Date: 11 October 2023
Your ref:
Our ref: PL-202310009

Architectural Services Department
40/F, Queensway Government offices
66 Queensway, Hong Kong

Attn: Mr. Vincent Kwok

Dear Mr. Kwok,

Re: Contract No. SS K/509
Provision of Independent Environmental Checker Consultancy for Design and Construction of Kong Nga Po Police Training Facilities
Verification of Monthly EM&A Report (September 2023)

Reference is made to the Monthly EM&A report (September 2023) provided by ET via email on 6 October 2023.

Please be informed that we have no adverse comments on the Monthly EM&A report (September 2023). We hereby verify the submission is in accordance with Condition 3.4 of Environmental Permit No. FEP-01/510/2016.

Thank you for your attention.

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

Ir Y.H .LAW
Independent Environmental Checker

c.c. Ka Shing Management Consultancy Ltd.

Acuity Sustainability Consulting Limited
Flat/RM E, 12/F, Ford Glory Plaza,
Nos. 37-39 Wing Hong Street, Kowloon, Hong Kong
tel +852 2698 6833
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http www.acuityhk.com | www.aurecongroup.com

Provision of Environmental Team consultancy for Design and Construction of Kong Nga Po Police Training Facilities (Programme No. 279LP)

Monthly Environmental Monitoring and Audit Report for September 2023 (Version 1)

REMARKS:

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

Ka Shing accepts no responsibility for changes made to this report by third parties.

Ka Shing Management Consultancy Ltd. www.ka-shign.net
Unit 2, 13/F Kai Yue Commercial Building, 2C Argyle St,
Mong Kok, Kowloon

Our ref: 06-10-2023

06-10-2023

By email: kwokhw@archsd.gov.hk

Architectural Services Department
40/F, High Block, Queensway Government Offices,
66 Queensway, Hong Kong
(Attn: Mr. Vincent Kwok)

Dear Mr. Kwok,

Re: Quotation No. PMB202/8480/2022/A01/A
Provision of Environmental Team consultancy for Design and Construction of Kong Nga Po Police Training Facilities (Programme no. 279LP)
-Submission of the monthly EM&A report in September 2023

We refer to the Environmental Permit No. FEP-01/510/2016 for the captioned project.

Subject to the accuracy and authenticity of all the information provided to us, we hereby certify, in accordance with Conditions 3.4 of Environmental Permit No. FEP-01/510/2016, that the information is a representation of what it signifies.

Thank you very much for your attention and please feel free to contact Mr. Lee at 9382 4204 should you require further information.

Yours faithfully,

For and on behalf of
Ka Shing Management Consultant Limited

Mr. W. H. Lee
Environmental Team Leader

cc Acuity Sustainability Consulting Limited — Mr. Law — By email: Law.Law@aurecongroup.com
China State Joint Venture — Ms. Marian Kong — By email: malai.kong@cohl.com

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EXECUTIVE SUMMARY

Introduction

1. This is the 6th monthly Environmental Monitoring and Audit (EM&A) Report for the Project of Police Facilities in Kong Nga Po under Environmental Permit No. FEP-01/510/2016. This report was prepared by Ka Shing Management Consultancy Ltd. (Ka Shing) under "Service Contract Quotation No. PMB202/8480/2022/A01/A Provision of Environmental Team consultancy for Design and Construction of Kong Nga Po Police Training Facilities" (hereinafter called the "Service Contract"). This report documents the findings of Environmental Monitoring and Audit (EM&A) work conducted from 1st to 30th September 2023.

2. Part of the construction site was handed over to Architectural Services Department (ArchSD) on 23rd December 2022 whom taken over responsibility for the construction of building works and as maintenance agent for Hong Kong Police Force (HKPF) during operation phase.

3. During the reporting month, the following Works Contracts were undertaken for the Project of Police Facilities in Kong Nga Po under Environmental Permit No. FEP-01/510/2016: Contract No. SSK509 - Design and Construction of Kong Nga Po Police Training Facilities

Environmental Monitoring and Audit Progress

4. A summary of the EM&A activities in this reporting month is listed in **Table I** below:

Table I Summary Table for EM&A Activities in the Reporting Month

EM&A Activities	Date
Air Quality Monitoring	06,12,18,22,28 September 2023
Noise Monitoring	06,12,18,28 September 2023
Ecological Monitoring	29 September 2023
Environmental Site Inspection	5,12,20,26 September 2023
landscape & Visual Inspection and the Ecological Monitoring	5, 20, 25 September 2023

Breaches of Action and Limit Levels

5. Summary of the environmental exceedances of the reporting month is tabulated in Table II.

Air Quality

6. All construction air quality monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

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

Table II Summary Table for Events Recorded in the Reporting Month

Environmental Monitoring	Parameter	No. of Non-Project related Exceedances		No. of Exceedance related to the Construction Works of the Contract		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
Air Quality	1-hr TSP	0	0	0	0	N/A
Noise	$L_{eq(30min)}$	0	0	0	0	N/A

Ecological Monitoring

8. All ecological monitoring was conducted as scheduled in the reporting month. The ecological monitoring result in the reporting month is shown in **Appendix H.**

Environmental Non-Compliance

9. No environmental non-compliance was recorded in the reporting month

Environmental Complaint

10. No environmental complaint was received in the reporting month.

Notification of Summons and Successful Prosecutions

11. No notification of summons or successful prosecutions was received in the reporting month.

Reporting Changes

12. Part of the construction site was handed over to Architectural Services Department (ArchSD) on 23rd December 2022 whom took over responsibility for the construction of building works. So, the site activities and implementation status of environmental mitigation measures related to ArchSD Contract are presented in this Monthly EM&A Report.

Future Key Issues

13. The major site activities for the coming three months include:
    - Open cut excavation
    - Removal of soil
    - Construction of footings
    - Pre-bored socketed-H Piling
    - Mock up construction
    - U.U. Lead in and Pipe Duct Connection

14. Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, noise, water quality and waste management. For the details, please refer to **Appendix A** regarding the anticipated major impacts from the construction works and corresponding recommended mitigation measures.

1 INTRODUCTION

1.1 Ka Shing Management Consultancy Ltd. (Ka Shing) was commissioned by the Architectural Services Department (ASD) as the Environmental Team to undertake the Environmental Monitoring and Audit (EM&A) works for the Project of Police Facilities in Kong Nga Po under Environmental Permit No. FEP-01/510/2016 to ensure that the environmental performance of the Works Contracts comply with the requirements specified in the Environmental Permits (EPs), Environmental Impact Assessment (EIA) Report and Environmental Monitoring & Audit (EM&A) Manual of the Police Facilities in Kong Nga Po Project and other relevant statutory requirements.

1.2 The major construction works for the Project commenced on 3rd July 2020 and the main site in Kong Nga Po was handed over to Architectural Services Department (ASD) on 23rd December 2022 whom taken over responsibility for the construction of building works and as maintenance agent for Hong Kong Police Force (HKPF) during operation phase.

Purpose of the report

1.3 This is the 6th EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from 1st to 30th September 2023.

Structure of the report

1.4 The structure of the report is as follows:

Section 1: Introduction - purpose and structure of the report.

Section 2: Project Information – summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.

Section 3: Air Quality Monitoring – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event /Action Plans.

Section 4: Noise Monitoring – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event/Action Plans.

Section 5: Ecological Monitoring – summarises the monitoring results of the monthly ecological monitoring undertaken within the reporting month.

Section 6: Landscape and Visual Monitoring – summarises the audit results of the site inspection undertaken within the reporting month.

Section 7: Environmental Site Inspection – summarises the audit findings of the weekly site inspections undertaken within the reporting month.

Section 8: Environmental Non-conformance – summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.

Section 9: Future Key Issues – summarises the impact forecast for the next three months and monitoring schedule in the next month.

Section 10: Conclusions and Recommendations

2 PROJECT INFORMATION

Background

2.1 The Project mainly includes construction and operation of various police facilities. The police facilities include:

(i) a helipad;

(ii) two firing ranges; and

(iii) other facilities, associated infrastructure & utilities, etc.

2.2 The Project is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO). An Environmental Impact Assessment (EIA) Report (Report No.: AEIAR-201/2016) for the Project was approved under EIAO in October 2016 in accordance with the EIA Study Brief (No. ESB-276/2014) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The corresponding Environmental Permit was issued (EP no.: FEP-01/510/2016) by the Director of Environmental Protection (DEP).

2.3 According to an approved Environmental Monitoring and Audit (EM&A) Manual, an air quality and noise monitoring programme is recommended during the construction phases of the Project to monitor the expected dust and noise nuisances. Baseline air quality and noise monitoring were conducted by previous ET (Wellab Limited) from 14th March 2020 to 2nd April 2020 to establish the background conditions of the designated sensitive receivers prior to the commencement of the Project's construction works.

2.4 The site layout plan for the Project is shown in **Figure 1**.

Project Organization

2.5 Different parties with different levels of involvement in the Project organization under EP no.: FEP-01/510/2016 include:

Project Proponent – Architectural Services Department (ArchSD)

Contractor– China State JV

Environmental Team (ET) – Ka Shing Management Consultancy Ltd.

Independent Environmental Checker (IEC) – Acuity Sustainability Consulting Limited

2.6 The key personnel contact names and numbers under Quotation No. PMB202/8480/2022/A01/A and the other contact names and numbers under ArchSD Contract No. SSK509 are summarised in Table 2.1.

Table 2.1 Key Contacts of the Project

Party	Role	Contact Person	Phone No.	Fax No.
Architectural Services Department	Project Proponent	Mr. Vincent Kwok	2867 3939	3542 5223

Contractor (China State JV)	Site Agent	Mr. Kelvin Chan	6272 8828	2866 6325
	Senior Environmental Officer	Ms. Marian Kong	6174 9735	2866 6325
Ka Shing Management Consultancy Ltd.	ETL	Mr. W.H. Lee	2618 2166	2120 7752
Acuity Sustainability Consulting Limited	IEC	Ir. Y.H. Law	2698 6833	2698 9383

Summary of Construction Works Undertaken During Reporting Month

2.7 The major site activities undertaken in the reporting month included:

- Open cut excavation
- Removal of soil
- Ground Investigation
- Pre-bored socketed-H Piling

Construction Programme

2.8 A copy of Contractors' construction programmes is provided in Appendix A. Considering the major site activities for the coming three months as provided by the Contractor, the potential seriousness of the forthcoming environmental impacts and the use of machineries are recognized and outlined in **Appendix O**

2.9 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in Table 2.2

Table 2.2 Status of Environmental Licences, Notifications and Permits

Permit / Licence No.	**Valid Period**		**Status**
	From	**To**	
Further Environmental Permit (FEP)			
FEP-01/510/2016	N/A	N/A	Valid
Construction Noise Permit (CNP)			
GW-RN0692-23	02-07-2023	01-10-2023	Valid
GW-RN0882-23 (Renewal)	24-08-2023	23-11-2023	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation			
EPD Ref no.: 487864	N/A	N/A	N/A
Billing Account for Construction Waste Disposal			
Account No. 7046289	18-01-2023	N/A	Valid
Registration of Chemical Waste Producer			
WPN5213-641-C4770-01	18-01-2023	N/A	Valid
Effluent Discharge Licence under Water Pollution Control Ordinance			
WT00043663-2023	21-04-2023	30-04-2028	Valid

Summary of EM&A Requirement

2.10 The EM&A programme requires construction noise monitoring, air quality monitoring, ecological monitoring and environmental site audits. The EM&A requirements are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event / Action Plans;
- Environmental mitigation measures, as recommended in the Project EIA study final report; and
- Environmental requirements in contract documents.

Status of Compliance with Environmental Permits Conditions

2.11 The status of compliance with Environmental Permit (EP) No. FEP-01/510/2016 and required submission related to this Project under the EP is summarized in **Table 2.3**:

Table 2.3 Summary Table for Status of Compliance / Required Submission under FEP No. FEP-01/510/2016

EP Conditions	Submission	Submission Date	Approval Status
1.12	Commencement date of construction of the Project	30/3/2023	*
2.7	Proposal on the Reporting Mechanism and Curriculum Vitae of the IEC	20/3/2023	*
2.10	The date of setting up the Community Liaison Hotline and the contact details	27/2/2023	*
2.11	Management Organization of Main Construction Companies, at least an organization chart, names of responsible persons and their contact details	10/3/2023	*
2.12	Construction Works Schedule and Location Plans	10/3/2023	*
2.13	Layout plan for permeable pavings	29/3/2023	For approval
2.14	Landscape and visual mitigation plan	26/6/2023	For approval
2.16	Plan for perimeter walls/ boundary wall sat project site and sidewalls of firing range	1 month before fence wall works	For approval
2.19	Submission of Helicopter Flight Plan	1 month before commencement of operation of Helipad	Notification
3.3	Baseline Air Quality and Noise Monitoring Report	30/3/2023	Deposit

4.2	Internet address of a dedicated web site	13/4/2023	*

Remarks: * Approval not required in FEP-01/510/2016

3 AIR QUALITY MONITORING

Monitoring Requirements

3.1 In accordance with the EM&A Manual, impact 1-hour TSP monitoring was conducted to monitor the air quality for the Works Contracts. **Appendix B** shows the established Action/Limit Levels for the air quality monitoring works.

3.2 Impact 1-hour TSP monitoring was conducted for at least three times every 6 day at one air quality monitoring station.

Monitoring Location

3.3 According to Section 2.2.5 of the EM&A Manual, impact air quality monitoring was conducted at the two designated monitoring stations for the Project as shown in Figure 2. Table 3.1 describes the location of the air quality monitoring stations.

Table 3.1 Location for Air Quality Monitoring Stations

Monitoring Station	Location of Measurement
AM1	Village House, Kong Nga Po
AM2	Village House, Kong Nga Po

Monitoring Equipment

3.4 As the setup of HVS for 1-hour TSP monitoring at the designated locations and request for secured supply of electricity for HVS were not allowed by the villager, direct reading dust meters was therefore used to carry out the 1-hour TSP monitoring. Dust meter has been commonly used for measuring 1-hour TSP levels in a number of designated projects of major infrastructure works. The proposed use of direct reading dust meter was submitted to IEC and agreed by the IEC. With the use of direct reading dust meter, it can allow prompt and direct results for the EM&A reporting and the implementation of the event and action plan. The 1-hour sampling was determined on bi-monthly basis by the HVS to check the validity and accuracy of the results measured by direct reading method.

3.5 **Table 3.2** summarises the equipment used in the impact air quality monitoring programme. Copies of calibration certificates are attached in **Appendix C**.

Table 3.2 Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Dust Monitor	SIBATA (LD-3B)	2

3.6 Meteorological information was extracted from "Hong Kong Observatory - General Weather Conditions during the Monitoring Period (September 2023)" in **Appendix G** as the alternative method to obtain representative wind data.

3.7 The weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staff as well during the monitoring days.

Monitoring Parameters, Frequency and Duration

3.8 **Table 3.3** summarises the monitoring parameters and frequencies of impact dust monitoring during the Works Contracts activities. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

Table 3.3 Impact Dust Monitoring Parameters, Frequency and Duration

Parameters	Frequency
1-hr TSP	Three times/ 6 days

Monitoring Methodology and QA/QC Procedure

1-hour TSP Air Quality Monitoring

Instrumentation

3.9 Direct reading dust meter was deployed for the air quality monitoring as shown in **Table 3.2**.

3.10 The measuring procedures of the dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

- When the Model LD-3B is turned on, the set time displayed at the bottom left of the liquid crystal display is [01 min].

- When the start/stop switch is pressed once at this time, a measurement of 1minute is taken. The length of the measurement will depend on the time that is set and displayed.

- A down timer is displayed at the bottom right of the liquid crystal display

Maintenance/Calibration

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

- Check and calibrate the dust meter by High Volume Sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. Calibration of dust meter

should be carried out on a bi-monthly basis throughout all stages of the air quality monitoring.

- The correlation of dust meter and HVS in TSP measurement was obtained by direct comparison of the weight of dust particle trapped in a filter paper using HVS with the reading of the dust meter. Calibration of the dust meter with HVS should be powered on and off at the same location and the same time.
- The correlation coefficient was checked to establish the correlation relationship between the dust meter and HVS. The correlation factor was determined by comparing the results of HVS and dust meter.
- Checking is made prior to dust monitoring commencing to ensure all equipment is in good working condition with necessary power supply. Zero count test were conducted before and after each monitoring event.

Results and Observations

3.12 The monitoring results for 1-hour TSP monitoring are summarised in **Table 3.4**. Detailed monitoring results and graphical presentations of 1-hour TSP monitoring results are shown in **Appendix E**.

Table 3.4 Summary Table of 1-hour TSP Monitoring Results during the Reporting Month

Monitoring Station	**Concentration ($\mu g/m^3$)**		**Action Level, $\mu g/m^3$**	**Limit Level, $\mu g/m^3$**
	Average	**Range**		
AM1	67	58 – 75	308	500
AM2	79	73 – 84	311	

3.13 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedances were recorded.

3.14 According to our field observations, the major dust source identified at the designated air quality monitoring stations in the reporting month are shown in **Table 3.5**

Table 3.5 Observation at Dust Monitoring Stations

Monitoring Station	**Major Dust Source**
AM1	Road traffic, exposed site area, site vehicle / equipment operation and movement
AM2	Road traffic, exposed site area, site vehicle / equipment operation and movement, vehicle / equipment operation and movement at warehouse nearby

Event and Action Plan

3.15 Should project-related non-compliance of the criteria occur, action in accordance with the Event Action Plan in **Appendix I** shall be carried out.

4 NOISE MONITORING

Monitoring Requirements

4.1 In accordance with EM&A Manual, construction noise monitoring was conducted in terms of the A-weighted equivalent continuous sound pressure level (Leq) to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and one set of measurements between 0700 and 1900 hours on normal weekdays shall be conducted. **Appendix B** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Location

4.2 According to Section 3.2.3 of the EM&A Manual, impact noise monitoring was conducted at fourteen designated noise monitoring stations. With reference to the principle of EIA report of the Project, noise monitoring station within 300 m from the boundary of this Project are considered. In such regard, six noise monitoring stations as shown in **Figure 3** as relevant monitoring locations. Table 4.1 describes the locations of the noise monitoring stations.

Table 4.1 Location of Noise Monitoring Stations

Monitoring Station	Location of Measurement
NM9	Village House, Kong Nga Po
NM10	Village House, Kong Nga Po
NM11	Village House, Kong Nga Po
NM12	Village House, Kong Nga Po
NM13	Village House, Kong Nga Po
NM14	Village House, near Man Kam To Road

Monitoring Equipment

4.3 Integrating Sound Level Meters were used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (Leq) and percentile sound pressure level (Lx) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 4.2** summarises the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix C**.

Table 4.2 Noise Monitoring Equipment

Equipment	**Model**	**Quantity**
Sound Level Meter	RION NL-52	1
Sound Calibrator	RION NC-73	1

Monitoring Parameters, Frequency and Duration

4.4 **Table 4.3** summarises the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**.

Table 4.3 Noise Monitoring Parameters, Duration and Frequency

Monitoring Stations	Parameter	Duration	Frequency	Measurement
NM9	L10(30 min.) dB(A)[2] L90(30 min.) dB(A)[2] Leq(30 min.) dB(A)[2] (as six consecutive Leq, 5min readings)	0700-1900 hrs on normal weekdays	Once per week	Free field[1]
NM10				Free field[1]
NM11				Façade
NM12				Façade
NM13				Free field[1]
NM14				Free field[1]

Remarks:

[1]: Correction of +3dB (A) for Free-field Measurement.

[2]: A-weighted equivalent continuous sound pressure level (Leq). It is the constant noise level which, under a given situation and time period, contains the same acoustic energy as the actual time-varying noise level.

L10 is the level exceeded for 10% of the time. For 10% of the time, the sound or noise has a sound pressure level above L10.

L90 is the level exceeded for 90% of the time. For 90% of the time, the noise level is above this level.

Monitoring Methodology and QA/QC Procedures

4.5 The monitoring procedures are as follows:

- The sound level meter was set on a tripod at a point 1m from the exterior of the noise sensitive facade and at the position of 1.2m above the ground;
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. Free field noise levels were adjusted with a correction of +3 dB(A);
- The battery condition was checked to ensure the correct functioning of the meter;
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

— frequency weighting : A

— time weighting : Fast

— time measurement : Leq(30 min.) dB(A)

(as six consecutive Leq, 5min readings) during non-restricted hours (i.e. 0700-1900 hrs on normal weekdays)

- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more

than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re- calibration or repair of the equipment;

- During the monitoring period, the Leq, L90 and L10 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible and observation record during measurement period should be provided; and
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. The wind speed should be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Maintenance and Calibration

4.6 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

4.7 The sound level meter and calibrator were checked and calibrated at yearly intervals.

4.8 Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements would be accepted as valid only if the calibration levels before and after the noise measurement agreed to within 1.0 dB.

Results and Observations

4.9 The noise monitoring results are summarised in Table 4.4. Detailed monitoring results and graphical presentations of noise monitoring are shown in **Appendix F**. The weather information for the reporting month is summarised in **Appendix G**.

Table 4.4 Summary Table of Noise Monitoring Results during the Reporting Month

Monitoring Station	Average	Range	Baseline Level	Limit Level
	Leq (30 min) dB(A)	Leq (30 min) dB(A)	dB(A)	dB(A)
NM9[1]	59.0	56.9 – 62.5	55.9	75
NM10[1]	50.6	47.9 – 53.1	52.8	
NM11	47.8	42.4 – 50.1	46.4	
NM12	48.0	43.7 – 52.5	54.7	
NM13[1]	57.1	52.7 – 63.0	61.3	
NM14[1]	47.1	43.5 – 50.3	59.6	

Remarks:

[1]: Correction of +3dB (A) for Free-field Measurement.

4.10 Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix J**.

4.11 According to our field observations, the major noise sources identified at the designated noise monitoring stations in the reporting month are as follows:

Table 4.5 Observation at Noise Monitoring Stations

Monitoring Station	Major Noise Source
NM9	Road traffic, excavation works, loading & unloading
NM10	Road traffic, excavation works, loading & unloading
NM11	Road traffic
NM12	Road traffic, loading & unloading
NM13	Road traffic, loading & unloading
NM14	Road traffic, dog barking

Event and Action Plan

4.12 Should any project related to non-compliance of the criteria occur, action in accordance with the Event Action Plan in Appendix I shall be carried out.

5 ECOLOGICAL MONITORING

Monitoring of Flora Species of Conservation Interest

5.1 As required under Section 8.3.2 of EM&A Manual, during construction phase, temporary protective fence shall be erected enclosing the flora species of conservation interest identified under the detailed vegetation survey. The temporary protective fence shall be properly maintained and monitored for the effectiveness. Monthly monitoring of individual of flora species of conservation interest identified in the detailed vegetation survey shall be conducted during the construction phase to make sure that the flora species of conservation interest are not affected by the construction activities of the Project.

5.2 The purpose of the monitoring is to monitor the timely implementation of proper environmental management practices and mitigation measures for the retained and transplanted individuals of flora species of conservation interest. Proper erection and maintenance of the temporary protective fence enclosing the individuals was inspected for the effectiveness. The recommended protection measures in the implementation schedule as stated in approved transplantation proposal were monitored and the conditions of the individuals of flora species of conservation interest were recorded as shown in Table 5.1.

5.3 According to the approved detailed vegetation survey report and transplantation proposal, 71 individuals of Brainea insignis, 41 individuals of Spiranthes sinensis and 3 individuals of Aquilaria sinensis were identified to be transplanted to the receptor site. 51 individuals of Keteleeria fortunei, 26 undersized seedlings of Keteleeria fortunei and 7 undersized seedlings of Aquilaria sinensis were identified to be retained along Kong Nga Po Road near Police Dog Unit and Force Search Unit Training School.

Post-Transplantation Monitoring and Maintenance Programme

5.4 According to approved transplantation proposal, post-transplantation monitoring should be conducted by the Contractor once per week in the first three months and once per month afterwards during the 12-month establishment period and the post-establishment period until the end of construction phase of the Project. Regular monitoring allows early detection of the growth status of transplanted species, sign of construction activity within and nearby the receptor site, and any environmental change of the receptor site.

5.5 Maintenance works were recommended for the first year of establishment to allow health growth of the transplanted species. In view of the condition of transplanted individuals after the 12-month establishment period, maintenance works were recommended to extend during the Post-establishment Period until the end of Construction Phase. Watering was recommended in daily practice during the first three months after the transplantation and

during the dry season. Watering frequency may be reduced to at least twice a week and adjusted based on the plant condition to keep the soil moist. Other maintenance works like the use of mulch and weeding shall be conducted if required.

Results and Observations

5.6 Monthly monitoring of flora species of conservation interest was conducted by the Contractor on 29th September 2023 during the reporting month. The implementation status of protection measures as stated in the approved transplantation proposal and the maintenance of temporary protective fence were inspected. The implementation status of protection measures is shown in **Table 5.1** and photographic record and checklists for monthly monitoring are shown in **Appendix H**. The health conditions of the transplanted / retained species are generally in fair and poor condition. The Contractor was reminded to closely monitor the transplanted species and implement the protection measures according to the approved transplantation proposal to protect the transplanted / retained species. In addition, the Contractor was also advised of the following:

1) To arrange the new tags for those Brainea insignis with missing tags;
2) To replace the faded plant labels identified in the receptor site.
3) To refer to the guidelines on soil improvement issued by the Greening, Landscape and Tree Management Section (GLTMS) of the development bureau (2022) to apply to monitoring and maintenance of transplanted flora species.
4) To install shaded nets

Transplanted *Brainea insignis and Spiranthes sinensis*

5.7 71 individuals of Brainea insignis and 41 individuals of Spiranthes sinensis were transplanted to receptor site from 21st to 26th May 2020. Transplantation Report recording the process of transplantation has been submitted to ET(Wellab), IEC(Acuity) and the Supervisor (AECOM) for review and record. Post-transplantation monitoring was conducted once per week in the first three months (June to August 2020) and once per month during the 12-month establishment period and the post-establishment period until the end of construction phase of the Project. The health condition of the transplanted species was monitored by the Contractor. The Contractor provided maintenance works including watering, use of mulch and weeding in the first year of establishment to allow health growth of the transplanted species. Post-transplantation monitoring on transplanted Brainea insignis and Spiranthes sinensis was conducted on 29th September 2023 during the reporting month and the post-transplantation monitoring record is shown in **Appendix H**. The health condition of the transplanted Brainea insignis affected by bushfire on 2nd February 2021 was closely monitored and reported in the post-transplantation monitoring records. The health conditions of the retained species are generally in fair condition. The Contractor was reminded to closely monitored the retained species and implemented the protection measures to protect the retained species.

5.8 During monthly monitoring, no construction activity and equipment storage was observed within the receptor site. Temporary protective fence was properly erected and maintained for the transplanted species.

Table 5.1 Implementation Status of Protection Measures for Flora Species of Conservation Interest

Recommended Mitigation Measures	Implementation Status
Brainea insignis	
Identification of Plant Species of Conservation Importance to be Retained / Transplanted	^
To mark trees/plants proposed to be retained and to be transplanted on the layout plan prior to commencement of site construction works.	
Protection of Plant Species of Conservation Importance prior to Site Clearance / Transplantation Works	
a) No site clearance shall be started at the locations of flora species of conservation interest until the transplantation works completed.	**N/A**
b) Set up buffer zone to enhance the protection of flora species of conservation importance to be preserved / transplanted including the proposed location for transplantation when the site clearance works shall commence before the transplantation works completed.	**N/A**
Temporary Protective Fence for Flora Species of Conservation Interest / Retained Tree	
a) To erect a temporary protective fence enclosing the flora species of conservation interest identified under the detailed vegetation survey.	^
b) To set up a protection zone at least 1m from the plant / retained tree and erect robust, bright-coloured fencing of 1.5m in height.	^
Maintenance of the Protection Zone for Flora Species of Conservation Interest / Retained Tree	
a) Monthly monitoring of flora species of conservation interest identified in the detailed vegetation survey should be conducted.	^
b) To inspect the temporary protective fence whether it is properly erected and maintained during construction.	^
Post-transplantation Monitoring	
a) Weekly post-transplantation monitoring of transplanted species in the first three months and monthly afterwards.	^
Maintenance of Transplanted Species	
a) To keep the soil moist by watering the receptor sites properly and adequately.	^
b) To apply mulches on the soil surface over the plant root system, if required.	^
c) To remove unwanted weeds found in receptor sites.	^
Other Protection Measures for Flora Species of Conservation Interest / Retained Tree / Vegetated Areas	
a) All works should be confined within the site boundary.	^
b) Access of site staff should be controlled.	^
c) Care should be taken to prevent trees/plants being damaged by mechanical equipment or stockpile both during site clearance works and construction works.	^
d) No fixings should be driven into trees/plants.	^

e) No workshop, canteens, or similar should be installed beneath trees/plants, nor will equipment maintenance etc. be carried out under trees/plants.	^
f) No excavation, including that for services or changes in ground level will take place within the spread of the crown of the trees / plants.	^
g) No soil, debris or construction materials should be deposited around and against the trunk of a tree/plant as this causes bark damage and compaction of the soil.	^
h) No fire should be lit below the branches and no petrol, oil or caustic substances stored near the trees/plants.	^
i) No trees/plants should be used for anchoring or winching purposes or for the display of signs.	^
j) Any damage or injury to the retained / transplanted plants should be reported as soon as possible for repair immediately.	^
Spiranthes sinensis	
Identification of Plant Species of Conservation Importance to be Retained / Transplanted	
To mark trees/plants proposed to be retained and to be transplanted on the layout plan prior to commencement of site construction works.	^
Protection of Plant Species of Conservation Importance prior to Site Clearance / Transplantation Works	
a) No site clearance shall be started at the locations of flora species of conservation interest until the transplantation works completed.	**N/A**
b) Set up buffer zone to enhance the protection of flora species of conservation importance to be preserved / transplanted including the proposed location for transplantation when the site clearance works shall commence before the transplantation works completed.	**N/A**
Temporary Protective Fence for Flora Species of Conservation Interest / Retained Tree	
a) To erect a temporary protective fence enclosing the flora species of conservation interest identified under the detailed vegetation survey.	^
b) To set up a protection zone at least 1m from the plant / retained tree and erect robust, bright-coloured fencing of 1.5m in height.	^
Maintenance of the Protection Zone for Flora Species of Conservation Interest / Retained Tree	
a) Monthly monitoring of flora species of conservation interest identified in the detailed vegetation survey should be conducted.	^
b) To inspect the temporary protective fence whether it is properly erected and maintained during construction.	^
Post-transplantation Monitoring	
a) Weekly post-transplantation monitoring of transplanted species in the first three months and monthly afterwards.	^
Maintenance of Transplanted Species	
a) To keep the soil moist by watering the receptor sites properly and adequately.	^
b) To apply mulches on the soil surface over the plant root system, if required.	^
c) To remove unwanted weeds found in receptor sites.	^
Other Protection Measures for Flora Species of Conservation Interest / Retained Tree / Vegetated Areas	
a) All works should be confined within the site boundary.	^
b) Access of site staff should be controlled.	^
c) Care should be taken to prevent trees/plants being damaged by mechanical equipment or stockpile both during site clearance works and construction works.	^

d) No fixings should be driven into trees/plants.	^
e) No workshop, canteens, or similar should be installed beneath trees/plants, nor will equipment maintenance etc. be carried out under trees/plants.	^
f) No excavation, including that for services or changes in ground level will take place within the spread of the crown of the trees / plants.	^
g) No soil, debris or construction materials should be deposited around and against the trunk of a tree/plant as this causes bark damage and compaction of the soil.	^
h) No fire should be lit below the branches and no petrol, oil or caustic substances stored near the trees/plants.	^
i) No trees/plants should be used for anchoring or winching purposes or for the display of signs.	^
j) Any damage or injury to the retained / transplanted plants should be reported as soon as possible for repair immediately.	^

Implementation status:	^	Mitigation measure was fully implemented
	*	Observation/reminder was made during monitoring but improved/rectified by the contractor
	#	Observation/reminder was made during monitoring but not yet improved/rectified by the contractor
	X	Non-compliance of mitigation measure
	•	Non-compliance but rectified by the contractor
	N/A	Not Applicable at this stage as no such site activities were conducted in the reporting period

Precautionary Measure for Butterfly Species of Conservation Interest

5.9 According to FEP Condition 2.17, with consideration of minimizing impact on butterfly species of conservation interest, the re-establishment of the new grassland areas in the Project site shall be enhanced, through planting of appropriate plant species which are the larval food plants of butterfly species of conservation interest such as Small Three-Ring, in order to benefit these species.

5.10 The re-establishment of grassland areas in the Project shall be implemented before Commencement of Operation of the Project. Details of the plant species as larval food plants of butterflies including design and implementation arrangement will be further submitted under ArchSD's building works contract.

Precautionary Measures to Minimize Indirect Disturbance on Ecology

5.11 In accordance with Section 9.7.3 of EIA Report, mitigation measures for air, noise, water, waste and landscape aspects could act as precautionary measures to prevent and minimize any indirect disturbance impact or pollution arisen from the construction activities on the local ecology and offsite habitats. Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures on the Project site and the observations are summarised in Section 7.3.

6 LANDSCAPE AND VISUAL MONITORING

Monitoring Requirements

6.1 The EIA Report has recommended mitigation measures for landscape and visual resources to be undertaken during the construction and operation phases of the Project.

6.2 These measures include the consideration of a number of development options and the provision of mitigation measures to directly offset unavoidable impacts. The measures include strategies for reducing, offsetting and compensating impacts during construction and operation phases according to Section 10.13 in the EIA Report.

6.3 The implementation and maintenance of landscape compensatory planting measures is a key aspect of this and shall be checked to ensure that they are fully realised and that potential conflicts between the proposed landscape measures and any other Project works and operational requirements are resolved at the earliest possible date and without compromise to the intention of the mitigation measures. In addition, implementation of the mitigation measures recommended by the EIA shall be monitored throughout the construction phase site audit programme.

6.4 Bi-weekly inspection of the implementation of landscape and visual mitigation measures was conducted by ET during weekly site audit. The observation and recommendations made during the audit sessions are summarised in Table 7.1. The implementation status is given in **Appendix K.**

7 ENVIRONMENTAL SITE INSPECTION

Site Audits

7.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures on the Contract site.

7.2 Site audits were conducted by ET with the representative of the Engineer's Representative and the Contractor on 5, 12, 20, 26 September 2023 in the reporting month. Site audits with the representative of the Contractor and IEC were carried out on 20th September 2023.

7.3 During site inspections in the reporting month, no non-conformance was identified. The observations and advices made during the audit sessions are summarised in **Table 7.1**.

Table 7.1 Observations of Weekly site Inspection and advices

Parameters	Date	Observations	Advices
Air Quality	--	No environmental deficiency was identified during the reporting month.	--
Construction Noise Impact	--	No environmental deficiency was identified during the reporting month.	--
Water Quality	--	No environmental deficiency was identified during the reporting month.	
Waste/ Chemical Management	--	No environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No environmental deficiency was identified during the reporting month.	--
Ecology	--	No environmental deficiency was identified during the reporting month.	--
Permit /Licences	--	No environmental deficiency was identified during the reporting month.	--
Others	26-9-2023	The amount of waste exceeds the height of the metal container.	A waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials.

Implementation Status of Environmental Mitigation Measures

7.4 According to the EIA Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented

during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix K**.

Solid and Liquid Waste Management Status

7.5 In accordance with the EM&A Manual, waste management was audited during weekly site audit to determine if wastes are being managed in accordance with the Waste Management Plan (WMP) prepared for the Project and the relevant legislative and contractual requirements. Waste management practice including waste handling, storage, transportation, and disposal were audited.

7.6 The Contractor has nominated on-site Environmental Officers to oversee the environmental management, pollution control measures, good site practices and training of site personnel in waste management. Proactive measures have been undertaken to make use of construction and demolition (C&D) materials to minimize the waste generated. On-site sorting and screening of excavated materials have been carried out to recover any recyclable portions. Inert C&D materials were used on-site for backfilling works and hard paving of haul road. In addition, inert C&D materials generated from excavation works were reused as fill materials in other local projects. The surplus inert C&D materials were disposed of at the Government's public fill reception facilities (PFRFs) for beneficial use by other projects. In order to monitor the disposal of inert and non-inert C&D materials and to control fly-tipping, every excavated materials before leaving the site is weighted by a weight bridge and Trip Ticket System is strictly followed.

7.7 The Contractors are advised to minimize the wastes generated through the recycling or reusing. All mitigation measures stipulated in the EM&A Manual and waste management plans shall be fully implemented. The status of implementation of waste management and reduction measures is summarised in **Appendix K.**

7.8 Waste generated from this Project includes inert C&D materials and non-inert C&D materials. Non-inert C&D materials are made up of general refuse and waste that cannot be reused or recycled and has to be disposed of at the designated landfill sites. The amount of wastes generated by the construction works of the Project during the reporting month is shown in **Appendix L**.

8 ENVIRONMENTAL NON-CONFORMANCE

Summary of Exceedances

8.1 No exceedance of Action and Limit Levels of air quality was recorded in the reporting month.

8.2 No exceedance of Action and Limit Levels of construction noise was recorded in the reporting month.

8.3 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that the Action / Limit Levels are exceeded, the actions in accordance with the Event and Action Plans in **Appendix I** be carried out. The summary of exceedance record in reporting month is shown in **Appendix J**.

Summary of Environmental Non-Compliance

8.4 No environmental non-compliance was recorded in the reporting month.

Summary of Environmental Complaint

8.5 There was no environmental complaint received in the reporting month. The Cumulative Complaint Log since the commencement of the Project is presented in Appendix M.

Summary of Environmental Summon and Successful Prosecution

8.6 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix N**.

9 FUTURE KEY ISSUES

Key Issues in the Coming Three Months

9.1 The tentative construction programmes for the Project are provided in **Appendix A**. The major construction activities undertaken in the coming three months will include:

- Open cut excavation
- Removal of soil
- Construction of footings
- Pre-bored socketed-H Piling
- U.U. Lead in and Pipe Duct Connection

9.2 With reference to the site layout plan including the indication of coming three months construction site activities in **Appendix A**, potential environmental impacts arising from the above construction activities are mainly associated with construction dust, noise, water quality, waste management, landscape and visual and ecology. The foreseeable environmental impacts were taken into consideration of the planned mitigation measures in the coming months.

9.3 The mitigation measures to be implemented for the coming three months were proposed by the Contractor and reviewed by ET, IEC and the Engineers through Email, during site audit and SSEMC meeting. The Proactive Environmental Protection Proforma summarizing the major site activities, potential environmental impacts and recommended mitigation measures was reviewed and endorsed by IEC and was shown in **Appendix A**.

9.4 Dust can be generated during construction works and exposed site area during dry weather. To prevent high dust concentrations during the dry weather, the Contractor should pay attention on the air quality mitigation measures as far as practicable to minimise the dust impact to the villages which are located adjacent to the Project works (refer to the layout plan in **Appendix A**). The Contractor was also reminded to follow the Project Implementation Schedule in approved EIA report / EM&A Manual to implement appropriate dust control measure including “Use of regular water spraying (once every 1.25 hours or 8 times per day) to reduce dust emissions from heavy construction activities (including ground excavation, earth moving, etc.) at all active works area exposed site surfaces and unpaved roads, particularly during dry weather and covering 80% of stockpiling area by impervious sheets and spraying all dusty material with water immediately prior to any loading transfer operations to keep the dusty materials wet during material handling at the stockpile areas” as well as the relevant dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation so that no adverse dust impact arising from the Project works site.

9.5 In addition, construction noise is also one of the key environmental issues during construction of the Project. Noise mitigation measures such as using quiet plants and noise barriers should be in place, where applicable. In addition, the Contractor was reminded to frequently check and maintain the acoustic materials wrapped on noisy part of PME and ensure no gaps between noise barriers; proactively identify any potential construction noise impact to NSRs and provide sufficient mitigation measures if necessary; and provide notification to nearby villagers in Kong Nga Po for potential noisy works at works area.

9.6 The Contractor is also recommended to maintain water quality mitigation measures during construction works. The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. Efficient silt removal facilities shall be deployed to ensure all treated effluent from wastewater treatment plant shall meet the requirements as stated in WPCO licences. The site drainage plan shall also be updated based on the site condition and construction programme.

Monitoring Schedule for the Next Month

9.7 The tentative environmental monitoring schedule for the next month is shown in **Appendix D**.

10 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

10.1 This Monthly EM&A Report presents the EM&A work undertaken in September 2023 in accordance with EM&A Manual.

10.2 No Action/Limit Level exceedance was recorded for air quality monitoring in the reporting month.

10.3 No Action/Limit Level exceedance was recorded for construction noise monitoring in the reporting month.

10.4 Environmental site inspections were conducted on 5, 12, 20, 26 September 2023 and landscape and visual monitoring was carried out on 5, 20 September 2023, whereas ecological monitoring was carried out on 25 September 2023 by ETL in the reporting month. No environmental non-compliance was recorded in the reporting month.

10.5 No environmental complaint received in the reporting month. No notification of summons or successful prosecutions was received in the reporting month.

10.6 The ET would keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Recommendations

10.7 According to the environmental audits performed in the reporting month, the following recommendations were made:

Air Quality Impact

- To maintain the cover for stockpile of dusty materials and exposed slope for dust suppression;
- To enhance the dust suppression measures including watering for the dust generation works, exposed site area and haul road;
- To regular check the valid NRMM labels are properly displayed on the regulated machines and non-road vehicles; and
- To maintain the wheel washing facilities provided at every construction site exit where practicable are functioning properly.

Construction Noise

- To keep inspect the noise sources inside the site;
- To keep space out noisy equipment and position the equipment as far away as possible from sensitive receivers; and
- To maintain temporary noise barriers for operations of noisy equipment near the noise sensitive receivers, if necessary.

Water Impact

- To maintain the cover for open stockpile of and exposed slope;
- To keep reviewing and updating temporary drainage system;
- To maintain the earth bunds or sand bag barriers on site to direct stormwater to silt removal facilities;
- To maintain and ensure the silt removal facilities are functioning properly;
- To maintain the wheel washing facilities provided at every construction site exit where practicable are functioning properly; and
- To divert the muddy water at the retention pond to the wetsep for treatment before discharging out.

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site;
- To maintain the drip tray well to prevent oil and chemical leakage; and
- To avoid improper handling, storage and dispose of oil drums or chemical containers on site.

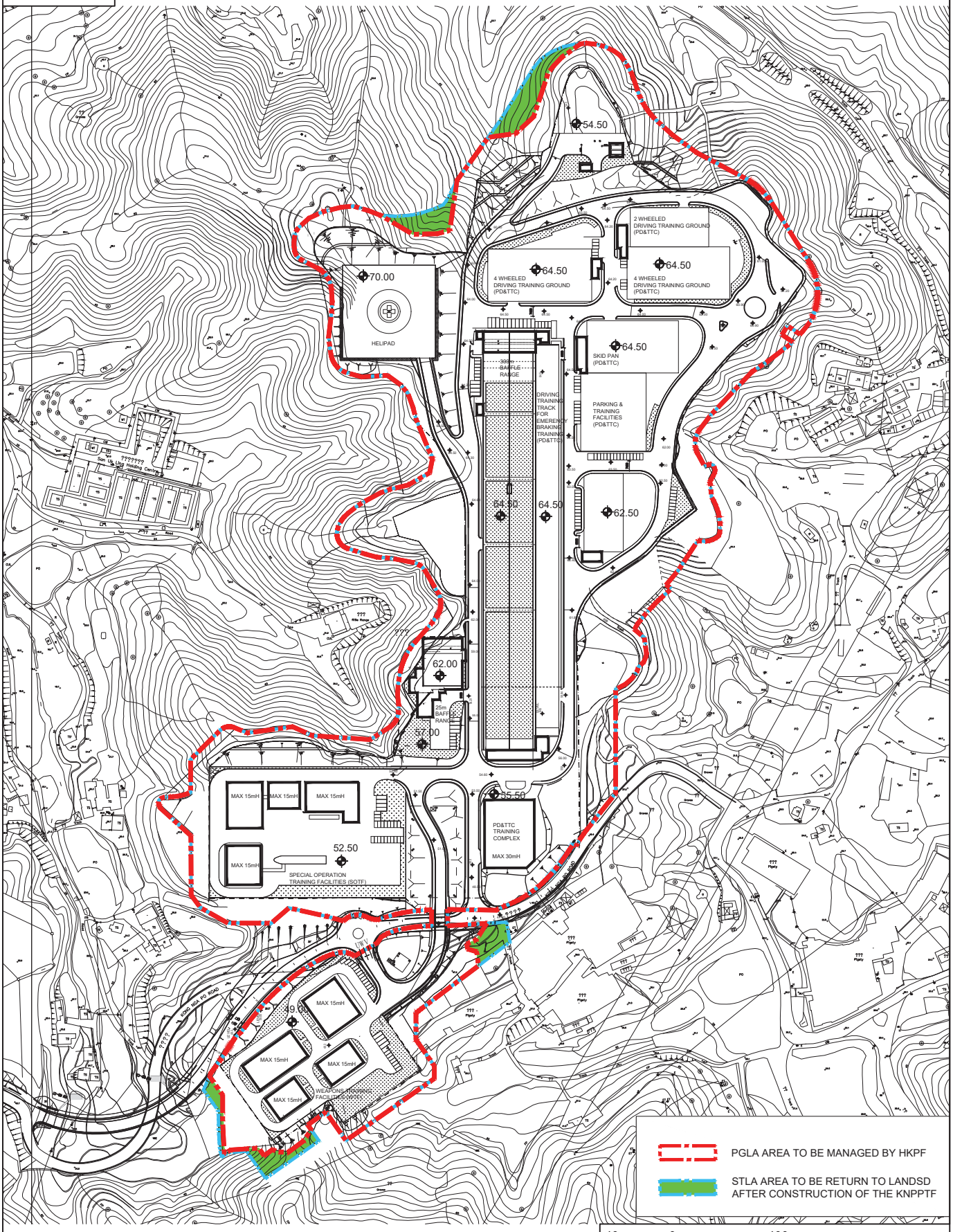
Ecology

- To erect and maintain the protection fence around the retained trees / conservation species;
- To keep the tree protection zone large enough to protect the tress; and
- To remove the construction materials within the tree protection zone.

Landscape and Visual

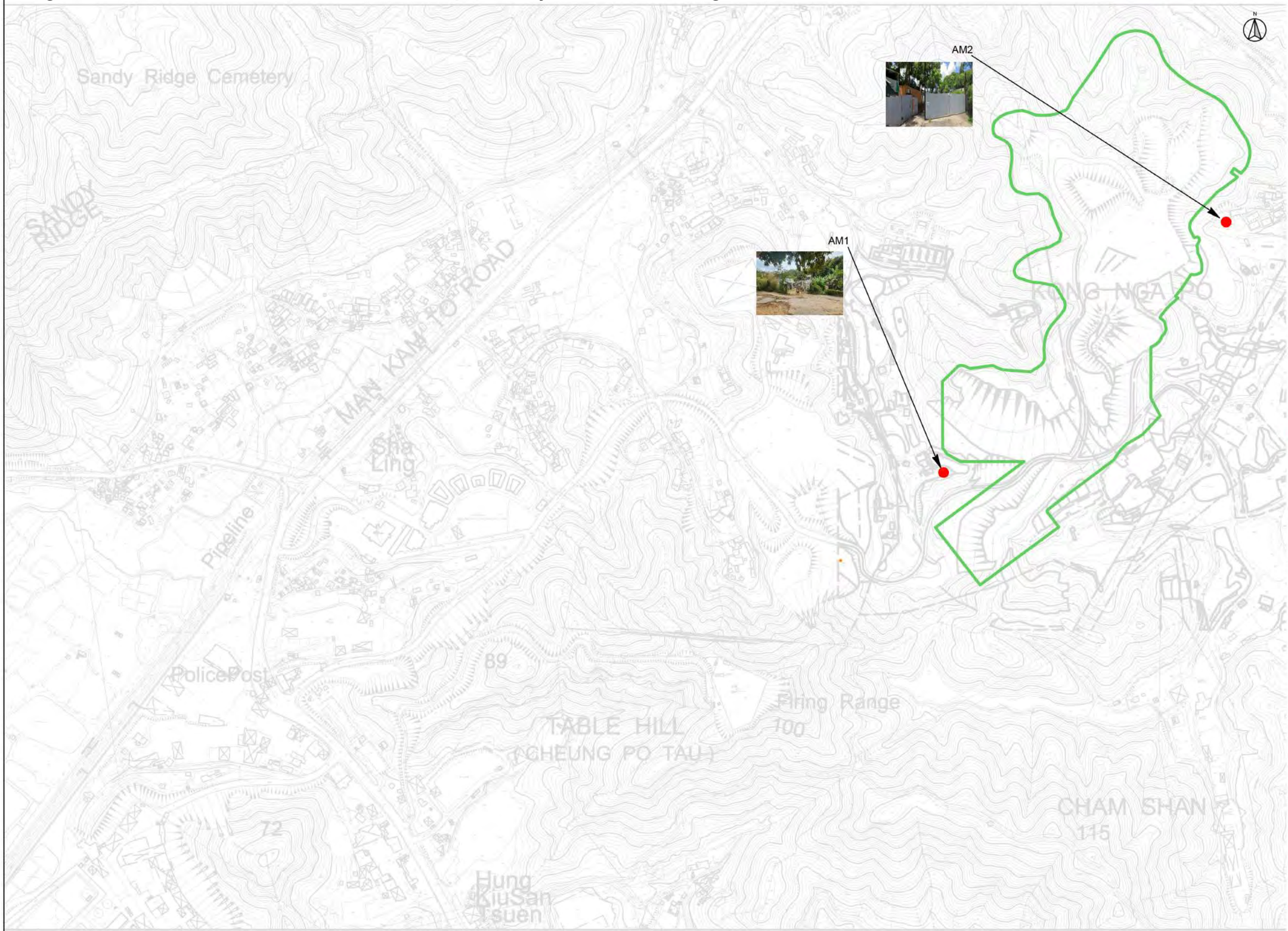
- To erect and maintain the protection fencing and tree protection zone around the preserved trees;
- To remove the construction materials within the tree protection zone; and
- To keep the tree protection zone large enough to protect the tress.

FIGURE(S)



MASTER LAYOUT PLAN	PROJECT CODE: 3279LP PROPOSED MLP FOR KONG NGA PO TRAINING FACILITIES	DRAWING NO. PMB/8480/XA001	SCALE: 1:400 DATE: AUGUST 2021	ARCHITECTURAL SERVICES DEPARTMENT 建 築 署

Figure 2 Location of Air Quality Monitoring Stations



KEY PLAN
SCALE: 1/50000

LEGENDS:

KONG NAG PO SITE BOUNDARY

AIR QUALITY MONITORING STATIONS

AIR QUALITY MONITORING STATIONS	
I.D	Description
AM1	Village House, Kong Nga Po
AM2	Village House, Kong Nga Po

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建築署
Architectural Services Department

Environmental Team

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Rev.	Description	Date
2	SECOND ISSUE	03/2023
1	FIRST ISSUE	03/2023

Project Title

PROVISION OF ENVIRONMENTAL TEAM CONSULTANCY FOR DESIGN AND CONSTRUCTION OF KONG NGA PO POLICE TRANING FACILITIES

Drawing Title

KONG NGA PO ROAD
AIR QUALITY MONITORING STATIONS

Drawing Status

Project Ref. -	File Ref. -
Drawn by JC	Checked by RH
Scale 1:40000	Paper Size A3
Date	Revision -

Drawing Number

KASHING-KNPR-DWG-002

Figure 3 Location of Noise Monitoring Stations

KEY PLAN
SCALE: 1/50000

LEGENDS:
- KONG NAG PO SITE BOUNDARY
- NOISE MONITORING STATIONS

NOISE MONITORING STATIONS	
I.D	Description
NM9	Village House, Kong Nga Po
NM10	Village House, Kong Nga Po
NM11	Village House, Kong Nga Po
NM12	Village House, Kong Nga Po
NM13	Village House, Kong Nga Po
NM14	Village House, near Man Kam To Road

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2	SECOND ISSUE	03/2023
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Project Title
PROVISION OF ENVIRONMENTAL TEAM CONSULTANCY FOR DESIGN AND CONSTRUCTION OF KONG NGA PO POLICE TRANING FACILITIES

Drawing Title
KONG NGA PO ROAD
NOISE MONITORING STATION

Drawing Status

Project Ref. -	File Ref. --
Drawn by JC	Checked by RH
Scale 1:40000	Paper Size A3
Date	Revision -

Drawing Number
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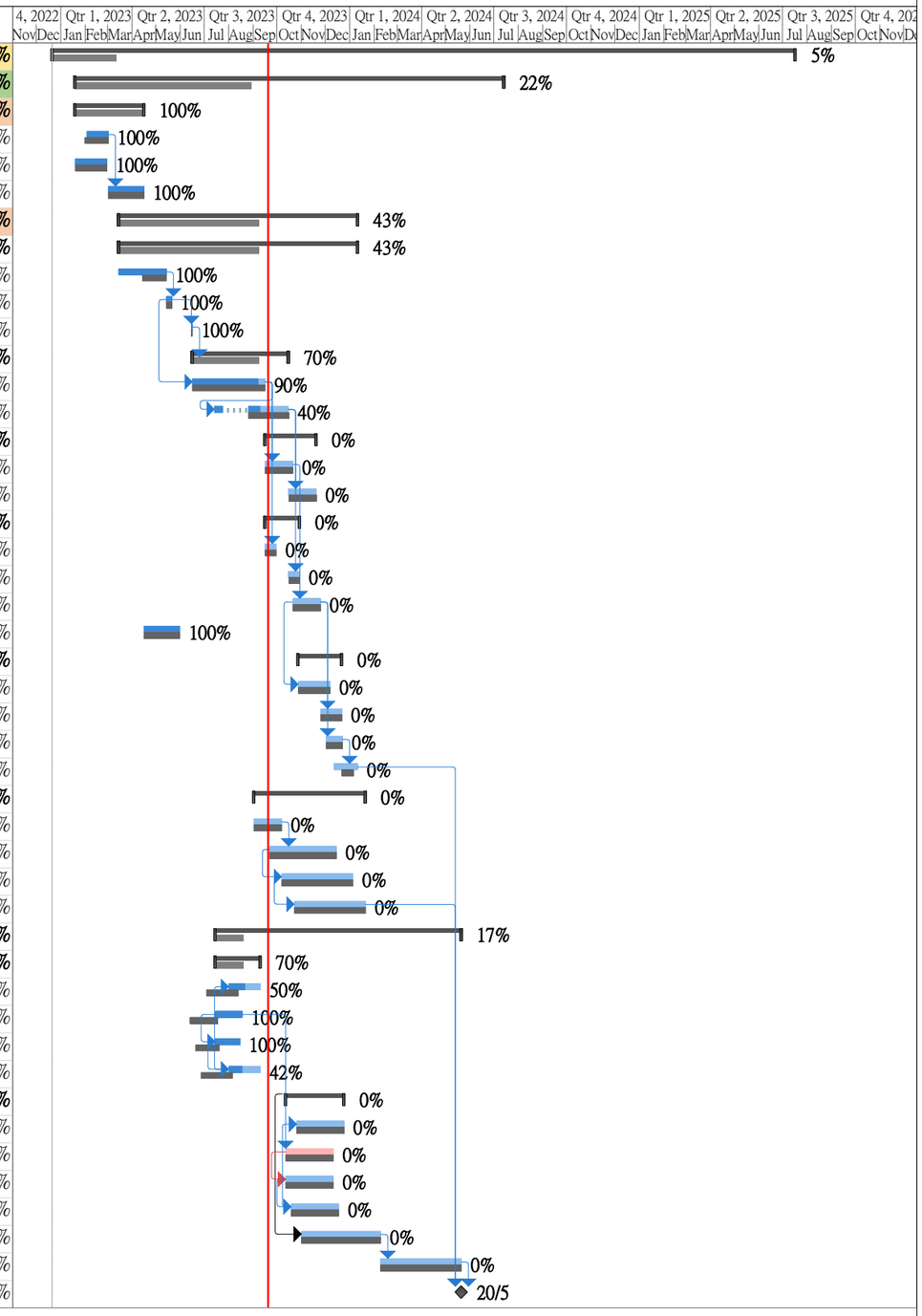
APPENDIX A
CONSTRUCTION PROGRAMME AND PROACTIVE ENVIRONMENTAL PROTECTION PROFORMA

Construction Programme
(Oct – Dec 2023)

ID	Task Name	Baseline Start	Baseline Finish	Act. Start	Act. Finish	% Comp.
964	**Site Execution**	**Fri 23/12/22**	**Sat 5/7/25**	**Wed 21/12/22**	**NA**	**5%**
1034	**Foundation and Substructure Construction**	**Thu 19/1/23**	**Wed 5/6/24**	**Thu 19/1/23**	**NA**	**22%**
1035	**ELS, Foundation and Substructure Works**	**Thu 19/1/23**	**Sat 15/4/23**	**Thu 19/1/23**	**Sat 15/4/23**	**100%**
1036	Ground Investigation	Tue 31/1/23	Wed 1/3/23	Fri 3/2/23	Wed 1/3/23	100%
1037	Soil Redistribution	Thu 19/1/23	Mon 27/2/23	Thu 19/1/23	Mon 27/2/23	100%
1038	Plate load test (WTF / SOTF / 25m Baffle Range and 300m Baffle Range)	Thu 2/3/23	Sat 15/4/23	Thu 2/3/23	Sat 15/4/23	100%
1039	**Section 1 Works**	**Fri 14/4/23**	**Fri 5/1/24**	**Wed 15/3/23**	**NA**	**43%**
1040	**PD&TTC Block1 (Training Complex)**	**Fri 14/4/23**	**Thu 7/12/23**	**Wed 15/3/23**	**NA**	**43%**
1041	Pre-drilling Works	Fri 14/4/23	Sat 13/5/23	Wed 15/3/23	Sat 13/5/23	100%
1042	Pre-drilling works completion and issue report	Sun 14/5/23	Sat 20/5/23	Sun 14/5/23	Sat 20/5/23	100%
1043	Test Boring	Thu 15/6/23	Thu 15/6/23	Thu 15/6/23	Thu 15/6/23	100%
1044	**Piling works**	**Fri 16/6/23**	**Sun 15/10/23**	**Fri 16/6/23**	**NA**	**70%**
1045	Zone A	Fri 16/6/23	Fri 15/9/23	Fri 16/6/23	NA	90%
1046	Zone B	Sat 26/8/23	Sun 15/10/23	Fri 14/7/23	NA	40%
1047	**Piling Tests**	**Sat 16/9/23**	**Sun 19/11/23**	**NA**	**NA**	**0%**
1048	Zone A	Sat 16/9/23	Fri 20/10/23	NA	NA	0%
1049	Zone B	Mon 16/10/23	Sun 19/11/23	NA	NA	0%
1050	**Post drill and piling works completion**	**Sat 16/9/23**	**Sun 29/10/23**	**NA**	**NA**	**0%**
1051	Zone A	Sat 16/9/23	Fri 29/9/23	NA	NA	0%
1052	Zone B	Mon 16/10/23	Sun 29/10/23	NA	NA	0%
1053	Excavation to piling cut off and bottom of pile cap	Sat 21/10/23	Fri 24/11/23	NA	NA	0%
1054	Slope Modification	Sun 16/4/23	Tue 30/5/23	Sun 16/4/23	Tue 30/5/23	100%
1055	**Pile caps construction**	**Sat 28/10/23**	**Thu 21/12/23**	**NA**	**NA**	**0%**
1056	Zone A	Sat 28/10/23	Wed 6/12/23	NA	NA	0%
1057	Zone B	Sat 25/11/23	Thu 21/12/23	NA	NA	0%
1058	Underground Drainage / Earthing Pits / Lightning Pits	Sat 2/12/23	Fri 22/12/23	NA	NA	0%
1059	Back Filling, Waterproofing and LG/F Slab	Fri 22/12/23	Fri 5/1/24	NA	NA	0%
1060	**PD&TTC Block 2-8 (Driving Blocks)**	**Thu 20/7/23**	**Fri 5/1/24**	**NA**	**NA**	**0%**
1061	Excavation Works	Sat 2/9/23	Fri 6/10/23	NA	NA	0%
1062	Footing	Fri 22/9/23	Thu 14/12/23	NA	NA	0%
1063	Underground Drainage / Earthing Pits / Lightning Pits	Sat 7/10/23	Thu 4/1/24	NA	NA	0%
1064	Back Filling, Waterproofing and G/F Slab	Mon 23/10/23	Sat 20/1/24	NA	NA	0%
1065	**WTF Block 1-4**	**Tue 13/6/23**	**Sat 16/3/24**	**Sat 15/7/23**	**NA**	**17%**
1066	**Excavation Works**	**Tue 13/6/23**	**Sat 12/8/23**	**Sat 15/7/23**	**NA**	**70%**
1067	Block 1	Tue 4/7/23	Sat 12/8/23	Tue 1/8/23	NA	50%
1068	Block 2	Tue 13/6/23	Mon 17/7/23	Sat 15/7/23	Thu 17/8/23	100%
1069	Block 3	Tue 20/6/23	Wed 19/7/23	Sat 15/7/23	Mon 14/8/23	100%
1070	Block 4	Tue 27/6/23	Sat 5/8/23	Tue 1/8/23	NA	42%
1071	**Footing**	**Thu 12/10/23**	**Sun 24/12/23**	**NA**	**NA**	**0%**
1072	Block 1	Thu 26/10/23	Sun 24/12/23	NA	NA	0%
1073	Block 2	Thu 12/10/23	Sun 10/12/23	NA	NA	0%
1074	Block 3	Thu 12/10/23	Sun 10/12/23	NA	NA	0%
1075	Block 4	Thu 19/10/23	Sun 17/12/23	NA	NA	0%
1076	Underground Drainage / Earthing Pits / Lightning Pits	Wed 1/11/23	Thu 8/2/24	NA	NA	0%
1077	Back Filling, Waterproofing	Fri 9/2/24	Mon 20/5/24	NA	NA	0%
1078	Completion of Foundation and Substructure Works of Section 1	Mon 20/5/24	Mon 20/5/24	NA	NA	0%



Critical	Manual Task	Path Driving Predecessor Normal Task	Summary	Inactive Milestone
Critical Split	Start-only	Baseline	Manual Summary	Inactive Summary
Critical Progress	Finish-only	Baseline Split	Project Summary	Deadline
Task	Duration-only	Baseline Milestone	External Tasks	
Split	Path Driving Predecessor Milestone Task	Milestone	External Milestone	
Task Progress	Path Driving Predecessor Summary Task	Summary Progress	Inactive Task	

Layout Plan with major construction activities

Legend:

Foundation construction and associated works

Mock-up construction

- Mock-up construction

- Soil Storage

PLATFORM I

PLATFORM J

PLATFORM H

PLATFORM G

PLATFORM K

PLATFORM L

PLATFORM F

PLATFORM E

PLATFORM D

- Soil Storage

PLATFORM B

PLATFORM C

- Pre-bored socketed-H Piling

PLATFORM A

- Open cut excavation
- Plate load test

Major construction activities carried out in September 2023

N

KONG NGA PO ROAD

26-Oct-22

...\DF\DF0080\Main site layout.dgn

Legend:

Foundation construction and associated works

Construction of footings

Mock-up construction

N

- Mock-up construction

PLATFORM I

- Open cut excavation
- Soil removal
- U.U. Lead in and Pipe Duct Connection

- Open cut excavation
- Soil removal
- U.U. Lead in and Pipe Duct Connection

- Soil Storage

PLATFORM H

PLATFORM J

PLATFORM G

PLATFORM K

- Open cut excavation
- Soil removal
- U.U. Lead in and Pipe Duct Connection

- Open cut excavation
- Soil removal/ Soil Storage

PLATFORM F

PLATFORM L

- Open cut excavation
- Soil removal
- U.U. Lead in and Pipe Duct Connection

PLATFORM D

PLATFORM E

- Soil Storage
- Open cut excavation
- Soil removal
- Construction of footings

- Open cut excavation
- Soil removal
- Construction of footings

PLATFORM B

PLATFORM C

- Ground Investigation
- Soil removal
- Pre-bored socketed-H Piling
- Construction of footings

PLATFORM A

- Open cut excavation
- Plate Load Test
- Soil removal
- Construction of footings
- U.U. Lead in and Pipe Duct Connection

Major construction activities carried out in period of Oct~Dec 2023

26-Oct-22

...\DF\DF0080\Main site layout.dgn

Proactive Environmental Protection Proforma

Design and Construction of Kong Nga Po Police Training Facilities Working Period: Oct to Dec 2023

Proactive Environmental Protection Proforma

Ref*	**Proposed Construction Method**	**Location/Working Period**	**Anticipated Major Impacts**	**Recommended Mitigation Measures**
EIA 3.9.1; EM&A Log 2.2	Open cut excavation	Kong Nga Po Site	Dust impact from excavation activities and earth moving	• Use of regular water spraying (once every 1.25 hours or 8 times per day) at all active works area exposed site surfaces and unpaved roads, particularly during dry weather • Deploy water bowser for regular water spraying to enhance dust suppression • Manual water spraying for dusty operation where inaccessible by water bowser • Speed control of site transportation • Stockpile of dusty materials will be covered by tarpaulin sheets to avoid wind-blown dust • Vehicles used for transporting dusty materials/spoils will be covered by mechanical cover before leaving the site • Wheel washing facilities will be provided and cleaning the wheel of all vehicles before leaving the site
EIA 4.4.6; EM&A Log 3.2			Noise Control	• Regular inspection and maintenance of plant & equipment in good condition

				• Enclose the noisy part of machineries with noise enclosure • Adopt of Quality Powered Mechanical Equipment (QPME) if possible
			Working in Restricted Hours	• Valid construction noise permit should be obtained and displayed on site • In case of non-compliance with the construction noise criteria, more frequent monitoring and action should be carried out
EIA 5.6.1.2; EM&A Log 4.2			Water Pollution Control	• Cover the stockpiles of construction materials to reduce the potential for water pollution • Provide wastewater treatment facilities prior to discharge of wastewater • Regular inspection and maintenance of wastewater treatment facilities • Wastewater pumped out of the excavation areas will be treated to remove suspended solids prior to discharge • Hard paving or well-compact of main haul road to minimize washout of soil • Wheels of all vehicles and plants will be cleaned before leaving the work areas to remove sediment, soil and debris from the tracked. The wastewater will be treated and reused on site or discharged.
EIA 7.5.1.1 &			Waste Generation	• Training of site personnel in proper waste management and

7.5.1.2; EM&A Log 6.2				chemical handling procedures • Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling • Surplus inert C&D materials will be disposed of at designated Government's PFRF.
EIA 7.5.1.4; EM&A Log 6.2			Chemical Waste	• Chemical waste should be stored at chemical waste container and collected by a licensed collector to transport and dispose of at the approved Chemical Waste Treatment Centre • Drip tray and chemical spillage kit will be provided on site
EIA 9.7.1 and EM&A Log 8.3			Ecology Concern	• Provide training to frontline workers for the conservative species • Provision of protective fence for the conservative species • Regular inspection for concerned vegetation and conservative species
EIA Table 10.11; EM&A Table 9.1			Landscape and Visual Impact	• Preservation of existing trees will be undertaken in accordance with DEVB TC(W) 7/2015 and Guidelines for Tree Risk Assessment and Management Arrangement • Restrict construction area to minimize the impact on existing retained trees
EIA 3.9.1; EM&A Log 2.2	Soil Removal	Kong Nga Po Site	Dust impact from excavation activities and earth	• Use of regular water spraying (once every 1.25 hours or 8 times per day) at all active works area exposed site surfaces and unpaved roads, particularly during dry weather

			moving	• Water spraying during loading and unloading of excavated materials • Vehicles used for transporting dusty materials/spoils will be covered by mechanical cover before leaving the site • Deploy water bowser for regular water spraying to enhance dust suppression • Speed control of site transportation • Stockpile of dusty materials will be covered by tarpaulin sheets to avoid wind-blown dust • Wheel washing facilities will be provided and cleaning the wheel of all vehicles before leaving the site
EIA 4.4.6; EM&A Log 3.2			Noise Control	• Regular inspection and maintenance of plant & equipment in good condition • Enclose the noisy part of machineries with noise enclosure • Adopt of Quality Powered Mechanical Equipment (QPME) if possible
			Working in Restricted Hours	• Valid construction noise permit should be obtained and displayed on site • In case of non-compliance with the construction noise criteria, more frequent monitoring and action should be carried out
EIA 5.6.1.2; EM&A Log 4.2			Water Pollution Control	• Cover the stockpiles of excavated materials to reduce the potential for water pollution

				• Provide wastewater treatment facilities prior to discharge of wastewater • Regular inspection and maintenance of wastewater treatment facilities • Wheels of all vehicles and plants will be cleaned before leaving the work areas to remove sediment, soil and debris from the tracked. The wastewater will be treated and reused on site or discharged.
EIA 7.5.1.1 & 7.5.1.2; EM&A Log 6.2			Waste Generation	• Training of site personnel in proper waste management and chemical handling procedures • Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling • Surplus inert C&D materials will be disposed of at designated Government's PFRF.
EIA 7.5.1.4; EM&A Log 6.2			Chemical Waste	• Chemical waste should be stored at chemical waste container and collected by a licensed collector to transport and dispose of at the approved Chemical Waste Treatment Centre • Drip tray and chemical spillage kit will be provided on site
EIA 9.7.1 and EM&A Log 8.3			Ecology Concern	• Provide training to frontline workers for the conservative species • Provision of protective fence for the conservative species • Regular inspection for concerned vegetation and conservative

				species
EIA Table 10.11; EM&A Table 9.1			Landscape and Visual Impact	• Preservation of existing trees will be undertaken in accordance with DEVB TC(W) 7/2015 and Guidelines for Tree Risk Assessment and Management Arrangement • Restrict construction area to minimize the impact on existing retained trees
EIA 3.9.1; EM&A Log 2.2	Construction of footings	Kong Nga Po Site	Air	• Regular inspection and maintenance of plant and equipment in good condition • Regularly clean up stockpiles and debris to avoid accumulation of materials • Dusty materials exceeding 20 bags shall be stored in area sheltered on top and the three sides or covered entirely by impervious sheeting.
EIA 4.4.6; EM&A Log 3.2			Noise Control	• Regular inspection and maintenance of plant & equipment in good condition • Enclose the noisy part of machineries with noise enclosure • Adopt of Quality Powered Mechanical Equipment (QPME) if possible
			Working in Restricted Hours	• Valid construction noise permit should be obtained and displayed on site • In case of non-compliance with the construction noise criteria, more frequent monitoring and action should be carried out

EIA 5.6.1.2; EM&A Log 4.2			Water Pollution Control	• Wheels of all vehicles and plants will be cleaned before leaving the work areas to remove sediment, soil and debris from the tracked. The wastewater will be treated and reused on site or discharged. • Designated location for residual concrete washout • Provide wastewater treatment facilities prior to discharge of wastewater
EIA 7.5.1.4; EM&A Log			Chemical Waste	• Drip tray and chemical spillage kit shall be provided on site
EIA 9.7.1 and EM&A Log 8.3			Ecology Concern	• Provide training to frontline workers for the conservative species • Provision of protective fence for the conservative species • Regular inspection for concerned vegetation and conservative species
EIA Table 10.11; EM&A Table 9.1			Landscape and Visual Impact	• Preservation of existing trees will be undertaken in accordance with DEVB TC(W) 7/2015 and Guidelines for Tree Risk Assessment and Management Arrangement • Implement temporary traffic arrangement which control construction area to minimize landscape and visual impacts
EIA 3.9.1; EM&A Log 2.2	Pre-bored Socketed-H Piling	Kong Nga Po Site	Air	• Regular inspection and maintenance of plant and equipment in good condition • Regularly clean up stockpiles and debris to avoid

				accumulation of materials • Dusty materials exceeding 20 bags shall be stored in area sheltered on top and the three sides or covered entirely by impervious sheeting.
EIA 4.4.6; EM&A Log 3.2			Noise Control	• Regular inspection and maintenance of plant & equipment in good condition • Enclose the noisy part of machineries with noise enclosure • Adopt of Quality Powered Mechanical Equipment (QPME) if possible
			Working in Restricted Hours	• Valid construction noise permit should be obtained and displayed on site • In case of non-compliance with the construction noise criteria, more frequent monitoring and action should be carried out
EIA 5.6.1.2; EM&A Log 4.2			Water Pollution Control	• Cover the stockpiles of construction materials to reduce the potential for water pollution • Provide wastewater treatment facilities prior to discharge of wastewater • Wastewater generated from piling or surface runoff shall be treated prior to discharge
EIA 7.5.1.1; EM&A Log 6.2			Waste Management	• Cover stockpiles of C&D materials by impervious sheets to avoid wind-blown dust. • Spray water on all dusty materials including C&D materials

				immediately prior to any loading transfer operation
EIA 7.5.1.4; EM&A Log 6.2			Chemical Waste	• Drip tray and chemical spillage kit shall be provided on site
EIA 9.7.1 and EM&A Log 8.3			Ecology Concern	• Provide training to frontline workers for the conservative species • Provision of protective fence for the conservative species • Regular inspection for concerned vegetation and conservative species
EIA Table 10.11; EM&A Table 9.1			Landscape and Visual Impact	• Preservation of existing trees will be undertaken in accordance with DEVB TC(W) 7/2015 and Guidelines for Tree Risk Assessment and Management Arrangement • Implement temporary traffic arrangement which control construction area to minimize landscape and visual impacts

**EIA Ref/ EM&A Log/ Design Document Ref*

***Details of equipment, vehicles, plants, processes, technologies for the construction method*

Design and Construction of Kong Nga Po Police Training Facilities Working Period: Sep 2023

Proactive Environmental Protection Proforma

Ref*	**Proposed Construction Method**	**Location/Working Period**	**Anticipated Major Impacts**	**Recommended Mitigation Measures**	**Photo Records (Partial)**
EIA 3.9.1; EM&A Log 2.2	Open cut excavation	Kong Nga Po Site	Dust impact	• Deploy water bowser for regular water spraying to enhance dust suppression • Manual water spraying for dust suppression • Regular inspection and maintenance of plant and equipment in good condition • Cover stockpile with impervious sheets or grout • Provide wheel washing facility at site entrance	 By main contractor at KNP site

					 By main contractor at KNP site  By main contractor at KNP site

					 By main contractor at KNP site  By main contractor at KNP site

EIA 4.4.6; EM&A Log 3.2			Noise	• Regular inspection and maintenance of plant & equipment in good condition • Deploy Quality Powered Mechanical Equipment (QPME) if possible • Provide noise insulating mat for certain powered mechanical equipment. • Valid construction noise permit should be displayed at site entrance.	 By main contractor at KNP site  By main contractor at KNP site

EIA 9.7.1 and EM&A Log 8.3			Ecology Concern	• Provide training to workers about the conservative species • Provision of protective fence for the conservative species • Regular inspection for concerned vegetation and conservative species	 By main contractor at KNP site  By subcontractor at KNP site

EIA 3.9.1; EM&A Log 2.2	Pre-bored Socketed-H Piling	Kong Nga Po Site	Air	• Cover dusty materials with impervious sheets • Exposed slopes covered with waterproof layers such as tarpaulin sheets or grout to reduce the potential for sediment laden runoff entering the drainage system.	 By main contractor at KNP site  By main contractor at KNP site

EIA 4.4.6; EM&A Log 3.2			Noise	• Regular inspection and maintenance of plant & equipment in good condition • Deploy Quality Powered Mechanical Equipment (QPME) if possible • Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor or generator.	 By main contractor at KNP site
EIA 5.6.1.2 and EM&A Log 4.2			Water Quality	• Cover exposed slopes with impervious sheets or cement grout. • Wastewater pumped out of the excavation areas shall be treated to remove suspended solid prior to discharge. • Provide desilting/ sedimentation devices	 By main contractor at KNP site

				for wastewater treatment prior to discharge	 By main contractor at KNP site  By main contractor at KNP site

					 By main contractor at KNP site
EIA 5.6.1.3 and EM&A Log 4.2			Water Quality	• Provide drip tray to prevent spillage of fuels.	 By main contractor at KNP site

EIA Table 10.11; EM&A Table 9.1			Landscape and Visual Impact	• Preservation of existing trees will be undertaken in accordance with DEVB TC(W) 7/2015 and Guidelines for Tree Risk Assessment and Management Arrangement • Implement temporary traffic arrangement which control construction area to minimize landscape and visual impacts	

APPENDIX B
ACTION AND LIMIT LEVELS

Appendix B - Action and Limit Levels

Table B-1 Action and Limit Levels for 1-hour TSP

Monitoring station	Action Level (ug/m^3)	Limit Level (ug/m^3)
AM1	308	500
AM2	311	

Table B-2 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)

Noted:
If works are to be carried during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

APPENDIX C
COPIES OF CALIBRATION CERTIFCATES

東業德勤測試顧問有限公司
ETS-TESTCONSULT LTD.™

8/F Block B,
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34-36 Au Pui Wan Street,
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Calibration Certificate

Certificate No. : **CSA27669**

Information Provided by Customer

Customer : ETS - Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34 - 36 Au Pui Wan Street, Fotan, Shatin, Hong Kong

Information of Unit-under-test (UUT)

Description	:	Sound Level Calibrator			
Manufacturer	:	RION	Equipment I.D.	:	ET/EN/002/01
Type	:	NC-73	Serial No.	:	10196943

Laboratory Information

Lab. Ref. No.	:	Q/CAL/22/9442/I	Procedure	:	CQS/002/A
Date of Calibration	:	7-Nov-2022	Date of Receipt	:	1-Nov-2022
Date of Issue	:	10-Nov-2022	Calibration Location	:	Calibration Laboratory

Calibration Condition

Ambient Temperature	:	(20±3) °C	Relative Humidity	:	(50±20) %
Stabilizing Time	:	30 minutes	Sampling	:	As received
Ambient Pressure	:	(1000±5) hPa			

Reference equipment

- Multi-function sound calibrator, ET/2801/01
- Measuring Amplifier, ET/2702/01/01
- Signal generator, ET/2503/01
- Reference Oscilloscope, ET/2502/01

Calibration specification

- To perform the calibration of sound level calibrator.

Calibration result

- The results are detailed on the subsequent pages.

Remarks

- The calibration results apply to the particular unit-under-test only.
- The values given in this calibration certificate only to the values measureed at the time of test & any uncertainties quoted will not include allowance for the equipment long term drift, varifications with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement

Calibrated By : Tommy TAM & Tony MA (Technician)

Approved By: CHAN Chi Wai

東業德勤測試顧問有限公司
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Calibration Certificate

Certificate No. : CSA27669

Calibration Result:

1. Measured Sound Pressure Level:

Nominal Frequency (Hz)	Nominal Output Sound Pressure (dB)	Measured Output (dB)	Expanded Uncertatiny (dB)	Coverage Factor
1000	94.0	94.0	0.13	2.0

2. Actual Output Frequency:

Nominal Frequency (Hz)	Nominal Output Sound Pressure (dB)	Measured Output (Hz)	Expanded Uncertatiny (Hz)	Coverage Factor
1000	94.0	981.906	0.13	2.0

Remark:

- The uncertainty quoted is based on 95 % confidence level.
- Measured output are mean of three measurements.

End of certificate

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Calibration Certificate

Certificate No. : **CSA34546**

Information Provided by Customer

Customer : ETS - Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34 - 36 Au Pui Wan Street, Fotan, Shatin, Hong Kong

Information of Unit-under-test (UUT)

	Sound Level Meter	Microphone	Pre-amplifier
Manufacturer	RION	RION	RION
Type	NL-52	UC-59	NH-25
Equipment I.D. no.	ET/EN/003/17	-	-
Serial No.	00264519	03558	64644
Adaptors used	-	-	-
Resolution	0.1 dB	-	-

Laboratory Information

Lab. Ref. No. : Q/CAL/23/5141/I

Date of Calibration : 28-Jun-2023

Date of Issue : 28-Jun-2023

Procedure : CQS/001/A

Date of Receipt : 21-Jun-2023

Calibration Location : Calibration Laboratory

Calibration Condition

Ambient Temperature : (20 ± 3) °C

Stabilizing Time : 30 minutes

Ambient Pressure : (1000 ± 50) hPa

Relative Humidity : (50 ± 20) %

Sampling : As received

Reference equipment

- Multi-function sound calibrator, ET/2801/01
- Signal generator, ET/2503/01

Calibration specification

- To perform the calibration of linearity and frequency response by multi-function sound calibrator.

Calibration result

- The results are detailed on the subsequent pages.

Remarks

- The calibration results apply to the particular unit-under-test only.
- The values given in this calibration certificate only to the values measureed at the time of test & any uncertainties quoted will not include allowance for the equipment long term drift, varifications with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement

Calibrated By : Tony MA (Technician)

Approved By: CHAN Chi Wai

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Calibration Certificate

Certificate No. : CSA34546

Calibration Result:

1 Reference Sound Pressure Level : (Unit in: dB)

Range / Mode			Reference Level	REF Frequency (kHz)	UUT Reading	Deviation	Expanded Uncertatiny	Coverage Factor
A-Weighting	Self-cal	Before	94.0	1	93.7	-0.3	0.13	2.0
	Range	30 to 130	104.0		103.7	-0.3	0.13	2.0
	Mode	Fast	114.0		113.7	-0.3	0.13	2.0
A-Weighting	Self-cal	After	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
	Mode	Fast	114.0		114.1	0.1	0.13	2.0
	Self-cal	After	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
	Mode	Slow	114.0		114.1	0.1	0.13	2.0
C-Weighting	Self-cal	-	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
	Mode	Fast	114.0		114.0	0.0	0.13	2.0
	Self-cal	-	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
	Mode	Slow	114.0		114.0	0.0	0.13	2.0
Z-Weighting	Self-cal	-	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
	Mode	Fast	114.0		114.1	0.1	0.13	2.0
	Self-cal	-	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
	Mode	Slow	114.0		114.0	0.0	0.13	2.0

Remark:

- The uncertainty quoted is based on 95 % confidence level.
- UUT reading are mean of three measurements.
- Deviation = UUT Reading - Reference Level
- Laboratory reference multi-function sound calibrator was used to adjust the "Self cal" reading of UUT.

***

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Form Q/AS/C/01 Issue 1(3/7) [09/21]

Calibration Certificate

Certificate No. : CSA34546

Calibration Result:

Acoustic Sensitivity and Frequency Response:

2 Frequency Response A-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainty	Coverage Factor
30 to 130	Fast	94	31.5	54.6	40.5	-14.1	0.29	2.6
			63	67.8	57.2	-10.6	0.22	2.3
			125	77.9	72.2	-5.7	0.13	2.0
			250	85.4	83.6	-1.8	0.12	2.0
			500	90.8	90.9	0.1	0.12	2.0
			1000 (Ref.)	94.0	94.0	0.0	0.13	2.0
			2000	95.1	94.0	-1.1	0.13	2.0
			4000	94.9	92.3	-2.6	0.13	2.0
			8000	92.9	85.4	-7.5	0.14	2.0
			12500	89.7	76.0	-13.7	0.14	2.0
			16000	87.5	71.6	-15.9	0.16	2.0

3 Frequency Response C-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainty	Coverage Factor
30 to 130	Fast	94	31.5	91.0	74.6	-16.4	0.22	2.3
			63	93.2	82.4	-10.8	0.15	2.0
			125	93.8	88.1	-5.7	0.15	2.0
			250	94.0	92.2	-1.8	0.14	2.0
			500	94.0	94.1	0.1	0.12	2.0
			1000 (Ref.)	94.0	94.0	0.0	0.13	2.0
			2000	93.7	92.6	-1.1	0.13	2.0
			4000	93.1	90.5	-2.6	0.13	2.0
			8000	91.0	83.5	-7.5	0.14	2.0
			12500	87.8	74.1	-13.7	0.16	2.0
			16000	85.6	69.8	-15.8	0.20	2.2

4 Frequency Response Z-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainty	Coverage Factor
30 to 130	Fast	94	31.5	94.0	77.6	-16.4	0.14	2.0
			63	94.0	83.2	-10.8	0.15	2.0
			125	94.0	88.3	-5.7	0.13	2.0
			250	94.0	92.2	-1.8	0.14	2.0
			500	94.0	94.0	0.0	0.12	2.0
			1000 (Ref.)	94.0	94.0	0.0	0.13	2.0
			2000	94.0	92.8	-1.2	0.13	2.0
			4000	94.0	91.3	-2.7	0.13	2.0
			8000	94.0	86.4	-7.6	0.14	2.0
			12500	94.0	80.7	-13.3	0.14	2.0
			16000	94.0	79.4	-14.6	0.14	2.0

Remark:

- Signal level at 1000 Hz is set as indication of reference sound pressure level.
- The uncertainty quoted is based on 95 % confidence level with coverage factor k=2.0.
- UUT reading are mean of three measurements.
- Deviation = UUT Reading - Reference Level

End of certificate

TISCH Environmental

RECALIBRATION DUE DATE:
January 17, 2024

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	January 17, 2023	**Rootsmeter S/N:** 438320	**Ta:** 294	°K
Operator:	Jim Tisch		**Pa:** 741.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **4128**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4370	3.2	2.00
2	3	4	1	1.0170	6.4	4.00
3	5	6	1	0.9140	8.0	5.00
4	7	8	1	0.8640	8.8	5.50
5	9	10	1	0.7170	12.8	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)
0.9846	0.6852	1.4063	0.9957	0.6929	0.8905
0.9803	0.9639	1.9888	0.9914	0.9748	1.2594
0.9782	1.0702	2.2235	0.9892	1.0823	1.4081
0.9771	1.1309	2.3321	0.9881	1.1437	1.4768
0.9718	1.3553	2.8126	0.9827	1.3706	1.7811
QSTD	**m=**	**2.09676**	**QA**	**m=**	**1.31296**
	b=	**-0.03027**		**b=**	**-0.01917**
	r=	**0.99991**		**r=**	**0.99991**

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

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FAX: (513)467-9009

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 24 June 2023

Serial No. : 1180 (ET / EA / 003 / 04)

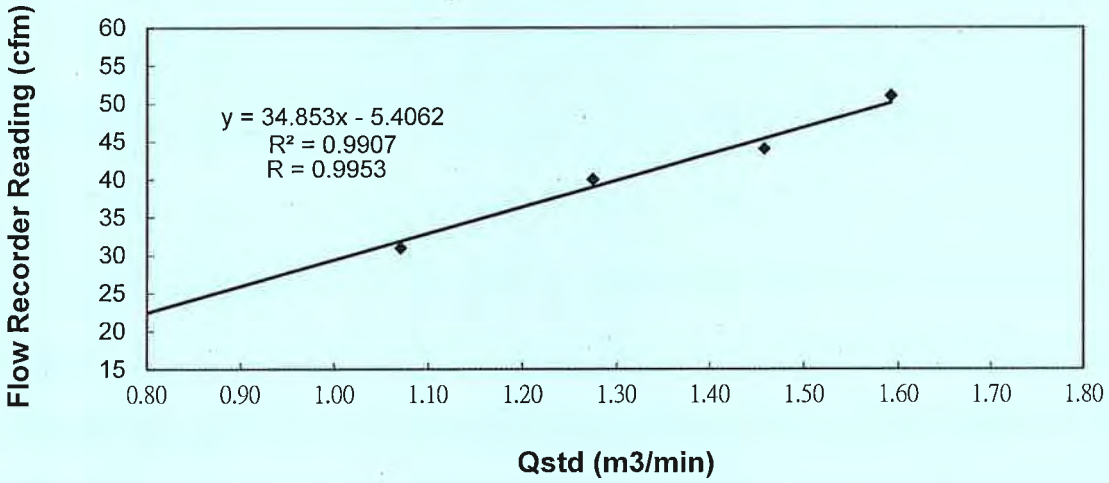
Calibration Due Date : 23 August 2023

Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results :

Flow recorder reading (cfm)	51	44	40	31	22
Qstd (Actual flow rate, m^3/min)	1.59	1.46	1.27	1.07	0.77
Pressure : 755.39 mm Hg		Temp. : 302 K			

Sampler 1180 Calibration Curve
Site: Tuen Mun (TM-RA2)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable* / ~~unacceptable~~ * for use.

Calibrated by : Mak Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 22 August 2023

Serial No. : 1180 (ET / EA / 003 / 04)

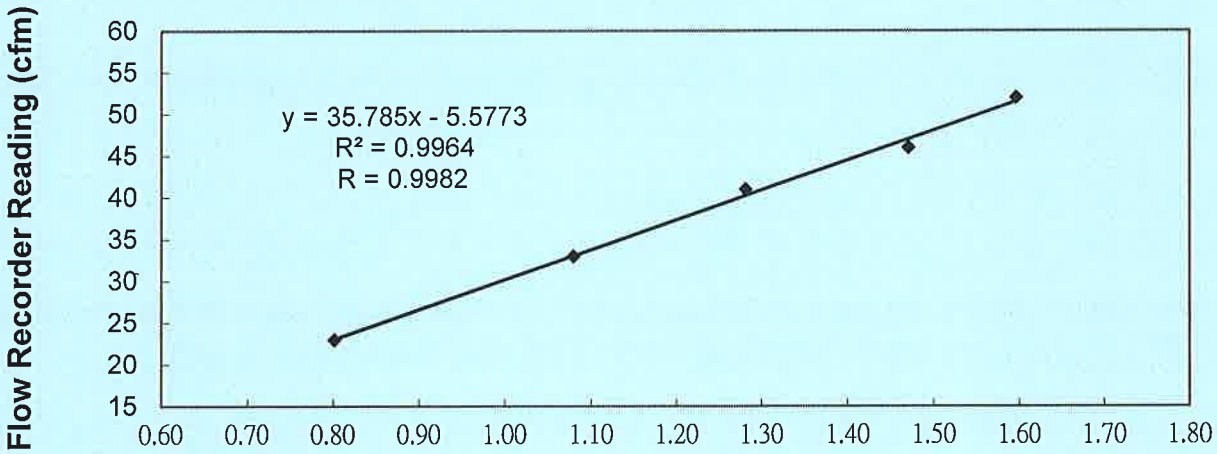
Calibration Due Date : 21 October 2023

Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results :

Flow recorder reading (cfm)	52	46	41	33	23
Qstd (Actual flow rate, m^3/min)	1.60	1.47	1.28	1.08	0.80
Pressure : 754.64 mm Hg		Temp. : 303 K			

Sampler 1180 Calibration Curve
Site: Tuen Mun (TM-RA2)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable* / ~~unacceptable~~ * for use.

Calibrated by : Mak Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Internal Calibration Report of Dust Monitor

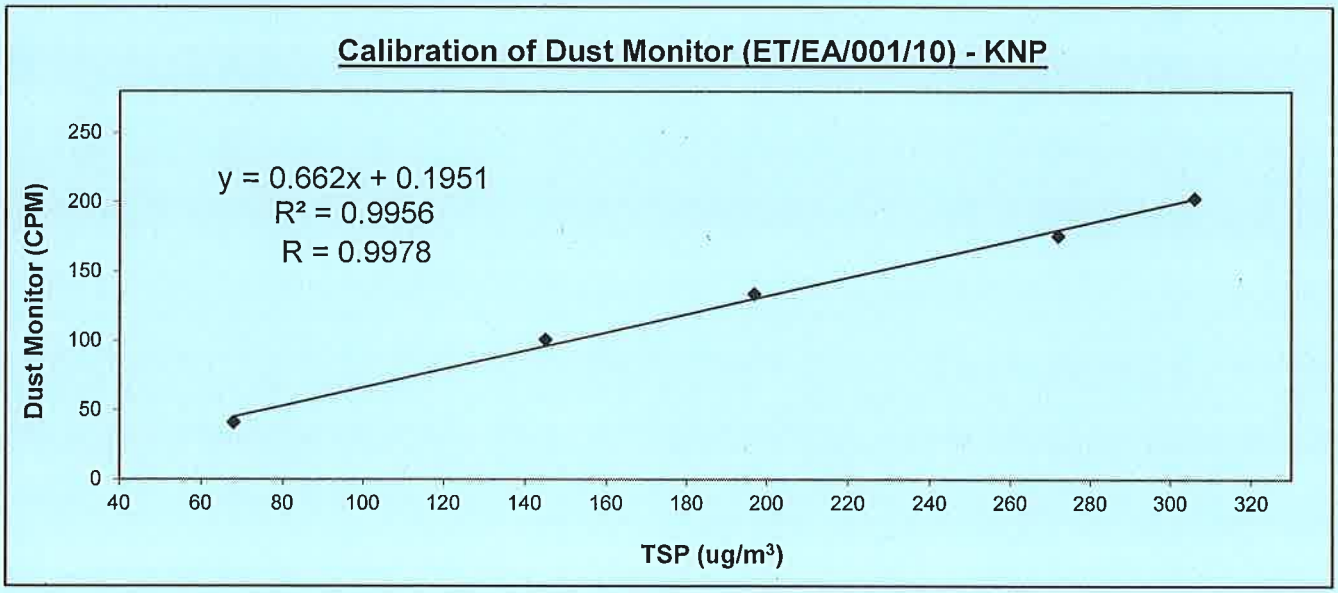
Manufacturer : SIBATA (LD-3B) Date of Calibration : 05 June 2023

Serial No. : 1Z5635 (ET/EA/001/10) Calibration Due Date : 04 August 2023

Method : Parallel measurement (Five-point calibration) by placing the Dust Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Monitor (CPM)	41	101	134	176	203
TSP (ug/m^3)	68	145	197	272	306
High Volume Air Sampler Serail No.: 1180	Calibration Due Date: 25 June 2023				



Acceptance Criteria : Correlation coefficient (R) of the calibration curve greater than 0.990 after a five-point calibration

The Dust Trak Monitor complies * / ~~does not comply~~ * with the internal calibration procedures and is deemed acceptable */ ~~unacceptable~~ * for use.

Calibrated by : _____
CHENG, Hei Man
(Technician)

Checked by : _____
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Internal Calibration Report of Dust Monitor

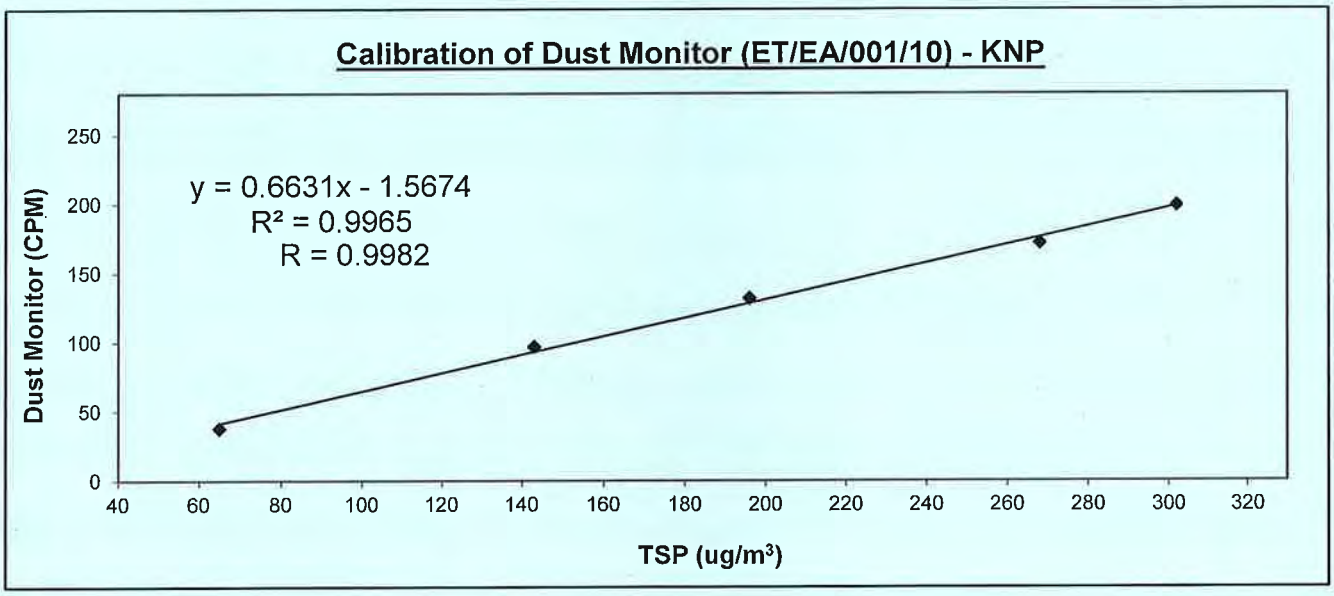
Manufacturer : SIBATA (LD-3B) Date of Calibration : 03 August 2023

Serial No. : 1Z5635 (ET/EA/001/10) Calibration Due Date : 02 October 2023

Method : Parallel measurement (Five-point calibration) by placing the Dust Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Monitor (CPM)	38	97	132	172	199
TSP (ug/m^3)	65	143	196	268	302
High Volume Air Sampler Serail No.: 1180	Calibration Due Date: 23 August 2023				



Acceptance Criteria : Correlation coefficient (R) of the calibration curve greater than 0.990 after a five-point calibration

The Dust Trak Monitor complies * / ~~does not comply~~ * with the internal calibration procedures and is deemed acceptable */ ~~unacceptable~~ * for use.

Calibrated by : Toby
CHENG, Hei Man
(Technician)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Internal Calibration Report of Dust Monitor

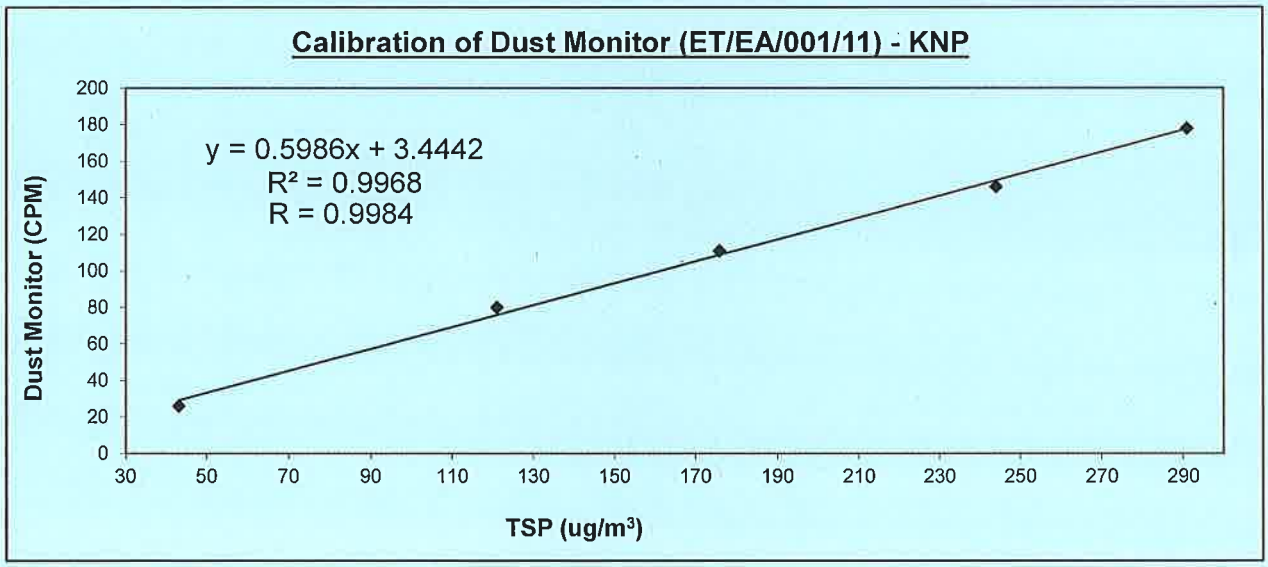
Manufacturer : SIBATA (LD-3B) Date of Calibration : 05 June 2023

Serial No. : 255863 (ET/EA/001/11) Calibration Due Date : 04 August 2023

Method : Parallel measurement (Five-point calibration) by placing the Dust Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Monitor (CPM)	26	80	111	146	178
TSP (ug/m^3)	43	121	176	244	291
High Volume Air Sampler Serail No.:1180	Calibration Due Date: 25 June 2023				



Acceptance Criteria : Correlation coefficient (R) of the calibration curve greater than 0.990 after a five-point calibration

The Dust Trak Monitor complies * / ~~does not comply~~ * with the internal calibration procedures and is deemed acceptable */ ~~unacceptable~~ * for use.

Calibrated by : Toby
CHENG, Hei Man
(Technician)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Internal Calibration Report of Dust Monitor

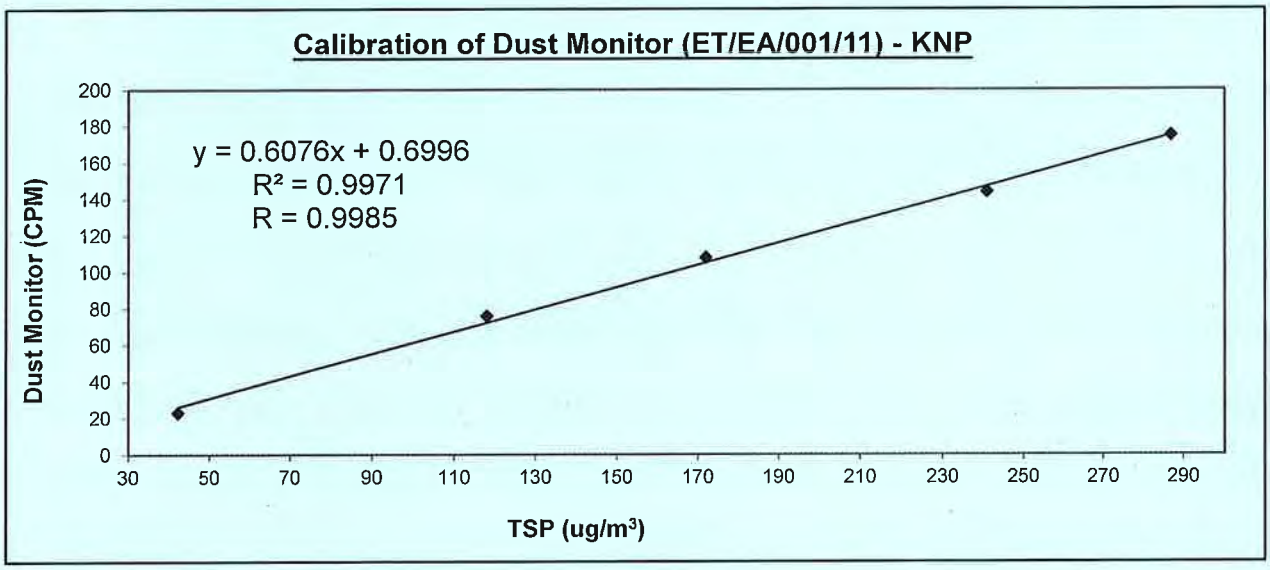
Manufacturer : SIBATA (LD-3B) Date of Calibration : 03 August 2023

Serial No. : 255863 (ET/EA/001/11) Calibration Due Date : 02 October 2023

Method : Parallel measurement (Five-point calibration) by placing the Dust Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Monitor (CPM)	23	76	108	144	175
TSP (ug/m^3)	42	118	172	241	287
High Volume Air Sampler Serail No.:1180	Calibration Due Date: 23 August 2023				



Acceptance Criteria : Correlation coefficient (R) of the calibration curve greater than 0.990 after a five-point calibration

The Dust Trak Monitor complies * / ~~does not comply~~ * with the internal calibration procedures and is deemed acceptable */ ~~unacceptable~~ * for use.

Calibrated by : Toby
CHENG, Hei Man
(Technician)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

APPENDIX D
ENVIRONMENTAL MONITORING SCHEDULES

Environmental Team for Site Formation and Infrastructure Works for Police Facilities in Kong Nga Po
Impact Air Quality and Noise Monitoring Schedule
September-2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	1-Sep	2-Sep
				1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)		
3-Sep	4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep
			1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)			
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
		1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)				
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
	1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)				**1-hr TSP x3** (AM1, AM2)	
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
				1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)		

Environmental Team for Site Formation and Infrastructure Works for Police Facilities in Kong Nga Po
Impact Air Quality and Noise Monitoring Schedule
October-2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct	7-Oct
			1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)			
8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct
		1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)				
15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct
	1-hr TSP x3 (AM1, AM2) **NM** NM14)			**1-hr TSP x3** (AM1, AM2)		
22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct
			1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)			
29-Oct	30-Oct	31-Oct	1-Nov	2-Nov	3-Nov	4-Nov
		1-hr TSP x3 (AM1, AM2) **NM** (NM9 to NM14)				

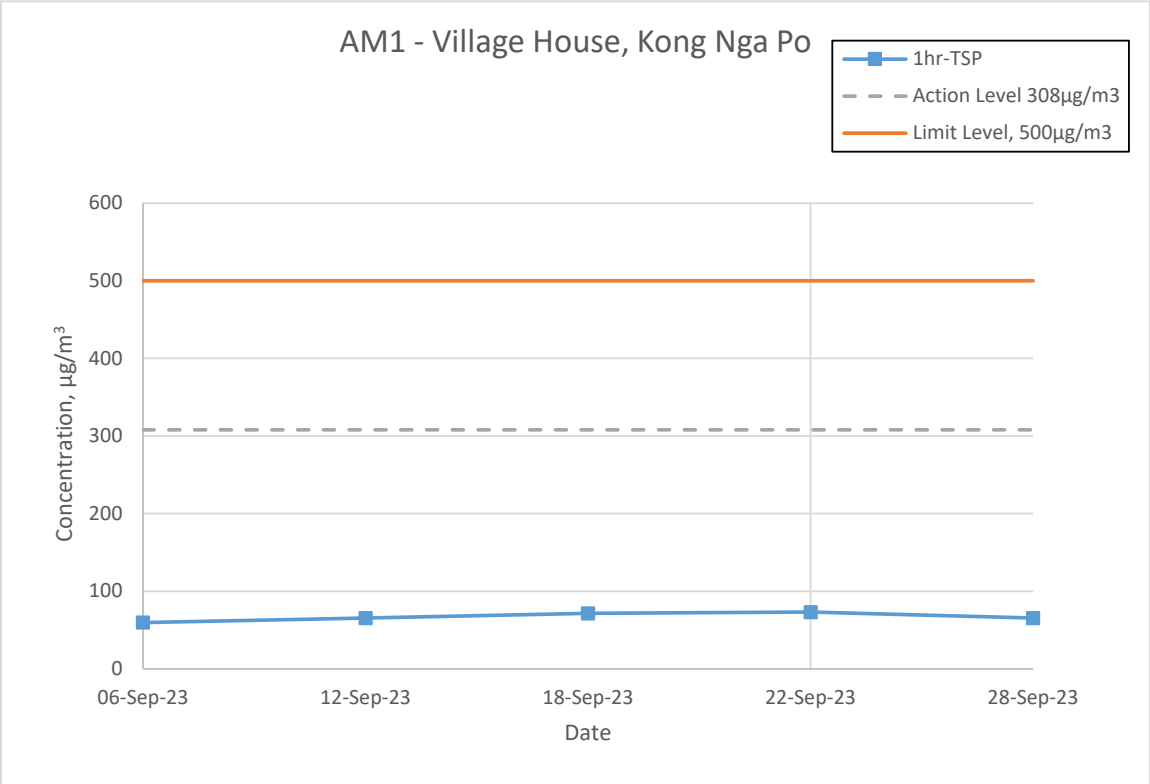
APPENDIX E
AIR QUALITY MONITORING RESULTS AND GRAPHICAL PRESENTATION

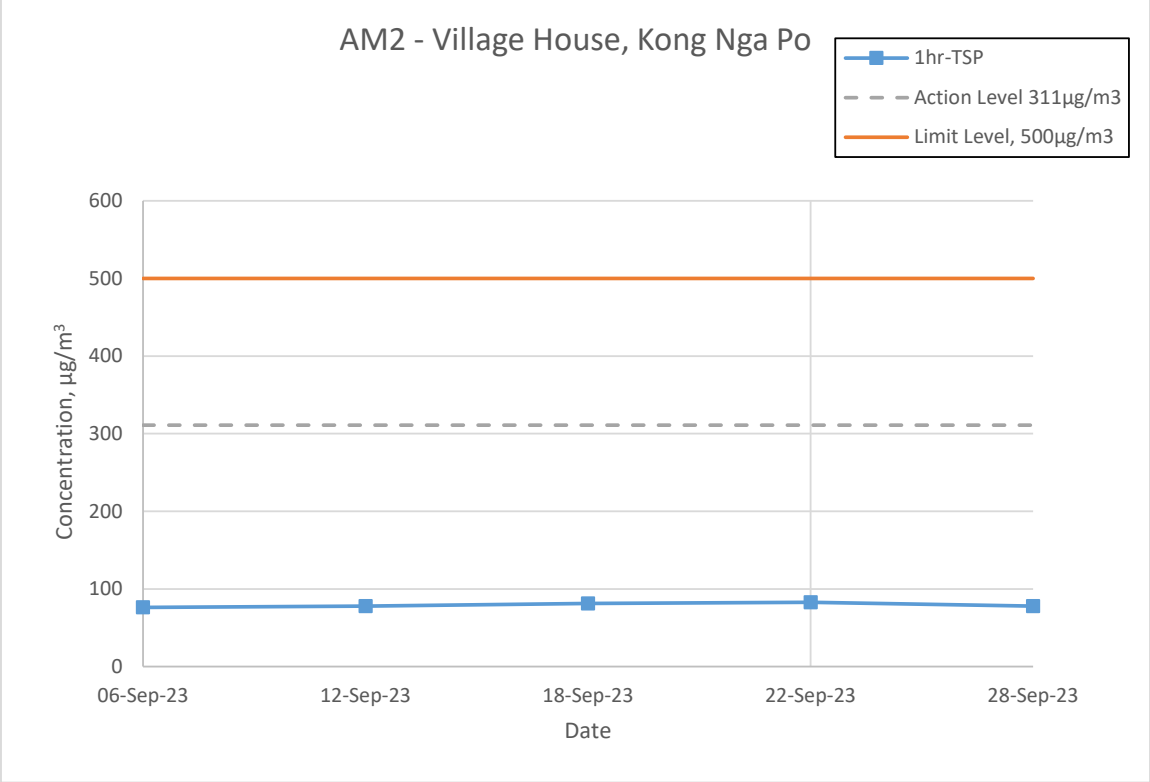
Appendix E - 1-hour TSP Monitoring Results

Location AM1 - Village House, Kong Nga Po			
Date	Time	Weather	Particulate Concentration (μg/m^3)
06-Sep-23	8:40	Cloudy	60
	9:40		58
	10:40		58
12-Sep-23	8:40	Fine	66
	9:40		67
	10:40		67
18-Sep-23	8:40	Cloudy	72
	9:40		73
	10:40		73
22-Sep-23	8:40	Fine	73
	9:40		75
	10:40		75
28-Sep-23	8:40	Cloudy	66
	9:40		64
	10:40		64
		Minimum	58
		Maximum	75
		Average	67

Location AM2 - Village House, Kong Nga Po			
Date	Time	Weather	Particulate Concentration (μg/m^3)
06-Sep-23	10:00	Cloudy	76
	11:00		78
	13:00		73
12-Sep-23	10:00	Fine	78
	11:00		79
	13:00		79
18-Sep-23	10:00	Cloudy	81
	11:00		84
	13:00		83
22-Sep-23	9:00	Fine	83
	10:00		81
	11:00		83
28-Sep-23	10:00	Cloudy	78
	11:00		76
	13:30		76
		Minimum	73
		Maximum	84
		Average	79

1-hr TSP Concentration Levels





APPENDIX F
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix F -Noise Monitoring Results

Location NM9 - Village House, Kong Nga Po									
Date	Weather	Wind Speed (m/s)	StartTime	Unit: dB(A) (5-min)			Average	Limit Level	Baseline
				L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}
06-Sep-23	Cloudy	0.2	9:15	58.1	59.7	54.2	58.5	75.0	55.9
				58.6	60.2	55.0			
				57.7	59.2	53.9			
				57.9	59.4	54.0			
				59.2	60.9	55.8			
				59.4	61.3	56.1			
12-Sep-23	Fine	0.2	9:15	60.0	63.4	54.7	59.1	75.0	55.9
				58.2	60.1	54.4			
				58.5	60.6	54.5			
				56.9	59.3	53.2			
				60.7	62.1	53.1			
				59.3	61.0	53.8			
18-Sep-23	Cloudy	0.2	9:15	61.3	63.7	56.4	60.9	75.0	55.9
				60.3	63.2	56.0			
				59.5	62.2	55.9			
				57.6	59.8	54.4			
				62.5	65.7	54.6			
				62.4	65.6	56.1			
28-Sep-23	Fine	0.2	9:15	57.4	59.6	54.1	57.9	75.0	55.9
				58.2	60.1	55.0			
				58.4	60.4	54.9			
				57.3	59.5	54.2			
				57.7	59.9	54.4			
				58.1	60.2	55.1			

Location NM10 - Village House, Kong Nga Po									
Date	Weather	Wind Speed (m/s)	Time	Unit: dB(A) (5-min)			Average	Limit Level	Baseline
				L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}
06-Sep-23	Cloudy	0.2	8:40	48.6	50.1	45.3	48.5	75.0	52.8
				49.0	50.6	45.8			
				49.2	50.8	46.1			
				47.9	49.5	44.6			
				48.0	49.7	45.0			
				48.1	49.9	45.8			
12-Sep-23	Fine	0.2	8:40	52.4	54.0	47.5	51.7	75.0	52.8
				52.6	54.3	47.4			
				51.8	53.5	47.1			
				50.7	52.3	46.5			
				51.0	52.6	46.9			
				51.3	52.8	47.1			
18-Sep-23	Cloudy	0.2	8:40	52.4	54.0	48.6	52.4	75.0	52.8
				52.5	54.2	48.8			
				53.1	54.8	49.2			
				52.9	54.6	49.0			
				51.8	53.9	47.7			
				51.5	53.4	47.8			
28-Sep-23	Fine	0.2	8:40	51.4	53.3	47.2	50.0	75.0	52.8
				50.9	52.7	46.9			
				49.8	51.4	46.5			
				49.4	51.1	46.6			
				48.9	50.7	46.2			
				49.0	50.9	46.4			

Location NM11 - Village House, Kong Nga Po

Date	Weather	Wind Speed (m/s)	Time	Unit: dB(A) (5-min)			Average	Limit Level	Baseline
				L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}
06-Sep-23	Cloudy	0.2	11:00	46.6	48.1	44.5	47.7	75.0	46.4
				47.3	49.0	45.2			
				47.1	48.8	45.0			
				46.9	48.5	44.9			
				48.8	50.1	45.4			
				49.0	50.6	45.9			
12-Sep-23	Fine	0.2	10:50	48.3	50.5	45.0	46.9	75.0	46.4
				47.1	42.8	43.0			
				42.4	50.1	43.1			
				48.8	51.4	43.8			
				47.7	50.6	43.3			
				42.9	50.9	43.2			
18-Sep-23	Cloudy	0.2	10:50	47.0	49.4	43.6	48.9	75.0	46.4
				47.0	49.3	43.9			
				49.5	51.7	45.3			
				49.8	51.8	57.1			
				49.0	50.9	45.9			
				50.1	52.2	47.1			
28-Sep-23	Fine	0.2	11:00	47.7	49.4	43.8	48.9	75.0	46.4
				48.1	49.8	44.5			
				49.2	50.4	46.1			
				49.4	50.8	46.6			
				49.6	51.2	47.0			
				48.8	50.4	46.8			

Location NM12 - Village House, Kong Nga Po

Date	Weather	Wind Speed (m/s)	StartTime	Unit: dB(A) (5-min)			Average	Limit Level	Baseline
				L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}
06-Sep-23	Cloudy	0.2	10:00	50.1	51.8	46.9	50.1	75.0	54.7
				50.4	52.1	47.3			
				50.5	52.4	47.6			
				50.2	52.0	47.1			
				49.7	51.6	46.6			
				49.9	51.8	46.9			
12-Sep-23	Fine	0.2	13:00	43.7	46.6	39.5	45.1	75.0	54.7
				44.4	47.6	40.2			
				44.9	48.6	40.8			
				45.4	49.8	41.4			
				45.9	50.0	42.2			
				46.0	50.4	42.8			
18-Sep-23	Cloudy	0.2	10:00	44.8	45.8	43.4	45.3	75.0	54.7
				45.3	47.3	43.0			
				45.2	46.2	42.6			
				47.5	50.8	43.4			
				44.1	45.2	42.8			
				44.0	45.4	42.0			
28-Sep-23	Fine	0.2	10:00	51.4	53.0	47.2	51.9	75.0	54.7
				51.7	53.4	47.5			
				52.0	53.8	47.9			
				51.1	52.6	46.9			
				52.3	54.1	48.2			
				52.5	54.4	48.4			

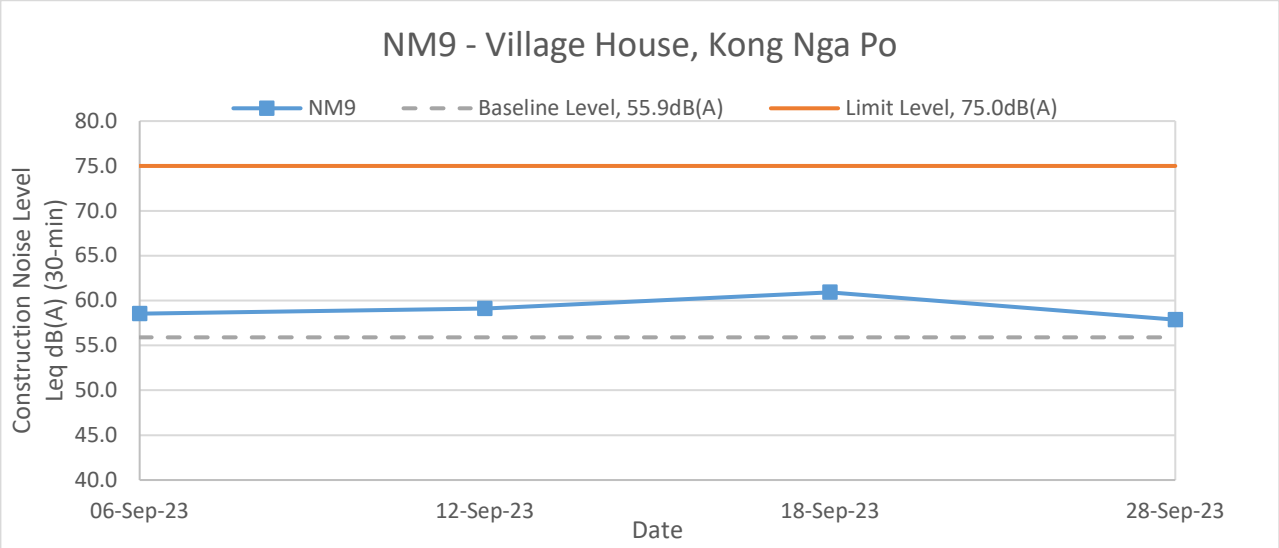
Location NM13 - Village House, Kong Nga Po

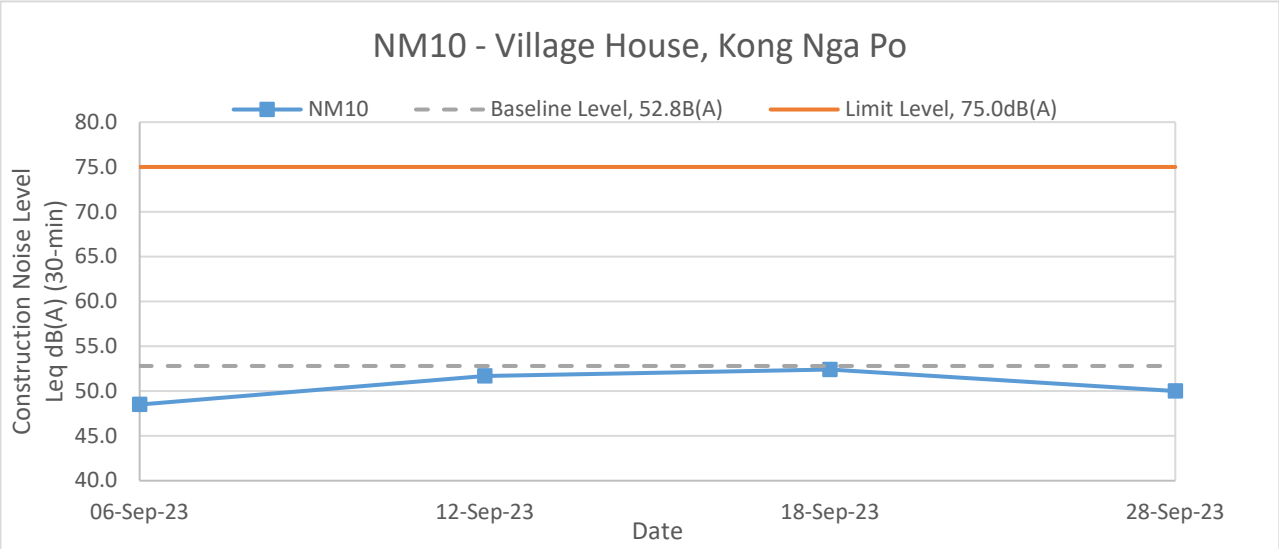
Date	Weather	Wind Speed (m/s)	Time	Unit: dB(A) (5-min)			Average	Limit Level	Baseline
				L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}
06-Sep-23	Cloudy	0.2	14:05	55.7	57.2	50.1	55.6	75.0	61.3
				56.2	57.6	50.7			
				54.8	56.6	49.7			
				55.1	56.9	49.8			
				55.4	57.0	49.9			
				56.0	57.3	50.3			
12-Sep-23	Fine	0.2	11:30	61.7	63.8	58.8	62.3	75.0	61.3
				62.4	63.9	59.6			
				62.2	64.3	60.1			
				62.1	63.6	60.2			
				63.0	64.1	61.2			
				62.5	63.9	60.3			
18-Sep-23	Cloudy	0.2	14:30	53.7	55.9	49.6	53.3	75.0	61.3
				54.2	56.0	49.8			
				53.2	55.4	49.0			
				52.7	54.8	48.6			
				52.8	55.0	48.8			
				53.0	55.2	49.0			
28-Sep-23	Fine	0.2	14:30	56.9	58.4	52.1	57.3	75.0	61.3
				57.0	58.8	52.6			
				57.7	59.2	53.4			
				57.4	59.0	52.9			
				57.5	59.2	53.1			
				57.0	58.9	53.0			

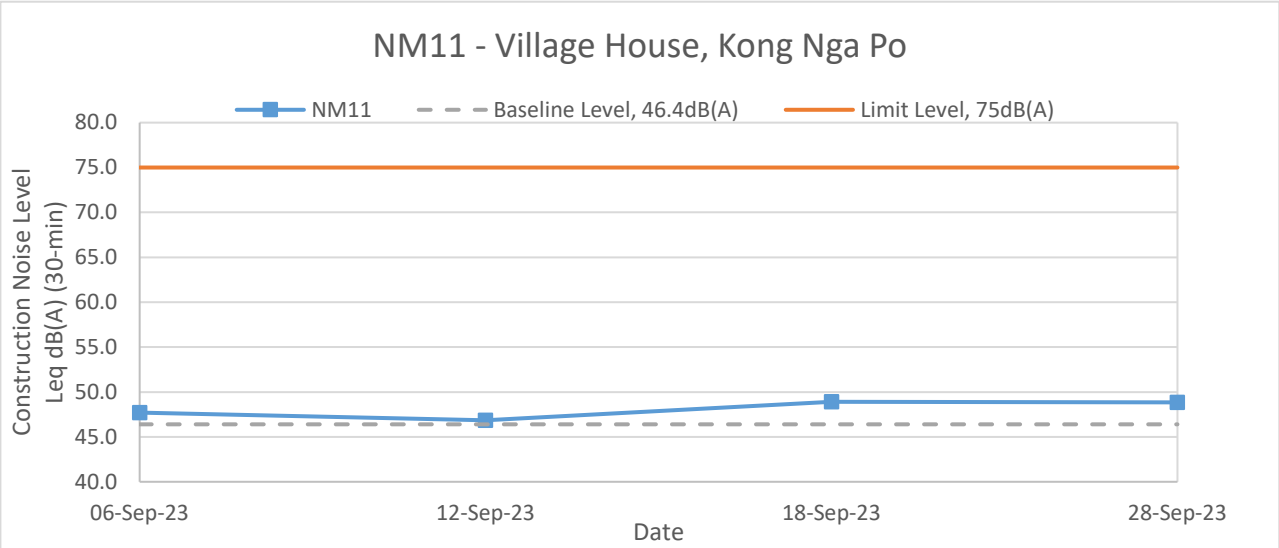
Location NM14 - Village House, near Man Kam To Road

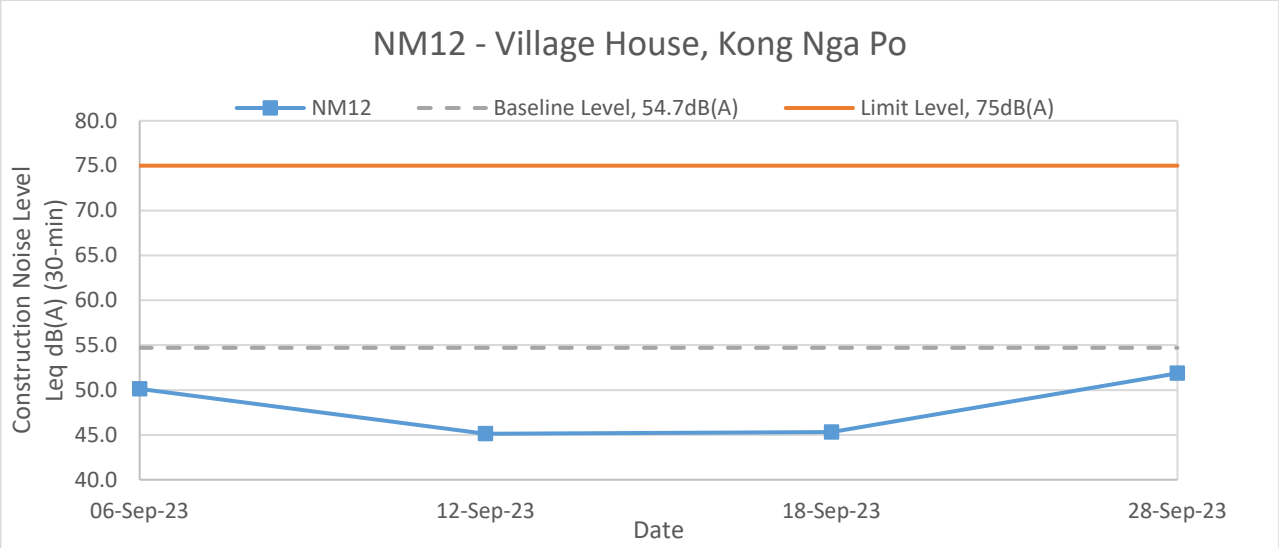
Date	Weather	Wind Speed (m/s)	Time	Unit: dB(A) (5-min)			Average	Limit Level	Baseline
				L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}	L_{eq}
06-Sep-23	Cloudy	0.2	13:30	46.3	48.0	43.9	47.0	75.0	59.6
				46.6	48.4	44.2			
				46.8	48.7	44.5			
				47.0	48.9	45.1			
				48.2	49.6	45.8			
				46.7	48.5	44.4			
12-Sep-23	Fine	0.2	10:55	50.3	53.9	40.3	49.4	75.0	59.6
				48.7	52.6	39.2			
				48.9	52.8	40.0			
				48.0	51.1	38.9			
				49.8	52.2	40.8			
				50.3	54.1	41.0			
18-Sep-23	Cloudy	0.2	13:50	44.3	46.4	40.8	44.5	75.0	59.6
				44.1	46.0	40.4			
				45.4	47.0	41.3			
				45.6	47.2	41.6			
				43.8	46.1	40.2			
				43.5	45.8	40.1			
28-Sep-23	Fine	0.2	13:50	46.9	48.8	43.6	47.9	75.0	59.6
				47.2	49.0	44.1			
				47.4	49.6	44.6			
				48.2	50.2	45.1			
				48.6	50.7	45.6			
				48.7	50.9	45.5			

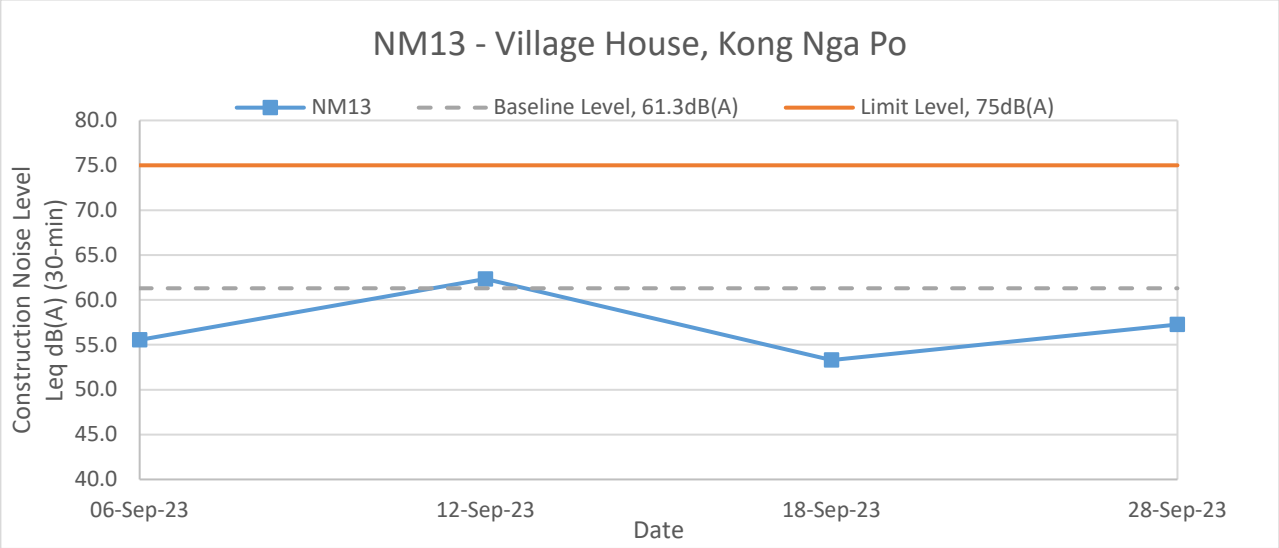
Noise Levels

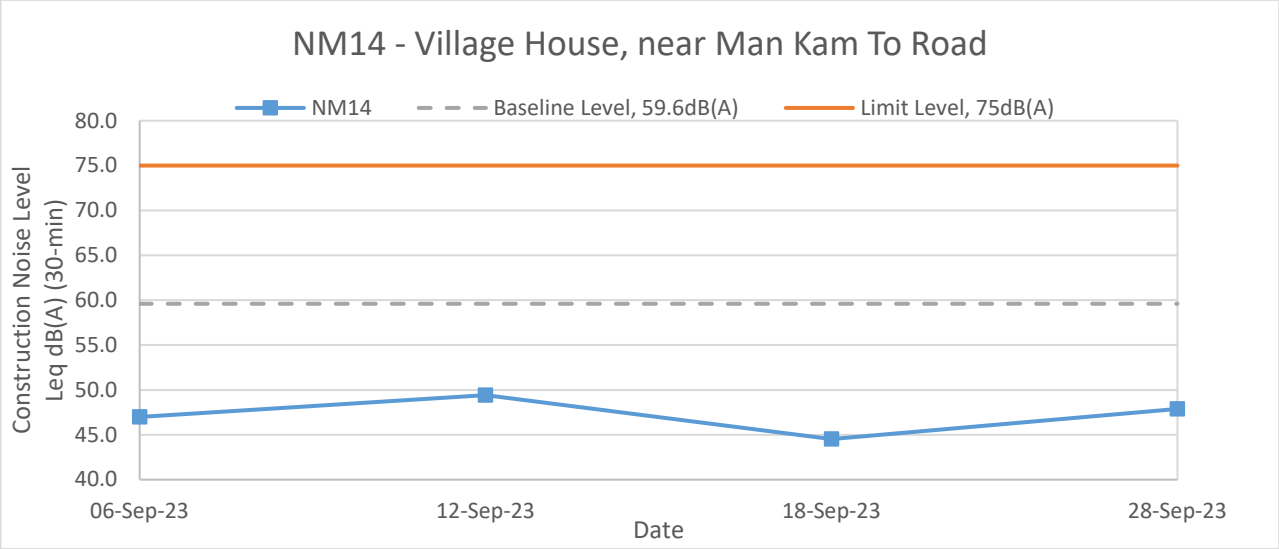







NM12 - Village House, Kong Nga Po
NM12
Baseline Level, 54.7dB(A)
Limit Level, 75dB(A)
Construction Noise Level
Leq dB(A) (30-min)
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
06-Sep-23
12-Sep-23
18-Sep-23
28-Sep-23
Date


NM13 - Village House, Kong Nga Po
NM13
Baseline Level, 61.3dB(A)
Limit Level, 75dB(A)
Construction Noise Level
Leq dB(A) (30-min)
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
06-Sep-23
12-Sep-23
18-Sep-23
28-Sep-23
Date


NM14 - Village House, near Man Kam To Road
NM14
Baseline Level, 59.6dB(A)
Limit Level, 75dB(A)
Construction Noise Level
Leq dB(A) (30-min)
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
06-Sep-23
12-Sep-23
18-Sep-23
28-Sep-23
Date

APPENDIX G
WEATHER CONDITION

Appendix G –

General Weather Conditions during the Monitoring Period (September 2023)

Date September	Mean Pressure (hPa)	Air Temperature			Mean Dew Point Temperature (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)
		Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)				
1	996.3	28.7	26.9	25.0	23.2	81	92	98.9
2	1000.1	27.2	26.2	25.2	24.7	92	95	80.4
3	1001.9	33.7	29.4	27.0	24.6	76	88	0.1
4	1002.1	32.6	29.9	27.3	24.4	73	87	Trace
5	1003.6	31.0	29.1	27.7	23.6	73	88	0.4
6	1005.4	32.1	29.4	27.8	23.8	72	88	-
7	1006.3	29.7	27.7	25.5	25.6	89	89	215.7
8	1007.9	26.3	25.7	25.0	24.7	94	96	425.0
9	1008.2	26.6	26.2	25.5	24.7	92	88	9.8
10	1008.3	26.5	25.8	24.8	24.5	93	90	67.4
11	1007.3	28.2	26.5	25.6	25.3	93	89	20.5
12	1006.5	29.4	27.0	26.0	25.0	89	83	0.9
13	1006.6	30.4	27.9	26.8	25.7	88	87	2.5
14	1007.7	28.2	26.9	25.6	25.5	92	88	103.5
15	1009.5	30.6	27.3	25.2	25.3	89	88	28.5
16	1011.1	28.8	27.1	25.4	25.2	89	88	4.3
17	1010.9	31.7	28.5	26.8	25.5	85	79	-
18	1011.4	32.7	29.2	27.4	25.3	80	57	-
19	1011.9	33.5	29.5	27.3	25.3	79	48	-
20	1011.0	32.9	29.6	27.5	24.7	76	28	-
21	1010.5	33.6	30.0	27.6	25.5	77	28	-
22	1010.4	34.4	30.2	28.4	25.3	75	67	Trace
23	1010.5	33.7	30.1	28.3	24.8	74	52	-
24	1009.9	33.1	29.9	28.5	24.9	75	76	-

25	1010.1	33.1	29.8	27.9	25.0	76	55	1.5
26	1010.7	33.4	30.0	28.3	25.0	75	52	-
27	1010.5	33.9	30.3	28.6	24.7	72	72	Trace
28	1011.6	33.6	30.3	28.7	24.4	71	73	-
29	1012.0	33.7	29.8	26.7	25.4	78	59	7.7
30	1010.4	33.6	30.0	28.2	25.0	75	44	-
Mean/Total	1008.0	31.2	28.5	26.9	24.9	81	74	1067.1
Normal*	1008.8	30.5	27.9	26.1	23.6	78	66	321.4

* The above information was extracted from the daily weather summary by Hong Kong Observatory.

APPENDIX H
ECOLOGICAL MONITORING RESULTS

Post-transplantation monitoring records for transplanted flora species (September 2023)

Contract No.: SS K509
Design and Construction of
Kong Nga Po Police Training Facilities

Monitoring and Maintenance Works Report

INSPECTION DATE: 29 SEPTEMBER 2023
REPORT DATE: 30 SEPTEMBER 2023

PREPARED BY:
Lau Siu Yeung, Andy
(UKAA PR5206)

Version: 00

Audit Ref. No. _____

Contract SS K509

Inspected By Lau Siu Yeung (Andy)

Inspection Date 29/09/2023

Time Period 13:00 to 16:00

Part A **Weather**

Condition ☑ Sunny ☐ Fine ☐ Overcast ☐ Drizzle ☐ Rain ☐ Storm ☐ Hazy

Temperature 30.3 °C

Humidity ☐ High (RH>90%) ☑ Moderate (90%>RH>50%) ☐ Low (RH<50%)

Wind ☑ Calm ☐ Light ☐ Breeze ☐ Strong

Part B

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
1.	**Cycadfern *Brainea insignis***						
1.1	Are the plants' health conditions satisfactory?	☐	☑	☐	☐	☐	
1.2	Are transplanted plants on site protected carefully?	☐	☑	☐	☐	☐	
1.3	Are the temporary protective fence properly erected and maintained?	☐	☑	☐	☐	☐	
1.4	Are the plant protection zone set 1m from the plants?	☐	☑	☐	☐	☐	
1.5	Are all grassed and planted area kept free from weeds/unwanted plants?	☐	☑	☐	☐	☐	
1.6	Is compaction of the soil avoided for the plants?	☐	☑	☐	☐	☐	
1.7	Are litter/ unwanted material removed within the planting area?	☐	☑	☐	☐	☐	
1.8	Are equipment or stockpile placed outside the protection zone?	☐	☑	☐	☐	☐	
1.9	Are soil, debris or construction materials deposited around and against the trunk of a plant as this causes bark damage avoided?	☐	☑	☐	☐	☐	
1.10	Are fixings driven into plants avoided?	☐	☑	☐	☐	☐	
1.11	Are the plants used for anchoring or winching purposes or for the display of signs avoided?	☐	☑	☐	☐	☐	
1.12	Are the fire lit below the branches and petrol, oil or caustic substances stored near the plants avoided?	☐	☑	☐	☐	☐	
1.13	Are all plants kept free from pest, disease or fungal infection?	☐	☑	☐	☐	☐	
1.14	Are there enough area for growth and development of plant roots?	☐	☑	☐	☐	☐	
1.15a	Is exposure of plant roots avoided?	☐	☑	☐	☐	☐	
1.15b	If not, were broken off or rotting of roots avoided?	☐	☑	☐	☐	☐	

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
2.	**Ladies Tresses *Spiranthes sinensis***						
2.1	Are the plants' health conditions satisfactory?	☐	☑	☐	☐	☐	
2.2	Are transplanted plants on site protected carefully?	☐	☑	☐	☐	☐	
2.3	Are the temporary protective fence properly erected and maintained?	☐	☑	☐	☐	☐	
2.4	Are the plant protection zone set 1m from the plants?	☐	☑	☐	☐	☐	
2.5	Are all grassed and planted area kept free from weeds/unwanted plants?	☐	☑	☐	☐	☐	
2.6	Is compaction of the soil avoided for the plants?	☐	☑	☐	☐	☐	
2.7	Are litter/ unwanted material removed within the planting area?	☐	☑	☐	☐	☐	

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
2.8	Are equipment or stockpile placed outside the protection zone?	☐	☑	☐	☐	☐	
2.9	Are soil, debris or construction materials deposited around and against the trunk of a plant as this causes bark damage avoided?	☐	☑	☐	☐	☐	
2.10	Are fixings driven into plants avoided?	☐	☑	☐	☐	☐	
2.11	Are the plants used for anchoring or winching purposes or for the display of signs avoided?	☐	☑	☐	☐	☐	
2.12	Are the fire lit below the branches and petrol, oil or caustic substances stored near the plants avoided?	☐	☑	☐	☐	☐	
2.13	Are all plants kept free from pest, disease or fungal infection?	☐	☑	☐	☐	☐	
2.14	Are there enough area for growth and development of plant roots?	☐	☑	☐	☐	☐	
2.15a	Is exposure of plant roots avoided?	☐	☑	☐	☐	☐	
2.15b	If not, were broken off or rotting of roots avoided?	☐	☑	☐	☐	☐	

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
3.	**Incense Trees *Aquilaria sinesis***						
3.1	Are the trees's health conditions satisfactory?	☐	☐	☐	☐	☐	
3.2	Are transplanted trees on site protected carefully?	☐	☐	☐	☐	☐	
3.3	Are the temporary protective fence properly erected and maintained?	☐	☐	☐	☐	☐	
3.4	Are the tree protection zone set 1m from the trees?	☐	☐	☐	☐	☐	
3.5	Are all grassed and planted area kept free from weeds/unwanted plants?	☐	☐	☐	☐	☐	
3.6	Is compaction of the soil avoided for the trees	☐	☐	☐	☐	☐	
3.7	Are litter/ unwanted material removed within the planting area?	☐	☐	☐	☐	☐	
3.8	Are equipment or stockpile placed outside the protection zone?	☐	☐	☐	☐	☐	
3.9	Are soil, debris or construction materials deposited around and against the trunk of a tree as this causes bark damage avoided?	☐	☐	☐	☐	☐	
3.10	Are fixings driven into trees avoided?	☐	☐	☐	☐	☐	
3.11	Are the trees used for anchoring or winching purposes or for the display of signs avoided?	☐	☐	☐	☐	☐	
3.12	Are the fire lit below the branches and petrol, oil or caustic substances stored near the trees avoided?	☐	☐	☐	☐	☐	
3.13	Are all trees kept free from pest, disease or fungal infection?	☐	☐	☐	☐	☐	
3.14	Are there enough area for growth and development of tree roots?	☐	☐	☐	☐	☐	
3.15a	Is exposure of tree roots avoided?	☐	☐	☐	☐	☐	
3.15b	If not, were broken off or rotting of roots avoided?	☐	☐	☐	☐	☐	
3.16	Are wounds/mechanical injuries avoided on tree trunk?	☐	☐	☐	☐	☐	
3.17	Are leaning of trees avoided?	☐	☐	☐	☐	☐	
3.18	Are dead/detached branches avoided?	☐	☐	☐	☐	☐	
3.19	Are decay/cavity avoided on tree trunks?	☐	☐	☐	☐	☐	

Part C **Follow-up for the Previous Site Audit on Date:** _____ **(Ref. No.**_____**)**

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
1.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
2.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
3.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
4.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
5.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
6.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
7.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
8.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
9.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____
10.	Is the situation in item _____ improved/rectified?	☐	☐	☐	☐	☐	_____

Remarks/Observations

Black rainstorm warning signal effected from 7 September 2023 to 8 September 2023 did cause adverse effect on the health of Ladies Tressess even shelter was installed.

Signatures:

Contractor's Representative

(Name: Lau Siu Yeung)
(Date: 29/09/2023)

Supervisor's Rep.

(Name:)
(Date:)

Inspection Date: 29/9/2023

Tree/Plant/ Colony No.	Number of Individuals	Species Name	Form (Good/Fair/Poor)	Health (Good/Fair/Poor)	Remark
C-0001	01	*Brainea insignis*	F	F	Young leaves observed
	02	*Brainea insignis*	F	F	Young leaves observed
	03	*Brainea insignis*	F	F	Young leaves observed
	04	*Brainea insignis*	F	F	Young leaves observed
	05	*Brainea insignis*	F	F	Young leaves observed
	06	*Brainea insignis*	F	F	Young leaves observed
	07	*Brainea insignis*	F	F	Young leaves observed
	08	*Brainea insignis*	F	F	Young leaves observed
C-0002	01	*Brainea insignis*	F	F	Young leaves observed
	02	*Brainea insignis*	F	F	Young leaves observed
	03	*Brainea insignis*	F	P	Young leaves observed
	04	*Brainea insignis*	F	P	Young leaves observed
	05	*Brainea insignis*	F	F	Young leaves observed
	06	*Brainea insignis*	F	F	Young leaves observed
	07	*Brainea insignis*	F	F	Young leaves observed
	08	*Brainea insignis*	F	F	Young leaves observed
C-0003	01	*Brainea insignis*	F	F	Young leaves observed
C-0004	01	*Brainea insignis*	P	P	Young leaves at base; Dry out caused by bushfire initially outside site boundary and high temperature on 2 Feb 2021
	02	*Brainea insignis*	F	F	Young leaves observed
	03	*Brainea insignis*	F	F	Young leaves observed
	04	*Brainea insignis*	F	F	Young leaves observed
	05	*Brainea insignis*	F	F	Young leaves observed
	06	*Brainea insignis*	F	F	Young leaves observed
	07	*Brainea insignis*	F	F	Young leaves observed
	08	*Brainea insignis*	F	P	Young leaves at base
	09	*Brainea insignis*	P	P	Dry out caused by bushfire initially outside site boundary and high temperature on 2 Feb 2021
	10	*Brainea insignis*	F	P	Young leaves at base
	11	*Brainea insignis*	F	F	Young leaves observed
	12	*Brainea insignis*	F	P	Young leaves observed
	13	*Brainea insignis*	-	-	Stem not found Dry out caused by bushfire initially outside site boundary and high temperature on 2 Feb 2021
	14	*Brainea insignis*	F	F	Young leaves observed
	15	*Brainea insignis*	P	P	Young leaves at base; Dry out caused by bushfire initially outside site boundary and high temperature on 2 Feb 2021
	16	*Brainea insignis*	P	P	Dry out caused by bushfire initially outside site boundary and high temperature on 2 Feb 2021
	17	*Brainea insignis*	P	P	Young leaves observed
	18	*Brainea insignis*	-	-	Burned by bushfire initially outside the site boundary on 2 Feb 2021.
	19	*Brainea insignis*	F	P	-
	20	*Brainea insignis*	F	F	Young leaves observed

Contract No.: SS K509
Design and Construction of Kong Nga Po Police Training Facilities
Monitoring and Maintenance Works for Flora Species of Conservation Interest

Inspection Date: 29/9/2023

Tree/Plant/ Colony No.	Number of Individuals	Species Name	Form (Good/Fair/Poor)	Health (Good/Fair/Poor)	Remark
C-0005	01	*Brainea insignis*	F	F	Young leaves observed
	02	*Brainea insignis*	F	F	Young leaves observed
	03	*Brainea insignis*	F	F	Young leaves observed
	04	*Brainea insignis*	F	F	Young leaves observed
	05	*Brainea insignis*	F	P	Young leaves at base
	06	*Brainea insignis*	F	F	Young leaves observed
	07	*Brainea insignis*	F	F	Young leaves observed
C-0006	01	*Brainea insignis*	P	F	Young leaves observed
C-0007	01	*Brainea insignis*	F	F	Young leaves observed
	02	*Brainea insignis*	F	P	-
C-0008	01	*Brainea insignis*	F	F	Young leaves observed
	02	*Brainea insignis*	F	F	Young leaves observed
	03	*Brainea insignis*	P	P	Young leaves observed
	04	*Brainea insignis*	F	F	Young leaves observed
	05	*Brainea insignis*	F	F	Young leaves observed
	06	*Brainea insignis*	F	P	-
	07	*Brainea insignis*	F	P	Young leaves at base
C-0009	01	*Brainea insignis*	F	F	Young leaves observed
C-0010	01	*Brainea insignis*	F	F	Young leaves observed
	02	*Brainea insignis*	F	F	Young leaves observed
	03	*Brainea insignis*	F	F	Young leaves observed
C-0011	01	*Brainea insignis*	P	P	Dry out caused by bushfire initially outside site boundary and high temperature on 2 Feb 2021
	02	*Brainea insignis*	F	P	-
	03	*Brainea insignis*	P	P	Young leaves at base
	04	*Brainea insignis*	F	F	-
	05	*Brainea insignis*	F	P	Young leaves at base
	06	*Brainea insignis*	F	F	Young leaves at base
	07	*Brainea insignis*	P	P	Young leaves at base
	08	*Brainea insignis*	F	F	Young leaves observed
	09	*Brainea insignis*	P	P	-
	10	*Brainea insignis*	F	F	Young leaves observed
	11	*Brainea insignis*	F	F	Young leaves observed
	12	*Brainea insignis*	P	P	-
	13	*Brainea insignis*	F	F	Young leaves observed

C-0001(Patch)_01

C-0001(Patch)_02

C-0001(Patch)_03

C-0001(Patch)_04

C-0001(Patch)_05

C-0001(Patch)_06

C-0001(Patch)_07

C-0001(Patch)_08

C-0002(Patch)_01

C-0002(Patch)_02

C-0002(Patch)_03

C-0002(Patch)_04

C-0002(Patch)_05

C-0002(Patch)_06

C-0002(Patch)_07

C-0002(Patch)_08

C-0003

C-0004(Patch)_01

C-0004(Patch)_02

C-0004(Patch)_03

C-0004(Patch)_04

C-0004(Patch)_05

C-0004(Patch)_06

C-0004(Patch)_07

C-0004(Patch)_08

C-0004(Patch)_09

C-0004(Patch)_10

C-0004(Patch)_11

C-0004(Patch)_12

C-0004(Patch)_13

C-0004(Patch)_14

C-0004(Patch)_15

C-0004(Patch)_16

C-0004(Patch)_17

C-0004(Patch)_18

C-0004(Patch)_19

C-0004(Patch)_20

C-0005(Patch)_01

C-0005(Patch)_02

C-0005(Patch)_03

C-0005(Patch)_04

C-0005(Patch)_05

C-0005(Patch)_06

C-0005(Patch)_07

C-0006(Patch)

C-0007(Patch)_01

C-0007(Patch)_02

C-0008(Patch)_01

C-0008(Patch)_02

C-0008(Patch)_03

C-0008(Patch)_04

C-0008(Patch)_05

C-0008(Patch)_06

C-0008(Patch)_07

C-0009

C-0010(Patch)_01

C-0010(Patch)_02

C-0010(Patch)_03

C-0011(Patch)_01

C-0011(Patch)_02

C-0011(Patch)_03

C-0011(Patch)_04

C-0011(Patch)_05

C-0011(Patch)_06

C-0011(Patch)_07

C-0011(Patch)_08

C-0011(Patch)_09

C-0011(Patch)_10

C-0011(Patch)_11

C-0011(Patch)_12

C-0011(Patch)_13

Contract No.: SS K509
Design and Construction of Kong Nga Po Police Training Facilities
Monitoring and Maintenance Works for Flora Species of Conservation Interest

Inspection Date: 29/9/2023

Tree/Plant/ Colony No.	Species Name	Form (Good/Fair/Poor)	Health (Good/Fair/Poor)	Remark
L-0001	*Spiranthes sinensis*	-	-	Not observed
L-0002	*Spiranthes sinensis*	-	-	Not observed
L-0003	*Spiranthes sinensis*	P	P	Only leaf base observed
L-0004	*Spiranthes sinensis*	P	P	Only leaf base observed
L-0005	*Spiranthes sinensis*	-	-	Not observed
L-0006	*Spiranthes sinensis*	-	-	Not observed
L-0007	*Spiranthes sinensis*	-	-	Not observed
L-0008	*Spiranthes sinensis*	-	-	Not observed
L-0009	*Spiranthes sinensis*	-	-	Not observed
L-0010	*Spiranthes sinensis*	-	-	Not observed
L-0011	*Spiranthes sinensis*	-	-	Not observed
L-0012	*Spiranthes sinensis*	-	-	Not observed
L-0013	*Spiranthes sinensis*	-	-	Not observed
L-0014	*Spiranthes sinensis*	-	-	Not observed
L-0015	*Spiranthes sinensis*	P	P	Leaf observed
L-0016	*Spiranthes sinensis*	-	-	Not observed
L-0018	*Spiranthes sinensis*	F	F	Leaf observed
L-0019	*Spiranthes sinensis*	-	-	Not observed
L-0020	*Spiranthes sinensis*	-	-	Not observed
L-0021	*Spiranthes sinensis*	-	-	Not observed
L-0022	*Spiranthes sinensis*	F	F	Leaf observed
L-0023	*Spiranthes sinensis*	-	-	Not observed
L-0024	*Spiranthes sinensis*	-	-	Not observed
L-0025	*Spiranthes sinensis*	-	-	Not observed
L-0026	*Spiranthes sinensis*	-	-	Not observed
L-0027	*Spiranthes sinensis*	-	-	Not observed
L-0028	*Spiranthes sinensis*	-	-	Not observed
L-0029	*Spiranthes sinensis*	-	-	Not observed
L-0030	*Spiranthes sinensis*	-	-	Not observed
L-0031	*Spiranthes sinensis*	F	F	Leaf observed
L-0032	*Spiranthes sinensis*	-	-	Not observed
L-0033	*Spiranthes sinensis*	-	-	Not observed
L-0034	*Spiranthes sinensis*	-	-	Not observed
L-0035	*Spiranthes sinensis*	-	-	Not observed
L-0036	*Spiranthes sinensis*	-	-	Not observed
L-0037	*Spiranthes sinensis*	F	F	Leaf observed
L-0038	*Spiranthes sinensis*	P	P	Leaf observed
L-0039	*Spiranthes sinensis*	-	-	Not observed
L-0040	*Spiranthes sinensis*	F	F	Leaf observed
L-0041	*Spiranthes sinensis*	-	-	Not observed
L-0042	*Spiranthes sinensis*	-	-	Not observed


SS K509
Ladies Tresses
L-0001
2023/09/29

L-0001


SS K509
Ladies Tresses
L-0002
2023/09/29

L-0002


SS K509
Ladies Tresses
L-0003
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L-0042

Contract No.: SS K509
Design and Construction of Kong Nga Po Police Training Facilities
Monitoring and Maintenance Works for Flora Species of Conservation Interest

Hong Da Landscaping Limited

Vegetation Maintenance Record Sheet (September 2023)

Description of Work	Date																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Watering																				Y										
Weeding																													Y	
Fertilization																														
Pest/Disease Control																														
Firming up of fence																													Y	
Installation of shaded net																														
Mulching																														
Inspection				Y					Y																				Y	
Checking of Protection Zone																													Y	
Remarks	R,MH	R, RH		MH	R,MH	MH	R,MH	R, RH	R, RH		R, RH	R,MH	R,MH	R, RH	R,MH	R,MH		MH	MH	MH	MH	MH	MH	MH	R,MH	MH	R,MH	MH	MH	MH

	Public Holiday		H-Hot	D-Drizzle		R-Rainy		W-Windy		RH-High Humidity	MH-Medium Humidity	LH-Low Humidity		

Weeding (1)

Weeding (2)

Post-transplantation Monitoring Checklist
Police Facilities in Kong Nga Po

Contract **Provision of Environmental Team consultancy for Design and Construction of Kong Nga Po Police Training Facilities (Programme no. 279LP)**

Inspected By ETL **Inspection Date** 25-09-2023

Part A **Weather**

Condition ☐ Sunny ☒ Fine ☐ Overcast ☐ Drizzle ☐ Rain ☐ Storm ☐ Hazy

Humidity ☐ High (RH>90%) ☒ Moderate (90%>RH>50%) ☐ Low (RH<50%)

Wind ☐ Calm ☒ Light ☐ Breeze ☐ Strong

Part B

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
1.	**Cycadfern *Brainea insignis***						
1.1	Are the plants' health conditions satisfactory?	☒	☐	☐	☐	☐	
1.2	Are transplanted plants on site protected carefully?	☒	☐	☐	☐	☐	
1.3	Are the temporary protective fence properly erected and maintained?	☐	☒	☐	☐	☐	
1.4	Are the plant protection zone set 1m from the plants?	☒	☐	☐	☐	☐	
1.5	Are all grassed and planted area kept free from weeds/unwanted plants?	☒	☐	☐	☐	☐	
1.6	Is compaction of the soil avoided for the plants?	☒	☐	☐	☐	☐	
1.7	Are litter/ unwanted material removed within the planting area?	☐	☒	☐	☐	☐	
1.8	Are equipment or stockpile placed outside the protection zone?	☐	☐	☒	☐	☐	
1.9	Are soil, debris or construction materials deposited around and against the trunk of a plant as this causes bark damage avoided?	☐	☐	☒	☐	☐	
1.10	Are fixings driven into plants avoided?	☒	☐	☐	☐	☐	
1.11	Are the plants used for anchoring or winching purposes or for the display of signs avoided?	☒	☐	☐	☐	☐	
1.12	Are the fire lit below the branches and petrol, oil or caustic substances stored near the plants avoided?	☐	☐	☒	☐	☐	
1.13	Are all plants kept free from pest, disease or fungal infection?	☒	☐	☐	☐	☐	
1.14	Are there enough area for growth and development of plant roots?	☒	☐	☐	☐	☐	
1.15a	Is exposure of plant roots avoided?	☒	☐	☐	☐	☐	
1.15b	If not, were broken off or rotting of roots avoided?	☒	☐	☐	☐	☐	
2.	**Ladies Tresses *Spiranthes sinensis***						
2.1	Are the plants' health conditions satisfactory?	☒	☐	☐	☐	☐	
2.2	Are transplanted plants on site protected carefully?	☒	☐	☐	☐	☐	
2.3	Are the temporary protective fence properly erected and maintained?	☐	☒	☐	☐	☐	
2.4	Are the plant protection zone set 1m from the plants?	☒	☐	☐	☐	☐	
2.5	Are all grassed and planted area kept free from weeds/unwanted plants?	☒	☐	☐	☐	☐	
2.6	Is compaction of the soil avoided for the plants?	☒	☐	☐	☐	☐	
2.7	Are litter/ unwanted material removed within the planting area?	☐	☒	☐	☐	☐	

		N/A or not observed	Yes	No	Follow-up	N/C	Remarks
2.8	Are equipment or stockpile placed outside the protection zone?	☐	☐	☒	☐	☐	
2.9	Are soil, debris or construction materials deposited around and against the trunk of a plant as this causes bark damage avoided?	☐	☐	☒	☐	☐	
2.10	Are fixings driven into plants avoided?	☒	☐	☐	☐	☐	
2.11	Are the plants used for anchoring or winching purposes or for the display of signs avoided?	☒	☐	☐	☐	☐	
2.12	Are the fire lit below the branches and petrol, oil or caustic substances stored near the plants avoided?	☐	☐	☒	☐	☐	
2.13	Are all plants kept free from pest, disease or fungal infection?	☒	☐	☐	☐	☐	
2.14	Are there enough area for growth and development of plant roots?	☒	☐	☐	☐	☐	
2.15a	Is exposure of plant roots avoided?	☒	☐	☐	☐	☐	
2.15b	If not, were broken off or rotting of roots avoided?	☒	☐	☐	☐	☐	

Advice/observations

1) Please refer to the guidelines on soil improvement issued by the Greening, Landscape and Tree Management Section (GLTMS) of the development bureau (2022) to apply to monitoring and maintenance of transplanted flora species.

2) The advisable installation of a shaded net is provided below.

IEC	ETL	Contractor Representative
	Lee	
Name: Mr. Law	Name: Mr. Lee	Name: Marian Kong
Date:	Date: 25-09-2023	Date:

The advisable installation of a shaded net

Remark: Non scale & Conceptual drawing

APPENDIX I
EVENT ACTION PLANS

Appendix I:

Table I-1: Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	PERMIT HOLDER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigatethe causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 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 source; 2. Inform IEC, ER andContractor; 3. Advise the WKCDA on theeffectiveness of the proposed remedial measure; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedialactions required; 7. If exceedance continues, arrange meeting with IECand ER; and	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; and 5. Monitor Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; and 3. Amend proposal if appropriate.

EVENT	ACTION			
	ET	IEC	PERMIT HOLDER	CONTRACTOR
	8. If exceedance stops, cease additional monitoring.			
LIMIT LEVEL				
1.Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and the ER informed of the results.	1. Check monitoring data submitted byET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness ofthe proposed remedial measures;and 5. Monitor the implementation of remedial measures.	1. Confirm receipt ofnotification of failure in writing; 2. Notify Contractor;and 3. Ensure remedial measures properly implemented.	1. Take immediate actionto avoid further exceedance; 2. Submit proposals for remedial actions to IECwithin 3 working days of notification; 3. Implement the agreedproposals; and 4. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	1. Notify IEC, the ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine	1. Check monitoring data submitted byET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions;	1. Confirm receipt ofnotification of failure in writing; 2. Notify Contractor; 3. In consultation with IEC, agree with the Contractor on theremedial measures to be implemented;	1. Take immediate actionto avoid further exceedance; 2. Submit proposals for remedial actions to IECwithin 3 working days of notification; 3. Implement the agreedproposals;

EVENT	ACTION			
	ET	IEC	PERMIT HOLDER	CONTRACTOR
	possible mitigation to be implemented; 6. Arrange meeting with IEC, and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	4. Review Contractor's remedial actions whenever necessary to assuretheir effectiveness and advise the ER accordingly; and 5. Monitor implementation of remedial measures.	4. Ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stopthat portion of work until the exceedances is abated.	4. Resubmit proposals if problem still not undercontrol; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker

Table I-2: Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**PERMIT HOLDER**	**CONTRACTOR**
Action Level	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; and 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the monitoring data submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise ER; and 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measure to be implemented: and 4. Supervise the implementation of remedial measure.	1. Submit noise mitigation proposals to IEC and ER; and 2. Implement noise mitigation proposals.
Limit Level	1. Inform IEC, ER and Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase the monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on	1. Discuss amongst the ER, ET, and Contractor on the potential remedial actions; and 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;	1. Confirm receipt of notification of failure in writing; 2. Notify the Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; and 5. If exceedance continues, consider	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; and 5. Stop the relevant portion of works as

EVENT	ACTION			
	ET	IEC	PERMIT HOLDER	CONTRACTOR
	remedial measure required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.		stopping the Contractor to continue working in that portion of work which causes the exceedance until the exceedance is abated.	determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker

Table I-3: Event / Action Plan for Landscape and Visual Mitigation Measures

EVENT	ACTION			
	ET	**IEC**	**PERMIT HOLDER**	**CONTRACTOR**
Non-conformity on one occasion	Identify source. Inform IEC and ER. Discuss remedial actions with IEC, ER and Contractor. Monitor remedial actions until rectification has been completed.	Check report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise ER on effectiveness of proposed remedial measures. Check implementation of remedial measures.	Notify Contractor. Ensure remedial measures are properly implemented	Amend working methods to prevent recurrence of nonconformity. Rectify damage and undertake additional action necessary.
Repeated Nonconformity	Identify source. Inform IEC and ER. Increase monitoring frequency. Discuss remedial actions with IEC, ER and Contractor. Monitor remedial actions until rectification has been completed. If non-conformity stops, cease additional monitoring.	Check monitoring report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise ER on effectiveness of proposed remedial measures. Supervise implementation of remedial measures.	Notify Contractor. Ensure remedial measures are properly implemented.	Amend working methods to prevent recurrence of nonconformity. Rectify damage and undertake additional action necessary.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker

APPENDIX J
SUMMARY OF EXCEEDANCE

Appendix J: Exceedance Report

(A) Exceedance Report for Air Quality

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract		Cumulative No. of Exceedance recorded
		Action Level	Limit Level	Action Level	Limit Level	
Air Quality	1-hr TSP	0	0	0	0	0

(B) Exceedance Report for Construction Noise

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract		Cumulative No. of Exceedance recorded
		Action Level	Limit Level	Action Level	Limit Level	
Noise	$L_{eq(30\ min.)}$ dB(A)	0	0	0	0	0

APPENDIX K
ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
Air Quality Impact – Construction Phase									
3.9.1	2.2	**Dust Control Measures** To achieve compliance with the FSP, RSP and TSP criteria during the construction phase, good practices for dust control should be implemented to reduce dust impacts. The dust control measures are detailed as follows: ▪ Use of regular water spraying (once every 1.25 hours or 8 times per day) to reduce dust emissions from heavy construction activities (including ground excavation, earth moving, etc.) at all active works area exposed site surfaces and unpaved roads, particularly during dry weather. ▪ Covering 80% of stockpiling area by impervious sheets and spraying all dusty material with water immediately prior to any loading transfer operations to keep the dusty materials wet during material handling at the stockpile areas Relevant dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted: Good Site Management ▪ Good site management is important to help reduce potential air quality impact down to an acceptable level. As a general guide, the	Construction Dust	Contractor	Project construction site / Duration of the construction phase / Prior to commencement of operation		✓		EIA Recommendation and Air Pollution Control (Construction Dust) Regulation

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		Contractor should maintain high standards of housekeeping to prevent emissions of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning. Disturbed Parts of the Roads ▪ Main temporary access points should be paved with concrete, bituminous hardcore materials or metal plates and be kept clear of dusty materials; or ▪ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. Exposed Earth ▪ Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. Loading, Unloading or Transfer of Dusty Materials ▪ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.							

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		Debris Handling ▪ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. ▪ Before debris is dumped into a chute, water should be sprayed onto the debris so that it remains wet when it is dumped. Transport of Dusty Materials ▪ Vehicles used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. Wheel washing ▪ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. Use of vehicles ▪ The speed of the trucks within the site should be controlled to about 10 km/hour in order to reduce adverse dust impacts and secure the safe movement around the site. ▪ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. ▪ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.						

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		Site hoarding ▪ Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit							
Air Quality Impact – Operation Phase									
3.7.4	-	**Control Measures of proposed firing ranges** ▪ Bullet containment systems such as backstops of soft materials (e.g. timber baffles) and sand traps behind bullet targets are proposed to be installed to collect bullets from gunshots, which would reduce lead dust and dust in general. ▪ Monitoring and adjusting of soil pH or runoff control measures may be required to ensure no lead migration occurs. Alternatively, the use of lead-free primers mixture for firearms or air pistols would eradicate lead dust emissions completely. ▪ A solid fence wall (at least 2.4m to 3.5m high) with a backstop of soft material (of a density of at least 20kg/m^2) will also be erected around the boundary of the firing ranges.	Proposed Firing Range	Hong Kong Police Force	Duration of the operation phase			✓	N/A
Noise Impact – Construction Phase									
4.4.6	3.2	**Good Site Practice** Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction: ▪ only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; ▪ machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum;	Maintain good site practice to minimise / avoid construction noise impact	Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; ▪ mobile plant should be sited as far away from NSRs as possible; and ▪ material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.							
4.4.6	3.2	**Adoption of QPME** QPME should be adopted as far as applicable.	Minimise / avoid construction noise impacts to the surrounding NSRs	Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance
4.4.6	3.2	**Use of Movable Noise Barriers** Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs.	Minimise / avoid construction noise impacts to the surrounding NSRs	Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance
4.4.6	3.2	**Use of Noise Enclosure/ Acoustic Shed** Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator.	Minimise / avoid construction noise impacts to the surrounding NSRs	Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance
4.4.6	3.2	**Use of Noise Insulating Fabric** Noise insulating fabric can also be adopted for certain PME (e.g. pilling machine etc.).	Minimise / avoid construction noise impacts to the surrounding NSRs	Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance
Noise Impact – Operation Phase									
4.6.6	3.3	**Fixed Noise Source** At least 2.5m height perimeter wall / boundary wall at the Project site and 5m height 4-side walls at Ma Tso Lung Firing Range will be installed.	Minimise / avoid fixed noise source impacts to the surrounding NSRs	Design Architect / Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance
4.6.6	3.3	**Fixed Noise Source** Specification of the maximum allowable sound	Minimise / avoid fixed noise source impacts to	Design Architect / Contractor	Within the Project site / During operation phase			✓	EIAO and Noise Control

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		power levels of the proposed fixed plants should be followed. The following noise reduction measures should be considered as far as practicable during operation: ▪ Install sand bullet trap, sound absorption materials and baffle system at the planned firing ranges; ▪ Choose quieter plant such as those which have been effectively silenced; ▪ Include noise levels specification when ordering new plant (including chillier and E/M equipment); ▪ Locate fixed plant/louvre away from any NSRs as far as practicable; ▪ Locate fixed plant in walled plant rooms or in specially designed enclosures; ▪ Locate noisy machines in a completely separate building; ▪ Install direct noise mitigation measures including silencers, acoustic louvres and acoustic enclosure where necessary; and ▪ Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise.	the surrounding NSRs		/ Throughout operation phase				Ordinance
4.7.4	3.3	**Helicopter Noise** At least 2.5m height perimeter wall / boundary wall at the Project site will be installed.	Minimise / avoid helicopter noise impacts to the surrounding NSRs	Design Architect / Contractor	Within the Project site / During construction phase / Prior to commencement of operation.		✓		EIAO and Noise Control Ordinance
4.7.4	3.3	**Helicopter Noise** Only one helicopter will be allowed in hovering, approaching or taking-off while another helicopter should be idling on ground.	Minimise / avoid helicopter noise impacts to the surrounding NSRs	GFS	Helipad operation/ Operation Period			✓	EIAO and Noise Control Ordinance
4.7.4	3.3	**Helicopter Noise** The helicopter will be in approaching or taking-off within the restricted ranges of approach/take-off flight paths and adopting steeper approach / departure (take-off) angles.	Minimise / avoid helicopter noise impacts to the surrounding NSRs	GFS	Helipad operation/ Operation Period			✓	EIAO and Noise Control Ordinance

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Water Quality Impact – Construction Phase									
5.6.1.1	4.2	**General Construction Activities** The following measures should be implemented: ▪ Construction waste, debris and refuse generated on-site should be stored or contained appropriately to prevent them entering nearby watercourses or blocking stormwater drains. ▪ Regular off-site removal of these materials should be maintained to minimise the volume of waste present on the construction site at any one time. ▪ Stockpiles of construction materials such as cement and excavated material should be covered when not in use to reduce the potential for water pollution.	Maintain good site practices to avoid pollution of water courses	Contractor	Within the Project site / During construction phase		✓		Water Pollution Control Ordinance (Cap. 358), ProPECC Note PN 1/94
5.6.1.2	4.2	**Construction Site Runoff** The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended: ▪ Temporary site drainage facilities are to be designed and implemented by the Contractor prior to commencement of construction to convey surface runoff to storm drains applying adequately designed silt/ sand removal traps and sediment basins. ▪ Perimeter cut-off drains shall be installed in advance of any earthworks and site formation work to convey site runoff from the works areas to the silt removal facilities. ▪ Runoff into the excavation areas during rainstorm events shall be minimised as far as practicable. Any wastewater pumped out of the excavation areas shall be treated to remove suspended solids prior to discharge. ▪ Maintenance and inspection of the drainage system and sediment removal facilities should	Minimise / control construction site runoff to avoid pollution of water courses	Contractor	Within the Project site / During construction phase		✓		Water Pollution Control Ordinance (Cap. 358), ProPECC Note PN 1/94

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		be carried out regularly to remove any sediment and blockages, especially when rainstorms are forecast. ▪ Final surface levels should be compacted and final surface protections installed to prevent erosion caused by rainstorms. ▪ Open stockpiles of material should be covered on site with waterproof layers such as tarpaulin to reduce the potential for sediment laden runoff entering the drainage system. ▪ The wheels of all vehicles and plant should be cleaned before leaving the works areas to remove sediment, soil and debris from the tracks. The washwater should be treated to remove any suspended sediment. ▪ Surface water from concrete batching areas and the rest of the site should be separated as far as possible. Wastewater from any concrete batching plant (if required) shall be treated to the required standards including pH adjustment and settlement of suspended sediments before discharging to stormwater drains. ▪ Manholes (including those constructed as part of the Project) should be adequately covered and temporarily sealed at all times to prevent silt, construction materials or debris from entering the drainage system, and to prevent storm runoff from entering foul sewers. The discharge of surface runoff into foul sewers should be prevented so as not to overload the sewerage system. Discharges should be collected by the temporary drainage system installed by the Contractor and treated on-site to remove sediment prior to discharge to the off-site drainage areas. The Contractor is required to obtain a discharge licence from EPD under the WPCO for all discharges from site with all discharges meeting the water quality requirements of the Technical							

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
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		Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS).							
5.6.1.3	4.2	**Accidental Spillage of Chemicals** In accordance with the Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C), the following measures should be implemented: ▪ The labelling and storage of chemicals should be in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and maintained at all times by the Contractor. ▪ Oils and fuels should only be stored in designated areas which have appropriate pollution prevention control facilities such as oil and grease traps. ▪ The maintenance of vehicles should only be undertaken in areas of the site served by appropriate pollution prevention control facilities. ▪ To prevent the spillage of fuels and solvents to nearby stormwater drains, all fuel tanks and storage areas should be locked and sited on sealed areas of the site, within bunded areas with a capacity equal to 110% of the storage capacity of the largest container. The bund should be kept free of surface water at all times and after each rainfall event.	Prevent accidental discharge of chemicals into the surrounding environment	Contractor	Within the Project site / During construction phase		✓		Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C)
5.6.1.4	4.2	**Sewage from Construction Workforce** Portable toilets should be available throughout the construction phase and regularly maintained, collected and disposed by a licensed waste collector to a public sewage treatment works for suitable treatment.	Prevent discharge of sewage into the surrounding environment	Contractor	Within the Project site / During construction phase		✓		Water Pollution Control Ordinance (Cap. 358), ProPECC Note PN 1/94
5.6.1.5	4.2	**Construction Works in Close Proximity to Inland Watercourses** Mitigation measures such as such as temporary diversions of existing drainage culverts/ watercourses before construction commences and	Minimise/ control construction site discharges to avoid pollution of nearby watercourses	Contractor	Within the Project site / During construction phase		✓		Water Pollution Control Ordinance (Cap. 358), ProPECC Note PN 1/94,

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
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		during construction should be implemented, in addition to those listed in ProPECC Note PN1/94 *Construction Site Drainage* and ETWB TC (Works) No. 5/2005 *Protection of Natural Streams/ rivers from Adverse Impacts Arising from Construction Works*. Measures include the following: ▪ Stockpiling of construction materials and spoil, should be properly covered and located away from any natural stream/river. ▪ Construction works close to the inland waters should be carried out in dry season as far as practicable where the flow in the surface channel or stream is low. ▪ Removal of existing vegetation alongside the riverbanks should be avoided or minimised. When disturbance to vegetation is unavoidable, all disturbed areas should be hydroseeded or planted with suitable vegetation to blend in with the natural environment upon completion of works.							ETWB TC (Works) No. 5/2005
Water Quality Impact – Operation Phase									
5.6.2.1	4.2	**Stormwater Runoff** In accordance with Drainage Services Department's Stormwater Drainage Manual, the following measures should be implemented: ▪ Silt removal facilities should be implemented to reduce the potential for suspended solids and heavy metal contaminants from vehicles. ▪ Petrol interceptors should be installed in areas with the potential to generate runoff contaminated with petrol and grease to capture pollutants from vehicles and their maintenance, especially in 'first flush' rainfall events. ▪ Regular maintenance of these facilities particularly at the onset of and after each major rainstorm event will ensure the impacts on downstream river water quality are	Prevent pollution of water courses due to stormwater runoff	Design Consultant/ Future site operator	During design and operation phase	✓		✓	Water Pollution Control Ordinance (Cap. 358), Stormwater Drainage Manual

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		minimised.							
5.6.2.2	4.2	**Accidental Spillage of Chemicals, Oils and Fuels** In accordance with the Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C), the following measures should be implemented: ▪ The labelling and storage of chemicals should be in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes maintained at all times. ▪ Oils and fuels should only be stored in designated areas which have appropriate pollution prevention control facilities such as oil and grease traps. ▪ The maintenance of vehicles should only be undertaken in areas of the site served by appropriate pollution prevention control facilities. ▪ To prevent the spillage of fuels and solvents to nearby stormwater drains, all fuel tanks and storage areas should be locked and sited on sealed areas of the site, within bunded areas with a capacity equal to 110% of the storage capacity of the largest container. The bund should be kept free of surface water at all times and after each rainfall event. For refuelling activities, the following measures should be implemented: ▪ Refuelling activities at the PD&TTF shall be located in covered areas. ▪ No stormwater drainage systems shall be installed in the vicinity of helicopter or vehicle refuelling facilities unless petrol interceptors are implemented with an associated connection to the foul sewerage system. ▪ A fuel spill kit shall be located at easily accessible locations to enable any spillages to be cleaned up immediately.	Prevent accidental discharge of chemicals, oils and fuels into the surrounding environment	Design Consultant/ Future site operator	During design and operation phase	✓		✓	Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C); Water Pollution Control Ordinance (Cap. 358); TM-DSS

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
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5.6.2.3	4.2	**Runoff generated by the PD&TTF** Silt traps and petrol interceptors shall be installed in the drainage system where necessary to minimise the risk of suspended sediment, heavy metals and fuel oil entering downstream watercourses.	Prevent pollution of watercourses	Design Consultant/ Future site operator	During design and operation phase	✓		✓	Water Pollution Control Ordinance (Cap. 358); TM-DSS; Stormwater Drainage Manual
Sewerage and Sewage Treatment Implications – Construction Phase									
N/A									
Sewerage and Sewage Treatment Implications – Design and Operation Phase									
5.6.2.4 / 6.7	-	Liaison with interfacing projects including OWTF2, CE1/2015(DS) and SWHSTW Phase 1A to ensure the communal / public sewerage network and the SWHSTW has adequate capacity to handle the sewage flows generated by the Project.	Ensure adequate capacity of the existing / planned sewerage network	Design Consultant/ CEDD/ EPD/ DSD	During design and operation phase	✓		✓	EIA Recommendation
5.6.2.5 / 6.7	-	To minimise the risk of overflows and emergency discharge of untreated effluents from the on-site SPS of the Project, the following mitigation measures will be implemented: ▪ The on-site SPS will be equipped with three pumps; 2 duty and 1 standby; and ▪ Retention tank with the capacity to store 2 hours of peak sewage flows.	To minimise the risk of overflows and emergency discharge of untreated effluents from the on-site SPS	Design Consultant/ CEDD	During design and operation phase	✓		✓	EIA Recommendation
6.7	-	Design of twin rising mains connecting to the communal sewer to enable maintenance works to be carried out on one pipeline while the other remains in operation.	Improve the resilience and operability of the sewer pipeline / enable maintenance without disrupting operation	Design Consultant/ CEDD	During design and operation phase	✓		✓	EIA Recommendation
Waste Management Implications – Construction Phase									
7.5.1.1	6.2	**Good Site Practice** Recommendations for good site practices during the construction activities include: ▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site	Implement good site practices to minimise waste generation	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		Waste Disposal Ordinance (Cap 354); Waste Disposal (Chemical Wastes) (General) Regulation (Cap

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
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		▪ Training of site personnel in proper waste management and chemical handling procedures ▪ Provision of sufficient waste disposal points and regular collection of waste ▪ Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers ▪ Stockpiles of C&D materials should be kept covered by impervious sheets to avoid wind-blown dust. ▪ All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the stockpile areas ▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads ▪ Well planned delivery programme for off-site disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated							354C); and ETWB Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site
7.5.1.2	6.2	**Waste Reduction Measures** Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include: ▪ Sort non-inert C&D materials to recover any recyclable portions ▪ Segregation and storage of different types of waste in different containers or skips or stockpiles to enhance reuse or recycling of materials and their proper disposal ▪ Encourage collection of recyclable waste such as waste paper and aluminium	Implement good management and control to minimise waste generation	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		Waste Disposal Ordinance (Cap 354)

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		cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force ▪ Proper site practices to minimise the potential for damage or contamination of inert C&D materials ▪ Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste							
7.5.1.3	6.2	**Inert and Non-inert C&D Materials** In order to minimise impacts resulting from collection and transportation of inert C&D materials for off-site disposal, the inert C&D materials should be reused on-site as fill material as far as practicable. In addition, inert C&D materials generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation. The surplus inert C&D materials will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong. The C&D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site. In order to monitor the disposal of inert and non-inert C&D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the DEVB Technical Circular (Works) No. 6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials issued by Development Bureau. In addition, it is also recommended that the Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in	Minimise impacts resulting from collection and transportation of inert C&D materials	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		Waste Disposal Ordinance (Cap 354); DEVB Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials; and ETWB Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site

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		accordance with the relevant requirements of the ETWB Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site							
7.5.1.4	6.2	**Chemical Waste** If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the "Code of Practice on the Packaging Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidising, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended	Implement good practices to avoid chemical waste impact.	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C)
7.5.1.5	6.2	**General Refuse** General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Implement good practices to avoid odour nuisance or pest/vermin problem and waste impact.	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		Waste Disposal Ordinance (Cap 354); Public Health and Municipal Services Ordinance (Cap 132) - Public Cleansing and Prevention of Nuisances

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									Regulation
Waste Management Implications – Operation Phase									
7.5.2.1	6.3	**General Reuse** General refuse should be collected on a daily basis and delivered to the refuse collection point accordingly. A reputable waste collector should be employed to remove general refuse regularly to avoid odour nuisance or pest/vermin problem. Sufficient recycling containers are recommended to be provided at suitable locations of the Project to encourage recycling of waste such as aluminium cans, plastics and waste paper.	Implement good practices to avoid odour nuisance or pest/vermin problem and waste impact.	Future user	Project area / On a regular basis / Throughout operation stage			✓	Waste Disposal Ordinance (Cap 354)
7.5.2.2	6.3	**Chemical Waste** If chemical wastes are expected to be produced during the operation phase, the Project Proponent should register with the EPD as a chemical waste producer and follow the guidelines stated in the "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidising, irritant, toxic, harmful, corrosive, etc. Licensed collector should be deployed to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C).	Implement good practices to avoid chemical waste impact.	Future user	Project area / On a regular basis / Throughout operation stage			✓	Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C)
7.5.2.3	6.3	**Cartridge Casings** All cartridge casings and bullet heads should be collected from the firing range daily and kept in the storeroom for disposal. A designated waste contractor should be employed to remove	Minimise impacts resulting from collection and transportation of cartridge casings and bullet heads	Future user	Project area / On a regular basis / Throughout operation stage			✓	Waste Disposal Ordinance (Cap 354)

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		cartridge casings and bullet heads regularly.							
Land Contamination – Construction Phase									
8.6.1	7.2	In any case where contaminated soil is identified after the commencement of works, a Contamination Assessment Plan (CAP) is required to be prepared for EPD's endorsement prior to the site investigation. The Contamination Assessment Report (CAR) and/ or Remediation Action Plan (RAP) should be prepared for EPD's approval after the site investigation. If land contamination is confirmed, remediation works should be carried out according to the approved RAP. A Remediation Report (RR) should also be prepared for EPD's endorsement to demonstrate that the clean-up of the contaminated land is completed. No construction work or development of the site should be carried out before the approval of the RR.	Assessment is required for EPD approval in any case where contaminated soil is identified	Contractor	Project construction site / Before construction stage	✓			Guidance Note for Contaminated Land Assessment and Remediation; Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management; Practice Guide for Investigation and Remediation of Contaminated Land
8.6.1	7.2	The following mitigation measures are proposed for contaminated material excavation and transportation of contaminated materials (if any), in order minimise the potentially adverse effects in the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials: ▪ To minimise the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; ▪ Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; ▪ Stockpiling of contaminated excavated	Minimise impacts resulting from excavation and transportation of contaminated materials	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		Waste Disposal Ordinance (Cap 354) Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C)

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		materials on site should be avoided as far as possible; ▪ The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; ▪ Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and / or release of contaminated wastewater; ▪ Truck bodies and tailgates should be sealed to stop any discharge; ▪ Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; ▪ Speed control for trucks carrying contaminated materials should be exercised; ▪ Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C) and obtain all necessary permits where required; and ▪ Maintain records of waste generation, disposal quantities and disposal arrangements.							
Land Contamination – Operation Phase									
8.6.2	7.3	The implementation of appropriate mitigation measures for the underground storage tank and pipework, and refuelling activities is required to ensure that risk of land contamination as a result of fuel oil spills or leaks is kept to a practical minimum. Such measures should include the following: ▪ Adherence to relevant design standards for storage tank and pipework;	Minimise the risk of land contamination from the operation of underground storage tank and pipework, and refuelling activities	Future user	Project area / On a regular basis / Throughout operation stage			✓	Waste Disposal Ordinance (Cap 354); Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C)

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		▪ Regular inspections and maintenance; ▪ Underground fuel storage tank should be placed within a concrete pit; ▪ Refuelling service area should be concrete-paved; ▪ Provision of spill control materials and equipment on site (e.g. absorbent materials, googles, protective masks, nitrile gloves, disposal bags etc.); ▪ If the fuel leakage or spillage occur during refuelling activities, the activities should be immediately stopped; and ▪ Fuel leakage or spillage should be contained and cleaned up immediately. Waste fuel oil should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance (Cap 354).							
Ecological Impact									
9.7.1	8.3	**Detailed Vegetation Survey** A detailed vegetation survey should be conduct to update the exact locations, number and condition of individuals of Cycad-fern *Brainea insignis*, Fortune's Keteleeria *Keteleeria fortunei* and Ladies Tresses *Spiranthes sinensis* and any other flora species of conservation interest within the proposed works area prior to the commencement of site clearance.	To ensure no flora species of conservation interest will be affected.	Qualified botanist/ecologist of the ET	Project construction site / For once / Before site clearance	✓			EIAO-TM; Hong Kong Ordinance Cap. 96
9.7.1	8.3	**Temporary Protective Fence for Flora Species of Conservation Interest** During construction phase, erection and maintenance of a temporary protective fence enclosing the flora species of conservation interest identified under the detailed vegetation survey is recommended. Monthly monitoring of any other flora species of conservation interest identified in the detailed vegetation survey should be conducted during the	To avoid potential impact on flora species of conservation interest from construction activities such as materials storage; To make sure that the flora species of conservation interest are not affected by the construction activities of	Contractor	Project construction site / Throughout construction stage / Until completion of all construction activities		✓		EIAO-TM

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		construction phase.	the Project						
9.7.2	8.2	**Precautionary Measures for Butterfly Species of Conservation Interest** It is recommended to consider inclusion of the common grass species *Ischaemum barbatum* and *Zanthoxylum nitidum* in the proposed vegetation planting or the Landscape Master Plan for the Project Site.	To benefit butterfly species of conservation interest Small Three-ring and Swallowtail by providing their larval food plants	Design Architect / Contractor	Project area / During design stage / Throughout operation phase	✓		✓	EIAO-TM
Landscape and Visual Impacts – Construction Phase									
Table 10.11	Table 9.1	CM01: Trees / woodland within the Project Site which are unaffected by the works shall be protected and preserved during the detailed design stage and construction phase. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design stage for further retention of individual trees. The preservation of existing tree shall provide instant greening and screening effect for proposed works. Tree protection works will be undertaken in accordance with DEVB TC(W) 7/2015 on "Tree Preservation" and tree risk assessment in accordance with "Guidelines for Tree Risk Assessment and Management Arrangement" by DEVB.	Preserve and protect existing trees	Contractor	Project area / During design stage / construction phase / Establishment Period	✓	✓		EIAO-TM; Protection of Endangered Species of Animals and Plants Ordinance (Cap 586); DEVB TC(W) No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features; ETWB TCW No. 29/2004 – Registration of Old and Valuable Trees, and Guidelines for their Preservation; DEVB TC(W) No. 07/2015 -Tree Preservation; ETWB (2/2007) - General Guidelines on Tree Pruning; GLTMS (12/2013)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
									- Guidelines for Tree Risk Assessment and Management Arrangement on an Area Basis and on a Tree Basis
Table 10.11	Table 9.1	CM02: If removal of trees unavoidable due to construction impacts, trees will be transplanted where technically feasible in accordance with "Guidelines on Tree Transplanting" by DEVB and HQ/GN/13 and HQ/GN/13 – Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit where applicable.	Preserve and protect existing trees	Contractor	Project area / During design stage / construction phase / Establishment Period	✓	✓		As above
Table 10.11	Table 9.1	CM03: Construction area control, where possible, to ensure that the landscape and visual impacts arising from the construction activities are minimised. This includes the reduction of the extent and location of working areas to avoid sensitive LRs, siting of offices or temporary structures so that they are not visually prominent, and consideration of detailed schedules to shorten the construction period. Temporary landscape treatments are considered to be adopted such as applying hydro-seeding on temporary stockpiles and areas of earthworks to alleviate the potential impacts and minimise soil erosion.	Minimise landscape and visual impacts.	Contractor	Project area / During design stage / construction phase.		✓		EIAO-TM
Table 10.11	Table 9.1	CM04: Replanting of existing / disturbed vegetation shall be undertaken as soon as technically feasible during the construction phase. The priority shall be areas at the periphery of the site to ensure that proposed planting fulfils its role in mitigating the predicted impacts including screening views of the proposals as early as possible during the operation phase.	Maximise the mitigation effect of the planting to minimise landscape and visual impacts.	Contractor	Project area / During design stage / construction phase / Establishment Period		✓		EIAO-TM
Table 10.11	Table 9.1	CM05: Decorative screen hoarding will be erected along areas of the construction works site	Minimise landscape and visual impacts.	Contractor	Project area – areas adjacent to sensitive		✓		EIAO-TM

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
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		boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs) to screen undesirable views of the works site. It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used.			receivers / During construction phase.				
Landscape and Visual Impacts – Operation Phase									
Table 10.12	Table 9.2	OM01: Detailed design of development components should reduce landscape footprint and visibility of structures. The area allowed for any development components should be reduced to a practical minimum.	Minimise landscape and visual impacts.	Detailed Designer / Consultants	Project area / During design phase	✓			EIAO-TM; PNAP 152 – Sustainable Building Design Guidelines; Hong Kong Planning Standards and Guidelines; Urban Design Guidelines
Table 10.12	Table 9.2	OM02: The form, textures, finishes and colours of the proposed development components should be compatible with the existing surroundings. Light earthy tone colours such as shades of green, grey, brown and off- white may be utilised where technically feasible to reduce the visibility of the development components, including all roadwork, buildings and noise barriers etc. To further improve visual amenity, natural building materials such as stone and timber, should be preferably adopted for architectural features, where technically feasible. The proposed use of a responsive design for the disposition of the main elements of the proposed scheme including the locations of buildings and utility structures. Grouping of utilities and infrastructure components into proposed buildings as far as technically feasible to reduce the mass of development. The disposition and height profile of the developments and above	Minimise landscape and visual impacts.	Detailed Designer / Consultants	Project area / During design phase	✓			EIAO-TM; PNAP 152 – Sustainable Building Design Guidelines; Hong Kong Planning Standards and Guidelines; Urban Design Guidelines

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		ground utilities structures to respond to the existing context particularly the existing landform and preserved trees. Proposals designed to minimise the 'wall effects' and create a subtle transition at the edges of the site where it meets the rural landscape. Measures may include the creation of setbacks, articulating the development frontage and maintenance of view corridors to enhance the sense of visual integration with the existing context, avoid abrupt transitions between the existing and proposed built environment and reduce the apparent visual mass of the proposed developments.							
Table 10.12	Table 9.2	OM03: The design of the proposed Engineering Structures such as the proposed road layout and any ancillary structures including the sewage pumping station and the Ma Tso Lung Firing Range should pay particular attention to the appearance and construction methods. The detailed design landscape consultants shall work in unison with the engineers on the aesthetic aspects of the structures and their relationship with the landscape. The design of engineering structures shall avoid any unnecessary visual clutter achieved through the co-ordination of the various engineering disciplines involved to arrive at integrated design solutions.	Minimise landscape and visual impacts.	Detailed Designer / Consultants	Project area / During design phase	✓			EIAO-TM
Table 10.12	Table 9.2	OM04: The proposed treatment of Retaining Wall and Slopes will be undertaken in accordance with GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment and Bio-engineering for Man-made Slopes and Retaining Walls". These engineering structures will be aesthetically enhanced through the use of soft landscape works including tree and shrub planting to give man-made slopes a more natural appearance blending into the local rural landscape.	Minimise landscape and visual impacts.	Detailed Designer / Consultants	Project area / During design phase	✓			EIAO-TM; GEO Publication No. 1/2011 Technical Guideline on Landscape Treatment for Slopes; DEVB TC(W) No. 6/2015 – Maintenance of Vegetation and Hard Landscape

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
									Features
Table 10.12	Table 9.2	OM05: All compensatory planting of trees is to be carried out in accordance with DEVB TCW No. 7/2015. A total woodland compensation area of 5.54 ha is proposed. The planting proposals will utilise largely native species in accordance with GLTM/DEVB's - Guiding Principles on Use of Native Plant Species in Public Works Projects. Some compensatory shrub and ground cover planting will also be provided within the woodland area to create a more structurally diverse woodland. 5,869 nos. new trees will be planted as compensation including some 4,317 nos. will be planted within the Project site, 1,400 nos. alongside KNP Road, and 152 nos. to compensate for the existing dead trees to be removed. Woodland areas will utilise a combination of large sized tree stock (including heavy standard sized trees) and whip sized trees to create a more naturalistic effect and screen views of the new structures and buildings. Whip sized tree planting is preferred on the face of soil cut slopes and for general woodland areas where screening is not a priority. The smaller, younger plant stock will adapt to their new growing conditions more quickly than larger sized stock and establish a naturalistic effect more rapidly. Roadside and amenity planting will utilise largely heavy standard sized trees.	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓		EIAO-TM; DEVB TC(W) No. 7/2015 – Tree Preservation; DEVB TC(W) No. 2/2012 - Allocation of Space for Quality Greening on Roads; DEVB TC (W) No.3/2012 - Site Coverage of Greenery for Government Building Projects; DEVB TC (W) No.2/2013 - Greening on Footbridges and Flyovers; ETWB TCW No. 6/2015 – Maintenance of Vegetation and Hard Landscape Features; LTM/DEVB's - Guiding Principles on Use of Native Plant Species in Public Works Projects.
Table 10.12	Table 9.2	OM06: Tree planting using larger sized tree stock shall be provided to screen the proposed structures and associated facilities. Wherever possible the planting will utilise native species. This measure will form part of the compensatory	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓		As above

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		planting and will improve compatibility with the surrounding environment and create a pleasant pedestrian environment.							
Table 10.12	Table 9.2	OM07: Roadside amenity planting using predominantly native species shall be provided, to enhance the landscape and visual quality of the existing and proposed transport routes and car parks.	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓		As above
Table 10.12	Table 9.2	OM08: Creation of new grassland areas approximately 1.02 ha in size. Inclusion of common grass species *Ischaemum barbatum* and *Zanthoxylum nitidum* (the larval food plants for butterfly species).	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓		As above
Table 10.12	Table 9.2	OM09: Green roofs predominantly using native species shall be introduced where technically feasible on proposed buildings to reduce exposure of untreated concrete surfaces; enhance the sustainability of the design and mitigate visual impact to VSRs at high levels. Location and extent of green roof subject to detailed design.	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓	✓	EIAO-TM; PNAP 152 – Sustainable Building Design Guidelines; Hong Kong Planning Standards and Guidelines; Urban Design Guidelines; DEVB TC (W) No.3/2012 - Site Coverage of Greenery for Government Building Projects
Table 10.12	Table 9.2	OM10: Vertical planting shall be introduced using predominantly native species to soften the hard, vertical surfaces of the proposed development components including the walls of the proposed buildings and retaining walls. Planting to utilise climbing and trailing plants. Location and extent of vertical greening subject to detailed design.	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓		EIAO-TM; PNAP 152 – Sustainable Building Design Guidelines; Hong Kong Planning Standards and

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
									Guidelines; Urban Design Guidelines; DEVB TC (W) No.3/2012 - Site Coverage of Greenery for Government Building Projects
Table 10.12	Table 9.2	OM11: Where technically feasible utilise a green paving approach such as grass-crete or grass-grid to maximise the area of planting and reduce the area of hard paving. Location and extent of green paving subject to detailed design. This includes the use of permeable paving where grass-crete / grass grid is not practicable.	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓	✓		EIAO-TM; PNAP 152 – Sustainable Building Design Guidelines; DEVB TC (W) No.3/2012 - Site Coverage of Greenery for Government Building Projects
Table 10.12	Table 9.2	OM12: Street and night time lighting glare will be controlled to minimize glare impact to adjacent VSRs during the operation stage.	Minimise landscape and visual impacts.	Contractors	Project area / During design phase	✓		✓	EIAO-TM
Impact of Hazard to Life – Construction Phase									
N/A									
Impact of Hazard to Life – Operation Phase									
11.7.7	10.1	A list of recommendations / good practices are proposed: 1. All DG store should be constructed according to the standards and recommendations by Fire Services Department, having adequate fire-fighting facilities, proper ventilation and fire-proofing requirement. 2. All DGs such as paints and solvents should be stored in their respective DG rooms.	Minimize hazards in the proposed police facility	Project Manager / Project Engineer / Operating staff	Project Area / During design and operation phase	✓		✓	EIAO-TM

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Implementation Agent	Location / Duration of the measure	Implementation Stages[1]			Relevant Legislation & Guidelines
						Des	C	O	
		3. Adequate fire-fighting equipment, such as fire extinguishers, fire sand etc. should be present during kerosene refuelling operation on the helipad. 4. Proper earthing equipment and procedures should be in place to prevent accumulation of static electricity during kerosene refuelling operation. 5. GFS kerosene road tanker and the helicopter pilot should follow the established protocol for arriving at the helipad to prevent helicopter crashing on the road tanker. 6. Refuelling will only be performed in daytime 7. Underground storage tanks will be used for petrol/diesel storage 8. Kerosene pump will be equipped with pressure switch to prevent overfilling						

Note 1: Des = Design; C = Construction; O = Operation

APPENDIX L
WASTE GENERATION IN THE REPORTING MONTH

Name of Department: ArchSD

Monthly Summary Waste Flow Table for 2023 (year)

Project : Design and Construction of Kong Nga Po Police Training Facilities Contract No.: SS K509

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Bituminous Material	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(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 '000 m^3)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.041	0.002	0.000	0.020
Jun	0.988	0.000	0.000	0.000	0.000	0.988	0.000	0.000	0.000	0.003	0.000	0.046
Sub-total	0.988	0.000	0.000	0.000	0.000	0.988	0.000	0.000	0.041	0.005	0.000	0.085
Jul	1.547	0.000	0.000	0.000	0.000	1.547	0.000	0.000	0.000	0.009	0.000	0.065
Aug	4.628	0.000	0.000	0.000	0.000	4.628	0.000	0.000	0.000	0.009	0.000	0.065
Sep	0.306	0.000	0.000	0.000	0.000	0.306	0.000	0.000	0.000	0.004	0.000	0.065
Oct												
Nov												
Dec												
Total	7.469	0.000	0.000	0.000	0.000	7.469	0.000	0.000	0.041	0.028	0.000	0.280

Notes:
(1) The performance targets are given in the Particular Specification on Environmental Management Plan.
(2) The waste flow table shall also include construction waste that are specified in the Contract to be imported for use at the site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
(4) Broken concrete for recycling into aggregates.
(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m3 by volume.

APPENDIX M
COMPLAINT LOG

Appendix M - Complaint Log

Reporting month: September 2023

Complaint Log Ref.	EPD Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action Status	Status
C001	N07/RN/00020836-23	Kong Nga Po Road (Lamp post GD0470)	29-Aug-23	The complainant alleged that the general construction noise except renovation (within Restricted Hours) from at Kong Nga Po Road (Lamp post GD0470), and commented that "晚上八九點地盤有噪音有人工作". The work sites under complaint are adjacent to the captioned Designated Project area.	Record of Site Investigation Refer to the public complaint which was no mention the certain time, based on daily record provided, CSJV was confirmed that the working period on 26, 27 & 28 Aug 2023 and the working hours were within the approved restricted hour. The equipment applied on the mentioned periods were listed in the Group D of the CNP No. GW-RN0882-23 (Effective date from 24/08/2023 to 23/11/2023) According to the written reply, the Contractor has implemented both the notification of the neighborhood on the schedule of night works and erect noise barriers to screen noisy works for neighborhood. Please be advised that the Contractor is strictly adhering to the conditions of the construction noise permit.	Closed

Cumulative Complaint Log

Complaint Log Reporting Period	Total no. of Complaint Received
This reporting month	0
From 1st April 2023 to end of the reporting month	1

APPENDIX N
SUMMARY OF SUCCESSFUL PROSECUTION

Appendix N - Summary of Successful Prosecution

Date of Successful Prosecution	Details of the Successful Prosecution	Status	Follow Up	Total no. Received in this Reporting Month	Total no. Received since Project Commencement
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APPENDIX O
The potential seriousness of the forthcoming environmental impacts and the use of machineries

During the use of machinery for ground investigation and plate load testing, there can be several environmental impacts. Here is a list of potential environmental impacts associated with these activities:

Noise Pollution: The operation of machinery, such as drilling rigs and heavy equipment, can generate significant noise levels, which can disturb local wildlife, including birds and mammals, and potentially impact their behavior and communication.

Air Pollution: Machinery used in ground investigation and plate load testing, such as diesel-powered drilling rigs and heavy vehicles, can emit pollutants into the air. These pollutants may include Particulate Matter (PM), Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and Volatile Organic Compounds (VOCs), contributing to air pollution and potentially impacting air quality in the surrounding area.

Soil Disturbance: The use of heavy machinery can cause soil compaction and disturbance, particularly during drilling operations or movement of equipment. This soil disturbance can disrupt the natural structure and composition of the soil, affecting its ability to support vegetation growth and nutrient cycling.

Water Contamination: Improper handling and storage of fuels, lubricants, and chemicals used in machinery can result in spills or leaks, leading to water contamination. This can have adverse effects on local water bodies, groundwater resources, and aquatic ecosystems.

Habitat Destruction: The establishment of temporary construction sites and access roads for machinery can lead to habitat destruction and fragmentation. This can disrupt local ecosystems, displacing flora and fauna and impacting biodiversity.

Energy Consumption: The operation of machinery requires energy, typically derived from fossil fuels. The extraction, processing, and combustion of these fuels contribute to greenhouse gas emissions and contribute to climate change.

Waste Generation: Ground investigation and plate load testing may generate various types of waste, including drilling cuttings, excess soil, and construction debris. Improper disposal or management of these wastes can result in soil and water contamination or contribute to landfill usage.

Visual Impact: The presence of machinery, equipment, and temporary structures associated with ground investigation and plate load testing may have visual impacts on the surrounding landscape, altering the aesthetic qualities of the area.

It's important to note that the severity and extent of these environmental impacts can vary depending on factors such as the scale of the project, the specific machinery used, the implementation of environmental management practices, and adherence to regulations and best practices aimed at minimizing environmental harm.