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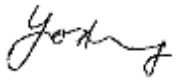
MONTHLY EM&A REPORT

April 2019

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/0298A

Prepared by	**:**	Sang Wu
Reviewed by	**:**	Cyrus Lai
Certified by	**:**	

David Hung
Environmental Team Leader
Fugro Technical Services Limited

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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

14 May 2019

Dear Miss Fung,

NE/2017/05
Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)
Monthly EM&A Report for April 2019

I refer to the email of ET regarding to the captioned Monthly EM&A Report with report No. 0064/18/ED/0298A, 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)
ET Leader – Mr. HUNG David (by email only: d.hung@fugro.com)

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Date 15 May 2019
Our Ref. MCL/ED/0242/2019/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/0298A)

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/0298A) 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. Andrew Cheung / 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.

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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 April 2019 and 30 April 2019. As informed by the Contractor, major activities in the reporting month were:

- Trial pits excavation, underground utilities detection, temporary road and site access construction and tree felling at Zone 1, 4 and 5;
- Trial pits excavation, underground utilities detections and tree felling at Zone 2; and
- Trial pits excavation. Underground utilities detections, construction of temporary road and site access, construction of temporary fill platform and tree felling at Zone 3.

Breaches of the Action and Limit Levels

iii. No Action / Limit Level exceedance was recorded for 24-hr and 1-hr TSP and construction noise at the site area in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

iv. No complaint cases, notification of summons and successful prosecution were received in the reporting month.

Reporting Changes

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

Future Key Issues

vi. 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.

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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.

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(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 fifth 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 1 April 2019 and 30 April 2019.

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**.

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Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Proponent (CEDD)	Senior Engineer	Mr. Andrew Cheung	3152 3500
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:

- Trial pits excavation, underground utilities detection, temporary road and site access construction and tree felling at Zone 1, 4 and 5;
- Trial pits excavation, underground utilities detections and tree felling at Zone 2; and
- Trial pits excavation. Underground utilities detections, construction of temporary road and site access, temporary fill platform and tree felling works at Zone 3.

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**.

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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	6/11/2018	Nil
Effluent Discharge License (Zone 1 – Zone 5)	WT00032446-2018	9/11/2018	30/11/2023
Construction Noise Permit for Road Closure works at restricted hours	GW-RN0132-19	1/3/2019	30/4/2019
	GW-RN0246-19	1/5/2019	30/6/2019

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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 1	Tisch	TE-5025A (TSP)	High Volume Sampler	2154
2	AMS 2	*Sibata	Model LD-5R	Sibata Portable TSP Monitors	882146
3	AMS 4A	*Sibata	Model LD-5R	Sibata Portable TSP Monitors	882148
4	AMS 6	Tisch	TE-5025A (TSP)	High Volume Sampler	2456

*Notes: As electricity supply is not available and accessible for the High Volume Samplers (HVS) at AMS2 and 4A, 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 1	Sibata	Model LD-3B	Sibata Portable TSP Monitors	2Z6244
2	AMS 2	Sibata	Model LD-5R	Sibata Portable TSP Monitors	882146
3	AMS 4A	Sibata	Model LD-5R	Sibata Portable TSP Monitors	882148
4	AMS 6	Sibata	Model LD-5R	Sibata Portable TSP Monitors	882149

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.

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- 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 ±3°C; the relative humidity (RH) is < 50% and not variable by more than ±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 ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±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

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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

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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 directions in April 2019 were east and north east. The most updated locations are summarized in **Table 2.3** and shown in **Figure 2**.

Table 2.3 Location of Air Quality Monitoring Station

Monitoring Station	Location	Land uses
AMS 1	Scenery Court	Residential
AMS 2	Villa Le Parc	Residential
AMS 4A	Wai Wah Centre	Residential
AMS 6	Shatin Plaza	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 1, 2, 4A and 6 in the reporting month.

2.6.3 During the reporting month, major dust sources including trial pits excavation was 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 ($\mu g/m^3$)	Range ($\mu g/ m^3$)	Action Level ($\mu g/ m^3$)	Limit Level ($\mu g/ m^3$)
24-hr TSP in $\mu g/m^3$	AMS 1	23	11 - 35	171	260
	AMS 2	49	38 - 65	166	
	AMS 4A	45	33 - 71	200	
	AMS 6	19	12 - 30	165	

Table 2.5 Summary of 1-hr TSP Monitoring Results

Parameter	Monitoring Station	Average ($\mu g/m^3$)	Range ($\mu g/ m^3$)	Action Level ($\mu g/ m^3$)	Limit Level ($\mu g/ m^3$)
1-hr TSP in $\mu g/m^3$	AMS 1	58	22 - 89	350	500
	AMS 2	56	20 - 129	324	
	AMS 4A	57	22 - 116	348	
	AMS 6	67	38 - 106	347	

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

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3. NOISE

3.1 Monitoring Requirement

3.1.1 In accordance with the updated EM&A Manuals, Leq (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	1057034
2	Casella	CEL-63X Series	Integrating Sound Level Meter	1488270
3	Casella	CEL-63X Series	Integrating Sound Level Meter	1488271
4	Casella	CEL-63X Series	Integrating Sound Level Meter	1488289
5	Casella	CEL-120 Series	Calibrator	4358250
6	Casella	CEL-120 Series	Calibrator	4358289
7	Casella	CEL-120 Series	Calibrator	5230736
8	Casella	CEL-120 Series	Calibrator	5230950

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
LAeq **(30min)** L10 and L90 will be recorded for reference	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week

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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**.

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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 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 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**.

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Table 3.4 Summary of Day Time Noise Impact Monitoring Results

Monitoring Station	$L_{eq\ (30min)}$ Range, dB(A) Construction Noise Level	$L_{eq\ (30min)}$ Limit Level, dB(A)
NMS1	61.2 – 70.7	75
NMS2	57.3 – 62.4	75
NMS3	63.9 – 72.0	75
NMS4	66.3 – 72.6	75
NMS5A	71.8 – 74.6	75
NMS6A	71.0 – 73.6	75
NMS7	67.7 – 74.1	75
NMS8	69.2 – 72.1	75
NMS9	63.4 – 66.1	75
NMS10A	64.1 – 69.7	70*
NMS11	68.6 – 72.0	75
NMS12	62.7 – 64.6	70*
NMS13	64.8 – 67.6	75
NMS14	63.2 – 69.1	75
NMS15	64.2 – 69.4	75
NMS16	61.7 – 68.6	75
NMS17	62.7 – 64.8	70*
NMS18	60.3 – 65.8	75
NMS19	67.3 – 72.1	75
NMS20	63.2 – 67.0	75
NMS23	60.3 – 68.2	75
NMS24	70.1 – 72.1	75
NMS25A	69.2 – 72.1	75
NMS26	72.1 – 74.5	75
NMS27	62.1 – 69.5	70*

Note: 1. $L_{eq\ (30min)}$ 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. Exam schedules of NMS 10A, NMS12, NMS 17 and NMS 27 are provided in Appendix E for reference.

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3.7.6 Night time noise monitoring was conducted on 3 and 25 April 2019 and the results are summarized in **Table 3.5** and **3.6**.

Table 3.5 Summary of Night Time Noise Impact Monitoring Results (1900 – 2300)

Date	Monitoring Station	Leq (5min) Range, dB(A) Construction Noise Level	Average Construction Noise Level, dB(A)	Baseline Level, dB(A)	Leq (5min) Limit Level, dB(A)
3 April 2019	NMS 13	58.7 – 62.1	60.4	59.8	70
	NMS 15	61.4 – 64.3	62.8	62.0	70
	NMS 16	64.9 – 68.8	67.0	63.3	70
	NMS 26	67.1 – 69.4	68.5	64.7	70
25 April 2019	NMS 13	57.6 – 61.8	59.3	59.8	70
	NMS 15	62.7 – 66.1	64.3	62.0	70
	NMS 18	58.7 – 63.8	61.0	64.2	70
	NMS 19	64.6 – 67.1	65.9	65.3	70

Note: Leq (5min) was measured at night-time (1900-2300) at NMS 13, 15, 16, 18, 19 & 26.

Table 3.6 Summary of Night Time Noise Impact Monitoring Results (2300 – 0700)

Date	Monitoring Station	Leq (5min) Range, dB(A) Measured Noise Level	Average Construction Noise Level*, dB(A)	Baseline Level, dB(A)	Leq (5min) Limit Level, dB(A)
3 April 2019	NMS 13	52.2 – 57.4	54.1	57.3	55
	NMS 15	54.2 – 61.0	56.6[a]	58.8	55
	NMS 16	56.5 – 63.9	60.0[a]	60.1	55
	NMS 26	61.9 – 65.8	63.1[b]	61.2	55
25 April 2019	NMS 13	52.3 – 60.6	55.2[a]	57.3	55
	NMS 15	56.0 – 62.7	58.6[a]	58.8	55
	NMS 18	55.0 – 58.1	55.8[a]	63.2	55
	NMS 19	57.1 – 70.2	61.6[a]	61.7	55

Note: Leq (5min) was measured at night-time (2300-0700) at NMS 13, 15, 16, 18, 19 & 26.
*When the Average Measured Noise Level is greater than Limit Level, Average Construction Noise Level (CNL) will be applied.
Calculated CNL = Measured Noise Level during operation – Baseline
a) The Average Construction Noise Level (5min) was lower than baseline level.
b) Based on ET's further investigation, as the dominant noise should be the traffic noise, the noise exceedance case was considered not project-related.

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3.7.7 According to Contractor, tree felling works were conducted in Zone 4 Southbound at 3 April 2019 night which was not close to NMS 26.

3.7.8 Based on the noise measurement results at 3 April 2019 night at NMS 26 from 11 p.m. to 7 a.m. of the next day, there was a trend related to the time with the traffic noise. The noise measurement results indicated that the average construction noise level of contractor's night work period was lower than that of their non-working period and NMS 26 was adjacent to Tai Po Road, hence the dominant noise should be traffic noise but not the project-related construction noise. Detailed noise measurement results at 3 April 2019 night at NMS 26 are summarized in **Table 3.7.**

Table 3.7 Summary of Night Time Impact Noise Monitoring Results on 3 April 2019 at NMS 26 (2300-0700)

Works	Period	Leq (5min) Limit Level, dB(A)	Measured Average Leq (5min), dB(A)	Baseline Level, dB(A)	Average Construction Noise Level, dB(A)
Contractor not started works	1900-2300	70	68.5	64.7	66.2
	2300-0030	55	66.7	61.2	65.3
Contractor started temporary traffic arrangement	0030-0050	55	64.7	61.2	62.1
Tree felling	0050-0350	55	63.1	61.2	58.6
Clearance and demobilization	0350-0430	55	62.5	61.2	56.6
Road opening	0430-0700	55	66.3	61.2	64.7

3.7.9 According to time of tree-felling and removal works provided by the Contractor, no project-related noise exceedance cases on 3 and 25 April 2019 for Contractor's night tree-felling and removal works.

3.7.10 No Action / Limit Level exceedance of construction noise was recorded at all noise monitoring locations in the reporting month.

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

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

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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.

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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**.

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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, four site inspections were carried out on 4, 11, 18 and 24 April 2019. One of them, held on 24 April 2019 was the joint inspections with the IEC, ER, the Contractor and the ET.

6.1.3 All the follow-up actions requested by ET and IEC during the site inspections were completed 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**.

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7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Exceedance

7.1.1 No Action / Limit Level exceedance was recorded for 24-hr TSP, 1-hr TSP and construction noise at all monitoring locations in the reporting month.

7.2 Complaints, Notification of Summons and Prosecution

7.2.1 No complaint cases, notification of summons and successful prosecution were received in the reporting month.

7.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix L.**

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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
- No specific observation was identified in the reporting month.

Construction Noise Impact
- No specific observation was identified in the reporting month.

Water Quality Impact
- Leaves and waste materials in temporary u-drain in Zone 3 shall be removed.
- Clear leaves and waste at the drainage channel near paved area (entrance/exit) in Zone 3.
- Sandbags / additional cover shall be provided for the trenches in Zone 3.

Chemical and Waste Management
- Chemical shall be placed on drip tray and designated storage area.
- Spill kit shall be provided for the chemical in Zone 3.
- Water trapped on tarpaulin cover shall be removed.

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
- A new CNP (No: GW-RN0246-19) was issued in the reporting month.

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9. FUTURE KEY ISSUES

9.1 Construction Programme for the Next Month

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

- Trial pits excavation, underground utilities detections, tree pruning, plate load test and construction of temporary road and site access at Zone 1 ;
- Trial pits excavation, underground utilities detections and tree pruning at Zone 2;
- Trial pits excavation, site formation, such as excavation and breaking works and underground utilities detections at Zone 3; and
- Trial pits excavation, underground utilities detections, construction of temporary road and site access, such as excavation and breaking works and tree felling at Zone 4 and 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**.

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10. CONCLUSIONS

10.1.1 24-hour and 1-hour TSP impact monitoring and construction noise monitoring were carried out in the reporting month, no Action / Limit Level exceedance was recorded during the period.

10.1.2 Ad-hoc noise monitoring were carried out on 3 and 25 April 2019 in the reporting month, no Action / project-related Limit Level exceedance was recorded during the period.

10.1.3 Four environmental site inspections were carried out in the reporting month. 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.

10.1.4 Referring to the Contractor's information, no complaint cases, notification of summons and successful prosecution was received in the reporting month.

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Figure 1

Project General Layout

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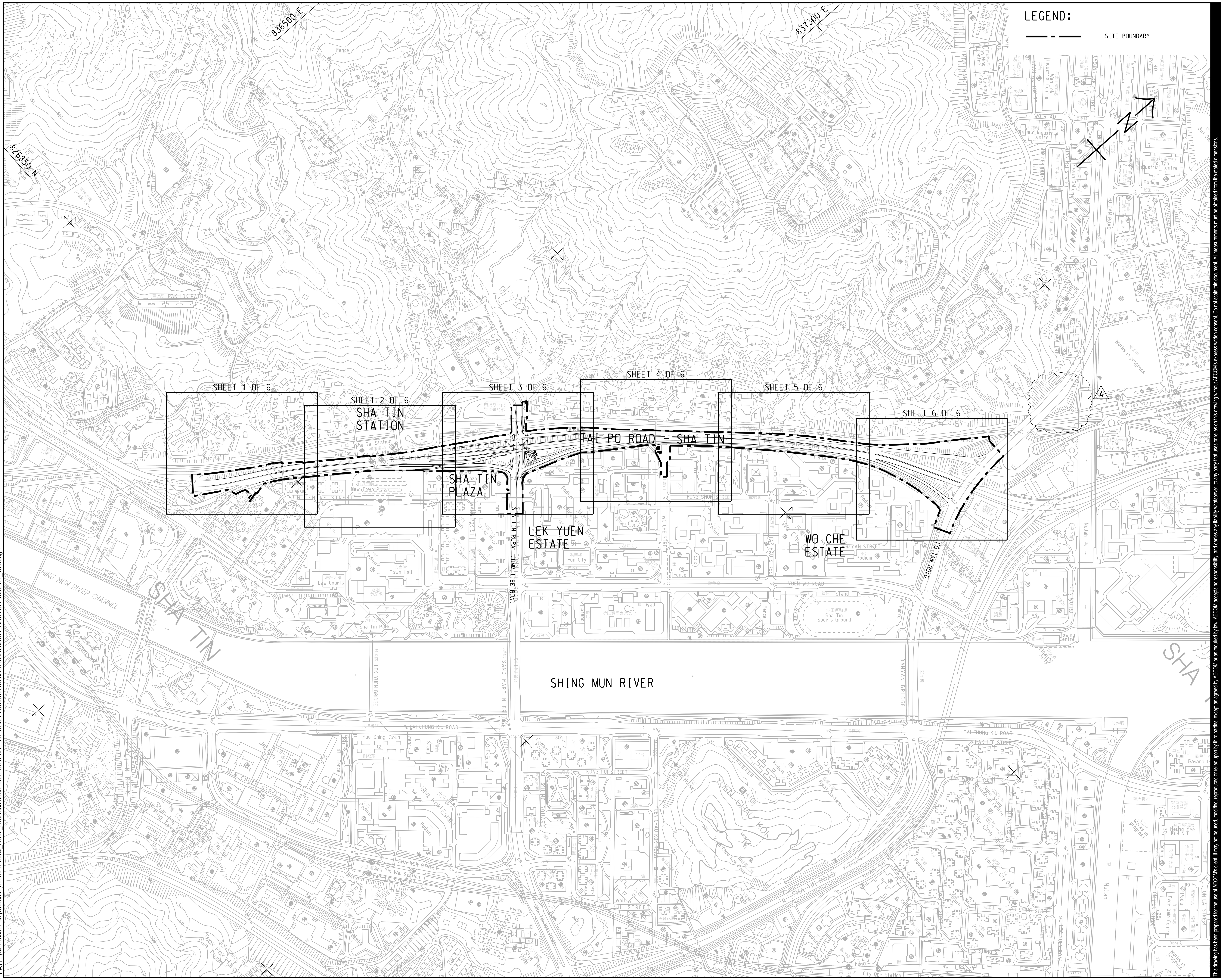

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PROJECT 項目

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

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ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
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

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ISO A1 594mm x 841mm
Project Management Initials: Designer: FMSC Checked: BCC Approved: CWN

2/22/2018
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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:

- SITE BOUNDARY
- N1 NOISE BARRIER WITH VARIOUS HIGH (10.7m TO 8.5m) WITH 2m CANTILEVER (30°) AT BOTH SIDES
- N2 1.2m HIGH NOISE BARRIER ON PARAPET (VERTICAL)
- N3 5m HIGH NOISE BARRIER (VERTICAL)
- N4 5m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER (30°)
- N5 5.5m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER (30°)
- N6 6m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER
- R1 RETROFITTING 6m HIGH NOISE BARRIER (VERTICAL)
- R2 RETROFITTING 5m HIGH NOISE BARRIER (VERTICAL) WITH 3m CANTILEVER (30°)
- R4 RETROFITTING 5m HIGH NOISE BARRIER (VERTICAL)
- RETAINING WALL
- R5 RETROFITTING 5m HIGH NOISE BARRIER (VERTICAL) WITH 2m CANTILEVER (30°)
- R6 RETROFITTING NOISE BARRIER (VERTICAL) WITH VARIOUS HEIGHT (5m TO 2m)
- EXISTING BOX CULVERT
- NOISE SEMI-ENCLOSURE WITH 2m CANTILEVER (30°)
- CYCLE TRACK
- FOOTPATH
- 6.0m HEIGHT OF NOISE SEMI-ENCLOSURE
- OLD AND VALUABLE TREE (OVT)
- LIFT

837000 E

826650 N

SEE DRAWING NO. 60481656/C1/1002

CUT LINE A-A

EXISTING FOOTBRIDGE, NF71A

RSE1

RSE2

FIGURE 1.1a

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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

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-	JAN. 18	TENDER DRAWING	BCC

STATUS 階段

SCALE 比例
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DIMENSION UNIT 尺寸單位
METRES

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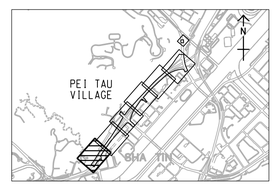

CONTRACT NO. 合約編號
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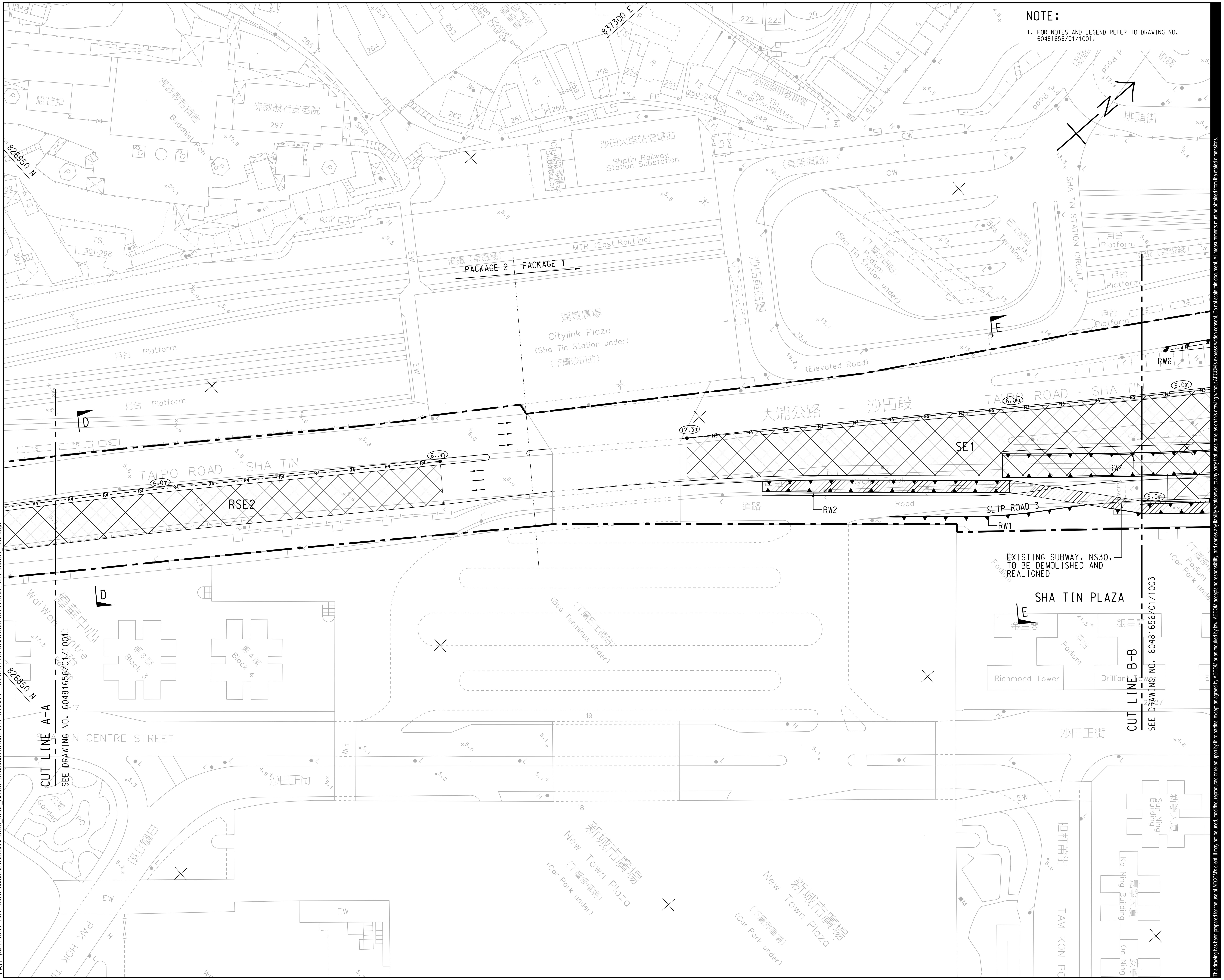
SHEET TITLE 圖紙名稱
GENERAL LAYOUT PLAN
FIGURE 1.1 b

SHEET 1 OF 6

SHEET NUMBER 圖紙編號
60481656/C1/1001



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SCALE 比例 A1 1 : 500

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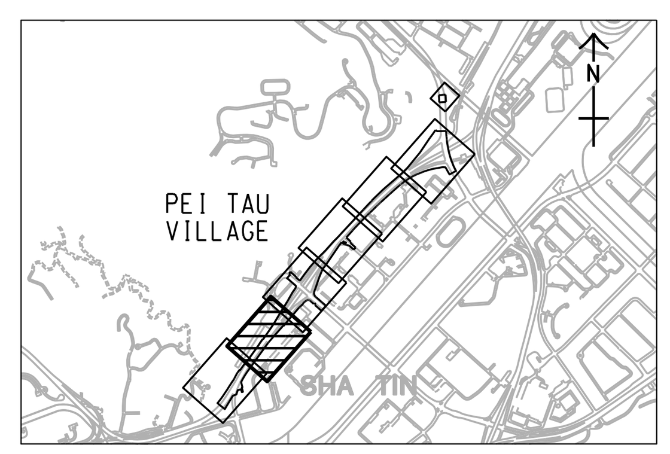

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NE/2017/05

SHEET TITLE 圖紙名稱

GENERAL LAYOUT PLAN

FIGURE 1.1b

SHEET 2 OF 6

SHEET NUMBER 圖紙編號

60481656/C1/1002

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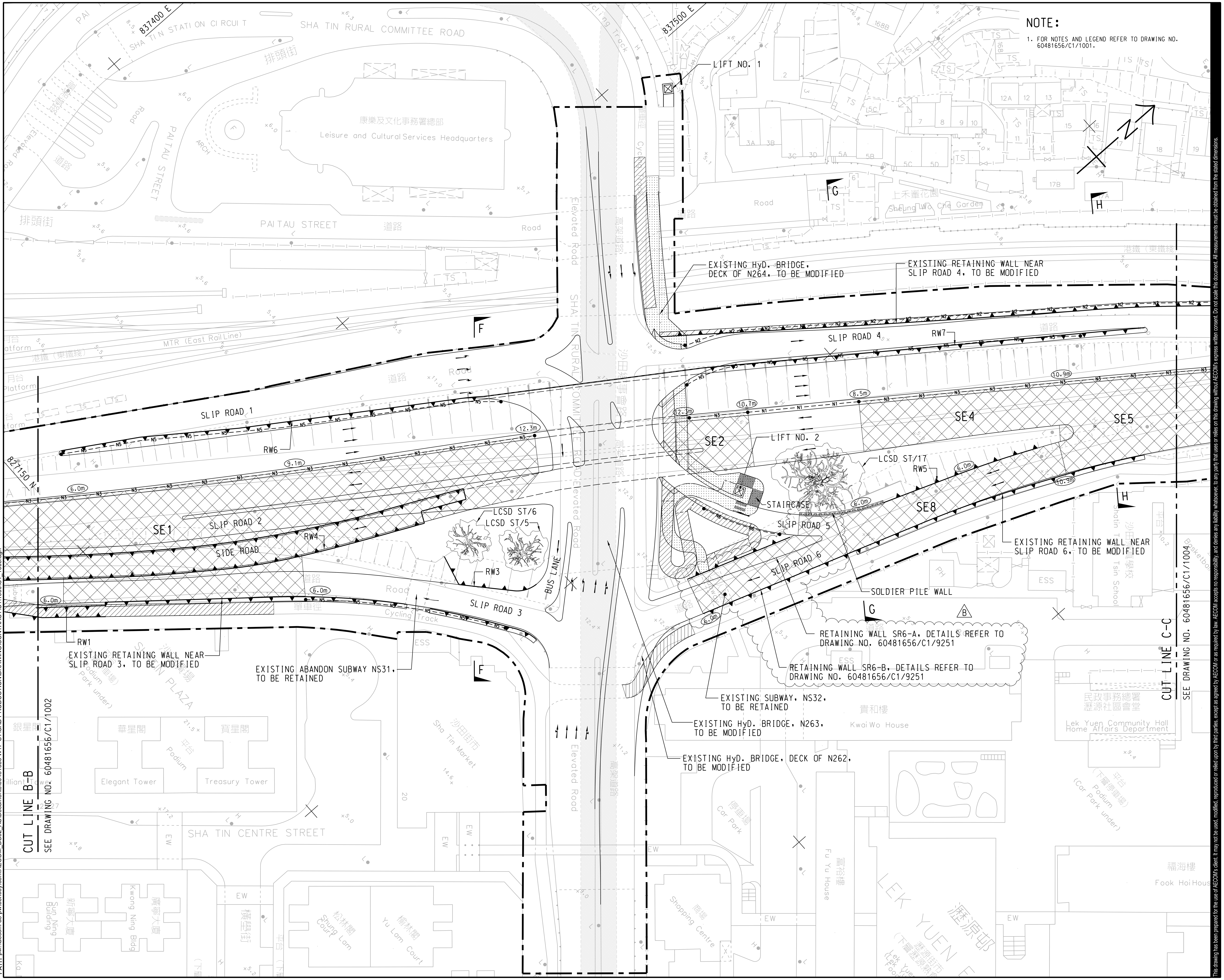
NOTE:
1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60481656/C1/1001.
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EXISTING RETAINING WALL NEAR SLIP ROAD 4, TO BE MODIFIED
SLIP ROAD 4
RW7
SLIP ROAD 1
RW6
SE1
SE2
SE4
SE5
SE8
LIFT NO. 2
LCSD ST/17
RW5
STAIRCASE
SLIP ROAD 5
SLIP ROAD 6
SLIP ROAD 2
SIDE ROAD
RW4
LCSD ST/6
LCSD ST/5
RW3
BUS LANE
SLIP ROAD 3
RW1
EXISTING RETAINING WALL NEAR SLIP ROAD 3, TO BE MODIFIED
EXISTING ABANDON SUBWAY NS31, TO BE RETAINED
EXISTING RETAINING WALL NEAR SLIP ROAD 6, TO BE MODIFIED
SOLDIER PILE WALL
RETAINING WALL SR6-A, DETAILS REFER TO DRAWING NO. 60481656/C1/9251
RETAINING WALL SR6-B, DETAILS REFER TO DRAWING NO. 60481656/C1/9251
EXISTING SUBWAY, NS32, TO BE RETAINED
EXISTING HyD. BRIDGE, N263, TO BE MODIFIED
EXISTING HyD. BRIDGE, DECK OF N262, TO BE MODIFIED
CUT LINE B-B
SEE DRAWING NO. 60481656/C1/1002
CUT LINE C-C
SEE DRAWING NO. 60481656/C1/1004
837400 E
837500 E
827150 N
SHA TIN RURAL COMMITTEE ROAD
PAI TAU STREET
SHA TIN STATION CIRCUIT
康樂及文化事務署總部
Leisure and Cultural Services Headquarters
MTR (East Rail Line)
SHA TIN CENTRE STREET
Elegant Tower
Treasury Tower
Sha Tin Market
Kwai Wo House
Lek Yuen Community Hall
Home Affairs Department
Fu Yu House
Fook Hoi House
Shung Lam Court
Yu Lam Court
Kwong Ning Bldg
Sun Ning Building
Shopping Centre
Sheung Wo Che Garden
Elevated Road
Cycling Track
Car Park

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
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SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
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 索引圖 A1 1 : 40000

CONTRACT NO. 合約編號: NE/2017/05

SHEET TITLE 圖紙名稱

GENERAL LAYOUT PLAN
FIGURE 1.1 b

SHEET 3 OF 6

SHEET NUMBER 圖紙編號

60481656/C1/1003B

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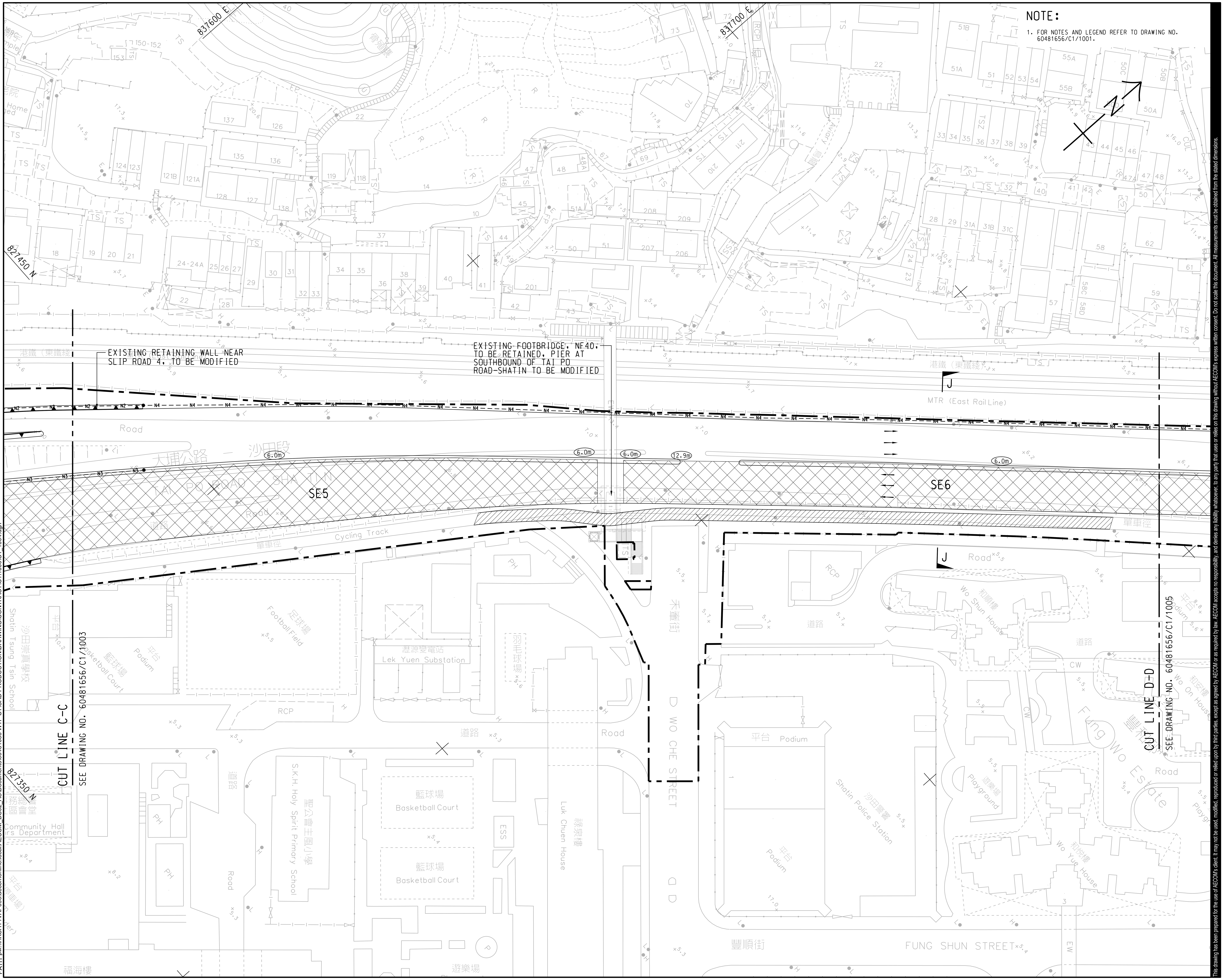
Designer: FMSC Checked: BCC Approved: CWN
ISO A1 594mm x 841mm
Project Management Initials:
2018/2/27
Plot File by: WUMT



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

ISO A1 594mm x 841mm

Plot File by: AS\WUMT 15/01/2018 11:15:19

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PROJECT 項目

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SCALE 比例: A1 1 : 500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖: A1 1 : 40000

CONTRACT NO. 合約編號: NE/2017/05

SHEET TITLE 圖紙名稱: GENERAL LAYOUT PLAN

FIGURE 1.1b

SHEET 4 OF 6

SHEET NUMBER 圖紙編號: 60481656/C1/1004

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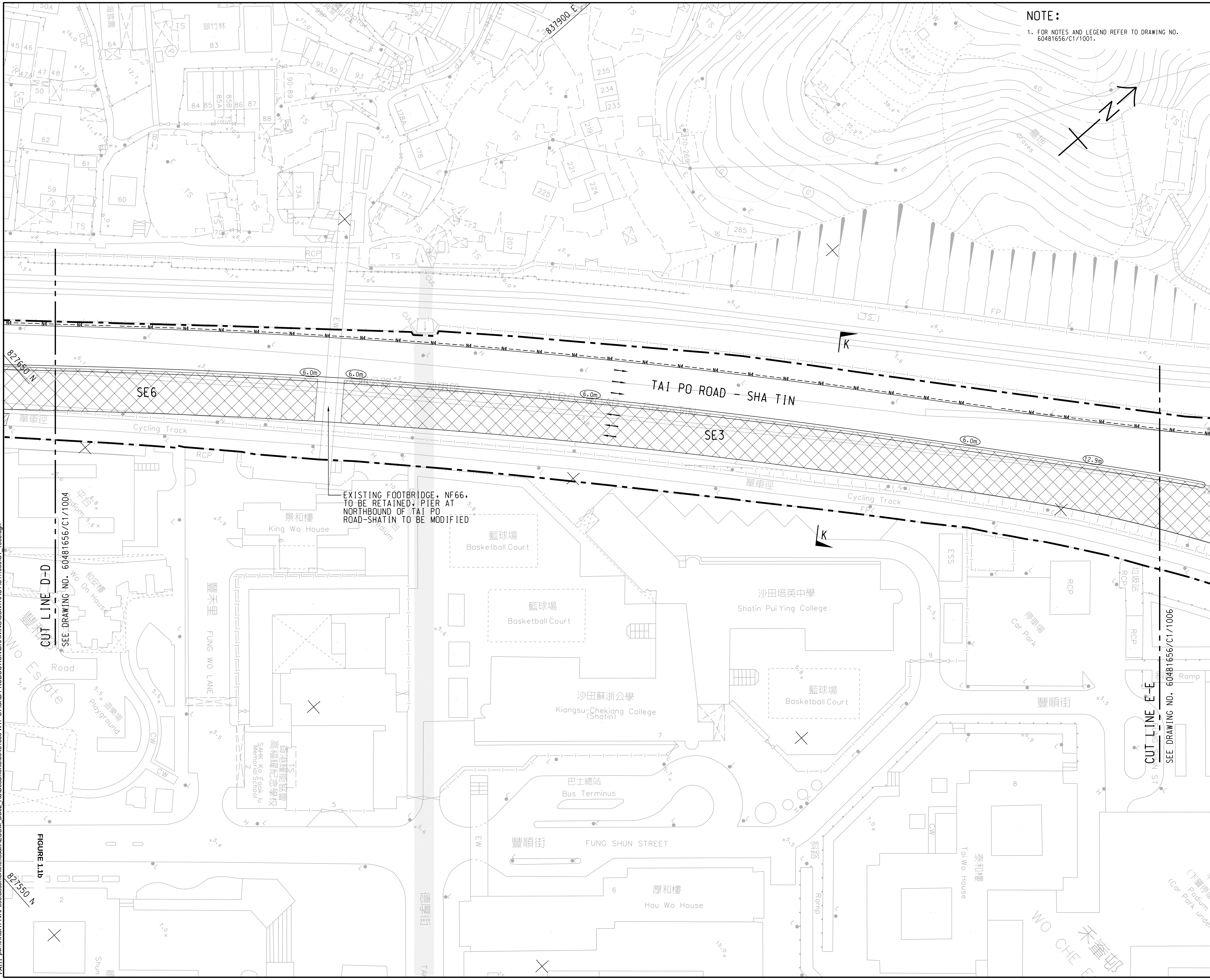

FIGURE 1.1b

Designer: FMSC Checked: BCC Approved: CWN

Project Management Initials:

ISO A1 594mm x 841mm

16/1/2018

Plot File by: XIEJB

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PROJECT 項目

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

CLIENT 業主

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

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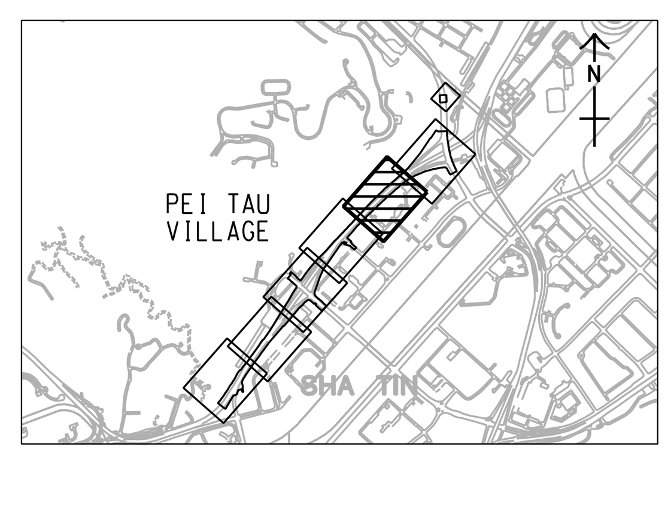
STATUS 階段

SCALE 比例: A1 1 : 500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A1 1 : 40000



CONTRACT NO. 合約編號

NE/2017/05

SHEET TITLE 圖紙名稱

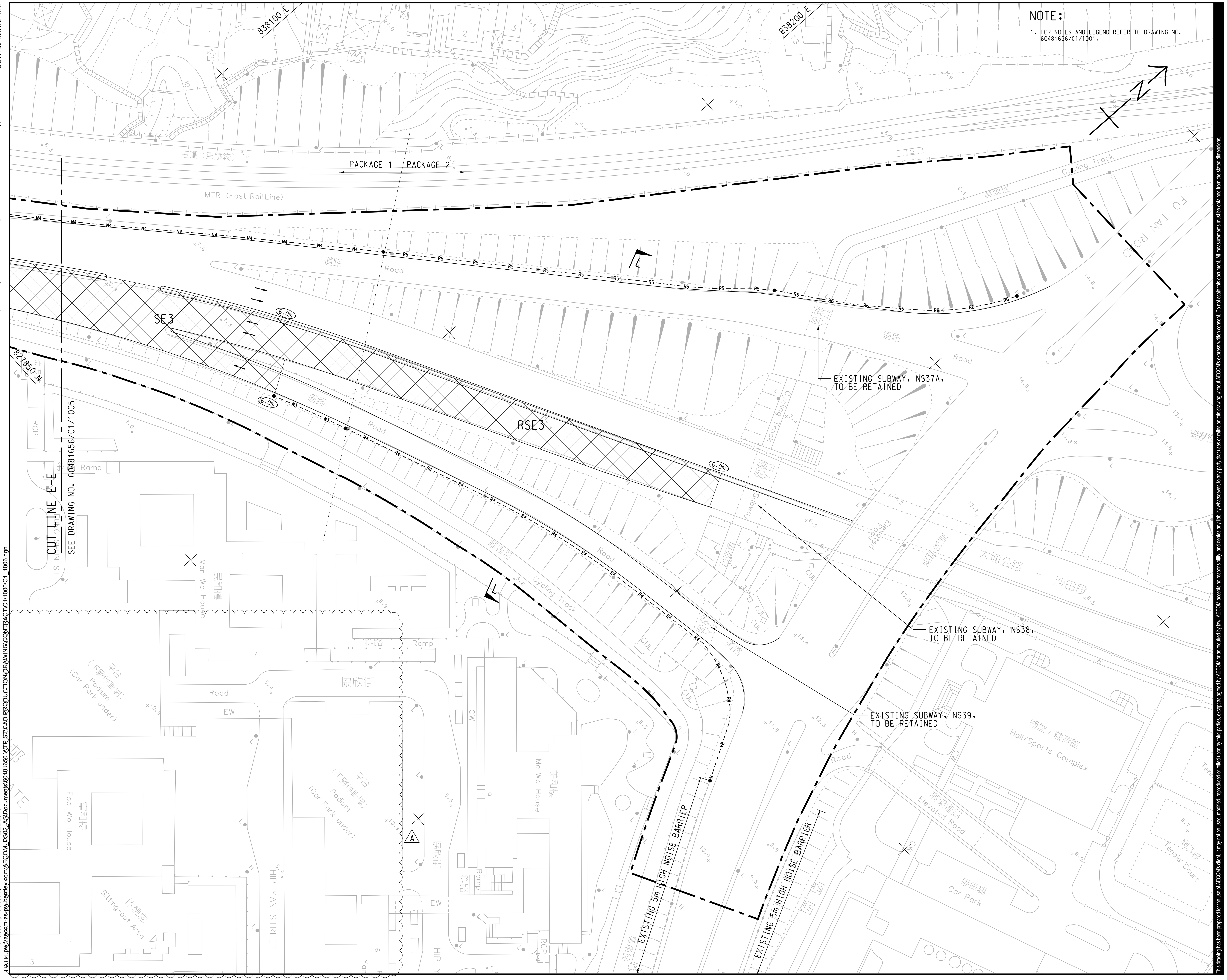
GENERAL LAYOUT PLAN

FIGURE 1.1b

SHEET 5 OF 6

SHEET NUMBER 圖紙編號

60481656/C1/1005



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

ISO A1 594mm x 841mm

Plot File by: aecompw06ics01$
2/22/2018
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PROJECT 項目

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

CLIENT 業主

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

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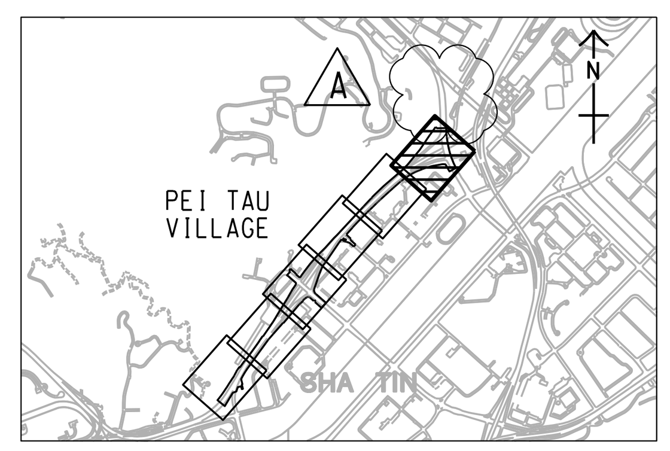

CONTRACT NO. 合約編號

NE/2017/05

SHEET TITLE 圖紙名稱

GENERAL LAYOUT PLAN

FIGURE 1.1b

SHEET 6 OF 6

SHEET NUMBER 圖紙編號

60481656/C1/1006A

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

Figure 2a

Air Monitoring Locations

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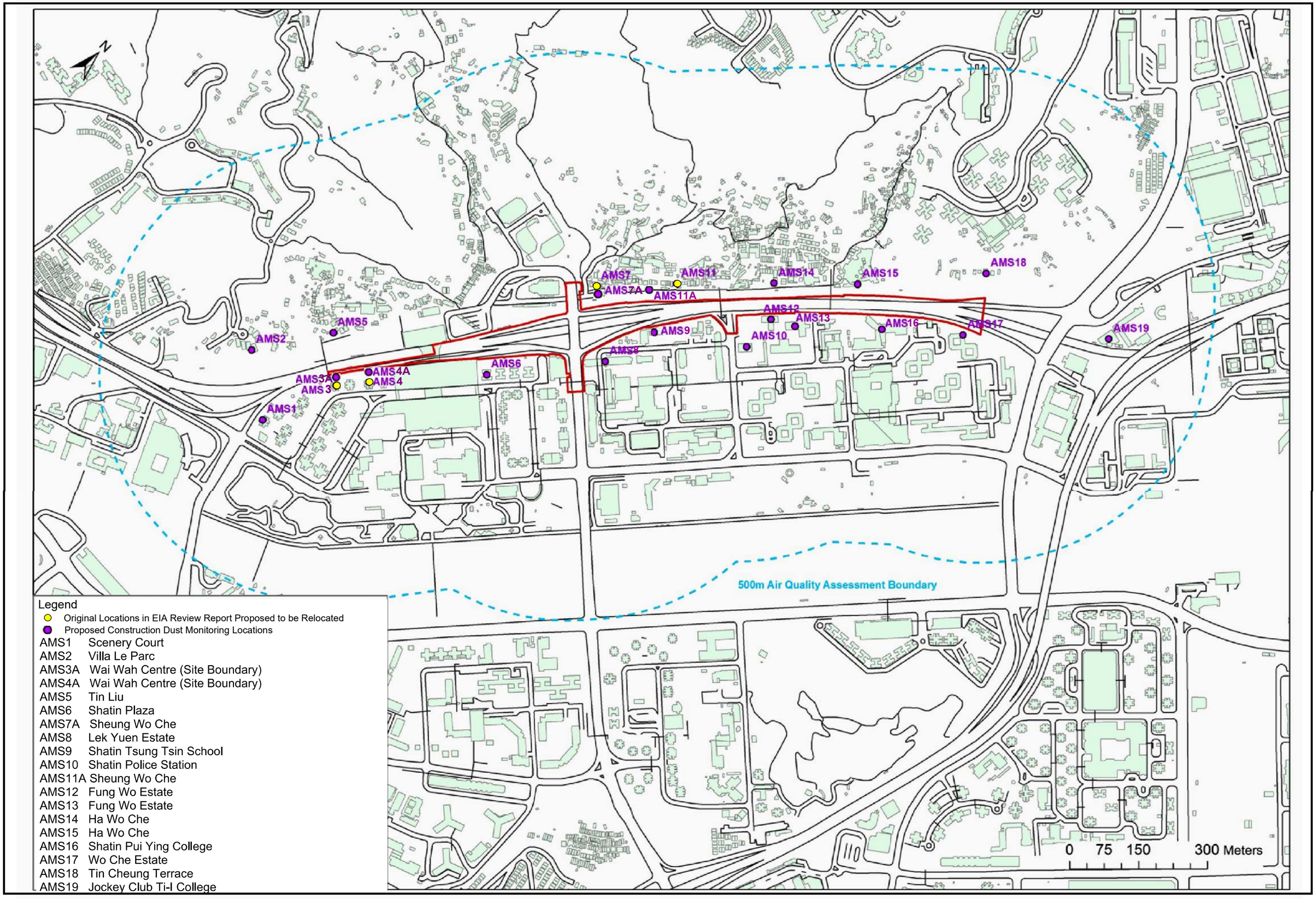

Figure 2a Air Quality Monitoring Locations

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

Figure 2b

Noise Monitoring Locations

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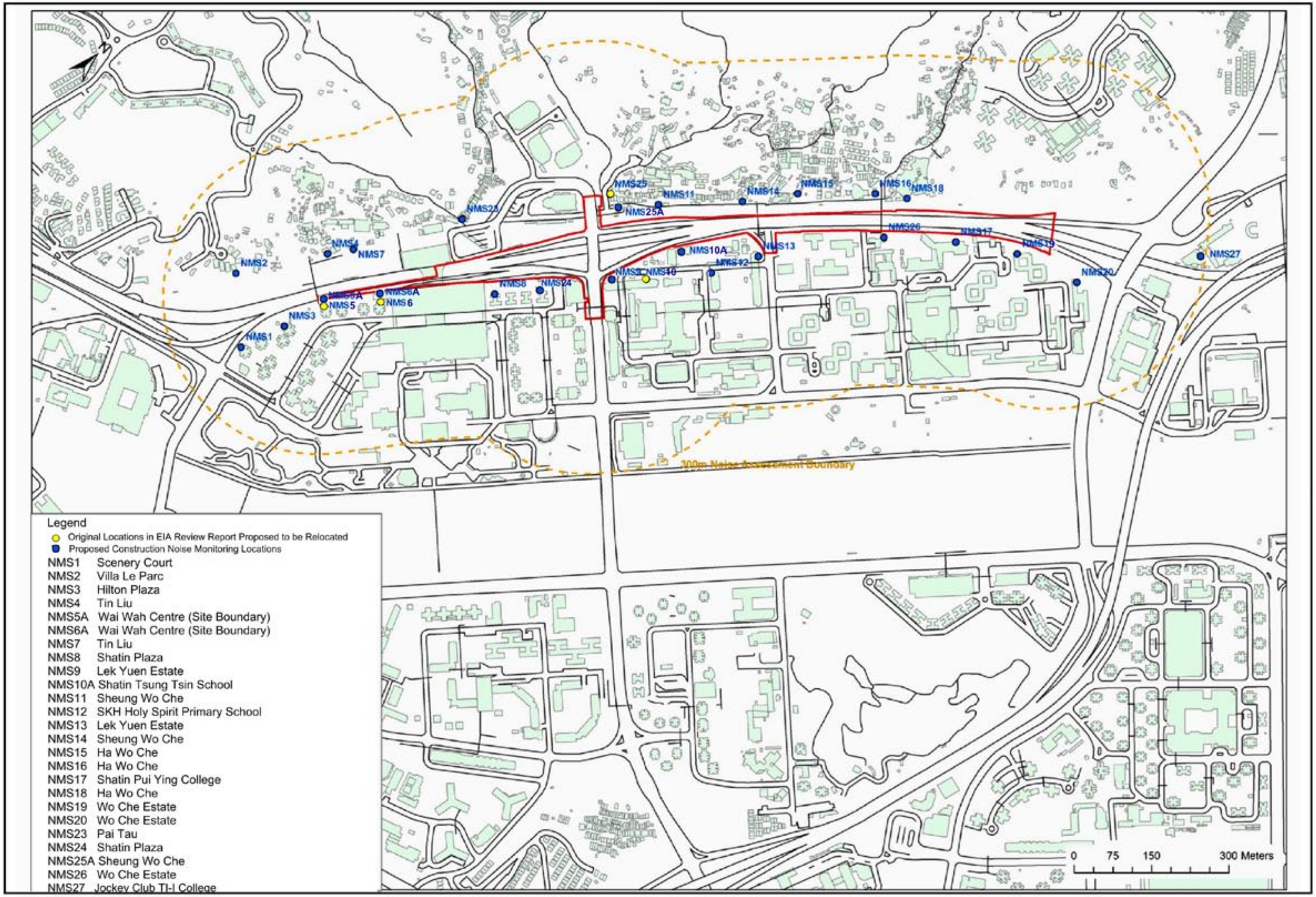

Figure 2b Noise Monitoring Locations

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

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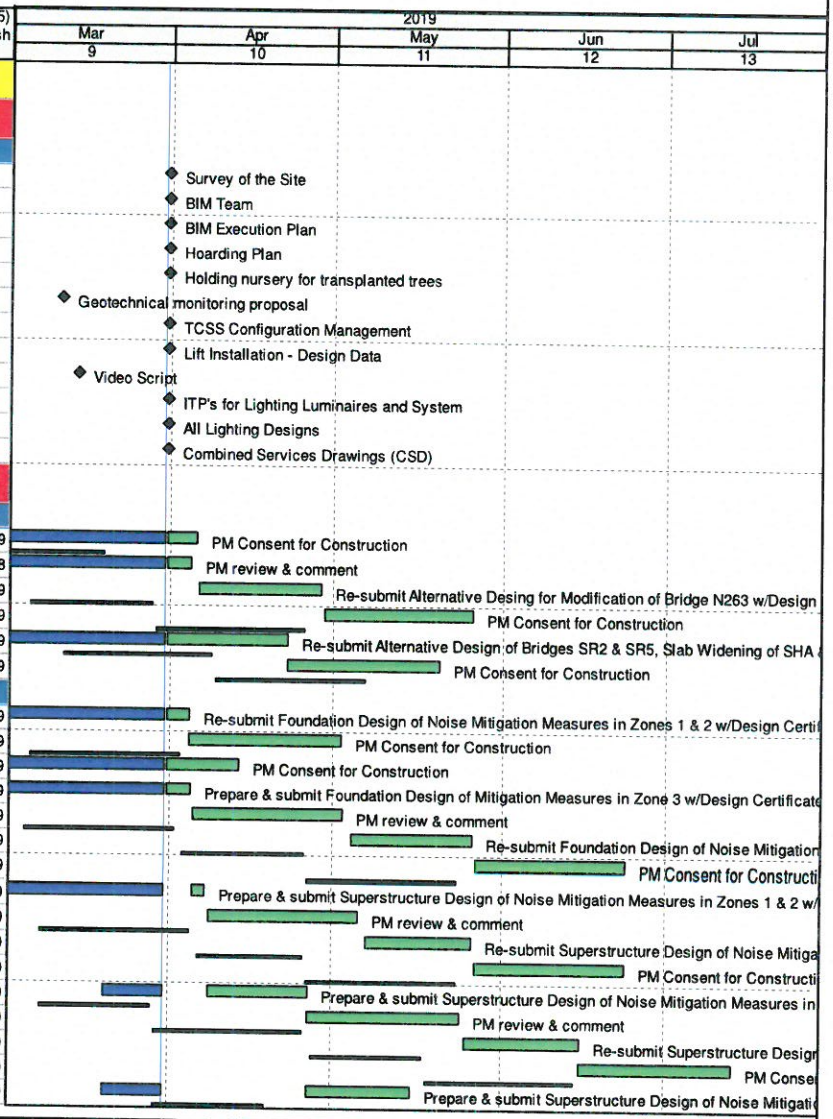
中國中鐵-中鐵一局-振華工程聯營
CHINA RAILWAY - CHINA RAILWAY FIRST GROUP - ZHEN HUA ENGINEERING JOINT VENTURE

12-Apr-19

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	DWP (AP5) Start	DWP (AP5) Finish
Contract NE/2017/05 Road Widening and Retrofitting Noise Barriers on Tai Po Road (							
PRELIMINARIES & GENERAL REQUIREMENT							
GENERAL SUBMISSION							
SUB1115	Survey of the Site	0	0	31-Mar-19*		28-Feb-19	
SUB1153	BIM Team	0	0	31-Mar-19*		28-Feb-19	
SUB1155	BIM Execution Plan	0	0	31-Mar-19*		28-Feb-19	
SUB1200	Hoarding Plan	0	0	31-Mar-19*		28-Feb-19	
SUB1305	Holding nursery for transplanted trees	0	0	31-Mar-19*		28-Feb-19	
SUB1309	Geotechnical monitoring proposal	0	0	12-Mar-19 A		28-Feb-19	
SUB1343	TCSS Configuration Management	0	0	31-Mar-19*		28-Feb-19	
SUB1347	Lift Installation - Design Data	0	0	31-Mar-19*		28-Feb-19	
SUB1360	Video Script	0	0	15-Mar-19 A		28-Feb-19	
SUB1403	ITP's for Lighting Luminaires and System	0	0	31-Mar-19*		28-Feb-19	
SUB1405	All Lighting Designs	0	0	31-Mar-19*		28-Feb-19	
SUB1410	Combined Services Drawings (CSD)	0	0	31-Mar-19*		28-Feb-19	
DESIGN SUBMISSION							
STRCR INTERCHANGE MODIFICATION WORKS (Alternative Design)							
DES1070	PM Consent for Construction	28	6	06-Nov-18 A	05-Apr-19	20-Feb-19	19-Mar-19
DES1090	PM review & comment	28	5	07-Dec-18 A	04-Apr-19	05-Oct-18	01-Nov-18
DES1100	Re-submit Alternative Desing for Modification of Bridg	23	23	06-Apr-19	28-Apr-19	06-Mar-19	28-Mar-19
DES1110	PM Consent for Construction	28	28	29-Apr-19	26-May-19	29-Mar-19	25-Apr-19
DES1140	Re-submit Alternative Design of Bridges SR2 & SR5, S	28	22	19-Feb-19 A	22-Apr-19	12-Mar-19	08-Apr-19
DES1150	PM Consent for Construction	28	28	22-Apr-19	20-May-19	09-Apr-19	06-May-19
NOISE MITIGATION MEASURES							
DES1180	Re-submit Foundation Design of Noise Mitigation Mea	22	4	24-Nov-18 A	04-Apr-19	29-Jan-19	19-Feb-19
DES1190	PM Consent for Construction	28	28	04-Apr-19	02-May-19	06-Mar-19	02-Apr-19
DES1230	PM Consent for Construction	28	14	02-Jan-19 A	13-Apr-19	31-Jan-19	27-Feb-19
DES1240	Prepare & submit Foundation Design of Mitigation Mea	21	5	26-Nov-18 A	04-Apr-19	31-Dec-18	20-Jan-19
DES1250	PM review & comment	28	28	05-Apr-19	02-May-19	05-Mar-19	01-Apr-19
DES1260	Re-submit Foundation Design of Noise Mitigation Mea	23	23	04-May-19	26-May-19	03-Apr-19	25-Apr-19
DES1270	PM Consent for Construction	28	28	27-May-19	23-Jun-19	26-Apr-19	23-May-19
DES1280	Prepare & submit Superstructure Design of Noise Miti	21	3	14-Jan-19 A	07-Apr-19	05-Feb-19	25-Feb-19
DES1290	PM review & comment	28	28	08-Apr-19	05-May-19	08-Mar-19	04-Apr-19
DES1300	Re-submit Superstructure Design of Noise Mitigation I	20	20	07-May-19	26-May-19	06-Apr-19	25-Apr-19
DES1310	PM Consent for Construction	28	28	27-May-19	23-Jun-19	26-Apr-19	23-May-19
DES1320	Prepare & submit Superstructure Design of Noise Miti	21	19	20-Mar-19 A	26-Apr-19	08-Mar-19	28-Mar-19
DES1330	PM review & comment	28	28	26-Apr-19	24-May-19	29-Mar-19	25-Apr-19
DES1340	Re-submit Superstructure Design of Noise Mitigation I	21	21	25-May-19	15-Jun-19	27-Apr-19	17-May-19
DES1350	PM Consent for Construction	28	28	15-Jun-19	13-Jul-19	18-May-19	14-Jun-19
DES1360	Prepare & submit Superstructure Design of Noise Miti	21	19	20-Mar-19 A	15-May-19	29-Mar-19	18-Apr-19

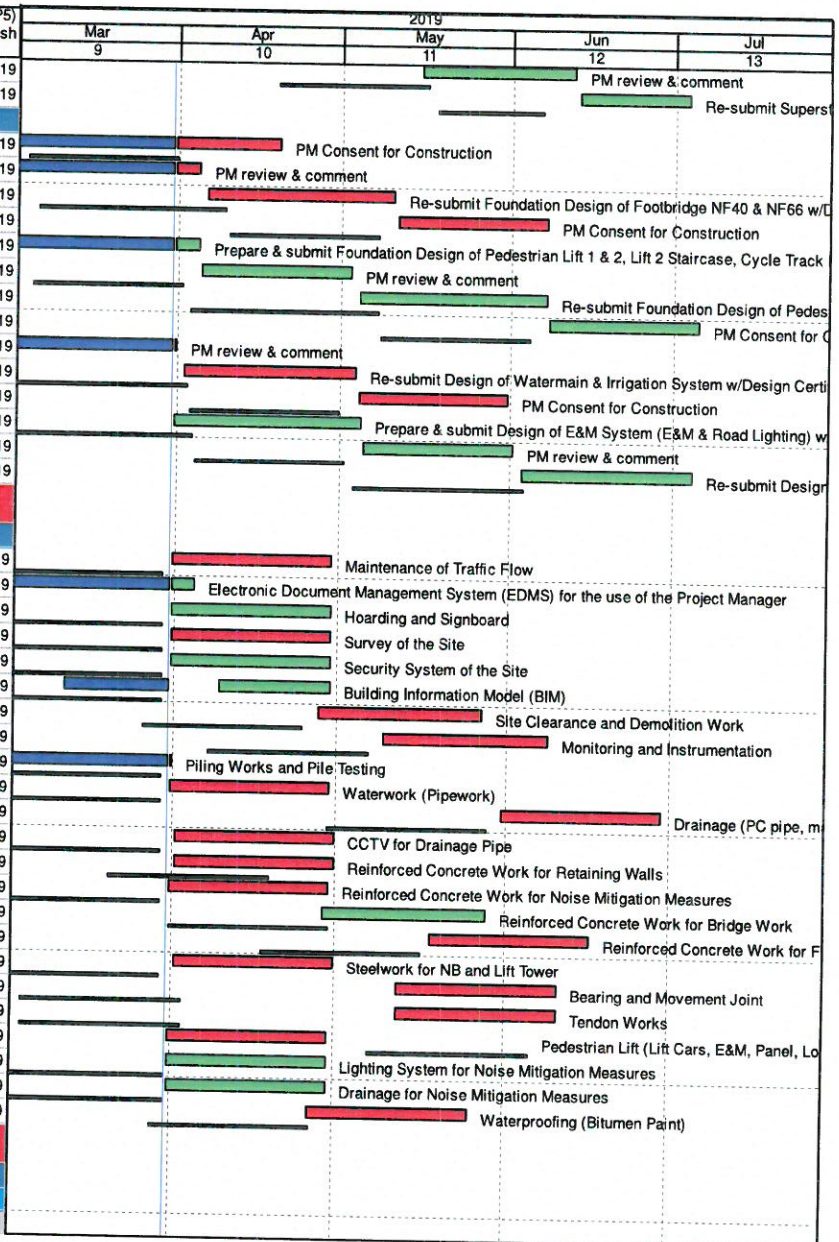


Remaining Level of Effort
Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone

ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)
3 Months Rolling Programme (31/03/19)
Page 1 of 5

Date	Revision	Checked	Appr...
09-Apr-19	3MRP DWP 1903	Tim	

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	DWP (AP5) Start	DWP (AP5) Finish
DES1370	PM review & comment	28	28	15-May-19	12-Jun-19	19-Apr-19	16-May-19
DES1380	Re-submit Superstructure Design of Noise Mitigation I	20	20	13-Jun-19	03-Jul-19	18-May-19	06-Jun-19
REMAINING WORKS							
DES1430	PM Consent for Construction	28	20	11-Jan-19 A	19-Apr-19	04-Mar-19	31-Mar-19
DES1450	PM review & comment	28	5	02-Jan-19 A	04-Apr-19	31-Jan-19	27-Feb-19
DES1460	Re-submit Foundation Design of Footbridge NF40 & N	35	35	06-Apr-19	10-May-19	06-Mar-19	09-Apr-19
DES1470	PM Consent for Construction	28	28	11-May-19	07-Jun-19	10-Apr-19	07-May-19
DES1480	Prepare & submit Foundation Design of Pedestrian Lift	21	5	26-Nov-18 A	04-Apr-19	31-Dec-18	20-Jan-19
DES1490	PM review & comment	28	28	05-Apr-19	02-May-19	05-Mar-19	01-Apr-19
DES1500	Re-submit Foundation Design of Pedestrian Lift 1 & 2,	35	35	04-May-19	07-Jun-19	03-Apr-19	07-May-19
DES1510	PM Consent for Construction	28	28	08-Jun-19	05-Jul-19	08-May-19	04-Jun-19
DES1530	PM review & comment	28	1	02-Jan-19 A	31-Mar-19	31-Jan-19	27-Feb-19
DES1540	Re-submit Design of Watermain & Irrigation System w	32	32	02-Apr-19	03-May-19	02-Mar-19	02-Apr-19
DES1550	PM Consent for Construction	28	28	04-May-19	31-May-19	03-Apr-19	30-Apr-19
DES1560	Prepare & submit Design of E&M System (E&M & Roa	35	35	31-Mar-19	04-May-19	28-Feb-19	03-Apr-19
DES1570	PM review & comment	28	28	05-May-19	01-Jun-19	04-Apr-19	01-May-19
DES1580	Re-submit Design of E&M System (E&M & Road Lighti	32	32	03-Jun-19	04-Jul-19	03-May-19	03-Jun-19
SUBLETTING & PROCUREMENT SCHEDULE							
SUBLETTING							
SPS1000	Maintenance of Traffic Flow	30	30	31-Mar-19	29-Apr-19	28-Feb-19	29-Mar-19
SPS1010	Electronic Document Management System (EDMS) for	30	5	18-Oct-18 A	04-Apr-19*	31-Dec-18	29-Jan-19
SPS1030	Hoarding and Signboard	30	30	31-Mar-19	29-Apr-19	28-Feb-19	29-Mar-19
SPS1040	Survey of the Site	30	30	31-Mar-19	29-Apr-19	28-Feb-19	29-Mar-19
SPS1060	Security System of the Site	30	30	31-Mar-19	29-Apr-19	28-Feb-19	29-Mar-19
SPS1090	Building Information Model (BIM)	30	21	12-Mar-19 A	29-Apr-19	28-Feb-19	29-Mar-19
SPS1140	Site Clearance and Demolition Work	30	30	27-Apr-19	27-May-19	26-Mar-19	24-Apr-19
SPS1160	Monitoring and Instrumentation	30	30	09-May-19	08-Jun-19	07-Apr-19	06-May-19
SPS1170	Piling Works and Pile Testing	30	1	21-Dec-18 A	31-Mar-19	28-Feb-19	29-Mar-19
SPS1200	Waterwork (Pipework)	30	30	31-Mar-19	29-Apr-19	28-Feb-19	29-Mar-19
SPS1210	Drainage (PC pipe, manhole & gully) and Duct	30	30	31-May-19	29-Jun-19	29-Apr-19	28-May-19
SPS1220	CCTV for Drainage Pipe	30	30	01-Apr-19	30-Apr-19	28-Feb-19	29-Mar-19
SPS1240	Reinforced Concrete Work for Retaining Walls	30	30	01-Apr-19	30-Apr-19	20-Mar-19	18-Apr-19
SPS1250	Reinforced Concrete Work for Noise Mitigation Measu	30	30	31-Mar-19	29-Apr-19	28-Feb-19	29-Mar-19
SPS1260	Reinforced Concrete Work for Bridge Work	30	30	28-Apr-19	28-May-19	31-Mar-19	29-Apr-19
SPS1280	Reinforced Concrete Work for Footbridge NF40 & NF6	30	30	18-May-19	16-Jun-19	17-Apr-19	16-May-19
SPS1290	Steelwork for NB and Lift Tower	30	30	01-Apr-19	30-Apr-19	28-Feb-19	29-Mar-19
SPS1310	Bearing and Movement Joint	30	30	12-May-19	10-Jun-19	04-Mar-19	02-Apr-19
SPS1320	Tendon Works	30	30	12-May-19	10-Jun-19	04-Mar-19	02-Apr-19
SPS1410	Pedestrian Lift (Lift Cars, E&M, Panel, Lourve & Signal	30	30	31-Mar-19	29-Apr-19	07-May-19	05-Jun-19
SPS1420	Lighting System for Noise Mitigation Measures	30	30	31-Mar-19	29-Apr-19	01-Mar-19	30-Mar-19
SPS1440	Drainage for Noise Mitigation Measures	30	30	31-Mar-19	29-Apr-19	01-Mar-19	30-Mar-19
SPS1460	Waterproofing (Bitumen Paint)	30	30	26-Apr-19	25-May-19	28-Mar-19	26-Apr-19
WORK BETWEEN SHING MUN TUNNELS ROAD AND FOOT BRIDGE NF71A (ZONE 1)							
PRELIMINARIES WORKS							
TEMPORARY TRAFFIC ARRAGEMENT							
TTA PERIOD							



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Actual Level of Effort
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Actual Work
Remaining Work
Critical Remaining Work
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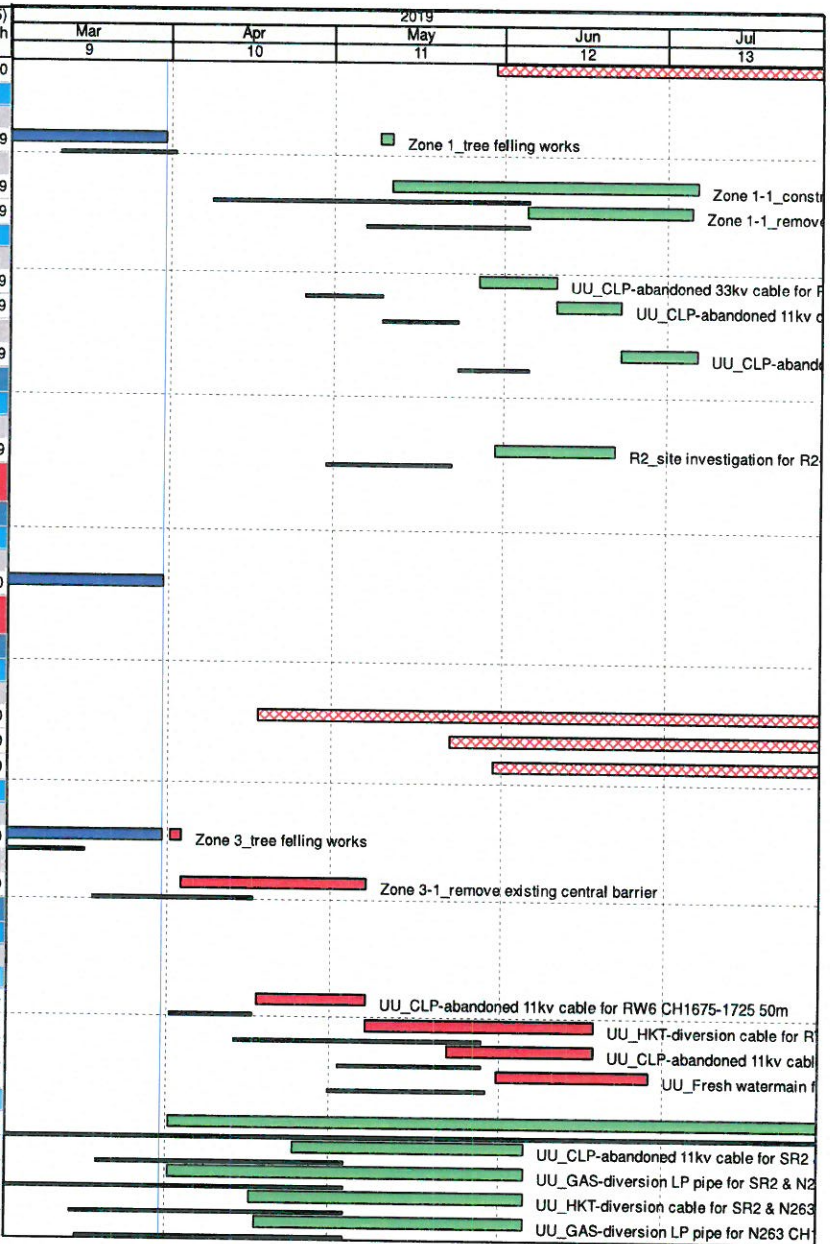
Milestone

ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)
3 Months Rolling Programme (31/03/19)
Page 2 of 5

Date	Revision	Checked	Appr...
09-Apr-19	3MRP DWP 1903	Tim	

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	DWP (AP5) Start	DWP (AP5) Finish
Z1_1410	Construction Zone 1_Stage 1 Southbound structure	283	283	30-May-19	14-May-20	29-Apr-19	14-Apr-20
PREPARATORY WORKS							
TREE FELLING/TRANPLANT							
Z1_1290	Zone 1_tree felling works	18	3	25-Jan-19 A	11-May-19	11-Mar-19	01-Apr-19
MODIFICATION EXISTING ROAD/TEMPORARY RO AD							
Z1_1270	Zone 1-1_construct temporary road platform along Noı	45	45	11-May-19	06-Jul-19	08-Apr-19	05-Jun-19
Z1_1280	Zone 1-1_remove existing central barrier	21	21	05-Jun-19	05-Jul-19	06-May-19	05-Jun-19
UTILITIES DIVERSION							
NORTHBOUND							
Z1_1330	UU_CLP-abandoned 33kv cable for R1 & R2 CH1075 :	11	11	27-May-19	10-Jun-19	25-Apr-19	09-May-19
Z1_1340	UU_CLP-abandoned 11kv cable for R1 & R2 CH1090-	11	11	10-Jun-19	22-Jun-19	09-May-19	23-May-19
SOUTHBOUND							
Z1_1370	UU_CLP-abandoned 33kv cable for R2 CH1100-1130 :	11	11	22-Jun-19	06-Jul-19	23-May-19	05-Jun-19
NOISE BARRIER AND SEMI-ENCLOSURE							
PILE FOUNDATION WORKS							
SOUTHBOUND							
Z1_1050	R2_site investigation for R2-02P & 06P (7nr)	18	18	30-May-19	21-Jun-19	29-Apr-19	22-May-19
WORK BETWEEN FOOT BRIDGE NF71A AND CITYLINE PLAZA (ZONE 2)							
PRELIMINARIES WORKS							
PREPARATORY WORKS							
TREE FELLING/TRANPLANT							
Z2_1220	Zone 2_tree felling works	18	4	19-Feb-19 A	16-Mar-20	24-Jan-20	17-Feb-20
WORK BETWEEN CITYLINE PLAZA AND FOOTBRIDGE NF40 (ZONE 3)							
PRELIMINARIES WORKS							
TEMPORARY TRAFFIC ARRAGEMENT							
TTA PERIOD							
Z3_3270	Construction period of Zone 3a_1	374	374	17-Apr-19	23-Jul-20	17-Apr-19	20-May-20
Z3_3340	Construction period of Zone 3c_1	328	328	22-May-19	29-Jun-20	22-May-19	29-May-20
Z3_3400	Construction period of Zone 3b_1	350	350	30-May-19	03-Aug-20	06-May-19	30-May-20
PREPARATORY WORKS							
TREE FELLING/TRANPLANT							
Z3_2800	Zone 3_tree felling works	18	2	22-Jan-19 A	03-Apr-19	25-Feb-19	16-Mar-19
MODIFICATION EXISTING ROAD/TEMPORARY RO AD							
Z3_2810	Zone 3-1_remove existing central barrier	21	21	03-Apr-19	07-May-19	18-Mar-19	16-Apr-19
BRIDGE AND STRUCTURE WORKS							
PRELIMINARIES WORKS							
UTILITIES DIVERSION							
NORTHBOUND							
Z3_2910	UU_CLP-abandoned 11kv cable for RW6 CH1675-172	13	13	17-Apr-19	07-May-19	01-Apr-19	16-Apr-19
Z3_2920	UU_HKT-diversion cable for RW7 CH1830-2000 170m	34	34	07-May-19	18-Jun-19	13-Apr-19	28-May-19
Z3_2930	UU_CLP-abandoned 11kv cable for RW7 & SR4 CH18	22	22	22-May-19	18-Jun-19	02-May-19	28-May-19
Z3_3130	UU_Fresh watermain for SR4 178m 200mm	23	23	31-May-19	28-Jun-19	30-Apr-19	29-May-19
SOUTHBOUND							
Z3_2970	UU_HKT-new cable for RW1 & SR3 CH1450-2300 850	127	127	01-Apr-19	04-Sep-19	28-Feb-19	03-Aug-19
Z3_3050	UU_CLP-abandoned 11kv cable for SR2 & N263 CH17	35	35	24-Apr-19	05-Jun-19	19-Mar-19	03-May-19
Z3_3060	UU_GAS-diversion LP pipe for SR2 & N263 CH1640-1	51	51	01-Apr-19	05-Jun-19	28-Feb-19	03-May-19
Z3_3070	UU_HKT-diversion cable for SR2 & N263 CH1630-184	39	39	16-Apr-19	05-Jun-19	14-Mar-19	03-May-19
Z3_3110	UU_GAS-diversion LP pipe for N263 CH1825-1960 13	38	38	17-Apr-19	05-Jun-19	15-Mar-19	03-May-19

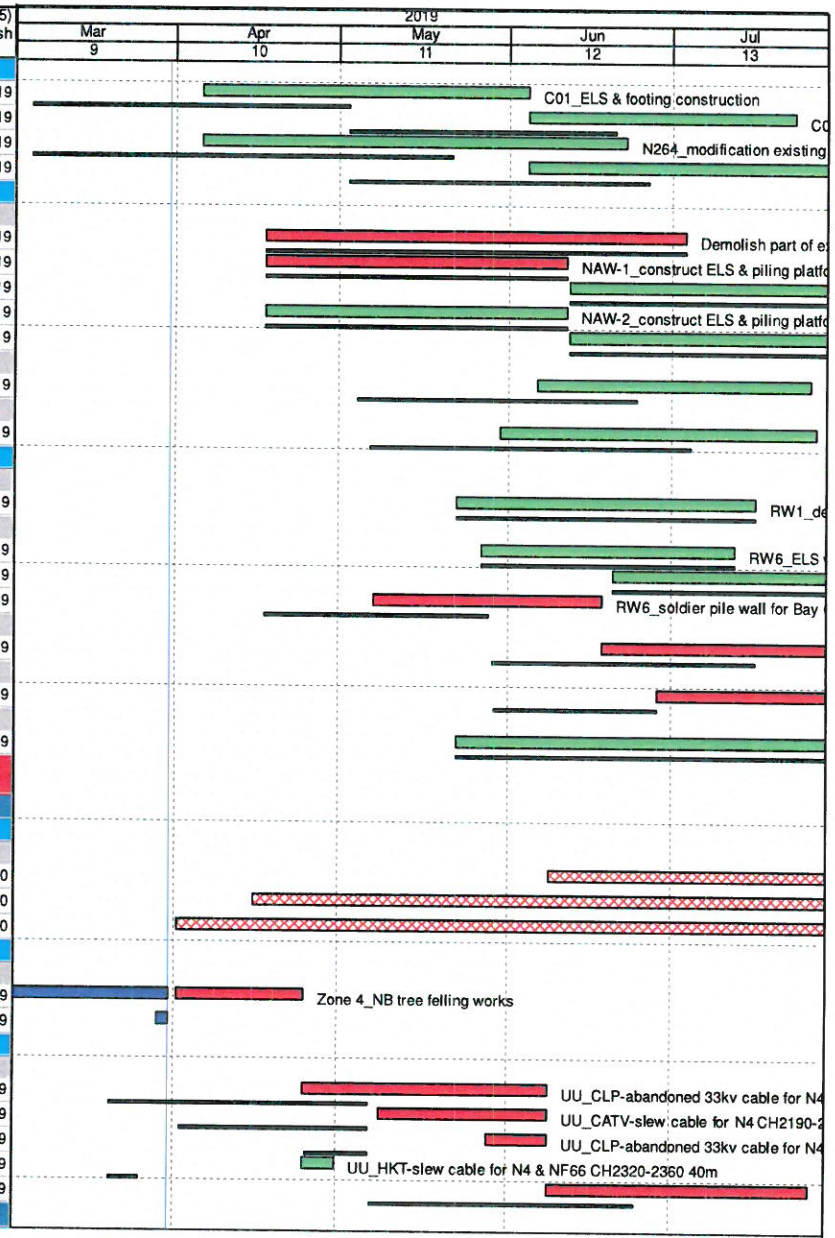


Remaining Level of Effort
Actual Level of Effort
Primary Baseline
Actual Work
Remaining Work
Critical Remaining Work
Baseline Milestone
Milestone

ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)
3 Months Rolling Programme (31/03/19)
Page 3 of 5

Date	Revision	Checked	Appr...
09-Apr-19	3MRP DWP 1903	Tim	

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	DWP (AP5) Start	DWP (AP5) Finish
WIDENING FOR NORTH HOLLOW ABUTMENT (N264)							
Z3_4200	C01_ELS & footing construction	45	45	05-Apr-19	04-Jun-19	05-Mar-19	02-May-19
Z3_4210	C01_cloumn construction	40	40	04-Jun-19	23-Jul-19	02-May-19	20-Jun-19
Z3_4220	N264_modification existing MTRC fencing for deck wi	60	60	05-Apr-19	22-Jun-19	05-Mar-19	21-May-19
Z3_4240	N264_temporary protection MTRC cable	45	45	04-Jun-19	29-Jul-19	02-May-19	26-Jun-19
MODIFICATION OF BRIDGE N263							
RECONSTRUCTION ABUTMENT WALL AT NHA							
Z3_4100	Demolish part of existing NHA wall for construction ne	60	60	17-Apr-19*	03-Jul-19	17-Apr-19	03-Jul-19
Z3_4110	NAW-1_construct ELS & piling platform	42	42	17-Apr-19*	11-Jun-19	17-Apr-19	11-Jun-19
Z3_4120	NAW-1_piling works for new NHA wall 5nr 1.5m bored	70	70	12-Jun-19	02-Sep-19	12-Jun-19	02-Sep-19
Z3_4150	NAW-2_construct ELS & piling platform	42	42	17-Apr-19	11-Jun-19	17-Apr-19	11-Jun-19
Z3_4160	NAW-2_piling works for new NHA wall 4nr 1.5m bored	56	56	12-Jun-19	16-Aug-19	12-Jun-19	16-Aug-19
MODIFICATION EXISTING PIER WALL OF N263							
Z3_3870	SAW-1_piling works for new NHA wall 3nr 1.5m bored	42	42	06-Jun-19	26-Jul-19	04-May-19	24-Jun-19
MODIFICATION EXISTING SOUTH HOLLOW ABUTMENT WALL							
Z3_3950	SHA_piling works for pier SHA 6 nos. Socket H-pile	48	48	30-May-19	27-Jul-19	06-May-19	04-Jul-19
RETAINING WALL & SUBWAY							
RETAINING WALL NO.1							
Z3_4550	RW1_demolish existing retaining structure between B:	45	45	22-May-19	16-Jul-19	22-May-19	16-Jul-19
RETAINING WALL NO.6							
Z3_1218_1000	RW6_ELS works for Bay 601 to Bay 608 (62m_2 side)	35	35	27-May-19	12-Jul-19	27-May-19	12-Jul-19
Z3_1218_1010	RW6_base slab construction for Bay 601 to Bay 608	64	64	20-Jun-19	17-Sep-19	20-Jun-19	17-Sep-19
Z3_1218_1040	RW6_soldier pile wall for Bay 609 to Bay 614 (53nr)	30	30	07-May-19	18-Jun-19	17-Apr-19	28-May-19
RETAINING WALL NO.7							
Z3_1218_2040	RW7_soldier pile wall for Bay 701 to Bay 705 (62nr)	35	35	18-Jun-19	06-Aug-19	29-May-19	16-Jul-19
MODIFY EXISTING RETAINING WALL SR4							
Z3_5070	SR4_ELS works for Bay SR401 to Bay SR405 (90m_1	25	25	28-Jun-19	29-Jul-19	29-May-19	28-Jun-19
MODIFY EXISTING SUBWAY NS30							
Z3_5200	Re-align existing subway NS30	120	120	22-May-19	15-Oct-19	22-May-19	15-Oct-19
WORK BETWEEN FOOTBRIDGE NF40 AND NF66 (ZONE 4)							
PRELIMINARIES WORKS							
TEMPORARY TRAFFIC ARRAGEMENT							
TTA PERIOD							
Z4_1390	Construction Zone 4_Stage 1 Northbound structure	207	207	08-Jun-19	17-Feb-20	07-May-19	14-Jan-20
Z4_1470	Construction Zone 4_NF66 Construction	243	243	15-Apr-19	10-Feb-20	14-Mar-19	08-Jan-20
Z4_1480	Construction Zone 4_NF40 Construction	489	489	01-Apr-19	23-Nov-20	28-Feb-19	21-Oct-20
PREPARATORY WORKS							
TREE FELLING/TRANPLANT							
Z4_1320	Zone 4_NB tree felling works	18	17	25-Jan-19 A	24-Apr-19	31-Jan-19	23-Feb-19
Z4_1330	Zone 4_SB tree felling works	18	9	29-Mar-19 A	31-Jan-20	05-Dec-19	27-Dec-19
UTILITIES DIVERSION							
NORTHBOUND							
Z4_1270	UU_CLP-abandoned 33kv cable for N4 CH2100-2350	36	36	24-Apr-19	08-Jun-19	20-Mar-19	06-May-19
Z4_1280	UU_CATV-slew cable for N4 CH2190-2400 210m	25	25	08-May-19	08-Jun-19	02-Apr-19	06-May-19
Z4_1290	UU_CLP-abandoned 33kv cable for N4&SE6 CH2150-	9	9	28-May-19	08-Jun-19	25-Apr-19	06-May-19
Z4_1300	UU_HKT-slew cable for N4 & NF66 CH2320-2360 40m	5	5	24-Apr-19	30-Apr-19	20-Mar-19	25-Mar-19
Z4_1360	UU_Fresh watermain for N4 CH2150-2200 77m 600mr	40	40	08-Jun-19	26-Jul-19	07-May-19	24-Jun-19
NOISE BARRIER AND SEMI-ENCLOSURE							



Remaining Level of Effort
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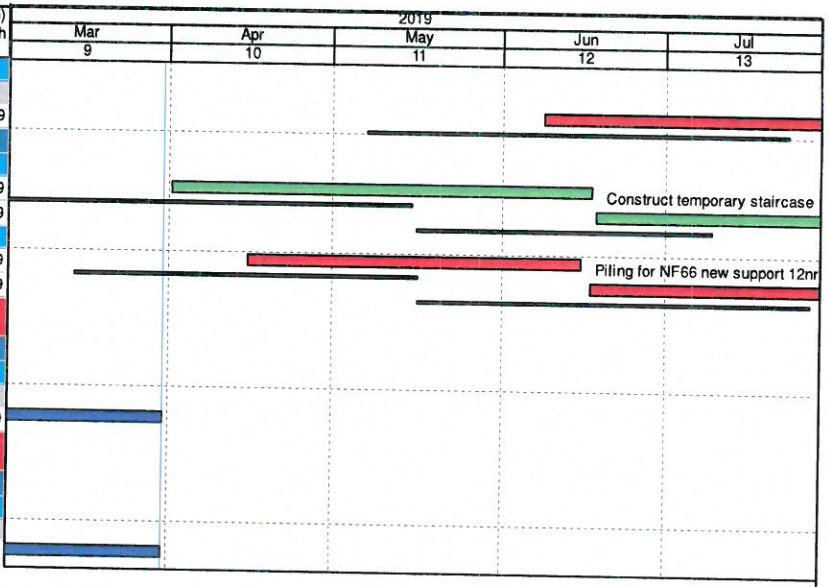
ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)
3 Months Rolling Programme (31/03/19)
Page 4 of 5

Date	Revision	Checked	Appr...
09-Apr-19	3MRP DWP 1903	Tim	

Activity ID	Activity Name	Original Duration	Remaining Duration	3MRP Start	3MRP Finish	DWP (AP5) Start	DWP (AP5) Finish
PILE CAP AND FOOTING							
NORTHBOUND							
Z4_1000	N4_ELS for footing construction N4-12 to N4-29 (231m	64	64	08-Jun-19	23-Aug-19	07-May-19	23-Jul-19
BRIDGE AND STRUCTURE WORKS							
MODIFICATION WORKS FOR NF40							
NF40_1000	Construct temporary staircase	60	60	01-Apr-19	17-Jun-19	28-Feb-19	15-May-19
NF40_1010	Demolish existing staircase & part of existing footing	45	45	18-Jun-19	09-Aug-19	16-May-19	09-Jul-19
MODIFICATION WORKS FOR NF66							
NF66_1000	Piling for NF66 new support 12nr mini pile	48	48	15-Apr-19	15-Jun-19	14-Mar-19	16-May-19
NF66_1010	Pile cap construction 2nr	60	60	17-Jun-19	26-Aug-19	16-May-19	27-Jul-19
WORK BETWEEN FOOTBRIDGE NF66 AND FO TAN ROAD (ZONE 5)							
PRELIMINARIES WORKS							
PREPARATORY WORKS							
TREE FELLING/TRANPLANT							
Z5_1710	Zone 5_tree felling works	18	13	22-Jan-19 A	20-Nov-19	21-Sep-19	15-Oct-19
PORTION E (ZONE 5)							
PRELIMINARIES WORKS							
PREPARATORY WORKS							
TREE FELLING/TRANPLANT							
Z5E_1140	Portion E_tree felling works	30	21	22-Jan-19 A	27-Jun-20	15-Apr-20	22-May-20



Remaining Level of Effort
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ROAD WIDENING & RETROFITTING NOISE BARRIERS ON TAI PO ROAD (SHA TIN SECTION)
3 Months Rolling Programme (31/03/19)
Page 5 of 5

Date	Revision	Checked	Appr...
09-Apr-19	3MRP DWP 1903	Tim	

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Appendix B

Project Organization Chart

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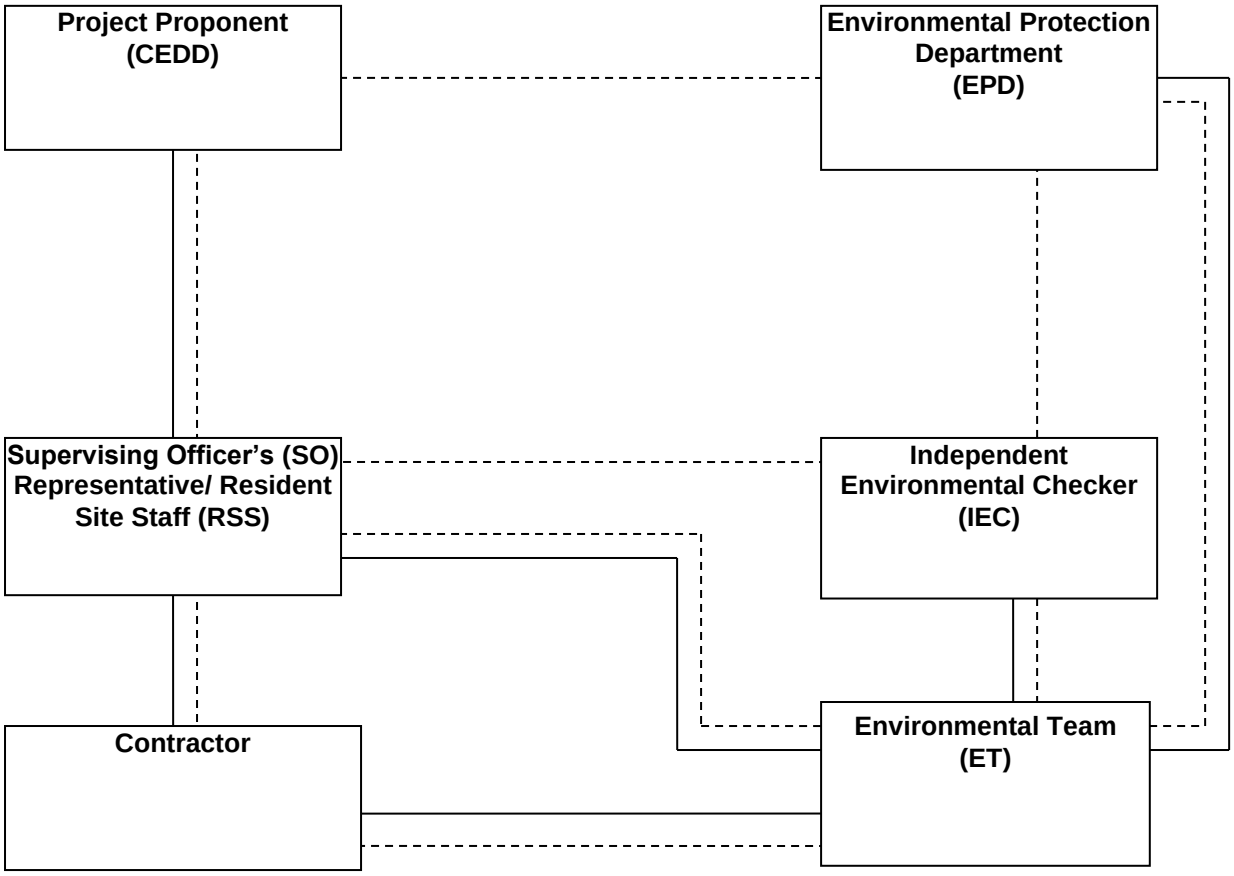

Legend:
Line of Reporting
Line of Communication

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Appendix C

Action and Limit Levels for Air Quality and Noise

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

Parameter	Monitoring Station	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/ m^3$)
24-hr TSP ($\mu g/m^3$)	AMS 1	171	260
	AMS 2	166	
	AMS 4A	200	
	AMS 6	165	
1-hr TSP ($\mu g/m^3$)	AMS 1	350	500
	AMS 2	324	
	AMS 4A	348	
	AMS 6	347	

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

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

* 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.

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Appendix D

Calibration Certificates of Monitoring Equipment

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MateriaLab

Report no. : 940891CA181220(6)

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-3B
Serial No.	: 2Z6244
Specification Limit	: NA
Next Calibration Date	: 17-May-2019

Laboratory Information

Description	: Reference balance
Equipment ID.	: C-065-9
Date of Calibration	: 18-May-2018 Ambient Temperature : 23 °C
Calibration Location	: General Chemical 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)
0.0862	2533	42.22
0.0879	2498	41.63
0.0622	1911	31.85

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m^3) = K x [UUT reading (CPM)], where K = 0.002043
3. Correlation coefficient (r) : 0.9943

Checked by : _____ Date : 19-7-2018 Certified by : _____ Date : 23.7.2018

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

Chan Chun Wai (Manager)

** End of Report **

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MateriaLab

Report no. : 940891CA181731

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.	: 882146
Specification Limit	: NA
Next Calibration Date	: 02-Oct-2019

Laboratory Information

Description	: Reference balance
Equipment ID.	: R-039-12
Date of Calibration	: 03-Oct-2018 Ambient Temperature : 21 °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)
0.0912	2918	48.63
0.0971	3050	50.83
0.0853	2721	45.35

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m^3) = K x [UUT reading (CPM)], where K = 0.001889
3. Correlation coefficient (r) : 0.9936

Checked by : _____ Date : 5-11-2018 Certified by : K T Leung Date : 6-11-2018

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

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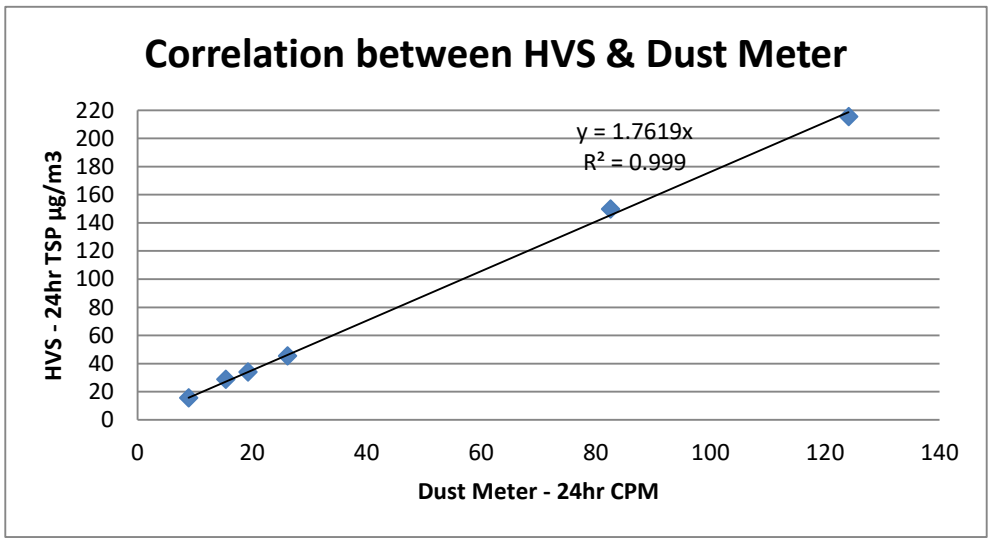
Correlation between HVS & Dust Meter

Model: Sibata LD-5R

Serial No: 882146

HVS - 24hr TSP µg/m^3	15.62	28.99	34.06	45.57	149.88	215.67
Dust Meter - 24hr CPM	8.9	15.4	19.3	26.2	82.59	124.12



K factor = 1.762

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MateriaLab

Report no. : 940891CA181731(2)

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.	: 882148
Specification Limit	: NA
Next Calibration Date	: 02-Oct-2019

Laboratory Information

Description	: Reference balance
Equipment ID.	: R-039-12
Date of Calibration	: 03-Oct-2018 Ambient Temperature : 21 °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)
0.0912	2908	48.47
0.0971	3076	51.27
0.0853	2639	43.98

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m^3) = K x [UUT reading (CPM)], where K = 0.001904
3. Correlation coefficient (r) : 0.9912

Checked by : Leung Date : 5-11-2018 Certified by : K.T. Leung Date : 6-11-2018

Leung Kwok Tai (Assistant Manager)

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

** End of Report **

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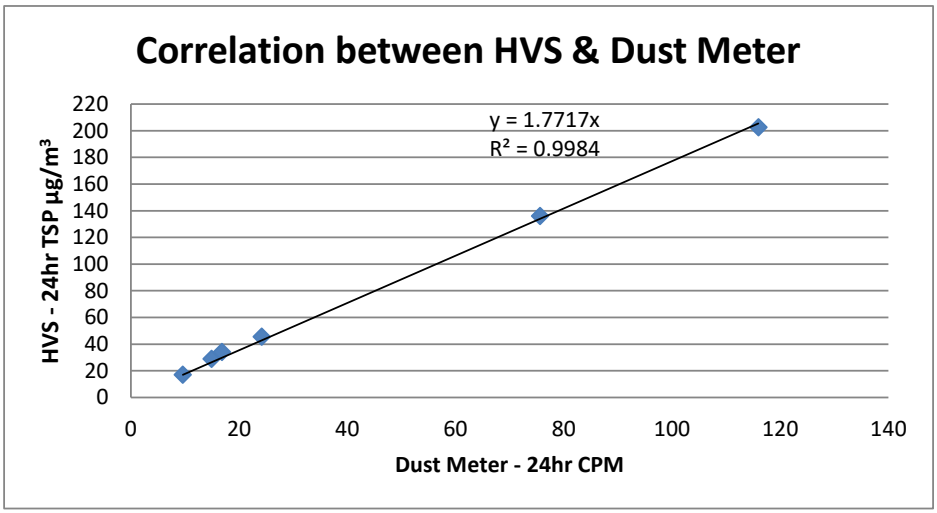
Correlation between HVS & Dust Meter

Model: Sibata LD-5R

Serial No: 882148

HVS - 24hr TSP µg/m^3	16.99	28.99	34.06	45.57	135.96	202.64
Dust Meter - 24hr CPM	9.6	14.9	16.8	24.2	75.63	115.96



K factor = 1.772

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Report no. : 940891CA181731(6)

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.	: 882149
Specification Limit	: NA
Next Calibration Date	: 02-Oct-2019

Laboratory Information

Description	: Reference balance
Equipment ID.	: R-039-12
Date of Calibration	: 03-Oct-2018 Ambient Temperature : 21 °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)
0.0912	2960	49.33
0.0971	3060	51.00
0.0853	2845	47.42

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m^3) = K x [UUT reading (CPM)], where K = 0.001852
3. Correlation coefficient (r) : 0.9992

Checked by : _____ Date : 5-11-2018 Certified by : K.T. Leung Date : 6.11.2018

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

Leung Kwok Tai (Assistant Manager)

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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project: Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)
Sampler No.: 2154

Date of Calibration: 26-Mar-19
Next Calibration Date: 25-Jun-19
Technician: Ting Chan

CONDITIONS

Sea Level Pressure (hPa):	1018.50	Corrected Pressure (mm Hg):	764
Temperature (℃):	21.9	Temperature (K):	295

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.13015
Model:	TE-5025A	Qstd Intercept:	-0.04186
Calibration Date:	17/10/18	Expiry Date:	17/10/19

CALIBRATIONS

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	5.80	-4.70	10.500	1.553	58.00	58.45	Slope =	49.7025
13	5.30	-4.10	9.400	1.470	53.00	53.42	Intercept =	-19.1331
10	4.60	-3.60	8.200	1.374	49.00	49.38	Corr. coeff.=	0.9987
7	3.80	-2.90	6.700	1.244	42.00	42.33		
5	3.10	-2.40	5.500	1.129	37.00	37.29		

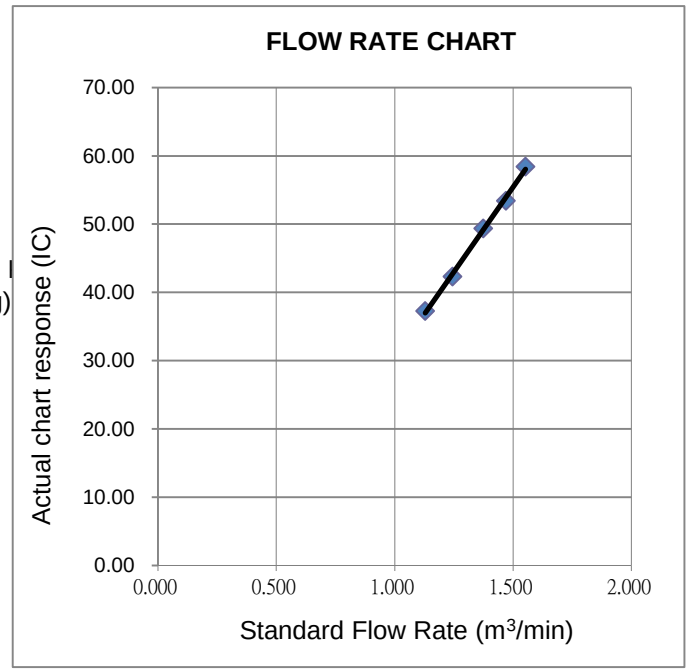
Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Project: Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)
Sampler No.: 2456

Date of Calibration: 26-Mar-19
Next Calibration Date: 25-Jun-19
Technician: Ting Chan

CONDITIONS

Sea Level Pressure (hPa):	1018.50	Corrected Pressure (mm Hg):	764
Temperature (℃):	22	Temperature (K):	295

CALIBRATION ORIFICE

Make:	Tisch	Qstd Slope:	2.07133
Model:	TE-5025A	Qstd Intercept:	-0.01892
Calibration Date:	17/10/18	Expiry Date:	17/10/19

CALIBRATIONS

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m^3/min)	I (chart)	IC (corrected)	LINEAR REGRESSION	
18	6.60	-5.50	12.100	1.702	57.00	57.45	Slope =	50.8055
13	5.70	-4.90	10.600	1.593	51.00	51.40	Intercept =	-29.3785
10	4.90	-4.50	9.400	1.501	46.00	46.36	Corr. coeff.=	0.9993
7	4.10	-3.70	7.800	1.368	40.00	40.31		
5	3.70	-2.60	6.300	1.230	33.00	33.26		

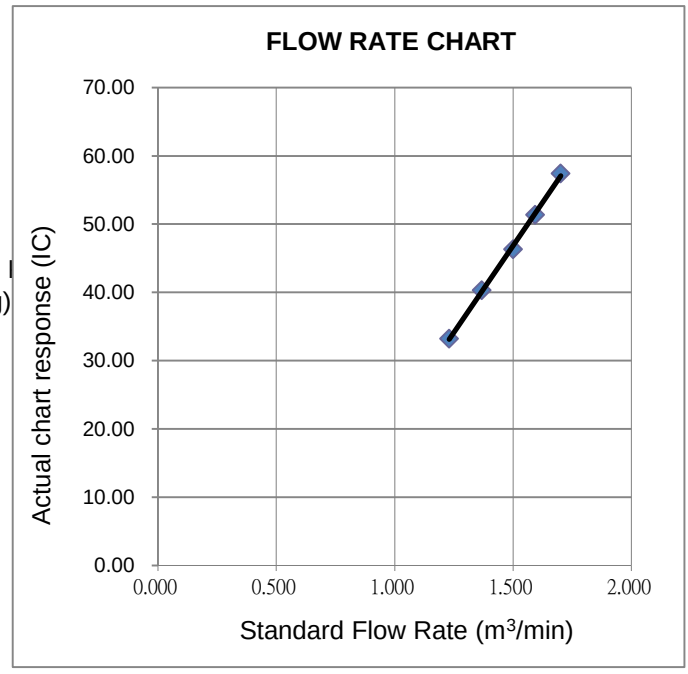
Calculations:

Qstd = 1/m[Sqrt(H2O(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart response
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K
Pa = actual pressure during calibration (mm Hg)
Tstd = 298 deg K
Pstd = 760 mm Hg

For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
October 17, 2019

Certificate of Calibration

Calibration Certification Information					
Cal. Date:	October 17, 2018	**Rootsmeter S/N:** 438320	**Ta:** 294	°K	
Operator:	Jim Tisch		**Pa:** 755.7	mm Hg	
Calibration Model #:	TE-5025A	**Calibrator S/N:** **2154**			

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0410	6.4	4.00
3	5	6	1	0.9310	7.9	5.00
4	7	8	1	0.8840	8.8	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0035	0.6878	1.4197	0.9958	0.6825	0.8821
0.9993	0.9599	2.0078	0.9915	0.9525	1.2475
0.9973	1.0712	2.2448	0.9895	1.0629	1.3948
0.9961	1.1268	2.3543	0.9884	1.1180	1.4628
0.9909	1.3536	2.8394	0.9832	1.3432	1.7642
QSTD	**m=**	**2.13015**	**QA**	**m=**	**1.33386**
	b=	**-0.04186**		**b=**	**-0.02601**
	r=	**0.99996**		**r=**	**0.99996**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

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

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MateriaLab

Report no.: 183057CA185391

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Materialab Consultants 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

	Meter	Microphone	Preamplifier
Model No. :	CEL-63X	CE-251	CEL-495
Serial No. :	1057034	01378	002317

Equipment ID : N-64

Next Calibration Date : 15-Aug-2019

Specification Limit : EN 61672: 2003 Type 1

Laboratory Information

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

Equipment ID. : R-108-1

Date of Calibration : 16-Aug-2018 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-weigthing frequency response	4000Hz	2.3	2.6 to -0.6
	2000Hz	1.1	2.8 to -0.4
	1000Hz	0.1	1.1 to -1.1
	500Hz	-2.7	-1.8 to -4.6
	250Hz	-8.1	-7.2 to -10.0
	125Hz	-15.4	-14.6 to -17.6
	63Hz	-25.4	-24.7 to -27.7
	31.5Hz	-38.4	-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 range is 30-130dB, reference SPL is 94,104 & 114dB, frequency weighting is A,
4. For differential level linearity: range setting is 60-120dB, frequency weighing is A & time weighing is fast
4. The equipment does comply with EN 61672: 2003 Type 1 sound level meter for the above measurement.

Checked by : William Date : 22-8-2018 Certified by : K T Leung Date : 22-8-2018

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

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Certificate of Conformity and Calibration

Instrument Model:- CEL-633A

Serial Number	1488270
Firmware revision	V006-03

Microphone Type:-	CEL-251	Preamplifier Type:-	CEL-495
Serial Number	2772	Serial Number	004014

Instrument Class/Type:- 1

Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter *Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.*

Test Conditions:-	30 °C	Test Engineer:-	Chris Taylor
	58 %RH	Date of Issue:-	September 7, 2018
	1003 mBar		

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

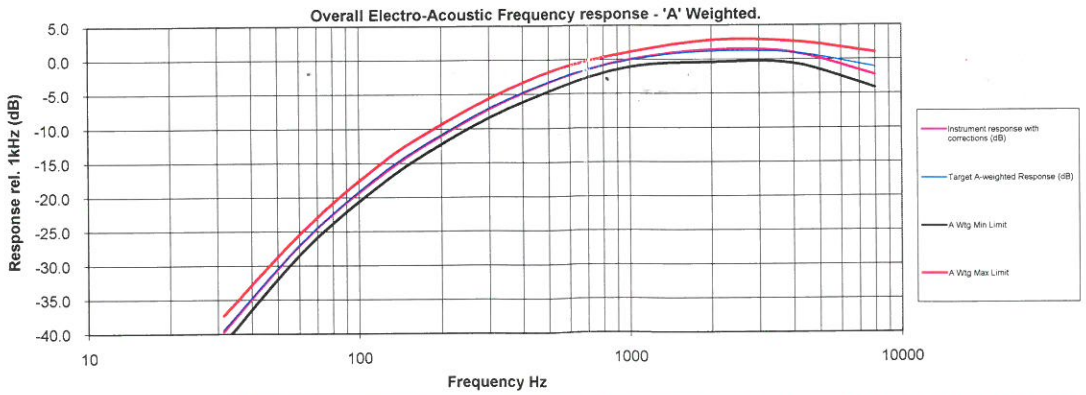
Test Summary:-

Self Generated Noise Test	**All Tests Pass**
Electrical Signal Test Of Frequency Weightings	**All Tests Pass**
Frequency & Time Weightings At 1 kHz	**All Tests Pass**
Level Linearity On The Reference Level Range	**All Tests Pass**
Toneburst Response Test	**All Tests Pass**
C-peak Sound Levels	**All Tests Pass**
Overload Indication	**All Tests Pass**
Acoustic Tests	**All Tests Pass**

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



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Tested to CEL-63X test sheet TP444 revision 01-00

Certificate of Conformity and Calibration

Instrument Model:- CEL-633A

Serial Number	1488271
Firmware revision	V006-03
Microphone Type:-	CEL-251
Serial Number	2809
Preamplifier Type:-	CEL-495
Serial Number	003984
Instrument Class/Type:-	1

Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter *Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.*

Test Conditions:- 31 °C, 51 %RH, 1000 mBar

Test Engineer:- Chris Taylor
Date of Issue:- September 7, 2018

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

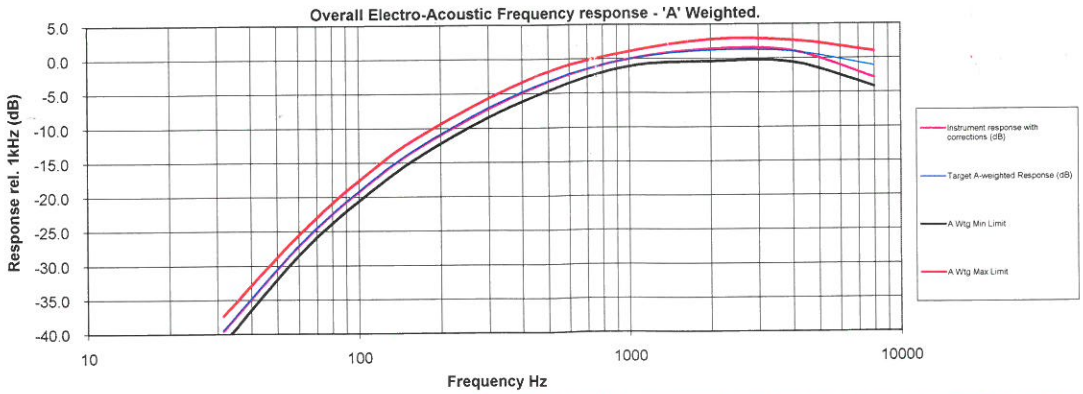
Test Summary:-

Self Generated Noise Test	**All Tests Pass**
Electrical Signal Test Of Frequency Weightings	**All Tests Pass**
Frequency & Time Weightings At 1 kHz	**All Tests Pass**
Level Linearity On The Reference Level Range	**All Tests Pass**
Toneburst Response Test	**All Tests Pass**
C-peak Sound Levels	**All Tests Pass**
Overload Indication	**All Tests Pass**
Acoustic Tests	**All Tests Pass**

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.



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Tested to CEL-63X test sheet TP444 revision 01-00

Certificate of Conformity and Calibration

Instrument Model:-	**CEL-633A**		
Serial Number	1488289		
Firmware revision	V006-03		
Microphone Type:-	**CEL-251**	**Preamplifier Type:-**	**CEL-495**
Serial Number	2706	Serial Number	003917
Instrument Class/Type:-	1		

Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

Note:- The test sequences performed in this report are in accordance with the current Sound level meter *Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.*

Test Conditions:-	31 °C	**Test Engineer:-**	Chris Taylor
	51 %RH	**Date of Issue:-**	September 10, 2018
	1000 mBar		

Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

Test Summary:-

Self Generated Noise Test	**All Tests Pass**
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Toneburst Response Test	**All Tests Pass**
C-peak Sound Levels	**All Tests Pass**
Overload Indication	**All Tests Pass**
Acoustic Tests	**All Tests Pass**

Combined Electro-Acoustic Frequency Response - A Weighted

Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)

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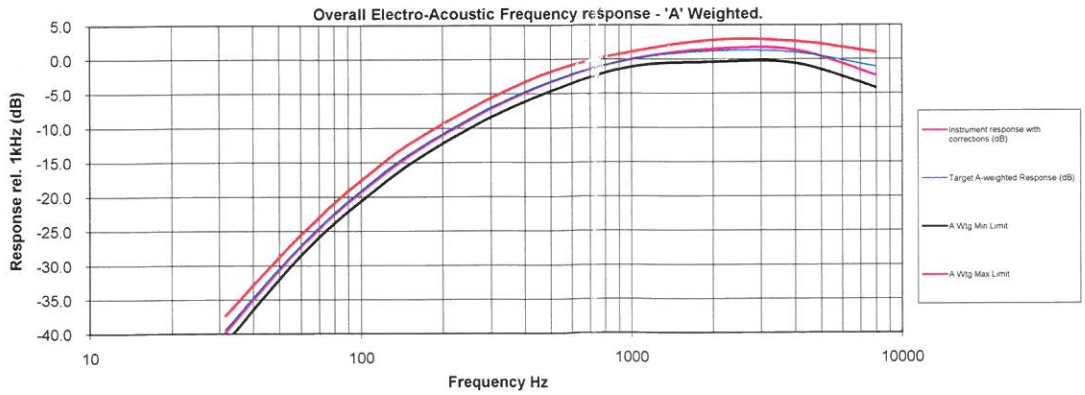

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Tested to CEL-63X test sheet TP444 revision 01-00

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MateriaLab

Report no.: 183057CA185248

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : MateriaLab Consultants Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358250
Equipment ID	:	N/A
Next Calibration Date	:	02-Jul-2019
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	03-Jul-2018	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	0.0 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.

Checked by : William Date : 10-7-2018 Certified by : Date : 14.7.2018

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

Chan Chun Wai (Manager)

** End of Report **

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Website : www.fugro.com

MateriaLab

Report no.: 183057CA185228

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : MateriaLab Consultants Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358289
Equipment ID	:	N/A
Next Calibration Date	:	25-Jun-2019
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	26-Jun-2018	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.

Checked by : William Date : 28-6-2018 Certified by : Date : 4.7.2018

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

Chan Chun Wai (Manager)

** End of Report **

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MateriaLab

Report no.: 183057CA185294

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : MateriaLab Consultants Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model no. CEL-120/1)
Serial No.	:	5230736
Equipment ID	:	FY-SLC-01
Next Calibration Date	:	18-Jul-2019
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	19-Jul-2018	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	0.0 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.

Checked by : William Date : 23-7-2018 Certified by : [signature] Date : 23.7.2018

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

Chan Chun Wai (Manager)

** End of Report **

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MateriaLab

Report no.: 183057CA185677

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : MateriaLab Consultants Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model no. CEL-120/1)
Serial No.	:	5230950
Equipment ID	:	N/A
Next Calibration Date	:	15-Nov-2019
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration	:	16-Nov-2018
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	0.0 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.

Checked by : William Date : 6-12-2018 Certified by : K.T. Leung Date : 6-12-2018

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

Leung Kwok Tai (Assistant Manager)

** End of Report **

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Appendix E

Environmental Monitoring Schedule

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Project: Contract No.: NE/2017/05 - Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Apr-19		1	2	3	4	5	6
		AMS1 Scenery Court AMS2 Villa Le Parc AMS4A Wai Wah Centre AMS6 Shatin Plaza					AMS1 Scenery Court AMS2 Villa Le Parc AMS4A Wai Wah Centre AMS6 Shatin Plaza
		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				
	7	8	9	10	11	12	13
						AMS1 Scenery Court AMS2 Villa Le Parc AMS4A Wai Wah Centre AMS6 Shatin Plaza	
					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	
	14	15	16	17	18	19	20
				AMS1 Scenery Court AMS2 Villa Le Parc AMS4A Wai Wah Centre AMS6 Shatin Plaza			
				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		
	21	22	23	24	25	26	27
			AMS1 Scenery Court AMS2 Villa Le Parc AMS4A Wai Wah Centre AMS6 Shatin Plaza				
			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			
	28	29	30				
		AMS1 Scenery Court AMS2 Villa Le Parc AMS4A Wai Wah Centre AMS6 Shatin Plaza					
		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 April 2019 are east, south west and north east.
4. According to the Contractor, the anticipated major construction activities in April includes: tree felling, filling of platform at North bound in Zone 1; trial pit excavation at SB verge and cycle track in Zone 2; site access set-up, tree felling, trial pit excavation, ground investigation in Zone 3; trial pit excavation at SB marginal strip in Zone 4 and tree felling and site access set up on Zone 5 .

Project: Contract No.: NE/2017/05 - Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
May-19				1	2	3	4
							AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS12 Fung Wo Estate AMS15 Ha Wo Che
	5	6	7	8	9	10	11
						AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS12 Fung Wo Estate AMS15 Ha Wo Che	
						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
	12	13	14	15	16	17	18
					AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS12 Fung Wo Estate AMS15 Ha Wo Che		
					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	
	19	20	21	22	23	24	25
				AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS12 Fung Wo Estate AMS15 Ha Wo Che			
				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		
	26	27	28	29	30	31	
			AMS6 Shatin Plaza AMS7A Sheung Wo Che AMS12 Fung Wo Estate AMS15 Ha Wo Che				
			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 2019 are east, south west and north east.
4. According to the Contractor, the anticipated major construction activities in May includes: Construct temporary road & site access such as excavation and breaking works in Zone 3, 4 and 5.

Jockey Club Ti-I College

校曆表 2018／2019

	DAY							假期及學校活動	
	S	M	T	W	T	F	S		
Sep							1	* 開學禮	3/9
2018	2	3	4_{1A}	5_{AB}	6_{B}	7_{C}	8	* 特別上課時間表	4-6/9
	9	10_{D}	11_{E}	12_{F}	13_{G}	14_{H}	15	* 夏令時間表	4-14/9
	*16	17_{2A}	18_{B}	19_{C}	20_{D}	21_{E}	22	* 教育主日	16/9
	23	24_{F}	#25	26_{G}	27_{H}	28_{3A}	*29	# 中秋節翌日	25/9
	30							* 中華基督教會創會百周年	29/9
Oct		#1	#2	*3	4_{B}	5_{C}	6	# 國慶日	1/10
	7	8_{D}	9_{E}	10_{F}	11_{G}	*12_{H}	13	# 學校假期	2/10
	14	15_{4A}	16_{B}	#17	18_{C}	19_{D}	20	* 水運會	3/10
	21	22_{E}	23_{F}	24_{G}	°25_{H}	26_{5A}	27	中六溫習日	4/10
	28	29_{B}	30_{C}	31_{D}				中六第一學期考試	5-18/10
Nov					1_{E}	*2_{G}	3	溫習周	8-12/10
	4	5_{H}	6_{F}	7_{6A}	8_{B}	9_{C}	10	* 中一至中三家長晚會	12/10 (7 pm)
	11	12_{D}	13_{E}	14_{F}	15_{G}	16_{H}	*17	# 重陽節	17/10
	18	19_{B}	20_{C}	21_{7A}	*22	*23	*24	* 家教會周年大會及委員會改選	2/11(7 pm)
	25	26_{D}	27_{E}	28_{F}	29_{G}	°30_{H}		福音周	5-9/11
Dec							1	* 中六家長日	17/11
	2	3_{8A}	4_{B}	5_{C}	6_{D}	7_{E}	8	* 旅行	22/11
	9	10_{F}	11_{G}	12_{H}	13_{9A}	14_{B}	15	* 教師發展日	23/11
	16	17_{C}	18_{D}	19_{E}	*20_{F}	*21	22	* 小六訪校開放日	24/11
	23	#24	#25	#26	#27	#28	#29	* 聖誕節崇拜	20/12
	#30	#31						* 聖誕聯歡	21/12
Jan			#1	2	3	4	5	# 聖誕及新年假期	24/12-1/1
2019	6	7	8	9	10	11	12	第一學期考試（中一至中五）	2-15/1
	13	14	15	16_{G}	17_{H}	18_{10A}	19	中六模擬考試	2-18/1
	20	21_{B}	22_{C}	23_{D}	24_{E}	25_{F}	26	* 陸運會	28/1 & 29/1
	27	*28	*29	#30	#31			# 陸運會翌日	30/1
Feb						#1	#2	# 農曆新年假期	31/1-9/2
	#3	#4	#5	#6	#7	#8	#9	中六惜別活動日	15/2
	10	11_{G}	12_{H}	13_{B}	14_{C}	15_{11A}	16	中六最後上課日	15/2
	17	18_{D}	19_{E}	20_{F}	21_{G}	22_{H}	23	英語周	18-22/2
	24	25_{12A}	26_{B}	27_{D}	28_{E}			中六特別上課日（暫定）	27-28//2 & 1/3

學校假期　　°生涯規劃：採用特別時間表　　❖特別上課日：採用特別時間表

	DAY							假期及學校活動	
	S	M	T	W	T	F	S		
Mar						❖1C	*2	中六特別上課日（暫定）	27-28/2 & 1/3
	3	#4	5F	°6G	7H	813A	9	* 中一至中五家長日	1/3 (pm) & 2/3
	10	11B	12C	13D	14E	15F	16	# 家長日翌日	4/3
	17	18G	19H	2014A	21B	22C	23		
	24	25D	26E	27F	28G	29H	30		
	31							# 清明節	5/4
Apr		115A	2B	3C	4D	#5	6	* 復活節崇拜	9/4
	7	°8E	*9F	*10	*11	*12	13	* 中一至中五其他學習經歷日	10-12/4
	14	#15	#16	#17	#18	#19	#20	# 復活節假期	15-22/4
	#21	#22	23G	24C	❖25F	*26	27	* 校慶慶祝	26/4
	28	29H	3016A					# 勞動節	1/5
May				#1	2B	3D	4	溫習周	6-10/5
	5	6E	7G	8H	917A	10B	11	# 佛誕翌日	13/5
	12	#13	14C	15D	°16E	17F	*18	夏令時間表	17/5-29/5
	19	20G	21H	2218A	23B	24C	25	* 畢業禮	18/5
	26	27D	28E	29F	*30	31		* 教師發展日	30/5
Jun							1	中一至中三期終試	31/5-14/6
	2	3	4	5	6	#7	8	中四至中五期終試	31/5-19/6
	9	10	11	12	13	14	15	# 端午節	7/6
	16	17	18	*19	*20	*21	22	* 中三系統性評估	18-19/6 (21/6)
	23	24I	25II	26III	27IV	*28	29	* 英語音樂劇訓練營	19 (pm)-21/6
	30							中一至中三試後上課日	24-26/6
Jul		#1	*2	*3	*4	*5	6	中四至中五試後上課日	24-27/6
	7	*8	9V	*10	#11	#12	#13	* 英語音樂劇綵排	28/6 & 2/7
	#14	#15	#16	#17	#18	#19	#20	# 香港特別行政區成立紀念日	1/7
	#21	#22	#23	#24	#25	#26	#27	* 校務會議	2/7
	#28	#29	#30	#31				* 英語音樂劇公演	3-5/7
Aug					#1	#2	#3	* 教師會議	8/7
	#4	#5	#6	#7	#8	#9	#10	中四獨立專題探究日	9/7
	#11	#12	#13	#14	#15	#16	#17	* 中學學位分配結果公布	9/7
	#18	#19	#20	#21	#22	#23	#24	* 香港中學文憑試放榜日	10/7
	#25	#26	#27	#28	#29	#30	#31	* 散學禮	10/7
								# 暑假	11/7
								* 中一入學前香港學科測驗	16/7

學校假期　　°生涯規劃：採用特別時間表　　❖特別上課日：採用特別時間表

培英中學2018至2019年度校曆表

週次		日	一	二	三	四	五	六	假期及注意事項
	八月	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(24-25/8)中一適應營
		(26)	(27)	(28)	(29)	(30)	(31)		
1	九月							Sept 1	
2		2	3	4	5	6	7	8	(3/9)開學禮　(4/9)正式上課　(7/9)開學崇拜會
3		9	10	11	12	13	14	15	(10/9)中一至中四學生開始繳交周記 (11/9)各班拍攝學生相片
4		16	17	18	19	20	21	22	
5		23	24△	***(25)***	26	27	28	29△	(24/9)水運會同樂日　(25/9)中秋節翌日假期 (29/9下午)區會創會百周年感恩崇拜
6	十月	30	Oct ***(1)***	2	3	4	5	6	(1/10)國慶日假期　(2-5/10)學生會網上選舉 (2-5/10)國慶活動暨中國周
7		7	8	9	10	11	12	13	(12-14/10)風紀組訓練營 (13/10)香港培英校友會校友日
8		14	15	16	***(17)***	18	19	20	(17/10)重陽節假期 (19/10)學生領袖就職典禮
9		21	22	23	24	25	26	27	
10	十一月	28	29T	30T	31T	Nov 1T	2T	3	(29/10-2/11)中一至中六級統一測驗 (2/11)中一級生涯規劃工作坊 及 中五級IES工作坊
11		4	5△	6	7	8	9	10	(5/11)第六十屆陸運會(第一天)
12		11	12△	(13)	14	15	16	17△	(12/11)第六十屆陸運會(第二天)　(13/11)教師發展日(1) (14/11-18/12)學業奮進計劃　(17/11下午)家長教師會第二十一屆會員大會
13		18△	19	20	21	22	23	24	(18/11)南區中學巡禮
14	十二月	25	26	27	28	29△	***(30)***	Dec 1	(29/11)旅行日　(29-30/11)中一級境外考察 (30/11)旅行日翌日假期
15		2	3	4	5	6	7	8	(3-7/12)敬師周 (8/12)中西南區小學數學比賽
16		9	10	11	12	13△	14	15	(13/12)拍攝畢業照及班相　(14/12)家教會聖誕聯歡會
17		16	17	18	19	20	***(21)***	***(22)***	(17-19/12)中六級校外模擬考試　(19/12下午)聖誕遊藝會綵排 (20/12)慶祝聖誕崇拜及遊藝會　(21/12-1/1)聖誕及新年假期共12天
18		***(23)***	***(24)***	***(25)***	***(26)***	***(27)***	***(28)***	***(29)***	(21,24,27,28/12)中六級補課
19	一月	***(30)***	***(31)***	Jan ***(1)***	2	3	4	5	
20		6	7	8	9E	10E	11E	12	(9-18/1)中一至中五級上學期期考共8天
21		13	14E	15E	16E	17E	18E	19	(9-23/1)中六級畢業試
22		20	21E	22E	23E	24	25	26△	(21-23/1)中一至中五級試後回饋日　(21/1下午)中三升中四選科工作坊 (22/1下午)中四、五級Career Live職業體驗遊戲 (23/1下午)中五級學習概覽講座 (24/1)下學期開始　(24/1-1/3)中六級試後上課日　(26/1)「學校起動計劃」生涯規劃日
23	二月	27	28	29	30	31	FEB ***(1)***	***(2)***	(28/1)中一至中四級學生開始繳交周記 (28-30/1)中一至中五級上學期補考 (1-13/2)農曆新年假期共13天
24		***(3)***	***(4)***	***(5)***	***(6)***	***(7)***	***(8)***	***(9)***	
25		***(10)***	***(11)***	***(12)***	***(13)***	14	15	16	
26		17	18	19	20	21	(22)	23△	(22/2)教師發展日(2)　(23/2下午)「絲銅頌　培英情」音樂會
27		24	25	26	27	28			(25-28/2)福音周　(28/2)佈道會 (27/2)畢業典禮習禮、中六級進行學生持份者問卷及教學評鑑

( ) - 假期　E - 考試　△特別活動　(　)　教師發展日，學生不用上課

培英中學2018至2019年度校曆表

		日	一	二	三	四	五	六	假期及注意事項
27	三						Mar 1	2	(1/3)中六級感恩惜別會　(2/3)家長日
28		3	4	5	6	7	8	9	(4/3)中六級開始溫習應付公開試　(8/3)頒獎禮
29		10	11	12	13	14	15	16	(11-15/3)英語及數理周 (16/3下午)中三升中四選科講座
30	月	17	18	19	20	21	22	23	(22-24/3)趁墟做老闆
31		24	25	26	27	28[T]	29[T]	30	(28/3-3/4)中一至中五級統一測驗　(29/3-30/4)香港中學文憑考試
32	四	31	Apr 1[T]	2[T]	3[T]	4	*(5)*	6	(3/4)中二級生涯規劃工作坊 (5/4)清明節假期
33		7	8	9	10	11	12	13	(8/4)教師發展日(3) (12/4)復活節崇拜會
34		14△	*(15)*	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	(14/4)親子旅行日 (15-22/4)復活節假期共8天
35	月	*(21)*	*(22)*	23	24△	*(25)*	26	27	(23/4下午)校祖日綵排　(24/4)校祖日感恩崇拜暨慶祝活動 (25/4)校祖日翌日假期　(27/4)區會模範生頒獎典禮
36		28	29	30	May *(1)*	2	3	4	(29/4或30/4)中三全港性系統評估口試 (29/4-31/5)學業奮進計劃 (1/5)勞動節假期　(3/5)TSA口試後備日
37	五	5	6	7	8	9	10	11	(6-10/5)藝術周
38		12	*(13)*	14	15	16	17	18	(13/5)佛誕日翌日假期　(17/5下午)畢業典禮 (17/5晚上)歡送畢業生暨校友會迎新晚會
39		19	20	21	22	23	24	25	(24/5或25/5)畢業禮後備日
40	月	26	27	28	29	30	31	Jun 1	
41		2	3[E]	4[E]	5[E]	6[E]	*(7)*	8	(3-13/6)中一至中四級下學期考試共8天　(7/6)端午節假期
42	六	9	10[E]	11[E]	12[E]	13[E]	14[E]	15	(3-18/6)中五級下學期考試共11天　(14-18/6)中一至中四級試後回饋日
43		16	17[E]	18[E]	19△	20△	21	22	(18/6下午)中四級IES工作坊　(19/6下午) 中五級學習概覽寫作工作坊 (19-28/6)中五級試後上課周 (18-19/6) 中三級全港性系統評估(中英數)　(21/6)中三級全港性系統評估(後備日)
44	月	23	24	25	26	27	28	29	(24-26/6)中一至中五級溫習及補考
45	七	30	Jul *(1)*	2	3	4	5	6	(1/7)香港特別行政區成立紀念日假期 (2-12/7)暑期英語營　(3/7)中六級中學文憑考試放榜輔導講座
46		7	8	9	10△	11	12	13	(8/7)高中護苗課程 (10/7)香港中學文憑考試放榜
47	月	14	15	*(16)*	*(17)*	*(18)*	*(19)*	*(20)*	(15/7)結業禮及辦理註冊　(15/7)接見家長及學生 (16-18/7)各級第二階段溫習及補考 (16/7-31/8)暑假共47天
48		*(21)*	*(22)*	*(23)*	*(24)*	*(25)*	*(26)*	*(27)*	
49	八	*(28)*	*(29)*	*(30)*	*(31)*	Aug *(1)*	*(2)*	*(3)*	
50		*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	
51		*(11)*	*(12)*	*(13)*	*(14)*	*(15)*	*(16)*	*(17)*	(12/8)學生繳費及領取書籍校服　(12-23/8)升中導向課程 (12-23/8)中六級香港中學文憑考試備試課程
52	月	*(18)*	*(19)*	*(20)*	*(21)*	*(22)*	*(23)*	*(24)*	(23-24/8)中一適應營
53		*(25)*	*(26)*	*(27)*	*(28)*	*(29)*	*(30)*	*(31)*	
	九月	Sept 1	2	3	4	5	6	7	(2/9)下學年開學禮 (3/9)正式上課

( ) - 假期　[E] - 考試　△特別活動　◯　教師發展日，學生不用上課

沙田崇真學校

2018 – 19開心學堂上課日共124天　　24-8-2018版

	日	一	二	三	四	五	六	假期/事項
1天							1	上學期開始(3/9)
九	2	3	4	5	6	7	8	P.2-6半天上課（3-7/9）
	9	10	11	12	13	14	15	P.1半天上課（3-12/9）
月	16	17	18	19	20	21	22	親師座談會(22/9)
	23	~~24~~	~~25~~	26	27	28	29	教師專業發展日(24/9)中秋節翌日(25/9)
	30							

	日	一	二	三	四	五	六	假期/事項
8天		1	2	3	~~4~~	~~5~~	6	學校假期(4/4)清明節(5/4)
四	7	8	9	10	11	12	13	家長日(13/4)
	14	15	16	~~17~~	~~18~~	~~19~~	~~20~~	專題研習周(10/4-15/4)復活節崇拜（16/4）
月	~~21~~	~~22~~	~~23~~	24	25	26	27	復活節假期(17/4-23/4)
	28	29	30					綵排日（29/4）綜藝晚會(30/4)

	日	一	二	三	四	五	六	假期/事項
21天		~~1~~	2	3	4	5	6	國慶日(1/10)
十	7	8	9	10	11	12	13	
	14	15	16	~~17~~	18	19	20	重陽節(17/10)
月	21	22	23		25	26	27	
	28	29	30					

	日	一	二	三	四	五	六	假期/事項
20天				~~1~~	2	3	4	勞動節(1/5) 中小辯論賽(4/5)
五	5	6	7	8	9	10	11	
	12	~~13~~	14	15	16	17	18	佛誕翌日(13/5)
月	19	20	21	22	23	24	25	預考周(23/5-30/5)
	26	27	28	29	~~30~~	31		教師專業發展日(30/5)

	日	一	二	三	四	五	六	假期/事項
19天					1	2	3	
十	4	5	6		8	9	10	零功課日(9/11)
一	11	12	13		15	16	17	
月	18	19	20	21	22	23	24	預考周(19/11-24/11)
	25	26	27	28	29	30		一至六年級考試(26/11-30/11)

	日	一	二	三	四	五	六	假期/事項
2天							1	一至六年級考試(31/5-6/6)
六	2	3	4	5	6	~~7~~	8	端午節(7/6)
	9	10	11	12	13	14	15	小一面試（10-11/6）
月	16	17	18	19	20	21	22	
	23	24	25	26	27	28	29	補考(24/6)畢業禮(28/6)
	30							畢業禮補假(2/7)

	日	一	二	三	四	五	六	假期/事項
8天							1	「農」的傳人
十	2	3	4	5	6	7	8	P.6教育營(3/12-7/12)
	9	10	11		13	14	15	P.5同根同心(5-7/12)
二	16	17	18		20	21	22	聖誕崇拜(20/12)陸運會(21/12)
月	~~23~~	~~24~~	~~25~~	~~26~~	~~27~~	~~28~~	~~29~~	聖誕及新年假期(24/12-2/1)
	~~30~~	~~31~~						

	日	一	二	三	四	五	六	假期/事項
		~~1~~	~~2~~	3	4	5	6	香港特區成立紀念日(1/7)
七	7	8	9	10	11	12	13	升中放榜(9/7)
	14	~~15~~	~~16~~	~~17~~	~~18~~	~~19~~	~~20~~	暑假(15/7-31/8)
月	~~21~~	~~22~~	~~23~~	~~24~~	~~25~~	~~26~~	~~27~~	
	~~28~~	~~29~~	~~30~~	~~31~~				

	日	一	二	三	四	五	六	假期/事項
18天			~~1~~	~~2~~	3	4	5	教師專業發展日(2/1) P.6家長日(5/1)
2019	6	7	8		10	11	12	P.1-5家長日(12/1)
一	13	14	15		17	18	19	
	20	21	22		24	25	26	
月	27	28	29	30	~~31~~			跨學科活動日(29/1) 學校旅行(30/1)

	日	一	二	三	四	五	六	假期/事項
					~~1~~	~~2~~	~~3~~	
八	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	~~10~~	
	~~11~~	~~12~~	~~13~~	~~14~~	~~15~~	~~16~~	~~17~~	
月	~~18~~	~~19~~	~~20~~	~~21~~	~~22~~	~~23~~	~~24~~	
	~~25~~	~~26~~	~~27~~	~~28~~	~~29~~	~~30~~	~~31~~	

	日	一	二	三	四	五	六	假期/事項
11天						~~1~~	~~2~~	
二	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	~~9~~	農曆新年假期(31/1-13/2)
	~~10~~	~~11~~	~~12~~	~~13~~	14	15	16	下學期開始(14/2)
月	17	18	19		21	22	23	
	24	25	26		28			預考周(25/2-2/3)

	日	一	二	三	四	五	六	假期/事項
16天						1	2	一至五年級主科考試(7-8/3)
三	3	4	5	6	7	8	9	六年級報分試(4/3-8/3)
	10	11	12	13	14	15	16	保育歷險記
月	17	18	19	20	21	22	23	零功課日(20/3)
	24	~~25~~	26	27	28	29	30	學校籌款日(24/3)補假(25/3)
	31							福音周(28/3-29/3)

綠色為半天上課日　啡色為延伸學習活動課（周三）
紅色為公眾假期

~~24/9~~	~~2/1~~	~~30/5~~	教師專業研討日，學生不用上課

開心學堂開始日期　9月28日(星期五)
時間　星期一、二、四及五(下午3:30-5:00)
　　星期三　　(下午2:15-3:45)
考試正午12:00-下午1:30
延長服務下午 1:30-5:00

聖公會主風小學
2018-2019年度校曆表

21-08-2018 20/12/18

月份	週次	星期 日	一	二	三	四	五	六	行事要項	假期
2018 九月								1		
	1	2	3*	4	5	6	7	8	3/9 上學期開學日　3/9－6/9 開學班務處理	
	2	9	10	11	12	13	14	15	11/9 開學禮　15/9 親子訪校日	
	3	16	17	18	19	20	21	22	16/9 聖公會靈風堂教育主日	
	4	23	(24)	25	26	27	28	29	24/9 教師專業發展日　25/9 中秋節翌日	1
	5	30								
十月			1	2	3	4	5	6	1/10 國慶日　6/10(下午)香港聖公會教省成立20周年感恩崇拜及晚宴	1
	6	7	8	9	10	11	12	13	10/10、24/10、31/10 沙田區小學校際乒乓球錦標賽	
	7	14	15	16*	17	18	19	20	16/10 旅行日　17/10 重陽節　20/10(上午)家長教師會會員大會	1
	8	21	22	23	24	**25**	**26**	27	25/10－30/10 中期試 (J.6 呈分試) 25/10(下午)成長的天空－教師工作坊(J.4 有關老師)	
	9	28	**29**	**30**	31					
十一月						1	2	3		
	10	4	5	6	7	8	9	10		
	11	11	12	13	14	15	(16)	17	16/11 教師專業發展日	
	12	18	19	20	21	22	23	24	19/11－19/12 第70屆香港學校朗誦節 22/11－23/11 沙田區小學校際田徑錦標賽	
	13	25	26	27	28	29	30*		30/11 上學期家長日　27/11－7/12 田區小學校際足球錦標賽 (暫定)	
十二月								1		
	14	2	3	4	5	6	7	8	8/12(上午)聖公會小學與ATS英語文化交流日(奉基小學)	
	15	9	10	11	12	13*	14	15	13/12 第十二屆陸運會　14/12 陸運會翌日假期	1
	16	16	17	18	19	20	21	22	21/12 聖誕崇拜及聖誕聯歡	
	17	23	24	25	26	27	28	29	24/12/2018－2/1/2019 聖誕節及新年假期	6
	18	30	31							2
2019 一月				1	2	3	**4**	5	1/1/2019 元旦　4/1－9/1 學期試	2
	19	6	**7**	**8**	**9**	10	11	12		
	20	13	14	15	16	17	18	19	19/1(上午)小一生活體驗日　19/1(下午)聖公會教省教育日崇拜 19/1(上午)聖公會小學第22屆數學奧林匹克比賽(基福小學)	
	21	20	21	22	23	24	25	26	21/1－1/2 上學期試後活動　23/1－25/1 六年級教育營	
	22	27	28	29	30	31			10,23,25,28,29/1、20,22/2 沙田區小學校際籃球錦標賽 (暫定)	
二月							1	2		
	1	3	4	5	6	7	8	9	4/2 下學期開始　4/2－12/2 農曆新年假期	6
	2	10	11	12	13	14	15	16	14/2 上學期頒獎禮	3
	3	17	18	19	20	21	22	23		
	4	24	25	26	27	28			25/2－27/3 第71屆香港學校音樂節	
三月							1	2	1/3 全港區際田徑比賽	
	5	3	4	5	6	7	(8)	9	8/3 聖公會聯校教師發展日	
	6	10	11	12	13	14	15	16	11/3－13/3 沙田區小學校際排球錦標賽	
	7	17	18	19	20	**21**	**22**	23	21/3－26/3 中期試 (J.6 呈分試)	
	8	24	**25**	**26**	27	28	29	30		
	9	31								
四月			1	2	3*	4	5	6	3/4(上午)第廿七屆水運會　5/4 清明節	1
	10	7	8	9	10	11	12	13	8/4－10/4 沙田區小學校際羽毛球錦標賽 (暫定) 12/4、15/4、16/4 跨學科學習日	
	11	14	15	16	17	18	19	20	17/4 復活節崇拜　19/4－30/4 復活節假期	2
	12	21	22	23	24	25	26	27		7
	13	28	29	30						3
五月					1	2	3	4	1/5 勞動節	1
	14	5	6	7	8	9	10*	11	7/5 或 8/5 全港性系統評估－視訊及說話 (J.3)　10/5 下學期家長日	
	15	12	13	14	15	16	17	18	13/5 佛誕翌日　14/5 或 15/5 全港性系統評估－視訊及說話 (J.6)	1
	16	19	20	21	22	23	24	25	16/5－17/5 沙田區小學校際游泳錦標賽 (暫定)	
	17	26	27	28	29	30	31			
六月								1		
	18	2	3	**4**	**5**	**6**	7	8	4/6－10/6 學期試(J.5 呈分試)　7/6 端午節　8/6 全港區際游泳比賽	1
	19	9	**10**	11	12	13	14	15	9/6 聖靈降臨日　11/6－12/6 全港性系統評估－紙筆 (J.3 及 J.6)	
	20	16	17	18	19	20	21	22		
	21	23	24	25	26	27	28	29	24/6－12/7 下學期試後活動	
	22	30								
七月			1	2	3	4	5	6*	1/7 香港特別行政區成立紀念日　6/7 畢業典禮 (暫定)	1
	23	7	8	9	10	11	12	13	9/7 中學學位分配公佈結果　11/7-12/7 中學註冊　12/7 下學期頒獎禮	
		14	15	16	17	18	19	20	15/7－31/8 暑假　16/7 中一入學前學科測驗	17+31
		21	22	23	24	25	26	27		
		28	29	30	31					
										88

公眾假期　學校假期　學校自決假期　◯教師專業發展日

校長簽署：

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Appendix F

Air Quality Monitoring Data

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

AMS 1 - Scenery Court

1-hour TSP (μg/m³)								
Date	**Start Time**	**1st hr**	**2nd hr**	**3rd hr**	**Average**	**Action Level**	**Limit Level**	**Weather**
01-Apr-19	09:15	57	69	80	69	350	500	Overcast
06-Apr-19	09:19	89	79	77	82			Hazy
12-Apr-19	09:48	22	70	41	44			Cloudy
17-Apr-19	09:00	53	45	55	51			Sunny
23-Apr-19	10:00	65	55	69	63			Sunny
29-Apr-19	15:46	37	39	48	41			Overcast

Average	58
Max	89
Min	22

AMS 2 - Villa Le Parc

1-hour TSP (μg/m³)								
Date	**Start Time**	**1st hr**	**2nd hr**	**3rd hr**	**Average**	**Action Level**	**Limit Level**	**Weather**
01-Apr-19	09:46	116	96	81	98	324	500	Overcast
06-Apr-19	11:29	129	101	73	101			Hazy
12-Apr-19	15:02	23	30	48	34			Cloudy
17-Apr-19	12:32	24	20	26	23			Sunny
23-Apr-19	14:17	52	24	33	36			Sunny
29-Apr-19	15:46	37	39	48	41			Overcast

Average	56
Max	129
Min	20

AMS 4A - Wai Wah Centre

1-hour TSP (μg/m³)								
Date	**Start Time**	**1st hr**	**2nd hr**	**3rd hr**	**Average**	**Action Level**	**Limit Level**	**Weather**
01-Apr-19	09:08	107	85	67	86	348	500	Overcast
06-Apr-19	11:19	116	96	79	97			Hazy
12-Apr-19	14:13	74	43	55	57			Cloudy
17-Apr-19	13:10	33	35	39	36			Sunny
23-Apr-19	13:04	33	30	22	28			Sunny
29-Apr-19	15:41	39	40	38	39			Overcast

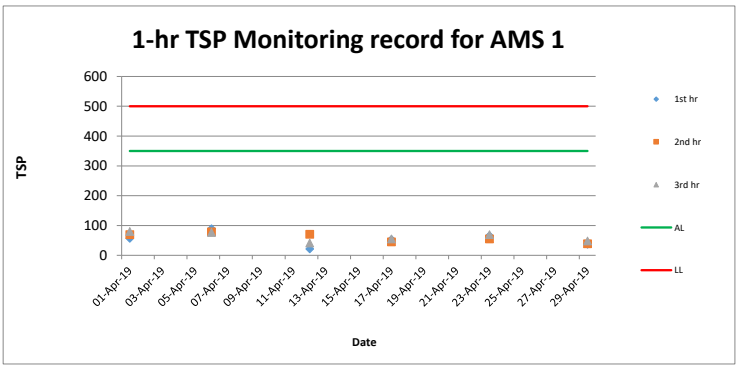
Average	57
Max	116
Min	22

AMS 6 - Shatin Plaza

1-hour TSP (μg/m³)								
Date	**Start Time**	**1st hr**	**2nd hr**	**3rd hr**	**Average**	**Action Level**	**Limit Level**	**Weather**
01-Apr-19	09:40	46	55	50	50	347	500	Overcast
06-Apr-19	09:07	89	97	106	97			Hazy
12-Apr-19	09:58	45	97	68	70			Cloudy
17-Apr-19	13:00	64	65	84	71			Sunny
23-Apr-19	09:30	73	82	64	73			Sunny
29-Apr-19	15:41	39	40	38	39			Overcast

Average	67
Max	106
Min	38

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.


1-hr TSP Monitoring record for AMS 1
TSP
600
500
400
300
200
100
0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
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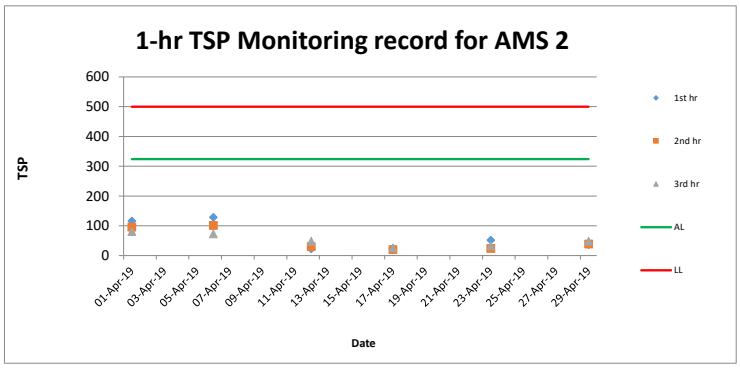
29-Apr-19
Date
1st hr
2nd hr
3rd hr
AL
LL


1-hr TSP Monitoring record for AMS 2
TSP
600
500
400
300
200
100
0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
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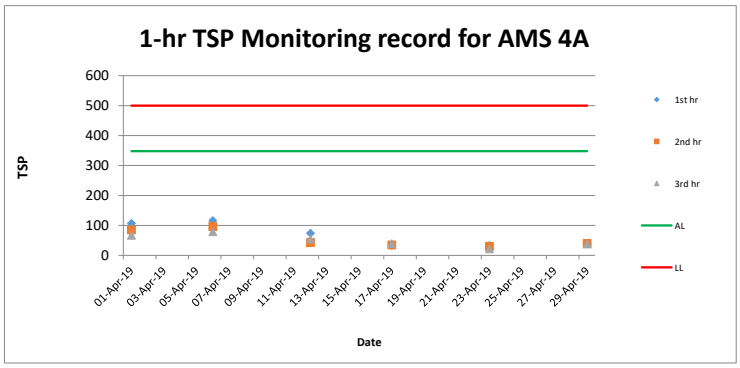
29-Apr-19
Date
1st hr
2nd hr
3rd hr
AL
LL


1-hr TSP Monitoring record for AMS 4A
TSP
600
500
400
300
200
100
0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
21-Apr-19
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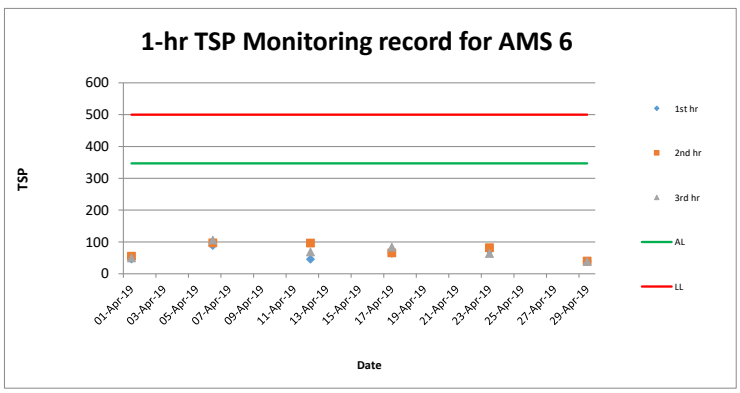
25-Apr-19
27-Apr-19
29-Apr-19
Date
1st hr
2nd hr
3rd hr
AL
LL


1-hr TSP Monitoring record for AMS 6
TSP
600
500
400
300
200
100
0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
21-Apr-19
23-Apr-19
25-Apr-19
27-Apr-19
29-Apr-19
Date
1st hr
2nd hr
3rd hr
AL
LL

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

AMS 1 - Scenery Court

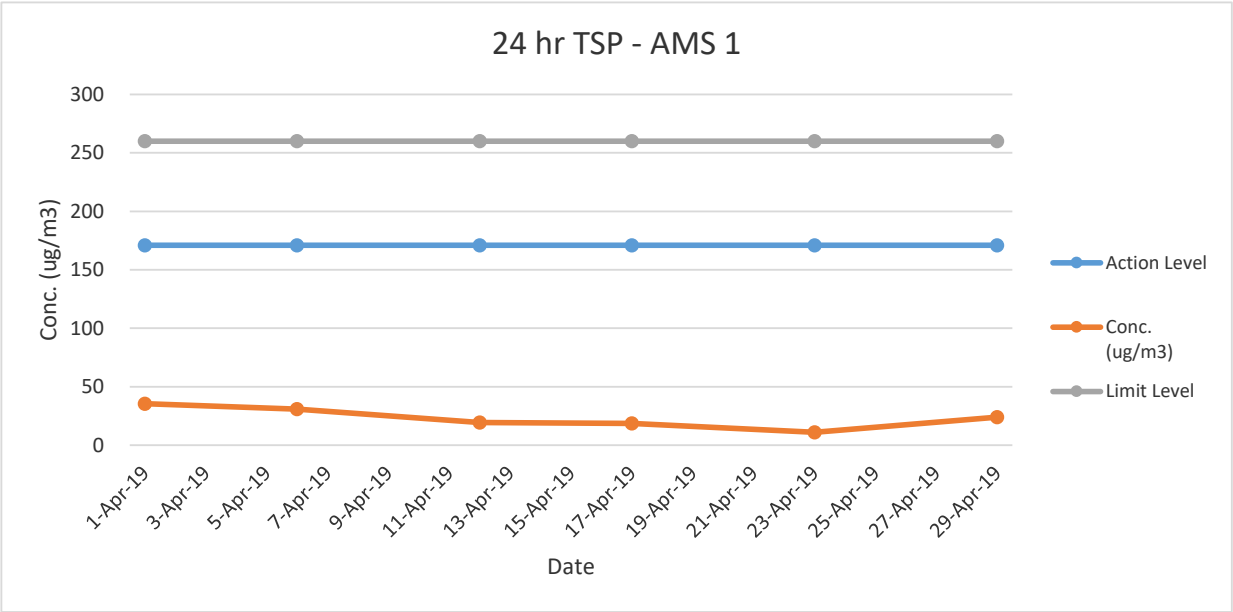
Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m^3/min.)		Average flow (m^3/min.)	Total volume (m^3)	Conc. (ug/m^3)	Action Level (ug/m^3)	Limit Level (ug/m^3)
				Initial	Final			Initial	Final					
1-Apr-19	Overcast	293.5	765	2.6840	2.7301	0.0461	24	0.91	0.90	0.90	1299.07	35	171	260
6-Apr-19	Hazy	298.3	760	2.7007	2.7478	0.0471	24	1.06	1.06	1.06	1528.71	31		
12-Apr-19	Cloudy	295.5	760	2.7595	2.7869	0.0274	24	0.98	0.98	0.98	1413.69	19		
17-Apr-19	Sunny	296.7	759	2.7857	2.8075	0.0218	24	0.82	0.81	0.82	1174.60	19		
23-Apr-19	Sunny	301.2	758	2.7794	2.7923	0.0129	24	0.81	0.81	0.81	1169.62	11		
29-Apr-19	Overcast	299.9	756	2.7972	2.8308	0.0336	24	0.97	0.98	0.98	1406.57	24		
											Min	11		
											Max	35		
											Average	23		

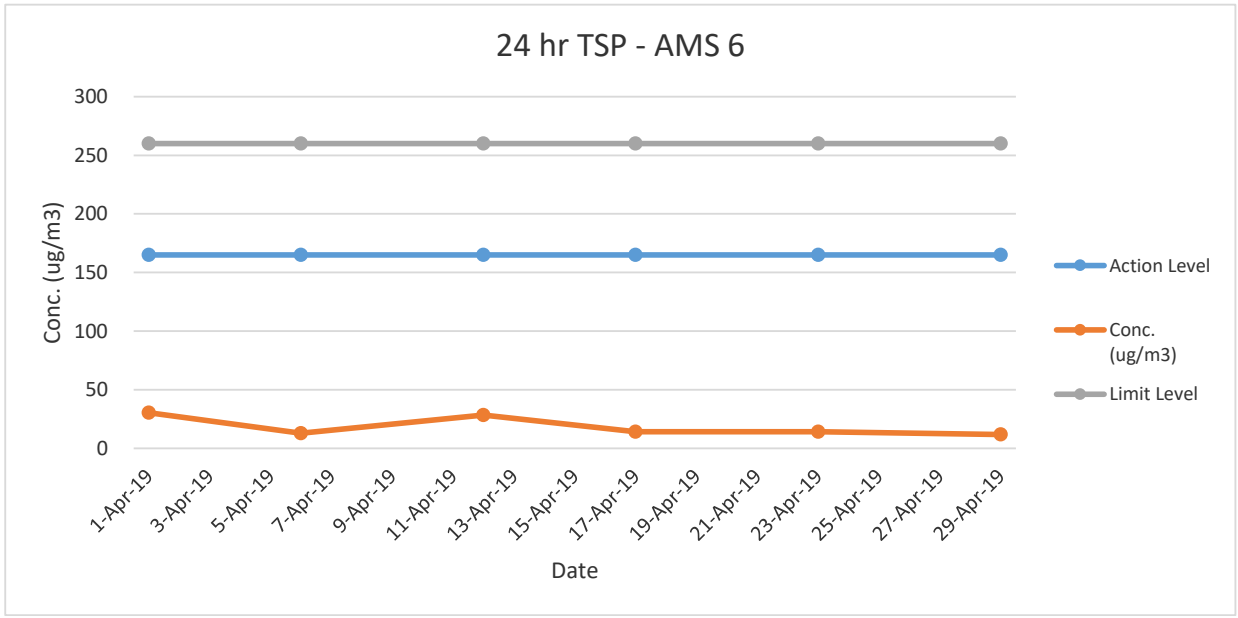
AMS 6 - Shatin Plaza

Start Date	Weather Condition	Air Temperature (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Sampling Time(hrs)	Flow Rate (m^3/min.)		Average flow (m^3/min.)	Total volume (m^3)	Conc. (ug/m^3)	Action Level (ug/m^3)	Limit Level (ug/m^3)
				Initial	Final			Initial	Final					
1-Apr-19	Overcast	293.5	765	2.6883	2.7423	0.0540	24	1.2398	1.2265	1.23	1775.7112	30	165	260
6-Apr-19	Hazy	298.3	760	2.6668	2.6834	0.0166	24	0.8968	0.8973	0.90	1291.7285	13		
12-Apr-19	Cloudy	295.5	760	2.7098	2.7433	0.0335	24	0.8185	0.8150	0.82	1176.1254	28		
17-Apr-19	Sunny	296.7	759	2.7771	2.8020	0.0249	24	1.2287	1.2265	1.23	1767.7345	14		
23-Apr-19	Sunny	301.2	758	2.7644	2.7928	0.0284	24	1.3818	1.3911	1.39	1996.5295	14		
29-Apr-19	Overcast	299.9	756	2.7858	2.8052	0.0194	24	1.1396	1.1442	1.14	1644.3265	12		
											Min	12		
											Max	30		
											Average	19		

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 hr TSP - AMS 1
300
250
200
150
100
50
0
Conc. (ug/m3)
1-Apr-19
3-Apr-19
5-Apr-19
7-Apr-19
9-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
21-Apr-19
23-Apr-19
25-Apr-19
27-Apr-19
29-Apr-19
Date
Action Level
Conc. (ug/m3)
Limit Level


24 hr TSP - AMS 6
300
250
200
150
100
50
0
Conc. (ug/m3)
1-Apr-19
3-Apr-19
5-Apr-19
7-Apr-19
9-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
21-Apr-19
23-Apr-19
25-Apr-19
27-Apr-19
29-Apr-19
Date
Action Level
Conc. (ug/m3)
Limit Level

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

AMS2 - Villa Le Parc

Date and Time	TSP Concentration (μg/m³)
01/04/19 09:46	100
01/04/19 10:46	96
01/04/19 11:46	81
01/04/19 12:46	74
01/04/19 13:46	44
01/04/19 14:46	42
01/04/19 15:46	44
01/04/19 16:46	46
01/04/19 17:46	42
01/04/19 18:46	39
01/04/19 19:46	44
01/04/19 20:46	42
01/04/19 21:46	46
01/04/19 22:46	42
01/04/19 23:46	33
02/04/19 00:46	35
02/04/19 01:46	37
02/04/19 02:46	37
02/04/19 03:46	42
02/04/19 04:46	48
02/04/19 05:46	52
02/04/19 06:46	46
02/04/19 07:46	42
02/04/19 08:46	37
Average	50
Action Level	166
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
06/04/19 11:29	98
06/04/19 12:29	101
06/04/19 13:29	73
06/04/19 14:29	49
06/04/19 15:29	36
06/04/19 16:29	43
06/04/19 17:29	36
06/04/19 18:29	52
06/04/19 19:29	71
06/04/19 20:29	73
06/04/19 21:29	79
06/04/19 22:29	81
06/04/19 23:29	73
07/04/19 00:29	64
07/04/19 01:29	52
07/04/19 02:29	62
07/04/19 03:29	39
07/04/19 04:29	45
07/04/19 05:29	49
07/04/19 06:29	54
07/04/19 07:29	60
07/04/19 08:29	73
07/04/19 09:29	86
07/04/19 10:29	99
Average	65
Action Level	166
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
12/04/19 10:02	17
12/04/19 11:02	27
12/04/19 12:02	25
12/04/19 13:02	27
12/04/19 14:02	49
12/04/19 15:02	23
12/04/19 16:02	30
12/04/19 17:02	48
12/04/19 18:02	51
12/04/19 19:02	59
12/04/19 20:02	65
12/04/19 21:02	72
12/04/19 22:02	80
12/04/19 23:02	65
13/04/19 00:02	42
13/04/19 01:02	25
13/04/19 02:02	21
13/04/19 03:02	29
13/04/19 04:02	32
13/04/19 05:02	25
13/04/19 06:02	21
13/04/19 07:02	27
13/04/19 08:02	29
13/04/19 09:02	21
Average	38
Action Level	166
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
17/04/19 11:32	22
17/04/19 12:32	24
17/04/19 13:32	20
17/04/19 14:32	26
17/04/19 15:32	23
17/04/19 16:32	25
17/04/19 17:32	26
17/04/19 18:32	39
17/04/19 19:32	65
17/04/19 20:32	66
17/04/19 21:32	77
17/04/19 22:32	55
17/04/19 23:32	68
18/04/19 00:32	66
18/04/19 01:32	50
18/04/19 02:32	61
18/04/19 03:32	63
18/04/19 04:32	72
18/04/19 05:32	72
18/04/19 06:32	57
18/04/19 07:32	48
18/04/19 08:32	44
18/04/19 09:32	39
18/04/19 10:32	39
Average	48
Action Level	166
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
23/04/19 11:17	30
23/04/19 12:17	26
23/04/19 13:17	28
23/04/19 14:17	52
23/04/19 15:17	24
23/04/19 16:17	33
23/04/19 17:17	50
23/04/19 18:17	57
23/04/19 19:17	63
23/04/19 20:17	70
23/04/19 21:17	80
23/04/19 22:17	83
23/04/19 23:17	72
24/04/19 00:17	46
24/04/19 01:17	26
24/04/19 02:17	22
24/04/19 03:17	28
24/04/19 04:17	35
24/04/19 05:17	24
24/04/19 06:17	28
24/04/19 07:17	33
24/04/19 08:17	26
24/04/19 09:17	22
24/04/19 10:17	24
Average	41
Action Level	166
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
29/04/19 11:46	25
29/04/19 12:46	29
29/04/19 13:46	46
29/04/19 14:46	33
29/04/19 15:46	37
29/04/19 16:46	39
29/04/19 17:46	48
29/04/19 18:46	62
29/04/19 19:46	64
29/04/19 20:46	72
29/04/19 21:46	60
29/04/19 22:46	48
29/04/19 23:46	37
30/04/19 00:46	33
30/04/19 01:46	52
30/04/19 02:46	66
30/04/19 03:46	68
30/04/19 04:46	77
30/04/19 05:46	81
30/04/19 06:46	72
30/04/19 07:46	54
30/04/19 08:46	29
30/04/19 09:46	33
30/04/19 10:46	48
Average	51
Action Level	166
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)

AMS4A - Wai Wah Centre

Date and Time	TSP Concentration (μg/m³)
01/04/19 09:08	107
01/04/19 10:08	85
01/04/19 11:08	67
01/04/19 12:08	56
01/04/19 13:08	43
01/04/19 14:08	22
01/04/19 15:08	20
01/04/19 16:08	26
01/04/19 17:08	24
01/04/19 18:08	19
01/04/19 19:08	20
01/04/19 20:08	27
01/04/19 21:08	33
01/04/19 22:08	28
01/04/19 23:08	33
02/04/19 00:08	37
02/04/19 01:08	26
02/04/19 02:08	20
02/04/19 03:08	20
02/04/19 04:08	24
02/04/19 05:08	24
02/04/19 06:08	30
02/04/19 07:08	33
02/04/19 08:08	41
Average	36
Action Level	200
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
06/04/19 11:19	99
06/04/19 12:19	96
06/04/19 13:19	79
06/04/19 14:19	49
06/04/19 15:19	29
06/04/19 16:19	37
06/04/19 17:19	38
06/04/19 18:19	90
06/04/19 19:19	98
06/04/19 20:19	100
06/04/19 21:19	86
06/04/19 22:19	81
06/04/19 23:19	82
07/04/19 00:19	78
07/04/19 01:19	61
07/04/19 02:19	56
07/04/19 03:19	58
07/04/19 04:19	56
07/04/19 05:19	64
07/04/19 06:19	70
07/04/19 07:19	56
07/04/19 08:19	66
07/04/19 09:19	78
07/04/19 10:19	92
Average	71
Action Level	200
Limit Level	260

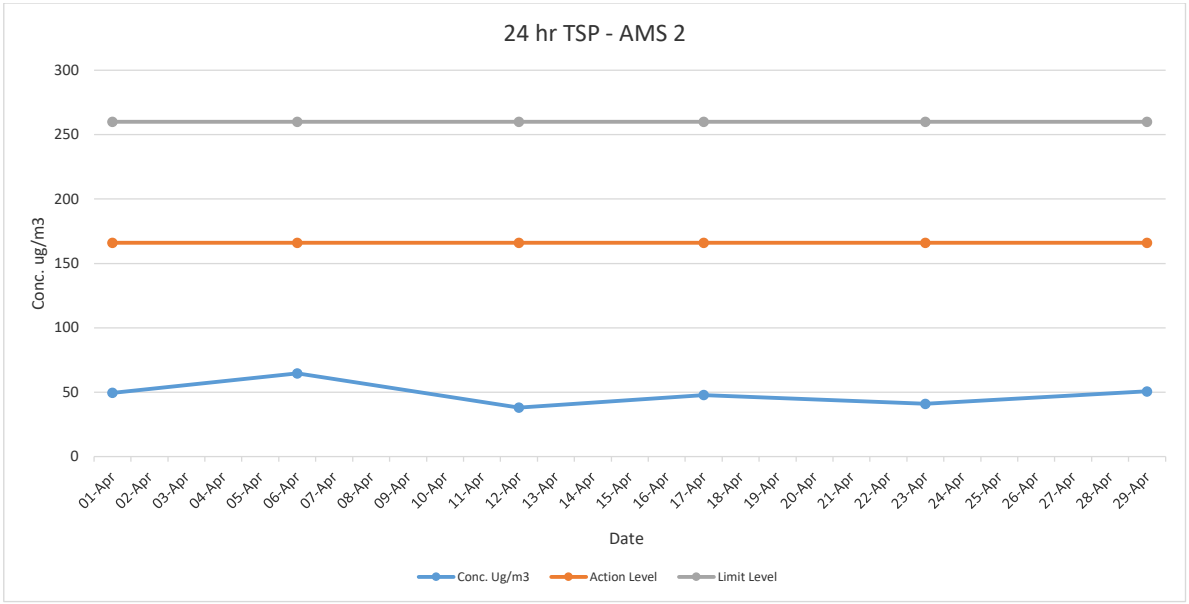
Date and Time	TSP Concentration (μg/m³)
12/04/19 10:13	36
12/04/19 11:13	45
12/04/19 12:13	53
12/04/19 13:13	57
12/04/19 14:13	74
12/04/19 15:13	43
12/04/19 16:13	55
12/04/19 17:13	70
12/04/19 18:13	79
12/04/19 19:13	83
12/04/19 20:13	85
12/04/19 21:13	85
12/04/19 22:13	85
12/04/19 23:13	60
13/04/19 00:13	43
13/04/19 01:13	28
13/04/19 02:13	21
13/04/19 03:13	30
13/04/19 04:13	34
13/04/19 05:13	32
13/04/19 06:13	28
13/04/19 07:13	32
13/04/19 08:13	36
13/04/19 09:13	32
Average	51
Action Level	200
Limit Level	260

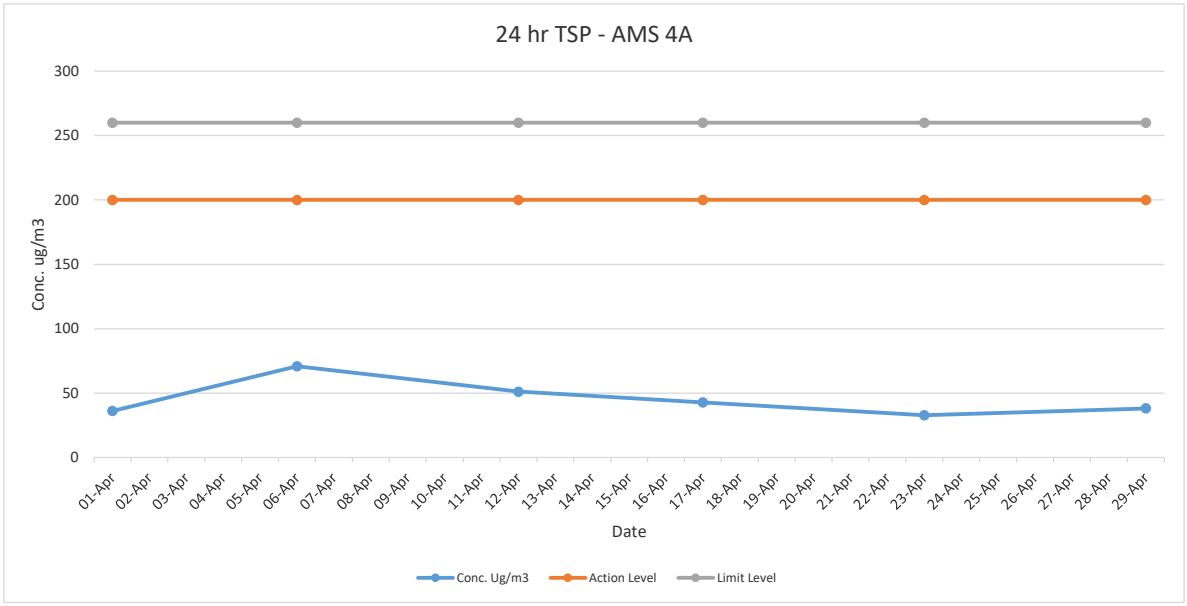
Date and Time	TSP Concentration (μg/m³)
17/04/19 12:10	30
17/04/19 13:10	33
17/04/19 14:10	35
17/04/19 15:10	39
17/04/19 16:10	30
17/04/19 17:10	20
17/04/19 18:10	27
17/04/19 19:10	41
17/04/19 20:10	53
17/04/19 21:10	58
17/04/19 22:10	56
17/04/19 23:10	56
18/04/19 00:10	42
18/04/19 01:10	45
18/04/19 02:10	45
18/04/19 03:10	44
18/04/19 04:10	39
18/04/19 05:10	40
18/04/19 06:10	42
18/04/19 07:10	55
18/04/19 08:10	59
18/04/19 09:10	50
18/04/19 10:10	44
18/04/19 11:10	42
Average	43
Action Level	200
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
23/04/19 11:04	26
23/04/19 12:04	26
23/04/19 13:04	33
23/04/19 14:04	30
23/04/19 15:04	22
23/04/19 16:04	30
23/04/19 17:04	30
23/04/19 18:04	35
23/04/19 19:04	54
23/04/19 20:04	59
23/04/19 21:04	46
23/04/19 22:04	30
23/04/19 23:04	28
24/04/19 00:04	30
24/04/19 01:04	26
24/04/19 02:04	26
24/04/19 03:04	26
24/04/19 04:04	30
24/04/19 05:04	28
24/04/19 06:04	35
24/04/19 07:04	35
24/04/19 08:04	37
24/04/19 09:04	39
24/04/19 10:04	26
Average	33
Action Level	200
Limit Level	260

Date and Time	TSP Concentration (μg/m³)
29/04/19 11:41	31
29/04/19 12:41	33
29/04/19 13:41	33
29/04/19 14:41	36
29/04/19 15:41	39
29/04/19 16:41	40
29/04/19 17:41	38
29/04/19 18:41	36
29/04/19 19:41	49
29/04/19 20:41	50
29/04/19 21:41	48
29/04/19 22:41	46
29/04/19 23:41	46
30/04/19 00:41	44
30/04/19 01:41	39
30/04/19 02:41	35
30/04/19 03:41	34
30/04/19 04:41	32
30/04/19 05:41	32
30/04/19 06:41	30
30/04/19 07:41	33
30/04/19 08:41	36
30/04/19 09:41	37
30/04/19 10:41	38
Average	38
Action Level	200
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 hr TSP - AMS 2
Conc. ug/m3
300
250
200
150
100
50
0
01-Apr 02-Apr 03-Apr 04-Apr 05-Apr 06-Apr 07-Apr 08-Apr 09-Apr 10-Apr 11-Apr 12-Apr 13-Apr 14-Apr 15-Apr 16-Apr 17-Apr 18-Apr 19-Apr 20-Apr 21-Apr 22-Apr 23-Apr 24-Apr 25-Apr 26-Apr 27-Apr 28-Apr 29-Apr
Date
Conc. Ug/m3
Action Level
Limit Level


24 hr TSP - AMS 4A
Conc. ug/m3
300
250
200
150
100
50
0
01-Apr 02-Apr 03-Apr 04-Apr 05-Apr 06-Apr 07-Apr 08-Apr 09-Apr 10-Apr 11-Apr 12-Apr 13-Apr 14-Apr 15-Apr 16-Apr 17-Apr 18-Apr 19-Apr 20-Apr 21-Apr 22-Apr 23-Apr 24-Apr 25-Apr 26-Apr 27-Apr 28-Apr 29-Apr
Date
Conc. Ug/m3
Action Level
Limit Level

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Appendix G

Noise Monitoring Data

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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						
02-Apr-19	13:35	61.6	57.5	65.0	75	61.6	Fine	0.8
12-Apr-19	09:46	61.2	59.5	62.5		61.2	Hazy	0.1
18-Apr-19	14:15	70.7	61.5	76.5		70.7	Sunny	1.6
24-Apr-19	14:13	62.4	59.0	67.0		62.4	Sunny	0.9
30-Apr-19	12:46	69.5	67.5	71.0		69.5	Overcast	0.8

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						
02-Apr-19	08:31	61.8	57.0	63.0	75	61.8	Fine	0.6
12-Apr-19	10:00	59.8	54.5	61.5		59.8	Hazy	1.2
18-Apr-19	09:00	62.4	59.0	65.5		62.4	Sunny	0.8
24-Apr-19	08:58	62.4	56.0	64.0		62.4	Sunny	1.4
30-Apr-19	14:40	57.3	53.5	59.0		57.3	Overcast	0.6

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						
02-Apr-19	13:02	71.5	61.0	75.5	75	71.5	Fine	1.1
12-Apr-19	10:33	63.9	61.5	66.0		63.9	Hazy	0.0
18-Apr-19	13:41	70.6	60.5	76.5		70.6	Sunny	0.7
24-Apr-19	13:40	72.0	62.5	76.0		72.0	Sunny	0.9
30-Apr-19	11:59	68.1	66.0	69.5		68.1	Overcast	0.8

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						
02-Apr-19	09:04	71.4	60.5	74.5	75	71.4	Fine	0.8
12-Apr-19	10:40	66.3	63.0	68.5		66.3	Hazy	0.5
18-Apr-19	09:33	72.6	61.5	76.0		72.6	Sunny	1.2
24-Apr-19	09:35	72.1	62.0	76.0		72.1	Sunny	1.2
30-Apr-19	13:53	70.2	65.0	72.5		70.2	Overcast	0.7

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						
02-Apr-19	11:35	74.6	68.0	77.0	75	74.6	Fine	1.6
12-Apr-19	13:03	71.8	68.5	73.5		71.8	Hazy	0.0
18-Apr-19	13:02	73.5	69.0	75.5		73.5	Sunny	1.3
24-Apr-19	13:00	73.5	67.5	77.0		73.5	Sunny	1.2
30-Apr-19	11:24	73.0	70.5	75.5		73.0	Overcast	0.9

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						
02-Apr-19	11:00	72.4	66.0	75.0	75	72.4	Fine	0.9
12-Apr-19	11:23	71.4	67.5	73.5		71.4	Hazy	1.4
18-Apr-19	11:28	73.6	66.5	76.5		73.6	Sunny	1.2
24-Apr-19	11:29	71.0	65.0	74.5		71.0	Sunny	1.6
30-Apr-19	10:53	73.3	70.5	75.5		73.3	Overcast	0.8

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						
02-Apr-19	09:42	73.7	71.0	78.5	75	73.7	Fine	0.9
12-Apr-19	11:20	67.7	62.5	72.5		67.7	Hazy	0.4
18-Apr-19	10:10	74.1	69.0	77.0		74.1	Sunny	0.7
24-Apr-19	10:11	72.8	68.5	75.5		72.8	Sunny	1.1
30-Apr-19	13:26	69.9	65.5	73.0		69.9	Overcast	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						
01-Apr-19	16:00	72.1	66.0	73.5	75	72.1	Overcast	0.9
11-Apr-19	09:29	69.2	59.5	73.0		69.2	Overcast	1.0
17-Apr-19	09:00	70.2	60.0	72.5		70.2	Sunny	1.1
23-Apr-19	09:03	70.9	61.0	73.0		70.9	Sunny	0.8
29-Apr-19	09:00	71.2	61.5	73.0		71.2	Overcast	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						
01-Apr-19	14:43	64.4	59.0	66.5	75	64.4	Overcast	1.2
11-Apr-19	10:10	64.1	59.0	66.0		64.1	Overcast	0.8
17-Apr-19	10:14	63.4	58.5	65.0		63.4	Sunny	0.7
23-Apr-19	10:15	63.6	57.5	66.0		63.6	Sunny	1.3
29-Apr-19	10:12	66.1	62.0	69.0		66.1	Overcast	1.2

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						
01-Apr-19	14:10	69.0	65.0	77.5	70	69.0	Overcast	1.4
11-Apr-19	10:48	71.5	64.0	73.5		67.5*	Overcast	0.6
17-Apr-19	10:50	72.0	63.5	74.5		68.7*	Sunny	0.5
23-Apr-19	10:51	72.5	65.0	77.5		69.7*	Sunny	0.6
29-Apr-19	10:49	64.1	58.5	67.0		64.1	Overcast	0.7

*Note: Since the measured noise level was greater than the limit level, construction noise level (CNL) was appplied on 11/4/2019, 17/4/2019 and 23/4/2019, where

Calculated CNL = Measured Noise Level during operation – Baseline (69.3 dB(A)).

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						
01-Apr-19	09:05	71.1	62.0	72.5	75	71.1	Overcast	1.1
11-Apr-19	09:33	72.0	62.5	74.0		72.0	Overcast	1.0
17-Apr-19	16:00	71.2	61.5	73.5		71.2	Sunny	1.2
23-Apr-19	13:32	71.0	58.5	73.0		71.0	Sunny	0.6
29-Apr-19	09:34	68.6	62.0	72.5		68.6	Overcast	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						
01-Apr-19	13:38	63.5	65.0	77.5	70	63.5	Overcast	0.7
11-Apr-19	11:21	63.7	58.0	69.0		63.7	Overcast	0.4
17-Apr-19	11:25	64.0	57.5	67.5		64.0	Sunny	0.6
23-Apr-19	11:23	64.6	56.5	65.5		64.6	Sunny	0.9
29-Apr-19	10:28	62.7	58.0	64.5		62.7	Overcast	0.8

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						
01-Apr-19	13:01	64.8	60.0	67.0	75	64.8	Overcast	0.6
11-Apr-19	11:55	66.6	61.0	70.0		66.6	Overcast	1.3
17-Apr-19	11:57	65.4	54.5	68.0		65.4	Sunny	1.0
23-Apr-19	13:00	66.1	60.0	69.5		66.1	Sunny	1.2
29-Apr-19	11:04	67.6	62.5	71.5		67.6	Overcast	1.3

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						
01-Apr-19	09:40	63.2	57.5	64.5	75	63.2	Overcast	0.7
11-Apr-19	10:11	63.4	57.5	65.5		63.4	Overcast	1.1
17-Apr-19	15:25	64.2	58.5	66.0		64.2	Sunny	1.0
23-Apr-19	11:23	64.7	54.0	67.0		64.7	Sunny	1.2
29-Apr-19	10:10	69.1	63.0	74.5		69.1	Overcast	1.1

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						
02-Apr-19	16:24	66.2	60.5	72.0	75	66.2	Fine	1.0
12-Apr-19	10:35	65.4	60.5	67.5		65.4	Hazy	0.0
18-Apr-19	11:00	64.2	61.5	66.5		64.2	Sunny	1.4
24-Apr-19	13:03	67.2	61.5	73.0		67.2	Sunny	0.0
30-Apr-19	13:02	69.4	59.5	72.5		69.4	Overcast	0.8

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						
02-Apr-19	15:50	64.7	60.0	66.5	75	64.7	Fine	0.8
12-Apr-19	11:10	68.6	57.5	69.0		68.6	Hazy	0.8
18-Apr-19	11:32	61.7	57.5	64.5		61.7	Sunny	1.2
24-Apr-19	11:35	64.3	61.5	68.5		64.3	Sunny	0.0
30-Apr-19	11:30	68.3	63.0	71.5		68.3	Overcast	0.7

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						
01-Apr-19	11:30	62.7	57.0	66.0	65	62.7	Overcast	0.7
11-Apr-19	11:28	64.8	58.0	66.5	70	64.8	Overcast	0.7
17-Apr-19	13:34	64.1	57.5	65.0		64.1	Sunny	0.5
23-Apr-19	09:39	64.3	58.0	66.5		64.3	Sunny	1.1
29-Apr-19	11:31	64.1	59.5	66.0	65	64.1	Overcast	1.3

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						
02-Apr-19	15:16	64.0	59.5	65.5	75	64.0	Fine	1.2
12-Apr-19	13:10	61.6	55.0	65.0		61.6	Hazy	0.0
18-Apr-19	13:02	60.3	58.0	64.0		60.3	Sunny	1.2
24-Apr-19	11:02	64.3	57.5	65.5		64.3	Sunny	1.3
30-Apr-19	10:52	65.8	58.5	69.0		65.8	Overcast	0.7

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						
01-Apr-19	10:56	70.6	67.0	75.0	75	70.6	Overcast	1.0
11-Apr-19	13:00	72.1	67.0	76.5		72.1	Overcast	0.9
17-Apr-19	14:11	71.2	66.0	74.5		71.2	Sunny	0.9
23-Apr-19	10:14	70.8	65.5	74.0		70.8	Sunny	2.7
29-Apr-19	13:02	67.3	60.5	70.0		67.3	Overcast	1.4

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						
01-Apr-19	10:21	63.5	59.0	65.5	75	63.5	Overcast	1.2
11-Apr-19	13:43	64.7	58.5	65.5		64.7	Overcast	1.1
17-Apr-19	14:49	63.2	60.0	66.0		63.2	Sunny	1.0
23-Apr-19	10:30	63.8	61.0	65.0		63.8	Sunny	1.3
29-Apr-19	13:42	67.0	62.5	69.5		67.0	Overcast	0.8

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						
02-Apr-19	10:26	61.8	59.0	66.0	75	61.8	Fine	1.1
12-Apr-19	10:00	67.2	62.5	69.5		67.2	Hazy	0.0
18-Apr-19	10:21	60.3	56.5	63.0		60.3	Sunny	1.2
24-Apr-19	10:55	63.1	60.0	66.5		63.1	Sunny	0.0
30-Apr-19	14:10	68.2	65.0	70.5		68.2	Overcast	2.0

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						
01-Apr-19	15:22	71.6	66.5	75.0	75	71.6	Overcast	1.0
11-Apr-19	09:34	71.6	60.5	72.5		71.6	Overcast	0.7
17-Apr-19	09:35	70.8	67.0	73.5		70.8	Sunny	1.1
23-Apr-19	09:32	70.1	60.5	74.0		70.1	Sunny	0.6
29-Apr-19	09:33	72.1	62.0	75.0		72.1	Overcast	0.8

NMS 25A Sheung Wo Che

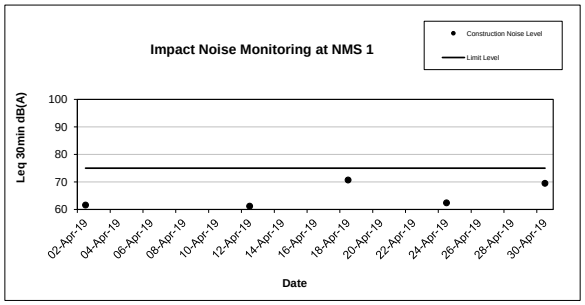
Date	Start Time	Measured Noise Level			Limit Level	Construction Noise Level	Weather	Wind Speed (m/s)
		L_{eq}	L_{90}	L_{10}				
		Unit: dB(A) 30 Mins						
01-Apr-19	08:30	69.2	61.0	72.0	75	69.2	Overcast	0.0
11-Apr-19	09:00	71.2	63.0	75.0		71.2	Overcast	1.1
17-Apr-19	16:34	70.4	62.0	74.5		70.4	Sunny	0.7
23-Apr-19	13:40	72.1	64.0	75.5		72.1	Sunny	0.8
29-Apr-19	09:12	70.6	66.5	72.0		70.6	Overcast	0.7

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						
01-Apr-19	12:02	74.5	71.0	77.0	75	74.5	Overcast	1.0
11-Apr-19	10:55	74.1	71.0	78.0		74.1	Overcast	1.2
17-Apr-19	13:01	73.8	70.5	76.5		73.8	Sunny	1.2
23-Apr-19	09:02	72.1	68.5	74.5		72.1	Sunny	1.1
29-Apr-19	10:52	73.6	68.5	77.0		73.6	Overcast	1.1

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						
02-Apr-19	14:30	62.1	58.0	66.5	70	62.1	Fine	1.1
12-Apr-19	13:20	69.5	67.0	71.0		69.5	Hazy	0.7
18-Apr-19	09:27	63.9	61.5	67.5		63.9	Sunny	0.7
24-Apr-19	10:00	63.3	56.5	65.0		63.3	Sunny	1.2
30-Apr-19	10:06	68.4	59.0	71.5		68.4	Overcast	0.9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Limit Level
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90
80
70
60
02-Apr-19
04-Apr-19
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08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
16-Apr-19
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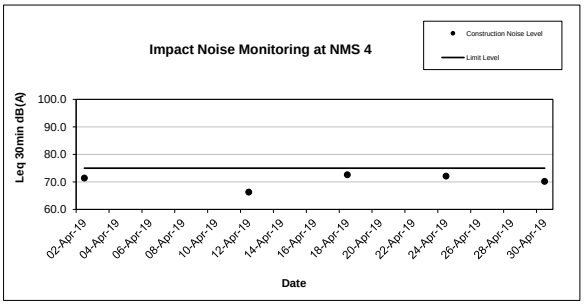
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
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04-Apr-19
06-Apr-19
08-Apr-19
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12-Apr-19
14-Apr-19
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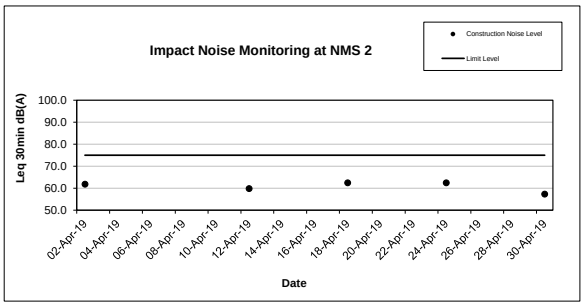
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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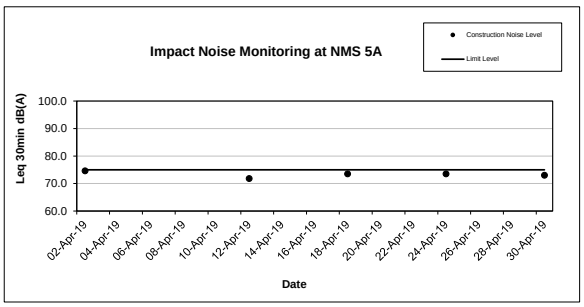
90.0
80.0
70.0
60.0
50.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
16-Apr-19
18-Apr-19
20-Apr-19
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date


Impact Noise Monitoring at NMS 5A
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
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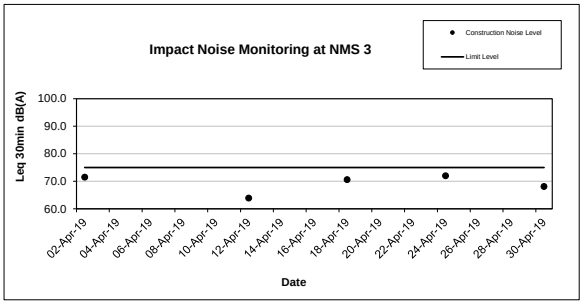
18-Apr-19
20-Apr-19
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
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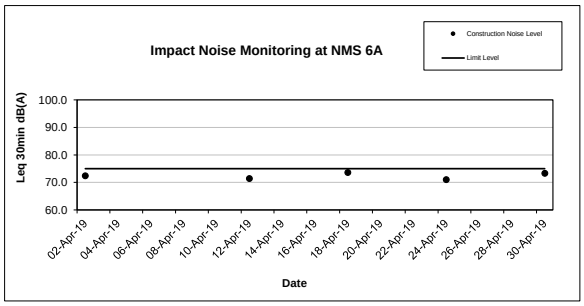
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
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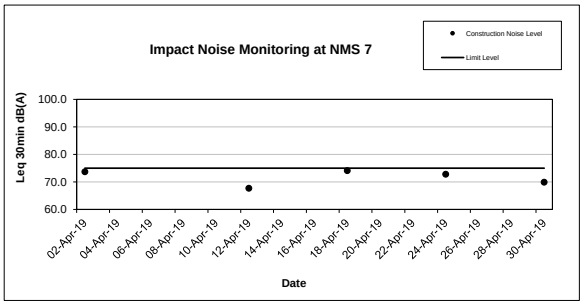
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
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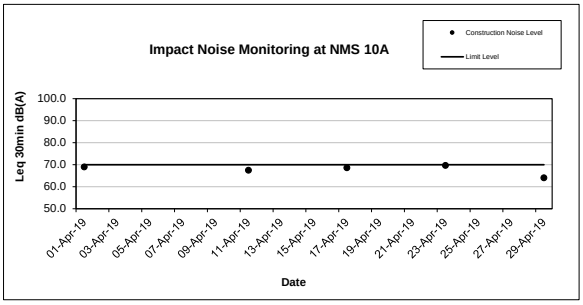
28-Apr-19
30-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
50.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
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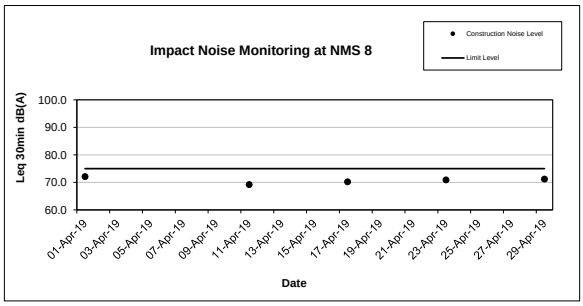
27-Apr-19
29-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
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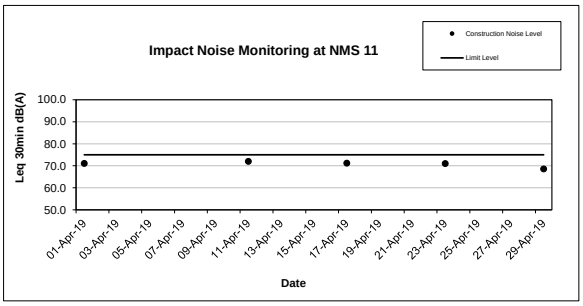
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
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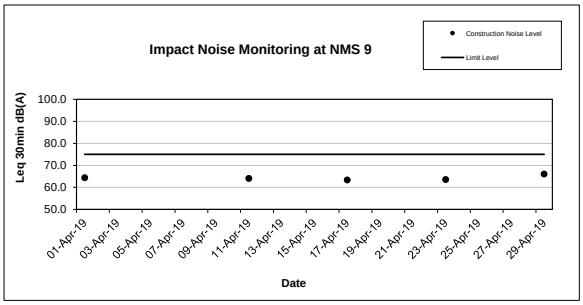
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
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01-Apr-19
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13-Apr-19
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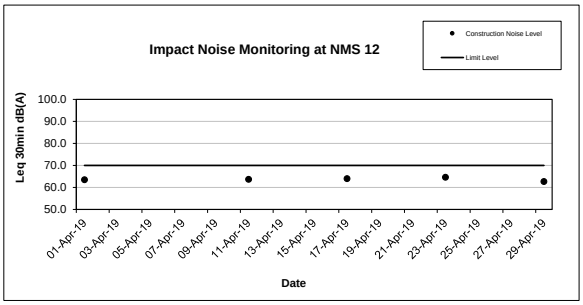
27-Apr-19
29-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
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01-Apr-19
03-Apr-19
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13-Apr-19
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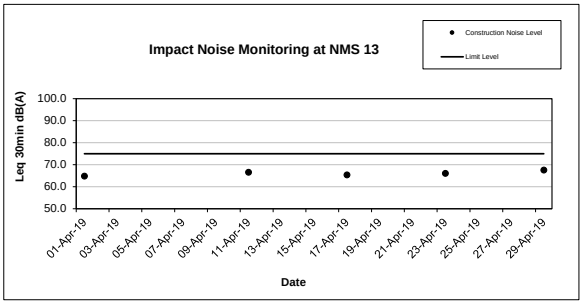
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
50.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
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13-Apr-19
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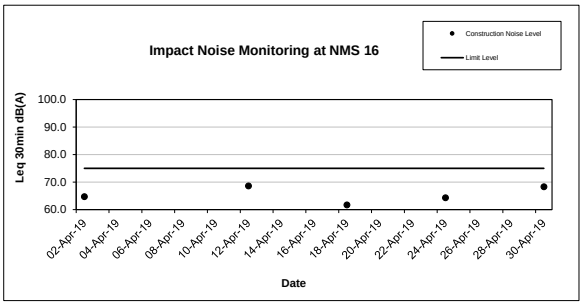
27-Apr-19
29-Apr-19
Date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Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
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14-Apr-19
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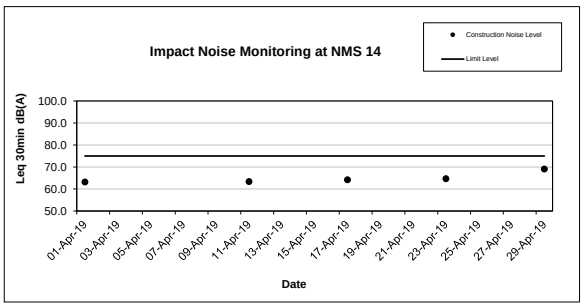
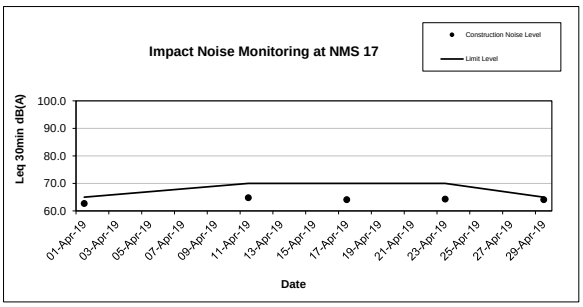

Impact Noise Monitoring at NMS 14
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
50.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
21-Apr-19
23-Apr-19
25-Apr-19
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 17
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
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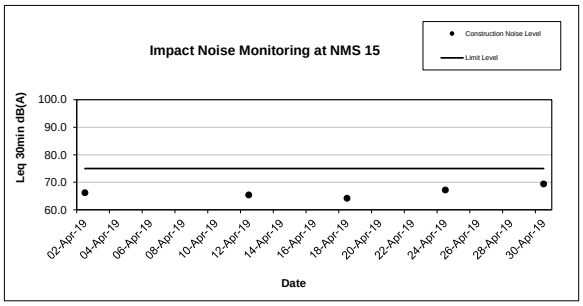
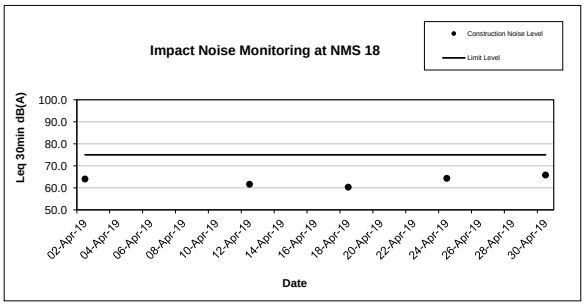
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
15-Apr-19
17-Apr-19
19-Apr-19
21-Apr-19
23-Apr-19
25-Apr-19
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 15
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
16-Apr-19
18-Apr-19
20-Apr-19
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date


Impact Noise Monitoring at NMS 18
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
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02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
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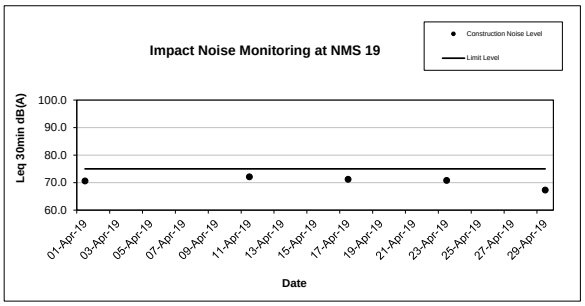
20-Apr-19
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date


Impact Noise Monitoring at NMS 19
Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
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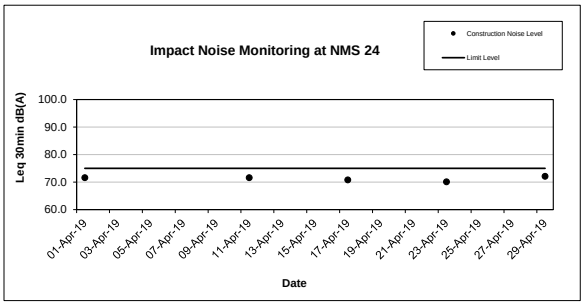
25-Apr-19
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 24
Construction Noise Level
Limit Level
Leq 30min dB(A)
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90.0
80.0
70.0
60.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
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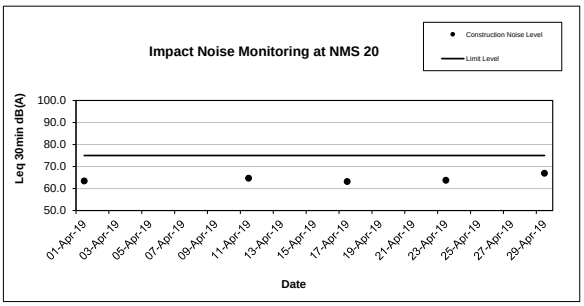
25-Apr-19
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 20
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
50.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
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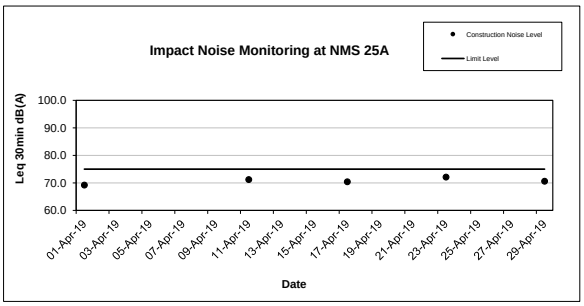
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 25A
Construction Noise Level
Limit Level
Leq 30min dB(A)
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70.0
60.0
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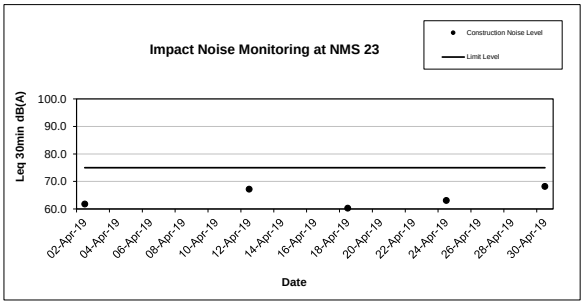
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 23
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
02-Apr-19
04-Apr-19
06-Apr-19
08-Apr-19
10-Apr-19
12-Apr-19
14-Apr-19
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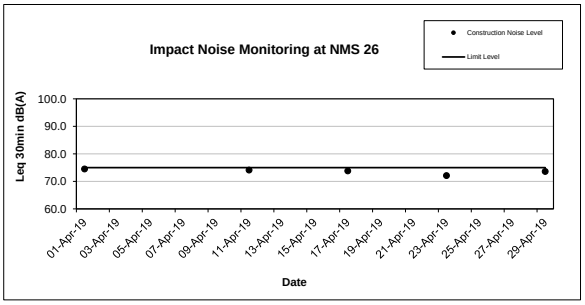
26-Apr-19
28-Apr-19
30-Apr-19
Date


Impact Noise Monitoring at NMS 26
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
01-Apr-19
03-Apr-19
05-Apr-19
07-Apr-19
09-Apr-19
11-Apr-19
13-Apr-19
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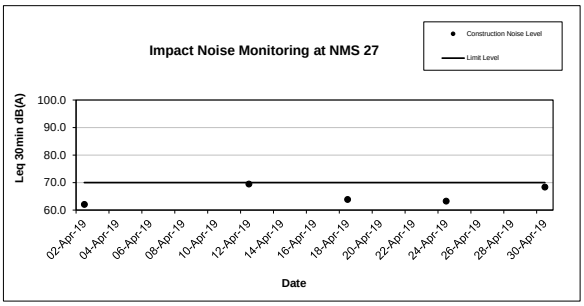
27-Apr-19
29-Apr-19
Date


Impact Noise Monitoring at NMS 27
Construction Noise Level
Limit Level
Leq 30min dB(A)
100.0
90.0
80.0
70.0
60.0
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04-Apr-19
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14-Apr-19
16-Apr-19
18-Apr-19
20-Apr-19
22-Apr-19
24-Apr-19
26-Apr-19
28-Apr-19
30-Apr-19
Date

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Appendix H

Events and Action Plan

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Event and Action Plan for Construction Dust Monitoring

EVENT	ACTION			
	ET Leader	IEC	SO	Contractor
Action Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the IEC and the SO. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by the ET Leader. 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice. 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify the source. 2. Inform the IEC and the SO. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency to daily. 5. Discuss with the IEC and the Contractor on remedial actions required. 6. If exceedance continues, arrange meeting with the IEC and the SO. 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by the ET Leader. 2. Check the Contractor's working method. 3. Discuss with the ET Leader and the Contractor on possible remedial measures. 4. Advise the SO on the effectiveness of the proposed remedial measures. 5. Supervisor implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within 3 working days of notification. 2. Implement the agreed proposals. 3. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	1. Identify the source. 2. Inform the SO and the EPD. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency to daily. 5. Assess effectiveness of Contractor's remedial actions and keep the IEC, the EPD and the SO informed of the results.	1. Check monitoring data submitted by the ET Leader. 2. Check Contractor's working method. 3. Discuss with the ET Leader and the Contractor on possible remedial measures. 4. Advise the SO on the effectiveness of the proposed remedial measures. 5. Supervisor implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Ensure remedial measures are properly implemented.	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. Amend proposal if appropriate.
2. Exceedance	1. Notify the IEC, the SO and the EPD and the	1. Discuss amongst the SO, ET	1. Confirm receipt of	1. Take immediate action to avoid

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EVENT	ACTION			
	ET Leader	**IEC**	**SO**	**Contractor**
for two or more consecutive samples	Contractor. 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.	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. Supervisor implementation of remedial measures.	notification of failure in writing. 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.	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.

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Event and Action Plan for Noise Impact

EVENT	ACTION			
	ET Leader	**IEC**	**SO**	**Contractor**
Action Level	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.	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.	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.	1. Submit noise mitigation proposals to IEC. 2. Implement noise mitigation proposals.
Limit Level	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.	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.	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.	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.

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Event and Action Plan for Landscape and Visual Impact

Event	Action		
	ET	**SO**	**Contractor**
Non-conformity on one occasion	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	1. Notify Contractor; and 2. Ensure remedial measures are properly implemented.	1. Amend working methods; 2. Rectify damage and undertake any necessary replacement.
Repeated Non-conformity	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.	1. Notify Contractor; and 2. Ensure remedial measures are properly implemented.	1. Amend working methods; 2. Rectify damage and undertake any necessary replacement.

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Appendix I

Waste Flow Table

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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 '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
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

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 m^3.

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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 '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
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											
2019 Jun											
Sub-Total	0.100	0.000	0.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.207
2019 Jul											
2019 Aug											
2019 Sep											
2019 Oct											
2019 Nov											
2019 Dec											
Total	0.100	0.000	0.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.207

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 m^3.

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Appendix J

Environmental Mitigation Implementation Schedule (EMIS)

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		Noise Measures		
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 constriction 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	Not Applicable
		• 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

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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

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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	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	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

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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
Water Quality Measures				
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	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	Contractor	Implemented

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		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.		
		• The efficiency of the interceptor channels, traps and sedimentation chambers should be maintained 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.	Contractor	Partially Implemented
		• 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	Partially Implemented
		• 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
		• 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
		• 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
		• 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
		• 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

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		• 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. 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. AII discharges into foul sewers and storm sewers should have to be complied with TM standards under WPCO.	Contractor	Not Applicable
		• 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	Not Applicable
		• 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		• 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	Partially 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
Landscape and Visual Mitigation Measures				
Table 6.5	**Construction Phase**			

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
	During construction within the Project Boundary.	• 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
		• 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
		• 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

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		Waste Management Measures		
7.6.2 to 7.6.4	Within the boundaries of all construction sites.	• 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 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.	Contractor	Implemented
		• 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
7.6.5 to 7.6.6		• 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
		• 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
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	• 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	Contractor	Implemented

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
	during construction activities.	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 enclosed containers.		
7.6.10		• 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	Partially Implemented
7.6.11 to 7.6.14		• 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
		• 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
		• 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
		• Paving bricks arising from existing pavement should be recycled on site as much as possible.	Contractor	Not Applicable
		• Existing marginal roadside barriers comprise pre-cast units should be reused in the following widening works as much as possible,	Contractor	Not Applicable
		• 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

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		• 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		• 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:		
		• be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;	Contractor	Implemented
		• 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	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	Contractor	Implemented

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EIA Review Ref	Location	Environmental Protection Measures/	Implementation Agent	Implementation Status in Construction Phase
		impacts. The burning of refuse on construction sites is prohibited by law.		
		• 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	Not Observed
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	Partially Implemented
		• 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	*General Condition*			
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 ant 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 / Partially Implemented / Not Implemented / Not Observed / Not Applicable

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Appendix K

Weather and Meteorological Conditions during Reporting Month

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Date	Mean Pressure (hPa)	Air Temperature			Mean Relative Humidity (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)		
April 2019						
01	1019.3	21.6	20.3	19.7	81	Trace
02	1018.2	23.0	20.7	18.9	76	Trace
03	1016.9	25.7	22.8	20.7	80	Trace
04	1016.7	23.8	21.7	20.4	83	Trace
05	1014.5	27.4	24.0	20.9	76	0.0
06	1013.0	28.1	25.1	22.4	79	0.0
07	1012.5	28.0	25.7	23.7	80	0.0
08	1011.6	29.9	26.7	25.1	80	0.0
09	1011.1	28.9	26.6	25.5	81	0.0
10	1010.9	30.1	27.1	25.3	80	0.0
11	1010.0	29.9	27.3	25.3	81	0.7
12	1013.3	25.2	22.3	21.0	89	6.1
13	1014.3	22.3	21.2	20.3	92	3.8
14	1013.8	24.4	22.7	21.9	90	10.4
15	1014.4	23.1	22.1	20.9	85	1.1
16	1012.6	23.6	21.2	19.5	91	9.2
17	1012.2	26.1	23.5	21.5	85	0.0
18	1010.0	25.0	24.0	23.0	90	6.7
19	1007.7	28.6	23.7	21.3	93	75.8
20	1007.2	26.2	23.3	21.9	95	43.6
21	1008.0	30.1	26.2	23.2	88	0.3
22	1009.3	30.1	27.5	25.6	84	0.0
23	1010.4	31.0	28.0	26.0	81	0.0
24	1009.9	31.2	28.0	26.2	78	0.0
25	1009.3	31.1	28.5	26.4	77	0.0
26	1010.4	31.5	28.4	26.2	81	0.9
27	1012.8	26.4	24.9	22.3	86	16.6
28	1013.2	26.9	24.3	22.7	89	3.1
29	1010.9	29.2	26.4	24.7	86	0.0
30	1008.0	28.8	26.7	25.3	81	Trace

Source: Hong Kong Observatory

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Appendix L

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

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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 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	4/3/2019

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						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

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Cumulative Statistics on Complaints

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date
Air	0	0	0
Noise	3	0	3
Water	0	0	0
Waste	0	0	0
Total	0	0	0

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

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Appendix M

Summary of Site Audit in the Reporting Month

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Summary of Site Audit in the Reporting Month

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	No deficiency was found during the reporting month.		
Noise	No deficiency was found during the reporting month.		
Water Quality	4 April 2019	Observation: 1. Leaves and waste materials in temporary u-drain in Zone 3 shall be removed.	Leaves and waste were removed from the temporary drainage on 4/4/2019.
	11 April 2019	Observation: 1. Clear leaves and waste at the drainage channel near paved area (entrance/exit) in Zone 3.	Leaves and waste at discharge point was cleared on 12/4/2019.
	18 April 2019	Reminder: 1. Sandbags shall be placed near road side in Zone 5 opposite to Wo Che Estate. 2. Trial pits shall be covered before holiday.	NA
	24 April 2019	Observation: 1. Sandbags / additional cover shall be provided for the trenches in Zone 3.	Sandbags were provided for the trenches on 30/4/2019.
Chemical and Waste Management	4 April 2019	Observation: 1. Chemical shall be placed on drip tray and designated storage area. 2. Spill kit shall be provided for the chemical in Zone 3.	Chemicals were placed in designated storage area and spill kits were provided on 6/4/2019.
	11 April 2019	Reminder: 1. Provide drip tray for chemicals or place them at storage. 2. Clean up of tree branches stockpile	NA
	18 April 2019	Observation: 1. Water trapped on tarpaulin cover shall be removed.	Stagnant water was cleared on 18/4/2019.
	24 April 2019	Reminder: 1. Cans await recycling should not be stored in chemical waste cabinet.	NA
Land Contamination	No deficiency was found during the reporting month.		
Landscape and Visual Impact	No deficiency was found during the reporting month.		
General Condition	No deficiency was found during the reporting month.		

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