

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



Report No.: 0064/18/ED/0469A

MONTHLY EM&A REPORT

May 2020

Client : Civil Engineering and Development
Department, HKSAR

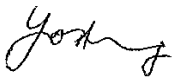
Contract No. : NDO 03/2018

Contract Name : Road Widening and Retrofitting Noise Barriers
on Tai Po Road (Sha Tin Section)

Report No. : 0064/18/ED/0469A

Prepared by : Rex Chow

Reviewed by : Cyrus Lai

Certified by : 

David Hung
Environmental Team Leader
Fugro Technical Services Limited

Our ref: ASCL-2018010

Unit 1501, Level 15,
Tower I, Metroplaza,
223 Hing Fong Road, Kwai Fong,
N.T., Hong Kong.

Attention: Miss FUNG Cannifer

12 June 2020

Dear Miss Fung,

NE/2017/05

**Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)
Monthly EM&A Report for May 2020**

I refer to the email of the ET dated 11 June 2020 regarding to the captioned Monthly EM&A Report with report No. 0064/18/ED/0469A, we have no adverse comment on it and verify this monthly report according to section 1.9 of the Environmental Permit with Permit No. EP- 463/2013/B

Yours faithfully,



Li Wai Ming Kevin
Independent Environmental Checker

cc. CRE – Mr. YU Albert (by email only: albert.yu@aecom.com)
CEDD – Mr YAN Joseph (by email only: jkcyan@cedd.gov.hk)



FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre

5 Lok Yi Street, Tai Lam

Tuen Mun, NT

Hong Kong

Date 12 June 2020

Our Ref. MCL/ED/0323/2020/C

The EIA Ordinance Register Office
Environmental Protection Department
27/F, Southorn Centre,
130 Hennessy Road, Wan Chai, Hong Kong
Attn: Ms. LAU Yee Ching, Eva

BY HAND & E-MAIL

Dear Ms. Lau,

Contract No. NE/2017/05

Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

Environmental Permit: EP-463/2013B

Submission of Monthly EM&A Report (0064/18/ED/0469A)

Pursuant to EP-463/2013/B Condition 3.4, we hereby submit three hardcopies and two e-copy of the monthly EM&A Report (0064/18/ED/0469A) for your retention. This monthly EM&A Report has been certified by ETL and verified by IEC accordingly.

Thank you for your attention, should there be any comments or queries, please contact our Environmental Team Leader David Hung at 3565-4371.

Yours faithfully,
for and on behalf of
FUGRO TECHNICAL SERVICES LIMITED

David Hung
Environmental Team Leader

c.c. CEDD Attn: Mr. Joseph Yan / Ms. Cannifer Fung (by E-mail)
AECOM Attn: Mr. Albert Yu / Mr. Bobby Hung / Mr. Andrew Cheng /
Ms. Kate Chen / Ms. Catherine Tam (by E-mail)
IEC Attn: Mr. Kevin Li / Mr. Tandy Tse (by E-mail)
CCZJV Attn: Mr. Chung Sing Chu / Ms. Kimberly Wong / Mr. Alvin Chan (by E-mail)

Encl.



TABLE OF CONTENTS

EXECUTIVE SUMMARY	I
1. INTRODUCTION	1
2. AIR QUALITY	5
3. NOISE	9
4. LANDSCAPE AND VISUAL	14
5. WASTE MANAGEMENT	15
6. SITE INSPECTION	16
7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE	17
8. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES	20
9. FUTURE KEY ISSUES	21
10. CONCLUSIONS	22

FIGURES

Figure 1	Project General Layout
Figure 2a	Air Monitoring Locations
Figure 2b	Noise Monitoring Locations

LIST OF APPENDICES

Appendix A	Construction Programme
Appendix B	Project Organization Chart
Appendix C	Action and Limit Levels for Air Quality and Noise
Appendix D	Calibration Certificates of Monitoring Equipment
Appendix E	Environmental Monitoring Schedules, Examination Schedules and Arrangements on Deferral of Class Resumption for All Schools
Appendix F	Air Quality Monitoring Data
Appendix G	Noise Monitoring Data
Appendix H	Event Action Plans
Appendix I	Waste Flow Table
Appendix J	Environmental Mitigation Implementation Schedule (EMIS)
Appendix K	Weather and Meteorological Conditions during Reporting Month
Appendix L	Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions
Appendix M	Summary of Site Audit in the Reporting Month



EXECUTIVE SUMMARY

- i. The Civil Engineering and Development Department HKSAR has appointed Fugro Technical Services Limited (FTS) to undertake the Environmental Team services for the Project and implement the EM&A works.
- ii. This Monthly EM&A report presents the environmental monitoring and audit works for the period between 1 May 2020 and 31 May 2020. As informed by the Contractor, major activities in the reporting month were summarized as below table:

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
<ul style="list-style-type: none"> • Trial pits excavation • Tree preservation / pruning • Underground utilities diversion • Construct temporary road and site access • Road surface remedial works • Pre-drilling works • Mini pile works 	<ul style="list-style-type: none"> • Trial pits excavation • Underground utilities diversion • Road surface remedial works • Mini pile works 	<ul style="list-style-type: none"> • Trial pits excavation • Tree preservation / pruning • Underground utilities detections • Underground utilities diversion • Pre-drilling works • Pre bored H-pile works • Soldier pile works • Mini pile works • Construct temporary road and site access 	<ul style="list-style-type: none"> • Trial pits excavation • Underground utilities detections • Underground utilities diversion • Structural Works for Footbridge NF40 Staircases • Pre-drilling works • Construction / diversion of temporary cycle track and footpath 	<ul style="list-style-type: none"> • Trial pits excavation • Tree preservation / pruning • Underground utilities detections • Underground utilities diversion • Pre-drilling works • Construction of Noise Barrier Foundation and soil replacement at slope

Breaches of the Action and Limit Levels

- iii. 24-hour and 1-hour TSP impact monitoring were carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- iv. Day time construction noise monitoring was carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- v. Regular night time noise monitoring was carried out on 7, 14, 21 and 28 May 2020 respectively and no exceedance case was recorded between 2300 and 0700 of the next day during the reporting month.

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



Complaint, Notification of Summons and Successful Prosecution

- vi. No complaint cases were received during the reporting period.

Reporting Changes

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

Future Key Issues

- viii. The key issues to be considered in the coming reporting month include:

Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality, waste management and landscape and visual impact.



1. INTRODUCTION

1.1 Background

1.1.1 Contract No. NE/2017/05 – Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section) (TPR-ST) (hereafter referred as “the Contract”), is the Works Contract involved the construction of road widening and retrofitting noise barriers on TPR-ST.

1.1.2 The Works of road widening on TPR-ST is classified as a designated project (DP) under the Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). The scale and scope of DP is classified as below:

- Widening and reconstruction of an approximate 1.2 km long of the existing Tai Po Road (Sha Tin Section) from dual 2-lane to dual 3-lane carriageway; and improvement of the existing Sha Tin Rural Committee Road and its junctions.

1.1.3 The Environmental Monitoring and Audit (EM&A) programme under this Contract is governed by the Environmental Permit (EP) (EP No: EP-463/2013/B) and the updated EM&A Manual (Reference No.: 0064/18/ED/0122D). The Works to be executed under this Contract and corresponding EPs include but not be limited to the following main items:

(i) Road widening works of TPR-ST:

- a. widening of TPR-ST of about 1.1 kilometres between Sha Tin Rural Committee Road (STRCR) and Fo Tan Road from dual two-lane to dual three-lane;
- b. modification to the existing diamond interchange at TPR-ST / STRCR (STRCR Interchange);
- c. provision of two pedestrian lifts, re-provision of staircase and cycle track ramp at the modified STRCR Interchange;
- d. modification of existing cycle track subway no. NS30 near Sha Tin Plaza;
- e. modification of the existing footbridge no. NF40 across TPR-ST near Wo Che Street;
- f. modification of the existing footbridge no. NF66 near Fung Wo Lane;
- g. installation of noise mitigation measures between Citylink Plaza and Mei Wo House of Wo Che Estate;
- h. associated drainage works, waterworks, street lighting works and traffic control and surveillance system (TCSS).

(ii) Retrofitting of noise barriers along TPR-ST:

- (a) western section between Citylink Plaza and Scenery Court;
- (b) eastern section between Mei Wo House of Wo Che Estate and Fo Tan Road; and
- (c) associated drainage works, waterworks and street lighting works.

(iii) Associated street furniture, road marking, traffic signs, directional signs, services and utilities, and

(iv) Associated landscaping works.

1.1.4 The location and boundary of the site is shown in **Figure 1**.



1.1.5 This Monthly EM&A report is required under EP-463/2013/B Condition 3.4. It is to report the results and findings of the EM&A programme required in the updated EM&A Manual.

1.1.6 This is the 18th monthly EM&A Report which summarized the impact monitoring results and audit findings for the construction of the road widening and retrofitting noise barriers on Tai Po Road (Sha Tin Section) (TPR-ST) (hereafter referred as “the Project”) within the period between 1st May 2020 and 31st May 2020.

1.2 Project Organization

1.2.1 The project proponent was the Civil Engineering and Development Department, HKSAR (CEDD). AECOM Asia Co. Ltd. (AECOM) was commissioned by CEDD as the Engineer for the Project. Acuity Sustainability Consulting Limited – Nature & Technologies (HK) Limited Joint Venture was commissioned as the Independent Environmental Checker (IEC). China railway – China Railway First Group – Zhen Hua Engineering Joint Venture (CCZJV) was appointed as the main contractor for the construction works under the contract NE/2017/05. Fugro Technical Services Limited (FTS) was appointed as the Environmental Team (ET) by CEDD to implement the EM&A programme for the Project.

1.2.2 The organization structure is shown in **Appendix B**. The key personnel contact names and numbers for the Project are summarized in **Table 1.1**.

1.2.3

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Proponent (CEDD)	Senior Engineer	Ms. Cannifer Fung	3152 3446
Engineer’s Representative (AECOM)	Chief Resident Engineer	Mr. Albert Yu	2276 0618
IEC (Acuity Sustainability Consulting Limited – Nature & Technologies (HK) Limited Joint Venture)	Independent Environmental Checker	Mr. Kevin Li	9779 2247
Main Contractor (CCZJV)	Site Agent	Mr. Alvin Chan	9800 9494
	Environmental Officer	Ms. Kimberly Wong	5542 1669
ET (FTS)	Environmental Team Leader	Mr. David Hung	3565 4371



1.3 Construction Programme and Activities

1.3.1 The construction of the Project commenced on 29 November 2018 and is expected to complete in 2023. The construction programme is shown in **Appendix A**.

1.3.2 A summary of the major construction activities undertaken in the reporting month were shown in below table:

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
<ul style="list-style-type: none"> • Trial pits excavation • Tree preservation / pruning • Underground utilities diversion • Construct temporary road and site access • Road surface remedial works • Pre-drilling works • Mini pile works 	<ul style="list-style-type: none"> • Trial pits excavation • Underground utilities diversion • Road surface remedial works • Mini pile works 	<ul style="list-style-type: none"> • Trial pits excavation • Tree preservation / pruning • Underground utilities detections • Underground utilities diversion • Pre-drilling works • Pre bored H-pile works • Soldier pile works • Mini pile works • Construct temporary road and site access 	<ul style="list-style-type: none"> • Trial pits excavation • Underground utilities detections • Underground utilities diversion • Structural Works for Footbridge NF40 Staircases • Pre-drilling works • Construction / diversion of temporary cycle track and footpath 	<ul style="list-style-type: none"> • Trial pits excavation • Tree preservation / pruning • Underground utilities detections • Underground utilities diversion • Pre-drilling works • Construction of Noise Barrier Foundation and soil replacement at slope

1.4 Status of Environmental Licenses, Notifications and Permits

1.4.1 A summary of the relevant environmental licenses, permits and/or notifications on environmental protection for this Contract is presented in **Table 1.2**.

Table 1.2 Relevant Environmental Licenses, Permits and/or Notifications

Environmental License / Permit / Notification	Reference Number	Valid From	Valid Till
Environmental Permit for whole project	EP-463/2013/B	20/12/2016	Nil
Receipt of the notification of construction dust production	Form NA	27/7/2018	Nil
Construction Waste Disposal Account	7031619	17/8/2018	Nil
Chemical Waste Producer Registration	5318-758-C4314-01	06/11/2018	Nil
Effluent Discharge License (Zone 1 – Zone 5)	WT00032446-2018	09/11/2018	30/11/2023
Construction Noise Permit for Road Closure works at restricted hours	GW-RN0152-20	01/04/2020	31/05/2020
	GW-RN0355-20	01/06/2020	31/07/2020



2. AIR QUALITY

2.1 Monitoring Requirement

In accordance with the updated EM&A Manuals, 24-hour & 1-hour Total Suspended Particulates (TSP) level at the designated air quality monitoring station are required. Impact 24-hour and 1-hour TSP monitoring should be carried out at least once every 6 days. The Action and Limit Levels of the air quality monitoring are given in **Appendix C**.

2.2 Monitoring Equipment

The 24-hour and 1-hour TSP air quality monitoring was performed using High Volume Air Samplers (HVS) and portable TSP Monitors located at each of the designated monitoring station respectively.

Table 2.1 and 2.2 summarizes the equipment used in air quality monitoring.

Table 2.1 24-hour TSP Monitoring Equipment

Item	Location	Brand	Model	Equipment	Serial Number
1	AMS 5	*Sibata	Model LD-5R	Sibata Portable TSP Monitors	761105
2	AMS 6	*Sibata	Model LD-5R	Sibata Portable TSP Monitors	620407
3	AMS 7A	*Sibata	Model LD-5R	Sibata Portable TSP Monitors	882147
4	AMS 13	*Sibata	Model LD-5R	Sibata Portable TSP Monitors	620480

*Notes: As electricity supply is not available and accessible for the High Volume Samplers (HVS) at AMS 5, 6, 7A and 13 portable Laser Particle Photometer Monitors will be utilized for 24-hour TSP monitoring instead of High Volume samplers (HVS). The correlation between HVS and the portable Laser Particle Photometer Monitors are presented in Appendix D.

Table 2.2 1-hour TSP Monitoring Equipment

Item	Location	Brand	Model	Equipment	Serial Number
1	AMS 5	Sibata	Model LD-5R	Sibata Portable TSP Monitors	761105
2	AMS 6	Sibata	Model LD-5R	Sibata Portable TSP Monitors	620407
3	AMS 7A	Sibata	Model LD-5R	Sibata Portable TSP Monitors	882147
4	AMS 13	Sibata	Model LD-5R	Sibata Portable TSP Monitors	620480

2.3 Monitoring Methodology

2.3.1 24-hour TSP air quality monitoring by High Volume Air Samplers (HVS)

HVS Installation

The following guidelines were adopted during the installation of HVS:

- Sufficient support is provided to secure the samplers against gusty wind.
- No two samplers are placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, is at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses is required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally is required.
- No furnaces or incineration flues are nearby.



- Airflow around the samplers is unrestricted.
- The samplers are more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

Filters Preparation

Fiberglass filters (provided by the HOKLAS accredited laboratory) shall be used (Note: these filters have a collection efficiency of larger than 99% for particles of 0.3 μm diameter). A HOKLAS accredited laboratory (ALS Technichem (HK) Pty Ltd./Fugro Technical Services Limited) is responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for monitoring team.

All filters are equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature is around 25°C and not variable by more than $\pm 3^\circ\text{C}$; the relative humidity (RH) is < 50% and not variable by more than $\pm 5\%$. A convenient working RH is 40%.

Operating / Analytical Procedures

Operating / analytical procedures for the air quality monitoring are highlighted as follows:

- Prior to the commencement of the dust sampling, the flow rate of the HVS are properly set (between 0.6 m^3/min and 1.7 m^3/min) in accordance with the EM&A manual. The flow rate shall be indicated on the flow rate chart.
- The power supply shall be checked to ensure the samplers worked properly.
- On sampling, the samplers shall be operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station.
- The filter holding frame is then removed by loosening the four nuts and carefully a weighted and conditioned filter is centered with the stamped number upwards, on a supporting screen.
- The filter shall be aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame is tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The shelter lid shall be closed and secured with the aluminum strip.
- The timer is then programmed. Information shall be recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter shall be removed and sent to laboratory for weighing. The elapsed time is also recorded.
- Before weighing, all filters are 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 $\pm 3^\circ\text{C}$; the relative humidity (RH) should be < 50% and not vary by more than $\pm 5\%$. A convenient working RH is 40%. Weighing results are returned to MCL for further analysis of TSP concentrations collected by each filter.



2.3.2 24-hour TSP air quality monitoring by portable Laser Particle Photometer Monitors

Operating / Analytical Procedures

The measuring procedures of the 24-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:

- Pull up the air sampling inlet cover
- Change the Mode 0 to BG once
- Push Start/Stop switch once
- Turn the knob to SENSI.ADJ and press it
- Push Start/Stop switch once
- Return the knob to the position MEASURE slowly
- Push the timer set switch to set measuring time
- Remove the cap and make a measurement

Calculation of the value of 24-hr TSP concentration is given by the average of 24 calculated 1-hr TSP concentration, where the calculated 1-hr TSP concentration is given by the product of the direct reading and the K-factor based on the correlation results between the direct reading meter and high volume sampler.

2.3.3 1-hour TSP air quality monitoring

Operating / Analytical Procedures

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

- Pull up the air sampling inlet cover
- Change the Mode 0 to BG once
- Push Start/Stop switch once
- Turn the knob to SENSI.ADJ and press it
- Push Start/Stop switch once
- Return the knob to the position MEASURE slowly
- Push the timer set switch to set measuring time
- Remove the cap and make a measurement

2.4 Maintenance / Calibration

2.4.1 24-hour TSP air quality monitoring

The following maintenance / calibration are required for the HVS:

- The high volume motors and their accessories are properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking are made to ensure that the equipment and necessary power supply are in good working condition.
- All HVS shall be calibrated (five point calibration) using Calibration Kit upon installation and thereafter in every 3 months.
- A copy of the calibration certificates for the HVS and calibrator are provided in **Appendix D.**



2.4.2 1-hour TSP air quality monitoring

The portable TSP monitor should be calibrated at 1 year intervals

2.5 Monitoring Locations

2.5.1 The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works. According to the Hong Kong Observatory, wind direction in May 2020 are east, north east and south west. The most updated locations are summarized in **Table 2.3** and shown in **Figure 2a**.

Table 2.3 Location of Air Quality Monitoring Station

Monitoring Station	Location	Land uses
AMS 5	Tin Liu	Residential
AMS 6	Sha Tin Plaze	Residential
AMS 7A	Sheung Wo Che	Residential
AMS 13	Fung Wo Estate	Residential

2.6 Results and Observations

2.6.1 The schedule of air quality monitoring in reporting month is provided in **Appendix E**.

2.6.2 No Action / Limit Level exceedance was recorded for 24-hr and 1-hr TSP at AMS 5, 6, 7A and 13 in the reporting month.

2.6.3 During the reporting month, major dust sources including trial pits excavation, pre-drilling, mini pile works, soldier pile, sheet pile works and Pre Bored H-pile works were observed in the site. Other factors such as road traffic along Tai Po Road may affect the monitoring results.

2.6.4 The weather conditions during the monitoring are provided in **Appendix K**.

2.6.5 The monitoring data of 24-hr and 1-hr TSP are summarized in **Table 2.4** and **2.5**. Detailed monitoring data are presented in **Appendix F**.

Table 2.4 Summary of 24-hr TSP Monitoring Results

Parameter	Monitoring Station	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
24-hr TSP in $\mu\text{g}/\text{m}^3$	AMS 5	82	81 - 84	156	260
	AMS 6	80	67 - 86	165	
	AMS 7A	84	81 - 89	171	
	AMS 13	80	71 - 83	174	

Table 2.5 Summary of 1-hr TSP Monitoring Results

Parameter	Monitoring Station	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
1-hr TSP in $\mu\text{g}/\text{m}^3$	AMS 5	91	79 - 100	340	500
	AMS 6	84	65 - 99	347	
	AMS 7A	89	70 - 100	344	
	AMS 13	83	62 - 95	303	

2.6.6 The Event and Action Plan for air quality is given in **Appendix H**.



3. NOISE

3.1 Monitoring Requirement

3.1.1 In accordance with the updated EM&A Manuals, L_{eq} (30min) monitoring is conducted for at least once a week during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

3.2.1 The sound level meter used in noise monitoring will comply with the International Electrotechnical Commission Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum issued under the Noise Control Ordinance (NCO).

3.2.2 Sound level calibrator will be used for the on-site calibration of the meter. This calibrator complies with the IEC Publication 942 (1988) Class 1 and ANSI S1.40 - 1984. Noise measurements were only accepted to be valid if the calibration levels from before and after the measurement agree to within 1.0dB.

3.2.3 Measurements shall be recorded to the nearest 0.1dB. Sound level meters are programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals between 0700 and 1900 on normal weekdays at least once a week when construction activities are underway.

Table 3.1 summarizes the noise monitoring equipment model being used for this project.

Table 3.1 Noise Monitoring Equipment

Item	Brand	Model	Equipment	Serial Number
1	Casella	CEL-63X Series	Integrating Sound Level Meter	0873573
2	Casella	CEL-63X Series	Integrating Sound Level Meter	1367959
3	Casella	CEL-63X Series	Integrating Sound Level Meter	1488270
4	Casella	CEL-63X Series	Integrating Sound Level Meter	1488279
5	Casella	CEL-63X Series	Integrating Sound Level Meter	1488271
6	Casella	CEL-63X Series	Integrating Sound Level Meter	1488303
7	Casella	CEL-120 Series	Calibrator	2383886
8	Casella	CEL-120 Series	Calibrator	2383982
9	Casella	CEL-120 Series	Calibrator	2383707

3.3 Monitoring Parameters and Frequency

Table 3.2 presents the noise monitoring parameters and frequencies.

Table 3.2 Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency and Period
L_{Aeq} (30min) L_{10} and L_{90} will be recorded for reference	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week

3.4 Monitoring Methodology

3.4.1 The monitoring procedures are as follows:

- The monitoring station is set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground.
- The battery condition is checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time are set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - measurement time : Weekly 30 minutes between 0700-1900 on normal weekdays
- Prior to and after noise measurement, the meter shall be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will be considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- Noise monitoring should be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- At the end of the monitoring period, the Leq, L10 and L90 are recorded. In addition, site conditions and noise sources are recorded on a standard record sheet.

3.5 Maintenance / Calibration

3.5.1 Maintenance and Calibration procedures are as follows:

- The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory.
- Relevant calibration certificates are provided in **Appendix D**.

3.6 Monitoring Locations

3.6.1 According to the updated EM&A Manual, 25 noise monitoring locations were included during the noise monitoring. The monitoring locations are summarized in **Table 3.3** and shown in **Figure 2**.



Table 3.3 Location of Noise Monitoring Station

Monitoring Station	Location	Land Uses	Type of Measurement
NMS1	Scenery Court	Residential	Façade
NMS2	Villa Le Parc	Residential	Façade
NMS3	Hilton Plaza	Residential	Façade
NMS4	Tin Liu	Residential Village	Façade
NMS5A	Wai Wah Centre	Residential	Façade
NMS6A	Wai Wah Centre	Residential	Façade
NMS7	Tin Liu	Residential Village	Façade
NMS8	Shatin Plaza	Residential	Façade
NMS9	Lek Yuen Estate	Residential	Façade
NMS10A	Shatin Tsung Tsin School	School	Façade
NMS11	Sheung Wo Che	Residential Village	Façade
NMS12	SKH Holy Spirit Primary School	School	Façade
NMS13	Lek Yuen Estate	Residential	Façade
NMS14	Sheung Wo Che	Residential Village	Façade
NMS15	Ha Wo Che	Residential Village	Façade
NMS16	Ha Wo Che	Residential Village	Façade
NMS17	Shatin Pui Ying College	School	Façade
NMS18	Ha Wo Che	Residential Village	Façade
NMS19	Wo Che Estate	Residential	Façade
NMS20	Wo Che Estate	Residential	Façade
NMS23	Pai Tau	Residential Village	Façade
NMS24	Shatin Plaza	Residential	Façade
NMS25A	Sheung Wo Che	Residential Village	Façade
NMS26	Wo Che Estate	Residential	Façade
NMS27	Jockey Club Ti-I College	School	Façade

3.7 Results and Observations

- 3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix E**.
- 3.7.2 The exam schedules of the schools and Arrangements on Deferral of Class Resumption for All Schools are provided in **Appendix E**.
- 3.7.3 During the monitoring month, road traffic along Tai Po Road was observed which may affect the monitoring results.
- 3.7.4 No raining and wind with speed over 5 m/s was observed during day time noise monitoring according to the onsite observation. The weather conditions during the monitoring month are provided in **Appendix K**.
- 3.7.5 The day time noise monitoring data are summarized in **Table 3.4**. Detailed monitoring data are presented in **Appendix G**.

Table 3.4 Summary of Day Time Noise Impact Monitoring Results

Monitoring Station	Leq (30min) Range, dB(A)	Leq (30min) Limit Level, dB(A)
	Construction Noise Level	
NMS1	65.3 – 66.9	75
NMS2	59.7 – 61.4	75
NMS3	68.7 – 70.2	75
NMS4	68.4 – 69.8	75
NMS5A	70.9 – 72.6	75
NMS6A	70.3 – 71.6	75
NMS7	69.7 – 71.3	75
NMS8	68.7 – 71.8	75
NMS9	66.9 – 68.8	75
NMS10A	63.9 – 64.4	70*
NMS11	68.5 – 69.4	75
NMS12	64.2 – 65.3	70*
NMS13	67.4 – 69.8	75
NMS14	65.8 – 69.5	75
NMS15	67.4 – 68.7	75
NMS16	65.7 – 68.1	75
NMS17	63.8 – 65.2	70*
NMS18	64.9 – 66.1	75
NMS19	67.2 – 69.1	75
NMS20	67.4 – 69.2	75
NMS23	66.9 – 68.6	75
NMS24	69.2 – 71.2	75
NMS25A	69.2 – 71.3	75
NMS26	69.6 – 72.0	75
NMS27	63.8 – 66.9	70*

Note: 1. Leq (30min) was measured at day-time (0700-1900) on normal weekdays.
2. 70 dB(A) for schools and 65 dB(A) for schools during examination period.
3. Deferral of Class Resumption for All Schools are provided in **Appendix E** for reference.

3.7.6 Regular night time noise monitoring were conducted on 7, 14, 21 and 28 May 2020 and the results are summarized in **Table 3.5**. Detailed monitoring data are presented in **Appendix G**.

Table 3.5 Summary of Night Time Noise Impact Monitoring Results

Monitoring Station	Leq (15min) Range, dB(A)	Leq (15min) Limit Level, dB(A)
	Construction Noise Level	
NMS1	58.0 – 61.2	55
NMS2	45.1 – 52.5	55
NMS3	60.3 – 62.0	55
NMS4	56.4 – 58.0	55
NMS5A	38.2 – 67.6 ^[2]	55
NMS6A	69.4 – 70.0	55
NMS7	53.5 – 58.9 ^[2]	55
NMS8	58.0 – 60.7	55
NMS9	49.9 – 54.2 ^[2]	55
NMS11	53.1 – 54.1 ^[2]	55
NMS13	45.7 – 51.4 ^[2]	55
NMS14	47.7 – 54.9 ^[2]	55
NMS15	45.9 – 58.4 ^[2]	55
NMS16	55.0 – 58.8	55
NMS18	55.0 – 59.2	55
NMS19	59.8 – 61.3	55
NMS20	56.7 – 57.6	55
NMS23	55.1 – 57.7	55
NMS24	44.0 – 53.0 ^[2]	55
NMS25A	52.1 – 54.9 ^[2]	55
NMS26	58.5 – 60.3	55

- Note: 1) Leq (15min) was measured at night-time (2300-0700).
 2) When the Average Measured Noise Level is greater than Limit Level and baseline level, Average Construction Noise Level (CNL) will be applied, where
 Calculated CNL = Measured Noise Level during operation – Baseline
 3) Detailed analysis of each monitoring location is provided in **Appendix G**.

3.7.7 Day time construction noise monitoring was carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period. For night time construction noise monitoring, no exceedance case was recorded during the reporting month.

3.7.8 The Action and Limit Levels for noise impact monitoring have been set and are presented in **Appendix C**.

3.7.9 The Event and Action Plan for noise is given in **Appendix H**.



4. LANDSCAPE AND VISUAL

4.1 Audit Requirements

4.1.1 In accordance with the EM&A Manual, the landscape and visual mitigation measures during the construction phase are primarily due to those associated temporary works for the construction of retrofitting noise barriers/enclosures. To ensure compliance with the intended aims of the measures, weekly site inspections are undertaken throughout the construction period.

4.1.2 According to the updated EM&A Manual, measures to mitigate landscape and visual impacts during construction should be checked to ensure compliance with the intended aims of the measures. The progress of the engineering works shall be regularly reviewed onsite to identify the earliest practical opportunities for the landscape works to be undertaken. The ET shall report on the Contractor's compliance on a weekly basis.

4.2 Results and Observations

4.2.1 Site audits were carried out to monitor and audit the implementation of landscape and visual mitigation measures. The summary of the site audits are given in **Appendix M**.

4.2.2 No non-compliance of the landscape and visual impact was recorded in the reporting month.



5. WASTE MANAGEMENT

5.1 Audit Requirements

5.1.1 The effective management of waste arising during the construction phase will be monitored through the site audit programme. Regular audits and site inspections should be carried out to ensure that the recommended good site practices and other mitigation measures are implemented by the Contractor.

5.1.2 The audit should look at all aspects of on-site waste management practices including the waste generation, storage, recycling, transport and disposal. The aims of waste audit are:

- to ensure the waste arising from the works are handled, stored, collected, transferred and disposed of in an environmentally acceptable manner;
- verify the implementation status and evaluate the effectiveness of the mitigation measures; and
- to encourage the reuse and recycling of material.

5.2 Results and Observations

5.2.1 C&D materials and wastes sorting were carried out on site. Receptacles were available for C&D wastes and general refuse collection.

5.2.2 The amount of wastes generated by the site activities in the reporting month is shown in **Appendix I**.



6. SITE INSPECTION

6.1 Site Inspection

- 6.1.1 Site inspections were carried out weekly to monitor the implementation of proper environmental pollution control and mitigation measures for the Project. A summary of the mitigation measures implementation schedule is provided in **Appendix J**.
- 6.1.2 In the reporting month, 4 site inspections were carried out on 5, 14, 21 and 27 2020. The site inspection held on 27 May was joint inspection with the IEC, ER, the Contractor and the ET during the reporting period.
- 6.1.3 All the follow-up actions requested by ET and IEC during the site inspections were completed on 06 June 2020 as reported by the Contractor. No outstanding issues were reported during the reporting month. Details of observations recorded during the site inspections are summarized in **Appendix M**.

7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Exceedance

- 7.1.1 24-hour and 1-hour TSP impact monitoring were carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- 7.1.2 Day time construction noise monitoring was carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period. Regular night time noise monitoring was carried out on 7, 14, 21 and 28 May 2020 respectively and no exceedance case was recorded between 2300 and 0700 of the next day during the reporting month.

7.2 Complaints, Notification of Summons and Prosecution

- 7.2.1 No complaint cases was received during the reporting period.
- 7.2.2 A continues complaint were received on 20 Apr and 21 Apr 2020. A resident of Wai Wah Centre filed three complaints about the noise nuisance generated by the nearby construction activities during daytime. Two complaints were made through project hotline on 20th Apr 2020 at 10:57 a.m. and 21st Apr 2020 at 9:03 a.m., while the other one was through project email on 20th Apr 2020 at 12:43 p.m. The noise source(s) of the concerned nuisance during complaint period should be mini piling works, which is opposite to Wai Wah Centre. According to the Contractor's information, the major construction activities at zone 2 was mini piling works. According to the contractor's work schedule, major day work activity was mini-piling operation since early Feb 2020 at zone 2 in central median at non-restricted hours, from Mondays to Saturdays between 0800 and 1800 not including General Holidays. The mini piling operation on 20th & 21st Apr 2020 was carried out at non restricted hours. Non restricted hours include the daytime hours on working days which are not a Sunday or a public holiday between 07:00-19:00. The limited level of noise generated by the construction of the Project during the non-restricted daytime hours will be 75 dB (A) for dwelling. The mini piling operation on 20th and 21st Apr 2020 was carried out at non restricted hours with green tarpaulin curtain and sound proof canvas. The green tarpaulin curtain can block the view of nearby NSR and sound proof canvas can mitigate the noise level during the mini piling operation. The noise monitoring stations close to the concerned works area in Zone 2 are NMS 3, NMS 4, NMS 5A, and NMS6A & NMS 7. NMS5A and NMS6A are the most representing monitoring location of Wai Wah Centre. The noise level of NMS 5A and NMS 6A on 22nd Apr 2020 were 73.5 dB (A) and 72.6 dB (A) respectively. No noise exceedance was occurred at NMS 5A and NMS 6A. The construction activity on 22nd Apr 2020 was similar to 20th and 21st Apr 2020. Therefore, ET's day-time monitoring result on 22nd April 2020 at NMS5A and NMS6A can act as a reference for impact noise from the similar mini-piling operation on 20th and 21st April 2020. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.
- 7.2.3 The complaint was received via project hotline on 23rd April 2020 at 10:45 a.m. A resident of Wai Wah Centre complained that noise generated from operation of the two piling machines disturbing her daughter's study for DSE examination, and demanding limitation on operation hours of the machines only at two separate periods between 12 noon and 1p.m and 3 p.m. to 6 p.m. According to the Main Contractor, the major construction works at day time (08:00-18:00) on 23rd April 2020 was mini-piling operation at Zone 2 Central Median of Tai Po Road near Wai Wah Centre. According to the photo records of day-time site condition on 23rd April 2020 provided by Main Contractor, the green tarpaulin curtain was provided for the mini-pile drilling machines so that the bottom part of the mini-pile drilling machine was blocked from



view of nearby NSR (e.g. residents at Wai Wah Centre) and an additional layer of sound proof canvas was installed at lower level to mitigate the noise from mini-pile drilling operation. The five noise monitoring stations close to the concerned works area (where located at zone 2, the complaint from Wai Wah Centre) are NMS3, NMS4, NMS5A, NMS6A & NMS7, and especially NMS5A & NMS6A locate at the Wai Wah Centre. The day-time noise monitoring results measured at NMS3, 4, 5A, 6A and 7 were all lower than the limit level, especially NMS 5A & NMS 6A monitoring stations where locate at the Wai Wah Centre. In particular, ET arranged on RE request a joint site (with RE & JV) regular day-time noise monitoring at locations NMS 5A & NMS 6A during the mini-piling operation of both machines at 10:00 a.m. on 22nd April 2020, when the mitigation measures of additional acoustic sound proof layers at lower part of the machines and tarpaulin screens were observed. The monitoring results show no noise exceedance occurred at both locations. Thus, ET day-time monitoring result on 22nd April 2020 at NMS5 & NMS6 can be act as a reference for impact noise from the similar mini-piling operation activities on 23rd April 2020. Therefore, there was no exceedance cases were found in ET regular day-time noise monitoring measurement. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.

7.2.4 The complainant on via ICC1823 on 28th April 2020 complained about the noise and odor nuisance generated from the night-time asphalt laying construction works at Shatin Rural Committee Road (Zone 3) area. Although the main contractor no work at zone 3, but the major night-time construction works was road surface remedial work which was related to the complainant concerned. Therefore, the following section would further investigate on the main contractor night-time works at the nearby zone 2 area. There was no construction work at Shatin Rural Committee Road (Zone 3) on 27th/²⁸ April 2020. The major construction works was road surface remedial work since 15th April 2020 at approved restricted hours along zone 2 south boundary adjacent to Wai Wah Centre. Also, Tai Po Road is the main strategic route, implementation of temporary traffic diversion at day time due to loading and unloading material or plant work or road surface remedial work is not feasible. The concerned night work could only be conducted during off-peak period at night time under temporary traffic diversion to avoid causing traffic congestion. The major construction works was road surface remedial work since 15th April 2020 conducted at restricted hours along zone 2 south boundary adjacent to Wai Wah Centre. The lorry had been used in TTA implementation & road opening, portable generator and electric handheld breaker had been used in asphalt removal work, dump truck with grab had been used for loading and unloading of asphalt or rubble, vibratory compactor had been used in asphalt compaction for road surface remedial works on 27th/²⁸ April 2020. The Main Contractor complied with CNP No.: GW-RN0152-20 that allowed PME used in Group C or Group F. According to the Main Contractor, advance "Notice to Affected Residents" had been issued and distributed on 26th March 2020 in accordance with the CNP advice that prior notification should be given to nearby residents. Besides, the road re-surfacing work would be carried out at approximately 14 night-time works between 2nd and 28th April 2020 listed in the distributed notices. No exceedance cases were found on ET regular night-time noise monitoring measurement at all noise monitoring stations, especially measured at NMS 5A & NMS 6A where locate close to the works area (Wai Wah Centre in Zone 2), the measured result at NMS 5A & 6A were all lower than that of measured in the baseline. Besides, the measured result after correction of baseline at NMS 9 (Lek Yuen Estate) & NMS 24 (Shatin Plaza) were lower than that of the limit level, whilst the measured result at NMS 25A (Sheung Wo Cheu) was lower than that of measured in the baseline. These three locations NMS 9, NMS 24 & 25A are located at the section of the Sha Tin Rural Committee Road closest to the complainant's complain area in Zone 3. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.

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



- 7.2.5 After ET's investigation, the complaint cases on 21st, 23rd and 28th Apr 2020 were considered to be not project-related.
- 7.2.6 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix L**.

8. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

8.1 Implementation Status

8.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Review Report, the EP and the updated EM&A Manuals. The implementation status of the mitigation measures during the reporting month is summarized in **Appendix J**.

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

Air Quality Impact

- Please increase the frequency of water spray. (Zone 3 & NF40)
- Please be reminded that cover the stockpile when no construction activity. (Zone 3)
- Cover shall be provided for stockpile. (TKO storage area)

Construction Noise Impact

- No specific observation was identified in the reporting month.

Water Quality Impact

- Please be reminded that the flooding area/ puddle after rain. (zone 3)
- Wastewater from washing machine shall not be discharge directly. (Zone 3)
- Checklist of sedimentation tank shall be provided. (All site area)
- Mitigation measure shall be provided to prevent water leakage in entrance. (Zone 3)

Chemical and Waste Management

- Drip tray shall be provided for the chemical/ diesel. (TKO storage area)
- Drip tray shall be cleared. (Zone 1)
- The chemical/ oil shall be cleared. (Zone 1)
- Drip tray shall be cleared. (Zone 4)
- Chemicals shall be stored and covered. (Zone 3)
- Housekeeping in Zone 1.

Land Contamination

- No specific observation was identified in the reporting month.

Landscape and Visual Impact

- No specific observation was identified in the reporting month.

General Condition

- No specific observation was identified in the reporting month.

Permit / Licenses

- No specific observation was identified in the reporting month.

9. FUTURE KEY ISSUES

9.1 Construction Programme for the Next Month

During the coming reporting month, the principal work activities within the site include:

- (1) Pre-drill works in Zone 1, 2, 3, 4 & 5.
- (2) Tree preservation / felling/ pruning/ transplantation in Zone 1, 2, 3, 4 & 5.
- (3) Remedial works for road surface in Zone 1 & 2.
- (4) Construct temporary road & site access in Zone 1 & 2.
- (5) Mini pile Works in Zone 1, 2, 3 & 4.
- (6) Construction/ Diversion of underground utilities in Zone 1 & 2.
- (7) Trial Pits Excavation in Zone 3, 4 & 5.
- (8) Underground utilities detections in Zone 3, 4 & 5.
- (9) Soldier pile works & Pre bored H-pile works in Zone 3.
- (10) Bore pile works in Zone 3.
- (11) Construction of pile cap in Zone 3.
- (12) Construction of noise barrier footing foundation in Zone 3.
- (13) Construction of footbridge NF40 staircase structure works in Zone 4.
- (14) Foundation works of footbridge NF66 in Zone 4.
- (15) Noise Barrier Foundation Works and Soil Replacement on Slope in Zone 5.

9.2 Key Issues for the Coming Month

- 9.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water quality, waste management and landscape and visual impact.

9.3 Monitoring Schedules for the Next Month

- 9.3.1 The tentative schedules for environmental monitoring in the coming month are provided in **Appendix E**.



10. CONCLUSIONS

- 10.1.1 24-hour and 1-hour TSP impact monitoring were carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- 10.1.2 Day time construction noise monitoring was carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.
- 10.1.3 Regular night time noise monitoring was carried out on 7, 14, 21 and 28 May 2020 respectively and no exceedance case was recorded between 2300 and 0700 of the next day during the reporting month.
- 10.1.4 4 site inspections were carried out on 5, 14, 21 and 27 May 2020. Recommendations on mitigation measures on air quality, chemical and waste management and landscape and visual impact were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 10.1.5 No complaint case was received during the reporting period.

FUGRO TECHNICAL SERVICES LIMITED

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

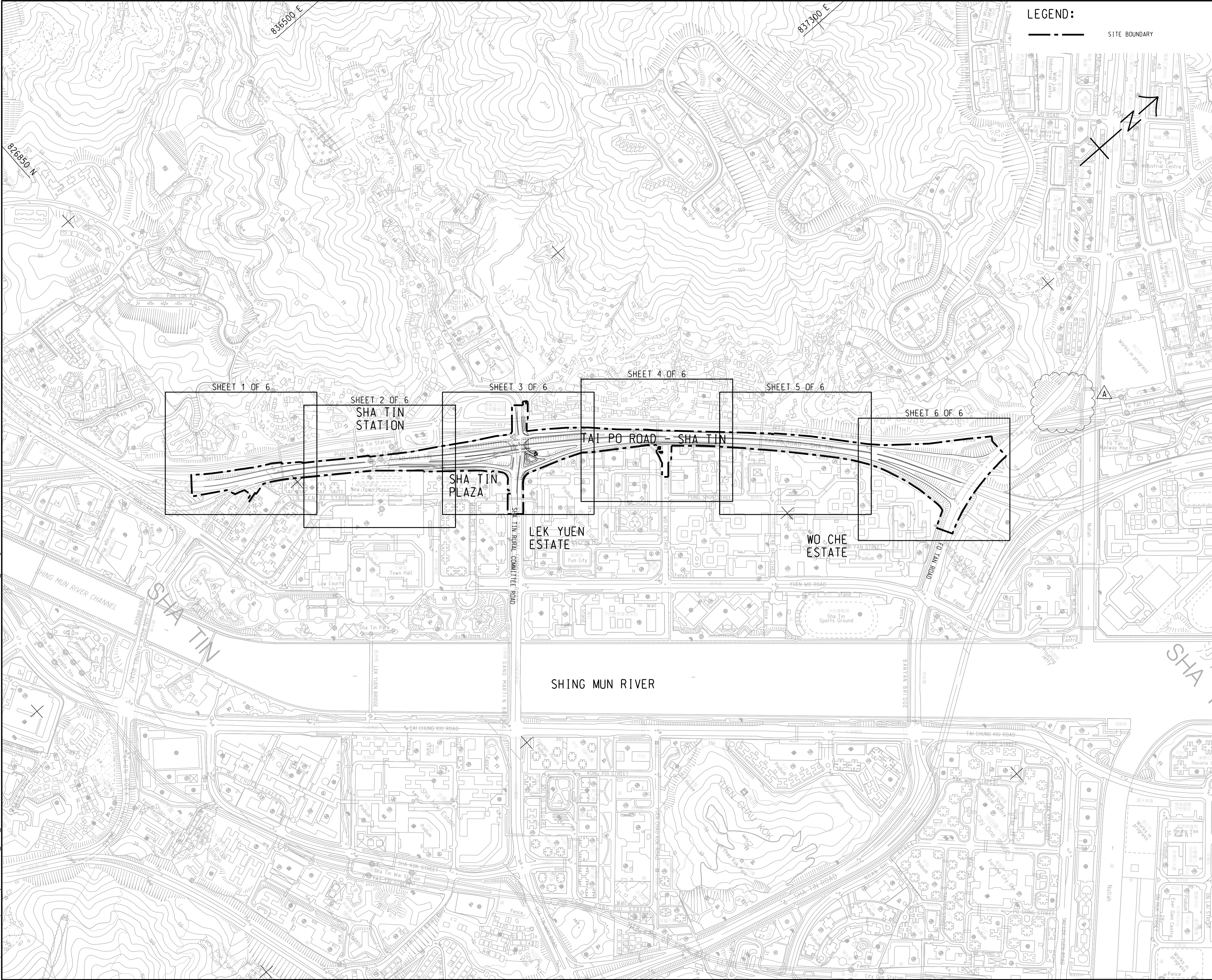
Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com
Website : www.fugro.com



Figure 1

Project General Layout

Plot File by: aecom\p0163015\PATH_P\AECOM-SP-pw\benley.com\AECOM_DS02_ASI\Documents\60481656_WTP-STCAD_PRODUCTION\DRAWING\CONTRACT\11000\C1_1000.dgn
 2/22/2018
 Project Management Initials: Designer: FMSK Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm



LEGEND:
 - - - - - SITE BOUNDARY

AECOM

PROJECT
 ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
 土木工程拓展署
CEDD Civil Engineering and Development Department

CONSULTANT
 工程顧問公司
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
 分列工程顧問公司

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.
A	FEB. 18	TENDER ADDENDUM NO.2	BBC
-	JAN. 18	TENDER DRAWING	BCC

STATUS
 階段

SCALE
 比例
 A1 1:4000

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN
 索引圖
FIGURE 1.1a

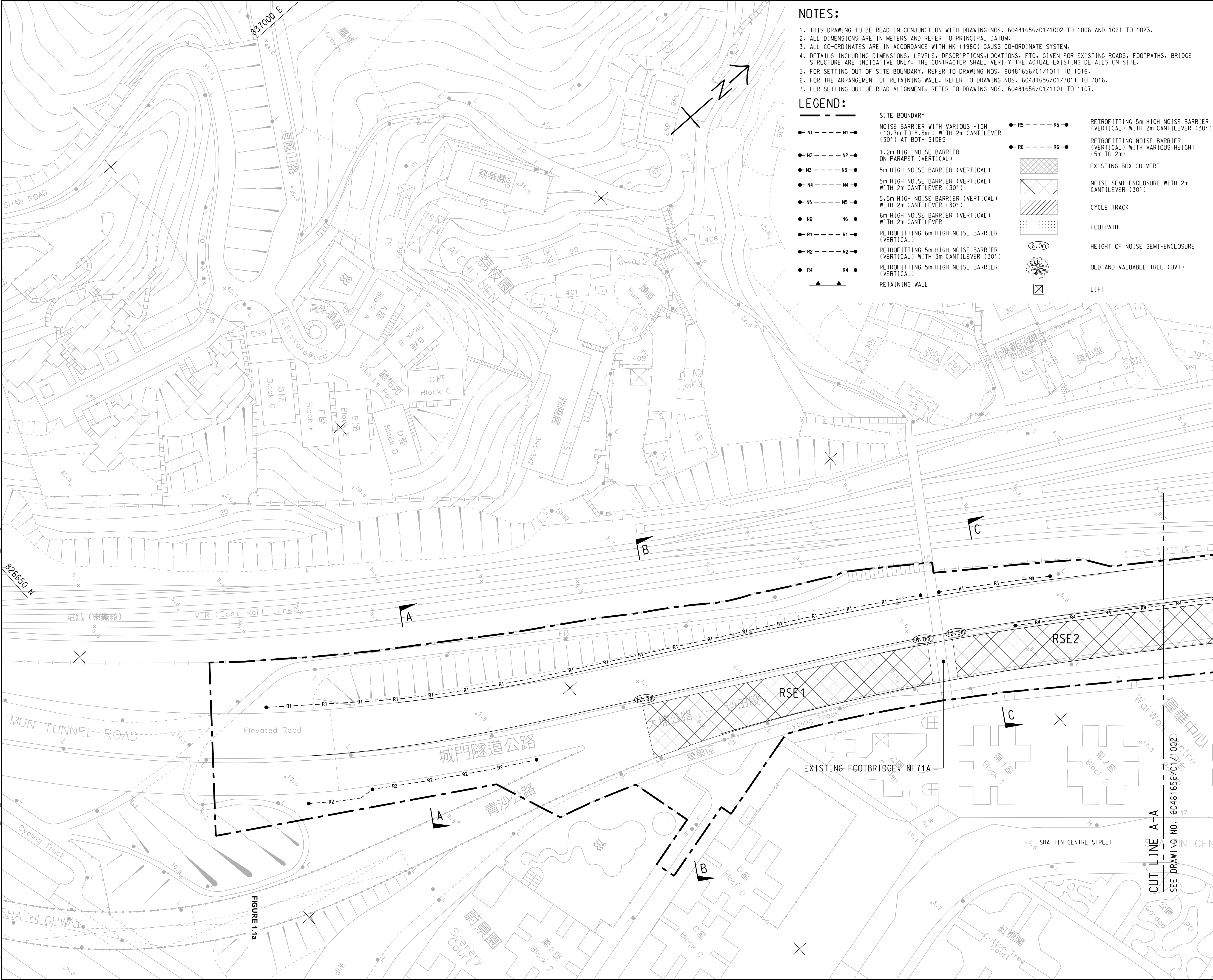
CONTRACT NO.
 合約編號
 NE/2017/05

SHEET TITLE
 圖紙名稱
KEY PLAN
FIGURE 1.1a

SHEET NUMBER
 圖紙編號
 60481656/C1/1000A

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. All measurements must be obtained from the stated dimensions.

16/12/2018
 Path: P:\WORK\T1\WAP086.aec\main\local\AECOM_DS02_ASDocuments\60481686_WTP-STP\CAD PRODUCTION\DRAWING\CONTRACT\11000\C1_1001.dgn
 Project Management Initials: Designer: FMSC Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm
 16/12/2018
 Path: P:\WORK\T1\WAP086.aec\main\local\AECOM_DS02_ASDocuments\60481686_WTP-STP\CAD PRODUCTION\DRAWING\CONTRACT\11000\C1_1001.dgn
 Project Management Initials: Designer: FMSC Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm



NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60481656/C1/1002 TO 1006 AND 1021 TO 1023.
2. ALL DIMENSIONS ARE IN METERS AND REFER TO PRINCIPAL DATUM.
3. ALL CO-ORDINATES ARE IN ACCORDANCE WITH HK (1980) GAUSS CO-ORDINATE SYSTEM.
4. DETAILS INCLUDING DIMENSIONS, LEVELS, DESCRIPTIONS, LOCATIONS, ETC. GIVEN FOR EXISTING ROADS, FOOTPATHS, BRIDGE STRUCTURE ARE INDICATIVE ONLY. THE CONTRACTOR SHALL VERIFY THE ACTUAL EXISTING DETAILS ON SITE.
5. FOR SETTING OUT OF SITE BOUNDARY, REFER TO DRAWING NOS. 60481656/C1/1011 TO 1016.
6. FOR THE ARRANGEMENT OF RETAINING WALL, REFER TO DRAWING NOS. 60481656/C1/7011 TO 7016.
7. FOR SETTING OUT OF ROAD ALIGNMENT, REFER TO DRAWING NOS. 60481656/C1/1101 TO 1107.

LEGEND:

● N1 --- N1 ●	SITE BOUNDARY	● R5 --- R5 ●	RETROFITTING 5m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER (30°)
● N2 --- N2 ●	NOISE BARRIER WITH VARIOUS HIGH (10.7m TO 8.5m) WITH 2m CANTILEVER (30°) AT BOTH SIDES	● R6 --- R6 ●	RETROFITTING NOISE BARRIER (VERTICAL) WITH VARIOUS HEIGHT (5m TO 2m)
● N3 --- N3 ●	1.2m HIGH NOISE BARRIER ON PARAPET (VERTICAL)	[Hatched Box]	EXISTING BOX CULVERT
● N4 --- N4 ●	5m HIGH NOISE BARRIER (VERTICAL)	[Diagonal Lines]	NOISE SEMI-ENCLOSURE WITH 2m CANTILEVER (30°)
● N5 --- N5 ●	5m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER (30°)	[Dotted Box]	CYCLE TRACK
● N6 --- N6 ●	5.5m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER (30°)	[Stippled Box]	FOOTPATH
● R1 --- R1 ●	6m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER	(6.0m)	HEIGHT OF NOISE SEMI-ENCLOSURE
● R2 --- R2 ●	RETROFITTING 6m HIGH NOISE BARRIER (VERTICAL)	[Tree Symbol]	OLD AND VALUABLE TREE (OVT)
● R3 --- R3 ●	RETROFITTING 5m HIGH NOISE BARRIER (VERTICAL) WITH 3m CANTILEVER (30°)	[Square with X]	LIFT
● R4 --- R4 ●	RETROFITTING 5m HIGH NOISE BARRIER (VERTICAL)		
▲ --- ▲	RETAINING WALL		



PROJECT
項目

ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
業主
 土木工程拓展署
 Civil Engineering and Development Department

CONSULTANT
工程顧問公司
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

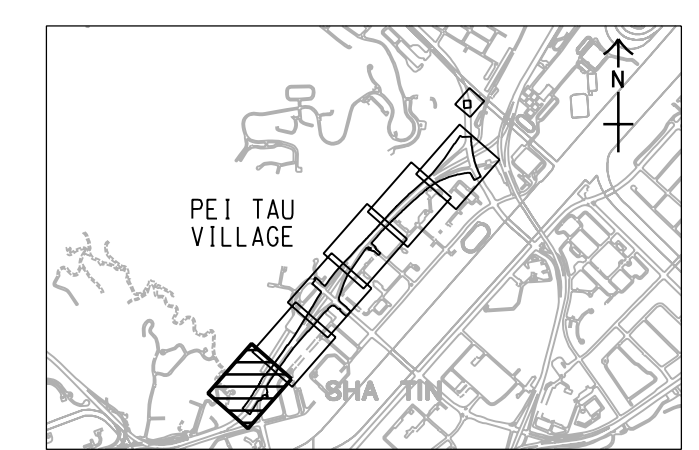
I/R	DATE	DESCRIPTION	CHK.
-	JAN. 18	TENDER DRAWING	BCC

STATUS
階段

SCALE
比例
A1 1:500

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN A1 1:40000
索引圖



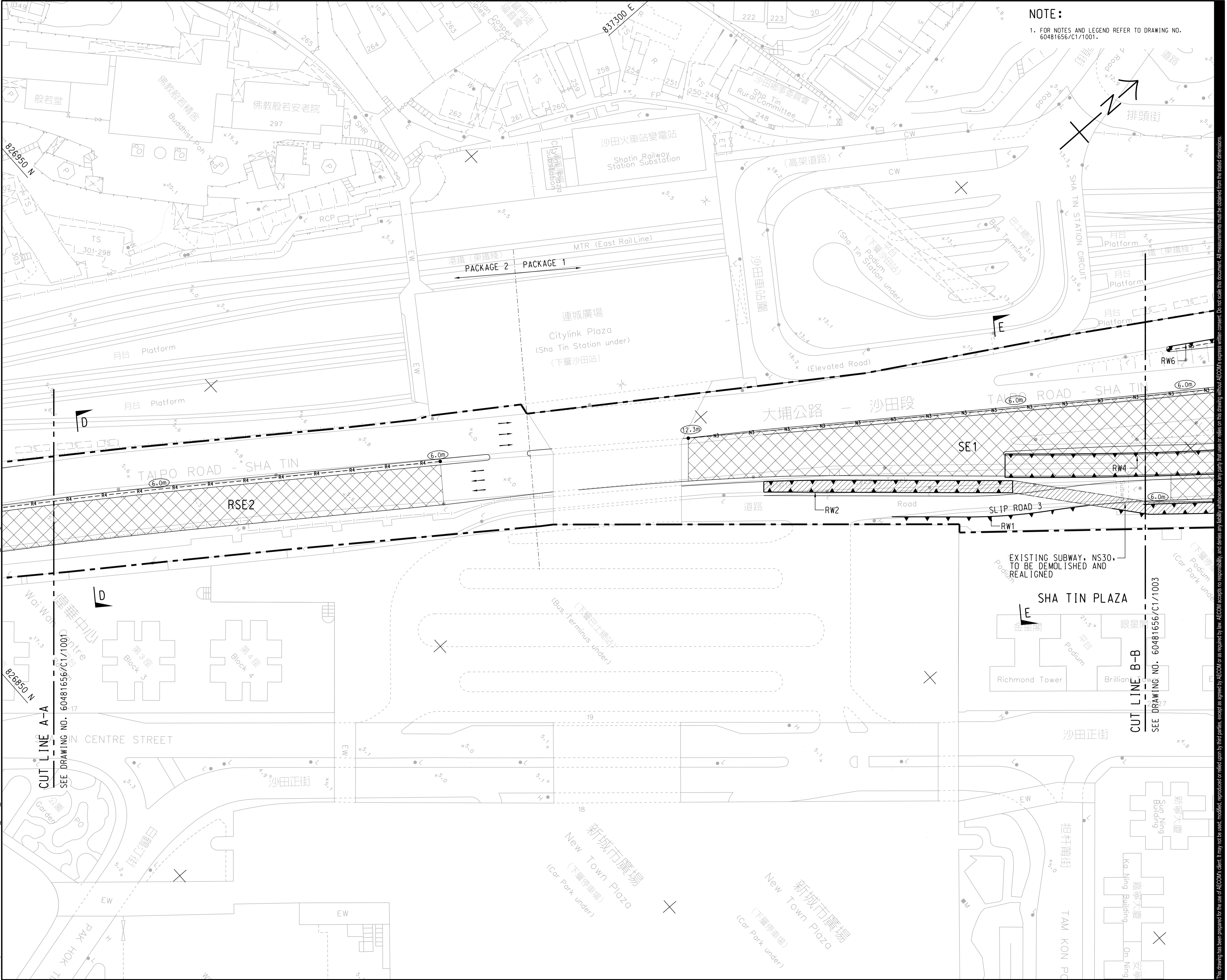
CONTRACT NO.
合約編號
60481656 NE/2017/05

SHEET TITLE
圖紙名稱
GENERAL LAYOUT PLAN
FIGURE 1.1 b

SHEET NUMBER
圖紙編號
60481656/C1/1001

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. All measurements must be obtained from the stated dimensions.

Plot File by: ASIWUMT 15/07/2018 11:15:13
 PATH: P:\WORK\T\W\096.aecom\online\local\AECOM_DS02_AS\Documents\60481656\WTP-ST\CAD PRODUCTION\DRAWING\CONTRACT\11000\C1_1002.dgn
 Project Management Initials: Designer: FMSC Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm



NOTE:
 1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60481656/C1/1001.

AECOM

PROJECT
 ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
 土木工程拓展署
 Civil Engineering and Development Department

CONSULTANT
 工程顧問公司
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
 分判工程顧問公司

ISSUE/REVISION

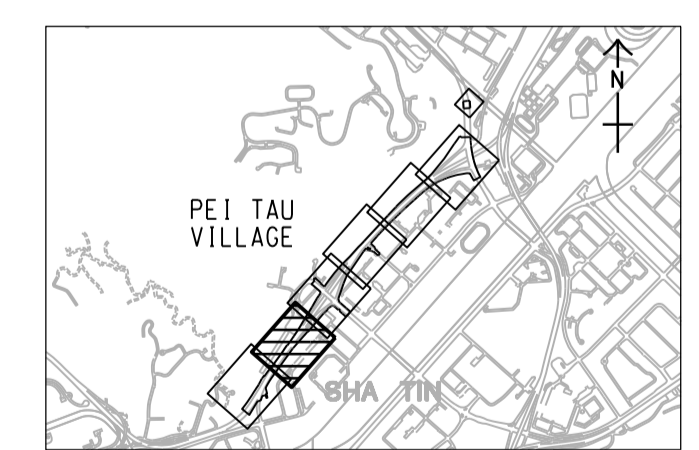
NO.	DATE	DESCRIPTION	CHK.
-	JAN. 18	TENDER DRAWING	BCC

STATUS
 階段

SCALE
 比例
 A1 1:500

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN A1 1:40000
 索引圖



CONTRACT NO.
 合約編號
 NE/2017/05

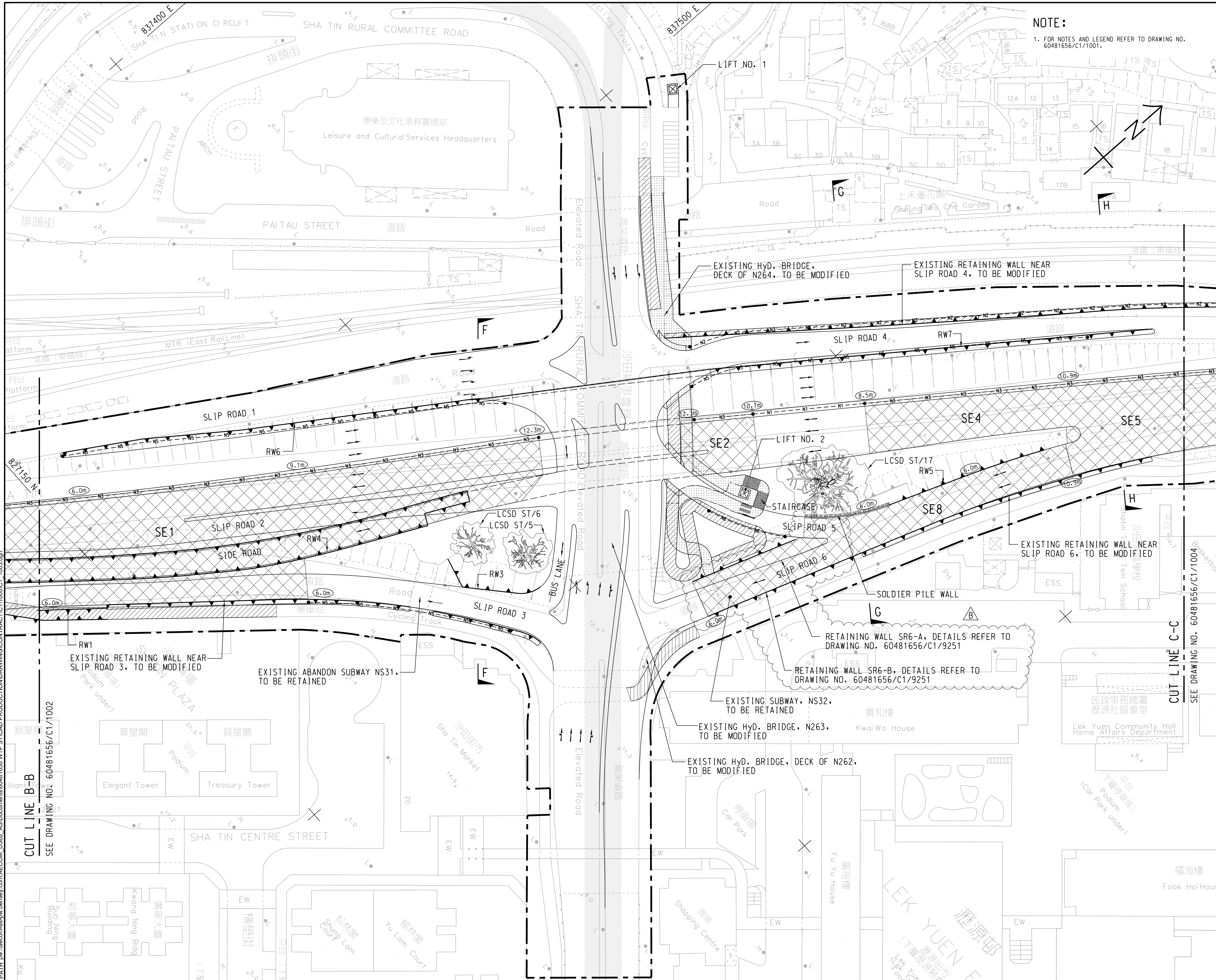
SHEET TITLE
 圖紙名稱
 GENERAL LAYOUT PLAN
 FIGURE 1.1b

SHEET NUMBER
 圖紙編號
 60481656/C1/1002

SHEET 2 OF 6

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, for any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

Plot File by: WJMT
 PATH: p:\aecom\sp-pw\benlley.com\AECOM_DSD2_ASI\Documents\60481656\WTP-STCAD PRODUCTION\DRAWING\CONTRACT\11000\C1_1003.dgn
 2018/2/27
 Project Management Initials: Designer: FMSJ Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm



NOTE:
 1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60481656/C1/1001.

AECOM

PROJECT
 ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
 土木工程拓展署
 Civil Engineering and Development Department

CONSULTANT
 工程顧問公司
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
 分判工程顧問公司

ISSUE/REVISION

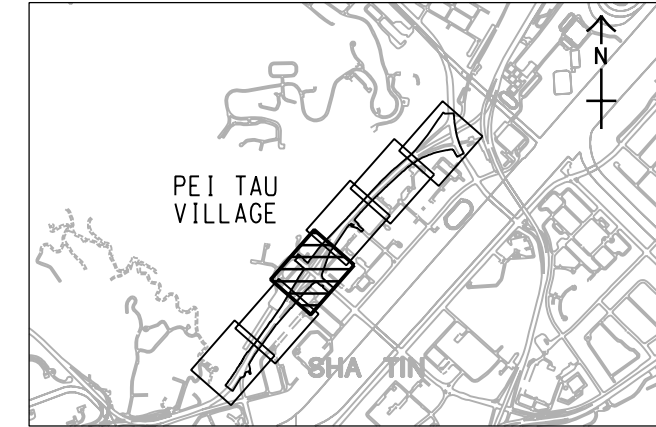
REV	DATE	DESCRIPTION	CHK.
B	FEB. 18	TENDER ADDENDUM NO. 2	BCC
A	FEB. 18	TENDER ADDENDUM NO. 1	BCC
-	JAN. 18	TENDER DRAWING	BCC

STATUS
 階段

SCALE
 比例
 A1 1:500

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN A1 1:40000
 索引圖



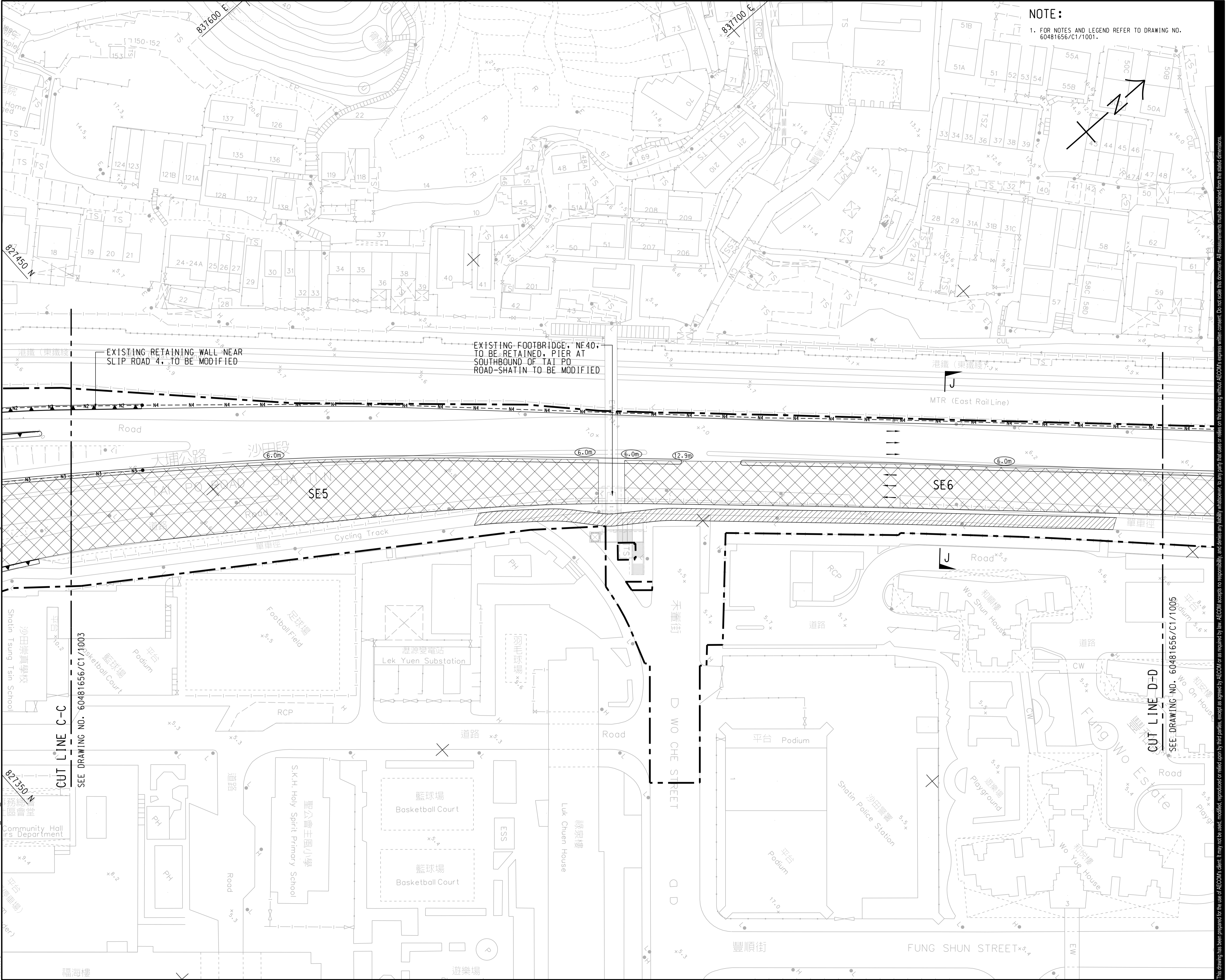
CONTRACT NO.
 合約編號
 NE/2017/05

SHEET TITLE
 圖紙名稱
 GENERAL LAYOUT PLAN
 FIGURE 1.1 b

SHEET NUMBER
 圖紙編號
 60481656/C1/1003B

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

Plot File by: ASIWUMT 15/07/2018 11:15:19
 PATH: P:\WORK\T\W\096.aecomonline\local\AECOM_DS02_AS\Documents\60481656 WTP STICAD PRODUCTION\DRAWING\CONTRACT\11000\C1_1004.dgn
 Project Management Initials: Designer: FMSC Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm



NOTE:
1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60481656/C1/1001.

AECOM

PROJECT
ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
土木工務拓展署
Civil Engineering and Development Department

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

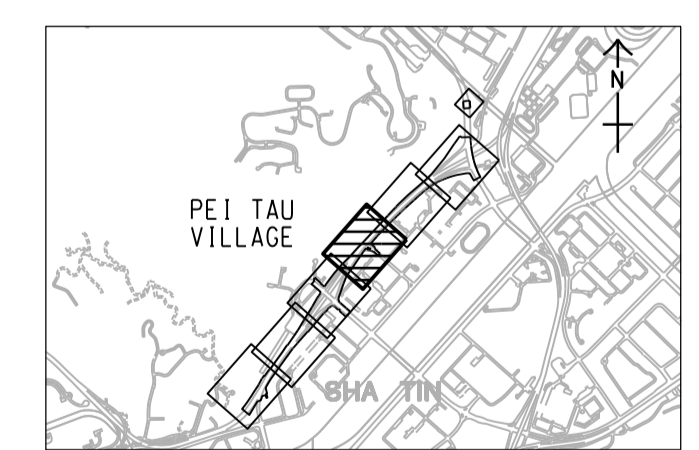
SUB-CONSULTANTS
分列工程顧問公司

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.
-	JAN. 18	TENDER DRAWING	BCC

SCALE
A1 1:500
DIMENSION UNIT
METRES

KEY PLAN A1 1:40000



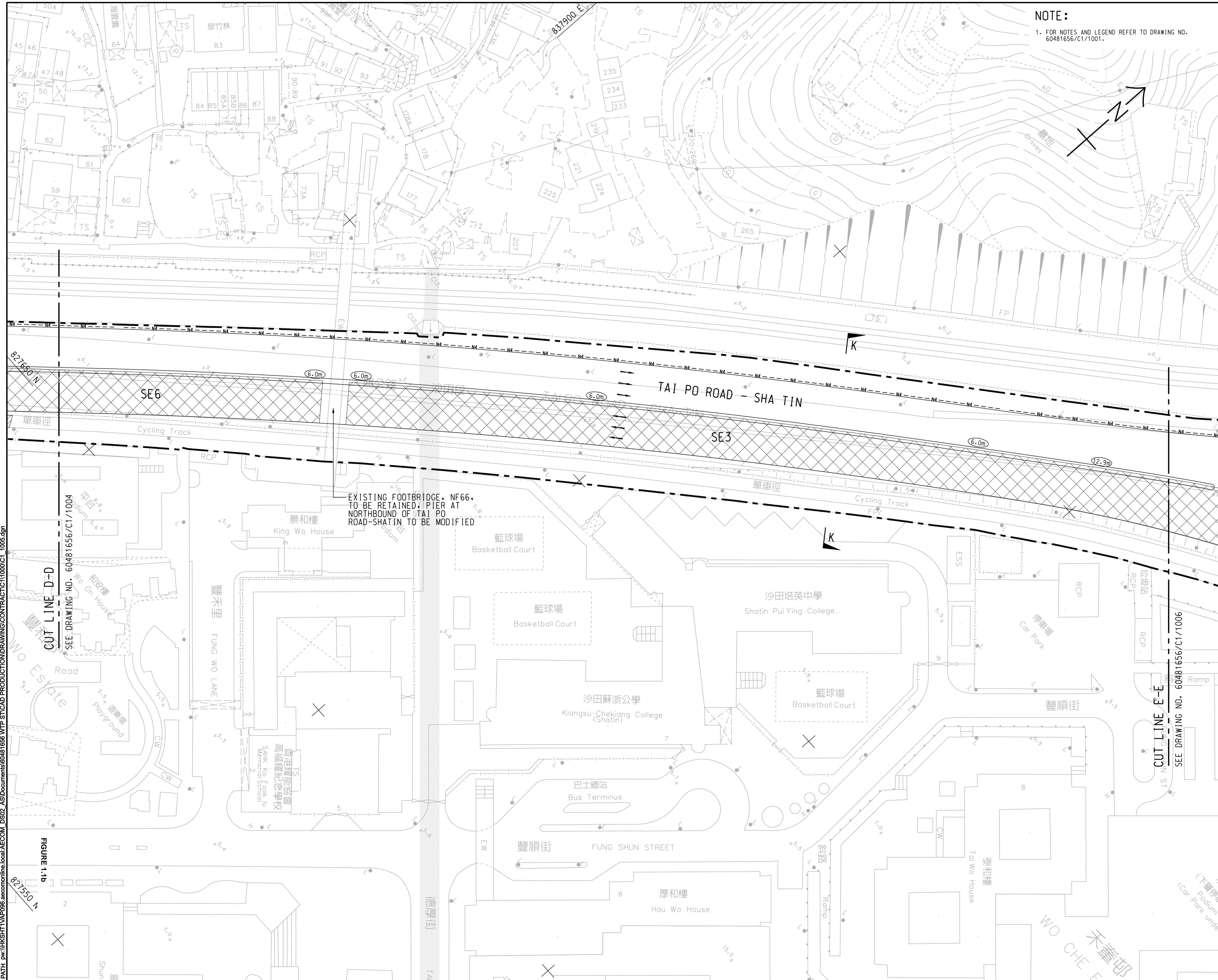
CONTRACT NO.
NE/2017/05

SHEET TITLE
GENERAL LAYOUT PLAN
FIGURE 1.1b

SHEET NUMBER
60481656/C1/1004

Project Management Initials:
 Designer: FMSC
 Checked: BCC
 Approved: CWN

16/12/2018
 PLOT FILE BY: XIEIB
 PATH: P:\WORK\SHIT\WAP096.aec\name\local\AECOM_DS02_AS\Documents\60481656\WTP-ST/CAD-PRODUCTION\DRAWING\CONTRACT\C11000\C1_1006.dgn



NOTE:
 1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60481656/C1/1001.



PROJECT
 項目

ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
 業主

 土木工程拓展署
 Civil Engineering and Development Department

CONSULTANT
 工程顧問公司

 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
 分判工程顧問公司

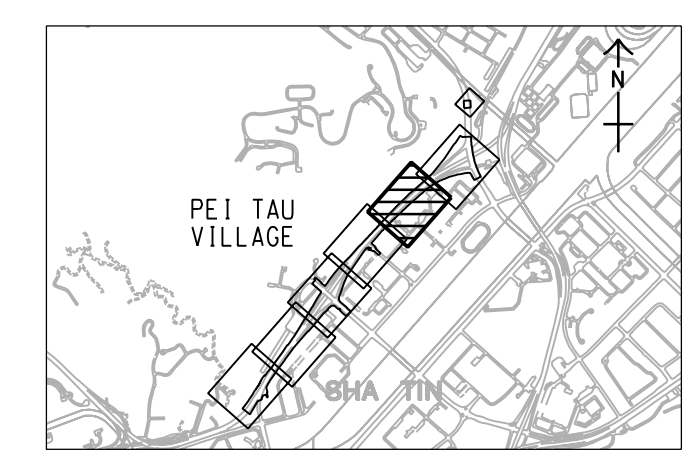
ISSUE/REVISION

REV	DATE	DESCRIPTION	CHK.
-	JAN. 18	TENDER DRAWING	BCC
I/R	DATE	DESCRIPTION	CHK.
修改	日期	內容摘要	核核

STATUS
 階段

SCALE
 比例
 A1 1 : 500

DIMENSION UNIT
 尺寸單位
 METRES



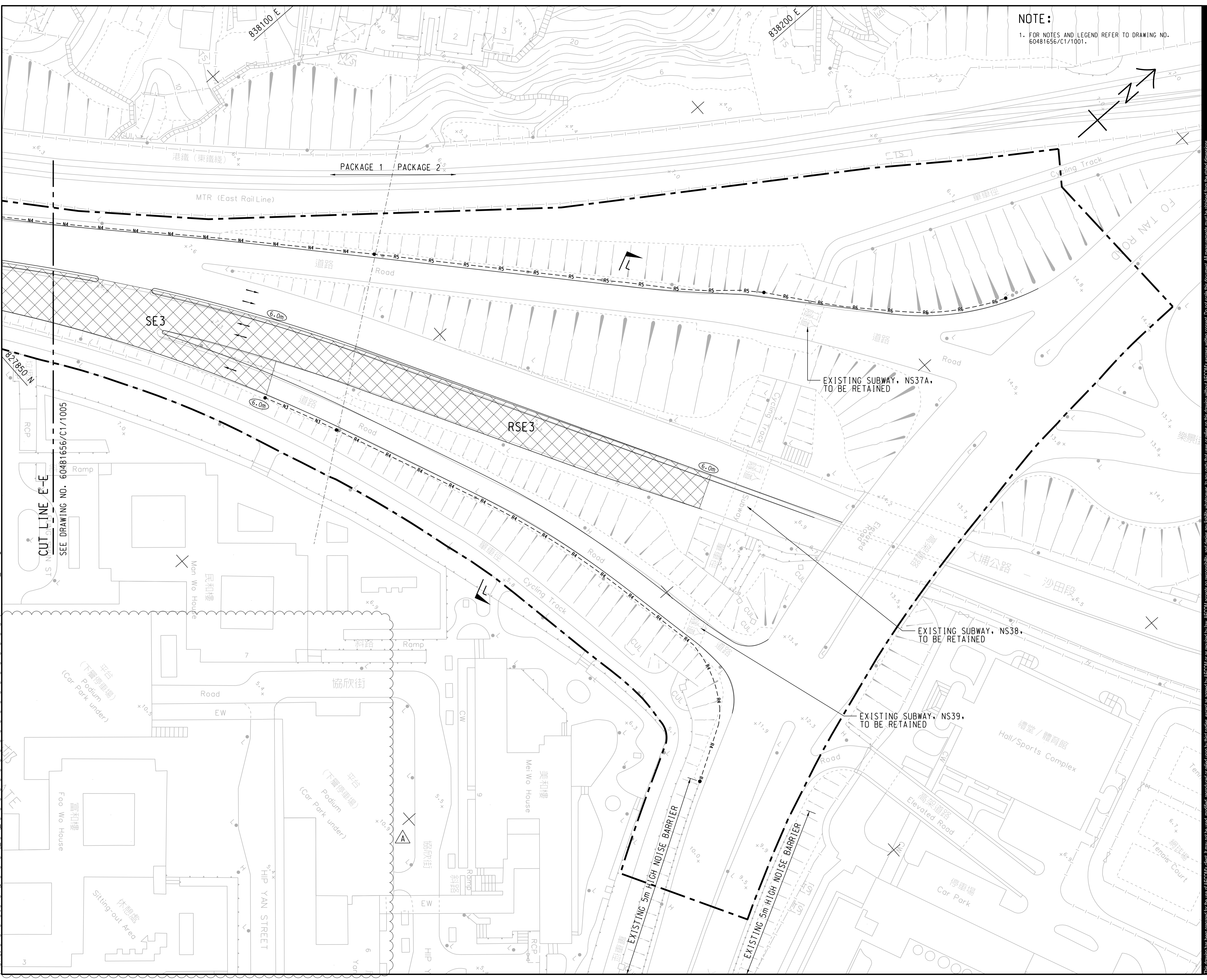
CONTRACT NO.
 合約編號
 NE/2017/05

SHEET TITLE
 圖紙名稱
 GENERAL LAYOUT PLAN
 FIGURE 1.1b

SHEET NUMBER
 圖紙編號
 60481656/C1/1005

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, for any party that uses or relies on this drawing without AECOM's express written consent. All measurements must be obtained from the stated dimensions.

Plot File by: aecom\p06103\1\$ 2/22/2018
 P:\A\H\p\160481656\C1\1006.dgn
 Project Management Initials: Designer: FMSC Checked: BCC Approved: CWN
 ISO A1 594mm x 841mm
 CNY



NOTE:
1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60481656/C1/1001.



PROJECT
項目

ROAD WIDENING AND RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)

CLIENT
業主



CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

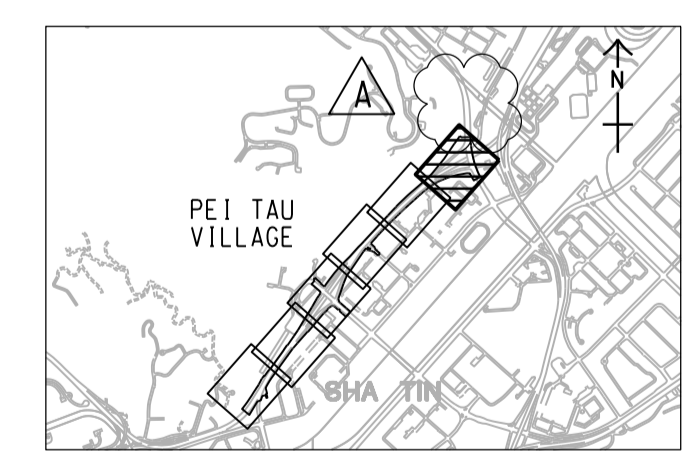
I/R	DATE	DESCRIPTION	CHK.
A	FEB. 18	TENDER ADDENDUM NO.2	BCC
-	JAN. 18	TENDER DRAWING	BCC

STATUS
階段

SCALE
比例
A1 1:500

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN A1 1:40000
索引圖



CONTRACT NO.
合約編號
NE/2017/05

SHEET TITLE
圖紙名稱
GENERAL LAYOUT PLAN
FIGURE 1.1b

SHEET NUMBER
圖紙編號
60481656/C1/1006A

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and disclaims any liability whatsoever, for any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

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



Figure 2a

Air Monitoring Locations

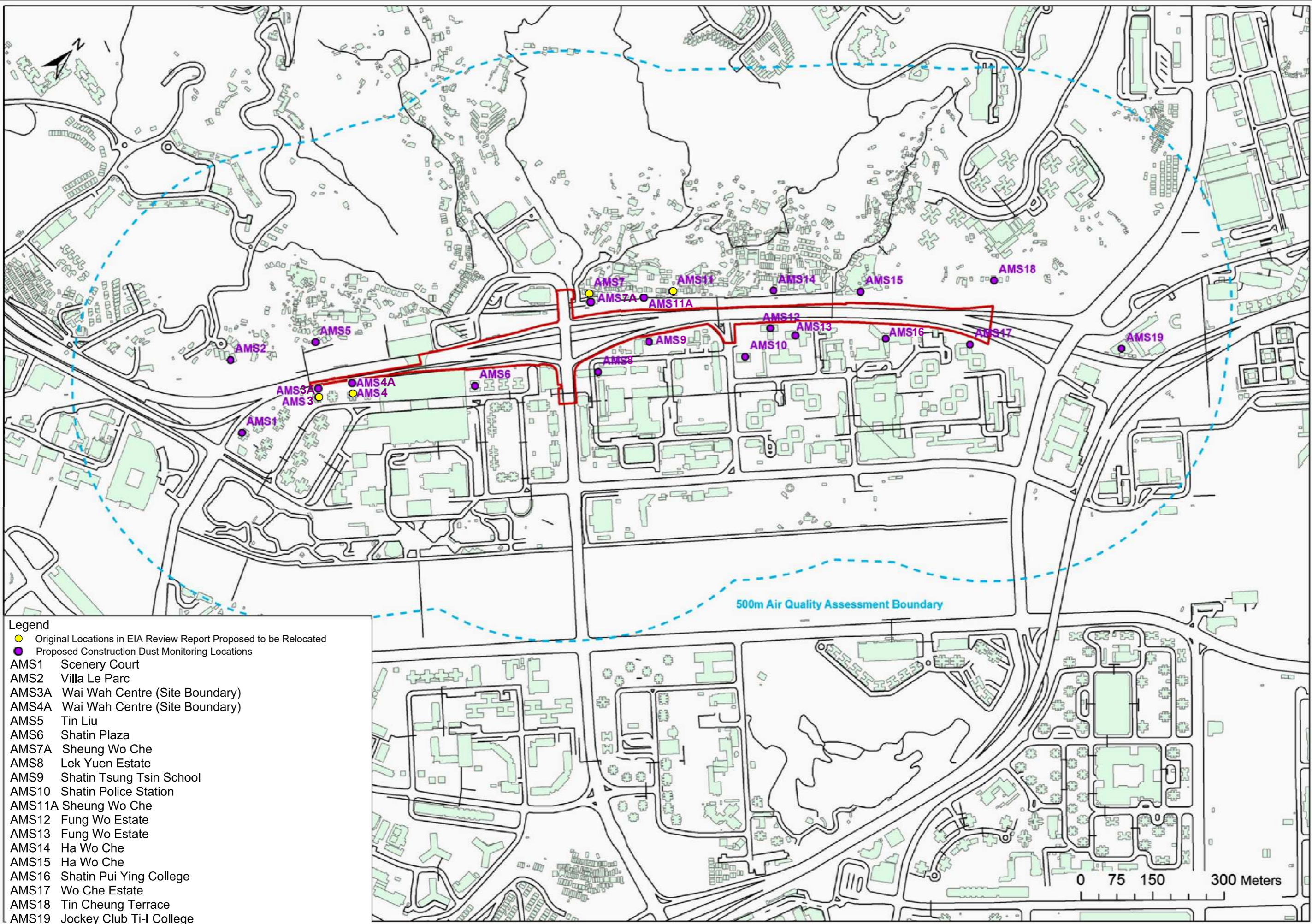


Figure 2a Air Quality Monitoring Locations

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



Figure 2b

Noise Monitoring Locations

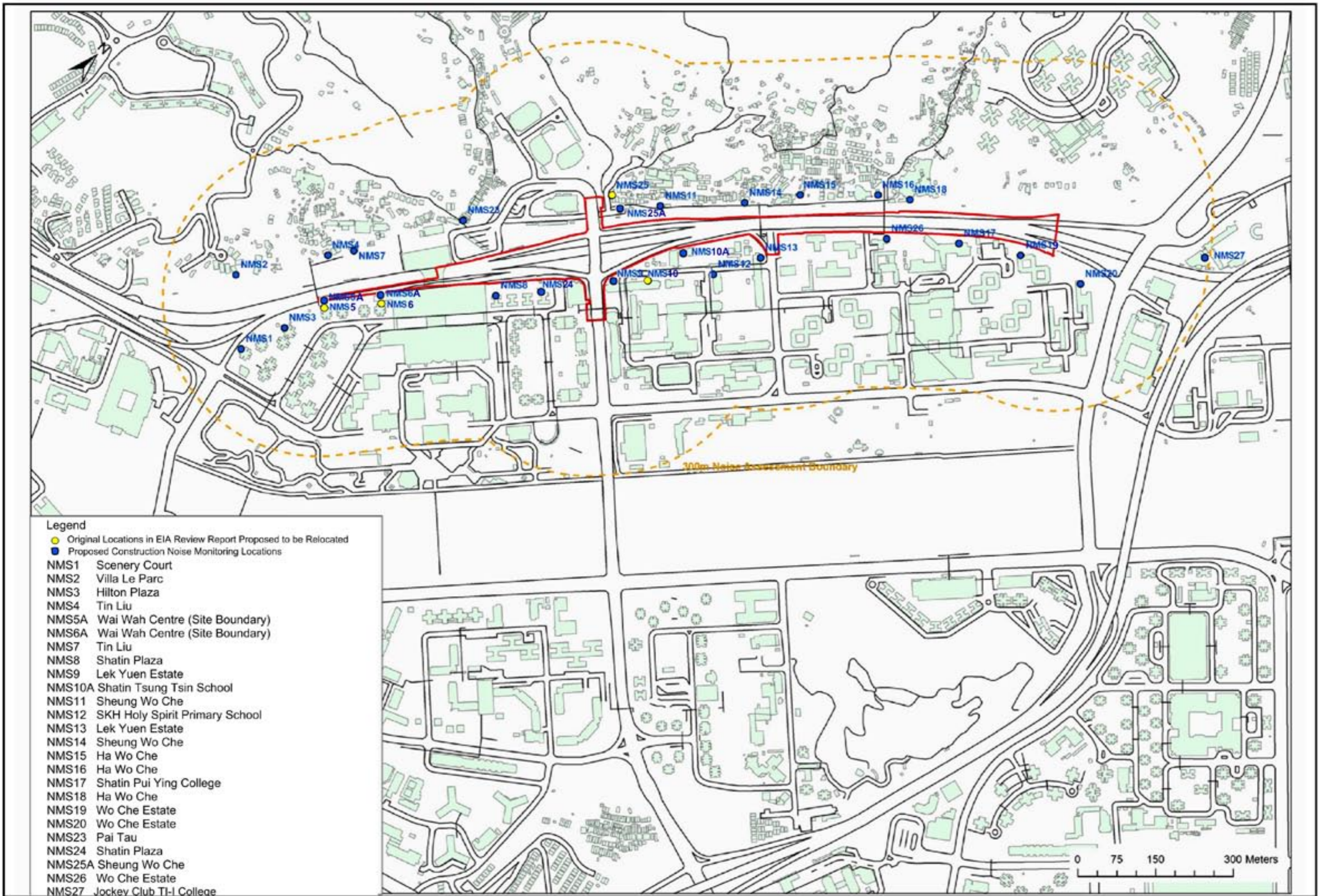


Figure 2b Noise Monitoring Locations

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 A

Construction Programme



13-May-20

Activity ID	Activity Name	Original Duration	Remaining Duration	3MFRP Start	3MFRP Finish	AP88 Start	AP88 Finish
Contract NE/2017/05 Road Widening and Retrofitting Noise Barriers on Tai Po Road 03_20							
PRELIMINARIES & GENERAL REQUIREMENT							
GENERAL SUBMISSION							
SUB1343	TCSS Configuration Management	0	0	30-Apr-20*			30-Nov-19
SUB1347	Lit Installation - Design Data	0	0	30-Apr-20*			30-Nov-19
SUB1403	ITP's for Lighting Luminaires and System	0	0	30-Apr-20*			30-Nov-19
SUB1405	All Lighting Designs	0	0	30-Apr-20*			30-Nov-19
SUB1410	Combined Services Drawings (CSD)	0	0	30-Apr-20*			30-Nov-19
DESIGN SUBMISSION							
STRICT INTERCHANGE MODIFICATION WORKS (Alternative Design)							
DES1070	PM Consent for Construction	28	1	06-Nov-18 A	30-Apr-20	20-Feb-19	19-Mar-19
DES1150	PM Consent for Construction	28	17	03-May-19 A	15-May-20	31-Jul-19	27-Aug-19
NOISE MITIGATION MEASURES							
DES1230	PM Consent for Construction	28	3	02-Jan-19 A	02-May-20	31-Jan-19	27-Feb-19
DES1250	PM review & comment	28	14	12-Jul-19 A	13-May-20	01-Sep-19	29-Sep-19
DES1260	Re-submit Foundation Design of Noise Mitigation Measures in Zone 3 w/Design Certificate	23	23	15-May-20	06-Jun-20	15-Dec-19	06-Jan-20
DES1270	PM Consent for Construction	28	28	07-Jun-20	04-Jul-20	07-Jan-20	03-Feb-20
DES1290	PM review & comment	28	14	07-Aug-19 A	13-May-20	31-Aug-19	27-Sep-19
DES1300	Re-submit Superstructure Design of Noise Mitigation Measures in Zone 1 & 2 w/Design Certificate	20	20	15-May-20	03-Jun-20	20-Dec-19	09-Jan-20
DES1310	PM Consent for Construction	28	28	04-Jun-20	01-Jul-20	09-Jan-20	06-Feb-20
DES1330	PM review & comment	28	20	07-Aug-19 A	19-May-20	31-Aug-19	27-Sep-19
DES1340	Re-submit Superstructure Design of Noise Mitigation Measures in Zone 3 w/Design Certificate	21	21	20-May-20	10-Jun-20	20-Dec-19	10-Jan-20
DES1350	PM Consent for Construction	28	28	10-Jun-20	06-Jul-20	10-Jan-20	07-Feb-20
DES1370	PM review & comment	28	20	07-Aug-19 A	19-May-20	31-Aug-19	27-Sep-19
DES1380	Re-submit Superstructure Design of Noise Mitigation Measures in Zone 4 & 5 w/Design Certificate	20	20	20-May-20	09-Jun-20	20-Dec-19	09-Jan-20
DES1390	PM Consent for Construction	28	28	09-Jun-20	07-Jul-20	09-Jan-20	06-Feb-20
REMAINING WORKS							
DES1470	PM Consent for Construction	28	11	11-Mar-19 A	11-May-20	31-Jul-19	27-Aug-19
DES1480	Prepare & submit Foundation Design of Pedestrian Lift 1 & 2, Lift 2 Staircase, Cycle Track, Ramp & Sign Gantry w/Design C	21	2	26-Nov-18 A	02-May-20	31-Dec-19	20-Jan-20
DES1490	PM review & comment	28	24	25-Jan-19 A	25-May-20	04-Aug-19	01-Sep-19
DES1500	Re-submit Foundation Design of Pedestrian Lift 1 & 2, Lift 2 Staircase, Cycle Track, Ramp & Sign Gantry w/Design Certificate	35	35	26-May-20	30-Jun-20	27-Dec-19	31-Jan-20
DES1510	PM Consent for Construction	28	28	30-Jun-20	29-Jul-20	31-Jan-20	28-Feb-20
DES1520	PM review & comment	28	1	02-Jan-19 A	30-Apr-20	31-Jan-19	27-Feb-19
DES1540	Re-submit Design of Watermain & Irrigation System w/Design Certificate	32	1	02-Jan-19 A	30-Apr-20	02-Apr-19	03-May-19
DES1560	Prepare & submit Design of EAM System (EAM & Road Lighting) w/Design Certificate	35	35	30-Apr-20	03-Jun-20	30-Nov-19	03-Jan-20
DES1570	PM review & comment	28	28	04-Jun-20	01-Jul-20	04-Jan-20	31-Jan-20
DES1580	Re-submit Design of EAM System (EAM & Road Lighting) w/Design Certificate	32	32	03-Jul-20	03-Aug-20	02-Feb-20	04-Mar-20
SUBLETTING & PROCUREMENT SCHEDULE							
SUBLETTING							
SPS1000	Maintenance of Traffic Flow	30	30	30-Apr-20	29-May-20	01-Dec-19	30-Dec-19
SPS1030	Hoarding and Signboard	30	30	30-Apr-20	29-May-20	30-Nov-19	29-Dec-19
SPS1060	Security System of the Site	30	30	30-Apr-20	29-May-20	30-Nov-19	29-Dec-19
SPS1140	Site Clearance and Demolition Work	30	30	13-May-20	12-Jun-20	31-Dec-19	29-Jan-20

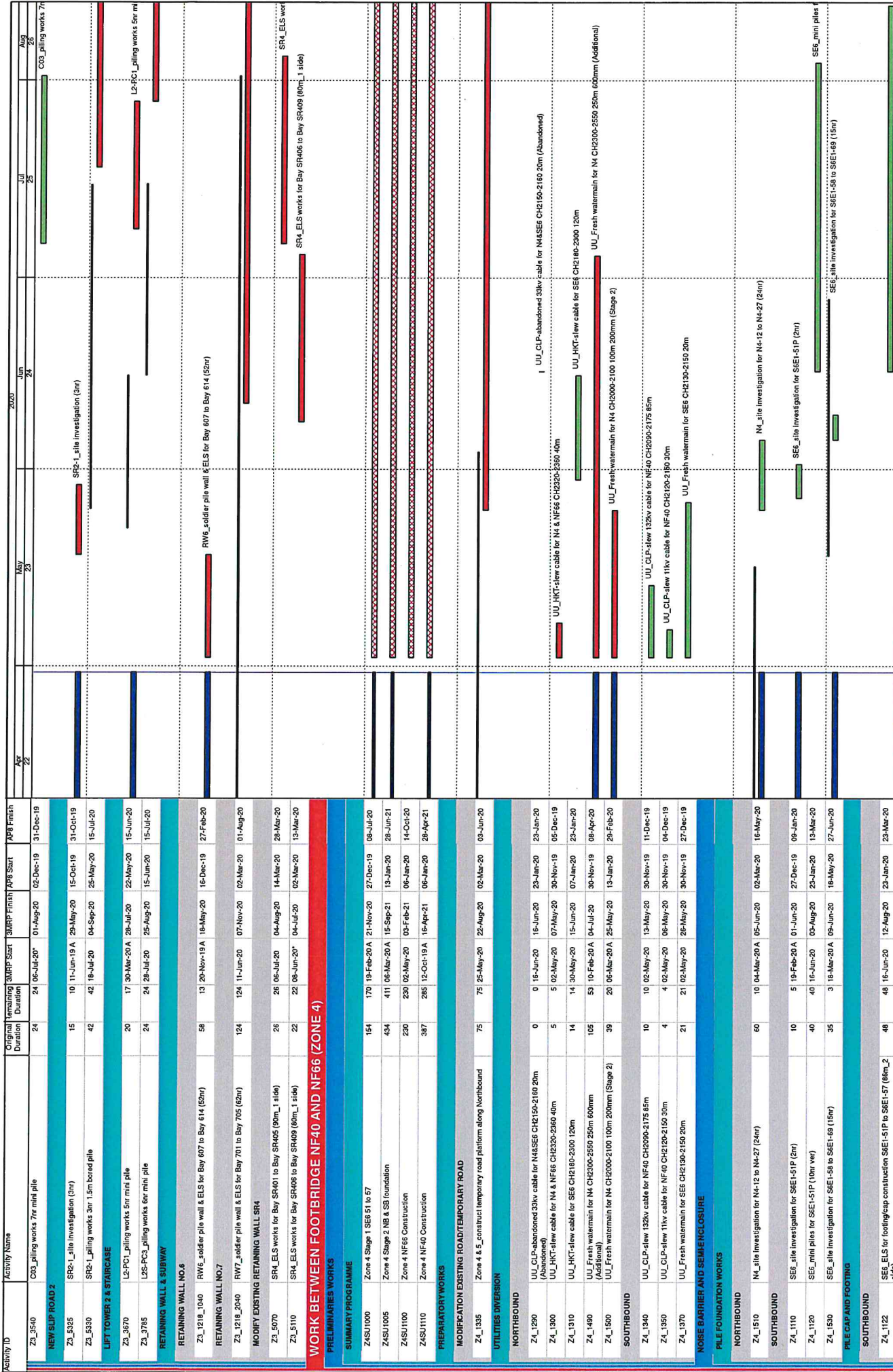
<p>Actual Level of Effort</p> <p>Remaining Level of Effort</p> <p>Primary Baseline</p>	<p>Actual Work</p> <p>Remaining Work</p> <p>Critical Remaining Work</p>	<p>Milestone</p> <p>Baseline Milestone</p>	<p>ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)</p> <p>3 Months Rolling Programme (30/04/20)</p> <p>Page 1 of 6</p>
--	---	--	---

Date	Revision	Checked	Approved
11-May-20	3MFRP DWP 2004	Tim	

Activity ID	Activity Name	Original Duration	3MRP Start	3MRP Finish	APB Start	APB Finish	Apr 22	May 23	Jun 24	Jul 25	Aug 26
SPS160	Monitoring and Instrumentation	30	13-May-20	12-Jun-20	30-Jun-20	28-Feb-20					
SPS1210	Drainage (PC pipe, manhole & gully) and Duct	30	01-May-20	30-May-20	30-Nov-19	29-Dec-19					
SPS1220	CCTV for Drainage Pipe	30	31-Mar-20A	17-May-20	30-Nov-19	29-Dec-19					
SPS1290	Steelwork for NB and Lift Tower	30	27-Mar-20A	30-May-20	30-Nov-19	29-Dec-19					
SPS1000	Traffic Sign, Sign gantry and Road Sign	30	30-Apr-20	29-May-20	30-Nov-19	29-Dec-19					
SPS1310	Bearing and Movement Joint	30	31-Dec-19A	14-May-20	30-Nov-19	29-Dec-19					
SPS1320	Tendon Works	30	25-Mar-20A	14-May-20	30-Nov-19	29-Dec-19					
SPS1340	Earthworks and Stopworks	30	30-Apr-20	29-May-20	30-Nov-19	29-Dec-19					
SPS1350	Landscaping and Tree Felling	30	30-Apr-20	29-May-20	30-Nov-19	29-Dec-19					
SPS1360	Irrigation System	30	30-Apr-20	29-May-20	30-Nov-19	29-Dec-19					
SPS1410	Pedestrian Lift (Lift Cars, E.M., Panel, Louvre & Signature)	30	28-Jul-20	27-Aug-20	30-Mar-20	18-Apr-20					
SPS1420	Lighting System for Noise Mitigation Measures	30	01-May-20	30-May-20	30-Nov-19	29-Dec-19					
SPS1430	Panels for Noise Mitigation Measures	30	12-Mar-20A	20-Jul-20	21-Apr-20	20-May-20					
SPS1440	Drainage for Noise Mitigation Measures	30	01-May-20	30-May-20	30-Nov-19	29-Dec-19					
SPS1460	Waterproofing (Bitumen Paint)	30	30-Apr-20	29-May-20	27-Dec-19	25-Jan-20					
WORK BETWEEN SHING MUN TUNNELS ROAD AND FOOT BRIDGE NF71A (ZONE 1)											
PRELIMINARY WORKS											
SUMMARY PROGRAMME											
ZISU1020	Zone 1 Stage 1 RSEI CM foundation	328	28-Dec-19A	06-Jan-21	30-Nov-19	06-Jan-21					
ZISU1032	Zone 1 Stage 1 R1 structure R1-01 to 08	290	29-May-20	22-May-21	30-Dec-19	05-Dec-20					
ZISU1034	Zone 1 Stage 1 R1 structure R2	435	20-Feb-20A	02-Dec-21	06-Feb-20	28-Jun-21					
UTILITIES DIVERSION											
NORTHBOUND											
ZL_1400	UU_Fresh watermain for R1 CH1225-1275 50m 150PE	31	19-Mar-20A	19-Aug-21	07-Jul-21	11-Aug-21					
CENTRAL BARRIER											
ZL_1300	UU_CJP-abandoned 33kv cable for RSEI CH1190-1300 110m	20	20-May-20	12-Jun-20	20-Dec-19	15-Jan-20					
NOISE BARRIER AND SEMI ENCLOSURE											
PILE FOUNDATION WORKS											
NORTHBOUND											
ZL_1510	R1_site investigation for R1-02P (1nr)	5	05-May-20	11-May-20	31-Jan-20	05-Feb-20					
CENTRAL BARRIER											
ZL_1500	RSEI_mini piles for RSEI-01P to 03P (22nr ver)	55	07-Mar-20A	12-Jun-20	04-Jan-20	11-Mar-20					
SOUTHBOUND											
ZL_1050	R2_site investigation for R2-02P to 06P (6nr)	25	20-Feb-20A	05-May-20	06-Feb-20	05-Mar-20					
PILE CAP AND FOOTING											
CENTRAL BARRIER											
ZL_1130	RSEI_ELS for footing construction RSEI-01 to RSEI-07 (83m_2 side)	46	12-Jun-20	07-Aug-20	30-Mar-20	28-May-20					
ZL_1147	RSEI_footing/cap construction RSEI-01P to RSEI-05 (5nr)	105	11-Jul-20	14-Nov-20	02-May-20	03-Sep-20					
ROADWORKS AND REMAINING WORKS											
GEOTECHNICAL WORKS											
NORTHBOUND											
ZL_1320	Zone 1_fill replacement by no-line concrete 75W-DIFF 155 (open excavation) NB_R1	52	23-May-20*	31-Jul-20	30-Dec-19	03-Mar-20					
WORK BETWEEN FOOT BRIDGE NF71A AND CITYLINE PLAZA (ZONE 2)											
PRELIMINARY WORKS											
SUMMARY PROGRAMME											
ZSSU1000	Construction Zone 2_Stage 1 RSEZ CM foundation	594	10-Jul-19A	24-Aug-21	06-Aug-19	10-Aug-21					
NOISE BARRIER AND SEMI ENCLOSURE											

ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)		Date	Revision	Checked	Approved
3 Months Rolling Programme (30/04/20)		11-May-20	3MRP DWP 2004	Tim	

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	AP8 Start	AP8 Finish
PILE FOUNDATION WORKS							
CENTRAL BARRIER							
Z2_1010	RSE2_mini piles for RSE2-01P, 03P to 15P (67m raking, 59m ver)	195	137	17-Jan-20	24-Nov-20	12-Mar-20	06-Nov-20
WORK BETWEEN CITYLINE PLAZA AND FOOTBRIDGE NF-40 (ZONE 3)							
PRELIMINARY WORKS							
SUMMARY PROGRAMME							
Z3SU5000	Zone 3a (TPR area) Stage 1 RW6, RW7 & SR4	354	363	20-Nov-19 A	21-Jun-21	02-Sep-19	10-Nov-20
Z3SU5030	Zone 3b (near SR6) Stage 1 Construct N263 & N264 foundation	393	327	20-May-19 A	07-Jun-21	31-Jul-19	23-Nov-20
Z3SU5040	Zone 3b (SB near SR6) Stage 1 Construct UJT Tower 2	256	378	30-Mar-20 A	09-Aug-21	29-May-20	30-Mar-21
Z3SU5050	Zone 3b (near SR6) Stage 1 SE5, SE6, SR6 foundation and N262	323	460	21-Feb-20 A	15-Nov-21	30-Nov-19	11-Feb-21
Z3SU5100	Zone 3c (near SR3) Stage 1 construct NS30, RW1, SR2 foundation & RW3	311	645	11-Jun-19 A	04-Jul-22	16-Sep-19	30-Sep-20
UTILITIES DIVERSION							
SOUTHBOUND							
Z3_2600	UU_CUP-abandoned 33kv cable for SE5 & SE6 CH2090-2175 85m	17	17	07-May-20	26-May-20	05-Dec-19	27-Dec-19
NOISE BARRIER AND SEMI-ENCLOSURE							
PILE FOUNDATION WORKS							
SOUTHBOUND							
Z3_1522	SE1-6_site investigation for STE5-51 (1m)	5	5	12-Jun-20	17-Jun-20	24-Feb-20	29-Feb-20
Z3_1530	SE1-6_site investigation for STE6-51P (1m)	5	5	18-Jun-20	23-Jun-20	29-Feb-20	06-Mar-20
Z3_5640	SE2_mini piles for SE1-52P (12m raking, 11m ver)	58	55	23-Mar-20 A	08-Jul-20	09-Mar-20	22-May-20
BRIDGE AND STRUCTURE WORKS							
PRELIMINARY WORKS							
UTILITIES DIVERSION							
NORTHBOUND							
Z3_2920	UU_HKT-diversion cable for RW7 CH1830-2000 170m	34	34	02-May-20	10-Jun-20	18-Jun-20	29-Feb-20
Z3_2930	UU_CUP-abandoned 11kv cable for RW7 & SR4 CH1825-1950 125m	22	22	13-May-20	06-Jun-20	05-Feb-20	29-Feb-20
Z3_3130	UU_Fresh watermain for SR4 178m 200mm (Stage 1a)	30	8	22-Jul-19 A	11-May-20	31-Oct-19	04-Dec-19
SOUTHBOUND							
Z3_2970	UU_HKT-new cable for RW1 & SR3 CH1450-2300 850m	127	127	02-May-20	29-Sep-20	30-Nov-19	09-May-20
Z3_3100	UU_HKGN-new cable for N262 CH1800-1810 10m	1	1	04-Jul-20	04-Jul-20	30-Nov-19	30-Nov-19
Z3_5322	UU_Watermain-diversion, 400mm pipe for SAW1 (Additional)	28	28	11-May-20*	11-Jun-20		
Z3_5680	UU_Construct combine UU trough between cycle track and RW1 Stage 1	75	75	22-Jun-20*	18-Sep-20	30-Nov-19	14-Feb-20
MODIFICATION OF BRIDGE N263							
RECONSTRUCTION ABUTMENT WALL AT NHA							
Z3_4110	NAW-1_construct ELS & piling platform	21	21	18-May-20	11-Jun-20	17-Jan-20	09-Mar-20
Z3_4120	NAW-1_piling works for new NHA wall (23m socket H-pile)	92	92	11-Jun-20	29-Sep-20	10-Mar-20	22-Sep-20
Z3_4160	NAW-2_piling works for new NHA wall (16m socket H-pile)	80	11	09-Feb-20 A	15-May-20	30-Dec-19	19-May-20
Z3_4170	NAW-2_pile testing	14	14	15-May-20	29-May-20	20-May-20	02-Jun-20
Z3_4180	NAW-2_pile cap construction	35	35	29-May-20	11-Jul-20	02-Jun-20	15-Jul-20
Z3_4190	NAW-2_construct new abutment wall (North side)	60	60	11-Jul-20	19-Sep-20	31-Jul-20	10-Oct-20
MODIFICATION EXISTING PIER WALL OF N263							
Z3_3870	SAW-1_piling works for new south abutment wall (3tr 1.5m bored)	42	42	28-May-20	17-Jul-20	30-Mar-20	25-May-20
Z3_3980	SAW-1_pile testing	28	28	18-Jul-20	14-Aug-20	26-May-20	22-Jun-20
MODIFICATION EXISTING SOUTH HOLLOW ABUTMENT WALL							
Z3_4039	SHW_TTA divert existing staircase user to cycle ramp	0	0	06-Jul-20*			
Z3_4040	SHW_demolish of existing staircase & curved side wall	55	55	06-Jul-20	07-Sep-20	30-Mar-21	15-May-21
MODIFICATION OF BRIDGE N262							
ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)							
3 Months Rolling Programme (30/04/20)							
				Date	Revision	Checked	Approved
				11-May-20	3MRP DWP-2004	Tim	



Activity ID	Activity Name	Original Duration	Remaining Duration	3MWP Start	3MWP Finish	AP8 Start	AP8 Finish	AP8 Start	AP8 Finish
Z3_3540	C03_piling works 7m mini pile	24	24	05-Jul-20*	01-Aug-20	02-Dec-19	31-Dec-19		
NEW SLIP ROAD 2									
Z3_5325	SR2_1_site investigation (3m)	15	10	11-Jun-19A	29-May-20	15-Oct-19	31-Oct-19		
Z3_5330	SR2_1_piling works 3m 1.5m bore pile	42	42	18-Jul-20	04-Sep-20	25-May-20	15-Jul-20		
LIFT TOWER 2 & STAIRCASE									
Z3_3670	L2-PC1_piling works 5m mini pile	20	17	30-Mar-20A	28-Jul-20	22-May-20	15-Jun-20		
Z3_3785	L2-PC3_piling works 6m mini pile	24	24	28-Jul-20	25-Aug-20	15-Jun-20	15-Jul-20		
RETAINING WALL & SUBWAY									
RETAINING WALL NO.6									
Z3_1218_1040	RW6_solder pile wall & ELS for Bay 607 to Bay 614 (52m)	58	13	20-Nov-19A	18-May-20	16-Dec-19	27-Feb-20		
RETAINING WALL NO.7									
Z3_1218_2040	RW7_solder pile wall & ELS for Bay 701 to Bay 705 (62m)	124	124	11-Jun-20	07-Nov-20	02-Mar-20	01-Aug-20		
MODIFY EXISTING RETAINING WALL SR4									
Z3_5070	SR4_ELS works for Bay SR401 to Bay SR405 (60m_1 side)	26	26	06-Jul-20	04-Aug-20	14-Mar-20	28-Mar-20		
Z3_5110	SR4_ELS works for Bay SR406 to Bay SR409 (60m_1 side)	22	22	08-Jun-20*	04-Jul-20	02-Mar-20	13-Mar-20		
WORK BETWEEN FOOTBRIDGE NF40 AND NF66 (ZONE 4)									
PRELIMINARY WORKS									
SUMMARY PROGRAMME									
ZASU1000	Zone 4 Stage 1 SE6 81 to 57	154	170	19-Feb-20A	21-Nov-20	27-Dec-19	08-Jul-20		
ZASU1005	Zone 4 Stage 2 NB & SB foundation	434	411	06-Mar-20A	15-Sep-21	13-Jan-20	28-Jun-21		
ZASU1100	Zone 4 NF66 Construction	230	230	02-May-20	03-Feb-21	06-Jan-20	14-Oct-20		
ZASU1110	Zone 4 NF40 Construction	387	285	12-Oct-19A	16-Apr-21	06-Jan-20	26-Apr-21		
PREPARATORY WORKS									
MODIFICATION EXISTING ROAD/TEMPORARY ROAD									
Z4_1335	Zone 4 & 5_construct temporary road platform along Northbound	75	75	25-May-20	22-Aug-20	02-Mar-20	03-Jun-20		
UTILITIES DIVERSION									
NORTHBOUND									
Z4_1290	UU_CLP_abandoned 33kv cable for N4&SE6 CH2190-2160 20m (Abandoned)	0	0	16-Jun-20	16-Jun-20	29-Jun-20	23-Jan-20		
Z4_1300	UU_HKT-slew cable for N4 & NF66 CH2320-2360 40m	5	5	02-May-20	07-May-20	30-Nov-19	05-Dec-19		
Z4_1310	UU_HKT-slew cable for SE6 CH2180-2300 120m	14	14	30-May-20	15-Jun-20	07-Jan-20	23-Jan-20		
Z4_1490	UU_Fresh watermain for N4 CH2300-2550 250m 600mm (Additional)	105	53	10-Feb-20A	04-Jul-20	30-Nov-19	08-Apr-20		
Z4_1500	UU_Fresh watermain for N4 CH2600-2100 100m 200mm (Stage 2)	39	20	06-Mar-20A	25-May-20	19-Jan-20	29-Feb-20		
SOUTHBOUND									
Z4_1340	UU_CLP-slew 132kv cable for NF40 CH0990-2175 85m	10	10	02-May-20	13-May-20	30-Nov-19	11-Dec-19		
Z4_1350	UU_CLP-slew 11kv cable for NF40 CH2120-2150 30m	4	4	02-May-20	06-May-20	30-Nov-19	04-Dec-19		
Z4_1370	UU_Fresh watermain for SE6 CH2130-2150 20m	21	21	02-May-20	26-May-20	30-Nov-19	27-Dec-19		
NOISE BARRIER AND SEMI ENCLOSURE									
PILE FOUNDATION WORKS									
NORTHBOUND									
Z4_1510	N4_site investigation for N4-12 to N4-27 (24m)	60	10	04-Mar-20A	05-Jun-20	02-Mar-20	16-May-20		
SOUTHBOUND									
Z4_1110	SE6_site investigation for SE61-51P (2m)	10	5	19-Feb-20A	01-Jun-20	27-Dec-19	09-Jan-20		
Z4_1120	SE6_mini piles for SE61-51P (10m ver)	40	40	15-Jun-20	03-Aug-20	23-Jan-20	13-Mar-20		
Z4_1530	SE6_site investigation for SE61-56 to SE61-68 (15m)	35	3	18-Mar-20A	09-Jun-20	16-May-20	27-Jun-20		
PILE CAP AND FOOTING									
SOUTHBOUND									
Z4_1122	SE6_ELS for footing/cap construction SE61-51P to SE61-57 (6m_2 side)	48	48	16-Jun-20	12-Aug-20	23-Jan-20	23-Mar-20		

ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)
3 Months Rolling Programme (30/04/20)

Page 4 of 6

Legend:

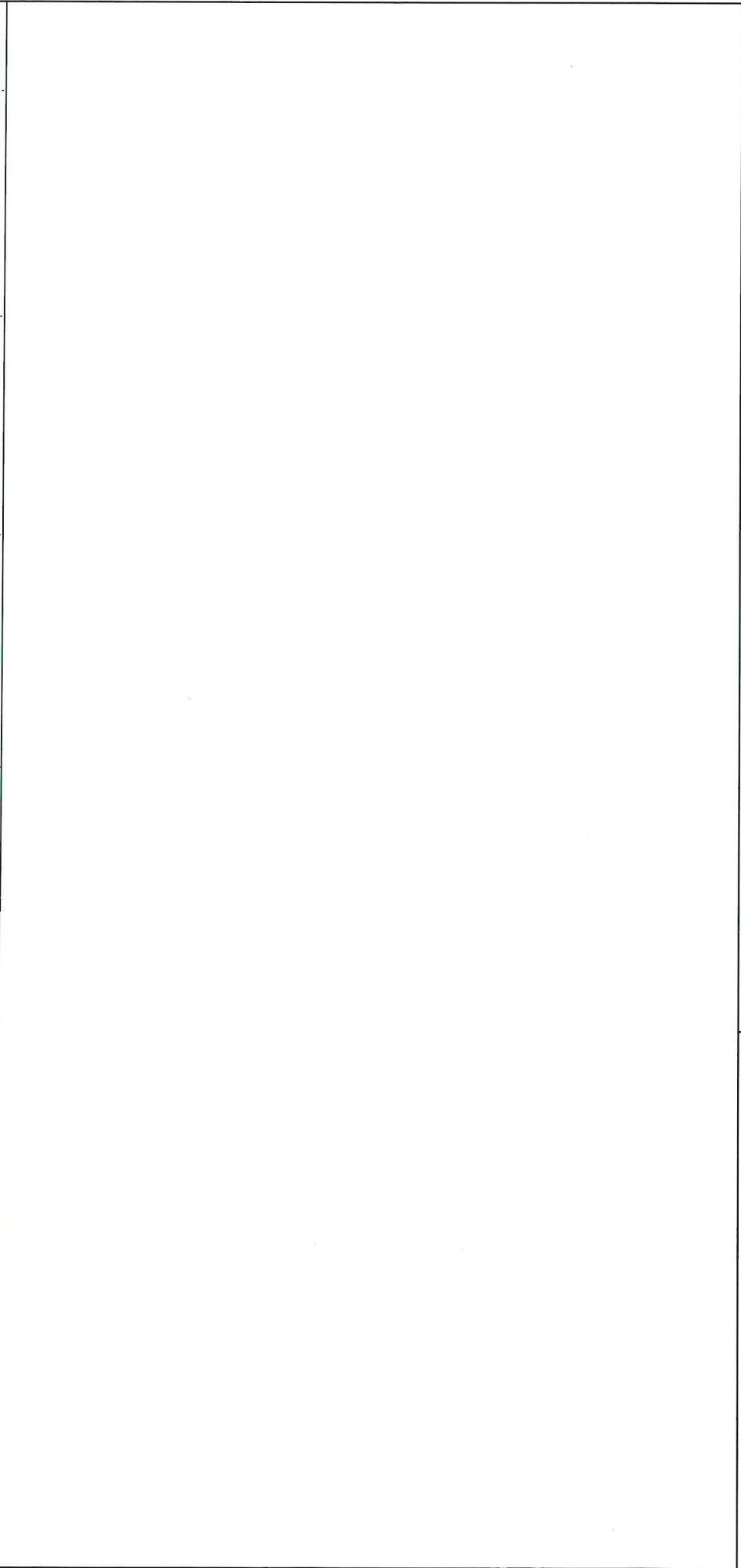
- Remaining Level of Effort
- Actual Level of Effort
- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- Baseline Milestone

Approval Table:

Date	Revision	Checked	Approved
11-May-20	3MWP DWP 2004	Ttm	

Activity ID	Activity Name	Original Duration	Remaining Duration	3MPP Start	3MPP Finish	APB Start	APB Finish
BRIDGE AND STRUCTURE WORKS							
MODIFICATION WORKS FOR NF40							
NF40_1000	Construct new staircase	120	18	12-Oct-19A	22-May-20	06-Jan-20	03-Jun-20
NF40_1010	Demolish existing staircase	45	45	23-May-20	16-Jul-20	14-Mar-20	12-May-20
NF40_1080	Construct pile cap & part of new column	60	60	17-Jul-20	24-Sep-20	13-May-20	23-Jul-20
MODIFICATION WORKS FOR NF66							
NF66_1000	ELS & tooling construction	50	50	02-May-20*	30-Jun-20	06-Jan-20	06-Mar-20
NF66_1020	Construct the new column & columnhead	60	60	02-Jul-20	09-Sep-20	07-Mar-20	22-May-20
WORK BETWEEN FOOTBRIDGE NF66 AND FO TAN ROAD (ZONE 5)							
PRELIMINARY WORKS							
SUMMARY PROGRAMME							
ZSSU1000	Zone 5 Stage 1 SE3-2 SB foundation	281	269	15-Feb-20A	24-Mar-21	30-Nov-19	23-Nov-20
ZSSU1005	Zone 5 Stage 2 NB & SB foundation	487	432	10-Feb-20A	12-Oct-21	30-Nov-19	02-Jul-21
ZSSU1007	Zone 5 Stage 2 SB slip road foundation	488	488	25-Jul-20	16-Mar-22	29-May-20	07-Jan-22
PREPARATORY WORKS							
MODIFICATION EXISTING ROAD/TEMPORARY ROAD							
Z5_1720	Zone 5-1_construct temporary road platform along Northbound	45	45	02-May-20	23-Jun-20	15-Jan-20	10-Mar-20
Z5_1730	Zone 5-1_remove existing central barrier	21	21	24-Jun-20	24-Jul-20	11-Mar-20	09-Apr-20
UTILITIES DIVERSION							
NORTHBOUND							
Z5_1610	UU_CLP-slew 132kv cable for N4 CH2500-2550 50m	6	6	06-May-20	13-May-20	14-Mar-20	20-Mar-20
Z5_1620	UU_CLP-abandoned 33kv cable for N4 CH2550-2630 100m	19	19	13-May-20	04-Jun-20	21-Mar-20	16-Apr-20
Z5_1630	UU_HGC-slew cable for N4 CH2575-2650 75m	9	9	04-Jun-20	15-Jun-20	17-Apr-20	27-Apr-20
Z5_1640	UU_NWT-slew cable for N4 CH2580-2650 70m	15	15	15-Jun-20	04-Jul-20	26-Apr-20	16-May-20
Z5_1650	UU_CLP-abandoned 33kv cable for N4 SE3 CH2640 30m	11	11	27-May-20	06-Jun-20	26-Feb-20	09-Mar-20
Z5_1670	UU_HGC-slew cable for SE3 CH2450-2525 75m	9	9	09-Jun-20	18-Jun-20	10-Mar-20	19-Mar-20
Z5_1680	UU_HKT-slew cable for SE3 CH2875-2810 135m	16	16	19-Jun-20	09-Jul-20	20-Mar-20	08-Apr-20
Z5_1690	UU_Fresh watermain for N4 CH2450-2550 63m 600mm	35	35	22-May-20	04-Jul-20	31-Mar-20	16-May-20
SOUTHBOUND							
Z5_1700	UU_HGC-slew cable for R4 CH2690-2800 110m	13	13	10-Jul-20	24-Jul-20	14-May-20	28-May-20
NOISE BARRIER AND SEMI-ENCLOSURE							
PILE FOUNDATION WORKS							
NORTHBOUND							
Z5_1010	N4_min piles for N4-23 & N4-30P (14m ver)	56	56	04-Jul-20	08-Sep-20	12-Jun-20	18-Aug-20
SOUTHBOUND							
Z5_1170	SE3_site investigation for SE1-51 to SE1-60 (32m)	60	60	25-Jul-20	29-Oct-20	09-Apr-20	18-Jul-20
Z5_2000	SE3-2_min piles for SE2-51P (8m ver)	32	32	02-May-20	08-Jun-20	28-Dec-19	07-Feb-20
SOUTHBOUND SLIP ROAD							
Z5_1290	R4_site investigation for R4-10P & 11P (8m)	15	15	25-Jul-20	11-Aug-20	29-May-20	15-Jun-20
PILE CAP AND FOOTING							
SOUTHBOUND							
Z5_1230	SE3-2_ELS for footing construction SE2-51 to SE2-60 (131m, 2 side)	74	74	02-May-20	28-Jul-20	28-Dec-19	26-Mar-20
Z5_1245	SE3-2_tooling/cap construction SE2-51 to 61P (10m)	210	210	15-Jun-20	26-Feb-21	14-Feb-20	28-Oct-20
PORTION E (ZONE 5)							
PRELIMINARY WORKS							
SUMMARY PROGRAMME							
TPR NORTHBOUND							
Apr 22	May 23	Jun 24	Jul 25	Aug 26	Date: 11-May-20 Revision: 3MPP DWP 2004 Checked: Tim Approved		

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	AP8 Start	AP8 Finish
PESU1000	Construction Zone 5 Portion E, Northbound structure	449	449	02-May-20	02-Nov-21	30-Nov-19	22-Jul-21
UTILITIES DIVERSION							
NORTHBOUND							
Z5E_1180	UU_Fresh watermain for RS & R6 CH2750-2845 115m 150mm	52	52	02-May-20	03-Jul-20	30-Nov-19	06-Feb-20
NOISE BARRIER AND SEMIENCLOSURE							
PILE FOUNDATION WORKS							
NORTHBOUND SLIP ROAD							
Z5E_1000	R6_site investigation for R6-GP (6m)	30	30	04-Jul-20	07-Aug-20	06-Feb-20	12-Mar-20
ROADWORKS AND REMAINING WORKS							
GEOTECHNICAL WORKS							
NORTHBOUND SLIP ROAD							
Z5E_1150	Zone 5 Portion E (fill replacement by no-fines concrete 75E-AF163 (open excavation))	31	31	04-Jul-20	06-Aug-20	14-Feb-20	21-Mar-20



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



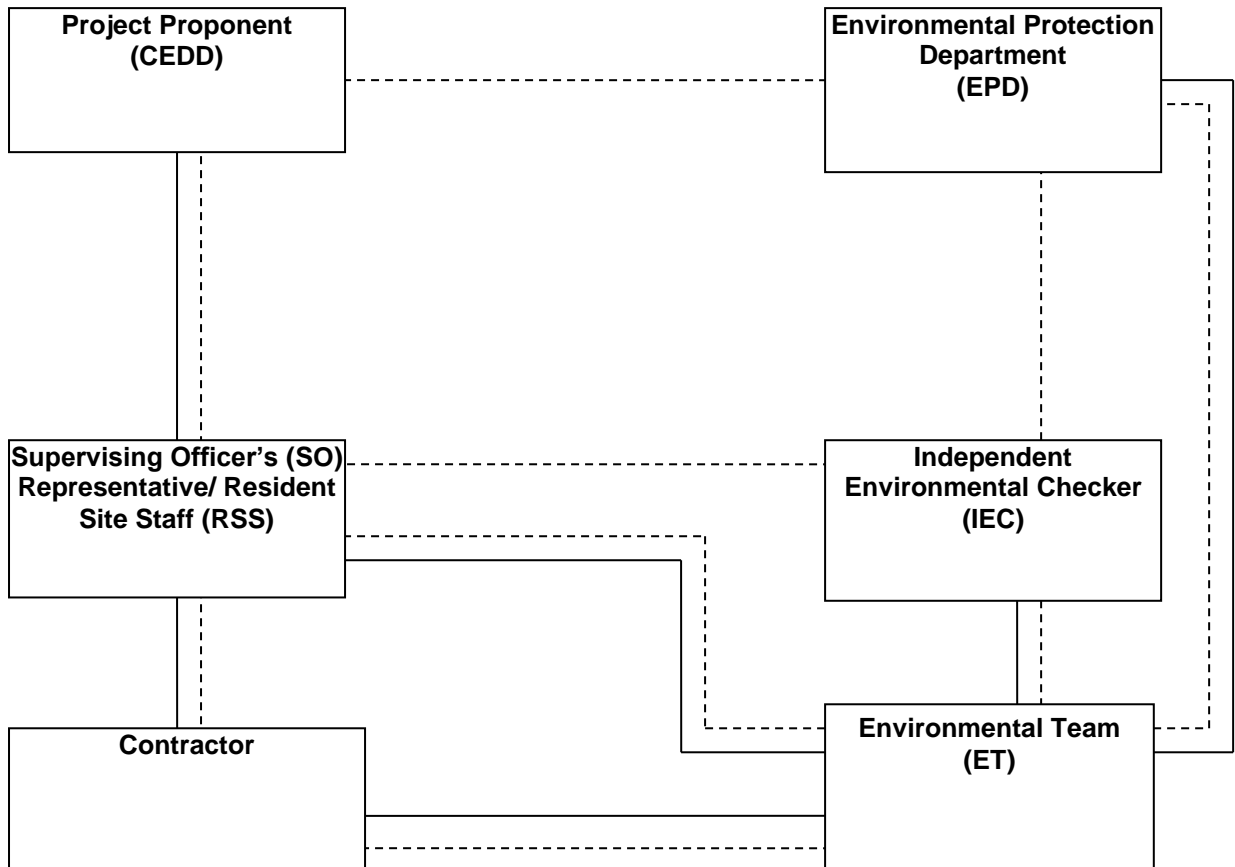
Appendix B

Project Organization Chart

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



Legend:

- Line of Reporting
- - - Line of Communication

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

Action and Limit Levels for Air Quality and Noise

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



Action and Limit Levels for 24-hr TSP and 1-hr TSP

Parameter	Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
24-hr TSP ($\mu\text{g}/\text{m}^3$)	AMS 5	156	260
	AMS 6	165	
	AMS 7A	171	
	AMS 13	174	
1-hr TSP ($\mu\text{g}/\text{m}^3$)	AMS 5	340	500
	AMS 6	347	
	AMS 7A	344	
	AMS 13	303	

Action and Limit Levels for Construction Noise, Leq (30min), dB(A)

Time Period	Location	Action	Limit
0700-1900 hrs on normal weekdays	NMS1	When one documented complaint is received	75 dB(A)
	NMS2		
	NMS3		
	NMS4		
	NMS5A		
	NMS6A		
	NMS7		
	NMS8		
	NMS9		
	NMS10A*		
	NMS11		
	NMS12*		
	NMS13		
	NMS14		
	NMS15		
	NMS16		
	NMS17*		
	NMS18		
	NMS19		
	NMS20		
NMS23			
NMS24			
NMS25A			
NMS26			
NMS27*			

* For NMS 10A, 12, 17 and 27, the Limit Level is reduced to 70 dB(A) for schools and 65 dB(A) during school examination periods.

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

Calibration Certificates of Monitoring Equipment

Report no. : 940891CA196546(4)

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor
Manufacturer : SIBATA
Model No. : LD-5R
Serial No. : 761105
Specification Limit : NA
Next Calibration Date : 05-Dec-2020

Laboratory Information

Description : Reference balance
Equipment ID. : R-039-12
Date of Calibration : 06-Dec-2019 Ambient Temperature : 22 °C
Calibration Location : Calibration Laboratory of FTS
Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m ³)	Total count for 1 hour	CPM (Count per minute)
0.0393	1260	21.00
0.0681	1519	25.32
0.0504	1327	22.12

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.002306
3. Correlation coefficient (r) : 0.9906

Checked by : Date : 17-12-2019 Certified by : K.T. Leung Date : 18-12-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

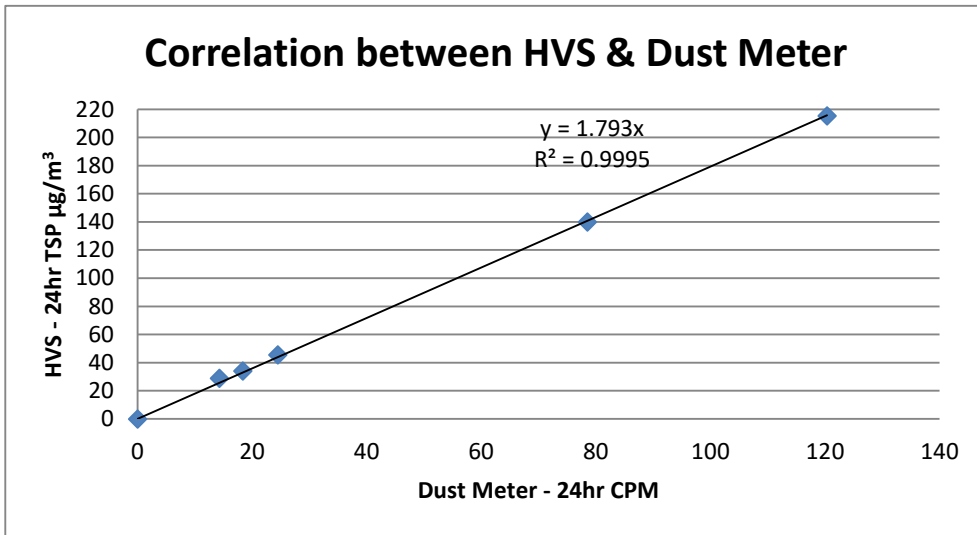
**** End of Report ****

Correlation between HVS & Dust Meter

Model: Sibata LD-5R

Serial No: 761105

HVS - 24hr TSP $\mu\text{g}/\text{m}^3$	28.99	34.06	45.57	139.89	215.48
Dust Meter - 24hr CPM	14.3	18.4	24.5	78.51	120.36



K factor = 1.793

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

MaterialLab

Report no. : 940891CA195965(4)

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor
Manufacturer : SIBATA
Model No. : LD-5R
Serial No. : 620407
Specification Limit : NA
Next Calibration Date : 11-Jul-2020

Laboratory Information

Description : Reference balance
Equipment ID. : R-053-12
Date of Calibration : 12-Jul-2019 Ambient Temperature : 22 °C
Calibration Location : Calibration Laboratory of FTS
Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m ³)	Total count for 1 hour	CPM (Count per minute)
0.0678	2058	34.30
0.0424	1276	21.27
0.0364	842	14.03

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.002106
3. Correlation coefficient (r) : 0.9840

Checked by : cmf Date : 19-7-2019 Certified by : Leung Kwok Tai Date : 20-7-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

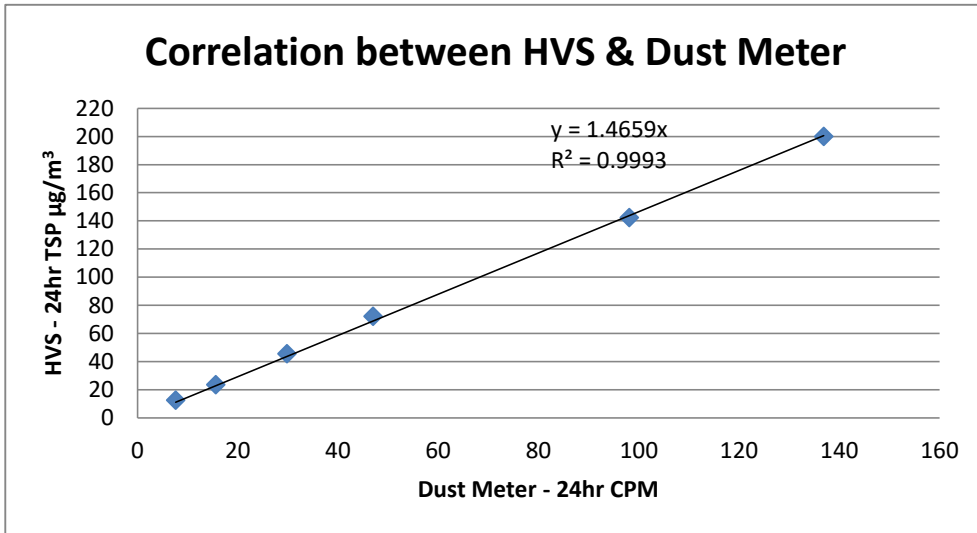
** End of Report **

Correlation between HVS & Dust Meter

Model: Sibata LD-5R

Serial No: 620407

HVS - 24hr TSP $\mu\text{g}/\text{m}^3$	12.54	23.56	45.56	72.16	142.35	200.03
Dust Meter - 24hr CPM	7.6	15.6	29.8	46.98	98.1	136.9



K factor = 1.466

Report no. : 940891CA200109

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor
 Manufacturer : SIBATA
 Model No. : LD-5R
 Serial No. : 882147
 Specification Limit : NA
 Next Calibration Date : 09-Oct-2020

Laboratory Information

Description : TSP high volume air sampler
 Serial No. : 4350
 Date of Calibration : 10-Oct-2019 Ambient Temperature : 28 °C
 Calibration Location : Ma Wan A1 Site Boundary
 Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m ³)	Total count for 1 hour	CPM (Count per minute)
0.1047	2477	41.28
0.0623	2121	35.35
0.0587	2073	34.55

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.002030
3. Correlation coefficient (r) : 0.9993

Checked by : Cenny Date : 10-2-2020 Certified by : R.T. Young Date : 10-2-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

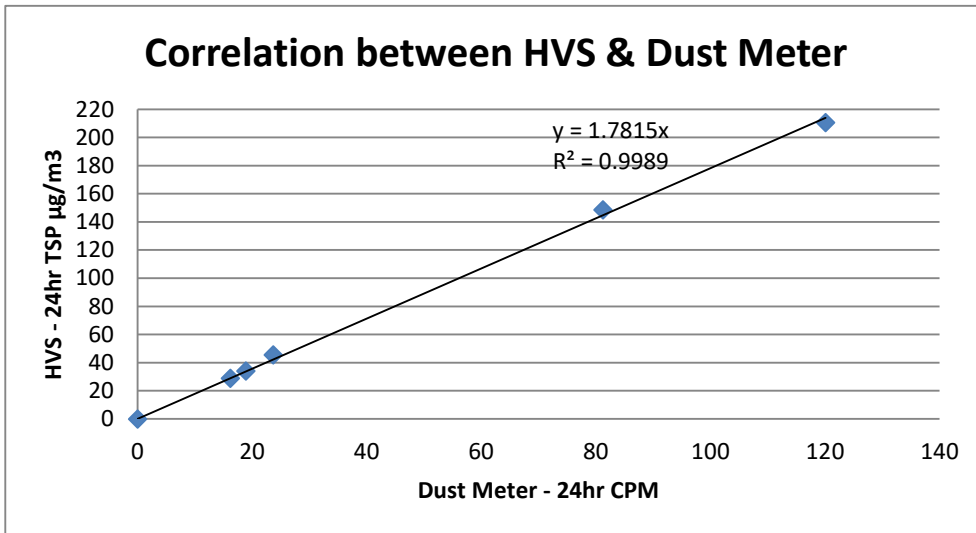
** End of Report **

Correlation between HVS & Dust Meter

Model: Sibata LD-5R

Serial No: 882147

HVS - 24hr TSP $\mu\text{g}/\text{m}^3$	28.99	34.06	45.57	148.63	210.59
Dust Meter - 24hr CPM	16.2	18.9	23.7	81.23	120.11



K factor = 1.782

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

MaterialLab

Report no. : 940891CA195965(2)

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor
Manufacturer : SIBATA
Model No. : LD-5R
Serial No. : 620480
Specification Limit : NA
Next Calibration Date : 11-Jul-2020

Laboratory Information

Description : Reference balance
Equipment ID. : R-053-12
Date of Calibration : 12-Jul-2019 Ambient Temperature : 22 °C
Calibration Location : Calibration Laboratory of FTS
Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

Reference concentration (mg/m ³)	Total count for 1 hour	CPM (Count per minute)
0.0678	2272	37.87
0.0424	1453	24.22
0.0364	1073	17.88

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.001833
3. Correlation coefficient (r) : 0.9910

Checked by : Commy Date : 19-7-2019 Certified by : K. Kwok Tai Date : 20-7-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

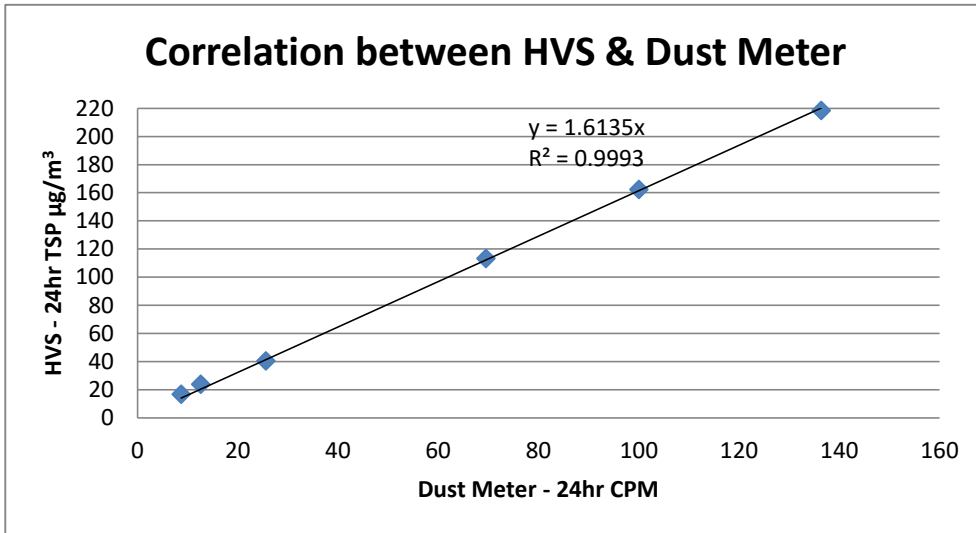
** End of Report **

Correlation between HVS & Dust Meter

Model: Sibata LD-5R

Serial No: 620480

HVS - 24hr TSP $\mu\text{g}/\text{m}^3$	16.77	23.86	40.44	113.26	162.32	218.48
Dust Meter - 24hr CPM	8.7	12.6	25.6	69.5	100.02	136.4



K factor = 1.614

Report no.: 183057CA200482(1)

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter
 Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No.	CEL-63X	CE-251	CEL-495
Serial No.	0873573	01163	004064

Equipment ID : N-43
 Next Calibration Date : 22-Mar-2021
 Specification Limit : EN 61672-1: 2003 Class 1

Laboratory Information

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)
 Equipment ID. : R-108-1
 Date of Calibration : 23-Mar-2020 Ambient Temperature : 22 °C
 Calibration Location : Calibration Laboratory of FTS
 Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	2.0	2.6 to -0.6
	2000Hz	1.5	2.8 to -0.4
	1000Hz	-0.1	1.1 to -1.1
	500Hz	-3.6	-1.8 to -4.6
	250Hz	-8.9	-7.2 to -10.0
	125Hz	-16.3	-14.6 to -17.6
	63Hz	-26.4	-24.7 to -27.7
	31.5Hz	-39.4	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.1	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighing is fast
4. The equipment does comply with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Any uncertainties quoted will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 27-3-2020 Certified by : K.T. Leung Date : 27-3-2020
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

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

MaterialLab

Report no.: 183057CA196305(2)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Address : Room 723 & 725, 7/F., Block B Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Chung, N.T.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter
Manufacturer : Casella
Model No. :
Serial No. :
Next Calibration Date : 16-Oct-2020
Specification Limit : EN 61672: 2003 Type 1

	Meter	Microphone	Preamplifier
Model No.	CEL-63X	CE-251	CEL-495
Serial No.	1367959	03395	002712

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)
Equipment ID. : R-108-1

Date of Calibration : 17-Oct-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters	Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	1.4
	2000Hz	1.3
	1000Hz	0.0
	500Hz	-3.4
	250Hz	-8.8
	125Hz	-16.2
	63Hz	-26.3
	31.5Hz	-39.2
Differential level linearity	94dB-104dB	± 0.6
	104dB-114dB	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
- 5 The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 23-10-2019 Certified by : K.T. Leung Date : 24-10-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

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

MaterialLab

Report no.: 183057CA196119

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

Model No.

Serial No.

Next Calibration Date : 25-Aug-2020

Specification Limit : EN 61672: 2003 Type 1

Meter	Microphone	Preamplifier
CEL-63X	CE-251	CEL-495
1488270	02374	002748

Laboratory Information

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 26-Aug-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters	Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	1.5
	2000Hz	1.5
	1000Hz	0.2
	500Hz	-3.1
	250Hz	-8.5
	125Hz	-15.9
	63Hz	-26.0
	31.5Hz	-38.9
Differential level linearity	94dB-104dB	± 0.6
	104dB-114dB	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Uncertainties will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 5-9-2019 Certified by : K. Young Date : 6-9-2019

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

Report no.: 183057CA200018

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

Model No. :

Serial No. :

Equipment ID :

Next Calibration Date :

Specification Limit :

Meter	Microphone	Preamplifier
CEL-63X	CE-251	CEL-495
1488279	03876	002752

N-52

12-Jan-2021

EN 61672: 2003 Type 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 13-Jan-2020

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 22 °C

Method Used : By direct comparison

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	1.4	2.6 to -0.6
	2000Hz	1.3	2.8 to -0.4
	1000Hz	0.0	1.1 to -1.1
	500Hz	-3.4	-1.8 to -4.6
	250Hz	-8.8	-7.2 to -10.0
	125Hz	-16.3	-14.6 to -17.6
	63Hz	-26.3	-24.7 to -27.7
	31.5Hz	-39.0	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

- The equipment used in this calibration is traceable to recognized National Standards.
- The mean value is the average of four measurements.
- For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
- The UUT complies with EN 61672: 2003 Type 1 sound level meter for the above measurement.
- The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

 Checked by : William Date : 20-1-2020 Certified by : K.T. Leung Date : 21-1-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

**** End of Report ****

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No.	CEL-63X	CE-251	CEL-495
Serial No.	1488271	02695	003527

Equipment ID : N-52

Next Calibration Date : 19-Dec-2020

Specification Limit : EN 61672: 2003 Type 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 20-Dec-2019

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 22 °C

Method Used : By direct comparison

Calibration Results :

Parameters	Mean Value (dB)	Specification Limit(dB)
A-weighting frequency response	4000Hz	-0.3 2.6 to -0.6
	2000Hz	0.5 2.8 to -0.4
	1000Hz	-0.3 1.1 to -1.1
	500Hz	-3.5 -1.8 to -4.6
	250Hz	-8.9 -7.2 to -10.0
	125Hz	-16.3 -14.6 to -17.6
	63Hz	-26.4 -24.7 to -27.7
	31.5Hz	-39.3 -37.4 to -41.4
Differential level linearity	94dB-104dB	± 0.6
	104dB-114dB	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The UUT complies with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

 Checked by : William Date : 30-12-2019 Certified by : LT Leung Date : 30-12-2019
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

**** End of Report ****

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

MaterialLab

Report no.: 183057CA196119(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

Model No.

Serial No.

Next Calibration Date : 25-Aug-2020

Specification Limit : EN 61672: 2003 Type 1

Meter	Microphone	Preamplifier
CEL-63X	CE-251	CEL-495
1488303	02650	003916

Laboratory Information

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Date of Calibration : 26-Aug-2019 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Calibration Results :

Parameters	Mean Value (dB)	Specification Limit(dB)	
A-weighting frequency response	4000Hz	1.9	2.6 to -0.6
	2000Hz	1.6	2.8 to -0.4
	1000Hz	0.2	1.1 to -1.1
	500Hz	-3.1	-1.8 to -4.6
	250Hz	-8.5	-7.2 to -10.0
	125Hz	-16.0	-14.6 to -17.6
	63Hz	-26.0	-24.7 to -27.7
	31.5Hz	-39.0	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Uncertainties will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 5-9-2019 Certified by : K. Leung Date : 6-9-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

Report no.: 183057CA200018(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Calibrator
 Manufacturer : Casella (Model CEL-120/1)
 Serial No. : 2383886
 Equipment ID : N/A
 Next Calibration Date : 12-Jan-2021
 Specification Limit : EN 60942: 2003 Type 1

Laboratory Information

Description : Reference Sound level meter
 Equipment ID. : R-119-1
 Date of Calibration : 13-Jan-2020 Ambient Temperature : 22 °C
 Calibration Location : Calibration Laboratory of FTS
 Method Used : By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.2 dB	±0.4dB
114dB	-0.1 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 20-1-2020 Certified by : K. L. Young Date : 21-1-2020
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

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

MaterialLab

Report no.: 183057CA196350(2)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Calibrator
Manufacturer : Casella (Model CEL-120/1)
Serial No. : 2383982
Equipment ID : N/A
Next Calibration Date : 23-Oct-2020
Specification Limit : EN 60942: 2003 Type 1

Laboratory Information

Description : Reference Sound level meter
Equipment ID. : R-119-1
Date of Calibration : 24-Oct-2019 Ambient Temperature : 22 °C
Calibration Location : Calibration Laboratory of FTS
Method Used : By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.1 dB	±0.4dB
114dB	-0.2 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 1-11-2019 Certified by : R.T. Leung Date : 1-11-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

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

MaterialLab

Report no.: 183057CA196350(4)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Calibrator
Manufacturer : Casella (Model CEL-120/1)
Serial No. : 2383707
Equipment ID : N/A
Next Calibration Date : 23-Oct-2020
Specification Limit : EN 60942: 2003 Type 1

Laboratory Information

Description : Reference Sound level meter
Equipment ID. : R-119-1
Date of Calibration : 24-Oct-2019 Ambient Temperature : 22 °C
Calibration Location : Calibration Laboratory of FTS
Method Used : By direct comparison

Calibration Results :

Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB)
94dB	-0.2 dB	±0.4dB
114dB	-0.1 dB	

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by : William Date : 1-11-2019 Certified by : R.L. Tsang Date : 1-11-2019
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

** End of Report **

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 E

Environmental Monitoring Schedules, Examination Schedules and Arrangements on Deferral of Class Resumption for All Schools

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May-20							1 AMS5 Tin Liu AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS13 Fung Wo Estate
							2
	3		4	5	6	7	8
							AMS5 Tin Liu AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS13 Fung Wo Estate
		NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A, NMS 26	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18, NMS 23, NMS 27				
	10		11	12	13	14	15
					AMS5 Tin Liu AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS13 Fung Wo Estate		
					NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A, NMS 26	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18, NMS 23, NMS 27	
	17		18	19	20	21	22
					AMS5 Tin Liu AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS13 Fung Wo Estate		
					NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A, NMS 26	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18, NMS 23, NMS 27	
	24 / 31		25	26	27	28	29
			AMS5 Tin Liu AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS13 Fung Wo Estate				
			NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A, NMS 26	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18, NMS 23, NMS 27			

- Remark
1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 2. The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.
 3. According to the Hong Kong Observatory, anticipated wind directions in May 2020 are east, and south west.
 4. According to the Contractor, the anticipated major construction activities in the reporting month includes:
 - (1) Pre-drill works in Zone 1, 3, 4 & 5.
 - (2) Construct temporary road & site access and underground utilities in Zone 1, 2 & 5.
 - (3) Mini pile Works in Zone 1, 2, 3 & 4.
 - (4) Tree preservation / felling/ pruning in Zone 1, 2, 3, 4 & 5.
 - (5) Construction / diversion of underground utilities Zone 1, 2, 3, 4 & 5.
 - (6) Remedial works for road surface in Zone 1 & 2.
 - (7) Trial Pits Excavation in Zone 3, 4 & 5.
 - (8) Underground utilities detections in Zone 3, 4 & 5.
 - (9) Soldier pile works & Pre bored H-pile works in Zone 3.
 - (10) Construction of footbridge NF40 staircase structure works in Zone 4.
 - (11) Construction of Cycle Track Diversion and Footpath in Zone 4 & 5.
 - (12) Noise Barrier Foundation Works and Soil Replacement on Slope in Zone 5.
 - (13) Foundation works of footbridge NF66 in Zone 5.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Jun-20			1	2	3	4	5
		AMS4A Wai Wah Centre AMS8 Lek Yuen Estate AMS12 Fung Wo Estate AMS17 Wo Che Estate					AMS4A Wai Wah Centre AMS8 Lek Yuen Estate AMS12 Fung Wo Estate AMS17 Wo Che Estate
		NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A,	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18,NMS 23, NMS 27				
	7	8	9	10	11	12	13
						AMS4A Wai Wah Centre AMS8 Lek Yuen Estate AMS12 Fung Wo Estate AMS17 Wo Che Estate	
					NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18,NMS 23, NMS 27	NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A,	
	14	15	16	17	18	19	20
					AMS4A Wai Wah Centre AMS8 Lek Yuen Estate AMS12 Fung Wo Estate AMS17 Wo Che Estate		
					NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A,	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18,NMS 23, NMS 27	
	21	22	23	24	25	26	27
				AMS4A Wai Wah Centre AMS8 Lek Yuen Estate AMS12 Fung Wo Estate AMS17 Wo Che Estate			
			NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18,NMS 23, NMS 27	NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A,			
	28	29	30				
			AMS4A Wai Wah Centre AMS8 Lek Yuen Estate AMS12 Fung Wo Estate AMS17 Wo Che Estate				
	NMS 1, NMS 2, NMS 3, NMS 4, NMS 5A, NMS 6A, NMS 7, NMS 15, NMS 16, NMS 18,NMS 23, NMS 27	NMS 8, NMS9, NMS 10A, NMS 11, NMS 12, NMS 13, NMS 14, NMS17, NMS 19, NMS 20, NMS 24, NMS 25A,					

- Remark
- Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 - The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.
 - According to the Hong Kong Observatory, anticipated wind direction in Jun 2020 is south west.
 - According to the Contractor, the anticipated major construction activities in the reporting month includes:
 - Pre-drill works in Zone 1, 2, 3, 4 & 5.
 - Tree preservation / felling/ pruning/ transplantation in Zone 1, 2, 3, 4 & 5.
 - Remedial works for road surface in Zone 1 & 2.
 - Construct temporary road & site access in Zone 1 & 2.
 - Mini pile Works in Zone 1, 2, 3 & 4.
 - Construction/ Diversion of underground utilities in Zone 1 & 2.
 - Trial Pits Excavation in Zone 3, 4 & 5.
 - Underground utilities detections in Zone 3, 4 & 5.
 - Soldier pile works & Pre bored H-pile works in Zone 3.
 - Bore pile works in Zone 3.
 - Construction of pile cap in Zone 3.
 - Construction of noise barrier footing foundation in Zone 3.
 - Construction of footbridge NF40 staircase structure works in Zone 4.
 - Foundation works of footbridge NF66 in Zone 4.
 - Noise Barrier Foundation Works and Soil Replacement on Slope in Zone 5.

FUGRO TECHNICAL SERVICES LIMITED

Room 723 & 725, 7/F, Block B,
 Profit Industrial Building,
 1-15 Kwai Fung Crescent, Kwai Fong,
 Hong Kong

Tel : (852)-24508238
 Fax : (852)-24508032
 Email : mcl@fugro.com



Project: Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

Tentative Regular Night Time Noise Monitoring Schedule (May 2020)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7 Regular night time noise monitoring	8	9
10	11	12	13	14 Regular night time noise monitoring	15	16
17	18	19	20	21 Regular night time noise monitoring	22	23
24 / 31	25	26	27	28 Regular night time noise monitoring	29	30

Remarks

1. Due to safety concern, 2 staffs will carry out the night time noise monitoring together at all 21 monitoring stations on the same monitoring night of each week.
2. Actual monitoring schedule may be subjected to change due to any safety concern or adverse weather condition.

FUGRO TECHNICAL SERVICES LIMITED

Room 723 & 725, 7/F, Block B,
Profit Industrial Building,
1-15 Kwai Fung Crescent, Kwai Fong,
Hong Kong

Tel : (852)-24508238
Fax : (852)-24508032
Email : mcl@fugro.com



Project: Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

Tentative Regular Night Time Noise Monitoring Schedule (June 2020)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4 Regular night time noise monitoring	5	6
7	8	9	10	11 Regular night time noise monitoring	12	13
14	15	16	17	18 Regular night time noise monitoring	19	20
21	22	23	24 Regular night time noise monitoring	25	26	27
28	29	30				

Remarks

1. Due to safety concern, 2 staffs will carry out the night time noise monitoring together at all 21 monitoring stations on the same monitoring night of each week.
2. Actual monitoring schedule may be subjected to change due to any safety concern or adverse weather condition.

培英中學2019至2020年度校曆表

		日	一	二	三	四	五	六	假期及注意事項
週次	八月	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(23-24/8)中一適應營
		(25)	(26)	(27)	(28)	(29)	(30)	(31)	
1	九	Sept 1	2	3	4	5	6	7	(2/9)開學禮 (3/9)正式上課 (6/9)開學崇拜會
2		8	9	10	11	12	13	(14)	(9/9)中一至中四學生開始繳交周記 (10/9)各班拍攝學生相片 (9-13/9)中華文化周 (14/9)中秋節翌日假期
3	月	15	16	17	18	19	20	21	
4		22	23	24	25	26	27	28	
5	十	29	30	Oct (1)	2	3	4	5	(30/9-4/10)學生會網上選舉 (1/10)國慶日假期 (30/9-4/10)國慶活動暨中國周
6		6	(7)	(8)	9	10	11	12	(7/10)重陽節假期 (8/10)教師專業發展日(1) (11-13/10)風紀組訓練營 (12/10)香港培英校友會校友日
7		13	14	15	16	17	18	19	(18/10)學生領袖就職典禮
8		20	21	22	23	24	25	26	(21-25/10)藝術周
9	月	27	28 ^T	29 ^T	30 ^T	31 ^T	1 ^T	2	Nov (28/10-1/11)中一至中六級統一測驗
10		3	4	5	6	7	8	9	(5/11-3/12)學業奮進計劃
11	十一	10 [△]	11	12	13	14	15	16 [△]	(10/11)南區中學巡禮 (14-15/11)中一、二級護苗課程 (16/11下午)家長教師會第二十二屆會員大會
12	月	17	18	19	20	21	22	23	(18-22/11)體育推廣周
13		24	25	26	27	28	29	30	(25-29/11)敬師周
14	十	Dec 1	2	3	4	5	6 [△]	7	(6/12)全方位學習日
15	二	8	9	10	11	12	13	14	(9-13/12)英語周 (10/12)拍攝畢業照及班相 (14/12)中西南區小學數學比賽
16	月	15	16	17	18	19	20	21	(17-19/12)中六級校外模擬考試 (19/12下午)聖誕遊藝會彩排 (19/12晚上)家教會聖誕聯歡會 (20/12)慶祝聖誕崇拜及遊藝會
17		22	(23)	(24)	(25)	(26)	(27)	(28)	(23/12-1/1)聖誕及新年假期共10天 (23,24,27/12)中六級補課
18	一	(29)	(30)	(31)	(1)	2	3	4	Jan (30,31/12)中六級補課
19		5	6	7 ^E	8 ^E	9 ^E	10 ^E	11	(7-16/1)中一至中五級上學期期考共8天 (7-20/1)中六級畢業試
20		12	13 ^E	14 ^E	15 ^E	16 ^E	17 ^E	18	(17-21/1)中一至中五級試後回饋日
21		19	20 ^E	21	(22)	(23)	(24)	(25)	(21/1-28/2)中六級試後上課日 (21/1下午)中五級學習概覽講座 (22/1-3/2)農曆新年假期共13天
22	月	(26)	(27)	(28)	(29)	(30)	(31)	(1)	Feb
23	二	(2)	(3)	(4)	5	6	7	8	(4/2)下學期開始 (4/2)教師專業發展日(2) (5-12/2)中一至中五級溫習及補考
24		9	10	11	12	13	14	15	(10/2)中一至中四級學生開始繳交周記 (10-14/2)福音周 (14/2)佈道會
25		16	17	18	19	20	21	22 [△]	(17-21/2)個人社會及人文領域周 (22/2)「學校起動計劃」生涯規劃日
26	月	23	24	25	26	27	28	29 [△]	(24-28/2)「基本法之時空解謎」活動 (26/2)畢業典禮習禮、中六級進行學生持份者問卷及教學評鑑 (28/2)中六級感恩惜別會 (29/2)家長日暨中三升中四選科講座

() - 假期 E - 考試 △ 特別活動 ● 教師發展日，學生不用上課

培英中學2019至2020年度校曆表

		日	一	二	三	四	五	六	假期及注意事項
27	三	Mar 1	2	3	4	5	6	7	(2/3)中六級開始溫習應付公開試 (6/3)頒獎禮
28		8	9	10	11	12	13	14	(9-13/3)數學周
29		15	16	17	18	19 ^T	20 ^T	21	(19-25/3)中一至中五級統一測驗
30		22	23 ^T	24 ^T	25 ^T	26	27	28	(27-29/3)趁墟做老闆 (27/3-2/5)香港中學文憑考試
31	月	29	30	31	Apr 1	2	3	(4)	(3/4)教師專業發展日(3) (1/4-19/5)學業奮進計劃 (30/3-2/4)科學周 (2/4)復活節崇拜 (4/4)清明節假期
32	四	5	(6)	(7)	(8)	(9)	(10)	(11)	(6-15/4)復活節假期共10天
33		(12)	(13)	(14)	(15)	16	17	18	
34		19	20	21	22	23	24 [△]	25	(21/4或22/4)中三全港性系統評估口試 (23/4下午)校祖日彩排 (24/4)校祖日感恩崇拜暨慶祝活動 (24/4)TSA口試後備日 (25/4)區會模範生頒獎典禮
35	月	26	27	28	29 [△]	(30)	(1)	2	(29/4)全方位學習日 (30/4)佛誕假期 (1/5)勞動節假期
36	五	3	4	5	6	7	8	9	(4-8/5)科技周
37		10	11	12	13	14	15 [△]	16	(15/5下午)畢業典禮 (15/5晚上)歡送畢業生暨校友會迎新晚會
38		17	18	19	20	21 [△]	(22)	23	(21/5)第六十一屆陸運會 (22/5)陸運會翌日假期
39	月	24	25	26	27	28	29	30	(29/5)畢業禮後備日
40	六	Jun 31	1	2 ^E	3 ^E	4 ^E	5 ^E	6	(2-11/6)中一至中四級下學期考試共8天 (2-15/6)中五級下學期考試共10天
41		7	8 ^E	9 ^E	10 ^E	11 ^E	12 ^E	13	(12-16/6)中一至中四級試後回饋日
42		14	15 ^E	16	17	18	19	20	(16-30/6)中五級試後上課周 (16/6下午)中五級學習概覽寫作工作坊 (16-17/6)中三級全港性系統評估(中英數) (19/6)中三級全港性系統評估(後備日)
43		21	22	23	24	(25)	26	27	(19-23/6)中一至中五級溫習及補考 (25/6)端午節假期
44	月	28	29	30	Jul (1)	2	3	4	(1/7)香港特別行政區成立紀念日假期 (29/6-10/7)暑期英語營 (3/7)中六級中學文憑考試放榜輔導講座
45	七	5	6	7	8	9	10 [△]	11	(8/7)香港中學文憑考試放榜
46		12	13	(14)	(15)	(16)	(17)	(18)	(13/7)結業禮 (13/7)接見家長及學生 (14-16/7)各級第二階段溫習及補考 (14/7-31/8)暑假共49天
47		(19)	(20)	(21)	(22)	(23)	(24)	(25)	
48	月	(26)	(27)	(28)	(29)	(30)	(31)	Aug (1)	
49		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
50	八	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(10/8)學生註冊及領取書籍校服 (10-21/8)升中導向課程 (10-21/8)中六級香港中學文憑考試備試課程
51	月	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(21-22/8)中一適應營
52		(23)	(24)	(25)	(26)	(27)	(28)	(29)	
53	九月	(30)	(31)	1	2	3	4	5	(1/9)下學年開學禮 (2/9)正式上課

() - 假期 E - 考試 △特別活動 ○ 教師發展日，學生不用上課

Jockey Club Ti-I College
School Calendar (2019-20) for Students

Month	Cycle	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Major Events & School Holidays
September 2019	1	1 ○	2 %	3 I	4 II	5 III	6 ^{T1} IV	7 ○	2 Opening Ceremony 2 Newsletter to Parents (1) 6 School Year Commencement Assembly
	2	8 ○	9 V	10 VI	11 I	12 II	13 III	14 ●	9 Deadline of Dropping of Elective Subjects for F.5 & F.6 Students 13 Club Selection Day & SU Election Forum
	3	15 ○	16 IV	17 V	18 VI	19 I	20 ^{T2} II	21 ○	14 The Day After Chinese Mid-Autumn Festival 17 SU Election Polling Day
	4	22 ○	23 III	24 IV	25 V	26 VI	27 I	28 ○	20 Student Bodies Joint Inauguration
		29 ○	30 II						
October 2019	5			1 ●	2 III	3 IV	4 %	5 ○	1 National Day 4 Swimming Gala 7 Chung Yeung Festival
	6	6 ○	7 ●	8 V	9 VI	10 I	11 II	12 %	12 Parent-Teacher Sharing Session & PTA AGM 25 F.4 Parents' Night (Academic Adjustment & OLE) 28 Blood Donation Day
		13 ○	14 III	15 IV	16 V	17 VI	18 I	19 ○	
	7	20 ○	21 II	22 III	23 IV	24 V	25 VI	26 ○	
November 2019	8						1 V	2 ○	1 F.2 Parents' Night (Student Growth & Development) 7 Newsletter to Parents (2) 8 F.1 Parents' Night (Adaptation & Parenting)
	9	3 ○	4 VI	5 I	6 II	7 III	8 IV	9 ○	11-20 Activities Suspension for F.6 Students 13-20 F.6 First Term Exam
	10	10 ○	11 V	12 VI	13 I	14 II	15 III	16 ○	22 Athletics Meet Day 1
		17 ○	18 IV	19 V	20 VI	21 I	22 %	23 ○	
December 2019	11	24 ○	25 II	26 III	27 IV	28 V	29 VI	30 ○	2 Athletics Meet Day 2 3 Discretionary Holiday 6 Photo Taking for Staff and Graduation Classes
	12	1 ○	2 %	3 ○	4 I	5 II	6 III	7 ○	12 Distribution of First Term Progress Report 13 Preparation for Open Day
		8 ○	9 IV	10 V	11 VI	12 I	13 ^H II	14 ○	15 Open Day cum 30th Anniversary Time Capsule Installation Ceremony & F.1 Admission Information Session
		15 %	16 ○	17 III	18 IV	19 V	20 SD1	21 ○	16 Discretionary Holiday 20 Staff Development Day 1 & 30 th Anniversary Campus Gala Dinner
		22 ○	23 ○	24 ●	25 ●	26 ●	27 ○	28 ○	23/12 Christmas & New Year Holiday -1/1
	29 ○	30 ○	31 ○						

Month	Cycle	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Major Events/Holidays & Activities	
January 2020	13				1	2	3	4	2-13 First Term Exam 14-22 First Term Exam Script Review in Normal Timetable 15 Opening Ceremony of Graduation Class Visual Arts Exhibition 16 Newsletter to Parents (3) 23/1 Chinese New Year Holiday -1/2	
		5	6	7	8	9	10	11		
		○	*	*	*	*	*	*		
		12	13	14	15	16	17	18		
		○	*	VI	I	II	III	○		
		19	20	21	22	23	24	25		
		○	IV	V	VI	○	○	●		
		26	27	28	29	30	31			
		●	●	●	○	○	○			
February 2020	14							1	3-19 F.6 Mock Exam & Activities Suspension for F.6 Students 14 First Term Prize Presentation Ceremony 15 Parents' Day (Distribution of First Term Report Cards) 19-21 F.3 Boost Morale Camp 24-28 F.6 Mock Exam Script Review 28 F.6 Farewell Assembly & Mock Release of HKDSE Results for F.6 Students	
		2	3	4	5	6	7	8		
		○	I	II	III	IV	V	○		
		9	10	11	12	13	14 ^{T2}	15		
		○	VI	I	II	III	IV	%		
16	17	18	19	20	21	22				
○	V	VI	I	II	III	○				
17	23	24	25	26	27	28 ^{T2}	29			
○	IV	V	VI	I	II	○				
March 2020	18	1	2	3	4	5	6	7	5 Newsletter to Parents (4) 7 F.1 Admission Practical Test and First Interview 13 F.3 Parents' Night (DSE Curriculum & Streaming) 20 Staff Development Day 2 (TBC)	
		○	III	IV	V	VI	I	%		
		8	9	10	11	12	13	14		
		○	II	III	IV	V	VI	○		
		15	16	17	18	19	20	21		
○	I	II	III	IV	SD2	○				
20	22	23	24	25	26	27	28			
○	V	VI	I	II	III	○				
29	30	31								
○	IV	V								
April 2020	21				1	2	3	4	3 Activity Day 4 Ching Ming Festival 6-14 Easter Holiday 21/22 F.3 TSA (Speaking Assessment) 22-24 Reading Week 30 The Birthday of the Buddha	
					VI	I	%	●		
		5	6	7	8	9	10	11		
		○	○	○	○	○	●	●		
		12	13	14	15	16	17	18		
		●	●	○	II	III	IV	○		
19	20	21	22	23	24	25				
○	V	VI	I	II	III	○				
22	26	27	28	29	30					
○	IV	V	VI	●						

Month	Cycle	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Major Events/Holidays & Activities
May 2020	23						1	2	1 Labour Day 7 Newsletter to Parents (5) 15 Speech Day (TBC) 21 Distribution of Second Term Progress Report 22 F.5 Parents' Night (Careers Planning & Academic Enhancement) 25/5 Activities Suspension -20/6
		○	I	II	III	IV	V	○	
	24	10	11	12	13	14	15 ^H	16	
		○	VI	I	II	III	IV	○	
	25	17	18	19	20	21	22	23	
○		V	VI	I	II	III	○		
26	24	25	26	27	28	29	30		
	○	IV	V	VI	I	II	○		
		31							
		○							
June 2020			1	2	3	4	5	6	5 Staff Development Day 3 8-20 Second Term Exam 16-17 F.3 TSA (Written Assessments) 22-26 Second Term Exam Script Review with Special Timetable 25 Tuen Ng Festival 26 Appreciation Night Dinner (TBC) 29/6 Post Exam Activities -9/7
			III	IV	V	VI	SD3	○	
	7	8	9	10	11	12	13		
		○	*	*	*	*	*	*	
	14	15	16	17	18	19	20		
○		*	*	*	*	*			
21	22	23	24	25	26	27			
	○	%	%	%	●	%	○		
28	29	30							
	○	%	%						
July 2020					1	2	3	4	1 The HKSAR Establishment Day 8 HKDSE Results Release (TBC) 10 Newsletter to Parents (6) 10 Closing Ceremony 13/7 Summer Vacation -31/8
					●	%	%	○	
	5	6	7	8	9	10	11		
		○	%	%	%	%	%	○	
	12	13	14	15	16	17	18		
○		○	○	○	○	○	○		
19	20	21	22	23	24	25			
	○	○	○	○	○	○	○		
26	27	28	29	30	31				
	○	○	○	○	○	○			
August 2020								1	17-21 F.1 Summer Bridging Programme (TBC) 22 F.1 Orientation (TBC)
								○	
	2	3	4	5	6	7	8		
		○	○	○	○	○	○	○	
	9	10	11	12	13	14	15		
		○	○	○	○	○	○	○	
16	17	18	19	20	21	22			
	○	○	○	○	○	○	○		
23	24	25	26	27	28	29			
	○	○	○	○	○	○	○		
30	31								
	○	○							

○/● *School/Public Holiday* SDn Staff Development Day n
* Examination __ Mock Examination
% Whole-school Events / Special School Functions
XX^H / XX^{Tn} Half-day Release Timetable / Special Assembly Timetable Option n

聖公會主風小學 2019-2020 年度上學期校曆表

週次	月份	星 期							行 事 要 項	假期日數
		日	一	二	三	四	五	六		
①	2019 九 月	1	2*	3	4	5	6	7	2/9 上學期開學日 13/9 教師專業發展日 14/9 中秋節翌日	1
②		8	9	10	11	12	13*	14		
③		15	16	17	18	19	20	21		
④		22	23	24	25	26	27	28		
⑤		29	30							
⑥	十 月			1	2	3	4	5	1/10 國慶日 7/10 重陽節 24/10 – 29/10 上學期測驗 (J.6 呈分試)	1 1
⑦		6	7	8	9	10	11	12		
⑧		13	14	15	16	17	18	19		
⑨		20	21	22	23	<u>24</u>	<u>25</u>	26		
⑩		27	<u>28</u>	<u>29</u>	30	31				
⑪	十 一 月						1	2	16/11 上學期家長日 28/11 第十三屆陸運會 29/11 陸運會翌日假期	1
⑫		3	4	5	6	7	8	9		
⑬		10	11	12	13	14	15	16*		
⑭		17	18	19	20	21	22	23		
⑮		24	25	26	27	28*	29	30		
⑯	十 二 月	1	2	3	4	5	6	7	23/12/2019 – 2/1/2020 聖誕及新年假期	6 3
⑰		8	9	10	11	12	13	14		
⑱		15	16	17	18	19	20	21		
⑲		22	23	24	25	26	27	28		
⑳		29	30	31						
㉑	2020 一 月				1	2	3	4	8/1 – 13/1 上學期學期試 22/1 – 1/2 農曆新年假期	2 4 6
㉒		5	6	7	<u>8</u>	<u>9</u>	<u>10</u>	11		
㉓		12	<u>13</u>	14	15	16	17	18		
㉔		19	20	21	22	23	24	25		
㉕		26	27	28	29	30	31			
							1			1
	二 月	2	3*	4	5	6	7*	8	3/2 下學期開始 7/2 旅行日	
		9	10	11	12	13	14	15		

附註： □代表假期 *代表特別事宜

沙田崇真學校

2019 - 20 年度校曆表

	日	一	二	三	四	五	六	假期 / 事項		日	一	二	三	四	五	六	假期 / 事項
九月	1	2	3	4	5	6	7	上學期開始(2/9) P.2-6 半天上課(2-6/9) 學校假期(13/9) 中秋節翌日(14/9) P.1 半天上課 (2-11/9)	四				1	2	3	4	清明節(4/4)
	8	9	10	11	12	13	14			5	6	7	8	9	10	11	福音周及復活節崇拜 (6-7/4)
	15	16	17	18	19	20	21			12	13	14	15	16	17	18	復活節假期(8-15/4) 家長日(18/4)
	22	23	24	25	26	27	28			19	20	21	22	23	24	25	
	29	30								26	27	28	29	30			綵排日 (28/4) 綜藝晚會(29/4) 佛誕 (30/4)
十月			1	2	3	4	5	國慶日(1/10) 教師專業發展日(2/10) 重陽節(7/10) P.6 教育營(28/10-1/11)	五						1	2	勞動節(1/5)
	6	7	8	9	10	11	12			3	4	5	6	7	8	9	零功課日(4/5) 中小辯論賽(9/5)
	13	14	15	16	17	18	19			10	11	12	13	14	15	16	
	20	21	22	23	24	25	26			17	18	19	20	21	22	23	教師專業發展日(22/5)
	27	28	29	30	31					24	25	26	27	28	29	30	
十一月						1	2	零功課日(8/11) 一至六年級考試(25-29/11) 教師專業發展日(30/11)	六		1	2	3	4	5	6	一至六年級考試(1-5/6)
	3	4	5	6	7	8	9			7	8	9	10	11	12	13	
	10	11	12	13	14	15	16			14	15	16	17	18	19	20	小一面試 (15-16/6)
	17	18	19	20	21	22	23			21	22	23	24	25	26	27	端午節(25/6)
	24	25	26	27	28	29	30			28	29	30					畢業禮(30/6)
十二月	1	2	3	4	5	6	7	學校旅行(13/12) 專題研習周(16-19/12) 聖誕崇拜(20/12) 聖誕及新年假期(23/12-1/1)	七				1	2	3	4	香港特區成立紀念日 (1/7) 畢業禮補假 (2/7)
	8	9	10	11	12	13	14			5	6	7	8	9	10	11	
	15	16	17	18	19	20	21			12	13	14	15	16	17	18	暑假(13/7-31/8)
	22	23	24	25	26	27	28			19	20	21	22	23	24	25	
	29	30	31							26	27	28	29	30	31		
二零二零年一月				1	2	3	4	P.6 家長日(4/1) P.1-5 家長日(11/1) 跨學科活動日(17/1) 陸運會(20/1) 農曆新年假期(21/1-3/2)	八							1	
	5	6	7	8	9	10	11			2	3	4	5	6	7	8	
	12	13	14	15	16	17	18			9	10	11	12	13	14	15	
	19	20	21	22	23	24	25			16	17	18	19	20	21	22	
	26	27	28	29	30	31				23	24	25	26	27	28	29	
二月							1	下學期開始(4/2) 零功課日(12/2) 學校籌款日(23/2) 學校籌款日補假(24/2)	九								
	2	3	4	5	6	7	8			2	3	4	5	6	7	8	
	9	10	11	12	13	14	15			9	10	11	12	13	14	15	
	16	17	18	19	20	21	22			16	17	18	19	20	21	22	
三月	23	24	25	26	27	28	29	一至五年級主科考試(12-13/3) 六年級報分試(9-13/3) 境外學習 (28/3-2/4)	十								
	1	2	3	4	5	6	7			23	24	25	26	27	28		
	8	9	10	11	12	13	14			30	31						
	15	16	17	18	19	20	21										
	22	23	24	25	26	27	28										
29	30	31															

綠色 為半天上課日 橙色 為延伸學習活動課 (周三)
紅色 為公眾假期
 本年度上課日數：192 日(包括兩次家長日)
 學校假期：90 日
 學校自決假期：3 日
 周六及日 (不包長假期)：78 日
 教師專業發展日：3 日
 合計：366 日

學校假期	學校自決假期
2/10 30/11 22/5	教師專業發展日



中華人民共和國香港特別行政區政府總部教育局

Education Bureau

Government Secretariat, The Government of the Hong Kong Special Administrative Region
The People's Republic of China

本局檔號 Our Ref: EDB(SDCT)3/PRO/10/1/1

電話 Telephone :

來函檔號 Your Ref. :

傳真 Fax Line :

31 March 2020

To: Supervisors / Principals of All Schools

Dear Supervisor / Principal,

**Deferral of Class Resumption for All Schools
Together, We Fight the Virus**

In view that the confirmed cases of COVID-19 are rapidly increasing recently, the Government announced on 21 March that classes of all schools (including kindergartens, primary schools, secondary schools, special schools and private schools offering non-formal curriculum) will continue to be suspended until further notice. The Education Bureau (EDB) will continue to take into account the professional advice from health experts, and follow up on the readiness of schools as well as the supply of epidemic preventive equipment in the community in deciding the exact date of class resumption. We will announce the class resumption date and related arrangements at least 3 weeks prior to class resumption, so that stakeholders could make better preparation.

Easter Holiday Arrangement

In principle, teachers are to have the Easter Holiday as usual based on the original schedule of their schools. If schools have operational needs during the period, they can also arrange staff to go back to schools on duty as usual. In consideration of the latest development of the pandemic, the Government announced on 17 March 2020 that the Red Outbound Travel Alert (OTA) had been issued for all overseas countries/territories. The Department of Health (DH) has also extended health quarantine arrangements on inbound travellers arriving from all countries/ territories and demand them to undergo compulsory quarantine. As the pandemic is escalated around the world, the situation in different countries/ regions may change rapidly within

a short period of time. Apart from the risk of infection, this may also affect the outbound travel and immigration control of the countries/regions concerned. The EDB strongly advises teachers and students to take their personal and family health as the top priority, do not travel abroad during the Easter Holiday, and join hands in minimising the risk of spreading the disease in the community. After the Easter Holiday, schools and teachers should continue the use of diversified modes to conduct learning and teaching to achieve “suspending classes but not suspending learning”. In case teachers are unfortunately confirmed to have infected COVID-19, they should apply for sick leave with medical certificates. For those who are required to undergo compulsory quarantine due to special circumstances, in light that it may involve different circumstances, we will consider the related arrangements case by case. Schools may contact their respective Regional Education Offices for enquiry.

Diversified modes of learning to achieve "suspending classes without suspending learning"

The EDB encourages schools to continue to adopt diversified modes of learning, in accordance with their school-based situations and the needs at different learning stages, to support students to learn at home during the period of class suspension to achieve “suspending classes without suspending learning”. Apart from real-time teaching, teachers may make use of commonly used learning management system, e-mails and school webpages to provide students with learning materials, homework, extra-curricular readings, to collect their exercises and provide feedback. Besides, students can be encouraged to do extensive reading and inquiry-based project learning with a view to building up their self-learning ability, and meeting the aims of learning at home. For the principles of adopting e-learning to support students’ learning at home, they will be uploaded to the EDB’s website (website: <https://www.edb.gov.hk/en/edu-system/primary-secondary/applicable-to-primary-secondary/it-in-edu/flipped.html>) for schools’ reference.

We are thankful to schools in providing active support to individual students who have difficulties with e-learning, for example by lending mobile computer devices to students and helping them apply for relevant assistance, including “Bring Your Own Device” scheme under the Community Care Fund. We also appreciate the dedicated support of various sectors in the society to our needy students, such as helping them engage in e-learning at home during the class suspension period. We also noted that in the past two months, schools, building on their experiences, are further promoting different modes of learning (including e-learning); some schools and teachers attempting various new practices; and some schools striving to find out solutions for difficulties encountered. The experience gained can serve as reference for future development while some good practices or new attempts can be disseminated. We will invite schools to consolidate their relevant experience and outcomes. Details and

templates will be provided later.

Together, we fight the virus and join hands in difficult times

Various industries in the society have been severely affected by this pandemic. During the class suspension period, services of the tuck shops/canteens, lunch box suppliers, school buses etc. have all been suspended for a long period. We strongly appeal to schools to take special consideration to cope with the difficult times with their contractors, for example, by providing rental concession to tuck shops/canteens (if any) during the class suspension period. If their contracts with the lunch box suppliers are going to expire by the end of the school year, they may consider extending it for one more year to relieve them from the work of re-tendering. In this regard, schools should obtain approval from the IMC/SMC, and keep the records properly. For government schools, they should serve as role-models in these practices. As the procedures and financial arrangements are slightly different from aided schools, details will be announced separately.

Besides, we appeal again to schools to discuss with the tutors of interest classes or support groups on the arrangement of their services, and consider the use of other modes to help students continue their learning, such as the use of e-learning during class suspension, enhanced training upon class resumption, arranging relevant sharing sessions / performances / competitions. Schools may charge the expenditure to relevant grants as far as practicable.

In view of the recent surging number in confirmed infected cases, the pandemic has escalated into a serious stage. The Government has put in place various anti-epidemic measures to reduce the risk of massive community outbreak. One of the key strategies is to further minimise social contacts and avoid mass gathering. In this regard, the EDB would like to remind schools that if they are to convene a meeting, online conference/teleconference should be adopted to replace face-to-face meeting. During the class suspension period, schools should remain open to take care of students who have to go back to school due to lack of carer at home, handle school basic and essential affairs and parents' enquiries. We noted that parents of students with special educational needs would also need to bring their children back to schools occasionally during this period so as to release themselves for some life chores work. We hope that schools can provide assistance as far as possible. Regarding manpower arrangement, schools should uphold the principles of adequacy and appropriateness. Teaching staff going back to schools should maintain social distancing and put in place all the preventive measures. If more than one student is back to school, appropriate social distance should be maintained. In this connection, schools can make reference to the epidemic preventive guidelines for the Hong Kong Diploma of Secondary Education

Examination (HKDSE), issued by the Hong Kong Examinations and Assessment Authority (HKEAA).

(Website:

http://www.hkeaa.edu.hk/DocLibrary/MainNews/Instructions_to_Candidates_Precautionary_Measures_at_Exam_Centre_Eng_.pdf)

Amid the challenges posed by the pandemic, let's fight against the virus together and continue to achieve "suspending classes without suspending learning". The exact date of class resumption is still subject to further assessment. The EDB will continue to liaise with government departments concerned, including the Centre for Health Protection, and disseminate to schools the latest information and health advice regarding the infectious diseases. For any enquiries, please contact the respective Senior School Development Officer or Senior Services Officers.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Verena LAU', with a large, sweeping flourish above the name.

(Dr Verena LAU)
for Secretary for Education

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 F

Air Quality Monitoring Data

**1-hour TSP Impact Monitoring Result for
NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)**

AMS5 - Tin Liu

1-hour TSP ($\mu\text{g}/\text{m}^3$)								
Date	Start Time	1st hr	2nd hr	3rd hr	Average	Action Level	Limit Level	Weather
2-May-20	19:41	97	91	81	90	340	500	Sunny
8-May-20	18:36	99	99	93	97			Sunny
14-May-20	17:40	99	91	88	93			Sunny
20-May-20	18:30	100	85	80	88			Fine
26-May-20	18:40	97	79	82	86			Fine
Average		91						
Max		100						
Min		79						

AMS6 - Shatin Plaza

1-hour TSP ($\mu\text{g}/\text{m}^3$)								
Date	Start Time	1st hr	2nd hr	3rd hr	Average	Action Level	Limit Level	Weather
2-May-20	16:32	97	81	76	85	347	500	Sunny
8-May-20	13:38	98	78	96	91			Sunny
14-May-20	17:36	80	65	70	72			Sunny
20-May-20	16:40	95	81	82	86			Fine
26-May-20	11:35	99	84	82	88			Fine
Average		84						
Max		99						
Min		65						

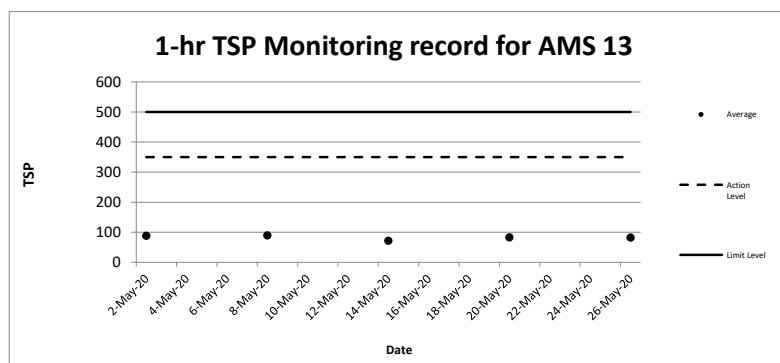
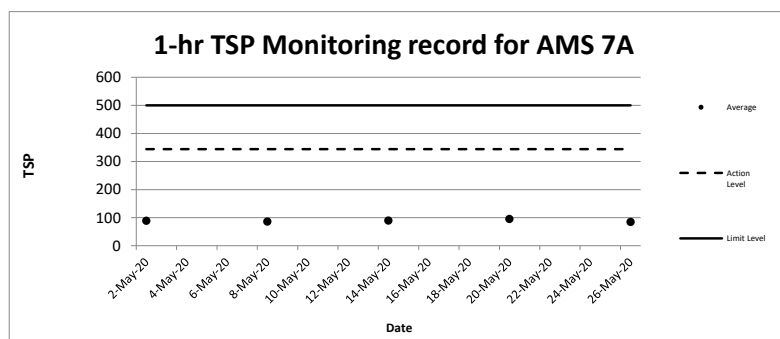
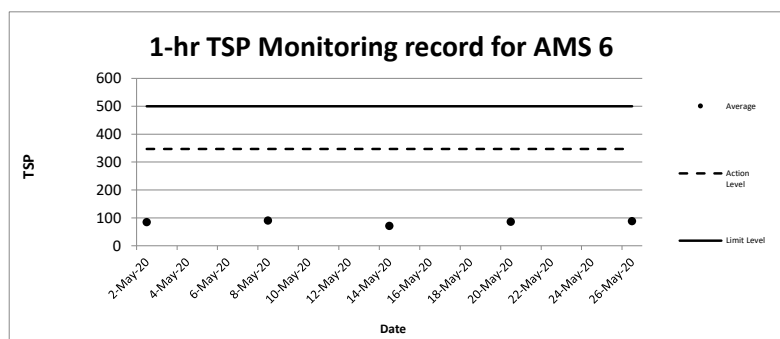
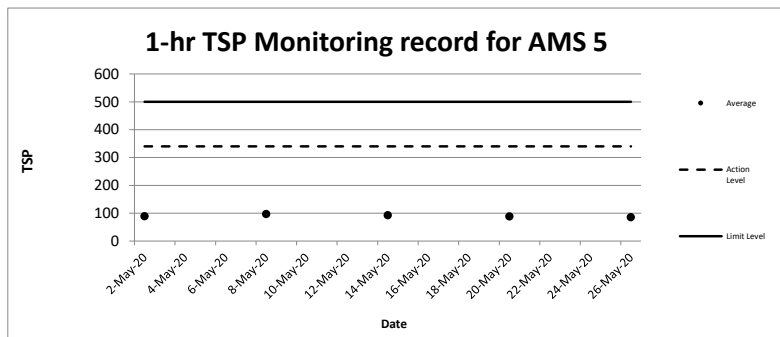
AMS7A - Sheung Wo Che

1-hour TSP ($\mu\text{g}/\text{m}^3$)								
Date	Start Time	1st hr	2nd hr	3rd hr	Average	Action Level	Limit Level	Weather
2-May-20	12:12	97	87	82	89	344	500	Sunny
8-May-20	10:14	96	82	80	86			Sunny
14-May-20	10:13	97	89	83	90			Sunny
20-May-20	12:16	99	88	99	95			Fine
26-May-20	17:30	100	70	84	85			Fine
Average		89						
Max		100						
Min		70						

AMS 13 - Fung Wo Estate

1-hour TSP ($\mu\text{g}/\text{m}^3$)								
Date	Start Time	1st hr	2nd hr	3rd hr	Average	Action Level	Limit Level	Weather
2-May-20	10:51	92	83	90	88	350	500	Sunny
8-May-20	14:50	95	80	93	89			Sunny
14-May-20	11:56	80	74	62	72			Sunny
20-May-20	12:02	94	82	73	83			Fine
26-May-20	12:00	95	82	70	82			Fine
Average		83						
Max		95						
Min		62						

- Remark
1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 2. The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.



**24-hour TSP Impact Monitoring Result for
NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)**

AMSS - Tin Liu

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
2/5/2020 8:41	85
2/5/2020 9:41	82
2/5/2020 10:41	75
2/5/2020 11:41	86
2/5/2020 12:41	75
2/5/2020 13:41	90
2/5/2020 14:41	88
2/5/2020 15:41	81
2/5/2020 16:41	95
2/5/2020 17:41	90
2/5/2020 18:41	96
2/5/2020 19:41	97
2/5/2020 20:41	91
2/5/2020 21:41	81
2/5/2020 22:41	76
2/5/2020 23:41	84
3/5/2020 0:41	83
3/5/2020 1:41	81
3/5/2020 2:41	85
3/5/2020 3:41	77
3/5/2020 4:41	78
3/5/2020 5:41	68
3/5/2020 6:41	77
3/5/2020 7:41	75
Average	83
Action Level	156
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
8/5/2020 8:36	88
8/5/2020 9:36	85
8/5/2020 10:36	78
8/5/2020 11:36	70
8/5/2020 12:36	90
8/5/2020 13:36	88
8/5/2020 14:36	92
8/5/2020 15:36	89
8/5/2020 16:36	99
8/5/2020 17:36	95
8/5/2020 18:36	99
8/5/2020 19:36	99
8/5/2020 20:36	93
8/5/2020 21:36	73
8/5/2020 22:36	84
8/5/2020 23:36	80
9/5/2020 0:36	73
9/5/2020 1:36	85
9/5/2020 2:36	87
9/5/2020 3:36	69
9/5/2020 4:36	75
9/5/2020 5:36	81
9/5/2020 6:36	76
9/5/2020 7:36	70
Average	84
Action Level	156
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
14/5/2020 8:40	76
14/5/2020 9:40	87
14/5/2020 10:40	72
14/5/2020 11:40	81
14/5/2020 12:40	86
14/5/2020 13:40	91
14/5/2020 14:40	98
14/5/2020 15:40	76
14/5/2020 16:40	94
14/5/2020 17:40	99
14/5/2020 18:40	91
14/5/2020 19:40	88
14/5/2020 20:40	85
14/5/2020 21:40	75
14/5/2020 22:40	81
14/5/2020 23:40	77
15/5/2020 0:40	85
15/5/2020 1:40	83
15/5/2020 2:40	85
15/5/2020 3:40	74
15/5/2020 4:40	69
15/5/2020 5:40	84
15/5/2020 6:40	64
15/5/2020 7:40	60
Average	82
Action Level	156
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
20/5/2020 8:30	72
20/5/2020 9:30	91
20/5/2020 10:30	65
20/5/2020 11:30	91
20/5/2020 12:30	75
20/5/2020 13:30	91
20/5/2020 14:30	82
20/5/2020 15:30	78
20/5/2020 16:30	90
20/5/2020 17:30	93
20/5/2020 18:30	100
20/5/2020 19:30	85
20/5/2020 20:30	80
20/5/2020 21:30	76
20/5/2020 22:30	75
20/5/2020 23:30	90
21/5/2020 0:30	86
21/5/2020 1:30	92
21/5/2020 2:30	85
21/5/2020 3:30	71
21/5/2020 4:30	66
21/5/2020 5:30	74
21/5/2020 6:30	73
21/5/2020 7:30	69
Average	81
Action Level	156
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
26/5/2020 8:40	72
26/5/2020 9:40	87
26/5/2020 10:40	69
26/5/2020 11:40	88
26/5/2020 12:40	74
26/5/2020 13:40	89
26/5/2020 14:40	87
26/5/2020 15:40	79
26/5/2020 16:40	94
26/5/2020 17:40	92
26/5/2020 18:40	97
26/5/2020 19:40	79
26/5/2020 20:40	82
26/5/2020 21:40	78
26/5/2020 22:40	84
26/5/2020 23:40	88
27/5/2020 0:40	93
27/5/2020 1:40	90
27/5/2020 2:40	84
27/5/2020 3:40	76
27/5/2020 4:40	67
27/5/2020 5:40	81
27/5/2020 6:40	71
27/5/2020 7:40	73
Average	82
Action Level	156
Limit Level	260

- Remark
1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 2. The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.

**24-hour TSP Impact Monitoring Result for
NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)**

AMS6 - Shatin Plaza

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
2/5/2020 9:32	89
2/5/2020 10:32	78
2/5/2020 11:32	75
2/5/2020 12:32	83
2/5/2020 13:32	94
2/5/2020 14:32	70
2/5/2020 15:32	74
2/5/2020 16:32	97
2/5/2020 17:32	81
2/5/2020 18:32	76
2/5/2020 19:32	84
2/5/2020 20:32	74
2/5/2020 21:32	80
2/5/2020 22:32	59
2/5/2020 23:32	76
3/5/2020 0:32	71
3/5/2020 1:32	80
3/5/2020 2:32	69
3/5/2020 3:32	72
3/5/2020 4:32	73
3/5/2020 5:32	71
3/5/2020 6:32	60
3/5/2020 7:32	77
3/5/2020 8:32	80
Average	77
Action Level	165
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
8/5/2020 9:38	81
8/5/2020 10:38	90
8/5/2020 11:38	76
8/5/2020 12:38	96
8/5/2020 13:38	98
8/5/2020 14:38	78
8/5/2020 15:38	96
8/5/2020 16:38	93
8/5/2020 17:38	92
8/5/2020 18:38	78
8/5/2020 19:38	79
8/5/2020 20:38	77
8/5/2020 21:38	84
8/5/2020 22:38	78
8/5/2020 23:38	82
9/5/2020 0:38	78
9/5/2020 1:38	78
9/5/2020 2:38	81
9/5/2020 3:38	83
9/5/2020 4:38	83
9/5/2020 5:38	92
9/5/2020 6:38	92
9/5/2020 7:38	88
9/5/2020 8:38	85
Average	85
Action Level	165
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
14/5/2020 9:36	74
14/5/2020 10:36	60
14/5/2020 11:36	79
14/5/2020 12:36	80
14/5/2020 13:36	65
14/5/2020 14:36	70
14/5/2020 15:36	60
14/5/2020 16:36	68
14/5/2020 17:36	80
14/5/2020 18:36	65
14/5/2020 19:36	70
14/5/2020 20:36	73
14/5/2020 21:36	53
14/5/2020 22:36	58
14/5/2020 23:36	51
15/5/2020 0:36	67
15/5/2020 1:36	62
15/5/2020 2:36	75
15/5/2020 3:36	68
15/5/2020 4:36	65
15/5/2020 5:36	66
15/5/2020 6:36	63
15/5/2020 7:36	69
15/5/2020 8:36	76
Average	67
Action Level	165
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
20/5/2020 9:40	90
20/5/2020 10:40	83
20/5/2020 11:40	82
20/5/2020 12:40	82
20/5/2020 13:40	77
20/5/2020 14:40	85
20/5/2020 15:40	85
20/5/2020 16:40	95
20/5/2020 17:40	81
20/5/2020 18:40	82
20/5/2020 19:40	71
20/5/2020 20:40	79
20/5/2020 21:40	91
20/5/2020 22:40	72
20/5/2020 23:40	84
21/5/2020 0:40	84
21/5/2020 1:40	78
21/5/2020 2:40	93
21/5/2020 3:40	80
21/5/2020 4:40	80
21/5/2020 5:40	89
21/5/2020 6:40	88
21/5/2020 7:40	90
21/5/2020 8:40	89
Average	84
Action Level	165
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
26/5/2020 9:35	89
26/5/2020 10:35	88
26/5/2020 11:35	99
26/5/2020 12:35	84
26/5/2020 13:35	82
26/5/2020 14:35	93
26/5/2020 15:35	92
26/5/2020 16:35	82
26/5/2020 17:35	91
26/5/2020 18:35	72
26/5/2020 19:35	70
26/5/2020 20:35	74
26/5/2020 21:35	96
26/5/2020 22:35	71
26/5/2020 23:35	85
27/5/2020 0:35	84
27/5/2020 1:35	85
27/5/2020 2:35	90
27/5/2020 3:35	84
27/5/2020 4:35	83
27/5/2020 5:35	87
27/5/2020 6:35	94
27/5/2020 7:35	88
27/5/2020 8:35	90
Average	86
Action Level	165
Limit Level	260

- Remark
1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 2. The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.

**24-hour TSP Impact Monitoring Result for
NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)**

AMSTA - Sheung Wo Che

Date and Time	TSP Concentration (µg/m³)
2/5/2020 9:12	94
2/5/2020 10:12	81
2/5/2020 11:12	81
2/5/2020 12:12	97
2/5/2020 13:12	87
2/5/2020 14:12	92
2/5/2020 15:12	88
2/5/2020 16:12	73
2/5/2020 17:12	80
2/5/2020 18:12	72
2/5/2020 19:12	92
2/5/2020 20:12	70
2/5/2020 21:12	88
2/5/2020 22:12	93
2/5/2020 23:12	83
3/5/2020 0:12	89
3/5/2020 1:12	73
3/5/2020 2:12	94
3/5/2020 3:12	86
3/5/2020 4:12	91
3/5/2020 5:12	93
3/5/2020 6:12	96
3/5/2020 7:12	82
3/5/2020 8:12	79
Average	86
Action Level	165
Limit Level	260

Date and Time	TSP Concentration (µg/m³)
8/5/2020 9:14	80
8/5/2020 10:14	96
8/5/2020 11:14	82
8/5/2020 12:14	80
8/5/2020 13:14	78
8/5/2020 14:14	83
8/5/2020 15:14	79
8/5/2020 16:14	85
8/5/2020 17:14	94
8/5/2020 18:14	70
8/5/2020 19:14	73
8/5/2020 20:14	84
8/5/2020 21:14	83
8/5/2020 22:14	69
8/5/2020 23:14	66
9/5/2020 0:14	87
9/5/2020 1:14	86
9/5/2020 2:14	84
9/5/2020 3:14	80
9/5/2020 4:14	88
9/5/2020 5:14	82
9/5/2020 6:14	76
9/5/2020 7:14	77
9/5/2020 8:14	72
Average	81
Action Level	165
Limit Level	260

Date and Time	TSP Concentration (µg/m³)
14/5/2020 9:13	89
14/5/2020 10:13	97
14/5/2020 11:13	89
14/5/2020 12:13	83
14/5/2020 13:13	79
14/5/2020 14:13	87
14/5/2020 15:13	86
14/5/2020 16:13	89
14/5/2020 17:13	93
14/5/2020 18:13	77
14/5/2020 19:13	74
14/5/2020 20:13	89
14/5/2020 21:13	84
14/5/2020 22:13	76
14/5/2020 23:13	70
15/5/2020 0:13	91
15/5/2020 1:13	82
15/5/2020 2:13	96
15/5/2020 3:13	85
15/5/2020 4:13	89
15/5/2020 5:13	89
15/5/2020 6:13	81
15/5/2020 7:13	81
15/5/2020 8:13	82
Average	85
Action Level	165
Limit Level	260

Date and Time	TSP Concentration (µg/m³)
20/5/2020 9:16	97
20/5/2020 10:16	83
20/5/2020 11:16	98
20/5/2020 12:16	99
20/5/2020 13:16	88
20/5/2020 14:16	99
20/5/2020 15:16	90
20/5/2020 16:16	73
20/5/2020 17:16	78
20/5/2020 18:16	85
20/5/2020 19:16	94
20/5/2020 20:16	80
20/5/2020 21:16	94
20/5/2020 22:16	94
20/5/2020 23:16	86
21/5/2020 0:16	99
21/5/2020 1:16	73
21/5/2020 2:16	98
21/5/2020 3:16	87
21/5/2020 4:16	97
21/5/2020 5:16	87
21/5/2020 6:16	79
21/5/2020 7:16	79
21/5/2020 8:16	89
Average	89
Action Level	165
Limit Level	260

Date and Time	TSP Concentration (µg/m³)
26/5/2020 9:30	84
26/5/2020 10:30	93
26/5/2020 11:30	81
26/5/2020 12:30	80
26/5/2020 13:30	71
26/5/2020 14:30	84
26/5/2020 15:30	77
26/5/2020 16:30	90
26/5/2020 17:30	100
26/5/2020 18:30	70
26/5/2020 19:30	84
26/5/2020 20:30	86
26/5/2020 21:30	80
26/5/2020 22:30	79
26/5/2020 23:30	69
27/5/2020 0:30	91
27/5/2020 1:30	93
27/5/2020 2:30	88
27/5/2020 3:30	89
27/5/2020 4:30	85
27/5/2020 5:30	83
27/5/2020 6:30	84
27/5/2020 7:30	70
27/5/2020 8:30	79
Average	83
Action Level	165
Limit Level	260

- Remark
1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 2. The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.

**24-hour TSP Impact Monitoring Result for
NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)**

AMS 13 - Fung Wo Estate

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
2/5/2020 9:51	69
2/5/2020 10:51	92
2/5/2020 11:51	83
2/5/2020 12:51	90
2/5/2020 13:51	77
2/5/2020 14:51	89
2/5/2020 15:51	71
2/5/2020 16:51	88
2/5/2020 17:51	69
2/5/2020 18:51	74
2/5/2020 19:51	77
2/5/2020 20:51	75
2/5/2020 21:51	92
2/5/2020 22:51	87
2/5/2020 23:51	71
3/5/2020 0:51	75
3/5/2020 1:51	87
3/5/2020 2:51	74
3/5/2020 3:51	84
3/5/2020 4:51	81
3/5/2020 5:51	82
3/5/2020 6:51	84
3/5/2020 7:51	77
3/5/2020 8:51	86
Average	81
Action Level	174
Limit Level	260

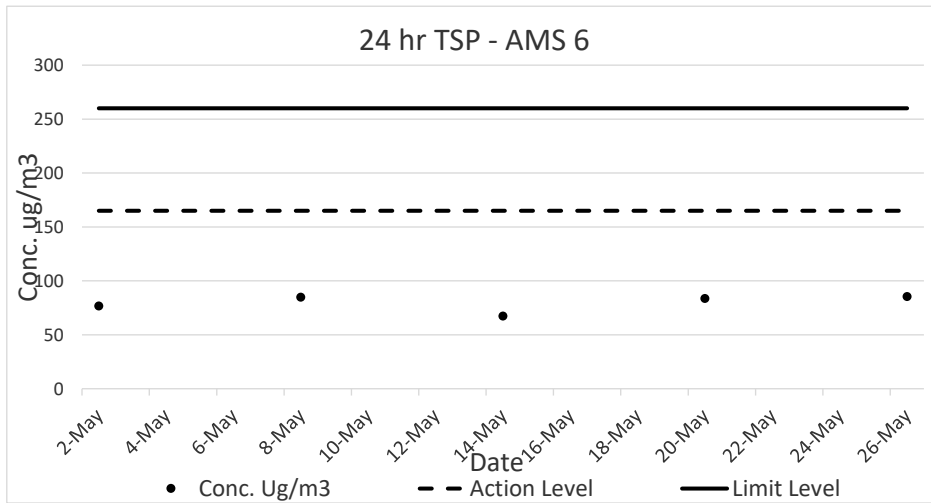
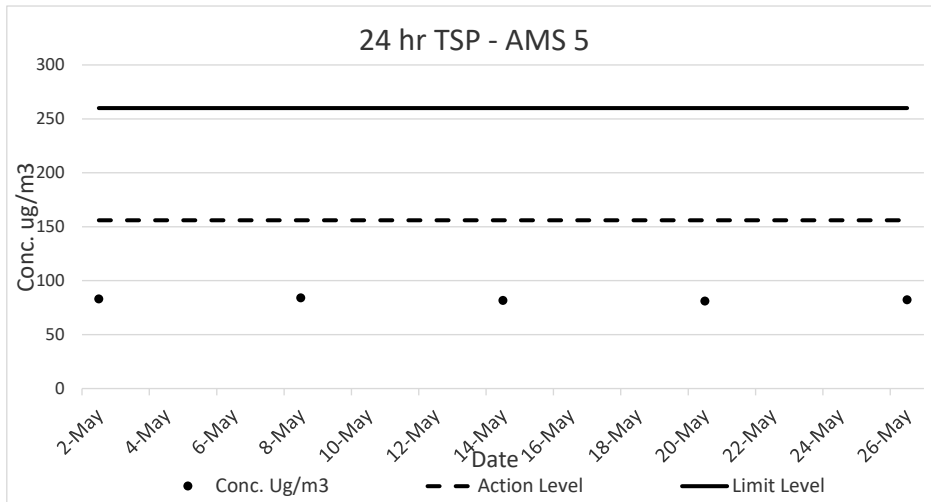
Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
8/5/2020 9:50	69
8/5/2020 10:50	84
8/5/2020 11:50	89
8/5/2020 12:50	88
8/5/2020 13:50	73
8/5/2020 14:50	95
8/5/2020 15:50	80
8/5/2020 16:50	93
8/5/2020 17:50	76
8/5/2020 18:50	79
8/5/2020 19:50	79
8/5/2020 20:50	88
8/5/2020 21:50	92
8/5/2020 22:50	90
8/5/2020 23:50	76
9/5/2020 0:50	76
9/5/2020 1:50	78
9/5/2020 2:50	85
9/5/2020 3:50	84
9/5/2020 4:50	80
9/5/2020 5:50	88
9/5/2020 6:50	81
9/5/2020 7:50	86
9/5/2020 8:50	86
Average	83
Action Level	174
Limit Level	260

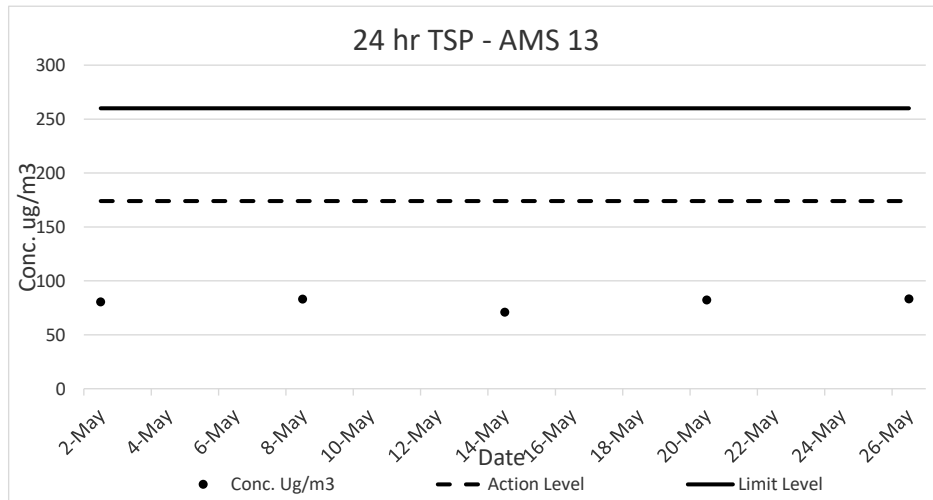
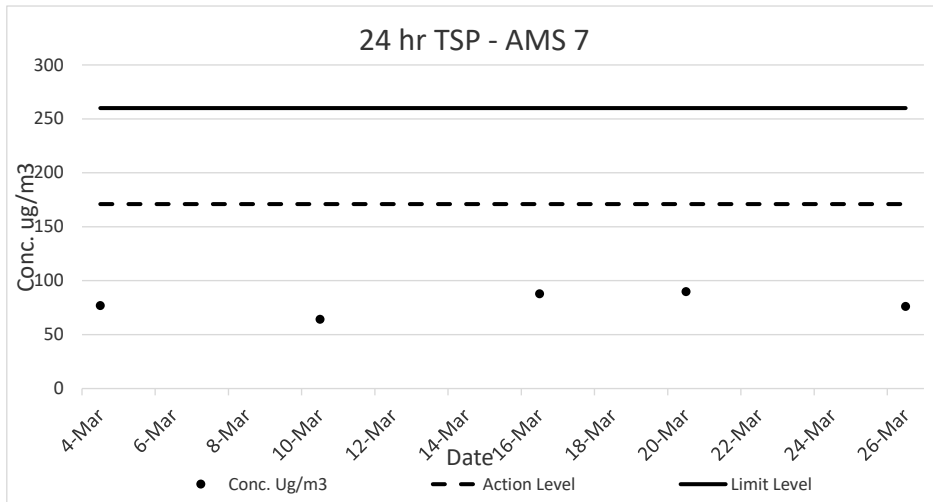
Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
14/5/2020 9:56	59
14/5/2020 10:56	70
14/5/2020 11:56	80
14/5/2020 12:56	74
14/5/2020 13:56	62
14/5/2020 14:56	77
14/5/2020 15:56	62
14/5/2020 16:56	74
14/5/2020 17:56	63
14/5/2020 18:56	65
14/5/2020 19:56	76
14/5/2020 20:56	72
14/5/2020 21:56	73
14/5/2020 22:56	74
14/5/2020 23:56	63
15/5/2020 0:56	71
15/5/2020 1:56	73
15/5/2020 2:56	77
15/5/2020 3:56	70
15/5/2020 4:56	72
15/5/2020 5:56	79
15/5/2020 6:56	68
15/5/2020 7:56	73
15/5/2020 8:56	79
Average	71
Action Level	174
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
20/5/2020 10:02	64
20/5/2020 11:02	87
20/5/2020 12:02	94
20/5/2020 13:02	82
20/5/2020 14:02	73
20/5/2020 15:02	93
20/5/2020 16:02	71
20/5/2020 17:02	82
20/5/2020 18:02	74
20/5/2020 19:02	73
20/5/2020 20:02	91
20/5/2020 21:02	90
20/5/2020 22:02	81
20/5/2020 23:02	87
21/5/2020 0:02	78
21/5/2020 1:02	85
21/5/2020 2:02	81
21/5/2020 3:02	94
21/5/2020 4:02	82
21/5/2020 5:02	81
21/5/2020 6:02	85
21/5/2020 7:02	79
21/5/2020 8:02	81
21/5/2020 9:02	91
Average	82
Action Level	174
Limit Level	260

Date and Time	TSP Concentration ($\mu\text{g}/\text{m}^3$)
26/5/2020 10:00	60
26/5/2020 11:00	86
26/5/2020 12:00	95
26/5/2020 13:00	82
26/5/2020 14:00	70
26/5/2020 15:00	85
26/5/2020 16:00	82
26/5/2020 17:00	88
26/5/2020 18:00	70
26/5/2020 19:00	80
26/5/2020 20:00	86
26/5/2020 21:00	85
26/5/2020 22:00	90
26/5/2020 23:00	91
27/5/2020 0:00	77
27/5/2020 1:00	91
27/5/2020 2:00	89
27/5/2020 3:00	88
27/5/2020 4:00	77
27/5/2020 5:00	83
27/5/2020 6:00	87
27/5/2020 7:00	82
27/5/2020 8:00	86
27/5/2020 9:00	88
Average	83
Action Level	174
Limit Level	260

- Remark
1. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
 2. The Impact Air Monitoring Stations to be monitored should be selected based on the prevailing wind direction and their proximity to the active construction works.





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 G

Noise Monitoring Data

**Impact Noise Monitoring Result for
NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)**

NMS 1 Scenery Court

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
		Unit: dB(A) 30 Mins						
5-May-20	8:30	66.8	65.8	67.8	75	66.8	Sunny	0.6
15-May-20	8:40	66.7	65.7	68.7		66.7	Sunny	0.8
21-May-20	8:26	65.3	63.3	67.3		65.3	Overcast	0.8
27-May-20	8:44	66.9	64.9	67.9		66.9	Fine	0.5

NMS 2 Villa Le Parc

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
		Unit: dB(A) 30 Mins						
5-May-20	9:50	61.3	59.3	63.3	75	61.3	Sunny	0.6
15-May-20	9:48	60.3	58.3	62.3		60.3	Sunny	0.8
21-May-20	9:51	61.4	59.4	64.4		61.4	Overcast	0.8
27-May-20	9:49	59.7	57.7	62.7		59.7	Fine	0.5

NMS 3 Hilton Plaza

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
		Unit: dB(A) 30 Mins						
5-May-20	9:14	69.2	68.2	70.2	75	69.2	Sunny	0.6
15-May-20	9:12	68.7	67.7	71.7		68.7	Sunny	0.7
21-May-20	9:17	69.3	68.3	71.3		69.3	Overcast	0.8
27-May-20	9:16	70.2	68.2	71.2		70.2	Fine	0.5

NMS 4 Tin Liu

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
		Unit: dB(A) 30 Mins						
5-May-20	10:20	69.4	68.4	70.4	75	69.4	Sunny	0.6
15-May-20	10:17	68.4	66.4	71.4		68.4	Sunny	0.8
21-May-20	10:22	68.6	67.6	71.6		68.6	Overcast	0.8
27-May-20	10:18	69.8	67.8	71.8		69.8	Fine	0.5

NMS 5A Wai Wah Centre

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
		Unit: dB(A) 30 Mins						
5-May-20	16:29	72.6	70.6	74.6	75	72.6	Sunny	0.6
15-May-20	16:33	71.8	70.8	72.8		71.8	Sunny	0.9
21-May-20	16:27	72.4	70.4	75.4		72.4	Overcast	0.8
27-May-20	16:30	70.9	69.9	71.9		70.9	Fine	0.6

NMS 6A Wai Wah Centre

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
		Unit: dB(A) 30 Mins						
5-May-20	15:48	70.3	68.3	71.3	75	70.3	Sunny	0.6
15-May-20	15:45	71.6	70.6	73.6		71.6	Sunny	1.0
21-May-20	15:52	71.4	70.4	74.4		71.4	Overcast	0.7
27-May-20	15:47	71.1	70.1	72.1		71.1	Fine	0.6

NMS 7 Tin Liu

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
5-May-20	13:11	71.3	69.3	74.3	75	71.3	Sunny	0.6
15-May-20	13:05	70.4	68.4	73.4		70.4	Sunny	0.9
21-May-20	13:07	69.7	67.7	72.7		69.7	Overcast	0.9
27-May-20	13:14	69.8	67.8	71.8		69.8	Fine	0.7

NMS 8 Shatin Plaza

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	15:30	68.7	66.7	71.7	75	68.7	Sunny	0.5
14-May-20	15:33	70.3	68.3	73.3		70.3	Sunny	1.0
20-May-20	15:39	71.8	70.8	74.8		71.8	Fine	0.6
26-May-20	15:34	69.8	68.8	72.8		69.8	Fine	0.7

NMS 9 Lek Yuen Estate

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	16:47	67.7	65.7	68.7	75	67.7	Sunny	0.6
14-May-20	16:50	67.4	66.4	68.4		67.4	Sunny	0.9
20-May-20	16:48	68.8	66.8	70.8		68.8	Fine	0.9
26-May-20	16:45	66.9	64.9	67.9		66.9	Fine	0.7

NMS 10A Shatin Tsung Tsin School

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	14:50	64.4	62.4	65.4	70	64.4	Sunny	0.5
14-May-20	14:53	64.2	63.2	66.2		64.2	Sunny	1.0
20-May-20	14:57	63.9	61.9	66.9		63.9	Fine	0.6
26-May-20	14:52	64.0	63.0	67.0		64.0	Fine	0.7

*Note: The Education Bureau (EDB) announced all schools will continue to be suspended until further notice.

NMS 11 Sheung Wo Che

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	13:44	69.2	67.2	72.2	75	69.2	Sunny	0.5
14-May-20	13:48	68.7	67.7	71.7		68.7	Sunny	0.9
20-May-20	13:46	69.4	68.4	71.4		69.4	Fine	0.8
26-May-20	13:40	68.5	67.5	69.5		68.5	Fine	0.7

NMS 12 SKH Holy Spirit Primary School

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	11:22	64.8	62.8	65.8	70	64.8	Sunny	0.5
14-May-20	11:30	64.9	62.9	67.9		64.9	Sunny	1.0
20-May-20	11:36	65.3	64.3	67.3		65.3	Fine	0.6
26-May-20	11:26	64.2	63.2	65.2		64.2	Fine	0.7

*Note: The Education Bureau (EDB) announced all schools will continue to be suspended until further notice.

Calculated CNL = Measured Noise Level during operation – Baseline (dB(A)).

NMS 13 Lek Yuen Estate

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	11:03	69.3	68.3	71.3	75	69.3	Sunny	0.5
14-May-20	10:55	68.4	66.4	70.4		68.4	Sunny	1.1
20-May-20	11:10	69.8	67.8	72.8		69.8	Fine	0.6
27-May-20	11:16	67.4	65.4	70.4		67.4	Fine	0.3

NMS 14 Sheung Wo Che

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	14:20	69.5	67.5	71.5	75	69.5	Sunny	0.5
14-May-20	14:33	65.8	64.8	68.8		65.8	Sunny	0.4
20-May-20	14:40	68.7	66.7	70.7		68.7	Fine	0.8
26-May-20	14:36	69.4	68.4	71.4		69.4	Fine	0.9

NMS 15 Ha Wo Che

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
5-May-20	15:10	68.4	66.4	70.4	75	68.4	Sunny	0.6
15-May-20	15:05	67.4	65.4	68.4		67.4	Sunny	0.4
21-May-20	15:15	68.7	66.7	70.7		68.7	Overcast	0.8
27-May-20	15:08	68.3	66.3	70.3		68.3	Fine	0.5

NMS 16 Ha Wo Che

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
5-May-20	14:37	66.5	65.5	69.5	75	66.5	Sunny	0.8
15-May-20	14:30	65.7	63.7	67.7		65.7	Sunny	0.9
21-May-20	14:31	67.3	66.3	69.3		67.3	Overcast	0.7
27-May-20	14:29	68.1	66.1	70.1		68.1	Fine	0.6

NMS 17 Shatin Pui Ying College

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	9:48	65.2	64.2	67.2	70	65.2	Sunny	0.6
14-May-20	9:50	64.3	62.3	65.3		64.3	Sunny	0.5
20-May-20	9:52	64.1	62.1	67.1		64.1	Fine	0.8
26-May-20	9:49	63.8	61.8	64.8		63.8	Fine	0.5

*Note: The Education Bureau (EDB) announced all schools will continue to be suspended until further notice.

NMS 18 Ha Wo Che

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
5-May-20	14:02	65.0	64.0	66.0	75	65.0	Sunny	0.6
15-May-20	14:03	64.9	63.9	66.9		64.9	Sunny	0.8
21-May-20	14:10	65.6	64.6	68.6		65.6	Overcast	0.9
27-May-20	14:09	66.1	64.1	69.1		66.1	#REF!	1.1

Calculated CNL = Measured Noise Level during operation – Baseline (dB(A)).

NMS 19 Wo Che Estate

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	9:10	68.3	66.3	70.3	75	68.3	Sunny	0.5
14-May-20	9:14	67.2	65.2	70.2		67.2	Sunny	0.9
20-May-20	9:12	68.4	67.4	70.4		68.4	Fine	0.7
27-May-20	9:11	69.1	67.1	72.1		69.1	Fine	0.8

NMS 20 Wo Che Estate

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	8:40	69.2	68.2	70.2	75	69.2	Sunny	0.5
14-May-20	8:46	67.8	65.8	70.8		67.8	Sunny	0.6
20-May-20	8:44	67.4	65.4	68.4		67.4	Fine	0.8
26-May-20	8:50	68.3	66.3	71.3		68.3	Fine	0.4

NMS 23 Pai Tau

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
5-May-20	11:33	68.3	67.3	69.3	75	68.3	Sunny	0.5
15-May-20	11:30	67.6	65.6	70.6		67.6	Sunny	0.9
21-May-20	11:37	66.9	65.9	67.9		66.9	Overcast	0.8
27-May-20	11:32	68.6	66.6	70.6		68.6	Fine	0.6

NMS 24 Shatin Plaza

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	16:04	69.2	68.2	72.2	75	69.2	Sunny	0.5
14-May-20	16:00	70.3	68.3	73.3		70.3	Sunny	0.8
20-May-20	16:03	71.2	69.2	73.2		71.2	Fine	0.8
26-May-20	16:10	69.7	67.7	71.7		69.7	Fine	0.3

NMS 25A Sheung Wo Che

Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	13:00	69.2	68.2	71.2	75	69.2	Sunny	0.6
14-May-20	13:06	71.3	69.3	72.3		71.3	Sunny	0.4
20-May-20	13:08	70.4	69.4	71.4		70.4	Fine	0.8
26-May-20	13:01	70.6	68.6	71.6		70.6	Fine	0.6

NMS 26 Wo Che Estate

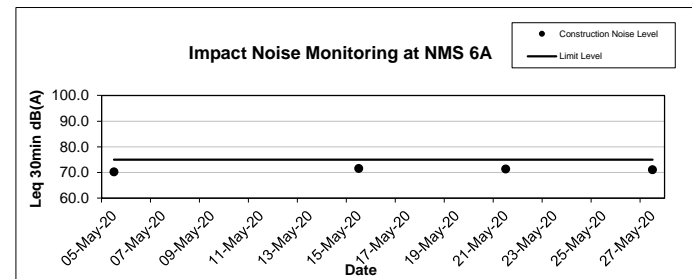
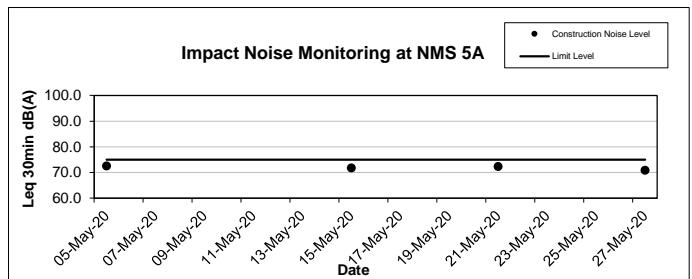
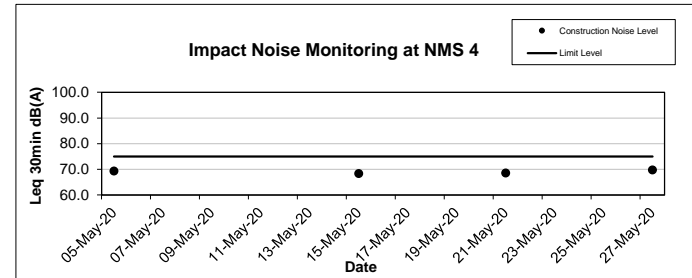
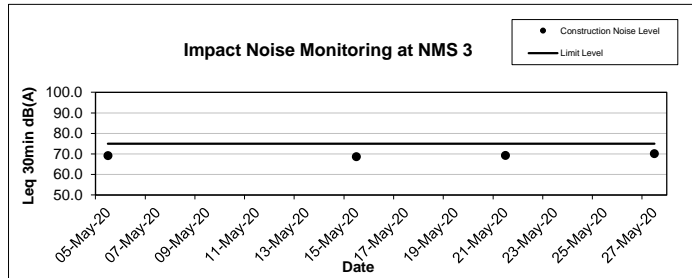
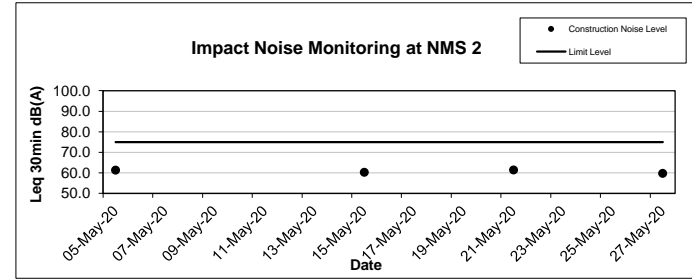
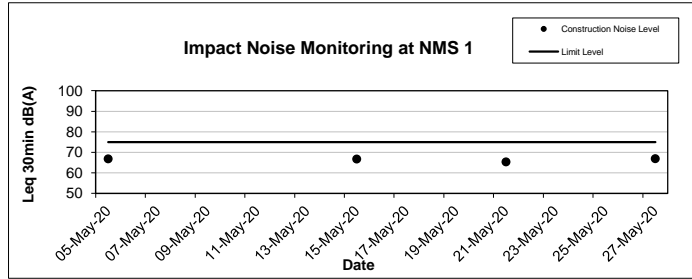
Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
4-May-20	10:25	71.1	69.1	74.1	75	71.1	Sunny	0.5
14-May-20	10:28	72.0	71.0	74.0		72.0	Sunny	0.8
20-May-20	10:21	69.6	67.6	70.6		69.6	Fine	0.6
26-May-20	10:19	70.4	68.4	73.4		70.4	Fine	0.7

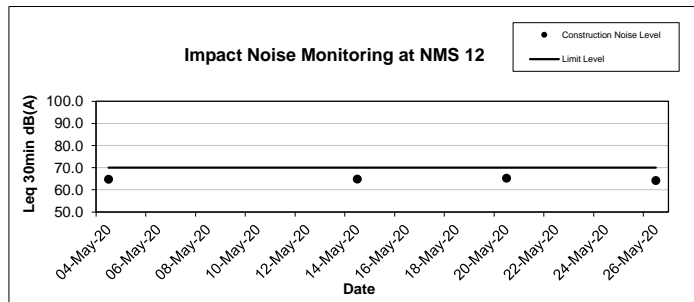
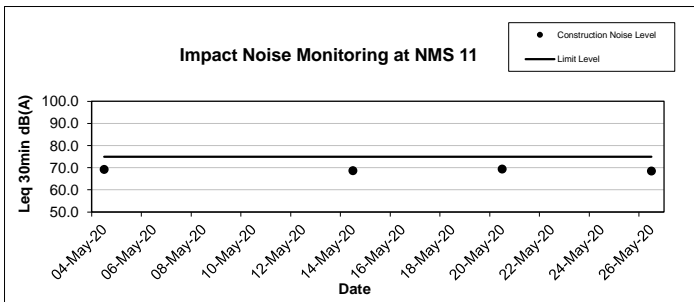
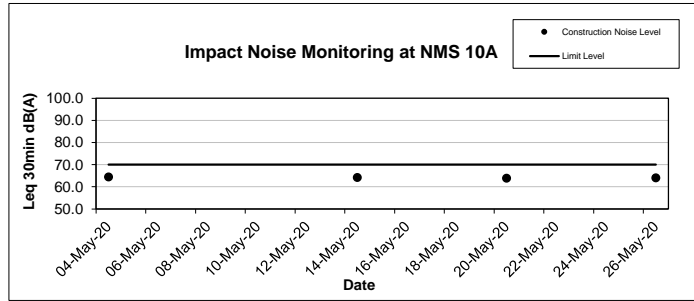
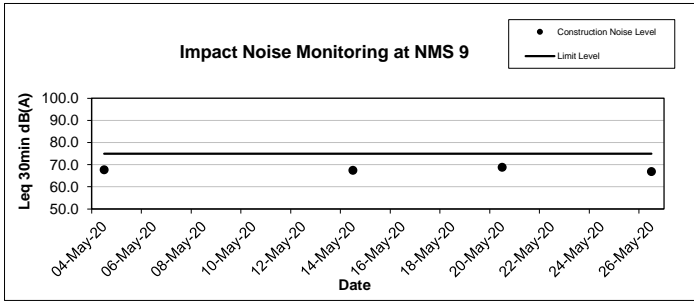
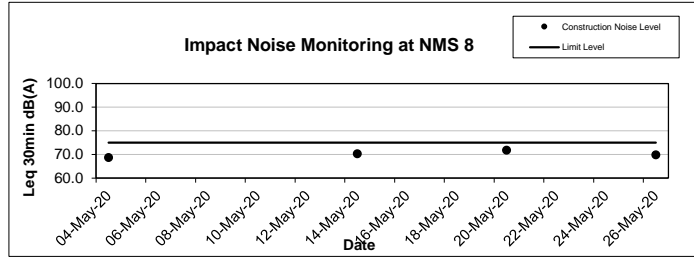
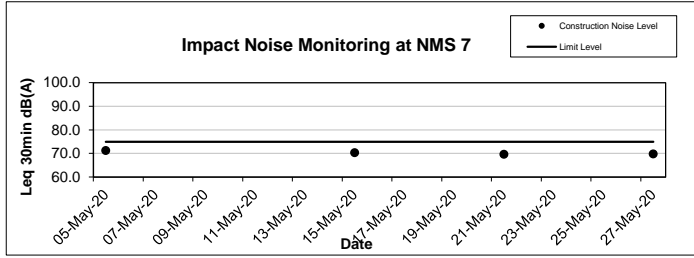
NMS 27 Jockey Club Ti-I College

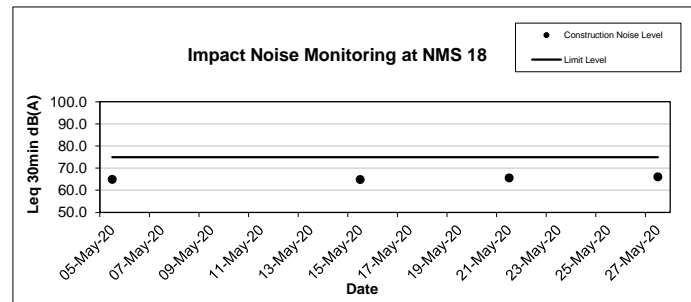
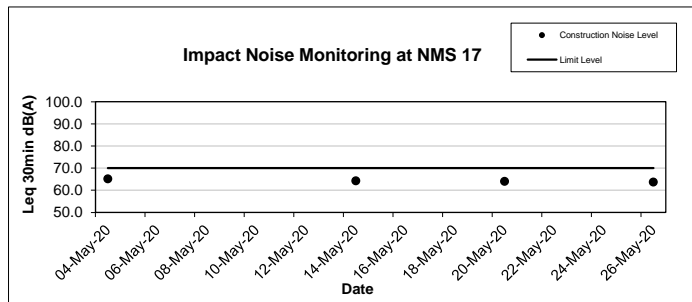
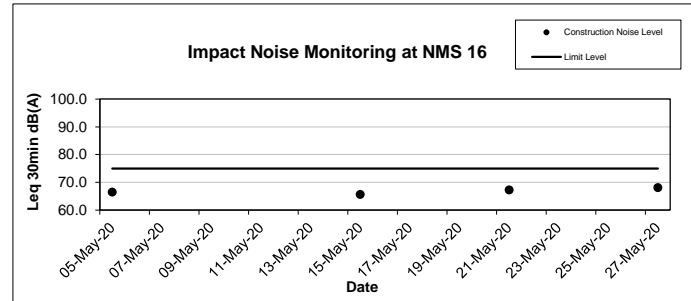
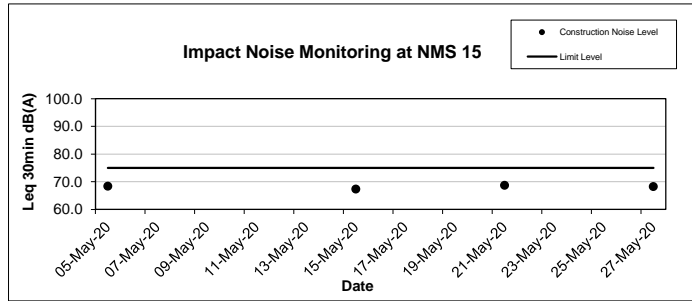
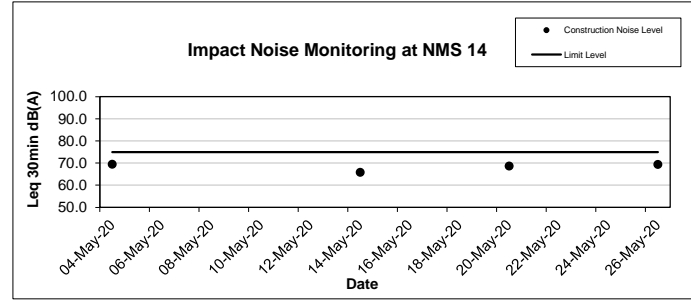
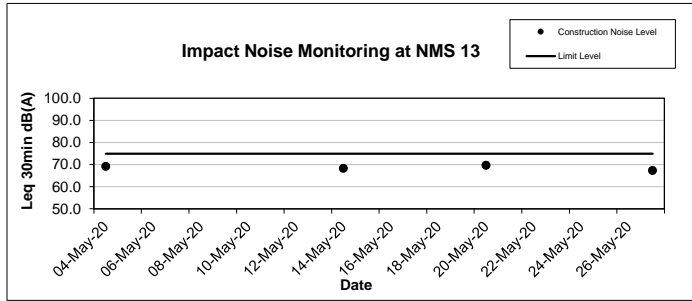
Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L _{eq}	L ₉₀	L ₁₀				
Unit: dB(A) 30 Mins								
5-May-20	13:12	64.7	62.7	65.7	70	64.7	Sunny	0.6
15-May-20	13:11	65.0	64.0	67.0		65.0	Sunny	0.5
21-May-20	13:17	66.9	65.9	69.9		66.9	Overcast	0.7
27-May-20	13:10	63.8	61.8	66.8		63.8	Fine	0.8

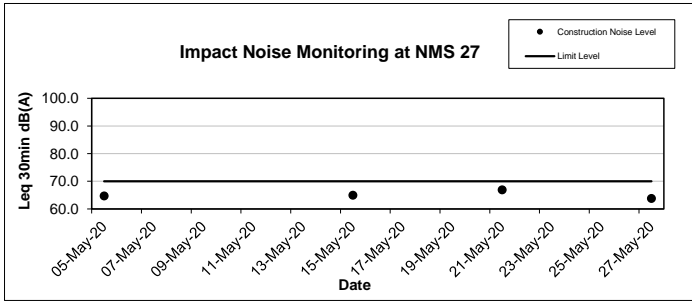
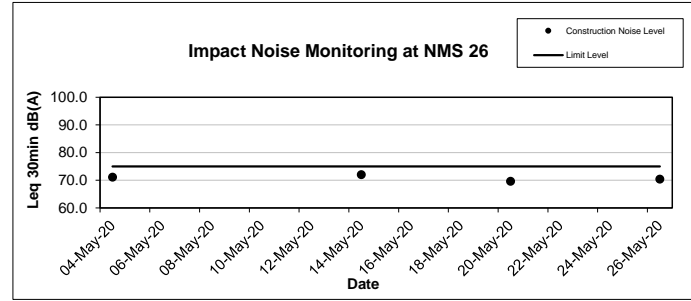
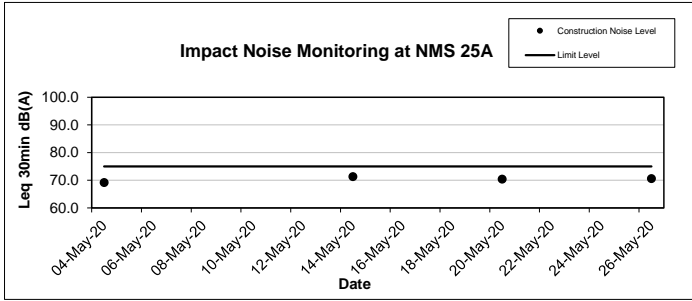
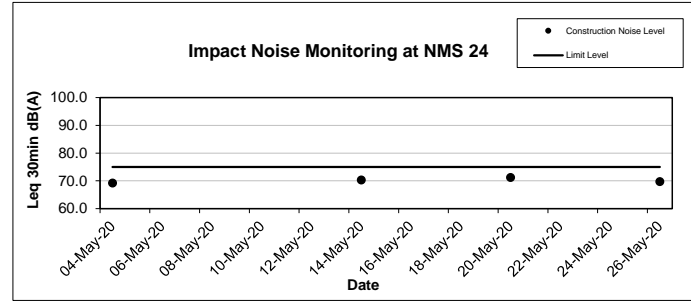
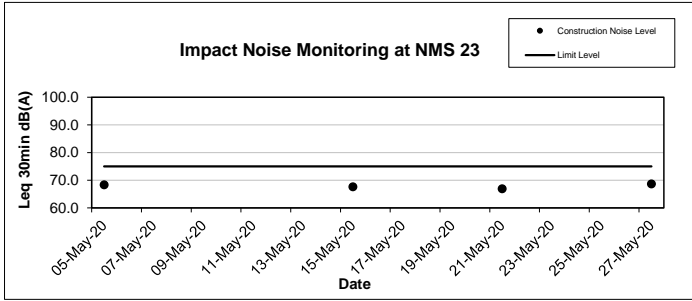
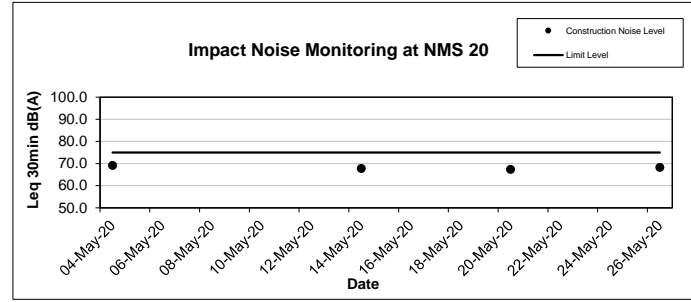
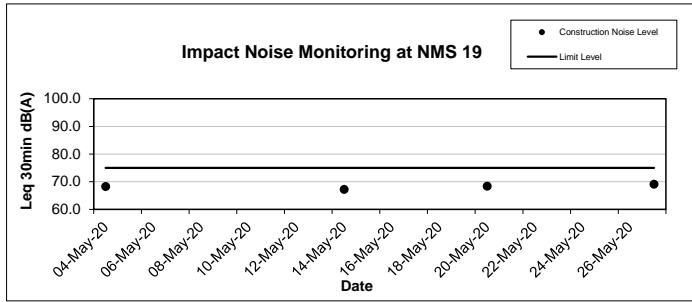
*Note: The Education Bureau (EDB) announced all schools will continue to be suspended until further notice.

Calculated CNL = Measured Noise Level during operation – Baseline (dB(A)).









Night Time Noise Monitoring Result for NOD 03-2018 Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

NMS 1 Scenery Court

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
7-May-20	23:02	61.2	61.4	52.8 - 66.3	55	Measured Noise Level<Baseline	Fine	0.4
14-May-20	23:00	59.0			55	Measured Noise Level<Baseline	Fine	0.4
21-May-20	23:03	58.0			55	Measured Noise Level<Baseline	Drizzle	0.8
28-May-20	23:00	58.1			55	Measured Noise Level<Baseline	Fine	0.3

NMS 2 Villa Le Parc

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	2:58	47.1	49.7	40.1 - 58.2	55	Measured Noise Level<Limit Level	Fine	0.6
15-May-20	2:38	45.1			55	Measured Noise Level<Limit Level	Fine	0.2
22-May-20	2:43	46.0			55	Measured Noise Level<Limit Level	Drizzle	0.9
29-May-20	3:20	52.5			55	Measured Noise Level<Limit Level	Fine	0.4

NMS 3 Hilton Plaza

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
7-May-20	23:00	60.3	70.9	60.2 - 78.9	55	Measured Noise Level<Baseline	Fine	0.5
14-May-20	23:00	61.3			55	Measured Noise Level<Baseline	Fine	0.2
21-May-20	23:01	62.0			55	Measured Noise Level<Baseline	Drizzle	0.8
28-May-20	23:00	61.9			55	Measured Noise Level<Baseline	Fine	0.3

NMS 4 Tin Liu

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	2:52	56.6	62.6	53.1 - 68.1	55	Measured Noise Level<Baseline	Fine	0.4
15-May-20	2:46	56.4			55	Measured Noise Level<Baseline	Fine	0.4
22-May-20	2:49	58.0			55	Measured Noise Level<Baseline	Drizzle	0.9
29-May-20	2:47	57.7			55	Measured Noise Level<Baseline	Fine	0.3

NMS 5A Wai Wah Centre

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
7-May-20	23:19	67.6	67.9	62.0 - 75.2	55	Measured Noise Level<Baseline	Fine	0.4
14-May-20	23:20	67.3			55	Measured Noise Level<Baseline	Fine	0.4
21-May-20	23:25	67.9			55	38.2*	Drizzle	0.6
28-May-20	23:20	67.5			55	Measured Noise Level<Baseline	Fine	0.4

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 6A Wai Wah Centre

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
7-May-20	23:25	69.7	71.5	65.0 - 85.9	55	Measured Noise Level<Baseline	Fine	0.7
14-May-20	23:25	69.4			55	Measured Noise Level<Baseline	Fine	0.2
21-May-20	23:31	69.8			55	Measured Noise Level<Baseline	Drizzle	0.8
28-May-20	23:26	70.0			55	Measured Noise Level<Baseline	Fine	0.3

NMS 7 Tin Liu

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	2:46	60.1	59.0	51.4 - 65.5	55	53.5*	Fine	0.4
15-May-20	2:44	58.9		51.4 - 65.5	55	Measured Noise Level<Baseline	Fine	0.4
22-May-20	2:48	58.9		51.4 - 65.5	55	Measured Noise Level<Baseline	Drizzle	0.4
29-May-20	2:40	57.3		51.4 - 65.5	55	Measured Noise Level<Baseline	Fine	0.3

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 8 Shatin Plaza

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
7-May-20	23:49	59.2	64.4	55.6 - 72.8	55	Measured Noise Level<Baseline	Fine	0.8
14-May-20	23:49	58.0		55.6 - 72.8	55	Measured Noise Level<Baseline	Fine	0.2
21-May-20	23:48	58.1		55.6 - 72.8	55	Measured Noise Level<Baseline	Drizzle	0.8
28-May-20	23:40	60.7		55.6 - 72.8	55	Measured Noise Level<Baseline	Fine	0.3

NMS 9 Lek Yuen Estate

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	0:20	56.7	53.5	39.5 - 63.1	55	53.9*	Fine	0.7
15-May-20	0:20	54.2		39.5 - 63.1	55	Measured Noise Level<Limit Level	Fine	0.2
22-May-20	0:23	55.1		39.5 - 63.1	55	49.9*	Drizzle	0.8
29-May-20	0:15	56.8		39.5 - 63.1	55	54.1*	Fine	0.3

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 11 Sheung Wo Che

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	2:06	56.7	53.2	46.1 - 62.8	55	54.1*	Fine	0.6
15-May-20	2:04	56.1		46.1 - 62.8	55	53.1*	Fine	0.6
22-May-20	2:08	56.7		46.1 - 62.8	55	54.1*	Drizzle	0.6
29-May-20	2:03	56.5		46.1 - 62.8	55	53.7*	Fine	0.3

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 13 Lek Yuen Estate

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	0:28	58.3	57.3	45.4 - 72.5	55	51.4*	Fine	0.5
15-May-20	0:30	57.7		45.4 - 72.5	55	46.8*	Fine	0.4
22-May-20	0:31	58.1		45.4 - 72.5	55	50.5*	Drizzle	0.6
29-May-20	0:28	57.6		45.4 - 72.5	55	45.7*	Fine	0.6

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 14 Sheung Wo Che

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	1:40	57.2	54.1	46.1 - 62.8	55	54.3*	Fine	0.6
15-May-20	1:47	53.7		46.1 - 62.8	55	Measured Noise Level<Limit Level	Fine	0.2
22-May-20	1:49	55.0		46.1 - 62.8	55	47.7*	Drizzle	0.8
29-May-20	1:45	54.9		46.1 - 62.8	55	Measured Noise Level<Limit Level	Fine	0.3

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 15 Ha Wo Che

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	1:52	59.2	58.8	48.4 - 69.7	55	48.8*	Fine	0.6
15-May-20	1:55	59.0		48.4 - 69.7	55	45.9*	Fine	0.4
22-May-20	1:57	58.4		48.4 - 69.7	55	Measured Noise Level<Baseline	Drizzle	0.6
29-May-20	2:01	58.2		48.4 - 69.7	55	Measured Noise Level<Baseline	Fine	0.4

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

NMS 16 Ha Wo Che

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	1:24	58.8	60.1	51.4 - 69.5	55	Measured Noise Level<Baseline	Fine	0.5
15-May-20	1:22	55.0		51.4 - 69.5	55	Measured Noise Level<Baseline	Fine	0.2
22-May-20	1:23	55.0		51.4 - 69.5	55	Measured Noise Level<Limit Level	Drizzle	0.6
29-May-20	1:28	58.5		51.4 - 69.5	55	Measured Noise Level<Baseline	Fine	0.4

NMS 18 Ha Wo Che

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	1:05	58.0	63.2	56.0 - 72.1	55	Measured Noise Level<Baseline	Fine	0.5
15-May-20	1:04	59.2		56.0 - 72.1	55	Measured Noise Level<Baseline	Fine	0.2
22-May-20	1:06	59.2		56.0 - 72.1	55	Measured Noise Level<Baseline	Drizzle	0.6
29-May-20	1:15	55.0		56.0 - 72.1	55	Measured Noise Level<Baseline	Fine	0.3

NMS 19 Wo Che Estate

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	1:11	60.4	61.7	53.8 - 72.8	55	Measured Noise Level<Baseline	Fine	0.6
15-May-20	1:08	59.8		53.8 - 72.8	55	Measured Noise Level<Baseline	Fine	0.0
22-May-20	1:23	61.3		53.8 - 72.8	55	Measured Noise Level<Baseline	Drizzle	0.8
29-May-20	1:25	61.3		53.8 - 72.8	55	Measured Noise Level<Baseline	Fine	0.6

NMS 20 Wo Che Estate

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	1:24	56.7	57.7	48.6 - 71.7	55	Measured Noise Level<Baseline	Fine	0.6
15-May-20	1:26	57.2		48.6 - 71.7	55	Measured Noise Level<Baseline	Fine	0.0
22-May-20	1:33	57.6		48.6 - 71.7	55	Measured Noise Level<Baseline	Drizzle	0.8
29-May-20	1:30	56.8		48.6 - 71.7	55	Measured Noise Level<Baseline	Fine	0.6

NMS 23 Pai Tau

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	2:12	57.7	59.9	47.8 - 69.8	55	Measured Noise Level<Baseline	Fine	0.4
15-May-20	2:15	55.2		47.8 - 69.8	55	Measured Noise Level<Baseline	Fine	0.2
22-May-20	2:17	57.4		47.8 - 69.8	55	Measured Noise Level<Baseline	Drizzle	0.6
29-May-20	2:20	55.1		47.8 - 69.8	55	Measured Noise Level<Baseline	Fine	0.3

NMS 24 Shatin Plaza

Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	0:05	58.3	58.0	50.2 - 66.7	55	46.2*	Fine	0.5
15-May-20	0:03	58.2		50.2 - 66.7	55	45.2*	Fine	0.4
22-May-20	0:10	58.2		50.2 - 66.7	55	44.0*	Drizzle	0.6
29-May-20	0:13	59.2		50.2 - 66.7	55	53.0*	Fine	0.6

Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

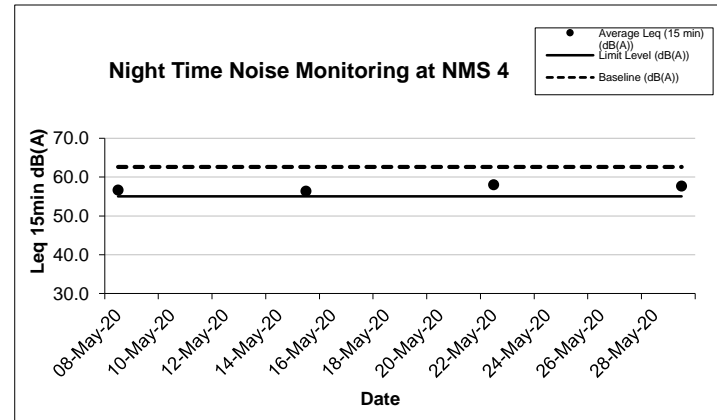
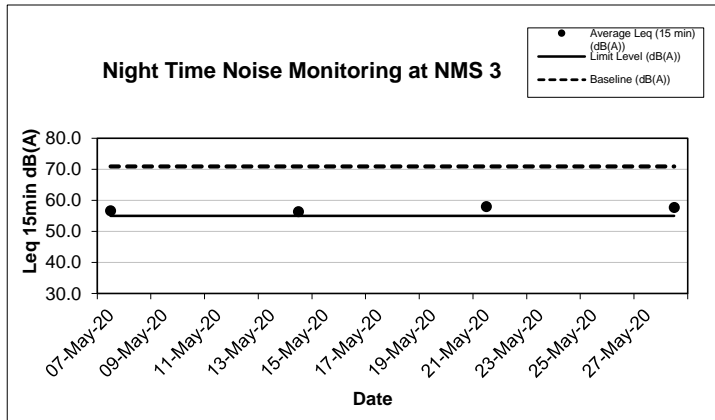
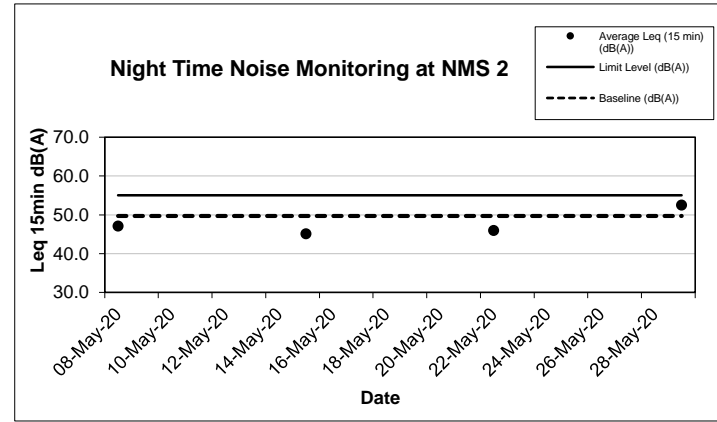
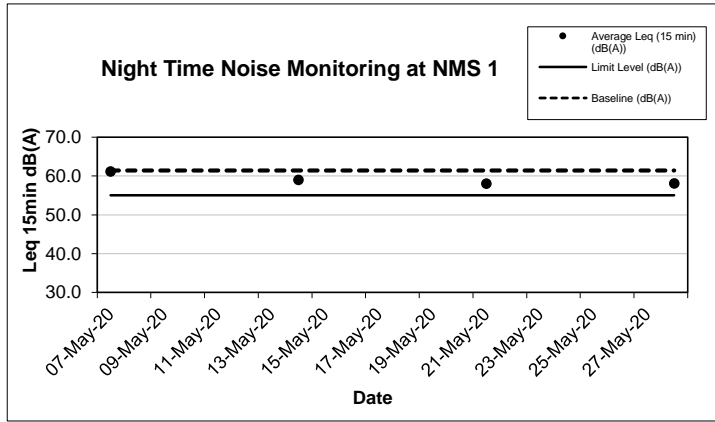
NMS 25A Sheung Wo Che

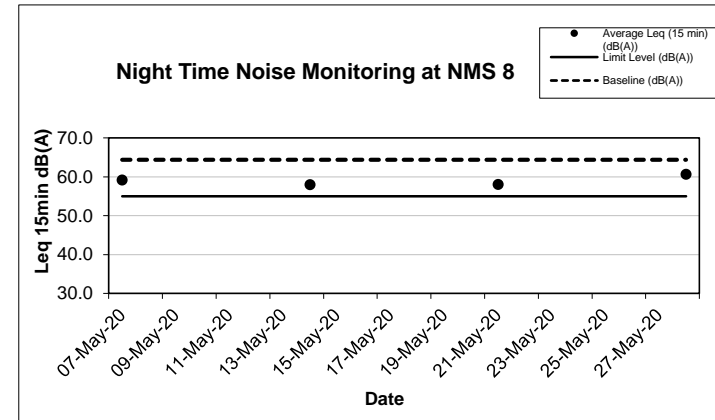
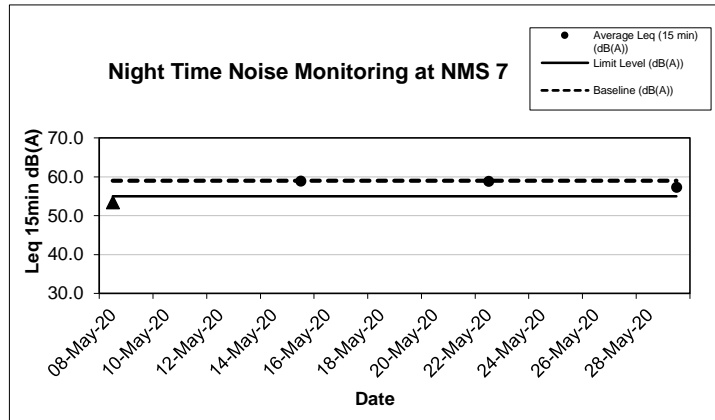
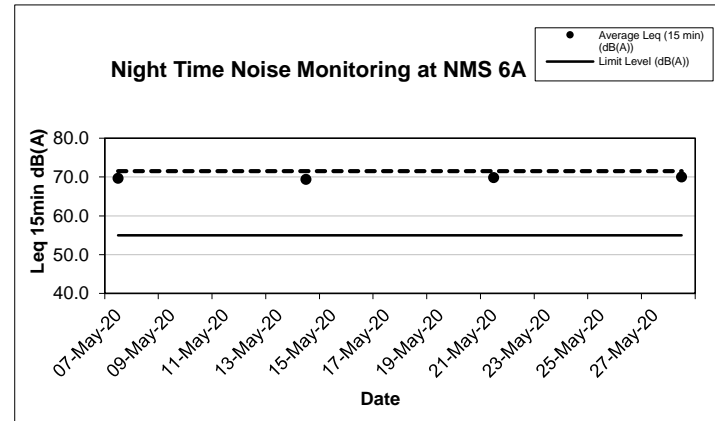
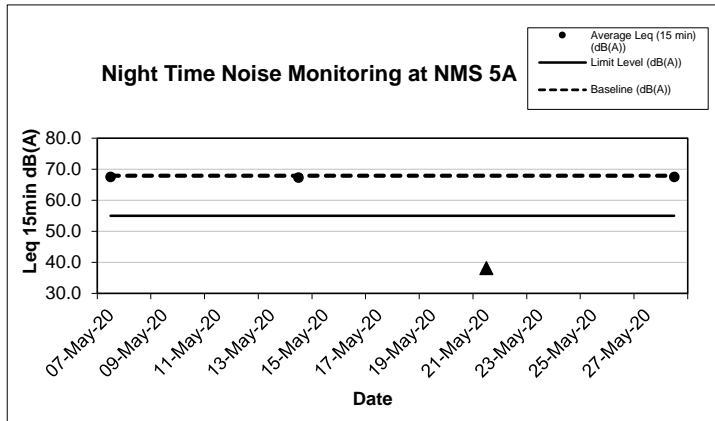
Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	2:25	60.6	59.7	50.3 - 68.4	55	53.4*	Fine	0.5
15-May-20	2:22	60.4		50.3 - 68.4	55	52.1*	Fine	0.6
22-May-20	2:25	60.9		50.3 - 68.4	55	54.9*	Drizzle	0.6
29-May-20	2:30	60.8		50.3 - 68.4	55	54.2*	Fine	0.4

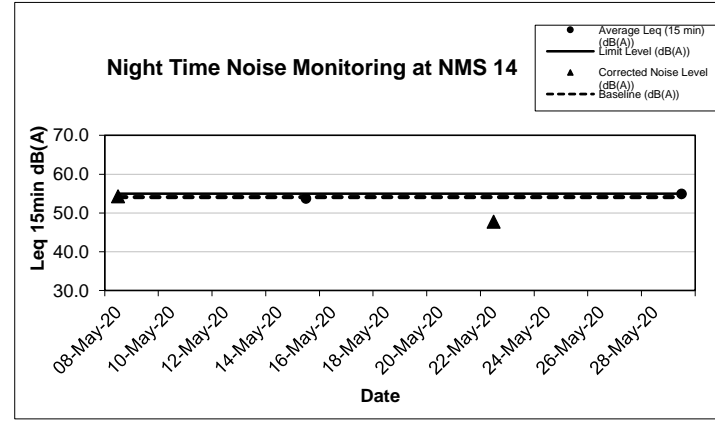
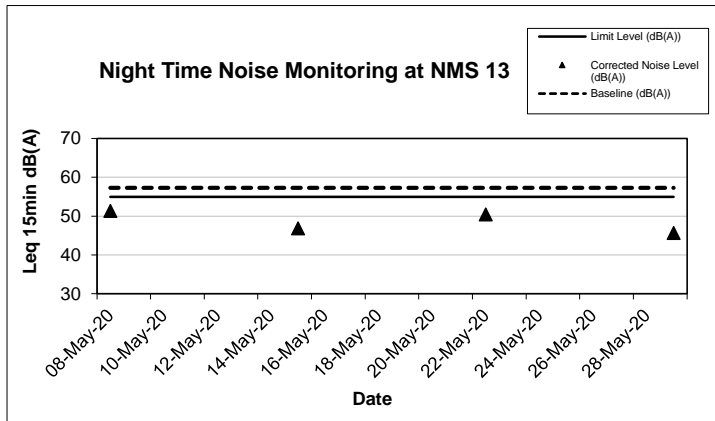
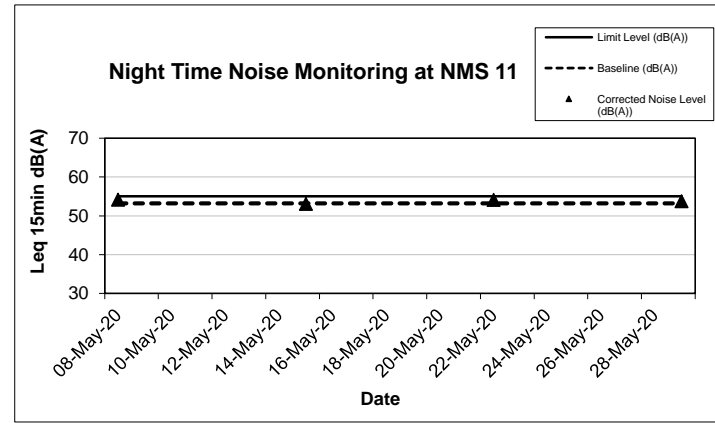
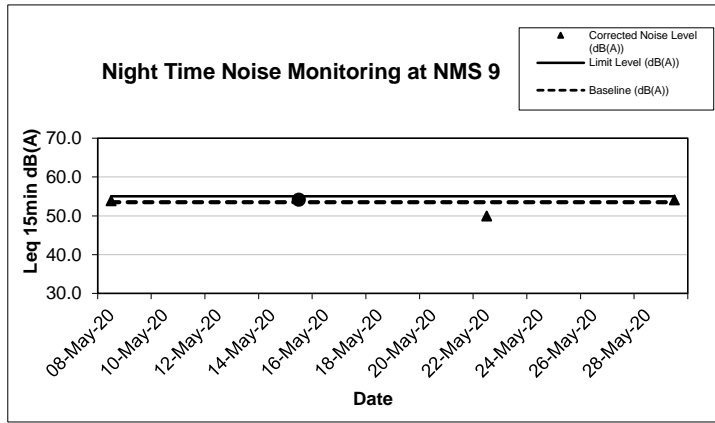
Note: *Corrected Noise Level in Leq (15min) dB(A) was/were lower than Limit level: 55 dB(A).

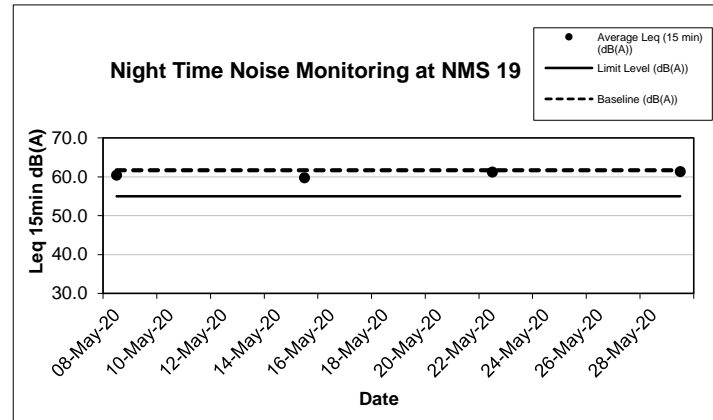
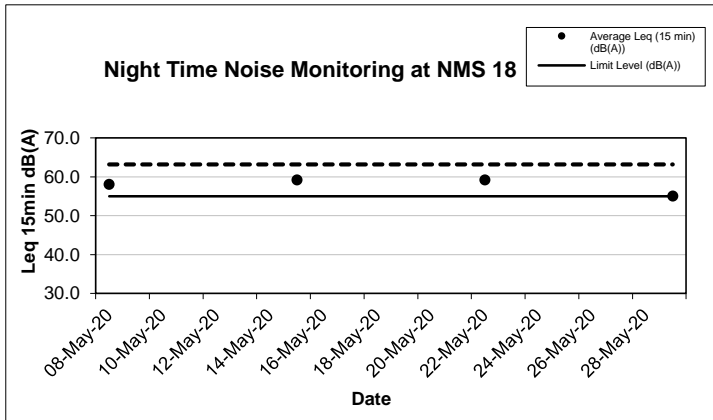
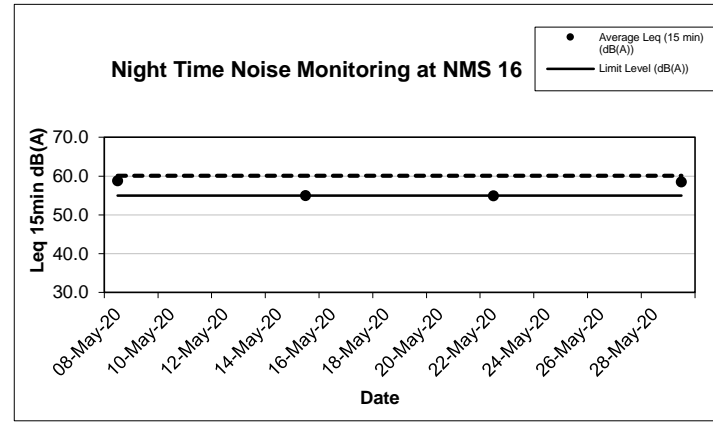
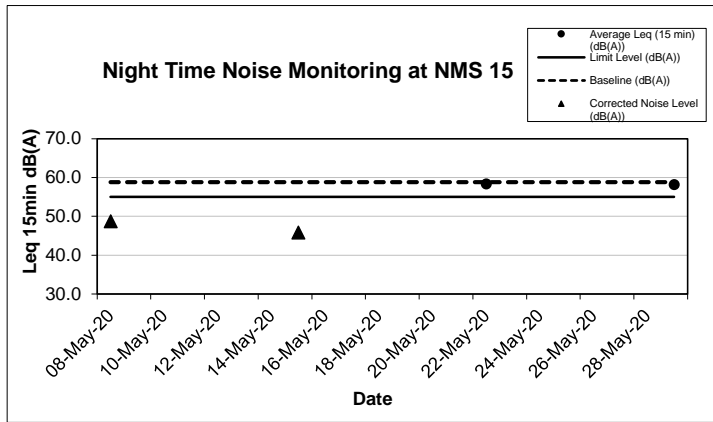
NMS 26 Wo Che Estate

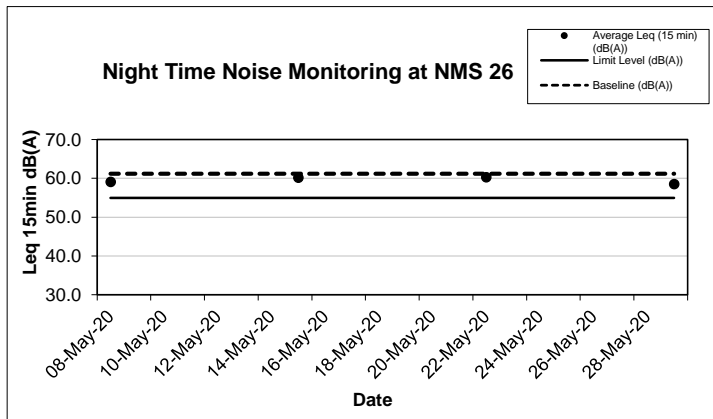
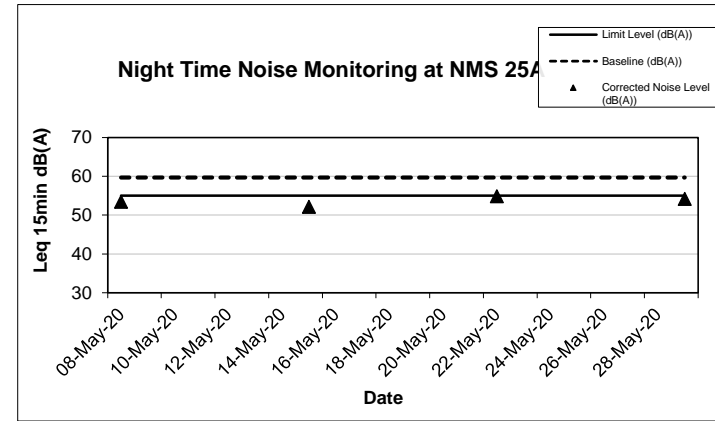
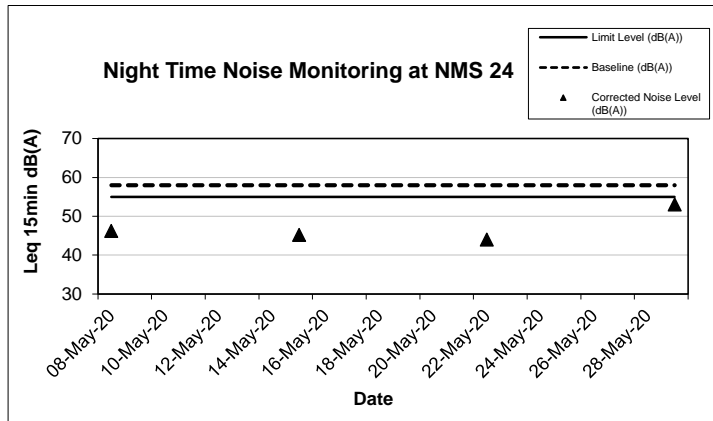
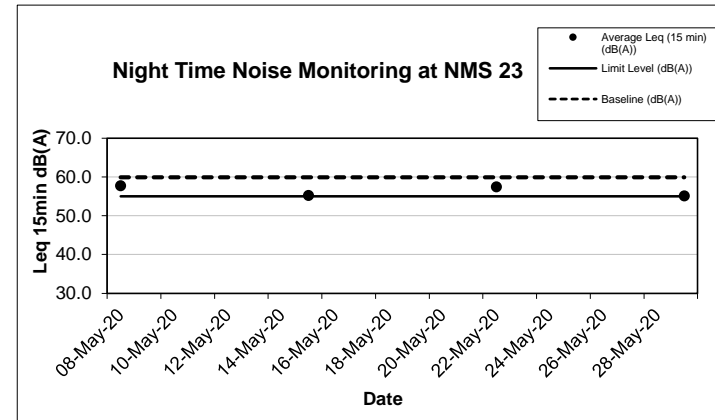
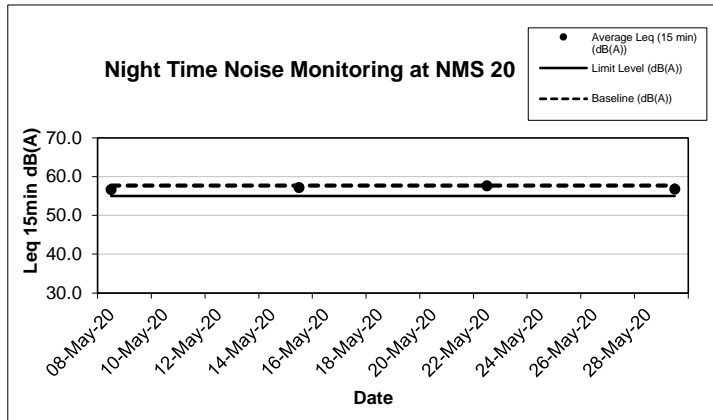
Date	Start Time	Average Leq (15 min) (dB(A))	Baseline (dB(A))	Baseline Range (dB(A))	Limit Level (dB(A))	Corrected Noise Level (dB(A))	Weather	Wind Speed (m/s)
8-May-20	0:42	59.1	61.2	45.7 - 70.1	55	Measured Noise Level<Baseline	Fine	0.9
15-May-20	0:46	60.2		45.7 - 70.1	55	Measured Noise Level<Baseline	Fine	0.2
22-May-20	0:51	60.3		45.7 - 70.1	55	Measured Noise Level<Baseline	Drizzle	0.8
29-May-20	0:41	58.5		45.7 - 70.1	55	Measured Noise Level<Baseline	Fine	0.3











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 H

Events and Action Plan

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



Event and Action Plan for Construction Dust Monitoring

EVENT	ACTION			
	ET Leader	IEC	SO	Contractor
Action Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> Identify the source. Inform the IEC and the SO. Repeat measurement to confirm findings. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET Leader. Check Contractor's working method. 	<ol style="list-style-type: none"> Notify Contractor. 	<ol style="list-style-type: none"> Rectify any unacceptable practice. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> Identify the source. Inform the IEC and the SO. Repeat measurement to confirm findings. Increase monitoring frequency to daily. Discuss with the IEC and the Contractor on remedial actions required. If exceedance continues, arrange meeting with the IEC and the SO. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET Leader. Check the Contractor's working method. Discuss with the ET Leader and the Contractor on possible remedial measures. Advise the SO on the effectiveness of the proposed remedial measures. Supervisor implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing. Notify the Contractor. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> Submit proposals for remedial actions to IEC within 3 working days of notification. Implement the agreed proposals. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> Identify the source. Inform the SO and the EPD. Repeat measurement to confirm findings. Increase monitoring frequency to daily. Assess effectiveness of Contractor's remedial actions and keep the IEC, the EPD and the SO informed of the results. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET Leader. Check Contractor's working method. Discuss with the ET Leader and the Contractor on possible remedial measures. Advise the SO on the effectiveness of the proposed remedial measures. Supervisor implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing. Notify the Contractor. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance. Submit proposals for remedial actions to IEC within 3 working days of notification. Implement the agreed proposals. Amend proposal if appropriate.
2. Exceedance	<ol style="list-style-type: none"> Notify the IEC, the SO and the EPD and the 	<ol style="list-style-type: none"> Discuss amongst the SO, ET 	<ol style="list-style-type: none"> Confirm receipt of 	<ol style="list-style-type: none"> Take immediate action to avoid

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



EVENT	ACTION			
	ET Leader	IEC	SO	Contractor
for two or more consecutive samples	<p>Contractor.</p> <ol style="list-style-type: none"> 2. Identify the source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency to daily. 5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 6. Arrange meeting with the IEC and the SO to discuss the remedial actions to be taken. 7. Assess effectiveness of Contractor's remedial actions and keep the IEC, the EPD and the SO informed of the results. 8. If exceedance stops, cease additional monitoring. 	<p>Leader and the Contractor on the potential remedial actions.</p> <ol style="list-style-type: none"> 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SO accordingly. 3. Supervisor implementation of remedial measures. 	<p>notification of failure in writing.</p> <ol style="list-style-type: none"> 2. Notify the Contractor. 3. In consultation with the Contractor on the remedial measures to be implemented. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	<p>further exceedance.</p> <ol style="list-style-type: none"> 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the SO until the exceedance is abated.

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



Event and Action Plan for Noise Impact

EVENT	ACTION			
	ET Leader	IEC	SO	Contractor
Action Level	<ol style="list-style-type: none"> 1. Notify the IEC and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET. 2. Review the proposed remedial measures by the Contractor and advise the SO accordingly. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC. 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Notify the IEC, the SO and the Contractor. 2. Identify the source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform the IEC, the SO and the EPD the causes & actions taken for the exceedance. 7. Assess effectiveness if the Contractor's remedial actions and keep the IEC and the SO informed of the results. 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst the SO, the ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SO accordingly. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activities of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance, 2. Submit proposals for remedial actions to IEC within 3 working days of notification. 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the SO until the exceedance is abated.

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



Event and Action Plan for Landscape and Visual Impact

Event	Action		
	ET	SO	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Identify Source; 2. Inform the Contractor and the SO; 3. Discuss remedial actions with the SO and the Contractor; and 4. Monitor remedial actions until rectification has been completed 	<ol style="list-style-type: none"> 1. Notify Contractor; and 2. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working methods; 2. Rectify damage and undertake any necessary replacement.
Repeated Non-conformity	<ol style="list-style-type: none"> 1. Identify Source; 2. Inform the Contractor and the SO; 3. Increase monitoring frequency; 4. Discuss remedial actions with the SO and the Contractor; 5. Monitor remedial actions until rectification has been completed; and 6. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Notify Contractor; and 2. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working methods; 2. Rectify damage and undertake any necessary replacement.

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 I

Waste Flow Table

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



Waste Flow Table for Year 2018

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000Ton)	(in '000kg)	(in '000Ton)	(in '000Ton)	(in '000Ton)	(in '000Ton)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000Ton)
2018 Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2018 Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
2018 Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
2018 Dec	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001
Total	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.018

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



Waste Flow Table for Year 2019

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000Ton)	(in '000kg)	(in '000Ton)	(in '000Ton)	(in '000Ton)	(in '000Ton)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000Ton)
2019 Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021
2019 Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049
2019 Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048
2019 Apr	0.100	0.000	0.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.089
2019 May	0.150	0.000	0.000	0.000	0.150	0.000	0.000	0.000	0.000	0.000	0.175
2019 Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.082
Sub-Total	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.464
2019 Jul	0.141	0.000	0.000	0.000	0.141	0.000	0.000	0.000	0.000	0.000	0.069
2019 Aug	0.431	0.000	0.221	0.000	0.210	0.000	0.000	0.000	0.000	0.000	0.154
2019 Sep	0.712	0.000	0.223	0.000	0.489	0.297	0.000	0.000	0.000	0.000	0.046
2019 Oct	0.663	0.000	0.306	0.000	0.357	1.085	0.001	0.027	0.009	0.000	0.027
2019 Nov	1.154	0.000	0.143	0.000	1.011	0.428	0.000	0.019	0.000	0.000	0.095
2019 Dec	0.849	0.000	0.023	0.000	0.826	0.074	0.000	0.014	0.001	0.000	0.034
Total	4.200	0.000	0.916	0.000	3.284	1.884	0.001	0.060	0.010	0.000	0.889

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



Waste Flow Table for Year 2020

Monthly Ending	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (Inert C&D)	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 2)	Chemical Waste	Others, e.g. general refuse
	(in '000Ton)	(in '000kg)	(in '000Ton)	(in '000Ton)	(in '000Ton)	(in '000Ton)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000Ton)
2020 Jan	0.584	0.000	0.027	0.000	0.557	0.040	0.001	0.030	0.001	0.000	0.039
2020 Feb	1.072	0.000	0.042	0.000	1.030	0.000	0.001	0.026	0.003	0.000	0.013
2020 Mar	0.422	0.000	0.006	0.000	0.416	0.062	0.000	0.000	0.000	0.000	0.054
2020 Apr	0.450	0.000	0.000	0.000	0.450	0.000	0.002	0.085	0.003	0.000	0.025
2020 May	1.144	0.000	0.000	0.000	1.144	0.319	0.001	0.021	0.005	0.000	0.027
2020 Jun											
Sub-Total	3.672	0.000	0.075	0.000	3.597	0.421	0.005	0.162	0.012	0.000	0.158
2020 Jul											
2020 Aug											
2020 Sep											
2020 Oct											
2020 Nov											
2020 Dec											
Total	3.672	0.000	0.075	0.000	3.597	0.421	0.005	0.162	0.012	0.000	0.158

Note:

- 1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
- 3) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m³.

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 J

Environmental Mitigation Implementation Schedule (EMIS)

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
<u>Noise Measures</u>				
3.10.2, 3.10.3, 3.10.14, 3.10.15 and Table 3.10	Within the boundaries of all construction sites.	• Scheduling the construction activities carefully according to the actual site work situation, avoid of concurrent activities and construction works fronting the affected schools, to minimize the total noise generated (max as 102dB (A)).	Contractor	Implemented
		• PME is recommended to operate in sub-grouping, and different sub-groups shall not be operated concurrently within any half hour period	Contractor	Implemented
		• The construction activities should be carried out in the daytime hours (0700 – 1900). Construction Noise Permit (CNP) for construction activities is required during evening or night time hours.	Contractor	Implemented
		• Construction work programme should be considered before actual construction work is undertaken, and noise mitigation measures should be implemented to minimize the potential construction noise impact. Selection and optimization of construction programmes, avoidance and reduction of parallel operation of noisy PME during noise sensitive periods.	Contractor	Implemented
		• Use of well-maintained and regularly-serviced plant during the works.	Contractor	Implemented
		• Plant operating on intermittent basis should be turned off or throttled down when not in active use.	Contractor	Implemented
		• Plant that is known to emit noise strongly in one direction should be orientated to face away from the NSRs.	Contractor	Implemented
		• Silencers, mufflers and enclosures for plant should be used where possible and maintained adequately throughout the works.	Contractor	Not Applicable
		• Fixed plants should be sited away from NSRs where possible.	Contractor	Not Applicable
		• Stockpiles of excavated materials and other structures such as site buildings should be used effectively to screen noise from the works.	Contractor	Not Applicable
3.10.4, 3.10.5 and Table 3.3		• The use of particular plant with equipment quieter than those specified in the GW-TM are recommended to reduce the noise levels generated by the plant.	Contractor	Not Applicable
		• Other type of quiet PME are allowed to use for their needs based on the actual construction conditions and programmes	Contractor	Not Applicable
3.10.6 to 3.10.9		• Temporary noise barriers provide noise attenuation by screening NSRs from stationary and mobile plants from direct line-of-sight in shadow zone.	Contractor	Implemented
		• The use of 3m high moveable barriers with skid footing and a small cantilevered upper portion should be adopted. The barrier material shall have a surface mass of not less than 14kg/m ² on skid footing with 25mm thick internal sound absorptive lining to achieve the maximum screening effect.	Contractor	Not Applicable
		• These temporary noise barriers should be located immediately adjacent to working area.	Contractor	Not Applicable

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		• The temporary noise barriers should be located along the working area to make sure the construction plant could be screened during all kinds of construction activities as far as practicable.	Contractor	Not Applicable
		• Noise jacket/muffler shall be used to cover the noisy part of the engine or at the engine exhaust of particular mobile plants respectively when temporary noise barriers are not practicable or noise reduction achieved is insufficient.	Contractor	Not Applicable
		• For the stationary plant bored pile oscillator, temporary noise barriers of sufficient height with skid footing and small cantilevered upper portion should be provided.	Contractor	Not Applicable
		• Barrier material of surface density of at least 14 kg/m ² is recommended in order to achieve the necessary screening effect.	Contractor	Not Applicable
3.10.10		• Full noise enclosures should cover the PME or fixed plants such as air compressor.	Contractor	Not Applicable
3.10.3		• Silencers, mufflers and enclosures for plant should be used where possible and maintained adequately throughout the works;	Contractor	Not Applicable
		• Where possible fixed plants should be sited away from NSRs; and	Contractor	Not Applicable
		• Stockpiles of excavated materials and other structures such as site buildings should be used effectively to screen noise from the works.	Contractor	Not Applicable
Air Quality Measures				
4.12.1 and 4.12.2	Within the boundaries of all construction sites.	• The Contractor shall notify any specific construction works as stated in the Air Pollution Control (Construction Dust) Regulation to the Authority before the commencement of such work. Dust mitigation measures stipulated in the Air Pollution Control (Construction Dust) Regulation should be implemented to control dust emissions from all construction work sites.	Contractor	Implemented
		• The Contractor shall undertake at all times to prevent dust nuisance as a result of his activities. Dust suppression measures such as the water spraying are necessary and should be installed to ensure that the air quality at the boundary of the site and at any sensitive receivers complies with the Hong Kong Air Quality Objectives.	Contractor	Implemented
		• The Contractor shall apply for a license or permit under the requirements of the relevant legislation (e.g. Air Pollution Control Ordinance and its subsidiary regulations) wherever applicable.	Contractor	Implemented
		• Watering of unpaved areas, access roads, construction areas and dusty stockpiles shall be undertaken at least eight times daily during dry and windy weather. Watering of the haul road shall be undertaken four to eight times daily during dry or windy weather. Water sprays may be either fixed or mobile to follow individual areas to be wetted as and when required. Application of suitable wetting agents, such as dust suppression chemicals, shall be used in addition to water, especially during the dry season (October to December). It is also suggested that watering with	Contractor	Implemented

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		complete coverage of active construction area eight times a day.		
		• Effective water sprays shall be used during the delivery and handling of all raw sand and aggregate, and other similar materials, wet dust is likely to be created and to dampen all stored materials during dry and windy weather.	Contractor	Partially Implemented
4.12.1		• Stockpiles of sand, aggregate or any other dusty materials greater than 20m ³ shall be enclosed on three sides, with walls extending above the pile and 1 meter beyond the front of the pile.	Contractor	Partially Implemented
		• Suitable chemical wetting agent such as dust suppression chemical shall be used on completed cuts and fills to reduce wind erosion.	Contractor	Not Observed
		• Areas within the construction site where there is a regular movement of vehicles shall have a paved surface and be kept clear of loose surface material.	Contractor	Implemented
		• The Contractor shall restrict all motorized vehicles within the construction site, excluding those on public roads, to maximum speed of 20 km per hour and confine haulage and delivery vehicles to designated roadways inside the Site.	Contractor	Implemented
		• Construction working areas should be restricted to a minimum practicable size.	Contractor	Implemented
		• The Contractor shall ensure that no earth, rock or debris is deposited on public or private rights of way as result of his activities, including any deposits arising from the movement of plant or vehicles.	Contractor	Implemented
		• The Contractor shall provide a wheel washing facility at the exits from work areas to the satisfaction of the Engineer and to the requirements of the Commissioner of Police. Water in wheel washing facilities and sediment shall be changed and removed respectively at least once a month.	Contractor	Not Applicable
		• The Contractor shall submit details of the wheel washing facilities, which shall be usable prior to any earthworks excavation activity on the construction site. The Contractor shall also provide a hard-surfaced road between any washing facility and the public road.	Contractor	Not Applicable
		• In the event of any spoil or debris from construction works being deposited on adjacent land, or steams, or any slit being washed down to any area, then all such spoil, debris or material and silt shall be immediately removed and the affected land and areas restored to their natural state by the Contractor to the satisfaction of the Engineer.	Contractor	Not Applicable
		• If spoil cannot be immediately transported out of the Site, stockpiles should be stored in sheltered areas.	Contractor	Implemented
• Plant and vehicles shall be inspected annually to ensure that they are operating efficiently and that exhaust emissions are not causing a nuisance. All site vehicle exhausts should be directed vertically upwards or directed away from ground.	Contractor	Implemented		

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
4.12.1, 4.13.1 and Table 8.2		• Construction dust monitoring shall be carried out at representative monitoring locations during the construction period.	Contractor	Implemented
		• Path for complaints and handling procedures should be set up and implement.	Contractor	Implemented
NA		• Dark smoke emission shall be control in accordance with the Air Pollution Control (Smoke) Regulation and ETWB TCW 19/2005.	Contractor	Implemented
		• Plant and equipment should be well maintained to prevent dark smoke emission.	Contractor	Implemented
		• Only approved or exempted Non-road Mobile Machineries (NRMMS) including regulated machines and non-road vehicles with proper labels are allowed to be used in specified activities on-site.	Contractor	Implemented
<u>Water Quality Measures</u>				
5.7	Within the boundaries of all construction sites.	• Silt-laden surface run-off should be prevented from directly entering the sensitive receivers during the construction works. The mitigation measures described below for the construction phase are in accordance with ProPECC PN 1/94:	Contractor	Partially Implemented
		• Construction works should be programmed so as to minimise excavation during the wet season (April to September). If this is not possible then measures should be taken to minimise the areas exposed by covering temporary exposed slopes with tarpaulins or similar material, the protection of temporary road surfaces with gravel or crushed stone and the early reinstatement of final surfaces with hydro seed grass/shrub mixture. This latter measure would have the added benefit of reducing the windblown dust during the dry season. Where temporary covering of slopes is required this should be carried out before the onset of the rainfall or storm.	Contractor	Implemented
		• Existing and newly constructed open manholes should be covered and sealed to prevent run off and water borne debris entering the drainage network without having previously passed through a sediment trap.	Contractor	Implemented
		• Stock piles of construction materials, sand and gravel or excavated material should be covered with tarpaulins prior to rainstorms. The washing of material from the stockpiles directly into the storm drains should be prevented by passing the run off through a sediment trap.	Contractor	Implemented
		• The surface water from the site should be discharged into storm water drain after passing through sand and silt traps designed to accommodate the maximum discharge from the site. Within the site channels, bunds or sandbags should be used to direct run off into the traps. Storm water from outwit the site should be prevented from washing over the site by the construction of interceptor channels at the site boundary. Both perimeter channels and the sedimentation traps should be constructed prior to the commencement of site formation and earthworks.	Contractor	Partially Implemented
		• The efficiency of the interceptor channels, traps and sedimentation chambers should be maintained	Contractor	Partially Implemented

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		by regular cleaning of accumulated silt and sand. Particular attention should be paid to maintenance following heavy rainfall and immediately after the issue of heavy rainfall warning by the Hong Kong Observatory.		
		<ul style="list-style-type: none"> The ingress of rainwater into trenches should be minimised by the construction of bunds to prevent water flowing into the trench and covering by tarpaulins to prevent direct entry. The lengths of excavated trenches should be minimised and backfilled at the earliest opportunity. Water pumped from the trenches should be discharged to the storm water drains following passage through a suitable silt trap. 	Contractor	Implemented
		<ul style="list-style-type: none"> Any ground water seeping into any trenches or foundation works should be passed through a silt trap prior to discharge to the storm water drains. 	Contractor	Implemented
		<ul style="list-style-type: none"> The water used for the washing down of mixing drums used for onsite batching of concrete and delivery lorries for off-site batched concrete should be recycled whenever possible. Wastewater generated from the washing which is discharged should be passed through a silt trap before discharge to the storm water system. 	Contractor	Not Applicable
		<ul style="list-style-type: none"> The wastewater from the washing of the wheels and subframe of vehicles returning from the site onto public roads will contain suspended solids and debris. A washing bay should be provided at the exit from the site and should, where practicable, incorporate water recirculation. Water from the washing bay which is discharged to the storm water system should first be passed through a silt trap which also includes an oil/grease removal weir. 	Contractor	Not Applicable
		<ul style="list-style-type: none"> Plant maintenance areas should be paved to prevent waste oils soaking into the ground. Where possible the area should be undercover to minimise the formation of runoff and any runoff from the paved area passed through an oil trap before being discharged to the storm drains. Fuel storage tanks should be surrounded by bunds with a capacity of at least 150% of the storage capacity. The bunded areas should be able to be drained of rain water through the petrol interceptor and accumulated rain removed at regular intervals. 	Contractor	Not Applicable
		<ul style="list-style-type: none"> Waste oils from the site should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance and absorbent cloths and granules should be available for the cleanup of spillages. 	Contractor	Not Applicable
		<ul style="list-style-type: none"> Sewage from toilets and kitchens should be discharged directly into a foul sewer. If it is not possible to locate the site offices within easy access of a foul sewer a septic tank and soakaway should be constructed before the offices are occupied. Chemical toilets should be emptied on a daily basis and the contents taken to a foul sewer or the Sha Tin Sewage Treatment Works for disposal. 	Contractor	Partially Implemented

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		Wastewater collected from canteen kitchens should be discharged to the foul sewers via grease traps which provide a minimum of 20 minutes retention during peak flow. All discharges into foul sewers and storm sewers should have to be complied with TM standards under WPCO.		
		<ul style="list-style-type: none"> Run off from roofed surfaces of site facilities should be collected and diverted to a storm water drain. Passage through a silt trap is only required if the water is diverted via open channels which might accumulate solids during non-rainy periods or which intercept surface run off from unpaved areas. 	Contractor	Implemented
		<ul style="list-style-type: none"> Discharges from the site shall be required to meet the terms and conditions of a valid WPCO Water Pollution Control Ordinance (WPCO). 	Contractor	Implemented
Section 12.6 of the Approved EIA Report		<ul style="list-style-type: none"> Regular site inspection of the construction works shall be carried out to determine compliance with the recommended mitigation measures. Inspection should be included: 		
		(i) The functioning of onsite surface water collection channels and sediment traps.	Contractor	Implemented
		(ii) The functioning of interception channels at the boundary of the works areas	Contractor	Implemented
		(iii) The covering of stockpiles of fill and construction materials and the routing of any run off through the sediment traps.	Contractor	Implemented
		(iv) The pumping procedures for emptying trenches and other excavations and the use of silt traps prior to the discharge of the water to the storm water system.	Contractor	Implemented
		(v) The use of washwater for hosing down concrete mixing and delivery vehicles and other vehicles leaving the site and the routine of excess water from the facility through sediment traps.	Contractor	Not Applicable
		(vi) The operation of the plant maintenance areas to control small spillages and the correct management of the fuel storage bunded area.	Contractor	Not Applicable
		(vii) The connection of the site office wastewater discharge to an existing foul sewer if appropriate or the operation of the kitchen wastewater grease trap and the regular emptying of the chemical toilets	Contractor	Not Applicable
		(viii) The operation of the roof rain water collection and drainage system.	Contractor	Not Applicable
<i>Landscape and Visual Mitigation Measures</i>				
Construction Phase				
Table 6.5	During construction within the Project Boundary.	<ul style="list-style-type: none"> Existing trees shall be preserved as much as possible. Detailed tree preservation and transplanting proposals shall be submitted to relevant government departments for approval in accordance with DEVB TC (W) No. 7/2015. 	Contractor	Implemented
		<ul style="list-style-type: none"> Topsoil will be conserved as far as possible during the road improvement works and utilized during the replanting operations. The stock piling height of the topsoil will not be more than 2m. 	Contractor	Implemented

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase	
		• Old and valuable trees (OVTs) identified in the Project Boundary shall be protected in accordance with ETWB TCW no. 29/2004.	Contractor	Implemented	
		• Night-time lighting glare shall be properly managed and control during construction so as to minimize any adverse visual impact on adjacent VSRs.	Contractor	Not Applicable	
		• Decorative screen hoarding with design compatible with the surrounding landscape setting shall be erected along the southern boundary of Tai Po Road to mitigate any potential adverse impact on adjacent Pedestrian and Cyclists on Footpath/Bicycle Track.	Contractor	Not Applicable	
	Operation Phase				
	During construction within the Project Boundary.	• Compensatory planting shall be provided within and outside the project boundary where possible. Detailed compensatory planting proposal will be prepared in accordance with DEVB TC (W) No. 7/2015.	Contractor	Not Applicable	
		• Planting shall be undertaken at the earliest practical time in the construction period. The planting proposal shall aim to strengthen the existing tree species and supplement the existing tree planting to provide an effective screen to ameliorate any potential landscape and visual impacts. The proposed species to be utilized for road improvement works shall be agreed with LCSD and future maintenance authorities. All the proposed species for compensatory planting shall be suitable for roadside streetscape planting.	Contractor	Not Applicable	
		• Provision of visually pleasing noise barriers and enclosures design shall be proposed. The design of these structures aims to minimize any potential visual impact and visually integrate the proposed structures into the adjacent landscape context. This should be achieved through the use of form, color, tones, materials and planting materials.	Contractor	Not Applicable	
• Aesthetically pleasing hard landscape treatment of the carriageway and roadside furniture shall be proposed, including development of chromatic themes in the architectural treatment of engineering structures, and the consideration of landscape lighting and special landscape features.		Contractor	Not Applicable		
	• Shrubs and climbers planting are proposed on the facade of Noise Enclosures and Barriers to mitigate any adverse impact on adjacent VSRs in area where space for tree planting is not feasible.	Contractor	Not Applicable		
Waste Management Measures					
7.6.2 to 7.6.4	Within the boundaries of all construction	• In accordance with ETWB TC (W) No. 19/2005 - Environmental Management on Construction Sites", the Contractor shall prepare and implement a Waste Management Plan (WMP) as part of the Environmental Management Plan (EMP). The EMP shall describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different	Contractor	Implemented	

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
7.6.5 to 7.6.6	sites.	categories of waste to be generated from the construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval.		
		• The Contractor should implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor.	Contractor	Implemented
		• Recommendations of good site practices and waste reduction measures should be stated in order to achieve avoidance and minimization of waste generation in the hierarchy.	Contractor	Implemented
		• Environmental Management Plan (EMP) and trip-ticket system shall be implemented for monitoring management of waste.	Contractor	Implemented
7.6.7	Within the boundaries of all construction sites as well as transportation routes to designed areas for off-site disposal of materials/Prior to and during construction activities.	• Specific measures targeting the mitigation of impacts in works areas and the transportation of spoil off-site should be provided to minimize the potential impacts to the surrounding environment.	Contractor	Implemented
		• To facilitate adoption of the best-practice philosophy, training shall be provided to all personnel working on site. The training shall promote the concept of general site cleanliness and clearly explain the appropriate waste management procedures defined in the EMP. Overall, the training should encourage all workers to reduce, reuse and recycle wastes.	Contractor	Implemented
7.6.8 to 7.6.9		• The contractor's environmental performance shall be monitored and controlled through the weekly environmental walks. The items after the environmental walks shall include:		
		• A review of the EMP in particular the suitability of the environmental measures on nuisance abatement and waste management adopted by the contractor;	Contractor	Implemented
		• The environmental performance of the contractor and his sub-contractors;	Contractor	Implemented
		• The effectiveness of the environmental measures on nuisance abatement and waste management implemented on the site, and any complaints received; and	Contractor	Implemented
		• The promptness of rectification or improvement actions of the Contractor on the defects and deficiencies identified during inspections of the site.	Contractor	Implemented
	• Waste shall only be disposed of at licensed sites and the WMP should include procedures to ensure that illegal disposal of wastes does not occur. Only waste haulers authorized to collect the specific category of waste concerned should be employed and a trip ticket system shall be implemented for offsite disposal of inert C&D materials and non-inert C&D materials at public fill reception facilities and landfills, respectively. Appropriate measures should be employed to minimize windblown litter and dust during transportation by either covering trucks or transporting wastes in	Contractor	Implemented	

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		enclosed containers.		
7.6.10		<ul style="list-style-type: none"> Work site(s) shall be arranged and managed to facilitate the proper management of wastes and materials. The WMP shall include plans indicating specific areas designated for the storage of particular types of waste, reusable and recyclable materials as well as areas and management proposals for any stockpiling areas. Waste storage areas should be well maintained and cleaned regularly. Specific provisions for different types of material are outlined below. In general, these areas should be designed to avoid cross contamination of materials as well as pollution of the surrounding environment. 	Contractor	Implemented
7.6.11 to 7.6.14		<ul style="list-style-type: none"> In order to minimize the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated fill materials should be reused on site as backfill material as far as possible. 	Contractor	Implemented
		<ul style="list-style-type: none"> Careful design, planning and good site management should be maintained in order to minimise over ordering and generation of surplus materials such as concrete, mortars and cement grouts. The design of formwork should maximise the use of standard wooden panels so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse. 	Contractor	Implemented
		<ul style="list-style-type: none"> C&D materials should be segregated on site into different waste and material types. The Contractor should clearly demonstrate in the EMP how he intends to maximise the reuse of C&D material on-site. Where reuse of materials on site is not feasible, the Contractor should explore opportunities for recycling materials off-site, and inert C&D materials shall be reused on site as much as possible. 	Contractor	Implemented
		<ul style="list-style-type: none"> Paving bricks arising from existing pavement should be recycled on site as much as possible. 	Contractor	Not Applicable
		<ul style="list-style-type: none"> Existing marginal roadside barriers comprise pre-cast units should be reused in the following widening works as much as possible, 	Contractor	Not Applicable
		<ul style="list-style-type: none"> Existing bridge parapets comprise aluminum post and railings, which have a recyclable value and should be sold for reconditioning or reused for scrap metal as much as possible 	Contractor	Not Applicable
		<ul style="list-style-type: none"> Any stockpile should be sited away from existing watercourses and suitably covered to prevent wind erosion and impacts on air and water quality. 	Contractor	Implemented
7.6.15 to 7.6.17		<ul style="list-style-type: none"> Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. Containers used for the storage of chemical wastes should: <ul style="list-style-type: none"> be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; 	Contractor	Partially Implemented

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		• have a capacity of less than 450L unless the specifications have been approved by the EPD; and	Contractor	Implemented
		• display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C).	Contractor	Implemented
		The storage area for chemical wastes should:		
		• be clearly labelled and used solely for the storage of chemical waste;	Contractor	Implemented
		• be enclosed on at least 3 sides;	Contractor	Implemented
		• have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest;	Contractor	Implemented
		• have adequate ventilation;	Contractor	Implemented
		• be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and	Contractor	Partially Implemented
		• be arranged so that incompatible materials are adequately separated.	Contractor	Implemented
		The Contractor shall register with EPD as a Chemical Waste Producer. Waste oils and other chemical wastes as defined in the Waste Disposal (Chemical Waste) (General) Regulation will require disposal by appropriate means and could require pre-notification to EPD prior to disposal. Appropriate means include disposal:		
		• via a licensed waste collector; and	Contractor	Implemented
		• to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers; or	Contractor	Implemented
		• to a reuser of the waste, under approval from EPD.	Contractor	Not Applicable
7.6.18 to 7.6.20		• General refuse generated on-site should be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily or every second day basis to minimize odour, pest and litter impacts. The burning of refuse on construction sites is prohibited by law.	Contractor	Partially Implemented
		• Separate labelled bins should be provided if feasible.	Contractor	Not Observed
		• Office waste can be reduced through recycling of paper if volume is large enough to warrant collection. Participation in a local collection scheme should be considered if one is available.	Contractor	Implemented
7.7.1		• All wastes produced during the construction of the Project shall be handled, stored, and disposed of in accordance with good waste management practices and relevant regulations and requirements.	Contractor	Implemented

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



EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		• The mitigation measures recommended in the EIA/EIA review report should form a basis of the WMP to be developed by the Contractor in the construction phase of the Project.	Contractor	Implemented
EP 1.5	<u>General Condition</u>			
N.A	During construction within the Project Boundary.	• The Permit Holder shall display conspicuously a copy of this Permit on the Project site(s) at all vehicular site entrance/exits or at a convenient location for public information at all times. The Permit Holder shall ensure that the most updated information about the Permit, including any amended Permit, is displayed at such locations. If the Permit Holder surrenders a part or the whole of the Permit, the notice he sends to the Director shall also be displayed at the same locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s).	Contractor	Implemented

Implementation status: Implemented / Implemented / Not Implemented / Not Observed / Not Applicable

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 K

Weather and Meteorological Conditions during Reporting Month

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



Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)		
May 2020						
1	1012.5	30.2	25.7	23.6	81	-
2	1010	30	26.3	23.9	77	-
3	1009.2	31.3	27.3	24.9	78	-
4	1009.8	31.5	27.8	25.9	79	-
5	1008.8	29.9	27.9	26.6	80	-
6	1008.6	31.4	28.7	27.2	81	-
7	1008.7	30.8	29	27.7	81	-
8	1008.6	32	29.3	28.2	81	0.1
9	1009.2	31.7	29.2	27.7	79	0.1
10	1009.8	32.4	29	26.4	78	0.8
11	1010.3	33.5	28.9	24.2	76	14.8
12	1010.8	30.4	27	24.4	82	3.6
13	1012.3	28	26.6	25.8	84	0.3
14	1011.2	29.8	27.1	25.1	83	0.1
15	1008.3	31.7	28.5	26.7	81	-
16	1007.5	32.9	28.9	26.5	80	-
17	1005.3	32.5	28.9	26.7	77	Trace
18	1004.6	28.6	25.8	24.1	88	46.7
19	1005.1	31.7	28	25.6	82	-
20	1006.1	28.5	27.6	26.7	87	4.3
21	1003.8	29.5	27.6	25.5	92	84.6
22	1003.2	29.4	27.9	27	88	17
23	1006.8	27	25.7	24.9	88	1.5
24	1009.4	29.4	26.7	25.2	82	Trace
25	1009.6	28.1	26.6	24.8	91	32.4
26	1007.6	31.1	28.3	26.6	87	14.4
27	1008.6	30.5	28.2	26.5	83	0.1
28	1010.1	29.5	27.7	26.7	86	0.2
29	1010	30.8	28.2	26.7	85	0.2
30	1010.9	28.5	26	24.4	94	131.3
31	1010.5	31	29.2	27.1	83	Trace

Source: Hong Kong Observatory

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 L

Cumulative statistics on Environmental Complaints, Notifications of Summons and Successful Prosecutions

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



Environmental Complaints Log

Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
COM-2019-005	13/2/2019	EPD	CCZJV	Noise	13/2/2019	According to the photo taken from the complainant, the complaint was related to the project. Although the tree felling works were covered by the valid CNP (GW-RN0783-18), Contractor was reminded to strictly follow and fully comply with the CNP conditions and the mitigation measures stipulated in the EM&A Manual when construction activities are operating during restricted hour. Contractor was recommended to increase the frequency of using the electrical chain saw instead of the diesel chain saw for reducing the noise impact. Environmental Team conducted additional ad-hoc noise monitoring on 19:00 14th February 2019 to 07:00 15th February 2019 for evaluate the effectiveness on the proposed mitigation measures. No project-related noise exceedance case on 14-15 Feb 2019 Contractor's night tree-felling and removal works. The proposed mitigation measures were effective for noise impact.	20/2/2019
COM-2019-006	22/2/2019	Project Hotline of NE/2017/05	CCZJV	Noise	26/2/2019	According to the location of complainant from Kwai Wo House, the complaint was related to the project. Although the tree felling works were covered by the valid CNP (GW-RN0783-18), Contractor was reminded to strictly follow and fully comply with the CNP conditions and the mitigation measures stipulated in the EM&A Manual when construction activities are operating during restricted hour. An extended barrier at the top acts as a cantilever shape was recommended to	4/3/2019

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						modify the existing semi-enclosure installed in the cherry picker Also, three sides with top as a semi-enclosure to be used and those tree felling activities should be inside the semi-enclosure in the ground slope. The main contractor had been recommended to review their works program and methods of tree felling as to minimize the night time tree felling activities.	
COM-2019-0010	28/3/2019	Project Hotline of NE/2017/05	CCZJV	Noise	28/3/2019	The complaint case should be related to the MTR night time maintenance works. Main Contractor used portable phones and head-set only for communication, and none of loudspeakers were allowed to be used. Main Contractor handled of tree debris into the lorry skip in care when loading. Besides, a layer of soft material (soil/tree debris) was observed leaving inside the skip of the grab lorry to reduce the loading noise. Contractor was reminded to strictly follow and fully comply with the CNP (GW-RN0132-19) conditions and the mitigation measures stipulated in the EM&A Manual when construction activities are operating during restricted hour.	4/4/2019
COM-2019-0033	26/7/2019	Police visit on-site	CCZJV	Noise	26/7/2019	The complaint is related to the project. The Main Contractor comply with CNP No.: GW-RN0443-19 allowable construction site and within the site boundary to carry out night work on tree felling and the clearance of felled tree debris during the restricted hour. Contractor was reminded to strictly follow and fully comply with the CNP (GW-RN0443-19) conditions and the mitigation measures stipulated in the EM&A Manual when	30/7/2019

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						construction activities are operating during restricted hour. Contractor was recommended to increase the frequency of using the electrical chain saw instead of the diesel chain saw for reducing the noise impact. Contractor was reminded to reschedule of tree felling arrangement that most of the fell branches and trunks were temporary laid on slope and arranged to cut smaller on Day Time to minimize the noise nuisance to the nearby NSRs.	
COM-2019-0045	30/8/2019	1823	CCZJV	Noise	30/8/2019	The complaint is related to the project. Contractor was reminded to strictly follow and fully comply with the CNP (GW-RN0443-19) conditions and the mitigation measures stipulated in the EM&A Manual when construction activities are operating during restricted hour. Contractor should strictly follow the use of acoustic enclosure as in condition 3.d.5. of the CNP during the operation of breaker, hand-held, mass $\leq 10\text{kg}$ (CNP023) shall only be operated inside the acoustic enclosure composed of four side-panels and one top-panel, so that no part of such equipment is visible from any nearby noise sensitive receiver. The panels shall be made of minimum 10mm thick plywood or 1mm thick steel outer skin and minimum 50mm thick sound absorbing lining, or equivalent construction. Contractor was reminded to use portable phones and head-set only for communication, and none of loudspeakers is allowed for night work activities.	19/9/2019

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
COM-2019-0056	9/10/2019	Project Hotline of NE/2017/05 and EPD	CCZJV	Noise	19/10/2019	The complaint of the construction noise especially the breaker noise is project related. Due to the concern of road safety, the Contractor conducted the emergency road repair works under an Emergency Excavation Permit (EXP) of Plan ID: EO13123 issued by Highways Department (HyD). The main contractor's PR / hotline staff was reminded to enhance communication with sufficient information provided for replying any enquiry / complaint in the future. The main contractor was also reminded that noise mitigation measures should be provided as far as practicable subject to the emergency situation. For construction works covered by the CNP issued by EPD, the main contractor should fully complied with the conditions as stipulated and provided all noise mitigation measures as required under the conditions of the CNP. For works subject to the emergency situation, noise mitigation measures such as noise barrier, enclosure etc. should be provided as far as practicable to minimise the noise nuisance to the NSRs.	4/11/2019
COM-2019-0057	9/10/2019	EPD	CCZJV	Noise	18/10/2019	The complaint of the generator noise nuisance is related to the project. The concerned portable generator is supplying electric power for the Variable Message Sign (VMS) showing the speed limit in 50 km/hr. It is switched on and off manually by manpower, and would only be operated between daytime 07:00-19:00. No construction noise permit (CNP) should be	21/10/2019

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						required as the portable generator is not operating in restricted hours. The main contractor was reminded to strictly follow the use of their proposed semi-enclosure as the mitigation measures for the portable generator and the generator operates in daytime 07:00-19:00 only.	
COM-2019-0066	6/11/2019	EPD	CCZJV	Noise	7/11/2019	The complaint of the emergency road repair work is related to the project. The works on on 5 th November 2019 between 22:00 and 06:00 the next day at southbound slow lane of Tai Po Road outside Wai Wah Centre, including breaking operation. The main contractor should inform the EPD in advance of any emergency opening works of the Project in future to facilitate the effective handling of noise complaint that may arise.	12/11/2019
COM-2020-0083	29/02/2020	Project email of NE/2017/05	CCZJV	Noise and Dust	29/02/2020	The complaint of the dust and noise nuisance near Wai Wah Centre during both the day and night works was at zone 2. The construction works at zone 2 was the mini-piling operation during the day time was same as the complaint. Thus, the complaint in daytime is related to the project. Furthermore, loading and unloading works was carried in night time. Contractor was reminded to enhance the water spray frequency on the construction site for mitigation measures on dust control. Also, Contractor should provide green tarpaulin curtain and additional acoustic Sound Proof Canvas as a secondary layer at the bottom of the mini-pile drilling machine to secure the total enclose condition to minimize the visual and noise impacts	19/03/2020

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						<p>to nearby NSRs.</p> <p>ET checked the regular impact air and noise monitoring data between day time and night-time regular noise monitoring data, no exceedance case was found on both regular impact air and noise monitoring measurement.</p> <p>The main contractor should carry out further review the effectiveness of the enclosure or noise barrier with their mitigation measure and propose alternative noise mitigation measures to enhance the noise reduction on similar day works or night works in restricted hours.</p>	
COM-2020-0089	24/03/2020	Project hotline	CCZJV	Noise	24/03/2020	<p>A resident of Wai Wah Centre complained that noise generated from construction activities at night disturbing the nearby resident. According to the Contractor's information, loading/unloading, steel bar cutting, steel plate grinding and asphalt compaction were carried out in the early hours of 24th Mar 2020. The night work activities were within the site boundary. Also, 4 sides with top cover acoustic enclosure for the portable generator was used during the night work. Furthermore, mitigation measures listed in the CNP were implemented for PME and works activities. Three sides with top cover enclosure and additional acoustic comprised with 50 mm sound absorbing lining were used for night works activities. ET analysed that the complaint noise source should not be project-related construction noise.</p>	07/04/2020

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
COM-2020-0090	27/03/2020	Project hotline	CCZJV	Noise	27/03/2020	Both complaint cases were concerning about the noise nuisance generated from the construction work activities at night time disturbing the nearby Wai Wah Centre residence. According to the Main Contractor, similar nature of major construction works carried out between 03:00 a.m. and 04:00 a.m. on 27th & 28th March 2020 was the asphalt compaction for the road surface remedial works at zone 2 south lane adjacent to Wai Wah Centre. The Main Contractor complied with CNP No.: GW-RN0002-20 that is within the allowable construction site location and within the site boundary to carry out night work on loading and unloading works. ET conduct regular night-time noise monitoring at all monitoring stations between 23:00 26 th March 2020 to 04:00 27 th March 2020, and between 23:00 2 nd April 2020 to 04:00 3 rd April respectively. No exceedance cases were found on both ET regular night-time noise monitoring measurement. ET did not remark on-site any noise related to construction works at above noise monitoring nights for which the results were lower than baseline noise level. Hence, ET analysed that the dominant noise source should be road traffic noise but not the project-related construction noise.	04/05/2020
COM-2020-0091	28/03/2020	Project hotline	CCZJV	Noise	28/03/2020		
COM-2020-0093	06/04/2020	Project hotline	CCZJV	Noise	06/04/2020	The complaint case on 6 th Apr was received by project hotline. The major construction works between (10:00pm – 11:00pm) on 6 th April 2020 was TTA implementation works and asphalt removal works for the road surface remedial work	28/04/2020

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						at zone 2 adjacent to Wai Wah Centre. The Main Contractor complied with CNP No.: GW-RN0152-20 that is within the allowable construction site location and within the site boundary to carry out night work on loading and unloading works. The five noise monitoring stations close to the concerned works area are NMS3, NMS4, NMS5A, NMS6A & NMS7, and NMS5A & NMS6A locate nearest to Wai Wah Centre. The night time noise monitoring results measured at NMS3, 4 & 6A were all lower than that of measured in the baseline, two exceedance case were found at NMS 5A especially NMS 5A & NMS 6A monitoring stations where locate at the Wai Wah Centre. The corrected noise level measured at NMS 7 is lower than the night time limit 55dB (A). Therefore, there was no exceedance cases were found on ET regular night-time noise monitoring measurement. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.	
COM-2020-0096	20/04/2020	Project hotline	CCZJV	Noise	20/04/2020	A continues complaint were received on 20 Apr and 21 Apr 2020. A resident of Wai Wah Centre filed three complaints about the noise nuisance generated by the nearby construction activities during daytime. Two complaints were made through project hotline on 20 th Apr 2020 at 10:57 a.m. and 21 st Apr 2020 at 9:03 a.m., while the other one was through project email on 20 th Apr 2020 at 12:43 p.m. The noise source(s) of the concerned nuisance during complaint period	19/05/2020
COM-2020-0097	20/04/2020	Project Email	CCZJV	Noise	20/04/2020		
COM-2020-0098	21/04/2020	Project hotline	CCZJV	Noise	21/04/2020		

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						<p>should be mini piling works, which is opposite to Wai Wah Centre. According to the contractor's work schedule, major day work activity was mini-piling operation since early Feb 2020 at zone 2 in central median at non-restricted hours, from Mondays to Saturdays between 0800 and 1800 not including General Holidays. The mini piling operation on 20th & 21st Apr 2020 was carried out at non restricted hours. The limited level of noise generated by the construction of the Project during the non-restricted daytime hours will be 75 dB (A) for dwelling. The mini piling operation on 20th and 21st Apr 2020 was carried out at non restricted hours with green tarpaulin curtain and sound proof canvas. The noise level of NMS 5A and NMS 6A on 22nd Apr 2020 were 73.5 dB (A) and 72.6 dB (A) respectively. No noise exceedance was occurred at NMS 5A and NMS 6A. The construction activity on 22nd Apr 2020 was similar to 20th and 21st Apr 2020. Therefore, ET's day-time monitoring result on 22nd April 2020 at NMS5A and NMS6A can act as a reference for impact noise from the similar mini-piling operation on 20th and 21st April 2020. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.</p>	
COM-2020-0099	21/04/2020	Project hotline	CCZJV	Noise	21/04/2020	<p>The complaint cases on 21st Apr 2020 was received by project hotline from Police. According to the complainant who is the local resident at Wai Wah Centre, the noise source(s) of the concerned</p>	05/05/2020

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						nuisance during night works was at zone 2 is opposite to Wai Wah Centre. The major construction works was road surface remedial work since 15 th April 2020 conducted at restricted hours along zone 2 south boundary adjacent to Wai Wah Centre. The Main Contractor complied with CNP No.: GW-RN0152-20 that is within the allowable construction site location and within the site boundary to carry out night work on road surface remedial works. Environmental Team (ET) conduct a regular night-time noise monitoring at all monitoring stations between 23:00 23 rd April 2020 to 04:00 24 th April 2020. The five noise monitoring stations close to the concerned works area are NMS3, NMS4, NMS5A, NMS6A & NMS7, and NMS5A & NMS6A locate nearest to Wai Wah Centre. There were no exceedance on the night time noise monitoring, especially measured at NMS 5A & NMS 6A where locate at the Wai Wah Centre, the measured result at NMS 5A & 6A were all lower than that of measured in the baseline. Therefore, no exceedance cases were found on ET regular night-time noise monitoring measurement. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.	
COM-2020-0100	23/04/2020	Project hotline	CCZJV	Noise	23/04/2020	The complaint was received via project hotline on 23 rd April 2020 at 10:45 a.m. A resident of Wai Wah Centre complained that noise generated from operation of the two piling machines	11/05/2020

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						<p>disturbing her daughter's study for DSE examination, and demanding limitation on operation hours of the machines only at two separate periods between 12 noon and 1p.m and 3 p.m. to 6 p.m. According to the Main Contractor, the major construction works at day time (08:00-18:00) on 23rd April 2020 was mini-piling operation at Zone 2 Central Median of Tai Po Road near Wai Wah Centre. According to the photo records of day-time site condition on 23rd April 2020 provided by Main Contractor, the green tarpaulin curtain was provided for the mini-pile drilling machines so that the bottom part of the mini-pile drilling machine was blocked from view of nearby NSR (e.g. residents at Wai Wah Centre) and an additional layer of sound proof canvas was installed at lower level to mitigate the noise from mini-pile drilling operation. The day-time noise monitoring results measured at NMS3, 4, 5A, 6A and 7 were all lower than the limit level, especially NMS 5A & NMS 6A monitoring stations where locate at the Wai Wah Centre. The monitoring results show no noise exceedance occurred at both locations. Thus, ET day-time monitoring result on 22nd April 2020 at NMS5 & NMS6 can be act as a reference for impact noise from the similar mini-piling operation activities on 23rd April 2020. Therefore, there was no exceedance cases were found in ET regular day-time noise monitoring measurement. ET analyzed that the dominant noise source should be road</p>	

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						traffic noise but not the project-related construction noise.	
COM-2020-0101	28/04/2020	1823	CCZJV	Noise	28/04/2020	The complainant on via ICC1823 on 28 th April 2020 complained about the noise and odor nuisance generated from the night-time asphalt laying construction works at Shatin Rural Committee Road (Zone 3) area. Although the main contractor no work at zone 3, but the major night-time construction works was road surface remedial work which was related to the complainant concerned. The major construction works was road surface remedial work since 15 th April 2020 at approved restricted hours along zone 2 south boundary adjacent to Wai Wah Centre. Also, Tai Po Road is the main strategic route, implementation of temporary traffic diversion at day time due to loading and unloading material or plant work or road surface remedial work is not feasible. The lorry had been used in TTA implementation & road opening, portable generator and electric handheld breaker had been used in asphalt removal work, dump truck with grab had been used for loading and unloading of asphalt or rubble, vibratory compactor had been used in asphalt compaction for road surface remedial works on 27 th & 28 th April 2020. The Main Contractor complied with CNP No.: GW-RN0152-20 that allowed PME used in Group C or Group F. According to the Main Contractor, advance "Notice to Affected Residents" had been issued and distributed on	15/05/2020

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



Reference No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Date of Investigation	Investigation summary & Conclusion	Date of Reply
						26 th March 2020 in accordance with the CNP advice that prior notification should be given to nearby residents. Besides, the road re-surfacing work would be carried out at approximately 14 night-time works between 2 nd and 28 th April 2020 listed in the distributed notices. No exceedance cases were found on ET regular night-time noise monitoring measurement at all noise monitoring stations, especially measured at NMS 5A & NMS 6A where locate close to the works area (Wai Wah Centre in Zone 2), the measured result at NMS 5A & 6A were all lower than that of measured in the baseline. ET analyzed that the dominant noise source should be road traffic noise but not the project-related construction noise.	

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



Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	19	0	19
Water	0	0	0
Waste	0	0	0
Total	19	0	19

Cumulative Statistics on Notification of Summons and Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Notification of Summons and Prosecutions This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	0

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 M

Summary of Site Audit in the Reporting Month



Summary of Site Audit in the Reporting Month

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	5 May 2020	Reminder : 1. Please increase the frequency of water spray. (Zone 3 & NF40) 2. Please be reminded that cover the stockpile when no construction activity. (Zone 3)	-
	14 May 2020	Reminder : 1. Cover shall be provided for stockpile. (TKO storage area)	-
Noise	No specific observation was identified in the reporting month.		
Water Quality	21 May 2020	Reminder: 1. Please be reminded that the flooding area/ puddle shall be filled or leveled after rain. (zone 3)	-
	27 May 2020	Observation: 1. Wastewater from washing machine shall not be discharge directly. (Zone 3) 2. Checklist of sedimentation tank shall be provided. (All site area) 3. Mitigation measure shall be provided to prevent water leakage in entrance. (Zone 3)	1. The washing machine will not be operated before further follow up action. 2. Checklist and label of Desilting Tank was displayed. 3. Bunding was enhanced to prevent water leakage in the entrance
Chemical and Waste Management	14 May 2020	Observation: 1. Drip tray shall be provided for the chemical/ diesel. (TKO storage area) 2. Drip tray shall be cleared. (Zone 1) 3. The chemical/ oil shall be cleared. (Zone 1)	1. (Works Area B) The Chemicals were removed. 2. (Zone 1) The stagnant water in drip tray was cleared. 3. (Zone 1) The leakage of chemical was removed and stored in chemical waste storage.
	27 May 2020	Observation: 1. Drip tray shall be cleared. (Zone 4) 2. Housekeeping in Zone 1. Reminder 1. Chemicals shall be stored and covered. (Zone 3)	1. Stagnant water was cleared from drip tray. 2. Waste was removed.
Land Contamination	No deficiency was found during the reporting month.		
Landscape and Visual Impact	No specific observation was identified in the reporting month.		
General Condition	No specific observation was identified in the reporting month.		