21	11:00	Sunny	55						
		Average	35						
		Maximum	55						
		Minimum	15						

APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

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

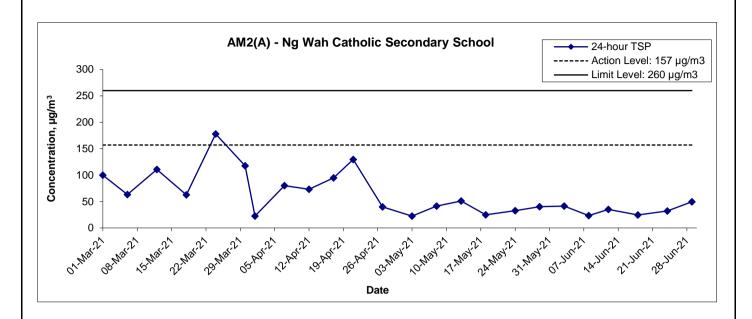
## Location AM2(A) - Ng Wah Catholic Secondary School

Start Date Weather		Air Temp. Atmospheric		Filter Weight (g)		Particulate	articulate Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. Flow	Total vol.	Conc.
Start Date	Condition	(K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time (hrs.)	Initial	Final	(m3/min)	(m3)	(µg/m3)
3-Jun-21	Sunny	302.4	754.4	3.7062	3.7422	0.0722	7492.7	7516.7	24.0	1.21	1.21	1.21	1739.8	41
8-Jun-21	Cloudy	301.6	755.9	3.7093	3.7297	0.0407	7516.7	7540.7	24.0	1.21	1.21	1.21	1743.2	23
12-Jun-21	Cloudy	301.3	756.2	3.7343	3.7648	0.0610	7540.7	7564.7	24.0	1.21	1.21	1.21	1744.2	35
18-Jun-21	Cloudy	303.6	754.6	3.7398	3.7828	0.0430	7564.7	7588.7	24.0	1.21	1.21	1.21	1736.3	25
24-Jun-21	Cloudy	299.6	754.9	3.6940	3.7502	0.0562	7588.7	7612.7	24.0	1.21	1.21	1.21	1747.2	32
29-Jun-21	Cloudy	299.6	754.9	3.7507	3.7939	0.0865	7588.7	7612.7	24.0	1.21	1.21	1.21	1747.2	49
													Min	23
													Max	49

Average

MA16043/App F - 24hr TSP

#### 24-hr TSP Concentration Levels



APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

#### **Appendix G - Noise Monitoring Results**

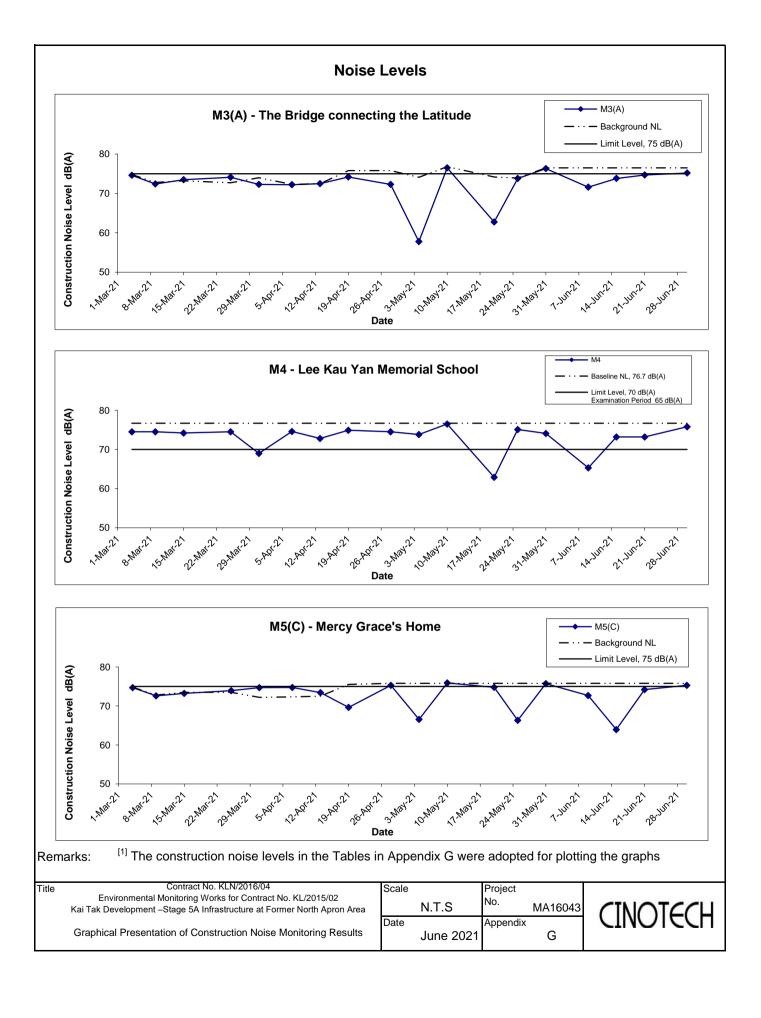
Location M3(A) - The Bridge connecting The Latitude										
				Unit: dB (A) (30-min)						
Date	Date Time Weather		Measured Noise Level			Background Noise	Co	nstruction Noise Level		
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>		L <sub>eq</sub>		
9-Jun-21	16:00	Cloudy	72	73	70	72	72	Measured ≦ Background		
15-Jun-21	11:30	Fine	74	76	72	74	74	Measured ≦ Background		
21-Jun-21	11:30	Fine	75	77	73	75	75	Measured ≦ Background		
30-Jun-21	11:30	Sunny	75	79	72	75	75	Measured ≦ Background		

Location M4 - Lee Kau Yan Memorial School									
				Unit: dB (A) (30-min)					
Date	Time	Weather	Mea	sured Noise L	_evel	Baseline Level	Coi	nstruction Noise Level	
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>		L <sub>eq</sub>	
9-Jun-21	15:00	Cloudy	65	66	64		65	Measured ≦ Baseline	
15-Jun-21	10:00	Fine	73	75	71	77	73	Measured ≦ Baseline	
21-Jun-21	10:00	Fine	73	76	72	] ''	73	Measured ≦ Baseline	
30-Jun-21	13:00	Sunny	76	79	72		76	Measured ≦ Baseline	

Location M5(C) - Mercy Grace's Home									
				Unit: dB (A) (30-min)					
Date	Time	Weather	Mea	asured Noise L	_evel	Background Noise	Coi	nstruction Noise Level	
			L <sub>eq</sub>	L <sub>10</sub>	L 90	L <sub>eq</sub>		L <sub>eq</sub>	
9-Jun-21	17:00	Cloudy	78	80	74	76	73		
15-Jun-21	14:30	Fine	75	77	72	74	64		
21-Jun-21	15:30	Fine	74	76	72	75	74	Measured ≤ Background	
30-Jun-21	14:07	Sunny	75	78	73	75	75	Measured ≤ Background	

<sup>\*</sup>All data has been presented to the nearest integer

MA16043/App G - Noise Cinotech



#### APPENDIX H SUMMARY OF EXCEEDANCE

#### Appendix H – Summary of Exceedance

#### Exceedance Record for Contract No. KL/2015/02

- (A) Exceedance Record for Air Quality (NIL in the reporting month)
- (B) Exceedance Record for Construction Noise (NIL in the reporting month)
- (C) Exceedance Record for Landscape and Visual (NIL in the reporting month)

#### APPENDIX I SITE AUDIT SUMMARY

## Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210609
Date	09 June 2021
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	=
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Following up on the previous site inspection (210531): All the items in the previous inspection were rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Sam Au	Wyy	9 June 2021
Checked by	Colman Wong	Colman	10 June 2021

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210615
Date	15 June 2021
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
ı	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
_	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Following up on the previous site inspection (210609): All the items in the previous inspection were rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Sam Au	WYY	15 June 2021
Checked by	Colman Wong	Colman	15 June 2021

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210621
Date	21 June 2021
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Following up on the previous site inspection (210615): All the items in the previous inspection were rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Sam Au	WYY	21 June 2021
Checked by	Colman Wong	Colman	21 June 2021

## Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	210628
Date	28 June 2021
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	II Odlama	
	H. Others	
	Following up on the previous site inspection (210621): All the items in the previous inspection were rectified/improved by the Contractor.	

	Name	Signature	Date
Recorded by	Sam Au	WYY	28 June 2021
Checked by	Colman Wong	Colman	28 June 2021

#### APPENDIX J EVENT ACTION PLANS

### Event/Action Plan for Air Quality

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

	EPD, IEC and ER informed of	4. Advise the ER on the	implemented;	working days of notification;
	the results.	effectiveness of the proposed	4. Supervise implementation of	4. Implement the agreed proposals.
	the results.		·	4. Implement the agreed proposals.
		remedial measures.	remedial measures;	
			5. Conduct meeting with ET and	
			IEC if exceedance continues.	
Limit Level being	1. Notify IEC, ER, Contractor and	Check monitoring data submitted	Confirm receipt of notification	Take immediate action to avoid
exceeded by	EPD;	by ET;	of exceedance in writing;	further exceedance;
two or more	2. Repeat measurement to confirm	2. Check Contractor's working	2. Notify Contractor;	2. Discuss with ET, ER and IEC on
consecutive	findings;	method;	3. In consolidation with the IEC,	proper remedial actions;
sampling	3. Carry out analysis of Contractor's	3. Discuss amongst ER, ET, and	agree with the Contractor on the	3. Submit proposals for remedial
	working procedures to identify source and	Contractor on the potential remedial	remedial measures to be	actions to IEC within three working
	investigate the causes of exceedance;	actions;	implemented;	days of notification;
	4. Increase monitoring frequency to	4. Review Contractor's remedial	4. Supervise implementation of	4. Implement the agreed proposals;
	daily;	actions whenever necessary to	remedial measures;	5. Submit further remedial actions if
	5. Arrange meeting with IEC, ER	assure their effectiveness and	5. If exceedance continues,	problem still not under control;
	and Contractor to discuss the	advise the ER accordingly.	consider stopping the Contractor	6. Stop the relevant portion of works
	remedial actions to be taken;		to continue working on that	as instructed by the ER until the
	6. Assess effectiveness of		portion of work which causes the	exceedance is abated.
	Contractor's remedial actions and		exceedance until the	
	keep EPD, IEC and ER informed		exceedance is abated.	
	of the results;			
	7. If exceedance stops, cease additional			
	monitoring.			

#### Event/Action Plan for Construction Noise

EVENT	ACTION					
	ET	IEC	ER	CONTRACTOR		
Action Level	1. Notify ER, IEC and Contractor;	1. Review the investigation	1. Confirm receipt of	1. Submit noise mitigation		
being	2. Carry out investigation;	results submitted by the ET;	notification of failure in	proposals to IEC and ER;		
exceeded	3. Report the results of investigation	2. Review the proposed remedial	writing;	2. Implement noise mitigation		
	to the IEC, ER and Contractor;	measures by the Contractor and	2. Notify Contractor;	proposals.		
	4. Discuss with the IEC and	advise the ER accordingly;	3. In consolidation with the	(The above actions should be		
	Contractor on remedial measures	3. Advise the ER on the	IEC, agree with the	taken within 2 working days after		
	required;	effectiveness of the proposed	Contractor on the remedial	the exceedance is identified)		
	5. Increase monitoring frequency to	remedial measures.	measures to be implemented;			
	check mitigation effectiveness.	(The above actions should be	4. Supervise the			
	(The above actions should be taken	taken within 2 working days after	implementation of remedial			
	within 2 working days after the	the exceedance is identified)	measures.			
	exceedance is identified)		(The above actions should be			
			taken within 2 working days			
			after the exceedance is			
			identified)			
Limit Level	1. Inform IEC, ER, Contractor and	1. Discuss amongst ER, ET, and	1. Confirm receipt of	1. Take immediate action to		
being	EPD;	Contractor on the potential	notification of failure in	avoid further exceedance;		
exceeded	2. Repeat measurements to confirm	remedial actions;	writing;	2. Submit proposals for remedial		
	findings;	2. Review Contractor's remedial	2. Notify Contractor;	actions to IEC and ER within 3		
	3. Increase monitoring frequency;	actions whenever necessary to	3. In consolidation with the	working days of notification;		
	4. Identify source and investigate the	assure their effectiveness and	IEC, agree with the	3. Implement the agreed		
	cause of exceedance;	advise the ER accordingly.	Contractor on the remedial	proposals;		

5. Carry out analysis of Contractor's	(The above actions should be	measures to be implemented;	4. Submit further proposal if
working procedures;	taken within 2 working days after	4. Supervise the	problem still not under control;
6. Discuss with the IEC, Contractor	the exceedance is identified)	implementation of remedial	5. Stop the relevant portion of
and ER on remedial measures		measures;	works as instructed by the ER
required;		5. If exceedance continues,	until the exceedance is abated.
7. Assess effectiveness of		consider stopping the	(The above actions should be
Contractor's remedial actions and		Contractor to continue	taken within 2 working days after
keep IEC, EPD and ER informed of		working on that portion of	the exceedance is identified)
the results;		work which causes the	
8. If exceedance stops, cease		exceedance until the	
additional monitoring.		exceedance is abated.	
(The above actions should be taken		(The above actions should be	
within 2 working days after the		taken within 2 working days	
exceedance is identified)		after the exceedance is	
		identified)	

### Event/Action Plan for Landscape and Visual

EVENT	ACTION			
ACTION LEVEL	ET	IEC	ER	CONTRACTOR
Design Check	1. Check final	1. Check report.	Undertake remedial design if necessary	
	design conforms to	2. Recommend		
	the requirements	remedial design if		
	of EP and prepare	necessary		
	report.			
Non-conformity on one occasion	1. Identify Source	1. Check report	Notify Contractor	Amend working methods
	2. Inform IEC and	2. Check Contractor's	2. Ensure remedial measures are properly	2. Rectify damage and
	ER	working method	implemented	undertake any necessary
	3. Discuss remedial	3. Discuss with ET and		replacement
	actions with IEC,	Contractor on possible		
	ER and Contractor	remedial measures		
	4. Monitor remedial	4. Advise ER on		
	actions until	effectiveness of		
	rectification has	proposed remedial		
	been completed	measures.		
		5. Check implementation		
		of remedial measures.		
Repeated Non-conformity	1. Identify Source	1. Check monitoring	1. Notify Contractor	Amend working methods
	Inform IEC and	report	2. Ensure remedial measures are properly	2. Rectify damage and

ER		2. Check Contractor's	implemented	undertake any necessary
2. Inci	crease	working method		replacement
monit	itoring	3. Discuss with ET and		
freque	uency	Contractor on possible		
3. Dis	scuss remedial	remedial measures		
action	ons with IEC,	4. Advise ER on		
ER a	and Contractor	effectiveness of		
4. Mo	onitor remedial	proposed remedial		
action	ons until	measures		
rectifi	fication has	5. Supervise		
been	n completed	implementation of		
5. If n	non-conformity	remedial measures.		
stops	s, cease			
additi	tional			
monit	itoring			

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	Recommended Mitigation Measures	Implementation
EIA Kei.	Recommended Midgadon Measures	Status
Constructi	ion Air Quality	
S6.5	8 times daily watering of the work site with active dust emitting activities.	۸
S6.8	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation	٨
	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	٨
	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	٨
	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	٨
	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	٨
	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	٨
	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.	٨
	• 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	٨
	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	٨
	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	٨
	three sides.	
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	٨

S6.8	DWFI compound for JVBC:	N/A
	A DWFI compound is proposed at the downstream of JVC to contain pollution in drainage systems entering the KTAC and KTTS by	
	interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the	
	compounds to prevent any accumulation of sediment within the downstream section of JVBC and hence fully mitigate the potential odour	
	emissions from the headspace of JVBC near the existing discharge locations. The odour generating operations within the proposed desilting	
	compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the	
	atmosphere.	
	Desilting compound for KTN:	N/A
	Two desilting compounds are proposed for KTN (at Site 1D6 and Site 1P1) to contain pollution in drainage systems entering the KTAC and	
	KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the	
	compounds to prevent any accumulation of sediment within the downstream section of KTN and hence fully mitigate the potential odour	
	emissions from the headspace of KTN near the existing discharge locations. The odour generating operations within the proposed desilting	
	compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the	
	atmosphere.	
	Decking or reconstruction of KTN within apron area:	N/A
	It is proposed to deck the KTN or reconstruct the KTN within the former Apron area into Kai Tak River from the south of Road D1 to the	
	north of Road D2 along the existing alignment of KTN. The Kai Tak River will compose of a number of channels flowing with nonodorous	
	fresh water and THEES effluent. The channel flowing with THEES effluent will be designed with the width of water surface of not more	
	than 16m.	
	Localised maintenance dredging:	N/A
	Localised maintenance dredging should be conducted to provide water depth of not less than 3.5m over the whole of KTAC and KTTS. With	
	reference to the water depth data recorded during the odour survey, only some of the areas in the northern part of KTAC (i.e. to the north of	
	taxiway bridge) including the area near the northern edge of KTAC, the area near western bank of KTAC, and the area near the JVC	
	discharge have water depths shallower than 3.5m. The area involved would be about 40% of the northern KTAC and the dredging depth	
	required would be from about 2.7m to less than 1m. The maintenance dredging to be carried out prior to the occupation of any new	
	development in the immediate vicinity of KTAC to avoid potential localized odour impacts at the future ASRs during the maintenance	

	dredging operation.	
	Improvement of water circulation in KTAC and KTTS:	N/A
	600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be substantially	
	improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be increased.	
	In-situ sediment treatment by bioremediation:	
	Bioremediation would be applied to the entire KTAC and KTTS.	N/A
Construct	tion Noise	
S7.8	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar	۸
	Bender, Concrete Pump, Generator and Water Pump.	
S7.9	Good Site Practice:	
	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	۸
	Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.	۸
	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	۸
	to a minimum.	۸
	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.	۸
	Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction	
	activities.	۸
S7.9	Scheduling of Construction Works during School Examination Period	٨
S7.8	(i) Provision of low noise surfacing in a section of Road L2; and	N/A
	(ii) Provision of structural fins	N/A
S7.8	(i) Avoid the sensitive façade of class room facing Road L2 and L4; and	N/A
	(ii) Provision of low noise surfacing in a section of Road L2 & L4	N/A

S7.8	(i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and	N/A
	(ii) Setback of building about 5m from site boundary.	N/A
S7.8	Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2.	N/A
S7.8	(i) avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and Avoid the sensitive façade of	N/A
	class room facing Road L2 and L4; and	
	(ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not	N/A
	provide the facades with openable window.	
S7.8	(i) avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or	N/A
	(ii) provision of 17.5m high noise tolerant building fronting To Kwa Wan Road and restrict the height of the residential block(s) located at	N/A
	less than 55m away from To Kwa Wan Road to no more than 25m above ground	
S7.8	(i) avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other	۸
	alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to minimise the potential traffic	
	noise impacts from the slip road	
S7.8	All the ventilation fans installed in the below will be provided with silencers or acoustics treatment.	
	(i) SPS	N/A
	(ii) ESS	N/A
	(iii) Tunnel Ventilation Shaft	N/A
	(iv) EFTS depot	N/A
S7.8	Installation of retractable roof or other equivalent measures	N/A
Constru	ction Water Quality	
S8.8	The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including:	
	• Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply;	N/A
	Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps;	N/A
	An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and	
	For all unmanned SPSs, a remote monitor system connecting SPSs with the control station through telemetry system should be provided	N/A
	so that swift actions could be taken in case of malfunction of unmanned facilities	N/A

S8.8	Construction Phase	
	Marine-based Construction	
	Capital and Maintenance Dredging for Cruise Terminal	
	Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT Dredging.	N/A
S8.8	Fireboat Berth, Runway Opening and Road T2	
	Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any dredging and filling	N/A
	activities in open water.	
S8.8	Dredging at and near the seawall area for construction of the public landing steps cum fireboat berth should be carried out at a maximum production	N/A
	rate of 1,000m³ per day using one grab dredger.	
S8.8	The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be removed until	N/A
	completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of the dredging works will	
	be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works area. As there is likely some	
	accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after completion of all the demolition works.	
	Dredging alongside the 600m opening should be carried out at a maximum production rate of 2,000m³ per day using one grab dredger.	
8.8	Dredging for Road T2 should be conducted at a maximum rate of 8,000m³ per day (using four grab dredgers) whereas the sand filling should be	N/A
	conducted at a maximum rate of 2,000m3 per day (using two grab dredgers).	
8.8	Silt screens shall be applied to seawater intakes at WSD seawater intake.	N/A

S8.8	<u>Land-based Construction</u>	
	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	٨
	adequate maintenance of drainage systems to prevent flooding and overflow	۸
S8.8	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed	٨
	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.	
S8.8	Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The	٨
	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.	
S8.8	Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m³ capacity, are recommended as a	٨
	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.	
S8.8	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m³ should be covered with tarpaulin or	٨
	similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any	
	drainage system.	
S8.8	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction	۸
	materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	
S8.8	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	۸
	be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty	

	surface runoff during storm events.	
S8.8	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water	N/A(1)
	drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	
S8.8	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	٨
	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.	
S8.8	Drainage	
	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps	٨
	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	
S8.8	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled	٨
	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.	
S8.8	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	٨
	storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters of the Victoria Harbour WCZ.	
S8.8	Sewage Effluent	
	Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The	۸
	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.	

S8.8	Stormwater Discharges	
	Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater	۸
	intakes	
S8.8	Debris and Litter	
	In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of	۸
	contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur	
S8.8	Construction Works at or in Close Proximity of Storm Culvert or Seafront	
	The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low.	۸
S8.8	The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm	٨
	culvert / nullah.	
S8.8	Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be	٨
	located well away from any water courses during carrying out of the construction works	
S8.8	Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	٨
S8.8	Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.	٨
S8.8	Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.	٨
S8.8	Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts.	٨
	Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff.	
S8.8	Construction effluent, site run-off and sewage should be properly collected and/or treated.	٨
S8.8	Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at	N/A
	bottom and properly supported props to prevent adverse impact on the storm water quality.	
S8.8	Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of	N/A
	construction materials.	
S8.8	Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	N/A

S8.8	Supervisory staff should be assigned to station on site to closely supervise and monitor the works	۸
S8.8	Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation.	N/A
Construc	ction Waste Management	
S9.5	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 the dredging activities include:	
	Nomination of an approved person, such as a site manager, be responsible for good site practices, arrangements for collection and effective	٨
	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.	٨
	Provision of sufficient waste disposal points and regular collection for disposal.	٨
	Appropriate measure to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting	٨
	wastes in enclosed containers.	
	A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	۸
S9.5	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	۸
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and	۸
	their proper disposal	
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated.	۸
	from other general refuse generated by the work force	
	Any unused chemicals or those with remaining functional capacity should be recycled	۸
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials	۸

S9.5	Dredged Marine Sediment	
	The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management of the	N/A
	dredging, use and disposal of marine mud is monitored by the MFC, while the licensing of marine dumping is required under the Dumping at Sea	
	Ordinance and is the responsibility of the Director of Environmental Protection (DEP)	
S9.5	The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC depending on	N/A
	their level of contamination. Sediment classified as Category L would be suitable for Type 1 - Open Sea Disposal. Contaminated sediment would	
	require either Type 1 – Open Sea Disposal (Dedicated Sites), Type 2 - Confined Marine Disposal, or Type 3 – Special Treatment / Disposal and must	
	be dredged and transported with great care in accordance with ETWB TCW No. 34/2002. Subject to the final allocation of the disposal sites by	
	MFC, the dredged contaminated sediment must be effectively isolated from the environment and disposed properly at the designated disposal site	
S9.5	It will be the responsibility of the contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged	
	have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report	
	to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works should apply for allocation of marine disposal sites	
	and all necessary permits from relevant authorities for the disposal of dredged sediment. During transportation and disposal of the dredged marine	
	sediments requiring Type 1, Type 2, or Type 3 disposal, the following measures should be taken to minimise potential impacts on water quality:	
	Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the	
	decks and exposed fittings of barges and hopper dredgers before the vessel is moved	N/A
	Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport	
	barges or vessels should be equipped with automatic selfmonitoring devices as required under the Dumping at Sea Ordinance and as	N/A
	specified by the DEP	
	Barges or hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or	
	transportation	N/A
S9.5	Construction and Demolition Material	
	Mitigation measures and good site practices should be incorporated into 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	۸

transient stockpiles should 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	۸
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	٨
concrete, 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	٨
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	٨
wet	
• The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation	٨
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	٨
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 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.	
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	٨
the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or	
other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation	
	<ul> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site</li> <li>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, bituminous materials or hardcores</li> <li>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</li> <li>All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet</li> <li>The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading</li> <li>When delivering inert C&amp;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&amp;D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the 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.</li> <li>Chemical Waste</li> </ul>

S9.5	General R	efuse	
	General re	efuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by	٨
	the contra	ctor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed	
	and cover	ed area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing	
	or leachin	g into the marine environment, or creating odour nuisance or pest and vermin problem	
Constructi	on Lands		
S13.9	CM1	All existing trees should be carefully protected during construction.	۸
	CM2	Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to	۸
		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.	
	СМЗ	Control of night-time lighting.	N/A(1)
	CM4	Erection of decorative screen hoarding.	۸

#### Remarks:

۸	Compliance of mitigation measure		
*	Recommendations were made during site audits but improved/rectified by the Contractor		
#	# Recommendations were made during site audits but has not yet been improved/rectified by the Contractor		
•	Non-compliance but rectified by the Contractor		
X	X Non-compliance of mitigation measure		
N/A	N/A Not Applicable at this stage		
N/A(1)	Not observed		

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

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

**Complaint Log** 

EPD Complaint Ref No.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
17-34438	Dakota Drive and Olympic Avenue	23 October 2017	The complainant concerned about the dust emission when vehicle running on the dry surface outside Dakota Drive and Olympic Avenue. In addition, vehicles were not clear enough before leaving the construction site.	In accordance with the information gathered in the investigation, construction activities were conducted with proper mitigation measures to minimize the dust impact arise from the construction site to the vicinity of this Project.  Regular water spraying was provided to haul roads and unpaved areas within the site areas to reduce the dust impact arise from the construction site to the vicinity of this Project. The Contractor had also ensured vehicles and plants were wheel washed to be cleaned of mud and debris before leaving the construction site area. Therefore, the complaint is considered as non-project related.  The following recommendations were made to further enhance the mitigation measures:  • Where practicable, to provide sheltered area on the top and three sides for stockpiles of dusty materials, or perform frequent water spraying so as to maintain the entire surface wet;  • Frequent checking and repair the gaps or broken tarpaulin sheets; and  • To provide a hard-surfaced road between any cleaning facility and the public Road	Closed

Remarks: No complaint was received in the reporting month.

MA16043\App L

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

#### Warnings / Summons and Successful Prosecutions received

Log Ref.	Received Date	Details of Warning / Summons and Successful Prosecutions	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A

Remarks: No warning/summon and prosecution was received in the reporting month.

MA16043\App L 2

APPENDIX M SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS Department: CEDD

Contract No.: KL/2015/02

Project : Kai Tak Development - Stage 5A Infrastructure at Former North Apron Area



#### **Monthly Summary Waste Flow Table for 2021**

As at 2 July 2021

Month	Quantities of Inert C & D Materials Generated Monthly						Quantities of C & D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)
Jan	0	0	0	0	0	0	0	0	0	0	0.07
Feb	0	0	0	0	0	0	0	0	0	0	0.021
Mar	0	0	0	0	0	0	0	0	0	0	0.014
Apr	1.692	0	0	0	1.692	0	0	0	0	0	0.112
May	0	0	0	0	0	0	0	0	0	0	0.042
June	0	0	0	0	0	0	0	0	0	0	0.084
Sub-total	66.537	0	0	0.406	66.537	0	0	0	0	0	2.569
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	66.537	0	0	0.406	66.537	0	0	0	0	0	2.569

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*											
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse	
(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)	
67	0	0	1	67	0	0	0	0	0	2.5	

Notes:

- (1) The performance targets are given in PS clause 6(14).
- (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 Contractor shall also submit the latest forcast of the total amount of C&D materials exected to be generated from the Works, together with a braskdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or excreeding 50,00 m<sup>3</sup>. (PS Cleuse 25.02A(7) refers).

## APPENDIX N CONSTRUCTION PROGRAMME

KL/2015/02 Construction Programme

			2016	2017	2018	2019	2020	2021	2022
Works	Commence	Finish	9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12 1	2 3 4 5 6 7 8 9 10 11 12 1 2	3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12 1	2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12
Subways Construction	Dec-16	Jun-22							
Road Works (D1 and L7)	Feb-19	Jun-21	_						
Landscape	May-21	Aug-21	_						

#### **FUGRO TECHNICAL SERVICES LIMITED**

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



# Appendix C

Monthly EM&A Report
For
Contract No. ED/2018/01
Kai Tak Development – Stage 4 infrastructure at the former runway and south apron

# **Environmental Monitoring and Audit Report** for

**Contract No. ED/2018/01 –** 

# Kai Tak Development – Stage 4 infrastructure at the former runway and south apron

Contract No.: EDO 15/2018

June 2021

(Version 1.1)

Certified By:

(Environmental Team Leader)



Ref.: CEDKTDS4EM00 0 0165L.21

13 July 2021

By Post and Email

AECOM Asia Company Limited 8/F, Grand Central Plaza, Tower 2 138 Shatin Rural Committee Road Shatin, Hong Kong

Attention: Mr. Clive Cheng

Dear Sir,

Re: Contract No. ED/2018/01 - Kai Tak Development Stage 4 Infrastructure at the Former Runway and South Apron

#### **Monthly EM&A Report for June 2021**

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for June 2021 (Version 1.1) certified by the ET Leader and provided to us via email on 13 July 2021.

Please be informed that we have no adverse comment on the captioned submission. We hereby verify the captioned submission in accordance with Condition 3.3 of EP-337/2009 and Condition 3.2 of EP-445/2013/A.

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

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

Y H Hui

Independent Environmental Checker

C.C.

**CEDD** 

Attn.: Mr. Ronald Siu

Fax: 2739 0076

Ka Shing

Attn.: Mr. Chan Pang

By email

Penta-Ocean

Attn.: Mr. Daniel Ho

Fax: 2572 4080

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#### **EXECUTIVE SUMMARY**

1. This is the 18<sup>th</sup> Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 30 June 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.

Table I Non-compliance Record in the Reporting Month

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

#### **Complaint log**

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

Table II Summary of complaints in the Reporting Month

Date of complaint received	Date of complaint	Description of complaint	Investigation / Recommendations / Action take	Close-out date / Status
No complaint	NA	NA	NA	NA

Date of complaint received	Date of complaint	Description of complaint	Investigation / Recommendations / Action take	Close-out date / Status
was received 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 take	Close-out date / Status
No notification	NA	NA	NA	NA
of summons				
and				
successful				
prosecutions				
were				
received in				
the reporting				
month.				

#### 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:
  - North Approach Ramp Construction of wall, intermediate slab and column
  - Bridge D3 Construction of pile cap and pier
  - North Depressed Road Construction of wall & top slab / dismantling of wailing & strut of cofferdam
  - Underpass Excavation, construction of base slab and backfilling, Construction of wall & top slab
  - South Approach Ramp Installation of sheet pile and excavation, construction of base slab and erection of formwork
  - Landscaped Deck Construction of bored piles
  - District Cooling System seawater intake box culvert Construction of cofferdam and box structure
  - Noise barrier Installation of steel structure and PMMA panel, backfilling of haul road
  - Lift 3 Construction of cofferdam for footing
  - Lift 4 Excavation for footing
  - South Depressed Road Excavation and Installation of Lateral Support works

#### **Future key issues**

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

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

Future key issues in the coming month	Potential impact
North Approach Ramp – Construction of wall, intermediate slab and column	Noise and Air Quality
Bridge D3 – Construction of pile cap and pier	Noise and Air Quality
North Depressed Road – Construction of wall & top slab / dismantling of wailing & strut of cofferdam and removal of sheet pile	Noise and Air Quality
Underpass – Excavation, construction of base slab and backfilling, Construction of wall & top slab	Noise and Air Quality
South Approach Ramp – Installation of sheet pile and excavation	Noise and Air Quality
Landscaped Deck – Construction of bored piles	Noise and Air Quality
District Cooling System seawater intake box culvert – Construction of cofferdam and box structure	Noise and Air Quality
Noise barrier – Installation of steel structure and PMMA panel	Noise and Air Quality
Lift 3 – Construction of cofferdam for footing	Noise and Air Quality
Lift 4 – Excavation for footing	Noise and Air Quality

Future key issues in the coming month	Potential impact
South Depressed Road – Excavation and Installation of Lateral Support works	Noise and Air Quality

#### INTRODUCTION

#### **Project Background**

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern 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/2018/01 Kai Tak Development stage 4 infrastructure at the former runway and south apron (The Project), comprises mainly the design and construction of a dual two- lane Road D3 (Metro Park Section), a single 2-lane Road L12d, a salt water pumping station, a sewage pumping station, landscaped deck and promenade above and adjoining Road D3 (Metro Park Section) respectively, some remaining road works at Road L14, noise barrier at Road D3A, and other associated works at the former runway and south apron. The proposed works are shown in Figure 1 and Figure 2. During the course of the Contract No. ED/2018/01, there may be modification of noise barriers in association with the construction of footbridges connecting to the landscaped deck of Road D3A by developers of adjacent lands (Figure 3). The proposed works and site boundary are shown in Figure 4.
- 1.3 Civil Engineering and Development Department (CEDD) had completed an Environmental Impact Assessment (EIA) and is the Permit Holder.
- 1.4 The construction work under ED/2018/01 comprises the EM&A Manuals (EIA Register Nos. AEIAR-130/2009 for Kai Tak Development and EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A) and Environmental Permit (EP) Nos. EP-337/2009, EP-445/2013 and Variation to the EP (VEP) No. EP-445/2013/A.
- 1.5 Air quality and noise monitoring has been proposed in the EM&A Manual with EIA Register Nos. AEIAR-130/2009 for Kai Tak Development while no air quality and noise monitoring are proposed in EM&A Manual with EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A.

# **Project Organization**

1.6 The project organization chart and with respect to the EM&A programme is shown in Appendix A. Information of key personnel contact names and telephone numbers are summarized in Table 1.1.

Table 1.1 Contact Information of Key Personnel

Party	Role	Contact Person	Position	Phone No.	Fax No.
Civil Engineering and	Project	Mr. Ronald Siu	Senior Engineer	3579 2452	2739 0076
Development Department (CEDD)	Proponent	Ms. Chan Ka Yan	Engineer	3579 2458	2739 0076
AECOM Asia Co. Ltd. (AECOM)	Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual)	Mr. Clive Cheng	CRE	3911 4201	3911 4288
Ramboll Hong Kong Limited (Ramboll)	Independent Environmental Checker (IEC)	Mr. Y H Hui	IEC	3465 2850	3465 2899
Ka Shing Management Consultant Limited (Ka Shing)	Environmental Team (ET)	Mr. Chan Pang	ET Leader	6082 2973	2120 7752
Penta-Ocean Construction Co., Ltd. (Penta-Ocean)	Contractor	Mr. Lulu Mar	Environmental Officer	6845 0626	3465 8898

#### **Works Area and Construction Programme**

1.7 The construction works commenced on 20 January 2020. 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:

Table 1.2 Major activities of the Project during reporting month

North Approach Ramp – Construction of wall, intermediate slab and column	Bridge D3 – Construction of pile cap and pier			
North Depressed Road – Construction of wall & top slab / dismantling of wailing & strut of cofferdam	Underpass – Excavation, construction of base slab and backfilling, Construction of wall & top slab			
South Approach Ramp – Installation of sheet pile and excavation, construction of base slab and erection of formwork	Landscaped Deck – Construction of bored piles			
District Cooling System seawater intake box culvert – Construction of cofferdam and box structure	Noise barrier – Installation of steel structure and PMMA panel, backfilling of haul road			
Lift 3 – Construction of cofferdam for footing	Lift 4 – Excavation for footing			
South Depressed Road – Excavation and Installation of Lateral Support works				

#### **Submission Status under the Environmental Permits**

1.9 The status of required submission under Environmental Permit (EP) conditions under EP-337/2009, EP-445/2013 and Variation to the EP (VEP) No. EP-445/2013/A are summarized in Table 1.3.

Table 1.3 Summary of Status of Required Submission of EPs

EP Condition EP-337/2009	EP Condition EP-445/2013	EP Condition EP-445/2013/A	Submission	Submission Date
Condition 1.11	Condition 1.12	Condition 1.12	Notification of Commencement Date of Construction of the Project	6 Jan 2020
Condition 2.3	Condition 2.3	Condition 2.3	Management Organization of Main Construction Companies	9 Sep 2019
Condition 2.3	Condition 2.3	Condition 2.3	Updated Management Organization of Main Construction Companies	7 June 2021
Condition 2.4	Condition 2.4	Condition 2.4	Design Drawings	6 Jan 2020
Condition 2.11	Condition 2.5	Condition 2.5	Landscape Mitigation Plans	13 Nov 2020
Condition 2.1	Condition 2.5	Condition 2.5	Landscape Mitigation	18 May 2021

EP Condition EP-337/2009	EP Condition EP-445/2013	EP Condition EP-445/2013/A	Submission	Submission Date
			Plans (Revision 2)	
Condition 3.2	NA	NA	Baseline Monitoring Report	2 Jan 2020
Condition 3.2	NA	NA	Revised Baseline Monitoring Report	28 Mar 2020
Condition 3.3	Condition 3.2	Condition 3.2	Monthly EM&A Report (May 2021)	11 June 2021

# 2. AIR QUALITY MONITORING

#### **Monitoring Requirements**

2.1 In accordance with EM&A Manuals (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 says 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 Three designated monitoring stations were selected for air quality monitoring programme. Impact air quality monitoring was conducted at three 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
AM3 - Sky Tower	Podium floor near T7
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	Rooftop
AM7 – Hong Kong Children's Hospital	Rooftop

#### **Monitoring Parameters, Frequency and Duration**

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

Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration

Air Monitoring Station	Location for Measurement	Parameter	Duration	Frequency
AM3 - Sky Tower	Podium floor near T7			
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	Rooftop	- 24-hour average TSP - 1-hour	- 24 hours - 1 hour	<ul><li>Once every 6 days</li><li>Three times</li></ul>
AM7 - Hong Kong Children's Hospital	Rooftop	average TSP		every 6 days

- 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.

Table 2.3 Air Quality Monitoring Equipment

Equipment	Model	Quantity
HVS Sampler	TE-5170 X c/w of TSP sampling inlet	3
Calibrator	TISCH TE-5025A	1
1-hour TSP Dust Meter	TSI Model AM510 SidePak Personal Aerosol Monitor	2
Wind Anemometer	Davis Vantage Pro2 Weather Station	1

- 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 m<sup>3</sup>/min. and 1.7 m<sup>3</sup>/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" have 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 validity the accuracy of dust meter, compare the results measured by dust meter and HVS by direct reading method 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 AM7 Hong Kong Children's Hospital 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.

<u>Table 2.4 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring</u>

Parameter	Air Monitoring Station	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m³
	AM3	182	260
24-hour average TSP	AM4(A)	187	260
	AM7	181	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 <sup>3</sup>	Limit Level, µg/m³
	AM3	297	500
1-hour average TSP	AM4(A)	326	500
	AM7	315	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.

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

Air Monitoring Station	Average TSP Concentration, µg/m <sup>3</sup>	Range, μg/m <sup>3</sup>	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m³
AM3	50	36 – 59	182	260
AM4(A)	48	37 - 64	187	260
AM7	44	32 - 55	181	260

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

Air Monitoring Station	Average TSP Concentration, µg/m <sup>3</sup>	Range, μg/m <sup>3</sup>	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m <sup>3</sup>
AM3	33	24 - 39	297	500
AM4(A)	35	27 - 45	326	500
AM7	30	23 - 40	315	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.

#### 3. NOISE MONITORING

#### **Monitoring Requirements**

- 3.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact noise monitoring shall be carried out during the construction phase of the Project.
- 3.2 Regular monitoring,  $L_{Aeq, 30\text{-minute}}$ , 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.

*Table 3.1 Locations of Noise Monitoring Stations* 

Noise Monitoring Locations for the Project	Location of Measurement
M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	Rooftop (Façade)
M12 - Hong Kong Children's Hospital	Rooftop (Façade)

#### **Monitoring Parameters, Frequency and Duration**

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

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

Noise Monitoring Station	Location for Measurement	Parameter	Frequency and Duration
M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop		$L_{Aeq,}L_{A10}$ and $L_{A90}$	30 - minutes measurement at each monitoring station between 0700 – 1900 hrs on normal weekdays
M12 - Hong Kong Children's Hospital	Rooftop (Façade)		(Monday to Saturday) at frequency of once per week.

- 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 in 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
Sound Level Meter	RION NL52	2
Sound Level Calibrator	RION NC 74	2
Air Flowmeter	TSI TA440 Air Velocity	2

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 head of the sound level meter and calibrator was 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.

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

Time Period	Noise Monitoring Station	Baseline Noise Levels, dB (A)	Action Level	Limit Level ^
0700 – 1900 on	M11	68.3	When one documented	75 dB(A)
normal weekdays	M12	61.9	complaint is received.	75 <b>dD</b> (71)

Note: A 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**

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

Table 3.5 Summary of Noise Monitoring Data during the reporting month

Noise Monitoring Station	Measured L <sub>Aeq, 30-min</sub> , Average, dB(A)	Measured L <sub>Aeq, 30-min</sub> , Range, dB(A)	Action Level	Limit Level ^
M11	69.6	67.1 – 72.6	When one documented	75
M12	64.8	62.2 – 65.9	complaint is received	dB(A)

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.

- 3.21 There were no action level exceedance of noise monitoring and limit level exceedance of  $L_{\text{Aeq}}$ ,  $_{30\text{min}}$  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.
- 3.24 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may 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 Nos. 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.

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

Air Monitoring Station	ASR No. in EIA report	24-hour av	Itration Scenario 2 (Mid 2013 to Late 2016),  µg/m³	Measured 24-hr average TSP in Reporting Month (June 2021) µg/m³
AM3 - Sky Tower	A40^	106	138	36 – 59
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	A43^	123	195	37 – 64
AM7 – Hong Kong Children's Hospital	PA60	NA	NA	32 – 55

Note:

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

Air Monitoring Station	ASR No. in EIA report	1-hour av	lative Maximum erage TSP atration  Scenario 2 (Mid 2013 to Late 2016), µg/m³	Measured 1-hr average TSP in Reporting Month (June 2021) µg/m <sup>3</sup>
AM3 - Sky Tower	A40	217^	247^	24 - 39
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	A43	283^	409^	27 – 45
AM7 – Hong Kong Children's Hospital	PA60	NA	NA	23 – 40

Note:

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

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

*Table 4.3 Comparison of Noise Monitoring Data with EIA predictions* 

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 (June 2021) L <sub>Aeq, 30min</sub> , dB(A)
M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	N18	50 – 76*	67.1 – 72.6
M12 - Hong Kong Children's Hospital	PN83, PN84, PN84A	NA	62.2 – 65.9

#### Note:

- 4.2 24-hour TSP monitoring results at AM3 and AM4(A) were recorded lower than the prediction in the EIA Report.
- 4.3 No prediction in the EIA Report for 24-hour TSP monitoring results at AM7.
- 4.4 1-hour TSP monitoring results at AM3 and AM4(A) were recorded lower than the prediction in the EIA Report.
- 4.5 No prediction in the EIA Report for 1-hour TSP monitoring results at AM7.
- 4.6 Noise monitoring results at M11 were recorded lower than the prediction in the EIA Report.
- 4.7 No prediction in the EIA Report for noise monitoring results at M12.

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

#### 5. LANDSCAPE AND VISUAL MONITORING

5.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009 and AEIAR-170/2013), 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 3, 10, 17, 24 and 30 June 2021 in the reporting month.
- 5.4 The summaries of site audits are attached in Table 5.1.

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

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
3 June 2021	No	NA	NA
10 June 2021	No	NA	NA
17 June 2021	No	NA	NA
24 June 2021	No	NA	NA
30 June 2021	No	NA	NA

- 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 3, 10, 17, 24 and 30 June 2021 in the reporting month.
- 6.3 The summaries of site audits are attached in Table 6.1.

Table 6.1 Summary of site inspections observations during the reporting month

Table 6.1 Summary of site inspections observations during the reporting month			
Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
03 June 2021	NA	NA	NA
10 June 2021	NA	NA	NA
17 June 2021	Observation: The stagnant water should be cleared regularly.	Action Taken: The stagnant water has been cleared.	Closed-out 24 June 2021
24 June 2021	Observation: The sediment control measures should be regularly inspected and maintained.	Action Taken: The sediment control measures were maintained properly.	Closed-out 30 June 2021

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
30 June 2021	NA	NA	NA

#### **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.

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

Environmental Licenses, Notifications and Permits	Ref. No.	Valid Form	Valid Till
	EP-337/2009	23 Apr 2009	N/A
Environmental Permit under EIAO	EP-445/2013	3 May 2013	N/A
	EP-445/2013/A	13 Aug 2014	N/A
Construction Dust Notification under APCO	445956	6 June 2019	N/A
Wastewater Discharge License under WPCO	WT00034610-2019	26 Sep 2019	30 Sep 2024
Waste Disposal Billing Account	7034450	28 June 2019	N/A
Registration as a Chemical Waste Producer	5218-286-P3182-03	18 Jul 2019	N/A
Construction Noise Permit	GW-RE1044-20	10 Dec 2020	01 Jun 2021
	GW-RE1074-20	18 Dec 2020	17 Jun 2021
	GW-RE0020-21	15 Jan 2021	11 Jun 2021
	GW-RE0021-21	15 Jan 2021	11 Jun 2021
	GW-RE0360-21	20 Apr 2021	13 Oct 2021
	GW-RE0388-21	28 Apr 2021	27 Oct 2021
	GW-RE0522-21	02 Jun 2021	01 Dec 2021
	GW-RE0528-21	11 Jun 2021	10 Dec 2021
	GW-RE0540-21	12 Jun 2021	11 Dec 2021
	GW-RE0549-21	17 Jun 2021	15 Dec 2021

#### **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 during the reporting month is summarized in Appendix O.
- 6.8 In response to the site audit findings, the Contractor carried out corrective actions with summary given in Appendix O.

#### **Environmental Complaint and Non-compliance**

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

Table 6.3 Summary of complaints in the Reporting Month

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

6.10 Complaint log and Complaint Investigation report are shown in Appendix P.

#### Notifications of summons and successful prosecutions

6.11 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.

Table 6.4 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 take	Close-out date / Status
No notification	NA	NA	NA	NA
of summons				
and successful				
prosecutions				
were				
received in				
the reporting month.				

6.12 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 follow:

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

Future key issues in the coming month	Potential impact
North Approach Ramp - Construction of wall, intermediate	Noise and Air Quality
slab and column	1 (0100 0110 1111 Quant)
Bridge D3 – Construction of pile cap and pier	Noise and Air Quality
North Depressed Road – Construction of wall & top slab /	
dismantling of wailing & strut of cofferdam and removal of	Noise and Air Quality
sheet pile	
Underpass - Excavation, construction of base slab and	Noise and Air Quality
backfilling, Construction of wall & top slab	Noise and Air Quarity
South Approach Ramp – Installation of sheet pile and	Noise and Air Quality
excavation	Noise and Air Quarity
Landscaped Deck – Construction of bored piles	Noise and Air Quality
District Cooling System seawater intake box culvert -	Noise and Air Quality
Construction of cofferdam and box structure	Noise and Air Quality

Future key issues in the coming month	Potential impact
Noise barrier – Installation of steel structure and PMMA panel	Noise and Air Quality
Lift 3 – Construction of cofferdam for footing	Noise and Air Quality
Lift 4 – Excavation for footing	Noise and Air Quality
South Depressed Road – Excavation and Installation of Lateral Support works	Noise and Air Quality

- 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.

#### **Environmental Site Inspection and Monitoring Schedule for next month**

7.3 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.

## Figure

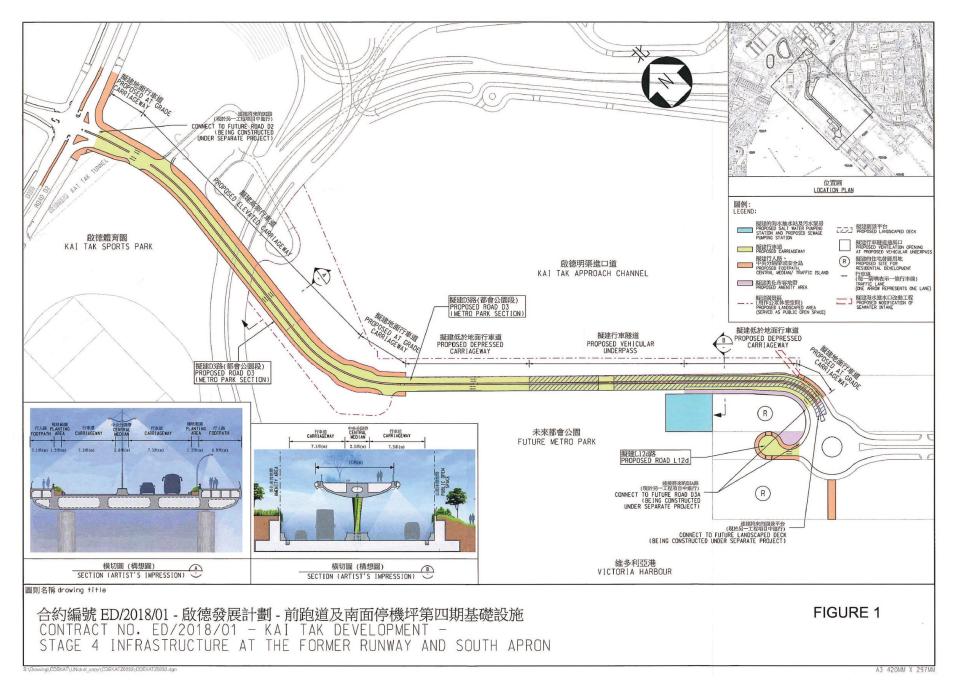


Figure 1 – Proposed works of Contract No. ED/2018/01

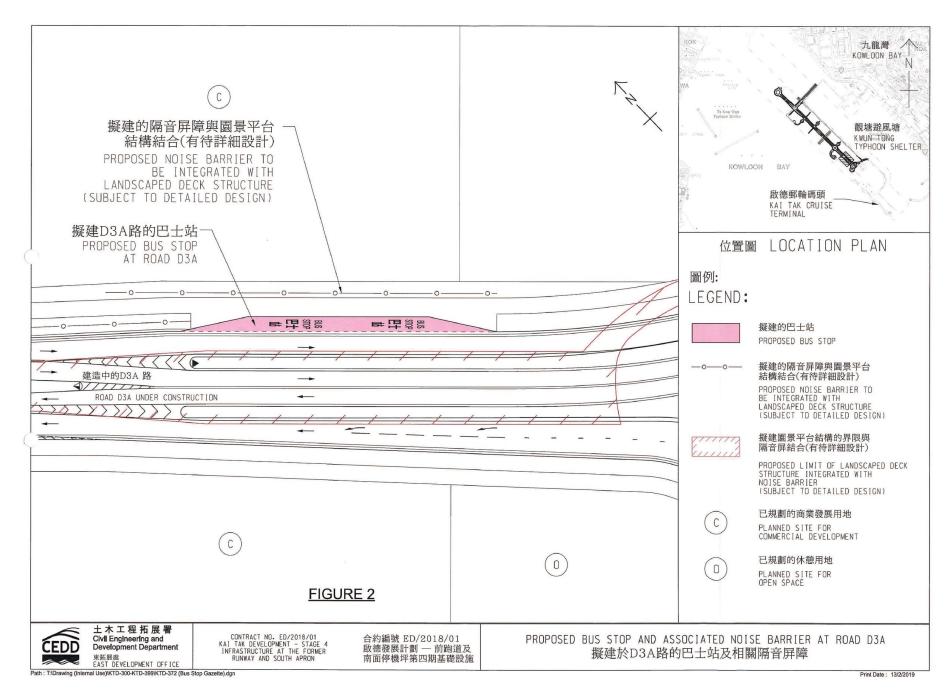


Figure 2 – Proposed Bus Stop And Associated Noise Barrier At Road D3A

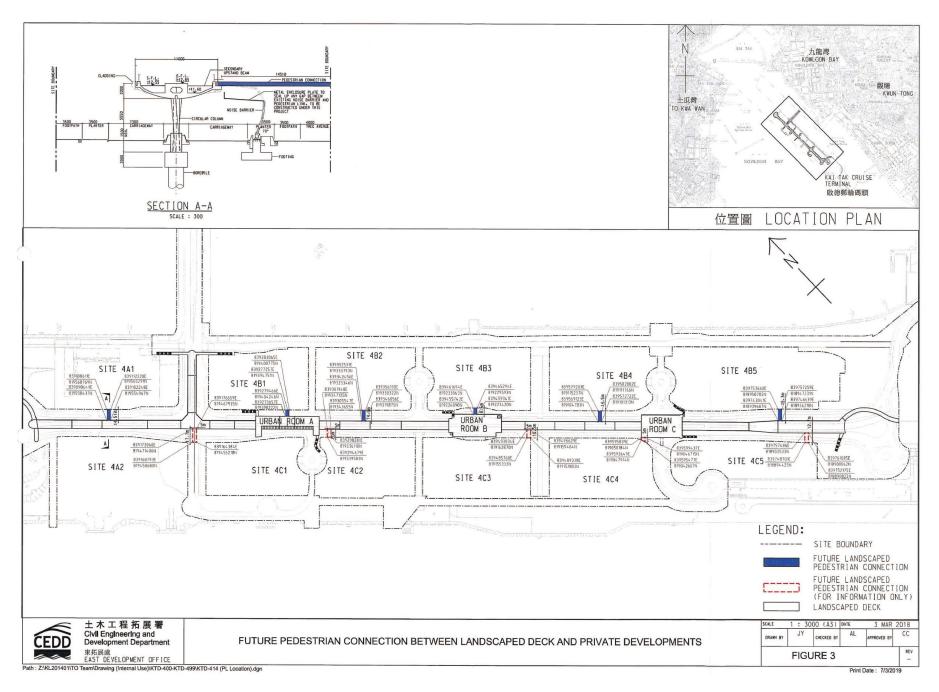


Figure 3 – Future Pedestrian Connection Between Landscaped Deck And Private Developments

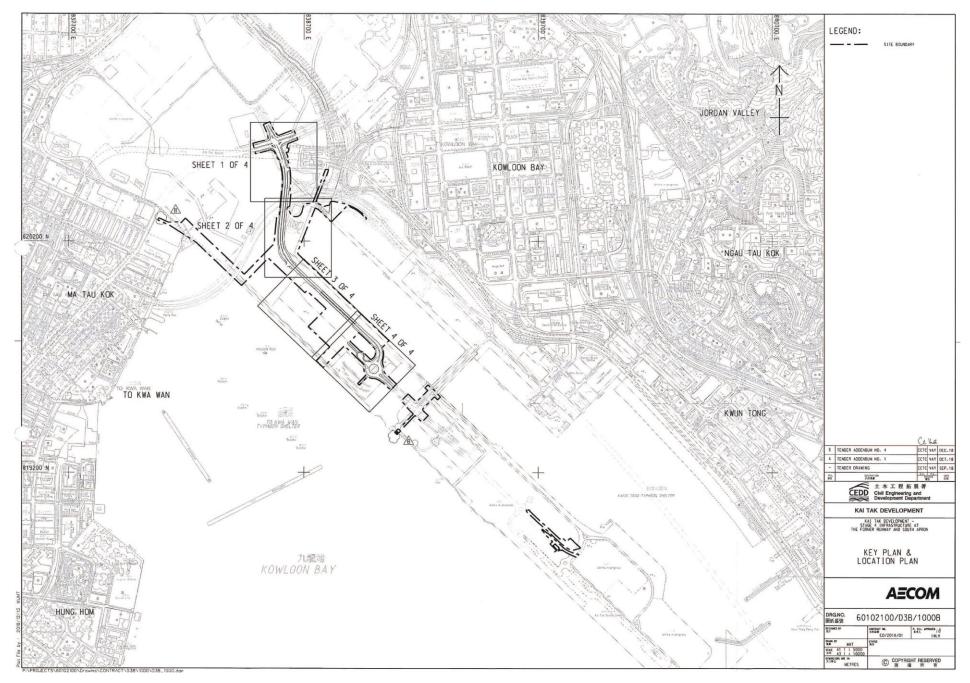


Figure 4 – Site Layout Plan

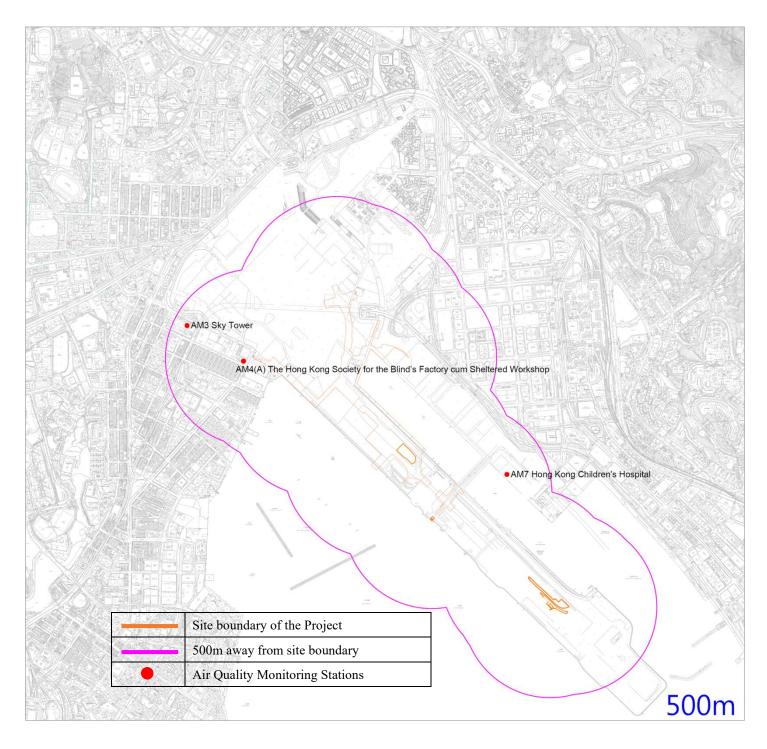


Figure 5 – Air Quality Monitoring Stations

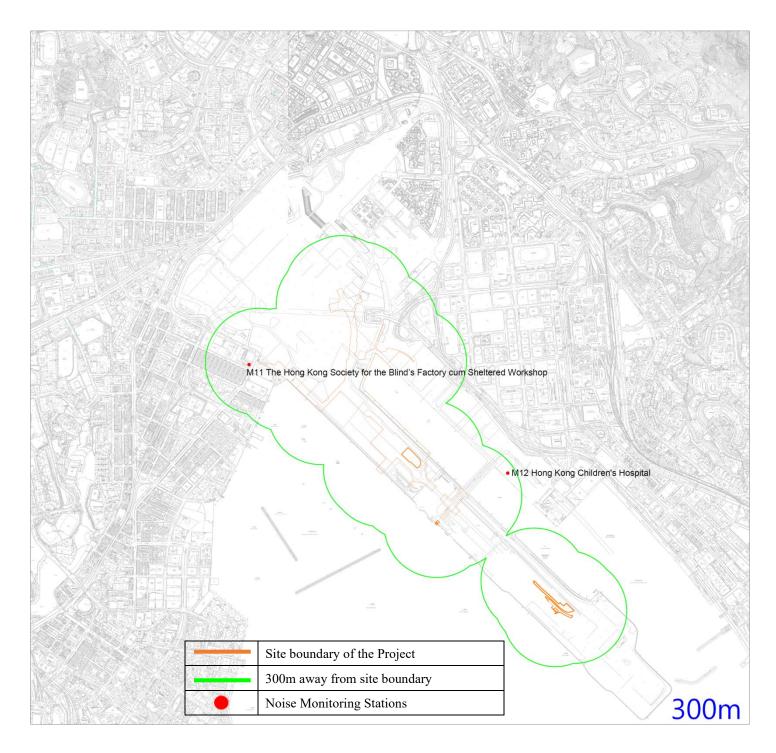
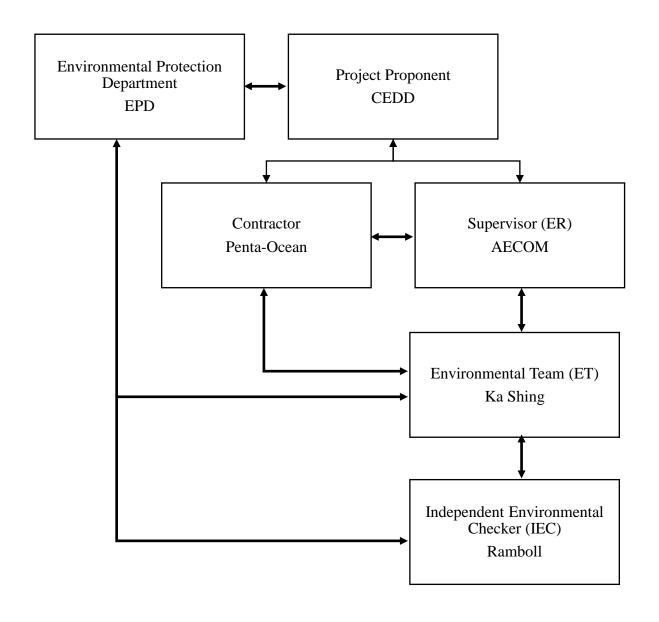


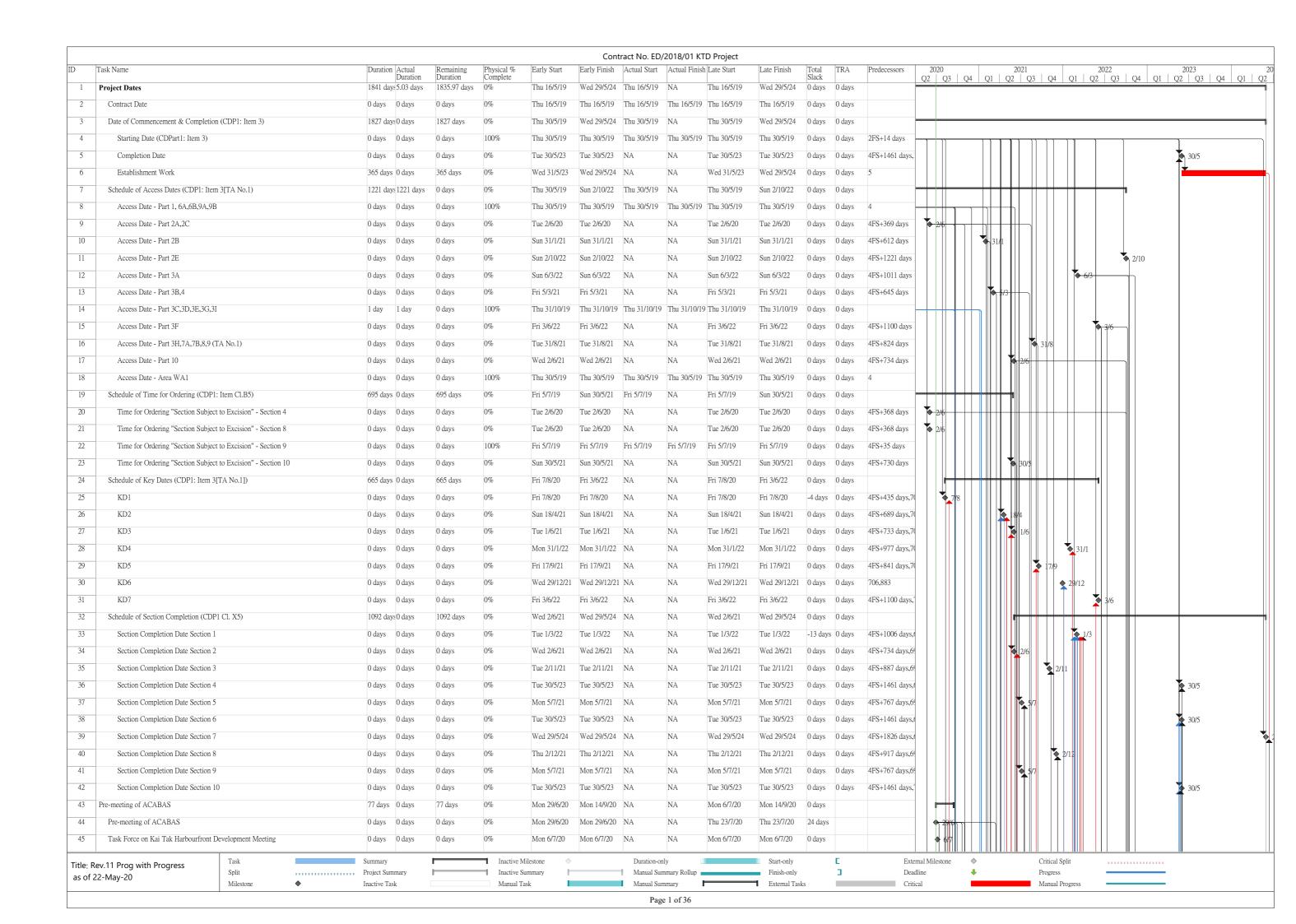
Figure 6 – Noise Monitoring Stations

## Appendix A – Organization Chart of EM&A Team



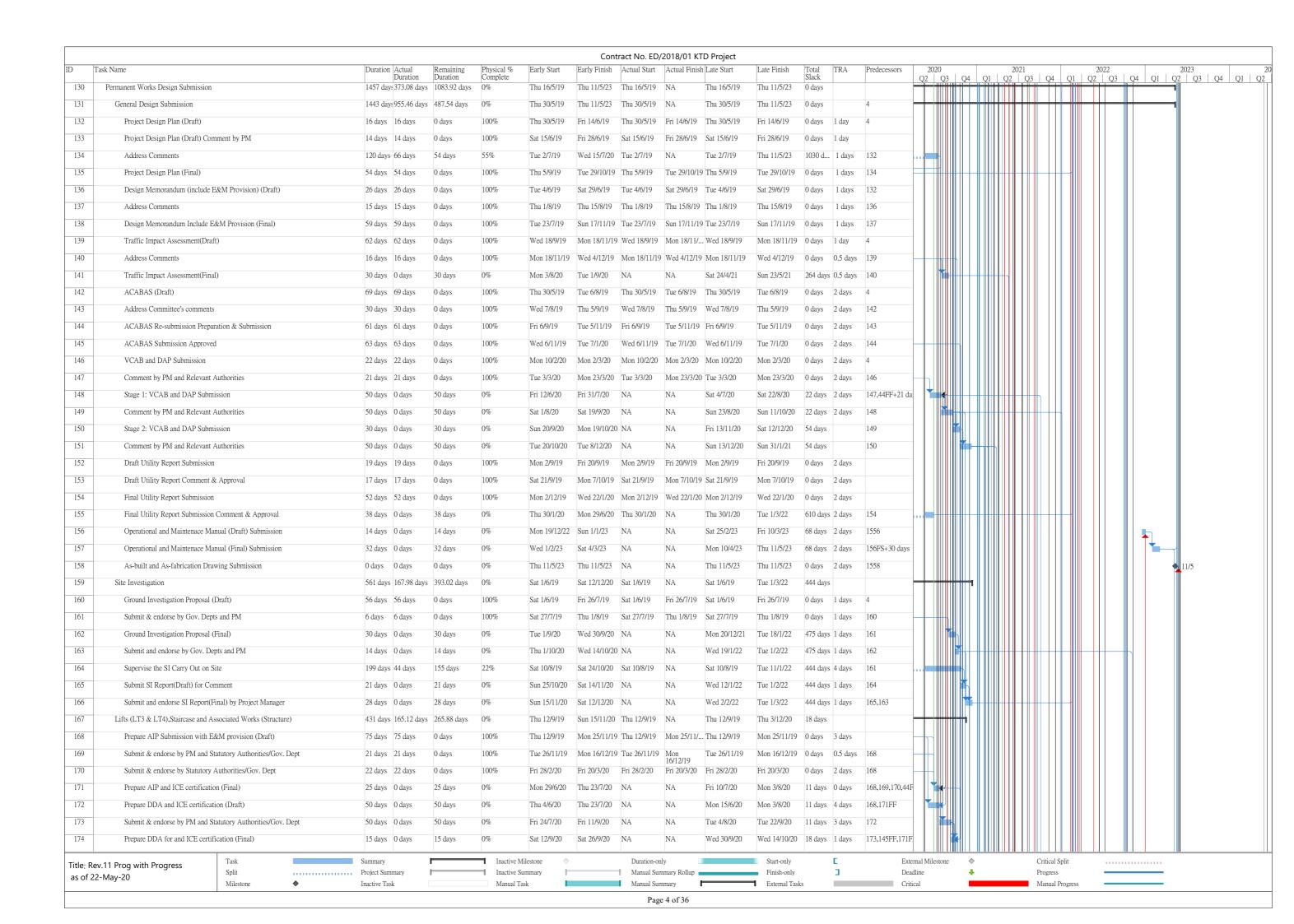
← Link of communication

## **Appendix B – Construction Programme**



							Cont	ract No. ED/	2018/01 KT	D Project												
)	Task Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA Prede		2020   Q3   Q	4 01	2021 O2 03	04 0		)22   O3   O4		023   Q3   Q4   Q
46	District Council Consultation	0 days		0 days	0%	Mon 14/9/20	Mon 14/9/20	NA	NA	Mon 14/9/20	Mon 14/9/20	0 days		1	14	9		1			7   Q1   Q2	<u>  Q3   Q+   (</u>
47	Project Manager's Instruction	8 days	8 days	0 days	0%	Thu 20/2/20	Fri 28/2/20	Thu 20/2/20	Fri 28/2/20	Thu 20/2/20	Fri 28/2/20	0 days										
48	PMI No. 001 - BIM Promenade Walk-through Video for Infrastructure in Kai Tak Stage 4	0 days	0 days	0 days	100%	Thu 20/2/20	Thu 20/2/20	Thu 20/2/20	Thu 20/2/20	Thu 20/2/20	Thu 20/2/20	0 days		0/2								
49	PMI No. 002 - Arranagement of Restricting Site Activities due to Spread of the Noval Coronavirus Between 29 January 2020 to 02 February 2020	0 days	0 days	0 days	100%	Fri 28/2/20	Fri 28/2/20	Fri 28/2/20	Fri 28/2/20	Fri 28/2/20	Fri 28/2/20	0 days		28/2								
50	Compensation Event	16 days	16 days	0 days	0%	Mon 10/2/20	Wed 26/2/20	Mon 10/2/20	Wed 26/2/20	Mon 10/2/20	Wed 26/2/20	0 days										
51	CE/001: BIM Promenade Walk-through Video for Infrastructure in Kai Tak Stage 4	0 days	0 days	0 days	100%	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	0 days		V2								
52	CE/002 - Arranagement of Restricting Site Activities due to Spread of the Noval Coronavirus Between 29 January 2020 to 02 February 2020	0 days	0 days	0 days	100%	Wed 26/2/20	Wed 26/2/20	Wed 26/2/20	Wed 26/2/20	Wed 26/2/20	Wed 26/2/20	0 days		16/2								
53	Early Warning	257 days	257 days	0 days	0%	Wed 10/7/19	Mon 23/3/20	Wed 10/7/19	Mon 23/3/20	Wed 10/7/19	Mon 23/3/20	0 days										
54	EW No. 001: CLP's 11kV and 132kV Cable Routing across Utility Trough of Bridge D3 and Alongside Road D3 (Metro Park Section)	0 days	0 days	0 days	100%	Wed 10/7/19	Wed 10/7/19	Wed 10/7/19	Wed 10/7/19	Wed 10/7/19	Wed 10/7/19	0 days										
55	EW No. 002: Deep Excavation Basement Construction Works from CKR-BEM Contract	0 days	0 days	0 days	100%	Thu 5/9/19	Thu 5/9/19	Thu 5/9/19	Thu 5/9/19	Thu 5/9/19	Thu 5/9/19	0 days										
56	EW No. 003: Overhang Cables of CLP Delay the Northern Depressed Road	0 days	0 days	0 days	100%	Wed 11/9/19	Wed 11/9/19	Wed 11/9/19	Wed 11/9/19	Wed 11/9/19	Wed 11/9/19	0 days										
57	EW No. 004: Late Commencement on Noise and Air Baseline Monitoring Delay the Northern Depressed Road CH1560 to 1720	0 days	0 days	0 days	100%	Mon 4/11/19	Mon 4/11/19	Mon 4/11/19	Mon 4/11/19	Mon 4/11/19	Mon 4/11/19	0 days										
8	EW No. 005: Maintain the SCL RoW which should have been diverted to the RoW Constructed by KTSP caused Disruption to the Construction of North Approach Ramp especially affect the KTD1	0 days	0 days	0 days	100%	Wed 13/11/19	Wed 13/11/19	Wed 13/11/19	Wed 13/11/19	Wed 13/11/19	Wed 13/11/19	0 days										
9	EW No. 006: Deferral of Design Deliverables	0 days	0 days	0 days	100%	Mon 16/12/19	Mon 16/12/19	Mon 16/12/19	Mon 16/12/	Mon 16/12/19	Mon 16/12/19	0 days										
60	EW No. 007: Delay on Driven H-piles by KTSP may affect the KD1	0 days	0 days	0 days	100%	Fri 20/12/19	Fri 20/12/19	Fri 20/12/19	Fri 20/12/19	Fri 20/12/19	Fri 20/12/19	0 days										
1	EW No. 008: Not Allow to Extract Sheetpiles of North Approach Ramp beside Kai Tak Sport Park as Discussed at the Interface Meeting	0 days	0 days	0 days	100%	Fri 27/12/19	Fri 27/12/19	Fri 27/12/19	Fri 27/12/19	Fri 27/12/19	Fri 27/12/19	0 days										
2	EW No. 010: Existing 150mm Fresh Water Pipe clashing with Bridge D3 and South Approach Ramp	0 days	0 days	0 days	100%	Wed 8/1/20	Wed 8/1/20	Wed 8/1/20	Wed 8/1/20	Wed 8/1/20	Wed 8/1/20	0 days										
3	EW No. 011: Additional Requirement for Special Arrangement for Design and Construction of Noise Barrier fir Future Connection of Footbridge FB10 from Development Site 4B5	0 days	0 days	0 days	100%	Tue 14/1/20	Tue 14/1/20	Tue 14/1/20	Tue 14/1/20	Tue 14/1/20	Tue 14/1/20	0 days										
4	EW No. 014: Planning of the Works in Revised Programme (Rev. 6)	0 days	0 days	0 days	100%	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	Mon 10/2/20	0 days		V2								
5	EW No. 015: Outbreak of Novel Coronavirus (Constraints on Working Time)	0 days	0 days	0 days	100%	Tue 11/2/20	Tue 11/2/20	Tue 11/2/20	Tue 11/2/20	Tue 11/2/20	Tue 11/2/20	0 days		/2								
5	EW No. 016: Outbreak of Novel Coronavirus (Late Supply of Agggregate)	0 days	0 days	0 days	100%	Wed 19/2/20	Wed 19/2/20	Wed 19/2/20	Wed 19/2/20	Wed 19/2/20	Wed 19/2/20	0 days		9/2								
7	EW No. 020: GEO Audit for Underpass D3	0 days	0 days	0 days	100%	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	0 days		13/3								
8	EW No. 021: Unforessen Underground Water at North Approach Ramp Bay 6	0 days	0 days	0 days	100%	Thu 12/3/20	Thu 12/3/20	Thu 12/3/20	Thu 12/3/20	Thu 12/3/20	Thu 12/3/20	0 days		12/3								
9	EW No. 022:Deferral of Interface Management Plan Submission for Noise Barrier Works	0 days	0 days	0 days	100%	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	Fri 13/3/20	0 days		13/								
0	EW No. 023:Disruption of the Works due to Stockpile was not allowed to dispose to the Proposed Disposal Ground	0 days	0 days	0 days	100%	Mon 16/3/20	Mon 16/3/20	Mon 16/3/20	Mon 16/3/20	Mon 16/3/20	Mon 16/3/20	0 days		16/								
1	EW No. 025: Broken Steel Casing for Bored Pile P02-BP2	0 days	0 days	0 days	100%	Mon 23/3/20	Mon 23/3/20	Mon 23/3/20	Mon 23/3/20	Mon 23/3/20	Mon 23/3/20	0 days		23/	3							
2	Contractor's Notification of Compensation Event	14 days	0 days	14 days	0%	Thu 28/5/20	Thu 11/6/20	NA	NA	Tue 9/6/20	Tue 7/7/20	12 days			1							
3	Compensation Event (CNCE) No. 009 - Inclement Weather in April 2020	0 days	0 days	0 days	0%	Thu 28/5/20	Thu 28/5/20	NA	NA	Tue 7/7/20	Tue 7/7/20	40 days			<del>-28</del> /5							
4	Compensation Event - Inclement Weather in May 2020	0 days	0 days	0 days	0%	Thu 11/6/20	Thu 11/6/20	NA	NA	Tue 9/6/20	Tue 9/6/20	-2 days			<b>♦ 1</b> 1/6							
5	Project Submission	1457 day	401.03 days	1055.97 days	0%	Thu 16/5/19	Thu 11/5/23	Thu 16/5/19	NA	Thu 16/5/19	Thu 11/5/23	0 days	0 days	-								
5	Submit Third Parties Insurance	71 days	71 days	0 days	100%	Tue 18/6/19	Tue 27/8/19	Tue 18/6/19	Tue 27/8/19	Tue 18/6/19	Tue 27/8/19	0 days	0 days 4									
7	Works Programme	160 days	160 days	0 days	0%	Thu 16/5/19	Tue 22/10/19	Thu 16/5/19	Thu 15/8/19	Thu 16/5/19	Tue 22/10/19	0 days										
3	Submit First Programme	20 days		0 days	100%	Thu 16/5/19	Tue 4/6/19	Thu 16/5/19	Tue 4/6/19	Thu 16/5/19	Tue 4/6/19	0 days	0 days 2									
)	Review and Comment by Project Manager	9 days		0 days	100%	Wed 5/6/19	Thu 13/6/19	Wed 5/6/19	Thu 13/6/19	Wed 5/6/19	Thu 13/6/19	0 days	0 days 78									
)	Revise and Resubmission of Works Programme	42 days		0 days	100%	Fri 14/6/19	Thu 25/7/19		Thu 25/7/19				0 days 79									
_	Final Review and Acceptance of the First Programme by Project Manager	20 days		0 days	100%	Sat 27/7/19	Thu 15/8/19		Thu 15/8/19		Thu 15/8/19		0 days 80									
2	Submit Health and Safety Management Plan (ACC Cl. D6(2))	6 days		0 days	100%	Thu 30/5/19	Tue 4/6/19	Thu 30/5/19			Tue 4/6/19		0.5 day 4									
3	Submit Teath and Safety Management Flan (ACC Cl. 1902))  Submit Detailed Programme for Safety Risk (ER Part 7, Cl. 7.3.4)	34 days		0 days	100%	Mon 9/12/19	Sat 11/1/20		Sat 11/1/20		Sat 11/1/20		0.5 day 4									
4 5	Submit Environmental Management Plan (ACC Cl. D20(2))  Submit BIM Models Deliverables	6 days 262 days	6 days 262 days	0 days	100%	Thu 30/5/19 Tue 13/8/19	Tue 4/6/19 Thu 30/4/20	Thu 30/5/19 Tue 13/8/19			Tue 4/6/19 Thu 30/4/20	0 days	0.5 day 4									
	Rev.11 Prog with Progress Task Split	Summary Project Sum	mary		Inactive M Inactive Su			Duration-on  Manual Sun	ly Imary Rollup		Start-only Finish-only		C 3	External N Deadline	filestone	♦		Critical Split Progress				
of	22-May-20 Milestone	Inactive Tas		-	Manual Ta			Manual Sun			External Task		_	Critical		*		Manual Progre	PCC			

							COI	itract No. ED	/2018/01 KTD Pi	roject													
,	Гask Name	Duration		Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish Late	e Start	Late Finish	Total Slack	TRA	Predecessors	2020	2   04   4		2021	N 01   1	2022	04 01 1	2023	04 01
86	Existing Site Model (Topography)	46 days	Duration 46 days	0 days	100%	Tue 13/8/19	Fri 27/9/19	Tue 13/8/19	Fri 27/9/19 Tue	13/8/19	Fri 27/9/19	0 days	1 day		Q2   Q	3 Q4 (	Q1 Q2	Q3   Q	24   Q1   0	22   Q3   C	Q4   Q1   0	Q2   Q3   	Q4   Q1
87	Existing Underground Utilities (UU) Model	33 days	33 days	0 days	100%	Mon 26/8/19	Fri 27/9/19	Mon 26/8/19	Fri 27/9/19 Mor	n 26/8/19	Fri 27/9/19	0 days	1 day										
88	3D Digital Survey For Existing Conditions	44 days	44 days	0 days	100%	Mon 2/9/19	Tue 15/10/19	Mon 2/9/19	Tue 15/10/19 Mor	n 2/9/19	Tue 15/10/19	0 days	1 day										
89	3D Photogrametry Model	46 days	46 days	0 days	100%	Mon 16/9/19	Thu 31/10/19	Mon 16/9/19	Thu 31/10/19 Mor	n 16/9/19	Thu 31/10/19	0 days	1 day										
90	AIP Model	16.92 day	16.92 days	0 days	100%	Fri 6/9/19	Sun 22/9/19	Fri 6/9/19	Sun 22/9/19 Fri	6/9/19	Sun 22/9/19	0 days	1 day										
91	Interfacing Contract Model	53 days	53 days	0 days	100%	Mon 9/9/19	Thu 31/10/19	Mon 9/9/19	Thu 31/10/19 Mor	n 9/9/19	Thu 31/10/19	0 days	1 day										
92	Monthly Updated BIM Model	1 day	1 day	0 days	100%	Thu 31/10/19	Thu 31/10/19	Thu 31/10/19	Thu 31/10/19 Thu	1 31/10/19	Thu 31/10/19	0 days	1 day										
93	4D Model Linked Up with Programme	0 days		0 days	100%	Thu 30/4/20			Thu 30/4/20 Thu			0 days			♦ 30/4								
94	Construction Method Simulation (CMS) in 3D Model	0 days		0 days	100%	Wed 22/4/20			Wed 22/4/20 Wed		Wed 22/4/20	0 days			<b>♦</b> 22/4								
95	BIM Deliverables Schedule	896 days		892.28 days	0%	Thu 16/5/19		1 Thu 16/5/19			Tue 11/1/22	76 days	- uu		- 22/1								
96	Establish BIM Team	0 days		0 days	100%	Sat 3/8/19	Sat 3/8/19	Sat 3/8/19		3/8/19	Sat 3/8/19	0 days	1 day					'					
97	BIM Execution Plan				100%	Sat 31/8/19	Sat 31/8/19	Sat 31/8/19	Sat 31/8/19 Sat		Sat 31/8/19												
		0 days		0 days								0 days											
98	BIM Submission Schedule	0 days		0 days	100%	Fri 16/8/19	Fri 16/8/19	Fri 16/8/19	Fri 16/8/19 Fri		Fri 16/8/19	0 days	_										
99	BIM 360 License	0 days		0 days	100%	Sat 31/8/19	Sat 31/8/19	Sat 31/8/19	Sat 31/8/19 Sat		Sat 31/8/19	0 days											
.00	BIM/Drawing Management Software System	0 days		0 days	100%	Sat 31/8/19	Sat 31/8/19	Sat 31/8/19	Sat 31/8/19 Sat		Sat 31/8/19	0 days											
101	CDE Setup		1 day	0 days	100%	Sat 31/8/19	Mon 9/9/19	Sat 31/8/19	Mon 9/9/19 Sat		Mon 9/9/19	0 days	_										
102	Clash Report Format	0 days	0 days	0 days	100%	Thu 12/9/19			Thu 12/9/19 Thu		Thu 12/9/19	0 days	1 day										
103	Monthly Report Format	0 days	0 days	0 days	100%	Thu 12/9/19	Thu 12/9/19	Thu 12/9/19	Thu 12/9/19 Thu	1 12/9/19	Thu 12/9/19	0 days	1 day										
.04	Quality Assurance Plan for BIM	0 days	0 days	0 days	100%	Mon 30/9/19	Mon 30/9/19	Mon 30/9/19	Mon 30/9/19 Mon	n 30/9/19	Mon 30/9/19	0 days	1 day										
105	BIM Training Plan	0 days	0 days	0 days	100%	Thu 10/10/19	Thu 10/10/19	Thu 10/10/19	Thu 10/10/19 Thu	10/10/19	Thu 10/10/19	0 days	1 day										
06	BIM Training Schedule for CIC Training	0 days	0 days	0 days	100%	Mon 30/9/19	Mon 30/9/19	Mon 30/9/19	Mon 30/9/19 Mon	n 30/9/19	Mon 30/9/19	0 days	1 day										
.07	Monthly BIM Progress Report	0 days	0 days	0 days	100%	Thu 16/5/19	Tue 31/12/19	Thu 16/5/19	Tue 31/12/19 Thu	16/5/19	Tue 31/12/19	0 days	1 day		,								
108	Monthly Clash Report	1 day	1 day	0 days	100%	Tue 31/3/20	Tue 31/3/20	Tue 31/3/20	Tue 31/3/20 Tue	31/3/20	Tue 31/3/20	0 days	1 day										
109	BIM Object Libraries	1 day	1 day	0 days	100%	Thu 12/9/19	Thu 12/9/19	Thu 12/9/19	Thu 12/9/19 Thu	12/9/19	Thu 12/9/19	0 days	1 day										
110	Trees Preservation and Removal Proposal (TPRP) for tress along promenade open space Submission	e 0 days	0 days	0 days	0%	Mon 2/11/20	Mon 2/11/20	NA	NA Sun	17/1/21	Sun 17/1/21	63 days	1 day			2/11							
11	Trees Preservation and Removal Proposal (TPRP) for tress along promenade open space Submission Comment & Approval by Relevant Government Authories	e 360 days	0 days	360 days	0%	Mon 2/11/20	Wed 27/10/2	1 NA	NA Sun	17/1/21	Tue 11/1/22	76 days	1 day	110									
12	Trees Preservation and Removal Proposal (TPRP) for tress along Sing Kai Submission	0 days	0 days	0 days	0%	Fri 31/7/20	Fri 31/7/20	NA	NA Wed	d 30/9/20	Wed 30/9/20	52 days	1 day			31/7							
113	Trees Preservation and Removal Proposal (TPRP) for tress along Sing Kai Road Submission Comment & Approval by Relevant Government Authories	360 days	0 days	360 days	0%	Fri 31/7/20	Sun 25/7/21	NA	NA Wed	d 30/9/20	Fri 24/9/21	61 days	1 day	112									
14	Temporary Traffic Management	478 days	447.84 days	30.16 days	0%	Thu 30/5/19	Fri 18/9/20	Thu 30/5/19	NA Thu	1 30/5/19	Fri 25/9/20	7 days				+							
115	Submit Traffic Engineering Consultant and TTM Team Leader (PS1.16(3))	14 days	14 days	0 days	100%	Thu 30/5/19	Wed 12/6/19	Thu 30/5/19	Wed 12/6/19 Thu	1 30/5/19	Wed 12/6/19	0 days	1 day	4									
16	Submit EP Mgt System Co-ordinator (PS Cl. 1.18N(2))	7 days	7 days	0 days	100%	Thu 30/5/19	Wed 5/6/19	Thu 30/5/19	Wed 5/6/19 Thu	1 30/5/19	Wed 5/6/19	0 days	1 day	4									
117	Approve of EP Co-ordinator by Project Manager (PS Cl. 1.18N(2))	14 days	14 days	0 days	100%	Thu 6/6/19	Wed 19/6/19	Thu 6/6/19	Wed 19/6/19 Thu	1 6/6/19	Wed 19/6/19	0 days	1 day	116									
18	Submit UU detection equipment for Supervisor approval (PS Cl. 1.25A(1))	7 days	7 days	0 days	100%	Thu 30/5/19	Wed 5/6/19	Thu 30/5/19	Wed 5/6/19 Thu	1 30/5/19	Wed 5/6/19	0 days	1 day	4									
19	Submit & obtain approval: site office's location and layout plan (PS Cl. 1.45(11)) (7d	47 days	47 days	0 days	100%	Thu 30/5/19	Fri 18/10/19	Thu 30/5/19	Fri 18/10/19 Thu	1 30/5/19	Fri 18/10/19	0 days	1 day	4									
.20	submission + 14d approval) Submit Site survey record (PS Cl.1.47(7))	34 days		0 days	100%	Thu 30/5/19	Tue 2/7/19	Thu 30/5/19	Tue 2/7/19 Thu		Tue 2/7/19		1 day	4									
21	Submit & obtain approval: fencing & hoarding plan (PS Cl. 1.48(10)	40 days		40 days	0%	Mon 10/8/20		NA			Fri 25/9/20		0.5 days	4									
22	Submit site facilities (PS Cl. 1.50S)	65 days		0 days	100%	Thu 30/5/19	Fri 2/8/19	Thu 30/5/19			Fri 2/8/19		0.5 days										
23	Submit security system (PS Cl. 1.53A(5))	36 days		0 days	100%	Thu 30/5/19	Thu 4/7/19		Thu 4/7/19 Thu		Thu 4/7/19		0.5 days	4									
24	Submit Interface Management Plan (PS Cl. 1.89(2))	47 days		0 days	100%	Thu 30/5/19			Mon 15/7/19 Thu		Mon 15/7/19		0.5 days	4	$\parallel \parallel \parallel$								
25	Submit Subcontractor Management Plan (ACC Cl. C5(1))	13 days		0 days	100%	Thu 30/5/19			Tue 11/6/19 Thu		Tue 11/6/19		0.5 days										
.25	Submit Temporary Drainage and Sewerage Management Plan (PS Cl. 1.24A(1))	174 days			100%	Thu 30/5/19			Tue 19/11/19 Thu		Tue 19/11/19			4									
				0 days										4									
127	Submit EM&A Manual (ER Part 8, Cl. 8.2)	6 days		0 days	100%	Thu 30/5/19	Tue 4/6/19		Tue 4/6/19 Thu		Tue 4/6/19	0 days		4									
128	Submit Proposal of selection of suppliers of Plant and Materials (ACC Cl. C11(1)  Submit Contractor's Management Team (ACC Cl. D1(3))	80 days 50 days		0 days	100%	Thu 30/5/19 Thu 30/5/19	Sat 17/8/19 Thu 18/7/19		Sat 17/8/19 Thu Thu 18/7/19 Thu		Sat 17/8/19 Thu 18/7/19	0 days 0 days		4									
							23,112)					,				<u>                                     </u>			10.5				
	ev.11 Prog with Progress Split	Summary Project Sumr	nary		Inactive Mi			Duration-o  Manual Su	nly mmary Rollup		Start-only Finish-only		]		ternal Milestor adline	ıe ♦ ♣		Critic Prog	cal Split ress				
ot 2 ہ	2-May-20	Inactive Task			Manual Ta			Manual Su			External Task	re.			itical				ual Progress				



						Con	tract No. ED,	/2018/01 KT	D Project												
	Task Name	Duration Actual	Remaining	Physical %	Early Start		Actual Start			Late Finish		TRA	Predecessors	2020			2021	2022	2   61   51	2023	
75	Submit & endorse by PM and Statutory Authorities/Gov. Dept	Duration 50 days	Duration 50 days	Complete 0%	Sun 27/9/20	Sun 15/11/20	NA	NA	Thu 15/10/20	Thu 3/12/20	Slack 18 days	3 days	174	Q2 Q	Q4	Q1 Q2	Q3   Q4	Q1   Q2   Q	3 Q4 Q1	Q2   Q3	Q4   Q
76	Noise barrier fronting to 4B5 at Rd D3A & Bus Lay By (Section 5&9)	338 days 215.23 days		0%	Mon 4/11/19	Tue 6/10/20	Mon 4/11/19		Mon 4/11/19	Wed 7/10/20	1 day										
77	Prepare AIP Submission (Draft)	38 days 38 days	0 days	100%	Mon 4/11/19		9 Mon 4/11/19			Wed 11/12/19	0 days	2 days									
78	Submit & endorse by PM and Statutory Authorities/Gov. Dept	167 days 162 days	5 days	97%	Thu 12/12/19		Thu 12/12/19		Thu 12/12/19	Wed 27/5/20	1 day	2 days	177								
79	Prepare AIP and ICE certification (Final)	56 days 31 days	25 days	55%	Wed 22/4/20	Tue 16/6/20	Wed 22/4/20		Wed 22/4/20	Wed 17/6/20	1 day	0.5.1	178FF+21 days								
80	Prepare DDA Subm (Draft)	18 days 18 days	0 days	100%	Wed 1/4/20	Sat 18/4/20	Wed 1/4/20		Wed 1/4/20	Sat 18/4/20		0.5 days									
81	Submit & endorse by PM	55 days 35 days	20 days	64%	Sat 18/4/20	Thu 11/6/20	Sat 18/4/20	NA	Sat 18/4/20	Thu 6/8/20	56 days		180								
32	Submit & endorse by Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Wed 17/6/20	Wed 5/8/20	NA	NA	Thu 18/6/20	Thu 6/8/20	1 day		180,179								
33	Prepare DDA for and ICE certification (Final) (Original Contract Scope)	12 days 0 days	12 days	0%	Thu 6/8/20	Mon 17/8/20	NA	NA	Fri 7/8/20	Tue 18/8/20	1 day	1 days	181,182								
84	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Tue 18/8/20	Tue 6/10/20	NA	NA	Wed 19/8/20	Wed 7/10/20	1 day	1 days	183								
85	Decking for Underpass (Rd L14)	304 days 0 days	304 days	0%	Mon 20/7/20	Wed 19/5/21	NA	NA	Fri 31/7/20	Sun 30/5/21	11 days					+++++					
6	Structure Prepare AIP and ICE certification (Draft)	25 days 0 days	25 days	0%	Mon 20/7/20	Thu 13/8/20	NA	NA	Fri 31/7/20	Mon 24/8/20	11 days	3 days	44FF+12 days		4						
37	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Fri 14/8/20	Fri 2/10/20	NA	NA	Tue 25/8/20	Tue 13/10/20	11 days	0.5 days	186	-          i							
38	Prepare AIP and ICE certification (Final)	15 days 0 days	15 days	0%	Sat 3/10/20	Sat 17/10/20	NA	NA	Wed 14/10/20	Wed 28/10/20	11 days	1 day	186,187								
9	Prepare DDA and ICE certification (Draft)	89 days 0 days	89 days	0%	Sun 18/10/20	Thu 14/1/21	NA	NA	Thu 29/10/20	Mon 25/1/21	11 days	1 day	186,188								
10	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Fri 15/1/21	Fri 5/3/21	NA	NA	Tue 26/1/21	Tue 16/3/21		0.5 days									
1	Prepare DDA and ICE certification (Final)	25 days 0 days	25 days	0%	Sat 6/3/21	Tue 30/3/21		NA	Wed 17/3/21	Sat 10/4/21	11 days		190	$+\parallel\parallel\parallel$							
2	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Wed 31/3/21	Wed 19/5/21		NA	Sun 11/4/21	Sun 30/5/21			191	-							
				0%							11 days	1 uay	171								
3	Road D3 Bridge & Approach Ramps	439 days 358.08 days			Thu 30/5/19		Thu 30/5/19		Thu 30/5/19	Thu 8/10/20	59 days		4								
4	D3 Bridge Substructure	439 days 358.08 days	s 80.92 days	0%	Thu 30/5/19	Mon 10/8/20			Thu 30/5/19	Thu 8/10/20	59 days										
5	Prepare AIP and ICE certification (Draft)	66 days 66 days	0 days	100%	Thu 30/5/19	Sat 3/8/19	Thu 30/5/19	Sat 3/8/19	Thu 30/5/19	Sat 3/8/19	0 days	3 days	4								
6	Submit & endorse by PM and Statutory Authorities/Gov. Dept	15 days 15 days	0 days	100%	Mon 5/8/19	Mon 19/8/19	Mon 5/8/19	Mon 19/8/19	Mon 5/8/19	Mon 19/8/19	0 days	1 days	195,138								
7	Prepare AIP and ICE certification (Final)	30 days 30 days	0 days	100%	Mon 23/12/19	Tue 21/1/20	Mon 23/12/19	Tue 21/1/20	Mon 23/12/19	Tue 21/1/20	0 days	0 days	195,196								
8	Prepare DDA and ICE certification (Draft)	106 days 106 days	0 days	100%	Fri 19/7/19	Sun 17/11/19	Fri 19/7/19	Sun 17/11/19	Fri 19/7/19	Sun 17/11/19	0 days	5 days	195								
99	Submit & endorse by PM	17 days 17 days	0 days	100%	Wed 20/11/19	Fri 6/12/19	Wed 20/11/19	Fri 6/12/19	Wed 20/11/19	Fri 6/12/19	0 days	3 days	198								
0	Submit & endorse by Statutory Authorities/Gov. Dept	45 days 45 days	0 days	100%	Fri 24/1/20	Wed 18/3/20	Fri 24/1/20	Wed 18/3/20	Fri 24/1/20	Wed 18/3/20	0 days	1 days	198								
)1	Prepare DDA for and ICE certification (Include P02-BP2 Remedial Pile)	105 days 75 days	30 days	71%	Mon 9/3/20	Sun 21/6/20	Mon 9/3/20	NA	Mon 9/3/20	Wed 19/8/20	59 days	1 days	200								
)2	(Contractor Bear DDA Approval Risk)  Submit & endorse by PM and Statutory Authorities/Gov. Dept (Contractor Bear	50 days 0 days	50 days	0%	Mon 22/6/20	Mon 10/8/20	NA	NA	Thu 20/8/20	Thu 8/10/20	59 days	1 days	201	-	44						
03	DDA Approval Risk) D3 Bridge Superstructure	728 days 370.67 days	s 357.33 days	0%	Thu 30/5/19	Wed 26/5/21	Thu 30/5/19	NA	Thu 30/5/19	Wed 21/7/21	56 days										
)4	Prepare AIP and ICE certification (Draft)	101 days 101 days	0 days	100%	Thu 30/5/19	Sat 7/9/19	Thu 30/5/19		Thu 30/5/19	Sat 7/9/19	0 days	1 day									
05	Submit & endorse by PM and Statutory Authorities/Gov. Dept	19 days 19 days	0 days	100%	Mon 9/9/19	Fri 27/9/19		Fri 27/9/19		Fri 27/9/19			204								
)6	Prepare AIP and ICE certification (Final)	135 days 135 days	0 days	100%	Wed 20/11/19			7 Thu 2/4/20		Thu 2/4/20			205								
)7	Prepare DDA and ICE certification (Draft)	222 days 222 days	0 days	100%	Fri 19/7/19	Tue 25/2/20		Tue 25/2/20		Tue 25/2/20	0 days	3 days	205								
8	Submit & endorse by PM	23 days 23 days	0 days	100%	Wed 26/2/20	Thu 19/3/20	Wed 26/2/20	Thu 19/3/20	Wed 26/2/20	Thu 19/3/20	0 days	2 days	207								
)9	Submit & endorse by Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Mon 29/6/20	Mon 17/8/20	NA	NA	Thu 16/7/20	Thu 3/9/20	17 days	2 days	207,206FF+12	d							
10	Prepare DDA for and ICE certification (Final)	21 days 0 days	21 days	0%	Tue 18/8/20	Mon 7/9/20	NA	NA	Fri 4/9/20	Thu 24/9/20	17 days	1 days	208,206,209								
1	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Tue 8/9/20	Tue 27/10/20	NA	NA	Fri 25/9/20	Fri 13/11/20	17 days	2 days	210	1		$\  \  \ $					
12	Prepare AIP (E&M works) and ICE certification (Draft)	32 days 0 days	32 days	0%	Thu 2/7/20	Sun 2/8/20	NA	NA	Thu 27/8/20	Sun 27/9/20	56 days	2 days		1							
13	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Mon 3/8/20	Sat 3/10/20	NA	NA	Mon 28/9/20	Sat 28/11/20	56 days	2 days	212								
14	Prepare AIP (E&M works) and ICE certification (Final)	32 days 0 days	32 days	0%	Sun 4/10/20	Wed 4/11/20	NA	NA	Sun 29/11/20	Wed 30/12/20	56 days	2 days	213	$+\parallel \parallel \parallel$							
15	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Thu 5/11/20	Tue 5/1/21		NA	Thu 31/12/20	Tue 2/3/21	56 days		214	$+\parallel\parallel\parallel$							
16	Prepare DDA (E&M works) and ICE certification (Draft)	32 days 0 days	32 days	0%	Sat 5/12/20		NA	NA	Sat 30/1/21	Tue 2/3/21	56 days		215FF								
				0%																	
17	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days		Wed 6/1/21	Mon 8/3/21		NA	Wed 3/3/21	Mon 3/5/21	56 days		216								
18	Prepare DDA (E&M works) and ICE certification (Final)	17 days 0 days	17 days	0%	Tue 9/3/21	Thu 25/3/21		NA	Tue 4/5/21	Thu 20/5/21	56 days		217								
19	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Fri 26/3/21	Wed 26/5/21	NA	NA	Fri 21/5/21	Wed 21/7/21	56 days	2 days	218								
و. Þ	Lev.11 Prog with Progress	Summary		Inactive M	lilestone $\Diamond$		Duration-or	nly		Start-only		С	Ex	ternal Milestor			Critical Sp	lit			
	22-May-20	Project Summary		Inactive Su				mmary Rollup		Finish-only		3		adline	<u>+</u>		Progress	_			
	Milestone •	Inactive Task		Manual Ta	ISK		Manual Su	mmary <b>F</b>		External Task	S		Cri	tical			Manual Pro	ogress			

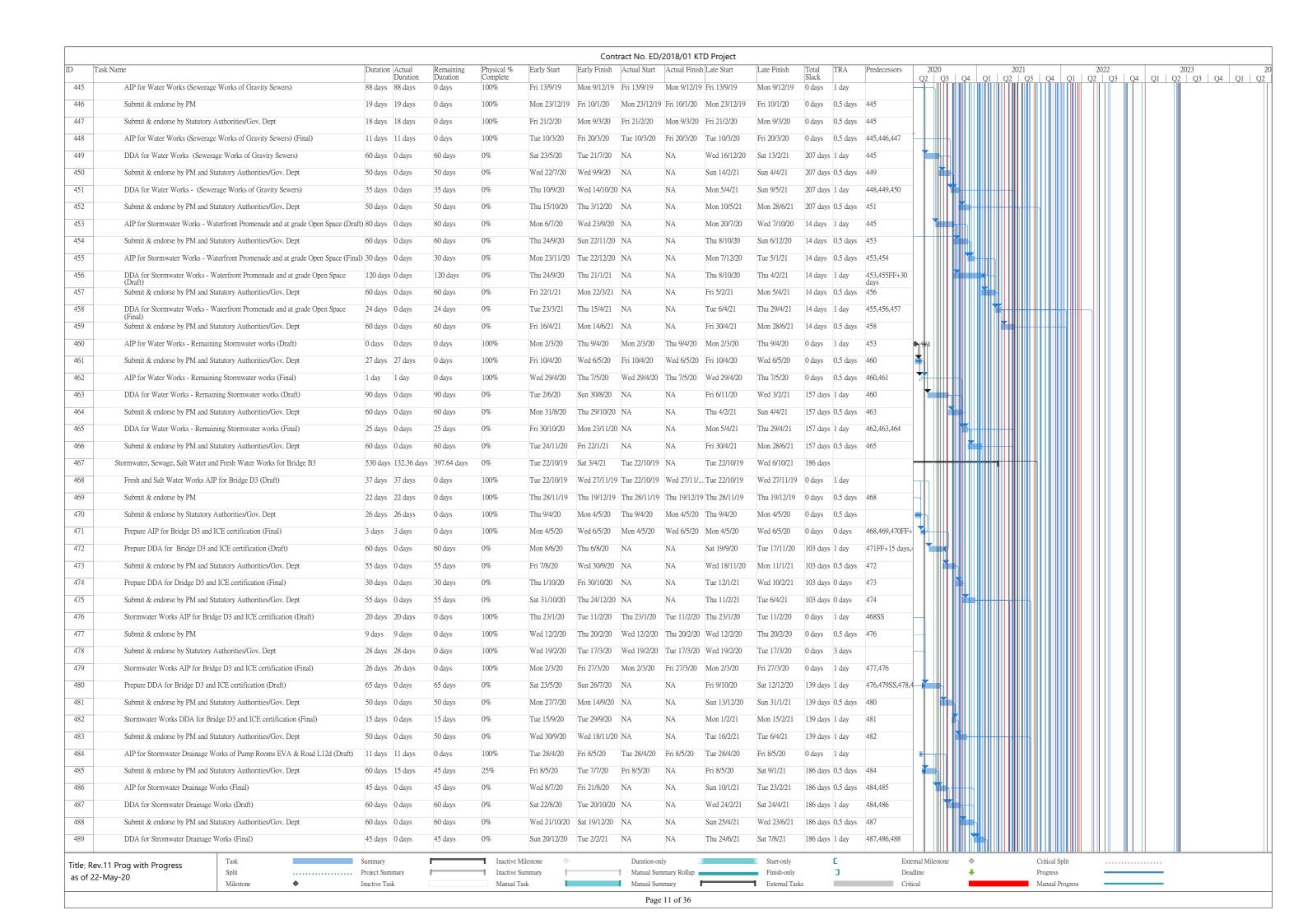
						Con	tract No. ED,	/2018/01 KT	TD Project																
-	Task Name	Duration Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2		M 0	2	021	04	21   2	2022	04 01	2023 Q2   Q3	04	
20	D3 North Approach Ramp (Structure)	398 days 348.95 days		0%	Mon 3/6/19	Sat 4/7/20	Mon 3/6/19	NA	Mon 3/6/19	Thu 8/10/20	96 days			QZ	δυ (	24   Q!	Q2	T Q3	<u>V</u> 4 (	Z1   Q.	2   Q3	V4 VI	Q2   Q3	Q4   (	<u>11</u>
21	Prepare AIP and ICE certification (Draft))	51 days 51 days	0 days	100%	Mon 3/6/19	Tue 23/7/19	Mon 3/6/19	Tue 23/7/19	Mon 3/6/19	Tue 23/7/19	0 days	3 days	4												
22	Submit & endorse by PM and Statutory Authorities/Gov. Dept	100 days 100 days	0 days	100%	Thu 25/7/19	Fri 1/11/19	Thu 25/7/19	Fri 1/11/19	Thu 25/7/19	Fri 1/11/19	0 days	1 days	221												
23	Prepare AIP and ICE certification (Final)	14 days 14 days	0 days	100%	Tue 6/8/19	Thu 19/12/19	Tue 6/8/19	Thu 19/12/19	9 Tue 6/8/19	Thu 19/12/19	0 days	0 days	221,222												
224	Prepare DDA (Draft) with ICE certification	66 days 66 days	0 days	100%	Fri 19/7/19	Thu 20/2/20	Fri 19/7/19	Thu 20/2/20	Fri 19/7/19	Thu 20/2/20	0 days	5 days	221,223FF												
225	Submit & endorse by PM/Statutory Authorities/Gov. Dept	31 days 31 days	0 days	100%	Mon 20/1/20	Mon 23/3/20	Mon 20/1/20	Mon 23/3/20	Mon 20/1/20	Mon 23/3/20	0 days	3 days	224												
26	Prepare DDA for and ICE certification (Final)	45 days 45 days	0 days	100%	Wed 1/4/20	Fri 15/5/20	Wed 1/4/20	Fri 15/5/20	Wed 1/4/20	Fri 15/5/20	0 days		225												
27	Submit & endorse by PM/Statutory Authorities/Gov. Dept	50 days 6 days	44 days	12%	Sat 16/5/20	Sat 4/7/20	Sat 16/5/20	NA	Sat 16/5/20	Thu 8/10/20	96 days	0.5 days	226			+									
28	D3 North Approach Ramp (E&M Works)	329 days 0 days	329 days	0%	Thu 2/7/20	Wed 26/5/21	NA	NA	Fri 27/11/20	Thu 21/10/21	148 days														
29	Prepare AIP (E&M works) and ICE certification (Draft)	32 days 0 days	32 days	0%	Thu 2/7/20	Sun 2/8/20	NA	NA	Fri 27/11/20	Mon 28/12/20	148 days	2 days			h III										
30	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Mon 3/8/20	Sat 3/10/20	NA	NA	Tue 29/12/20	Sun 28/2/21	148 days	2 days	229	-											
31	Prepare AIP (E&M works) and ICE certification (Final)	32 days 0 days	32 days	0%	Sun 4/10/20	Wed 4/11/20	NA	NA	Mon 1/3/21	Thu 1/4/21	148 days	2 days	230	-											
32	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Thu 5/11/20	Tue 5/1/21	NA	NA	Fri 2/4/21	Wed 2/6/21	148 days	2 days	231	-											
33	Prepare DDA (E&M works) and ICE certification (Draft)	32 days 0 days	32 days	0%	Sat 5/12/20	Tue 5/1/21	NA	NA	Sun 2/5/21	Wed 2/6/21	148 days	2 days	232FF	-											
34	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Wed 6/1/21	Mon 8/3/21	NA	NA	Thu 3/6/21	Tue 3/8/21	148 days	2 days	233	-			<b>.</b>								
35	Prepare DDA (E&M works) and ICE certification (Final)	17 days 0 days	17 days	0%	Tue 9/3/21	Thu 25/3/21		NA	Wed 4/8/21	Fri 20/8/21	148 days		234	-											
36	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Fri 26/3/21	Wed 26/5/21		NA	Sat 21/8/21	Thu 21/10/21	148 days		235	-											
37	D3 South Approach Ramp	507 days 322.64 days		0%	Thu 30/5/19		Thu 30/5/19		Thu 30/5/19	Tue 16/2/21	122 days	2 411) 5													
38	Prepare AIP and ICE certification (Draft)	96 days 96 days	0 days	100%	Thu 30/5/19	Mon 2/9/19	Thu 30/5/19			Mon 2/9/19	0 days	3 days													
39													220												
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	35 days 35 days	0 days	100%	Wed 25/9/19		Wed 25/9/19			Tue 29/10/19	1	1 day	238	_											
10	Prepare AIP Submission (Final)	76 days 76 days	0 days	100%	Fri 7/2/20		Fri 7/2/20	Mon 4/5/20		Mon 4/5/20		1 day	238,239												
41	Prepare DDA and ICE certification (Draft)	50 days 50 days	0 days	100%	Wed 1/4/20		Wed 1/4/20	Wed 20/5/20		Wed 20/5/20	0 days	-	240FF+15 days												
242	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days 2 days	58 days	3%	Thu 21/5/20		Thu 21/5/20		Thu 21/5/20	Wed 18/11/20	-		238,241												
43	Prepare DDA for and ICE certification (Final)	30 days 0 days	30 days	0%	Mon 20/7/20	Tue 18/8/20		NA	Thu 19/11/20	Fri 18/12/20	122 days		242,240FF+12	d											
44	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days 0 days	60 days	0%	Wed 19/8/20	Sat 17/10/20		NA	Sat 19/12/20	Tue 16/2/21	122 days	1 day	243												
45	D3 South Approach Ramp (E&M Works)	392 days 0 days	392 days	0%	Sat 23/5/20		NA	NA	Wed 18/11/20		179 days														
46	Prepare AIP (E&M works) and ICE certification (Draft)	31 days 0 days	31 days	0%	Sat 23/5/20	Mon 22/6/20		NA	Wed 18/11/20		179 days	-													
47	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days 0 days	76 days	0%	Tue 23/6/20	Sun 6/9/20		NA	Sat 19/12/20	Thu 4/3/21	179 days		246												
48	Prepare AIP (E&M works) and ICE certification (Final)	31 days 0 days	31 days	0%	Mon 7/9/20	Wed 7/10/20	NA	NA	Fri 5/3/21	Sun 4/4/21	179 days		247												
49	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days 0 days	76 days	0%	Thu 8/10/20	Tue 22/12/20	NA	NA	Mon 5/4/21	Sat 19/6/21	179 days	1 day	248												
50	Prepare DDA (E&M works) and ICE certification (Draft)	31 days 0 days	31 days	0%	Sun 22/11/20	Tue 22/12/20	NA	NA	Thu 20/5/21	Sat 19/6/21	179 days	1 day	249FF			-									
51	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days 0 days	76 days	0%	Wed 23/12/20	Mon 8/3/21	NA	NA	Sun 20/6/21	Fri 3/9/21	179 days	1 day	250												
52	Prepare DDA (E&M works) and ICE certification (Final)	26 days 0 days	26 days	0%	Tue 9/3/21	Sat 3/4/21	NA	NA	Sat 4/9/21	Wed 29/9/21	179 days	1 day	251												
53	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days 0 days	76 days	0%	Sun 4/4/21	Fri 18/6/21	NA	NA	Thu 30/9/21	Tue 14/12/21	179 days	1 day	252						+						
54	Road D3 Underpass and Depressed Road	823 days 236.99 days	586.01 days	0%	Thu 30/5/19	Sun 29/8/21	Thu 30/5/19	NA	Thu 30/5/19	Wed 11/1/23	500 days							<del></del>							
55	Underpass (Structure)	486 days 320.41 days	165.59 days	0%	Thu 30/5/19	Sat 26/9/20	Thu 30/5/19	NA	Thu 30/5/19	Wed 2/12/20	67 days														
56	Prepare AIP and ICE certification (Draft)	96 days 96 days	0 days	100%	Thu 30/5/19	Mon 2/9/19	Thu 30/5/19	Mon 2/9/19	Thu 30/5/19	Mon 2/9/19	0 days	3 days	4												
57	Submit & endorse by PM and Statutory Authorities/Gov. Dept	17 days 17 days	0 days	100%	Tue 3/9/19	Thu 19/9/19	Tue 3/9/19	Thu 19/9/19	Tue 3/9/19	Thu 19/9/19	0 days	1 days	256												
58	Prepare AIP and ICE certification (Final)	84 days 84 days	0 days	100%	Tue 14/1/20	Mon 6/4/20	Tue 14/1/20	Mon 6/4/20	Tue 14/1/20	Mon 6/4/20	0 days	2 days	256,257		$\ \ $										
59	Prepare DDA (Draft) Preparation	156 days 156 days	0 days	100%	Tue 3/9/19	Wed 5/2/20	Tue 3/9/19	Wed 5/2/20	Tue 3/9/19	Wed 5/2/20	0 days	3 days	256	1											
60	DDA (Draft) Submit & endorse by PM & Statutory Authorities/Gov. Dept	169 days 34 days	135 days	20%	Thu 6/2/20	Thu 23/7/20	Thu 6/2/20	NA	Thu 6/2/20	Mon 28/9/20	67 days	0.5 days	259												
61	Prepare DDA for and ICE certification (Final)	15 days 0 days	15 days	0%	Fri 24/7/20	Fri 7/8/20	NA	NA	Tue 29/9/20	Tue 13/10/20	67 days	1 day	260,258FF+21	d											
62	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Sat 8/8/20	Sat 26/9/20	NA	NA	Wed 14/10/20	Wed 2/12/20	67 days	1 day	261	$+\parallel\parallel\parallel$											
263	Underpass (E&M Works)	392 days 0 days	392 days	0%	Mon 3/8/20	Sun 29/8/21	NA	NA	Tue 10/11/20	Wed 11/1/23	99 days			$+\parallel\parallel\parallel$				<del>    </del>							
264	Prepare AIP (E&M works) and ICE certification (Draft)	32 days 0 days	32 days	0%	Mon 5/10/20	Thu 5/11/20	NA	NA	Tue 10/11/20	Fri 11/12/20	36 days	2 days		$+\parallel\parallel\parallel$											
														1				<u>                                      </u>	<u> </u>						_
	ev.11 Prog with Progress  2 May 20 Split	Summary Project Summary		Inactive M			Duration-or  Manual Sur	nly mmary Rollup <b>•</b>		Start-only Finish-only		]		emal Milesto adline	one	<b>+</b>			tical Split gress						
of 2	2-May-20 Milestone	Inactive Task		Manual Ta			Manual Sur			External Tas				tical					nual Prog						

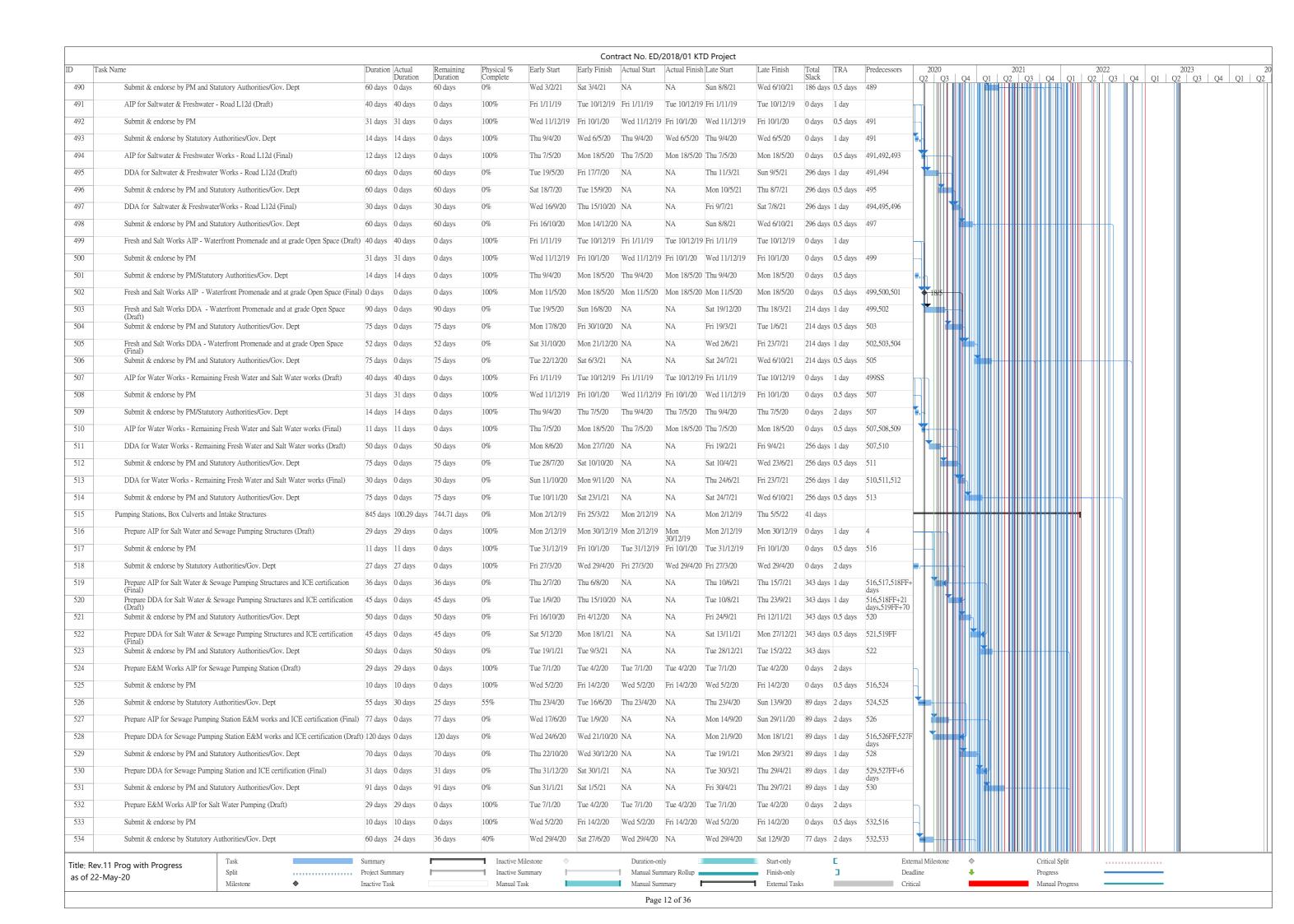
								TD Project														
ask Name	Duration Actual	Remaining Duration	Physical %	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish		TRA	Predecessors	2020	2   04	01   6	2021	04 03	2022	02   04	20	)23	M C
Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Fri 6/11/20	Wed 6/1/21	NA	NA	Sat 12/12/20	Thu 11/2/21		2 days	264	Q2   Q1	5 Q4	Q1   C	22   Q3	Q4	Q2   C	25 Q4	QI   Q2	Q3   Q4	4   Q
Prepare AIP (E&M works) and ICE certification (Final)	32 days 0 days	32 days	0%	Thu 7/1/21	Sun 7/2/21	NA	NA	Fri 12/2/21	Mon 15/3/21	36 days	2 days	265										
			0%		Sat 10/4/21	NA	NA	Tue 16/3/21	Sun 16/5/21			266			<b></b>							
Prepare DDA (E&M works) and ICE certification (Final)	17 days 0 days	17 days	0%	Sat 12/6/21	Mon 28/6/21	NA	NA	Sun 18///21	Tue 3/8/21	36 days	2 days	269										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days 0 days	62 days	0%	Tue 29/6/21	Sun 29/8/21	NA	NA	Wed 4/8/21	Mon 4/10/21	36 days	2 days	270										
Prepare AIP (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft)	31 days 0 days	31 days	0%	Mon 3/8/20	Wed 2/9/20	NA	NA	Thu 31/3/22	Sat 30/4/22	605 days	1 day			Ь								
Submit & endorse by PM and Statutory Authorities/Gov. Dept	51 days 0 days	51 days	0%	Thu 3/9/20	Fri 23/10/20	NA	NA	Sun 1/5/22	Mon 20/6/22	605 days	1 day	272										
Prepare AIP (E&M works ) and Architectural Finishes of of Underpass (Road	14 days 0 days	14 days	0%	Sat 24/10/20	Fri 6/11/20	NA	NA	Tue 21/6/22	Mon 4/7/22	605 days	2 days	273										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	74 days 0 days	74 days	0%	Sat 7/11/20	Tue 19/1/21	NA	NA	Tue 5/7/22	Fri 16/9/22	605 days	1 day	274			_							
Prepare DDA (E&M works) and Architectural Finishes of of Underpass (Road	31 days 0 days	31 days	0%	Sun 20/12/20	Tue 19/1/21	NA	NA	Wed 17/8/22	Fri 16/9/22	605 days	1 day	275FF										
· · · · · · · · · · · · · · · · · · ·	51 days 0 days		0%	Wed 20/1/21	Thu 11/3/21	NA	NA	Sat 17/9/22	Sun 6/11/22			276										
L14) and ICE certification (Final)																						
· · · · · · · · · · · · · · · · · · ·										-	-	278										
E&M Work for Pump House of Underpass D3	364 days 83.71 days	280.29 days	0%	Mon 24/2/20	Sun 21/2/21	Mon 24/2/20	NA	Mon 24/2/20	Wed 18/8/21	178 days												
Prepare AIP (E&M works) Submission (Draft)	11 days 11 days	0 days	0%	Mon 24/2/20	Thu 5/3/20	Mon 24/2/20	Thu 5/3/20	Mon 24/2/20	Thu 5/3/20	0 days	2 days											
Submit & endorse by PM and Statutory Authorities/Gov. Dept	160 days 78 days	82 days	49%	Fri 6/3/20	Wed 12/8/20	Fri 6/3/20	NA	Fri 6/3/20	Sat 15/8/20	3 days	2 days	281										
Prepare AIP (E&M works) and ICE certification (Final)	21 days 0 days	21 days	0%	Thu 13/8/20	Wed 2/9/20	NA	NA	Sun 16/8/20	Sat 5/9/20	3 days	2 days	282,44FF+12 da										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Thu 3/9/20	Thu 22/10/20	NA	NA	Sun 6/9/20	Sun 25/10/20	3 days	2 days	283										
Prepare DDA (E&M works) and ICE certification (Draft)	30 days 0 days	30 days	0%	Wed 30/9/20	Thu 29/10/20	NA	NA	Sat 3/10/20	Sun 1/11/20	3 days	2 days	284FF+7 days										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Fri 30/10/20	Fri 18/12/20	NA	NA	Mon 2/11/20	Mon 21/12/20	3 days	2 days	285										
Prepare DDA (E&M works) and ICE certification (Final)	15 days 0 days	15 days	0%	Sat 19/12/20	Sat 2/1/21	NA	NA	Tue 22/12/20	Tue 5/1/21	3 days	2 days	286										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days 0 days	50 days	0%	Sun 3/1/21	Sun 21/2/21	NA	NA	Wed 30/6/21	Wed 18/8/21	178 days	2 days	287										
												207										
<u> </u>												4										
												4										
	33 days 33 days	0 days	100%						Wed 4/9/19	0 days	2 days	290										
Prepare AIP and ICE certification (Final)	44 days 44 days	0 days	100%	Mon 9/12/19	Tue 21/1/20	Mon 9/12/19	Tue 21/1/20	Mon 9/12/19	Tue 21/1/20	0 days	0 days	291										
Prepare DDA and ICE certification (Draft)	57 days 57 days	0 days	100%	Tue 24/9/19	Tue 19/11/19	Tue 24/9/19	Tue 19/11/1	9 Tue 24/9/19	Tue 19/11/19	0 days	5 days	290										
Submit & endorse by PM	17 days 17 days	0 days	100%	Tue 19/11/19	Thu 5/12/19	Tue 19/11/19	Thu 5/12/19	Tue 19/11/19	Thu 5/12/19	0 days	1 day	293										
Submit & endorse by Statutory Authorities/Gov. Dept	20 days 20 days	0 days	100%	Wed 19/2/20	Mon 9/3/20	Wed 19/2/20	Mon 9/3/20	Wed 19/2/20	Mon 9/3/20	0 days	1 day	293										
Prepare DDA for and ICE certification (Final)	30 days 0 days	30 days	0%	Sat 23/5/20	Sun 21/6/20	NA	NA	Sat 11/2/23	Sun 12/3/23	994 days	3 days	294,292FF,295										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days 0 days	60 days	0%	Mon 22/6/20	Thu 20/8/20	NA	NA	Mon 13/3/23	Thu 11/5/23	994 days	5 days	296										
Depressed Road (North) F&M Works		322 days	0%	Mon 21/9/20	Sun 8/8/21	NA	NA	Tue 17/11/20	Mon 4/10/21													
											1 day											
												200		Ţ								
		31 days										300										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days 0 days	61 days	0%	Fri 22/1/21			NA	Sat 20/3/21	Wed 19/5/21			301										
Prepare DDA (E&M works) and ICE certification (Draft)	31 days 0 days	31 days	0%	Sun 21/2/21	Tue 23/3/21	NA	NA	Mon 19/4/21	Wed 19/5/21	57 days	1 day	302FF										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days 0 days	61 days	0%	Wed 24/3/21	Sun 23/5/21	NA	NA	Thu 20/5/21	Mon 19/7/21	57 days	1 day	303				<u> </u>						
Prepare DDA (E&M works) and ICE certification (Final)	16 days 0 days	16 days	0%	Mon 24/5/21	Tue 8/6/21	NA	NA	Tue 20/7/21	Wed 4/8/21	57 days	1 day	304										
Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days 0 days	61 days	0%	Wed 9/6/21	Sun 8/8/21	NA	NA	Thu 5/8/21	Mon 4/10/21	57 days	1 day	305										
Depressed Road (South) and Substructure of Elevated Landscape Deck	463 days 333.16 days	s 129.84 days	0%	Mon 10/6/19	Mon 14/9/20	Mon 10/6/19	NA	Mon 10/6/19	Thu 15/10/20	31 days				$\mathbf{H}$								
			100%					Mon 10/6/19			1 days							<u> </u>				
												308										
Saonin & Graoise of Fri and Statutory Authorntes/OUV. Dept	or unys or unys	o unys	100 /0	Jan 3/0/17	1 uc 22/10/19	Dat 3/0/17	1 uc 22/10/1	) Dat 3/0/17	1 uc 22/10/19	o uays	2 days	500										
7.11 Prog with Progress	-								Start-only		E .			e <	>							
-May-20 Split	Project Summary		Inactive Su  Manual Ta			Manual Sur	mmary Rollup	_	Finish-only  External Tas		1	Dead Criti	aime	4	•		Progress	_		_		
	Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and Architectural Finishes of of Underpass (Road L14) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) Submission (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) Submission (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare AIP (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certification (Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept Prepare DDA (E&M works) and ICE certificatio	Submit & endonce by PM and Statutory Authorities/Gov. Dept	Submit & endorse by PM and Statatory Authorities/Gov. Dept   62 days   0 days   22 days	Submit & enclare by PM and Statutery Authentities/Gov. Dept   62 days   0.days   62 days   0.0	Seberal R. endome by PM and Settinery Authorities/Rev. Dept	Submit & costone by PM and Summory Authorises/Son, Dept	Selecti & encores by 150 and Statistics Authoritics/Cor. Dept   24 days   26 days   26 days   150 mil 1702   50	Schemic & makere by PM and Security Authorized Size. Detay   0.5 app.   0.6 app.   0.6 app.   0.6 pp.   0.6 pp.	Second Accesses for Plant and Secondary Assertation (Section 1997)   Colors   Propert APP CASA Missers and Information Section   Colors   Colors   Propert APP CASA Missers and Information Section   Colors   Colors   Colors   Propert CASA CASA Missers and Information Section   Colors   Col	Schemic Andrew by FM and framework (International Conference on Confer	Semina Semina Control   Private   Private   Semina Semina Control   Private   Private   Semina Semina Control   Private   Semina Semina Control   Private   Private   Semina Semina Semina Control   Private   Semina Sem	Second   Company   Compa	Section   Sect	Part   Part	Profess   Profess   Section   Profess   Prof	Column   C	Property   Control of the Control	Property   Property	Part	Part   Part	Part   Part	Process

							Con	tract No. ED/	2018/01 K	TD Project														
Task	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish	Total TRA Slack	Predecessors 20		04	01   0	2021	R   04	01	201	22	04	2	2023   Q3
10	Prepare AIP and ICE (certification (Final)	270 days	s 222 days	48 days	82%	Tue 15/10/19	Fri 10/7/20	Tue 15/10/19	NA	Tue 15/10/19	Mon 10/8/20	31 days 0 days	309,44FF+12 da		Q4			y Q4	Q1	Q2	Q3	Q4 C	21   Q2	_ Q3
11	Prepare DDA certification (Draft)	27 days	27 days	0 days	100%	Mon 10/2/20	Sat 7/3/20	Mon 10/2/20	Sat 7/3/20	Mon 10/2/20	Sat 7/3/20	0 days 5 days	308											
12	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	24 days	51 days	32%	Wed 29/4/20	Thu 16/7/20	Wed 29/4/20	NA	Wed 29/4/20	Sun 16/8/20	31 days 1 days	311,310FF+6							'				
313	Prepare DDA for and ICE certification (Final)	10 days	0 days	10 days	0%	Fri 17/7/20	Sun 26/7/20	NA	NA	Mon 17/8/20	Wed 26/8/20	31 days 0.5 days	days 312	K						'				
314	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Mon 27/7/20	Mon 14/9/20	NA	NA	Thu 27/8/20	Thu 15/10/20	31 days 0.5 days	313							'				
315	South Depressed Road (E&M Works)	382 days	o days	382 days	0%	Mon 7/9/20	Thu 23/9/21	NA	NA	Fri 18/9/20	Mon 4/10/21	11 days						-		'				
316	Prepare AIP (E&M works) and ICE certification (Draft)	31 days	0 days	31 days	0%	Mon 7/9/20	Wed 7/10/20	NA	NA	Fri 18/9/20	Sun 18/10/20	11 days 1 day								'				
317	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days	0 days	76 days	0%	Thu 8/10/20	Tue 22/12/20	NA	NA	Mon 19/10/20	Sat 2/1/21	11 days 1 day	316		*					'				
18	Prepare AIP (E&M works) and ICE certification (Final)	31 days	0 days	31 days	0%	Wed 23/12/20	Fri 22/1/21	NA	NA	Sun 3/1/21	Tue 2/2/21	11 days 1 day	317											
19	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days		76 days	0%	Sat 23/1/21		NA	NA	Wed 3/2/21	Mon 19/4/21	11 days 1 day	318							'				
20	Prepare DDA (E&M works) and ICE certification (Draft)	31 days		31 days	0%	Tue 9/3/21	Thu 8/4/21	NA	NA	Sat 20/3/21	Mon 19/4/21	11 days 1 day	319FF											
21	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days		76 days	0%	Fri 9/4/21	Wed 23/6/21		NA	Tue 20/4/21	Sun 4/7/21	11 days 1 day	320				ЩП							
22	Prepare DDA (E&M works) and ICE certification (Final)								NA															
		16 days		16 days	0%	Thu 24/6/21	Fri 9/7/21	NA		Mon 5/7/21	Tue 20/7/21	11 days 1 day	321											
23	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days		76 days	0%	Sat 10/7/21	Thu 23/9/21		NA	Wed 21/7/21	Mon 4/10/21	11 days 1 day	322											
24	Road Works (Civil Works)			465.99 days	0%	Tue 13/8/19	Fri 4/6/21	Tue 13/8/19		Tue 13/8/19	Tue 14/12/21	193 days												
25	Prepare AIP for At-grade Road D3 and ICE certification (Draft)		57 days	0 days	100%	Tue 13/8/19	Tue 8/10/19			Tue 13/8/19	Tue 8/10/19	0 days 1 day	293SS+75 days											
1.6	Submit & endorse by PM	21 days	21 days	0 days	100%	Wed 9/10/19	Tue 29/10/19	Wed 9/10/19	Tue 29/10/19	9 Wed 9/10/19	Tue 29/10/19	0 days 0.5 days	325											
27	Submit & endorse by Statutory Authorities/Gov. Dept	24 days	24 days	0 days	100%	Wed 30/10/19	Fri 22/11/19	Wed 30/10/19	Fri 22/11/19	Wed 30/10/19	Fri 22/11/19	0 days 1 day	325											
28	Prepare AIP for At-grade Road D3 and ICE certification (Final)	57 days	57 days	0 days	100%	Thu 5/3/20	Mon 4/5/20	Thu 5/3/20	Mon 4/5/20	Thu 5/3/20	Mon 4/5/20	0 days 0 days	326FS+12 days,327,44FF+1											
29	Prepare DDA for At-grade Road D3 and ICE certification (Draft)	210 days	0 days	210 days	0%	Sat 23/5/20	Fri 18/12/20	NA	NA	Wed 2/12/20	Tue 29/6/21	193 days 5 days												
80	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Sat 19/12/20	Wed 3/3/21	NA	NA	Wed 30/6/21	Sun 12/9/21	193 days 0.5 days				-								
31	Prepare DDA for At-grade Road D3 and ICE certification (Final)	16 days	0 days	16 days	0%	Thu 4/3/21	Fri 19/3/21	NA	NA	Mon 13/9/21	Tue 28/9/21	193 days 1 day	330			H.								
32	Submit & endorse by PM and Statutory Authorities/Gov. Dept	77 days	0 days	77 days	0%	Sat 20/3/21	Fri 4/6/21	NA	NA	Wed 29/9/21	Tue 14/12/21	193 days 2 days	331											
33	Remaining Road Works (E&M Works)	382 days	0 days	382 days	0%	Mon 5/10/20	Thu 21/10/21	NA	NA	Sat 13/2/21	Tue 1/3/22	131 days			J									
34	Prepare AIP (E&M works) and ICE certification (Draft)	31 days	0 days	31 days	0%	Mon 5/10/20	Wed 4/11/20	NA	NA	Sat 13/2/21	Mon 15/3/21	131 days 1 day												
35	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days	0 days	76 days	0%	Thu 5/11/20	Tue 19/1/21	NA	NA	Tue 16/3/21	Sun 30/5/21	131 days 1 day	334		-									
36	Prepare AIP (E&M works) and ICE certification (Final)	31 days	0 days	31 days	0%	Wed 20/1/21	Fri 19/2/21	NA	NA	Mon 31/5/21	Wed 30/6/21	131 days 1 day	335											
37	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days		76 days	0%	Sat 20/2/21		NA	NA	Thu 1/7/21	Tue 14/9/21	131 days 1 day	336											
38	Prepare DDA (E&M works) and ICE certification (Draft)	31 days		31 days	0%	Tue 6/4/21		NA	NA	Sun 15/8/21		131 days 1 day	337FF											
39	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days		76 days	0%	Fri 7/5/21	Wed 21/7/21		NA	Wed 15/9/21		131 days 1 day	338											
40	Prepare DDA (E&M works) and ICE certification (Final)	16 days		16 days	0%	Thu 22/7/21		NA	NA	Tue 30/11/21		131 days 1 day	339				<b>∏</b> ↓							
							Thu 21/10/21																	
341	Submit & endorse by PM and Statutory Authorities/Gov. Dept	76 days		76 days	0%	Sat 7/8/21			NA	Thu 16/12/21	Tue 1/3/22	131 days 1 day	340											
342	Road L12d Works (Roadworks)			529.73 days	0%	Tue 6/8/19			NA	Tue 6/8/19	Tue 28/2/23	512 days						1						
43	Prepare AIP for Road L12d Submission (Draft)		64 days	0 days	100%	Tue 6/8/19			Tue 8/10/19		Tue 8/10/19	0 days 1 day	325											
44	Submit & endorse by PM and Statutory Authorities/Gov. Dept		227 days	150 days	60%	Wed 9/10/19		Wed 9/10/19		Wed 9/10/19		512 days												
45	Prepare AIP for Road L12d (Include E&M Provision Works) and ICE certification (Final)	120 days	0 days	120 days	0%	Tue 20/10/20	Tue 16/2/21	NA	NA	Wed 16/3/22	Wed 13/7/22	512 days 0 days	343,44FF+12 days,344											
16	Prepare DDA for Road L12d (Include E&M Provision Works) and ICE certification (Draft)	n 120 days	0 days	120 days	0%	Thu 19/11/20	Thu 18/3/21	NA	NA	Fri 15/4/22	Fri 12/8/22	512 days 1 day	343FS+260 days,345FF+30											
47	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Fri 19/3/21	Tue 1/6/21	NA	NA	Sat 13/8/22	Wed 26/10/22	512 days 0.5 days												
18	Prepare DDA for Road L12d (Include E&M Provision Works) and ICE certification (Final)	50 days	0 days	50 days	0%	Wed 2/6/21	Wed 21/7/21	NA	NA	Thu 27/10/22	Thu 15/12/22	512 days 0 days	347,345FF											
19	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Thu 22/7/21	Mon 4/10/21	NA	NA	Fri 16/12/22	Tue 28/2/23	512 days 0 days	348						H					
50	Road Lighting of Road D3 (E&M)	469 days	s 129.19 days	339.81 days	0%	Mon 6/1/20	Sun 18/4/21	Mon 6/1/20	NA	Mon 6/1/20	Sun 1/8/21	105 days	-											
51	Prepare AIP (E&M works) Submission (Draft)	30 days	30 days	0 days	100%	Mon 6/1/20	Tue 4/2/20	Mon 6/1/20	Tue 4/2/20	Mon 6/1/20	Tue 4/2/20	0 days 2 days												
52	Submit & endorse by Statutory Authorities/Gov. Dept and PM	190 days	s 108 days	82 days	57%	Wed 5/2/20	Wed 12/8/20	Wed 5/2/20	NA	Wed 5/2/20	Wed 25/11/20	105 days	351											
353	Prepare AIP (E&M works) and ICE certification (Final)	32 days		32 days	0%	Thu 13/8/20	Sun 13/9/20		NA	Thu 26/11/20	Sun 27/12/20													
354	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days		60 days	0%	Mon 14/9/20	Thu 12/11/20		NA	Mon 28/12/20	Thu 25/2/21	105 days 2 days	353											
		25 days		,-			12,11,20				20,221	Lucia Zungo							<u> </u>					
	1 Prog with Progress	Summary Project Sun	nmary		Inactive Mi			Duration-on  Manual Sun	ly nmary Rollup		Start-only Finish-only	C 3	External Mil Deadline	estone	•			Critical Progress						
of 22-N	1ay-20 Split Milestone   Milestone	Inactive Ta		•	Manual Tas			Manual Sun			External Tasl		Critical		<b>—</b>				Progress				_	

Task										TD Project									 		
Task	Name	Duration	n Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish	Total TRA Slack	Predecessors	2020 Q2 (	)3   Q4	Q1   Q	2021 02   Q3	Q4 (	0022   Q3   Q	)4 Q1 Q	2023 Q2   Q3
355	Prepare DDA (E&M works) and ICE certification (Draft)	32 days		32 days	0%	Mon 12/10/20	Thu 12/11/20	NA	NA	Mon 25/1/21	Thu 25/2/21	105 days 2 days	354FF								
356	Submit & endorse by PM and Statutory Authorities/Gov. Dept	77 days	0 days	77 days	0%	Fri 13/11/20	Thu 28/1/21	NA	NA	Fri 26/2/21	Thu 13/5/21	105 days 2 days	355								
357	Prepare DDA (E&M works) and ICE certification (Final)	3 days	0 days	3 days	0%	Fri 29/1/21	Sun 31/1/21	NA	NA	Fri 14/5/21	Sun 16/5/21	105 days 2 days	356								
358	Submit & endorse by PM and Statutory Authorities/Gov. Dept	77 days	0 days	77 days	0%	Mon 1/2/21	Sun 18/4/21	NA	NA	Mon 17/5/21	Sun 1/8/21	105 days 2 days	357					Ш			
359	Road L12d Works (E&M Works)	329 days	s 0 days	329 days	0%	Mon 5/10/20	Sun 29/8/21	NA	NA	Mon 1/2/21	Sun 26/12/21	119 days									
360	Prepare AIP (E&M works) and ICE certification (Draft)	32 days	0 days	32 days	0%	Mon 5/10/20	Thu 5/11/20	NA	NA	Mon 1/2/21	Thu 4/3/21	119 days 2 days									
361	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days	0 days	62 days	0%	Fri 6/11/20	Wed 6/1/21	NA	NA	Fri 5/3/21	Wed 5/5/21	119 days 2 days	360								
362	Prepare AIP (E&M works) and ICE certification (Final)		0 days	32 days	0%	Thu 7/1/21	Sun 7/2/21	NA	NA	Thu 6/5/21	Sun 6/6/21	119 days 2 days	361								
363	Submit & endorse by PM and Statutory Authorities/Gov. Dept		0 days	62 days	0%	Mon 8/2/21	Sat 10/4/21		NA	Mon 7/6/21	Sat 7/8/21	119 days 2 days									
364	Prepare DDA (E&M works) and ICE certification (Draft)		0 days	32 days	0%	Wed 10/3/21		NA	NA	Wed 7/7/21	Sat 7/8/21	119 days 2 days	363FF								
365																					
	Submit & endorse by PM and Statutory Authorities/Gov. Dept		0 days	62 days	0%	Sun 11/4/21		NA	NA	Sun 8/8/21	Fri 8/10/21	119 days 2 days	364								
366	Prepare DDA (E&M works) and ICE certification (Final)		0 days	17 days	0%	Sat 12/6/21	Mon 28/6/21		NA	Sat 9/10/21	Mon 25/10/21		365								
367	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days	0 days	62 days	0%	Tue 29/6/21	Sun 29/8/21	NA	NA	Tue 26/10/21	Sun 26/12/21	119 days 2 days	366						╗		
368	Roadworks other than at-grade Road D3 and Road L12d (Civil Works)	609 days	s 238.54 days	370.46 days	0%	Mon 2/9/19	Sun 2/5/21	Mon 2/9/19	NA	Mon 2/9/19	Sun 23/5/21	21 days									
369	AIP for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Draft)	36 days	36 days	0 days	100%	Mon 2/9/19	Mon 7/10/19	Mon 2/9/19	Mon 7/10/19	9 Mon 2/9/19	Mon 7/10/19	0 days 0.5 days	S								
370	Submit & endorse by PM and Statutory Authorities/Gov. Dept	288 days	s 228 days	60 days	79%	Tue 8/10/19	Tue 21/7/20	Tue 8/10/19	NA	Tue 8/10/19	Tue 11/8/20	21 days 0.5 days	s 369								
371	AIP for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Final)	75 days	0 days	75 days	0%	Wed 22/7/20	Sun 4/10/20	NA	NA	Wed 12/8/20	Sun 25/10/20	21 days 0.5 days	370,44FF+12 days								
372	DDA for Roadworks - Roadworks other than at-grade Road D3 and Road L12d (Draft)	95 days	0 days	95 days	0%	Sat 1/8/20	Tue 3/11/20	NA	NA	Sat 22/8/20	Tue 24/11/20	21 days 1 day	371FF+30 day	s							
373	(Drait) Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Wed 4/11/20	Sun 17/1/21	NA	NA	Wed 25/11/20	Sun 7/2/21	21 days 0.5 days	s 372	$\parallel \parallel \parallel$							
374	DDA for Roadworks - Roadworks other than at-grade Road D3 and Road L12d	30 days	0 days	30 days	0%	Mon 18/1/21	Tue 16/2/21	NA	NA	Mon 8/2/21	Tue 9/3/21	21 days 0.5 days	s 371,372,373	$\parallel \parallel \parallel$							
375	(Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Wed 17/2/21	Sun 2/5/21	NA	NA	Wed 10/3/21	Sun 23/5/21	21 days 0.5 days	s 374								
376	Roadworks - EVA to Sewerage and Saltwater Pumping Station (Civil Works)	413 days	s 68.26 days	344.74 days	0%	Wed 4/3/20	Tue 20/4/21	Wed 4/3/20	NA	Wed 4/3/20	Fri 17/2/23	668 days									
377	AIP for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Draft)	46 davs	46 days	0 days	100%	Wed 4/3/20	Sat 18/4/20	Wed 4/3/20	Sat 18/4/20	Wed 4/3/20	Sat 18/4/20	0 days 0.5 days	S								
378	Submit & endorse by PM and Statutory Authorities/Gov. Dept		33 days	49 days	40%	Sat 18/4/20		Sat 18/4/20	NA	Sat 18/4/20	Mon 23/5/22	684 days	377								
379	AIP for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Final)	75 days		75 days	0%	Thu 9/7/20	Mon 21/9/20		NA	Tue 24/5/22	Sat 6/8/22	684 days 0.5 days		1	ШШ						
380	DDA for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Draft)		0 days	95 days	0%	Mon 20/7/20	Thu 22/10/20		NA	Thu 19/5/22	Sun 21/8/22	668 days 1 day	379FF+15 day	S							
381	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days		75 days	0%	Fri 23/10/20	Tue 5/1/21		NA	Mon 22/8/22	Fri 4/11/22	668 days 0.5 days									
382	DDA for Roadworks - EVA to Sewerage and Saltwater Pumping Station (Final)	30 days		30 days	0%	Wed 6/1/21		NA	NA	Sat 5/11/22	Sun 4/12/22	668 days 0.5 days									
383	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Fri 5/2/21	Tue 20/4/21		NA	Mon 5/12/22	Fri 17/2/23	668 days 0.5 days	s 382								
384	Road Lighting of Road other than Road D3 (E&M)	356 days	s 0 days	356 days	0%	Fri 29/5/20	Wed 19/5/21	NA	NA	Tue 2/6/20	Sun 23/5/21	4 days					1				
385	Prepare AIP (E&M works) and ICE certification (Draft)	38 days	0 days	38 days	0%	Fri 29/5/20	Sun 5/7/20	NA	NA	Tue 2/6/20	Thu 9/7/20	4 days 2 days									
386	Submit & endorse by PM and Statutory Authorities/Gov. Dept	77 days	0 days	77 days	0%	Mon 6/7/20	Sun 20/9/20	NA	NA	Fri 10/7/20	Thu 24/9/20	4 days 2 days	385	7							
387	Prepare AIP (E&M works) and ICE certification (Final)	32 days	0 days	32 days	0%	Mon 21/9/20	Thu 22/10/20	NA	NA	Fri 25/9/20	Mon 26/10/20	4 days 2 days	386								
388	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days	0 days	62 days	0%	Fri 23/10/20	Wed 23/12/20	0 NA	NA	Tue 27/10/20	Sun 27/12/20	4 days 2 days	387								
389	Prepare DDA (E&M works) and ICE certification (Draft)	32 days	0 days	32 days	0%	Sun 22/11/20	Wed 23/12/20	) NA	NA	Thu 26/11/20	Sun 27/12/20	4 days 2 days	388FF	$\parallel \parallel \parallel$							
390	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days	0 days	62 days	0%	Thu 24/12/20	Tue 23/2/21	NA	NA	Mon 28/12/20	Sat 27/2/21	4 days 2 days	389	$\parallel \parallel \parallel$							
391	Prepare DDA (E&M works) and ICE certification (Final)	23 days	0 days	23 days	0%	Wed 24/2/21	Thu 18/3/21	NA	NA	Sun 28/2/21	Mon 22/3/21	4 days 2 days	390	$\parallel \parallel \parallel$							
392	Submit & endorse by PM and Statutory Authorities/Gov. Dept		0 days	62 days	0%	Fri 19/3/21	Wed 19/5/21	NA	NA	Tue 23/3/21	Sun 23/5/21	4 days 2 days	391	$+\parallel\parallel\parallel$							
393	Roadworks other than at-grade Road D3 and Road L12d (E&M Works)	322 days		322 days	0%	Thu 2/7/20	Wed 19/5/21	NA	NA	Mon 6/7/20	Sun 23/5/21	4 days					╣╢╢╢				
394	Prepare AIP (E&M works) and ICE certification (Draft)	31 days		31 days	0%	Thu 2/7/20		NA	NA	Mon 6/7/20	Wed 5/8/20	4 days 1 day									
395	Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days		61 days	0%	Sun 2/8/20	Thu 1/10/20		NA	Thu 6/8/20	Mon 5/10/20	4 days 1 day	394	$\parallel \parallel \parallel$							
396					0%	Fri 2/10/20	Sun 1/11/20		NA NA	Tue 6/10/20	Thu 5/11/20			_							
	Prepare AIP (E&M works) and ICE certification (Final)		0 days	31 days								4 days 1 day	395								
397	Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days		61 days	0%	Mon 2/11/20		NA	NA	Fri 6/11/20	Tue 5/1/21	4 days 1 day	396								
398	Prepare DDA (E&M works) and ICE certification (Draft)		0 days	31 days	0%	Wed 2/12/20		NA	NA	Sun 6/12/20	Tue 5/1/21	4 days 1 day	397FF								
399	Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days	0 days	61 days	0%	Sat 2/1/21	Wed 3/3/21	NA	NA	Wed 6/1/21	Sun 7/3/21	4 days 1 day	398								
itle· Rev 1	1 Prog with Progress	Summary			Inactive Mi	ilestone $\diamondsuit$		Duration-o	nly		Start-only	С	E	temal Milesto	ne 💠	41811	(	Critical Split	 		
	lay-20 Split	Project Sur	mmary		Inactive Su  Manual Tas	mmary		Manual Su	mmary Rollup		Finish-only	3	D	eadline	4		I	rogress			

							Con	tract No. ED,	/2018/01 K	ID Project												
Task	Name	Duration	n Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish	Total TRA Slack	Predecessors		03   04	01   02	021   O3   O4	01   (	2022 Q2   Q3	3 04	Q1   Q	2023
00	Prepare DDA (E&M works) and ICE certification (Final)	16 days		16 days	0%	Thu 4/3/21	Fri 19/3/21	NA	NA	Mon 8/3/21	Tue 23/3/21	4 days 1 day	399		25   Q4	Q1 Q2	Q3   Q4		22   Q3	, Q4	QI	
01	Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days	0 days	61 days	0%	Sat 20/3/21	Wed 19/5/21	NA	NA	Wed 24/3/21	Sun 23/5/21	4 days 1 day	400									1
12	DCS Seawater & Intake Box Culverts (approx 88m) (Section 2)	479 days	s 304.41 days	174.59 days	0%	Tue 13/8/19	Thu 3/12/20	Tue 13/8/19	NA	Tue 13/8/19	Tue 3/8/21	243 days										1
3	Prepare AIP Subm with ICE certification (Draft)	165 days	s 165 days	0 days	100%	Tue 13/8/19	Fri 24/1/20	Tue 13/8/19	Fri 24/1/20	Tue 13/8/19	Fri 24/1/20	0 days 3 days										
4	Submit & endorse by PM		85 days	0 days	100%	Thu 23/1/20	Thu 16/4/20	Thu 23/1/20	Thu 16/4/20	Thu 23/1/20	Thu 16/4/20	0 days 1 day	403									
5	Submit & endorse by Statutory Authorities/Gov. Dept		90 days	0 days	100%	Fri 24/1/20	Mon 27/4/20			) Fri 24/1/20	Mon 27/4/20	0 days 1 day	403	[]								
7	Prepare AIP and ICE certification (Final)	0 days	-	0 days	100%	Thu 23/4/20		Thu 23/4/20			Mon 27/4/20	0 days 1 days	403,405,404	<u> </u>								
	Prepare DDA and ICE certification	80 days	0 days	80 days	0%	Sat 23/5/20	Mon 10/8/20	NA	NA	Thu 21/1/21	Sat 10/4/21	243 days 5 days		7+1:								
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Tue 11/8/20	Tue 29/9/20	NA	NA	Sun 11/4/21	Sun 30/5/21	243 days 3 days	407									
	Prepare DDA for and ICE certification (Final)	15 days	0 days	15 days	0%	Wed 30/9/20	Wed 14/10/20	) NA	NA	Mon 31/5/21	Mon 14/6/21	243 days 1 day	408									
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Thu 15/10/20	Thu 3/12/20	NA	NA	Tue 15/6/21	Tue 3/8/21	243 days 2 days	409				H					
	Seawater & Intake Box Culverts Diversion	248 days	s 49.98 days	198.02 days	0%	Wed 1/4/20	Fri 4/12/20	Wed 1/4/20	NA	Wed 1/4/20	Wed 6/10/21	306 days										
	Prepare AIP Subm (Draft)	32 days	32 days	0 days	100%	Wed 1/4/20	Sat 2/5/20	Wed 1/4/20	Sat 2/5/20	Wed 1/4/20	Sat 2/5/20	0 days 3 days										
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	51 days	21 days	30 days	41%	Sat 2/5/20	Mon 22/6/20	Sat 2/5/20	NA	Sat 2/5/20	Tue 17/11/20	148 days 3 days	412									
	Prepare AIP and ICE certification (Final)	15 days		15 days	0%	Tue 23/6/20	Tue 7/7/20	NA	NA	Wed 18/11/20	Wed 2/12/20	148 days 1 days										
5	Prepare DDA and ICE certification				0%	Tue 23/6/20	Tue 11/8/20		NA NA	Sun 25/4/21	Sun 13/6/21		412SS,413F	3.5(								
		50 days		50 days								306 days 5 days		TJ								
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Wed 12/8/20	Wed 30/9/20		NA	Mon 14/6/21	Mon 2/8/21	306 days 3 days	415									
	Prepare DDA for and ICE certification (Final)	15 days	0 days	15 days	0%	Thu 1/10/20	Thu 15/10/20	NA	NA	Tue 3/8/21	Tue 17/8/21	306 days 1 day	416									1
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Fri 16/10/20	Fri 4/12/20	NA	NA	Wed 18/8/21	Wed 6/10/21	306 days 2 days	417									1
	Rising Main (Sewerage Works)	402 days	s 134 days	268 days	0%	Thu 2/1/20	Sat 6/2/21	Thu 2/1/20	NA	Thu 2/1/20	Sun 7/3/21	29 days				<del></del>						
	Prepare AIP (Draft)	35 days	35 days	0 days	100%	Thu 2/1/20	Wed 5/2/20	Thu 2/1/20	Wed 5/2/20	Thu 2/1/20	Wed 5/2/20	0 days 3 days	4									1
	Submit & endorse by PM	19 days	19 days	0 days	100%	Thu 6/2/20	Mon 24/2/20	Thu 6/2/20	Mon 24/2/20	Thu 6/2/20	Mon 24/2/20	0 days 1 day										
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	56 days	56 days	0 days	100%	Thu 27/2/20	Fri 22/5/20	Thu 27/2/20	Fri 22/5/20	Thu 27/2/20	Fri 22/5/20	0 days 2 days	420	<b></b>  -								
_	Prepare AIP and ICE certification (Final)	75 days	0 davs	75 days	0%	Thu 2/7/20	Mon 14/9/20	NA	NA	Fri 31/7/20	Tue 13/10/20	29 days 0 days	420,422,421	_   \								
	Prepare DDA and ICE certification (Draft)	30 days		30 days	0%	Tue 15/9/20	Wed 14/10/20		NA	Wed 14/10/20	Thu 12/11/20		420SS,423									
			-																			
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days		50 days	0%	Thu 15/10/20			NA	Fri 13/11/20	Fri 1/1/21	29 days 3 days	424,420									
	Prepare DDA and ICE certification (Final)	15 days	-	15 days	0%	Fri 4/12/20	Fri 18/12/20	NA	NA	Sat 2/1/21	Sat 16/1/21	29 days 0 days										
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Sat 19/12/20	Sat 6/2/21	NA	NA	Sun 17/1/21	Sun 7/3/21	29 days 3 days	426,423			7						1
	Stormwater, Sewage, Salt Water and Fresh Water Works for Underpass and Depressed Road	641 days	s 151.9 days	489.1 days	0%	Fri 13/9/19	Mon 14/6/21	Fri 13/9/19	NA	Fri 13/9/19	Mon 28/6/21	14 days										1
	Stormwater Drainage AIP for Underpass and Depressed Roads and ICE certification (Draft)	72 days	72 days	0 days	100%	Mon 2/12/19	Tue 11/2/20	Mon 2/12/19	Tue 11/2/20	Mon 2/12/19	Tue 11/2/20	0 days 1 day										1
	Submit & endorse by PM	51 days	51 days	0 days	30%	Wed 12/2/20	Thu 2/4/20	Wed 12/2/20	Thu 2/4/20	Wed 12/2/20	Thu 2/4/20	0 days 0.5 day	s 429									
	Submit & endorse by Statutory Authorities/Gov. Dept	139 days	s 64 days	75 days	46%	Fri 20/3/20	Wed 5/8/20	Fri 20/3/20	NA	Fri 20/3/20	Fri 30/10/20	86 days	429									1
2	Prepare AIP and ICE certification (Final)	150 days	s 50 days	100 days	33%	Fri 3/4/20	Sun 30/8/20	Fri 3/4/20	NA	Fri 3/4/20	Sat 14/11/20	76 days	431FF+15 d	ays								1
3	Prepare DDA and ICE certification (Draft)	150 days		150 days	0%	Sat 23/5/20	Mon 19/10/20		NA	Sat 18/7/20		56 days 1 day	429,432FF+									
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days		90 days	0%	Tue 20/10/20	Sun 17/1/21		NA	Tue 15/12/20		56 days 0.5 day										
	Prepare DDA and ICE certification (Final)	31 days		31 days	0%	Mon 18/1/21	Wed 17/2/21		NA	Mon 15/3/21	Wed 14/4/21	56 days 1 day	434									
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days		75 days	0%	Thu 18/2/21	Mon 3/5/21		NA	Thu 15/4/21	Mon 28/6/21		435									
	Fresh and Salt Water Works AIP for Underpass, Depressed Road and ICE certification (Draft)	51 days	51 days	0 days	100%	Tue 8/10/19	Wed 27/11/19	Tue 8/10/19	Wed 27/11/19	Tue 8/10/19	Wed 27/11/19	0 days 1 day										
	Submit & endorse by PM	26 days	26 days	0 days	100%	Thu 28/11/19	Mon 23/12/19	Thu 28/11/19		Thu 28/11/19	Mon 23/12/19	0 days 0.5 day	s 437									
	Submit & endorse by Statutory Authorities/Gov. Dept	14 days	14 days	0 days	100%	Wed 8/4/20	Fri 24/4/20	Wed 8/4/20	Fri 24/4/20	Wed 8/4/20	Fri 24/4/20	0 days 3 days	437									
	Prepare AIP for Underpass, Depressed Road and ICE certification (Final)	22 days	22 days	0 days	100%	Sat 25/4/20	Sat 16/5/20	Sat 25/4/20	Sat 16/5/20	Sat 25/4/20	Sat 16/5/20	0 days 0 days	438,439									
-	Prepare DDA for Underpass, Depressed Road and ICE certification (Draft)	90 days	0 days	90 days	0%	Sun 17/5/20	Fri 14/8/20	NA	NA	Fri 2/10/20	Wed 30/12/20	138 days 1 day	440		h III							
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days		75 days	0%	Sat 15/8/20	Wed 28/10/20		NA	Thu 31/12/20	Mon 15/3/21	138 days 0.5 day										
	Prepare DDA for Underpass, Depressed Road and ICE certification (Final)	30 days		30 days	0%	Thu 29/10/20			NA	Tue 16/3/21	Wed 14/4/21	138 days 0 days										
13																						
44	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	U days	75 days	0%	Sat 28/11/20	Wed 10/2/21	NA	NA	Thu 15/4/21	Mon 28/6/21	138 days 0 days	443									Ш
e: Rev.1	I Prog with Progress	Summary			Inactive M	ilestone 🔷		Duration-or	-		Start-only	Е		External Milesto	one $\diamondsuit$		Critical S <sub>I</sub>	plit				
	ay-20 Split	roject Sur	nmary		Inactive Su	ımmary 📗		Manual Su	mmary Rollup		Finish-only	3		Deadline	4		Progress		_			

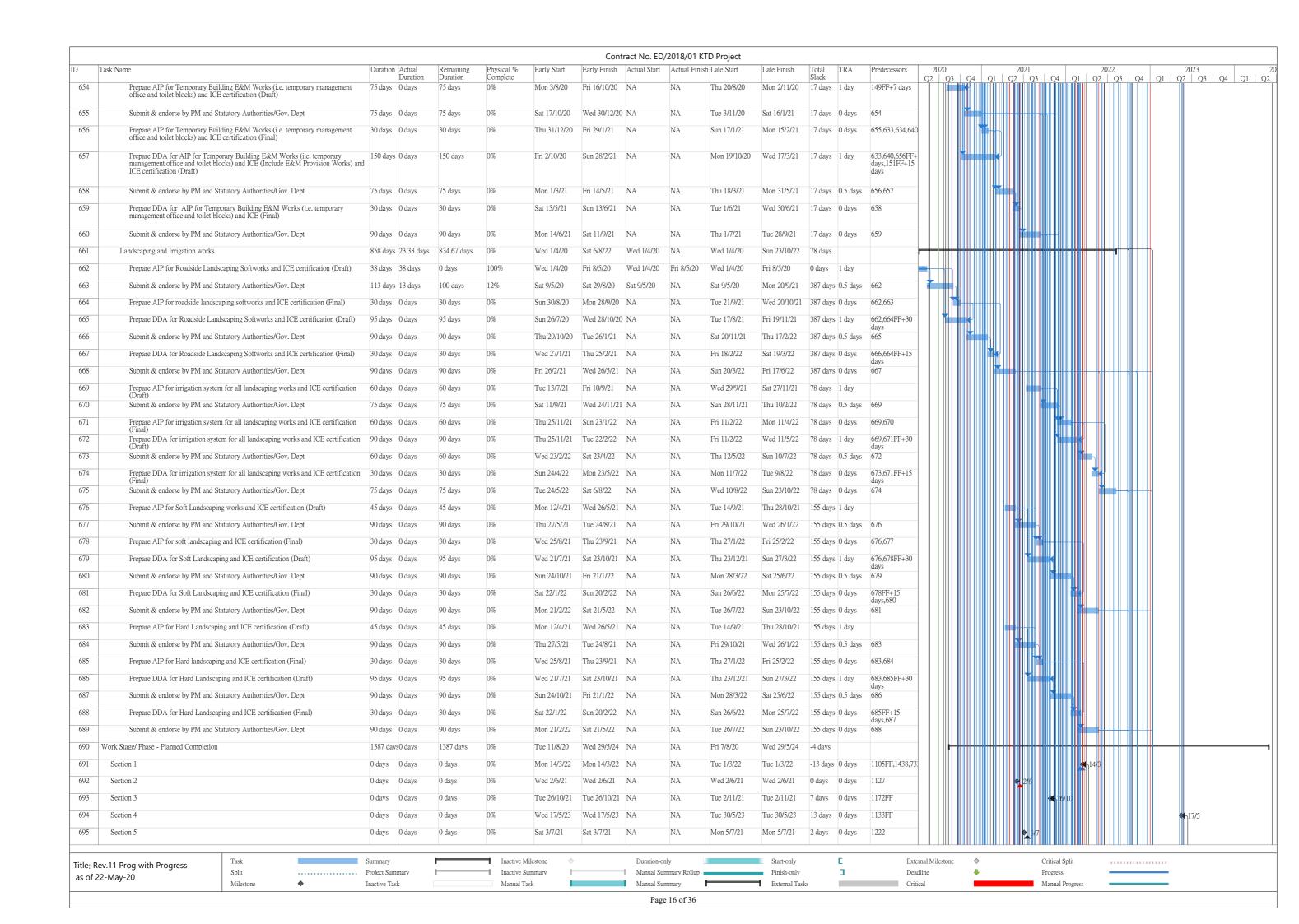




							Con	tract No. ED/	/2018/01 KT	TD Project													
Task	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total TRA Slack	Predecessors			01	2021		01   07	2022	04	2023	2   0
535	Prepare AIP for Salt Water Pumping Station E&M works and ICE certification	77 days		77 days	0%	Mon 17/8/20	Sun 1/11/20	NA	NA	Sun 13/9/20	Sat 28/11/20	27 days 2 days	534	Q2   	ψ <sub>2</sub>	· QI	Q2 Q3	Q4	QI   Q'	4   Q3	Q4   Q	1 Q2 Q	<u>⊃   Q</u>
36	(Final) Prepare DDA for Salt Water Pumping Station E&M works and ICE certification	120 days	0 days	120 days	0%	Tue 4/8/20	Tue 1/12/20	NA	NA	Mon 31/8/20	Mon 28/12/20	27 days 1 day	534FF,535FF	+30									
37	(Draft) Submit to WSD for Plumbing and Irrigation Works for approval	0 days	0 days	0 days	0%	Tue 1/12/20	Tue 1/12/20	NA	NA	Tue 29/12/20	Tue 29/12/20	27 days 1 day	days,516 536			1/12							
538	Submit & endorse by PM and Statutory Authorities/Gov. Dept	91 days	0 days	91 days	0%	Wed 2/12/20	Tue 2/3/21	NA	NA	Tue 29/12/20	Mon 29/3/21	27 days 1 day	536,537			<b>4</b>							
539	Prepare DDA for Salt Water Pumping Station and ICE certification (Final)	31 days		31 days	0%	Wed 3/3/21	Fri 2/4/21	NA	NA	Tue 30/3/21	Thu 29/4/21	27 days 1 day	535FF+6										
540	Submit & endorse by PM and Statutory Authorities/Gov. Dept	91 days	-	91 days	0%	Sat 3/4/21	Fri 2/7/21	NA	NA	Fri 30/4/21	Thu 29/7/21	27 days 1 day	days,538 539										
													339										
541	AIP for Remaining Works of Salt Water & Sewerage Pumping and ICE certification (Draft)			0 days	0%	Mon 17/2/20	Sat 28/3/20			Mon 17/2/20	Sat 28/3/20	0 days 1 day	4										
542	Submit & endorse by PM	18 days	18 days	0 days	100%	Mon 30/3/20	Thu 16/4/20	Mon 30/3/20	Thu 16/4/20	Mon 30/3/20	Thu 16/4/20	0 days											
43	Submit & endorse by Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Mon 3/8/20	Sat 31/10/20	NA	NA	Sun 14/3/21	Fri 11/6/21	223 days 0.5 day	s 541,542										
44	AIP for Remaining Works of Salt Water Pumping & Sewage and ICE certification (Final)	90 days	0 days	90 days	0%	Sun 1/11/20	Fri 29/1/21	NA	NA	Sat 12/6/21	Thu 9/9/21	223 days 3 days	543										
45	DDA for Remaining Works of Salt Water & Sewage Pumping and ICE certification (Draft)	n 90 days	0 days	90 days	0%	Sun 6/12/20	Fri 5/3/21	NA	NA	Sat 17/7/21	Thu 14/10/21	223 days 1 day	541,544FF+3	5									
46	Submit & endorse by PM and Statutory Authorities/Gov. Dept	93 days	0 days	93 days	0%	Sat 6/3/21	Sun 6/6/21	NA	NA	Fri 15/10/21	Sat 15/1/22	223 days 3 days											
47	DDA for Remaining Works of Salt Water & Sewage Pumping and ICE certification	on 35 days	0 days	35 days	0%	Mon 7/6/21	Sun 11/7/21	NA	NA	Sun 16/1/22	Sat 19/2/22	223 days 3 days	546,544FF+1	2			Tie-						
548	(Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Mon 12/7/21	Fri 24/9/21	NA	NA	Sun 20/2/22	Thu 5/5/22	223 days 2 days	days 547	$-\parallel \parallel \parallel$									
49	AIP for Architectural works of Salt Water & Sewage Pumping and ICE certification			45 days	0%	Mon 5/4/21	Wed 19/5/21		NA	Mon 3/5/21	Wed 16/6/21	28 days 1 day	4	$-\parallel \parallel \parallel$									
550	(Draft)												540				ПЩП						
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days		60 days	0%	Thu 20/5/21	Sun 18/7/21		NA	Thu 17/6/21	Sun 15/8/21	28 days 0.5 day											
551	AIP for Architectural works of Salt Water Pumping & Sewage and ICE certification (Final)			62 days	0%	Mon 19/7/21	Sat 18/9/21		NA	Mon 16/8/21	Sat 16/10/21	28 days 2 days							<b>†</b>				
552	DDA for Architectural works of Salt Water & Sewage Pumping and ICE certification (Draft)	60 days	0 days	60 days	0%	Fri 20/8/21	Mon 18/10/2	l NA	NA	Fri 17/9/21	Mon 15/11/21	28 days 1 day	549,551FF+3 days	0									
553	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Tue 19/10/21	Fri 17/12/21	NA	NA	Tue 16/11/21	Fri 14/1/22	28 days 0.5 day	s 552										
554	DDA for Architectural works of Salt Water & Sewage Pumping and ICE certification (Final)	36 days	0 days	36 days	0%	Sat 18/12/21	Sat 22/1/22	NA	NA	Sat 15/1/22	Sat 19/2/22	28 days 2 days	551FF+12 days,553										
55	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days	0 days	62 days	0%	Sun 23/1/22	Fri 25/3/22	NA	NA	Sun 20/2/22	Fri 22/4/22	28 days 2 days	554										
556	AIP for Landscaping works of Salt Water & Sewage Pumping and ICE certification	n 45 days	0 days	45 days	0%	Mon 5/4/21	Wed 19/5/21	NA	NA	Sun 2/5/21	Tue 15/6/21	27 days 1 day	4	$-\parallel \parallel \parallel$									
557	(Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days	0 days	61 days	0%	Thu 20/5/21	Mon 19/7/21	NA	NA	Wed 16/6/21	Sun 15/8/21	27 days 0.5 day	s 556	$-\parallel \parallel \parallel$									
58	AIP for Landscaping works of Salt Water Pumping & Sewage and ICE certification			62 days	0%	Tue 20/7/21	Sun 19/9/21		NA	Mon 16/8/21	Sat 16/10/21	27 days 2 days		$-\parallel \parallel \parallel$									
59	(Final)  DDA for Landscaping works of Salt Water & Sewage Pumping and ICE				0%	Thu 19/8/21			NA	Wed 15/9/21			556,558FF+3										
	certification (Draft)	62 days	-	62 days			Tue 19/10/21					27 days 2 days	days										
560	Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days		61 days	0%	Wed 20/10/21			NA	Tue 16/11/21	Sat 15/1/22	27 days 0.5 day											
561	DDA for Landscaping works of Salt Water & Sewage Pumping and ICE certification (Final)	35 days	0 days	35 days	0%	Mon 20/12/21	Sun 23/1/22	NA	NA	Sun 16/1/22	Sat 19/2/22	27 days 2 days	days,560										
562	Submit & endorse by PM and Statutory Authorities/Gov. Dept	61 days	0 days	61 days	0%	Mon 24/1/22	Fri 25/3/22	NA	NA	Sun 20/2/22	Thu 21/4/22	27 days 2 days	561										
63	AIP for Seawater Intake and Box Culvert Structures for Pumping Station (approx. 160m) (Section 6) Submission (Draft)	58 days	58 days	0 days	100%	Tue 10/12/19	Wed 5/2/20	Tue 10/12/19	Wed 5/2/20	Tue 10/12/19	Wed 5/2/20	0 days 1 day											
64	Submit & endorse by PM	25 days	25 days	0 days	33%	Wed 5/2/20	Thu 5/3/20	Wed 5/2/20	Thu 5/3/20	Wed 5/2/20	Thu 5/3/20	0 days 0.5 day	rs 563										
665	Submit & endorse by Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Sat 23/5/20	Sat 11/7/20	NA	NA	Sun 28/3/21	Sun 16/5/21	309 days 0.5 day	s 563										
566	AIP for Seawater Intake and Box Culvert Structure (Final)	21 days	0 days	21 days	0%	Sun 12/7/20	Sat 1/8/20	NA	NA	Mon 17/5/21	Sun 6/6/21	309 days 0.5 day	s 563,565,564										
567	DDA for Seawater Intake and Box Culvert Structure (Draft)	15 days	0 days	15 days	0%	Sat 25/7/20	Sat 8/8/20	NA	NA	Sun 30/5/21	Sun 13/6/21	309 days 1 day	563,565,564,5	566									
568	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days		50 days	0%	Sun 9/8/20	Sun 27/9/20		NA	Mon 14/6/21	Mon 2/8/21	309 days 0.5 day		$-\parallel \parallel \parallel$									
69	DDA for Seawater Intake and Box Culvert Structure (Final)	15 days		15 days	0%	Mon 28/9/20	Mon 12/10/20		NA	Tue 3/8/21	Tue 17/8/21	309 days 1 day	567,568,566F	F+									
70	Submit & endorse by PM and Statutory Authorities/Gov. Dept			50 days	0%	Tue 13/10/20	Tue 1/12/20		NA	Wed 18/8/21	Wed 6/10/21	309 days 0.5 day		_									
		50 days											3 309										
571	Elevated Landscape Deck Staircase & Associated Work			445.51 days	0%	Thu 30/5/19		Thu 30/5/19		Thu 30/5/19	Mon 5/7/21	54 days											
72	Elevated Landscape Deck Superstructure AIP and ICE certification (Draft)	96 days	96 days	0 days	100%	Thu 30/5/19		Thu 30/5/19			Mon 2/9/19	0 days 3 days	4										
573	Submit & endorse by PM	15 days	15 days	0 days	100%	Tue 3/9/19	Tue 17/9/19	Tue 3/9/19	Tue 17/9/19	Tue 3/9/19	Tue 17/9/19	0 days 1 days	572										
574	Submit & endorse by Statutory Authorities/Gov. Dept	162 days	s 162 days	0 days	0%	Tue 24/9/19	Tue 3/3/20	Tue 24/9/19	Tue 3/3/20	Tue 24/9/19	Tue 3/3/20	0 days 0.5 day	rs 573										
75	Prepare AIP and ICE certification (Final)	255 days	s 155 days	100 days	61%	Wed 20/11/19	Fri 31/7/20	Wed 20/11/19	NA NA	Wed 20/11/19	Thu 26/11/20	118 days 0.5 day	s 44FF+12 day	s =	4								
576	Prepare DDA and ICE certification (Draft)	75 days	0 days	75 days	0%	Fri 12/6/20	Sun 30/8/20	NA	NA	Thu 8/10/20	Sat 26/12/20	118 days 1 day	574FF+30 da	ys,									
577	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Mon 31/8/20	Mon 19/10/20	) NA	NA	Sun 27/12/20	Sun 14/2/21	118 days 0.5 day	s 576	$-\parallel \parallel \parallel$									
578	Prepare DDA for and ICE certification (Final)	22 days	-	22 days	0%	Tue 20/10/20			NA	Mon 15/2/21	Mon 8/3/21	118 days 1 day		$-\parallel \parallel \parallel$									
		LL days	- aujo	DD days		1 40 20110120	100 10/11/20				112011 010121	110 days 1 day											
	Dang with Dungana Task	Summary			Inactive M	ilestone 🔷		Duration-or	nlv		Start-only	Г	F	External Miles	one	<b>♦</b>		Critical Spl	lit				
tle: Rev.11 s of 22-M	Prog with Progress	Project Sum	nmary	-	Inactive S				nmary Rollup		Finish-only	3		Deadline		<b>₽</b>		Progress				_	
2 UI ZZ-IVI	ay-20 Milestone ♦	Inactive Tas	sk		Manual Ta	sk		Manual Sur	mmary		External Tasl	rs		Critical				Manual Pro	ogress			_	

								tract No. ED/													
Task l	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total TRA Slack	Predecessors	2020 Q2	Q3   Q4	Q1   0	2021 Q2   Q3	Q4 O1		)22   Q3	Q4 O
9	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Wed 11/11/20	Wed 30/12/20	NA	NA	Tue 9/3/21	Tue 27/4/21	118 days 1 day	578								
)	Elevated Landscape Deck - Lift (LT1&LT2)& Staircase include E&M Progvision: AIP and ICE Certification (Draft)	50 days	50 days	0 days	100%	Mon 7/10/19	Mon 25/11/19	Mon 7/10/19	Mon 25/11/19	Mon 7/10/19	Mon 25/11/19	0 days 3 days	44FF+12 days								
1	Submit & endorse by PM	21 days	21 days	0 days	100%	Tue 26/11/19	Mon 16/12/19	Tue 26/11/19		. Tue 26/11/19	Mon 16/12/19	0 days 1 days	580								
2	Submit & endorse by Statutory Authorities/Gov. Dept	120 days	85 days	35 days	71%	Fri 28/2/20	Fri 26/6/20	Fri 28/2/20	NA	Fri 28/2/20	Thu 13/8/20	48 days 1 days	580								
3	Prepare AIP and ICE certification (Final)	60 days	0 days	60 days	0%	Sat 27/6/20	Tue 25/8/20	NA	NA	Fri 14/8/20	Mon 12/10/20	48 days 0 days	580,581,582,44	F T	4						
34	Prepare DDA and ICE certification (Draft)	60 days	0 days	60 days	0%	Tue 11/8/20	Wed 14/10/20	) NA	NA	Mon 28/9/20	Tue 1/12/20	48 days 1 day	580,583FF+50	d							
35	Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Thu 15/10/20	Tue 12/1/21	NA	NA	Wed 2/12/20	Mon 1/3/21	48 days 0.5 days	s 584								
36	Prepare DDA for and ICE certification (Final)	30 days	0 days	30 days	0%	Wed 13/1/21	Thu 11/2/21	NA	NA	Tue 2/3/21	Wed 31/3/21	48 days 0.5 days	s 585,583FF+12	d		<b>M</b>					
37	Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Fri 12/2/21	Wed 12/5/21	NA	NA	Thu 1/4/21	Tue 29/6/21	48 days 2 days	586					_			
38	Elevated Landscape Deck - Open Space AIP Subm (Draft)	50 days	50 days	0 days	100%	Mon 10/2/20	Mon 30/3/20	Mon 10/2/20	Mon 30/3/20	Mon 10/2/20	Mon 30/3/20	0 days 3 days			-						
39	Submit & endorse by PM	21 days	21 days	0 days	100%	Mon 30/3/20	Mon 20/4/20	Mon 30/3/20	Mon 20/4/20	Mon 30/3/20	Mon 20/4/20	0 days 0.5 days	s 588								
90	Submit & endorse by Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Mon 6/7/20	Mon 24/8/20	NA	NA	Mon 28/9/20	Mon 16/11/20	84 days 1 days	588	-							
01	Prepare AIP and ICE certification (Final)	30 days		30 days	0%	Tue 25/8/20	Wed 23/9/20	NA	NA	Tue 17/11/20		84 days 2 days	588,590,44FF+	1	4						
)2	Prepare DDA and ICE certification (Draft)	75 days		75 days	0%	Thu 24/9/20	Sat 12/12/20		NA	Thu 17/12/20	Sat 6/3/21	84 days 1 day	590SS,591	$\parallel \parallel \parallel$							
03	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days		50 days	0%	Sun 13/12/20	Sun 31/1/21		NA	Sun 7/3/21	Sun 25/4/21	84 days 0.5 days		$\parallel \parallel \parallel$							
94	Prepare DDA for and ICE certification (Final)	21 days		21 days	0%	Mon 1/2/21	Sun 21/2/21		NA	Mon 26/4/21	Sun 16/5/21	84 days 0.3 days	593,591FF+6 d								
05	Submit & endorse by PM and Statutory Authorities/Gov. Dept			50 days	0%	Mon 22/2/21	Mon 12/4/21		NA	Mon 17/5/21	Mon 5/7/21			ia,							
		50 days										84 days 0 days	394								
96	EVA for Open Space AIP Subm (Draft)		71 days	0 days	100%	Mon 10/2/20		Mon 10/2/20			Mon 20/4/20	0 days 3 days	506								
7	Submit & endorse by PM		2 days	0 days	100%	Tue 21/4/20		Tue 21/4/20	Mon 27/4/20		Mon 27/4/20	0 days 1 day	596	<b>」'┃ ↓</b> ┃							
18	Submit & endorse by Statutory Authorities/Gov. Dept	50 days		50 days	0%	Mon 6/7/20	Mon 24/8/20		NA	Sun 4/10/20	Sun 22/11/20		596								
)	Prepare AIP and ICE certification (Final)	30 days		30 days	0%	Tue 25/8/20	Wed 23/9/20		NA	Mon 23/11/20	Tue 22/12/20	90 days 2 days	596,598,44FF+	-11							
)	Prepare DDA and ICE certification (Draft)	60 days	0 days	60 days	0%	Thu 24/9/20	Fri 27/11/20	NA	NA	Wed 23/12/20	Thu 25/2/21	90 days 1 day	598SS,599								
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Sat 28/11/20	Sat 16/1/21	NA	NA	Fri 26/2/21	Fri 16/4/21	90 days 0.5 days	s 600								
2	Prepare DDA for and ICE certification (Final)	30 days	0 days	30 days	0%	Sun 17/1/21	Mon 15/2/21	NA	NA	Sat 17/4/21	Sun 16/5/21	90 days 0 days	599FF+6 days,	60							
3	Submit & endorse by PM and Statutory Authorities/Gov. Dept	50 days	0 days	50 days	0%	Tue 16/2/21	Tue 6/4/21	NA	NA	Mon 17/5/21	Mon 5/7/21	90 days 0 days	602								
1	Waterfront Promenade and At-grade Open Space	533 days	5.98 days	527.02 days	0%	Wed 1/4/20	Wed 15/9/21	Wed 1/4/20	NA	Wed 1/4/20	Tue 28/9/21	13 days									
	Prepare AIP for Observation Deck with Lift (LT5) and Staircase and ICE (Include E&M Provision Works) certification (Draft)	24 days	24 days	0 days	100%	Wed 1/4/20	Fri 24/4/20	Wed 1/4/20	Fri 24/4/20	Wed 1/4/20	Fri 24/4/20	0 days 1 day		-	+						
6	Submit & endorse by PM and Statutory Authorities/Gov. Dept	14 dove	14 days	0 days	0%	Fri 24/4/20	Fri 8/5/20	Fri 24/4/20	Fri 8/5/20	Fri 24/4/20	Fri 8/5/20	0 days 1 day	605								
7	Prepare AIP for Observation Deck with Lift (LT5) and Staircase and ICE (Include				0%	Wed 16/9/20	Fri 16/10/20		NA	Thu 22/10/20	Sat 21/11/20	36 days 1 day	605,606,647FF								
<b>'</b>	E&M Provision Works) certification (Final)	31 days	0 days	31 days	0%	wed 10/9/20	FII 10/10/20	INA	NA	111u 22/10/20	Sat 21/11/20	30 days 1 day	003,000,047FF	,0							
8	Prepare DDA for Observation Deck with Lift and Staircase and ICE (Include E&M	I 100 days	0 days	100 days	0%	Sat 17/10/20	Sun 24/1/21	NA	NA	Sun 22/11/20	Mon 1/3/21	36 days 1 day	605,647,654,60	)7							
9	Provision Works) certification (Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Mon 25/1/21	Sat 24/4/21	NA	NA	Tue 2/3/21	Sun 30/5/21	36 days 0.5 days	s 608,607	$\parallel \parallel \parallel$							
0	Prepare DDA for Observation Deck with Lift and Staircase and ICE (Include E&M	I 31 days	0 days	31 days	0%	Sun 25/4/21	Tue 25/5/21	NA	NA	Mon 31/5/21	Wed 30/6/21	36 days 1 day	609	$\parallel \parallel \parallel$							
1	Provision Works) certification (Final)  Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Wed 26/5/21	Mon 23/8/21	NA	NA	Thu 1/7/21	Tue 28/9/21	36 days 2 days	610	$\parallel \parallel \parallel$							
2	Prepare AIP for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Draft)	51 days	0 days	51 days	0%	Mon 14/9/20	Tue 3/11/20	NA	NA	Sun 27/9/20	Mon 16/11/20	13 days 2 days		$\parallel \parallel \parallel$							
	E&M Provision Works) certification (Draft)																				
.3	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Wed 4/11/20	Sun 17/1/21	NA	NA	Tue 17/11/20	Sat 30/1/21	13 days 0.5 days	612								
4	Prepare AIP for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Final)	60 days	0 days	60 days	0%	Mon 18/1/21	Thu 18/3/21	NA	NA	Sun 31/1/21	Wed 31/3/21	13 days 2 days	612,613								
5	, , ,	75 days	0 dave	75 days	0%	Tue 2/2/21	Sat 17/4/21	NA	NA	Mon 15/2/21	Fri 30/4/21	13 days 1 day	612,614FF+30	$\parallel \parallel \parallel$							
	Prepare DDA for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Draft)	, J days	o days	, o days	0 70	1 00 212121	Out 11/4/21	1111	1111	171011 1314141	111 50/4/21	15 days 1 day	days								
5	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Sun 18/4/21	Wed 16/6/21	NA	NA	Sat 1/5/21	Tue 29/6/21	13 days 1 day	615	$\parallel \parallel \parallel$							
7	Prepare DDA for Remaining Works at Waterfront Promenade and ICE (Include E&M Provision Works) certification (Final)	31 days	0 days	31 days	0%	Thu 17/6/21	Sat 17/7/21	NA	NA	Wed 30/6/21	Fri 30/7/21	13 days 1 day	616,614FF+15	$\parallel \parallel \parallel$			iż				
													days								
.8	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	1	60 days	0%	Sun 18/7/21	Wed 15/9/21		NA	Sat 31/7/21	Tue 28/9/21	13 days 1 day	617								
.9	AIP for Cladding Design of Landscape Deck, Lifts and associated Works (Draft)	31 days	0 days	31 days	0%	Mon 20/7/20	Wed 19/8/20	NA	NA	Fri 21/8/20	Sun 20/9/20	32 days 1 day									
-				·													2000111001110		1111		
e· Rev 11	Prog with Progress Task	Summary			Inactive Mi	lestone $\Diamond$		Duration-or	nly		Start-only	С	Ex	ternal Milesto	ne <	<b>&gt;</b>	C	ritical Split			
		Project Sun	nmary		Inactive Sur	mmary		Manual Sur	nmary Rollup 🛮		Finish-only	3	De	adline	4		Pi	rogress			

							Conf	tract No. ED	/2018/01 K	TD Project											
Task	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	sh Late Start	Late Finish	Total TRA Slack	Predecessors			61 -	2021	04 0:	20	)22	
0	Submit & endorse by PM and Statutory Authorities/Gov. Dept	63 days		63 days	0%	Thu 20/8/20	Wed 21/10/20	) NA	NA	Mon 21/9/20	Sun 22/11/20	32 days 3 day	ys 619	Q2   Q	Q3 Q2	Q1 Q	2   Q3   C	Q4   Q1	Q2	Q3	Q4
1	AIP for Cladding Design of Landscape Deck, Lifts and associated Works (Final)	52 days	0 days	52 days	0%	Thu 22/10/20	Sat 12/12/20	NA	NA	Mon 23/11/20	Wed 13/1/21	32 days 2 day	vs 619,620								
2	DDA for Cladding Design of Landscape Deck, Lifts and associated Works (Draft)	61 days		61 days	0%	Thu 12/11/20	Mon 11/1/21	NΑ	NA	Mon 14/12/20	Fri 12/2/21	32 days 1 day		30							
3	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days		60 days	0%	Tue 12/1/21	Fri 12/3/21		NA	Sat 13/2/21	Tue 13/4/21	32 days 1 day	days								
														-22							
4	DDA for Cladding Design of Landscape Deck, Lifts and associated Works (Final)	21 days	-	21 days	0%	Sat 13/3/21	Fri 2/4/21	NA	NA	Wed 14/4/21	Tue 4/5/21	32 days 1 day		023							
5	Submit & endorse by PM and Statutory Authorities/Gov. Dept	62 days	0 days	62 days	0%	Sat 3/4/21	Thu 3/6/21	NA	NA	Wed 5/5/21	Mon 5/7/21	32 days 2 day	ys 624								
6	AIP for Balustrade and Railing of Promenade, Open Space and Assocated Works (Draft)	30 days	0 days	30 days	0%	Sat 1/8/20	Sun 30/8/20	NA	NA	Tue 29/9/20	Wed 28/10/20	59 days 1 day	7								
7	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Mon 31/8/20	Thu 29/10/20	NA	NA	Thu 29/10/20	Sun 27/12/20	59 days 1 day	626								
8	AIP for Balustrade and Railing of Promenade, Open Space and Assocated Works (Final)	25 days	0 days	25 days	0%	Fri 30/10/20	Mon 23/11/20	) NA	NA	Mon 28/12/20	Thu 21/1/21	59 days 0.5 d	lays 626,627								
)	DDA for Balustrade and Railing of Promenade, Open Space and Assocated Works	50 days	0 days	50 days	0%	Wed 4/11/20	Wed 23/12/20	) NA	NA	Sat 2/1/21	Sat 20/2/21	59 days 1 day	626,628FF+	30							
0	(Draft) Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Thu 24/12/20	Sun 21/2/21	NA	NA	Sun 21/2/21	Wed 21/4/21	59 days 0 day	days s 629					4			
1	DDA for Balustrade and Railing of Promenade, Open Space and Assocated Works	15 days	0 davs	15 days	0%	Mon 22/2/21	Mon 8/3/21	NA	NA	Thu 22/4/21	Thu 6/5/21	59 days 1 day	628,629,630			<b>         </b>					
2	(Final) Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days		60 days	0%	Tue 9/3/21	Fri 7/5/21	NA	NA	Fri 7/5/21	Mon 5/7/21	59 days 0 day									
3	Prepare AIP for Permanent Building Works (i.e. Ampitheater, Observation Tower,			60 days	0%	Wed 29/7/20	Sat 26/9/20		NA	Thu 20/8/20				vs							
	Prepare AIP for Permanent Building Works (i.e. Amptineater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Draft)	oo uays	0 uays	oo days	U 70	w cu 29/1/20	Sat 2017/20	INA	INA	111u 20/0/20	Sun 18/10/20	22 days 1 day	y 147FF+/ Q2	ys							
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Sun 27/9/20	Wed 25/11/20	) NA	NA	Tue 3/11/20	Fri 1/1/21	37 days 0.5 d	lays 633	$-\parallel \parallel \parallel$							
	Prepare AIP for Permanent Building Works (i.e.Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Final)	30 days	0 days	30 days	0%	Thu 26/11/20	Fri 25/12/20	NA	NA	Sat 2/1/21	Sun 31/1/21	37 days 0 day	vs 633,634			<b>-</b>					
	Prepare DDA for Permanent Building Works (i.e. Ampitheater, Observation Tower Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Draft)	, 100 days	0 days	100 days	0%	Fri 2/10/20	Sat 9/1/21	NA	NA	Sun 8/11/20	Mon 15/2/21	37 days 1 day	633,635FF+ days,151FF- days								
+	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Sun 10/1/21	Thu 25/3/21	NA	NA	Tue 16/2/21	Sat 1/5/21	37 days 0.5 d	lays 635,636								
	Prepare DDA for Permanent Building Works (i.e. Ampitheater, Observation Tower Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) nd ICE certification (Final)			30 days	0%	Fri 26/3/21	Sat 24/4/21		NA	Sun 2/5/21	Mon 31/5/21	37 days 0 day				<b>1</b>					
9	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Sun 25/4/21	Thu 8/7/21	NA	NA	Tue 1/6/21	Sat 14/8/21	37 days 0.5 d	lays 635,636,638								
)		75 days			0%	Tue 14/7/20			NA	Wed 5/8/20											
	Prepare AIP for Permanent Building E&M Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Draft)	75 days	0 days	75 days	0%	Tue 14/7/20	Sat 26/9/20	NA	NA	Wed 5/8/20	Sun 18/10/20	22 days 1 day	/ 149FF+/ da	ys							
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Sun 27/9/20	Wed 25/11/20	) NA	NA	Mon 19/10/20	Thu 17/12/20	22 days 0.5 d	lays 640								
:	Prepare AIP for Permanent Building E&M Works (i.e. Observation Tower, Toilet		0 days	30 days	0%	Thu 26/11/20	Fri 25/12/20	NA	NA	Fri 18/12/20	Sat 16/1/21	22 days 0 day	vs 640,641			<b>1</b>					
	Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE certification (Final)	3																			
3	Prepare DDA for Permanent Building E&M Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) and ICE (Include E&M Provision Works) certification (Draft)	120 days	0 days	120 days	0%	Sun 27/9/20	Sun 24/1/21	NA	NA	Mon 19/10/20	Mon 15/2/21	22 days 1 day	640,642FF+ days,151FF- days								
	(,													_							
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	60 days	0 days	60 days	0%	Mon 25/1/21	Thu 25/3/21	NA	NA	Tue 16/2/21	Fri 16/4/21	22 days 0.5 d	lays 642,643								
	Prepare DDA for Permanent Building E&M Works (i.e. Ampitheater, Observation Tower, Toilet Block, Light Refreshment Kiosk, Refuse Collection Block, Back of House Building Blocks) nd ICE certification (Final)	30 days	0 days	30 days	0%	Fri 26/3/21	Sat 24/4/21	NA	NA	Sat 17/4/21	Sun 16/5/21	22 days 0 day	ys 644								
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Sun 25/4/21	Fri 23/7/21	NA	NA	Mon 17/5/21	Sat 14/8/21	22 days 0.5 d	lays 642,643,645								
	Prepare AIP for Temporary Building Works (i.e. temporary management office and	75 days	0 days	75 days	0%	Mon 3/8/20	Fri 16/10/20	NA	NA	Thu 20/8/20	Mon 2/11/20	17 days 1 day	/ 149FF+7 da	vs	Щ						
	toilet blocks) and ICE certification (Draft)						20.20					2 311	2.521.7 da	·							
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Sat 17/10/20	Wed 30/12/20	) NA	NA	Tue 3/11/20	Sat 16/1/21	17 days 0 day	vs 647								
	Prepare AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE certification (Final)	30 days	0 days	30 days	0%	Thu 31/12/20	Fri 29/1/21	NA	NA	Sun 17/1/21	Mon 15/2/21	17 days 0 day	633,634,648	,640		<b>*</b>					
)	Prepare DDA for AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE (Include E&M Provision Works) and ICE certification (Draft)	150 days	0 days	150 days	0%	Fri 2/10/20	Sun 28/2/21	NA	NA	Mon 19/10/20	Wed 17/3/21	17 days 1 day	633,640,649 days,151FF- days								
	Submit & endorse by PM and Statutory Authorities/Gov. Dept	75 days	0 days	75 days	0%	Mon 1/3/21	Fri 14/5/21	NA	NA	Thu 18/3/21	Mon 31/5/21	17 days 0.5 d									
2	Prepare DDA for AIP for Temporary Building Works (i.e. temporary management office and toilet blocks) and ICE (Final)	30 days	0 days	30 days	0%	Sat 15/5/21	Sun 13/6/21	NA	NA	Tue 1/6/21	Wed 30/6/21	17 days 0 day	ys 651			i	<b>2</b> .				
3	Submit & endorse by PM and Statutory Authorities/Gov. Dept	90 days	0 days	90 days	0%	Mon 14/6/21	Sat 11/9/21	NA	NA	Thu 1/7/21	Tue 28/9/21	17 days 0 day	ys 652				Ĭ.	4			
e: Rev.11	i Prog with Progress	Summary			Inactive N			Duration-o	-		Start-only	E		External Milesto	one	<b>\rightarrow</b>		tical Split			
of 22-M	Split	Project Sur	nmary		Inactive S	Summary		Manual Su	mmary Rollup		Finish-only	3		Deadline		<b>+</b>	Prog	gress			



								ract No. ED/																		
Та	sk Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2   C	)3   Q4	Q1	2021 Q2   0		04 0		2022 2 Q3	3   Q4	O1	2023   Q2   Q	Q3   Q4
96	Section 6	0 days	0 days	0 days	0%	Thu 18/5/23	Thu 18/5/23	NA	NA	Tue 30/5/23	Tue 30/5/23	12 days	0 days	1357FF,1546FF,											18/5	<u> </u>
597	Section 7	0 days	0 days	0 days	0%	Wed 29/5/24	Wed 29/5/24	NA	NA	Wed 29/5/24	Wed 29/5/24	0 days	0 days	1549FF												
98	Section 8	0 days	0 days	0 days	0%	Wed 24/11/21	Wed 24/11/21	NA	NA	Thu 2/12/21	Thu 2/12/21	8 days	0 days	1144FF						<b>≪</b> -24/1 I						
599	Section 9	0 days	0 days	0 days	0%	Sat 3/7/21	Sat 3/7/21	NA	NA	Mon 5/7/21	Mon 5/7/21	2 days	0 days	1222				e i	3/7							
700	Section 10	0 days	0 days	0 days	0%	Thu 11/5/23	Thu 11/5/23	NA	NA	Tue 30/5/23	Tue 30/5/23	19 days	0 days	1559FF											11/5	
701	KD1	0 days	0 days	0 days	0%	Tue 11/8/20	Tue 11/8/20	NA	NA	Fri 7/8/20	Fri 7/8/20	-4 days	0 days	758		11/8										
702	KD2		0 days	0 days	0%	Sat 17/4/21	Sat 17/4/21	NA	NA	Sun 18/4/21	Sun 18/4/21		0 days	791,821,771,774				1794								
703	KD3		0 days	0 days	0%	Mon 26/4/21	Mon 26/4/21		NA	Tue 1/6/21	Tue 1/6/21	36 days		822,821												
704	KD4						Fri 28/1/22			Mon 31/1/22				1255FF				2014			200					
			0 days	0 days	0%	Fri 28/1/22			NA		Mon 31/1/22	3 days								1	28/1					
705	KD5		0 days	0 days	0%	Fri 25/6/21		NA	NA	Fri 17/9/21	Fri 17/9/21	84 days		1252FF				(4 <del>12</del>	<del>3/</del> 6							
706	KD6	0 days	0 days	0 days	0%	Tue 21/12/21	Tue 21/12/21	NA	NA	Wed 29/12/21	Wed 29/12/21	8 days	0 days	883						21	2					
07	KD7	0 days	0 days	0 days	0%	Thu 19/8/21	Thu 19/8/21	NA	NA	Fri 3/6/22	Fri 3/6/22	288 days	0 days	1254FF					<b>44 19/8</b>							
08 C	onstruction Works	1499 day	s 75.67 days	1423.33 days?	0%	Thu 16/5/19	Wed 29/5/24	Thu 16/5/19	NA	Thu 16/5/19	Wed 29/5/24	0 days?														
709	Procurement of Materials and Equipments	615 days	12.7 days	602.3 days	0%	Thu 8/8/19	Wed 1/9/21	Thu 8/8/19	NA	Thu 8/8/19	Tue 22/2/22	140 days	3						7							
10	Office Accommodation	21 days	21 days	0 days	100%	Thu 8/8/19	Fri 20/12/19	Thu 8/8/19	Fri 20/12/19	Thu 8/8/19	Fri 20/12/19	0 days	1 day													
711	Lift Submission Preparation	15 days	0 days	15 days	0%	Sat 12/9/20	Sat 26/9/20	NA	NA	Wed 23/9/20	Wed 7/10/20	11 days	0.5 days	173												
12	Lift Comment & Approval	21 days	0 days	21 days	0%	Sun 27/9/20	Sat 17/10/20	NA	NA	Thu 8/10/20	Wed 28/10/20	11 days	0.5 days	711												
713	Lifts ((5 nos)	180 days		180 days	0%	Sun 18/10/20	Thu 15/4/21	NA	NA	Thu 29/10/20	Mon 26/4/21		30 days													
714	Pumps for Pump Room next to Underpass	150 days		150 days	0%	Sat 23/5/20	Thu 19/11/20		NA	Wed 8/7/20	Tue 5/1/21	37 days		112												
15	Elevated landscape deck soffit panels	120 days		120 days	0%	Mon 14/9/20		NA	NA	Thu 4/2/21	Mon 5/7/21	117 days														
16	Underpass & Depressed Rd - facades	120 days	0 days	120 days	0%	Tue 1/12/20	Thu 29/4/21	NA	NA	Wed 12/5/21	Mon 4/10/21	129 days	30 days													
17	E & M equipment & fittings (for Open space & Promenade)	120 days	0 days	120 days	0%	Tue 6/4/21	Fri 27/8/21	NA	NA	Mon 27/9/21	Tue 22/2/22	144 days	30 days													
718	Bridge Parapet Fabrication	120 days	0 days	120 days	0%	Mon 16/11/20	Mon 15/3/21	NA	NA	Wed 26/5/21	Wed 22/9/21	191 days	30 days													
19	Pumps for Salt and Sewage Pumping Stations	150 days	0 days	150 days	0%	Mon 5/4/21	Wed 1/9/21	NA	NA	Sun 19/9/21	Tue 15/2/22	167 days	30 days						-							
20	Excavation Permit	300 days	0 days	300 days	0%	Mon 31/8/20	Thu 2/9/21	NA	NA	Mon 23/11/20	Tue 1/3/22	69 days							7							
721	TTA Application for Junction Modification Rd L6 & D2	182 days	0 days	182 days	0%	Tue 1/9/20	Mon 1/3/21	NA	NA	Mon 23/11/20	Sun 23/5/21	83 days	2 days													
22	Interfaced DCS 3 x DN150mm chilled water pipes under contract no. 2852EM17A and 4 nos. of signaling cable along North Approach Ramp and Gate 3B (Agreed)	368 days	0 days	368 days	0%	Mon 31/8/20	Thu 2/9/21	NA	NA	Sat 27/2/21	Tue 1/3/22	180 days	3 day													
23	Section 1	842 days	107.17 days	734.83 days	0%	Thu 16/5/19	Mon 14/3/22	Thu 16/5/19	NA	Thu 16/5/19	Wed 29/5/24	657 days	3	_												
24	Agree Interface Coordination Plan with CKR & KTSP	14 days	14 days	0 days	100%	Tue 27/8/19	Wed 11/9/19	Tue 27/8/19	Wed 11/9/19	Tue 27/8/19	Wed 11/9/19	0 days	0 days	1225,1226												
25	Ground Investigation	341 days	193.02 days	147.98 days	0%	Thu 12/9/19	Thu 5/11/20	Thu 12/9/19	NA	Thu 12/9/19	Sat 13/8/22	526 days	3	_												
26	GI Work		180 days	138 days	57%	Thu 12/9/19		Thu 12/9/19		Thu 12/9/19	Sat 13/8/22		0.5 days	724												
27	Part 1 - Junction Modification Rd L6 & D2	414 days		414 days	0%	Mon 5/10/20	Fri 25/2/22		NA	Mon 23/11/20		3 days	ois days	,2,												
			_										1 1													
28	XP Application for Junction Modification Rd L6 & D2	182 days		182 days	0%	Mon 5/10/20		NA	NA	Mon 23/11/20		49 days														
29	Stage 1: Trial Pit to locate the existing underground cables and utilities	14 days	0 days	14 days	0%	Thu 20/5/21	Fri 4/6/21	NA	NA	Mon 24/5/21	Tue 8/6/21	3 days	1 day	141,375,721,728												
30	Stage 2: Trial Pit to locate the existing underground cables and utilities	14 days	0 days	14 days	0%	Sat 5/6/21	Tue 22/6/21	NA	NA	Wed 9/6/21	Fri 25/6/21	3 days	1 day	729				1								
31	Stage 3: East Bound + Drop Kerb Modification + Road Marking	76 days	0 days	76 days	0%	Wed 23/6/21	Mon 20/9/21	NA	NA	Sat 26/6/21	Fri 24/9/21	3 days	1 day	730												
32	Stage 4: TTA for Central Divider	76 days	0 days	76 days	0%	Tue 21/9/21	Tue 21/12/21	NA	NA	Sat 25/9/21	Fri 24/12/21	3 days	1 day	731,113												
733	Stage 5: Construct 2 Dividers	51 days	0 days	51 days	0%	Wed 22/12/21	Fri 25/2/22	NA	NA	Tue 28/12/21	Tue 1/3/22	3 days	1 day	732												
34	Bridge D3 (Approach Ramp and Bridge) CH1087-1444.7	812 days	91.74 days	720.26 days	0%	Thu 16/5/19	Mon 7/2/22	Thu 16/5/19	NA	Mon 11/11/19	Wed 29/5/24	687 days	3								411 17					
35	North Approach Ramp	636 days	66.85 days	569.15 days	0%	Wed 25/12/19	Fri 18/2/22	Wed 25/12/19	NA	Wed 25/12/19	Tue 1/3/22	9 days		_	+ + + + + + + + + + + + + + + + + + +											
36	Procurement of Movement Joints for Bridge Works	180 days		180 days	0%	Tue 11/8/20	Sat 6/2/21	NA	NA	Fri 9/10/20	Tue 6/4/21		30 days	194,220		-										
37	Sheetpile Driven along North, Sourth & East Side ELS Cofferdam (assume 169	4 days		0 days	100%	Tue 14/1/20	Fri 17/1/20	Tue 14/1/20		Tue 14/1/20	Fri 17/1/20	0 days														
738	long)  KTSP Completed Driven H-pile Installation				100%					Wed 25/12/19			- Luy													
			41 days	0 days		Wed 25/12/19					Mon 3/2/20	0 days	0.5.1	720												
739	Hoarding Removal along KTSP Site	5 days	5 days	0 days	100%	Tue 4/2/20	Sat 8/2/20	Tue 4/2/20	Sat 8/2/20	Tue 4/2/20	Sat 8/2/20	0 days	0.5 day	/58												
	T. 1	C			<b>-</b>	Glasta C		ъ	1		0			-	1110					10 11						
	.11 Prog with Progress	Summary Project Sum	ımary		Inactive M Inactive Su			Duration-on  Manual Sun	ly 📗 nmary Rollup 🕳		Start-only Finish-only		]	Externa Deadlia	al Milestoi ne	ne 🔷				cal Split ress						
s of 22-	May-20 Milestone ◆	Inactive Tas			Manual Ta			Manual Sun			External Tas	alen.		Critica		_				ual Progre						

							Con	tract No. ED,	/2018/01 KT	D Project												
Task Nam	2	Duration	n Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020	Q3   Q4	2021 O1   O2   O3   C	4 01 (	2022 Q2   Q3	04	Q1   Q2	023
740	Sheetpile Driven along Western ELS Cofferdam (assume 105m long)	8 days	8 days	0 days	100%	Tue 11/2/20	Wed 19/2/20	Tue 11/2/20	Wed 19/2/20	Tue 11/2/20	Wed 19/2/20	0 days	0.5 day	737,739		2			¥2 V3		×1   V2	
741	Excavattion with Shoring and Waling Installation with Rock Fill Replacement include Sand Raplacemnet Test with PWRL for KD1	44 days	44 days	0 days	100%	Thu 20/2/20	Wed 15/4/20	Thu 20/2/20	Wed 15/4/20	Thu 20/2/20	Wed 15/4/20	0 days	1 day									
742	Remaining Excavation with Shoring and Waling Installation with Rock Fill Replacement include Sand Raplacement Test with PWRL	37 days	0 days	37 days	0%	Tue 6/10/20	Wed 18/11/20	) NA	NA	Tue 13/10/20	Wed 25/11/20	6 days	2 days	741,761								
743	North Approach Ramp (Bays No.2,3,4&5) (Next to BEM) (KD1)	106 day	s 34.01 days	71.99 days	0%	Wed 1/4/20	Tue 11/8/20	Wed 1/4/20	NA	Wed 1/4/20	Fri 7/8/20	-3 days			<del>-  -  -  -  -  -  -  -  -  -  -  -  -  -</del>	1						
744	Bay No.3 Base Slab with Blinding (1)+(2)	15 days	15 days	0 days	100%	Wed 1/4/20	Wed 22/4/20	Wed 1/4/20	Wed 22/4/20	Wed 1/4/20	Wed 22/4/20	0 days	0.5 days	741SS+35 day	/S							
745	Bay No.3: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former	er) 42 days	22 days	20 days	45%	Wed 22/4/20	Thu 11/6/20	Wed 22/4/20	NA	Wed 22/4/20	Thu 11/6/20	-3 days		744								
746	May 2020 Inclement Weather	3 days	0 days	3 days	0%	Fri 12/6/20	Mon 15/6/20	NA	NA	Tue 9/6/20	Thu 11/6/20	-3 days		745,74SS								
47	Bay No. 3: Wall & Column Casted and Formwork & Falsework upto Soffit of	of 15 days	0 days	15 days	0%	Tue 16/6/20	Sat 4/7/20	NA	NA	Fri 12/6/20	Tue 30/6/20	-3 days	1 day	745,746								
748	Top Slab(6)+(7)  Bay No. 3: Top Slab Construction with Formwork & Falsework Erection(8)	12 days	0 days	12 days	0%	Mon 6/7/20	Sat 18/7/20	NA	NA	Thu 2/7/20	Wed 15/7/20	-3 days	1 day	747								
749	Bay No.2 Base Slab with Blinding (1)+(2)	11 days	11 days	0 days	100%	Tue 28/4/20	Tue 12/5/20	Tue 28/4/20	Tue 12/5/20	Tue 28/4/20	Tue 12/5/20	0 days	1 day	741FS+2 days								
750	Bay No.2: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme			17 days	25%	Sat 16/5/20			NA	Sat 16/5/20	Thu 11/6/20	-1 day	1 day	749								
751	(3)+(4)+(5)  Bay No. 2: Wall & Column Casted and Formwork & Falsework upto Soffit of	,		18 days	0%	Fri 12/6/20	Sat 4/7/20	NA	NA	Thu 11/6/20	Fri 3/7/20	-1 day		750	<b></b> ││ <b>│</b>							
752	Top Slab (6)+(7)  Bay No. 2: Top Slab Construction with Formwork & Falsework Erection(8)				0%	Wed 8/7/20	Tue 21/7/20		NA NA	Sat 4/7/20	Fri 17/7/20		1 day	751,748FF+2								
	, , , , , , , , , , , , , , , , , , ,			12 days								-3 days		days								
753	Bay No.4 Base Slab with Blinding (1)+(2)		15 days	0 days	100%	Wed 1/4/20	Wed 13/5/20		Wed 13/5/20		Wed 13/5/20	0 days	1 day	741SS+35 day								
754	Bay No.4: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme (3)+(4)+(5)			14 days	36%	Thu 14/5/20	Tue 9/6/20	Thu 14/5/20		Thu 14/5/20	Tue 9/6/20	-3 days	1 day	753,750SS+7 days								
755	Bay No. 4: Wall & Column Casted and Formwork & Falsework upto Soffit of Top Slab (6)+(7)	of 20 days	0 days	20 days	0%	Wed 10/6/20	Sat 4/7/20	NA	NA	Sat 6/6/20	Tue 30/6/20	-3 days	1 day	754								
756	Bay No. 4: Top Slab Construction with Formwork & Falsework Erection (8)	14 days	0 days	14 days	0%	Mon 6/7/20	Tue 21/7/20	NA	NA	Thu 2/7/20	Fri 17/7/20	-3 days	1 day	755,751SS+4 days								
757	Backfill (9)	12 days	0 days	12 days	0%	Wed 22/7/20	Tue 4/8/20	NA	NA	Sat 18/7/20	Fri 31/7/20	-3 days	0.5 days	756,752,748								
758	Sheetpile Extraction and Road Reinstatement (10) (KD1)	6 days	0 days	6 days	0%	Wed 5/8/20	Tue 11/8/20	NA	NA	Sat 1/8/20	Fri 7/8/20	-3 days	0.5 days	757	i	*						
759	North Approach Ramp (Bays No.5 & 6) (Next to BEM)	92 days	0 days	92 days	0%	Mon 24/8/20	Mon 23/11/20	) NA	NA	Thu 27/8/20	Thu 17/12/20	3 days										
760	Bay No.5 Base Slab with Blinding (1+2)	8 days	0 days	8 days	0%	Thu 10/9/20	Fri 18/9/20	NA	NA	Mon 14/9/20	Tue 22/9/20	3 days	1 day	749,753SS+4	da	<b> </b>						
761	Bay No.5: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former	er) 12 days	0 days	12 days	0%	Sat 19/9/20	Mon 5/10/20	NA	NA	Wed 23/9/20	Thu 8/10/20	3 days	1 day	760		K						
762	(3+4+5) Bay No. 5: Wall & Column Casted and Formwork & Falsework upto Soffit of	of 20 days	0 days	20 days	0%	Tue 6/10/20	Thu 29/10/20	NA	NA	Fri 9/10/20	Mon 2/11/20	3 days	1 day	761,755SS+4	-	<b>-</b>						
763	Top Slab (6)+(7)  Bay No. 5: Top Slab Construction with Formwork & Falsework Erection &	12 days	0 days	12 days	0%	Fri 30/10/20	Thu 12/11/20	NA	NA	Tue 3/11/20	Mon 16/11/20	3 days	1 day	days 762,227FF	-							
764	Removal (8)  Bay No.6 Base Slab with Blinding (1)+(2)	15 days	0 days	15 days	0%	Mon 24/8/20	Wed 9/9/20	NA	NA	Thu 27/8/20	Sat 12/9/20	3 days	1 day	741SS+35 day	/S							
765	Bay No.6: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme			17 days	0%	Thu 10/9/20	Tue 29/9/20		NA	Wed 7/10/20	Tue 27/10/20			764								
766	(3)+(4)+(5)  Bay No. 6: Wall & Column Casted and Formwork & Falsework upto Soffit of			27 days	0%	Wed 30/9/20	Tue 3/11/20		NA	Wed 28/10/20	Fri 27/11/20	21 days		765								
767	Top Slab(6)+(7)												1									
	Bay No. 6: Top Slab Construction with Formwork & Falsework Erection & Removal (8)			17 days	0%	Wed 4/11/20			NA	Sat 28/11/20	Thu 17/12/20		1 day	765,766								
768	North Approach Ramp (Bays 7&8) (Next to BEM)		0 days	56 days	0%	Tue 26/1/21	Wed 7/4/21		NA	Tue 26/1/21	Sat 17/4/21	0 days										
769	Bay 7: Blinding	1 day	0 days	1 day	0%	Tue 26/1/21	Tue 26/1/21	NA	NA	Tue 26/1/21	Tue 26/1/21	0 days	0.5 days	816,767			<u> </u>					
770	Bay 7: Base slab	9 days	0 days	9 days	0%	Wed 27/1/21		NA	NA	Wed 27/1/21	Fri 5/2/21	0 days	1 day	816,769			<u> </u>					
771	Bay 7: Wall	13 days	0 days	13 days	0%	Sat 6/2/21	Wed 24/2/21	NA	NA	Wed 31/3/21	Sat 17/4/21	42 days	1 day	819,770								
772	Bay 8: Blinding	1 day	0 days	1 day	0%	Wed 27/1/21	Wed 27/1/21	NA	NA	Fri 5/2/21	Fri 5/2/21	8 days	0.5 days	769	7							
773	Bay 8: Base slab	9 days	0 days	9 days	0%	Sat 6/2/21	Fri 19/2/21	NA	NA	Sat 6/2/21	Fri 19/2/21	0 days	1 day	816,770,772			<b>K</b>					
774	Bay 8: Wall	13 days	0 days	13 days	0%	Sat 20/2/21	Sat 6/3/21	NA	NA	Sat 20/2/21	Sat 6/3/21	0 days	1 day	773,819								
775	Bays No.7&8: Backfilling	15 days	0 days	15 days	0%	Mon 8/3/21	Wed 24/3/21	NA	NA	Thu 18/3/21	Wed 7/4/21	9 days	1 day	774,767	$\parallel \parallel \parallel$							
776	Bays No.7&8: Extract Sheetpile	9 days	0 days	9 days	0%	Thu 25/3/21	Wed 7/4/21	NA	NA	Thu 8/4/21	Sat 17/4/21	9 days	0.5 days	775	$\parallel \parallel \parallel$							
777	North Approach Ramp (Bays No.2,3,4) (Next to KTSP)	149 day	s 0 days	149 days	0%	Mon 17/8/20	Tue 12/1/21	NA	NA	Tue 25/8/20	Fri 5/2/21	8 days			$\parallel \parallel \parallel$		<del>-</del>					
778	Bay No.3 Base Slab with Blinding (1)+(2)		0 days	15 days	0%	Mon 24/8/20			NA	Tue 1/9/20	Thu 17/9/20	7 days	1 day		$\parallel \parallel \parallel$							
779	Bay No.3: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme			17 days	0%	Thu 10/9/20	Tue 29/9/20		NA	Wed 7/10/20	Tue 27/10/20			778	$\parallel \parallel \parallel$							
780	(3)+(4)+(5)  Bay No. 3: Wall & Column Casted and Formwork & Falsework upto Soffit of			27 days	0%	Wed 30/9/20			NA	Wed 7/10/20		21 days		779								
	Top Slab(6)+(7)														_							
781	Bay No. 3: Top Slab Construction with Formwork & Falsework Erection & Removal (8)			17 days	0%	Wed 4/11/20	Mon 23/11/20		NA	Sat 28/11/20	Thu 17/12/20		1	779,780								
782	Bay No.2 Base Slab with Blinding (1)+(2)		0 days	15 days	0%	Mon 17/8/20	Wed 2/9/20		NA	Tue 25/8/20		7 days		778FS-21 day	S							
783	Bay No.2: Wall & Column with Soffit (upto +4.6mPD) (include Wall Forme (3)+(4)+(5)	er) 17 days	0 days	17 days	0%	Thu 3/9/20	Tue 22/9/20	NA	NA	Wed 7/10/20	Tue 27/10/20	27 days	1 day	782								
itle: Rev.11 Pro	og with Progress	Summary			Inactive M	ilestone $\Diamond$		Duration-or			Start-only		С		xternal Milesto			al Split				
s of 22-May-2	Split	Project Sur	mmary		Inactive Su  Manual Ta			Manual Sur Manual Sur	mmary Rollup 🕳		Finish-only		3	D	eadline	1	Progr	èss				

								ract No. ED/												
Task Name		Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2   Q3	04 01	2021	3   Q4   Q1	2022 1   Q2   Q3	Q4 Q1
34	Bay No. 2: Wall & Column Casted and Formwork & Falsework upto Soffit of Top Slab(6)+(7)	27 days		27 days	0%	Wed 23/9/20	Tue 27/10/20	NA	NA	Wed 28/10/20	Fri 27/11/20	27 days	1 day	783	X2 X3	χ-			42   43	77 - 21
35	Bay No. 2: Top Slab Construction with Formwork & Falsework Erection & Removal (8)	17 days	0 days	17 days	0%	Wed 28/10/20	Mon 16/11/20	NA	NA	Sat 28/11/20	Thu 17/12/20	27 days	1 day	783,784						
36	Bay No.4 Base Slab with Blinding (1)+(2)	15 days	0 days	15 days	0%	Tue 18/8/20	Thu 3/9/20	NA	NA	Wed 26/8/20	Fri 11/9/20	7 days	1 day	782SS+1 day	<b>*</b>					
37	Bay No.4: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former	) 17 days	0 days	17 days	0%	Fri 4/9/20	Wed 23/9/20	NA	NA	Sat 12/9/20	Sat 3/10/20	7 days	1 day	786		,				
38	(3)+(4)+(5)  Bay No. 4: Wall & Column Casted and Formwork & Falsework upto Soffit of	27 days	0 days	27 days	0%	Thu 24/9/20	Wed 28/10/20	NA	NA	Mon 5/10/20	Thu 5/11/20	7 days	1 day	787						
39	Top Slab(6)+(7) Bay No. 4: Top Slab Construction with Formwork & Falsework Erection &			17 days	0%	Thu 29/10/20			NA	Fri 6/11/20	Wed 25/11/20		1 day	787,788						
00	Removal (8)  Bay No.2,3&4: Backfilling upto +3.0mPD	28 days		28 days	0%	Tue 24/11/20	Mon 28/12/20		NA	Fri 18/12/20	Fri 22/1/21			789,785,781,767						
												21 days								
91	Bay No.4: Sheetpile Extraction (KD2)	12 days		12 days	0%	Tue 29/12/20			NA	Sat 23/1/21	Fri 5/2/21		0.5 days	790						
	North Approach Ramp (Bays No.5,6) (Next to KTSP)	141 days		141 days	0%		Wed 7/4/21		NA	Thu 26/11/20	Sat 10/4/21	3 days				1	T'			
13	Bay No.5 Base Slab with Blinding (1)+(2)	15 days	0 days	15 days	0%	Mon 23/11/20	Wed 9/12/20	NA	NA	Thu 26/11/20	Sat 12/12/20	3 days	1 day	741SS+35 days,		<b>1</b>				
)4	Bay No.5: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former)	17 days	0 days	17 days	0%	Thu 10/12/20	Thu 31/12/20	NA	NA	Mon 14/12/20	Tue 5/1/21	3 days	1 day	793						
05	Bay No. 5: Wall & Column Casted and Formwork & Falsework upto Soffit of Top Slab(6)+(7)	27 days	0 days	27 days	0%	Sat 2/1/21	Tue 2/2/21	NA	NA	Wed 6/1/21	Fri 5/2/21	3 days	1 day	794						
96	Bay No. 5: Top Slab Construction with Formwork & Falsework Erection &	17 days	0 days	17 days	0%	Wed 3/2/21	Thu 25/2/21	NA	NA	Sat 6/2/21	Mon 1/3/21	3 days	1 day	794,795,791		1				
07	Removal (8) Bay No.6 Base Slab with Blinding (1)+(2)	15 days	0 days	15 days	0%	Wed 18/11/20	Fri 4/12/20	NA	NA	Thu 26/11/20	Sat 12/12/20	7 days	1 day	789						
08	Bay No.6: Wall & Column with Soffit (upto +4.6mPD) (include Wall Former	) 17 days	0 days	17 days	0%	Sat 5/12/20	Thu 24/12/20	NA	NA	Mon 14/12/20	Tue 5/1/21	7 days	1 day	797						
9	(3)+(4)+(5)  Bay No. 6: Wall & Column Casted and Formwork & Falsework upto Soffit of		1	27 days	0%	Mon 28/12/20			NA	Wed 6/1/21	Fri 5/2/21			798						
00	Top Slab (6)+(7)  Bay No. 6: Top Slab Construction with Formwork & Falsework Erection &			17 days	0%	Fri 29/1/21	Sat 20/2/21		NA	Sat 6/2/21	Mon 1/3/21			798,799						
	Removal (8)																			
01	Bay No.5&6: Backfilling upto +3.0mPD	26 days		26 days	0%	Fri 26/2/21		NA	NA	Tue 2/3/21	Wed 31/3/21		1 day	790,800,796						
)2	Bay No.5&6: Sheetpile Extraction (KD2)	6 days		6 days	0%	Mon 29/3/21	Wed 7/4/21		NA	Thu 1/4/21	Sat 10/4/21		0.5 days	801,791						
13	North Approach Ramp (Bays 7&8) (Next to KTSP)	79 days	0 days	79 days	0%	Fri 29/1/21	Sat 17/4/21	NA	NA	Thu 11/2/21	Sat 17/4/21	0 days				1	<del> </del>			
)4	Bay 7: Base slab	9 days	0 days	9 days	0%	Fri 29/1/21	Mon 8/2/21	NA	NA	Thu 11/2/21	Wed 24/2/21	11 days	0.5 days	816,799						
)5	Bay 7: Wall	12 days	0 days	12 days	0%	Mon 8/3/21	Sat 20/3/21	NA	NA	Mon 8/3/21	Sat 20/3/21	0 days	1 day	804,819,774						
6	Bay 8: Base slab	9 days	0 days	9 days	0%	Tue 9/2/21	Mon 22/2/21	NA	NA	Thu 25/2/21	Sat 6/3/21	11 days	0.5 days	804,816						
7	Bay 8: Wall	12 days	0 days	12 days	0%	Tue 23/2/21	Mon 8/3/21	NA	NA	Mon 8/3/21	Sat 20/3/21	11 days	1 day	806,819						
3	Bays No.7&8: Backfilling	15 days	0 days	15 days	0%	Mon 22/3/21	Sat 10/4/21	NA	NA	Mon 22/3/21	Sat 10/4/21	0 days	1 day	807,805						
9	Bays No.7&8: Extract Sheetpile	6 days	0 days	6 days	0%	Mon 12/4/21	Sat 17/4/21	NA	NA	Mon 12/4/21	Sat 17/4/21	0 days	1 day	808,801,802						
0	CH1087-1189 (100m): North Approach Ramp: Parapet, Central Median &	77 days		77 days	0%	Mon 19/4/21	Wed 21/7/21	NA	NA	Thu 23/9/21	Tue 14/12/21		-	718			4			
	Furniture CH1087-1189: Parapet (28m per day per team) x 1 team + 6 day concreting			23 days	0%	Mon 19/4/21	Sat 15/5/21		NA	Thu 23/9/21	Thu 21/10/21	130 days	2 day	809,776,821			<b>                                     </b>			
													-				1			
2	CH1087-1189: Central Median and Utilties Trough (6m per day per team) x 1 team			25 days	0%	Thu 27/5/21	Fri 25/6/21		NA	Fri 22/10/21	Fri 19/11/21	122 days		811,236						
3	CH1087-1189: Road Furniture	21 days		21 days	0%	Sat 26/6/21	Wed 21/7/21	NA	NA	Sat 20/11/21	Tue 14/12/21	122 days	3 days	812,358						
.4	North Approach Ramp: Bay No. 1	135 days	0 days	135 days	0%	Fri 14/8/20	Mon 25/1/21	NA	NA	Fri 14/8/20	Mon 25/1/21	0 days				1				
.5	Bay 1: Base slab	27 days	0 days	27 days	0%	Fri 14/8/20	Mon 14/9/20	NA	NA	Fri 14/8/20	Mon 14/9/20	0 days	0.5 days	834						
.6	Bay 1: Wall	83 days	0 days	83 days	0%	Fri 16/10/20	Mon 25/1/21	NA	NA	Fri 16/10/20	Mon 25/1/21	0 days	3 days	819						
.7	Part 3G - CH1189.4 to CH1229 North Abutment	180 days	0 days	180 days	0%	Tue 15/9/20	Mon 26/4/21	NA	NA	Tue 15/9/20	Mon 26/4/21	0 days								
.8	North Abutment	180 days	0 days	180 days	0%	Tue 15/9/20	Mon 26/4/21	NA	NA	Tue 15/9/20	Mon 26/4/21	0 days								
9	North Abutment - Base Slab	25 days	0 days	25 days	0%	Tue 15/9/20	Thu 15/10/20	NA	NA	Tue 15/9/20	Thu 15/10/20	0 days	1 day	815		لللللل				
20	North Abutment Wall (3.85m thk)	37 days		37 days	0%	Tue 26/1/21	Fri 12/3/21	NA	NA	Tue 26/1/21	Fri 12/3/21	0 days	1 day	816		<b>.</b>				
21	North Abutment Wall (0.5m thk) (KD2) (KD3)	28 days		28 days	0%	Sat 13/3/21	Sat 17/4/21		NA	Sat 13/3/21	Sat 17/4/21		-	820			<u>_</u>			
22	Install bridge bearing	7 days		7 days	0%	Mon 19/4/21	Mon 26/4/21		NA	Mon 19/4/21	Mon 26/4/21	0 days	U.J GAÝS	021,730						
	At Grade Road Works CH1000-2124	157 days		157 days	0%	Tue 10/8/21	Fri 18/2/22		NA	Thu 4/11/21	Tue 1/3/22	9 days								
1	CH1000-1087 At grade road works	60 days		60 days	0%	Tue 10/8/21	Thu 21/10/21		NA	Wed 15/12/21	Tue 1/3/22	106 days	-	776,809,332,341						
25	CH1444.7-1560 At grade road works	45 days	0 days	45 days	0%	Wed 22/12/21	Fri 18/2/22	NA	NA	Wed 5/1/22	Tue 1/3/22	9 days	1 day	1293,826,219						
26	Ch2050 to 2124: At grade road works	50 days	0 days	50 days	0%	Mon 25/10/21	Tue 21/12/21	NA	NA	Thu 4/11/21	Tue 4/1/22	9 days	1 day	1438,219						
27 Brid	lge D3 Bored Pile	17 days	17 days	0 days	0%	Tue 19/11/19	Thu 5/12/19	Tue 19/11/19	Thu 5/12/19	Tue 19/11/19	Thu 5/12/19	0 days								
28	Pre-drilling Works	15 days	15 days	0 days	100%	Tue 19/11/19	Thu 5/12/19	Tue 19/11/19	Thu 5/12/19	Tue 19/11/19	Thu 5/12/19	0 days	0.5 day							
	Tool	Cumm				ilectors		Dt	alv.		Ctn-4 1		г	P.	in I Milanter			Critical S. 1's	<u> </u>	
e: Rev.11 Prog	with Progress	Summary Project Sun	nmary		Inactive M Inactive Su	_		Duration-on  Manual Sun	nmary Rollup 🔳		Start-only Finish-only		]	Extern Deadli	al Milestone ine	<ul><li>*</li></ul>		Critical Split Progress		
of 22-May-20		Inactive Ta			Manual Ta			Manual Sun			External Tasl			Critica				Manual Progre	229	

								tract No. ED,														
Task Na	ame	Duration	n Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2 Q2	3   04	021   Q3   Q	04 01	202   Q2	4 01	2023 Q2   Q3	04
29	Part 3C - CH1229 to CH1279	823 day	s? 137.51 days	685.49 days?	0%	Thu 16/5/19	Sat 19/2/22	Thu 16/5/19	NA	Mon 11/11/19	Wed 29/5/24	676 da										_ <
30	Abutment A01 Piling	0 days	0 days	0 days	0%	Thu 16/5/19	Thu 16/5/19	NA	NA	Wed 29/5/24	Wed 29/5/24	1841 d										
331	CH1189: Bored Pile (A01-BP1) by Rig 1(Contractor Bear DDA Approval Risk)	61 days	40 days	21 days	66%	Tue 31/3/20	Tue 16/6/20	Tue 31/3/20	NA	Tue 31/3/20	Tue 16/6/20	0 days	1 day	839								
832	CH1189: Bored Pile (A01-BP2) by Rig 1 (Contractor Bear DDA Approval Risk	29 days	29 days	0 days	100%	Mon 13/4/20	Tue 19/5/20	Mon 13/4/20	Tue 19/5/20	Mon 13/4/20	Tue 19/5/20	0 days	1 day									
833	Abutment A01: Pile Testing (28d curing & 14 test) - 1 full-core to be carried out	t 37 days	0 days	37 days	0%	Wed 17/6/20	Fri 31/7/20	NA	NA	Wed 17/6/20	Fri 31/7/20	0 days	5 days	831,832								
834	Abutment A01: Proof-drilling Works	11 days	0 days	11 days	0%	Sat 1/8/20	Thu 13/8/20	NA	NA	Sat 1/8/20	Thu 13/8/20	0 days	2 day	833		<del>,</del>						
835	Mobilization of plant and material	6 days	6 days	0 days	100%	Mon 11/11/19	Sat 16/11/19	Mon 11/11/19	Sat 16/11/19	Mon 11/11/19	Sat 16/11/19	0 days	1 days	14,194,193								
336	CH1229: Pre-drilling Works	21 days	21 days	0 days	100%	Tue 19/11/19	Thu 12/12/19	Tue 19/11/19	Thu 12/12/19	Tue 19/11/19	Thu 12/12/19	0 days	0.5 days									
337	Pier P01 Piling, Pilecap & Pier	0 days	0 days	0 days	0%	Thu 16/5/19	Thu 16/5/19	NA	NA	Wed 29/5/24	Wed 29/5/24	1841 d										
338	Bored pile (P01-BP2) @ CH1229 by Rig 1 (Contractor Bear DDA Approval	44 days	44 days	0 days	100%	Fri 17/1/20	Wed 11/3/20	Fri 17/1/20	Wed 11/3/20	Fri 17/1/20	Wed 11/3/20	0 days	0.5 days									
339	Risk) Bored pile (P01-BP1) @ CH1229 by Rig 1 (Contractor Bear DDA Approval	38 days	38 days	0 days	100%	Mon 24/2/20	Wed 8/4/20	Mon 24/2/20	Wed 8/4/20	Mon 24/2/20	Wed 8/4/20	0 days	0.5 days	838SS+30 days		_						
40	Risk) Pier P01: Pile Testing (18d curing & 14 test)	45 days	0 days	45 days	0%	Sat 23/5/20	Thu 16/7/20	NA	NA	Mon 6/7/20	Wed 26/8/20	35 days	3 days	839		_,						
341	Pier P01: Proof-drilling Works	10 days	0 days	10 days	0%	Fri 17/7/20	Tue 28/7/20	NA	NA	Thu 27/8/20	Mon 7/9/20	35 days	1 day	839,840								
342	Pile Cap P01 @ CH1229	98 days	0 days	98 days	0%	Mon 15/6/20	Sun 11/10/20	NA	NA	Sat 29/8/20	Fri 13/11/20	28 days										
843	Excavation with Shoring Installation ~2600m3 Prod. Rate: 160m3/day/team	17 days	0 days	17 days	0%	Wed 29/7/20	Mon 17/8/20	NA	NA	Tue 8/9/20	Sat 26/9/20	35 days	1 day	841								
844	Pilecap - Formwork Design and Method Statement Submission		0 days	0 days	0%	Mon 15/6/20	Mon 15/6/20		NA	Sat 29/8/20	Sat 29/8/20	75 days			<b>♦</b> 15/0	5						
345	Pilecap - Formwork Design and Method Statement Comment & Appraoval		0 days	30 days	0%	Mon 15/6/20	Tue 14/7/20	NA	NA	Sat 29/8/20	Sun 27/9/20	75 days		844								
846	Pilecap structure		0 days	24 days	0%	Tue 18/8/20	Mon 14/9/20		NA	Mon 28/9/20	Wed 28/10/20			845,843								
347	Backfill		0 days	14 days	0%	Tue 15/9/20	Wed 30/9/20		NA	Thu 29/10/20	Fri 13/11/20	35 days	-	846	$\ \cdot\ $							
348	Pier - Formwork Design and Method Statement Submission		0 days	0 days	0%	Mon 7/9/20	Mon 7/9/20		NA	Sat 10/10/20	Sat 10/10/20	33 days				7/0						
349	Pier - Formwork Design and Method Statement Comment & Appraoval	35 days		35 days	0%	Mon 7/9/20	Sun 11/10/20		NA	Sat 10/10/20	Fri 13/11/20	33 days	-	848		]						
50	Pier P01 @ CH1229			49 days	0%	Wed 28/10/20			NA	Sat 14/11/20	Wed 13/1/21	15 days		847,211,849								
351	CH1269: Pre-drilling Works		0 days		0%	Wed 20/11/19				9 Wed 20/11/19	Thu 19/12/19		·	835,836								
352			30 days	0 days										,								
	Abandon the Installed defected Bored pile (P02-BP2) @ CH1269		35 days	0 days	100%	Tue 11/2/20		Tue 11/2/20			Sun 22/3/20		0.5 days	851								
53	Pier P02 Piling, Pilecap & Pier			1 day?	0%	Thu 16/5/19	Thu 16/5/19		NA	Wed 29/5/24	Wed 29/5/24	1840 d										
54	Predrilling works for Bored pile (P02-BP2)(Abandoned) @ CH1269		0 days	11 days	0%	Wed 3/6/20	Mon 15/6/20		NA	Tue 9/6/20	Sat 20/6/20		0.5 days									
355	Casing Extraction for Abandoned P02-BP2 Bored Pile		0 days	20 days	0%	Sat 20/6/20	Wed 15/7/20		NA	Mon 22/6/20	Thu 16/7/20			854								
356	Bored pile (P02-BP2)(Remedial) @ CH1269		0 days	30 days	0%	Thu 16/7/20	Wed 19/8/20		NA	Fri 17/7/20	Thu 20/8/20	-		855,854								
357	Bored pile (P02-BP1) @ CH1269 (Contractor Bear DDA Approval Risk) (Rig 2	2) 26 days	26 days	0 days	100%	Fri 21/2/20	Sat 18/4/20			Fri 21/2/20	Sat 18/4/20		0.5 days									
358	Pile Testing (18d curing & 14 test)	32 days	0 days	32 days	0%	Thu 20/8/20	Fri 25/9/20	NA	NA	Wed 2/9/20	Sat 10/10/20	11 days	0.5 days	852,857,856								
359	Proof-drilling Works	9 days	0 days	9 days	0%	Sat 26/9/20	Thu 8/10/20	NA	NA	Mon 12/10/20	Wed 21/10/20		·	839,840,858								
860	Pile Cap ELS - Temp. Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 29/6/20	Mon 29/6/20	NA	NA	Tue 22/9/20	Tue 22/9/20	85 days	1 day		<b>4</b> 29	/6						
861	Pile Cap ELS - Temp. Works Design and Method Statement Comment & Appraoval	30 days	0 days	30 days	0%	Mon 29/6/20	Tue 28/7/20	NA	NA	Tue 22/9/20	Wed 21/10/20	85 days	1 day	860		+						
362	Pile Cap P02 @ CH1270	120 day	s 0 days	120 days	0%	Mon 24/8/20	Sat 16/1/21	NA	NA	Thu 22/10/20	Fri 29/1/21	11 days										
863	Drive sheetpile (~75m). Prod. Rate: 5m/day/side/team	17 days	0 days	17 days	0%	Fri 9/10/20	Thu 29/10/20	NA	NA	Thu 22/10/20	Wed 11/11/20	11 days	2 days	861,858,140,859		<b>M</b>						
64	Excavation ~1677m3 & lateral support. Prod. Rate: 100m3/day/team	18 days	0 days	18 days	0%	Fri 30/10/20	Thu 19/11/20	NA	NA	Thu 12/11/20	Wed 2/12/20	11 days	1 days	863								
365	Pilecap Formwork Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 24/8/20	Mon 24/8/20	NA	NA	Thu 12/11/20	Thu 12/11/20	80 days	1 day			24/8						
366	Pilecap Formwork - Design and Method Statement Comment & Appraoval	21 days	0 days	21 days	0%	Mon 24/8/20	Sun 13/9/20	NA	NA	Thu 12/11/20	Wed 2/12/20	80 days	1 day	865								
367	Pilecap structure	36 days	0 days	36 days	0%	Fri 20/11/20	Mon 4/1/21	NA	NA	Thu 3/12/20	Sat 16/1/21	11 days	1 day	866,864,863								
68	Backfill and extract sheet pile	11 days	0 days	11 days	0%	Tue 5/1/21	Sat 16/1/21	NA	NA	Mon 18/1/21	Fri 29/1/21	11 days	2 day	867								
369	Pier - Temp. Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 7/9/20	Mon 7/9/20	NA	NA	Thu 31/12/20	Thu 31/12/20	115 days	1 day			<b>♦</b> 7/9						
370	Pier - Temp. Works Design and Method Statement Comment & Appraoval	30 days	0 days	30 days	0%	Mon 7/9/20	Tue 6/10/20	NA	NA	Thu 31/12/20	Fri 29/1/21	115 days	1 day	869	$\left\{ \left[ $	<b>*</b>						
371	Pier P02 @ CH1270	49 days	0 days	49 days	0%	Mon 18/1/21	Thu 18/3/21	NA	NA	Sat 30/1/21	Wed 31/3/21	11 days	1 day	868,211,870								
872	Stage 1: Bridge deck between CH1229-1311		s 0 days	340 days	0%	Mon 2/11/20			NA	Tue 19/1/21	Wed 29/12/21				$\left\{ \left[ $							
873	Bridge Deck - Temp. Works Design and Method Statement Submission		0 days	0 days	0%	Mon 2/11/20	Mon 2/11/20		NA	Tue 19/1/21	Tue 19/1/21	78 days	1 day		$\left\{ \left\  \cdot \right\  \right\  \right\}$	<b>♣</b> ⊅/1						
							2.11,20									V 2/11						
	Prog with Progress Task Split	Summary Project Sur	mmarv		Inactive Mi	_		Duration-or  Manual Sur	nly    mmary Rollup		Start-only Finish-only		[ ]		emal Mileston dline	e ♦ •	Critic Progr	ical Split rress		 		
s of 22-May	y-20 Milestone	Inactive Ta		-	Manual Tas			Manual Sui			External Tas		_	Crit		*		ual Progress	s			

Task Nan		ъ :		ъ	D1 : : : :	п		1. 1.5		TD Project	1	m	mp. 4	, ,	2020			-		20.55		_	2022	_
Task Nan	ne	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish	Total Slack	ΓRA		2020 2   Q3	Q4 Q1	2021 Q2 0	Q3   Q4	Q1	2022 Q2   Q	Q3   Q4	Q1	2023 Q2   Q3	Q4
74	Bridge Deck - Temp. Works Design and Method Statement Comment & Appraoval	35 days	0 days	35 days	0%	Mon 2/11/20	Sun 6/12/20	NA	NA	Tue 19/1/21	Mon 22/2/21	78 days 1	l day 8	373										
375	CH1229-1311: Deck Falsework erection Part 1	32 days	0 days	32 days	0%	Tue 23/2/21	Wed 31/3/21	NA	NA	Tue 23/2/21	Wed 31/3/21	0 days	l day 8	374,922		Į Į Į	<u>-</u>							
876	CH1229-1311: Deck Falsework erection Part 2	28 days	0 days	28 days	0%	Thu 1/4/21	Fri 7/5/21	NA	NA	Thu 1/4/21	Fri 7/5/21	0 days 3	3 days 8	375,871										
877	CH1229-1311: Structure deck	50 days	0 days	50 days	0%	Wed 7/4/21	Sat 5/6/21	NA	NA	Wed 7/4/21	Sat 5/6/21	0 days 2	2 day 4	75,483,736,875										
878	CH1229-1311: Prestressing	18 days	0 days	18 days	0%	Thu 24/6/21	Thu 15/7/21	NA	NA	Thu 24/6/21	Thu 15/7/21	0 days (	0.5 day 8	377FS+14 days										
879	CH1229-1311: Falsework Under Main Deck Removal	12 days	0 days	12 days	0%	Fri 16/7/21	Thu 29/7/21	NA	NA	Fri 16/7/21	Thu 29/7/21	0 days (	0.5 day 8	378										
880	CH1229-1311: Utility Trough (0.67m per day per team) x 4 team	70 days	0 days	70 days	0%	Fri 16/7/21	Thu 7/10/21	NA	NA	Thu 22/7/21	Wed 13/10/21	5 days	days 2	219,878										
381	CH1229-1311: Central Median (6m per day per team) x 2 team	31 days	0 days	31 days	0%	Fri 16/7/21	Fri 20/8/21	NA	NA	Sat 2/10/21	Mon 8/11/21	65 days 3	3 days 8	378										
882	CH1229-1311: Parapet (28m per day per team) x 2 team + 6x2 day concreting			21 days	0%	Fri 8/10/21	Tue 2/11/21	NA	NA	Fri 15/10/21	Mon 8/11/21	5 days 3	3 days 8	380				7						
83	CH1229-1311: Removal of Falsework (KD6)	42 days		42 days	0%	Wed 3/11/21	Tue 21/12/21		NA	Tue 9/11/21	Wed 29/12/21			380.882.881				-						
384	CH1229-1311: Road Furniture	15 days		15 days	0%	Sat 21/8/21		NA	NA	Sat 27/11/21	Tue 14/12/21	81 days		881,358										
													i uay o	001,330										
385	Part 3D - CH1279 to CH1311	196 days		196 days	0%	Mon 7/6/21	Sat 29/1/22		NA	Wed 16/6/21	Fri 11/2/22	7 days												
386	Stage 1: Bridge deck between CH1269-1311	196 days		196 days	0%	Mon 7/6/21	Sat 29/1/22		NA	Wed 16/6/21	Fri 11/2/22	7 days												
87	CH1269-1311: Structure deck	50 days	0 days	50 days	0%	Mon 7/6/21	Thu 5/8/21	NA	NA	Wed 16/6/21	Fri 13/8/21	7 days 2		75,483,736,877										
388	Prestressing CH1269 - 1311 Bridge Spans	21 days	0 days	21 days	0%	Mon 23/8/21	Wed 15/9/21	NA	NA	Tue 31/8/21	Fri 24/9/21	7 days 3	3 day 8	887FS+14 days										
889	CH1269-1311: Utility Trough (0.67m per day per team) x 2 team	64 days	0 days	64 days	0%	Thu 16/9/21	Thu 2/12/21	NA	NA	Sat 25/9/21	Fri 10/12/21	7 days (	0.5 day 8	388,219										
90	CH1269-1311: Parapet (28m per day per team) x 1 team + 6 day concreting	17 days	0 days	17 days	0%	Fri 3/12/21	Wed 22/12/2	1 NA	NA	Sat 11/12/21	Mon 3/1/22	7 days 3	3 days 8	889				i i i						
91	CH1269-1311: Central Median (6m per day per team) x 1 team	15 days	0 days	15 days	0%	Thu 23/12/21	Wed 12/1/22	NA	NA	Wed 5/1/22	Fri 21/1/22	8 days	l day 8	389,890										
892	CH1269-1311: Road Furniture	15 days	0 days	15 days	0%	Thu 13/1/22	Sat 29/1/22	NA	NA	Sat 22/1/22	Fri 11/2/22	8 days	l day 8	391,358					1					
393	Stage2: Bridge deck between CH1189-1229	823 days?	0 days	823 days?	0%	Thu 16/5/19	Sat 19/2/22	NA	NA	Tue 27/4/21	Wed 29/5/24	579 da												
394	CH1189-1229: Deck Falsework erection	1 day?	0 days	1 day?	0%	Thu 16/5/19	Thu 16/5/19	NA	NA	Wed 29/5/24	Wed 29/5/24	1840 d												
95	CH1189-1229: Deck Falsework erection	22 days		22 days	0%	Tue 27/4/21	Mon 24/5/21		NA	Tue 27/4/21	Mon 24/5/21		l day 8	350,822										
396	CH1189-1229: Structure deck	27 days		27 days	0%	Tue 25/5/21	Fri 25/6/21		NA	Tue 25/5/21	Fri 25/6/21	0 days 2		395,475,483										
397	CH1189-1229: Prestressing	18 days		18 days	0%	Wed 14/7/21		NA	NA	Wed 14/7/21	Tue 3/8/21			896FS+14 days										
98	CH1169-1229: Fiestiessing  CH1189-1229: Falsework Under Main Deck Removal											,												
		15 days		15 days	0%	Wed 4/8/21	Fri 20/8/21		NA	Wed 4/8/21	Fri 20/8/21			378,897										
399	CH1189-1229: Utility Trough (0.67m per day per team) x 2 team	63 days		63 days	0%	Wed 4/8/21	Tue 19/10/21		NA	Wed 13/10/21	Tue 28/12/21	58 days 3		219,897										
00	CH1189-1229 : Central Median (6m per day per team) x 1 team	16 days		16 days	0%	Sat 21/8/21	Wed 8/9/21		NA	Fri 21/1/22	Fri 11/2/22	125 days 3		397,881										
901	CH1189-1229 : Parapet (28m per day per team) x 1 team + 6 day concreting	20 days	0 days	20 days	0%	Wed 3/11/21	Thu 25/11/21		NA	Mon 17/1/22	Fri 11/2/22	61 days		399,882				1						
902	CH1189-1229: Road Furniture	15 days	0 days	15 days	0%	Mon 31/1/22	Sat 19/2/22	NA	NA	Sat 12/2/22	Tue 1/3/22	8 days	l day 9	000,892,358,901										
003	Part 3E - CH1311 to CH1372	652 days	94.1 days	557.9 days	0%	Tue 12/11/19	Fri 21/1/22	Tue 12/11/19	NA	Tue 12/11/19	Wed 29/5/24	698 days							**1					
904	Pre-drilling Works	31 days	31 days	0 days	0%	Tue 12/11/19	Tue 17/12/19	Tue 12/11/19	Tue 17/12/1	9 Tue 12/11/19	Tue 17/12/19	0 days (	0.5 day											
905	Bored pile (P03-BP1) @ CH1311 (Rig 2) (Contractor Bear DDA Design Risk)	40 days	40 days	0 days	100%	Tue 17/3/20	Fri 8/5/20	Tue 17/3/20	Fri 8/5/20	Tue 17/3/20	Fri 8/5/20	0 days (	0.5 day 9	004	\									
906	Bored pile (P03-BP2) @ CH1311 (Contractor Bear DDA Design Risk) (Rig 2)	36 days	25 days	11 days	69%	Wed 22/4/20	Thu 4/6/20	Wed 22/4/20	NA	Wed 22/4/20	Thu 4/6/20	0 days	3 day		$\  \ $									
907	Pile Testing (18 curing & 14 test)	35 days	0 days	35 days	0%	Sat 6/6/20	Sat 18/7/20	NA	NA	Sat 6/6/20	Sat 18/7/20	0 days 3	3 day 9	06FS+1 day,90	₩									
08	Proof-drilling Works	11 days	0 days	11 days	0%	Mon 20/7/20	Fri 31/7/20	NA	NA	Mon 20/7/20	Fri 31/7/20	0 days 2	2 days 9	007										
909	Pile Cap P03 @ CH1311	76 days		76 days	0%	Tue 7/7/20	Mon 5/10/20		NA	Fri 31/7/20		21 days			<b>       </b>									
910	Pile Cap @ CH1311 by Open Cut	46 days		46 days	0%	Sat 1/8/20	Wed 23/9/20		NA	Wed 28/10/20	Sat 19/12/20	72 days	q	008										
911	Pilecap Formwork Design and Method Statement Submission	0 days		0 days	0%	Tue 7/7/20	Tue 7/7/20		NA	Tue 30/4/24	Tue 30/4/24		l day		777									
912	Pilecap Formwork Design and Method Statement Comment & Appraoval	30 days		30 days	0%	Tue 7/7/20	Wed 5/8/20		NA	Tue 30/4/24	Wed 29/5/24	days		011										
												days												
913	Excavation with Shoring Installation ~2600m3 Prod. Rate: 160m3/day/team	17 days		17 days	0%	Sat 1/8/20	Thu 20/8/20		NA	Sat 1/8/20	Thu 20/8/20			908										
14	Pilecap Formwork - design and Method Statement Submission	0 days		0 days	0%	Mon 20/7/20	Mon 20/7/20		NA	Fri 31/7/20	Fri 31/7/20	11 days			20.7									
015	Pilecap Formwork - Design and Method Statement Comment & Appraoval	21 days	0 days	21 days	0%	Mon 20/7/20	Sun 9/8/20		NA	Fri 31/7/20	Thu 20/8/20	11 days		014										
916	Pilecap structure	24 days	0 days	24 days	0%	Fri 21/8/20	Thu 17/9/20	NA	NA	Fri 21/8/20	Thu 17/9/20	0 days	l day 9	015,908,913										
917	Backfill	13 days	0 days	13 days	0%	Fri 18/9/20	Mon 5/10/20	NA	NA	Fri 18/9/20	Mon 5/10/20	0 days	l day 9	016										
918	Agree Interface Coordination Plan with CKP-KTW (HY/2014/07)	14 days	0 days	14 days	0%	Tue 6/10/20	Wed 21/10/20	) NA	NA	Tue 6/10/20	Wed 21/10/20	0 days (	days 9	017		21/10								
	Task	Summary			Inactive N	filestone •		Duration-on	ly		Start-only			External	Milestone	<u> </u>		Critical S	<u>111.11.1111.111</u> Split				<u> </u>	_
itle: Rev.11 Pr is of 22-May-	og with Progress	Project Sumi	mary		Inactive S				nmary Rollup		Finish-only		3	Deadline		•		Progress		_				
ay	Milestone •	Inactive Task	k		Manual T	ask		Manual Sun	nmary		External Task	CS I		Critical				Manual P	rogress	_				

									/2018/01 KT											
Task Nam		Duration	n Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020	3   Q4   Q1	2021   Q2   Q		2022 Q1   Q2   Q3	Q4 Q1
19	Allow access to CKR-KTW contractor for sheet pile wall installation. PS App.1.18 2.7(A)(c)	60 days	0 days	60 days	0%	Thu 22/10/20	Sun 20/12/20	NA	NA	Thu 22/10/20	Sun 20/12/20		0 days	917,918						
20	Pier - Temp. Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 12/10/20	Mon 12/10/20	NA	NA	Mon 16/11/20	Mon 16/11/20	35 days	1 day			<b>♦ 12/16</b>				
1	Pier - Temp. Works Design and Method Statement Comment & Approval	35 days	0 days	35 days	0%	Mon 12/10/20	Sun 15/11/20	NA	NA	Mon 16/11/20	Sun 20/12/20	35 days	1 day	920						
22	Pier P03 @ CH1311	49 days	0 days	49 days	0%	Mon 21/12/20	Mon 22/2/21	NA	NA	Mon 21/12/20	Mon 22/2/21	0 days	1 day	916,919,850SS+						
23	Pre-drilling Works	15 days	15 days	0 days	100%	Wed 4/12/19	Wed 18/12/19	Wed 4/12/19	Wed 18/12/	. Wed 4/12/19	Wed 18/12/19	0 days	0.5 days		$\coprod$					
24	Diversion of existing 150mm dia. Watermain (agreed)	54 days	42 days	12 days	78%	Sat 28/3/20	Fri 5/6/20	Sat 28/3/20	NA	Sat 28/3/20	Sat 14/11/20	134 days	2 days							
25	Bored pile (P04-BP2) @ CH1351 (Rig 2)	52 days		51 days	0%	Fri 22/5/20	Wed 21/10/20	Fri 22/5/20	NA	Fri 22/5/20	Tue 19/1/21	73 days		923,856						
26	Bored pile (P04-BP1) @ CH1351 (Rig 2)		0 days	53 days	0%	Tue 11/8/20	Tue 13/10/20		NA	Mon 16/11/20	Tue 19/1/21	80 days		202,924,923,925						
7											Thu 4/3/21			926,925						
18	Pile Testing (14d curing & 14 test)		0 days	35 days	0%	Thu 22/10/20			NA	Wed 20/1/21		73 days		· 1						
	Proof-drilling Works	11 days		11 days	0%	Thu 3/12/20	Tue 15/12/20		NA	Fri 5/3/21	Wed 17/3/21	73 days	2 days	927						
29	Pile Cap P04 @ CH1351 with ELS	47 days	0 days	47 days	0%	Wed 16/12/20	Thu 11/2/21	NA	NA	Thu 1/4/21	Mon 31/5/21	85 days		933SS,928						
80	Pile Cap @ CH1351	97 days	0 days	97 days	0%	Mon 2/11/20	Mon 1/3/21	NA	NA	Tue 16/2/21	Mon 31/5/21	73 days								
31	Pilecap ELS- Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 2/11/20	Mon 2/11/20	NA	NA	Tue 16/2/21	Tue 16/2/21	106 days	1 day			<b>4</b> 2/11				
32	Pilecap ELS - Design and Method Statement Comment & Appraoval	30 days	0 days	30 days	0%	Mon 2/11/20	Tue 1/12/20	NA	NA	Tue 16/2/21	Wed 17/3/21	106 days	1 day	931						
33	Drive sheetpile (~75m). Prod. Rate: 10m/day/side/team	10 days	0 days	10 days	0%	Wed 16/12/20	Tue 29/12/20	NA	NA	Thu 18/3/21	Mon 29/3/21	73 days	2 days	932,928						
34	Excavation with Shoring Installation ~2600m3 Prod. Rate: 160m3/day/team	19 days	0 days	19 days	0%	Wed 30/12/20	Thu 21/1/21	NA	NA	Tue 30/3/21	Fri 23/4/21	73 days	2 day	933						
35	Pilecap Formwork- Design and Method Statement Submission	0 days	0 days	0 days	0%	Tue 1/12/20	Tue 1/12/20	NA	NA	Thu 25/3/21	Thu 25/3/21	114 days	1 day			♠ 1/12				
36	Pilecap Formworks - Design and Method Statement Comment & Appraoval	30 days	0 days	30 days	0%	Tue 1/12/20	Wed 30/12/20	NA	NA	Thu 25/3/21	Fri 23/4/21	114 days	1 day	935						
7	Pile Cap structure	19 days	0 days	19 days	0%	Fri 22/1/21	Tue 16/2/21	NA	NA	Sat 24/4/21	Mon 17/5/21	73 days	1 day	846,936,934						
8	Backfill and extract sheet pile	11 days		11 days	0%	Wed 17/2/21	Mon 1/3/21	NA	NA	Tue 18/5/21	Mon 31/5/21	73 days	2 days	937						
9	Pier - Temporary Design and Method Statement Submission		0 days	0 days	0%	Mon 4/1/21	Mon 4/1/21		NA	Sun 2/5/21	Sun 2/5/21	118 days								
0					0%	Mon 4/1/21		NA	NA	Sun 2/5/21				939						
	Pier - Temporary Design and Method Statement Comment & Appraoval		0 days	30 days							Mon 31/5/21	118 days								
	Pier P04 @ CH1351		0 days	49 days	0%	Tue 2/3/21		NA	NA	Tue 1/6/21	Thu 29/7/21	73 days		938,922,211,940						
	Stage 3: Bridge deck between CH1311-1351	145 days	s 0 days	145 days	0%	Fri 30/7/21	Fri 21/1/22	NA	NA	Fri 30/7/21	Sat 29/1/22	0 days	1 day						1	
	CH1311-1351: Deck Falsework erection	21 days	0 days	21 days	0%	Fri 30/7/21	Mon 23/8/21	NA	NA	Fri 30/7/21	Mon 23/8/21	0 days	3 days	941,922,879						
	CH1311-1351: Structure deck	30 days	0 days	30 days	0%	Tue 24/8/21	Tue 28/9/21	NA	NA	Tue 24/8/21	Tue 28/9/21	0 days	5 days	475,483,736,896						
	CH1311-1351: Prestressing	21 days	0 days	21 days	0%	Mon 18/10/21	Wed 10/11/21	NA	NA	Mon 18/10/21	Wed 10/11/21	0 days	3 days	944FS+14 days,8				T		
6	CH1311-1351: Utility Trough (0.67m per day per team) x 4 team	30 days	0 days	30 days	0%	Thu 11/11/21	Wed 15/12/21	NA	NA	Fri 26/11/21	Mon 3/1/22	13 days	0.5 day	219,880,945				<b>1</b>		
.7	CH1311-1351: Central Median (6m per day per team) x 2 team	15 days	0 days	15 days	0%	Thu 11/11/21	Sat 27/11/21	NA	NA	Wed 5/1/22	Fri 21/1/22	44 days	3 days	945				<u>                              </u>		
-8	CH1311-1351: Parapet (28m per day per team) x 2 team + 6 day concreting	16 days	0 days	16 days	0%	Thu 23/12/21	Thu 13/1/22	NA	NA	Tue 4/1/22	Fri 21/1/22	7 days	1 day	945,888,890,946						
19	CH1311-1351: Road Furniture	7 days	0 days	7 days	0%	Fri 14/1/22	Fri 21/1/22	NA	NA	Sat 22/1/22	Sat 29/1/22	7 days	1 day	947,358,948				1		
50	Part 1 - CH1372 to CH1386	149 days	s 0 days	149 days	0%	Mon 23/8/21	Tue 22/2/22	NA	NA	Mon 23/8/21	Tue 1/3/22	0 days						<b>a</b>		
51	Bridge deck between CH1351-1386	149 days	s 0 days	149 days	0%	Mon 23/8/21	Tue 22/2/22	NA	NA	Mon 23/8/21	Tue 1/3/22	0 days								
52	CH1351-1386: Deck Falsework erection		0 days	22 days	0%	Mon 23/8/21	Thu 16/9/21		NA	Mon 23/8/21	Thu 16/9/21	0 days	4 days	941,922,898FS+						
53	CH1351-1386: Structure deck		0 days	30 days	0%	Fri 17/9/21	Mon 25/10/21		NA	Fri 17/9/21	Mon 25/10/21	-	1	952,736,976						
54	CH1351-1366: Structure deck		0 days	14 days	0%		Fri 26/11/21		NA	Thu 11/11/21	Fri 26/11/21	0 days		953FS+14 days,9						
5														1						
	CH1351 - CH1386: Utility Trough (0.67m per day per team) x 4 team		0 days	30 days	0%	Sat 27/11/21	Tue 4/1/22		NA	Sat 27/11/21	Tue 4/1/22	-		219,954						
6	CH1351 - CH1386: Central Median (6m per day per team) x 1 team		0 days	15 days	0%	Sat 27/11/21	Tue 14/12/21		NA	Sat 27/11/21	Tue 14/12/21			954						
57	CH1351 - CH1386: Parapet (28m per day per team) x 1 team + 6 day concreting		0 days	20 days	0%	Wed 5/1/22	Thu 27/1/22		NA	Wed 12/1/22	Mon 7/2/22	-		955						
8	CH1351-1386 Falsework removal	19 days	0 days	19 days	0%	Fri 28/1/22	Tue 22/2/22	NA	NA	Tue 8/2/22	Tue 1/3/22	6 days	1 day	955,957						
9	CH1351 - CH1386: Road Furniture (Section 1)	8 days	0 days	8 days	0%	Fri 28/1/22	Wed 9/2/22	NA	NA	Mon 14/2/22	Tue 22/2/22	11 days	2 day	956,358,957						
50	Part 1 - CH1386 to CH1394 South Abutment	352 days	s 0 days	352 days	0%	Fri 3/7/20	Sat 4/9/21	NA	NA	Sat 25/7/20	Thu 16/9/21	10 days						<b>-</b>		
51	Bored Pile (A02-BP2) @ CH1386 by Rig 1	42 days	0 days	42 days	0%	Fri 3/7/20	Thu 20/8/20	NA	NA	Sat 25/7/20	Fri 11/9/20	19 days	3 days	831FS+12 days		┝╂╫╢╎╟║				
52	Bored Pile (A02-BP1) @ CH1386 by Rig 1	63 days	0 days	63 days	0%	Tue 28/7/20	Sat 10/10/20	NA	NA	Wed 19/8/20	Tue 3/11/20	19 days	3 days	202FF,961FF+42						
53	Pile Testing	35 days	0 days	35 days	0%	Mon 12/10/20	Sat 21/11/20	NA	NA	Wed 4/11/20	Mon 14/12/20	19 days	4 days	962						
					<u> </u>	1		F :	,										<u></u>	
	og with Progress Split	Summary Project Sur	mmary		Inactive M Inactive Si	_		Duration-or  Manual Sur	nly    mmary Rollup		Start-only Finish-only		]	Exter Dead	nal Milesto line	ne ♦ ♣		Critical Sp Progress	olit	
of 22-May-2	Milestone	Inactive Ta			Manual Ta			Manual Sur			External Tasl	lre	_	Critic				Manual Pr	ograce	

								tract No. ED													
Task l	Name	Duration	n Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA		2020   Q3	04 01	2021   Q2   C	3   04		)22   Q3   Q4   Q	2023 Q1   Q2
964	Proof-drilling Works	11 days	0 days	11 days	0%	Mon 23/11/20	Fri 4/12/20	NA	NA	Tue 2/2/21	Wed 17/2/21	58 days	2 days	963	103	Z+   Q1	1 22 1	, Q4	Q1   Q2	Q3   Q4   Q	<u> </u>
965	South Abutment	166 day	s 0 days	166 days	0%	Wed 3/2/21	Thu 26/8/21	NA	NA	Thu 18/2/21	Tue 7/9/21	10 days		968SS,964		<b>3</b>					
966	South Abutment ELS- Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 4/1/21	Mon 4/1/21	NA	NA	Tue 19/1/21	Tue 19/1/21	15 days	1 day			4/1					
967	South Abutment ELS - Design and Method Statement Comment & Appraoval	30 davs	0 days	30 days	0%	Mon 4/1/21	Tue 2/2/21	NA	NA	Tue 19/1/21	Wed 17/2/21	15 days	1 day	966							
968	Drive sheetpile (~900m) Prod. Rate: 10m/d/team		0 days	11 days	0%	Wed 3/2/21	Thu 18/2/21		NA	Thu 18/2/21	Tue 2/3/21	10 days		964,967,980							
969	Excavation ~1,344m3 & lateral support. Prod. Rate: 160m3/day/team	11 days	0 days	11 days	0%	Fri 19/2/21	Wed 3/3/21		NA	Mon 22/3/21	Tue 6/4/21	26 days		968							
970	Blinding layer	1 day	0 days	1 day	0%	Thu 4/3/21	Thu 4/3/21		NA	Wed 7/4/21	Wed 7/4/21	26 days	0 days	969							
971	South Abutment Formwork- Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 21/12/20	Mon 21/12/2	0 NA	NA	Tue 9/3/21	Tue 9/3/21	78 days	1 day			<b>◆</b> 21/1	2				
972	South Abutment Formwork - Design and Method Statement Comment & Appraoval	30 days	0 days	30 days	0%	Mon 21/12/20	Tue 19/1/21	NA	NA	Tue 9/3/21	Wed 7/4/21	78 days	1 day	971							
973	Base Slab	36 days	0 days	36 days	0%	Wed 17/3/21	Fri 30/4/21	NA	NA	Thu 8/4/21	Fri 21/5/21	16 days	2 days	970,972,986							
974	Wall (3.85m thk). Prod. Rate: 18d/bay/team	39 days	0 days	39 days	0%	Mon 3/5/21	Fri 18/6/21	NA	NA	Sat 22/5/21	Thu 8/7/21	16 days	3 days	973			<b>*</b>				
975	Wall (0.5m thk)	52 days	0 days	52 days	0%	Sat 19/6/21	Thu 19/8/21	NA	NA	Fri 9/7/21	Tue 7/9/21	16 days	2 days	974				Ь			
976	Install bridge bearing	8 days	0 days	8 days	0%	Fri 27/8/21	Sat 4/9/21	NA	NA	Wed 8/9/21	Thu 16/9/21	10 days	1 day	975,736,822,965				<b>T</b>			
977	South Approach Ramp - CH1394-1444.7 - Total 8 bays (4 bay/side)		s 0 days	259 days	0%	Mon 21/9/20	Fri 6/8/21	NA	NA	Sun 15/11/20	Sat 4/12/21	45 days		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
													1 dov			21.00					
978	South Approach Ramp ELS - Temp. Works Design and Method Statement Submission		0 days	0 days	0%	Mon 21/9/20	Mon 21/9/20		NA	Sun 15/11/20	Sun 15/11/20					21/9					
979	South Approach Ramp ELS - Temp. Works Design and Method Statement Comment & Approval	30 days	0 days	30 days	0%	Mon 21/9/20	Tue 20/10/20	) NA	NA	Sun 15/11/20	Mon 14/12/20	55 days	1 day	978							
980	Drive sheetpile (~240m) Prod. Rate: 10m/d/team	26 days	0 days	26 days	0%	Mon 23/11/20	Tue 22/12/20	) NA	NA	Tue 15/12/20	Sat 16/1/21	19 days	2 days	979,962,963							
981	Excavation ~2,688m3 & lateral support. Prod. Rate: 160m3/day/team	19 days	0 days	19 days	0%	Wed 23/12/20	Sat 16/1/21	NA	NA	Mon 18/1/21	Mon 8/2/21	19 days	2 days	980							
982	Rock Replacement	7 days	0 days	7 days	0%	Sun 17/1/21	Sat 23/1/21	NA	NA	Tue 9/2/21	Mon 15/2/21	23 days	1 day	981							
983	Blinding layer. Prod. Rate: 2bays/day	1 day	0 days	1 day	0%	Mon 25/1/21	Mon 25/1/21	NA	NA	Tue 16/2/21	Tue 16/2/21	16 days	1 day	981,982							
984	Sourth Approach - Formworks Design and Method Statement Submission	0 days	0 days	0 days	0%	Tue 1/12/20	Tue 1/12/20	NA	NA	Mon 18/1/21	Mon 18/1/21	48 days	1 day			<b>♠</b> 1/12					
985	South Approach Ramp Formworks Design and Method Statement Comment &			30 days	0%	Tue 1/12/20	Wed 30/12/2		NA	Mon 18/1/21	Tue 16/2/21	48 days		984							
986	Appraoval  6 x Base Slab Prod. Rate: 12d/bay/team x 2 teams		-		0%	Tue 26/1/21	Tue 16/3/21		NA	Wed 17/2/21	Wed 7/4/21			983,985,244							
	·		0 days	40 days								16 days									
87	6 x Wall. Prod. Rate: 12d/bay/team x 3 level x 2 teams		0 days	78 days	0%	Wed 17/3/21	Tue 22/6/21	NA	NA	Mon 28/6/21	Tue 28/9/21	82 days	6 days	986							
88	Backfilling ~4,765.89m3 within approach ramp to formation level (160m3/day +12d shoring removal x 2 (considered time for SRT)	) 38 days	0 days	38 days	0%	Wed 23/6/21	Fri 6/8/21	NA	NA	Fri 22/10/21	Sat 4/12/21	100 days	2 days	987							
189	CH1386-1444: South Approach Ramp (50m): Parapet, Central Median & Furnitur	e 43 days	0 days	43 days	0%	Wed 15/12/21	Wed 9/2/22	NA	NA	Wed 15/12/21	Wed 9/2/22	0 days		988				T	<b></b>		
990	CH1386-1444: Central Median and Utilities Trough (5m per day per team) x 1	23 days	0 days	23 days	0%	Wed 15/12/21	Thu 13/1/22	NA	NA	Wed 15/12/21	Thu 13/1/22	0 days	2 days	253,956							
91	team CH1386-1444: Parapet (10m per day per team) x 2 team + 2 team x 6 day	13 days	0 days	13 days	0%	Fri 14/1/22	Fri 28/1/22	NA	NA	Fri 14/1/22	Fri 28/1/22	0 days	2 days	988,253,990							
92	concreting CH1386-1444: Road Furniture	7 days		7 days	0%	Sat 29/1/22	Wed 9/2/22		NA	Sat 29/1/22	Wed 9/2/22		1 day	990,358,991							
93	CH1087 - 1444: Bitumen Paving and Lighting		0 days	60 days	0%	Thu 30/12/21			NA	Wed 15/12/21	Tue 1/3/22	-11 days	1 day	813,884,892FF,9							
994	2.6 Utility Laying	1 day?	0 days	1 day?	0%	Thu 16/5/19	Thu 16/5/19	NA	NA	Wed 29/5/24	Wed 29/5/24	1840 d									
995	CH1087-1311 (224m): Utility Laying (by Others) (Agreed)	63 days	0 days	63 days	0%	Wed 29/12/21	Tue 1/3/22	NA	NA	Wed 29/12/21	Tue 1/3/22	0 days									
996	CLP (132kV)	63 days	0 days	63 days	0%	Wed 29/12/21	Tue 1/3/22	NA	NA	Wed 29/12/21	Tue 1/3/22	0 days	1 day	899,955SS+32 d							
997	CLP (11kV)	63 days	0 days	63 days	0%	Wed 29/12/21	Tue 1/3/22	NA	NA	Wed 29/12/21	Tue 1/3/22	0 days	1 day	996SS				э	100000		
998	HKCG	53 days	0 days	53 days	0%	Wed 29/12/21	Sat 19/2/22	NA	NA	Sat 8/1/22	Tue 1/3/22	10 days	1 day	997SS				<b>,</b>			
999	CATV	23 days	0 days	23 days	0%	Wed 29/12/21	Thu 20/1/22	NA	NA	Thu 3/2/22	Fri 25/2/22	36 days	1 day	998SS				<b>H</b>			
1000	Towngas telecom		0 days	27 days	0%	Wed 29/12/21			NA	Thu 3/2/22	Tue 1/3/22	36 days		999SS							
1001	PCCW-HKT		0 days	23 days	0%	Wed 29/12/21			NA	Sun 6/2/22	Mon 28/2/22	39 days		1000SS							
													-								
1002	Fresh and Salt Watermains (by POC)		0 days	24 days	0%	Wed 29/12/21			NA	Sun 6/2/22	Tue 1/3/22	39 days	1 day	1001SS							
1003	CH1311-1396 (85m): Utility Laying (by Others) (Agreed)	84 days	0 days	84 days	0%	Thu 7/10/21	Wed 29/12/2	1 NA	NA	Fri 4/2/22	Tue 1/3/22	62 days									
1004	CLP (11kV)	26 days	0 days	26 days	0%	Wed 5/1/22	Sun 30/1/22	NA	NA	Fri 4/2/22	Tue 1/3/22	30 days	1 day	899,955							
1005	PCCW-HKT	18 days	0 days	18 days	0%	Wed 5/1/22	Sat 22/1/22	NA	NA	Sat 12/2/22	Tue 1/3/22	38 days	1 day	1004SS				×			
1006	Sat and Fresh Watermain (by POC)	18 days	0 days	18 days	0%	Wed 5/1/22	Sat 22/1/22	NA	NA	Sat 12/2/22	Tue 1/3/22	38 days	1 day	1005SS							
1007	Underpass and Depressed Road	619 day	s 142.15 days	476.85 days	0%	Tue 3/9/19	Mon 4/10/21	Tue 3/9/19	NA	Tue 3/9/19	Tue 1/3/22	120 days									
					1															<u> </u>	
itle: Rev.11	Prog with Progress Task	Summary Drainat Sur	mma=-		Inactive N			Duration-o			Start-only		C .	External M	ilestone	<b>♦</b>		Critical S			
	ay-20 Split	Project Sur	mmary		Inactive S	ummary		Manual Su	mmary Rollup 🛮		Finish-only		3	Deadline		1		Progress			_

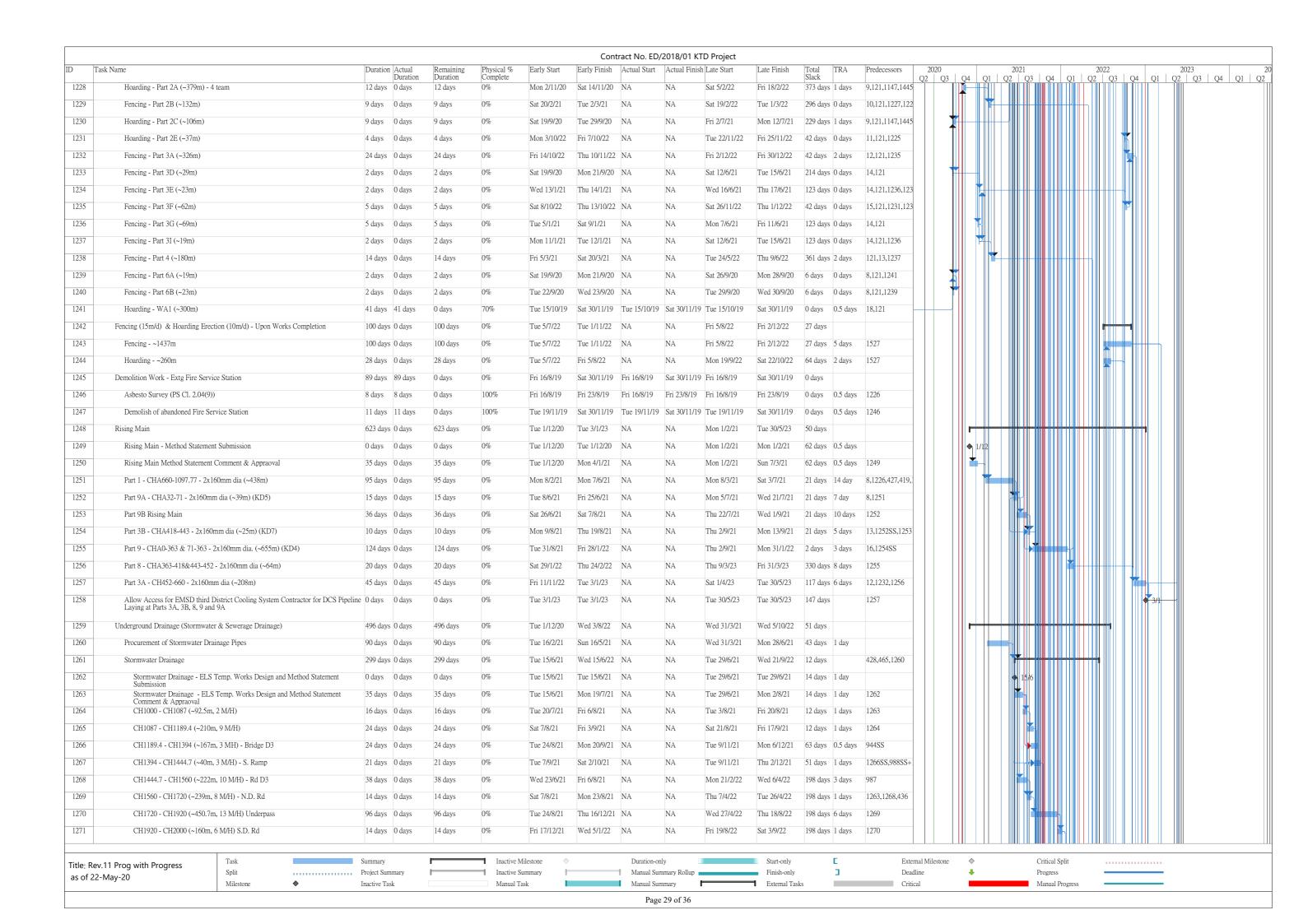
		_	1.	-				tract No. ED/			-	-		-								 
Task l	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack		Predecessors	2020 Q2   Q3	Q4	Q1	2021 Q2   Q	3   04	4 Q1	2022 Q2   0	Q4
08	North Depressed Rd (CH1560-1720)	562 days	211.42 days	350.58 days	0%	Tue 3/9/19	Tue 27/7/21	Tue 3/9/19	NA	Tue 3/9/19	Tue 1/3/22	177 days	3									
09	Ground Monitoring Works	17 days	17 days	0 days	100%	Tue 3/9/19	Thu 19/9/19	Tue 3/9/19	Thu 19/9/19	Tue 3/9/19	Thu 19/9/19	0 days	2 days		1							
10	Mobilization	7 days	7 days	0 days	100%	Fri 1/11/19	Fri 8/11/19	Fri 1/11/19	Fri 8/11/19	Fri 1/11/19	Fri 8/11/19	0 days	0 days									
11	Complete the Diveration of Existing Overhang Cable along the North Depressed	1 day	1 day	0 days	100%	Sat 26/10/19	Sat 26/10/19	Sat 26/10/19	Sat 26/10/19	Sat 26/10/19	Sat 26/10/19	0 days	0.5 days									
2	Drive Sheet Pile (380m, 15,000m penetration depth) Prod. Rate by 2 teams	39 days	39 days	0 days	100%	Fri 22/11/19	Thu 9/1/20	Fri 22/11/19	Thu 9/1/20	Fri 22/11/19	Thu 9/1/20	0 days	0.5 days	1009,1010,1011								
	(around 125m penetration depth per day per team)																					
13	Pumping Test	120 days	75 days	45 days	0%	Thu 20/2/20	Fri 17/7/20	Thu 20/2/20	NA	Thu 20/2/20	Sat 18/7/20	1 day	0.5 days	1012								
.4	CH1560 - CH1720 North Depress Road	449 days	98.66 days	350.34 days	0%	Mon 20/1/20	Tue 27/7/21	Mon 20/1/20	NA	Mon 20/1/20	Tue 1/3/22	177 days	3									
15	Excavation with Shoring Installation - Prod Rate: 270m3/d/team. (~36.611m3). 1 team	145 days	98 days	47 days	0%	Mon 20/1/20	Sat 18/7/20	Mon 20/1/20	NA	Mon 20/1/20	Sat 18/7/20	-11 days	1 day	1012								
16	CNCE No. 73 - April 2020 Inclement Weather	8 days	0 days	8 days	0%	Mon 20/7/20	Tue 28/7/20	NA	NA	Tue 7/7/20	Wed 15/7/20	-11 days		1015,73								
7	May 2020 - Inclement Weather	3 days	0 days	3 days	0%	Wed 29/7/20	Fri 31/7/20	NA	NA	Thu 16/7/20	Sat 18/7/20	-11 days		1016,74	#							
18	Rock Fill Replacement (Final Level)	6 days	0 days	6 days	0%	Sat 1/8/20	Fri 7/8/20	NA	NA	Mon 20/7/20	Sat 25/7/20	-11 days		1013,1015,1017	#							
19	6 Bay Base Slabs + 3 Levels Wall Both Sides	55 days		55 days	0%	Wed 3/6/20		NA	NA	Thu 21/5/20	Sat 25/7/20	-11 days		1015SS+107 day								
20	Base Slab and Wall Below 4th Level Shoring	25 days		25 days	0%	Sat 8/8/20		NA	NA	Mon 27/7/20	Mon 24/8/20			1019,1015,1018								
21	Backfilling and 4th Level Shoring Removal	18 days		18 days	0%	Mon 7/9/20	Sat 26/9/20		NA	Tue 25/8/20	Mon 14/9/20	-11 days		1020	"							
22	Wall Construction (between 3rd and 4th levels shoring) and Remaining Base Slab			24 days	0%	Mon 28/9/20	Wed 28/10/20		NA	Tue 15/9/20	Wed 14/10/20			1021								
23	Backfilling and 3rd Level Shoring Removal	18 days		18 days	0%	Thu 29/10/20			NA	Thu 15/10/20	Thu 5/11/20	-11 days		1022								
24	Structure Works Below 2nd & 3rd Levels Shoring	23 days	0 days	23 days	0%	Thu 19/11/20	Tue 15/12/20	NA	NA	Fri 6/11/20	Wed 2/12/20	-11 days		1023								
25	Backfilling and 2nd Level Shoring Removal	18 days	0 days	18 days	0%	Wed 16/12/20	Fri 8/1/21	NA	NA	Thu 3/12/20	Wed 23/12/20	-11 days		1024								
26	Remaining Wall Construction	30 days	0 days	30 days	0%	Sat 9/1/21	Tue 16/2/21	NA	NA	Thu 24/12/20	Sat 30/1/21	-11 days		1025								
27	Backfill & extract sheet pile (CH1560 to CH1720)	26 days	0 days	26 days	0%	Wed 17/2/21	Thu 18/3/21	NA	NA	Mon 1/2/21	Fri 5/3/21	-11 days	1 day	1026						4		
8	Emergency walkway & median barrier installation	20 days	0 days	20 days	0%	Tue 1/6/21	Thu 24/6/21	NA	NA	Mon 3/1/22	Tue 25/1/22	177 days	s 2 days	1027				1				
.9	Parapet installation	27 days	0 days	27 days	0%	Fri 25/6/21	Tue 27/7/21	NA	NA	Wed 26/1/22	Tue 1/3/22	177 days	3 days	1028				17		Ш		
0	CH1720 - CH1850 (130m long) (2 x teams)	477 days	0 days	477 days	0%	Mon 15/6/20	Mon 4/10/21	NA	NA	Mon 15/6/20	Mon 4/10/21	0 days										
1	Drive sheet pile (approx. 17000m penetration depth, 380m/day)	46 days	0 days	46 days	0%	Mon 15/6/20	Sat 8/8/20	NA	NA	Mon 15/6/20	Sat 8/8/20	0 days	2 day									
2	Pumping Test	22 days		22 days	0%	Mon 10/8/20	Thu 3/9/20		NA	Mon 10/8/20	Thu 3/9/20	0 days		1031,1045	│							
33	CH1720 - CH1850 (130m long) (2 x teams) Top Portion: Excavation with	42 days		42 days	0%		Sat 24/10/20		NA	Fri 4/9/20	Sat 24/10/20			1032	1							
,5	Shoring Installation = 23,000 cu.m. (320m3/d/team x 2)	42 days	Ouays	42 days	070	111 4/9/20	Sat 24/10/20	INA	IVA	111 4/9/20	Sat 24/10/20	0 days	2 day	1032	'							
34	CH1720 - CH1850 (130m long) (2 x teams) Bottom Portion: Excavation with	52 days	0 days	52 days	0%	Tue 27/10/20	Mon 28/12/20	NA NA	NA	Tue 27/10/20	Mon 28/12/20	0 days	1 day	1033	-							
	Shoring Installation = 23,876 cu.m. (250m3/d/team x 2)																					
35	Rock fill - Prod. Rate: (3,469m3) (160m3/d/team. 2 team)	6 days	0 days	6 days	0%	Tue 29/12/20	Tue 5/1/21	NA	NA	Tue 29/12/20	Tue 5/1/21		1 day	1033,1034								
36	Base Slab - 8 bays. Prod. Rate: 12d/team/bay include pipe laying. 4 teams	26 days	0 days	26 days	0%	Wed 3/3/21	Thu 1/4/21	NA	NA	Wed 3/3/21	Thu 1/4/21	0 days	2 day	1035,1042,262								
37	Wall - 8 bays. Prod. Rate: 3 level of shoring 12d/bay/level/team. 4 teams	75 days	0 days	75 days	0%	Tue 6/4/21	Tue 6/7/21	NA	NA	Tue 6/4/21	Tue 6/7/21	0 days	3 days	1036								
38	Top Slab - 8 bays. Prod. Rate: 18d/team/bay, 4 teams	38 days	0 days	38 days	0%	Wed 7/7/21	Thu 19/8/21	NA	NA	Wed 7/7/21	Thu 19/8/21	0 days	2 day	1037					hIIII			
39	Falsework Removal	37 days	0 days	37 days	0%	Fri 20/8/21	Mon 4/10/21	NA	NA	Fri 20/8/21	Mon 4/10/21	0 days	2 day	1038					<b>*</b>			
40	Sheetpile Extraction and Backfill	13 days	0 days	13 days	0%	Fri 20/8/21	Fri 3/9/21	NA	NA	Fri 17/9/21	Mon 4/10/21	24 days	1 day	1038					<b>+</b>			
41	Underground Plant Room next to Underpass	45 days	0 days	45 days	0%	Wed 6/1/21	Tue 2/3/21	NA	NA	Wed 6/1/21	Tue 2/3/21	0 days										
42	Underground pump house structure	45 days	0 days	45 days	0%	Wed 6/1/21	Tue 2/3/21	NA	NA	Wed 6/1/21	Tue 2/3/21	0 days	3 day	714,1035,262,28	3							
43	Underpass & South Depressed Road CH1850-1950 - (100m long) 8 bays x 13.5m long			54.64 days	0%	Wed 26/2/20		Wed 26/2/20		Wed 26/2/20	Sat 8/8/20	14 days		, ,								
14	Drive sheet pile (12,530m embedded length sheetpile) Prod. Rate 380m/team/day	32 days		0 days	100%	Wed 26/2/20	Mon 6/4/20	Wed 26/2/20		Wed 26/2/20	Mon 6/4/20	0 days										
					36%									1044								
45	Pumping Test		29 days	51 days		Fri 17/4/20		Fri 17/4/20		Fri 17/4/20	Sat 8/8/20			1044								
16	Underpass & South Depress Road (CH1850 to CH1950)			511.36 days	0%	Thu 23/4/20		Thu 23/4/20		Thu 23/4/20	Tue 1/3/22	139 days										
47	Excavation with Shoring Installation (Upper Portion) - Prod. Rate: 270m3/d/team. 1 team 16,000m3)	80 days	24 days	56 days	23%	Thu 23/4/20	Thu 30/7/20	Thu 23/4/20	NA	Thu 23/4/20	Fri 4/9/20	31 days		1045SS+6 days		#						
48	Excavation with Shoring Installation (Lower Portion) - Prod. Rate: 270m3/d/team. 1 team 16,000m3)	65 days	0 days	65 days	0%	Fri 31/7/20	Fri 16/10/20	NA	NA	Sat 5/9/20	Mon 23/11/20	31 days	5 day	1047,1045FF+12 days	1							
49	Rock fill - Prod. Rate: 160m3/d/team (1,745m3)	7 days	0 days	7 days	0%	Sat 17/10/20	Sat 24/10/20	NA	NA	Tue 24/11/20	Tue 1/12/20	31 days	1 day	1047,1048			+					
50	Blinding	1 day	0 days	1 day	0%	Tue 27/10/20	Tue 27/10/20	NA	NA	Wed 2/12/20	Wed 2/12/20	31 days	0.5 days	1049	1							
	ı			I		[			[	I												
e: Rev.11	i Prog with Progress	Summary	amort.		Inactive M			Duration-or	-		Start-only		C 3		emal Milestone	•			Critica	•	100	 
of 22-Ma	av-20 Split	Project Sun Inactive Ta			Inactive Su  Manual Ta			Manual Sur  Manual Sur	mmary Rollup		Finish-only  External Tasi		4	Dea Crit	dline	*			Progre	al Progress	_	

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Task	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Fin	ish Late Start	Late Finish	Total TRA Slack	Predecessors 202 Q2		Q1   Q2   C	Q3   Q4   Q1	2022   Q2   Q3   Q	24 Q1	2023 Q2   Q3
051	Underpass Formworks Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 14/9/20	Mon 14/9/20	NA	NA	Tue 3/11/20	Tue 3/11/20	50 days 1 day		<b>4</b> 14/9					
052	Underpass Formworks Design and Method Statement Comment & Appraoval	30 days	0 days	30 days	0%	Mon 14/9/20	Tue 13/10/20	NA	NA	Tue 3/11/20	Wed 2/12/20	50 days 1 day	1051					,	
053	Casting base slab (12d/bay/team x 3) (6 bays)	26 days	0 days	26 days	0%	Wed 28/10/20	Thu 26/11/20	NA	NA	Thu 3/12/20	Tue 5/1/21	31 days 2 day	1050,1052,262					,	
054	Waterproofing & Bacfilling before S3 Shoring Removal	12 days	0 days	12 days	0%	Fri 27/11/20	Thu 10/12/20	NA	NA	Wed 6/1/21	Tue 19/1/21	31 days 1 day	1053					,	
055	S3 Shoring ELS Removal + North/South End Re-propping	7 days	0 days	7 days	0%	Fri 11/12/20	Fri 18/12/20	NA	NA	Wed 20/1/21	Wed 27/1/21	31 days 1 day	1054					,	
056	Wall Construction up to soffit of S2 Shoring (12d/bay/team x 3) (6 bays)	24 days	0 days	24 days	0%	Sat 19/12/20	Tue 19/1/21	NA	NA	Thu 28/1/21	Sat 27/2/21	31 days 2 day	1055					,	
057	Waterproofing & Bacfilling before S2 Shoring Removal	12 days	0 days	12 days	0%	Wed 20/1/21	Tue 2/2/21	NA	NA	Mon 1/3/21	Sat 13/3/21	31 days 1 day	1056					,	
058	S2 Shoring ELS Removal + North/South End Re-propping	7 days	0 days	7 days	0%	Wed 3/2/21	Wed 10/2/21	NA	NA	Mon 15/3/21	Mon 22/3/21	31 days 1 day	1057		R			,	
059	Wall Construction up to soffit of S1 Shoring (12d/bay/team x 3) (6 bays)	24 days	0 days	24 days	0%	Thu 11/2/21	Sat 13/3/21	NA	NA	Tue 23/3/21	Thu 22/4/21	31 days 2 day	1058					,	
060	Waterproofing & Bacfilling before S1 Shoring Removal	12 days	0 days	12 days	0%	Mon 15/3/21	Sat 27/3/21	NA	NA	Fri 23/4/21	Fri 7/5/21	31 days 1 day	1059					,	
061	S1 Shoring ELS Removal + North/South End Re-propping	7 days		7 days	0%	Mon 29/3/21	Thu 8/4/21	NA	NA	Sat 8/5/21	Sat 15/5/21	31 days 1 day	1060		T T			,	
062	Scaffold erection for roof slab	24 days		24 days	0%	Fri 9/4/21	Fri 7/5/21	NA	NA	Mon 17/5/21	Tue 15/6/21	31 days 2 day	1061					,	
063	Roof slab construction (18d/bay/team x 3) (6 bays)	42 days		42 days	0%	Sat 8/5/21	Mon 28/6/21		NA	Wed 16/6/21	Wed 4/8/21	31 days 4 days	1062					.	
064	Waterproofing & Backfilling upto tunnel top	28 days		28 days	0%	Tue 29/6/21	Sat 31/7/21		NA	Thu 5/8/21	Mon 6/9/21	31 days 4 days	1063					,	
065																		,	
	Scaffold removal after 28 days from casting	22 days		22 days	0%	Mon 26/7/21	Thu 19/8/21		NA	Thu 13/1/22	Thu 10/2/22	141 days 1 day	1063FS+22 days						
066	Sheetpile extraction (Ch1851-CH1950)	22 days		22 days	0%	Mon 2/8/21	Thu 26/8/21		NA	Tue 7/9/21	Mon 4/10/21	31 days 1 day	1064					<u> </u>	
067	Emergency walkway & median barrier installation		0 days	9 days	0%	Fri 24/9/21	Tue 5/10/21		NA	Fri 11/2/22	Mon 21/2/22	112 days 1 day	323,1066,1040,1					,	
068	Parapet installation	7 days	0 days	7 days	0%	Wed 6/10/21	Wed 13/10/21	1 NA	NA	Tue 22/2/22	Tue 1/3/22	112 days 1 day	1067					,	
069	CH1950 - CH2020 (70m long) (2 x teams) 4 bays x 17.5m long - Average 3 layers of shoring	209 days	0 days	209 days	0%	Fri 19/3/21	Mon 29/11/21	1 NA	NA	Sat 6/3/21	Tue 1/3/22	-11 days						,	
070	Drive sheet pile (approx. 8,800m embedded length sheetpile), 380m/team/day	24 days	0 days	24 days	0%	Fri 19/3/21	Mon 19/4/21	NA	NA	Sat 6/3/21	Tue 6/4/21	-11 days 1 day	1027					,	
071	Excavation with Shoring Installation - Prod. Rate: 2 teams x 250m3/d/team. (14,500m3)	30 days	0 days	30 days	0%	Tue 20/4/21	Wed 26/5/21	NA	NA	Wed 7/4/21	Wed 12/5/21	-11 days 1 day	1049,1070					,	
072	Rock Fill Replacement	6 days	0 days	6 days	0%	Thu 27/5/21	Wed 2/6/21	NA	NA	Thu 13/5/21	Thu 20/5/21	-11 days 0.5 days	1071		H			,	
073	Blinding	1 day	0 days	1 day	0%	Thu 3/6/21	Thu 3/6/21	NA	NA	Fri 21/5/21	Fri 21/5/21	-11 days 0.5 days	1071,1072					,	
074	Base Slab - 4 bays. Prod. Rate: 12d/team/bay include pipe laying. 2 team	26 days	0 days	26 days	0%	Fri 4/6/21	Tue 6/7/21	NA	NA	Sat 22/5/21	Tue 22/6/21	-11 days 2 days	1073		<mark>-                                </mark>			,	
075	Wall - 4 bays. Prod. Rate: 3 level of shoring 12d/bay/level/team. 2 teams	67 days	0 days	67 days	0%	Wed 16/6/21	Thu 2/9/21	NA	NA	Wed 2/6/21	Fri 20/8/21	-11 days 6 days	1074SS+9 days			<b>-</b>		,	
076	Backfill & extract sheet pile (CH1950 to CH2020)	25 days	0 days	25 days	0%	Fri 3/9/21	Mon 4/10/21	NA	NA	Sat 21/8/21	Sat 18/9/21	-11 days 2 days	1075					,	
077	CH1950 to CH2020: Emergency walkway & median barrier installation	20 days	0 days	20 days	0%	Tue 5/10/21	Thu 28/10/21	NA	NA	Mon 3/1/22	Tue 25/1/22	73 days 2 days	1075,1076			<b>T</b> .		,	
078	CH1950 to CH2020: Pavement work	7 days	0 days	7 days	0%	Fri 29/10/21	Fri 5/11/21	NA	NA	Wed 26/1/22	Sat 5/2/22	73 days 1 day	1077			T		,	
079	CH1950 to CH2020: Parapet installation	20 days	0 days	20 days	0%	Sat 6/11/21	Mon 29/11/21	l NA	NA	Mon 7/2/22	Tue 1/3/22	73 days 2 day	1076,1077,1078			<b>N</b>		,	
080	South Depressed Road CH2020-2050 (40m long) (2 x teams) 5 bays x 13.5m long -	134 days	0 days	134 days	0%	Mon 2/8/21	Tue 11/1/22	NA	NA	Sun 5/9/21	Tue 1/3/22	30 days						,	
081	Average 2 layers of shoring  Open Excavation	17 days		17 days	0%	Tue 5/10/21	Mon 25/10/21	1 NA	NA	Mon 20/9/21	Mon 11/10/21	-11 days 3 days	1076					,	
082	Blinding	2 days		2 days	0%	Tue 26/10/21	Wed 27/10/21		NA	Tue 12/10/21		-11 days 0 days							
083	South Depress Road - Formworks Design and Method Statement Submission	0 days		0 days	0%	Mon 2/8/21	Mon 2/8/21		NA	Sun 5/9/21	Sun 5/9/21	34 days 1 day				2/8		.	
084	South Depress Road - Formworks Design and Method Statement Comment &	40 days		40 days	0%	Mon 2/8/21	Fri 10/9/21		NA	Sun 5/9/21	Thu 14/10/21		1083					,	
085	Appraoval  Base Slab - 3 bays. Prod. Rate: 12d/team/bay include pipe laying. 2 teams				0%	Thu 28/10/21				Fri 15/10/21	Thu 14/10/21 Thu 28/10/21		1082,1084,314						
		12 days		12 days					NA									.	
086	Wall - 3 bays. Prod. Rate: 2 level of shoring 12d/bay/level/team. 2 teams	12 days		12 days	0%	Fri 12/11/21	Thu 25/11/21		NA	Sat 30/10/21	Fri 12/11/21	-11 days 0.5day	1085SS+13 days					<u> </u>	
087	Wall - 3 bays. Prod. Rate: 2 level of shoring 12d/bay/level/team. 2 teams	12 days		12 days	0%	Sat 20/11/21	Fri 3/12/21		NA	Mon 8/11/21	Sat 20/11/21	-11 days 0.5day	1086SS+7 days						
088	Backfill & extract sheet pile	19 days		19 days	0%	Fri 26/11/21	Fri 17/12/21		NA	Fri 14/1/22	Tue 8/2/22	39 days 1 day	1086					.	
089	Curing and Formwork Ramoval	19 days		19 days	0%	Fri 26/11/21	Fri 17/12/21		NA	Thu 30/12/21	Fri 21/1/22	27 days 1 day	1086					,	
090	Emergency walkway & median barrier installation	6 days	0 days	6 days	0%	Sat 18/12/21	Fri 24/12/21	NA	NA	Wed 9/2/22	Tue 15/2/22	39 days 2 days	1086,1088,323					,	
091	Pavement work	6 days	0 days	6 days	0%		Tue 4/1/22	NA	NA	Wed 16/2/22	Tue 22/2/22	39 days 1 day	1090						
092	Parapet installation	6 days	0 days	6 days	0%	Wed 5/1/22	Tue 11/1/22	NA	NA	Wed 23/2/22	Tue 1/3/22	39 days 1 day	1090,1088,1091					<u> </u>	
093	5.0 CH1386-1950 (564m): Utlity Laying Team 2 (by Others)	332 days	0 days	332 days	0%	Sat 17/4/21	Mon 14/3/22	NA	NA	Thu 19/8/21	Tue 1/3/22	-13 days						,	
094	CLP (132kV)	30 days	0 days	30 days	0%	Fri 14/1/22	Sat 12/2/22	NA	NA	Mon 31/1/22	Tue 1/3/22	17 days 1 day	946,990,1027					.	
095	HKCG	18 days	0 days	18 days	0%	Fri 14/1/22	Mon 31/1/22	NA	NA	Tue 25/1/22	Fri 11/2/22	11 days 1 day	946,990,1027					.	
ul. B	1 Drog with Drogress Task	Summary			Inactive N	filestone 🔷		Duration-c	only		Start-only	Е	External Mile	stone ♦	<u>                                      </u>	Critical Split	.,,,,		
	1 Prog with Progress Split Split	Project Sur	nmary		Inactive S				mmary Rollup		Finish-only	3	Deadline			Progress			

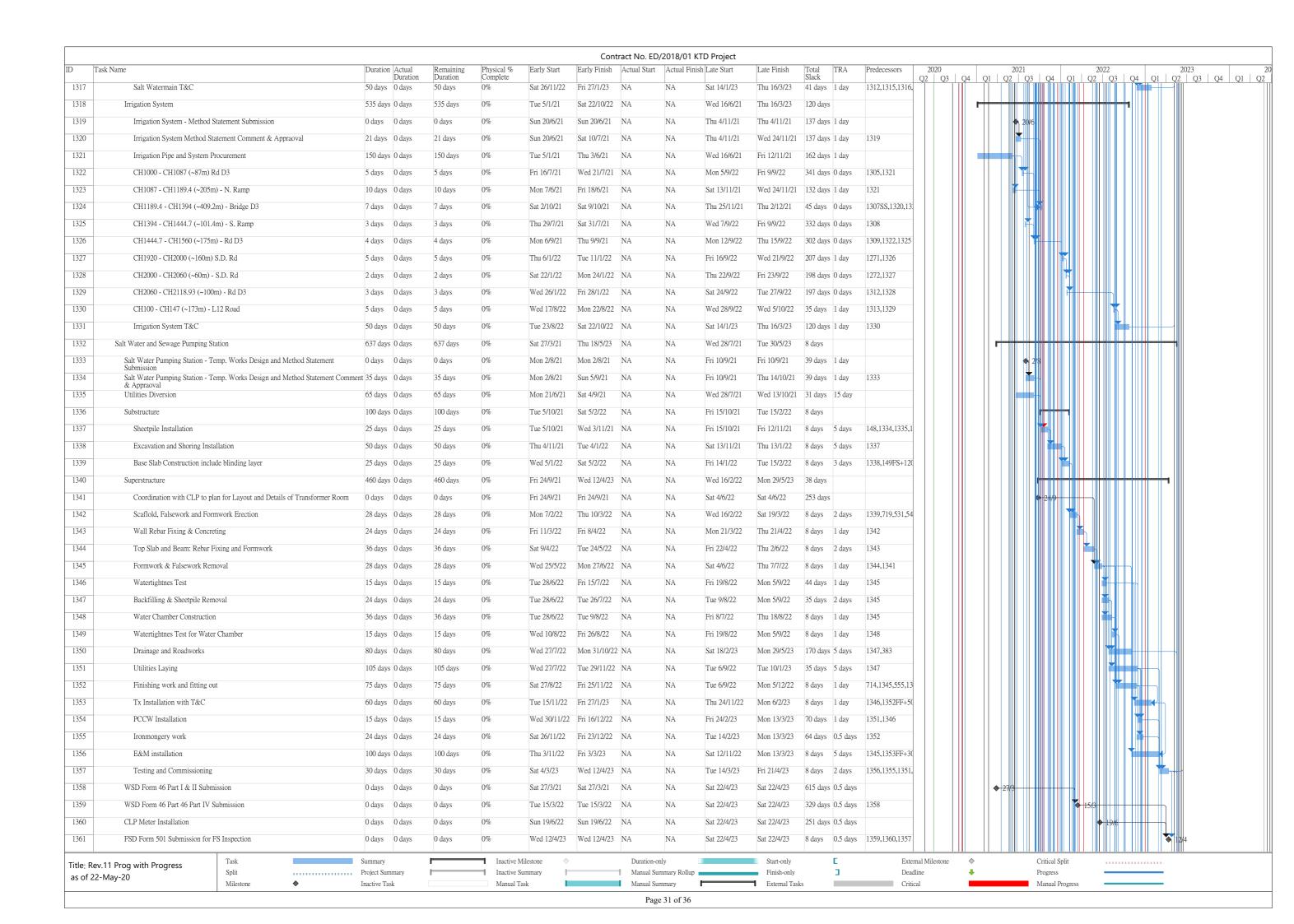
							Con	tract No. El	D/2018/01 KT	TD Project											
D Task I	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start			Actual Finis	-	Late Finish	Total TRA Slack		2020	04	2021	73   04		022	01 0	2023
1096	HGC	15 days		15 days	0%	Fri 21/1/22	Fri 4/2/22	NA	NA	Tue 1/2/22	Tue 15/2/22	11 days 1 day	1095SS+7 days,	2 Q3	Q4 Q	1   Q2	Q3 Q4	Q1   Q2	Q5   Q2	+ Q1 Q	2   Q3   Q
1097	CATV	13 days	0 days	13 days	0%	Fri 28/1/22	Wed 9/2/22	NA	NA	Tue 8/2/22	Sun 20/2/22	11 days 1 day	1096SS+7 days				<b>           </b>				
1098	Towngas telecom	15 days	0 days	15 days	0%	Fri 4/2/22	Fri 18/2/22	NA	NA	Tue 15/2/22	Tue 1/3/22	11 days 1 day	1097SS+7 days								
1099	North & South Depress Raod and Underpass: Finishing and E&M Works	120 days	0 days	120 days	0%	Tue 5/10/21	Tue 1/3/22	NA	NA	Tue 5/10/21	Tue 1/3/22	0 days									
1100	Finishing & Fitting Out Work, and E&M Works Installation	120 days	0 days	120 days	0%	Tue 5/10/21	Tue 1/3/22	NA	NA	Tue 5/10/21	Tue 1/3/22	0 days 8 days	306,271,323,108								
1101	Pump Room Next to Underpass: Finishing and E&M Works	158 days	0 days	158 days	0%	Sat 17/4/21	Tue 26/10/21	NA	NA	Thu 19/8/21	Tue 1/3/22	102 days				<b></b>	<del></del>				
1102	Finishing Works and E&M installation	73 days	0 days	73 days	0%	Sat 17/4/21	Thu 15/7/21	NA	NA	Thu 19/8/21	Mon 15/11/21	102 days 3 days	1042FS+36 days			+					
1103	Pump Installation	60 days	0 days	60 days	0%	Fri 16/7/21	Fri 24/9/21	NA	NA	Tue 16/11/21	Thu 27/1/22	102 days 2 days	1102								
1104	Testing and Commissioning	25 days	0 days	25 days	0%	Sat 25/9/21	Tue 26/10/21	NA	NA	Fri 28/1/22	Tue 1/3/22	102 days 1 days	1102,1103								
1105	Planned Completion for Section 1	0 days	0 days	0 days	0%	Mon 14/3/22	Mon 14/3/22	NA	NA	Tue 1/3/22	Tue 1/3/22	-13 days	1408,1414,1068,					14/3			
1106 Se	ections 2,4 and 8	824 days	0 days	824 days	0%	Mon 10/8/20	Wed 17/5/23	NA	NA	Mon 17/8/20	Wed 29/5/24	6 days									
1107	Offsite 14 units of precast box culvert with outfall fabrication	100 days	0 days	100 days	0%	Mon 19/10/20	Fri 19/2/21	NA	NA	Thu 3/12/20	Thu 8/4/21	38 days 30 days	406,414								
1108	MDN application	45 days	0 days	45 days	0%	Mon 26/10/20	Wed 9/12/20	NA	NA	Sun 21/1/24	Tue 5/3/24	1182 d 1 days									
1109	Demolition of Existing Seawall an Construction of Water Channel (Ch 0 to Ch30)	67 days	0 days	67 days	0%	Thu 10/12/20	Thu 4/3/21	NA	NA	Wed 6/3/24	Wed 29/5/24	962 days			-	1					
1110	Installation of Silt Curtain with Concrete Sinkers	6 days		6 days	0%		Wed 16/12/2		NA	Thu 23/5/24	Wed 29/5/24	1023 d 1 day	1108								
1111	Demolition of Existing Seawall	37 days		37 days	0%	Thu 10/12/20	Mon 25/1/21	NA	NA	Wed 6/3/24	Mon 22/4/24	962 days 1 day	1108								
1112		30 days		30 days	0%	Tue 26/1/21		NA	NA	Tue 23/4/24		962 days 1 day	1111								
1113	CH86 to CH70 ELS Works	136 days		136 days	0%	Mon 10/8/20	Thu 21/1/21	NA	NA	Mon 17/8/20	Sat 27/2/21	6 days									
1114	Temporary Works Design Preparation	25 days		25 days	0%	Mon 10/8/20	Mon 7/9/20		NA	Mon 17/8/20	Mon 14/9/20	6 days 1 days			- I						
1115	Comment by PM	25 days		25 days	0%	Tue 8/9/20	Thu 8/10/20		NA	Tue 15/9/20	Thu 15/10/20	6 days 1 days	1114								
1116	Sheetpiling Installation with Grouting & Pumping Test (56m long on plan)	50 days		50 days	0%	Fri 16/10/20	Mon 14/12/2		NA	Fri 16/10/20		0 days 1 day	1420,1423,1115								
1117	Excavation with Shoring Installation (1350 cu.m., 150 cu.m./d)	12 days		12 days	0%	Tue 15/12/20			NA	Tue 22/12/20	Thu 7/1/21	6 days 3 day	1116								
1118	Preparation of formation and laying of blinding layer	18 days		18 days	0%		Thu 21/1/21		NA	Thu 4/2/21	Sat 27/2/21	29 days 0.5 day	1117								
1119	CH70 to CH30 ELS Works	43 days		43 days	0%		Thu 7/1/21	NA	NA	Mon 16/11/20		0 days	1117								
1120	Sheetpiling Installation (80m on plan)	14 days		14 days	0%		Tue 1/12/20		NA NA	Mon 16/11/20	Tue 1/12/20	0 days 0.5 day	1116SS+25 days								
1120	Excavation with Shoring Installation (4500 cu.m., 160 cu.m./d x 1 team) and		0 days	29 days	0%		Thu 7/1/21		NA NA			0 days 0.5 day									
1121	Preparation of Formation and Laying of Blinding Layer	29 days	0 days	27 days	0 70	W Cd 2/12/20	111u //1/21	IVA	IVA	WCd 2/12/20	1110 //1/21	0 days 1 day	1120								
1122	DCS Seawater Intake (Insitu Section Bay 15)	41 days	0 days	41 days	0%	Fri 8/1/21	Sat 27/2/21	NA	NA	Fri 8/1/21	Sat 27/2/21	0 days 1 days				1					
1123	Construction of Cast in-situ Box Culvert with feeder pipe installation with Connection to Extisting Box Culvert(Bay 15, approx. 12m long)	41 days	0 days	41 days	0%	Fri 8/1/21	Sat 27/2/21	NA	NA	Fri 8/1/21	Sat 27/2/21	0 days 1 day	1117,1121			<b>Ь</b>					
1104		151 1	0.1	151 1	001	M 1/2/21	T 21/0/21	NT A	NIA	M 1/2/21	T 20/5/22	0.1									
1124	Precast Units Installation	151 days		151 days	0%	Mon 1/3/21	Tue 31/8/21		NA	Mon 1/3/21	Tue 30/5/23	0 days	1100 1110			Ţ					
1125	Preparation for Connecting Precast Units and Cast In-situ Bay 15	6 days	_	6 days	0%	Mon 1/3/21	Sat 6/3/21	NA	NA	Mon 1/3/21	Sat 6/3/21	0 days 1 days	1123,1118								
1126	Installation of 14 precast units with feeder pipe installation (2.5 days per unit)	37 days		37 days	0%	Mon 8/3/21	Thu 22/4/21		NA	Mon 8/3/21	Thu 22/4/21	0 days 2 days	1125,1107SS+75 days								
1127	Inspection Shaft Construction and Backfilling Upto +2.0mPD + Feeder Pipe Laying + Backfilling upto Final Formation Level	33 days	0 days	33 days	0%	Fri 23/4/21	Wed 2/6/21	NA	NA	Fri 23/4/21	Wed 2/6/21	0 days 0.5 day	1126								
1128	Seawall Reinstatement	75 days	0 days	75 days	0%	Thu 3/6/21	Tue 31/8/21	NA	NA	Sat 25/2/23	Tue 30/5/23	518 days 2 days	1127								
1129	Section 4: Part 2E	225 days	0 days	225 days	0%	Mon 15/8/22	Wed 17/5/23	NA	NA	Sat 10/9/22	Tue 30/5/23	10 days									
1130	Abandon Existing DCS - Temp. Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Mon 15/8/22	Mon 15/8/22	NA	NA	Sat 10/9/22	Sat 10/9/22	26 days 1 day							<b>4</b> 15/8		
1131	Abandon Existing DCS - Temp. Works Design and Method Statement Comment &	35 days	0 days	35 days	0%	Mon 15/8/22	Sun 18/9/22	NA	NA	Sat 10/9/22	Fri 14/10/22	26 days 1 day	1130								
1132	Appraoval Part 2E - Abandon of existing DCS	185 days	-	185 days	0%	Mon 3/10/22			NA	Sat 15/10/22	Tue 30/5/23	10 days 9 days	20,1131								
1133	Planned Completion for Section 4	0 days		0 days	0%	Wed 17/5/23			NA	Tue 30/5/23	Tue 30/5/23	10 days	1132								17/5
1134	Section 8: Part 2A - Diversion & abandon of extg DCS box culvert	194 days		194 days	0%	Thu 1/4/21	Wed 24/11/2		NA	Fri 9/4/21	Thu 2/12/21	4 days									
1135		0 days	-	0 days	0%	Thu 1/4/21	Thu 1/4/21	NA NA	NA	Fri 9/4/21	Fri 9/4/21	8 days 1 day				1/4					
1136	Method Statement Submission  Diversion & Abandon of Existing DCS Box Box Culvert - Temp. Works Design and		_	21 days	0%	Thu 1/4/21	Wed 21/4/21		NA	Fri 9/4/21	Thu 29/4/21	8 days 1 day	1135								
1150	Method Statement Comment & Appraoval	. Li unys	Junyo	21 unys	0,70	1114 1/4/21	04 21/4/21	1111	11/1	211 /17161	1114 27/7/21	J days 1 day	1155								
1137	TTA Implementation	1 day	0 days	1 day	0%	Thu 22/4/21	Thu 22/4/21	NA	NA	Fri 30/4/21	Fri 30/4/21	7 days 0.5 day	1136								
									I	1											
Title: Day 11	Prog with Progress Task S	Summary			Inactive N	Milestone	>	Duration-	only		Start-only	Е	External	Milestone	<b>♦</b>		Critical Spli	it			
as of 22-Ma	av-20 Split	Project Sum			Inactive S				Summary Rollup		Finish-only	3	Deadline		•		Progress				
	Milestone ◆	Inactive Tas	k		Manual T	ask		Manual S	Summary		External Tasl	XS .	Critical				Manual Pro	gress			

									/2018/01 KT															
Task	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finisl	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2   Q3	04	01	2021 Q2   Q	)3	04 01	2 21   Q2	2022	04	4 Q
38	Sheetpile Installation	25 days		25 days	0%	Fri 23/4/21	Mon 24/5/21	NA	NA	Mon 3/5/21	Tue 1/6/21		1 day	1137	Q2 Q3		Q1							
39	Excavation with Shoring	52 days	0 days	52 days	0%	Tue 25/5/21	Mon 26/7/21	NA	NA	Wed 2/6/21	Tue 3/8/21	7 days	1 day	1138										Ш
10	Diversion of existing DCS box culvert	26 days	0 days	26 days	0%	Tue 27/7/21	Wed 25/8/21	NA	NA	Wed 4/8/21	Thu 2/9/21	7 days	2 days	1137,410,1139					in l					Ш
1	Break up existing box culvert (4 walls) + top slab	35 days	0 days	35 days	0%	Thu 26/8/21	Thu 7/10/21	NA	NA	Fri 3/9/21	Sat 16/10/21	7 days	2 days	1140										Ш
12	Construct new walls at existing box culvert	20 days	0 days	20 days	0%	Fri 8/10/21	Mon 1/11/21	NA	NA	Mon 18/10/21	Tue 9/11/21	7 days	1 days	1141										Ш
13	Abandon existing DCS box culvert	20 days	0 days	20 days	0%	Tue 2/11/21	Wed 24/11/21	NA	NA	Wed 10/11/21	Thu 2/12/21	7 days	1 days	1142										Ш
14	Planned Completion for Section 8	0 days		0 days	0%	Wed 24/11/21	Wed 24/11/21	NA	NA	Thu 2/12/21	Thu 2/12/21	7 days	0 days	1143						2274/11				Ш
	Section 3	729 days		729 days	0%	Thu 16/5/19	Tue 26/10/21		NA	Tue 2/6/20	Tue 2/11/21	6 days	o day o							1 2 2 1 1				Ш
16	Part 2C - Lift LT3 & LT4	729 days		729 days	0%	Thu 16/5/19	Tue 26/10/21		NA	Tue 2/6/20	Tue 2/11/21	6 days												Ш
17												-	0 3	4EC : 260 J	4 2/6									Ш
	Access Date - Part 2A,2C	0 days		0 days	0%	Tue 2/6/20		NA	NA	Tue 2/6/20	Tue 2/6/20	0 days		4FS+369 days	2/6									Ш
18	Mobilization of plant and materials	15 days	0 days	15 days	0%	Thu 16/5/19		NA	NA	Sat 4/7/20	Tue 21/7/20	337 days	-											Ш
19	TTA implementation	4 days	0 days	4 days	0%	Tue 2/6/20	Fri 5/6/20	NA	NA	Fri 17/7/20	Tue 21/7/20	37 days	1 day	1147	Ť									Ш
50	Carry out Titpit and Identify Underground Utilities location	12 days	0 days	12 days	0%	Mon 15/6/20	Fri 26/6/20	NA	NA	Mon 22/6/20	Fri 3/7/20	7 days												
51	Discuss with Relevant Utilities Undertakers	18 days	0 days	18 days	0%	Sat 27/6/20	Tue 14/7/20	NA	NA	Sat 4/7/20	Tue 21/7/20	7 days		1150										Ш
52	Slew CLP Cable and Abandon Telecom Cable (tentative)	75 days	0 days	75 days	0%	Wed 15/7/20	Mon 12/10/20	) NA	NA	Wed 22/7/20	Mon 19/10/20	6 days	4 days	1148,1149,1151										
53	Lift Tower Foundation - Temp. Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Tue 4/8/20	Tue 4/8/20	NA	NA	Tue 15/9/20	Tue 15/9/20	42 days	1 day		• 4	.8								
54	Lift Tower Foundation - Temp. Works Design and Method Statement Comment &	35 days	0 days	35 days	0%	Tue 4/8/20	Mon 7/9/20	NA	NA	Tue 15/9/20	Mon 19/10/20	42 days	1 day	1153										Ш
55	Appraoval Intall Sheetpile, ELS, Excavation and Temp. Works Installation (Shoring, Drainage	38 days	0 days	38 days	0%	Tue 13/10/20	Thu 26/11/20	NA	NA	Tue 20/10/20	Thu 3/12/20	6 days	2 days	1154,1152								#		Ш
6	& Slope Protection)  Foundation Construction (Pad Footing include blinding layer, formwork erection,	38 days	0 days	38 days	0%	Fri 27/11/20	Wed 13/1/21	NA	NA	Fri 4/12/20	Wed 20/1/21	6 days	2 days	1148,1152,175,1			ЫШ							Ш
57	rebar fixing & concreting)  Sheepile Extraction & Backilling	13 days	0 days	13 days	0%	Thu 14/1/21	Thu 28/1/21	NA	NA	Thu 21/1/21	Thu 4/2/21	6 days	1 day	1156										Ш
58	Lift Tower - Temp. Works Design and Method Statement Submission	0 days	-	0 days	0%	Mon 2/11/20	Mon 2/11/20		NA	Fri 1/1/21	Fri 1/1/21	60 days	_			2/1								Ш
9				-	0%		Sun 6/12/20		NA	Fri 1/1/21	Thu 4/2/21			1158			•							Ш
	Lift Tower - Temp. Works Design and Method Statement Comment & Appraoval	35 days	-	35 days		Mon 2/11/20							-											Ш
0	Lift Shaft Tower: 3 Lifts x 20 day/Lift, Falsework & Formwork Erection, Rebar Fixing & Concreting	63 days		63 days	0%	Fri 29/1/21	Mon 19/4/21		NA	Fri 5/2/21	Mon 26/4/21			1156,1159,1157										Ш
Į.	Lift installation (LT3 & LT4)	90 days	0 days	90 days	0%	Tue 20/4/21	Fri 6/8/21	NA	NA	Tue 27/4/21	Fri 13/8/21	6 days	5 days	1160,713										Ш
2	E & M installation	30 days	0 days	30 days	0%	Sat 7/8/21	Fri 10/9/21	NA	NA	Sat 14/8/21	Fri 17/9/21	6 days	3 days	1161										Ш
53	Louvers and Glazing Installation	26 days	0 days	26 days	0%	Fri 21/5/21	Mon 21/6/21	NA	NA	Sat 14/8/21	Mon 13/9/21	71 days	2 days	1160FS+25 days										Ш
4	Parapet Installation and Finishing Works	40 days	0 days	40 days	0%	Tue 22/6/21	Sat 7/8/21	NA	NA	Tue 14/9/21	Tue 2/11/21	71 days	4 days	1163										Ш
55	CLP Meter Installation	0 days	0 days	0 days	0%	Mon 1/2/21	Mon 1/2/21	NA	NA	Fri 20/8/21	Fri 20/8/21	200 days	0.5 day				<b>4</b> 1/2							Ш
66	EMSD Submission Form 5 for Lift Inspection	0 days	0 days	0 days	0%	Mon 1/3/21	Mon 1/3/21	NA	NA	Fri 20/8/21	Fri 20/8/21	172 days	0.5 day	1165			1/	3						Ш
57	EMSD Lift Inspection	0 days	0 days	0 days	0%	Sun 14/3/21	Sun 14/3/21	NA	NA	Fri 3/9/21	Fri 3/9/21	172 days	0.5 day	1166FS+14 days			<b>4</b> 1	4/3						Ш
58	Issuance of Lift Use Permit	0 days	0 days	0 days	0%	Mon 29/3/21	Mon 29/3/21	NA	NA	Sat 18/9/21	Sat 18/9/21	172 days	0.5 day	1167FS+15 days			\$	29/1						Ш
59	Testing & commissioning with Statutory Inspection	36 days	0 days	36 days	0%	Sat 11/9/21	Tue 26/10/21	NA	NA	Sat 18/9/21	Tue 2/11/21	6 days	1 days	1162,1168					4					Ш
70	Footpath	28 days	0 days	28 days	0%	Tue 20/4/21	Mon 24/5/21	NA	NA	Tue 8/6/21	Mon 12/7/21	40 days	1 days	1160				4.]						Ш
71	Open Space within Part 2C	94 days	-	94 days	0%	Tue 25/5/21	Mon 13/9/21		NA	Tue 13/7/21	Tue 2/11/21	40 days	-	1170,1230				411						Ш
72	Planned Completion for Section 3	0 days		0 days	0%	Tue 26/10/21	Tue 26/10/21		NA	Tue 2/11/21	Tue 2/11/21			1171,1168,1169,						30400				Ш
	Sections 5 and 9: Noise Barrier Installation				0%			Fri 20/3/20		Fri 20/3/20	Mon 5/7/21		-	1171,1100,1109,						7.20/10				Ш
			6.83 days	-		Fri 20/3/20						1 day	1 uay											Ш
74	1.0 Noise Barrier Shop Drawing Preparation, Offsite Fabrication		s 20.86 days		0%	Mon 6/4/20		Mon 6/4/20		Mon 6/4/20	Mon 7/12/20	60 days												Ш
75	CNP and TTA available	0 days		0 days	0%	Wed 24/6/20	Wed 24/6/20		NA	Thu 20/8/20	Thu 20/8/20	47 days			4 24/6									
76	Expose the Extisting Noise Barrier Foundation		25 days	45 days	36%	Mon 6/4/20	Fri 3/7/20	Mon 6/4/20	NA	Mon 6/4/20	Tue 7/7/20	3 days	1 day			$\  \  \ $								
17	Implement TTA	2 days	0 days	2 days	0%	Mon 13/7/20	Tue 14/7/20	NA	NA	Wed 18/11/20	Thu 19/11/20	107 days	0.5 day											
78	Expose the Extisting Noise Barrier Foundation under Existing Footpath	15 days	0 days	15 days	0%	Wed 15/7/20	Fri 31/7/20	NA	NA	Fri 20/11/20	Mon 7/12/20	107 days	1 day	1177										
79	Carry out the Site Survey for Existing Holding Down Bolt at Existing Landscaped	6 days	0 days	6 days	0%	Wed 24/6/20	Thu 2/7/20	NA	NA	Thu 20/8/20	Wed 26/8/20	47 days	1 day	1175	-	$\ \ \ $								
80	Noise Barrier Shop Drawings Preparation	30 days	0 days	30 days	0%	Fri 31/7/20	Thu 3/9/20	NA	NA	Fri 21/8/20	Thu 24/9/20	18 days	0.5 day	1176FF+18 days										
31	Noise Barrier Shop Drawings Comment by PM	18 days	0 days	18 days	0%	Fri 4/9/20	Thu 24/9/20	NA	NA	Fri 25/9/20	Sat 17/10/20	18 days	0.5 day	1180										
32	PMAA Panel Material Sample Submission	0 days		0 days	0%	Sat 2/5/20	Sat 2/5/20	NA	NA	Sat 6/6/20	Sat 6/6/20	30 days	1 days		<b>♦</b> 2/5									Ш
				<u></u>																<u>                                     </u>				Щ
	i Prog with Progress	Summary Project Sun	nmary		Inactive Mi			Duration-on  Manual Sur	nly Unmary Rollup		Start-only Finish-only		[ ]	Exter Dead	nal Milestone ine	•				ical Split gress				
of 22-M	lay-20 Milestone	Inactive Ta		-	Manual Ta			Manual Sur			External Tas	1.	_	Critic		_				nual Progre				

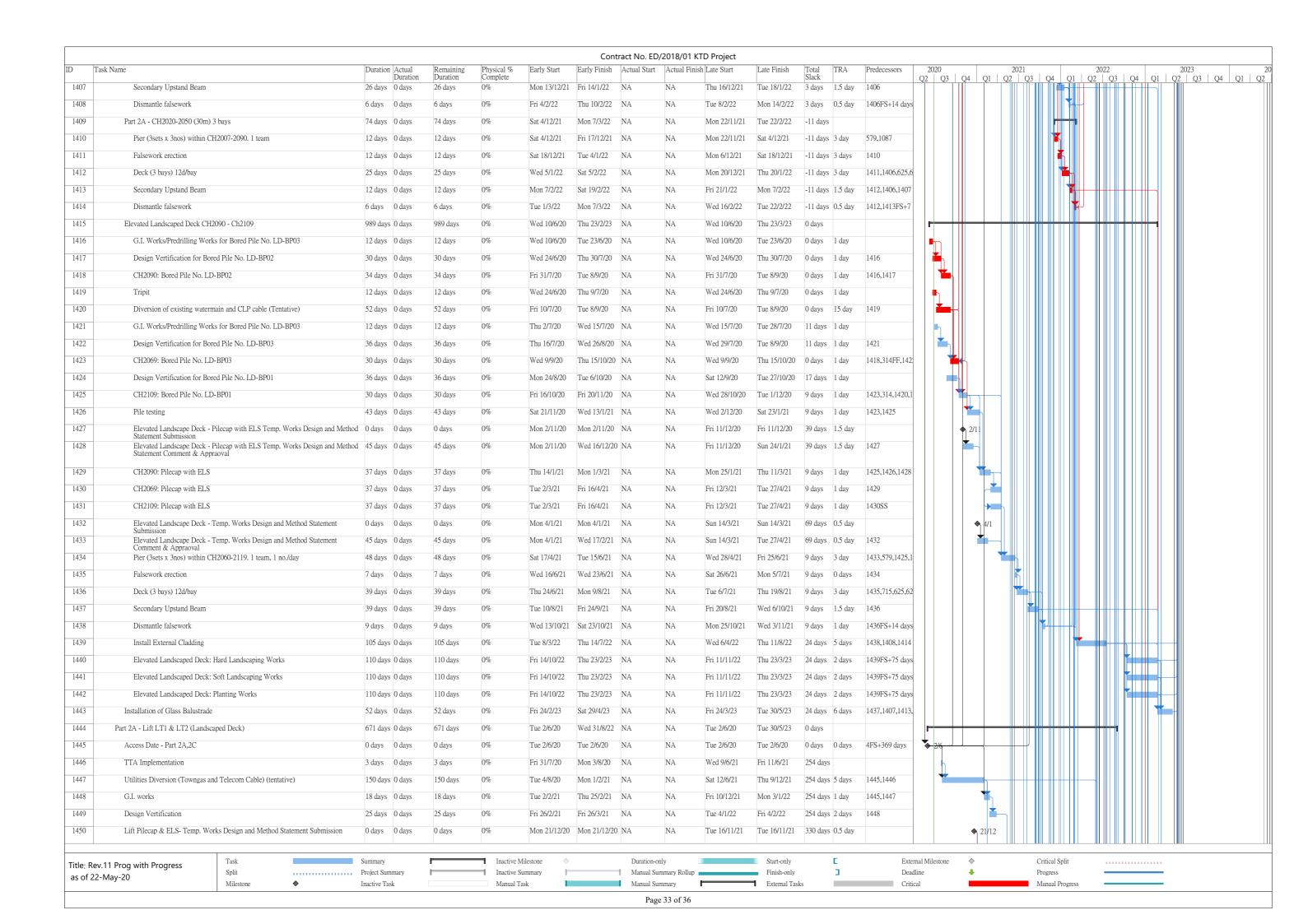
							Con	tract No. ED,	/2018/01 KI	D Project														
Tasl	k Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finisl	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2   Q3	Q4 C	202	21 Q3   (	04 01	202	22 Q3   Q	4 01	202 .   Q2	
183	PMAA Panel Material Comment and Approval by PM	18 days	0 days		0%	Sat 2/5/20	Fri 22/5/20	NA	NA	Sat 6/6/20	Sat 27/6/20	30 days	1 days	1182	1									
184	PMAA Panel Material Coloring Sample Submission	0 days	0 days	0 days	0%	Thu 4/6/20	Thu 4/6/20	NA	NA	Mon 29/6/20	Mon 29/6/20	20 days	1 days	1183	4/6									
185	PMAA Panel Material Coloring Sample Comment and Approval by PM	10 days	0 days	10 days	0%	Thu 4/6/20	Mon 15/6/20	NA	NA	Mon 29/6/20	Fri 10/7/20	20 days	1 days	1184										
186	Material Testing and Offsite Fabrication	247 days	0 days	247 days	0%	Mon 1/6/20	Tue 2/2/21	NA	NA	Wed 10/6/20	Wed 17/2/21	9 days												
187	Holding Down Bolt Procurement	61 days	0 days	61 days	0%	Fri 5/6/20	Tue 4/8/20	NA	NA	Wed 10/6/20	Sun 9/8/20	5 days	1 days											
188	Holding Down Bolt Testing	45 days	0 days	45 days	0%	Wed 5/8/20	Fri 18/9/20	NA	NA	Mon 10/8/20	Wed 23/9/20	5 days	1 day	1187										
189	Structural Steelwork Procurement	81 days	0 days	81 days	0%	Mon 1/6/20	Thu 20/8/20	NA	NA	Sat 13/6/20	Tue 1/9/20	12 days	1 day											
190	Structural Steel Frame Material Testing	46 days	0 days	46 days	0%	Fri 21/8/20	Mon 5/10/20	NA	NA	Wed 2/9/20	Sat 17/10/20	12 days	1 day	1189										
191	Structural Steel Frame Fabrication and Delivery	120 days	0 days	120 days	0%	Tue 6/10/20	Tue 2/2/21	NA	NA	Sun 18/10/20	Sun 14/2/21	12 days	1 day	1181,1190										
192	Structural Steel Frame Start Delivery to Stie	0 days	0 days	0 days	0%	Wed 25/11/20	Wed 25/11/20	0 NA	NA	Tue 8/12/20	Tue 8/12/20	12 days	1 day	1191SS+51 days		25/1								
193	Polymethyl Metharylate (PMMA) and Associated Aluminium Sub-frame	121 days	0 days		0%	Tue 16/6/20	Wed 14/10/20	) NA	NA	Sat 11/7/20	Sun 8/11/20	25 days	1 day	1185										
194	Procurement Polymethyl Metharylate (PMMA) panel fabrication and delivery	101 days			0%	Thu 15/10/20			NA	Mon 9/11/20	Wed 17/2/21	25 days	_											
195	Temp Works Design for Noise Barrier	106 days			0%	Sat 13/6/20	Mon 19/10/20		NA	Fri 19/6/20	Sat 24/10/20	5 days	Jo days	1175,1101										
196	ELS Design Preparation for Noise Barrier with ICE	18 days	-		0%	Wed 17/6/20	Thu 9/7/20		NA	Tue 23/6/20	Wed 15/7/20	5 days	1 day											
													_	1106										
197	ELS Design for Noise Barrier Comment by AECOM	21 days			0%	Fri 10/7/20	Thu 30/7/20		NA	Thu 16/7/20	Wed 5/8/20		1 day	1196										
198	Temporary Works Platform Design Preparation	36 days			0%	Sat 13/6/20	Mon 27/7/20		NA	Fri 19/6/20	Sat 1/8/20		1 day	1100										
199	Temporary Working Platform Design Submit for AECOM Comment	19 days			0%	Tue 28/7/20	Tue 18/8/20		NA	Mon 3/8/20	Mon 24/8/20		1 day	1198										
200	Temporary Working Platform Fabrication	51 days			0%	Wed 19/8/20	Mon 19/10/20		NA	Tue 25/8/20	Sat 24/10/20	5 days	1 day	1199										
201	2.0 Noise Barrier Footing and Modification Existing Column Stud	184 days	2.71 days	181.29 days	0%	Fri 20/3/20	Sat 19/9/20	Fri 20/3/20	NA	Fri 20/3/20	Wed 23/9/20	4 days				1								
202	Take up the Works Area	1 day	1 day	0 days	0%	Fri 20/3/20	Fri 20/3/20	Fri 20/3/20	Fri 20/3/20	Fri 20/3/20	Fri 20/3/20	0 days												
203	Ground Investigation Works	25 days	0 days	25 days	0%	Sat 4/7/20	Sat 1/8/20	NA	NA	Wed 8/7/20	Wed 5/8/20	3 days	1 day	1176										
204	Diversion of Existing Utilities and ELS Construction	42 days	0 days	42 days	0%	Mon 3/8/20	Sat 19/9/20	NA	NA	Thu 6/8/20	Wed 23/9/20	3 days	1 day	1197,1203		k								
205	Fooing with Column Stud Construction	61 days	0 days	61 days	0%	Wed 23/9/20	Sat 5/12/20	NA	NA	Thu 24/9/20	Mon 7/12/20	1 day				-								
206	Bay 1 & 3 Fooing with Column Stud and Modification of Existing Column Stud along Bay 1 & 3	10 days	0 days	10 days	0%	Wed 23/9/20	Tue 6/10/20	NA	NA	Thu 24/9/20	Wed 7/10/20	1 day	1 day	1188,1204,184FI										
207	Bay 2 & 4 Fooing with Column Stud and Modification of Existing Column along	10 days	0 days	10 days	0%	Wed 7/10/20	Sat 17/10/20	NA	NA	Thu 8/10/20	Mon 19/10/20	1 day	1 day	1206										
208	Bay 2&4 Bay 5 & 7 Fooing with Column Stud, Modification of Existing Stud along Bay 5&7	7 10 days	0 days	10 days	0%	Mon 19/10/20	Fri 30/10/20	NA	NA	Tue 20/10/20	Sat 31/10/20	1 day	1 day	1207										
209	Bay 6 Fooing with Column Stud, Modification of Existing Stud along Bay 6	10 days	0 days	10 days	0%	Sat 31/10/20	Wed 11/11/20	0 NA	NA	Mon 2/11/20	Thu 12/11/20	1 day	1 day	1208										
210	Backfill and extract sheet pile	21 days	0 days	21 days	0%	Thu 12/11/20	Sat 5/12/20	NA	NA	Fri 13/11/20	Mon 7/12/20	1 day	1 day	1209										
211	Modification of Remaining Colum Stud	50 days	0 days	50 days	0%	Mon 7/12/20	Fri 5/2/21	NA	NA	Tue 8/12/20	Sat 6/2/21	1 day	1 day											
212	Modification of Remaining Column Stud	50 days	0 days	50 days	0%	Mon 7/12/20	Fri 5/2/21	NA	NA	Tue 8/12/20	Sat 6/2/21	1 day	1 day	1210,1178										
213	Noise Barrier Installation	258 days			0%	Wed 19/8/20	Sat 3/7/21	NA	NA	Sat 26/9/20	Mon 5/7/21		1 day											
214	CNP Application	31 days			0%	Wed 19/8/20			NA	Sat 26/9/20	Mon 26/10/20		-	1199										
215	Temporary Platform Delivery to Site	0 days			0%		Mon 19/10/20		NA	Tue 27/10/20	Tue 27/10/20		0.5 day			<b>♦</b> 19/10								
216	Temporary Platform On-site Assembly (Night Time)	36 days		,	0%		Tue 1/12/20		NA	Tue 27/10/20	Mon 7/12/20	5 days		1214,1215										
217	Structural Steel Frame Installation	119 days				Mon 7/12/20	Wed 5/5/21		NA	Tue 8/12/20	Thu 6/5/21		1 day	1192,1212SS,12										
218	PMMA and Associated Aluminum Sub-frame Installation	117 days				Fri 8/1/21	Wed 3/3/21 Wed 2/6/21		NA	Sat 9/1/21	Thu 3/6/21		1 day	1192,121233,12 1194SS+50 days										
219	Lighting Installation					Thu 3/6/21	Sat 3/7/21	NA NA	NA NA	Fri 4/6/21	Mon 5/7/21		1 day	1218FF+25 days										
220		25 days			0%		Sat 3/7/21				Mon 5/7/21			1218FF+25 days										
	Rainwater downpipe	25 days				Thu 3/6/21		NA	NA	Fri 4/6/21			1 day	1										
221	Bus Lay-by	25 days			0%	Thu 3/6/21	Sat 3/7/21	NA	NA	Fri 4/6/21	Mon 5/7/21	1 day	0.7	1218FF+25 days										
222	Planned Completion for Section 5 & Section 9	0 days		-		Sat 3/7/21	Sat 3/7/21	NA	NA	Mon 5/7/21	Mon 5/7/21		0 days	1218,1219,1220,				¥ 3/7						
	Section 6		s 8.73 days	1192.27 days?		Thu 16/5/19		Thu 16/5/19		Thu 16/5/19	Wed 29/5/24	298 da												
224	Fencing (15m/d) & Hoarding Erection (10m/d)				0%	Tue 15/10/19		Tue 15/10/19		Tue 15/10/19	Fri 30/12/22	42 days												
225	Hoarding - Part 1 (~57m)	51 days	0 days	51 days	0%	Tue 1/12/20	Mon 1/2/21	NA	NA	Wed 21/9/22	Mon 21/11/22	536 days	1 day	121,8										
226	Fencing - Part 1 (758m)	6 days	0 days	6 days	0%	Sat 19/9/20	Fri 25/9/20	NA	NA	Mon 1/3/21	Sat 6/3/21	130 days	0 days	121,8										
227	Fencing - Part 2A (~458m) - 4 team	12 days	0 days	12 days	0%	Wed 3/2/21	Fri 19/2/21	NA	NA	Sat 5/2/22	Fri 18/2/22	296 days	1 days	9,121,1147,1445			H   <b>    </b>							
tlo: Dov.	11 Prog with Progress	Summary	1		Inactive Mile	estone $\diamondsuit$		Duration-or	nly		Start-only		С	External	l Milestone	<b>♦</b>		Criti	cal Split	<u> </u>				
tie: Kev. s of 22-N	May-20 Split	Project Sun			■ Inactive Sun	nmary		Manual Su	mmary Rollup		Finish-only		3	Deadlin		•		Prog	ress				-	
-	Milestone ♦	Inactive Ta	sk		Manual Tasl	:		Manual Sur	mmary		External Tas	sks		Critical				Mar	ual Progress	S			-	



							Con	tract No. ED	/2018/01 K	TD Project												_
Task N	Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	h Late Start	Late Finish	Total TRA Slack		2020	Q4 Q1	2021	03   0	04 01		2022   Q3	04	01
72	CH2000 - CH2060 (~84m, 2 M/H) - S.D. Rd	14 days		14 days	0%	Thu 6/1/22	Fri 21/1/22	NA	NA	Mon 5/9/22	Wed 21/9/22	198 days 1 days	1085SS+12 days	3 Q3	V+ VI	1 22						QI I
73	CH2060 - CH2118.93 (~50.7m, 2 M/H) - Rd D3	14 days	0 days	14 days	0%	Mon 4/10/21	Wed 20/10/21	1 NA	NA	Fri 3/12/21	Sat 18/12/21	51 days 1 days	1267									,
74	CH100 - CH147 (~169m, 5 M/H) - L12 Road	38 days	0 days	38 days	0%	Mon 2/5/22	Wed 15/6/22	NA	NA	Sat 2/7/22	Mon 15/8/22	51 days 3 days	1275,1229									,
75	Open Space & Promenade (~457m, 11 M/H)	76 days	0 days	76 days	0%	Tue 25/1/22	Sat 30/4/22	NA	NA	Tue 29/3/22	Thu 30/6/22	51 days 6 days	1504,458,459,12						4	H		,
76	L12d Stormwater	50 days	0 days	50 days	0%	Thu 21/10/21	Fri 17/12/21	NA	NA	Wed 26/1/22	Mon 28/3/22	80 days	1273,490							<b>,</b>		,
77	Sewerage Drainage	496 days	0 days	496 days	0%	Tue 1/12/20	Wed 3/8/22	NA	NA	Sat 29/5/21	Wed 5/10/22	51 days							₩	<del></del>		,
78	Procurement of Sewerage Pipes	90 days	0 days	90 days	0%	Tue 1/12/20	Sun 28/2/21	NA	NA	Sat 29/5/21	Thu 26/8/21	179 days 0.5 days										,
79	Sewerage Drainage - Temp. Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Wed 2/6/21	Wed 2/6/21	NA	NA	Sat 28/8/21	Sat 28/8/21	87 days 0.5 days				<b>4</b> 2/	6					,
80	Sewerage Drainage - Temp. Works Design and Method Statement Comment &	21 days	0 days	21 days	0%	Wed 2/6/21	Tue 22/6/21	NA	NA	Sat 28/8/21	Fri 17/9/21	87 days 0.5 days	1279						Ш			,
1	Appraoval CH1000 - CH1087 (~68m, 3 M/H)	19 days	0 days	19 days	0%	Tue 15/6/21	Wed 7/7/21	NA	NA	Fri 27/8/21	Fri 17/9/21	62 days 1 days	428,451,465,466									,
12	CH1087 - CH1189.4 (~47m, 1 no M/H)	14 days	0 days	14 days	0%	Sat 4/9/21	Mon 20/9/21	NA	NA	Sat 18/9/21	Wed 6/10/21	12 days 1 days	1265,1278,1280,				4					,
83	CH100 - CH147 (~156m, 6 M/H) - L12 Road	41 days		41 days	0%	Thu 16/6/22	Wed 3/8/22	NA	NA	Tue 16/8/22	Wed 5/10/22	51 days 3 days	1274,1280,1275,									,
	Underground Watermain	629 days		629 days	0%	Tue 15/12/20	Fri 27/1/23		NA	Fri 14/5/21	Thu 16/3/23	41 days	,						Ш			<b>,</b>
285	Fresh Watermain	519 days		519 days	0%	Tue 15/12/20	Wed 14/9/22		NA	Fri 14/5/21	Thu 16/3/23	119 days									_	, II
286	Fresh Watermain - Method Statement Submission	0 days		0 days	0%	Tue 1/6/21	Tue 1/6/21		NA	Sat 7/8/21	Sat 7/8/21	67 days 1 days				1/	5					$\  \ $
287	Fresh Watermain - Ivietnod Statement Submission  Fresh Watermain Method Statement Comment & Appraoval												1296									$\  \ $
87	**	35 days		35 days	0%	Tue 1/6/21	Mon 5/7/21		NA	Sat 7/8/21	Fri 10/9/21	67 days 1 days	1286									$\  \ $
	Fresh Watermain Procurement	120 days		120 days	0%	Mon 11/1/21	Mon 10/5/21		NA	Fri 14/5/21	Fri 10/9/21	123 days 1 days	1000 1007									$\  \ $
39	CH1000 - CH1087 (~191m) Rd D3	20 days		20 days	0%	Tue 6/7/21	Wed 28/7/21		NA	Sat 11/9/21	Wed 6/10/21	58 days 1 days	1288,1287									$\  \ $
90	CH1087 - CH1189.4 (~212m) - N. Ramp	4 days		4 days	0%	Tue 21/9/21	Sat 25/9/21		NA	Thu 7/10/21	Mon 11/10/21		1282,467,1289									$\  \ $
1	CH1189.4 - CH1394 (~409.2m) - Bridge D3	42 days	0 days	42 days	0%	Tue 10/8/21	Tue 28/9/21		NA	Fri 15/10/21	Thu 2/12/21	54 days 2 days	1288,944FF									,
2	CH1394 - CH1444.7 (~101.4m) - S. Ramp	10 days	0 days	10 days	0%	Tue 6/7/21	Fri 16/7/21	NA	NA	Mon 15/8/22	Thu 25/8/22	332 days 0 days	988SS+10 days,									,
3	CH1444.7 - CH1560 (~165m) - Rd D3	30 days	0 days	30 days	0%	Mon 12/7/21	Sat 14/8/21	NA	NA	Sat 27/11/21	Tue 4/1/22	116 days 0 days	988SS+15 days							$H \parallel \parallel \parallel$		,
1	CH1720 - CH1920 (~25m) - Underpass	2 days	0 days	2 days	0%	Fri 17/12/21	Sat 18/12/21	NA	NA	Fri 16/9/22	Sat 17/9/22	221 days 0 days	1270,444									,
5	CH2060 - CH2118.93 (~47m) - Rd D3	2 days	0 days	2 days	0%	Sat 16/10/21	Mon 18/10/21	1 NA	NA	Wed 15/12/21	Thu 16/12/21	51 days 0 days	1273SS+10 days									,
,	CH100 - CH147 (~280m) - L12 Road	30 days	0 days	30 days	0%	Tue 17/5/22	Tue 21/6/22	NA	NA	Tue 28/6/22	Tue 2/8/22	35 days 2 days	1297									,
7	Open Space & Promenade (~1,093m)	110 days	0 days	110 days	0%	Thu 30/12/21	Mon 16/5/22	NA	NA	Wed 12/1/22	Fri 27/5/22	10 days 1 day	1497,458,111							$H \parallel \parallel \parallel$		,
В	Freshwater main across Kai Tak River	50 days	0 days	50 days	0%	Tue 17/5/22	Fri 15/7/22	NA	NA	Tue 15/11/22	Thu 12/1/23	151 days 1 day	1297,514						111 1			,
)	L12d Freshwater	50 days	0 days	50 days	0%	Tue 15/12/20	Wed 17/2/21	NA	NA	Tue 15/11/22	Thu 12/1/23	569 days	498							+		,
0	Fresh Watermain T&C	51 days	0 days	51 days	0%	Sat 16/7/22	Wed 14/9/22	NA	NA	Fri 13/1/23	Thu 16/3/23	151 days 1 day	1297,1296,1298,									+
1	Salt Watermain	591 days	0 days	591 days	0%	Mon 1/2/21	Fri 27/1/23	NA	NA	Sun 20/6/21	Thu 16/3/23	41 days			+				HH			1
)2	Salt Watermain - Method Statement Submission	0 days	0 days	0 days	0%	Mon 24/5/21	Mon 24/5/21	NA	NA	Mon 13/9/21	Mon 13/9/21	112 days 1 day				<b>4</b> 24,	'5					,
)3	Salt Watermain Method Statement Comment & Appraoval	35 days	0 days	35 days	0%	Mon 24/5/21	Sun 27/6/21	NA	NA	Mon 13/9/21	Sun 17/10/21	112 days 1 day	1302									$\  \ $
04	Salt Watermain Procurement	120 days	0 days	120 days	0%	Mon 1/2/21	Mon 31/5/21	NA	NA	Sun 20/6/21	Sun 17/10/21	139 days 1 day										$\  \ $
05	CH1000 - CH1087 (~157m) Rd D3	15 days	0 days	15 days	0%	Mon 28/6/21	Thu 15/7/21	NA	NA	Thu 18/8/22	Sat 3/9/22	341 days 1 days	1304,1303									$\  \ $
06	CH1087 - CH1189.4 (~218m) - N. Ramp	4 days	0 days	4 days	0%	Mon 27/9/21	Thu 30/9/21	NA	NA	Tue 12/10/21	Sat 16/10/21	12 days 1 day	1290									$\  \ $
07	CH1189.4 - CH1394 (~409.2m) - Bridge D3	40 days	0 days	40 days	0%	Sat 2/10/21	Thu 18/11/21	NA	NA	Mon 18/10/21	Thu 2/12/21	12 days 0.5 days	1291SS,1303,45									$\  \ $
808	CH1394 - CH1444.7 (~101.4m) - S. Ramp	10 days	0 days	10 days	0%	Sat 17/7/21	Wed 28/7/21	NA	NA	Fri 26/8/22	Tue 6/9/22	332 days 1 day	1292									$\  \ $
609	CH1444.7 - CH1560 (~165m) - Rd D3	18 days		18 days	0%	Mon 16/8/21	Sat 4/9/21		NA	Wed 29/6/22	Wed 20/7/22	258 days 1 day	1293									$\  \ $
10	CH1560 - CH1720 (~160m) - NDR	50 days		50 days	0%	Fri 19/11/21	Wed 19/1/22		NA	Thu 21/7/22	Sat 17/9/22	197 days	1307,1309,444									$\  \ $
1	CH1720 - CH1920 (~25m) - Underpass	3 days		3 days	0%	Thu 20/1/22	Sat 22/1/22		NA	Mon 19/9/22	Wed 21/9/22	197 days 1 day	1294,1310									$\  \ $
2	CH2060 - CH2118.93 (~47m) - Rd D3	2 days		2 days	0%	Mon 24/1/22			NA	Thu 22/9/22	Fri 23/9/22	197 days 0 days	1295,1311									$\  \ $
13	CH100 - CH147 (~455m) - L12 Road	47 days		47 days	0%		Tue 16/8/22		NA	Wed 3/8/22	Tue 27/9/22	35 days 2 days	1295,1311									$\  \ $
14	L12d Salt Watermain			50 days	0%				NA NA				1313,498									$\  \ $
		50 days		1		Wed 17/8/22	Mon 17/10/22			Wed 16/11/22	Fri 13/1/23	75 days 1 day	,									$\  \ $
315	Open Space & Promenade (~1,093m)	110 days		110 days	0%	Tue 17/5/22	Sat 24/9/22		NA	Sat 28/5/22	Sat 8/10/22	10 days 1 day	1297,458									$\  \ $
316	Saltwater main across Kai Tak River	51 days	o days	51 days	0%	Ivion 26/9/22	Fri 25/11/22	NA	NA	Tue 15/11/22	Fri 13/1/23	41 days 1 day	1315,514									Ш
le: Rev.11	Prog with Progress	Summary			Inactive N			Duration-o	-		Start-only	<u> </u>	External	Milestone	<b>♦</b>			cal Split				
	sy-20 Split	Project Sun	nmary		Inactive S	ummary		Manual Su	mmary Rollup		Finish-only	3	Deadline		4		Prog	ress				



Sec	FSD Inspection  Issuance of FS Certificate  Salt Water and Sewage Pumping Station: Landscaping hardworks and softworks  Salt Water and Sewage Pumping Station: Planting Works  ection 6 Completion  eawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling  Reinstate seawall	0 days 110 days 110 days 110 days 0 days 647 days 290 days 24 days 10 days 256 days 44 days 44 days	Duration 0 days	Duration 0 days 0 days 110 days 110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days	Physical % Complete 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%		Sat 29/4/23 Thu 18/5/23 Sat 15/4/23 Sat 15/4/23 Tue 30/5/23 Mon 8/5/23	NA NA NA NA	NA NA NA NA NA NA NA NA NA	Late Start  Thu 11/5/23  Tue 30/5/23  Wed 11/1/23  Wed 11/1/23  Tue 30/5/23  Fri 5/3/21  Fri 5/3/21	Tue 30/5/23 Tue 30/5/23	Total Slack 8 days 0.5 da 8 days 0.5 da 35 days 2 day 35 days 2 day 0 days 0 days	ys 1362FS+15 days 562,1351,548	2020 Q2   Q3   Q	04 Q1   1	2021 Q2   Q3	Q4	Q1	2022 Q2 Q	Q3 Q4	Q1
Se	Issuance of FS Certificate  Salt Water and Sewage Pumping Station: Landscaping hardworks and softworks  Salt Water and Sewage Pumping Station: Planting Works  ection 6 Completion  leawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	0 days 110 days 110 days 110 days 0 days 647 days 290 days 24 days 10 days 256 days 44 days 44 days	0 days	0 days 110 days 110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days	0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	Thu 18/5/23 Wed 30/11/22 Wed 30/11/22 Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22	Thu 18/5/23 Sat 15/4/23 Sat 15/4/23 Tue 30/5/23 Mon 8/5/23 Fri 5/3/21 Mon 8/5/23	NA NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA	Tue 30/5/23 Wed 11/1/23 Wed 11/1/23 Tue 30/5/23 Fri 5/3/21	Tue 30/5/23 Mon 29/5/23 Mon 29/5/23 Tue 30/5/23 Tue 30/5/23	8 days 0.5 da 35 days 2 day 35 days 2 day 0 days	ys 1362FS+15 days 562,1351,548 562,1351,548							1	
Se Se	Salt Water and Sewage Pumping Station: Landscaping hardworks and softworks  Salt Water and Sewage Pumping Station: Planting Works  ection 6 Completion  eawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	110 days 110 days 0 days 647 days 0 days 290 days 34 days 10 days 256 days 44 days 44 days 44 days	0 days	110 days 110 days 0 days 647 days 0 days 290 days 24 days 10 days	0% 0% 0% 0% 0% 0% 0%	Wed 30/11/22 Wed 30/11/22 Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22	Sat 15/4/23 Sat 15/4/23 Tue 30/5/23 Mon 8/5/23 Fri 5/3/21 Mon 8/5/23	NA NA NA NA	NA NA NA NA	Wed 11/1/23 Wed 11/1/23 Tue 30/5/23 Fri 5/3/21	Mon 29/5/23 Mon 29/5/23 Tue 30/5/23	35 days 2 day 35 days 2 day 0 days	562,1351,548 562,1351,548								
Se	Salt Water and Sewage Pumping Station: Planting Works section 6 Completion seawater Intake Box Culvert (~169m) Access Date - Part 4 Part 4 - CHA.0-79 (79m) CHA 0-24 Precast Section Temporary ELS & Excavation and Shoring Installation Install 3 nos. 8 m long precast units (2.5 days per unit) CHA 24-79 (75m) (5 units) Temporary ELS & Excavation Unit 1 & 3 (41 days per unit) Unit 2 & 4 (41 days per unit) Unit 5 & 6 (41 days per unit) Remove struts and backfilling	110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days 256 days 44 days 44 days	0 days	110 days 0 days 647 days 0 days 290 days 34 days 24 days 10 days	0% 0% 0% 0% 0% 0%	Wed 30/11/22 Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22	Sat 15/4/23 Tue 30/5/23 Mon 8/5/23 Fri 5/3/21 Mon 8/5/23	NA NA NA	NA NA NA	Wed 11/1/23 Tue 30/5/23 Fri 5/3/21	Mon 29/5/23  Tue 30/5/23  Tue 30/5/23	35 days 2 day 0 days	562,1351,548								
See See	eawater Intake Box Culvert (~169m)  Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	0 days 647 days 0 days 290 days 34 days 24 days 10 days 256 days 44 days 44 days	0 days	0 days 647 days 0 days 290 days 34 days 24 days 10 days	0% 0% 0% 0% 0%	Tue 30/5/23 Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22	Tue 30/5/23 Mon 8/5/23 Fri 5/3/21 Mon 8/5/23	NA NA NA	NA NA NA	Tue 30/5/23 Fri 5/3/21	Tue 30/5/23 Tue 30/5/23	0 days									
Sec	Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	647 days 0 days 290 days 34 days 24 days 10 days 50 days 44 days 44 days	0 days	647 days 0 days 290 days 34 days 24 days 10 days	0% 0% 0% 0%	Fri 5/3/21 Fri 5/3/21 Thu 19/5/22 Thu 19/5/22	Mon 8/5/23 Fri 5/3/21 Mon 8/5/23	NA NA	NA NA	Fri 5/3/21	Tue 30/5/23		1350,1363,1364,								!
	Access Date - Part 4  Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	0 days 290 days 34 days 24 days 10 days 256 days 50 days 44 days 44 days	0 days	0 days 290 days 34 days 24 days 10 days	0% 0% 0%	Fri 5/3/21 Thu 19/5/22 Thu 19/5/22	Fri 5/3/21 Mon 8/5/23	NA	NA			0 days								111 11 11 1	at III
	Part 4 - CHA.0-79 (79m)  CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	290 days 34 days 24 days 10 days 256 days 50 days 44 days 44 days	0 days	290 days 34 days 24 days 10 days 256 days	0% 0%	Thu 19/5/22 Thu 19/5/22	Mon 8/5/23			Fri 5/3/21	n						.mm 10 11 12	.11			++
	CHA 0-24 Precast Section  Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	34 days 24 days 10 days 256 days 50 days 44 days 44 days	0 days 0 days 0 days 0 days 0 days	34 days 24 days 10 days 256 days	0%	Thu 19/5/22		NA			Fri 5/3/21	0 days 0 day	4FS+645 days		<del>♦ 5/.</del>	3			$\neg \  \ $		
	Temporary ELS & Excavation and Shoring Installation  Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	24 days 10 days 256 days 50 days 44 days 44 days	0 days 0 days 0 days 0 days	24 days 10 days 256 days	0%		Tue 28/6/22		NA	Fri 10/6/22	Tue 30/5/23	18 days							-		+-
	Install 3 nos. 8 m long precast units (2.5 days per unit)  CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	10 days 256 days 50 days 44 days 44 days	0 days 0 days 0 days	10 days 256 days		Thu 19/5/22		NA	NA	Fri 10/6/22	Wed 20/7/22	18 days							-		
	CHA 24-79 (75m) (5 units)  Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	256 days 50 days 44 days 44 days 44 days	0 days	256 days	0%		Thu 16/6/22	NA	NA	Fri 10/6/22	Fri 8/7/22	18 days 1 day	1384,1386,1238,								
	Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	50 days 44 days 44 days 44 days	0 days			Fri 17/6/22	Tue 28/6/22	NA	NA	Sat 9/7/22	Wed 20/7/22	18 days 2.5 da	ys 1371								
	Temporary ELS & Excavation  Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	50 days 44 days 44 days 44 days	0 days		0%	Wed 29/6/22	Mon 8/5/23	NA	NA	Thu 21/7/22	Tue 30/5/23	18 days									+
	Unit 1 & 3 (41 days per unit)  Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	44 days 44 days 44 days		unjo	0%	Wed 29/6/22	Fri 26/8/22		NA	Thu 21/7/22	Sat 17/9/22	18 days 1 day	1372								
	Unit 2 & 4 (41 days per unit)  Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	44 days 44 days	,		0%	Sat 27/8/22	Thu 20/10/22		NA	Mon 19/9/22		18 days 3 day									
	Unit 5 & 6 (41 days per unit)  Remove struts and backfilling	44 days	0 days		0%	Fri 21/10/22	Sat 10/12/22		NA	Fri 11/11/22	Mon 2/1/23	18 days 3 day									Щ
	Remove struts and backfilling				0%	Mon 12/12/22		NA	NA	Tue 3/1/23	Sat 25/2/23										
												18 days 3 day									
	Reinstate seawall	24 days			0%	Mon 6/2/23		NA	NA	Mon 27/2/23	Sat 25/3/23	18 days 1 day									
		50 days			0%	Mon 6/3/23	Mon 8/5/23		NA	Mon 27/3/23	Tue 30/5/23	18 days 1 day	1378								
	Part 10 - CHA79-89 (10m)	286 days			0%	Wed 2/6/21	Wed 18/5/22		NA	Wed 2/6/21	Thu 9/6/22	0 days							7		
	Access Date - Part 10	0 days	0 days	0 days	0%	Wed 2/6/21	Wed 2/6/21	NA	NA	Wed 2/6/21	Wed 2/6/21	0 days 0 day	4FS+734 days,1'			2/6					
	Tempoary Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Sun 2/1/22	Sun 2/1/22	NA	NA	Tue 22/2/22	Tue 22/2/22	40 days					1	<b>♦</b> 2/1.			
	Tempoary Works Design and Method Statement Comment by PM	21 days	0 days	21 days	0%	Mon 3/1/22	Wed 26/1/22	NA	NA	Tue 22/2/22	Thu 17/3/22	40 days	1382								
	Temporary ELS & Excavation	14 days	0 days	14 days	0%	Fri 25/2/22	Sat 12/3/22	NA	NA	Fri 18/3/22	Sat 2/4/22	18 days 0 day	1388,1381,1391,						$-\ \ \ $		
	Box Culvert with Feeder Installation	47 days	0 days	47 days	0%	Mon 14/3/22	Wed 11/5/22	NA	NA	Mon 4/4/22	Wed 1/6/22	18 days 6 day	1384,1381,1391						4		
	Remove struts and backfilling	6 days	0 days	6 days	0%	Thu 12/5/22	Wed 18/5/22	NA	NA	Thu 2/6/22	Thu 9/6/22	18 days 1 day	1392,1385								
	Part 1 - CH89-165 (76m) 6 Units	193 days	0 days	193 days	0%	Mon 16/8/21	Fri 8/4/22	NA	NA	Mon 6/9/21	Wed 1/6/22	18 days							7		
	Temporary ELS & Excavation	25 days	0 days	25 days	0%	Mon 16/8/21	Mon 13/9/21	NA	NA	Mon 6/9/21	Wed 6/10/21	18 days 0.5 da	ys 9,1147,1445								
	Unit 1 & 3 (41 days per unit)	44 days	0 days	44 days	0%	Tue 14/9/21	Sat 6/11/21	NA	NA	Thu 7/10/21	Sat 27/11/21	18 days 4 day	1388,418,570								
	Unit 2 & 4 (41 days per unit)	44 days	0 days	44 days	0%	Mon 8/11/21	Thu 30/12/21	NA	NA	Mon 29/11/21	Fri 21/1/22	18 days 4 day	1389								
	Unit 5 & 6 (41 days per unit)	44 days	0 days	44 days	0%	Fri 31/12/21	Thu 24/2/22	NA	NA	Sat 22/1/22	Thu 17/3/22	18 days 4 day	1390								
	Remove struts and backfilling	36 days	0 days		0%	Fri 25/2/22	Fri 8/4/22	NA	NA	Thu 21/4/22	Wed 1/6/22	43 days 1 day	1390,1391								
El	Elevated Landscape Deck CH1920 - 2090	1178 day	s 11.27 days	1166.74 days?	0%	Thu 16/5/19	Sat 29/4/23	Thu 16/5/19	NA	Thu 16/5/19	Wed 29/5/24	321 da							_##		$\coprod$
	Agree Interface Coordination Plan with KL/2014/01 Contractor		14 days		100%	Thu 16/5/19	Fri 31/5/19	Thu 16/5/19		Thu 16/5/19	Fri 31/5/19	0 days 0 day									
	Ch1920-CH2060	1 day?		-	0%	Sat 23/5/20	Sat 23/5/20		NA	Wed 29/5/24		1467 d									
	Part 1 - CH1919-2020 (70m) 4 bays	181 days		-	0%	Mon 5/7/21	Thu 10/2/22		NA	Wed 8/9/21		3 days									
	Pier Temporary Works Design and Method Statement Submission	0 days			0%	Mon 5/7/21	Mon 5/7/21		NA	Wed 8/9/21		65 days 1 day				<b>♦</b> 5/7					
	Pier Temporary Works Design and Method Statement Comment & Approval				0%	Mon 5/7/21	Wed 18/8/21		NA	Wed 8/9/21											
		45 days		1								65 days 1 day									
	CH1930 Pier (1set x 3nos.):	12 days			0%	Tue 5/10/21	Tue 19/10/21		NA	Fri 8/10/21		3 days	1075,1076,1066								
	CH1950-CH2020: Pier (3sets x 3nos) - 1 day/no 1 team	11 days			0%		Mon 1/11/21		NA	Sat 23/10/21	Thu 4/11/21	3 days 2 day	579,1398,1399								
	Falsework Temporary Works Design and Method Statement Submission	0 days		-	0%	Wed 1/9/21	Wed 1/9/21		NA	Tue 21/9/21		20 days 1 day					1/9				
	Falsework Temporary Works Design and Method Statement Comment & Approval	45 days	0 days	-	0%	Wed 1/9/21	Fri 15/10/21		NA	Tue 21/9/21	Thu 4/11/21	20 days 1 day									
	Falsework erection	10 days	0 days	10 days	0%	Tue 2/11/21	Fri 12/11/21	NA	NA	Fri 5/11/21	Tue 16/11/21	3 days 1 day	1400,1402								
	Deck & Secondary Upstand Beam Temporary Works Design and Method Statement Submission	0 days	0 days	0 days	0%	Wed 1/9/21	Wed 1/9/21	NA	NA	Sun 3/10/21	Sun 3/10/21	32 days 1 day					1/9				
	Deck & Secondary Upstand Beam Temporary Works Design and Method Statement Comment & Approval	45 days	0 days	45 days	0%	Wed 1/9/21	Fri 15/10/21	NA	NA	Sun 3/10/21	Tue 16/11/21	32 days 1 day	1404								
	Deck (4 bays) 12d/bay & link bridge (12d/bay)	25 days	0 days	25 days	0%	Sat 13/11/21	Sat 11/12/21	NA	NA	Wed 17/11/21	Wed 15/12/21	3 days 1 day	1403,625,623FS								
D. 415	Task	Summary			Inactive Mi	ilestone $\Diamond$		Duration-on	ıly		Start-only	Е	Exter	nal Milestone	<b>♦</b>		Critical S	Split			<u> </u>
Rev.11 Pr f 22-May-	rog with Progress	Project Sun	nmary		Inactive Su			Manual Sun			Finish-only	_	23,101					_			



						Con	tract No. ED	/2018/01 k	KTD Project												
Tas	sk Name	Duration Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish				Late Finish	Total Slack	TRA	Predecessors 2020	2   04   01	2021		, , , ,	2022	04 01	2023	
1451	Lift Pilecap and ELS - Temp. Works Foundation Design and Method Statement	30 days 0 days	30 days	Omplete 0%	Mon 21/12/20	Tue 19/1/21	NA	NA	Tue 16/11/21	Wed 15/12/21		0.5 day	1450 Q2 Q	5   Q4   Q1	Q2   0	Q3 (	24   Q	1   Q2   Q3	Q4   Q1	Q2   C	25   Q4
1452	Comment & Appraoval Intall Sheetpile, ELS, Excavation and Temp. Works Installation (Shoring, Drainage	38 days 0 days	38 days	0%	Tue 2/2/21	Sat 20/3/21	NA	NA	Thu 16/12/21	Fri 4/2/22	259 days	2 days	1447,1451	#_	$\parallel \parallel$						
1453	& Slope Protection) Footing Construction	75 days 0 days	75 days	0%	Thu 13/5/21	Wed 11/8/21	NΑ	NA	Sat 5/2/22	Sat 7/5/22	218 days	2 days	1452,1449,587								
1454	Sheepile Extraction & Backilling	25 days 0 days	25 days	0%	Thu 12/8/21	Thu 9/9/21		NA	Mon 9/5/22	Tue 7/6/22	218 days	1	1453								
													1433								
1455	Lift Structure - Temp. Works Design and Method Statement Submission	0 days 0 days	0 days	0%	Tue 1/6/21	Tue 1/6/21	NA	NA	Tue 3/5/22	Tue 3/5/22	336 days				1/6						
1456	Lift Structure - Temp. Works Design and Method Statement Comment & Appraova	d 36 days 0 days	36 days	0%	Tue 1/6/21	Tue 6/7/21	NA	NA	Tue 3/5/22	Tue 7/6/22	336 days	0.5 day	1455								
1457	Lift Tower: Falsework & Formwork Erection, Rebar Fixing & Concreting	63 days 0 days	63 days	0%	Fri 10/9/21	Thu 11/11/21	NA	NA	Wed 8/6/22	Tue 9/8/22	271 days	3 days	1454,1157,1456				$\mathbf{h}$				
1458	Lift installation (LT1 & LT2)	90 days 0 days	90 days	0%	Fri 24/12/21	Tue 19/4/22	NA	NA	Fri 11/11/22	Tue 28/2/23	261 days	1 day	1457FS+36 days								
1459	E & M installation	33 days 0 days	33 days	0%	Wed 20/4/22	Fri 27/5/22	NA	NA	Wed 1/3/23	Wed 12/4/23	261 days	3 days	1458								
1460	Louvers and Glazing Installation	27 days 0 days	27 days	0%	Sat 11/12/21	Fri 14/1/22	NA	NA	Thu 8/9/22	Wed 12/10/22	220 days	3 days	1457FS+25 days								
1461	Parapet Installation and Finishing Works	40 days 0 days	40 days	0%	Sat 15/1/22	Sat 5/3/22	NA	NA	Thu 13/10/22	Mon 28/11/22	220 days	3 days	1460								
1462	Testing & commissioning	15 days 0 days	15 days	0%	Sat 28/5/22	Wed 15/6/22	NA	NA	Thu 13/4/23	Sat 29/4/23	261 days	0.5 days	1459								
1463	CLP Meter Installation	0 days 0 days	0 days	0%	Mon 18/4/22	Mon 18/4/22	NA	NA	Mon 18/4/22	Mon 18/4/22	0 days	0.5 day						<b>♦</b> 18/4			
1464	EMSD Submission Form 5 for Lift Inspection	0 days 0 days	0 days	0%	Wed 15/6/22	Wed 15/6/22		NA	Tue 2/5/23	Tue 2/5/23	320 days		1458,1462					15/5			
1465	EMSD Lift Inspection	0 days 0 days	0 days	0%	Wed 29/6/22	Wed 29/6/22		NA	Tue 16/5/23	Tue 16/5/23	320 days		1464FS+14 days					<b>X</b> 2006			
	·										-							129/6			
1466	Issuance of Lift Use Permit	0 days 0 days	0 days	0%	Thu 14/7/22	Thu 14/7/22		NA	Tue 30/5/23	Tue 30/5/23	320 days		1465FS+15 days					<del>                                  </del>			
1467	Staircase ST1	100 days 0 days	100 days	0%	Fri 12/11/21	Tue 15/3/22	NA	NA	Fri 25/11/22	Sat 25/3/23	309 days	5 days	587,367,1457								
1468	Finishing and E&M Works	50 days 0 days	50 days	0%	Wed 16/3/22	Tue 17/5/22	NA	NA	Mon 27/3/23	Tue 30/5/23	309 days	0.5 day	1467,367								
1469	L12d Underground Drainage and Utilities Laying	75 days 0 days	75 days	0%	Mon 7/3/22	Tue 7/6/22	NA	NA	Tue 29/11/22	Tue 28/2/23	220 days	1 day	1457,1460,1461				$\  \  \ $				
1470	L12d Roadworks and Pedestrian, with Light Pole	36 days 0 days	36 days	0%	Wed 8/6/22	Wed 20/7/22	NA	NA	Wed 1/3/23	Sat 15/4/23	220 days	1 day	1469,349				$\  \  \ $				
1471	L12d Roadworks and Pedestrian	36 days 0 days	36 days	0%	Thu 21/7/22	Wed 31/8/22	NA	NA	Mon 17/4/23	Tue 30/5/23	220 days	1 day	1470					<b>           </b>			
1472	Open Space & Promenade	564 days 0 days	564 days	0%	Mon 28/6/21	Thu 18/5/23	NA	NA	Sun 1/8/21	Tue 30/5/23	9 days									$-\parallel$	
1473	Open Space & Promenade (From Northern End - CH1720)	564 days 0 days	564 days	0%	Mon 28/6/21	Thu 18/5/23	NA	NA	Sun 15/8/21	Tue 30/5/23	9 days									$+\parallel\parallel$	
1474	Observation Deck	358 days 0 days	358 days	0%	Tue 1/3/22	Fri 12/5/23		NA	Fri 6/5/22	Tue 30/5/23	14 days										
1475	Foundation - Temp. Works Design and Method Statement Submission	0 days 0 days	0 days	0%	Tue 1/3/22		NA	NA	Fri 6/5/22	Fri 6/5/22	66 days	0.5 day						1/3			
1475	Foundation - Temp. Works Design and Method Statement Summission  Foundation - Temp. Works Design and Method Statement Comment &								Fri 6/5/22				1475 620 646				$\  \  \ $	[			
	Appraoval	45 days 0 days	45 days	0%	Tue 1/3/22	Thu 14/4/22		NA		Sun 19/6/22	66 days		1475,639,646								
1477	G.I. works for LT5	12 days 0 days	12 days	0%	Sat 4/6/22	Fri 17/6/22		NA	Mon 20/6/22	Mon 4/7/22	13 days		1447,611,604,15								
1478	Design Vertification	25 days 0 days	25 days	0%	Sat 18/6/22	Mon 18/7/22	NA	NA	Tue 5/7/22	Tue 2/8/22	13 days	1 day	1477								
1479	Predrilling works for Socket H- pile	12 days 0 days	12 days	0%	Tue 19/7/22	Sat 30/7/22	NA	NA	Wed 3/8/22	Sun 14/8/22	15 days		1478								
1480	Socket H-pile Installation	37 days 0 days	37 days	0%	Mon 1/8/22	Tue 13/9/22	NA	NA	Mon 15/8/22	Tue 27/9/22	12 days	2 days	367,1155,726,14								
1481	Pile Testing	43 days 0 days	43 days	0%	Wed 14/9/22	Fri 4/11/22	NA	NA	Wed 28/9/22	Fri 18/11/22	12 days	1 day	1480								
1482	Structure & Lift Core - Temp. Works Design and Method Statement	0 days 0 days	0 days	0%	Mon 20/6/22	Mon 20/6/22	NA	NA	Wed 5/10/22	Wed 5/10/22	107 days	0.5 day						20/6			
1483	Submission Structure & Lift Core - Temp. Works Design and Method Statement	45 days 0 days	45 days	0%	Mon 20/6/22	Wed 3/8/22	NA	NA	Wed 5/10/22	Fri 18/11/22	107 days	0.5 day	1482								
1484	Comment & Appraoval Trech Excavation for Pipe Laying Works	30 days 0 days	30 days	0%	Sat 4/6/22	Sat 9/7/22	NA	NA	Wed 15/6/22	Wed 20/7/22	9 days	2 days	15								
1485	Pipe laying works, Cable Laying and Drawpits	36 days 0 days	36 days	0%	Mon 11/7/22	Sat 20/8/22		NA	Thu 21/7/22	Wed 31/8/22		5 days	15,1484						ЩШ		
1486	Observation Deck: Substructure with Excavation/ELS works	36 days 0 days	36 days	0%	Sat 5/11/22	Fri 16/12/22		NA	Sat 19/11/22	Sat 31/12/22	12 days	1	163,506,1483,14						$\  \downarrow \downarrow \parallel \parallel$		
1487	Observation Deck: Superstructure with Lift Core and Staircase work	72 days 0 days	72 days	0%	Sat 17/12/22	Sun 26/2/23		NA	Mon 2/1/23	Tue 14/3/23	16 days		1486								
1488	LT5: Lift installation with T&C and Statutory Inspection	60 days 0 days	60 days	0%	Mon 27/2/23	Fri 12/5/23		NA	Wed 15/3/23	Tue 30/5/23	14 days		713,1487						∥∥∭		
1489	E&M and ABWF works, Landscaping and paving works	110 days 0 days	110 days	0%	Sat 17/12/22	Thu 4/5/23	NA	NA	Thu 12/1/23	Tue 30/5/23	21 days	3 days	1528,717,1486								
1490	Toilet	416 days 0 days	416 days	0%	Mon 28/6/21	Wed 16/11/22	NA NA	NA	Sun 15/8/21	Fri 24/2/23	41 days								<del>   </del>		
1491	Foundation - Temp. Works Design and Method Statement Submission	0 days 0 days	0 days	0%	Mon 28/6/21	Mon 28/6/21	NA	NA	Sun 15/8/21	Sun 15/8/21	48 days	0.5 days			<b> </b>	28/6					
1492	Foundation - Temp. Works Design and Method Statement Comment &	45 days 0 days	45 days	0%	Sat 24/7/21	Mon 6/9/21	NA	NA	Sun 15/8/21	Tue 28/9/21	22 days	0.5 days	1491,639,646		+						
1493	Appraoval Footing	16 days 0 days	16 days	0%	Thu 16/9/21	Wed 6/10/21	NA	NA	Wed 29/9/21	Tue 19/10/21	10 days	0.5 days	987,611,604,618								
1494	Structure - Temp. Works Design and Method Statement Submission	0 days 0 days	0 days	0%	Mon 26/7/21	Mon 26/7/21	NA	NA	Fri 3/9/21	Fri 3/9/21	39 days	0.5 days			•	26/7					
1495	Structure - Temp. Works Design and Method Statement Comment &	47 days 0 days	47 days	0%		Fri 10/9/21		NA	Fri 3/9/21	Tue 19/10/21	39 days		1494								
	Appraoval											,									
	11 Prog with Progress	Summary Project Summary		Inactive M Inactive Su			Duration-o	nly mmary Rollup		Start-only Finish-only		[ ]	External Mileston Deadline	e 🔷		Criti Prog	cal Split				
ac af 22	May-20	Inactive Task		I Inactive St  Manual Ta			Manual Su  Manual Su			External Tas		4	Deadline Critical	•			ress ual Progre			-	

						Cont	Iact No. ED	/2018/01 K	TD Project												
Γ	Task Name	Duration Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finis	sh Late Start	Late Finish	Total Slack	TRA	Predecessors	2020	M 01 1	2021	04 01	2022   Q2   Q3   0	04   01   1	2023	04 6
96	Structure work	45 days 0 days	45 days	0%	Thu 7/10/21	Mon 29/11/21	NA	NA	Wed 20/10/21	Fri 10/12/21	10 days	0.5 days	1493,506,1495	Q2 Q3 C	24   Q1   C	Q2   Q3	Q4 Q1	Q2 Q3 V	Q4 Q1 (	22   Q3	Q4   Q
97	MIC toilet unit	24 days 0 days	24 days	0%	Tue 30/11/21	Wed 29/12/21	NA	NA	Sat 11/12/21	Tue 11/1/22	10 days	0.5 days	1496								
98	MIC toilet unit: E&M and ABWF works	75 days 0 days	75 days	0%	Thu 30/12/21	Thu 31/3/22	NA	NA	Wed 23/2/22	Wed 25/5/22	43 days	3 days	1497,717							H	
199	Observation Tower Construction	31 days 0 days	31 days	0%	Thu 30/12/21	Tue 8/2/22	NA	NA	Wed 19/1/22	Sat 26/2/22	16 days	1 day	1496,1497								
500	Observation Tower: Building Works and E&M Works	76 days 0 days	76 days	0%	Wed 9/2/22	Thu 12/5/22	NA	NA	Mon 28/2/22	Tue 31/5/22	16 days	1 day	1499								
501	Refuse Collection Block and Back of House: Structure Works	101 days 0 days	101 days	0%	Wed 9/2/22	Sat 11/6/22	NA	NA	Fri 20/5/22	Sat 17/9/22	82 days	1 day	1496,1497,1499				#_				
502	Refuse Collection Block and Back of House: Building Works and E&M	131 days 0 days	131 days	0%	Mon 13/6/22	Wed 16/11/22	NA	NA	Mon 19/9/22	Fri 24/2/23	82 days	1 day	1501								
03	Works Amphitheater	95 days 0 days	95 days	0%	Wed 9/2/22	Sat 4/6/22	NA	NA	Wed 11/5/22	Wed 31/8/22	74 days	5 days	1496,639,646,14				#_				
04	Fast food (Light Refreshment) kiosk deck	45 days 0 days	45 days	0%	Tue 30/11/21	Mon 24/1/22	NA	NA	Thu 20/1/22	Wed 16/3/22	41 days	0.5 days	611,1496,604,61								
05	Fast food (Light Refreshment) Kiosk: Building Works and E&M Works	86 days 0 days	86 days	0%	Sat 26/2/22	Sat 11/6/22	NA	NA	Thu 17/3/22	Thu 30/6/22	16 days	1 day	1504,639,646,14								
)6	Fitness Ground Lawn & Water Play Plaza	82 days 0 days	82 days	0%	Mon 13/6/22	Sat 17/9/22	NA	NA	Sat 2/7/22	Sat 8/10/22	16 days		days,1500FF+25 1505								
)7	Stepped Stage and Seating & Back of House Facility (under Bridge D3)	30 days 0 days	30 days	0%	Mon 22/8/22	Mon 26/9/22		NA	Thu 1/9/22	Sat 8/10/22	9 days		1503,1485								
)8	Trim and form formation level within Open Space & Promenade area	45 days 0 days	45 days	0%	Tue 27/9/22	Sat 19/11/22		NA	Mon 10/10/22	Wed 30/11/22	1		1507,1505,1506,						4		
)9	Paving work & Hard Landscaping Works	45 days 0 days	45 days	0%		Thu 12/1/23		NA	Thu 1/12/22	Thu 26/1/23		2 days	1508,1500,1498								
10											1	-									
	ABWF, E&M work and street furniture	75 days 0 days	75 days	0%		Mon 20/2/23		NA NA	Sat 25/2/23	Tue 30/5/23	79 days		1508,1509SS,15								
11	FSD Form 501 Submission for FS Inspection	0 days 0 days	0 days	0%	Mon 9/1/23		NA	NA	Mon 1/5/23	Mon 1/5/23	111 days		1510SS+50 days						9/1		
2	FSD Inspection	0 days 0 days	0 days	0%	Tue 24/1/23	Tue 24/1/23		NA	Tue 16/5/23	Tue 16/5/23	111 days		1511FS+15 days						24/1		
.3	Issuance of FS Certificate	0 days 0 days	0 days	0%	Wed 8/2/23	Wed 8/2/23		NA	Tue 30/5/23	Tue 30/5/23	111 days		1512FS+15 days						₩ 8/2		
4	Landscaping works and Planting works	100 days 0 days	100 days	0%	Fri 13/1/23	Thu 18/5/23	NA	NA	Fri 27/1/23	Tue 30/5/23	1	4 days	1509,668,1503,6								
5	Open Space & Promenade (From CH1720 - South End)	477 days 0 days	477 days	0%	Mon 12/7/21	Mon 13/2/23	NA	NA	Sun 1/8/21	Tue 30/5/23	18 days										
6	Modification Seawall - Temp. Works Design and Method Statement Submission	0 days 0 days	0 days	0%	Mon 12/7/21	Mon 12/7/21	NA	NA	Sun 1/8/21	Sun 1/8/21	20 days	1 day				12/7					
7	Modification Seawall - Temp. Works Design and Method Statement Comment & Appraoval	k 30 days 0 days	30 days	0%	Mon 12/7/21	Tue 10/8/21	NA	NA	Sun 1/8/21	Mon 30/8/21	20 days	2 days	1516								
.8	Modification (Seawall) CH1720-1820	150 days 0 days	150 days	0%	Wed 11/8/21	Fri 11/2/22	NA	NA	Tue 31/8/21	Thu 3/3/22	17 days	1 day	1517								
9	Modification (Seawall) CH1820-1920	150 days 0 days	150 days	0%	Wed 15/9/21	Fri 18/3/22	NA	NA	Thu 7/10/21	Fri 8/4/22	17 days	1 day	1518SS+30 days								
0	Temporary toilet	24 days 0 days	24 days	0%	Mon 13/9/21	Tue 12/10/21	NA	NA	Fri 14/1/22	Mon 14/2/22	100 days	0.5 days	506,655,660				$h \mid l'$				
1	Temporary Toilet: Building Works and E&M Works	75 days 0 days	75 days	0%	Wed 13/10/21	Wed 12/1/22	NA	NA	Sat 28/1/23	Sat 29/4/23	385 days	0.5 day	1520,655,660							H	
2	Temporary Management Office: Structure Works	45 days 0 days	45 days	0%	Sat 25/9/21	Thu 18/11/21	NA	NA	Wed 26/1/22	Tue 22/3/22	100 days	0.5 days	1520SS+10 days			N N					
13	Temporary Management Office: Building Works and E&M Works	100 days 0 days	100 days	0%	Fri 19/11/21	Tue 22/3/22	NA	NA	Wed 23/3/22	Sat 23/7/22	100 days	0.5 day	1522,655,660				+			H	
4	Floating Stage Concrete structure	18 days 0 days	18 days	0%	Sat 19/3/22	Sat 9/4/22	NA	NA	Sat 9/4/22	Tue 3/5/22	17 days	0 days	1519,1518,1522				+	<u> </u>			
25	Stepped Seating at Southern End	24 days 0 days	24 days	0%	Mon 11/4/22	Wed 11/5/22	NA	NA	Wed 4/5/22	Tue 31/5/22	17 days	0.5 days	1524								
6	Trim and form formation level within Open Space & Promenade area	14 days 0 days	14 days	0%	Thu 12/5/22	Fri 27/5/22	NA	NA	Wed 1/6/22	Fri 17/6/22	17 days	0 days	1525								
.7	Paving work and Landscaping Works	30 days 0 days	30 days	0%	Sat 28/5/22	Mon 4/7/22	NA	NA	Sat 18/6/22	Sat 23/7/22	17 days	0.5 days	1526,1522,1525,								
28	ABWF, E&M work and street furniture	75 days 0 days	75 days	0%	Tue 5/7/22	Fri 30/9/22	NA	NA	Mon 25/7/22	Sat 22/10/22	17 days	1 day	1527,717,1523					+			
29	CLP Meter Installation	0 days 0 days	0 days	0%	Fri 30/9/22	Fri 30/9/22	NA	NA	Mon 1/5/23	Mon 1/5/23	212 days	0.5 day	1528,1521,1523						30/9		
80	FSD Form 501 Submission for FS Inspection	0 days 0 days	0 days	0%	Thu 8/12/22	Thu 8/12/22	NA	NA	Mon 1/5/23	Mon 1/5/23	144 days	0.5 day	1529						8/12		
31	FSD Inspection	0 days 0 days	0 days	0%	Thu 22/12/22	Thu 22/12/22	NA	NA	Tue 16/5/23	Tue 16/5/23	144 days		1530FS+15 days						22/12		
32	Issuance of FS Certificate	0 days 0 days	0 days	0%	Fri 6/1/23	Fri 6/1/23		NA	Tue 30/5/23	Tue 30/5/23	144 days	-	1531FS+15 days						6/1	<b>   </b>	
33	Open Space & Promenade: Landscaping works	110 days 0 days	110 days	0%	Mon 3/10/22	Mon 13/2/23		NA	Mon 24/10/22	Sat 4/3/23	17 days	-	1528,668,1243Fl					\			
34	Open Space & Promenade: Planting works	110 days 0 days	110 days	0%	Mon 3/10/22	Mon 13/2/23		NA	Mon 24/10/22	Sat 4/3/23	17 days		1528,668,1243Fl								
15	Part 1, 2A, 2B - Road L12	193 days 0 days	193 days	0%	Tue 23/8/22	Mon 17/4/23		NA	Thu 6/10/22	Tue 30/5/23	35 days		1020,000,124011								
6	Part 1, 2A, 2B - Road L12  Trim road formation			0%		Thu 25/8/22		NA NA					1274,1283,1296,					₩			
		3 days 0 days	3 days		Tue 23/8/22				Thu 6/10/22	Sat 8/10/22	35 days	-									
37	Lay sub base	7 days 0 days	7 days	0%	Fri 26/8/22	Fri 2/9/22		NA		Mon 17/10/22			1536								
38	Lay kerb	12 days 0 days	12 days	0%	Sat 3/9/22	Sat 17/9/22		NA	Tue 18/10/22	Mon 31/10/22		-	1537					1			
539	Construct pedestrian street/ footpath	14 days 0 days	14 days	0%	Mon 19/9/22	Thu 6/10/22		NA	Tue 1/11/22	Wed 16/11/22		-	1538								
40	Install central median	14 days 0 days	14 days	0%	Fri 7/10/22	Sat 22/10/22	NA	NA	Thu 17/11/22	Fri 2/12/22	35 days	1 day	1539								
e: Re	ev. I I Prod with Progress	Summary		Inactive N			Duration-o			Start-only		[		nal Milestone	\$		Critical Split				
	2-May-20 Split	Project Summary		Inactive S	ummary		Manual Su	mmary Rollup		Finish-only		]	Dead	line	1	P	rogress				

							Conf	ract No. ED/	2018/01 KTI	D Project													
	Task Name	Duration	Actual Duration	Remaining Duration	Physical % Complete	Early Start	Early Finish	Actual Start	Actual Finish	Late Start	Late Finish	Total Slack	TRA	Predecessors	2020 Q2   Q	03   Q4	01   0	2021 02   Q3   Q4	4 Q1 Q2	2022 2   Q3   Q4	Q1   Q	2023 02   Q3	Q4 Q1
1541	Concrete infill between profile barrier	7 days	0 days	7 days	0%	Mon 24/10/22	Mon 31/10/22	NA	NA	Sat 3/12/22	Sat 10/12/22	35 days	0 days	1540						F			
542	Road pavement	5 days	0 days	5 days	0%	Tue 1/11/22	Sat 5/11/22	NA	NA	Mon 12/12/22	Fri 16/12/22	35 days	0 days	1541						T.			
543	Install street furniture (Part 1, 2A, 2B - Road L12)	131 days	0 days	131 days	0%	Mon 7/11/22	Mon 17/4/23	NA	NA	Sat 17/12/22	Tue 30/5/23	35 days	6 days	1542									
544	Planting Works for Underpass, South Depress Road and At-Grade Road	130 days	0 days	130 days	0%	Mon 7/11/22	Sat 15/4/23	NA	NA	Mon 19/12/22	Tue 30/5/23	36 days	10 days	668						<u> </u>			
545	Landscaping Works for Underpass, South Depress Road and At-Grade	130 days	0 days	130 days	0%	Mon 7/11/22	Sat 15/4/23	NA	NA	Mon 19/12/22	Tue 30/5/23	36 days	10 days	668						+			
546	Planned Completion for Section 6	0 days	0 days	0 days	0%	Thu 18/5/23	Thu 18/5/23	NA	NA	Tue 30/5/23	Tue 30/5/23	9 days	0 days	1533,1543,1532,								18/5	
547	Section 7	365 days	0 days	365 days	0%	Mon 6/3/23	Wed 29/5/24	NA	NA	Mon 6/3/23	Wed 29/5/24	0 days									-		
548	Establishment work for landscape softwork	365 days	0 days	365 days	0%	Mon 6/3/23	Wed 29/5/24	NA	NA	Mon 6/3/23	Wed 29/5/24	0 days	10 days	1533,1534									
549	Planned Completion for Section 7	0 days	0 days	0 days	0%	Wed 29/5/24	Wed 29/5/24	NA	NA	Wed 29/5/24	Wed 29/5/24	0 days		1548,6									
550	Section 10 (Subject to Excision)	614 days	0 days	614 days	0%	Tue 20/4/21	Thu 11/5/23	NA	NA	Mon 10/5/21	Tue 30/5/23	15 days					-					1	
551	Decking for Underpass (Rd L14)	614 days	0 days	614 days	0%	Tue 20/4/21	Thu 11/5/23	NA	NA	Mon 10/5/21	Tue 30/5/23	15 days					-	+				1	
552	Deck for Underpass (Road L14) - Temp. Works Design and Method Statement	0 days	0 days	0 days	0%	Tue 20/4/21	Tue 20/4/21	NA	NA	Mon 10/5/21	Mon 10/5/21	20 days	0.5 day				•	20/4					
553	Deck for Underpass (Road L14) - Temp. Works Design and Method Statement Comment & Appraoval	21 days	0 days	21 days	0%	Tue 20/4/21	Mon 10/5/21	NA	NA	Mon 10/5/21	Sun 30/5/21	20 days	0.5 day	1552			*						
554	Support along U-through	225 days	0 days	225 days	0%	Mon 31/5/21	Tue 1/3/22	NA	NA	Mon 31/5/21	Tue 1/3/22	0 days	10 days	23,185,1553,192									
555	Plinth installation along support	123 days	0 days	123 days	0%	Wed 2/3/22	Fri 29/7/22	NA	NA	Wed 2/3/22	Fri 29/7/22	0 days	6 days	1554					*				
556	Placing of beam along underpass	90 days	0 days	90 days	0%	Thu 1/9/22	Sun 18/12/22	NA	NA	Thu 1/9/22	Mon 19/12/22	0 days	4 days	1555FS+28 days						<b>—</b>	$\blacksquare$		
557	Finishing and E&M Works	110 days	0 days	110 days	0%	Mon 19/12/22	Fri 5/5/23	NA	NA	Thu 12/1/23	Tue 30/5/23	20 days		1556,279							+		
558	Cover-up (Roof)	115 days	0 days	115 days	0%	Mon 19/12/22	Thu 11/5/23	NA	NA	Mon 19/12/22	Thu 11/5/23	0 days	5 days	1556								H	
59	Planned Completion for Section 10	0 days	0 days	0 days	0%	Thu 11/5/23	Thu 11/5/23	NA	NA	Tue 30/5/23	Tue 30/5/23	19 days	0.5 days	1558,158,1557								11/5	

## **Appendix C – Environmental monitoring schedules**

# Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron Environmental Monitoring and Weekly Site Inspection Schedule for June 2021

## June 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3 Weekly Site Inspection	4 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	5
6	7	8	9	Weekly Site Inspection + SSMC meeting 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	11	12
13	14	15	16 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	17 Weekly Site Inspection	18	19
20	21	22 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	23	24 Weekly Site Inspection	25	26
27	28 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	29	30 Weekly Site Inspection			

## **Air Quality Monitoring Station**

AM3 - Sky Tower

AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

AM7 - Hong Kong Children's Hospital

## **Noise Quality Monitoring Station**

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

M12 - Hong Kong Children's Hospital

## Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron Propose Environmental Monitoring and Weekly Site Inspection Schedule for July 2021

July 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
						24-hr TSP: AM3,
						AM4(A), AM7
						1-hr X3 TSP: AM3,
4	5	6	7	8	9	AM4(A), AM7
4	3	0		Weekly Site Inspection +	24-hr TSP: AM3,	10
				SSMC meeting	AM4(A), AM7	
					1-hr X3 TSP: AM3,	
					AM4(A), AM7	
					30-min Noise: M11, M12	
11	12	13	14	15	16	17
				Weekly Site Inspection 24-hr TSP: AM3,		
				AM4(A), AM7		
				1-hr X3 TSP: AM3,		
				AM4(A), AM7		
				30-min Noise: M11, M12		
18	19	20	21	22	23	24
			24-hr TSP: AM3,	Weekly Site Inspection		
			AM4(A), AM7 1-hr X3 TSP: AM3,			
			AM4(A), AM7			
			30-min Noise: M11, M12			
25	26	27	28	29	30	31
		24-hr TSP: AM3,		Weekly Site Inspection		
		AM4(A), AM7				
		1-hr X3 TSP: AM3,				
		AM4(A), AM7				
Nome		30-min Noise: M11, M12				

### NOTE:

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

### **Air Quality Monitoring Station**

AM3 - Sky Tower

AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop AM7 - Hong Kong Children's Hospital

### **Noise Quality Monitoring Station**

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

M12 - Hong Kong Children's Hospital

## **Appendix D – Photographic records**

## Impact Air Quality Monitoring



Measurement setup at AM3



Measurement setup at AM4(A)



Measurement setup at AM7

## Impact Noise Monitoring



Measurement setup at M11



Measurement setup at M12



Weather Station at the rooftop of Hong Kong Children's Hospital

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

## Catalogue of High Volume Sampler (HVS)



The TE-5170 is a high volume ambient Total Suspended Particulate (TSP) air sampler featuring a mass flow controller (MFC) for accurate and consistent particulate sampling. The mass flow controller adjust the motor speed as the filter media collects particulate to maintain a constant flow rate throughout the entire sample duration. The system utilizes a stainless steel filter holder for use with standard 8" x 10" filter paper. The anodized aluminum shelter and robust electrical components allow the system to operate a continuous 24 hour sample.

ABOUT US: Tisch Environmental Inc. Tisch Environmental is the benchmark for high volume air sampling, particulate, metals, volatiles, and specialty monitoring equipment. Since the company's inception in 1953 as General Metal Works, our product line has expanded from the first high volume air sampler to include high-tech and custom samplers. Our clients are professionals from every sector of the regulatory and industrial markets.

- Mass Flow Controlled
- 7-Day Mechanical Timer
- Elapsed Time Indicator
- Aluminum Outdoor Shelter
- Brush Style Motor
- Dickson Chart Recorder, 24 Hour
- → Stainless Steel Filter Holder
- → 36-60 CFM
- Made In USA

www.tisch-env.com

Tisch Environmental 145 S. Miami Ave Cleves. OH 45002 513-467-9000



## TSP MFC

MFC TSP Ambient Air Sampler

#### General System Specifications

Particulate Size:Total Suspended Particulate (TSP)
EPA Designation: CFR 40 Part 50 Appendix B
Flow Controller: Mass Flow Controller

Motor Style: Brush Style Motor Assembly

Pressure Recorder: Dickson Chart Recorder, 24 hour.

Timer: 7 Day Mechanical

Elapsed Time Indicator: Mechanical, Hours and Tenths

Flow Range: 39-60CFM, 1.09M<sup>3</sup>M-1.68M<sup>3</sup>M

Housing: Anodized Aluminum

Filter Holder: Stainless Steel, 8" x 10"

4" Recorder Charts: Box of 100

Filter Holder: 8" x 10" Stainless Steel with hold down frame

#### Application:

US EPA Reference Method Sampling, CFR Appendix J Part 50 Regulatory Compliance

Institutional Studies Construction Sites

Bridge and Water Tower Painting Sites

Fence Line Monitoring Industrial Monitoring Landfill Monitoring

Public Health Applications

TE-3000 Filter Holder Cartridge
TE-G653 8" x 10" Glass Fiber Filter Media
TE-33384 Motor Brush Set (110volt)

TE-33378 Motor Brush Set (220volt)

TE-116311 Replacement Motor (110volt) TE-116312 Replacement Motor (220volt) TE-106 Recorder Charts

TE-106 Recorder Charts
TE-160 Recorder Pen Points
TE-5018 Gasket 8" x 10"

#### Calibration Equipment

TE-5028 -Variable Flow Calibration Kit

TE-5170 TSP MFC, 110 Volt 60 Hertz, 8 Amps

TE-5170X TSP MFC, 220 Volt 50 Hertz 4 Amps

TE-5170XZ TSP MFC, 220 Volts 60 Hertz, 4 Amps

TE-HVC-V Xcalibrator HiVol Calibrator

#### Physical Specifications

Weight: 75lbs, Shelter

Shipping Dimensions: 46"W x 23"L x 20" H, Shelter 19"W x 19"L x 20"H, Lid

Assembled Dimensions: 28"W x 28"L x 61"H

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## Calibration Certificate of HVS

## Air Sampler Calibration Curve Plotting & Calculation

#### (Dickson recorder)

Calibration cur	ve ref. No.:	ATSPC-01-2021052801	Date of calibration:	28/05/2021	
	The Hong K	ong Society for the Blind's			
Location:	Factory ci	ım Sheltered Workshop	Sampler ·	TF-5170X	

#### Calibration Data

Ambient barometric	e pressure, Pa =	756.9	(mmHg)	Ambient temperature,	Ta =	306.35	( deg K )
Qstd Slope, m =	2.04882			Qstd Intercept, b =	-0.011	270	

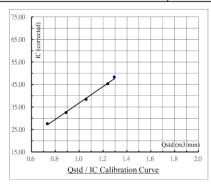
#### Calibration Curve

Plate No.	H <sub>2</sub> O	Qstd	I	IC
Plate No.	( in )	( m <sup>3</sup> / min )	( chart )	( corrected )
18	7.20	1.295	49.0	48.23
13	6.60	1.240	46.0	45.27
10	4.80	1.058	39.0	38.39
7	3.40	0.891	33.0	32.48
5	2.30	0.734	28.0	27.56

#### Subsequent calculation of sampler flow

Form No. INS-HVS-CAL dd 16 01 2020

Method Calibration equation		Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [ (1) ( Sqrt (( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ]	36.540	0.2525	0.9981



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark: Qstd (  $m^3 / min$  ) = 1/m [ Sqrt (  $H_2O$  ( Pa / 760 ) ( 298 / Ta ) ) - b ].

IC (corrected) = I [ Sqrt ( (Pa / 760) (298 / Ta) ) ].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by :		B		Checked by:	1
Name:	(	Poon Tsz Wing	)	Name: (	Wong Yin Tong )

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

Calibration curve ref. No. :	ATSPC-01-2021	052802	Date of calibration:	28/05/2021	
Location:	Sky Tower		Sampler:	TE-5170X	
Calibration Data					
Ambient barometric pressure,	Pa = 756.9	(mmHg)	Ambient temperature, Ta =	306.35	( deg K )

Qstd Intercept, b =

-0.011270

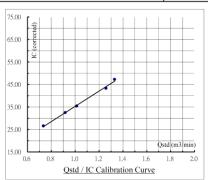
### Qstd Slope, m = Calibration Curve

	H <sub>2</sub> O	Qstd	I	IC
Plate No.	( in )	( m <sup>3</sup> / min )	( chart )	( corrected )
18	7.60	1.330	48.0	47.24
13	6.80	1.258	44.0	43.31
10	4.40	1.013	36.0	35.43
7	3.60	0.917	33.0	32.48
5	2.30	0.734	27.0	26.57

#### Subsequent calculation of sampler flow

2.04882

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [ (1) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ]	33.814	1.4881	0.9977



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min ).

Remark : Qstd (  $m^3 / min$  ) = 1/m [ Sqrt (  $H_2O$  ( Pa / 760 ) ( 298 / Ta ) ) - b ].

IC (corrected) = I [ Sqrt ( (Pa / 760) (298 / Ta) ) ].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : Checked by : Checked by : Wong Yin Tong

Form No. INS-HVS-CAL dd 16 01 2020

## Calibration Certificate of HVS

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

Calibration curve ref. No.:		ATSPC-01-2021052803	Date of calibration:	28/05/2021	
Location :	Hong Ko	ng Children's Hospital	Sampler:	TE-5170X	

#### Calibration Data

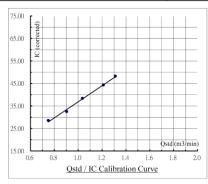
Ambient barometric pressure, Pa =		756.9	( mmHg )	Ambient temperature, Ta =	306.35	( deg K )
Qstd Slope, m =	2.04882			Qstd Intercept, b = -0.	011270	

#### Calibration Curve

Plate No.	$H_2O$	Qstd	I	IC
Plate No.	( in )	( m <sup>3</sup> / min )	( chart )	( corrected )
18	7.40	1.312	49.0	48.23
13	6.30	1.211	45.0	44.29
10	4.60	1.036	39.0	38.39
7	3.50	0.904	33.0	32.48
5	2.40	0.750	29.0	28.54

#### Subsequent calculation of sampler flow

Method	Method Calibration equation		Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [ (I) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ]	35.693	1.1727	0.9973



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark: Qstd ( $m^3 / min$ ) = 1/m [Sqrt ( $H_2O(Pa / 760)(298 / Ta)$ ) - b].

IC (corrected) = I [ Sqrt ( (Pa / 760) (298 / Ta) ) ].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by		03		Checked by:	1		
Name:	(	Poon Tsz Wing	)	Name: (	Wong Yin Tong	)	

## Calibration Certificate of HVS

## Air Sampler Calibration Curve Plotting & Calculation (Dickson recorder)

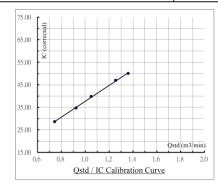
Calibration curve ref. No. :	ATSPC-01-20210	11201 D	ate of calibration :	12/01/2021	
Model no :	GS2310	Se	erial number :	10346	
Calibration Data					
Ambient barometric pressure,	Pa = 767.4	(mmHg) A	mbient temperature, Ta	= 288.85	( deg K )
Qstd Slope, m = 2.0488	2	Q	std Intercept, b = -0	0.011270	

#### Calibration Curve

Plate No.	H <sub>2</sub> O	Qstd	I	IC
Plate No.	( in )	( m <sup>3</sup> / min )	( chart )	( corrected )
18	7.40	1.361	49.0	50.01
13	6.30	1.256	46.0	46.95
10	4.40	1.050	39.0	39.80
7	3.40	0.924	34.0	34.70
5	2.20	0.744	28.0	28.58

#### Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [ (1) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ]	35.217	2.4316	0.9993



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark : Qstd (  $m^3 / min$  ) = 1/m [ Sqrt (  $H_2O$  ( Pa / 760 ) ( 298 / Ta ) ) - b ].

IC (corrected) = I [ Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : Checked by : Checked by : Wong Yin Tong )

Form No. INS-IVS-CAL dd 1601 2020

#### Calibration Certificate for Calibrator RECALIBRATION **DUE DATE:** July 17, 2021 **Calibration Certification Information** Cal. Date: July 17, 2020 Rootsmeter S/N: 438320 Operator: Jim Tisch Pa: 753.4 mm Hg Calibration Model #: TE-5025A Calibrator S/N: 0006 ΔΡ ΔΗ Vol. Init Vol. Final ΔVol. ΔTime (m3) (m3) (min) (mm Hg) (in H2O) (m3)1.4300 4.00 0.9010 5.00 8.8 0.8570 0.7090 12.8 8.00 √∆H(Pa)(Tstd) ΔH(Ta/Pa) Qstd Qa (y-axis) (m3) (x-axis) (y-axis) (x-axis) 0.9937 0.6949 1.4128 0.9958 0.8865 1.9980 0.9915 0.9817 1.2536 0.9895 0.9797 2.2338 1.4016 0.9895 1.0982 0.9875 1.0960 1.1509 2.3428 0.988 1.1532 1.4700 1.3837 2.8255 0.9830 1.3865 1.7729 2.04882 1.28293 **QSTD** b= -0.01127 QA -0.00707 0.99999 0.99999 r= Va= ΔVol((Pa-ΔP)/Pa) Vstd= ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta) Qa= Va/ΔTime For subsequent flow rate calculations: $\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right) - b$ $Qa = 1/m \left( \sqrt{\Delta H(Ta/Pa)} - b \right)$ Standard Conditions 298.15 °K RECALIBRATION 760 mm Hg US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the ΔP: rootsmeter manometer reading (mm Hg) Ta: actual absolute temperature (°K) Determination of Suspended Particulate Matter in Pa: actual barometric pressure (mm Hg the Atmosphere, 9.2.17, page 30 b: intercept m: slope www.tisch-env.com Tisch Environmental, Inc. 145 South Miami Avenue TOLL FREE: (877)263-7610 FAX: (513)467-9009 Village of Cleves, OH 45002

## Catalogue of Dust Meter (TSI Sidepak AM510)

The SidePak AM510 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

#### **Quick 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
- + Choice of rechargeable NiMH smart battery packs or AA-cell pack

#### Model AM510 SidePak Personal Aerosol Monitor

#### Sensitivity

90° light scattering, Sensor Type 670 nm laser diode 0.001 to 20 mg/m<sup>3</sup> Aerosol Concentration Range (calibrated to respirable fraction of ISO 12103-1,

A1 test dust)

Particle Size Range 0.1 to 10 micrometer (µm) Minimum Resolution 0.001 mg/m<sup>3</sup>

Zero stability ±0.001 mg/m3 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)

Flow Rate

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

**Temperature 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

Data Logging Data Points

Approx. 31,000 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 Range 0.1 to 10.0, user-adjustable

Physical

Weight

4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or External Dimensions

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,

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. S0 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

Type Connector, Instrument USB Mini-B (socket)

#### Minimum Computer Requirements for

TrakPro™ Data Analysis Software Communications Port Universal Serial Bus (USB)

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

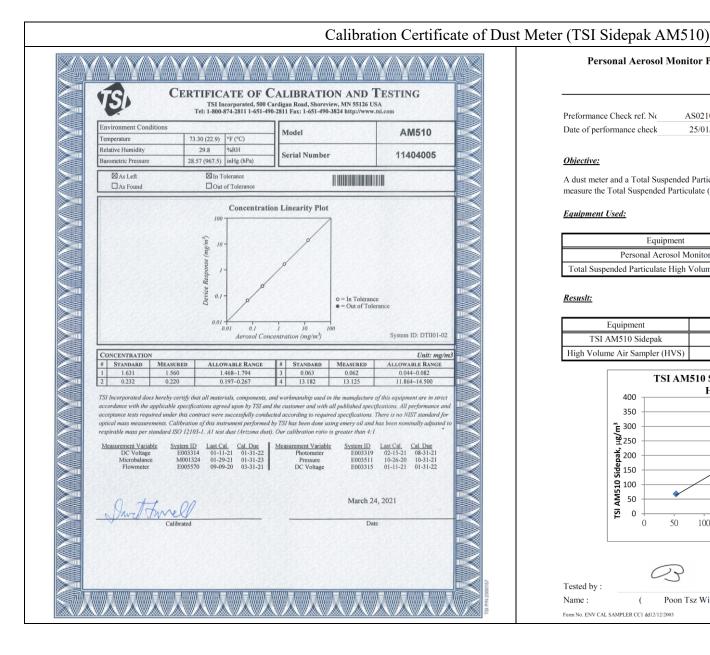
\*\*All dust plugs and dust gaskets must be installed.

\*\*\*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.





#### Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No	AS0210201-7	Report Issue Date	01/02/2021	
Date of performance check	25/01/2021			

#### Objective:

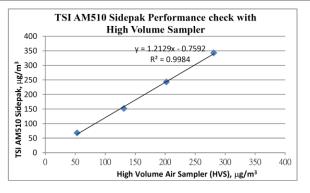
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

#### Equipment Used:

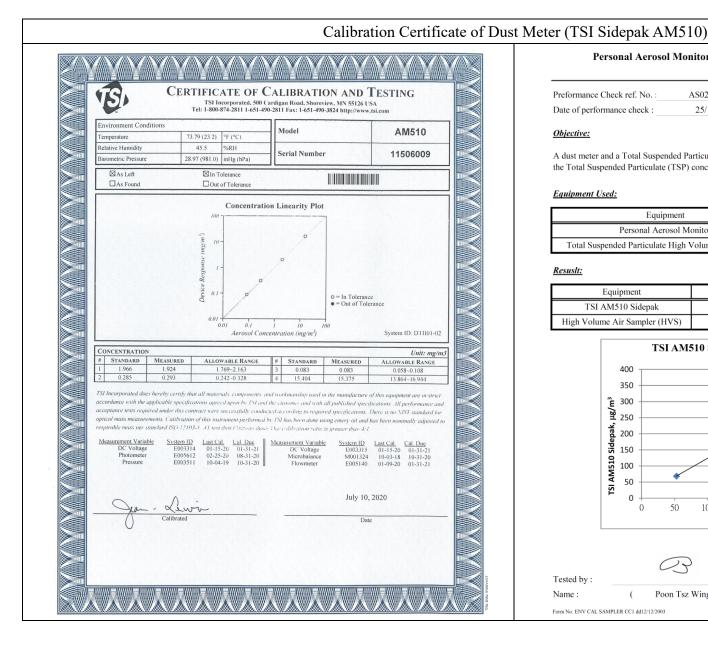
Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11404005
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

#### Resustt:

Equipment	Measurement Result, μg/m <sup>3</sup>			
TSI AM510 Sidepak	68	152	243	343
High Volume Air Sampler (HVS)	53	131	202	281



	(	Q					
Tested by:		)		Checked by:		f	
Name:	(	Poon Tsz Wing	)	Name:	(	Wong Yin Tong	
Form No ENV CAL SAM	DIED CCL 441	2/12/2002					



#### Personal Aerosol Monitor Performance check with High Volume Sampler

AS0210201-3 Preformance Check ref. No. Report Issue Date: 1/2/2021 Date of performance check: 25/1/2021

#### Objective:

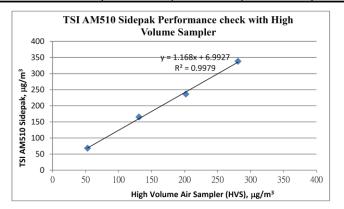
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

#### Equipment Used:

Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11506009
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

#### Resustt:

Equipment	Measurement Result, μg/m <sup>3</sup>			
TSI AM510 Sidepak	68	165	236	338
High Volume Air Sampler (HVS)	53	131	202	281



Tested by:		03		Checked by:		1	
Name :	(	Poon Tsz Wing	)	Name:	(	Wong Yin Tong	)
Form No. ENV.CAL SAM	DI ED CC1 441	2/12/2002					

## Catalogue of Weather Station

### Cabled Vantage Pro2™ & Vantage Pro2 Plus™ Stations



6152C 6162C

Vantage Pro2™

The Vantage Pro2<sup>™</sup> (# 6152C) and Vantage Pro2<sup>™</sup> Plus (# 6162C) cabled weather stations include two components: 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 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<sup>®</sup> to let your weather station interface with a computer, log data, and upload 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.

#### Integrated Sensor Suite (ISS)

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating Temperature	-40° to +158°F (-40° to +70°C)
	5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS
Connectors, Sensor	Modular RJ-11
Cable Type	4-conductor, 26 AWG
Cable Length, Anemometer	40' (12 m) (included); 240' (73 m) (maximum recommended)

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 m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s).

Wind Speed Sensor . . . . . . . . . . . . . . . . Solid state magnetic sensor Wind Direction Sensor . . . . . . . . . . . . . . . . . Wind vane with potentiometer (214 cm<sup>2</sup>) collection area Temperature Sensor Type...... PN Junction Silicon Diode Relative Humidity Sensor Type . . . . . . . . . . . . Film capacitor element Sensor Inputs 

ISS Dimensions(not including anemometer or bird spikes):

Vantage Pro2 with Fan-Asprated Rad Shield........... 20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm) Vantage Pro2 Plus with Standard Rad Shield . . . . . . . . 14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm) Vantage Pro2 Plus with Fan-Aspirated Rad Shield . . . . . 21.1" x 9.7" x 16.0" (536 mm x 246 mm x 406 mm)



DAVIS [""||| \* Davis Instruments 3465 Diablo Ave., Hayward, CA 94545-2778 USA (510) 732-9229 \* FAX (510) 670-0589 \* sales@davisinstruments.com \* www.davisinstruments.com

DS6152C, 6162C Rev. W 12/7/18

Vantage Pro2

### Ultra Violet (UV) Radiation Index (requires UV sensor)

Historical Graph Data . . . . . . . . . . . . Hourly Average, Daily, Monthly Highs Alarm High Threshold from Instant Calculation

#### Wind

#### Wind Chill (Calculated)

Range . . . . . . -110° to +135°F (-79° to +57°C)

Source...... United States National Weather Service (NWS)/NOAA

Equation Used . . . . . . . . . . Osczevski (1995) (adopted by US NWS in 2001)

Variables Used . . . . . . . . . . . . . . . . Instant Outside Temperature and 10-min. Avg. Wind Speed Current Display Data . . . . . . . . . . . . . . . Instant Calculation

Current Graph Data . . . . . . . . Instant Calculation; Hourly, Daily and Monthly Low

Historical Graph Data. . . . . . . . . . . . . . . . . Hourly, Daily and Monthly Lows

Alarm..... Low Threshold from Instant Calculation

#### Wind Direction

Update Interval . . . . . . . . . . . . . . . . . . 2.5 to 3 seconds

Monthly Dominant

Monthly Dominants

Wind Speed

other units are converted from mph and rounded to nearest 1 km/hr, 0.1

m/s or 1 knot

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,

Monthly and Yearly High with Direction of High

Highs with Direction of Highs

High Thresholds from Instant Reading and 10-minute Average

## Calibration Certificate of Weather Station



## **Calibration Certificate**

#### Certificate No.: CC0152104

1. Description

Calibration item :	a) Temperature
	b) Relative Humidity
	c) Wind Speed
	d) Wind Direction
Equipment description :	Weather Station
Manufacturer :	Davis Vantage Pro 2
Type / Model No. :	6152CEU
Serial No. :	AZ170710016
Assigned equipment no. :	N/A
Adjustment :	N/A
Remark :	Received with good condition

#### 2. Customer information

Customer:	Castco Testing Centre Limited	
Address :	33, On Kui Street, Fanling, N.T.	
Date of receipt :	24 March 2021	

3. Date of performance of the calibration

Date of calibration : 2 April 2021

Approved Signatory
Warren Yeung

Company Chop:

Certificate issue date: 8 April 2021

The certificate shall not reproduced except in full without the written approval of CAL LAB LTD
 The certificate is issued subject to the latest Term and Condition, available assessable at our web site

CT-BEG-02 Page 1 of 4 cc0152104

Cal Lab Limited

Address: Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong
Tel: (852)25680106 Fax(852)30116194 Email: <a href="mailto:info@callab.com.hk">https://docs.org/info@callab.com.hk</a> Website:callab.com.hk



4. Result of Calibration

#### a) Temperature

Reference reading ; °C	Reading; °C	Error of indication; °C				
15.0	15	0.0				
20.0	20	0.0				
25.0	25	0.0				
30.0	30	0.0				

Estimated expanded uncertainty: 1.0 °C

Technical Requirement: N/A

Note: The technical requirement is refer to JJF 1183-2007

CT-001-04

b) Relative Humidity

Temperature setting of humidity chamber: 23 °C

Reference reading; % RH	Reading; % RH	Error of indication; % RH
40.0	43	3.0
50.0	53	3.0
70.0	72	2.0

Estimated expanded uncertainty: 3 %RH

Technical Requirement: N/A

Note: The technical requirement is refer to JJG 1076-2001

CT-002-04

- The certificate shall not reproduced except in full without the written approval of CAL LAB LTD
- The certificate is issued subject to the latest Term and Condition, available assessable at our web site

Page 2 of 4 cc0152104

Cal Lab Limited

Address: Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong
Tel : (852)25680106 Fax(852)30116194 Email: info@callab.com.hk Website:callab.com.hk

## Calibration Certificate of Weather Station



#### c) Wind Speed

Reference reading; m/s	Measured reading; m/s	Error of indication; %				
0.0	0.0	N/A				
2.0	2.1	10.0				
5.0	4.9	-2.0				
8.0	7.9	-1.3				

Estimated expanded uncertainty: 0.5 m/s

Technical Requirement: +/-5% or 1 m/s

#### a) Wind direction

Reference reading	Measured reading	Error of indication
0°	0°	O°
45°	45°	0°
90°	90°	O°
135°	135°	O°
180°	180°	0°
225°	225°	0°
270°	270°	0°
315°	315°	0°

Estimated expanded uncertainty: 5°

Technical Requirement: N/A

Note: The arrow head was adjusted to the magnetic north before performing calibration.

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Cal Lab Limited

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#### 5. Reference method for calibration

Temperature	JJF 1183-2007	
Relative humidity	JJG 1076-2001	
Wind Speed	SOP-251	
Wind Direction	SOP-252	

#### 6. Environment condition of calibration

Temperature ; °C	23.9 ℃
Relative humidity; %RH	58 %RH

#### 7. Reference equipment used in the calibration

Item	Model	Serial No.	Expiry date	Traceable to
Platinum resistance thermometer	KPPRHT-A-1	KCI I-1095, KCI P-1095	4 Mar 2022	SMQ
Humidity sensor	KPPRHT-A-1	KCI I-1095, KCI P-1095	4 Mar 2022	SMQ
Reference Anemometer	405-V1	41543692	1 Jan 2022	SMQ

The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in Note1: measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.

The result reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument.

The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

\*\*\* End of Certificate \*\*\*

CT-END-02

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## Appendix F – Weather information

## **General Information**

Date	Absolute Daily Min Temperature (°C)	Absolute Daily Max Temperature (°C)	Total Rainfall (mm)
01/06/2021	24.1	29.3	45.8
02/06/2021	25	31.3	2.4
03/06/2021	27.9	34	0
04/06/2021	26.7	29.8	7.5
05/06/2021	25.6	29.2	Trace
06/06/2021	26.4	31.4	Trace
07/06/2021	26.6	32.2	Trace
08/06/2021	26.5	33.5	0.9
09/06/2021	26.4	29.9	48.6
10/06/2021	25.5	32.8	29.4
11/06/2021	26.7	32.9	31.2
12/06/2021	26.2	29.5	30.3
13/06/2021	26	32	2.8
14/06/2021	27.8	31.1	0.3
15/06/2021	27.2	31.8	6.2
16/06/2021	29.1	33.3	0
17/06/2021	27.7	32.8	9.6
18/06/2021	29	32.8	3.9
19/06/2021	29.5	33	Trace
20/06/2021	29.4	32.8	0
21/06/2021	29.4	32.4	1.2
22/06/2021	24.7	30.2	75.3
23/06/2021	25.1	29	66.4
24/06/2021	25.1	26.7	20.8
25/06/2021	26	29	6.8
26/06/2021	25.9	29.9	61.3
27/06/2021	28.4	30	5.8
28/06/2021	24	29.6	166.5
29/06/2021	28.8	30.7	4.6
30/06/2021	29	32.6	0.4

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory.

NOTE2: Trace means rainfall less than 0.05 mm

 $\underline{https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2021\&m=6}$ 

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
01/06/2021	0:00	0.4	90	02/06/2021	0:00	1.3	45	03/06/2021	0:00	1.3	112.5	04/06/2021	0:00	0.9	67.5
01/06/2021	1:00	0.9	90	02/06/2021	1:00	0.9	270	03/06/2021	1:00	0.9	112.5	04/06/2021	1:00	0.9	90
01/06/2021	2:00	0.9	112.5	02/06/2021	2:00	0.9	247.5	03/06/2021	2:00	0.9	112.5	04/06/2021	2:00	0.9	112.5
01/06/2021	3:00	1.3	112.5	02/06/2021	3:00	0.9	45	03/06/2021	3:00	1.3	90	04/06/2021	3:00	1.3	112.5
01/06/2021	4:00	1.3	22.5	02/06/2021	4:00	0.9	247.5	03/06/2021	4:00	1.3	90	04/06/2021	4:00	1.3	90
01/06/2021	5:00	1.8	90	02/06/2021	5:00	1.3	270	03/06/2021	5:00	1.3	112.5	04/06/2021	5:00	1.3	112.5
01/06/2021	6:00	1.3	112.5	02/06/2021	6:00	1.3	270	03/06/2021	6:00	0.9	112.5	04/06/2021	6:00	1.3	22.5
01/06/2021	7:00	1.3	90	02/06/2021	7:00	0.9	247.5	03/06/2021	7:00	1.3	135	04/06/2021	7:00	1.3	22.5
01/06/2021	8:00	0.9	90	02/06/2021	8:00	1.3	247.5	03/06/2021	8:00	1.3	112.5	04/06/2021	8:00	0.9	45
01/06/2021	9:00	1.8	90	02/06/2021	9:00	2.2	270	03/06/2021	9:00	1.3	90	04/06/2021	9:00	0.9	45
01/06/2021	10:00	1.8	90	02/06/2021	10:00	2.7	247.5	03/06/2021	10:00	1.3	90	04/06/2021	10:00	0.9	22.5
01/06/2021	11:00	0.9	247.5	02/06/2021	11:00	1.8	270	03/06/2021	11:00	1.3	112.5	04/06/2021	11:00	0.9	45
01/06/2021	12:00	0.9	22.5	02/06/2021	12:00	2.7	270	03/06/2021	12:00	1.3	22.5	04/06/2021	12:00	0.9	45
01/06/2021	13:00	0.9	45	02/06/2021	13:00	2.2	270	03/06/2021	13:00	0.9	135	04/06/2021	13:00	0.9	45
01/06/2021	14:00	0.9	45	02/06/2021	14:00	0.9	270	03/06/2021	14:00	1.3	112.5	04/06/2021	14:00	0.9	45
01/06/2021	15:00	0.9	67.5	02/06/2021	15:00	1.8	270	03/06/2021	15:00	0.9	90	04/06/2021	15:00	1.3	45
01/06/2021	16:00	1.8	45	02/06/2021	16:00	1.3	270	03/06/2021	16:00	0.9	112.5	04/06/2021	16:00	1.8	270
01/06/2021	17:00	1.8	90	02/06/2021	17:00	1.3	247.5	03/06/2021	17:00	0.9	112.5	04/06/2021	17:00	1.3	45
01/06/2021	18:00	1.8	22.5	02/06/2021	18:00	1.3	270	03/06/2021	18:00	0.9	112.5	04/06/2021	18:00	0.9	45
01/06/2021	19:00	0.9	45	02/06/2021	19:00	1.8	247.5	03/06/2021	19:00	0.9	22.5	04/06/2021	19:00	1.3	22.5
01/06/2021	20:00	0.9	22.5	02/06/2021	20:00	1.8	247.5	03/06/2021	20:00	1.3	112.5	04/06/2021	20:00	1.3	45
01/06/2021	21:00	0.9	45	02/06/2021	21:00	0.9	292.5	03/06/2021	21:00	1.3	135	04/06/2021	21:00	1.3	22.5
01/06/2021	22:00	0.9	45	02/06/2021	22:00	1.3	247.5	03/06/2021	22:00	1.3	112.5	04/06/2021	22:00	1.3	22.5
01/06/2021	23:00	1.8	45	02/06/2021	23:00	0.	247.5	03/06/2021	23:00	1.3	112.5	04/06/2021	23:00	1.8	45

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
05/06/2021	0:00	1.3	45	06/06/2021	0:00	0.9	135	07/06/2021	0:00	0.9	45	08/06/2021	0:00	0.4	112.5
05/06/2021	1:00	1.3	67.5	06/06/2021	1:00	1.3	180	07/06/2021	1:00	1.3	90	08/06/2021	1:00	0.4	67.5
05/06/2021	2:00	1.3	45	06/06/2021	2:00	1.3	135	07/06/2021	2:00	1.3	22.5	08/06/2021	2:00	0.4	247.5
05/06/2021	3:00	1.3	45	06/06/2021	3:00	0.9	112.5	07/06/2021	3:00	1.3	45	08/06/2021	3:00	0.4	270
05/06/2021	4:00	1.3	45	06/06/2021	4:00	0.9	225	07/06/2021	4:00	0.9	90	08/06/2021	4:00	0.9	67.5
05/06/2021	5:00	1.3	45	06/06/2021	5:00	1.3	157.5	07/06/2021	5:00	1.8	45	08/06/2021	5:00	0.9	45
05/06/2021	6:00	0.9	45	06/06/2021	6:00	1.3	112.5	07/06/2021	6:00	1.8	22.5	08/06/2021	6:00	0.9	45
05/06/2021	7:00	0.9	22.5	06/06/2021	7:00	1.3	112.5	07/06/2021	7:00	0.4	22.5	08/06/2021	7:00	0.4	45
05/06/2021	8:00	0.9	247.5	06/06/2021	8:00	1.3	112.5	07/06/2021	8:00	0.9	45	08/06/2021	8:00	0.4	247.5
05/06/2021	9:00	1.3	22.5	06/06/2021	9:00	1.3	112.5	07/06/2021	9:00	0.9	90	08/06/2021	9:00	0.9	337.5
05/06/2021	10:00	0.9	22.5	06/06/2021	10:00	1.8	112.5	07/06/2021	10:00	1.3	112.5	08/06/2021	10:00	1.3	112.5
05/06/2021	11:00	0.9	225	06/06/2021	11:00	0.4	112.5	07/06/2021	11:00	0.9	45	08/06/2021	11:00	1.3	135
05/06/2021	12:00	0.9	270	06/06/2021	12:00	0.4	112.5	07/06/2021	12:00	0.4	67.5	08/06/2021	12:00	1.3	22.5
05/06/2021	13:00	1.3	270	06/06/2021	13:00	0.4	90	07/06/2021	13:00	0.9	45	08/06/2021	13:00	0.4	45
05/06/2021	14:00	0.9	270	06/06/2021	14:00	0.4	90	07/06/2021	14:00	0.4	67.5	08/06/2021	14:00	0.9	135
05/06/2021	15:00	0.9	270	06/06/2021	15:00	0.4	112.5	07/06/2021	15:00	0.9	67.5	08/06/2021	15:00	1.3	67.5
05/06/2021	16:00	0.9	247.5	06/06/2021	16:00	0.9	112.5	07/06/2021	16:00	0.9	112.5	08/06/2021	16:00	1.3	90
05/06/2021	17:00	0.9	22.5	06/06/2021	17:00	0.9	90	07/06/2021	17:00	0.4	112.5	08/06/2021	17:00	1.3	292.5
05/06/2021	18:00	0.9	247.5	06/06/2021	18:00	0.9	112.5	07/06/2021	18:00	0.4	112.5	08/06/2021	18:00	1.3	112.5
05/06/2021	19:00	0.9	247.5	06/06/2021	19:00	0.9	112.5	07/06/2021	19:00	0.4	90	08/06/2021	19:00	1.3	22.5
05/06/2021	20:00	0.9	247.5	06/06/2021	20:00	0.9	112.5	07/06/2021	20:00	0.9	112.5	08/06/2021	20:00	1.3	135
05/06/2021	21:00	0.9	247.5	06/06/2021	21:00	0.9	112.5	07/06/2021	21:00	0.9	135	08/06/2021	21:00	1.8	22.5
05/06/2021	22:00	0.9	67.5	06/06/2021	22:00	0.9	90	07/06/2021	22:00	2.7	135	08/06/2021	22:00	1.3	90
05/06/2021	23:00	0.9	67.5	06/06/2021	23:00	0.9	112.5	07/06/2021	23:00	0.4	112.5	08/06/2021	23:00	0.4	135

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
09/06/2021	0:00	0.9	67.5	10/06/2021	0:00	0.9	135	11/06/2021	0:00	1.3	112.5	12/06/2021	0:00	1.3	45
09/06/2021	1:00	0.4	90	10/06/2021	1:00	0.9	112.5	11/06/2021	1:00	0.4	90	12/06/2021	1:00	1.8	90
09/06/2021	2:00	1.3	292.5	10/06/2021	2:00	0.9	112.5	11/06/2021	2:00	0.9	112.5	12/06/2021	2:00	1.8	112.5
09/06/2021	3:00	1.8	67.5	10/06/2021	3:00	1.3	135	11/06/2021	3:00	2.2	90	12/06/2021	3:00	2.2	67.5
09/06/2021	4:00	1.3	90	10/06/2021	4:00	0.9	135	11/06/2021	4:00	1.8	135	12/06/2021	4:00	1.8	45
09/06/2021	5:00	1.3	157.5	10/06/2021	5:00	0.9	112.5	11/06/2021	5:00	1.8	67.5	12/06/2021	5:00	1.3	67.5
09/06/2021	6:00	0.9	112.5	10/06/2021	6:00	0.4	112.5	11/06/2021	6:00	2.2	90	12/06/2021	6:00	2.2	112.5
09/06/2021	7:00	1.3	112.5	10/06/2021	7:00	0.4	45	11/06/2021	7:00	1.8	135	12/06/2021	7:00	2.7	337.5
09/06/2021	8:00	1.3	112.5	10/06/2021	8:00	0.9	112.5	11/06/2021	8:00	1.3	135	12/06/2021	8:00	2.7	67.5
09/06/2021	9:00	0.9	135	10/06/2021	9:00	0.9	157.5	11/06/2021	9:00	1.8	90	12/06/2021	9:00	3.1	67.5
09/06/2021	10:00	0.9	337.5	10/06/2021	10:00	0.9	292.5	11/06/2021	10:00	0.9	112.5	12/06/2021	10:00	3.1	90
09/06/2021	11:00	0.9	90	10/06/2021	11:00	0.4	112.5	11/06/2021	11:00	1.8	337.5	12/06/2021	11:00	3.6	67.5
09/06/2021	12:00	1.3	67.5	10/06/2021	12:00	0.4	247.5	11/06/2021	12:00	1.3	112.5	12/06/2021	12:00	1.3	67.5
09/06/2021	13:00	1.3	90	10/06/2021	13:00	0.9	315	11/06/2021	13:00	1.3	90	12/06/2021	13:00	1.3	90
09/06/2021	14:00	0.9	292.5	10/06/2021	14:00	0.4	315	11/06/2021	14:00	1.3	112.5	12/06/2021	14:00	2.2	90
09/06/2021	15:00	0.9	90	10/06/2021	15:00	0.4	135	11/06/2021	15:00	0.9	112.5	12/06/2021	15:00	2.2	112.5
09/06/2021	16:00	0.9	135	10/06/2021	16:00	0.9	112.5	11/06/2021	16:00	1.3	112.5	12/06/2021	16:00	2.2	90
09/06/2021	17:00	0.9	90	10/06/2021	17:00	1.3	67.5	11/06/2021	17:00	1.3	112.5	12/06/2021	17:00	1.8	90
09/06/2021	18:00	0.9	112.5	10/06/2021	18:00	0.9	247.5	11/06/2021	18:00	1.8	135	12/06/2021	18:00	0.9	67.5
09/06/2021	19:00	1.3	67.5	10/06/2021	19:00	0.9	22.5	11/06/2021	19:00	1.3	90	12/06/2021	19:00	1.8	112.5
09/06/2021	20:00	0.9	112.5	10/06/2021	20:00	0.9	112.5	11/06/2021	20:00	1.8	112.5	12/06/2021	20:00	2.7	90
09/06/2021	21:00	0.9	45	10/06/2021	21:00	0.4	135	11/06/2021	21:00	1.8	112.5	12/06/2021	21:00	2.2	90
09/06/2021	22:00	0.9	22.5	10/06/2021	22:00	0.4	112.5	11/06/2021	22:00	2.7	112.5	12/06/2021	22:00	2.2	90
09/06/2021	23:00	1.8	90	10/06/2021	23:00	0.4	112.5	11/06/2021	23:00	2.2	112.5	12/06/2021	23:00	2.2	90

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
13/06/2021	0:00	0.9	22.5	14/06/2021	0:00	1.3	112.5	15/06/2021	0:00	0.4	112.5	16/06/2021	0:00	1.3	45
13/06/2021	1:00	0.9	315	14/06/2021	1:00	1.3	90	15/06/2021	1:00	0.4	112.5	16/06/2021	1:00	1.3	247.5
13/06/2021	2:00	0.9	90	14/06/2021	2:00	0.9	112.5	15/06/2021	2:00	0.4	90	16/06/2021	2:00	1.3	22.5
13/06/2021	3:00	0.9	112.5	14/06/2021	3:00	1.3	67.5	15/06/2021	3:00	0.4	112.5	16/06/2021	3:00	0.9	225
13/06/2021	4:00	0.4	45	14/06/2021	4:00	0.9	112.5	15/06/2021	4:00	0.4	112.5	16/06/2021	4:00	0.9	67.5
13/06/2021	5:00	0.9	90	14/06/2021	5:00	1.3	135	15/06/2021	5:00	0.4	112.5	16/06/2021	5:00	0.9	22.5
13/06/2021	6:00	0.9	90	14/06/2021	6:00	0.9	90	15/06/2021	6:00	0.4	135	16/06/2021	6:00	1.3	157.5
13/06/2021	7:00	0.9	90	14/06/2021	7:00	0.9	112.5	15/06/2021	7:00	0.4	112.5	16/06/2021	7:00	0.9	135
13/06/2021	8:00	0.9	90	14/06/2021	8:00	0.4	112.5	15/06/2021	8:00	0.4	112.5	16/06/2021	8:00	1.3	67.5
13/06/2021	9:00	0.4	90	14/06/2021	9:00	0.9	112.5	15/06/2021	9:00	0.4	67.5	16/06/2021	9:00	1.3	247.5
13/06/2021	10:00	0.9	112.5	14/06/2021	10:00	0.9	135	15/06/2021	10:00	1.8	157.5	16/06/2021	10:00	1.3	225
13/06/2021	11:00	1.3	90	14/06/2021	11:00	1.3	112.5	15/06/2021	11:00	1.8	112.5	16/06/2021	11:00	1.3	45
13/06/2021	12:00	2.2	112.5	14/06/2021	12:00	1.3	157.5	15/06/2021	12:00	2.7	180	16/06/2021	12:00	1.3	45
13/06/2021	13:00	2.2	112.5	14/06/2021	13:00	0.9	112.5	15/06/2021	13:00	1.3	112.5	16/06/2021	13:00	1.8	45
13/06/2021	14:00	2.2	112.5	14/06/2021	14:00	0.9	90	15/06/2021	14:00	1.3	90	16/06/2021	14:00	1.3	45
13/06/2021	15:00	2.7	135	14/06/2021	15:00	0.9	112.5	15/06/2021	15:00	1.3	135	16/06/2021	15:00	1.8	67.5
13/06/2021	16:00	1.3	135	14/06/2021	16:00	0.9	67.5	15/06/2021	16:00	1.3	112.5	16/06/2021	16:00	0.9	22.5
13/06/2021	17:00	1.3	135	14/06/2021	17:00	0.9	67.5	15/06/2021	17:00	1.8	135	16/06/2021	17:00	0.9	45
13/06/2021	18:00	1.8	90	14/06/2021	18:00	0.9	45	15/06/2021	18:00	1.3	135	16/06/2021	18:00	0.9	67.5
13/06/2021	19:00	0.9	135	14/06/2021	19:00	0.9	90	15/06/2021	19:00	0.9	135	16/06/2021	19:00	1.3	67.5
13/06/2021	20:00	1.3	112.5	14/06/2021	20:00	1.3	90	15/06/2021	20:00	0.9	157.5	16/06/2021	20:00	0.9	45
13/06/2021	21:00	0.9	112.5	14/06/2021	21:00	0.9	67.5	15/06/2021	21:00	0.9	135	16/06/2021	21:00	0.9	67.5
13/06/2021	22:00	0.9	112.5	14/06/2021	22:00	0.9	112.5	15/06/2021	22:00	0.9	112.5	16/06/2021	22:00	1.3	112.5
13/06/2021	23:00	1.3	112.5	14/06/2021	23:00	0.9	90	15/06/2021	23:00	0.9	270	16/06/2021	23:00	0.9	45

Date	Time	Wind Speed (m/s)	Wind Direction	n recorded by	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
17/06/2021	0:00	0.4	315	18/06/2021	0:00	1.3	45	19/06/2021	0:00	0.9	45	20/06/2021	0:00	1.3	247.5
17/06/2021	1:00	0.4	67.5	18/06/2021	1:00	1.3	45	19/06/2021	1:00	0.9	45	20/06/2021	1:00	0.9	270
17/06/2021	2:00	0.9	112.5	18/06/2021	2:00	2.7	45	19/06/2021	2:00	0.9	45	20/06/2021	2:00	0.4	247.5
17/06/2021	3:00	0.4	270	18/06/2021	3:00	1.8	45	19/06/2021	3:00	0.9	45	20/06/2021	3:00	0.4	247.5
17/06/2021	4:00	0.9	45	18/06/2021	4:00	1.3	22.5	19/06/2021	4:00	0.9	22.5	20/06/2021	4:00	0.9	247.5
17/06/2021	5:00	0.4	67.5	18/06/2021	5:00	1.3	45	19/06/2021	5:00	0.9	247.5	20/06/2021	5:00	0.9	270
17/06/2021	6:00	0.4	247.5	18/06/2021	6:00	1.8	45	19/06/2021	6:00	0.9	22.5	20/06/2021	6:00	2.7	247.5
17/06/2021	7:00	0.4	225	18/06/2021	7:00	2.2	270	19/06/2021	7:00	0.9	22.5	20/06/2021	7:00	0.9	270
17/06/2021	8:00	0.4	270	18/06/2021	8:00	1.3	22.5	19/06/2021	8:00	1.3	270	20/06/2021	8:00	0.9	247.5
17/06/2021	9:00	0.4	225	18/06/2021	9:00	2.2	45	19/06/2021	9:00	1.3	247.5	20/06/2021	9:00	0.9	225
17/06/2021	10:00	0.9	45	18/06/2021	10:00	0.4	247.5	19/06/2021	10:00	1.3	270	20/06/2021	10:00	1.3	247.5
17/06/2021	11:00	0.9	67.5	18/06/2021	11:00	0.9	270	19/06/2021	11:00	1.3	247.5	20/06/2021	11:00	0.9	247.5
17/06/2021	12:00	0.9	270	18/06/2021	12:00	1.3	270	19/06/2021	12:00	1.3	270	20/06/2021	12:00	0.9	247.5
17/06/2021	13:00	0.4	247.5	18/06/2021	13:00	1.3	247.5	19/06/2021	13:00	0.9	247.5	20/06/2021	13:00	0.9	225
17/06/2021	14:00	0.9	90	18/06/2021	14:00	1.3	247.5	19/06/2021	14:00	0.9	247.5	20/06/2021	14:00	0.9	270
17/06/2021	15:00	0.9	90	18/06/2021	15:00	1.3	247.5	19/06/2021	15:00	0.9	45	20/06/2021	15:00	0.9	45
17/06/2021	16:00	0.9	292.5	18/06/2021	16:00	1.3	247.5	19/06/2021	16:00	0.9	45	20/06/2021	16:00	0.9	45
17/06/2021	17:00	0.9	247.5	18/06/2021	17:00	1.3	247.5	19/06/2021	17:00	0.9	22.5	20/06/2021	17:00	1.3	45
17/06/2021	18:00	1.8	247.5	18/06/2021	18:00	1.3	247.5	19/06/2021	18:00	0.9	22.5	20/06/2021	18:00	1.3	22.5
17/06/2021	19:00	0.9	45	18/06/2021	19:00	0.9	270	19/06/2021	19:00	0.9	45	20/06/2021	19:00	1.3	67.5
17/06/2021	20:00	0.9	45	18/06/2021	20:00	1.3	45	19/06/2021	20:00	0.9	45	20/06/2021	20:00	0.9	45
17/06/2021	21:00	0.9	45	18/06/2021	21:00	1.3	67.5	19/06/2021	21:00	0.9	22.5	20/06/2021	21:00	0.9	22.5
17/06/2021	22:00	0.9	22.5	18/06/2021	22:00	1.3	45	19/06/2021	22:00	1.3	22.5	20/06/2021	22:00	0.9	22.5
17/06/2021	23:00	1.3	45	18/06/2021	23:00	0.9	247.5	19/06/2021	23:00	1.3	247.5	20/06/2021	23:00	0.9	45

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
21/06/2021	0:00	0.9	45	22/06/2021	0:00	0.4	112.5	23/06/2021	0:00	1.3	247.5	24/06/2021	0:00	0.9	135
21/06/2021	1:00	0.4	67.5	22/06/2021	1:00	0.4	67.5	23/06/2021	1:00	0.9	247.5	24/06/2021	1:00	1.3	135
21/06/2021	2:00	1.3	45	22/06/2021	2:00	0.9	135	23/06/2021	2:00	0.4	247.5	24/06/2021	2:00	1.3	135
21/06/2021	3:00	0.9	45	22/06/2021	3:00	0.9	225	23/06/2021	3:00	0.4	112.5	24/06/2021	3:00	0.9	112.5
21/06/2021	4:00	0.9	247.5	22/06/2021	4:00	0.9	45	23/06/2021	4:00	0.4	180	24/06/2021	4:00	1.3	112.5
21/06/2021	5:00	0.4	270	22/06/2021	5:00	0.9	45	23/06/2021	5:00	0.9	225	24/06/2021	5:00	0.9	112.5
21/06/2021	6:00	0.9	202.5	22/06/2021	6:00	0.4	270	23/06/2021	6:00	0.9	247.5	24/06/2021	6:00	1.3	67.5
21/06/2021	7:00	0.9	45	22/06/2021	7:00	0.4	247.5	23/06/2021	7:00	0.9	247.5	24/06/2021	7:00	1.3	45
21/06/2021	8:00	0.9	225	22/06/2021	8:00	0.4	225	23/06/2021	8:00	0.4	225	24/06/2021	8:00	1.3	337.5
21/06/2021	9:00	0.9	247.5	22/06/2021	9:00	0.4	270	23/06/2021	9:00	0.4	247.5	24/06/2021	9:00	0.9	67.5
21/06/2021	10:00	0.9	247.5	22/06/2021	10:00	0.4	247.5	23/06/2021	10:00	0.4	292.5	24/06/2021	10:00	0.4	45
21/06/2021	11:00	0.4	247.5	22/06/2021	11:00	0.4	247.5	23/06/2021	11:00	0.9	225	24/06/2021	11:00	0.4	112.5
21/06/2021	12:00	1.8	225	22/06/2021	12:00	0.9	180	23/06/2021	12:00	0.9	247.5	24/06/2021	12:00	0.4	112.5
21/06/2021	13:00	0.9	247.5	22/06/2021	13:00	0.9	157.5	23/06/2021	13:00	0.4	247.5	24/06/2021	13:00	0.4	112.5
21/06/2021	14:00	0.9	135	22/06/2021	14:00	0.4	112.5	23/06/2021	14:00	0.4	157.5	24/06/2021	14:00	0.9	112.5
21/06/2021	15:00	0.9	225	22/06/2021	15:00	0.4	135	23/06/2021	15:00	0.9	112.5	24/06/2021	15:00	1.8	112.5
21/06/2021	16:00	0.9	157.5	22/06/2021	16:00	1.3	135	23/06/2021	16:00	0.9	157.5	24/06/2021	16:00	0.4	247.5
21/06/2021	17:00	1.8	112.5	22/06/2021	17:00	0.9	135	23/06/2021	17:00	0.4	157.5	24/06/2021	17:00	0.4	247.5
21/06/2021	18:00	0.9	135	22/06/2021	18:00	1.8	90	23/06/2021	18:00	0.9	247.5	24/06/2021	18:00	0.4	112.5
21/06/2021	19:00	0.9	247.5	22/06/2021	19:00	0.9	180	23/06/2021	19:00	0.9	112.5	24/06/2021	19:00	0.9	112.5
21/06/2021	20:00	0.9	135	22/06/2021	20:00	1.8	225	23/06/2021	20:00	0.4	247.5	24/06/2021	20:00	0.9	135
21/06/2021	21:00	0.4	270	22/06/2021	21:00	0.9	90	23/06/2021	21:00	0.4	247.5	24/06/2021	21:00	0.9	90
21/06/2021	22:00	0.9	112.5	22/06/2021	22:00	0.9	225	23/06/2021	22:00	0.9	112.5	24/06/2021	22:00	1.3	90
21/06/2021	23:00	0.9	135	22/06/2021	23:00	1.3	225	23/06/2021	23:00	0.4	112.5	24/06/2021	23:00	1.3	135

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
25/06/2021	0:00	1.3	112.5	26/06/2021	0:00	0.9	112.5	27/06/2021	0:00	0.4	135	28/06/2021	0:00	0.9	112.5
25/06/2021	1:00	0.9	112.5	26/06/2021	1:00	0.9	112.5	27/06/2021	1:00	0.9	90	28/06/2021	1:00	1.3	112.5
25/06/2021	2:00	0.4	112.5	26/06/2021	2:00	0.9	112.5	27/06/2021	2:00	0.9	180	28/06/2021	2:00	0.9	112.5
25/06/2021	3:00	0.4	135	26/06/2021	3:00	0.9	112.5	27/06/2021	3:00	0.9	90	28/06/2021	3:00	0.9	112.5
25/06/2021	4:00	0.9	135	26/06/2021	4:00	0.4	112.5	27/06/2021	4:00	1.3	112.5	28/06/2021	4:00	1.3	202.5
25/06/2021	5:00	0.4	135	26/06/2021	5:00	0.4	112.5	27/06/2021	5:00	0.9	67.5	28/06/2021	5:00	0.4	90
25/06/2021	6:00	0.4	112.5	26/06/2021	6:00	0.9	112.5	27/06/2021	6:00	0.9	67.5	28/06/2021	6:00	0.9	112.5
25/06/2021	7:00	0.4	112.5	26/06/2021	7:00	0.9	135	27/06/2021	7:00	0.9	90	28/06/2021	7:00	0.4	90
25/06/2021	8:00	0.9	112.5	26/06/2021	8:00	0.4	112.5	27/06/2021	8:00	0.9	67.5	28/06/2021	8:00	0.9	90
25/06/2021	9:00	0.4	112.5	26/06/2021	9:00	0.4	112.5	27/06/2021	9:00	0.9	67.5	28/06/2021	9:00	1.3	90
25/06/2021	10:00	0.4	112.5	26/06/2021	10:00	0.9	22.5	27/06/2021	10:00	0.9	67.5	28/06/2021	10:00	1.8	90
25/06/2021	11:00	0.4	135	26/06/2021	11:00	0.4	45	27/06/2021	11:00	0.9	45	28/06/2021	11:00	1.3	135
25/06/2021	12:00	0.9	135	26/06/2021	12:00	0.4	45	27/06/2021	12:00	0.9	67.5	28/06/2021	12:00	0.9	67.5
25/06/2021	13:00	0.9	112.5	26/06/2021	13:00	1.3	45	27/06/2021	13:00	1.3	225	28/06/2021	13:00	0.9	45
25/06/2021	14:00	0.9	112.5	26/06/2021	14:00	0.9	112.5	27/06/2021	14:00	1.8	247.5	28/06/2021	14:00	0.4	67.5
25/06/2021	15:00	1.3	225	26/06/2021	15:00	0.4	22.5	27/06/2021	15:00	1.3	247.5	28/06/2021	15:00	0.4	157.5
25/06/2021	16:00	1.3	202.5	26/06/2021	16:00	0.9	247.5	27/06/2021	16:00	1.3	90	28/06/2021	16:00	0.4	180
25/06/2021	17:00	0.9	135	26/06/2021	17:00	0.4	112.5	27/06/2021	17:00	1.3	45	28/06/2021	17:00	0.9	45
25/06/2021	18:00	1.8	112.5	26/06/2021	18:00	0.4	112.5	27/06/2021	18:00	1.3	247.5	28/06/2021	18:00	1.3	112.5
25/06/2021	19:00	0.4	67.5	26/06/2021	19:00	1.3	225	27/06/2021	19:00	1.3	112.5	28/06/2021	19:00	1.3	112.5
25/06/2021	20:00	0.4	67.5	26/06/2021	20:00	1.3	45	27/06/2021	20:00	1.3	112.5	28/06/2021	20:00	0.9	112.5
25/06/2021	21:00	0.9	90	26/06/2021	21:00	0.9	112.5	27/06/2021	21:00	0.9	90	28/06/2021	21:00	0.9	112.5
25/06/2021	22:00	0.4	157.5	26/06/2021	22:00	0.9	247.5	27/06/2021	22:00	0.9	225	28/06/2021	22:00	0.9	112.5
25/06/2021	23:00	0.4	135	26/06/2021	23:00	0.4	247.5	27/06/2021	23:00	0.9	202.5	28/06/2021	23:00	0.9	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

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
29/06/2021	0:00	0.4	67.5	30/06/2021	0:00	0.4	225								
29/06/2021	1:00	0.9	45	30/06/2021	1:00	0.9	90								
29/06/2021	2:00	0.9	45	30/06/2021	2:00	0.4	112.5								
29/06/2021	3:00	1.3	45	30/06/2021	3:00	0.9	90								
29/06/2021	4:00	1.3	45	30/06/2021	4:00	0.4	90								
29/06/2021	5:00	1.3	67.5	30/06/2021	5:00	0.4	90								
29/06/2021	6:00	0.9	67.5	30/06/2021	6:00	0.9	90								
29/06/2021	7:00	1.3	67.5	30/06/2021	7:00	0.9	90								
29/06/2021	8:00	1.3	67.5	30/06/2021	8:00	0.9	112.5								
29/06/2021	9:00	1.3	67.5	30/06/2021	9:00	0.9	112.5								
29/06/2021	10:00	1.3	67.5	30/06/2021	10:00	0.9	90								
29/06/2021	11:00	1.8	45	30/06/2021	11:00	0.9	90								
29/06/2021	12:00	1.8	90	30/06/2021	12:00	0.4	112.5								
29/06/2021	13:00	1.3	67.5	30/06/2021	13:00	0.4	67.5								
29/06/2021	14:00	1.3	45	30/06/2021	14:00	0.4	90								
29/06/2021	15:00	1.3	67.5	30/06/2021	15:00	0.9	67.5								
29/06/2021	16:00	1.3	67.5	30/06/2021	16:00	0.9	67.5								
29/06/2021	17:00	1.3	45	30/06/2021	17:00	0.4	90								
29/06/2021	18:00	1.8	135	30/06/2021	18:00	0.9	67.5								
29/06/2021	19:00	1.8	90	30/06/2021	19:00	0.9	67.5								
29/06/2021	20:00	1.3	112.5	30/06/2021	20:00	0.9	67.5								
29/06/2021	21:00	1.3	112.5	30/06/2021	21:00	1.3	67.5								
29/06/2021	22:00	1.3	112.5	30/06/2021	22:00	0.9	90								
29/06/2021	23:00	0.9	90	30/06/2021	23:00	1.3	90								

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

Location: AM3 – Sky Tower

Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter we	eight (g)	Particulate	Elapse	e Time	Sampling Time	Flow (cf		Av. Flow	Total vol.	Conc.
		$(^{\circ}C)$	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m³/min)	$(m^3)$	$(\mu g/m^3)$
04/06/2021	Cloudy	28.9	1004.7	11.7047	11.8021	0.0974	3024.54	3048.56	1441	52	52	1.48	2129	46
10/06/2021	Cloudy	28.8	1005.6	11.6004	11.7195	0.1191	3049.63	3073.65	1441	52	52	1.48	2130	56
16/06/2021	Sunny	31.7	1006.3	18.6983	18.7741	0.0758	3074.07	3098.09	1441	52	52	1.47	2121	36
22/06/2021	Cloudy	29.2	1005.1	14.8653	14.9741	0.1088	3099.15	3123.17	1441	52	52	1.48	2128	51
28/06/2021	Cloudy	26.2	1005.2	15.1921	15.3173	0.1252	3124.11	3148.13	1441	52	52	1.48	2140	59
												Maxin	num	59
												Minin	num	36
												Aver	age	50
												Action	Level	182
												Limit I	Level	260

Location: AM4(A) – The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter we	eight (g)	Particulate	Elapse	e Time	Sampling Time	Flow (cf		Av. Flow	Total vol.	Conc.	
		$(^{\circ}\mathbb{C})$	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m <sup>3</sup> /min)	$(m^3)$	$(\mu g/m^3)$	
04/06/2021	Cloudy	28.9	1004.7	18.7559	18.8274	0.0715	2668.66	2692.68	1441	50	50	1.35	1941	37	
10/06/2021	Cloudy	28.8	1005.6	18.5864	18.7065	0.1201	2693.32	2717.34	1441	48	48	1.29	1864	64	
16/06/2021	Sunny	31.7	1006.3	15.1801	15.2778	0.0977	2717.65	2741.68	1442	48	48	1.29	1857	53	
22/06/2021	Cloudy	29.2	1005.1	15.1672	15.2447	0.0775	2742.21	2766.23	1441	48	48	1.29	1862	42	
28/06/2021	Cloudy	26.2	1005.2	18.4063	18.4885	0.0822	2766.36	2790.39	1442	50	50	1.35	1951	42	
												Maxin	num	64	
												Minin	num	37	
												Aver	age	48	
												Action	Level	187	
												Limit I	Level	260	

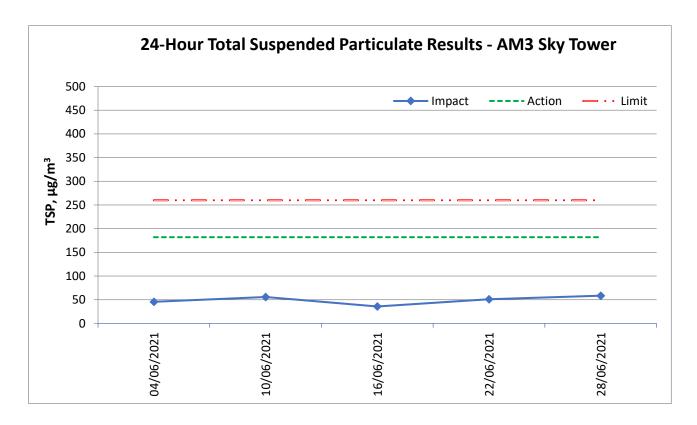
## Location: AM7 – Hong Kong Children's Hospital

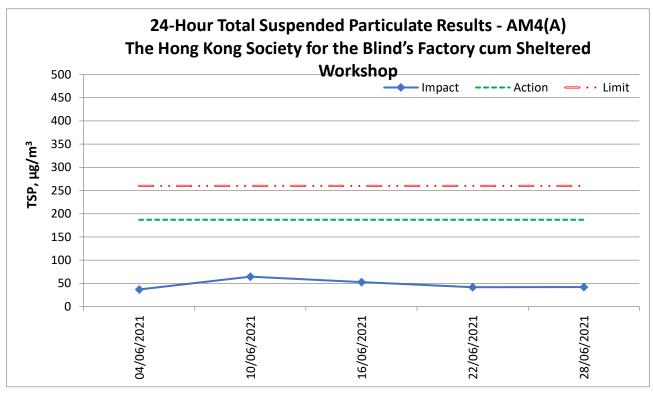
Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter we	eight (g)	Particulate	Elapse	e Time	Sampling Time	Flow (cf	Rate m)	Av. Flow	Total vol.	Conc.
		$(^{\circ}\mathbb{C})$	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m³/min)	$(m^3)$	$(\mu g/m^3)$
04/06/2021	Cloudy	28.9	1004.7	18.6133	18.6774	0.0641	7569.57	7593.59	1441	52	52	1.41	2030	32
10/06/2021	Cloudy	28.8	1005.6	18.5519	18.6284	0.0765	7593.96	7617.99	1442	52	52	1.41	2032	38
16/06/2021	Sunny	31.7	1006.3	15.3933	15.5045	0.1112	7618.12	7642.15	1442	52	52	1.40	2023	55
22/06/2021	Cloudy	29.2	1005.1	18.6483	18.7413	0.0930	7642.26	7666.28	1441	52	52	1.41	2029	46
28/06/2021	Cloudy	26.2	1005.2	18.5514	18.6459	0.0945	7666.39	7690.41	1441	50	50	1.36	1959	48
												Maxin	num	55
												Minim	num	32
												Avera	ige	44
												Action 1	Level	181

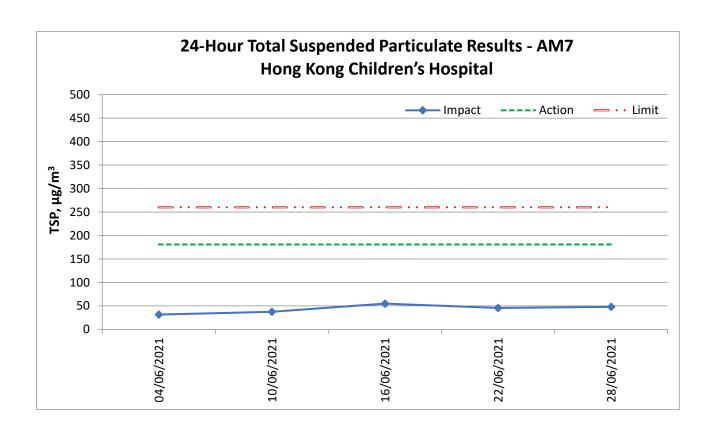
Limit Level

260

## 24-hour average TSP







$\label{eq:Appendix H-1-hr} \textbf{Appendix H-1-hr TSP monitoring results and graphical presentation}$

Location:
AM3 Sky Tower

Date	Measure	emei	nt Period	1-hr TSP concentration, μg/m <sup>3</sup>	Weather	
	9:00	-	10:00	29		
4/6/2021	10:00	-	11:00	30	Cloudy	
	11:00	-	12:00	34		
	9:00	-	10:00	33		
10/6/2021	10:00	-	11:00	37	Cloudy	
	11:00	-	12:00	36		
	13:00	-	14:00	24		
16/6/2021	14:00	-	15:00	28	Sunny	
	15:00	-	16:00	28		
	13:00	-	14:00	33		
22/6/2021	14:00	-	15:00	33	Cloudy	
	15:00	-	16:00	39		
	15:30	-	16:30	34		
28/6/2021	16:30	-	17:30	37	Cloudy	
	17:30	-	18:30	38		
N	Iaximum			39		
N	1inimum	,	-	24		
	Average			33		
Action Level				297		
Li	mit Level			500		

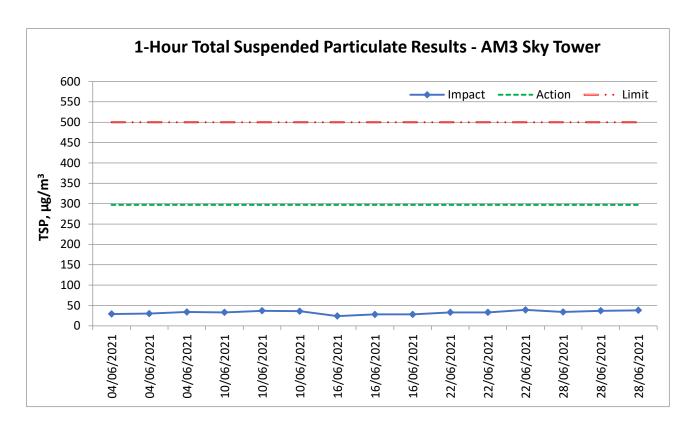
Location:
AM4(A) The Hong Kong
Society for the
Blind's Factory
cum Sheltered
Workshop

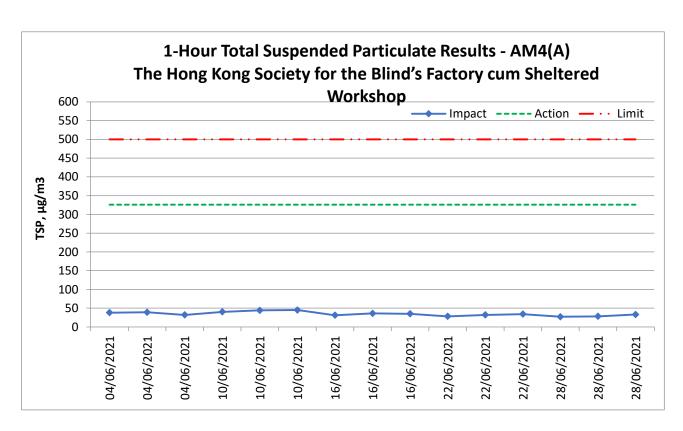
Date	Measure	emei	nt Period	1-hr TSP concentration, μg/m <sup>3</sup>	Weather	
	9:00	-	10:00	38		
4/6/2021	10:00	-	11:00	39	Cloudy	
	11:00	-	12:00	32		
	13:00	-	14:00	40		
10/6/2021	14:00	-	15:00	44	Cloudy	
	15:00	-	16:00	45		
	9:00	-	10:00	31		
16/6/2021	10:00	1	11:00	36	Sunny	
	11:00	-	12:00	35		
	13:00	-	14:00	28		
22/6/2021	14:00	1	15:00	32	Cloudy	
	15:00	1	16:00	34		
	11:00	1	12:00	27		
28/6/2021	13:00	-	14:00	28	Cloudy	
	14:00	1	15:00	33		
N	<b>I</b> aximum			45		
N	1inimum			27	·	
	Average			35		
Ac	Action Level			326		
Li	mit Level			500		

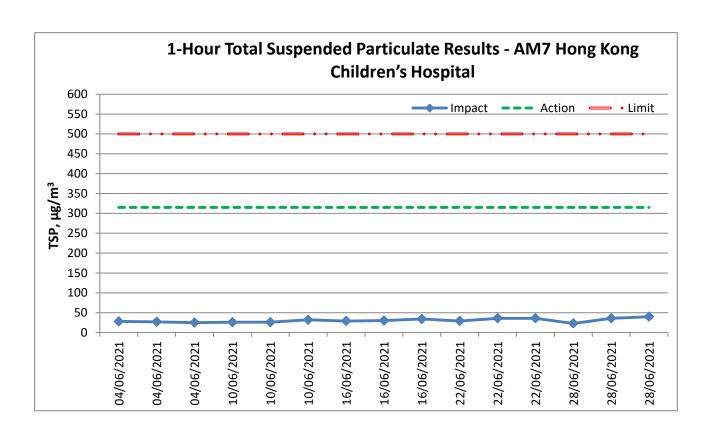
Location:
AM7 Hong Kong
Children's
Hospital

Date	Meas P	sure erio		1-hr TSP concentration, µg/m <sup>3</sup>	Weather	
	13:00	-	14:00	28		
4/6/2021	14:00	-	15:00	27	Cloudy	
	15:00	-	16:00	25		
	9:00	-	10:00	26		
10/6/2021	10:00	-	11:00	26	Cloudy	
	11:00	-	12:00	32		
	13:00	-	14:00	29		
16/6/2021	14:00	-	15:00	30	Sunny	
	15:00	-	16:00	34		
	9:00	-	10:00	29		
22/6/2021	10:00	-	11:00	36	Cloudy	
	11:00	-	12:00	36		
	11:00	-	12:00	23		
28/6/2021	16:20	-	17:20	36	Cloudy	
	17:20	-	18:20	40		
M	laximum			40		
N	Iinimum			23		
I	Average			30		
Ac	Action Level			315		
Li	mit Level			500		

## 1-hour average TSP







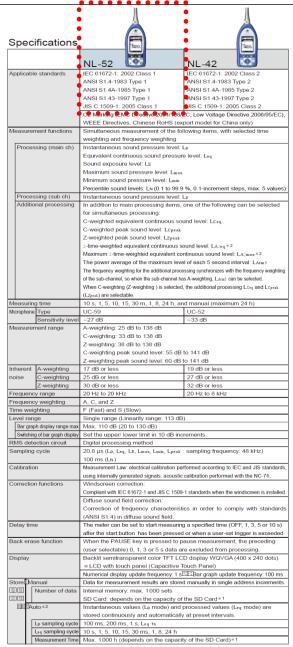
# Appendix I – Event and Action Plan for air quality

T		Act	tion	
Event	ET	IEC	Supervisor / ER	Contractor
Action Level being exceeded by one sampling	<ol> <li>Identify source and investigate the causes of exceedance;</li> <li>Inform Contractor, IEC and Supervisor /ER;</li> <li>Repeat measurement to confirm finding.</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol>	1. Notify Contractor.	Rectify any unacceptable practice;     Amend working methods if appropriate.
Action Level being exceeded by two or more consecutive sampling	Identify source and investigate the causes of exceedance;     Inform Contractor, IEC and Supervisor /ER;     Increase monitoring frequency to daily;     Discuss with IEC and Contractor on remedial actions required;     Assess the effectiveness of Contractor's remedial	remedial measures; 4. Advise the Supervisor /ER on the effectiveness of the proposed remedial	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise implementation of remedial measures;</li> <li>Conduct meeting with ET</li> </ol>	<ol> <li>Discuss with ET and IEC on proper remedial actions;</li> <li>Submit proposals for remedial actions to Supervisor /ER and IEC within three working day of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol>
	actions; 6. If exceedance continues, arrange meeting with IEC and Supervisor /ER; 7. If exceedance stops, cease additional monitoring.		and IEC if exceedance continues.	
Limit Level being exceeded by one sampling	Identify source and investigate the causes of exceedance;	submitted by ET; 2. Check Contractor's	Confirm receipt of notification of exceedance in writing;	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Discuss with ET and IEC</li> </ol>
	2. Inform Contractor, IEC, Supervisor /ER, and EPD;	working method; 3. Discuss possible remedial	<ul><li>2. Notify Contractor;</li><li>3. In consolidation with the</li></ul>	on proper remedial actions;
	Repeat measurement to confirm finding;     Assess effectiveness of	measures with ET and Contractor;	IEC, agree with the Contractor on the remedial measures to be	3. Submit proposal for remedial actions to Supervisor /ER and IEC

T. 4		Act	ion	
Event	ET	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.	<ul> <li>implemented;</li> <li>Supervise implementation of remedial measures;</li> <li>Conduct meeting with ET and IEC if exceedance continues.</li> </ul>	within three working days of notification; 4. Implement the agreed proposals.
Limit Level being exceeded by two or more consecutive sampling	<ol> <li>Notify IEC, Supervisor /ER, Contractor and EPD;</li> <li>Repeat measurement to confirm findings;</li> <li>Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance;</li> <li>Increase monitoring frequency to daily;</li> <li>Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results;</li> <li>If exceedance stop, cease</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with Supervisor /ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly.</li> </ol>	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise implementation of remedial measures;</li> <li>If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Discuss with ET and IEC on proper remedial actions;</li> <li>Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Submit further remedial actions if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.</li> </ol>

 $\label{eq:continuous} \begin{tabular}{ll} Appendix J-Calibration certificates, catalogue of noise monitoring \\ equipment \end{tabular}$ 

## Catalogue of Sound Level Meter



Data r	ecall	Allows viewing of stored data
Setup	memory	Up to five setup configurations can be saved in internal memory, for later recal
		Start up via file settings previously stored on SD card possible
Wavefo	rm recording *3	
File	format	Uncompressed waveform WAVE file
San	npling frequency	Select 48 kHz, 24 kHz or 12 kHz
Dat	a length	Select 24 bit or 16 bit
Outputs	DC output	Output DC signals using a frequency weighting characteristic selected by processing
	Output voltage	2.5 V, 25 mV / dB at bar graph display full scale
	AC output	Output AC signals using a frequency weighting characteristic selected by
		processing or by A, C, Z-weighting.
	Output voltage	1 ∨ (rms values) at bar graph display full scale
	Comparator	Turns on when the open-collector output exceeds the set value
	output*2	(max. applied voltage 24 V, max. current 60 mA, allowable dissipation 300 mW).
USB	I.e.	Allows USB to be connected to a computer and recognized as a removable dis
22 20 20	]	Allows USB to be controlled via communication commands
RS-23	2C communication	Allows for RS-232C communication via use of a dedicated cable
Data c	ontinuous output*2	
Тур	e of Instantaneous value	Lp
dat	a Processed value	Leq, Lmax, Lmin, Lpeak
Out	tput interval	100 ms
Print o	ut	Printing of measurement results on dedicated printer DPU-414
Power	requirements	Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply
Bat	tery life (23 ℃)	Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h
		At the maximum *Depends on the setting
AC	adapter	NC-98C (NC-34 for previous models cannot be used)
Ext	emal power voltage	5 to 7 V (rated voltage: 6 V)
Cui	rent consumption	Approximately 90 mA (normal operation, rated voltage)
Ambie	nt Temperature	−10 to +50 °C
conditi	ons Humidity	10 to 90 % RH (non-condensing)
Dustpr	oof / water-resistant	IP code: IP54 (except for microphone)
perforr	mance * 4	See precautions regarding waterproofing
Dimen	sions, weight	Approx. 250 (H) x 76 (W) x 33 mm(D), approx. 400 g (with batteries)
Suppli	ed accessories	Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1,
		Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB×1 (NX-42EX
		preinstalled model only)

Product name	Product number
Extended function program (Inst.on 512 MB SD card)	NX-42EX
Waveform recording program*2 (Inst.on 2 GB SD card)	NX-42WR
Octave, 1/3 octave real-time analysis program*2 (Inst.on 512 MB SD card)	NX-42RT
FFT analysis program *2 (Inst.on 512 MB SD card)	NX-42FT
Data management software for environmental measurement	AS-60
Data management software for environmental measurement (Includes the octave and 1/3 octave data management software)	AS-60RT
Data management software for environmental measurement (Includes the vibration level data management software)	AS-60∨M
Waveform analysis software	CAT-WAVE
SD Card 512 MB	SD-512M
SD Card 2 GB	SD-2G
AC adapter (100 ∨ to 240 ∨)	NC-98C
Battery pack	BP-21
Microphone extension cables	EC-04 (from 2 m)
BNC-Pin output code	CC-24
Comparator output cable	CC-42C
Printer	DPU-414
Printer cable	CC-42P
RS 232C serial I/O cable	CC-42R
USB cable	_
Sound calibrator	NC-74
All-weather windscreen	WS-15
Windscreen mounting adapter	WS-15006
Rain-protection windscreen	WS-16
Sound level meter tripod	ST-80
All-weather windscreen tripod	ST-81

\*4 Protection against harmful dust and water splashing from any direction.

Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed. To maintain the water and dust proof rating, internal packing replacement is required every two years (at



**RION CO., LTD.** 

3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.

This product is certified to an International Protection rating of IP54 (dust protected and resistant to splashing water).
This leaffet is printed with environmentally friendly vegetable-based ink on recycled paper.

1011-4 E 212.P.D



Website; www.ceprei-cal.com

圆址: www.ceprei-cal.com

明

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 Accreditation Service for Conformity Assessment, No. CNAS L13344.

- 2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):

  JIG 188-2017 声级计检定规程: Sound pressure level: (20~130)dB; Frequency Weighting: (20~130)dB@(10
- ◆ 详细内容请查看CNAS网站中注册编号为L13344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).
- 3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration): 技术指标

(Description)	(Certificate No./Due Date/Traceability to)	(Specification)
数字多用表	4GC19040017-0001/2020-11-03/賽宝	DCV: ±0.0035%; ACV: ±0.06%; DCI: ±0.05%; ACI: ±0.1%; R: ±0.01%; f: ±0.01%
步进衰减器	4GC20000158-0012/2021-04-29/賽宝	±3dB
标准传声器	GFJGJL1001200310164/2021-02-26/航空 304所	U=(0.05~0.12)dB (k=2)
声校准器	4GC19040146-0209/2020-12-29/賽宝	1级
正弦信号发生器	4GC19040057-0001/2020-11-05/賽宝	f: ±1mHz; 失真度: <-70dB
PULSE分析系统	4GC20000009-0001/2021-01-08/賽宝	频率:Urel=0.001%,k=2;电压:Urel=0.04%,k=2
前置放大器	GFJGJL1001200310165/2021-02-26/航空 304所	U=0.3dB (k=2)

- 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
- 环境条件(Environmental conditions): 温度(Temperature): 24℃ 相对湿度(Relative Humidity): 60%
- 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%时对应的包含因子k得到。

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 & which corresponding to the coverage probability about 95%.

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。

"Pm and "Pass" in this certificate stant for "Low Limit; the measured value ≤High Limit", "F" and "Fail" stand for "the measured value <Low Limit in the measured value >Low Limit or the measured value >High Limit", "N/A" stands for "Not Applicable ".The judgment 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.

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。

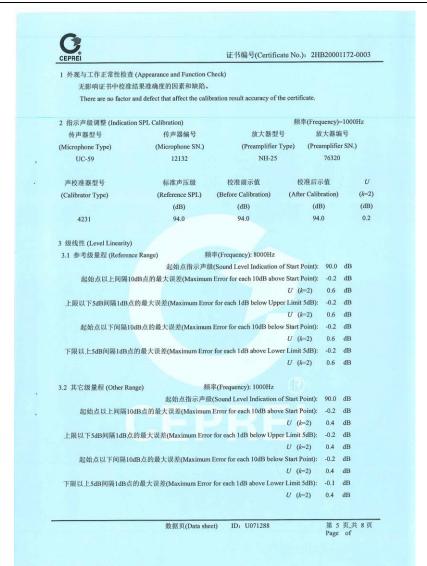
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

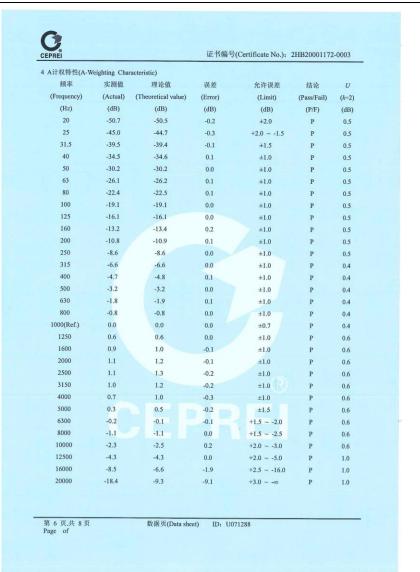
- 注: 1.本证书未经本机构书面授权,不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)
- 2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

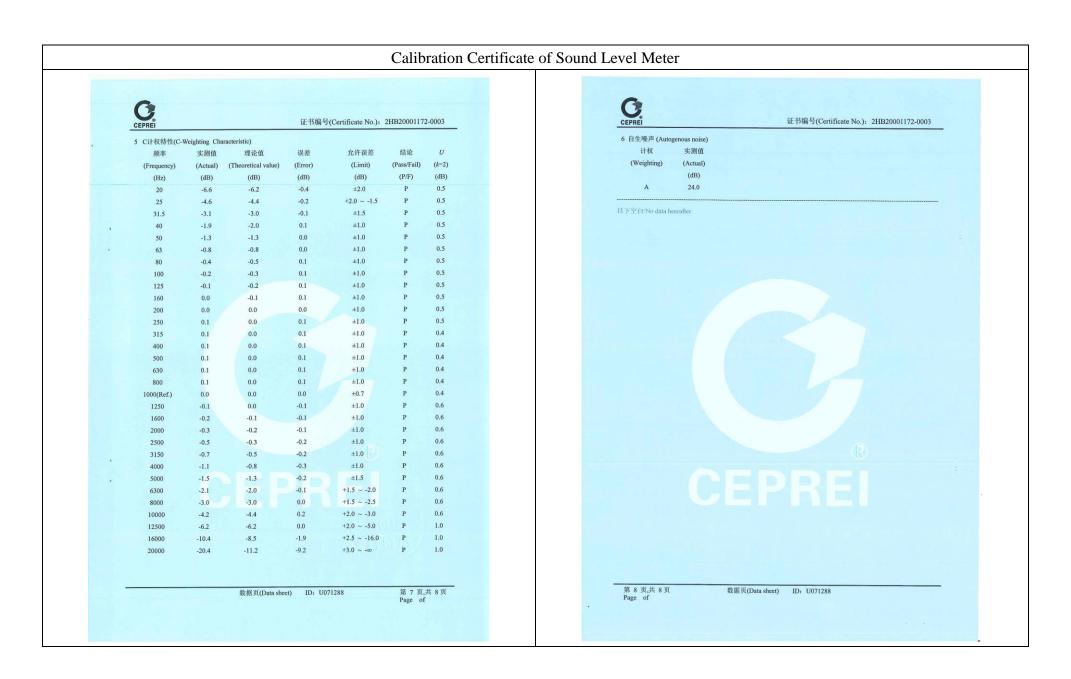
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Page of









委托单位: Client 仪器名称: Description 型号规格: Model/Type 制造商:

Manufacture 机身号:

Serial No. 管理号:

Asset No.

接收日期: Rec. Date

签发日期: App. Date 结论:

Conclusion

中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心) CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

# CALIBRATION CERTIFICATE

证书编号: 2HB20001172-0004 Certificate No.





Sound Level Meter	
NL-52	
RION	7.14
00976204	
AAST-SLM-11	
校准日期:	2020-07-20
建议校准周期:	12个月(12 Months)
	NL-52 RION 00976204 AAST-SLM-11 校准日期: Cal. Date

Castco Testing Centre Limited

Approved by

赛宝计量检测中心 广州总部地址:广州天河区东莞庄路110号 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896 邮件: cal@ceprei.com 同址: www.ceprei-cal.com

Stamp

CEPREI Calibration and Testing Centre H.Q. Addr: No.110,Dongguanzhuang Road,Tianhe District,Guangzhou Service Tel: 020-87237633 Fax: 020-87236189 Complaint Tel: 020-87236896 Email: cal@ceprei.com Website: www.ceprei-cal.com

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# DIRECTIONS

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- 详细内容请查看CNAS网站中注册编号为L13344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).
- 3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

名 称	证书号/有效期/溯源甲位	技不指标
(Description)	(Certificate No./Due Date/Traceability to)	(Specification)
数字多用表	4GC19040017-0001/2020-11-03/賽宝	DCV: ±0.0035%; ACV: ±0.06%; DCI: ±0.05%; ACI: ±0.1%; R: ±0.01%; f: ±0.01%
步进衰减器	4GC20000158-0012/2021-04-29/賽宝	±3dB
标准传声器	GFJGJL1001200310164/2021-02-26/航空 304所	U=(0.05-0.12)dB (k=2)
声校准器	4GC19040146-0209/2020-12-29/賽宝	1級
正弦信号发生器	4GC19040057-0001/2020-11-05/賽宝	f: ±1mHz; 失真度: <-70dB
PULSE分析系统	4GC20000009-0001/2021-01-08/賽宝	频率:Urel=0.001%,k=2;电压:Urel=0.04%,k=2
前置放大器	GFJGJL1001200310165/2021-02-26/航空	U=0.3dB (k=2)

- 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
- 5. 环境条件(Environmental conditions): 温度(Temperature): 24℃ 相对湿度(Relative Humidity): 60%
- 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%时对应的包含因子k得到。

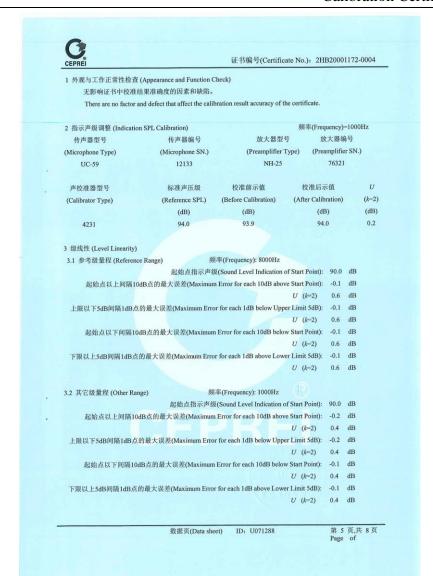
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%

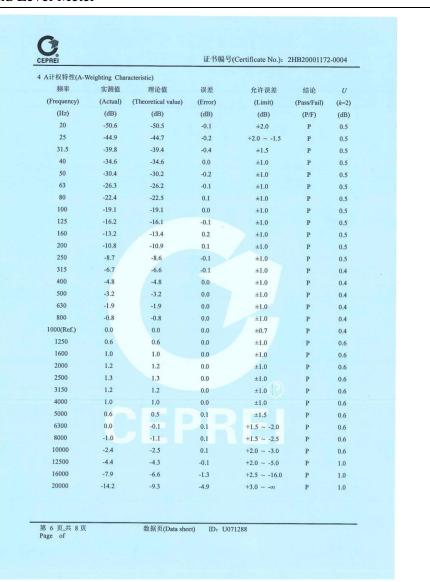
- 7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围内", "N/A"代表"不适用"。本证书报告的判定规则和结论仅供参考,使用人员应结合实际测量的要求合理使用,如考虑测量结果测量不确定度的影响等。
- "P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value < Low Limit or the measured value > High Limit", "N/A" stands for "Not Applicable ". The judgment 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.
- 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

- 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 8 页 Page of





#### Calibration Certificate of Sound Level Meter CEPRE 证书编号(Certificate No.): 2HB20001172-0004 证书编号(Certificate No.): 2HB20001172-0004 5 C计权特性(C-Weighting Characteristic) 6 自生噪声 (Autogenous noise) 计权 实测值 实测值 误差 允许误差 结论 (k=2) (Weighting) (Actual) (Frequency) (Actual) (Theoretical value) (Error) (Limit) (Pass/Fail) (dB) (dB) (dB) (dB) (Hz) -6.4 -6.2 -0.2 ±2.0 0.5 20 25 -4.5 -4.4 -0.1 +2.0 ~ -1.5 0.5 以下空白/No data hereafter -3.0 -0.1 ±1.5 0.5 31.5 -3.1 40 -2.1 -2.0 ±1.0 0.5 ±1.0 50 -1.3 -1.3 0.0 -0.8 -0.1 ±1.0 0.5 63 -0.9 ±1.0 0.5 -0.5 -0.5 -0.3 -0.3 0.0 ±1.0 0.5 100 125 -0.1 -0.2 ±1.0 0.5 160 -0.1 -0.1 0.0 ±1.0 0.5 0.5 200 ±1.0 0.0 ±1.0 0.5 250 0.0 0.0 0.4 315 0.0 0.0 $\pm 1.0$ 400 0.0 0.0 ±1.0 0.4 0.0 ±1.0 500 0.0 0.4 630 0.0 0.0 0.0 ±1.0 0.0 0.0 ±1.0 0.4 800 0.0 0.0 0.0 ±0.7 0.4 1000(Ref.) 1250 0.0 0.0 0.0 ±1.0 0.6 1600 -0.1 -0.1 ±1.0 0.6 ±1.0 2000 -0.1 -0.2 0.1 0.6 2500 -0.3 ±1.0 -0.5 0.0 ±1.0 0.6 -0.5 3150 4000 -0.8 -0.8 ±1.0 0.1 0.6 -1.2 -1.3 ±1.5 5000 0.1 6300 -1.9 -2.0 +1.5 ~ -2.0 +1.5 ~ -2.5 -2.9 -3.0 0.1 0.6 8000 -4.3 -4.4 0.1 +2.0 ~ -3.0 0.6 10000 -6.2 +2.0 ~ -5.0 1.0 -1.4 +2.5 ~ -16.0 1.0 -9.9 -8.5 16000 20000 -11.2 +3.0 ~ -00 1.0 第 8 页,共 8 页 Page of 数据页(Data sheet) ID: U071288 数据页(Data sheet) ID: U071288 第 7 页,共 8 页

## Catalogue of Sound Calibrator

For microphone calibration NC-74

#### How to use

Carefully insert the microphone all the way into the coupler of the NC-74. Then simply turn the power on to apply a constant sound pressure level to the diaphragm of the microphone.



The performance of the NC-74 is suitable for calibration of high-precision sound level meters. The unit is compact, lightweight, and easy to use. Two IEC LR6 (size AA) alkaline batteries will power the unit for more than 30 hours of continuous use at room temperature.

#### Atmospheric pressure compensation principle

The NC-74 incorporates a sensor that detects atmospheric pressure. Based on the information provided by the sensor, the CPU controls the signal amplitude. This allows the unit to always provide the correct output for achieving constant sound pressure level, regardless of fluctuations in atmospheric pressure.



#### Using the 1/2-inch adapter

To allow calibration of sound level meter microphones with 1 inch diameter, the 1/2-inch microphone adapter can be removed, 1/2-inch microphones are calibrated with the adapter in place.



#### **Specifications**

Applicable standards	JIS C1515:2004 Class			
Suitable microphones	1-inch microphones	IEC 61094-1 Type LS1P UC-27 UC-25 UC-34		
	1/2-inch microphones	IEC 61094-1 Type LS2aP UC-59 UC-57 UC-53A UC-52 UC-26 UC-26 UC-30 UC-31 UC-33P		
Nominal sound pressure level	94 dB			
Sound pressure level tolerance	±0.3 dB			
Nominal frequency	1 kHz			
Frequency tolerance	±1.0 % or less			
Power requirements	IEC LR6 (size AA) alkal	ine battery X 2		
Dimensions, mass	Approx. 49 (H) × 80 (W Approx. 200 g (including			
Supplied accessories	Case X 1 IEC LR6 (size AA) alkaline battery X 2 1/2-inch microphone adapter NC-74-002 X 1			



RION CO., LTD.

3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442 http://www.rion.co.jp/english/



## Calibration Certificate of Sound Calibrator



中国赛宝实验室计量检测中心 (工业和信息化部电子第五研究所计量检测中心 CHINA CEPREL LABORATORY CALIBRATION & TESTING CENTER

## 校准证书 CALIBRATION CERTIFICATE





Castco Testing Centre Limited 委托单位: Sound Level Calibrator 仪器名称: Description 型号规格: Model/Type NC-74 RION 制造商: Manufacturer 34678556 机身号: Serial No. AAST-SLC-06 管理号: Asset No. 2020-09-08 2020-09-12 接收日期: 校准日期: Rec. Date Cal. Date 2020-09-12 12个月(12 months) 签发日期: 建议校准周期:

CEPREI

校准: Calibrated by

App. Date

结论: Conclusion

陈卓辉

亥验: nspected by

Reference Cal. Period 所校准项目合格(Passed at Calibration Items)

> 印章: Stamp

Website: www.ceprei-cal.com

賽宝计量检測中心 广州总部地址,广州天河区东渠庄路110号 客限电话,020-87237633 传真,020-87236189 投诉电话,020-87236896 邮件:cal@ceprei.com 份址,www.ceprei.com CEPREI Calibration and Testing Centre
H.Q. Addr: No.110.Dongguunzhuang Road,Tianhe District,Guangzhou
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com

第 1 页,共 5 页 Page of

## Calibration Certificate of Sound Calibrator

证书编号(Certificate No.): 2HB20001561-0002

## 说 明 DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会(CNAS)认可,认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 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).

\* 详细内容消查看CNAS网站中注册编号为L13344的证书册件,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).

3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

名 称、	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
(Description)			
PULSE分析系统	LSvm2020-02491/2021-04-26/中国计量院	頻率:U <sub>ref</sub> =0.001%,k=2;电压: U <sub>ref</sub> =0.04%,k=2	频率:0.001Hz~51.2kHz, 电压:(1×10 <sup>-5</sup> ~30)V
标准传声器	GFJGJL1001200310164/2021-02-26/航空 304所	U=(0.05~0.12)dB (k=2)	20Hz~20kHz
前置放大器	GFJGJL1001200310165/2021-02-26/航空	U=0.3dB (k=2)	(10~20000) Hz

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

5. 环境条件(Environmental conditions); 温度(Temperature): 24°C 相对湿度(Relative Humidity): 60%

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%时对应的包含因子k得到。

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%.

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"。本证书报告的刘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。

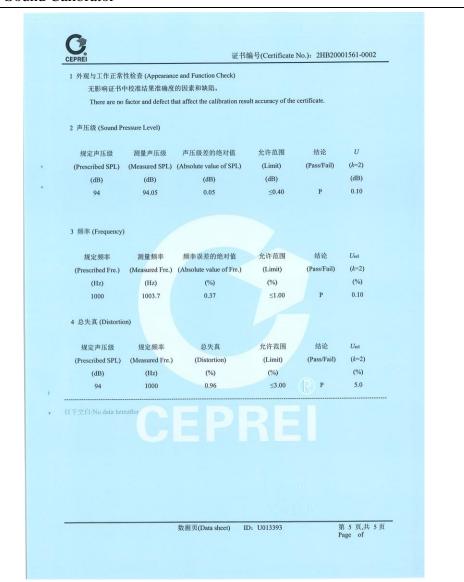
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value <Low Limit or the measured value <Low Limit or the measured value + High Limit", "NA" stands for "Not Applicable". The judgment rules and conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

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。

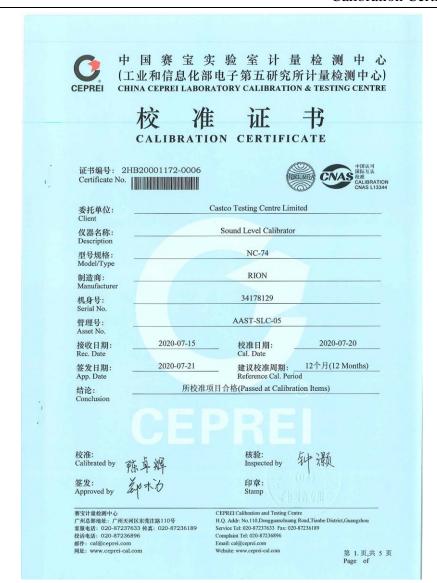
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

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- 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 Page of



## Calibration Certificate of Sound Calibrator



# **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 可, 认可证书号为: CNAS L13344。

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■ 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).

\* 详细内容请查看CNAS网站中注册编号为L13344的证书附件,超出范围的内容未被认可。(Please see the attachment of certificate No.

3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration): 名 称 读书号/有效期/溯源单位 技术指标

(Description)	(Certificate No./Due Date/Traceability to)	(Specification)
标准传声器	GFJGJL1001200310164/2021-02-26/航空 304所	U=(0.05~0.12)dB (k=2)
前置放大器	304所	U=0.3dB (k=2)
PULSE分析系统	4GC20000024-0064/2021-02-12/賽宝	频率:Urel=0.001%,k=2;电压:Urel=0.04%,k=2

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

5. 环境条件(Environmental conditions): 温度(Temperature): 24°C 相对湿度(Relative Humidity): 60%

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%时对应的包含因子k得到。

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%.

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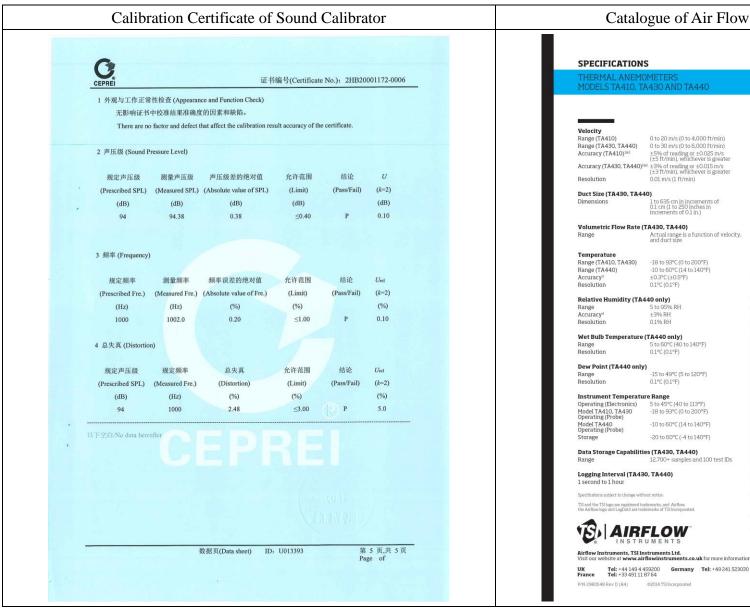
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2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

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Page 11 of 15



## Catalogue of Air Flow Meter (TSI TA440)

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

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.)

#### Volumetric Flow Rate (TA430, TA440)

Actual range is a function of velocity, and duct size

-18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) ±0.3°C (±0.5°F) 0.1°C (0.1°F)

5 to 60°C (40 to 140°F)

-15 to 49°C (5 to 120°F)

-18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) -20 to 60°C (-4 to 140°F)

#### Data Storage Capabilities (TA430, TA440)

12,700+ samples and 100 test IDs



#### Time Constant (TA430, TA440)

User selectable

#### **External Meter Dimensions**

8.4 cm x 17.8 cm x 4.4 cm (3.3 in. x 7.0 in. x 1.8 in.)

#### Meter Weight with Batteries

0.27 kg (0.6 lbs.)

#### **Meter Probe Dimensions**

Probe Length 101.6 cm (40 in.) Probe Diameter of Tip 7.0 mm (0.28 in.) Probe Diameter of Base 13.0 mm (0.51 in.)

#### **Articulating Probe Dimensions**

Articulating Section Length 19.7 cm (7.8 in.) Diameter of Articulating Knuckle 9.5 mm (0.38 in.)

#### **Power Requirements**

Four AA-size batteries or AC adapter

	TA410	TA430, TA430-A	TA440, TA440-A
Velocity range 0 to 20.00 m/s (0 to 4000 ft/min)	+		
Velocity range 0 to 30.00 m/s (0 to 6000 ft/min)		+	+
Temperature	+	+	
Flow		+	+
Humidity, wet bulb, dew point			
Probe	Straight	Straight or -A articulated	Straight or -A articulated
Variable time constant		+	+
Manual data logging		+	+
Auto save data logging			+
Statistics		+	+
Review data		+	+
LogDat2 downloading software		+	
Free Certificate of Calibration	+	+	+

The accuracy statement begins at 30 ft/min through 4000 ft/min (0.15 m/s through 20 m/s) for the Model TA410, and 30 ft/min through 6.000 ft/min (0.15 m/s through 30 m/s) for Models TA430 and TA440.

\*Accuracy with instrument case at 25°C (77°F), add uncertainty of 0.03°C/°C (0.05°F/°F)

for change in instrument temperature.

Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% RH/°C (0.1% RH/°F) for change in probe temperature. Includes 1% hysteresis.

#### Calibration Certificate of Air Flow Meter AAST-FLOW-03, Gal Cent 2021/2/26 深圳市东华计量检测技术有限公司 CALIBRATION CERTIFICATE 证书编号: DH21AA002160001 Certificate No. 委托方名称: Castco Testing Centre Limited Client name 委托方地址: 33, On Kui Street, Fanling, N.T. Add.of Client 计量器具名称: 风速计 Name of Instrument 型号/规格: TA440 Type/Specification 制造单位: AIRFLOW Manufacturer 器具编号: AAST-FLOW-03/TA4401706003 Serial No. 接收日期: 02 Month 23 校准日期: Date of calibration Year Month 批准人: 签发日期: 2021 年 02 月 26 日 Approved by Date of issue Year Month 张吉庆 核验员: 张吉庆 Checked by (证书专用章) 校准员: Calibrated by 扫码查证书信息 (真伪) 计量校准机构备案号: 粤校备2017B010 Register No: 粤校备2017B010 地址:深圳市龙华区大浪街道同胜社区浦华科技园厂房 Add: 1st Floor, Building A1, Puhua Science and Technology Park, Tongsheng Community, Dalang Street, Longhua District, Shenzhen, Guangdong, China 电话: 0755-28161768/28162768/28166778 Tel: 0755-28161768/28162768/28166778 传真: 0755-21004376 邮编: 518109 Fax: 0755-21004376 Zip Code: 518109 http://www.szdhjl.com E-mail: szdhjl@163.com 第 1 页 . 共 3 页 page



Certificate No.

DH21AA002160001

## 证书说明

Certificate Statement

- 1、本校准证书包含的数据和信息仅对本次被校准的计量器具负责。 The calibration certificate contains data and information applies only to the calibrated instrument.
- 2、本公司仅对加盖我司的"证书专用章"的完整证书负责。 The company only Division I stamped "certificate special seal" is responsible for the full certificate. 3、未经本公司书面授权,不得部分复印证书。
- The certificate shall not be photocopied without the written authorization of the company.
- 4、本次校准依据的技术文件:

Reference Documents for the Calibration:

JJG(建设)0001-1992 热球式风速仪计量检定规程

JJG(建设)0001-1992 Metrological Verification Regulation of Hot Ball shaped Anemmeter

5、本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

1	设备名称 Equipment Name	测量范围 Measuring Range	不确定度/准确度等级 /最大允许误差 Uncertainty/AccuracyClass/ Maximum permissible Error	设备编号 Equipment No.	溯源机构/ 证书编号 Traceability to/ Certificate No.	溯源有效期 Traceability Due Date
	补偿式微压计	(-2500~2500) Pa	EA DE	SM1926	上海市计量测试技术研究院 2018E21-20- 2637951001	2022-07-28
3	皮托管	(0~30) m/s		SM326	中国计量科学研究院 RGfv2019-0007	2024-01-20
	机械式温湿度计	温度: (-20~80) ℃; 湿度: (0~ 100) %RH	MPE:温度; ±2°C, 湿 度:± (5~7) %	85926	深圳市计量质量检测研 究院 205605616	2021-05-10
	空盒气压表	(800~1060)hPa	U=0.6hPa, k=2	15033115	深圳市计量质量检测研究院 204373348	2021-08-17
	标准水银温度计	(0~50)*e C	U=0.03℃, k=2	2-204	深圳市计量质量检测研 究院 205502058	2022-03-09

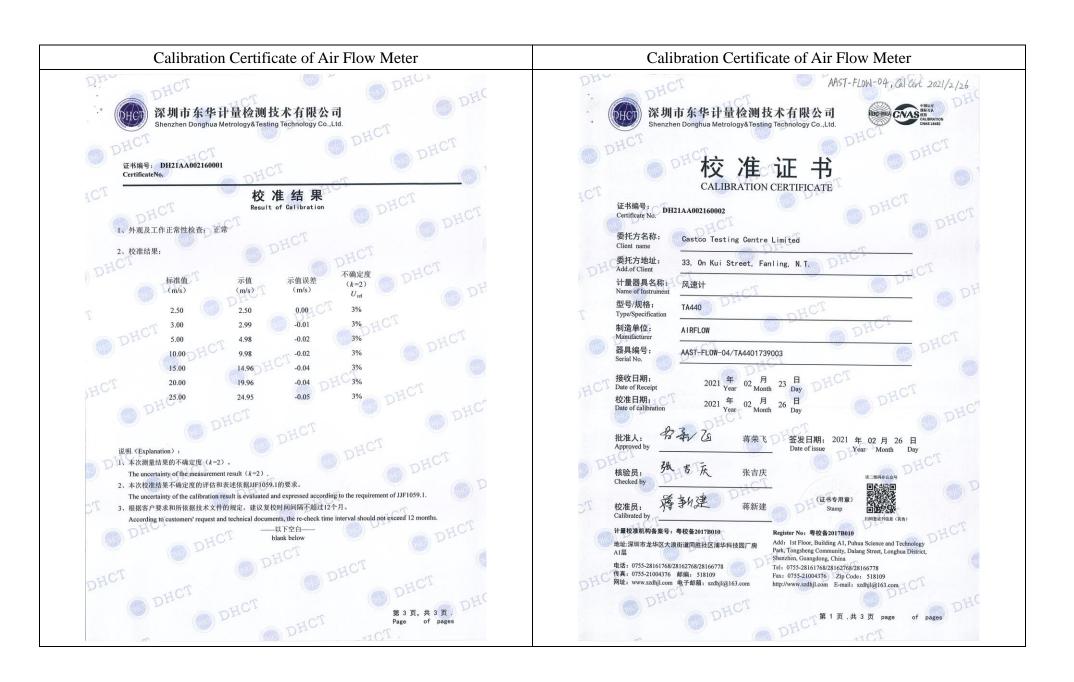
6、校准地点: 本公司力学实验室 Operation Location

7、环境条件: Operation Environment

21.7 °C Temperature

相对湿度

1010.0 hPa



## Calibration Certificate of Air Flow Meter



## 深圳市东华计量检测技术有限公司

Shenzhen Donghua Metrology&Testing Technology Co.,Ltd.

证书编号: Certificate No.

DH21AA002160002

## 证书说明

Certificate Statement

1、本校准证书包含的数据和信息仅对本次被校准的计量器具负责。

The calibration certificate contains data and information applies only to the calibrated instrument.

2、本公司仅对加盖我司的"证书专用章"的完整证书负责。

The company only Division I stamped "certificate special seal" is responsible for the full certificate.

3、未经本公司书面授权,不得部分复印证书。

The certificate shall not be photocopied without the written authorization of the company.

4、本次校准依据的技术文件:

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JJG(建设)0001-1992 Metrological Verification Regulation of Hot Ball shaped Anemmeter

5、本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

设备名称 Equipment Name	测量范围 Measuring Range	不确定度/准确度等级 /最大允许误差 Uncertainty/AccuracyClass/ Maximum permissible Error	设备编号 Equipment No.	溯源机构/ 证书编号 Traceability to/ Certificate No.	溯源有效期 Traceability Due Date
补偿式微压计	(-2500~2500) Pa	=# DE	SM1926	上海市计量测试技术研究院 2018E21-20- 2637951001	2022-07-28
皮托管	(0~30) m/s		SM326	中国计量科学研究院 RGfv2019-0007	2024-01-20
机械式温湿度计	温度: (-20~80) C; 湿度: (0~ 100) %RH	MPE:温度: ±2℃,湿 度:± (5~7)%	85926	深圳市计量质量检测研究院 205605616	2021-05-10
空盒气压表	(800~1060)hPa	U=0.6hPa, k=2	15033115	深圳市计量质量检测研 究院 204373348	2021-08-17
标准水银温度计	(0~50)°C	U=0.03°C, k=2	2-204	深圳市计量质量检测研 究院 205502058	2022-03-09

6、校准地点: 本公司力学实验室 Operation Location

7、环境条件: Operation Environment 温度 21.7 C

相对湿度

60 %

大气

气压 1010.0 hPa

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ge of pages



### 深圳市东华计量检测技术有限公司 Shenzhen Donghua Metrology&Testing Technology Co.,Ltd.

证书编号: DH21AA002160002 CertificateNo.

### 校准结果 Result of Calibration

1、外观及工作正常性检查; 正常

2、校准结果:

2				0-
	标准值 (m/s)	示值 (m/s)	示值误差 (m/s)	不确定度 (k=2) U <sub>rel</sub>
	2.50	2.50	0.00 CT	3%
OT	3.00	3.00	0.00	3%
HO.	5.00	4.99	-0.01	3%
	10.00 HC	9.98	-0.02	3%
	15.00	14.96 F	-0.04	3%
	20.00	19.95	-0.05	3%
	25.00	24.95	-0.05	3%

说明 (Explanation):

1、本次测量结果的不确定度(k=2)。 The uncertainty of the measurement result (k=2).

2、本次校准结果不确定度的评估和表述依据JJF1059.1的要求。

The uncertainty of the calibration result is evaluated and expressed according to the requirement of JJF1059.1.

3、根据客户要求和所依据技术文件的规定,建议复校时间间隔不超过12个月。

According to customers' request and technical documents, the re-check time interval should not exceed 12 months.

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Appendix K – Noise i	monitoring results and	graphical presentation

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

D.	Date Temp	) ,,,,,,1	Measured Noise Level at M11, dB(A)						T : :	
Date		Weather	7	Γiı	me	Baseline	$\mathcal{L}_{\text{Aeq}}$	$L_{A10}$	$L_{A90}$	Limit
04/06/2021	28.9	Cloudy	9:40	-	10:10	68.3	72.6	75.2	63.2	75
10/06/2021	28.8	Cloudy	14:06	-	14:36	68.3	69.7	72.1	64.7	75
16/06/2021	31.7	Sunny	10:37	-	11:07	68.3	68.2	70.9	61.8	75
22/06/2021	29.2	Cloudy	14:02	-	14:32	68.3	67.8	70.4	61.7	75
28/06/2021	26.2	Cloudy	14:00	-	14:30	68.3	67.1	70.2	61.6	75
				Maximum			72.6			<u> </u>
				Minimum			67.1			
					Average		69.6			

## M12 - Hong Kong Children's Hospital

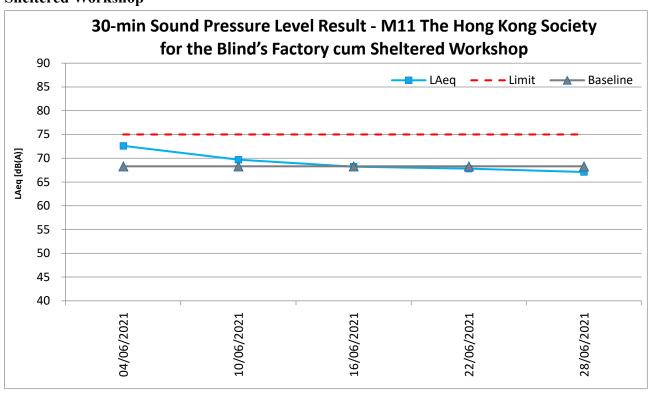
Date	Temp (°C)	Weather	Measured Noise Level at M12, dB(A)							* • •
			Time			Baseline	$\mathcal{L}_{Aeq}$	$L_{A10}$	$L_{A90}$	Limit
04/06/2021	28.9	Cloudy	13:49	-	14:19	61.9	65.9	68.0	63.2	75
10/06/2021	28.8	Cloudy	9:53	-	10:23	61.9	64.5	66.3	62.0	75
16/06/2021	31.7	Sunny	15:16	-	15:46	61.9	65.6	67.9	62.8	75
22/06/2021	29.2	Cloudy	10:50	-	11:20	61.9	64.8	66.9	62.8	75
28/06/2021	26.2	Cloudy	16:40	-	17:10	61.9	62.2	64.3	60.1	75
					Maximum		65.9			

 Maximum
 65.9

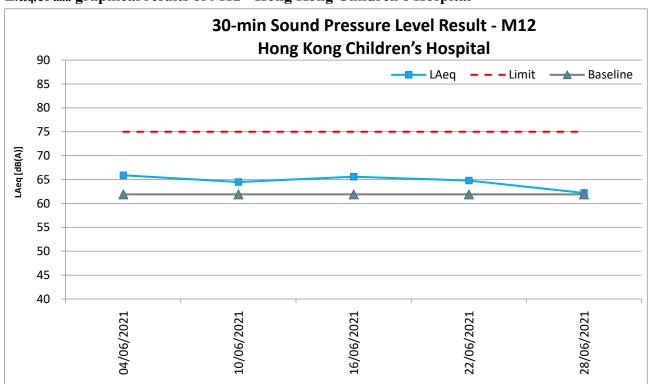
 Minimum
 62.2

 Average
 64.8

 $L_{\text{Aeq, }30\text{-min}}$  graphical results of M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop



LAeq, 30-min graphical results of M12 - Hong Kong Children's Hospital



# Appendix L – Event and Action Plan for noise

T4	Action									
Event	ET	IEC	Supervisor / ER	Contractor						
Action Level being exceeded	<ol> <li>Notify Supervisor / ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, Supervisor / ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> <li>(The above actions should be taken within 2 working days after the exceedance is</li> </ol>	results submitted by the ET;	1. Confirm receipt of notification of failure in writing;  2. Notify Contractor;  3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;  4. Supervise the implementation of remedial measures.  (The above actions should be taken within 2 working days after the exceedance is identified.)	<ol> <li>Submit noise mitigation proposal to IEC and Supervisor / ER;</li> <li>Implement noise mitigation proposals.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified.)</li> </ol>						
Limit Level being exceeded	identified.)  1. Inform IEC, Supervisor /ER, Contractor and EPD;  2. Repeat measurement to confirm findings;  3. Increase monitoring frequency;  4. Identify source and investigate the cause of exceedance;  5. Carry out analysis of Contract's working procedure;  6. Discuss remedial measures required with the IEC, Contractor and Supervisor /ER;  7. Assess effectiveness of	1. Discuss the potential remedial actions with Supervisor /ER, ET and Contractor;  2. 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	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification;</li> <li>Implement the agreed proposal;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.</li> <li>(The above actions should be</li> </ol>						

Event	Action									
Event	ET	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	ion	
Event	ET	IEC	Supervisor / ER	Contractor
Design Check	1. Check final design conforms to the requirements of EP and prepare report.	2. Recommend remedial	Undertake remedial design if necessary.	
Non-conformity on one occasion	<ol> <li>Identify Source.</li> <li>Inform IEC and Supervisor /ER.</li> <li>Discuss remedial actions with IEC, Supervisor /ER and Contractor.</li> <li>Monitor remedial actions until rectification has been completed.</li> </ol>	working method.  3. Discuss with ET and Contractor on possible remedial measures.	<ol> <li>Notify Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ol>	Amend working methods.     Rectify damage and undertake any necessary replacement.
Repeated Non-conformity	<ol> <li>Identify Source.</li> <li>Inform IEC and Supervisor /ER.</li> <li>Increase monitoring frequency.</li> <li>Discuss remedial actions with IEC, Supervisor /ER and Contractor.</li> <li>Monitor remedial actions until rectification has been completed.</li> <li>If non-conformity stops, cease additional monitoring.</li> </ol>	method.  3. Discuss with ET and Contractor on possible remedial measures.  4. Advise Supervisor /ER on effectiveness of proposed remedial measures.	<ol> <li>Notify Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ol>	Amend working methods.     Rectify damage and undertake any necessary replacement.

# Appendix N – Waste Flow Table



#### Appendix F - Monthly Summary Waste Flow Table

Name of Department: CEDD Contract No.: ED/2018/01

#### Monthly Summary Waste Flow Table for June 2021

	Ac	tual Quantities	s of Inert C&D	Materials Gener	rated Monthl	у	Ac	tual Quantities of	C&D Wastes	Generated Mont	hly
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m³)	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	9.107	0.177		7.885	1.045						0.091
Feb	5.637	0.127	1.660	2.261	1.589						0.106
Mar	4.780		2.580		1.530	0.670					0.101
Apr	4.320		1.350		2.970						0.120
May	12.813		1.225	9.693	1.895						0.138
Jun	10.791		0.680	9.411	0.700						0.140
Sub-total	47.448	0.304	7.495	29.25	9.729	0.670	-				0.696
July											
Aug											
Sep											
Oct							-				
Nov				-			-				
Dec											
Total	47.448	0.304	7.495	29.25	9.729	0.670					0.696

	Forecast of Total Quantities of C&D Materials to be Generated from the Contract*									
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
195.01	2.103	10.2	140	19.81	25	200	0.8			3.4

Notes: (1) The performance targets are given in ER Appendix 8I Clause 14 and the EM&A Manual

<sup>(2)</sup> The waste flow table shall also include C&D materials to be imported for use at the Site

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

<sup>(4)</sup> The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m3 (ER Part 8 Clause 8.7.5(d)(ii) refers)

<sup>(5)</sup> Assume inert C&D materials density and non-inert C&D materials are 1.9 m³/ton and 1.5 m³/ton

**Appendix O – Environmental Mitigation Implementation Schedule**(EMIS)

EIA for KTD	EIA for KTD	Air Quality Measures  Environmental Protection Measures / Mitigation Measures	Status
Development Ref.	- Roads D3A & D4A Ref.	211, 12 of 1	Status
S3.2		8 times daily watering of the work site with active dust emitting	٨
		activities.	
S3.2	S4.8	Implementation of dust suppression measures stipulated in Air	۸
		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	۸
		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	۸
		properly fitted side and tail boards.	
		- Material having the potential to create dust should not be loaded	۸
		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	٨
		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	٨
		per hour and confined haulage and delivery vehicle to	
		designated roadways insider the site. On- site unpaved roads	
		should be compacted and kept free of lose materials.	
		- Vehicle washing facilities should be provided at every vehicle	٨
		exit point.	
		- 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, 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.	٨
		- Every vehicle should be washed to remove any dusty materials	
		from its body and wheels before leaving the construction sites.	

Implementatio	n Schedule for I	Noise Measures	
EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
S3.3		Use of quiet PME, movable barriers for Asphalt Paver, Breaker,	٨
		Excavator and Hand-held breaker and full enclosure for Air	
		Compressor, Bar Bender, Concrete Pump, Generator and Water	
		Pump.	
S3.3		Good Site Practice:	
S3.3		- Only well-maintained plant should be operated on-site and	٨
		plant should be serviced regularly during the construction	
		program.	
		- Silencers or mufflers on construction equipment should be	٨
		utilized and should be properly maintained during the	
		construction program.	
		- Mobile plant, if any, should be sited as far away from NSRs as	٨
		possible.	
		- Machines and plant (such as trucks) that may be in intermittent	٨
		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,	٨
		wherever possible, be orientated so that the noise is directed	
		away from the nearby NSRs.	
		- Material stockpiles and other structures should be effectively	٨
		utilized, wherever practicable, in screening noise from on-site	
		construction activities.	
		- Scheduling of Construction Works during School	N/A
		Examination Period	

Implementatio	n Schedule for \	Water Quality Measures	
EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
S3.4		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:	^*
S3.4		- use of sediment traps.	٨
S3.4		- adequate maintenance of drainage systems to prevent flooding and overflow.	٨

EIA for KTD	EIA for KTD		Environmental Protection Measures / Mitigation Measures	Status
Development Ref.	<ul><li>Roads D3A</li><li>D4A Ref.</li></ul>			
	S5.8	-	Surface run-off from construction sites should be discharged	۸
			into storm drains via adequately designed sand/silt removal	
			facilities such as sand traps, silt traps and sedimentation basins.	
	S5.8	-	Channels or earth bunds or sand bag barriers should be provided	۸
			on site to properly direct stormwater to such silt removal	
			facilities. Perimeter channels should be provided on site	
			boundaries where necessary to intercept storm run-off from	
			outside the site so that it will not wash across the site. Catchpits	
			and perimeter channels should be constructed in advance of site	
			formation works and earthworks.	
	S5.8	-	Silt removal facilities, channels and manholes should be	٨
			maintained and the deposited silt and grit should be removed	
			regularly, at the onset of and after each rainstorm to prevent	
			local flooding. Any practical options for the diversion and	
			re-alignment of drainage should comply with both engineering	
			and environmental requirements in order to provide adequate	
			hydraulic capacity of all drains. Minimum distance of 100 m	
			should be maintained between the discharge points of	
			construction site run-off and the existing saltwater intakes.	
	S5.8	_	Earthworks final surfaces should be well compacted and the	٨
			subsequent permanent work or surface protection should be	
			carried out immediately after the final surfaces are formed to	
			prevent erosion caused by rainstorms. Appropriate drainage like	
			intercepting channels should be provided where necessary.	
	S5.8	_	Measures should be taken to minimize the ingress of rainwater	٨
			into trenches. If excavation of trenches in wet seasons is	
			necessary, they should be dug and backfilled in short sections.	
			Rainwater pumped out from trenches or foundation excavations	
			should be discharged into storm drains via silt removal facilities.	
	S5.8	_	Open stockpiles of construction materials (e.g. aggregates,	٨
	20.0		sand and fill material) on sites should be covered with tarpaulin	
			or similar fabric during rainstorms.	
	S5.8	_	Manholes (including newly constructed ones) should always be	٨
	55.0		adequately covered and temporarily sealed so as to prevent silt,	
			construction materials or debris from getting into the drainage	
			system, and to prevent storm run-off from getting into foul	
			sewers. Discharge of surface run-off into foul sewers must	

		Water Quality Measures	<b>I</b>
EIA for KTD Development Ref.	EIA for KTD – Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
		sewerage system.	
	S5.8	- Good site practices should be adopted to remove rubbish and	٨
		litter from construction sites so as to prevent the rubbish and	
		litter from spreading from the site area. It is recommended to	
		clean the construction sites on a regular basis.	
S3.4		Construction site should be provided with adequately designed	٨
		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.	
S3.4	S5.8	Ideally, construction works should be programmed to minimise	٨
		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.	
		If excavation in soil cannot be avoided in these months or at any	
		time of year when rainstorms are likely, for the purpose of	
		preventing soil erosion, temporary exposed slope surfaces should be	
		covered e.g. by tarpaulin, and temporary access roads should be	
		protected by crushed stone or gravel, as excavation proceeds.	
		Intercepting channels should be provided (e.g. along the crest / edge	
		of excavation) to prevent storm runoff from washing across exposed	
		soil surfaces. Arrangements should always be in place in such a way	
		that adequate surface protection measures can be safely carried out	
		well before the arrival of a rainstorm.	
S3.4		Sediment tanks of sufficient capacity, constructed from pre-formed	٨
55.1		individual cells of approximately 6 to 8 m <sup>3</sup> 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	

		Water Quality Measures	T
EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
		and particularly suited to applications where the influent is pumped.	
S3.4		Open stockpiles of construction materials (for examples, aggregates,	۸
		sand and fill material) of more than 50 m <sup>3</sup> 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.	
S3.4		Manholes (including newly constructed ones) should always be	٨
		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.	
S3.4		Precautions to be taken at any time of year when rainstorms are	٨
		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.	
S3.4		Oil interceptors should be provided in the drainage system and	NA
		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.	
S3.4	S5.8	Wheel Washing Water	۸
		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.	
S3.4		Drainage	٨
		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.	
S3.4		All temporary and permanent drainage pipes and culverts provided	۸*

Implementatio	on Schedule for V	Water Quality Measures	
EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
		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.	
S3.4		All fuel tanks and storage areas should be provided with locks and	٨
		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.	
S3.4	S5.8	Sewage Effluent	٨
		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.	
		Notices should be posted at conspicuous locations to remind the	
		workers not to discharge any sewage or wastewater into the	
		surrounding environment. Regular environmental audit of the	
		construction site will provide an effective control of any	
		malpractices and can encourage continual improvement of	
		environmental performance on site. It is anticipated that sewage	
		generation during the construction phase of the project would not	
		cause water pollution problem after undertaking all required	
		measures.	
S3.4		Stormwater Discharges	٨
~~. 1		Minimum distances of 100 m should be maintained between the	
		existing or planned stormwater discharges and the existing or	
		planned seawater intakes	
S3.4		Debris and Litter	٨
IJ. <del>1</del>			
		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	

EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
		and that disposal of any solid materials, litter or wastes to marine	
		waters does not occur.	
	S5.8	Boring and Drilling Water	٨
		Water used in ground boring and drilling for site investigation or	
		rock / soil anchoring should as far as practicable be re-circulated	
		after sedimentation. When there is a need for final disposal, the	
		wastewater should be discharged into storm drains via silt removal	
		facilities.	
	S5.8	Acid Cleaning, Etching and Pickling Wastewater	NA
		Acidic wastewater generated from acid cleaning, etching, pickling	
		and similar activities should be neutralized to within the pH range	
		of 6 to 10 before discharging into	
		foul sewers.	
	S5.8	Effluent Discharge	٨
		There is a need to apply to EPD for a discharge licence for discharge	
		of effluent from the construction site under the WPCO. The	
		discharge quality must meet the requirements specified in the	
		discharge licence. All the runoff and wastewater generated from the	
		works areas should be treated so that it satisfies all the standards	
		listed in the TM-DSS. Minimum distance of 100 m should be	
		maintained between the discharge points of construction site effluent	
		and the existing seawater intakes and the planned WSR mentioned in	
		S5.3.1 as appropriate. The beneficial uses of the treated effluent for	
		other on-site activities such as dust suppression, wheel washing and	
		general cleaning etc., can minimise water consumption and reduce	
		the effluent discharge volume. If monitoring of the treated	
		effluent quality from the works areas is required during the	
		construction phase of the Project, the monitoring should be carried	
		out in accordance with the relevant WPCO licence which is under	
		the ambit of regional office (RO) of EPD.	
	05.0	-	^
	S5.8	Accidental Spillage  Contractor must register as a chamical wester producer if chamical	
		Contractor must register as a chemical waste producer if chemical	
		wastes would be produced from the construction activities. The	
		Waste Disposal Ordinance (Cap 354) and its subsidiary regulations	
		in particular the Waste Disposal (Chemical Waste) (General)	
		Regulation, should be observed and complied with for control of	
		chemical wastes.	
		Any service shop and maintenance facilities should be located on	

EIA for KTD Development Ref.  EIA for KTD -Roads D3A & D4A Ref.  S55.8		8		
		hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		
		Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:  - Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.	^	
S5.8		- Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.		
	S5.8	- Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	^	

Implementation Schedule for Waste Management Measures			
EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status
S3.5		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:	
S3.5		- Nomination of an approved person, such as a site manager, to	٨
		be responsible for good site practices, arrangements for	
		collection and effective disposal to an appropriate facility, of all	
		wastes generated at the site.	
	S6.7	- Prepare a Waste Management Plan, which becomes a part of the	٨
		Environmental Management Plan, in accordance with the	
		requirements stipulated in ETWB TC(W) No. 19/2005,	
		approved by the Engineer/Supervising Officer of the Project	
		based on current practices on construction sites.	
S3.5	S6.7	- Training of site personnel in proper waste management and	٨
		chemical waste handling procedures.	

EIA for KTD	EIA for KTD	Schedule for Waste Management Measures  EIA for KTD Environmental Protection Measures / Mitigation Measures  Status				
Development Ref Roads D3A & D4A Ref.		_				
		- Provision of sufficient waste disposal points and regular	۸			
		collection for disposal.				
S3.5	S6.7	- Appropriate measures to minimise windblown litter and dust				
		during transportation of waste by either covering trucks or by				
		transporting wastes in enclosed containers.				
S3.5		- A recording system for the amount of wastes generated,	۸			
		recycled and disposed of (including the disposal sites).				
	S6.7	- Regular cleaning and maintenance programme for drainage	٨			
		systems, sumps and oil interceptors.				
	S6.7	- Training should be provided to workers about the concepts of	۸			
		site cleanliness and appropriate waste management procedures,				
		including waste reduction, reuse and recycle.				
S3.5		Waste Reduction Measures	۸			
		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:				
S3.5	S6.7	- Sort C&D waste from demolition of the remaining structures to	NA			
		recover recyclable portions such as metals.				
S3.5	S6.7	- Segregation and storage of different types of waste in different	۸			
		containers, skips or stockpiles to enhance reuse or recycling of				
		materials and their proper disposal.				
S3.5	S6.7	- Encourage collection of aluminium cans, PET bottles and paper	٨			
		by providing separate labelled bins to enable these wastes to be				
		segregated from other general refuse generated by the work				
		force.				
S3.5		- Any unused chemicals or those with remaining functional	۸			
		capacity should be recycled.				
S3.5	S6.7	- Proper storage and site practices to minimise the potential for	٨			
		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:				
S3.5		- Where it is unavoidable to have transient stockpiles of C&D	^			
		material within the Project work site pending collection for				

EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status	
		disposal, the transient stockpiles shall be located away from		
		waterfront or storm drains as far as possible.		
S3.5		- Open stockpiles of construction materials or construction	۸	
		wastes on-site should be covered with tarpaulin or similar		
		fabric.		
S3.5		- Skip hoist for material transport should be totally enclosed by	۸	
		impervious sheeting.		
S3.5		- Every vehicle should be washed to remove any dusty materials	۸	
		from its body and wheels before leaving a construction site.		
S3.5		- The area where vehicle washing takes place and the section of	۸	
		the road between the washing facilities and the exit point should		
		be paved with concrete, bituminous materials or hardcores.		
S3.5		- The load of dusty materials carried by vehicle leaving a	۸	
		construction site should be covered entirely by clean		
		impervious sheeting to ensure dust materials do not leak from		
		the vehicle.		
S3.5		- All dusty materials should be sprayed with water prior to any	٨	
		loading, unloading or transfer operation so as to maintain the		
		dusty materials wet.		
S3.5		- The height from which excavated materials are dropped should	٨	
		be controlled to a minimum practical height to limit fugitive		
		dust generation from unloading.		
S3.5		- When delivering inert C&D material to public fill reception	٨	
		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 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.		
	S6.7	- Plan and stock construction materials carefully to minimize	٨	
		amount of waste generated and avoid unnecessary generation		

Implementation Schedule for Waste Management Measures				
EIA for KTD Development Ref. EIA for KTD - Roads D3A & D4A Ref.		Environmental Protection Measures / Mitigation Measures	Status	
		of waste.		
S3.5		Chemical Waste	۸	
		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 CWTF or other licensed facility, in accordance		
		with the Waste Disposal (Chemical Waste) (General) Regulation.		
	S6.7	Separation of chemical wastes for special handling and appropriate	۸	
		treatment.		
S3.5		General Refuse	۸	
		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 m			
		environment, or creating odour nuisance or pest and vermin		
		problem.		

Implementatio	Implementation Schedule for Landscape and Visual Measures				
EIA for KTD Development Ref.	EIA for KTD - Roads D3A & D4A Ref.	Environmental Protection Measures / Mitigation Measures	Status		
S3.8.12		All existing trees should be carefully protected during construction.	٨		
S3.8.12		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.	NA		
S3.8.12		Control of night-time lighting.	٨		
S3.8.12		Erection of decorative screen hoarding.	٨		
	S7.9	Construction Site Control  - CM1 - Minimized construction area and contractor's temporary works areas.			
		- CM2- Control of night-time lighting and glare by hooding all lights.	^		
		- CM3 - Erection of decorative mesh screens or construction	۸		

Implementatio	Implementation Schedule for Landscape and Visual Measures				
EIA for KTD Development Ref.	pment - Roads D3A		Status		
		hoardings around works areas in visually unobtrusive colours.			
		- CM4 - Reduction of construction period to practical minimum.	۸		
	- CM5 - Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.		۸		
	- CM6 - Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open.		NA		

Remarks:			
^ Compliance of mitigation measure.		X Non-compliance of mitigation measure.	
N/A	N/A Not Applicable at this stage.		Non-compliance but rectified by the contractor.
N/A(1)	N/A (1) Not observed.		
* Recommendation was made during site audit		#	Recommendation was made during audit and to be
but improved/rectified by the contractor.			improved/ rectified by the contractor.

# Mitigation Measures undertaken by the Contractor for site inspections





Date:	04 June 2021	Date:	17 June 2021
Mitigation Measures:	Haul road was	Mitigation Measures:	Quiet PME was used.
	sprayed with water to		
	maintain the entire		
	road surface wet.		





Date:	24 June 2021	Date:	30 June 2021	
Mitigation Measures:	Manholes have been adequately covered and temporarily sealed.	Mitigation Measures:	Provided garbage bins storage.	domestic for waste

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

**Reporting Month: June 2021** 

Contract No.	Record of Complaint (Yes/No)	Record of Warning (Yes/No)	Notification of Summons and Successful Prosecutions (Yes/No)
ED/2018/01	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/2018/01	1	0	0

Complaint Log	g for ED/2018/01			
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Recommendations / Actions	Close-Out Date / Status
C0001		<ol> <li>The water spraying system was not operated in proper time.</li> <li>Stockpile was not covered properly.</li> <li>Haul road was not wetted.</li> <li>Materials transported on trucks were not provided with mechanical covers.</li> </ol>	1. Based on the information provided by the Contractor on 22 October 2020, the water sprinklers system was sprayed every 15 minutes	- Closed-out on 5 Nov 2020 - No further complaint was received.

Complaint Log	for ED/2018/01			
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Recommendations / Actions	Close-Out Date / Status
Ref. No.	Complaint		Action taken As per the Contractor, the water sprinkler are now adjusted to start at 8:00am and end at 6:00pm for Monday to Saturday while from 8:00am to 5:00pm on Sunday. Water spraying are set with 5-minute time interval with duration 30-60 seconds.	Status

#### **FUGRO TECHNICAL SERVICES LIMITED**

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



#### Appendix D

Monthly EM&A Report
For
Contract No. ED/2018/05
Kai Tak Development – Stage 5B infrastructure works at the former north apron area

# **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

June 2021

(Version 1.1)

Certified By:

(Environmental Team Leader)





Website: www.acuityhk.com



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

Fax.: (852) 2698 9383





Date: 15 July 2021

Your ref:

Our ref: PL-202107032

**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 (June 2021)** 

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

Please be informed that we have no adverse comment on the captioned submission. We hereby verify the Monthly EM&A Report (June 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

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

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#### **EXECUTIVE SUMMARY**

1. This is the 5<sup>th</sup> Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 30 June 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.

Table I Non-compliance Record in the Reporting Month

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

#### **Complaint log**

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

Table II Summary of complaints in the Reporting Month

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

#### 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
No notification	NA	NA	NA	NA
of summons				
and				
successful				
prosecutions				
were				
received in				
the reporting				
month.				

#### **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:
  - Trial pit excavation
  - Advance works for traffic diversion at Sa Po Road
  - Bored pile works for landscape elevated walkway
  - Instrumentation installation at SB-01

- Pre-drilling work for S14
- Drainage works for Pedestrian Street No.1, No.2 & No.3
- Construction of Crowd Dispersal Route
- Removal existing piles at Road D1
- Rising main construction

#### **Future key issues**

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

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

Future key issues in the coming month	Potential impact
Advance works for traffic diversion at Sa Po Road	Noise and Air Quality
Bored pile works for landscape elevated walkway	Noise and Air Quality
Pre-drilling work for S14	Noise and Air Quality
Drainage works for Pedestrian Street No. 1, No. 2 & No.3	Noise and Air Quality
Construction of Crowd Dispersal Route	Noise and Air Quality
Rising main construction	Noise and Air Quality
Sheetpile installation for launching shaft of SB-01	Noise and Air Quality

#### 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.
- 1.4 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 Appendix A. Information of key personnel contact names and telephone numbers are summarized in Table 1.1.

Table 1.1 Contact Information of Key Personnel

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)	Proponent	Mr. Kinox Wong	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

#### **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:

Table 1.2 Major activities of the Project during reporting month

Trial pit excavation	Drainage works for Pedestrian Street No.1,		
Tital pit excavation	No.2 & No.3		
Advance works for traffic diversion at Sa Po Road	Construction of Crowd Dispersal Route		
Bored pile works for landscape elevated walkway	Removal existing piles at Road D1		
Instrumentation installation at SB-01	Rising main construction		
Pre-drilling work for S14			

#### **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 (May 2021)	15 Jun 2021

### 2. AIR QUALITY MONITORING

#### **Monitoring Requirements**

2.1 In accordance with EM&A Manual (EIA Register No. 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.

*Table 2.2 Air Quality Monitoring Parameters, Frequency and Duration* 

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

- 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.

Table 2.3 Air Quality Monitoring Equipment

Equipment Model		Quantity	Calibration Interval
HVS Sampler	HVS Sampler TE-5170 X c/w of TSP sampling inlet		2 months
HVS Calibrator TISCH TE-5025A		1	1 year
1-hour TSP Dust Meter	TSI Model AM510 SidePak Personal Aerosol Monitor	3	1 year
Weather Station	Davis Vantage Pro2 Weather Station	1	6 months

- 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 m<sup>3</sup>/min. and 1.7 m<sup>3</sup>/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.

<u>Table 2.4 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring</u>

Parameter	Air Monitoring Station	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m³
24 hour average TCD	AM2(A)	175	260
24-hour average TSP	AM3	172	260

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

Parameter	Air Monitoring Station	Action Level, µg/m <sup>3</sup>	Limit Level, µg/m³
1 hours average TCD	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.

<u>Table 2.6 Summary of 24-hour average TSP Monitoring Data during the reporting month</u>

Air Monitoring Station	Average TSP Concentration, µg/m <sup>3</sup>	Range, µg/m <sup>3</sup>	Action Level, µg/m <sup>3</sup>	Limit Level, μg/m <sup>3</sup>
AM2(A)	48	30-62	175	260
AM3	49	36-59	172	260

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

Air Monitoring Station	Average TSP Concentration, µg/m <sup>3</sup>	Range, µg/m <sup>3</sup>	Action Level, μg/m <sup>3</sup>	Limit Level, μg/m <sup>3</sup>
AM2(A)	35	23-42	302	500
AM3	33	24-39	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,  $L_{Aeq, 30\text{-minute}}$ , for each station will be on a weekly basis and conduct one set of measurements between 0700 1900 hrs on normal weekdays.
- 3.3 If construction works are extended to include works during 1900 0700 hrs 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. Table3.1 describes the noise monitoring locations, which are also depicted in Figure 6.

*Table 3.1 Locations of Noise Monitoring Stations* 

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

# **Monitoring Parameters, Frequency and Duration**

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

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

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

- 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 75	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.

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

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

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**

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

*Table 3.5 Summary of Noise Monitoring Data during the reporting month* 

Noise Monitoring Station	Measured L <sub>Aeq, 30-min</sub> , Average, dB(A)	Measured L <sub>Aeq, 30-min</sub> , Range, dB(A)	Action Level	Limit Level ^
M4(A)	69.5	69.1 – 70.1	When one documented	75
M5(A)	72.5	71.8 – 73.6	complaint is received	dB(A)

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.

- 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.
- 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.

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

Air Monitoring Station	ASR No. in EIA report	24-hour av	lative Maximum verage TSP stration  Scenario 2 (Mid 2013 to Late 2016), µg/m³	Measured 24-hr average TSP in Reporting Month (Jun 2021) µg/m <sup>3</sup>
AM2(A) - Ng Wah Catholic Secondary School	NA	NA	NA	30 – 62
AM3 - Sky Tower	A40^	106^	138^	36 – 59

Note:

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

Air Monitoring Station	ASR No. in EIA report		lative Maximum erage TSP stration Scenario 2 (Mid 2013 to Late 2016), µg/m³	Measured 1-hr average TSP in Reporting Month (Jun 2021) µg/m <sup>3</sup>
AM2(A) - Ng Wah Catholic Secondary School	NA	NA	NA	23 – 42
AM3 - Sky Tower	A40^	217^	247^	24 - 39

Note:

<sup>^</sup> Prediction results are given in the Table 3.13 of the EIA report EIA Register No. AEIAR-130/2009 for Kai Tak Development.

<sup>^</sup> Prediction results are given in the Table 3.13 of the EIA report EIA Register No. AEIAR-130/2009 for Kai Tak Development.

*Table 4.3 Comparison of Noise Monitoring Data with EIA predictions* 

Noise Monitoring Station	NSR No. in EIA report	Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour L <sub>Aeq, 30min</sub> , dB(A)	Measured Noise Level in Reporting Month (Jun 2021) L <sub>Aeq, 30min</sub> , dB(A)
M4(A) – Le Billionnaire	NA	NA	69.1 – 70.1
M5(A) – Prince Ritz	NA	NA	71.8 – 73.6

- 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 lower than the prediction in the EIA Report.
- 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 3, 10, 17, 24 and 30 June 2021 in the reporting month.
- 5.4 The summary of site audits is attached in Table 5.1.

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

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
3 June 2021	No	NA	NA
10 June 2021	No	NA	NA
17 June 2021	No	NA	NA
24 June 2021	No	NA	NA
30 June 2021	No	NA	NA

- 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 3, 10, 17, 24 and 30 June 2021 in the reporting month.
- 6.3 The summaries of site audits are attached in Table 6.1.

Table 6.1 Summary of site inspections observations during the reporting month

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
3 Jun 2021	Observation: Food waste was observed inside container at LW02.	Action Taken: Food waste was removed on container of LW02.	Closed out on 10 Jun 2021
10 Jun 2021	Observation: Water inlet cap was missed on water-safety barrier of LW02.	Action Taken: The inlet of water-safety barrier was covered.	Closed out on 17 June 2021

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
	Observation: Stagnant water was observed on the trash bin of LW02.	Action taken: Stagnant water was cleared on the trash bin of LW02.	Closed out on 24 Jun 2021
17 Jun	Observation: Stagnant water was observed on the tarpaulin of LW02.	Action Taken: Stagnant water was removed on the tarpaulin of LW02.	Closed out on 24 Jun 2021
2021	Observation: Stagnant water was observed on the tire of LW02.	Action Taken: Stagnant water was removed on the tire of LW02.	Closed out on 24 Jun 2021
	Observation: Stagnant water was observed on the generator drip of LW02.	Action Taken: Stagnan water was removed on the generator drip of LW02.	Closed out on 24 Jun 2021

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
24 June	Observation: Water inlet cap was missed from water safety-barriers of LW02.	Action Taken: The inlet of water-safety barrier was covered.	Closed out on 30 June 2021
2021	Observation: Waste was observed inside container at LW02.	Action Taken: Regular waste disposal was arranged by the contractor.	Closed out on 8 Jul 2021
30 June	Observation: Waste was observed inside container at LW02.	Action Taken: Regular waste disposal was arranged by the contractor.	Closed out on 8 Jul 2021
2021	Observation: Material storge away from the trees protection zone near Dakota Drive.	Action Taken: Loose materials were removed, tree protection zone was provided.	Closed out on 8 Jul 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.

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

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 Wiaf 2021	31 Wiai 2020
Construction Noise Permit	GW-RE0434-21	4 May 2021	25 Oct 2021

# **Implementation Status of Environmental Mitigation Measures**

6.7 The Contractor has implemented environmental mitigation measures and requires as stated in the EIA report, the EP and the EM&A Manual. 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.

Table 6.3 Summary of complaints in the Reporting Month

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

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.

Table 6.4 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 notification of summons and successful prosecutions were received in the reporting	NA	NA	NA	NA
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:

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

Future key issues in the coming month	Potential impact
Advance works for traffic diversion at Sa Po Road	Noise and Air Quality
Bored pile works for landscape elevated walkway	Noise and Air Quality
Pre-drilling work for S14	Noise and Air Quality
Drainage works for Pedestrian Street No. 1, No. 2 & No.3	Noise and Air Quality
Construction of Crowd Dispersal Route	Noise and Air Quality
Rising main construction	Noise and Air Quality
Sheetpile installation for launching shaft of SB-01	Noise and Air Quality

- 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

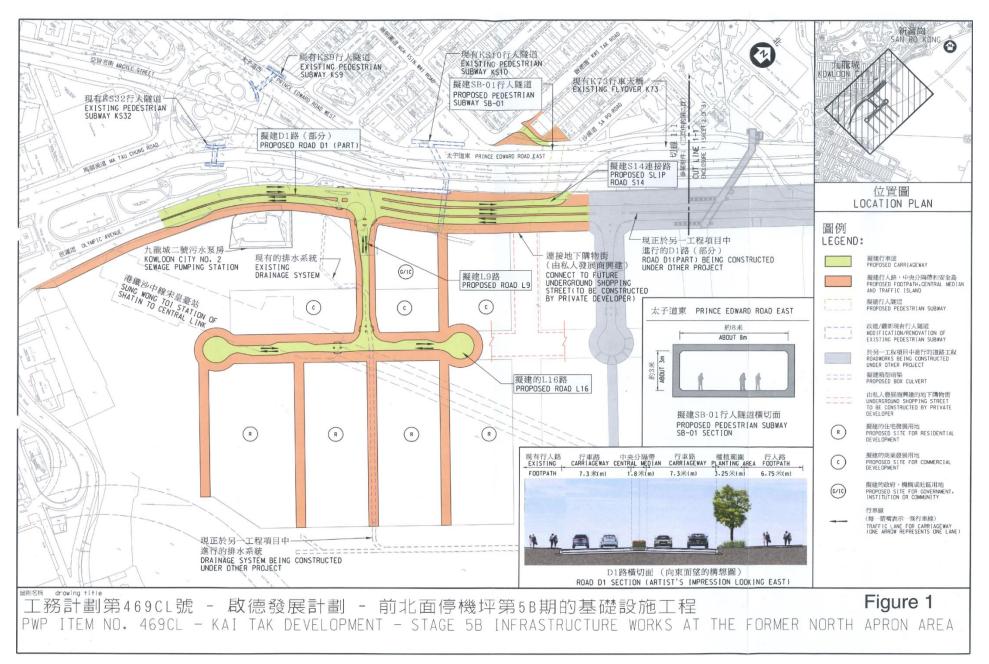


Figure 1 – Proposed works of Contract No. ED/2018/05

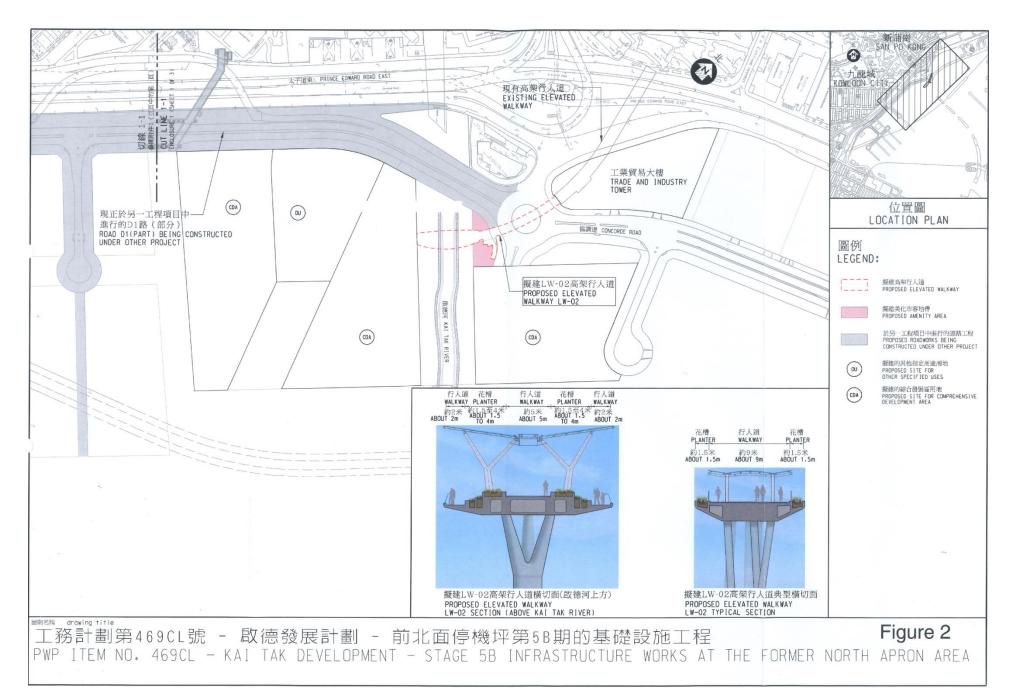


Figure 2 – Proposed works of Contract No. ED/2018/05

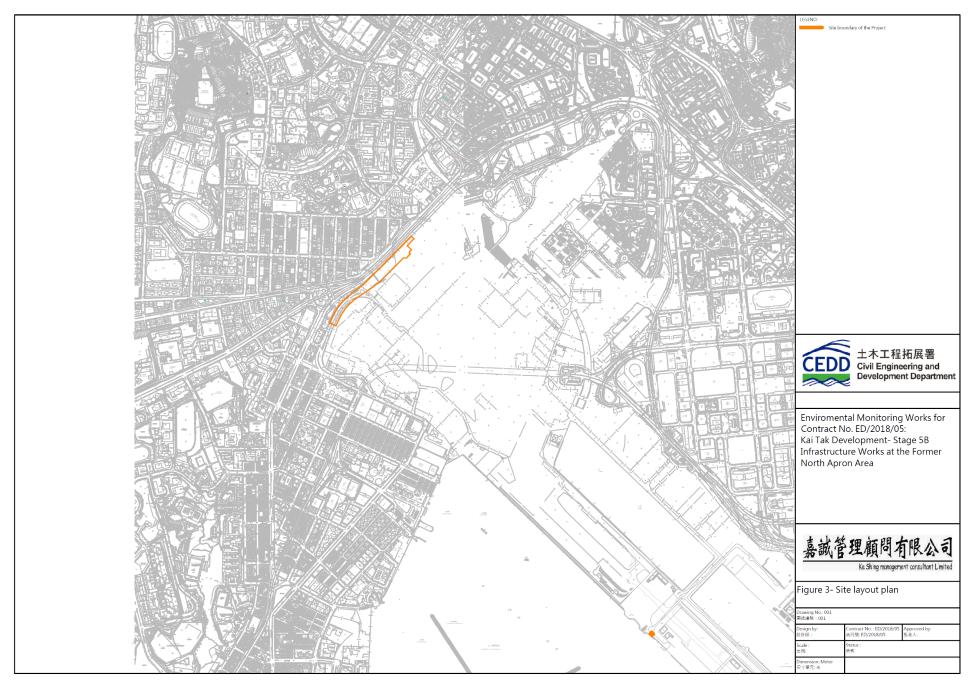


Figure 3 – D1 Road Site Layout Plan

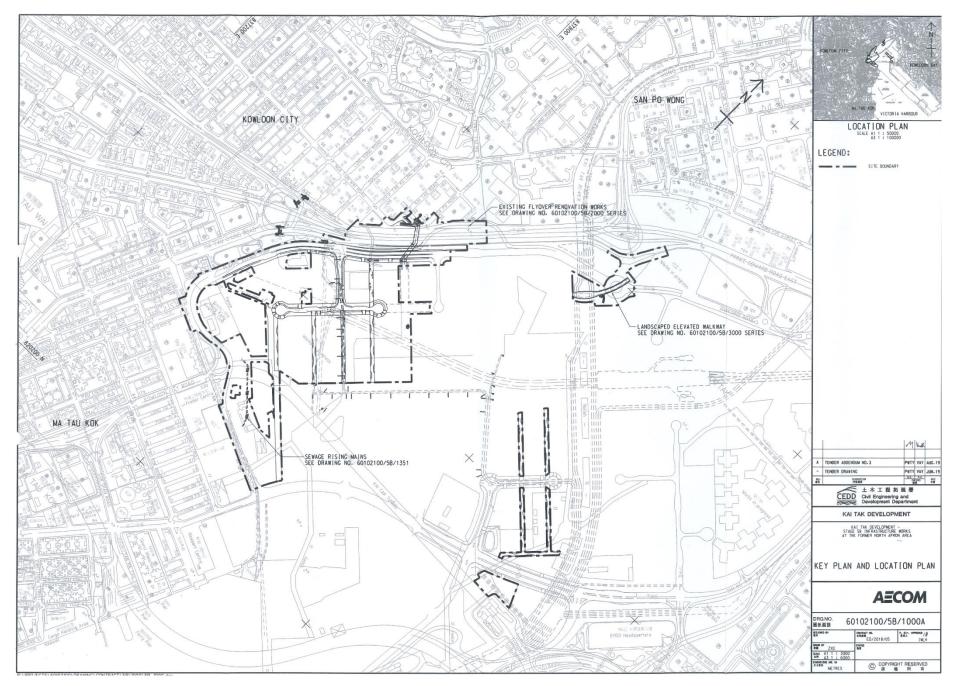


Figure 4 – Site Layout Plan

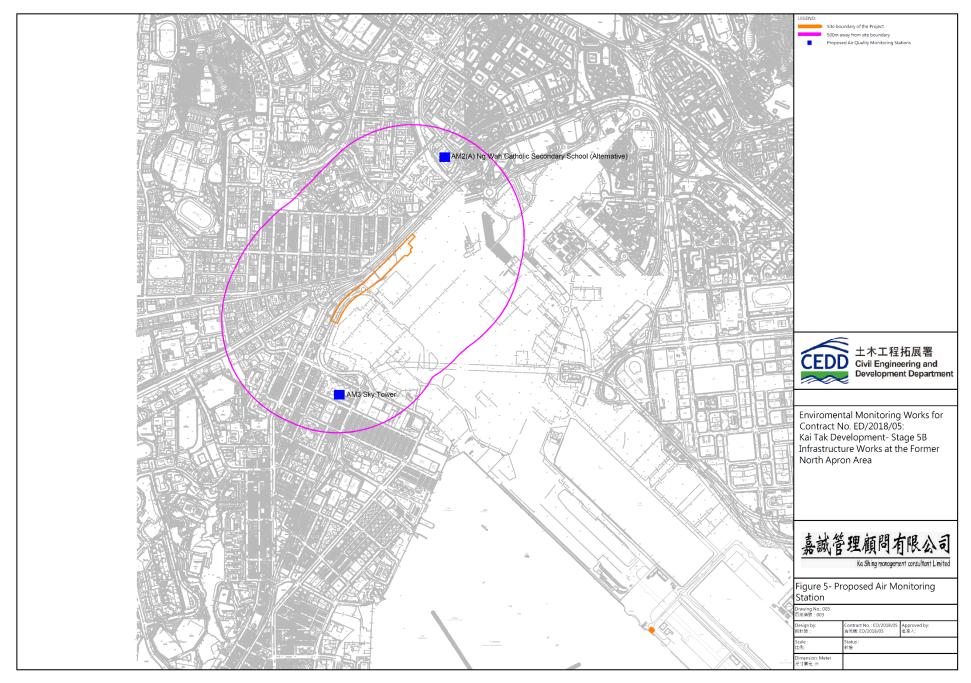


Figure 5 – Air Quality Monitoring Stations

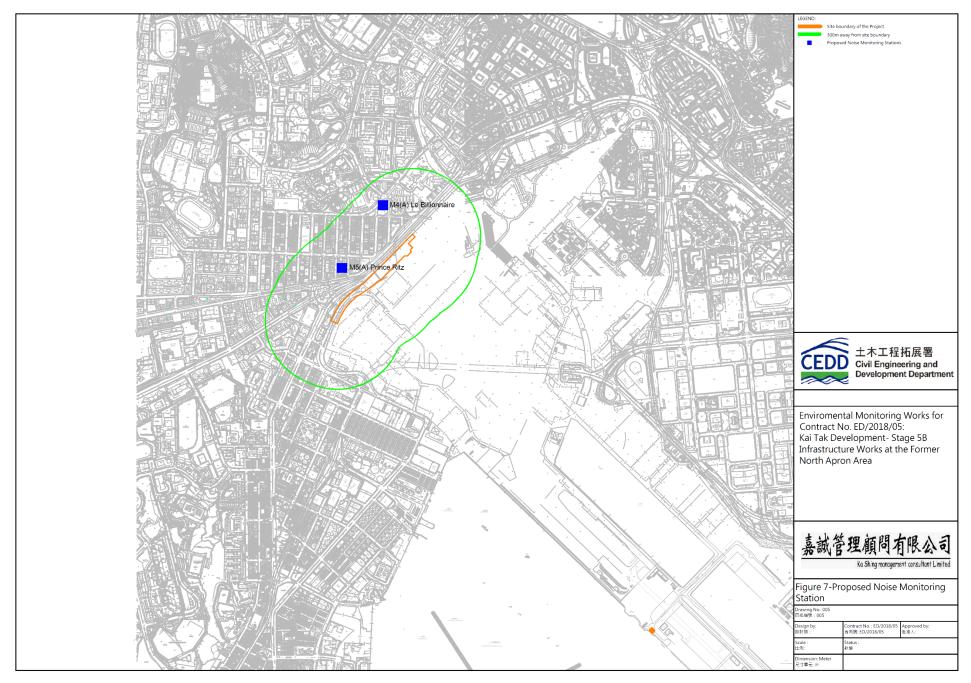
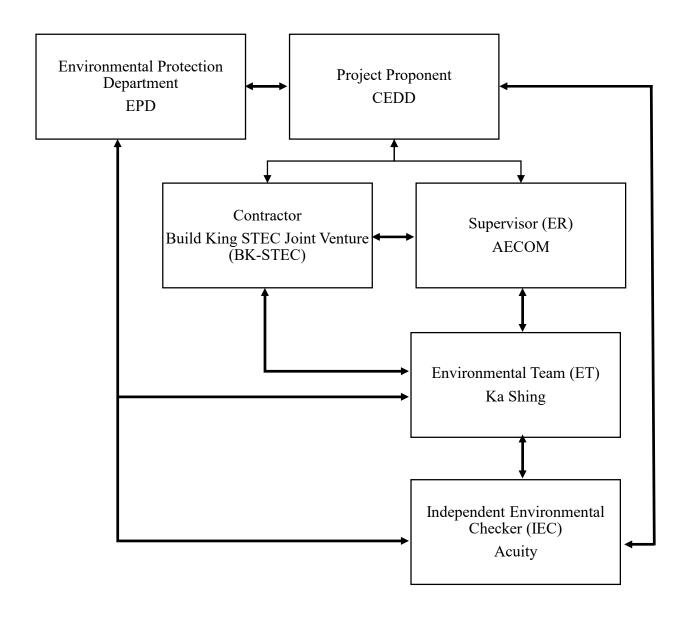
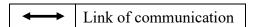


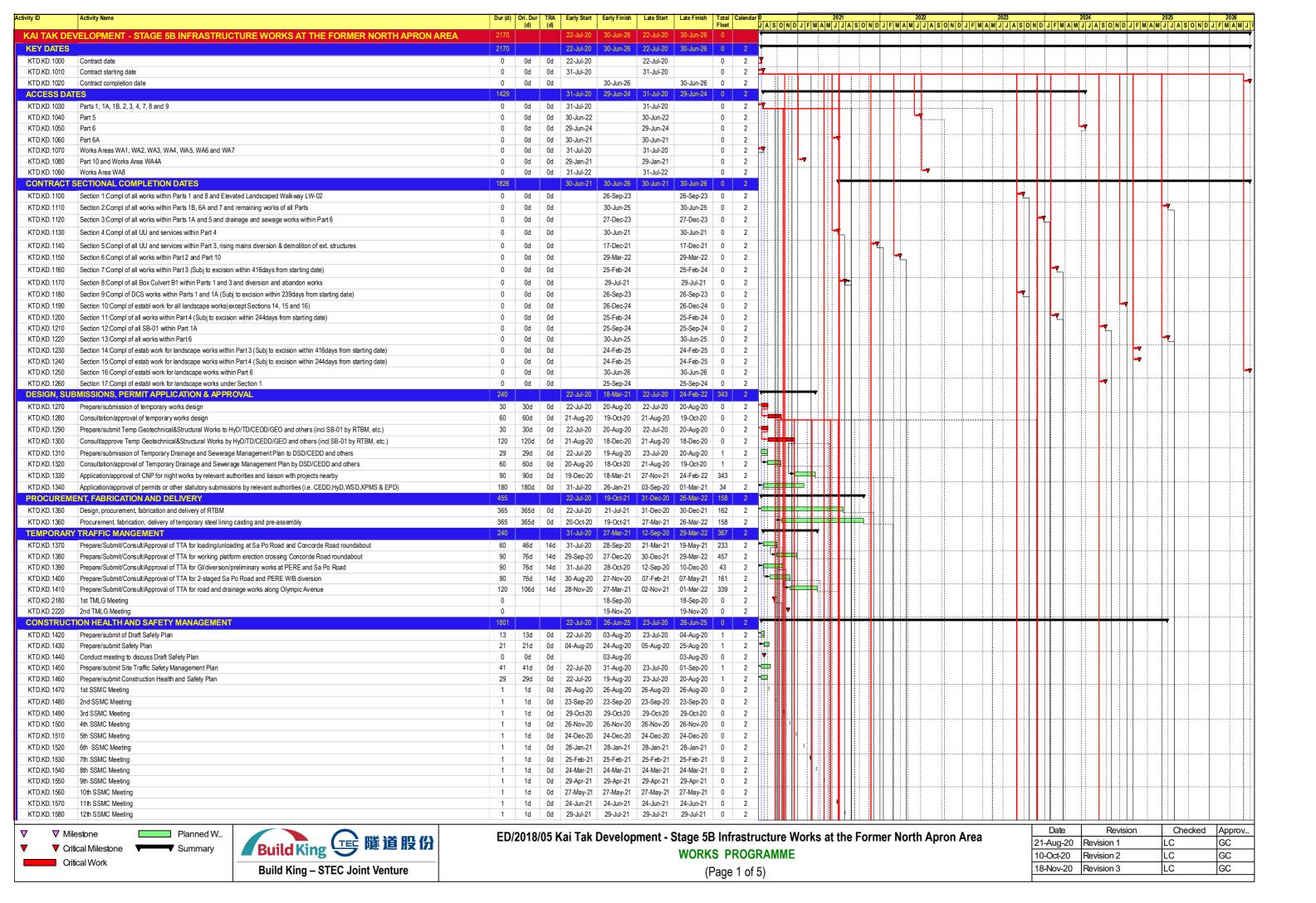
Figure 6 – Noise Monitoring Stations

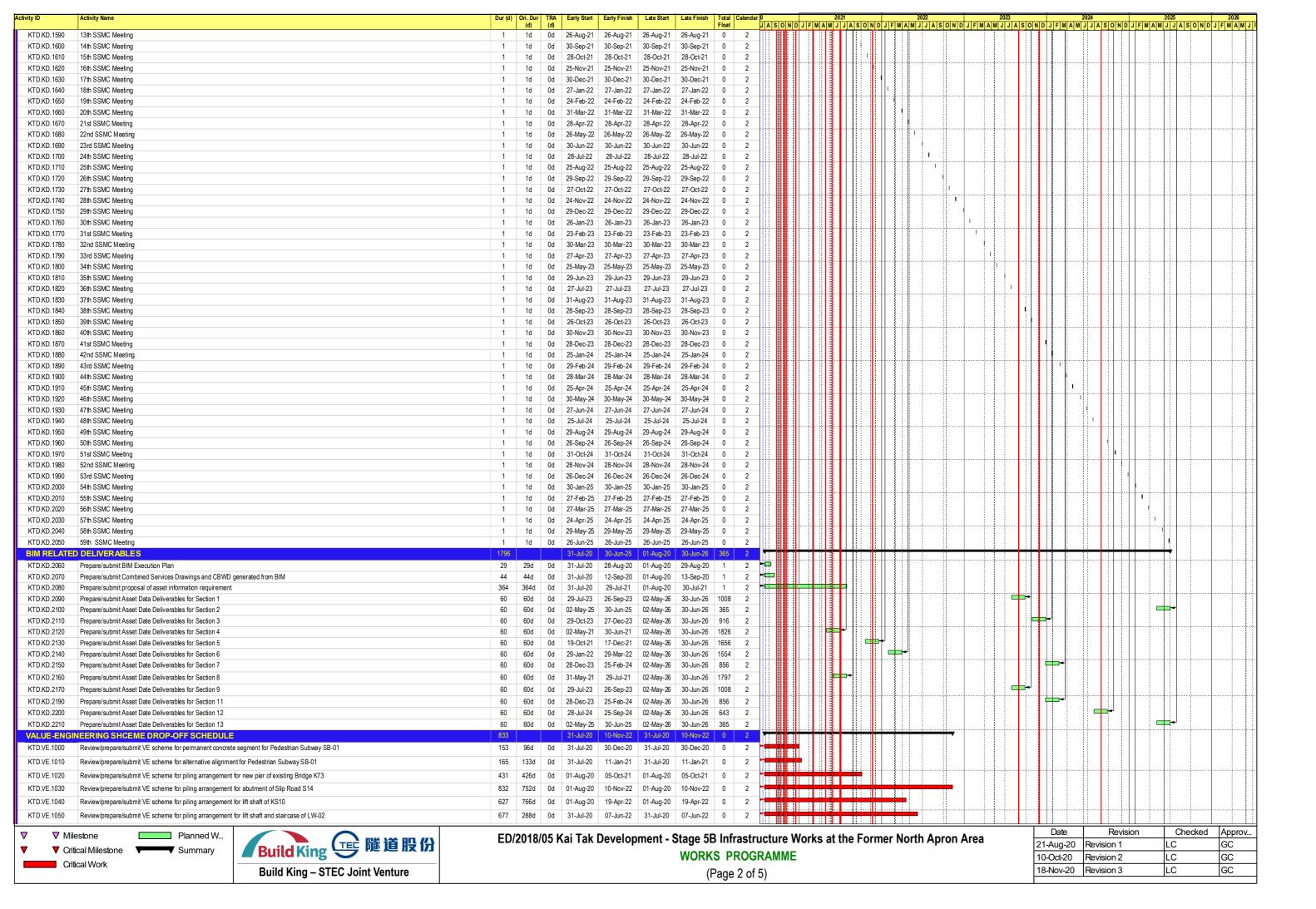
# **Appendix A – Organization Chart of EM&A Team**

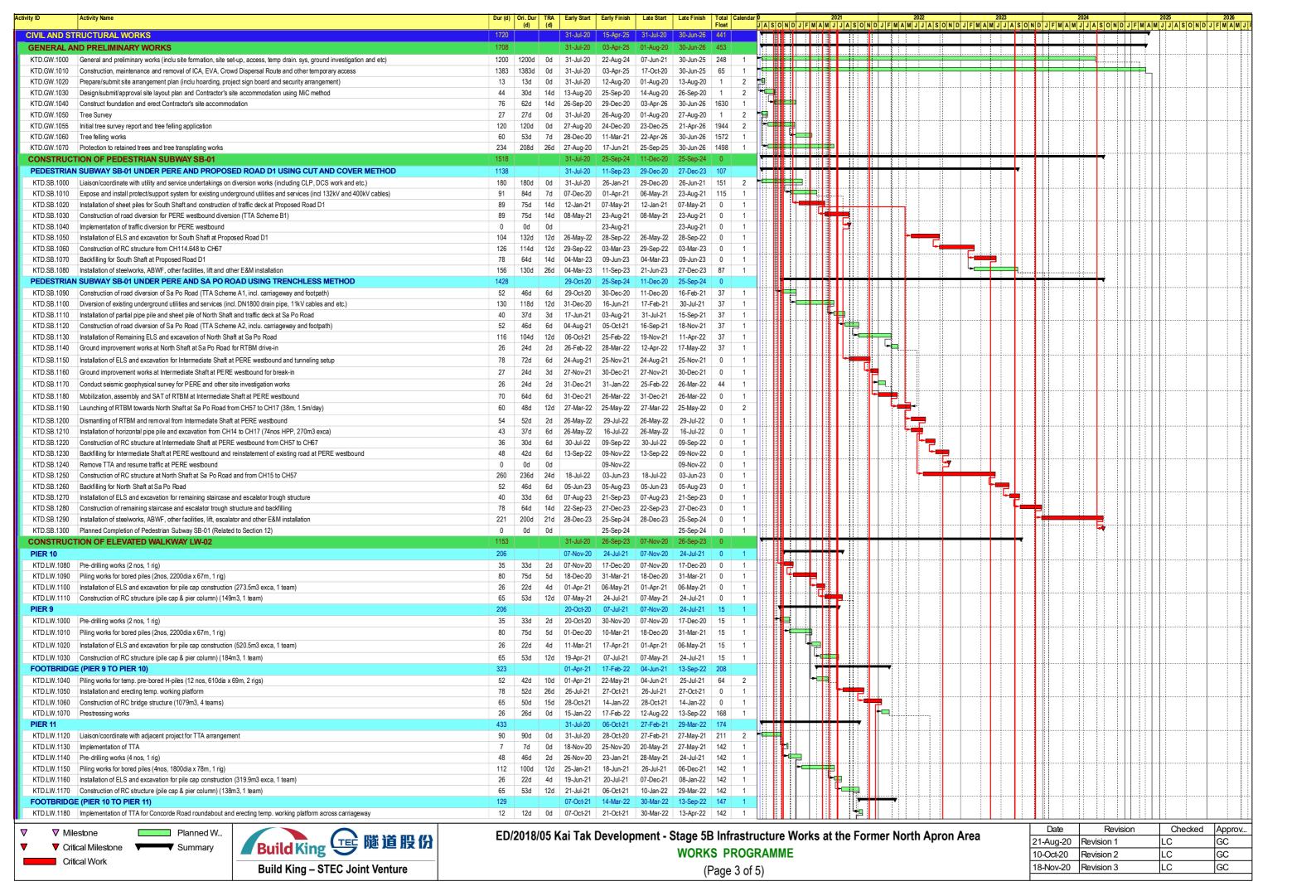


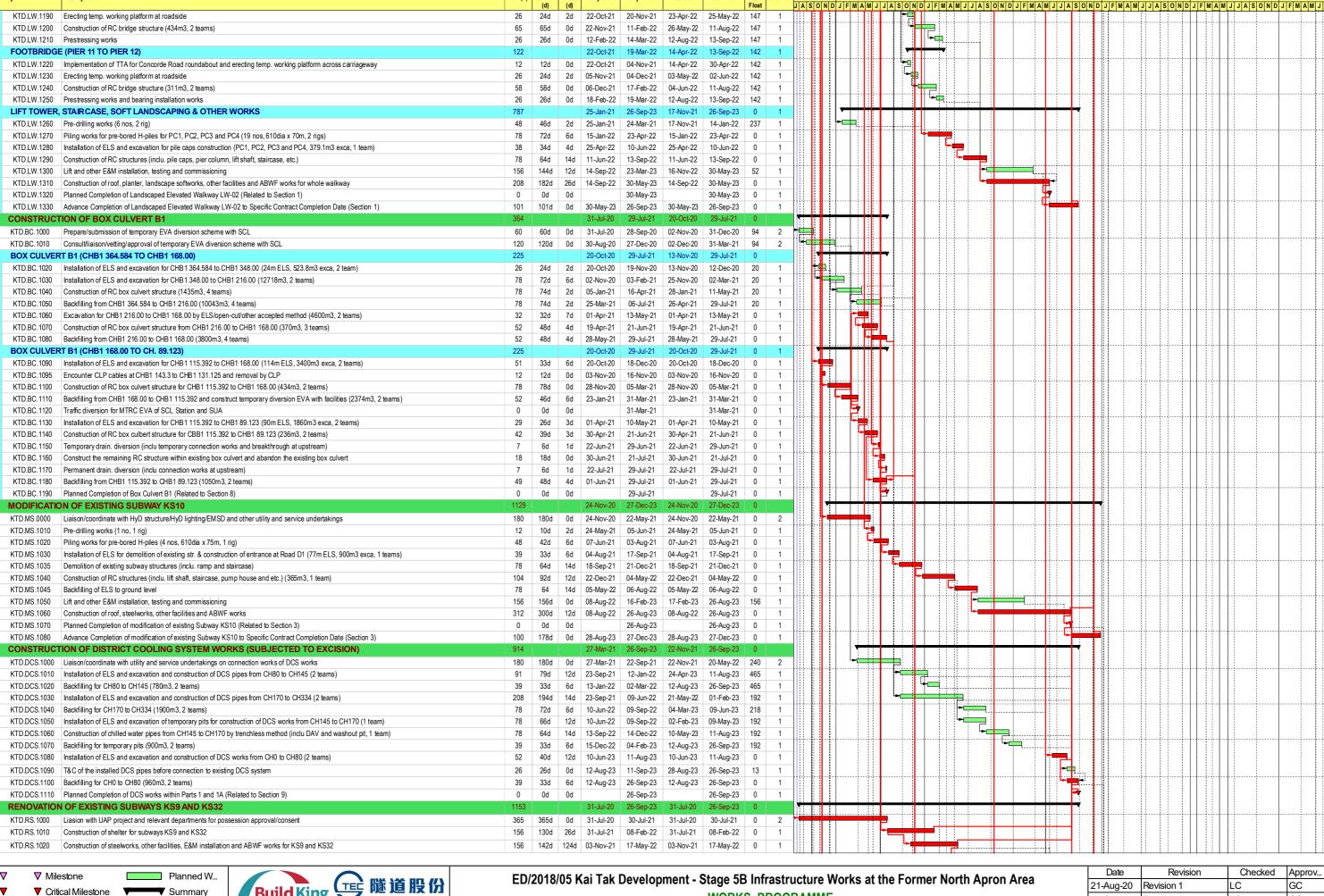


# **Appendix B – Construction Programme**







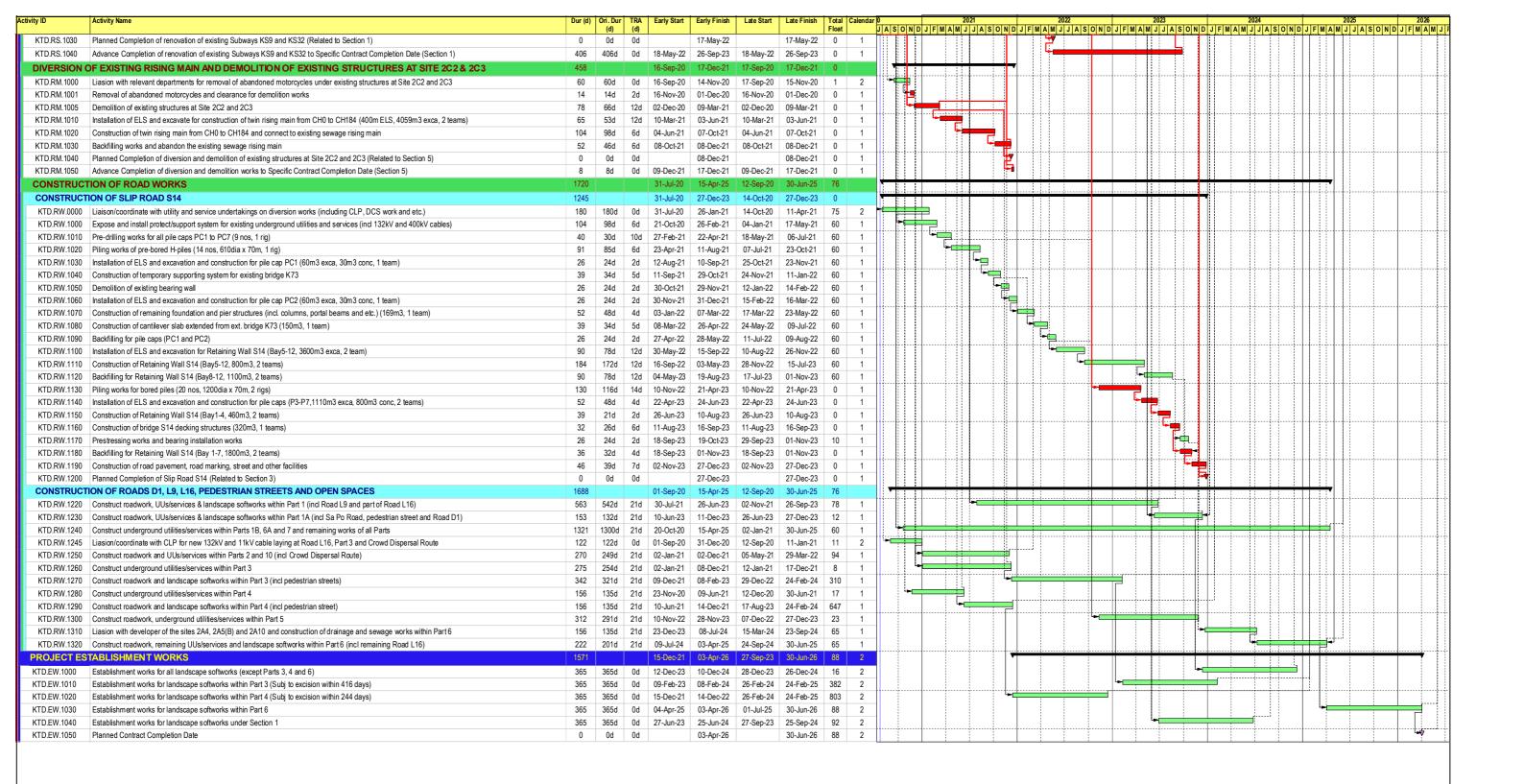


Critical Milestone Critical Work



**WORKS PROGRAMME** (Page 4 of 5)

Date	Revision	Checked	Approv
21-Aug-20	Revision 1	LC	GC
10-Oct-20	Revision 2	LC	GC
18-Nov-20	Revision 3	LC	GC







Critical Work





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

Date	Revision	Checked	Approv
21-Aug-20	Revision 1	LC	GC
10-Oct-20	Revision 2	LC	GC
18-Nov-20	Revision 3	LC	GC

# 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 June 2021

## June 2021

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

**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 July 2021

July 2021

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

### NOTE:

1) 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)

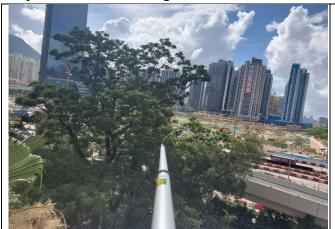


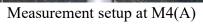
Measurement setup at AM3



Weather Station at the rooftop of Ng Wah Catholic Secondary School

## Impact Noise Monitoring







Measurement setup at M5(A)

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

## Catalogue of High Volume Sampler (HVS)



The TE-5170 is a high volume ambient Total Suspended Particulate (TSP) air sampler featuring a mass flow controller (MFC) for accurate and consistent particulate sampling. The mass flow controller adjust the motor speed as the filter media collects particulate to maintain a constant flow rate throughout the entire sample duration. The system utilizes a stainless steel filter holder for use with standard 8" x 10" filter paper. The anodized aluminum shelter and robust electrical components allow the system to operate a continuous 24 hour sample.

ABOUT US: Tisch Environmental Inc. Tisch Environmental is the benchmark for high volume air sampling, particulate, metals, volatiles, and specialty monitoring equipment. Since the company's inception in 1953 as General Metal Works, our product line has expanded from the first high volume air sampler to include high-tech and custom samplers. Our clients are professionals from every sector of the regulatory and industrial markets.

- Mass Flow Controlled
- 7-Day Mechanical Timer
- Elapsed Time Indicator
- Aluminum Outdoor Shelter
- Brush Style Motor
- Dickson Chart Recorder, 24 Hour
- → Stainless Steel Filter Holder
- 36-60 CFM
- Made In USA

www.tisch-env.com

Tisch Environmental 145 S. Miami Ave Cleves, OH 45002 513-467-9000



## TSP MFC

MFC TSP Ambient Air Sampler

#### General System Specifications

Particulate Size:Total Suspended Particulate (TSP)
EPA Designation: CFR 40 Part 50 Appendix B
Flow Controller: Mass Flow Controller

Motor Style: Brush Style Motor Assembly

Pressure Recorder: Dickson Chart Recorder, 24 hour.

Timer: 7 Day Mechanical

Elapsed Time Indicator: Mechanical, Hours and Tenths

Flow Range: 39-60CFM, 1.09M<sup>3</sup>M-1.68M<sup>3</sup>M

Housing: Anodized Aluminum

Filter Holder: Stainless Steel, 8" x 10"

4" Recorder Charts: Box of 100

Filter Holder: 8" x 10" Stainless Steel with hold down frame

#### Applications

US EPA Reference Method Sampling, CFR Appendix J Part 50 Regulatory Compliance

Institutional Studies Construction Sites

Bridge and Water Tower Painting Sites

Fence Line Monitoring Industrial Monitoring Landfill Monitoring

Public Health Applications

#### Optional Equipmen

TE-3000 Filter Holder Cartridge

TE-G653 8" x 10" Glass Fiber Filter Media TE-33384 Motor Brush Set (110volt)

TE-33378 Motor Brush Set (220volt)

TE-116311 Replacement Motor (110volt) TE-116312 Replacement Motor (220volt)

TE-106 Recorder Charts
TE-160 Recorder Pen Points
TE-5018 Gasket 8" x 10"

#### Calibration Equipment

TE-5028 -Variable Flow Calibration Kit

TE-5170 TSP MFC, 110 Volt 60 Hertz, 8 Amps

TE-5170X TSP MFC, 220 Volt 50 Hertz 4 Amps

TE-5170XZ TSP MFC, 220 Volts 60 Hertz, 4 Amps

TE-HVC-V Xcalibrator HiVol Calibrator

#### Physical Specifications

Weight: 75lbs, Shelter

Shipping Dimensions: 46"W x 23"L x 20" H, Shelter 19"W x 19"L x 20"H, Lid

Assembled Dimensions: 28"W x 28"L x 61"H

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www.tisch-env.com



## Calibration Certificate of HVS

## Air Sampler Calibration Curve Plotting & Calculation

#### (Dickson recorder)

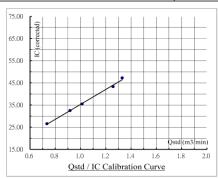
Calibration curve ref. No. :	ATSPC-01-20210	052802	Date of calibration:	28/05/2021	
Location :	Sky Tower		Sampler :	TE-5170X	
Calibration Data			Serial Numbers :	4687	
Ambient barometric pressure	, Pa = 756.9	(mmHg)	Ambient temperature, Ta	= 306.35	( deg K )
Qstd Slope, m = 2.048	32		Qstd Intercept, b =	0.011270	

#### Calibration Curve

Plate No.	H <sub>2</sub> O	Qstd	I	IC
Flate No.	( in )	( m <sup>3</sup> / min )	( chart )	( corrected )
18	7.60	1.330	48.0	47.24
13	6.80	1.258	44.0	43.31
10	4.40	1.013	36.0	35.43
7	3.60	0.917	33.0	32.48
5	2.30	0.734	27.0	26.57

#### Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [ (I) ( Sqrt ( ( Pav / 760 ) ( 298 / Tav ) ) ) - b1 ]	33.814	1.4881	0.9977



Calibration curve requirements: (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark: Qstd ( $m^3 / min$ ) = 1/m [ Sqrt ( $H_2O$  (Pa / 760) (298 / Ta)) - b]. IC (corrected) = I [ Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

 Calibrated by :
 28/05/2021
 Checked by :
 28/05/2021

 Name :
 (
 Poon Tsz Wing
 )
 Name :
 (
 Wong Yin Tong
 )

Form No. INS-HVS-CAL dd 16 01 2020

### Air Sampler Calibration Curve Plotting & Calculation

#### (Dickson recorder)

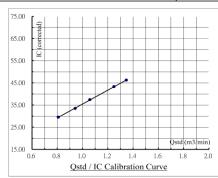
Calibration curv	ve ref. No. :	ATSPC-01-20	21052804	Date of calibration:	28/05/2021	
Location:	Ng Wah Catho	ic Secondary	School	Sampler :	TE-5170X	
Calibration Da	<u>ta</u>			Serial Numbers:	4360	
Ambient barom	etric pressure, Pa	756.9	( mmHg )	Ambient temperature, Ta	= 306.35	( deg K )
Qstd Slope, m=	2.04882			Qstd Intercept, b =	0.011270	

#### Calibration Curve

Plate No.	H <sub>2</sub> O	Qstd	I	IC
Plate No.	( in )	( m <sup>3</sup> / min )	( chart )	( corrected )
18	7.80	1.347	47.0	46.26
13	6.70	1.249	44.0	43.31
10	4.80	1.058	38.0	37.40
7	3.80	0.942	34.0	33.46
5	2.80	0.809	30.0	29.53

#### Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [ (I) (Sqrt ((Pav / 760) (298 / Tav))) - b1 ]	31.315	4.1407	0.9998



Calibration curve requirements : (A). r > 0.990; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark: Qstd ( $m^3 / min$ ) = 1/m [ Sqrt ( $H_2O$  (Pa / 760) (298 / Ta)) - b]. IC (corrected) = I [ Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

 Calibrated by :
 28/05/2021
 Checked by :
 28/05/2021

 Name :
 (
 Ben Poon
 )
 Name :
 (
 Tommy Wong
 )

Form No. INS-HVS-CAL dd 16 01 2020

## Calibration Certificate of HVS



RECALIBRATION **DUE DATE:** 

July 17, 2021

Calibration Certification Information					
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)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4300	3.2	2.00
2	3	4	1	1.0100	6.4	4.00
3	5	6	1	0.9010	7.9	5.00
4	7	8	1	0.8570	8.8	5.50
5	9	10	1	0.7090	12.8	8.00

		Data Tabulat	tion		
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	√∆H(Ta/Pa) (y-axis)
0.9937	0.6949	1.4128	0.9958	0.6963	0.8865
0.9895	0.9797	1.9980	0.9915	0.9817	1.2536
0.9875	1.0960	2.2338	0.9895	1.0982	1.4016
0.9863	1.1509	2.3428	0.9883	1.1532	1.4700
0.9810	1.3837	2.8255	0.9830	1.3865	1.7729
	m=	2.04882		m=	1.28293
OSTD	b=	-0.01127	QA	b=	-0.00707
40.0	r=	0.99999		r=	0.99999

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

	Standard Conditions
Tstd:	298.15 °K
Pstd:	760 mm Hg
	Key
ΔH: calibrator	manometer reading (in H2O)
ΔP: rootsmete	er manometer reading (mm Hg)
Ta: actual abs	olute temperature (°K)
Pa: actual bar	ometric pressure (mm Hg)
b: intercept	
m: slope	

RECALIBRATION

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

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

www.tisch-env.com TOLL FREE: (877)263-7610 FAX: (513)467-9009

## Catalogue of Dust Meter (TSI Sidepak AM510)

The SidePak AM510 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

#### **Quick 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
- + Choice of rechargeable NiMH smart battery packs or AA-cell pack

#### Model AM510 SidePak Personal Aerosol Monitor

#### Sensitivity

90° light scattering, Sensor Type 670 nm laser diode Aerosol 0.001 to 20 mg/m<sup>3</sup> Concentration Range (calibrated to respirable fraction of ISO 12103-1,

A1 test dust)

Particle Size Range 0.1 to 10 micrometer (µm) Minimum Resolution 0.001 mg/m<sup>3</sup>

Zero stability ±0.001 mg/m3 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)

#### Flow Rate

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

**Temperature 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

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 Range 0.1 to 10.0, user-adjustable

Physical

Weight

4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or External Dimensions

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, 801729 or 801743 battery

19 oz (0.54 kg) with 801708, 01722,

801728, 801735, or 801736 battery 2 line x 12 character LCD

Display Tripod Socket 1/4-20 female thread

## Power Supply/Charger (P/N 2613210) Input Voltage Range 100 to 240 VAC. S0 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

Type Connector, Instrument USB Mini-B (socket)

#### Minimum Computer Requirements for

TrakPro™ Data Analysis Software Communications Port Universal Serial Bus (USB)

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

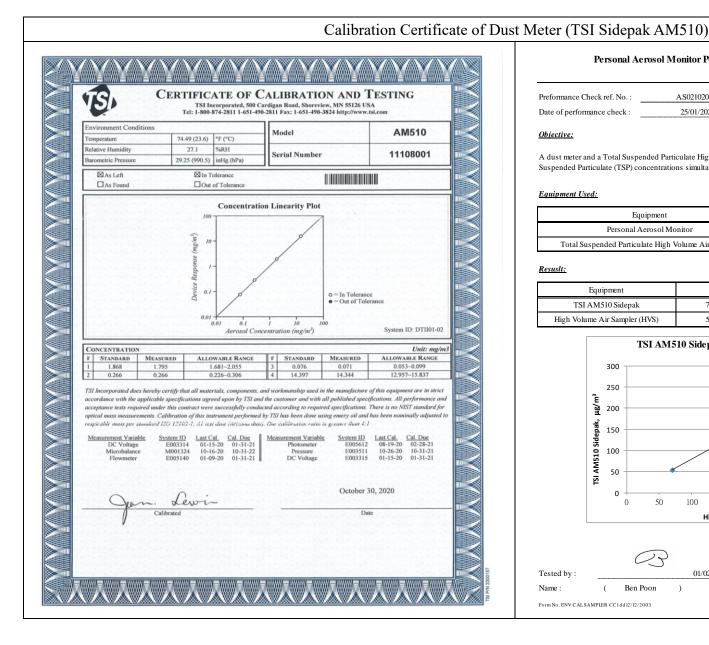
\*\*All dust plugs and dust gaskets must be installed.

\*\*\*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.





### Personal Aerosol Monitor Performance check with High Volume Sampler

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

#### Objective:

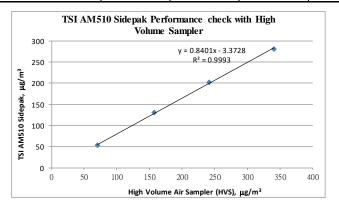
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

#### Equipment Used:

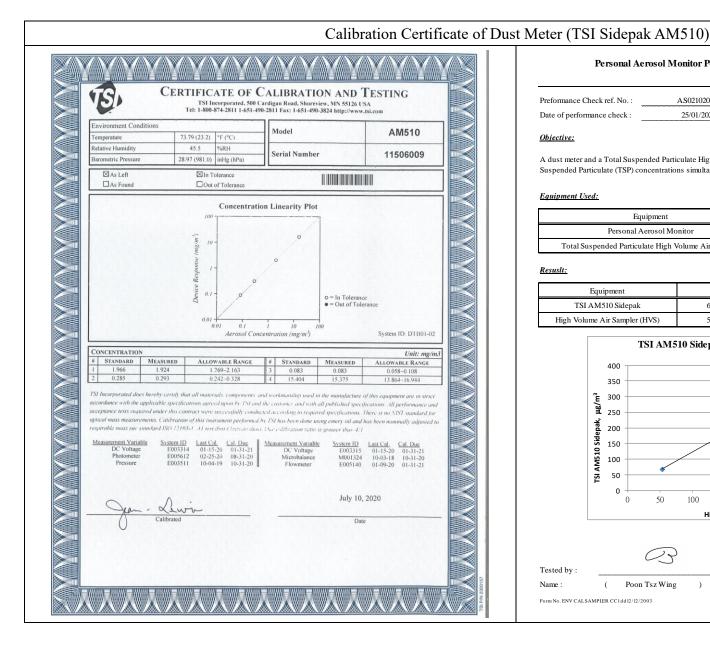
Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11108001
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

#### Resustt:

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



		$\mathcal{O}_{\mathcal{S}}$	)						
Tested by:				01/02/2021	Checked by:				01/02/2021
Name:	(	Ben Poon	)		Name:	(	Tommy Wong	)	
Form No. ENV.CAL SAMPLER CC14412/12/2003									



#### Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No.: AS0210201-3 Report Issue Date: 01/02/2021 25/01/2021 Date of performance check:

#### Objective:

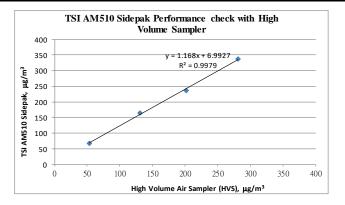
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

#### Equipment Used:

Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11506009
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

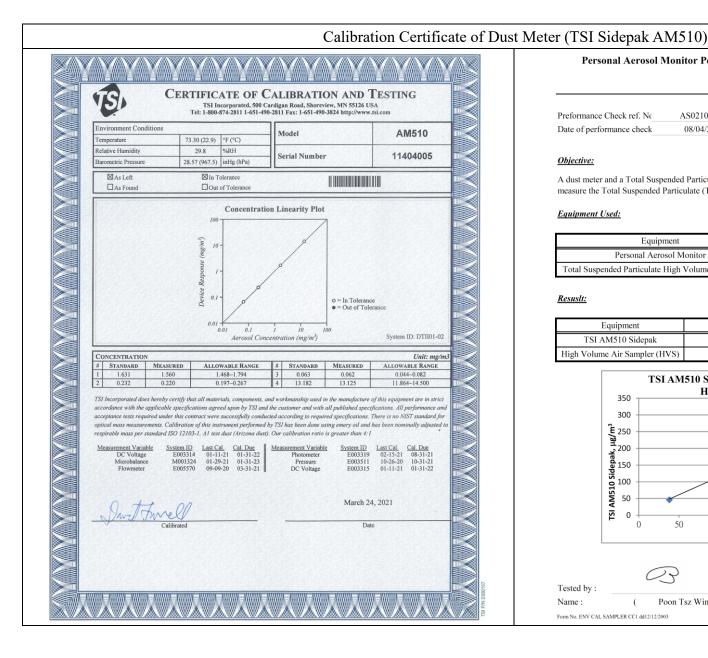
#### Resustt:

Equipment		Measurement	Result, $\mu g/m^3$	
TSI AM510 Sidepak	68	165	236	338
High Volume Air Sampler (HVS)	53	131	202	281



		03				1	
Tested by:			01/02/2021	Checked by:			01/02/2021
Name:	(	Poon Tsz Wing	)	Name:	(	Wong Yin Tong	)

Form No. ENV CALSAMPLER CC1dd12/12/2003



#### Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No	AS0210410-1	Report Issue Date	10/04/2021	
Date of performance check	08/04/2021			

#### Objective:

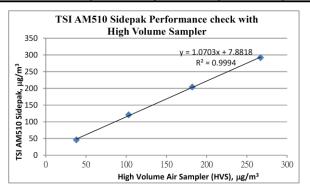
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

#### Equipment Used:

Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11404005
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

#### Resustt:

Equipment	Measurement Result, μg/m <sup>3</sup>			
TSI AM510 Sidepak	46	121	204	292
High Volume Air Sampler (HVS)	38	103	182	267



		$\sim$				/(/)
Tested by:				Checked by:		
Name:	(	Poon Tsz Wing	)	Name:	(	Wong Yin Tong

## Catalogue of Weather Station

## Cabled Vantage Pro2™ & Vantage Pro2 Plus™ Stations



6152C 6162C

Vantage Pro2™

The Vantage Pro2<sup>™</sup> (# 6152C) and Vantage Pro2<sup>™</sup> Plus (# 6162C) cabled weather stations include two components: 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 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<sup>®</sup> to let your weather station interface with a computer, log data, and upload 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.

#### Integrated Sensor Suite (ISS)

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating Temperature	-40° to +158°F (-40° to +70°C)
	5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS
Connectors, Sensor	Modular RJ-11
Cable Type	4-conductor, 26 AWG
Cable Length, Anemometer	40' (12 m) (included); 240' (73 m) (maximum recommended)

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 m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s).

Wind Speed Sensor . . . . . . . . . . . . . . . . Solid state magnetic sensor Wind Direction Sensor . . . . . . . . . . . . . . . . . . Wind vane with potentiometer (214 cm<sup>2</sup>) collection area Temperature Sensor Type...... PN Junction Silicon Diode Relative Humidity Sensor Type . . . . . . . . . . . . Film capacitor element Sensor Inputs 

ISS Dimensions(not including anemometer or bird spikes):

Vantage Pro2 with Fan-Asprated Rad Shield........... 20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm) Vantage Pro2 Plus with Standard Rad Shield . . . . . . . . 14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm) Vantage Pro2 Plus with Fan-Aspirated Rad Shield . . . . . 21.1" x 9.7" x 16.0" (536 mm x 246 mm x 406 mm)



DAVIS [""||| \* Davis Instruments 3465 Diablo Ave., Hayward, CA 94545-2778 USA (510) 732-9229 \* FAX (510) 670-0589 \* sales@davisinstruments.com \* www.davisinstruments.com

DS6152C, 6162C Rev. W 12/7/18

Vantage Pro2

#### Ultra Violet (UV) Radiation Index (requires UV sensor)

Historical Graph Data . . . . . . . . . . . . Hourly Average, Daily, Monthly Highs

#### Wind

#### Wind Chill (Calculated)

Range . . . . . . -110° to +135°F (-79° to +57°C) 

Alarm High Threshold from Instant Calculation

Source...... United States National Weather Service (NWS)/NOAA Equation Used . . . . . . . . . . Osczevski (1995) (adopted by US NWS in 2001)

Variables Used . . . . . . . . . . . . . . . . Instant Outside Temperature and 10-min. Avg. Wind Speed

Current Display Data . . . . . . . . . . . . . . . Instant Calculation

Current Graph Data . . . . . . . . Instant Calculation; Hourly, Daily and Monthly Low Historical Graph Data. . . . . . . . . . . . . . . . . Hourly, Daily and Monthly Lows

Alarm..... Low Threshold from Instant Calculation

Wind Direction

Monthly Dominant

Monthly Dominants

Wind Speed

other units are converted from mph and rounded to nearest 1 km/hr, 0.1

m/s or 1 knot

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,

Monthly and Yearly High with Direction of High

Highs with Direction of Highs

High Thresholds from Instant Reading and 10-minute Average

## Calibration Certificate of Weather Station



AAST-WS-04 Cal Cort 2021/3/16

## **Calibration Certificate**

### Certificate No.: CC0362103

1. Description			
Calibration item :	<ul><li>a) Temperature</li><li>b) Relative Humidity</li><li>c) Wind Speed</li><li>d) Wind Direction</li></ul>		når.
Equipment description :	Weather Station		
Manufacturer :	Davis Vantage Pro 2		
Type / Model No. :	6152CUK		
Serial No. :	BD181101023		
Assigned equipment no. :	N/A		
Adjustment :	N/A		
Remark :	Received with good condition		

Customer:	Castco Testing Centre Limited	
Address :	33, On Kui Street, Fanling, N.T.	
Date of receipt :	10 March 2021	

3. Date of performance of the calibration

Date of calibration : 16 March 2021



Page 1 of 4

Approved Signatory

Company Chop: Certificate issue date: 18 March 2021

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2. The certificate is issued subject to the latest Term and Condition, available assessable at our web site

Tel: (852)25680106 Fax(852)30116194 Email: info@callab.com.hk Website:callab.com.hk

Address: Room 2103, Technology Plaza, 29-35 Sha Tsui Road, Tsuen Wan, NT, Hong Kong



4. Result of Calibration

Reference reading ; °C	Reading; °C	Error of indication; °C
15.0	15	0.0
20.0	20	0.0
25.0	25	0.0
30.0	30	0.0

Estimated expanded uncertainty: 1.0 °C

Technical Requirement: N/A

Note: The technical requirement is refer to JJF 1183-2007

b) Relative Humidity	Temperature setting of humidity chamber: 23 °c		
Reference reading ; % RH	Reading; % RH	Error of indication; % RH	
40.0	42	2.0	
50.0	52	2.0	
70.0	71	1.0	

Estimated expanded uncertainty: 3 %RH

Technical Requirement: N/A

Note: The technical requirement is refer to JJG 1076-2001

CT-002-04

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## Calibration Certificate of Weather Station



Reference reading; m/s	Measured reading; m/s	Error of indication; %
0.0	0.0	N/A
2.0	1.8	-10.0
5.0	4.7	-6.0
8.0	7.8	-2.5

Estimated expanded uncertainty: 0.5 m/s

Technical Requirement: +/-5% or 1 m/s

Reference reading	Measured reading	Error of indication	
0°	0°	0°	
45°	45°	O°	
90°	90°	0°	
135°	135°	0°	
180°	180°	0°	
225°	225°	0°	
270°	270°	0°	
315°	315°	O°	

Estimated expanded uncertainty: 5°

Technical Requirement: N/A

Note: The arrow head was adjusted to the magnetic north before performing calibration.

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Cal Lab Limited

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Tel: (852)25680106 Fax(852)30116194 Email: info@callab.com.hk Website:callab.com.hk



#### 5. Reference method for calibration

5. Reference method for campration		
Temperature	JJF 1183-2007	
Relative humidity	JJG 1076-2001	
Wind Speed	SOP-251	
Wind Direction	SOP-252	

#### 6. Environment condition of calibration

Temperature ; °C	24.0 °C	
Relative humidity; %RH	54 %RH	X X

#### 7. Reference equipment used in the calibration

Item	Model	Serial No.	Expiry date	Traceable to
Platinum resistance thermometer	KPPRHT-A-1	KCI I-1095, KCI P-1095	4 Mar 2022	SMQ
Humidity sensor	KPPRHT-A-1	KCI I-1095, KCI P-1095	4 Mar 2022	SMQ
Reference Anemometer	405-V1	41543692	1 Jan 2022	SMQ

The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is

assumed unless explicitly stated.

assumed unless expiritory stated.

The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.

The result reported in this certificate refer to the condition of the instrument on the date of calibration and

carry no implication regarding the long term stability of the instrument.

The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to

the calibration item as received.

\*\*\* End of Certificate \*\*\*

CT-END-02

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The certificate is issued subject to the latest Term and Condition, available assessable at our web site

Page 4 of 4 cc0362103

Cal Lab Limited

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Tel : (852)25680106 Fax(852)30116194 Email: info@callab.com.hk Website:callab.com.hk

# Appendix F – Weather information

## General Information

Date	Absolute Daily Min Temperature (°C)	Absolute Daily Max Temperature (°C)	Total Rainfall (mm)	Mean Relative Humidity (%)
01/06/2021	24.1	29.3	45.8	91
02/06/2021	25.0	31.3	2.4	85
03/06/2021	27.9	34.0	0.0	77
04/06/2021	26.7	29.8	7.5	84
05/06/2021	25.6	29.2	Trace	73
06/06/2021	26.4	31.4	Trace	74
07/06/2021	26.6	32.2	Trace	78
08/06/2021	26.5	33.5	0.9	79
09/06/2021	26.4	29.9	48.6	87
10/06/2021	25.5	32.8	29.4	83
11/06/2021	26.7	32.9	31.2	82
12/06/2021	26.2	29.5	30.3	89
13/06/2021	26.0	32.0	2.8	85
14/06/2021	27.8	31.1	0.3	81
15/06/2021	27.2	31.8	6.2	79
16/06/2021	29.1	33.3	0.0	76
17/06/2021	27.7	32.8	9.6	77
18/06/2021	29.0	32.8	3.9	77
19/06/2021	29.5	33.0	Trace	77
20/06/2021	29.4	32.8	0.0	78
21/06/2021	29.4	32.4	1.2	80
22/06/2021	24.7	30.2	75.3	87
23/06/2021	25.1	29.0	66.4	88
24/06/2021	25.1	26.7	20.8	91
25/06/2021	26.0	29.0	6.8	87
26/06/2021	25.9	29.9	61.3	90
27/06/2021	28.4	30.0	5.8	84
28/06/2021	24.0	29.6	166.5	89
29/06/2021	28.8	30.7	4.6	82
30/06/2021	29.0	32.6	0.4	79

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory.

NOTE2: Trace means rainfall less than 0.05 mm

 $\underline{https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2021\&m=06}$ 

Kai Tak Runway Park Information

Date	Absolute Daily Min Temperature (°C)	Absolute Daily Max Temperature (°C)	
01/06/2021	24.2	28.9	
02/06/2021	25.3	31.2	
03/06/2021	26.7	33.8	
04/06/2021	26.7	30.6	
05/06/2021	25.9	30.1	
06/06/2021	26.3	30.6	
07/06/2021	26.0	29.5	
08/06/2021	26.7	30.2	
09/06/2021	26.7	30.0	
10/06/2021	25.5	30.6	
11/06/2021	26.4	30.8	
12/06/2021	26.0	29.7	
13/06/2021	25.6	30.2	
14/06/2021	27.9	32.0	
15/06/2021	26.8	31.8	
16/06/2021	28.8	31.7	
17/06/2021	28.4	32.5	
18/06/2021	29.0	32.7	
19/06/2021	29.4	32.5	
20/06/2021	29.5	32.9	
21/06/2021	28.6	32.0	
22/06/2021	NA	NA	
23/06/2021	24.7	30.1	
24/06/2021	24.5	26.9	
25/06/2021	25.3	28.6	
26/06/2021	25.2	29.8	
27/06/2021	27.3	30.0	
28/06/2021	23.9	29.8	
29/06/2021	27.8	30.5	
30/06/2021	28.5	31.6	

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=2021-06-01&chart\_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
01/06/2021	0:00	0.9	112.5	02/06/2021	0:00	0.9	67.5	03/06/2021	0:00	0.9	45	04/06/2021	0:00	0.9	22.5
01/06/2021	1:00	0.9	112.5	02/06/2021	1:00	0.9	45	03/06/2021	1:00	0.9	45	04/06/2021	1:00	0.9	22.5
01/06/2021	2:00	0.9	67.5	02/06/2021	2:00	1.8	90	03/06/2021	2:00	0.9	315	04/06/2021	2:00	0.4	22.5
01/06/2021	3:00	0.9	112.5	02/06/2021	3:00	1.8	45	03/06/2021	3:00	0.9	337.5	04/06/2021	3:00	0.9	22.5
01/06/2021	4:00	0.4	112.5	02/06/2021	4:00	1.8	45	03/06/2021	4:00	0.9	337.5	04/06/2021	4:00	0.9	22.5
01/06/2021	5:00	1.8	90	02/06/2021	5:00	1.8	67.5	03/06/2021	5:00	0.9	45	04/06/2021	5:00	0.9	22.5
01/06/2021	6:00	0.4	112.5	02/06/2021	6:00	1.3	45	03/06/2021	6:00	0.9	157.5	04/06/2021	6:00	1.8	22.5
01/06/2021	7:00	0.9	112.5	02/06/2021	7:00	1.3	45	03/06/2021	7:00	0.4	157.5	04/06/2021	7:00	2.2	157.5
01/06/2021	8:00	1.3	112.5	02/06/2021	8:00	0.9	45	03/06/2021	8:00	0.4	135	04/06/2021	8:00	1.8	157.5
01/06/2021	9:00	0.9	112.5	02/06/2021	9:00	1.3	45	03/06/2021	9:00	0.9	22.5	04/06/2021	9:00	1.8	292.5
01/06/2021	10:00	0.9	90	02/06/2021	10:00	1.8	45	03/06/2021	10:00	0.9	22.5	04/06/2021	10:00	1.3	292.5
01/06/2021	11:00	0.9	135	02/06/2021	11:00	0.9	135	03/06/2021	11:00	0.9	67.5	04/06/2021	11:00	0.9	270
01/06/2021	12:00	1.8	90	02/06/2021	12:00	2.2	112.5	03/06/2021	12:00	0.9	135	04/06/2021	12:00	0.4	270
01/06/2021	13:00	1.8	90	02/06/2021	13:00	2.7	90	03/06/2021	13:00	0.4	135	04/06/2021	13:00	0.4	292.5
01/06/2021	14:00	2.7	112.5	02/06/2021	14:00	1.3	67.5	03/06/2021	14:00	0.9	135	04/06/2021	14:00	0.9	270
01/06/2021	15:00	2.7	135	02/06/2021	15:00	1.3	112.5	03/06/2021	15:00	0.4	90	04/06/2021	15:00	0.9	270
01/06/2021	16:00	2.2	112.5	02/06/2021	16:00	1.3	67.5	03/06/2021	16:00	0.4	67.5	04/06/2021	16:00	0.9	270
01/06/2021	17:00	2.2	112.5	02/06/2021	17:00	1.8	67.5	03/06/2021	17:00	1.8	247.5	04/06/2021	17:00	0.9	292.5
01/06/2021	18:00	2.7	90	02/06/2021	18:00	1.8	67.5	03/06/2021	18:00	2.2	247.5	04/06/2021	18:00	0.9	315
01/06/2021	19:00	2.7	112.5	02/06/2021	19:00	1.3	112.5	03/06/2021	19:00	1.8	247.5	04/06/2021	19:00	0.9	292.5
01/06/2021	20:00	2.2	112.5	02/06/2021	20:00	0.4	67.5	03/06/2021	20:00	1.8	247.5	04/06/2021	20:00	0.9	292.5
01/06/2021	21:00	0.4	90	02/06/2021	21:00	0.4	90	03/06/2021	21:00	0.4	135	04/06/2021	21:00	0.9	292.5
01/06/2021	22:00	0.4	67.5	02/06/2021	22:00	0.4	90	03/06/2021	22:00	0.4	135	04/06/2021	22:00	0.9	292.5
01/06/2021	23:00	0.4	180	02/06/2021	23:00	0.4	112.5	03/06/2021	23:00	0.9	112.5	04/06/2021	23:00	0	180

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
05/06/2021	0:00	0.4	67.5	06/06/2021	0:00	1.3	45	07/06/2021	0:00	0.9	315	08/06/2021	0:00	0.9	337.5
05/06/2021	1:00	0	135	06/06/2021	1:00	0.4	225	07/06/2021	1:00	1.3	270	08/06/2021	1:00	0.4	67.5
05/06/2021	2:00	0.4	135	06/06/2021	2:00	0.9	112.5	07/06/2021	2:00	0.9	67.5	08/06/2021	2:00	0.4	270
05/06/2021	3:00	1.3	67.5	06/06/2021	3:00	0.9	0	07/06/2021	3:00	1.3	22.5	08/06/2021	3:00	1.3	22.5
05/06/2021	4:00	1.3	22.5	06/06/2021	4:00	0.9	247.5	07/06/2021	4:00	1.8	112.5	08/06/2021	4:00	1.3	22.5
05/06/2021	5:00	1.8	90	06/06/2021	5:00	1.8	270	07/06/2021	5:00	1.3	90	08/06/2021	5:00	0.9	22.5
05/06/2021	6:00	1.3	22.5	06/06/2021	6:00	1.8	247.5	07/06/2021	6:00	1.3	112.5	08/06/2021	6:00	1.3	337.5
05/06/2021	7:00	1.3	0	06/06/2021	7:00	1.8	247.5	07/06/2021	7:00	0.9	67.5	08/06/2021	7:00	1.3	337.5
05/06/2021	8:00	1.8	90	06/06/2021	8:00	0.4	270	07/06/2021	8:00	0.4	67.5	08/06/2021	8:00	0.9	0
05/06/2021	9:00	1.8	22.5	06/06/2021	9:00	0	270	07/06/2021	9:00	1.8	67.5	08/06/2021	9:00	0.9	292.5
05/06/2021	10:00	2.2	90	06/06/2021	10:00	0	337.5	07/06/2021	10:00	0.9	112.5	08/06/2021	10:00	1.8	112.5
05/06/2021	11:00	1.8	112.5	06/06/2021	11:00	0.4	270	07/06/2021	11:00	0.9	67.5	08/06/2021	11:00	1.3	112.5
05/06/2021	12:00	1.8	67.5	06/06/2021	12:00	0.4	225	07/06/2021	12:00	0.9	135	08/06/2021	12:00	1.8	67.5
05/06/2021	13:00	1.3	22.5	06/06/2021	13:00	0.4	0	07/06/2021	13:00	0.4	135	08/06/2021	13:00	2.2	112.5
05/06/2021	14:00	1.3	292.5	06/06/2021	14:00	0.9	135	07/06/2021	14:00	1.3	157.5	08/06/2021	14:00	2.7	90
05/06/2021	15:00	1.3	22.5	06/06/2021	15:00	0.4	90	07/06/2021	15:00	1.3	45	08/06/2021	15:00	1.8	67.5
05/06/2021	16:00	0.9	225	06/06/2021	16:00	0.4	135	07/06/2021	16:00	0.9	315	08/06/2021	16:00	1.3	135
05/06/2021	17:00	0.9	0	06/06/2021	17:00	0.9	22.5	07/06/2021	17:00	1.8	225	08/06/2021	17:00	0.9	135
05/06/2021	18:00	0.9	0	06/06/2021	18:00	0.9	90	07/06/2021	18:00	1.3	0	08/06/2021	18:00	0.9	157.5
05/06/2021	19:00	0.4	315	06/06/2021	19:00	0.4	135	07/06/2021	19:00	1.3	0	08/06/2021	19:00	1.3	67.5
05/06/2021	20:00	0.4	315	06/06/2021	20:00	0.9	112.5	07/06/2021	20:00	1.8	112.5	08/06/2021	20:00	0.9	67.5
05/06/2021	21:00	0.4	67.5	06/06/2021	21:00	1.3	90	07/06/2021	21:00	1.3	135	08/06/2021	21:00	0.9	112.5
05/06/2021	22:00	0	270	06/06/2021	22:00	0.9	0	07/06/2021	22:00	0.4	22.5	08/06/2021	22:00	0.4	67.5
05/06/2021	23:00	0.9	22.5	06/06/2021	23:00	1.3	0	07/06/2021	23:00	0.4	22.5	08/06/2021	23:00	0.9	22.5

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
09/06/2021	0:00	0.4	90	10/06/2021	0:00	0.4	135	11/06/2021	0:00	1.8	112.5	12/06/2021	0:00	1.3	112.5
09/06/2021	1:00	1.3	0	10/06/2021	1:00	0.9	135	11/06/2021	1:00	1.3	112.5	12/06/2021	1:00	1.8	112.5
09/06/2021	2:00	0.4	292.5	10/06/2021	2:00	1.3	67.5	11/06/2021	2:00	2.2	67.5	12/06/2021	2:00	1.3	112.5
09/06/2021	3:00	0.9	337.5	10/06/2021	3:00	0.4	22.5	11/06/2021	3:00	1.8	337.5	12/06/2021	3:00	2.2	157.5
09/06/2021	4:00	0.4	45	10/06/2021	4:00	0	67.5	11/06/2021	4:00	1.3	67.5	12/06/2021	4:00	1.8	90
09/06/2021	5:00	1.3	135	10/06/2021	5:00	0.4	67.5	11/06/2021	5:00	1.3	22.5	12/06/2021	5:00	1.3	67.5
09/06/2021	6:00	0	247.5	10/06/2021	6:00	0.4	247.5	11/06/2021	6:00	1.3	270	12/06/2021	6:00	0.9	67.5
09/06/2021	7:00	0.4	112.5	10/06/2021	7:00	1.3	67.5	11/06/2021	7:00	1.8	45	12/06/2021	7:00	1.3	112.5
09/06/2021	8:00	1.3	0	10/06/2021	8:00	1.8	90	11/06/2021	8:00	1.3	112.5	12/06/2021	8:00	0.9	180
09/06/2021	9:00	0.9	292.5	10/06/2021	9:00	1.3	90	11/06/2021	9:00	2.2	90	12/06/2021	9:00	1.8	90
09/06/2021	10:00	0.9	337.5	10/06/2021	10:00	1.3	0	11/06/2021	10:00	1.8	45	12/06/2021	10:00	2.2	112.5
09/06/2021	11:00	1.8	135	10/06/2021	11:00	1.8	112.5	11/06/2021	11:00	1.8	180	12/06/2021	11:00	2.2	112.5
09/06/2021	12:00	1.3	180	10/06/2021	12:00	0.9	90	11/06/2021	12:00	1.3	45	12/06/2021	12:00	2.7	112.5
09/06/2021	13:00	0.9	90	10/06/2021	13:00	2.2	90	11/06/2021	13:00	2.2	90	12/06/2021	13:00	2.2	90
09/06/2021	14:00	0.4	135	10/06/2021	14:00	1.8	90	11/06/2021	14:00	1.8	67.5	12/06/2021	14:00	2.7	112.5
09/06/2021	15:00	1.8	90	10/06/2021	15:00	1.3	180	11/06/2021	15:00	1.3	90	12/06/2021	15:00	1.8	90
09/06/2021	16:00	1.3	135	10/06/2021	16:00	1.3	45	11/06/2021	16:00	1.8	112.5	12/06/2021	16:00	2.2	112.5
09/06/2021	17:00	0.4	135	10/06/2021	17:00	1.3	112.5	11/06/2021	17:00	2.2	22.5	12/06/2021	17:00	1.3	112.5
09/06/2021	18:00	0.9	90	10/06/2021	18:00	1.8	90	11/06/2021	18:00	1.8	112.5	12/06/2021	18:00	1.3	112.5
09/06/2021	19:00	1.3	135	10/06/2021	19:00	1.3	247.5	11/06/2021	19:00	2.2	67.5	12/06/2021	19:00	1.8	90
09/06/2021	20:00	0.9	90	10/06/2021	20:00	2.2	67.5	11/06/2021	20:00	1.3	112.5	12/06/2021	20:00	2.2	135
09/06/2021	21:00	1.3	22.5	10/06/2021	21:00	1.8	337.5	11/06/2021	21:00	1.8	112.5	12/06/2021	21:00	2.7	90
09/06/2021	22:00	1.3	112.5	10/06/2021	22:00	1.3	135	11/06/2021	22:00	2.2	67.5	12/06/2021	22:00	1.8	90
09/06/2021	23:00	0.4	112.5	10/06/2021	23:00	1.8	112.5	11/06/2021	23:00	1.8	112.5	12/06/2021	23:00	1.3	90

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
13/06/2021	0:00	1.8	112.5	14/06/2021	0:00	1.3	135	15/06/2021	0:00	0	67.5	16/06/2021	0:00	0.9	45
13/06/2021	1:00	0.4	45	14/06/2021	1:00	0.9	67.5	15/06/2021	1:00	0.4	135	16/06/2021	1:00	0.9	67.5
13/06/2021	2:00	1.3	45	14/06/2021	2:00	0.9	67.5	15/06/2021	2:00	0.4	157.5	16/06/2021	2:00	0.9	202.5
13/06/2021	3:00	0.9	67.5	14/06/2021	3:00	0.9	67.5	15/06/2021	3:00	0.4	135	16/06/2021	3:00	0.9	67.5
13/06/2021	4:00	0.9	90	14/06/2021	4:00	1.3	67.5	15/06/2021	4:00	0.4	157.5	16/06/2021	4:00	1.3	67.5
13/06/2021	5:00	1.3	67.5	14/06/2021	5:00	0.9	67.5	15/06/2021	5:00	0.9	67.5	16/06/2021	5:00	0.9	90
13/06/2021	6:00	1.8	112.5	14/06/2021	6:00	0.9	135	15/06/2021	6:00	1.3	135	16/06/2021	6:00	0.9	337.5
13/06/2021	7:00	2.2	112.5	14/06/2021	7:00	0.4	22.5	15/06/2021	7:00	0.9	157.5	16/06/2021	7:00	0.9	45
13/06/2021	8:00	2.7	67.5	14/06/2021	8:00	0.4	157.5	15/06/2021	8:00	0.4	270	16/06/2021	8:00	1.3	45
13/06/2021	9:00	2.2	112.5	14/06/2021	9:00	0.9	45	15/06/2021	9:00	0	67.5	16/06/2021	9:00	0.9	90
13/06/2021	10:00	1.8	112.5	14/06/2021	10:00	0.9	90	15/06/2021	10:00	0.9	90	16/06/2021	10:00	1.3	90
13/06/2021	11:00	2.2	90	14/06/2021	11:00	1.3	90	15/06/2021	11:00	0.4	225	16/06/2021	11:00	0.9	45
13/06/2021	12:00	1.8	135	14/06/2021	12:00	1.3	67.5	15/06/2021	12:00	0.9	225	16/06/2021	12:00	1.3	67.5
13/06/2021	13:00	2.2	90	14/06/2021	13:00	0.9	45	15/06/2021	13:00	1.3	270	16/06/2021	13:00	0.9	67.5
13/06/2021	14:00	2.2	90	14/06/2021	14:00	1.3	112.5	15/06/2021	14:00	1.3	22.5	16/06/2021	14:00	0.9	90
13/06/2021	15:00	1.8	67.5	14/06/2021	15:00	0.9	90	15/06/2021	15:00	1.3	45	16/06/2021	15:00	0.9	45
13/06/2021	16:00	1.3	67.5	14/06/2021	16:00	0.9	135	15/06/2021	16:00	1.3	270	16/06/2021	16:00	0.9	67.5
13/06/2021	17:00	0.9	135	14/06/2021	17:00	0.9	67.5	15/06/2021	17:00	0.9	22.5	16/06/2021	17:00	0.9	45
13/06/2021	18:00	1.8	112.5	14/06/2021	18:00	0.9	45	15/06/2021	18:00	1.8	45	16/06/2021	18:00	0.4	22.5
13/06/2021	19:00	0.9	135	14/06/2021	19:00	1.3	90	15/06/2021	19:00	1.3	247.5	16/06/2021	19:00	1.3	90
13/06/2021	20:00	1.3	90	14/06/2021	20:00	0.9	90	15/06/2021	20:00	1.3	90	16/06/2021	20:00	1.3	112.5
13/06/2021	21:00	0.9	90	14/06/2021	21:00	1.3	90	15/06/2021	21:00	0.4	90	16/06/2021	21:00	1.3	45
13/06/2021	22:00	0.9	90	14/06/2021	22:00	1.3	67.5	15/06/2021	22:00	0.9	45	16/06/2021	22:00	0.9	45
13/06/2021	23:00	0.9	90	14/06/2021	23:00	0.4	67.5	15/06/2021	23:00	0.9	90	16/06/2021	23:00	0.9	157.5

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
17/06/2021	0:00	0.9	67.5	18/06/2021	0:00	1.3	22.5	19/06/2021	0:00	1.3	67.5	20/06/2021	0:00	1.3	247.5
17/06/2021	1:00	0.4	135	18/06/2021	1:00	1.3	22.5	19/06/2021	1:00	0.9	22.5	20/06/2021	1:00	0.9	247.5
17/06/2021	2:00	0.9	90	18/06/2021	2:00	0.9	22.5	19/06/2021	2:00	0.9	67.5	20/06/2021	2:00	0.9	247.5
17/06/2021	3:00	0.4	315	18/06/2021	3:00	1.8	270	19/06/2021	3:00	0.9	67.5	20/06/2021	3:00	0.9	45
17/06/2021	4:00	0.9	45	18/06/2021	4:00	1.3	247.5	19/06/2021	4:00	1.3	22.5	20/06/2021	4:00	0.4	270
17/06/2021	5:00	1.3	270	18/06/2021	5:00	1.3	247.5	19/06/2021	5:00	1.3	270	20/06/2021	5:00	2.7	270
17/06/2021	6:00	0.9	22.5	18/06/2021	6:00	1.3	270	19/06/2021	6:00	1.8	247.5	20/06/2021	6:00	1.8	270
17/06/2021	7:00	1.3	67.5	18/06/2021	7:00	0.9	0	19/06/2021	7:00	2.7	270	20/06/2021	7:00	1.3	225
17/06/2021	8:00	0.9	135	18/06/2021	8:00	0.9	247.5	19/06/2021	8:00	1.3	270	20/06/2021	8:00	0.9	225
17/06/2021	9:00	0.4	45	18/06/2021	9:00	2.7	247.5	19/06/2021	9:00	1.8	225	20/06/2021	9:00	1.8	247.5
17/06/2021	10:00	0.9	90	18/06/2021	10:00	1.8	90	19/06/2021	10:00	1.3	45	20/06/2021	10:00	2.2	247.5
17/06/2021	11:00	1.3	90	18/06/2021	11:00	0.4	247.5	19/06/2021	11:00	1.3	270	20/06/2021	11:00	1.3	67.5
17/06/2021	12:00	1.3	67.5	18/06/2021	12:00	1.3	90	19/06/2021	12:00	1.8	247.5	20/06/2021	12:00	0.9	67.5
17/06/2021	13:00	0.9	45	18/06/2021	13:00	0.9	90	19/06/2021	13:00	1.8	247.5	20/06/2021	13:00	1.3	22.5
17/06/2021	14:00	1.3	112.5	18/06/2021	14:00	0.9	90	19/06/2021	14:00	1.3	67.5	20/06/2021	14:00	1.3	45
17/06/2021	15:00	0.9	90	18/06/2021	15:00	1.3	45	19/06/2021	15:00	1.8	112.5	20/06/2021	15:00	0.9	90
17/06/2021	16:00	0.9	67.5	18/06/2021	16:00	1.3	135	19/06/2021	16:00	0.9	67.5	20/06/2021	16:00	1.3	90
17/06/2021	17:00	1.3	67.5	18/06/2021	17:00	0.9	157.5	19/06/2021	17:00	0.9	67.5	20/06/2021	17:00	1.3	90
17/06/2021	18:00	0.9	45	18/06/2021	18:00	1.3	157.5	19/06/2021	18:00	1.3	22.5	20/06/2021	18:00	0.9	67.5
17/06/2021	19:00	0.9	90	18/06/2021	19:00	1.3	67.5	19/06/2021	19:00	1.3	45	20/06/2021	19:00	0.9	67.5
17/06/2021	20:00	1.3	112.5	18/06/2021	20:00	1.3	67.5	19/06/2021	20:00	1.3	22.5	20/06/2021	20:00	1.3	90
17/06/2021	21:00	0.9	67.5	18/06/2021	21:00	1.8	67.5	19/06/2021	21:00	0.9	67.5	20/06/2021	21:00	0.9	45
17/06/2021	22:00	1.3	67.5	18/06/2021	22:00	0.9	90	19/06/2021	22:00	0.9	22.5	20/06/2021	22:00	1.3	67.5
17/06/2021	23:00	0.4	67.5	18/06/2021	23:00	1.3	90	19/06/2021	23:00	0.4	22.5	20/06/2021	23:00	1.3	67.5

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
21/06/2021	0:00	0.9	67.5	22/06/2021	0:00	0.9	112.5	23/06/2021	0:00	0.4	270	24/06/2021	0:00	0.4	180
21/06/2021	1:00	0.4	270	22/06/2021	1:00	0.4	45	23/06/2021	1:00	0.9	180	24/06/2021	1:00	0	180
21/06/2021	2:00	0.9	45	22/06/2021	2:00	0.4	225	23/06/2021	2:00	0.9	180	24/06/2021	2:00	0.4	157.5
21/06/2021	3:00	0.9	67.5	22/06/2021	3:00	0.4	67.5	23/06/2021	3:00	0.4	225	24/06/2021	3:00	0.9	67.5
21/06/2021	4:00	1.8	180	22/06/2021	4:00	0	135	23/06/2021	4:00	0.9	225	24/06/2021	4:00	0.4	67.5
21/06/2021	5:00	1.3	247.5	22/06/2021	5:00	0	135	23/06/2021	5:00	0.9	135	24/06/2021	5:00	0.4	90
21/06/2021	6:00	1.3	247.5	22/06/2021	6:00	0.9	270	23/06/2021	6:00	0.9	247.5	24/06/2021	6:00	0.9	67.5
21/06/2021	7:00	1.8	270	22/06/2021	7:00	2.7	247.5	23/06/2021	7:00	0.4	180	24/06/2021	7:00	1.3	157.5
21/06/2021	8:00	2.2	247.5	22/06/2021	8:00	2.2	157.5	23/06/2021	8:00	0.4	270	24/06/2021	8:00	0.9	67.5
21/06/2021	9:00	1.3	225	22/06/2021	9:00	1.8	270	23/06/2021	9:00	0.9	180	24/06/2021	9:00	0.9	67.5
21/06/2021	10:00	1.3	45	22/06/2021	10:00	1.3	270	23/06/2021	10:00	0.4	157.5	24/06/2021	10:00	1.3	315
21/06/2021	11:00	0.9	270	22/06/2021	11:00	0.4	157.5	23/06/2021	11:00	0.4	112.5	24/06/2021	11:00	1.3	90
21/06/2021	12:00	1.3	45	22/06/2021	12:00	0.4	157.5	23/06/2021	12:00	0.9	90	24/06/2021	12:00	0.4	337.5
21/06/2021	13:00	1.3	45	22/06/2021	13:00	0.4	247.5	23/06/2021	13:00	0.4	270	24/06/2021	13:00	0.4	112.5
21/06/2021	14:00	2.2	270	22/06/2021	14:00	0.9	225	23/06/2021	14:00	0.4	247.5	24/06/2021	14:00	0.4	225
21/06/2021	15:00	0.9	157.5	22/06/2021	15:00	0.4	270	23/06/2021	15:00	1.3	225	24/06/2021	15:00	0.9	90
21/06/2021	16:00	0.4	247.5	22/06/2021	16:00	0.9	247.5	23/06/2021	16:00	1.8	225	24/06/2021	16:00	0.4	225
21/06/2021	17:00	0.9	67.5	22/06/2021	17:00	0.4	202.5	23/06/2021	17:00	0.9	225	24/06/2021	17:00	0	270
21/06/2021	18:00	0.9	22.5	22/06/2021	18:00	0.4	202.5	23/06/2021	18:00	1.8	247.5	24/06/2021	18:00	0.4	135
21/06/2021	19:00	1.3	135	22/06/2021	19:00	0.4	202.5	23/06/2021	19:00	0	292.5	24/06/2021	19:00	1.3	67.5
21/06/2021	20:00	0.9	180	22/06/2021	20:00	1.3	135	23/06/2021	20:00	0.4	135	24/06/2021	20:00	0.9	67.5
21/06/2021	21:00	0.9	180	22/06/2021	21:00	1.8	90	23/06/2021	21:00	0	270	24/06/2021	21:00	0.4	45
21/06/2021	22:00	0.4	180	22/06/2021	22:00	0.9	247.5	23/06/2021	22:00	0.9	112.5	24/06/2021	22:00	0.9	90
21/06/2021	23:00	1.3	225	22/06/2021	23:00	0.4	247.5	23/06/2021	23:00	0	180	24/06/2021	23:00	0.4	135

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
25/06/2021	0:00	0.9	45	26/06/2021	0:00	0.9	157.5	27/06/2021	0:00	0.4	90	28/06/2021	0:00	0.9	135
25/06/2021	1:00	0.4	112.5	26/06/2021	1:00	0.4	157.5	27/06/2021	1:00	0.9	112.5	28/06/2021	1:00	0.4	112.5
25/06/2021	2:00	0.9	67.5	26/06/2021	2:00	0.4	135	27/06/2021	2:00	0.9	90	28/06/2021	2:00	0.9	112.5
25/06/2021	3:00	0.4	135	26/06/2021	3:00	0.4	90	27/06/2021	3:00	0.9	45	28/06/2021	3:00	1.3	90
25/06/2021	4:00	0.4	135	26/06/2021	4:00	0	22.5	27/06/2021	4:00	1.3	247.5	28/06/2021	4:00	0.9	225
25/06/2021	5:00	0.9	67.5	26/06/2021	5:00	0.4	112.5	27/06/2021	5:00	1.3	247.5	28/06/2021	5:00	1.3	67.5
25/06/2021	6:00	0.4	112.5	26/06/2021	6:00	0.9	112.5	27/06/2021	6:00	0.4	135	28/06/2021	6:00	2.2	180
25/06/2021	7:00	0.4	135	26/06/2021	7:00	0.4	112.5	27/06/2021	7:00	0.4	292.5	28/06/2021	7:00	0.4	225
25/06/2021	8:00	0.4	225	26/06/2021	8:00	0.4	247.5	27/06/2021	8:00	0.4	90	28/06/2021	8:00	0.4	225
25/06/2021	9:00	0.9	45	26/06/2021	9:00	0	315	27/06/2021	9:00	1.3	225	28/06/2021	9:00	1.3	247.5
25/06/2021	10:00	0.4	45	26/06/2021	10:00	0	45	27/06/2021	10:00	1.3	90	28/06/2021	10:00	0.9	112.5
25/06/2021	11:00	0.9	90	26/06/2021	11:00	0	247.5	27/06/2021	11:00	0.9	45	28/06/2021	11:00	0	90
25/06/2021	12:00	0.9	90	26/06/2021	12:00	0	247.5	27/06/2021	12:00	0.9	45	28/06/2021	12:00	0.4	90
25/06/2021	13:00	0.4	135	26/06/2021	13:00	0.9	202.5	27/06/2021	13:00	1.8	180	28/06/2021	13:00	0.4	180
25/06/2021	14:00	0	135	26/06/2021	14:00	0.4	270	27/06/2021	14:00	0.9	45	28/06/2021	14:00	0.4	180
25/06/2021	15:00	0.9	135	26/06/2021	15:00	0.4	292.5	27/06/2021	15:00	0.9	67.5	28/06/2021	15:00	0.9	157.5
25/06/2021	16:00	0.9	90	26/06/2021	16:00	0.4	135	27/06/2021	16:00	1.3	90	28/06/2021	16:00	0.4	45
25/06/2021	17:00	0	157.5	26/06/2021	17:00	0.4	112.5	27/06/2021	17:00	1.3	90	28/06/2021	17:00	0.9	67.5
25/06/2021	18:00	0.4	90	26/06/2021	18:00	0.4	135	27/06/2021	18:00	0.9	67.5	28/06/2021	18:00	0.9	67.5
25/06/2021	19:00	0	157.5	26/06/2021	19:00	0.9	225	27/06/2021	19:00	0.9	90	28/06/2021	19:00	0.4	112.5
25/06/2021	20:00	0.9	67.5	26/06/2021	20:00	0.4	225	27/06/2021	20:00	1.3	45	28/06/2021	20:00	0.9	67.5
25/06/2021	21:00	0.4	67.5	26/06/2021	21:00	0.9	67.5	27/06/2021	21:00	0.9	67.5	28/06/2021	21:00	0.9	112.5
25/06/2021	22:00	0.9	157.5	26/06/2021	22:00	0.4	90	27/06/2021	22:00	0.9	247.5	28/06/2021	22:00	1.3	112.5
25/06/2021	23:00	0.4	67.5	26/06/2021	23:00	0.9	67.5	27/06/2021	23:00	0.9	90	28/06/2021	23:00	1.3	67.5

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
29/06/2021	0:00	0.9	180	30/06/2021	0:00	0.9	202.5								
29/06/2021	1:00	0.9	135	30/06/2021	1:00	0.9	112.5								
29/06/2021	2:00	1.3	67.5	30/06/2021	2:00	0.9	112.5								
29/06/2021	3:00	0.9	112.5	30/06/2021	3:00	0.4	67.5								
29/06/2021	4:00	1.3	112.5	30/06/2021	4:00	1.3	90								
29/06/2021	5:00	1.3	67.5	30/06/2021	5:00	1.3	45								
29/06/2021	6:00	1.3	45	30/06/2021	6:00	0.9	202.5								
29/06/2021	7:00	0.9	180	30/06/2021	7:00	1.3	90								
29/06/2021	8:00	0.9	112.5	30/06/2021	8:00	1.3	112.5								
29/06/2021	9:00	1.3	45	30/06/2021	9:00	1.8	225								
29/06/2021	10:00	0.9	67.5	30/06/2021	10:00	1.3	202.5								
29/06/2021	11:00	1.8	67.5	30/06/2021	11:00	1.8	112.5								
29/06/2021	12:00	1.8	90	30/06/2021	12:00	1.8	45								
29/06/2021	13:00	0.9	67.5	30/06/2021	13:00	1.3	45								
29/06/2021	14:00	0.9	67.5	30/06/2021	14:00	1.3	112.5								
29/06/2021	15:00	1.3	45	30/06/2021	15:00	0.9	180								
29/06/2021	16:00	1.3	67.5	30/06/2021	16:00	1.8	180								
29/06/2021	17:00	0.4	180	30/06/2021	17:00	0.9	112.5								
29/06/2021	18:00	0.9	135	30/06/2021	18:00	0.9	180								
29/06/2021	19:00	0.4	90	30/06/2021	19:00	0.9	135								
29/06/2021	20:00	0.4	135	30/06/2021	20:00	0.9	67.5								
29/06/2021	21:00	0.9	67.5	30/06/2021	21:00	1.3	112.5								
29/06/2021	22:00	0.9	180	30/06/2021	22:00	0.9	90								
29/06/2021	23:00	0.9	157.5	30/06/2021	23:00	0.9	112.5								

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

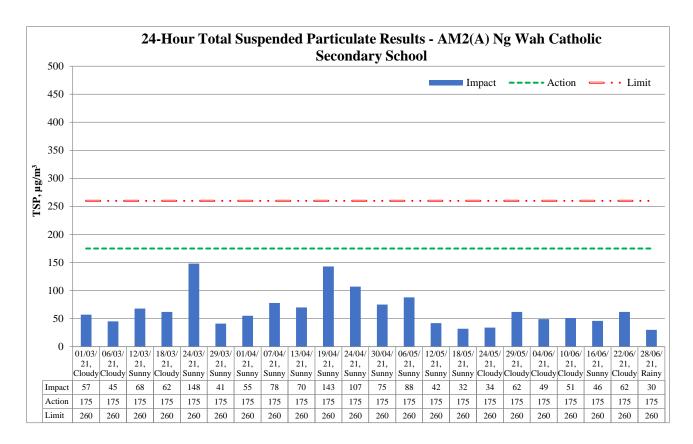
Location: AM2(A) – Ng Wah Catholic Secondary School

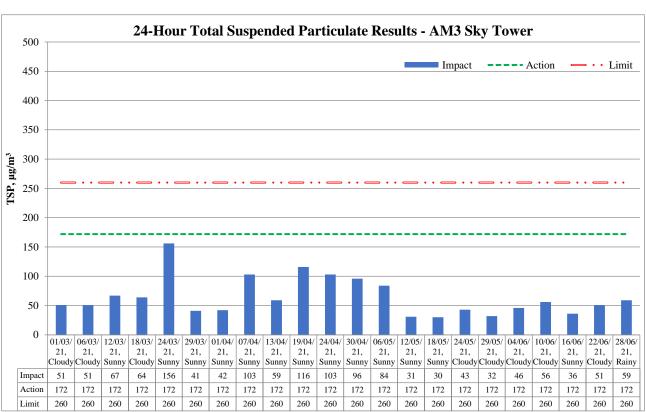
Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter we	eight (g)	Particulate	Elapse	e Time	Sampling Time	Flow (cf		Av. Flow	Total vol.	Conc.
		$(^{\circ}\mathbb{C})$	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m³/min)	$(m^3)$	$(\mu g/m^3)$
4/6/2021	Cloudy	28.9	1004.7	18.1181	18.2198	0.1017	5567.92	5591.93	1441	50	50	1.45	2085	49
10/6/2021	Cloudy	28.8	1005.6	15.1923	15.2981	0.1058	5592.84	5616.84	1440	50	50	1.45	2086	51
16/6/2021	Sunny	31.7	1006.3	18.3321	18.428	0.0959	5617.85	5641.86	1441	50	50	1.44	2076	46
22/6/2021	Cloudy	29.2	1005.1	18.4242	18.5543	0.1301	5642.55	5666.56	1441	50	50	1.45	2084	62
28/6/2021	Rainy	26.2	1005.2	18.7538	18.8158	0.062	5667.73	5691.73	1440	50	50	1.45	2095	30
												Maxin	num	62
												Minin	num	30
												Aver	age	48
												Action	Level	175
												Limit I	evel	260

Location: AM3 – Sky Tower

Start Date	Weather	Air Temp.	Atmospheric Pressure	Filter we	eight (g)	Particulate	Elapse	Time	Sampling Time	Flow (cf		Av. Flow	Total vol.	Conc.
		(°C)	(hPa)	Initial	Final	weight (g)	Initial	Final	(min)	Initial	Final	(m³/min)	$(m^3)$	$(\mu g/m^3)$
4/6/2021	Cloudy	28.9	1004.7	11.7047	11.8021	0.0974	3024.54	3048.56	1441	52	52	1.48	2129	46
10/6/2021	Cloudy	28.8	1005.6	11.6004	11.7195	0.1191	3049.63	3073.65	1441	52	52	1.48	2130	56
16/6/2021	Sunny	31.7	1006.3	18.6983	18.7741	0.0758	3074.07	3098.09	1441	52	52	1.47	2121	36
22/6/2021	Cloudy	29.2	1005.1	14.8653	14.9741	0.1088	3099.15	3123.17	1441	52	52	1.48	2128	51
28/6/2021	Rainy	26.2	1005.2	15.1921	15.3173	0.1252	3124.11	3148.13	1441	52	52	1.48	2140	59
												Maxi	imum	59
												Mini	mum	36
												Ave	rage	49
												Action	n Level	172
												Limit	Level	260

## 24-hour average TSP





		Reportin	g Period	
Major Construction Activities	Mar	Apr	May	Jun
	2021	2021	2021	2021
Construction of box culvert	✓	✓	✓	
Bored pile works for landscape elevated walkway	✓	✓	✓	✓
Demolition of existing structure and cottage	✓			
Construction of project signboard	✓			
Pre-drilling works and trial pit excavation	✓	✓	✓	
Drainage works	✓			
Temporary road diversion at Sa Po Road		✓	✓	
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		✓	✓	
Instrumentation installation at SB-01			✓	✓
Pre-drilling work for S14			✓	✓
Removal existing piles at Road D1			✓	✓
Rising main construction			✓	✓
Trial pit excavation				✓
Advance works for traffic diversion at Sa Po Road				✓
Drainage works for Pedestrian Street No.1, No,2 & No.3				✓
Construction of Crowd Dispersal Route				✓

		Reportin	g Period	
Factors might affect the monitoring results	Feb 2021	Mar 2021	Apr 2021	May 2021
Non-project related construction activities in the adjacent construction sites were observed.	✓	✓	✓	✓

Appendix H – 1-hr TSP monitoring results and graphical presentat	ion

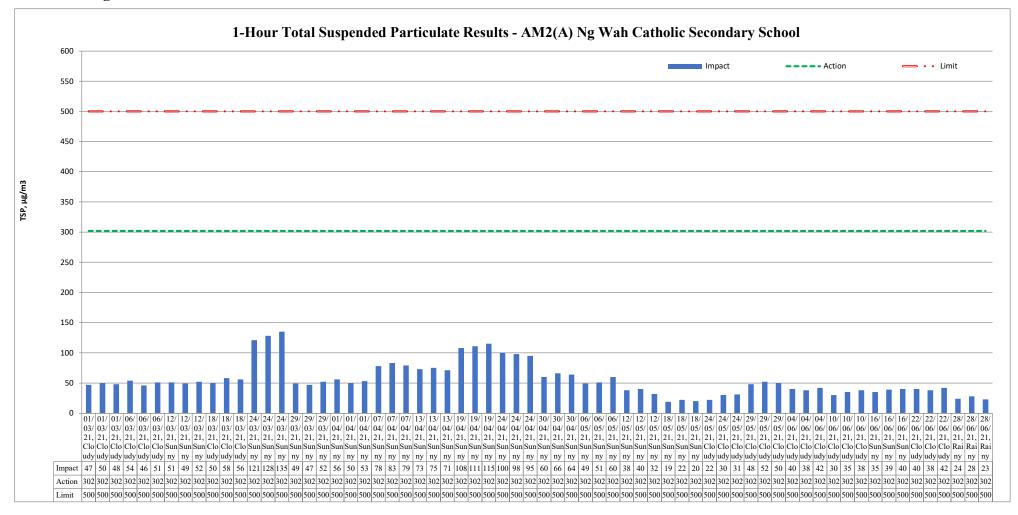
Location:
AM2(A) Ng Wah Catholic
Secondary School

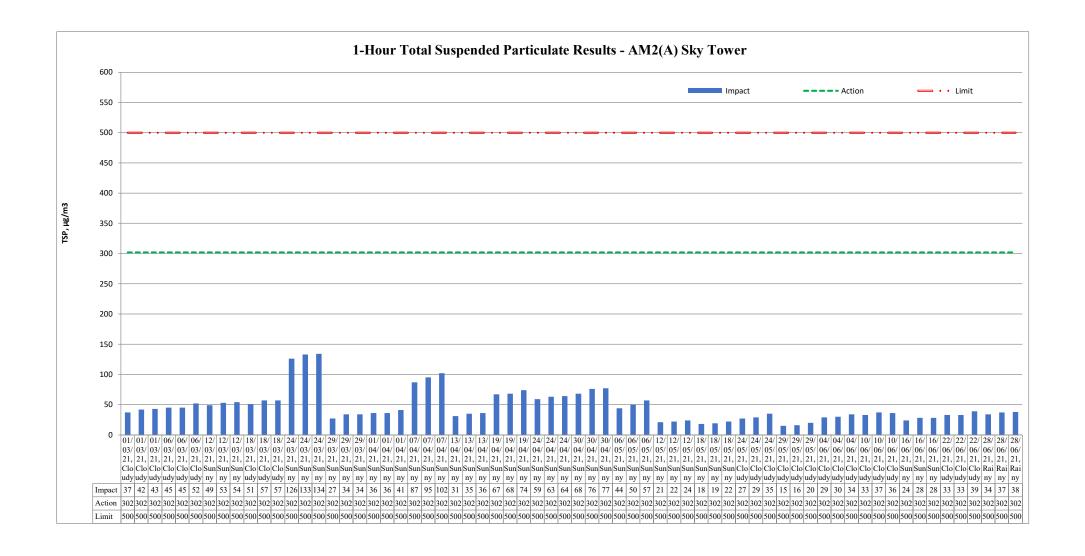
Date	Measurement Period			1-hr TSP concentration, μg/m <sup>3</sup>	Weather
04/06/2021	9:00	-	10:00	40	
	10:00	-	11:00	38	Cloudy
	11:00	-	12:00	42	
	13:00	-	14:00	30	
10/06/2021	14:00	-	15:00	35	Cloudy
	15:00	-	16:00	38	
16/06/2021	9:00	-	10:00	35	Sunny
	10:00	-	11:00	39	
	11:00	-	12:00	40	
22/06/2021	9:00	-	10:00	40	Cloudy
	10:00	-	11:00	38	
	11:00	-	12:00	42	
28/06/2021	13:00	-	14:00	24	
	14:00	-	15:00	28	Rainy
	15:00	-	16:00	23	
Maximum				42	
Minimum				23	
Average				35	
Action Level				302	
Limit Level				500	

Location:
AM3 Sky Tower

Date	Measure	emei	nt Period	1-hr TSP concentration, μg/m <sup>3</sup>	Weather
04/06/2021	9:00	-	10:00	29	
	10:00	-	11:00	30	Cloudy
	11:00	-	12:00	34	
	9:00	-	10:00	33	
10/06/2021	10:00	-	11:00	37	Cloudy
	11:00	-	12:00	36	
16/06/2021	13:00	-	14:00	24	
	14:00	-	15:00	28	Sunny
	15:00	-	16:00	28	
22/06/2021	13:00	-	14:00	33	
	14:00	-	15:00	33	Cloudy
	15:00	-	16:00	39	
28/06/2021	15:30	-	16:30	34	
	16:30	-	17:30	37	Rainy
	17:30	-	18:30	38	
Maximum				39	
Minimum				24	
Average				33	
Action Level				301	
Limit Level				500	

## 1-hour average TSP





Mi C A C		Reportir	ng Period	
Major Construction Activities	Mar 2021	Apr 2021	May 2021	Jun 2021
Construction of site hoarding				
Construction of publicity board				
Construction of box culvert	✓	✓	✓	
Pre-drilling works				
Bored pile works for landscape elevated walkway	✓		✓	✓
Demolition of existing structure and cottage	✓			
Construction of project signboard	✓			
Pre-drilling works and trial pit excavation	✓	✓	✓	
Drainage works	✓	✓		
Temporary road diversion at Sa Po Road		✓	✓	
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		✓	✓	
Instrumentation installation at SB-01			✓	✓
Pre-drilling work for S14			✓	✓
Removal existing piles at Road D1			✓	✓
Rising main construction			✓	✓
Trial pit excavation				✓
Advance works for traffic diversion at Sa Po Road				<b>√</b>
Drainage works for Pedestrian Street No.1, No,2 & No.3				<b>√</b>
Construction of Crowd Dispersal Route				<b>√</b>

Factors might affect the monitoring results	Reporting Period			
	Feb 2021	Mar 2021	Apr 2021	May 2021
Non-project related construction activities in the adjacent construction sites were observed.	✓	<b>√</b>	✓	✓

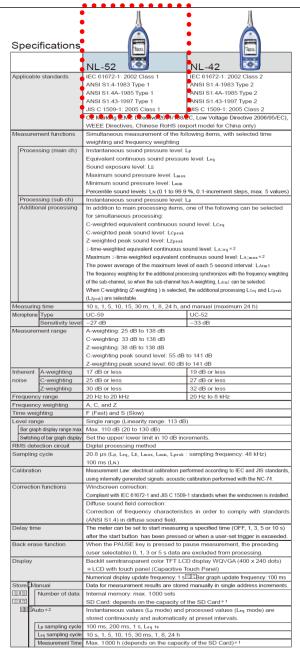
# **Appendix I – Event and Action Plan for air quality**

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

F		Act	ion	
Event	ET	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.	<ul> <li>implemented;</li> <li>4. Supervise implementation of remedial measures;</li> <li>5. Conduct meeting with ET and IEC if exceedance continues.</li> </ul>	within three working days of notification; 4. Implement the agreed proposals.
Limit Level being exceeded by two or more consecutive sampling	<ol> <li>Notify IEC, Supervisor /ER, Contractor and EPD;</li> <li>Repeat measurement to confirm findings;</li> </ol>	<ol> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> </ol>	<ol> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> </ol>	Take immediate action to avoid further exceedance;     Discuss with ET and IEC on proper remedial
sampling	3. Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance; 4. Increase monitoring frequency to daily; 5. Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken; 6. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results; 7. If exceedance stop, cease additional monitoring.	<ol> <li>Discuss with Supervisor /ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their</li> </ol>	<ol> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Supervise implementation of remedial measures;</li> <li>If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.</li> </ol>	actions;  3. Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification;  4. Implement the agreed proposals;  5. Submit further remedial actions if problem still not under control;  6. Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.

 $\label{eq:continuous} \begin{tabular}{ll} Appendix \ J-Calibration \ certificates, \ catalogue \ of \ noise \ monitoring \\ equipment \end{tabular}$ 

## Catalogue of Sound Level Meter



Data r	recall	Allows viewing of stored data		
	memory	Up to five setup configurations can be saved in internal memory, for later recall		
Waveform recording *3		Start up via file settings previously stored on SD card possible		
		Start up the me column provinces y stored on the start possible		
_	e format	Uncompressed waveform WAVE file		
	mpling frequency	Select 48 kHz, 24 kHz or 12 kHz		
_	ta length	Select 24 bit or 16 bit		
	DC output	Output DC signals using a frequency weighting characteristic selected by processing		
Outputs	Output voltage	2.5 V. 25 mV / dB at bar graph display full scale		
	AC output	, , , , , ,		
	AC output	Output AC signals using a frequency weighting characteristic selected by processing or by A, C, Z-weighting.		
	Output voltage	1 V (rms values) at bar graph display full scale		
	Comparator	Turns on when the open-collector output exceeds the set value		
	output*2	(max. applied voltage 24 V. max. current 60 mA, allowable dissipation 300 mW).		
USB				
DSBL:		Allows USB to be connected to a computer and recognized as a removable dist		
		Allows USB to be controlled via communication commands		
	32C communication	Allows for RS-232C communication via use of a dedicated cable		
_	continuous output*2			
	pe of Instantaneous value			
dat	1 10000000 14140	Leq, Lmax, Lmin, Lpeak		
_	tput interval	100 ms		
Print o		Printing of measurement results on dedicated printer DPU-414		
_	r requirements	Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply		
Ba	ttery life (23 ℃)	Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h		
		At the maximum *Depends on the setting		
-	adapter	NC-98C (NC-34 for previous models cannot be used)		
Ext	temal power voltage	5 to 7 V (rated voltage: 6 V)		
Cu	rrent consumption	Approximately 90 mA (normal operation, rated voltage)		
Ambie	nt Temperature	−10 to +50 °C		
condit	ions Humidity	10 to 90 % RH (non-condensing)		
Dustpi	roof / water-resistant	IP code: IP54 (except for microphone)		
perfor	mance *4	See precautions regarding waterproofing		
Dimer	nsions, weight	Approx. 250 (H) x 76 (W) x 33 mm(D), approx. 400 g (with batteries)		
Suppl	ied accessories	Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1,		
		Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB×1 (NX-42EX		
	preinstalled model only)			

#### Options

Product name	Product number
Extended function program (Inst.on 512 MB SD card)	NX-42EX
Waveform recording program*2 (Inst.on 2 GB SD card)	NX-42WR
Octave, 1/3 octave real-time analysis program*2 (Inst.on 512 MB SD card)	NX-42RT
FFT analysis program *2 (Inst.on 512 MB SD card)	NX-42FT
Data management software for environmental measurement	AS-60
Data management software for environmental measurement (Includes the octave and 1/3 octave data management software)	AS-60RT
Data management software for environmental measurement (Includes the vibration level data management software)	AS-60VM
Waveform analysis software	CAT-WAVE
SD Card 512 MB	SD-512M
SD Card 2 GB	SD-2G
AC adapter (100 ∨ to 240 ∨)	NC-98C
Battery pack	BP-21
Microphone extension cables	EC-04 (from 2 m)
BNC-Pin output code	CC-24
Comparator output cable	CC-42C
Printer	DPU-414
Printer cable	CC-42P
RS 232C serial I/O cable	CC-42R
USB cable	_
Sound calibrator	NC-74
All-weather windscreen	WS-15
Windscreen mounting adapter	WS-15006
Rain-protection windscreen	WS-16
Sound level meter tripod	ST-80
All-weather windscreen tripod	ST-81

- \*1 Use Rion fully guaranteed products. \*2 NX-42EX required (sold separately). \*3 NX-42WR required (sold separately \*4 Protection against harmful dust and water splashing from any direction.
- Precautions regarding waterproofing

Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed. To maintain the water and dust proof rating, internal packing replacement is required every two years (at cost)



\* Windows is a trademark of Microsoft Corporation.

Distributed by:

RION CO., LTD.

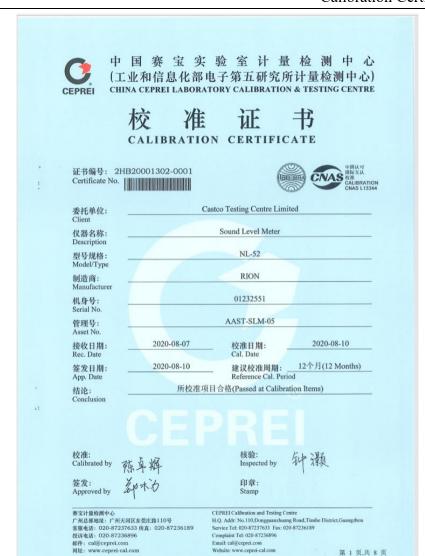
3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.

This product is certified to an International Protection rating of IP54 (dust protected and resistant to splashing water).
This leaffet is printed with environmentally friendly vegetable-based ink on recycled paper.

1011-4 1 212 P.D

#### Calibration Certificate of Sound Level Meter



GE 1330 Et Cartificate No. 5 2HB20001302-0001

# 说 明 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 Accreditation Service for Conformity Assessment, No. CNAS L13344.

- 2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):
- JJG 188-2017 声级计检定规程: Sound pressure level: (20~130)dB; Frequency Weighting: (20~130)dB@(10 Hz~20kHz)。
- 详细内容请查看CNAS网站中注册编号为L13344的证书册件、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).
- 3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration): 名 称 技术指标

(Description)	(Certificate No./Due Date/Traceability to)	(Specification)
正弦信号发生器		fi ±1mHz; 失真度; <-70dB
数字多用表	4GC19040146-0127/2020-12-27/賽宝	DCV:±0.0035%; ACV:±0.06%; DCI:±0.05%; ACI:±0.1%; R:±0.01%; f:±0.01%
前置放大器	GFJGJL1001200310165/2021-02-26/航空 304所	U=0.3dB (k=2)
标准传声器	GFJGJL1001200310164/2021-02-26/航空 304所	U=(0.05-0.12)dB (k=2)
PULSE分析系统	4GC20000009-0001/2021-01-08/賽宝	頻率:Uref=0.001%,k=2;电压:Uref=0.04%,k=2
步进棄減器	4GC20000158-0012/2021-04-29/賽宝	±3dB
多功能声学校准器	4EC19040004-0003/2020-11-25/赛宝	1級

- 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
- 5. 环境条件(Environmental conditions): 温度(Temperature): 24°C 相对湿度(Relative Humidity): 60%
- 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%时对应的包含因子长得到。
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%.

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。

"P" and "Pass" in this certificate stand for "Low Limit": the measured value \( \le \) High Limit", "F" and "Fail" stand for "the measured value \( \le \) Low Limit or the measured value \( \le \) Low Limit or the measured value \( \le \) High Limit", "N/A" stands for "Not Applicable ". The judgment 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.

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.

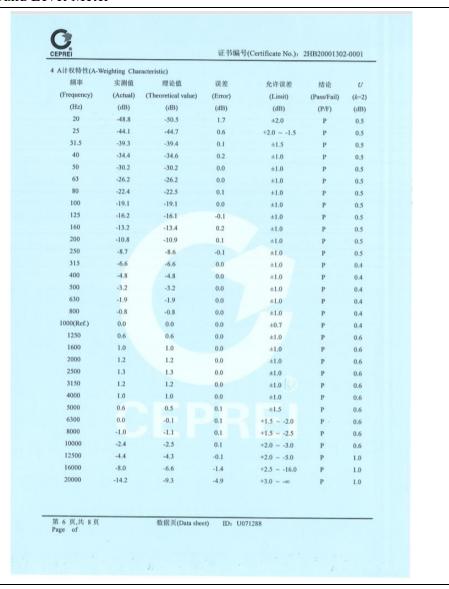
- 注: 1.本证书未经本机构书面授权,不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)
- 2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

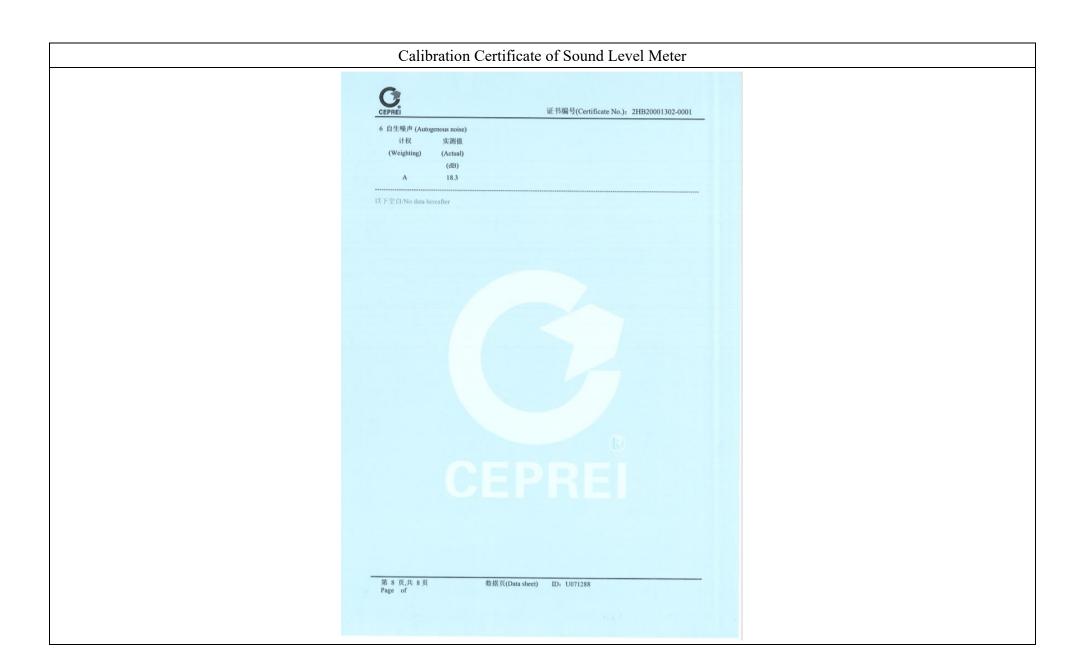
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Page of

## Calibration Certificate of Sound Level Meter







# Catalogue of Sound Calibrator

Sound Calibrator NC-75





Compact and lightweight sound calibrator allows highly reliable and accurate measurement anywhere

# Sound Calibrator



- Integrated newly developed reference microphone enables feedback control that completely eliminates the need for atmospheric pressure and coupler volume correction, resulting in highly accurate and reliable calibration.
- Effective coupler sound insulation (30 dB or higher\*) permits calibration also in relatively noisy environments. \*A-weighed sound level insulation performance measured with pink noise
- Each product comes standard with a JCSS Calibration Certificate, demonstrating high quality.
- Conforming with IEC 60942: 2017 class 1 and JIS C 1515: 2020
- Supports calibration of RION sound level meters compliant with IEC 61672-1: 2013, JIS C 1509-1: 2017 and JIS C 1516: 2014.
- Supports calibration of RION microphones and microphones of other manufacturers meeting the size specifications of IEC 61094-4.
- Supports 1-inch, 1/2-inch, and 1/4-inch microphones (1/4 inch with optional adapter)





How to use the adapter

#### 1-inch microphones

To use the sound calibrator with 1-inch diameter microphones, remove the 1/2-inch microphone adapter.



# ■ 1/2-inch microphones

To use the sound calibrator with 1/2-inch diameter microphones, the supplied 1/2-inch microphone adapter must be in place.



Make sure the 1/2-inch adapter

#### ■ 1/4-inch microphones

To use the sound calibrator with 1/4-inch diameter microphones, use the supplied 1/2-inch microphone adapter together with the optional 1/4-inch adapter.



Applicable standards	IEC 60942: 2017 class1, ANSI/ASA S1.40-2006 class1, JIS C 1515: 2020 class 1, CE marking, WEEE directive, Chinese RoHS
Supported microphones	Microphones made by RION and microphones made by other manufacturers that meet the IEC 61094-4 size specifications 1-inch microphones 1/2-inch microphones (with supplied adapter) 1/4-inch microphones (with optional adapter)
Nominal sound pressure level	94 dB
Sound pressure level tolerance	Max. ±0.20 dB
Nominal frequency	1 000 Hz
Frequency tolerance	Max. ±0.1%
THD + noise	Max. 1.0 % (22.4 Hz to 22.4 kHz)
Dimensions and weight	Approx. 42 mm (H) x 77 mm (W) x 70 mm (D), approx. 200 g
Power supply	IEC LR6 (size AA) alkaline battery x 2 IEC LR6 (size AA) nickel-hydride rechargeable battery ("eneloop pro" supported) x 2
Battery life	50 hours or more (using two alkaline batteries, continuous use
	50 hours or more (using two nickel-hydride rechargeable batteries [eneloop pro], continuous use)
Supplied accessories	Soft case x 1, 1/2-inch microphone adapter x 1, IEC LR6 (size AA) alkaline battery x 2, hand strap x 1, JCSS Calibration Certificate x 1



Securely carry the unit with the supplied hand strap







Applicable standards IEC 60942: 2017 class LS/M, class 1/M, JIS C 1515: 2020 class LS/M, class 1/M Nominal sound pressure level 114 dB, Sound pressure level tolerance ±0.10 dB





Distributed by This product is environment-friendly. It does not include toxic chemicals on our policy. This leaflet is printed with environmentally friendly UV ink.

RION CO., LTD.

3-20-41 Higashimotomachi Kokubunii Tokyo 185-8533 Japan Tel: +81-42-359-7888 Fax: +81-42-359-7442

1709-6 2003.P.D

#### Calibration Certificate of Sound Calibrator



Conclusion

中国赛宝实验室计量检测中心(工业和信息化部电子第五研究所计量检测中心) CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

# CALIBRATION CERTIFICATE

证书编号: 2HB20001561-0003 Certificate No.





委托单位:Client	Ca	astco Testing Centre Limi	ted			
仪器名称: Description	Sound Level Calibrator					
型号规格:		NC-75				
Model/Type 制造商: Manufacturer		RION				
机身号: Serial No.		34280310				
管理号:		AAST-SLC-07	1 1 7 - 2 Harris 1			
Asset No. 接收日期: Rec. Date	2020-09-08	校准日期: Cal. Date	2020-09-12			
签发日期:	2020-09-12	建议校准周期:	12个月(12 months)			
App. Date 结论:	Reference Cal. Period 所校准项目合格(Passed at Calibration Items)					

印章:

Stamp

Website: www.ceprei-cal.com

Approved by

寒宝计量检测中心 广州总部地址:广州天河区东莞庄路110号 客服电话: 020-87237633 传真: 020-87236189 投诉电话: 020-87236896 邮件: cal@ceprei.com 同址: www.ceprei-cal.com

CEPREI Calibration and Testing Centre H.Q. Addr: No.110,Dongguanzhuang Road,Tianhe District,Guangzhou Service Tel: 020-87237633 Fax: 020-87236189 Complaint Tel: 020-87236896 Email: cal@ceprei.com

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# **DIRECTIONS**

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求,获得中国合格评定国家认可委员会( CNAS) 认可,认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 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

\* 详细内容请查看CNAS网站中注册编号为L13344的证书附件,超出范围的内容未被认可。(Please see the attachment of certificate No.

3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

名 称	证书号/有效期/溯源单位	技术指标	测量范围
(Description)	(Certificate No./Due Date/Traceability to)	(Specification)	(Measuring Range)
PULSE分析系统	LSvm2020-02491/2021-04-26/中国计量院	频率:Ure=0.001%,k=2;电压: Ure=0.04%,k=2	频率:0.001Hz~51.2kHz, 电压:(1×10 <sup>-5</sup> ~30)V
标准传声器	GFJGJL1001200310164/2021-02-26/航空 304所	U=(0.05-0.12)dB (k=2)	20Hz~20kHz
前置放大器	GFJGJL1001200310165/2021-02-26/航空	U=0.3dB (k=2)	(10~20000) Hz

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

5. 环境条件(Environmental conditions): 温度(Temperature): 24°C 相对湿度(Relative Humidity): 60%

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%时对应的包含因子k得到。

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%.

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。

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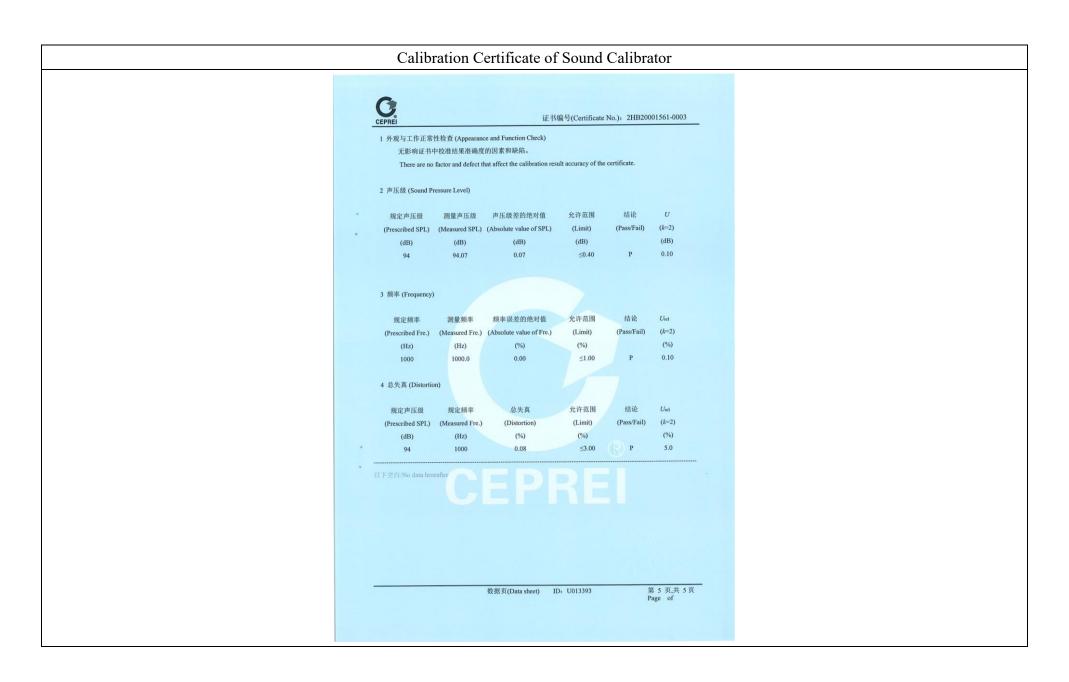
8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议,供委托方参考。委托方可以根据实际使用情况自行决定样品的建议校准周期。

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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.)

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# Catalogue of Air Flow Meter (TSI TA440)

#### **SPECIFICATIONS**

#### Velocity

Range (TA410) Range (TA430, TA440) Accuracy (TA410)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

Accuracy (TA430, TA440)<sup>162</sup> ±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater Resolution 0.01 m/s (1 ft/min)

#### Duct Size (TA430, TA440)

Dimensions

1 to 635 cm in increments of 0.1 cm (1 to 250 inches in increments of 0.1 in.)

#### Volumetric Flow Rate (TA430, TA440)

Actual range is a function of velocity, and duct size

0.1°C (0.1°F)

#### Temperature

Resolution

Range (TA410, TA430) -18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) Range (TA440) Accuracy<sup>3</sup> ±0.3°C (±0.5°F)

### Relative Humidity (TA440 only)

5 to 95% RH Range Accuracy<sup>4</sup> Resolution 0.1% RH

#### Wet Bulb Temperature (TA440 only)

5 to 60°C (40 to 140°F) Range Resolution 0.1°C (0.1°F)

#### Dew Point (TA440 only)

-15 to 49°C (5 to 120°F) Range Resolution 0.1°C (0.1°F)

#### Instrument Temperature Range

Operating (Electronics) 5 to 45°C (40 to 113°F) Model TA410, TA430 -18 to 93°C (0 to 200°F) -10 to 60°C (14 to 140°F) Model TA440

-20 to 60°C (-4 to 140°F) Storage

#### Data Storage Capabilities (TA430, TA440)

#### Logging Interval (TA430, TA440)

1 second to 1 hour



### Airflow Instruments, TSI Instruments Ltd. Visit our website at www.airflowinstruments.co.uk for more information.

Tel: +44 149 4 459200 Germany Tel: +49 241 523030 Tel: +33 491 11 87 64

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#### Time Constant (TA430, TA440)

User selectable

#### **External Meter Dimensions**

8.4 cm x 17.8 cm x 4.4 cm (3.3 in. x 7.0 in. x 1.8 in.)

#### Meter Weight with Batteries

0.27 kg (0.6 lbs.)

#### Meter Probe Dimensions

Probe Length 101.6 cm (40 in.) Probe Diameter of Tip 7.0 mm (0.28 in.) Prohe Diameter of Base 13.0 mm (0.51 in.)

Articulating Section Length 19.7 cm (7.8 in.) Diameter of Articulating Knuckle 9.5 mm (0.38 in.)

#### **Power Requirements**

Four AA-size batteries or AC adapter

	TA430, TA4			
	TA410	TA430-A	TA440-A	
Velocity range 0 to 20.00 m/s (0 to 4000 ft/min)	+			
Velocity range 0 to 30.00 m/s (0 to 6000 ft/min)		+	+	
Temperature	+	+	+	
Flow		+	+	
Humidity, wet bulb, dew point			+	
Probe	Straight	Straight or -A articulated	Straight or -A articulated	
Variable time constant		+	+	
Manual data logging		+	+	
Auto save data logging			+	
Statistics		+	+	
Review data		+	+	
LogDat2 downloading software		+	+	
Free Certificate of Calibration	+	+	+	

# wer an air temperature range of 5 to 65°C (40 to 150°F).

# Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% RH/°C (0.1% RH/°F) for change in probe temperature. Includes 1% hysteresis.

### Calibration Certificate of Air Flow Meter



# 深圳市东华计量检测技术有限公司



AAST-FLOW-03, Cal Best 2021/2/26

# CALIBRATION CERTIFICATE

DH21AA002160001 Certificate No.

委托方名称: Client name

Castco Testing Centre Limited

委托方地址: Add.of Client

33, On Kui Street, Fanling, N.T.

计量器具名称:

Name of Instrument 型号/规格: TA440

Type/Specification

制造单位: Manufacturer

器具编号: Serial No.

AAST-FLOW-03/TA4401706003

接收日期: Date of Receipt

月 02 Month 23 Year

校准日期: Date of calibration

02 Month 年 Year

批准人: Approved by

风速计

AIRFLOW

签发日期: 2021 年 02 月 26 日 Date of issue Year Month Day

核验员: Checked by

校准员:

Calibrated by

地址:深圳市龙华区大浪街道同胜社区浦华科技园厂房

网址: www.szdhjl.com 电子邮箱: szdhjl@163.com

计量校准机构备案号: 粤校备2017B010

电话: 0755-28161768/28162768/28166778

传真: 0755-21004376 邮编: 518109

蒋新建

张吉庆

(证书专用章) Stamp

扫码查证书信息(真伪)

该二维码非公众号

#### Register No: 粤校备2017B010

Add: 1st Floor, Building A1, Puhua Science and Technology Park, Tongsheng Community, Dalang Street, Longhua District, Shenzhen, Guangdong, China

Tel: 0755-28161768/28162768/28166778 Fax: 0755-21004376 Zip Code: 518109 http://www.szdhjl.com E-mail: szdhjl@163.com

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### Calibration Certificate of Air Flow Meter



### 深圳市东华计量检测技术有限公司

Shenzhen Donghua Metrology&Testing Technology Co., Ltd.

证书编号: Certificate No.

DH21AA002160001

## 证书说明

Certificate Statement

1、本校准证书包含的数据和信息仅对本次被校准的计量器具负责。

The calibration certificate contains data and information applies only to the calibrated instrument.

2、本公司仅对加盖我司的"证书专用章"的完整证书负责。

The company only Division I stamped "certificate special seal" is responsible for the full certificate.

3、未经本公司书面授权,不得部分复印证书。

The certificate shall not be photocopied without the written authorization of the company.

4、本次校准依据的技术文件:

Reference Documents for the Calibration:

JJG(建设)0001-1992 热球式风速仪计量检定规程

JJG(建设)0001-1992 Metrological Verification Regulation of Hot Ball shaped Anemmeter

5、本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

设备名称 Equipment Name	测量范围 Measuring Range	不确定度/准确度等级 /最大允许误差 Uncertainty/AccuracyClass/ Maximum permissible Error	设备编号 Equipment No.	溯源机构/ 证书编号 Traceability to/ Certificate No.	溯源有效期 Traceability Due Date
补偿式微压计	(-2500~2500) Pa	=# DE	SM1926	上海市计量测试技术研究院 2018E21-20- 2637951001	2022-07-28
皮托管	(0~30) m/s		SM326	中国计量科学研究院 RGfv2019-0007	2024-01-20
机械式温湿度计	温度: (-20~80) C; 湿度: (0~ 100) %RH	MPE:温度: ±2°C, 湿 度:± (5~7) %	85926	深圳市计量质量检测研究院 205605616	2021-05-10
空盒气压表	(800~1060)hPa	U=0.6hPa, k=2	15033115	深圳市计量质量检测研究院 204373348	2021-08-17
标准水银温度计	(0~50)*e C	U=0.03℃, k=2	2-204	深圳市计量质量检测研究院 205502058	2022-03-09

6、校准地点: 本公司力学实验室 Operation Location

7、环境条件: Operation Environment 温度 21.7 °C Temperature

相对湿度

60 %

% 大气压 1010.0

第 2 页 , 共 3 页 page

e of pages



## 深圳市东华计量检测技术有限公司

Shenzhen Donghua Metrology&Testing Technology Co., Ltd

证书编号: DH21AA002160001

CertificateNo.

# 校准结果

Result of Calibration

1、外观及工作正常性检查: 正常

2、校准结果:

	标准值 (m/s)	示值 (m/s)	示值误差 (m/s)	不确定的 (k=2) U <sub>rel</sub>
	2.50	2.50	0.00 C	3%
ar	3.00	2.99	-0.01	3%
HO	5.00	4.98	-0.02	3%
	10.00 HC	9.98	-0.02	3%
	15.00	14.96	-0.04	3%
	20.00	19.96	-0.04	H 03%
	25.00	24.95	-0.05	3%

说明 (Explanation):

1、本次测量结果的不确定度(k=2)。

The uncertainty of the measurement result (k=2).

2、本次校准结果不确定度的评估和表述依据JJF1059.1的要求。

The uncertainty of the calibration result is evaluated and expressed according to the requirement of JJF1059.1.

3、根据客户要求和所依据技术文件的规定,建议复校时间间隔不超过12个月。

According to customers' request and technical documents, the re-check time interval should not exceed 12 months.

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Appendix K – Noise monitoring results an	nd graphical presentation

# M4(A) – Le Billionnaire

Doto	Temp	*** .1	Measured Noise Level at M4(A), dB(A)							
Date	(°C)	Weather	7	Time			$\mathcal{L}_{Aeq}$	$L_{A10}$	$L_{A90}$	Limit
04/06/2021	28.9	Cloudy	13:30	-	14:00	69.5	69.1	71.8	67.2	75
10/06/2021	28.8	Cloudy	9:35	-	10:05	69.5	70.1	73.1	66.8	75
16/06/2021	31.7	Sunny	13:05	-	13:35	69.5	69.3	72.3	67.5	75
22/06/2021	29.2	Cloudy	10:15	-	10:45	69.5	69.2	72.5	67.3	75
28/06/2021	26.2	Cloudy	17:05	_	17:35	69.5	69.7	70.7	68.5	75

 Maximum
 70.1

 Minimum
 69.1

 Average
 69.5

# M5(A) – Prince Ritz

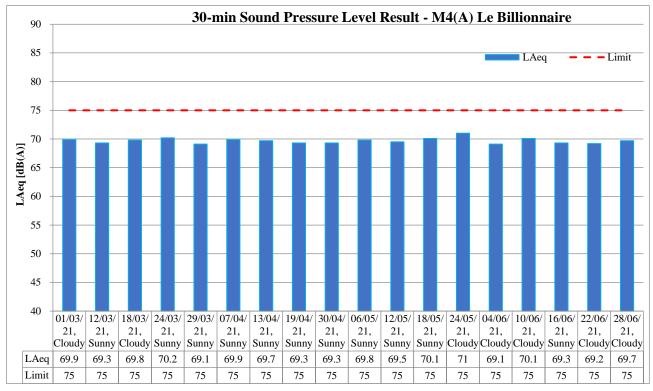
Doto	Temp	***			<b>.</b>					
Date (°C) W		Weather	Time			Baseline	$\mathcal{L}_{Aeq}$	$L_{A10}$	$L_{A90}$	Limit
04/06/2021	28.9	Cloudy	14:35	-	15:05	72.5	72.2	74.1	69.7	75
10/06/2021	28.8	Cloudy	10:45	-	11:15	72.5	71.8	73.5	68.8	75
16/06/2021	31.7	Sunny	14:05	-	14:35	72.5	72.6	74.8	69.8	75
22/06/2021	29.2	Cloudy	11:15	-	11:45	72.5	72.1	74.5	70.0	75
28/06/2021	26.2	Cloudy	16:08	-	16:38	72.5	73.6	75.0	71.8	75

 Maximum
 73.6

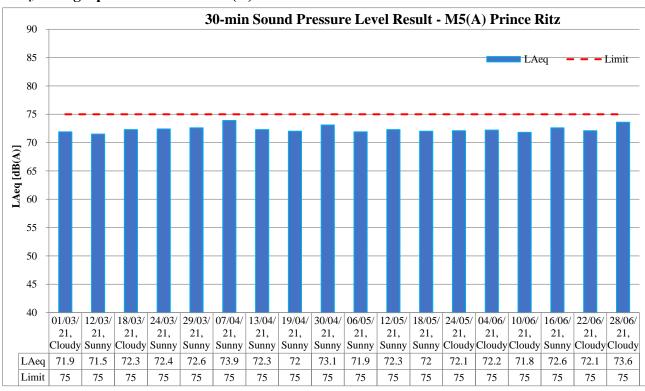
 Minimum
 71.8

 Average
 72.5

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



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



		Reportin	g Period	
Major Construction Activities	Mar	Apr	May	Jun
	2021	2021	2021	2021
Construction of box culvert	✓	✓	✓	
Bored pile works for landscape elevated walkway	✓	✓	✓	✓
Demolition of existing structure and cottage	✓			
Construction of project signboard	✓			
Pre-drilling works and trial pit excavation	✓	✓	✓	
Drainage works	✓			
Temporary road diversion at Sa Po Road		✓	✓	
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		✓	✓	
Instrumentation installation at SB-01			✓	✓
Pre-drilling work for S14			✓	✓
Removal existing piles at Road D1			✓	✓
Rising main construction			✓	✓
Trial pit excavation				✓
Advance works for traffic diversion at Sa Po Road				✓
Drainage works for Pedestrian Street No.1, No,2 & No.3				✓
Construction of Crowd Dispersal Route				✓

	Reporting Period				
Factors might affect the monitoring results	Feb 2021	Mar 2021	Apr 2021	May 2021	
Non-project related construction activities in the adjacent construction sites were observed.	✓	✓	✓	✓	

# Appendix L – Event and Action Plan for noise

E4		Acı	tion	
Event	ET	IEC	Supervisor / ER	Contractor
Action Level being exceeded	<ol> <li>Notify Supervisor / ER, IEC and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, Supervisor / ER and Contractor;</li> <li>Discuss with the IEC and Contractor on remedial measures required;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified.)</li> </ol>	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures submitted by the Contractor and advise the ER accordingly; 3. Advise the Supervisor / ER on the proposed remedial measures.  (The above actions should be taken within 2 working days after the exceedance is identified.)	notification of failure in writing;  2. Notify Contractor;  3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;	<ol> <li>Submit noise mitigation proposal to IEC and Supervisor / ER;</li> <li>Implement noise mitigation proposals.</li> <li>(The above actions should be taken within 2 working days after the exceedance is identified.)</li> </ol>
Limit Level being exceeded	1. Inform IEC, Supervisor /ER, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contract's working procedure; 6. Discuss remedial measures required with the IEC, Contractor and Supervisor /ER; 7. Assess effectiveness of	1. Discuss the potential remedial actions with Supervisor /ER, ET and Contractor;  2. 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	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification;</li> <li>Implement the agreed proposal;</li> <li>Submit further proposal if problem still not under control;</li> <li>Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.</li> <li>(The above actions should be</li> </ol>

Event		Action								
Event	ET	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 Act	tion Plan for I	Landscape and	d Visual Impact

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

# Appendix N – Waste Flow Table

# MONTHLY SUMMARY WASTE FLOW TABLE FOR <u>2021</u> (YEAR)

Contract No. : ED/2018/05

	A	ctual Quantitie	es of Inert C&D	Materials Gei	nerated Monthl	ly	Actual Quantities of C&D Wastes Generated Monthly				
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 <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]
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	0.230390073	0.034558494	0	0	0.195831579	0	0	0	0	0	0.189360000
JUNE	1.299331155	0.194899576	0	0	1.104431579	0	0	0	0	0	0.006900000
SUB- TOTAL	3.266296926	0.489944294	0	0	2.776352632	0	0	0	0	0	0.235046666
JULY											
AUG											
SEPT											
OCT											
NOV											
DEC											
TOTAL	3.266296926	0.489944294	0	0	2.776352632	0	0	0	0	0	0.235046666

	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 <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]	
	3.2 33.652										

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	entati ges*	ion	Relevant Legislation and
	Measures		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		<b>√</b>			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	Work site / during construction	Contractor		✓			EIAO-TM & Air Quality Objective
	free of lose materials.  - Vehicle washing facilities should be provided at every vehicle exit point.  - The area where vehicle washing takes place and the							

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	lm	plem Sta	entati ges*	ion	Relevant Legislation and
	Measures	J	Agent	Des	С	0	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.			563				Guideillies

<sup>\*</sup> 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	lm	plem Sta	entat ges*	ion	Relevant Legislation and
	Measures		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		<b>√</b>			EIAO-TM, NCO
\$3.3	<ul> <li>Good Site Practice: <ul> <li>Only well-maintained plant should be operated onsite and plant should be serviced regularly during the construction program.</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>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.</li> <li>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.</li> <li>Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul> </li> </ul>	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		<b>√</b>			

<sup>\*</sup> Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

**Table 1.3 Implementation Schedule for Water Quality Measures** 

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	lm		entati ges*	on	Relevant Legislation and
	Measures		Agent	Des	С	0	Dec	Guidelines
S3.4	Operational Phase	Project site / during design and	CEDD	1		<b>√</b>		EIAO-TM, WPCO, ProPECC PN 5/93
	A surface water drainage system should be provided to collect road runoff. It is recommended that the road	operational stages						
	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".							
S3.4	Construction Phase	Work Sites / during construction	Contractor		<b>√</b>			EIAO-TM, WPCO, ProPECC PN 1/94
	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							
S3.4	prevent flooding and overflow.  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	Work Sites / during construction	Contractor		<b>√</b>			EIAO-TM, WPCO, ProPECC PN 1/94
	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.							

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	lm	Implementation Stages*		Relevant Legislation and	
	Measures	200dilon/ mining	Agent	Des	С	0	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 m³ 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 <sup>3</sup> 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	Location / Timing	Implementation	lm	plem Sta	entati ges*	ion	Relevant Legislation and
	Measures		Agent	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		<b>√</b>			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		✓			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	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	Im	plem Sta	entati ges*	ion	Relevant Legislation and
	Measures	2004110117 111111119	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		1			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		<b>√</b>			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		✓			EIAO-TM, WPCO, WDO

<sup>\*</sup> Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

**Table 1.4 Implementation Schedule for Waste Management Measures** 

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	lm		entat ges*	ion	Relevant Legislation and
20,41401	Measures	200ddioir7 rinning	Agent	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 waste by either covering trucks or by transporting 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	lm	plem Sta	entati ges*	on	Relevant Legislation and
	Measures		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	Location / Timing	Implementation	Implementation Stages*		ion	Relevant Legislation and	
	Measures	<b>g</b>	Agent	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							
	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	Chemical Waste	Work Sites / during construction	Contractor					Waste Disposal (Chemical Waste)
	After use, chemical wastes (for example, cleaning fluids,	•						(General)
	solvents, lubrication oil and fuel) should be handled							Regulation
	according to the Code of Practice on the Packaging,							0 1 15 "
	Labelling and Storage of Chemical Wastes. Spent chemicals							Code of Practice on
	should be collected by a licensed collector for disposal at the							the Packaging, Labelling and

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing Implementation		lm	plem Sta	entati ges*	on	Relevant Legislation and	
	Measures	<b>3</b>	Agent	Des	С	0	Dec	Guidelines	
	CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.							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	

<sup>\*</sup> Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table 1.5 Implementation Schedule for Landscape and Visual Impacts

EIA Ref	Environmental Protection Measures / Mitigation	Location / Timing	Implementation	lm		entati ges*	on	Relevant Legislation and
	Measures		Agent	Des	С	0	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	✓	✓			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

<sup>\*</sup> Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

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

**Reporting Month: June 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			