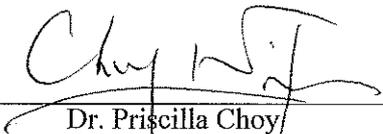


Civil Engineering and Development Department

**Service Contract No. NDO 04/2019
Environmental Team for Environmental
Monitoring and Audit Works in
Construction Phase for the First Phase
Development of Kwu Tung North and
Fanling North New Development Areas**

**Monthly Environmental Monitoring and
Audit Report for July 2020**

(Version 1.0)

Certified By 
Dr. Priscilla Choy
(Environmental Team Leader)

REMARKS:

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

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

WELLAB LIMITED
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong
Tel: (852) 2898 7388 Fax: (852) 2898 7076
Website: www.wellab.com.hk

Civil Engineering and Development Department
North Development Office
Unit 1501, Level 15, Tower I, Metroplaza,
223 Hing Fong Road,
Kwai Fong, N.T.

Attention: Mr. Ryan Chau

Your Reference

Our Reference

EC/TC/II/414202/L0029

3/F International Trade
Tower
348 Kwun Tong Road
Kowloon
Hong Kong

T +852 2828 5757
F +852 2827 1823
mottmac.hk

Agreement No. CE 33/2019 (EP)

**Independent Environmental Checker for Environmental Monitoring and Audit Works in
Construction Phase for the First Phase Development of Kwu Tung North and Fanling
North New Development Areas – Investigation**

Monthly Environmental Monitoring and Audit Report No. 9 (July 2020)

13 August 2020

BY EMAIL

Dear Sir,

We refer to email of 12 August 2020 attaching the Monthly Environmental Monitoring and Audit Report No. 9 prepared by the Environmental Team (ET) of the captioned.

We would like to inform you that we have no adverse comment on the captioned submission. Therefore we write to verify the captioned submission in accordance with the Condition 3.4 of the Environmental Permit no. EP-466/2013, EP-467/2013/A, EP-468/2013/A, EP-469/2013, EP-470/2013, EP-473/2013/A, EP-475/2013/A and EP-546/2017.

Should you have any queries, please contact the undersigned or our Ms. Liz Lo at 2828 5751.

Yours faithfully,
For and on behalf of the
Mott MacDonald Hong Kong Limited



Ir Thomas Chan
Independent Environmental Checker
T +852 2828 5967
Thomas.Chan@mottmac.com

c.c.
AECOM
Wellab Ltd.

Mr. Chris Ho chris.ho@aecom.com
Dr. Priscilla Choy/ priscilla.choy@wellab.com.hk
Ms. Ivy Tam ivy.tam@wellab.com.hk

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EXECUTIVE SUMMARY**Introduction**

1. This is the 9th monthly Environmental Monitoring and Audit (EM&A) Report under First Phase Development of Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs), comprising the Advance Works and First Stage Works (the Project). This report was prepared by Wellab Limited under “Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of KTN and FLN NDAs” (hereinafter called the “Service Contract”). This report documents the findings of Environmental Monitoring and Audit (EM&A) work conducted in July 2020.
2. During the reporting month, the following Works Contracts under relevant Environmental Permit(s) were undertaken for the Project:

Table I Works Contracts under relevant Environmental Permit(s) in the Reporting Month

Works Contracts	Environmental Permit No.	Designated Project (DP)	Commencement date of construction
Contract No. ND/2019/01 - Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	1 st June 2020
	EP-470/2013	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	23 rd March 2020
Contract No. ND/2019/03 - Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	3 rd July 2020
Contract No. ND/2019/06 - Fanling North New Development Area, Phase 1: Re-provisioning of North District Temporary Wholesale Market for Agricultural Products	EP-475/2013/A	Reprovision of temporary Wholesale Market in Fanling North New Development Area	29 th October 2019

Environmental Monitoring and Audit Progress

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

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

EM&A Activities		Works Contracts		
		ND/2019/01	ND/2019/03	ND/2019/06
1-hr Total Suspended Particulates (TSP) Monitoring		2 nd ,8 th ,14 th ,20 th ,24 th ,30 th July 2020		N/A
24-hr TSP Monitoring		2 nd ,8 th ,14 th ,20 th ,24 th ,30 th July 2020		N/A
24-hr RSP (Ambient Arsenic) Monitoring for Land Contamination		6 th ,10 th ,16 th ,22 nd ,28 th July 2020		N/A
Noise Monitoring		2 nd ,8 th ,14 th ,24 th ,30 th July 2020		
Landfill Gas Monitoring		7 th July 2020	N/A	N/A
Ecological Survey	Monitoring of Measures to Minimise Disturbance to Water Birds on Sheung Yue River, and Long Valley	N/A*	7 th ,13 th ,20 th ,27 th July 2020	N/A*
	Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream	29 th July 2020		N/A*
	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	17 th July 2020	N/A*	N/A*
Environmental Site Inspection		9 th ,16 th ,21 st ,28 th July 2020	3 rd ,10 th ,17 th ,21 st ,31 st July 2020	2 nd ,9 th ,15 th ,23 rd ,30 th July 2020

Remark:

N/A – No relevant monitoring is required according to updated EM&A Manual

N/A* – No relevant monitoring is required according to Baseline Ecological Monitoring Plan (Table 3.1)

Breaches of Action and Limit Levels

4. Summary of the environmental exceedances of the reporting month is tabulated in **Table III**.

Table III Summary Table for Events Recorded in the Reporting Month

Environmental Monitoring	Parameter	No. of non-project related Exceedances		Total No. of non-project related Exceedances	No. of Exceedance related to the Construction Works of the Contract		Total No. of Exceedance related to the Construction Works of the Contract
		Action Level	Limit Level		Action Level	Limit Level	
Air Quality	1-hr TSP	0	0	0	0	0	0
	24-hr TSP	0	0	0	0	0	0

	24-hr RSP (Ambient Arsenic)	0	0	0	0	0	0
Noise	$L_{eq(30min)}$	0	0	0	0	0	0
Landfill Gas	O ₂	0	0	0	0	0	0
	CH ₄						
	CO ₂						

Air Quality

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

Construction Noise

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

Water Quality

7. No construction of channel for alternation of natural streams was carried out in the reporting month. Therefore, no water quality monitoring was conducted. For the details, please refer to Section 5.

Land Contamination

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

Landfill Gas Monitoring

9. Monitoring of landfill gases in the reporting month was carried out by the Contractor under ND/2019/01 at excavation location, Portion 6b. No Limit Level exceedance was recorded.

Ecological Monitoring

10. All ecological monitoring was conducted as scheduled in the reporting month. Action and limit level will be compared after the issue of Final Baseline Ecological Report. The ecological monitoring result in the Reporting Month is shown in **Appendix H**.

Complaint Log

11. One environmental complaint was received in the reporting month.

Notification of Summons and Successful Prosecutions

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

Reporting Changes

13. This report has been prepared in compliance with the reporting requirements for the subsequent monthly EM&A Report as required by the “Updated Environmental Monitoring and Audit Manual for Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas” (Updated EM&A Manual).

Future Key Issues

14. The major site activities for the coming two months are shown in **Table IV**.

Table IV Summary Table for Site Activities in the coming Two Months

Contract No.	Site Activities (August and September 2020)
ND/2019/01	<ul style="list-style-type: none"> (a) Ground Investigation in Portion 1f; (b) Site Clearance, Ground Investigation in Portion 2 (c) Tree Survey, Site Clearance in Portion 3 (d) Sampling and testing for site trial for In-situ cement mixing (ICM) for soil treatment works in Portion 4 (e) Site Clearance, Ground Investigation in Portion 5 (f) Site Clearance, Ground Investigation in Portion 6a; (g) Completion of Soil Treatment Facility, Pilot trial for Ex-situ cement mixing (ECM) for soil treatment, provide soil treatment for HAC soil by ECM in Portion 6b; (h) Site Clearance, Tree felling, Construction of temporary road for alternative Po Lau Road, Land contamination assessment in Area T1, T2 & T3 in Portion 7; (i) Ground Investigation, Construction of Retaining Wall in Portion 8a; (j) Site Clearance, Ground Investigation, stockpile of soil in Portion 9c; (k) Site Clearance, Tree felling, Excavation in Portion 10a; and (l) Site Clearance in 10b
ND/2019/03	<ul style="list-style-type: none"> (a) Road and Drainage work in Portion 1; (b) Initial Restoration Work at Long Valley, Construction works of storage shed and Type 2 Storage House, construction of metal wire railing, site clearance in Portion 2 to 20; (c) Pre-relocation survey in Portion 23 and 24
ND/2019/06	<ul style="list-style-type: none"> (a) Construction of Management Office Building; (b) Installation of entrance gate at new run-in/out (c) Breaking up the concrete surface and disposal of C&D material off site at Portion 3 (d) Construction of footings of steel canopy of final stage market (e) Ground investigation works at Portion 3 (f) Tree felling at Portion 3 and 6.

1 INTRODUCTION

1.1 Wellab Limited was commissioned by Civil Engineering and Development Department (CEDD) as the Environmental Team to undertake the Environmental Monitoring and Audit (EM&A) services for the Works Contracts involved in the implementation of First Phase Development of Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs) Project to ensure that the environmental performance of the Works Contracts comply with the requirements specified in the Environmental Permits (EPs), Updated Environmental Monitoring & Audit (EM&A) Manual, Environmental Impact Assessment (EIA) Report of the KTN FLN NDAs project and other relevant statutory requirements.

Purpose of the report

1.2 This is the 9th EM&A Report which summarises the key findings of the EM&A programme in July 2020.

Structure of the report

1.3 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: **Water Quality Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels and Event / Action Plans.
- Section 6: **Land Contamination (Ambient Arsenic Monitoring)** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 7: **Landfill Gas Monitoring** - summarises the monitoring requirement, monitoring parameters and frequency, monitoring locations, Action and Limit Levels, monitoring results and observation, and Event / Action Plans.
- Section 8: **Ecological Monitoring** – summarises the details of Monitoring of Measures to Minimise Disturbance to Waterbirds in Ng Tung River, Sheung Yue River, Shek Sheung River and Long Valley, Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Siu Hang San Tsuen Stream, and Long

Valley, Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution , result and observation during the Reporting Month

- Section 9: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting month.
- Section 10: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.
- Section 11: **Future Key Issues** - summarises the impact forecast and monitoring schedule for the next three months.
- Section 12: **Conclusions and Recommendations**

2 PROJECT INFORMATION

Background

- 2.1 The Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs) are one of the important sources of land and housing supply in the medium and long term. The development of the KTN and FLN NDAs will be implemented in phase for full completion by 2031. The Phase 1 of the NDAs development, comprising the Advance Works and First Stage Works, is targeted to be implemented from the second half of 2019 progressively. The Advance and First Stage Works would include site formation, engineering infrastructure works (including roads, drainage, sewerage, waterworks, landscaping works, pumping stations, and fresh water and flushing water service reservoirs), soil remediation, reprovisioning of North District Temporary Wholesale Market, development of a nature park at Long Valley and implementation of environmental mitigation measures.
- 2.2 The scope of works under the Advance and First Stage Works comprises the following:
- a) The Advance Works (PWP item No. 7747CL-2) consist of:
 - i) site formation of land (including soil remediation) in KTN and FLN NDAs for housing, community facilities and engineering infrastructure;
 - ii) construction of roads including the eastern section of Fanling Bypass (FLBP(E)) connecting the FLN NDA to Fanling Highway and other roads with footpaths and cycle tracks, and associated junction/ road improvements;
 - iii) engineering infrastructure works including drainage. Sewerage (including two sewage pumping stations), waterworks (including a fresh water service reservoir and a flushing water service reservoir in the KTN NDA), landscape works and slopeworks;
 - iv) part expansion and upgrading of Shek Wu Hui Sewage Treatment Works (SWHSTW);
 - v) reprovisioning works; and
 - vi) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in (i) to (v) above.
 - b) The First Stage Works (PWP item No. 7759CL) consist of:
 - i) development of a nature park at Long Valley including provision of a visitor centre and a footbridge spanning across Sheung Yue River for connection between these two facilities;
 - ii) reprovisioning of two egret sites in the FLN NDA and enhancement works to an existing egret site in the KTN NDA;
 - iii) site formation of land for a village resite area and a district police station in the KTN NDA;
 - iv) engineering infrastructure works including roads, drainage, sewerage, waterbirds, and landscape works; and
 - v) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in (i) to (iv) above.

- 2.3 The Project which covers KTN and FLN NDAs is a designated project (DP) under Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). In October 2013, the EIA Report (AEIAR-175/2013) for the Project was approved by the Director of Environmental Protection pursuant to the EIA Ordinance. The relevant EPs under the Project and the respective Work Contracts are summarized in **Table 2.1**.

Table 2.1 Summary of EPs under the Project and the Respective Work Contracts

EP No.	Designated Project	C1	C2	C3	C5 A	C5 B	C6	C7
EP-466/2013	Castle Peak Road Diversion	✓						
EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement	✓						
EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	✓		✓				
EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area		✓					
EP-470/2013	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	✓						
EP-473/2013/A	Fanling Bypass Eastern Section			✓	✓	✓		
EP-475/2013/A	Reprovision of temporary Wholesale Market in Fanling North New Development Area						✓	
EP-546/2017	Fanling North Temporary Sewage Pumping Station				✓			

Note: C1: ND/2019/01 C2: ND/2019/02 C3: ND/2019/03 C5A: ND/2019/04
C5B: ND/2019/05 C6: ND/2019/06 C7: ND/2019/07

- 2.4 The site boundary of the Project and all Works Contracts are shown in **Drawing No. 1**.

Project Organization

- 2.5 Different parties with different levels of involvement in the Project organization include:
- Project Proponent – Civil Engineering and Development Department (CEDD)
 - *Supervisor / Supervisor's Representative* – AECOM
 - Environmental Team (ET) – Wellab Limited
 - Independent Environmental Checker (IEC) – Mott MacDonald Hong Kong Ltd (MottMac)

- 2.6 The key personnel contact names and numbers are summarised in **Table 2.2**.

Table 2.2 Key Contacts of the Project

Party	Role	Contact Person	Phone No.	Fax No.
Civil Engineering and Development Department, HKSAR (CEDD)	Project Proponent	Mr. Felix Fan	3152 3551	3547 1658
<i>Supervisor / Supervisor's Representative</i> (AECOM)	Chief Resident Engineer	Mr. Alan Lee	6398 5982	2645 3900
Environmental Team (Wellab Limited)	Environmental Team Leader	Dr. Priscilla Choy	2898 7388	2898 7076
Independent Environmental Checker (MottMac)	Independent Environmental Checker	Mr. Thomas Chan	2828 5967	2827 1823
<u>Contract No. ND/2019/01</u> Contractor (Build King – Richwell Engineering Joint Venture.)	Site Agent	Mr. Ivan Leung	9640 8340	--
	Environmental Officer	Mr. Daniel Sin	9777 2100	
<u>Contract No. ND/2019/03</u> Contractor (Sang Hing Kuly Joint Venture)	Site Agent	Mr. Tang Wing Kai	9300 7037	--
	Environmental Officer	Mr. Chow Ka Wing	9184 6351	
	Environmental Supervisor	Mr. Ken Kwok	9732 4360	
<u>Contract No. ND/2019/06</u> Contractor (New Concepts Engineering Development Ltd.)	Site Agent	Mr. Anson Chan	9349 1320	2363 2162
	Environmental Officer	Mr. Alex Choy	9409 9608	
	Environmental Coordinator	Ms. Mildred Hung	9460 2745	

Summary of Construction Works Undertaken During Reporting Month

2.7 The major site activities undertaken in the reporting month are shown in **Table 2.3**.

Table 2.3 Summary Table for Major Site Activities in the Reporting Month

Contract No.	Site Activities (July 2020)
ND/2019/01	<ul style="list-style-type: none"> (a) Site Clearance in Portion 1f (b) Tree Survey, Ground Investigation in Portion 2 (c) Site trial for In-situ cement mixing (ICM) for soil treatment works, remove soil to portion 9c in Portion 4 (d) Site Clearance, Ground Investigation in Portion 5 (e) Site Clearance, Ground Investigation, Pre drilling for Noise barriers in Portion 6a (f) Set up Soil Treatment Facility, Site trial for ex-situ cement mixing (ECM) for soil treatment works, Hoarding erection in Portion 6b (g) Site Clearance, Ground Investigation, Construction & alternative Po Lau Road in Portion 7 (h) Site Clearance, Construction of Retaining Wall in Portion 8a (i) Tree Survey in Portion 8b (j) Site Clearance, Forming access, Stockpiling of soil in Portion 9c (k) Site Clearance in Portion 10a (l) Site clearance, Ground Investigation, Tree survey in Portion 10b
ND/2019/03	<ul style="list-style-type: none"> (a) Road and Drainage work in Portion 1 (b) Initial Restoration Work at Long Valley, Construction works of storage shed and Type 2 Storage House in Portion 2 to 20 (c) Pre-relocation survey in Portion 23 and 24
ND/2019/06	<ul style="list-style-type: none"> (a) Construction of Management Office Building (b) Breaking up the concrete surface and disposal of C&D material off site at Portion 3 (c) Construction of footings F1, F2, F3, F4, F5 and F7 of steel canopy of final stage market (d) Ground investigation works of borehole no. FLN-3-B-DH012 at Portion 3

Construction Programme

2.8 A copy of Contractors' construction programme is provided in **Appendix A**.

Status of Environmental Licences, Notifications and Permits

- 2.9 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 2.4**.

Table 2.4 Status of Environmental Licences, Notifications and Permits

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
ND/2019/01	EP-468/2013/A	27/01/2017	N/A	Valid
	EP-470/2013	21/11/2013	N/A	Valid
ND/2019/03	EP-468/2013/A	27/01/2017	N/A	Valid
ND/2019/06	EP-475/2013/A	13/01/2017	N/A	Valid
Construction Noise Permit (CNP)				
ND/2019/01	GW-RN0378-20	16/06/2020	15/09/2020	Valid
	GW-RN0359-20	09/06/2020	08/08/2020	Valid
	GW-RN0353-20	08/06/2020	07/09/2020	Valid
ND/2019/06	GW-RN0113-20	25/02/2020	24/08/2020	Valid
	GW-RN0231-20	13/04/2020	12/07/2020	Valid
	GW-RN0507-20	25/07/2020	24/01/2021	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation				
ND/2019/01	451792	11/12/2019	N/A	Valid
ND/2019/03	452216	24/12/2019	N/A	Valid
	452332	31/12/2019	N/A	Valid
	452333	31/12/2019	N/A	Valid
ND/2019/06	449369	24/09/2019	N/A	Valid
Billing Account for Disposal of Construction Waste				
ND/2019/01	7036265	17/01/2020	N/A	Valid
ND/2019/03	7036378	22/01/2020	N/A	Valid
ND/2019/06	7035473	17/10/2019	N/A	Valid
Registration of Chemical Waste Producer				
ND/2019/01	5213-545-B2578-01	10/01/2020	N/A	Valid
ND/2019/03	5213-623-S4231-01	14/04/2020	N/A	Valid
ND/2019/06	5213-625-N2716-01	02/10/2019	N/A	Valid
Effluent Discharge License under Water Pollution Control Ordinance				
ND/2019/01	WT00036071-2020	22/06/2020	30/06/2025	Valid
	WT00036073-2020	22/06/2020	30/06/2025	Valid
	WT00036067-2020	22/06/2020	30/06/2025	Valid
	WT00036076-2020	22/06/2020	30/06/2025	Valid
	WT00036075-2020	22/06/2020	30/06/2025	Valid
ND/2019/06	WT00035415-2019	20/03/2020	31/03/2025	Valid

3 AIR QUALITY MONITORING

Monitoring Requirements

- 3.1 In accordance with the Updated EM&A Manual, impact 1-hour TSP and 24-hr TSP monitoring were 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 days, while the impact 24-hour TSP monitoring was conducted for at least once every 6 days at one air quality monitoring station.

Monitoring Location

- 3.3 Impact air quality monitoring was conducted at the monitoring stations under the Works Contracts, as shown in **Figure 1** according to Table 1.1 of Updated EM&A Manual. **Table 3.1** describes the location of the air quality monitoring station.

Table 3.1 Location for Air Quality Monitoring Locations

EP No.	Contract No.	Monitoring Station	Location
EP-468/2013/A	ND/2019/01 ND/2019/03	KTN-DMS4	Temporary Structure near Fanling Highway (near Pak Shek Au)

Remark:

Noting that construction phase air quality monitoring at the other proposed monitoring stations (e.g. planned), where access is permitted, will be conducted during the relevant works contract(s).

Monitoring Equipment

- 3.4 As the power supply for High Volume Sample (HVS) for TSP monitoring at KTN-DMS 4 was rejected, direct reading dust meter was used to measure both 1-hour and 24-hour average TSP levels:-
- The proposal for alternative monitoring equipment (i.e. direct reading dust meter) for TSP monitoring was approved by EPD according to approved Baseline Air Quality Monitoring Report (KTN & FLN NDA); and
 - Adopt same measurement methodology (i.e. direct reading dust meter) as baseline monitoring for reliable comparison.
- 3.5 The proposed use of portable direct reading dust meters was submitted to IEC and obtained agreement from the IEC as stated in Section 2.4.5 of the Updated EM&A Manual.
- 3.6 HVS for 24-hr TSP monitoring will be adopted once secured supply of electricity become available at KTN-DMS 4.
- 3.7 **Table 3.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix C**.

Table 3.2 Air Quality Monitoring Equipment

Monitoring Station	Equipment	Model and Make	Quantity
KTN-DMS4	Dust Monitor	AEROCET-831	1

- 3.8 Meteorological information extracted from “Hong Kong Observatory - Ta Kwu Ling Weather Station” was proposed as the alternative method to obtain representative wind data. For Ta Kwu Ling Weather Station, it is located nearby the Project site and situated at approximately 15m above mean sea level. The station’s wind data monitoring equipment is set above the existing ground ten meters in compliance with the general setting up requirement. Furthermore, this station also provides other meteorological information, such as the humidity, rainfall, air pressure and temperature etc.
- 3.9 The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staffs during the monitoring day.

Monitoring Parameters, Frequency and Duration

- 3.10 **Table 3.3** summarizes 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
24-hr TSP	Once / 6 days

Monitoring Methodology and QA/QC Procedure

1-hour and 24-hour TSP Air Quality Monitoring

Instrumentation

- 3.11 Direct reading dust meter was deployed for the air quality monitoring as shown in **Table 3.2**.
- 3.12 The measuring procedures of the dust meter are in accordance with the Manufacturer’s Instruction Manual as follows:

(AEROCET-831)

- The dust meter is placed at least 1.3 meters above ground.
- Remove the red rubber cap from the AEROCET-831 inlet nozzle.
- Turn on the power switch that is located on the right side of the AEROCET-831.

- On power up the product intro screen is displayed for 3 seconds. The intro screen displays the product name and firmware version.
- Then the main counter screen will be displayed.
- Press the START button. Internal vacuum pump start running. After 1 minute the pump will stop and the 0.5 μ m and 5 μ m channels will show the cumulative counts of particles larger than 0.5 μ m and 5 μ m per cubic foot.
- The AEROCET-831 is now checked out and ready for use.
- To switch off the AEROCET-831 power to stop the measuring after sampling.
- Information such as sampling date, time, and display value and site condition were recorded during the monitoring period.

Maintenance/Calibration

- 3.13 The following maintenance/calibration was required for the direct dust meters:
- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

Results and Observations

- 3.14 The monitoring results for 1-hour TSP and 24-hour TSP are summarized in **Table 3.4** and **3.5**, respectively. Detailed monitoring results and graphical presentations of 1-hour and 24-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 ($\mu\text{g}/\text{m}^3$)		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
KTN-DMS4	68.4	18.4 – 196.7	297	500

Table 3.5 Summary Table of 24-hour TSP Monitoring Results during the Reporting Month

Monitoring Station	Concentration ($\mu\text{g}/\text{m}^3$)		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
KTN-DMS4	76.9	47.2 – 104.7	192	260

- 3.15 All 1-hour and 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedances were recorded.
- 3.16 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 3.6**:

Table 3.6 Observation at Dust Monitoring Stations

Monitoring Station	Major Dust Source
KTN-DMS4	Excavation works, Road traffic

Event and Action Plan

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

4 NOISE MONITORING**Monitoring Requirements**

- 4.1 In accordance with Updated 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 conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix B** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Location

- 4.2 Impact noise monitoring was conducted at the monitoring stations, as shown in Figure 1 and 2 according to Table 1.1 of Updated EM&A Manual. **Table 4.1** describes the locations of the noise monitoring stations.

Table 4.1 Location of Noise Monitoring Stations

Contract No.	Monitoring Station(s)	Location(s)
ND/2019/01 ND/2019/03	CP-KTN-NMS2	Residential Buildings at Ma Tso Lung
	CP-KTN-NMS3	Fung Kong Garden
ND/2019/01	CP-KTN-NMS5	N/A
ND/2019/06	CP-FLN-NMS1	Belair Monte

Remark:

Noting that construction phase noise monitoring at the other proposed monitoring stations (e.g. planned), where access is permitted, will be conducted during the relevant works contract(s).

Monitoring Equipment

- 4.3 Integrating Sound Level Meter was used for impact noise monitoring. The meters are 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** summarizes the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix C**.

Table 4.2 Noise Monitoring Equipment

Equipment	Model	Quantity
'SVANTEK' Integrating Sound Level Meter	SVAN 977	2

Sound & Vibration Analyser	BSWA 801	1
Acoustical Calibrator	SV 30A	2

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

Contract No.	Monitoring Stations	Parameter	Duration	Frequency	Measurement
ND/2019/01 ND/2019/03	CP-KTN NMS2	L ₁₀ (30 min.) dB(A) L ₉₀ (30 min.) dB(A) L _{eq} (30 min.) dB(A) (as six consecutive L _{eq, 5min} readings)	0700-1900 hrs on normal weekdays	Once per week	Free-field ^[1]
	CP-KTN NMS3				
ND/2019/01	CP-KTN NMS5				
ND/2019/06	CP-FLN-NMS1				Façade

Remarks:

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

[2]: A-weighted equivalent continuous sound pressure level (L_{eq}). 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

- The microphone head of the sound level meter was positioned at 1m from the exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acted as a reflecting surface;
- 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 : L_{eq}(30 min.) dB(A)
(as six consecutive L_{eq, 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 L_{eq} , L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (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

- 4.5 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 4.6 The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 4.7 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

- 4.8 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 summarized in **Appendix I**.

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

Contract No.	Monitoring Station	Noise Level L_{eq} (30 min), dB(A)	Baseline Level, dB(A)	Limit Level, dB(A)
ND/2019/01	CP-KTN-NMS2	53.8-67.5	58.6	75
ND/2019/03	CP-KTN-NMS3	53.4-59.3	51.6	
ND/2019/01	CP-KTN-NMS5	56.3-61.7	57.2	
ND/2019/06	CP-FLN-NMS1	66.0-68.0	69.9	

- 4.9 All noise monitoring was conducted as scheduled in the reporting month. No complaint was received during the reporting. No Action/Limit Level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix K**.
- 4.10 According to our field observations, the major noise source identified at the designated noise monitoring stations in the reporting month are as follows:

Table 4.5 Observation at Noise Monitoring Stations

Contract No.	Monitoring Station	Location	Major Noise Source
ND/2019/01 ND/2019/03	CP-KTN-NMS2	Residential Buildings at Ma Tso Lung (Existing)	Road Traffic near Ma Tso Lung
	CP-KTN-NMS3	Fung Kong Garden (Existing)	Road Traffic near Fung Kong Garden
ND/2019/01	CP-KTN-NMS5	N/A	Other construction site
ND/2019/06	CP-FLN-NMS1	Belair Monte (Existing)	Road Traffic at Ma Sik Road

Event and Action Plan

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

5 WATER QUALITY MONITORING

Monitoring Requirements

- 5.1 In accordance with the Updated EM&A Manual, impact water quality monitoring shall be carried out three days per week at all the designated monitoring stations during the construction period. The measurement periods are during the construction of channel specified in Table 4.1 of Updated EM&A Manual. The interval between two sets of monitoring shall not be less than 36 hours.
- 5.2 Replicate in-situ measurements of Dissolved Oxygen (DO), temperature, turbidity, pH, Suspended Solids (SS) and samples for Suspended Solids (SS), ammonia nitrogen, unionized ammonia, nitrate nitrogen and orthophosphate from each independent sampling event shall be collected to ensure a robust statistically interpretable database.
- 5.3 **Appendix B** shows the established Action and Limit Levels for the water quality monitoring work according to pre-construction ET's Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA).

Monitoring Parameters, Frequency

- 5.4 **Table 5.2** summarized the monitoring parameters, monitoring periods and frequencies of the water quality monitoring.

Table 5.2 Water Quality Monitoring Parameters and Frequency

Parameters, unit	Depth	Frequency
<ul style="list-style-type: none"> • Temperature(°C) • pH(pH unit) • turbidity (NTU) • water depth (m) • salinity (ppt) • DO (mg/L and % of saturation) • SS (mg/L) • Ammonia Nitrogen (NH₃-N) (mg NH₃-N/L) • Unionized Ammonia (UIA) (mg/L) • Nitrate-nitrogen (NO₃-N) (mg NO₃⁻-N/L) • Ortho-phosphate (PO₄) (mg PO₄³⁻-P/L) 	<ul style="list-style-type: none"> • 3 water depths: 1m below water surface, mid-depth and 1m above river bed. • If the water depth was less than 3m, mid-depth sampling only. • If water depth was less than 6m, mid-depth may be omitted. 	3 days per week during construction of channel

Results and Observations

- 5.5 According to the Section 5.6.1.2 of approved EIA Report, the potential water quality impact

during construction is due to the alternation of natural streams (i.e. channelization of Ma Tso Lung Stream and Siu Hang San Tsuen Stream) as these two streams are the ecological importance streams.

- 5.6 No construction of channel was carried out Ma Tso Lung Stream and Siu Hang San Tsuen Stream during the reporting month. Therefore, no water quality monitoring was conducted.

6 LAND CONTAMINATION (AMBIENT ARSENIC MONITORING)**Monitoring Requirements**

- 6.1 According to Section 7.5 of updated EM&A Manual, an ambient arsenic monitoring is required to be conducted in KTN during the clean-up processes of arsenic containing soil and the construction phase.
- 6.2 The Respirable Suspended Particulate (RSP, or PM10) should be measured by High Volume Sampler (HVS) equipped with PM10 selector following the "Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere" Part 50 Chapter 1 Appendix J, Title 40 of the Code of Federal Regulations of the USEPA.
- 6.3 The Dust-laden air should be drawn through PM10 HVS fitted with a conditioned pre-weighting filter paper, at a controlled rate. After sampling for 24-hour (refer Section 9.5.5 for details on measurement period), the filter paper with retained PM10 particulates shall be collected and returned to the laboratory for drying in a desiccators followed by accurate weighting. 24-hour average RSP levels shall be calculated from the ratio of the mass of PM10 particulates retained on the filter paper to the total volume of air sampled.
- 6.4 The weighted filter paper shall be prepared for arsenic testing through a "Hot Acid Extraction Procedure". The extracted material shall be tested for arsenic by using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). The extraction and testing will be referenced to the following methods:
- Compendium Method 10-3.1 Selection, Preparation and Extraction of Filter Material, Center for Environmental Research Information, Office of Research and Development, USEPA, June 1999; and
 - Compendium Method 10-3.5 determination of Metals in Ambient Particulate Matter using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS., Center for Environmental Research Information, Office of Research and Development, USEPA, June 1999.

Monitoring Location

- 6.5 Ambient arsenic monitoring was conducted at the monitoring station under the Work Contract, as shown in **Figure 4. Table 6.1** describes the locations of the ambient air quality monitoring station.

Table 6.1 Location of Ambient Arsenic Monitoring station

EP. No	Contract No.	Monitoring Stations	Location
EP-468/2013/A	ND/2019/01 ND/2019/03	KTN-DMS-4A ^[1]	Temporary Structure at Pak Shek Au

Notes:

[1]: Monitoring at original KTN-DMS-4 (originally proposed in the approved EM&A Manual) was denied as no electricity supply. An alternative location (KTN-DMS-4A) was proposed.

Monitoring Equipment

- 6.6 **Table 6.2** summarizes the equipment used in the ambient arsenic monitoring. Copies of calibration certificates are attached in **Appendix C**.

Table 6.2 Ambient Arsenic Monitoring Equipment

Monitoring Stations	Equipment	Model and Make	Quantity
KTN-DMS-4A	Calibrator	TISCH Model: TE-5025A	1
	HVS Sampler (RSP)	TISCH Model: TE-6070X	1

Monitoring Parameters, Frequency and Duration

- 6.7 **Table 6.3** summarizes the monitoring parameters and frequencies of ambient arsenic during the clean-up processes of arsenic-containing soil and construction. The ambient arsenic monitoring schedule for the reporting month is shown in **Appendix D**.

Table 6.3 Impact Ambient Arsenic Monitoring Parameters, Frequency and Duration

Parameters	Frequency
24-hr RSP (Ambient Arsenic)	Once/ 6 days

Monitoring Methodology and QA/QC Procedure**24-hour RSP Monitoring**Instrumentation

- 6.8 High volume samplers (HVS) (GMW PM10 (TE6070)) complete with appropriate sampling inlets was employed for 24-hour RSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).
- 6.9 The following guidelines were adopted during the installation of HVS:
- a horizontal platform with appropriate support to secure the samplers against gusty wind was provided;
 - no two samplers was placed less than 2 meters apart;
 - the distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler;
 - a minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samplers;
 - a minimum of 2 meters separation from any supporting structure, measured horizontally was required;
 - no furnace or incinerator flue was nearby;
 - airflow around the sampler was unrestricted;
 - the sampler was more than 20 meters from the dripline;
 - any wire fence and gate, to protect the sampler, were not cause any obstruction during monitoring;
 - permission was obtained to set up the samplers and to obtain access to the monitoring stations; and
 - a secured supply of electricity was needed to operate the samplers.

Operating/analytical procedures for the operation of HVS

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler will

be properly set (between 1.1 m³/min. and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter will be carefully centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure were sufficient to avoid air leakage at the edges.
- The shelter lid was closed and secured with the aluminum strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter was removed and sent to the Wellab Ltd. for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature was between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) was < 50% and not vary by more than ±5%. A convenient working RH was 40%. Weighing results were further analysis of RSP concentrations collected by each filter.

Maintenance/Calibration

6.10 The following maintenance/calibration was required for the HVS:

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

Laboratory Measurement / Analysis

6.11 Quartz filters of size 8" x 10" were labelled before sampling. A HOKLAS accredited laboratory, Wellab Ltd., is responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for the monitoring team. The balance for weighting filter paper was regularly calibrated against a traceable standard.

6.12 All filters, which were prepared by Wellab Ltd., were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.

6.13 Wellab Ltd. (HOKLAS Registration No. 083), is responsible for the extraction and testing procedure for Arsenic and comprehensive quality assurance and quality control programmes were conducted.

Results and Observations

6.14 The ambient arsenic monitoring results are summarized in **Table 6.4**. Detailed monitoring

results and test report are shown in **Appendix E**.

Table 6.4 Summary Table of 24-hour RSP Monitoring Results during the Reporting Month

Monitoring Date	Monitoring Station	Concentration (ng/m ³)	Action Level (ng/m ³)	Limit Level, (ng/m ³)
06/07/2020	KTN-DMS-4A	0.59	9.36	11.7
10/07/2020		1.88		
16/07/2020		1.21		
22/07/2020		1.46		
28/07/2020		0.97		

- 6.15 All ambient arsenic monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedances were recorded.

Event and Action Plan

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

7 LANDFILL GAS MONITORING

Monitoring Requirement

- 7.1 In accordance with the updated EM&A Manual, monitoring of landfill gas (LFG) is required for construction works within the Ma Tso Lung Landfill (MTLL, close to KTN NDA) during the construction phase. This section presents the results of landfill gas measurements performed by the Contractor. **Appendix B** shows the Limit Levels for the monitoring works.
- 7.2 The MTLL is situated in the vicinity of the KTN NDA. A portion of the development falls within the MTLL and its 250m Consultation Zone.

Monitoring Parameters and Frequency

- 7.3 Monitoring parameters for Landfill gas monitoring include Methane, Carbon dioxide and Oxygen.
- 7.4 According to the mitigation measures of the updated EM&A Manual, measurements of the following frequencies should be carried out according to the monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's Guidance Note, "LANDFILL GAS HAZARD ASSESSMENT GUIDANCE NOTE".
- 7.5 The frequency of monitoring of LFG are conducted referring to the updated EM&A Manual - Monitoring of any LFG which may be migrated to the site should be undertaken during the construction of infrastructure and the development within the Consultation Zone and within MTLL when the works involve confined spaces. Routine gas monitoring should be undertaken during groundwork construction and in all excavations. Monthly gas monitoring should also be conducted for offices, stores etc. set up on site.

Monitoring Locations

- 7.6 Monitoring of oxygen, methane and carbon dioxide was performed for construction of infrastructure and the development within the Consultation Zone and within MTLL when the works involve confined spaces. In this reporting month, the area required to be monitored for landfill gas are shown below and **Figure 5** shows the landfill gas monitoring locations.

- | | |
|-----------------------------------|-------------------------|
| ➤ Excavation Locations: | Portion 6b |
| ➤ Manholes and Chambers: | N/A |
| ➤ Relocation of monitoring wells: | N/A |
| ➤ Any other Confined Spaces: | Container in Portion 6b |

Monitoring Equipment

- 7.7 **Table 7.1** summarizes the equipment employed by the Contractor for the landfill gas monitoring.

Table 7.1 Landfill Gas Monitoring Equipment

Equipment	Model and Make	Quantity
Portable gas detector	RKI Eagle (Serial No. E148037)	1

Results and Observations

- 7.8 In the reporting month, landfill gas monitoring was carried out by the Contractor at the aforesaid locations on 1 occasion with 2 monitoring stations. No Limit Level exceedance for landfill gas monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix G**. Copies of calibration certificates are attached in **Appendix C**.

Event and Action Plan

- 7.9 Should any project related non-compliance of the criteria occur, action in accordance with the Action Plan in **Appendix J** would be carried out.

8 ECOLOGICAL MONITORING

Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, Shek Sheung River and Long Valley

Monitoring Requirements and Protocol

- 8.1 As required under Section 12.3.2.5 of Updated EM&A Manual, where development under the NDAs project is undertaken within 200m (the maximum distance at which it is predicted there may be some disturbance, and hence a reduction in numbers, of large waterbirds) of Sheung Yue River and Long Valley, weekly transect at both high and low tides should be followed (It is considered high tide when the tidal levels are above 1.5m and low tide when the tidal levels are below 1.5m at Tsim Bei Tsui Station).
- 8.2 The purpose of the survey was to identify and enumerate all bird species utilizing the river channels and Long Valley Nature Park (LVNP) and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period according to Methodology specified in Table 12.1 in Updated EM&A Manual.
- 8.3 Monitoring in Long Valley should follow the methodology adopted by the regular HKBWS bird monitoring programme in order to obtain comparable results and complete coverage of the area in the shortest time possible.

Monitoring Frequency

- 8.4 High tide and low tide avifauna monitoring is required to be carried out on weekly basis.

Date of avifauna monitoring: 7th, 13th, 20th, 27th July 2020

Monitoring Location

- 8.5 The avifauna monitoring was carried out at Sheung Yue River and Long Valley in Reporting Month according to construction works. The transect routes in the Reporting Month were as follows:

- T3. Sheung Yue River
- T5. Long Valley

For Sheung Yue River, only one bank of the river was followed as the waterbirds utilizing the river channel were easily visible.

- 8.6 The location of Transects T3 and T5 is shown in **Figure 6** for reference.

Monitoring Parameters

- 8.7 The monitoring parameters and survey methodology for each transect are described below:
- Abundance of birds

-
- Types of habitat which birds in use
 - Notable bird behaviours such as roosting, feeding, nesting and presence of juveniles
 - Birds heard though birdcalls that could not be located would be marked as “heard”, while birds flying over the survey area would be marked as “flight”. Species of conservation significance would be specified.
- 8.8 Other information at the time of survey such as weather condition, tidal condition, tide level and noticeable natural or anthropogenic activities would be documented.
- 8.9 For Avifauna survey, Ornithological nomenclature would make reference to The Avifauna of Hong Kong (Carey *et al.* 2001), The Birds of Hong Kong and South China (Viney *et al.* 2005), and the most recent updated list from other sources (e.g. Hong Kong Bird Watching Society).

Monitoring Result

- 8.10 In total, 46 species of birds were recorded during the bird surveys within assessment area. Among the recorded birds, there were 16 species of waterbirds. The detailed list of waterbirds and all recorded birds are shown in **Appendix H1i and H1j** respectively.
- 8.11 Among the two transects, the transect T5 had higher species diversity and abundance due to its diverse habitat types within Long Valley. Species such as *Egretta garzetta* and *Ardea alba* were commonly found flying and foraging at wetland habitats such as agricultural land and riverbank.
- 8.12 Along the transect T5 in Long Valley, species with conservation interest such as *Himantopus himantopus* which is a passage migrant species of conservation interest was also commonly observed in shallow water habitat. Grass cutting was noted in agricultural farmland in Long Valley.
- 8.13 Transect T3 was conducted along the Sheung Yue River. Bird species such as *Acridotheres cristatellus* and *Egretta garzetta* were commonly noted. Fishing activities were observed along the river during the survey.
- 8.14 Avifauna monitoring in construction phase was conducted during the reporting month and the detailed results are attached in **Appendix H1**.

Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Siu Hang San Tsuen Stream, and Long Valley

Monitoring Requirements and Protocol

- 8.15 As required under Section 12.3.2.14 of Updated EM&A Manual, aquatic faunal monitoring should be carried out during the construction phase.
- 8.16 Larger organisms such as fish would be monitored by direct counting, while kick-netting and sweep-netting would be used for invertebrate sampling. There would be three replicates for

invertebrate sampling at each sampling point. For kick-netting, the net would be placed with the opening facing the water current, and the substrate would be disturbed by kicking to dislodge organisms from the stream bed. Sweep-netting would be conducted when kick-netting was not feasible, such as in area with no water current. Small organisms that could not be identified with naked eye would be brought to the laboratory for identification under the dissecting microscope.

Monitoring Frequency

- 8.17 Quantitative aquatic fauna replicate surveys of stream fauna is required to be carried out on monthly basis during wet season. Three replicates for invertebrates sampling and direct counting of fish fauna would be performed respectively.

Date of aquatic fauna monitoring: 29th July 2020

Monitoring Location

- 8.18 During the Reporting Month, the monitoring location carried out in Ma Tso Lung Stream according to construction works are as follow:-

- MS_01 • MS_02 • MS_03 • MS_04 • MS_05
- MS_06 • MS_07 • MS_08 • MS_09 • MS_10

- 8.19 The location of Monitoring Stations shown in **Figure 7** for reference.

Monitoring Parameters

- 8.20 The monitoring parameters and survey methodology for each monitoring station are described below:

- Species composition
- Abundance
- Distribution for invertebrates and fish fauna
- Species of conservation significance would be specified

- 8.21 Other information at the time of survey such as weather condition and noticeable natural or anthropogenic activities would be recorded.

Monitoring Result

- 8.22 In the survey of aquatic fauna, total 20 aquatic fauna species were found, including worms, snails and insects, were recorded in Ma Tso Lung Stream. Fish species Predaceous chub (*Parazacco spilurus*) was recorded. No aquatic macroinvertebrate species of conservation importance were recorded.

- 8.23 According to the observation during the survey, water level in MS_04 was found at an inaccessible level. To reach the monitoring station in MS_04, walking from MS_06 towards MS_04 along the stream was required. In accordance with unfavorable weather condition and current in MS_06, accessing from MS_06 to MS_04 was impossible due to the safety reason. Moreover, the stream quality was strongly impacted by the runoff from frequent rain events during the week of conducting aquatic fauna survey in July which might pose influence towards the overall monitoring result.

- 8.24 Aquatic faunal monitoring in construction phase was conducted during the Reporting Month and the results are attached in **Appendix H2 to H3**.

Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution

Monitoring Requirements and Protocol

- 8.25 As required under Section 12.3.2.17 of Updated EM&A Manual, monitoring of measures to minimize impacts should be carried out during the construction phase.
- 8.26 The purpose of survey is to monitor the effectiveness of measures to minimize impacts on ecologically sensitive habitats from disturbance and pollution by standard faunal transect surveys.

Mammal survey

- 8.27 Mammal survey would be performed during both day and night times, in areas along the transect routes which may potentially be utilized by terrestrial mammals. Field signs such as droppings, footprints, diggings and burrows left by larger terrestrial mammals would be observed. Mammals directly observed would be recorded, and identification would be made as accurate as possible from the field signs observed.
- 8.28 Bat survey would be conducted along the transect routes shortly after sunset, with the use of a bat detector to record the echolocation calls. The relative abundance of the species encountered would be estimated using a scale from one (single individual recorded) to five (very abundant). Nomenclature of mammal will be based on Shek (2006).

Herpetofauna survey (Amphibians and Reptiles)

- 8.29 Amphibian surveys would be conducted whenever possible on evenings following or during periods of rainfall, focusing on areas suitable for amphibians (e.g. forest, shrublands, grasslands, streams, ponds, marshes, etc.). Calling amphibians would be recorded, supplemented by visual observation of eggs, tadpoles, adult frogs, and toads.
- 8.30 Active searching of appropriate microhabitats such as stones, pond bunds, crevices and leaf debris would be performed mainly. Observation of exposed, basking and foraging reptiles would also be conducted. Nomenclature of amphibian and reptile will be based on Chan et al. (2005) and Karsen et al. (1998), respectively.

Insect survey (Butterfly and Dragonfly)

- 8.31 Butterflies and dragonflies observed along the transects would be identified and counted. Preferable habitats of the insects such as watercourses, fishponds, and vegetated areas would be observed with special attention. Nomenclature and protection status of the species will be based on Lo et al. (2005) for butterflies and Tam et al. (2011) for dragonflies

Monitoring Frequency

- 8.32 Monitoring surveys of ecological sensitive receivers such as mammals, insects (butterflies and dragonflies), and herpetofauna will be undertaken on a monthly bases.

Date of Monitoring surveys of ecological sensitive receivers: 17th July 2020

Monitoring Location

- 8.33 The transect routes in the Reporting Month according to construction works are as follows:
- T1. Ma Tso Lung riparian zone and associated wetland habitats;
 - T1. Green belt areas E1-8, D1-8 and G1-3 in KTN NDA;
 - T1. AGR one C2-4 and C2-2 in KTN NDA;
 - T1. Area north of Ng Tung River; and
 - T6. Areas in the western part of KTN
- 8.34 The location of Transects is shown in **Figure 8** for reference.

Monitoring Parameters

- 8.35 The monitoring parameters and survey methodology for each transect are described below:-
- Species composition
 - Abundance
 - Distribution for fauna observed
 - Species of conservation significance would be specified

Monitoring Result

Mammal

- 8.36 During the survey, total 3 mammal species were recorded from transects T1 and T6. Domestic cat, *Felis catus* and Domestic dog, *Canis lupus familiaris*, were commonly found at T1 where associated with human settlements.
- 8.37 Bat species, *Cynopterus sphinx* was observed roosting in the tent-shaped shelter under fronds of Chinese Fan-palm during daytime survey of birds and herpetofauna.
- 8.38 According to EIA, echolocation calls of bats were recorded. The structure of the echolocation calls from these recordings was later analysed to identify species as far as possible (the lack of literature on echolocation call structure makes the field identification of some bat species in Hong Kong impossible, and some species remain unidentified from the recordings).

Herpetofauna (Amphibians and Reptiles)

- 8.39 Along the transects, total 6 herpetofauna species were observed. Species including toad, frog and gecko were noted near wetland habitats and watercourse. Transect T1 has higher species diversity and abundance than T6.

Insects (Butterfly and Dragonfly)

- 8.40 During the insect survey, total 23 butterflies species and 10 odonata species recorded from transect T1 and T6. Transect T1 had higher species diversity than T6. Uncommon species such as Yellow Rajah, *Charaxes marmax* was also found in transect T1. 10 odonata species were found in transect T1. Most of the dragonfly species recorded were also common and abundant in Hong Kong.

- 8.41 Ecological sensitive receivers such as mammals, insects (butterflies and dragonflies), and herptofauna monitoring in construction phase was conducted during the reporting month and the results are attached in **Appendix H4 to H7**.

Result and Observation

Details of the Influencing Factors

Major Activities

- 8.42 During the survey of Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley, anthropogenic activities such as grass cutting in Long Valley and fishing at the river banks were observed.
- 8.43 During the survey of Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution, no major anthropogenic disturbances were observed.

Weather Conditions

- 8.44 According to the observation during survey and the rain flow record in the Reporting Month (Reference: <http://www.weather.gov.hk/wxinfo/pastwx/metob202007.htm>), weather condition might pose influence towards the monitoring result.
- 8.45 Since the Final Baseline Ecological Monitoring Report has not been issued yet during the Reporting Month, the Action and Limit Level of ecological monitoring will be compared with the monitoring results in the Reporting Month and track back exceedance reporting (if any) after the Final Baseline Ecological Monitoring Report has been issued.
- 8.46 The detailed Ecological monitoring results are attached in **Appendix H**.

9 ENVIRONMENTAL SITE INSPECTION**Site Audits**

- 9.1 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. The summaries of site audits are presented in **Table 9.1** and **Appendix L**.

Table 9.1 Summary of Site Audit

Environmental Inspection	Site	Works Contracts		
		ND/2019/01	ND/2019/03	ND/2019/06
Weekly site audit with representative of the <i>Supervisor's</i> Representative and the Contractor		9 th ,16 th ,21 st ,28 th July 2020	3 rd ,10 th ,17 th ,21 st ,31 st July 2020	2 nd ,9 th ,15 th ,23 rd ,30 th July 2020
Joint Site Audit with representative of the <i>Supervisor's</i> Representative, the Contractor and IEC		16 th July 2020	21 st July 2020	15 th July 2020

- 9.2 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarised in **Table 9.2**.

Table 9.2 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Contract No.: ND/2019/01			
<i>Air Quality</i>	30/06/2020	The exposed worksite and haul road should be watered regularly.	Improvement/Rectification was observed during follow-up audit session on 9 July 2020.
	09/07/2020	Exposed worksites should be watered regularly.	Improvement/Rectification was observed during follow-up audit session on 16 July 2020.
	16/07/2020	Exposed worksites should be watered regularly.	Improvement/Rectification was observed during follow-up audit session on 21 July 2020.
<i>Water Quality</i>	09/07/2020	Vehicles are observed not cleaned of earth, mud before leaving the Portion 4.	Improvement/Rectification was observed during follow-up audit session on 16 July 2020.
	28/07/2020	Contractor was reminded to clear the ponding water at Portion 6.	Follow-up action is needed to be reported in the following month.
<i>Waste/ Chemical Management</i>	30/06/2020	Chemical oil should be stored properly in designated area.	Improvement/Rectification was observed during follow-up audit session on 9 July 2020.
	16/07/2020	Chemical containers should be stored, labelled properly in designated area.	Improvement/Rectification was observed during follow-up audit session on 21 July 2020.
	21/07/2020	Chemical containers should be stored, labelled properly in designated area.	Improvement/Rectification was observed during follow-up audit session on 28 July 2020.
	21/07/2020	Oil is observed leaked out from drip tray/equipment. Oil in drip tray should be cleared regularly.	Improvement/Rectification was observed during follow-up audit session on 28 July 2020.
	28/07/2020	Contractor was reminded to dispose general refuse regularly to avoid accumulation at Portion 6.	Follow-up action is needed to be reported in the following month.
<i>Ecology</i>	16/07/2020	Hoarding erection is still processing, hoarding will be checked once in place.	Item was remarked as 200721-R01. Follow-up action is needed to be reviewed.
	21/07/2020	Hoarding erection is still processing, hoarding will be kept checking.	Item was remarked as 200728-R03. Follow-up action is needed to be reviewed.

Contract No.: ND/2019/03			
<i>Air Quality</i>	17/07/2020	Stockpile of dusty materials should be covered by impervious sheeting or sprayed with water.	Item was remarked as 200721-R03. Follow-up action is needed to be reviewed.
	21/07/2020	Stockpile of dusty materials should be covered by impervious sheeting or sprayed with water.	Improvement/Rectification was observed during follow-up audit session on 31 July 2020.
<i>Water Quality</i>	10/07/2020	Sandbags should be renewed to prevent surface runoff extending beyond the construction site.	Item was remarked as 200717-R01. Follow-up action is needed to be reviewed.
	17/07/2020	Sandbags should be renewed to prevent surface runoff extending beyond the construction site.	Item was remarked as 200721-R01. Follow-up action is needed to be reviewed.
	21/07/2020	Sandbags should be renewed to prevent surface runoff extending beyond the construction site.	Improvement/Rectification was observed during follow-up audit session on 31 July 2020.
<i>Waste / Chemical Management</i>	03/07/2020	Chemical waste should be disposed of properly in designated area.	Improvement/Rectification was observed during follow-up audit session on 10 July 2020.
<i>Landscape & Visual</i>	03/07/2020	Retained tree should be carefully protected.	Improvement/Rectification was observed during follow-up audit session on 10 July 2020.
	17/07/2020	To keep checking the retained trees on site where site clearance works have been started and protect them carefully.	Item was remarked as 200721-R02. Follow-up action is needed to be reviewed.
	21/07/2020	To keep checking the retained trees on site where site clearance works have been started and protect them carefully.	Improvement/Rectification was observed during follow-up audit session on 31 July 2020.
Contract No.: ND/2019/06			
<i>Air Quality</i>	23/07/2020	Contractor was reminded to clear the dusty material on road surface.	Improvement/Rectification was observed during follow-up audit session on 30 July 2020.

<i>Water Quality</i>	26/06/2020	Debris and rubbish in U-channel should be cleared and disposed of properly.	Improvement/Rectification was observed during follow-up audit session on 2 July 2020.
	02/07/2020	Rubbish in U-channel should be cleared and disposed of properly.	Improvement/Rectification was observed during follow-up audit session on 9 July 2020.
<i>Waste / Chemical Management</i>	26/06/2020	Chemical waste, waste oil containers should be stored properly in designated place.	Improvement/Rectification was observed during follow-up audit session on 2 July 2020.
	23/07/2020	Chemical should be stored at designated area or with drip tray to prevent chemical leakage.	Improvement/Rectification was observed during follow-up audit session on 30 July 2020.
	30/07/2020	Stagnant water in drip tray should be cleared properly.	Follow-up action is needed to be reported in the following month.

Implementation Status of Environmental Mitigation Measures

- 9.3 According to the EIA Report, EPs and the Updated EM&A Manual, 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 is provided in **Appendix M**. The photographic records of measures as stipulated in EP to mitigate environmental impacts in the reporting month are presented in **Table 9.3**.

Table 9.3 Photographic Records and Implementation Status of Measures

EP No.	Condition	Photographic Record	Implementation Status
<p>EP-475/2013/ A</p>	<p>2.7</p>	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas (Figure 9)</p>	<p>^^[1]</p>
<p>Implementation status:</p>		<p>^ Mitigation measure was fully implemented * Observation/reminder was made during site audit but improved/rectified by the contractor # Observation/reminder was made during site audit 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</p>	

[1]: Barrier fences might be subjected to change according to phasing plan designed at detailed design stage

9.4 Under EP-468/2013/A (Condition 2.11), to minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas. As the Works programme under EP-468/2013/A was still under preparation work and the barrier fences erection was still progressing in the Reporting Month, 2m high solid dull green site barrier fences will be checked once in place.

Solid and Liquid Waste Management Status

9.5 Waste generated from Contract No. ND/2019/01, ND/2019/03 and ND/2019/06 include inert construction and demolition (C&D) materials and non-inert C&D wastes.

9.6 The amount of wastes generated by the construction works of the Contract No. ND/2019/01, ND/2019/03 and Contract No. ND/2019/06 during the reporting month is shown in **Appendix N**.

9.7 The Contractors are advised to minimize the wastes generated through the recycling or

reusing. All mitigation measures stipulated in the Updated EM&A Manual and waste management plans shall be fully implemented. The status of implementation of waste management and reduction measures are summited in **Appendix M**.

10 ENVIRONMENTAL NON-CONFORMANCE

Summary of Exceedances

- 10.1 No exceedance of Action and Limit Levels of air quality, construction noise, ambient arsenic and landfill gas monitoring in the reporting month. The summary of exceedance record in reporting month is shown in **Appendix K**.
- 10.2 Ecological monitoring was carried out in the Reporting Month. The Action and limit level will be compared after the issue of Final Baseline Ecological Report.
- 10.3 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 J** would be carried out.

Summary of Environmental Non-Compliance

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

Summary of Environmental Complaint

- 10.5 One environmental complaints was received in the reporting month. The Cumulative Complaint Log since the commencement of the Project is presented in **Appendix O**.

Summary of Environmental Summon and Successful Prosecution

- 10.6 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 P**.

11 FUTURE KEY ISSUES**Key Issues in the Coming Two Months**

11.1 The major site activities for the coming two months are shown in **Table 11.1**.

Table 11.1 Summary Table for Site Activities in the coming Two Months

Contract No.	Site Activities (August and September 2020)
ND/2019/01	<ul style="list-style-type: none"> (a) Ground Investigation in Portion 1f; (b) Site Clearance, Ground Investigation in Portion 2 (c) Tree Survey, Site Clearance in Portion 3 (d) Sampling and testing for site trial for In-situ cement mixing (ICM) for soil treatment works in Portion 4 (e) Site Clearance, Ground Investigation in Portion 5 (f) Site Clearance, Ground Investigation in Portion 6a; (g) Completion of Soil Treatment Facility, Pilot trial for Ex-situ cement mixing (ECM) for soil treatment, provide soil treatment for HAC soil by ECM in Portion 6b; (h) Site Clearance, Tree felling, Construction of temporary road for alternative Po Lau Road, Land contamination assessment in Area T1, T2 & T3 in Portion 7; (i) Ground Investigation, Construction of Retaining Wall in Portion 8a; (j) Site Clearance, Ground Investigation, stockpile of soil in Portion 9c; (k) Site Clearance, Tree felling, Excavation in Portion 10a; and (l) Site Clearance in 10b
ND/2019/03	<ul style="list-style-type: none"> (a) Road and Drainage work in Portion 1; (b) Initial Restoration Work at Long Valley, Construction works of storage shed and Type 2 Storage House, construction of metal wire railing, site clearance in Portion 2 to 20; (c) Pre-relocation survey in Portion 23 and 24
ND/2019/06	<ul style="list-style-type: none"> (a) Construction of Management Office Building; (b) Installation of entrance gate at new run-in/out (c) Breaking up the concrete surface and disposal of C&D material off site at Portion 3 (d) Construction of footings of steel canopy of final stage market (e) Ground investigation works at Portion 3 (f) Tree felling at Portion 3 and 6.

Monitoring Schedule for the Next Month

11.2 The tentative environmental monitoring schedule for the next month is shown in **Appendix**

D.

Construction Programme for the Next Month

11.3 A tentative construction programme is provided in **Appendix A**.

12 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

12.1 This Monthly EM&A Report presents the EM&A work undertaken in July 2020 in accordance with Updated EM&A Manual.

12.2 No Action/Limit Level exceedance were recorded for air quality, construction noise, ambient arsenic, and landfill gas monitoring.

Contract No. ND/2019/01

12.3 Environmental site inspection were conducted on 9th, 16th, 21st and 28th July 2020 by ET in the reporting month.

Contract No. ND/2019/03

12.4 Environmental site inspection were conducted on 3rd, 10th, 17th, 21st and 31st July 2020 by ET in the reporting month.

Contract No. ND/2019/06

12.5 Environmental site inspections were conducted on 2nd, 9th, 15th, 23rd and 30th July 2020 by ET in the reporting month.

12.6 There was one environmental complaints, no notification of summons or successful prosecutions received in the reporting month.

12.7 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

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

Air Quality Impact

- To enhance the dust suppression measures such as water spraying on all haul roads and expose work site area; and
- To maintain the impervious material to cover the stockpile of dusty materials; and
- To ensure all regulated machines with valid Non-road Mobile Machinery (NRMM) labels.

Water Impact

- To prevent any surface runoff discharge into nearby drainage or stream;
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge; and
- To ensure the drainage facilities would not be clogged with waste to avoid overflow.

Waste/Chemical Management

- To avoid improper handling, storage and dispose of oil drums or chemical containers on site; and
- To store chemical waste/waste oil properly in the designated place before disposal.

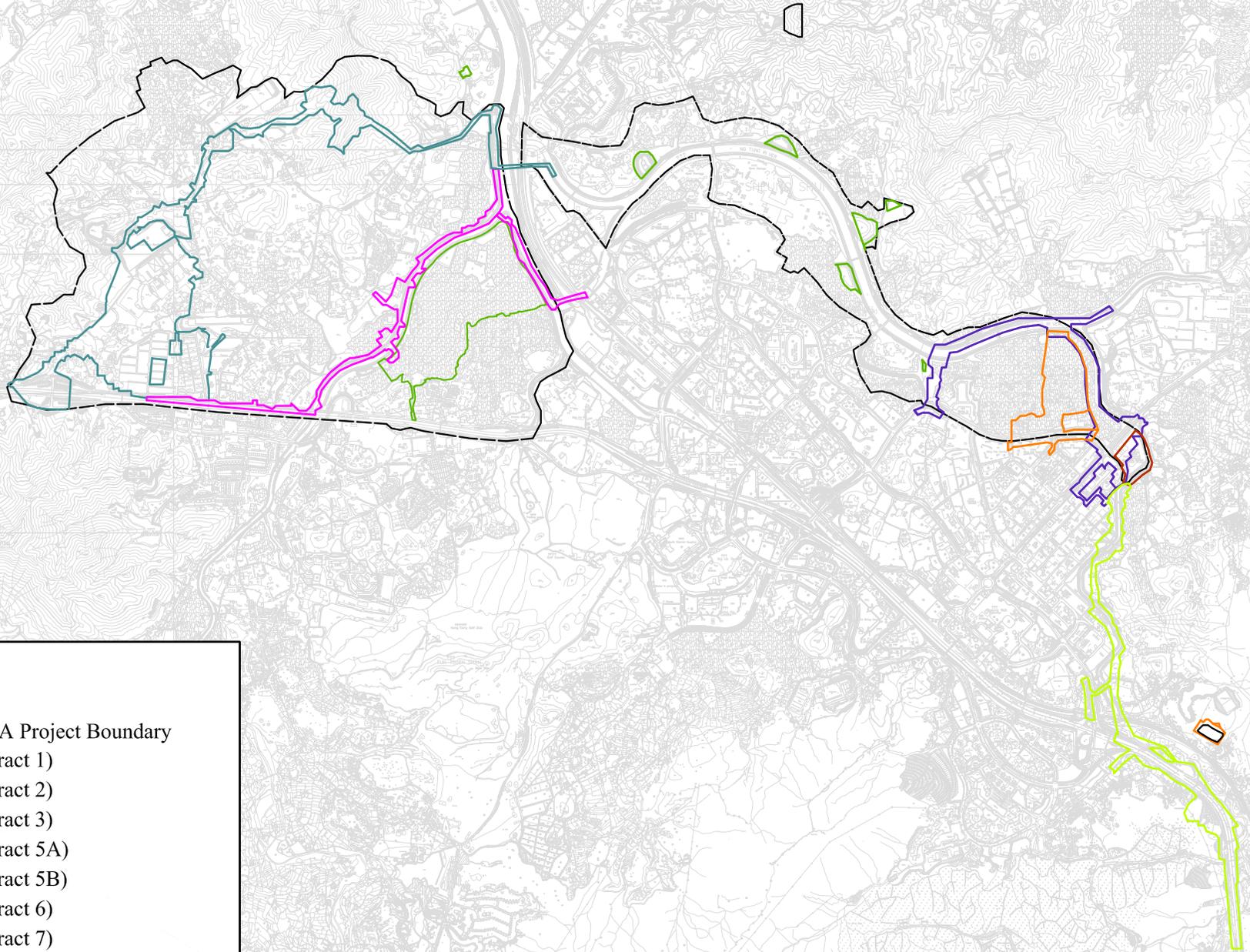
Landscape & Visual Impact

- To clear the construction materials/wastes properly within the tree protection zone.
- Retained trees should be carefully protected.
- Dull green fencing should be secured with no gaps or no holes.

Landfill Gas Hazard

- “No Smoking” and “No Naked Flame” notices in Chinese and English should be posted prominently around the construction site.

DRAWING(S)

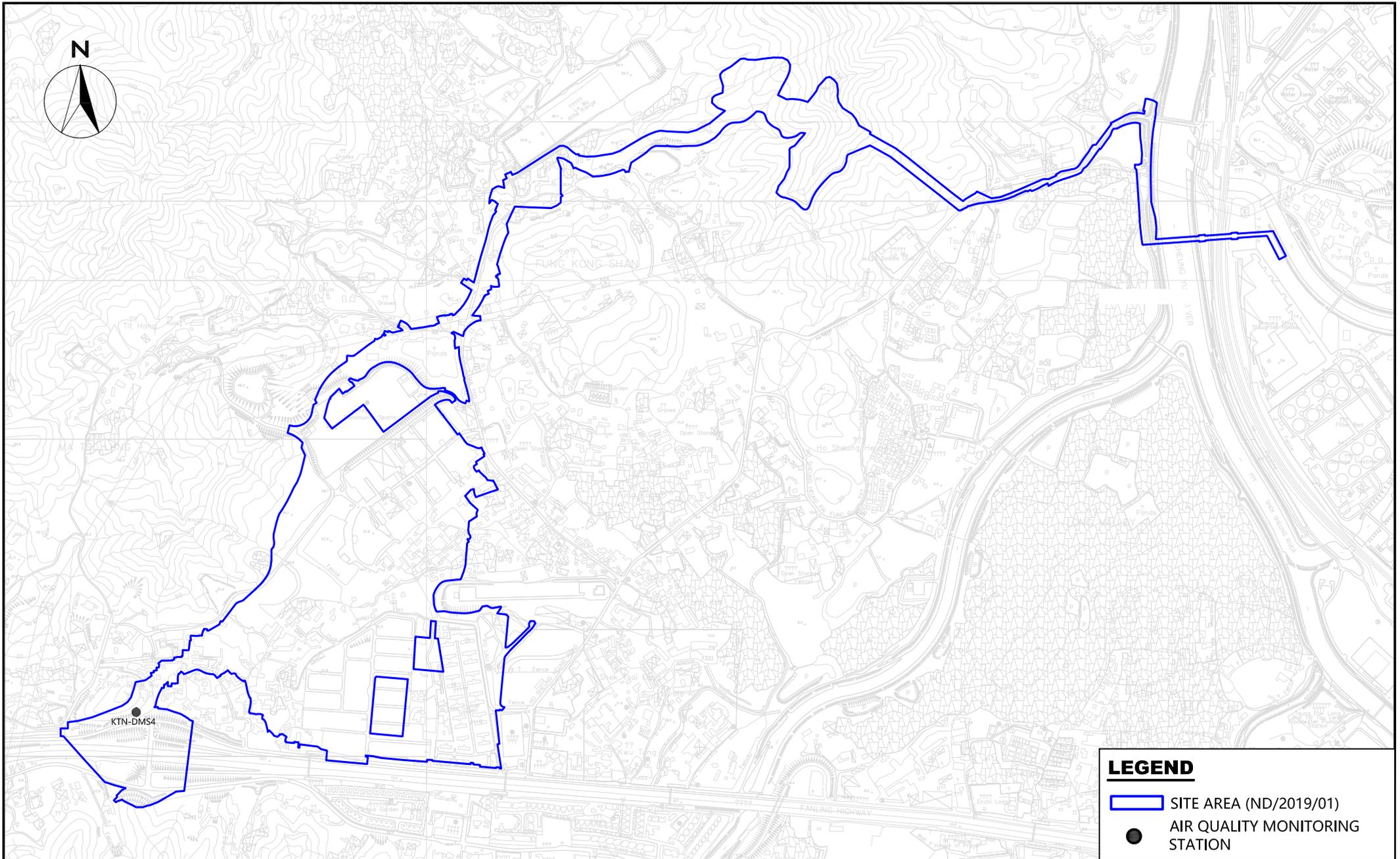


LEGEND

-  KTN and FLN NDA Project Boundary
-  ND/2019/01 (Contract 1)
-  ND/2019/02 (Contract 2)
-  ND/2019/03 (Contract 3)
-  ND/2019/04 (Contract 5A)
-  ND/2019/05 (Contract 5B)
-  ND/2019/06 (Contract 6)
-  ND/2019/07 (Contract 7)

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Project No.	WMA20002	Drawing No.	1	REV	-

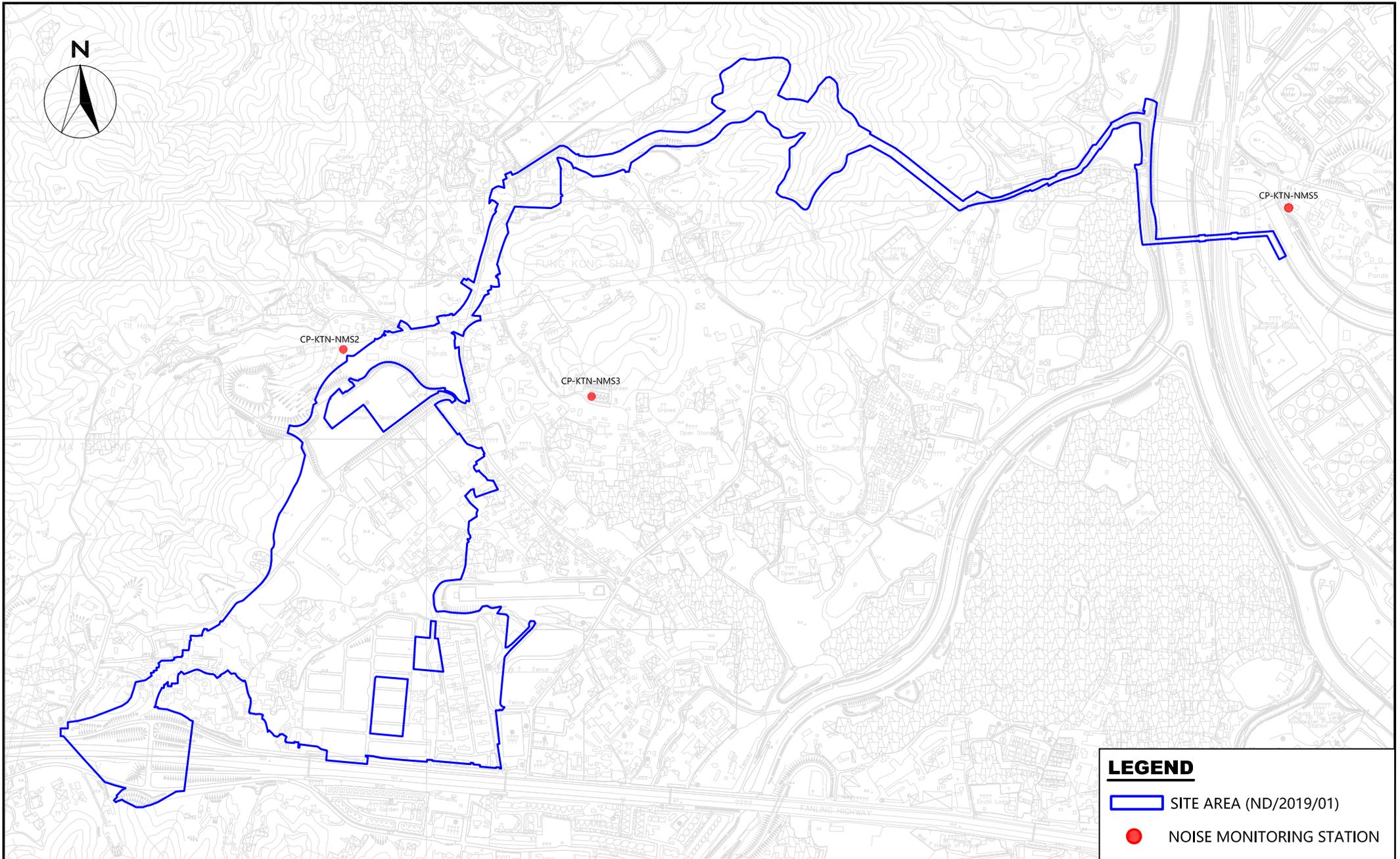
FIGURE(S)



LEGEND

- SITE AREA (ND/2019/01)
- AIR QUALITY MONITORING STATION

SCALE	A4 @ 1:30000	DATE	APR 2020	
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PROJECT No.	WMA20002	FIGURE NO.	1	REV —



LEGEND

-  SITE AREA (ND/2019/01)
-  NOISE MONITORING STATION

Service Contract No. NDO 04/2019 Environmental Team for EM&A Works in Construction
Phase for the First Phase Development of KTN and FLN NDAs
Contract No. ND/2019/01 Kwu Tung North New Development Area, Phase 1:
Site Formation and Infrastructure Works
Location of Noise Monitoring Station



SCALE	A4 @ 1:30000	DATE	APR 2020	
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PROJECT No.	WMA20002	FIGURE NO.	2	REV —



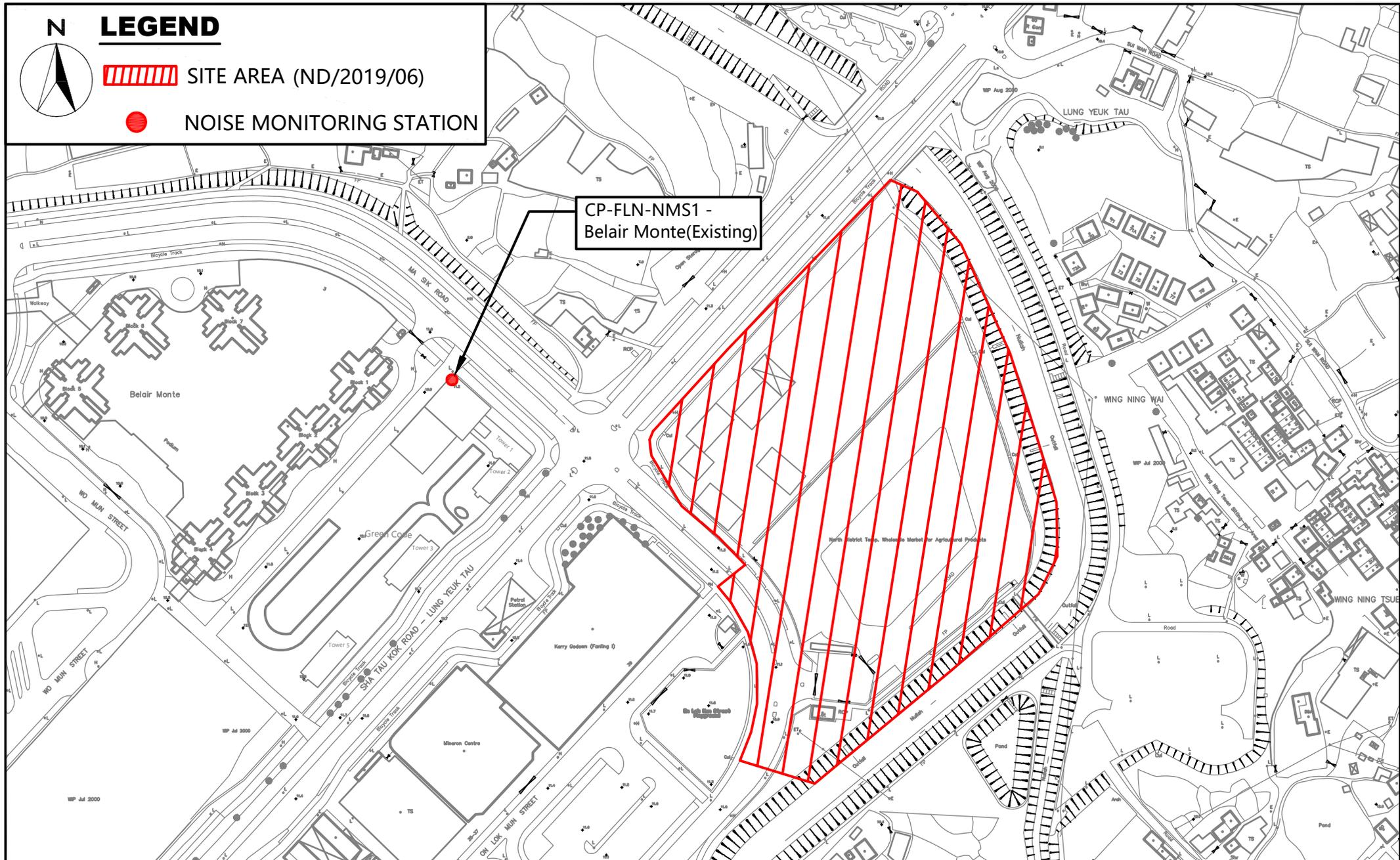
LEGEND



SITE AREA (ND/2019/06)

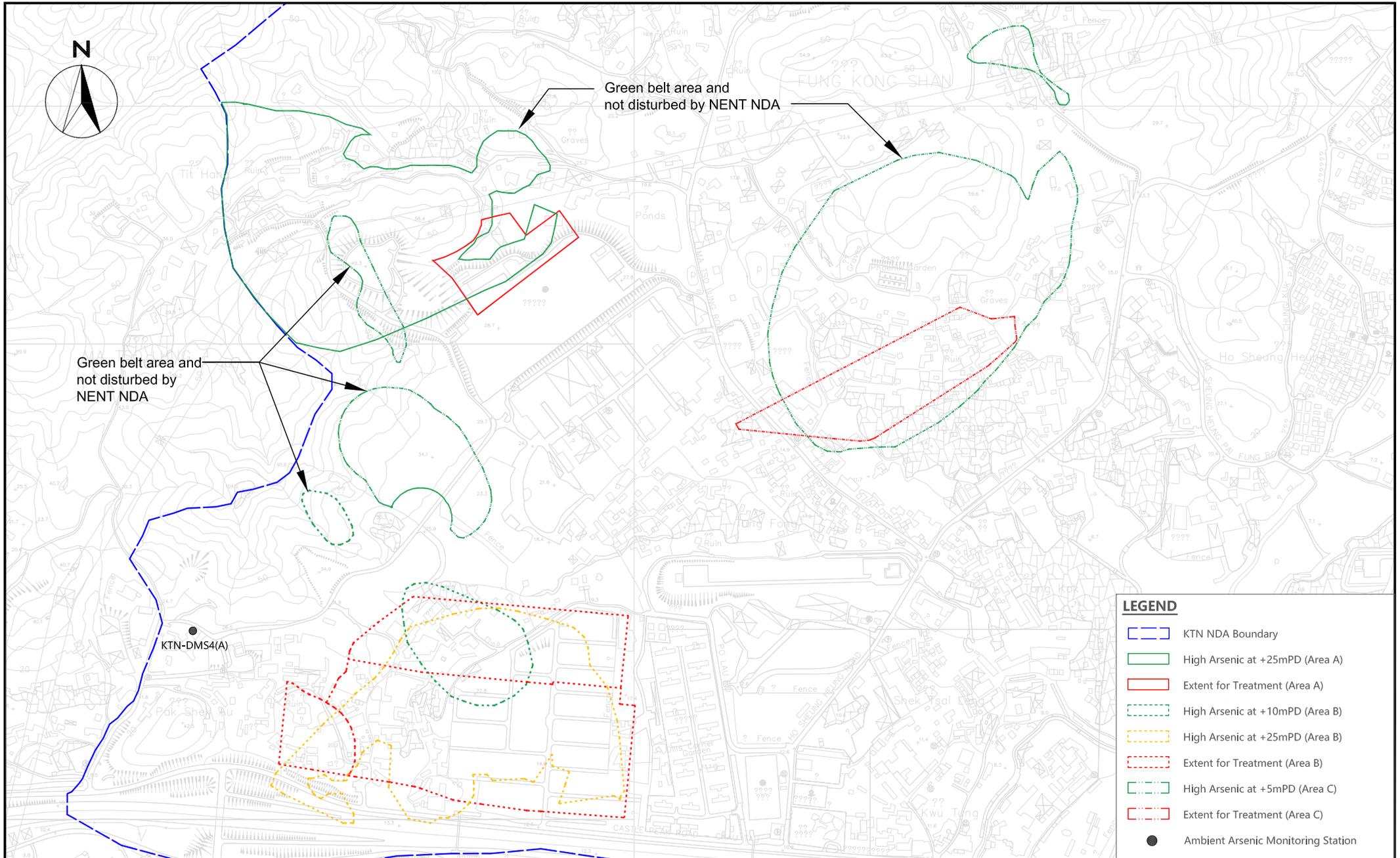


NOISE MONITORING STATION



CP-FLN-NMS1 -
Belair Monte(Existing)

SCALE	A4 @ 1: 6000	DATE	FEB 2020
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PROJECT No.	WMA20002	FIGURE NO.	3
		REV	—



LEGEND

- — — KTN NDA Boundary
- — — High Arsenic at +25mPD (Area A)
- — — Extent for Treatment (Area A)
- - - - - High Arsenic at +10mPD (Area B)
- - - - - High Arsenic at +25mPD (Area B)
- - - - - Extent for Treatment (Area B)
- - - - - High Arsenic at +5mPD (Area C)
- - - - - Extent for Treatment (Area C)
- Ambient Arsenic Monitoring Station

Service Contract No. NDO 04/2019 Environmental Team for EM&A Works in Construction
 Phase for the First Phase Development of KTN and FLN NDAs
 Contract No. ND/2019/01 Kwu Tung North New Development Area, Phase 1:
 Site Formation and Infrastructure Works
Location of Ambient Arsenic Monitoring Station



SCALE	1:20000 (A4)	DATE	Jun 2020	
CHECK	IT	DRAWN	ML	
PROJECT No.	WMA20002	FIGURE NO.	4	REV -



LEGEND

- KTN and FLN NDA Project Boundary
- Ma Tso Lung Landfill
- 250 m Landfill Consultation Zone
- Waste Boundary
- / ● Location of Landfill Gas Monitoring

250m Landfill Consultation Zone

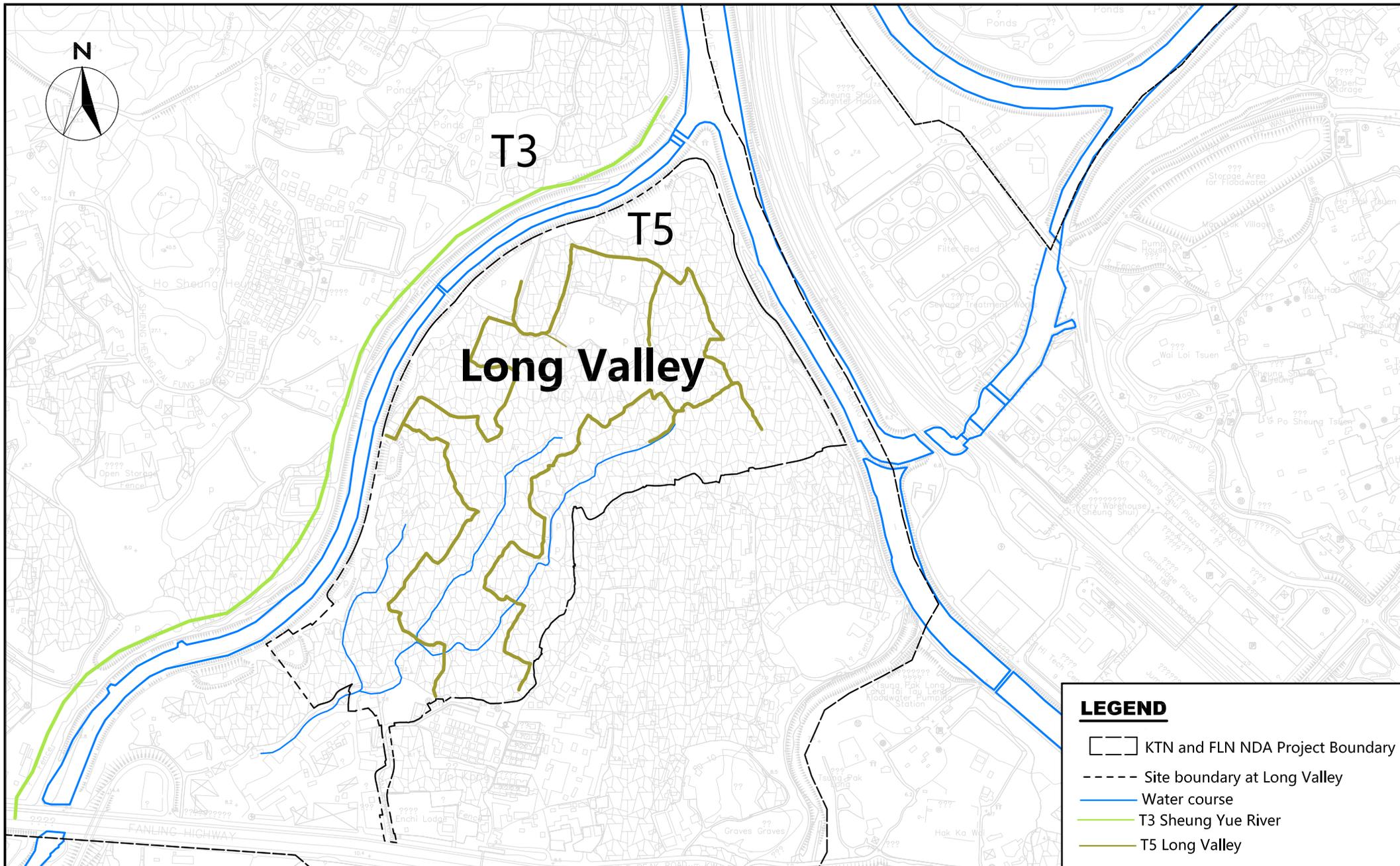
Waste Boundary

Ma Tso Lung Landfill

CZ PT 1

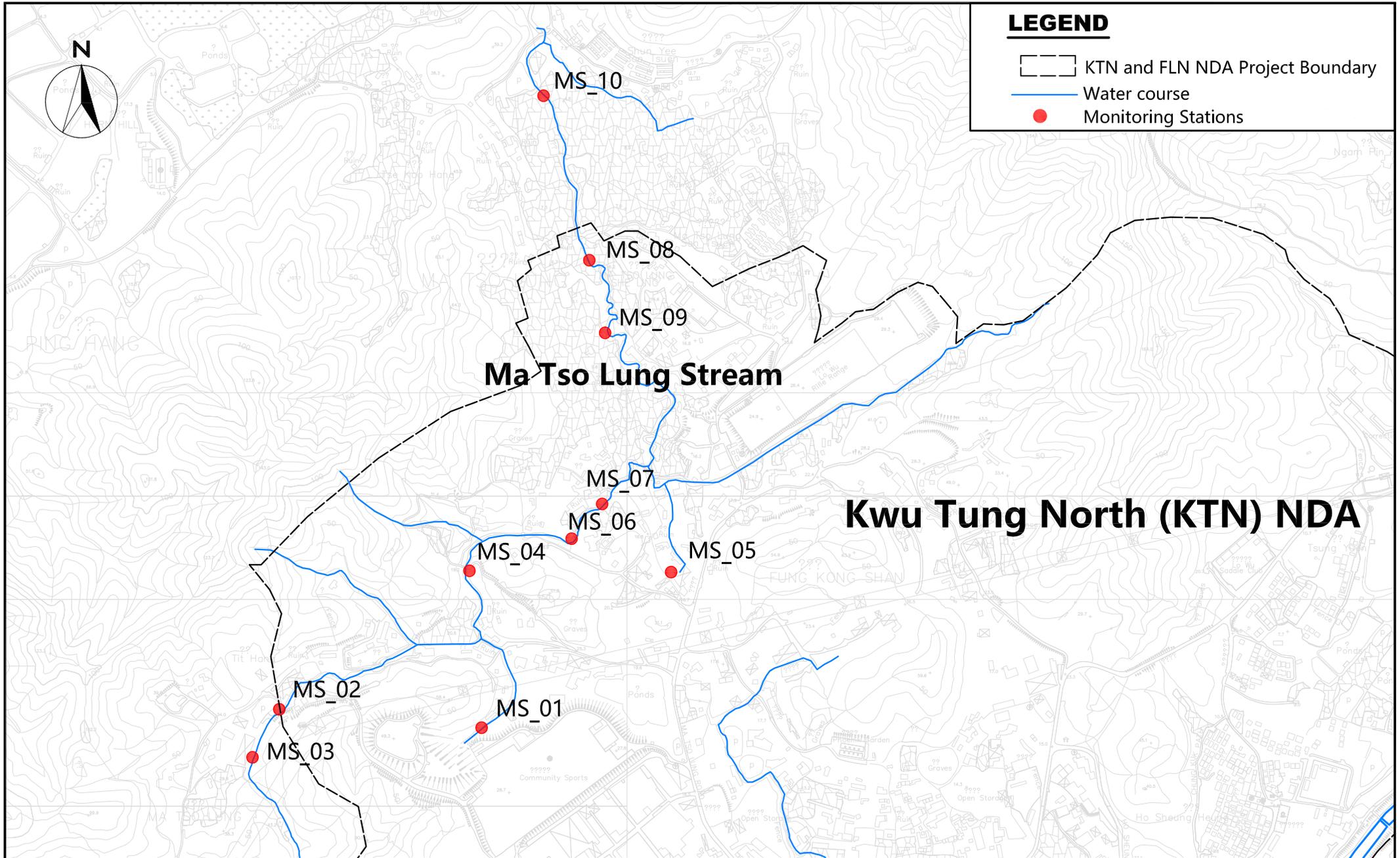
CZ container

SCALE	A4 @ 1:40000	DATE	JUNE 2020	
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PROJECT No.	WMA20002	FIGURE NO.	5	REV —



LEGEND			
	KTN and FLN NDA Project Boundary		Site boundary at Long Valley
	Water course		T3 Sheung Yue River
	T5 Long Valley		

SCALE	A4 @ 1:20000	DATE	MAY 2020	
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PROJECT No.	WMA20002	FIGURE NO.	6	REV —

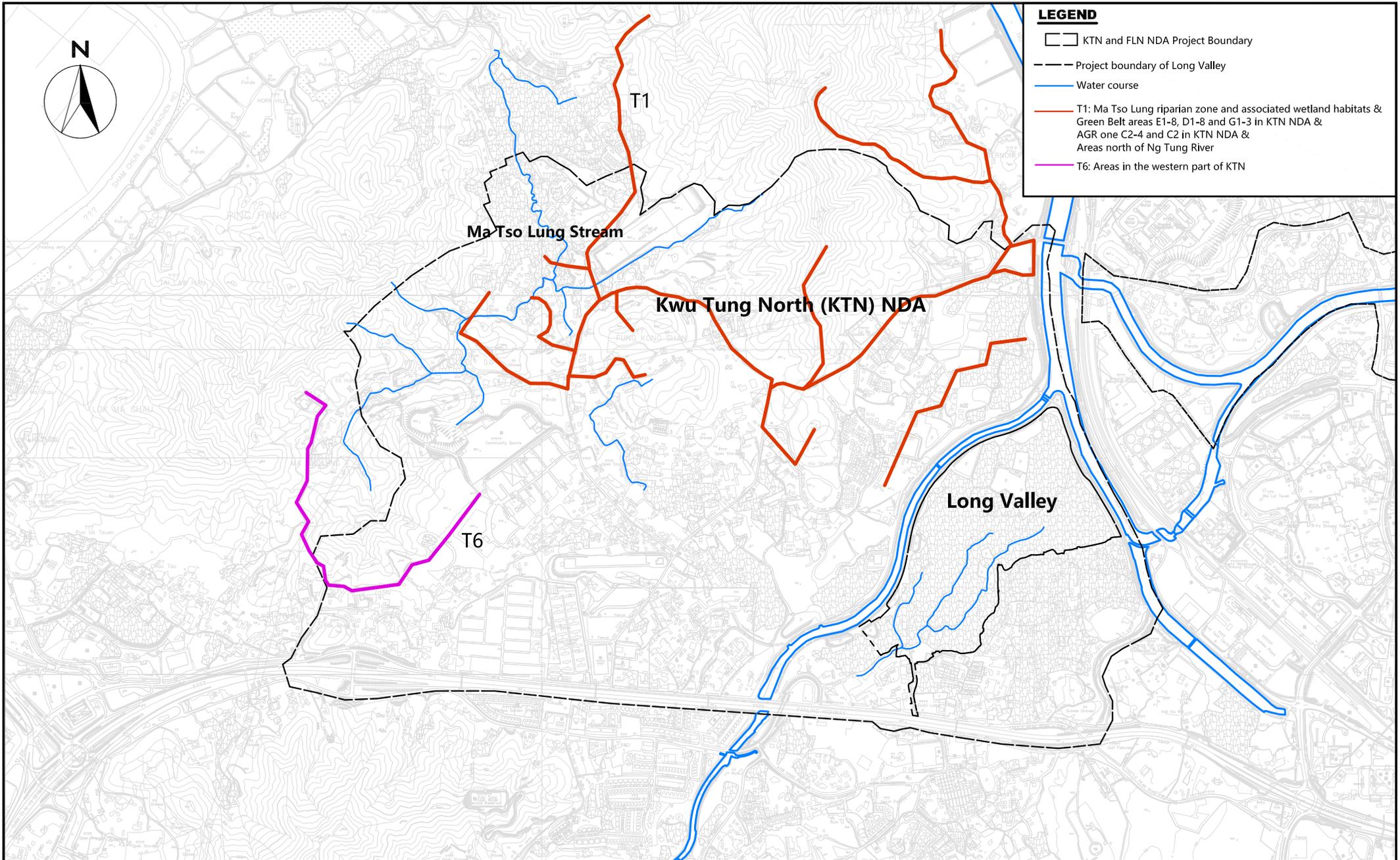


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PROJECT No.	WMA20002	FIGURE NO.	7	REV —



LEGEND

- KTN and FLN NDA Project Boundary
- Project boundary of Long Valley
- Water course
- T1: Ma Tso Lung riparian zone and associated wetland habitats & Green Belt areas E1-8, D1-8 and G1-3 in KTN NDA & AGR one C2-4 and C2 in KTN NDA & Areas north of Ng Tung River
- T6: Areas in the western part of KTN

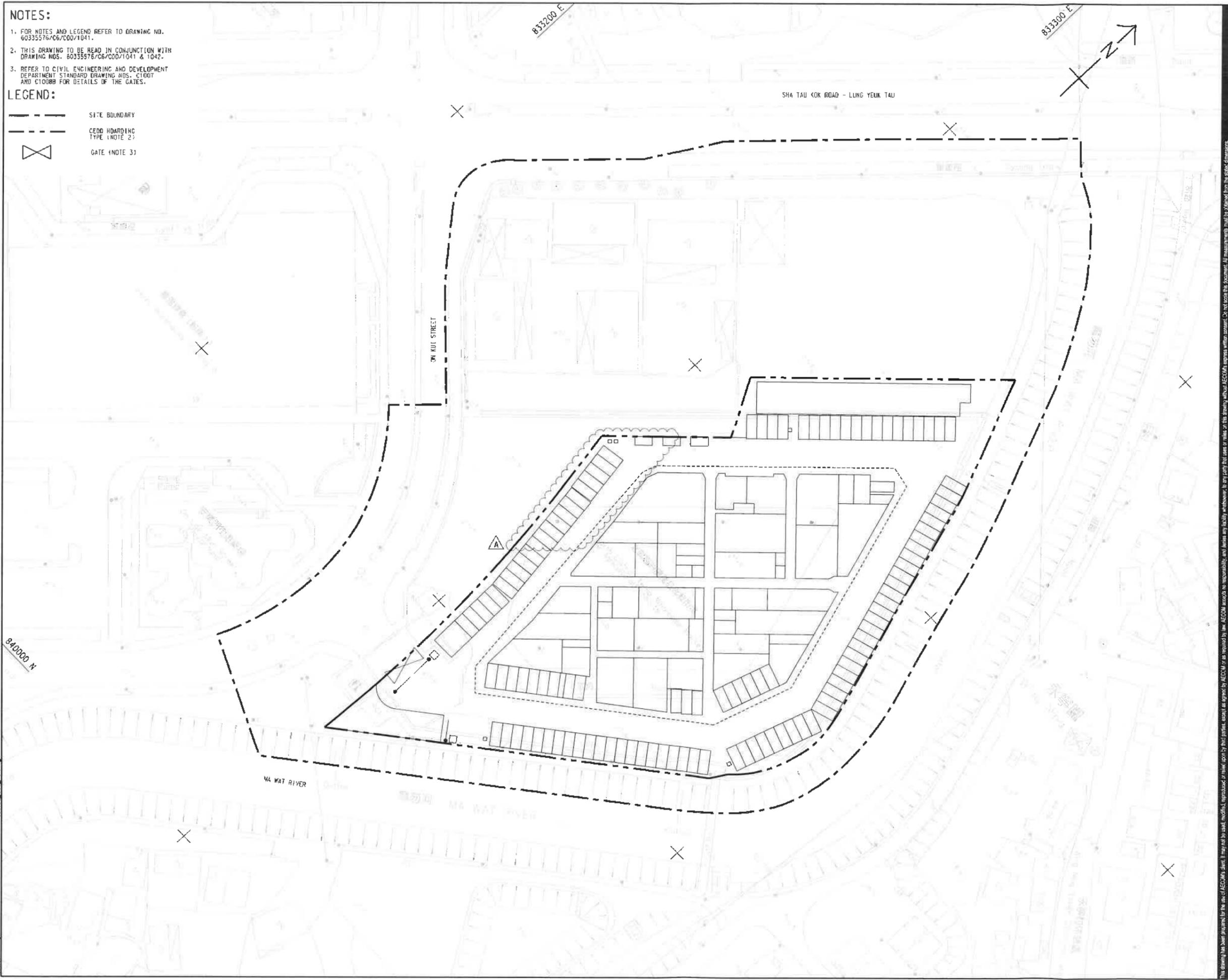


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PROJECT No.	WMA20002	FIGURE NO.	8	REV —

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- NOTES:**
- FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C6/C00/1041.
 - THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C6/C00/1041 & 1042.
 - REFER TO CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT STANDARD DRAWING NOS. C1007 AND C1008B FOR DETAILS OF THE GATES.

- LEGEND:**
-  SITE BOUNDARY
 -  CEDD HOARDING TYPE (NOTE 2)
 -  GATE (NOTE 3)



PROJECT
DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1

CONTRACT TITLE:
FANLING NORTH NEW DEVELOPMENT AREA, PHASE 1: REPROVISIONING OF NORTH DISTRICT TEMPORARY WHOLESALE MARKET FOR AGRICULTURAL PRODUCTS

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

CONSULTANT
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.
A	JUN-18	TENDER ADDENDUM NO. 2	ALU
-	FEB-18	TENDER DRAWING	ALU

STATUS

SCALE
 A1 : 600
DIMENSION UNIT
 METRES

KEY PLAN

Figure 9 (ii)
 Hoarding Plan of ND/2019/06
 (Final Stage)

PROJECT NO.
 60335576
CONTRACT NO.
 ND/2019/06

SHEET TITLE
 HOARDING PLAN
 (FINAL STAGE)

SHEET NUMBER
 60335576/C6/C00/1042A

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**APPENDIX A
CONSTRUCTION PROGRAMME**

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	Time Risk	June 2020				July 2020				August 2020				September 2020					
								31	07	14	21	28	05	12	19	26	02	09	16	23	30	06			
Portion 10a in Area H, H1, H2 (Soil Treatment & Provision of Site Access)																									
Preparation work/Tree Survey/Site Clearance/GI																									
S1P10a-1031	Additional tree felling due to increase in total nos. of trees to be felled at Portions 7 & 10a	36	22-Jul-20	01-Sep-20	-69	WD (6d)																			
S1P10a-1030	Tree felling, transplant and protection	18	30-Jun-20	21-Jul-20	-69	WD (6d)	2d																		
Preparation work/Tree Survey/Site Clearance/GI at Late Possession Area																									
S1P10a-1100	Late Possession of Site of Part of Portions 7 and 10a (in Area H, H1, T1, T2 & T3) (CNE No. 001)	0	30-Jun-20		-42	CD (7d)																			
S1P10a-1130	Site clearance	20	30-Jun-20	23-Jul-20	-35	WD (6d)																			
KD1 - Provision of Site Access and EVA to MWSC																									
Soil Treatment																									
S1K1-1010	Remove soil (original assumed 29975m3) (7 / 7 EGI completed, interim soil to be excavated)	96	02-Sep-20	28-Dec-20	-69	WD (6d)	2d																		
Section 2A																									
Portion 5 in Area C1 (Soil Treatment & Interface with HD's Contractor)																									
Preparation work/Tree Survey/Site Clearance/GI																									
S2AP5-1000	Late Possession of Site of Part of Portion 5 (in Area C1) (CNE No. 004)	0	30-Jun-20		338	CD (7d)																			
S2AP5-1010	Tree survey and prepare tree felling and transplant report	0	08-Apr-20	04-Jun-20		WD (6d)	2d																		
Interface with HD's Contractor to carry out GI																									
S2AP5-3010	HD's Contractor to carry out GI in Area C1 (Stage 1)	0	10-Feb-20	30-May-20		CD (7d)	0d																		
S2AP5-3020	HD's Contractor to carry out GI in Area C1 (Stage 1A/22A)	0	10-Feb-20	30-May-20		CD (7d)	0d																		
Section 3																									
Portion 7 in Area E (Soil Treatment & Interface with HKHS's Contractor)																									
Preparation work/Tree Survey/Site Clearance/GI																									
S3P7-1030	Environmental ground investigation and lab test (3 EGI) (another 1 EGI in other portion re)	0	21-May-20	13-Jun-20		WD (6d)	1d																		
S3P7-1040	Prepare Arsenic Assessment Report	36	29-Sep-20	12-Nov-20	219	WD (6d)	1d																		
Interface with HKHS's contractor to carry out GI																									
S3P7-3010	HKHS Contractor to carry out GI in Area E	24	31-Aug-20	26-Sep-20	292	WD (6d)	0d																		
Section 5																									
Portion 4 in Area I (Soil Treatment & Complete Temp. Noise Barriers)																									
Preparation work/Tree Survey/Site Clearance/GI																									
SSP4-1050	Arsenic Treatment Plan	0	30-Apr-20	18-May-20		WD (6d)	1d																		
SSP4-1030	Environmental ground investigation and laboratory test (1 EGI)	0	14-Apr-20	29-Apr-20		WD (6d)	1d																		
SSP4-1040	Prepare Arsenic Assessment Report	0	30-Apr-20	18-May-20		WD (6d)	1d																		
SSP4-1020	Site Clearance	0	05-Mar-20	13-Apr-20		WD (6d)	1d																		
SSP4-1010	Tree survey and prepare tree felling and transplant report	0	17-Apr-20	11-May-20		WD (6d)	1d																		
Soil Treatment																									
SSP4-2020	Backfilling to the formation levels	50	12-Sep-20	12-Nov-20	0	WD (6d)	2d																		
SSP4-2010	Remove soil (original assumed 5354m3) (1 / 1 EGI completed, interim soil to be excavated)	30	08-Aug-20	11-Sep-20	0	WD (6d)	1d																		
Section 7 (Subject to excision)																									
Portion 14 in Area K (Complete TSPS with Associated Sewerage)																									
KD2 - Complete Temporary Sewage Pumping Station and associated infrastructure																									
Design and Civil Construction																									
S7P14-2010	Design and approval of Temporary Sewage Pumping Station (TSPS)	75	04-Jun-20	12-Sep-20	7	CD (7d)	3d																		
E&M Works																									
S7P14-3010	Submission and Approval of E&M plans & materials for TSPS	110	13-Sep-20	31-Dec-20	7	CD (7d)	3d																		
Portion 4 in Area K (Complete Temp. Noise Barriers along Castle Peak Road)																									
Preparation work																									
S7P4-1010	Site Clearance	0	05-Mar-20	13-Apr-20		WD (6d)	3d																		
Sewerage Works																									
S7P4-2010	Laying of sewage rising mains from TSPS and connect to existing tank of MBR plant	200	14-Sep-20	20-May-21	10	WD (6d)	4d																		
Section 8																									
Portion 2 in Area A (Soil Treatment & Construction of Pak Shek Au Junction)																									
Preparation work/Tree Survey/Site Clearance/GI																									
S8P2-0020	Implement of Stage 1 TTA	12	17-Aug-20	29-Aug-20	-32	WD (6d)																			
S8P2-1010	Site clearance / Tree Felling	30	31-Aug-20	06-Oct-20	-32	WD (6d)	2d																		
S8P2-0010	Tree Survey and prepare tree felling and transplant report	11	19-Jun-20	13-Jul-20	9	WD (6d)																			
Portion 3 in Area A (Soil Treatment, Drainage & Roadwork)																									
Preparation work/Tree Survey/Site Clearance/GI																									
S8P3-1000	Assumed Handover Date of Portion 3 (Late Possession)	0	30-Jun-20		606	CD (7d)																			
S8P3-1020	Environmental ground investigation and laboratory test (1 EGI)	15	09-Sep-20	25-Sep-20	494	WD (6d)	1d																		
S8P3-1030	Prepare Arsenic Assessment Report	36	26-Sep-20	10-Nov-20	494	WD (6d)	1d																		
S8P3-1010	Site clearance	60	30-Jun-20	08-Sep-20	494	WD (6d)	1d																		



- Planned Work
- Critical Work
- Actual Work
- ◆ Milestone
- ◆ Milestone Critical
- Summary LOE
- Summary LOE Critical

ND/2019/01 - Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works

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THE 3-MONTH ROLLING PROGRAMME			
Date	Revision	Checked	Approved
30-Jun-20	Rev.0	JC	BY

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	Time Risk	June 2020				July 2020				August 2020				September 2020				
								31	07	14	21	28	05	12	19	26	02	09	16	23	30	06		
Portion 5 in Area A (Soil Treatment, Bored Pile Wall (CSD), Drainage																								
Preparation work/Tree Survey/Site Clearance/GI																								
SBP5-1050	Arsenic Treatment Plan	36	29-Sep-20	12-Nov-20	206	WD (6d)	1d																	
SBP5-1030	Environmental ground investigation and laboratory test (4 EGI)	20	25-Jul-20	17-Aug-20	15	WD (6d)	1d																	
SBP5-1040	Prepare Arsenic Assessment Report	36	18-Aug-20	28-Sep-20	206	WD (6d)	1d																	
SBP5-1000	Resumption date from suspension of works at part of Portions 5 & 6a (CNE No. 002) (EW)	0	24-Jun-20 A			CD (7d)																		
SBP5-1010	Site clearance	21	26-Jun-20 A	24-Jul-20	-13	WD (6d)	1d																	
SBP5-1020	Site investigation (ground investigation)	48	25-Jul-20	18-Sep-20	-13	WD (6d)	2d																	
Construction according to CSD for Alternative on Bored Pile Wall																								
SBP5-2000	Cost Savings Design (CSD) Proposal for Alternative on Bored Pile Wall Scheme	0	02-Apr-20 A	26-Jun-20 A		CD (7d)																		
SBP5-2010	Slope cutting and temporary soil nail installation (concurrent with S8P6a-2010)	100	19-Sep-20	20-Jan-21	-13	WD (6d)																		
Portion 6a in Area A (Soil Treatment, Bored Pile Wall, Drainage & Ro																								
Preparation work/Tree Survey/Site Clearance/GI																								
SBP6a-1050	Arsenic Treatment Plan	36	22-Sep-20	05-Nov-20	107	WD (6d)	1d																	
SBP6a-1001	Pending Relocation of Existing 4 Nos. of EPD Monitoring Points at Portion 6a & 6b (EWN)	0	30-Jun-20*	30-Jun-20	46	CD (7d)																		
SBP6a-1040	Prepare Arsenic Assessment Report	36	11-Aug-20	21-Sep-20	107	WD (6d)	1d																	
SBP6a-1000	Resumption date from suspension of works at part of Portions 5 & 6a (CNE No. 002) (EW)	0	24-Jun-20 A			CD (7d)																		
Construction according to CSD for Alternative on Bored Pile Wall																								
SBP6a-2000	Cost Savings Design (CSD) Proposal for Alternative on Bored Pile Wall Scheme	0	02-Apr-20 A	26-Jun-20 A		CD (7d)																		
SBP6a-2010	Slope cutting and temporary soil nail installation (concurrent with S8P5-2010)	100	19-Sep-20	20-Jan-21	-13	WD (6d)																		
Portion 9b & 9d in Area A (Soil Treatment, Slope, Retaining Wall, Dra																								
Preparation work/Tree Survey/Site Clearance/GI																								
SBP9b-1020	Environmental ground investigation and laboratory test (9 EGI)	40	31-Aug-20	17-Oct-20	1	WD (6d)	1d																	
SBP9b-0010	Liaison with HKPF and submit proposal of protective measures for works near Lo Wu Fini	0	10-Feb-20 A	04-Mar-20 A		CD (7d)	3d																	
SBP9b-1010	Site clearance	48	06-Jul-20	29-Aug-20	1	WD (6d)	2d																	
Civil Work																								
SBP9b-3020	Form the access to service reservoirs	48	31-Aug-20	28-Oct-20	566	WD (6d)	1d																	
Portion 8a in Area A (Soil Treatment, Reservoirs, Slope, Drainage & F																								
SBP8a-1100	Assumed resumption date of fresh and flushing reservoirs construction due to CNE No. 01	0	30-Jun-20*		-48	CD (7d)																		
Preparation work/Tree Survey/Site Clearance/GI																								
SBP8a-1060	Arsenic Treatment Plan	30	29-Aug-20	05-Oct-20	138	WD (6d)	1d																	
SBP8a-1040	Environmental ground investigation and laboratory test (9 EGI)	21	27-May-20 A	24-Jul-20	138	WD (6d)	1d																	
SBP8a-1050	Prepare Arsenic Assessment Report	30	25-Jul-20	28-Aug-20	138	WD (6d)	1d																	
SBP8a-1015	Site clearance	26	09-Apr-20 A	30-Jul-20	54	WD (6d)	2d																	
Forming Site Access and Site Formation																								
Stage 1																								
SBP8a-1150	Form haul road to Fresh Water Service Reservoir	150	30-Jun-20	28-Dec-20	-40	WD (6d)	2d																	
SBP8a-1110	Form site access to Flushing Water Service Reservoir	0	06-Jan-20 A	08-Apr-20 A		WD (6d)	2d																	
SBP8a-1140	General excavation for area surrounding Flushing Water Service Reservoir	300	30-Jun-20	03-Jul-21	-10	WD (6d)																		
SBP8a-1120	General excavation for New Feature KS45 and adjacent road	150	30-Jun-20	28-Dec-20	-10	WD (6d)																		
SBP8a-1130	General excavation for New Feature KS46 and adjacent road	300	30-Jun-20	03-Jul-21	-10	WD (6d)																		
SBP8a-1160	General excavation for remaining of Road W1	385	11-Jun-20 A	13-Oct-21	49	WD (6d)																		
Remaining Civil Work in Portion 8a Area A																								
SBP8a-3046	Construction of retaining wall (7397 m3, 3 gang)	594	03-Sep-20*	03-Sep-22	506	WD (6d)	4d																	
SBP8a-3045	Excavation for retaining wall (14665m3, 2 gang)	239	11-Jun-20 A	19-Apr-21	546	WD (6d)	2d																	
SBP8a-3010	Slope works for new feature KS27 (with about 50 nos. of soil nails)	30	08-Sep-20*	14-Oct-20	745	WD (6d)	1d																	
Portion 8b in Area A (Soil Treatment & Install Watermains by Trenchl																								
Preparation work/Tree Survey/Site Clearance/GI																								
SBP8b-1020	Environmental ground investigation and laboratory test (8 EGI)	60	29-Sep-20	10-Dec-20	132	WD (6d)	2d																	
SBP8b-1010	Site Clearance	37	17-Aug-20	28-Sep-20	87	WD (6d)	2d																	
Section 10A																								
Portion 4 in Area J (Soil Treatment & Temp. Noise Barriers along Cas																								
Preparation work/Tree Survey/Site Clearance/GI																								
S10AP4-0050	Arsenic Treatment Plan	0	30-Apr-20 A	18-May-20 A		WD (6d)																		
S10AP4-0030	Environmental ground investigation and lab test (3 EGI) (another 2 EGI in other portion re	0	14-Apr-20 A	29-Apr-20 A		WD (6d)																		
S10AP4-0040	Prepare Arsenic Assessment Report	0	30-Apr-20 A	18-May-20 A		WD (6d)																		
S10AP4-0020	Site clearance	0	05-Mar-20 A	09-Apr-20 A		WD (6d)																		
S10AP4-0010	Tree survey and prepare tree felling and transplant report	0	17-Apr-20 A	11-May-20 A		WD (6d)																		
Section 11																								
Portion 6b in Area B (Soil Treatment & Operation of HAC Soil Treatr																								



- Planned Work
- Critical Work
- Actual Work
- ◆ Milestone
- ◆ Milestone Critical
- Summary LOE
- Summary LOE Critical

ND/2019/01 - Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works

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THE 3-MONTH ROLLING PROGRAMME			
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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	Time Risk	June 2020				July 2020				August 2020				September 2020			
								31	07	14	21	28	05	12	19	26	02	09	16	23	30	06	
S14P7P-1120	Prepare Arsenic Assessment Report	20	30-Jun-20	23-Jul-20	1243	WD (6d)																	
Portion 7 in Area S3 (Soil Treatment & Operation of HAC Soil Treatment)																							
Preparation work/Tree Survey/Site Clearance/GI																							
S14P7S3-1050	Arsenic Treatment Plan	20	09-May-20 A	27-Oct-20	1178	WD (6d)																	
S14P7S3-1030	Environmental ground investigation and lab test (3 EGI) (another 2 EGI in other portion re	0	09-May-20 A	28-May-20 A	0	WD (6d)																	
KD4 - Setting up and T&C of the High Arsenic-containing Soil Treatment																							
S14P7S3-2010	Set up, testing and commissioning high arsenic-containing soil treatment plant (KD4)	72	01-Aug-20*	27-Oct-20	0	WD (6d)																	
Portion 16 in Area Q (Soil Treatment & Construction of CLC)																							
KD7 - Complete the construction works of Community Liaison Centre in																							
S14P16-3010	Design submission for construction of Community Liaison Centre (CLC) using MIC method	48	14-Aug-20	30-Sep-20	0	CD (7d)																	
S14P16-1010	Site Clearance	60	03-Aug-20	13-Oct-20	9	WD (6d)																	
Portion 7 in Area T1, T2, T3 (Soil Treatment & Temp. Noise Barrier and																							
Preparation work/Tree Survey/Site Clearance/GI																							
S14P7T-1001	Late Possession of Site of Part of Portions 7 and 10a (in Area H, H1, T1, T2 & T3) (CNE No. 001)	0	30-Jun-20*		-118	CD (7d)																	
S14P7T-1020	Site Clearance	30	30-Jun-20	04-Aug-20	-94	WD (6d)																	
S14P7T-1010	Tree survey and prepare tree felling and transplant report	30	30-Jun-20	04-Aug-20	-40	WD (6d)																	
Arsenic Assessment																							
S14P7T-1050	Arsenic Treatment Plan	36	23-Sep-20	06-Nov-20	1385	WD (6d)																	
S14P7T-1030	Environmental ground investigation and lab test (2 EGI) (another 1 EGI in other portion re	30	08-Jul-20	11-Aug-20	-25	WD (6d)																	
S14P7T-1040	Prepare Arsenic Assessment Report	36	12-Aug-20	22-Sep-20	1385	WD (6d)																	
Land Contamination Assessment																							
S14P7T-1062	Laboratory testing	12	19-Aug-20	01-Sep-20	-94	WD (6d)																	
S14P7T-1061	Site investigation (SI) (inspection pits, boreholes and sampling)	36	08-Jul-20	18-Aug-20	-94	WD (6d)																	
S14P7T-1063	Submit and acceptance of Contamination Assessment Report (CAR) & Remediation Actio	30	02-Sep-20	08-Oct-20	-94	WD (6d)																	
Portion 6a in Area S2 (Soil Treatment)																							
Preparation work/Tree Survey/Site Clearance/GI																							
S14P6a-1010	Tree survey and prepare tree felling and transplant report	0	14-Apr-20 A	08-Jun-20 A		WD (6d)																	
Portion 6b in Area S2 (Soil Treatment)																							
Preparation work/Tree Survey/Site Clearance/GI																							
S14P6b-1010	Tree survey and prepare tree felling and transplant report	0	14-Apr-20 A	03-Jun-20 A		WD (6d)																	
Portion 1f in Area R (Soil Treatment & Construction of Interim CLC &																							
Preparation work/Tree Survey/Site Clearance/GI																							
S14P1f-1050	Arsenic Treatment Plan	36	25-Sep-20	09-Nov-20	1226	WD (6d)																	
S14P1f-1030	Environmental ground investigation and laboratory test (2 EGI)	15	28-Jul-20	13-Aug-20	1226	WD (6d)																	
S14P1f-1040	Prepare Arsenic Assessment Report	36	14-Aug-20	24-Sep-20	1226	WD (6d)																	
Interim Community Liaison Centre (CLC)																							
S14P1f-2020	Construction of interim CLC	0	14-Apr-20 A	18-May-20 A		WD (6d)																	
S14P1f-2030	Occupation of interim CLC	312	18-May-20 A	07-May-21	1243	CD (7d)																	
S14P1f-2010	Submissions and approval for proposed interim CLC	0	09-Mar-20 A	18-Mar-20 A		CD (7d)																	
Portion 9c in Area S1 (Soil Treatment)																							
Preparation work/Tree Survey/Site Clearance/GI																							
S14P9c-1030	Environmental ground investigation and laboratory test (3 EGI)	30	09-Sep-20	15-Oct-20	1297	WD (6d)																	
S14P9c-1020	Forming site access and site clearance	60	17-Jun-20 A	08-Sep-20	-15	WD (6d)																	
S14P9c-1000	Late Possession of Site of Portions 9c (CNE No. 003)	0	16-Jun-20 A			CD (7d)																	
S14P9c-1010	Tree survey and prepare tree felling and transplant report	40	13-Jul-20*	27-Aug-20	-5	WD (6d)																	
Section 15																							
S15-1000	Preservation and protection of tree	1648	06-Dec-19 A	02-Jan-25	369	CD (7d)																	
Section 21 (Subject to excision)																							
Portion 1d in Area M (Soil Treatment & Demolition of Existing CLC)																							
Preparation work																							
S21P1d-0010	Demolition of existing Community Liaison Centre (CLC)	0	27-May-20 A	05-Jun-20 A		WD (6d)																	
8.0 - PMI / CE																							
PC-1002	Remove the existing un-wanted vegetation in Area 1.3 within Portion 7 (PMI 001, CE 001)	0	15-Feb-20 A	18-Feb-20 A		WD (6d)																	
PC-1003	Remove the existing un-wanted vegetation in Area 2 within Portion 10a (PMI 001, CE 001)	0	03-Feb-20 A	12-Feb-20 A		WD (6d)																	
PC-1004	Remove the existing un-wanted vegetation in Area 3 within Portion 4 (PMI 001, CE 001)	0	05-Feb-20 A	12-Feb-20 A		WD (6d)																	
PC-1005	Site clearance and ground investigation for SALRS at Chuk Yuen Site (PMI 002, CE 002)	0	27-Mar-20 A	17-Jun-20 A		WD (6d)																	
PC-1006	Site clearance and ground investigation for SALRS at Wa Shan Site (PMI 002, CE 002)	60	06-Jul-20*	12-Sep-20	1871	WD (6d)																	
9.0 - Major EWN / CNE																							
EC-1003	Late Possession of Site of Portions 9c (CNE No. 003)	0	06-Apr-20 A	16-Jun-20 A		CD (7d)																	
EC-1012	Significant Increase in Total Nos. of Trees to be Felled at Portions 7 & 10a (EWN No. 012)	0	22-Jun-20 A	22-Jun-20 A		CD (7d)																	



- Planned Work
- Critical Work
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- ◆ Milestone Critical
- Summary LOE
- Summary LOE Critical

ND/2019/01 - Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works

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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	Time Risk	June 2020					July 2020					August 2020					September 2020		
								31	07	14	21	28	05	12	19	26	02	09	16	23	30	06			
EC-1002	Suspension of Works at Part of Portions 5 & 6a (in Area A, N & C1) (CNE No. 002) (EWN	0	09-Mar-20 A	24-Jun-20 A				[Planned Work Bar]																	
EC-1010	Suspension of Works for SALRS at Chuk Yuen Site (EWN No. 009)	0	15-May-20 A	15-Jun-20 A				[Planned Work Bar]																	



- Planned Work
- Critical Work
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- Milestone
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**ND/2019/01 - Kwu Tung North New Development Area, Phase 1:
Site Formation and Infrastructure Works**

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Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

3 Months Rolling Programme (July 2020)

ID	Task Name	Duration	Start	Finish	July 2020							August 2020							September 2020							October 2020							November										
					29	2	5	8	11	14	17	20	23	26	29	1	4	7	10	13	16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	30	3	6	9	12	15	18	21
19	3. Section 1 of the works (Portions 1 and 1A)	818 days	Sat 18/1/20	Fri 15/4/22																																							
21	Site Access in Portion 1A	0 days	Sat 18/7/20	Sat 18/7/20																																							
22	Design/submission/approval and supply of Road Lighting System along Yin Kong Road	180 days	Tue 30/6/20	Sat 26/12/20																																							
23	Application for XP for construction of Yin Kong Road	180 days	Fri 31/1/20	Tue 28/7/20																																							
25	Application of Traffic Advice and Road Work Advice	30 days	Wed 29/7/20	Thu 27/8/20																																							
26	Submission of Utilities Detection Report	30 days	Wed 29/7/20	Thu 27/8/20																																							
27	Relocation of Utilities (by Others)	170 days	Sun 1/3/20	Mon 17/8/20																																							
28	Relocation of CLP Pole at Yin Kong Road	170 days	Sun 1/3/20	Mon 17/8/20																																							
31	Outage and Diversion of Underground Cable	50 days	Mon 29/6/20	Mon 17/8/20																																							
33	Site Works (under Portion 1)	610 days	Thu 16/4/20	Thu 16/12/21																																							
36	Remove existing fencing and site clearance	30 days	Fri 28/8/20	Sat 26/9/20																																							
37	Road widening	220 days	Sun 27/9/20	Tue 4/5/21																																							
40	Site Works (under Portion 1A)	510 days	Sun 19/7/20	Fri 10/12/21																																							
41	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	120 days	Sun 19/7/20	Sun 15/11/20																																							
48	4. Section 2 of the works (Portions 2 and 2A)	822 days	Wed 1/7/20	Fri 30/9/22																																							
51	Construction of lodging facility & associated facilities	762 days	Sun 30/8/20	Fri 30/9/22																																							
52	Excavation and formation preparation	120 days	Sun 30/8/20	Sun 27/12/20																																							
63	5. Section 3 of the works (Portions 3, 4, 4A, 4B, 5, 5A, 6 & 6A)	943 days	Wed 1/7/20	Sun 29/1/23																																							
78	Construction of birdhide	346 days	Wed 1/7/20	Fri 11/6/21																																							
81	Installation of steel structural frame	60 days	Sat 5/9/20	Tue 3/11/20																																							
131	7. Section 4 of the works (Portion 18)	100 days	Wed 1/7/20	Thu 8/10/20																																							
135	Construction of Storage Shed	77 days	Fri 3/7/20	Thu 17/9/20																																							
136	Construction of Irrigation Channel	77 days	Fri 3/7/20	Thu 17/9/20																																							
137	Construction of Metal Wire Railing	77 days	Fri 3/7/20	Thu 17/9/20																																							
138	Completion of Section 4 of the works	0 days	Thu 17/9/20	Thu 17/9/20																																							
147	9. Section 6 of the works (Portions 8,8A,8B and 9,9A~9G)	446 days	Sat 18/1/20	Thu 8/4/21																																							
151	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	150 days	Fri 3/7/20	Sun 29/11/20																																							
152	Wetland Restoration / Wetland Creation	274 days	Fri 3/7/20	Fri 2/4/21																																							
153	Excavation	90 days	Fri 3/7/20	Wed 30/9/20																																							
164	10. Section 7 of the works (Portions 10,10A,10B, 13,13A and 16,16A,16B)	367 days	Sat 18/1/20	Tue 19/1/21																																							
168	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	300 days	Sun 19/1/20	Fri 13/11/20																																							
169	Wetland Restoration / Wetland Creation	367 days	Sun 19/1/20	Tue 19/1/21																																							

Revised Programme: July 2020
Data Date : 2020-7-3

Task		Rolled Up Milestone		Inactive Milestone		Start-only	
Critical Task		Rolled Up Progress		Inactive Summary		Finish-only	
Milestone		Split		Manual Task		External Tasks	
Summary		External Tasks		Duration-only		External Milestone	
Rolled Up Task		Project Summary		Manual Summary Rollup		Progress	
Rolled Up Critical Task		Group By Summary		Manual Summary		Deadline	

Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

3 Months Rolling Programme (July 2020)

ID	Task Name	Duration	Start	Finish	July 2020							August 2020							September 2020							October 2020							November													
					29	2	5	8	11	14	17	20	23	26	29	1	4	7	10	13	16	19	22	25	28	31	3	6	9	12	15	18	21	24	27	30	3	6	9	12	15	18	21	24	27	30
170	Excavation	330 days	Sun 19/1/20	Sun 13/12/20	[Blue bar spanning from Sun 19/1/20 to Sun 13/12/20]																																									
182	11. Section 8 of the works (Portions 7,7A,7B, 17,17A,17B, 19,19A,19B,19C, 20,20A,20B&20C)	561 days	Sat 18/1/20	Sun 1/8/21	[Black bar spanning from Sat 18/1/20 to Sun 1/8/21]																																									
187	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	350 days	Sun 19/1/20	Sat 2/1/21	[Blue bar spanning from Sun 19/1/20 to Sat 2/1/21]																																									
188	Wetland Restoration / Wetland Creation	325 days	Fri 3/7/20	Sun 23/5/21	[Black bar spanning from Fri 3/7/20 to Sun 23/5/21]																																									
189	Excavation	250 days	Fri 3/7/20	Tue 9/3/21	[Blue bar spanning from Fri 3/7/20 to Tue 9/3/21]																																									
192	Construction of Type 2 storage house	299 days	Sun 2/8/20	Thu 27/5/21	[Black bar spanning from Sun 2/8/20 to Thu 27/5/21]																																									
194	Construction of base slab	28 days	Sun 23/8/20	Sat 19/9/20	[Blue bar spanning from Sun 23/8/20 to Sat 19/9/20]																																									
208	12. Section 9 of the works (Portions 11,11A,11B, 12,12A~12D, and 15,15A~15C)	641 days	Sat 18/1/20	Wed 20/10/21	[Black bar spanning from Sat 18/1/20 to Wed 20/10/21]																																									
213	General site clearance / demolition work / Removal of Asbestos Containing Material & Dioxin Contaminated	320 days	Sun 19/1/20	Thu 3/12/20	[Blue bar spanning from Sun 19/1/20 to Thu 3/12/20]																																									
214	Wetland Restoration / Wetland Creation	415 days	Fri 3/7/20	Sat 21/8/21	[Black bar spanning from Fri 3/7/20 to Sat 21/8/21]																																									
215	Excavation	330 days	Fri 3/7/20	Fri 28/5/21	[Blue bar spanning from Fri 3/7/20 to Fri 28/5/21]																																									
241	14. Section 11 of the works (Portions 22, 23, 24 and remainder works)	989 days	Tue 31/12/19	Wed 14/9/22	[Black bar spanning from Tue 31/12/19 to Wed 14/9/22]																																									
244	Egret Site Portion 23 & 24	870 days	Tue 18/2/20	Wed 6/7/22	[Black bar spanning from Tue 18/2/20 to Wed 6/7/22]																																									
248	Submission of methodology for translocation	60 days	Thu 28/5/20	Sun 26/7/20	[Red bar spanning from Thu 28/5/20 to Sun 26/7/20]																																									
249	Approval of Methodology for Translocation	40 days	Mon 27/7/20	Fri 4/9/20	[Red bar spanning from Mon 27/7/20 to Fri 4/9/20]																																									
250	Translocation works	30 days	Sat 5/9/20	Sun 4/10/20	[Red bar spanning from Sat 5/9/20 to Sun 4/10/20]																																									
254	Landscaping work at existing Ho Sheung Heung Egret Site (Portion 22)	150 days	Wed 30/9/20	Fri 26/2/21	[Blue bar spanning from Wed 30/9/20 to Fri 26/2/21]																																									
262	16. Section 12 of the works (Portions 25, 26 and 27)	240 days	Wed 1/7/20	Thu 25/2/21	[Black bar spanning from Wed 1/7/20 to Thu 25/2/21]																																									
264	Boundary Site Area	60 days	Sun 30/8/20	Wed 28/10/20	[Red bar spanning from Sun 30/8/20 to Wed 28/10/20]																																									
266	Collection site C1 (Portion 25)	30 days	Sat 5/9/20	Sun 4/10/20	[Blue bar spanning from Sat 5/9/20 to Sun 4/10/20]																																									

Revised Programme: July 2020
Data Date : 2020-7-3

Task		Rolled Up Milestone		Inactive Milestone		Start-only	
Critical Task		Rolled Up Progress		Inactive Summary		Finish-only	
Milestone		Split		Manual Task		External Tasks	
Summary		External Tasks		Duration-only		External Milestone	
Rolled Up Task		Project Summary		Manual Summary Rollup		Progress	
Rolled Up Critical Task		Group By Summary		Manual Summary		Deadline	

ID	Task Mode	Task Name	Duration	Start	Finish	Float	019																														
							Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
1		ND/2019/06 Contract Period	1048 days	Fri 27/9/19	Tue 9/8/22	0 days																															
2		Starting Date	0 days	Fri 27/9/19	Fri 27/9/19	1015 days																															
3		Preliminaries	944 days	Fri 27/9/19	Wed 27/4/22	104 days																															
4		Project Manager and Supervisor's site accommodation	944 days	Fri 27/9/19	Wed 27/4/22	104 days																															
5		Refurnishing the existing site office and provision of furniture and equipment	30 days	Fri 27/9/19	Sat 26/10/19	985 days																															
6		Provision of regular service to the accommodation (up to completion of DLP)	944 days	Fri 27/9/19	Wed 27/4/22	71 days																															
7		Contractor's site accommodation	59 days	Fri 27/9/19	Sun 24/11/19	989 days																															
8		Searching and rental arrangement	45 days	Fri 27/9/19	Sun 10/11/19	0 days																															
9		Set up of site office	14 days	Mon 11/11/19	Sun 24/11/19	956 days																															
10		Maintenance of land traffic flow	579 days	Fri 27/9/19	Tue 27/4/21	469 days																															
11		Arrangement of TMLG in different stages	210 days	Fri 27/9/19	Thu 23/4/20	805 days																															
12		Application of TTA/ XP	180 days	Fri 27/9/19	Tue 24/3/20	0 days																															
13		Implementation of TTA/ XP in different stages	399 days	Wed 25/3/20	Tue 27/4/21	436 days																															
14		Maintenance of traffic flow in interim construction stage	184 days	Fri 27/9/19	Sat 28/3/20	0 days																															
15		Maintenance of traffic flow in final construction stage	395 days	Sun 29/3/20	Tue 27/4/21	436 days																															
16		Provision of insurances	60 days	Fri 27/9/19	Mon 25/11/19	988 days																															
17		Third party insurance	30 days	Fri 27/9/19	Sat 26/10/19	985 days																															
18		Pll for the works	60 days	Fri 27/9/19	Mon 25/11/19	955 days																															
19		Land transport for the use of the Project Manager and Supervisor	944 days	Fri 27/9/19	Wed 27/4/22	104 days																															
20		Provision of vehicles	30 days	Fri 27/9/19	Sat 26/10/19	0 days																															
21		Provision of transportation service with drivers (including DLP)	914 days	Sun 27/10/19	Wed 27/4/22	71 days																															
22		Miscellaneous items	579 days	Fri 27/9/19	Tue 27/4/21	469 days																															
23		Contract computer facilities for the Project Manager and Supervisor	60 days	Fri 27/9/19	Mon 25/11/19	955 days																															
24		Provision of progress photographs	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
25		Installation of security system for the site	45 days	Fri 27/9/19	Sun 10/11/19	970 days																															
26		Interface management and public relation works	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
27		BIM works	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
28		Upkeep of the employer's store	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
29		Emergency unit and weather protection scheme	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
30		General site clearance	21 days	Fri 27/9/19	Thu 17/10/19	994 days																															
31		Hoardings, temporary fences and signboards	294 days	Sun 17/11/19	Sat 5/9/20	703 days																															
32		Hoardings, temporary fences and signboards at Interim stage	45 days	Sun 17/11/19	Tue 31/12/19	919 days																															
33		Hoardings, temporary fences and signboards at Final stage	30 days	Fri 7/8/20	Sat 5/9/20	670 days																															
34		Environmental management, mitigation and monitoring	579 days	Fri 27/9/19	Tue 27/4/21	469 days																															
35		Environmental management measures	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
36		Environmental mitigation measures	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
37		Environmental monitoring measures	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
38		Site Management plan for trip ticket system	21 days	Fri 27/9/19	Thu 17/10/19	994 days																															
39		Air pollution abatement	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
40		Noise pollution abatement	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
41		Wastewater pollution abatement	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
42		Waste Management	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
43		Monitoring the use of ultra low sulphur diesel	579 days	Fri 27/9/19	Tue 27/4/21	436 days																															
44		Temporary drainage management plan	30 days	Fri 27/9/19	Sat 26/10/19	985 days																															
45		Survey of the Site	579 days	Fri 27/9/19	Tue 27/4/21	469 days																															
46		Initial survey	30 days	Fri 27/9/19	Sat 26/10/19	0 days																															
47		Conditional survey	30 days	Fri 27/9/19	Sat 26/10/19	0 days																															
48		Monitoring survey	549 days	Sun 27/10/19	Tue 27/4/21	436 days																															
49		As-build survey	65 days	Mon 22/2/21	Tue 27/4/21	436 days																															
50		Section 1 of the Works	676 days	Fri 27/9/19	Mon 2/8/21	127 days																															
51		Works for Portion 4	650 days	Fri 27/9/19	Wed 7/7/21	398 days																															
52		General for Portion 4	68 days	Fri 27/9/19	Tue 3/12/19	438 days																															
53		Access date of Portion 4	0 days	Fri 27/9/19	Fri 27/9/19	0 days																															
54		Site clearance and tree felling	30 days	Fri 27/9/19	Sat 26/10/19	0 days																															
55		Breaking up existing paving	20 days	Sun 27/10/19	Fri 15/11/19	0 days																															
56		Excavation for management office building	18 days	Sat 16/11/19	Tue 3/12/19	0 days																															
57		Management Office Building	650 days	Fri 27/9/19	Wed 7/7/21	398 days																															
58		Civil and structural works	291 days	Wed 4/12/19	Sat 19/9/20	457 days																															
59		Construction of foundation from G.L. E-H / 1-3	60 days	Wed 4/12/19	Sat 1/2/20	920 days																															
60		Idling due to COVID-9 infection	120 days	Sat 1/2/20	Sat 30/5/20	0 days																															
61		Construction of foundation from G.L. A-E / 1-3	14 days	Sun 31/5/20	Sat 13/6/20	0 days																															
62		Construction for G/F slabs from G.L. A-E/1-3	21 days	Sun 14/6/20	Sat 4/7/20	0 days																															
63		Construction for G/F to R/F columns and wall from G.L. A-E/1-3	21 days	Sun 5/7/20	Sat 25/7/20	0 days																															
64		Construction for R/F slabs and beams from G.L. A-E/1-3	14 days	Sun 26/7/20	Sat 8/8/20	0 days																															
65		Construction for R/F to UR/F columns and walls at G.L. B-C/1-3	14 days	Sun 9/8/20	Sat 22/8/20	0 days																															
66		Construction for UR/F slabs and beams at G.L. B-C/1-3	14 days	Sun 23/8/20	Sat 5/9/20	0 days																															

Project: ND/2019/06
 Date: Wed 10/6/20

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Critical Split	Slack
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	Progress	
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Critical	Manual Progress	

**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)
KTN-DMS4	297	500

Table B-2 Action and Limit Levels for 24-hour TSP

Monitoring station	Action Level (ug/m ³)	Limit Level (ug/m ³)
KTN-DMS4	192	260

Table B-3 Action and Limit Levels for Construction Noise

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

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.

(*) reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

Table B-4.1 Action and Limit Levels for Water Quality Monitoring⁽¹⁾

Parameters	Action Level	Limit Level
DO in mg/L (depth average) [#]	5 percentile of baseline data.	4 mg/L or 1 percentile of baseline data.
SS in mg/L (depth averaged) ^{*&}	95 percentile of baseline data or 120% of upstream control station.	20 mg/L or 99 percentile of baseline data or 130% of upstream control station.
Turbidity in NTU (depth averaged) ^{*^}	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.
Unionized ammonia in mg/L (depth averaged) ^{*~}	95 percentile of baseline data or 120% of upstream control station.	0.021mg/L or 99 percentile of baseline data or 130% of upstream control station.
Nitrate nitrogen in mg/L (depth averaged) ^{*^}	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.
Orthophosphate in mg/L (depth averaged) ^{*^}	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.

Remarks:

AL of DO is 5 percentile of baseline data or level at control station at same tide of the same day (whichever lower) and LL of DO is 4.0 mg/L or level at control station at same tide of the same day (whichever lower);

+ 1 percentile of baseline data were adopted for LL for DO as those levels were greater than 4 mg/L;

* AL is 120% of control station's level at the same tide of the same day when depth average greater than 95 percentile

of baseline data;

^ LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data.

~ LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data or 0.021mg/L.

& LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data or 20mg/L.

Table B-4.2 Summary of Baseline Water Quality Monitoring Results (KTN NDA)⁽¹⁾

Monitoring Parameter					
Location Parameter	KTN-CS1				
	Max	Min	Average	5 Percentile	1 Percentile
DO in mg/L	7.79	6.28	6.82	6.32	6.28
	Max	Min	Average	95 Percentile	99 Percentile
Turbidity in NTU	72.4	4.59	10.88	62.2	72.2
Suspended Solid in mg/L	74	2	9	60	73
Unionized ammonia in mg/L	0.0005	0.0001	0.0003	0.0004	0.0005
Nitrate nitrogen in mg/L	0.52	0.09	0.27	0.50	0.52
Orthophosphate in mg/L	0.19	0.01	0.10	0.17	0.19

Monitoring Parameter					
Location Parameter	KTN-IS1				
	Max	Min	Average	5 Percentile	1 Percentile
DO in mg/L	8.08	4.71	6.83	6.14	5.02
	Max	Min	Average	95 Percentile	99 Percentile
Turbidity in NTU	44.56	4.57	8.63	38.98	44.56
Suspended Solid in mg/L	35	2	6	31	35
Unionized ammonia in mg/L	0.0006	0.0001	0.0004	0.0005	0.0006
Nitrate nitrogen in mg/L	0.57	0.09	0.29	0.54	0.57
Orthophosphate in mg/L	0.14	0.03	0.09	0.13	0.14

Note:

(1) The Action and Limit Levels for Water Quality Monitoring and the Summary of Baseline Water Quality Monitoring Results are according to pre-construction ET's Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA).

Table B-5 Action and Limit Levels for Ambient Arsenic Monitoring

Parameter	Action Level	Limit Level
Ambient Arsenic Concentration	9.36ng/m³ - 80% of 11.7ng/m ³ – the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented)	11.7ng/m³ - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

Table B-6 Action level in the event of LFG being detected

Parameter	Monitoring Results	Actions
O ₂	<19% v/v	Increase underground ventilation to restore O ₂ to >19% v/v
	<18% v/v	Stop works, evacuate all personnel, prohibit entry, and increase ventilation to restore O ₂ level to >19%
CH ₄	>10% LEL	Prohibit hot works, increase ventilation to restore CH ₄ to <10% LEL
	>20% LEL	Stop works, evacuate all personnel, increase ventilation further to restore CH ₄ to <10% LEL
CO ₂	>0.5% v/v	Increase ventilation to restore C O ₂ to <0.5% v/v
	>1.5% v/v	Stop works, evacuate all personnel, increase ventilation further to restore CO ₂ to <0.5%

Table B-7.1 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers

Action Level	Response	Limit Level	Response
Construction Phase			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP

response is triggered.	reduce source of disturbance.	response is triggered.	management measures to improve conditions for affected species.
Operational Phase			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs review and adjust LVNP management measures to improve conditions for affected species in LVNP.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if cause identified as related to NDAs consider and implement additional mitigation measures (e.g. additional screening and screen planting, adjustments to infrastructure design).
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs review and adjust LVNP management measures to improve conditions for affected species.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if cause identified as related to NDAs consider and implement additional mitigation measures (e.g. additional screen planting, adjustments to infrastructure design).

* Whether numbers are significant will depend on species and season and should be determined following collection and evaluation of Baseline survey data.

Table B-7.2 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

Action Level	Response	Limit Level	Response
Construction Phase			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.
Operational Phase			
Reduction in species such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project review and adjust LVNP management measures to improve conditions for affected species.	Reduction in taxa diversity response is triggered.	Investigate cause and if cause identified as related to Project consider and implement additional mitigation measures.

* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

Table B-7.3 Action and Limit Levels and Responses to Evidence of Declines in non-aquatic Fauna

Action Level	Response	Limit Level	Response
Construction Phase			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.
Operational Phase			
Reduction in species such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project review and adjust LVNP management measures to improve conditions for affected species.	Reduction in taxa diversity response is triggered.	Investigate cause and if cause identified as related to Project consider and implement additional mitigation measures.

* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

**APPENDIX C
COPIES OF CALIBRATION
CERTIFICATES**

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	33678D
Date of Issue:	2020-06-22
Date Received:	2020-06-19
Date Tested:	2020-06-19
Date Completed:	2020-06-22
Next Due Date:	2020-08-21

Page: 1 of 1

ATTN: Mr. W. K. Tang

Certificate of Calibration

Item for Calibration:

Description : Dust Monitor
Manufacturer : Met One Instruments
Model No. : AEROCET-831
Serial No. : X24478
Flow rate : 0.1 cfm
Zero Count Test : 0 count per 1 minute
Equipment No. : WA-01-10

Test Conditions:

Room Temperature : 17-22 degree Celsius
Relative Humidity : 40-70%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	1.180
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PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
General Manager

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.: 32049A
Date of Issue: 2019-09-16
Date Received: 2019-09-13
Date Tested: 2019-09-13
Date Completed: 2019-09-16
Next Due Date: 2020-09-15

Page: 1 of 1

ATTN: Mr. W. K. Tang

Certificate of Calibration

Item for calibration:

Description : 'SVANTEK' Integrating Sound Level Meter
Manufacturer : SVANTEK
Model No. : SVAN 977
Serial No. : 45467
Microphone No. : 62838
Equipment No. : N-08-13

Test conditions:

Room Temperature : 17-22 degree Celsius
Relative Humidity : 40-70%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

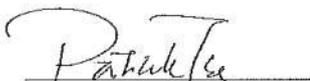
In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
General Manager

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	32049A
Date of Issue:	2019-09-16
Date Received:	2019-09-13
Date Tested:	2019-09-13
Date Completed:	2019-09-16
Next Due Date:	2020-09-15

Page: 1 of 1

ATTN: Mr. W. K. Tang

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 977
Serial No.	: 45482
Microphone No.	: 63626
Equipment No.	: N-08-14

Test conditions:

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
General Manager

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	32667B
Date of Issue:	2019-12-06
Date Received:	2019-12-04
Date Tested:	2019-12-04
Date Completed:	2019-12-06
Next Due Date:	2020-12-05

Page: 1 of 1

ATTN: Mr. W. K. Tang

Certificate of Calibration

Item for calibration:

Description	: Sound & Vibration Analyser
Manufacturer	: BSWA
Model No.	: BSWA 801
Serial No.	: 35927
Equipment No.	: N-13-03

Test conditions:

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
General Manager

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	32243
Date of Issue:	2019-09-30
Date Received:	2019-09-27
Date Tested:	2019-09-27
Date Completed:	2019-09-30
Next Due Date:	2020-09-29

Page: 1 of 1

ATTN: Mr. W. K. Tang

Certificate of Calibration

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24803
Equipment No.	: N-09-03

Test conditions:

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
General Manager

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	32243A
Date of Issue:	2019-09-30
Date Received:	2019-09-27
Date Tested:	2019-09-27
Date Completed:	2019-09-30
Next Due Date:	2020-09-29

Page: 1 of 1

ATTN: Mr. W. K. Tang

Certificate of Calibration

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24780
Equipment No.	: N-09-05

Test conditions:

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

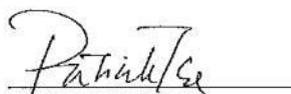
Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
General Manager

RSP - Respirable Suspended Particulates Sampler (PM 10)
Field Calibration Report

Station: KTN-DMS4A - Temporary Structure at Pak Shek Au File No.: WMA20002/17/0001
 Date: 18-Jun-20 Operator: WK
 Equipment No.: A-11-17 Next Due Date: 17-Aug-20
 Serial No.: 3225

Ambient Condition			
Temperature, Ta (K)	307	Pressure, Pa (mmHg)	758.3

Orifice Transfer Standard Information					
Serial No.:	2896	Slope, mc	0.0588	Intercept, bc	-0.02681
Last Calibration Date:	18-Feb-20	Next Calibration Date:	18-Feb-21		

Calibration of RSP Sampler							
Calibration Point	ORIFICE					HVS	
	ΔH (orifice), in. of water	Del Hc ⁽¹⁾	Qstd ⁽²⁾ (CFM)	Qa ⁽³⁾ (CFM) X-axis	Qa ⁽³⁾ (m ³ /min) X-axis	ΔW (HVS), in. of water	$[\Delta W \times (Ta + 30) / Pa]^{1/2}$ Y-axis
1	9.1	8.81	50.95	52.60	1.49	11.1	2.22
2	7	6.78	44.74	46.19	1.31	9.9	2.10
3	5.4	5.23	39.35	40.63	1.15	8.8	1.98
4	3.5	3.39	31.77	32.80	0.93	7.4	1.81
5	2.1	2.03	24.71	25.51	0.72	6.3	1.67

By Linear Regression of Y on X

Slope, mw = 0.0204 Intercept, bw = 1.1493
 Correlation coefficient* = 0.9998

- (1) DEL Hc = $\Delta H \times (Pa/760 \times 298/Ta)$
- (2) Qstd = $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\}/mc$ (m3/min)
- (3) Qa = Qstd $\times (Ta / Pa) \times (760 / 298)$ (m3/min)

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
Set Point Flow Rate., SFR	
SFR = $1.13 \times (760/Pa) \times (Ta/298) =$	<u>41.23</u>
Sampler Well - Type Manometer Set Point, SSP	
SSP = $[(mw \times SFR + bw)^2 \times Pa] / (Ta + 30) =$	<u>8.92</u>

Remarks: _____

Conducted by: W.K. Tang Signature: _____ Date: 18/6/2020
 Checked by: [Signature] Signature: _____ Date: 18/6/2020

Certificate of Calibration

Calibration Certification Information			
Cal. Date: February 18, 2020	Rootsmeter S/N: 438320	Ta: 294	°K
Operator: Jim Tisch		Pa: 753.1	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 2896		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4340	3.2	2.00
2	3	4	1	1.0230	6.4	4.00
3	5	6	1	0.9080	8.0	5.00
4	7	8	1	0.8680	8.8	5.50
5	9	10	1	0.7160	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)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
1.0001	0.6975	1.4173	0.9958	0.6944	0.8836
0.9959	0.9735	2.0044	0.9915	0.9692	1.2496
0.9937	1.0944	2.2410	0.9894	1.0896	1.3971
0.9927	1.1436	2.3504	0.9883	1.1386	1.4653
0.9873	1.3790	2.8347	0.9830	1.3729	1.7672
QSTD	m=	2.07675	QA	m=	1.30043
	b=	-0.02681		b=	-0.01672
	r=	0.99993		r=	0.99993

Calculations			
Vstd=	$\Delta Vol \left(\frac{Pa - \Delta P}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)$	Va=	$\Delta Vol \left(\frac{Pa - \Delta P}{Pa} \right)$
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=	$1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

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



Calibration Certificate

Number: CCP/70431

Customer: Hong Kong Landfill Restoration Group Limited
Contact Person: Mr. Stanley Cheng
Detector Model: RKI Eagle
Serial Number: E148037

Sensor Type	Calibration gas & concentration	Fresh air reading	Span Set to	Gas Mfg. Co. Cylinder / Lot No.
CH4	50% vol	0% vol	50% vol	SPANTECH / 11706/1116
CH4	50% LEL	0% LEL	50% LEL	SPANTECH / 2286-6-1 to 4
O2	18% vol	20.9% vol	18% vol	SPANTECH / 2286-6-1 to 4
CO2	30% vol	0% vol	30% vol	SPANTECH / 1883-9-1

Next Calibration Date: 24th July 2020

Remarks: Instrument PASSED – fit for service.

Authorized Signature

Date: 25th July 2019



FireMark Hong Kong Limited
Flat A, 11/F., Hop Hing Industrial Building, 704 Castle Peak Road, Lai Chi Kok,
Kowloon, Hong Kong
Tel : (852) 2751 8871 Fax : (852) 2751 8806

**APPENDIX D
ENVIRONMENTAL MONITORING
SCHEDULES**

Contract No. NDO 04/2019
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas
Impact Air Quality and Noise Monitoring Schedule (July 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Jul	2-Jul	3-Jul	4-Jul
				<u>1hr TSP* X3, 24hr TSP*</u> KTN-DMS4 <u>Noise</u> CP-FLN-NMS1, CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5		
5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul
	<u>24hr RSP (Arsenic)</u> KTN-DMS4A		<u>1hr TSP* X3, 24hr TSP*</u> KTN-DMS4 <u>Noise</u> CP-FLN-NMS1, CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5		<u>24hr RSP (Arsenic)</u> KTN-DMS4A	
12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul
		<u>1hr TSP* X3, 24hr TSP*</u> KTN-DMS4 <u>Noise</u> CP-FLN-NMS1, CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5		<u>24hr RSP (Arsenic)</u> KTN-DMS4A		
19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul
	<u>1hr TSP* X3, 24hr TSP*</u> KTN-DMS4		<u>24hr RSP (Arsenic)</u> KTN-DMS4A		<u>1hr TSP* X3, 24hr TSP*</u> KTN-DMS4 <u>Noise</u> CP-FLN-NMS1, CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5	
26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	
		<u>24hr RSP (Arsenic)</u> KTN-DMS4A		<u>1hr TSP* X3, 24hr TSP*</u> KTN-DMS4 <u>Noise</u> CP-FLN-NMS1, CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5		

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

Remarks:

*Monitoring session would be conducted by portable TSP monitor.

Environmental Permit(s)	Contract No.	Air Quality Stations	Noise Stations
EP-468/2013/A	ND/2019/01 ND/2019/03	<u>1hr TSP and 24hr TSP</u> KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)	1. CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung 2. CP-KTN-NMS3 -Fung Kong Garden
		<u>24hr RSP (Arsenic)</u> KTN-DMS4A - Temporary Structure at Pak Shek Au	
EP-470/2013	ND/2019/01	--	CP-KTN-NMS5 - N/A
EP-475/2013/A	ND/2019/06	--	CP-FLN-NMS1 - Belair Monte

Contract No. NDO 04/2019
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas
Impact Ecological Monitoring Schedule (July 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Jul	2-Jul	3-Jul	4-Jul
5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul
		<u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 10:00 Low tide: Start time: 16:00				
12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul
	<u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 14:00 Low tide: Start time: 10:00				Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <u>T1, T6</u>	
19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul
	<u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 10:00 Low tide: Start time: 14:00					
26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	
	<u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 14:00 Low tide: Start time: 10:00		Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream <u>MS 01 - MS 10</u>			

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

(1): Monitoring of Measures to Minimise Disturbance to Water Birds on Sheung Yue River and Long Valley

Item	Activity	Monitoring Stations/Transects
1	Monitoring of Measures to Minimise Disturbance to Water Birds on Sheung Yue River, and Long Valley	T3. Sheung Yue River T5. Long Valley
2	Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream	MS_01, MS_02, MS_03, MS_04, MS_05, MS_06, MS_07, MS_08, MS_09, MS_10
3	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	T1. Ma Tso Lung riparian zone and associated wetland habitats T1. Green belt areas E1-8,D1-8 and G1-3 in KTN NDA T1. AGR one C2-4 and C2-2 in KTN NDA T1. Areas north of Ng Tung River T6. Areas in the western part of KTN

Contract No. NDO 04/2019
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas
Weekly Site Inspection Schedule for July 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Jul	2-Jul	3-Jul	4-Jul
				Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03)	
5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul
				Site Inspection (ND/2019/01) AM Site Inspection (ND/2019/06) AM	Site Inspection (ND/2019/03)	
12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul
			Site Inspection (ND/2019/06)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/03)	
19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul
		Site Inspection (ND/2019/01) AM Site Inspection (ND/2019/03) PM		Site Inspection (ND/2019/06)		
26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	
		Site Inspection (ND/2019/01)		Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03)	

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

Contract No. NDO 04/2019
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas
Tentative Impact Air Quality and Noise Monitoring Schedule (August 2020)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
	24hr RSP (Arsenic) KTN-DMS4A	1hr TSP* X3, 24hr TSP* KTN-DMS4 Noise CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5	24hr TSP FLN-DMS1, FLN-DMS3	1hr TSP* X3 FLN-DMS1, FLN-DMS3 Noise CP-FLN-NMS1, CP-FLN-NMS2	24hr RSP (Arsenic) KTN-DMS4A	
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
	1hr TSP* X3, 24hr TSP* KTN-DMS4 Noise CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5	24hr TSP FLN-DMS1, FLN-DMS3	1hr TSP* X3 FLN-DMS1, FLN-DMS3 Noise CP-FLN-NMS1, CP-FLN-NMS2	24hr RSP (Arsenic) KTN-DMS4A	1hr TSP* X3, 24hr TSP* KTN-DMS4	
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
	24hr TSP FLN-DMS1, FLN-DMS3	1hr TSP* X3 FLN-DMS1, FLN-DMS3 Noise CP-FLN-NMS1, CP-FLN-NMS2	24hr RSP (Arsenic) KTN-DMS4A	1hr TSP* X3, 24hr TSP* KTN-DMS4 Noise CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5	24hr TSP FLN-DMS1, FLN-DMS3	
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
	1hr TSP* X3 FLN-DMS1, FLN-DMS3 Noise CP-FLN-NMS1, CP-FLN-NMS2	24hr RSP (Arsenic) KTN-DMS4A	1hr TSP* X3, 24hr TSP* KTN-DMS4 Noise CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5	24hr TSP FLN-DMS1, FLN-DMS3	1hr TSP* X3 FLN-DMS1, FLN-DMS3	
30-Aug	31-Aug					
	24hr RSP (Arsenic) KTN-DMS4A					

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

Remarks:

*Monitoring session would be conducted by portable TSP monitor.

Environmental Permit(s)	Contract No.	Air Quality Stations	Noise Stations
EP-466/2013 EP-467/2013/A EP-468/2013/A	ND/2019/01 ND/2019/03	<u>1hr TSP and 24hr TSP</u> KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au) <u>24hr RSP (Arsenic)</u> KTN-DMS4A - Temporary Structure at Pak Shek Au	1. CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung 2. CP-KTN-NMS3 -Fung Kong Garden
EP-470/2013	ND/2019/01	--	CP-KTN-NMS5 - N/A
EP-473/2013/A	ND/2019/05	<u>1hr TSP and 24hr TSP</u> 1. FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark 2. FLN-DMS3 - House near Tong Hang	CP-FLN-NMS2 - Scattered Village Houses in Tong Hang
EP-475/2013/A	ND/2019/06	--	CP-FLN-NMS1 - Belair Monte

Contract No. NDO 04/2019

**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas
Tentative Impact Ecological Monitoring Schedule (August 2020)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
	<p align="center"><u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 10:00 Low tide: Start time: 15:00</p>			<p>Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution</p> <p align="center"><u>T1, T6</u></p>		
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
		<p align="center"><u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 14:00 Low tide: Start time: 09:00</p>				
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
		<p align="center"><u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 09:00 Low tide: Start time: 14:00</p>			<p>Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream</p> <p align="center"><u>MS 01 - MS 10</u></p>	
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
		<p align="center"><u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 14:00 Low tide: Start time: 09:00</p>			<p>Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution</p> <p align="center"><u>T4, T5</u></p>	
30-Aug	31-Aug					
	<p align="center"><u>T3⁽¹⁾, T5⁽¹⁾</u> High tide: Start time: 09:00 Low tide: Start time: 14:00</p>					

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

Item	Activity	Monitoring Stations/Transects
1	Monitoring of Measures to Minimise Disturbance to Water Birds on Sheung Yue River, and Long Valley	T3. Sheung Yue River T5. Long Valley
2	Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream	MS_01, MS_02, MS_03, MS_04, MS_05, MS_06, MS_07, MS_08, MS_09, MS_10
3	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	T1. Ma Tso Lung riparian zone and associated wetland habitats T1. Green belt areas E1-8,D1-8 and G1-3 in KTN NDA T1. AGR one C2-4 and C2-2 in KTN NDA T1. Areas north of Ng Tung River T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au T5. Area west and east of the southern limit of the FLN NDA work area T6. Areas in the western part of KTN

Contract No. NDO 04/2019
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas
Tentative Weekly Site Inspection Schedule for August 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Aug
2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)		Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03)	
9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)		Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03)	
16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)		Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03)	
23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)		Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03)	
30-Aug	31-Aug					
	Site Inspection (ND/2019/05)					

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

**APPENDIX E
AIR QUALITY AND AMBIENT ARSENIC
MONITORING RESULTS AND
GRAPHICAL PRESENTATION**

Appendix E - 1-hour TSP Monitoring Results

Location KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jul-20	13:00	Sunny	35.7
2-Jul-20	14:00	Sunny	65.6
2-Jul-20	15:00	Sunny	94.3
8-Jul-20	13:00	Sunny	73.8
8-Jul-20	14:00	Sunny	66.0
8-Jul-20	15:00	Sunny	66.2
14-Jul-20	13:00	Sunny	118.7
14-Jul-20	14:00	Sunny	117.2
14-Jul-20	15:00	Sunny	196.7
20-Jul-20	9:00	Sunny	44.0
20-Jul-20	10:00	Sunny	38.5
20-Jul-20	11:00	Sunny	44.7
24-Jul-20	9:00	Sunny	68.2
24-Jul-20	10:00	Sunny	68.8
24-Jul-20	11:00	Sunny	47.6
30-Jul-20	9:00	Cloudy	37.2
30-Jul-20	10:00	Cloudy	29.1
30-Jul-20	11:00	Cloudy	18.4
		Average	68.4
		Maximum	196.7
		Minimum	18.4

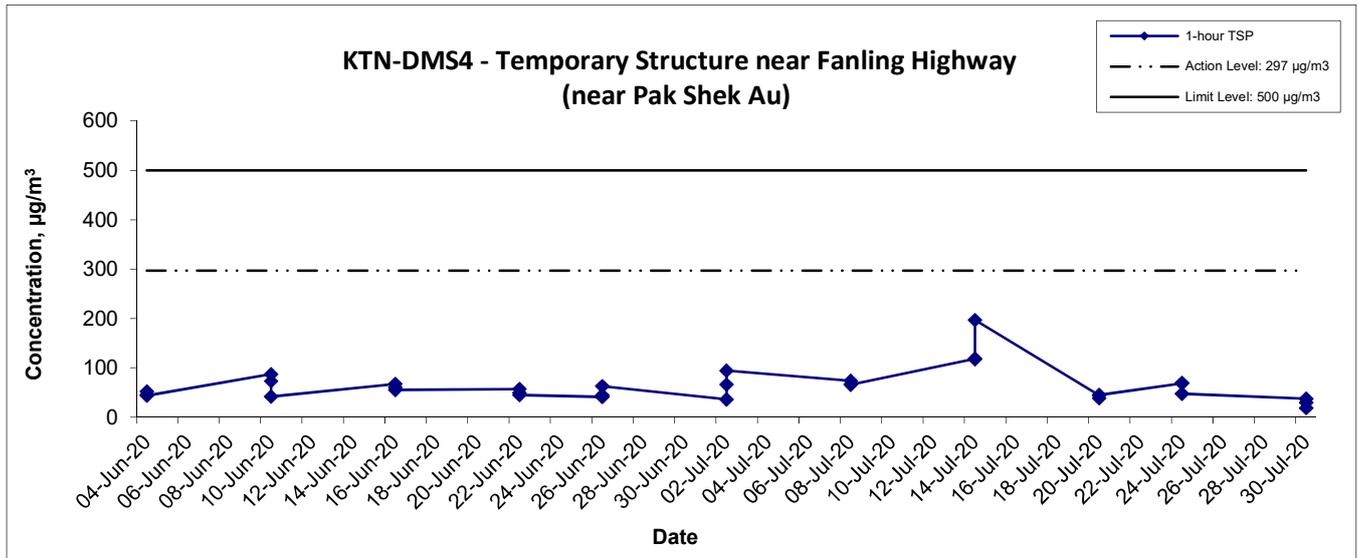
Appendix E - 24-hour TSP Monitoring Results

Location KTN-DMS4 - Temporary Structure near Fanling Highway (near Pak Shek Au)			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jul-20	10:00	Sunny	104.7
8-Jul-20	10:25	Sunny	84.5
14-Jul-20	9:30	Sunny	93.7
20-Jul-20	9:00	Sunny	58.9
24-Jul-20	9:00	Sunny	72.1
30-Jul-20	9:00	Cloudy	47.2
		Minimum	47.2
		Maximum	104.7
		Average	76.9

Appendix E - Ambient Arsenic Monitoring Results

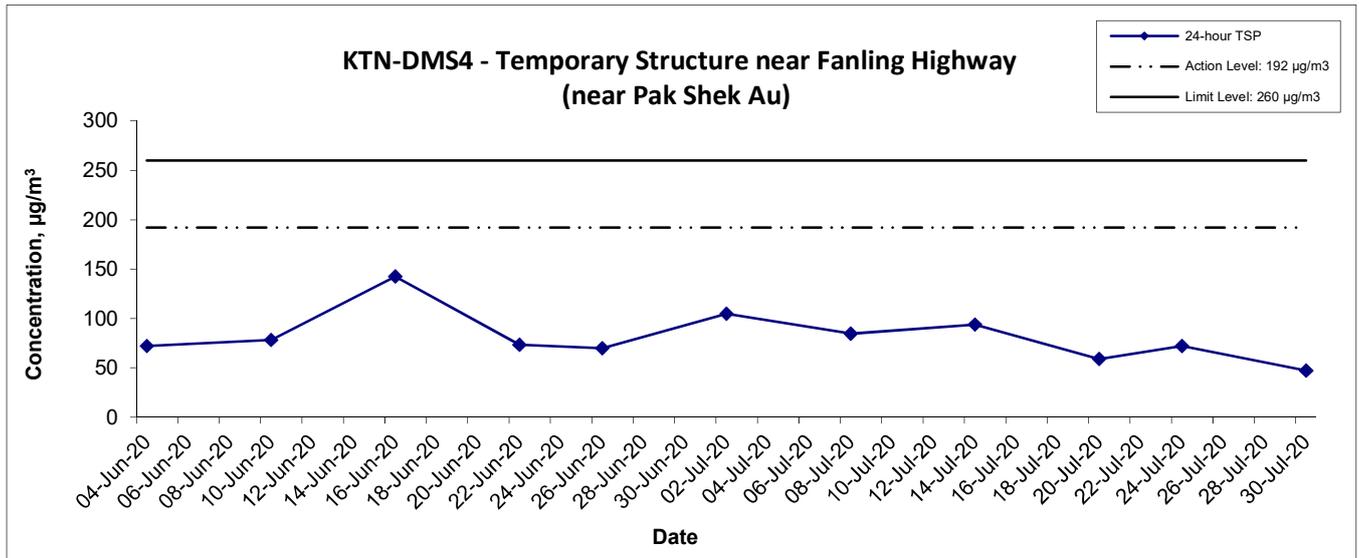
Location KTN-DMS4(A) - Temporary Structure at Pak Shek Au			
Date	Arsenic (μg)	Standard Volume, Vstd (m^3)	Ambient Arsenic Concentration (ng/m^3)
6-Jul-20	0.97	1649.2	0.59
10-Jul-20	3.1	1653.3	1.88
16-Jul-20	2.0	1651.3	1.21
22-Jul-20	2.4	1642.6	1.46
28-Jul-20	1.6	1648.0	0.97

1-hr TSP Concentration Levels



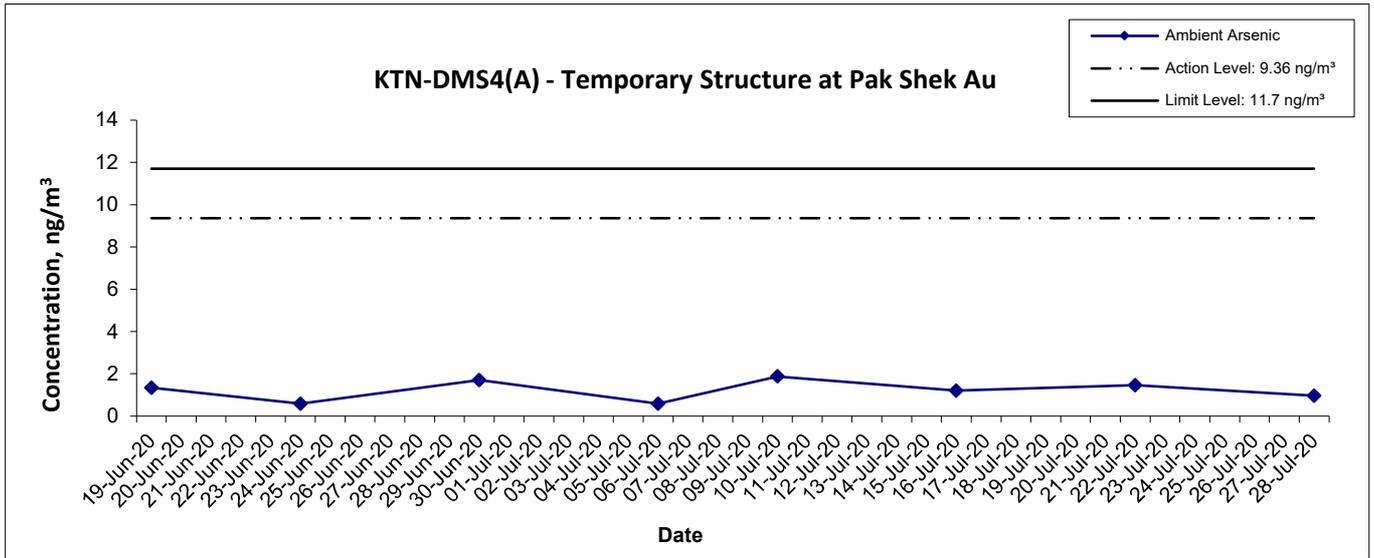
Title Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. WMA20002	 consulting . testing . research
	Date Jul 20	Appendix E	

24-hr TSP Concentration Levels



Title Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. WMA20002	 consulting . testing . research
	Date Jul 20	Appendix E	

Ambient Arsenic



Title Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Ambient Arsenic Monitoring Results	Scale N.T.S	Project No. WMA20002	
	Date Jul 20	Appendix E	

Service Contract No. NDO 04/2019

Environmental Team for Environmental Monitoring and Audit Works in
Construction Phase for the First Phase Development of
Kwu Tung North and Fanling North New Development Areas



Table I - Ambient Arsenic Concentration on 6th July 2020

Parameter	Monitoring Station	Arsenic (Refer to Report No.: 33757)	Standard Volume, Vstd = Qstd _{avg} x Total Time (Refer to the 24-hr RSP Field Operation Data Log Sheet)	Ambient Arsenic Concentration	Exceedance (Refer to Table II for Action and Limit Level)
Ambient Arsenic Concentration, ng/m ³	KTN-DMS4(A) - Temporary Structure at Pak Shek Au	0.97 µg	1649.2 m ³	0.59 ng/m ³	No

Table II – Action and Limit Levels for Ambient Arsenic Monitoring

Parameters	Action Level	Limit Level
Ambient Arsenic Concentration	9.36 ng/m ³ 80% of 11.7ng/m ³ –the highest ambient concentration predicted during the construction phase with mitigation measures implemented	11.7 ng/m ³ - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

	Name	Signature	Date
Prepared by:	Meiling Tang		17 July 2020
Checked by:	Kenneth Leung		17 July 2020

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	33757
Date of Issue:	2020-07-15
Date Received:	2020-07-09
Date Tested:	2020-07-13
Date Completed:	2020-07-15

ATTN: Ms Ivy Tam

Page: 1 of 1

Sample Description : 1 sample as received from customer said to be quartz filter
Laboratory No. : 33757
Project No. : WMA 20002
Project Title: Service Contract No. NDO 04/2019
 Environmental Team for Environmental Monitoring and Audit Works in
 Construction Phase for the First Phase Development of Kwu Tung North
 and Fanling North New Development Areas

Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

Results:

Sample ID	200615/008
Sample No.	33757-1
Arsenic (µg)	0.97

Remarks: 1) <= less than
 2) Results for the test material reported as received

*****END OF REPORT*****

PREPARED AND CHECKED BY:
 For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
 General Manager

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	QC33757
Date of Issue:	2020-07-15
Date Received:	2020-07-09
Date Tested:	2020-07-13
Date Completed:	2020-07-15
Page:	1 of 2

ATTN: Ms Ivy Tam

**QC report:
Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.07	N/A

Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	96	80-120

Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	98	90-110

Interference check solution A

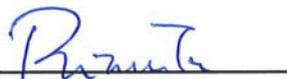
Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	104	70-130

Remarks: 1) < = less than
2) N/A = Not applicable
3) This report is the summary of quality control data for report number 33757

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
General Manager

TEST REPORT

Report No.:	QC33757
Date of Issue:	2020-07-15
Date Received:	2020-07-09
Date Tested:	2020-07-13
Date Completed:	2020-07-15
Page:	2 of 2

QC report:

Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	106	75-125

Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	4	RPD \leq 20%

Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	95	90-110

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33757

*****END OF REPORT*****

Contract No. NDO 04/2019
Advance and First Stage Works of
Kwu Tung North and Fanling North New Development Areas
24-hr RSP Air Quality Monitoring (Project No.: WMA20002)
Field Operation Data Log Sheet



Station: KTN-DMS4A - Temporary Structure at Pak Shek Au

Sampling Date & Time: From: 6/7/2020 (00:00) Collection Date: 8/7/2020

Operators: W.K. Tang Weather: Sunny Cloudy Windy Rainy
 Wind: Strong Mild Calm

High Volume Sampler	Model no.	GMW-PM10
	Blower Motor Serial no.	3225

RSP - Respirable Suspended Particulates Sampler			
Equipment No.	<u>A-4-17</u>	Set Point	<u>8.92</u>
Slope, m	<u>0.0204</u>	Intercept. b	<u>1.1493</u>
	Initial, I	Final, f	
Ambient Pressure (mmHg), Pa	<u>757.0</u>	<u>758.9</u>	
Ambient Temperature (K), Ta	<u>302.1</u>	<u>302.2</u>	
Delta (in. of Water), W	<u>8.9</u>	<u>8.9</u>	
$Y = [W \times (Ta+30)/Pa]^{1/2}$	<u>1.976</u>	<u>1.974</u>	
Standard flow, Qstd (m ³ /min) = (Y - b)*0.0283/m	<u>1.147</u>	<u>1.144</u>	
Elapsed Timer Indicator (Hours), T	<u>11296.95</u>	<u>11320.95</u>	
Filter Identification no.	<u>200615 / 008</u>		
Weight of Filter (g)	<u>4.2716</u>	<u>4.3124</u>	
Weight of Particulate (g)	<u>0.0408</u>		
Mean Standard Flow, Qstd _{avg} = (Qstd _i + Qstd _f)/2	<u>1.145</u>		
Total Time, Total Time = (Tf - Ti) x 60	<u>1440.00</u>		
Standard Volume, Vstd (m ³) = Qstd _{avg} x Total Time	<u>1649.2</u>		
Particulate Concentration (µg/m ³)	<u>24.7</u>		
Observed Construction Activities	Main Construction Site	<u>NN</u>	
	Other Construction Site	<u>NN</u>	

Remarks: NN

Conducted by: W.K. Tang Signature: W.K. Tang Date: 8/7/2020
 Checked by: Mei-ty Tang Signature: Mei-ty Tang Date: 10/7/2020

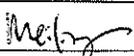
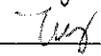
Project No. WMA20002

Table I - Ambient Arsenic Concentration on 10th July 2020

Parameter	Monitoring Station	Arsenic (Refer to Report No.: 33768)	Standard Volume, Vstd = Qstd _{avg} x Total Time (Refer to the 24-hr RSP Field Operation Data Log Sheet)	Ambient Arsenic Concentration	Exceedance (Refer to Table II for Action and Limit Level)
Ambient Arsenic Concentration, ng/m ³	KTN-DMS4(A) - Temporary Structure at Pak Shek Au	3.1 µg	1653.3 m ³	1.88 ng/m ³	No

Table II – Action and Limit Levels for Ambient Arsenic Monitoring

Parameters	Action Level	Limit Level
Ambient Arsenic Concentration	9.36 ng/m ³ 80% of 11.7ng/m ³ –the highest ambient concentration predicted during the construction phase with mitigation measures implemented	11.7 ng/m ³ - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

	Name	Signature	Date
Prepared by:	Meiling Tang		22 July 2020
Checked by:	Ivy Tam		22 July 2020

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	33768
Date of Issue:	2020-07-17
Date Received:	2020-07-13
Date Tested:	2020-07-16
Date Completed:	2020-07-17

ATTN: Ms Ivy Tam

Page: 1 of 1

Sample Description : 1 sample as received from customer said to be quartz filter
Laboratory No. : 33768
Project No. : WMA 20002
Project Title: Service Contract No. NDO 04/2019
 Environmental Team for Environmental Monitoring and Audit Works in
 Construction Phase for the First Phase Development of Kwu Tung North
 and Fanling North New Development Areas

Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

Results:

Sample ID	200615/009
Sample No.	33768-1
Arsenic (µg)	3.1

Remarks: 1) <= less than
 2) Results for the test material reported as received

*****END OF REPORT*****

PREPARED AND CHECKED BY:
 For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
General Manager

TEST REPORT**APPLICANT:** Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong KongReport No.: QC33768
Date of Issue: 2020-07-17
Date Received: 2020-07-13
Date Tested: 2020-07-16
Date Completed: 2020-07-17

Page: 1 of 2

ATTN: Ms Ivy Tam**QC report:**
Method Blank

Parameter	Method Blank	Acceptance
Arsenic (μg)	<0.036	<0.036

Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (μg)	0.07	N/A

Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	97	80-120

Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	93	90-110

Interference check solution A

Parameter	ICS A	Acceptance
Arsenic (μg)	<0.036	<0.036

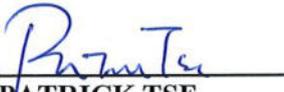
Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	115	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33768

PREPARED AND CHECKED BY:For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
 General Manager

TEST REPORT

Report No.:	QC33768
Date of Issue:	2020-07-17
Date Received:	2020-07-13
Date Tested:	2020-07-16
Date Completed:	2020-07-17
Page:	2 of 2

QC report:

Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	91	75-125

Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	3	RPD _≤ 20%

Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	95	90-110

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33768

*****END OF REPORT*****

Contract No. NDO 04/2019

Advance and First Stage Works of

Kwu Tung North and Fanling North New Development Areas

24-hr RSP Air Quality Monitoring (Project No.: WMA20002)

Field Operation Data Log Sheet

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Station: KTN-DMS4A - Temporary Structure at Pak Shek Au

Sampling Date & Time: From: 10/7/2020 (00 : 00)

Collection Date: 13/7/2020

Operators: W.K. Tang

Weather Sunny Cloudy Windy Rainy
Wind: Strong Mild Calm

High Volume Sampler	Model no.	GMW-PM10
	Blower Motor Serial no.	3225

RSP - Respirable Suspended Particulates Sampler			
Equipment No.	<u>A-11-17</u>	Set Point	<u>8.92</u>
Slope, m	<u>0.0204</u>	Intercept. b	<u>1.1493</u>
	Initial, I	Final, f	
Ambient Pressure (mmHg), Pa	<u>757.9</u>	<u>757.4</u>	
Ambient Temperature (K), Ta	<u>302.9</u>	<u>302.5</u>	
Delta (in. of Water), W	<u>8.9</u>	<u>8.9</u>	
$Y = [W \times (Ta+30)/Pa]^{1/2}$	<u>1.977</u>	<u>1.977</u>	
Standard flow, Qstd (m ³ /min) = (Y - b)*0.0283/m	<u>1.148</u>	<u>1.148</u>	
Elapsed Timer Indicator (Hours), T	<u>11320.95</u>	<u>11344.95</u>	
Filter Identification no.	<u>200615 / 009</u>		
Weight of Filter (g)	<u>4.2625</u>	<u>4.3153</u>	
Weight of Particulate (g)	<u>0.0528</u>		
Mean Standard Flow, $Qstd_{avg} = (Qstd_i + Qstd_f)/2$	<u>1.148</u>		
Total Time, Total Time = (Tf - Ti) x 60	<u>1440.00</u>		
Standard Volume, $Vstd (m^3) = Qstd_{avg} \times Total Time$	<u>1653.3</u>		
Particulate Concentration (µg/m ³)	<u>31.9</u>		
Observed Construction Activities	Main Construction Site	<u>N/A</u>	
	Other Construction Site	<u>N/A</u>	

Remarks: Road traffic

Conducted by: W.K. Tang Signature: Kwai Date: 13/7/2020

Checked by: Mei Ling Tang Signature: Mei Ling Date: 14/7/2020

Project No. WMA20002

Service Contract No. NDO 04/2019

Environmental Team for Environmental Monitoring and Audit Works in
Construction Phase for the First Phase Development of
Kwu Tung North and Fanling North New Development Areas

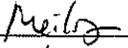
WELLAB 匯力
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Table I - Ambient Arsenic Concentration on 16th July 2020

Parameter	Monitoring Station	Arsenic (Refer to Report No.: 33793)	Standard Volume, $V_{std} = Q_{std_{avg}} \times \text{Total Time}$ (Refer to the 24-hr RSP Field Operation Data Log Sheet)	Ambient Arsenic Concentration	Exceedance (Refer to Table II for Action and Limit Level)
Ambient Arsenic Concentration, ng/m^3	KTN-DMS4(A) - Temporary Structure at Pak Shek Au	2.0 μg	1651.3 m^3	1.21 ng/m^3	No

Table II – Action and Limit Levels for Ambient Arsenic Monitoring

Parameters	Action Level	Limit Level
Ambient Arsenic Concentration	9.36 ng/m^3 80% of 11.7 ng/m^3 –the highest ambient concentration predicted during the construction phase with mitigation measures implemented	11.7 ng/m^3 - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

	Name	Signature	Date
Prepared by:	Meiling Tang		31 July 2020
Checked by:	Ivy Tam		31 July 2020

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	33793
Date of Issue:	2020-07-27
Date Received:	2020-07-20
Date Tested:	2020-07-24
Date Completed:	2020-07-27

ATTN: Ms Ivy Tam

Page: 1 of 1

Sample Description : 1 sample as received from customer said to be quartz filter
Laboratory No. : 33793
Project No. : WMA 20002
Project Title: Service Contract No. NDO 04/2019
 Environmental Team for Environmental Monitoring and Audit Works in
 Construction Phase for the First Phase Development of Kwu Tung North
 and Fanling North New Development Areas

Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

Results:

Sample ID	200615/011
Sample No.	33793-1
Arsenic (µg)	2.0

Remarks: 1) <= less than
 2) Results for the test material reported as received

*****END OF REPORT*****

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
 General Manager

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	QC33793
Date of Issue:	2020-07-27
Date Received:	2020-07-20
Date Tested:	2020-07-24
Date Completed:	2020-07-27

ATTN: Ms Ivy Tam

Page: 1 of 2

QC report:
Method Blank

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.07	N/A

Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	106	80-120

Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	101	90-110

Interference check solution A

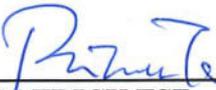
Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	104	70-130

Remarks: 1) < = less than
2) N/A = Not applicable
3) This report is the summary of quality control data for report number 33793

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
General Manager

TEST REPORT

Report No.:	QC33793
Date of Issue:	2020-07-27
Date Received:	2020-07-20
Date Tested:	2020-07-24
Date Completed:	2020-07-27
Page:	2 of 2

QC report:

Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	108	75-125

Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	2	RPD \leq 20%

Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	109	90-110

Remarks: 1) \leq less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33793

*****END OF REPORT*****

Contract No. NDO 04/2019

Advance and First Stage Works of

Kwu Tung North and Fanling North New Development Areas

24-hr RSP Air Quality Monitoring (Project No.: WMA20002)

Field Operation Data Log Sheet

Station: KTN-DMS4A - Temporary Structure at Pak Shek Au

Sampling Date & Time: From: 16-7-2020 (00:00) Collection Date: 17-7-2020

Operators: Hei Weather: Sunny Cloudy Windy Rainy Wind: Strong Mild Calm

Table with 2 columns: High Volume Sampler, Model no. (GMW-PM10), Blower Motor Serial no. (3225)

RSP - Respirable Suspended Particulates Sampler table with columns for Equipment No., Slope, m, Set Point, Intercept, b, Initial, I, Final, f, Ambient Pressure, Ambient Temperature, Delta, Y, Standard flow, Elapsed Timer Indicator, Filter Identification no., Weight of Filter, Weight of Particulate, Mean Standard Flow, Qstd_avg, Total Time, Standard Volume, Vstd, Particulate Concentration, and Observed Construction Activities.

Remarks: Road traffic

Conducted by: Ho Ka Chun Signature: [Signature] Date: 17-7-2020
Checked by: Melzy Tang Signature: [Signature] Date: 21/7/2020

Service Contract No. NDO 04/2019

Environmental Team for Environmental Monitoring and Audit Works in
Construction Phase for the First Phase Development of
Kwu Tung North and Fanling North New Development Areas



Table I - Ambient Arsenic Concentration on 22nd July 2020

Parameter	Monitoring Station	Arsenic (Refer to Report No.: 33815)	Standard Volume, $V_{std} = Q_{std_{avg}} \times \text{Total Time}$ (Refer to the 24-hr RSP Field Operation Data Log Sheet)	Ambient Arsenic Concentration	Exceedance (Refer to Table II for Action and Limit Level)
Ambient Arsenic Concentration, ng/m^3	KTN-DMS4(A) - Temporary Structure at Pak Shek Au	2.4 μg	1642.6 m^3	1.46 ng/m^3	No

Table II – Action and Limit Levels for Ambient Arsenic Monitoring

Parameters	Action Level	Limit Level
Ambient Arsenic Concentration	9.36 ng/m^3 80% of 11.7 ng/m^3 –the highest ambient concentration predicted during the construction phase with mitigation measures implemented	11.7 ng/m^3 - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

	Name	Signature	Date
Prepared by:	Meiling Tang		4 August 2020
Checked by:	Ivy Tam		4 August 2020

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	33815
Date of Issue:	2020-07-29
Date Received:	2020-07-23
Date Tested:	2020-07-29
Date Completed:	2020-07-29

ATTN: Ms Ivy Tam

Page: 1 of 1

Sample Description : 1 sample as received from customer said to be quartz filter
Laboratory No. : 33815
Project No. : WMA 20002
Project Title: Service Contract No. NDO 04/2019
 Environmental Team for Environmental Monitoring and Audit Works in
 Construction Phase for the First Phase Development of Kwu Tung North
 and Fanling North New Development Areas

Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

Results:

Sample ID	200615/012
Sample No.	33815-1
Arsenic (µg)	2.4

Remarks: 1) <= less than
 2) Results for the test material reported as received

*****END OF REPORT*****

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
 General Manager

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	QC33815
Date of Issue:	2020-07-29
Date Received:	2020-07-23
Date Tested:	2020-07-29
Date Completed:	2020-07-29

ATTN: Ms Ivy Tam

Page: 1 of 2

QC report:

Method Blank

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.07	N/A

Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	101	80-120

Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	102	90-110

Interference check solution A

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	98	70-130

Remarks: 1) <= less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33815

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**


PATRICK TSE
General Manager

TEST REPORT

Report No.:	QC33815
Date of Issue:	2020-07-29
Date Received:	2020-07-23
Date Tested:	2020-07-29
Date Completed:	2020-07-29
Page:	2 of 2

QC report:

Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	92	75-125

Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	0	RPD \leq 20%

Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	97	90-110

Remarks: 1) \leq less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33815

*****END OF REPORT*****

Contract No. NDO 04/2019
Advance and First Stage Works of
Kwu Tung North and Fanling North New Development Areas
24-hr RSP Air Quality Monitoring (Project No.: WMA20002)
Field Operation Data Log Sheet



Station: KTN-DMS4A - Temporary Structure at Pak Shek Au

Sampling Date & Time: From: 22-7-2020 (08:00) Collection Date: 23-7-2020

Operators: [Signature] Weather: Sunny (Cloudy) Windy Rainy
 Wind: Strong (Mild) Calm

High Volume Sampler	Model no.	GMW-PM10
	Blower Motor Serial no.	3225

RSP - Respirable Suspended Particulates Sampler			
Equipment No.	<u>A-11-17</u>	Set Point	<u>8.92</u>
Slope, m	<u>0.0204</u>	Intercept. b	<u>1.1493</u>
	Initial, I	Final, f	
Ambient Pressure (mmHg), Pa	<u>760.2</u>	<u>759.2</u>	
Ambient Temperature (K), Ta	<u>301.0</u>	<u>302.6</u>	
Delta (in. of Water), W	<u>8.9</u>	<u>8.9</u>	
$Y = [W \times (Ta+30)/Pa]^{1/2}$	<u>1.969</u>	<u>1.975</u>	
Standard flow, Qstd (m ³ /min) = (Y - b)*0.0283/m	<u>1.136</u>	<u>1.145</u>	
Elapsed Timer Indicator (Hours), T	<u>11362.98</u>	<u>11372.98</u>	
Filter Identification no.	<u>200678/012</u>		
Weight of Filter (g)	<u>4.2542</u>	<u>4.2805</u>	
Weight of Particulate (g)	<u>0.0263</u>		
Mean Standard Flow, Qstd _{avg} = (Qstd _i + Qstd _f)/2	<u>1.141</u>		
Total Time, Total Time = (Tf - Ti) x 60	<u>1440.00</u>		
Standard Volume, Vstd (m ³) = Qstd _{avg} x Total Time	<u>1642.6</u>		
Particulate Concentration (µg/m ³)	<u>16.0</u>		
Observed Construction Activities	Main Construction Site	<u>NA</u>	
	Other Construction Site	<u>NA</u>	

Remarks: Road traffic

Conducted by: [Signature] Signature: [Signature] Date: 23-7-2020

Checked by: Melby Tang Signature: [Signature] Date: 24/7/2020

Project No. WMA20002

Service Contract No. NDO 04/2019

Environmental Team for Environmental Monitoring and Audit Works in
Construction Phase for the First Phase Development of
Kwu Tung North and Fanling North New Development Areas



Table I - Ambient Arsenic Concentration on 28th July 2020

Parameter	Monitoring Station	Arsenic (Refer to Report No.: 33856)	Standard Volume, Vstd = Qstd _{avg} x Total Time (Refer to the 24-hr RSP Field Operation Data Log Sheet)	Ambient Arsenic Concentration	Exceedance (Refer to Table II for Action and Limit Level)
Ambient Arsenic Concentration, ng/m ³	KTN-DMS4(A) - Temporary Structure at Pak Shek Au	1.6 µg	1648.0 m ³	0.97 ng/m ³	No

Table II – Action and Limit Levels for Ambient Arsenic Monitoring

Parameters	Action Level	Limit Level
Ambient Arsenic Concentration	9.36 ng/m ³ 80% of 11.7ng/m ³ –the highest ambient concentration predicted during the construction phase with mitigation measures implemented	11.7 ng/m ³ - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

	Name	Signature	Date
Prepared by:	Meiling Tang		11 August 2020
Checked by:	Ivy Tam		11 August 2020

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	33856
Date of Issue:	2020-08-05
Date Received:	2020-07-30
Date Tested:	2020-08-05
Date Completed:	2020-08-05

ATTN: Ms Ivy Tam

Page: 1 of 1

Sample Description : 1 sample as received from customer said to be quartz filter
Laboratory No. : 33856
Project No. : WMA 20002
Project Title: Service Contract No. NDO 04/2019
 Environmental Team for Environmental Monitoring and Audit Works in
 Construction Phase for the First Phase Development of Kwu Tung North
 and Fanling North New Development Areas

Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

Results:

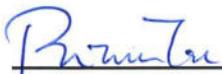
Sample ID	200615/013
Sample No.	33856-1
Arsenic (µg)	1.6

Remarks: 1) <= less than
 2) Results for the test material reported as received

*****END OF REPORT*****

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
 General Manager

TEST REPORT

APPLICANT: Wellab (EM&A)
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Report No.:	QC33856
Date of Issue:	2020-08-05
Date Received:	2020-07-30
Date Tested:	2020-08-05
Date Completed:	2020-08-05

ATTN: Ms Ivy Tam

Page: 1 of 2

QC report:

Method Blank

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.07	N/A

Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	97	80-120

Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	96	90-110

Interference check solution A

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	104	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33856

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



PATRICK TSE
General Manager

TEST REPORT

Report No.:	QC33856
Date of Issue:	2020-08-05
Date Received:	2020-07-30
Date Tested:	2020-08-05
Date Completed:	2020-08-05

Page: 2 of 2

QC report:

Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	90	75-125

Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	4	RPD _≤ 20%

Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	102	90-110

Remarks: 1) <= less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 33856

*****END OF REPORT*****

Contract No. NDO 04/2019
Advance and First Stage Works of
Kwu Tung North and Fanling North New Development Areas
24-hr RSP Air Quality Monitoring (Project No.: WMA20002)
Field Operation Data Log Sheet

Station: KTN-DMS4A - Temporary Structure at Pak Shek Au

Sampling Date & Time: From: 28-7-2020 (00 : 00) Collection Date: 30-7-2020

Operators: Ka Chun Weather: Sunny Cloudy Windy Rainy
 Wind: Strong Mild Calm

High Volume Sampler	Model no.	GMW-PM10
	Blower Motor Serial no.	3225

RSP - Respirable Suspended Particulates Sampler			
Equipment No.	<u>A-11-17</u>	Set Point	<u>8.92</u>
Slope, m	<u>0.0204</u>	Intercept. b	<u>1.1493</u>
	Initial, I		Final, f
Ambient Pressure (mmHg), Pa	<u>757.9</u>		<u>758.7</u>
Ambient Temperature (K), Ta	<u>302.2</u>		<u>302.0</u>
Delta (in. of Water), W	<u>8.9</u>		<u>8.9</u>
$Y = [W \times (Ta+30)/Pa]^{1/2}$	<u>1.975</u>		<u>1.973</u>
Standard flow, Qstd (m ³ /min) = (Y - b)*0.0283/m	<u>1.146</u>		<u>1.143</u>
Elapsed Timer Indicator (Hours), T	<u>1132.95</u>		<u>1146.95</u>
Filter Identification no.	<u>200615/013</u>		
Weight of Filter (g)	<u>4.2210</u>		<u>4.2656</u>
Weight of Particulate (g)	<u>0.0446</u>		
Mean Standard Flow, Qstd _{avg} = (Qstd _i + Qstd _f)/2	<u>1.144</u>		
Total Time, Total Time = (Tf - Ti) x 60	<u>1440.00</u>		
Standard Volume, Vstd (m ³) = Qstd _{avg} x Total Time	<u>1648.0</u>		
Particulate Concentration (µg/m ³)	<u>27.1</u>		
Observed Construction Activities	Main Construction Site	<u>N/A</u>	
	Other Construction Site	<u>N/A</u>	

Remarks: Road traffic

Conducted by: H. Ka Chun Signature: [Signature] Date: 30-7-2020
 Checked by: Melby Tong Signature: [Signature] Date: 6/8/2020

**APPENDIX F
NOISE MONITORING RESULTS AND
GRAPHICAL PRESENTATION**

Appendix F - Noise Monitoring Results

Location CP-FLN-NMS1 - Belair Monte (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-20	Cloudy	09:30	69.0	72.0	58.4	68.0	69.9
		09:35	70.0	73.0	55.4		
		09:40	68.3	71.2	60.3		
		09:45	65.3	68.6	61.7		
		09:50	67.9	70.2	62.5		
09:55	65.1	67.8	61.9				
8-Jul-20	Cloudy	11:15	67.2	70.0	60.4	66.0	
		11:20	67.0	69.4	59.7		
		11:25	65.1	68.7	55.4		
		11:30	66.9	68.6	52.4		
		11:35	64.3	67.5	54.4		
11:40	64.5	67.2	54.8				
14-Jul-20	Sunny	10:08	65.0	69.7	58.4	66.3	
		10:13	64.9	69.5	55.0		
		10:18	67.9	70.0	62.5		
		10:23	67.6	69.4	61.0		
		10:28	64.7	67.5	56.7		
10:33	66.6	70.5	56.1				
24-Jul-20	Sunny	09:30	66.3	70.8	54.7	67.9	
		09:35	68.6	72.6	58.0		
		09:40	67.6	71.2	56.2		
		09:45	68.8	71.9	56.5		
		09:50	68.6	72.3	59.1		
09:55	66.8	70.6	54.4				
30-Jul-20	Sunny	13:00	68.7	70.7	59.6	67.6	
		13:05	67.7	71.4	58.8		
		13:10	66.7	69.8	62.1		
		13:15	67.6	70.2	60.5		
		13:20	67.0	70.7	61.0		
13:25	67.7	71.3	60.0				

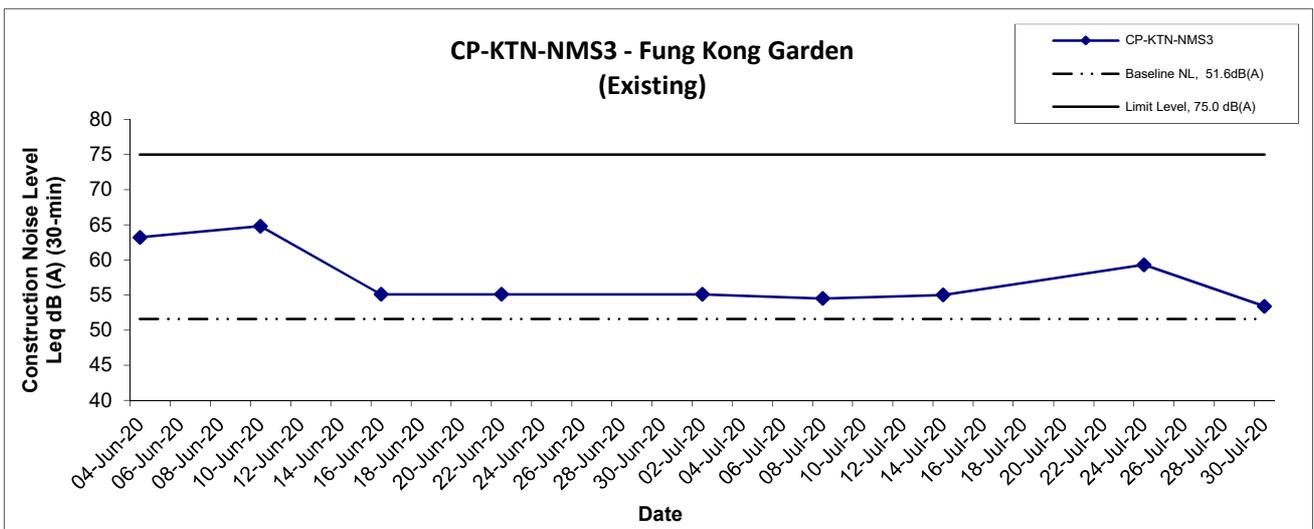
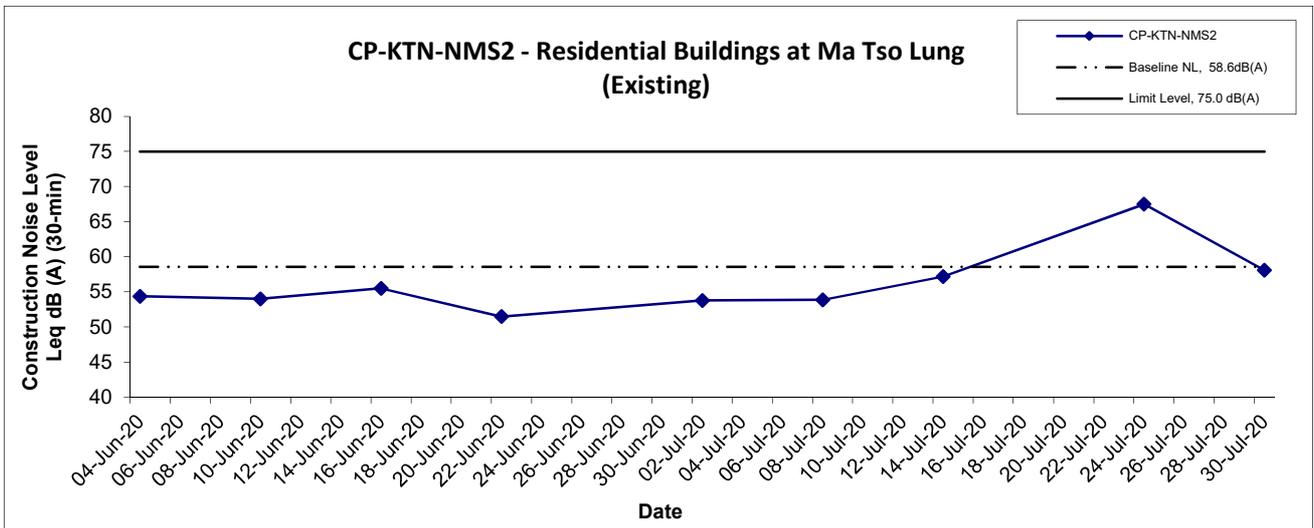
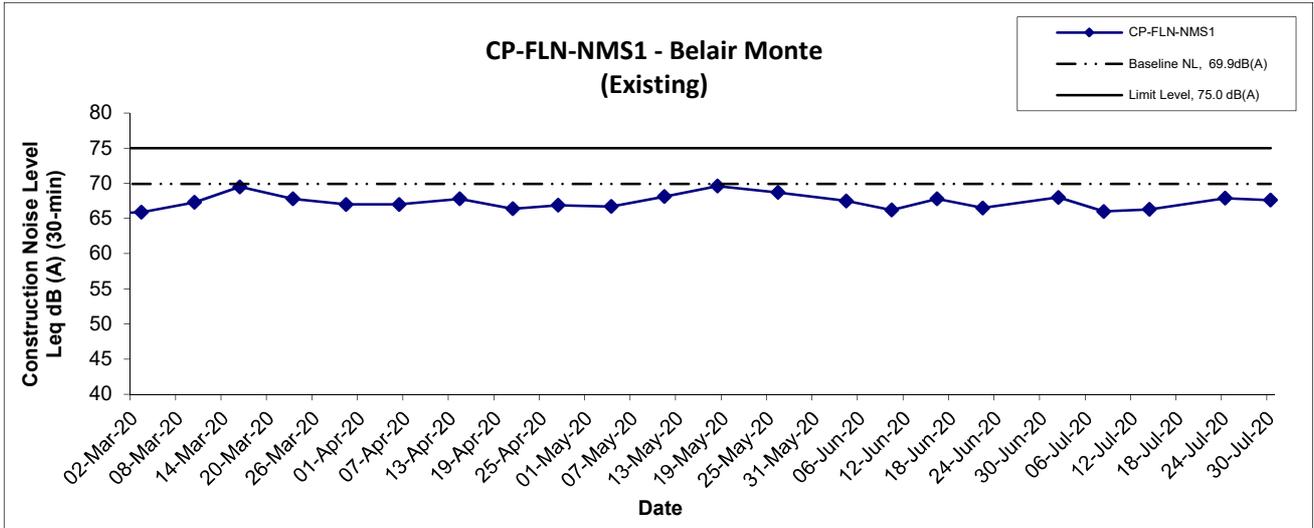
Location CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-20	Cloudy	13:10	56.8	59.5	55.6	53.8	58.6
		13:15	54.3	56.8	54.0		
		13:20	54.9	59.8	44.6		
		13:25	52.7	54.5	45.4		
		13:30	50.9	54.0	44.9		
13:35	49.2	53.1	42.3				
8-Jul-20	Cloudy	09:00	55.4	58.6	56.2	53.9	
		09:05	54.0	56.7	54.5		
		09:10	52.7	54.4	45.4		
		09:15	54.6	56.8	53.8		
		09:20	50.8	53.9	44.8		
09:25	54.4	57.0	54.8				
14-Jul-20	Sunny	11:23	59.0	60.2	55.9	57.2	
		11:28	56.8	57.7	55.3		
		11:33	55.7	56.8	53.4		
		11:38	56.6	57.5	55.2		
		11:43	57.5	59.0	56.3		
11:48	56.6	57.5	55.1				
24-Jul-20	Sunny	10:25	54.0	54.2	43.5	67.5	
		10:30	64.9	56.3	50.6		
		10:35	74.8	57.7	48.1		
		10:40	51.5	52.6	50.0		
		10:45	51.6	53.4	50.0		
10:50	51.1	51.9	50.1				
30-Jul-20	Sunny	10:15	58.2	58.1	57.4	58.1	
		10:20	60.1	60.8	56.2		
		10:25	57.8	59.5	55.5		
		10:30	56.5	57.2	55.2		
		10:35	57.5	58.5	55.3		
10:40	57.4	57.9	56.2				

Appendix F - Noise Monitoring Results

Location CP-KTN-NMS3 - Fung Kong Garden (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-20	Cloudy	14:00	56.8	59.9	55.6	55.1	51.6
		14:05	54.3	57.0	53.6		
		14:10	54.9	57.2	53.5		
		14:15	53.8	56.3	52.5		
		14:20	55.5	57.9	53.8		
14:25	54.6	57.0	53.6				
8-Jul-20	Cloudy	09:50	53.8	56.1	52.6	54.5	
		09:55	54.6	57.1	53.7		
		10:00	54.3	57.2	53.7		
		10:05	54.9	58.7	54.8		
		10:10	54.5	56.9	53.8		
10:15	54.9	57.2	53.5				
14-Jul-20	Sunny	13:20	54.3	56.8	53.2	55.0	
		13:25	54.6	56.6	54.4		
		13:30	53.8	56.0	52.6		
		13:35	55.0	56.7	53.6		
		13:40	56.8	58.7	55.6		
13:45	54.9	56.9	53.5				
24-Jul-20	Sunny	11:15	63.2	70.3	44.7	59.3	
		11:20	50.5	51.0	44.6		
		11:25	61.4	51.8	44.2		
		11:30	57.1	52.7	43.6		
		11:35	59.5	57.8	44.5		
11:40	48.6	50.9	44.0				
30-Jul-20	Sunny	11:00	53.2	54.6	52.0	53.4	
		11:05	53.5	54.1	52.0		
		11:10	53.6	57.5	52.1		
		11:15	53.8	54.8	51.6		
		11:20	52.8	53.1	51.4		
11:25	53.5	54.3	52.0				

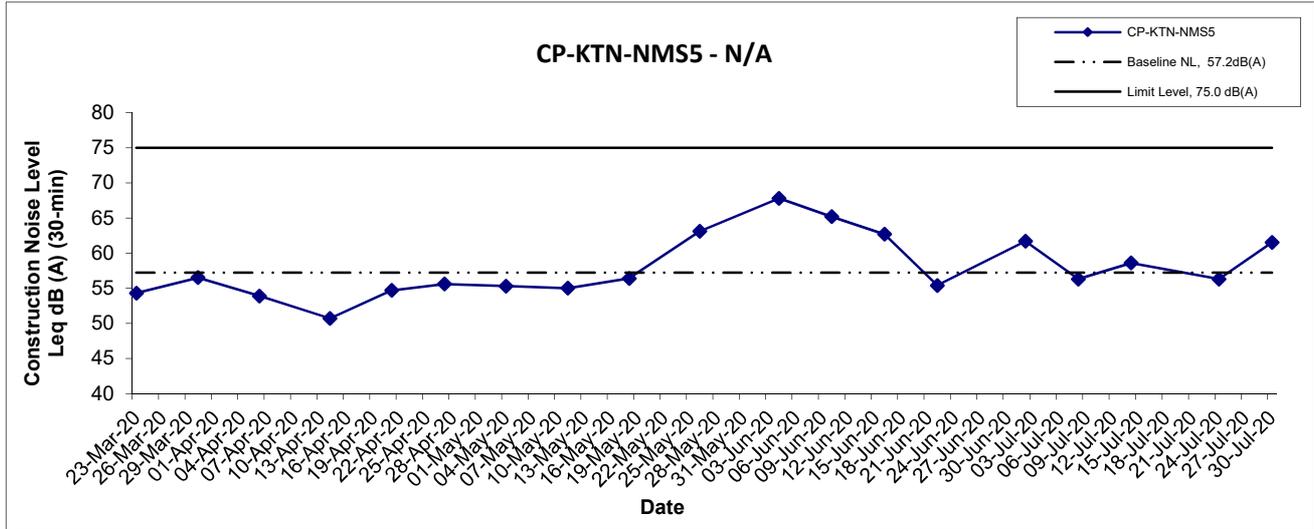
Location CP-KTN-NMS5 - N/A							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-20	Cloudy	10:45	61.6	66.4	59.7	61.7	57.2
		10:50	65.4	67.8	62.8		
		10:55	63.4	65.7	61.7		
		11:00	57.3	58.1	52.9		
		11:05	59.4	65.9	60.7		
11:10	56.3	57.8	47.1				
8-Jul-20	Cloudy	10:30	54.4	57.2	53.8	56.3	
		10:35	54.7	56.5	48.0		
		10:40	55.0	57.6	49.2		
		10:45	59.4	65.7	60.4		
		10:50	57.2	58.0	52.8		
10:55	54.7	56.1	49.7				
14-Jul-20	Sunny	09:22	59.4	66.0	58.7	58.6	
		09:27	62.7	66.4	59.8		
		09:32	55.8	56.7	52.0		
		09:37	54.7	56.0	49.0		
		09:42	57.3	58.2	51.7		
09:47	56.3	57.9	49.2				
24-Jul-20	Sunny	13:40	55.4	57.4	50.5	56.3	
		13:45	53.3	55.3	50.5		
		13:50	52.5	54.4	50.3		
		13:55	61.2	68.2	50.6		
		14:00	54.4	55.9	51.0		
14:05	53.2	54.5	51.1				
30-Jul-20	Sunny	13:55	61.9	64.6	57.7	61.5	
		14:00	64.4	65.7	58.4		
		14:05	60.4	62.9	57.8		
		14:10	60.0	61.9	56.4		
		14:15	60.0	62.5	56.1		
14:20	60.6	62.9	57.4				

Noise Levels



Title Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Construction Noise Monitoring Results	Service Contract No. NDO 04/2019	Scale N.T.S	Project No. WMA20002	 consulting . testing . research	
	Date Jul 20	Appendix F			

Noise Levels



Title Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. WMA20002	
	Date Jul 20	Appendix F	

**APPENDIX G
LANDFILL GAS MONITORING
RESULTS**

Contract No. ND/2019/01

**Development of Kwu Tung North & Fanling North New Development Area, Phase 1:
Kwu Tung North New Development Area, Phase 1: Site formation & Infrastructure works**

堆填區附近區域(Consultation Zone)每月氣體監察記錄

日期及時間	位置	氣體及安全標準	氧氣 O ₂ >19%	甲烷 CH ₄ <10% LEL	二氧化碳 CO ₂ <0.5%
07-07-2020 8:30	CZ PT 1		20.9	0	0
07-07-2020 8:40	CZ container 1		20.9	0	0

Prepared by : Matthew Cheng (Safety Officer)

Date : 29-07-2020

**APPENDIX H
ECOLOGICAL MONITORING RESULT**

Appendix H1a. Avifauna Species Recorded for Water Birds Monitoring, 7 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		7/7/2020									
					Weather Condition		Sunny periods with a few showers									
					Tidal Condition		High									
					Tide Level (m)		2.7									
					Start Time		10:00									
					Abundance											
					Transect Walk											
					T3	T5					Heard	Flight				
WAL	DAL	SWH	P													
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv		7						4					
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv				2									
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領棕鳥	R			2	6									
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				6								
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R				11				1					
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	2											
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU	1											
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R					1								
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		2		1									
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R				2									
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R				7									
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		34	1	11				4					
Domestic Pigeon	<i>Columba livia</i>	原鴿	R				4									
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)	2		2				1					
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			16	26									

Appendix H1a. Avifauna Species Recorded for Water Birds Monitoring, 7 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	7/7/2020					
					Weather Condition	Sunny periods with a few showers					
					Tidal Condition	High					
					Tide Level (m)	2.7					
					Start Time	10:00					
					Abundance						
					Transect Walk						
					T3	T5					Heard
WAL	DAL	SWH	P								
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	2	1					2
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	6	4		1			3
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R				1				
Magpie Robin	<i>Copsychus saularis</i>	鵲鳩	R				2			2	
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鷗	R		3		2			3	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		6		10				2
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R				67				
White Headed Munia	<i>Lonchura maja</i>	白頭文鳥	R				1				
White Wagtail	<i>Motacilla alba</i>	白鵲鷗	PM, WV				4				
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1	2				
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)	2						
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鷯	R				1			2	
Total No. of Species					11	6	19	3	0	3	19
Total No. of Conservation Interest Species					6	2	2	2	0	0	2

Appendix H1a. Avifauna Species Recorded for Water Birds Monitoring, 7 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		7/7/2020				
					Weather Condition		Sunny periods with a few showers				
					Tidal Condition		High				
					Tide Level (m)		2.7				
					Start Time		10:00				
					Abundance						
					Transect Walk						
					T3		T5				
		WAL	DAL	SWH	P	Heard	Flight				

Note:
R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance
Cap.586 : Endangered Species of Animals and Plants Ordinance
CR: Rare in China Red Data Book Status
VU: Vulnerable in IUCN Red List Status
(VU): Vulnerable in China Red Data Book Status
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)
WAL: Wet Agricultural Land
DAL: Dry Agricultural Land
SWH: Shallow Water Habitat
P: Pond

Appendix H1b. Avifauna Species Recorded for Water Birds Monitoring, 7 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		7/7/2020									
					Weather Condition		Sunny									
					Tidal Condition		Low									
					Tide Level (m)		1.28									
					Start Time		16:05									
					Abundance											
					Transect Walk											
					T3	T5					Heard	Flight				
	WAL	DAL	SWH	P												
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv								2					
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv		1											
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC	1											
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R		4	2	39				13					
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鸕	PM	RC		1										
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R				2									
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	13	1	2	3			2					
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	R	(LC)							1					
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		10		6									
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R				3									
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		13		10				31					
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			8	10				3					
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	2											

Appendix H1b. Avifauna Species Recorded for Water Birds Monitoring, 7 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		7/7/2020								
					Weather Condition		Sunny								
					Tidal Condition		Low								
					Tide Level (m)		1.28								
					Start Time		16:05								
					Abundance										
					Transect Walk										
					T3	T5									
	WAL	DAL	SWH	P	Heard	Flight									
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷺	R, PM, WV	LC				1							
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	10	3	2				3				
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R				1								
Magpie Robin	<i>Copsychus saularis</i>	鵲鳩	R		4	1	4								
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鷗	R		1		4								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2	1	2				9				
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R				41				30				
White Headed Munia	<i>Lonchura maja</i>	白頭文鳥	R				2								
White Wagtail	<i>Motacilla alba</i>	白鷺鷥	PM, WV		1	2	1				3				
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R		5	8		1							
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R		1	2									
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鷯	R							1					
Total No. of Species					14	10	15	3	0	10	10				
Total No. of Conservation Interest Species					4	3	2	2	0	3	3				

Appendix H1b. Avifauna Species Recorded for Water Birds Monitoring, 7 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		7/7/2020									
					Weather Condition		Sunny									
					Tidal Condition		Low									
					Tide Level (m)		1.28									
					Start Time		16:05									
					Abundance											
					Transect Walk											
					T3	T5										
						WAL	DAL	SWH	P	Heard	Flight					
<p>Note: R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p>																

Appendix H1c. Avifauna Species Recorded for Water Birds Monitoring, 13 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		13/7/2020									
					Weather Condition		Sunny									
					Tidal Condition		High									
					Tide Level (m)		1.73									
					Start Time		15:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv		6	1						10				
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R			1	14			7		18				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				3								
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R									2				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	7	3		4				2				
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU	3											
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		1	1	3					1				
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R			2										
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		1		5			3						
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		14	6	12			1		11				
Domestic Pigeon	<i>Columba livia</i>	原鴿	R		2		15									
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)		1										
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		3		18					2				

Appendix H1c. Avifauna Species Recorded for Water Birds Monitoring, 13 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		13/7/2020									
					Weather Condition		Sunny									
					Tidal Condition		High									
					Tide Level (m)		1.73									
					Start Time		15:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	1											
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R		1								5			
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R										2			
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	11		2	2					2			
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸻	WV, PM	LC	1											
Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	R		1		5				2					
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鷓	R				2				3					
Red-Rumped Swallow	<i>Hirundo daurica</i>	金腰燕	UPM		3											
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		7	1	17				3		6			
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R				11									
White Headed Munia	<i>Lonchura maja</i>	白頭文鳥	R				1									
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	PM, WV		5	9	13	1					5			
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1										
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)		2										

Appendix H1c. Avifauna Species Recorded for Water Birds Monitoring, 13 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		13/7/2020				
					Weather Condition		Sunny				
					Tidal Condition		High				
					Tide Level (m)		1.73				
					Start Time		15:00				
					Abundance						
					Transect Walk						
					T3	T5					
	WAL	DAL	SWH	P	Heard	Flight					
Yellow-bellied Prinia	Prinia flaviventris	黃腹鷓鴣	R		1					4	
Total No. of Species					17	11	13	4	0	7	12
Total No. of Conservation Interest Species					4	3	1	4	0	0	2
<p>Note: R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p>											

Appendix H1d. Avifauna Species Recorded for Water Birds Monitoring, 13 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		13/7/2020									
					Weather Condition		Sunny									
					Tidal Condition		Low									
					Tide Level (m)		1.18									
					Start Time		09:55									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv		1						7					
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R			1	7			9	7					
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				5								
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鶇	R				1									
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R							2	3					
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)	6	8	6	7			3					
Common Koel	<i>Eudynamys scolopacea</i>	噪鶇	R							2						
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R					1								
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		1		4									
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R							3						
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		3	2	5				2					
Domestic Pigeon	<i>Columba livia</i>	原鴿	R				5				2					
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)	1	1										

Appendix H1d. Avifauna Species Recorded for Water Birds Monitoring, 13 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		13/7/2020				
					Weather Condition		Sunny				
					Tidal Condition		Low				
					Tide Level (m)		1.18				
					Start Time		09:55				
					Abundance						
					Transect Walk						
					T3	T5					Heard
WAL	DAL	SWH	P								
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R				47				
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	4						1
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶻	R	(VU)						1	2
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R								8
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R								2
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	13	1	2	5			4
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸻	WV, PM	LC	3		7				
Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	R				2		1	1	
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R				2			3	
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R				1				
Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>	白喉紅臀鶇	UR				1				
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R				13			5	7
White Wagtail	<i>Motacilla alba</i>	白鶇鴝	PM, WV				6				3
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1					

Appendix H1d. Avifauna Species Recorded for Water Birds Monitoring, 13 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		13/7/2020								
					Weather Condition		Sunny								
					Tidal Condition		High								
					Tide Level (m)		1.18								
					Start Time		09:55								
					Abundance										
					Transect Walk										
					T3	T5									
	WAL		SWH	P	Heard	Flight									
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	WV, PM	LC				2							
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R							3					
Total No. of Species					8	6	15	5	1	6	13				
Total No. of Conservation Interest Species					5	3	3	4	0	3	4				
<p>Note: R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p>															

Appendix H1e. Avifauna Species Recorded for Water Birds Monitoring, 20 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	20/7/2020					
					Weather Condition	Sunny periods with cloudy intervals					
					Tidal Condition	High					
					Tide Level (m)	2.72					
					Start Time	10:00					
					Abundance						
					Transect Walk						
					T3	T5					Heard
	WAL	DAL	SWH	P							
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv		1	2					4
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R		1		4			2	3
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R				2				3
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)	6	2	3	4			1
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R			1		1			
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR				3				1
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM		1						
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R				2				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R				2				6
Domestic Pigeon	<i>Columba livia</i>	原鴿	R				5				
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R				5			2	7
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)	1				1		1
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鶇	R, PM, WV	LC				3			

Appendix H1e. Avifauna Species Recorded for Water Birds Monitoring, 20 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		20/7/2020									
					Weather Condition		Sunny periods with cloudy intervals									
					Tidal Condition		High									
					Tide Level (m)		2.72									
					Start Time		10:00									
					Abundance											
					Transect Walk											
T3		T5														
		WAL	DAL	SWH	P	Heard	Flight									
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R								1					
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R			4										
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	12						5					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸻	WV, PM	LC	1											
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R			2										
Magpie	<i>Pica pica</i>	喜鵲	R								1					
Magpie Robin	<i>Copsychus saularis</i>	鵲鳩	R			2	2									
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鵲	R			3	7				2					
Plain Prinia	<i>Prinia inornata</i>	純色鷦鷯	R		3		1									
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		4		9	1		1	8					
White Wagtail	<i>Motacilla alba</i>	白鵲鳩	PM, WV			2	2				6					
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					2								
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)	3	1	1									

Appendix H1e. Avifauna Species Recorded for Water Birds Monitoring, 20 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date						
					20/7/2020						
					Weather Condition						
					Sunny periods with cloudy intervals						
					Tidal Condition						
					High						
					Tide Level (m)						
					2.72						
Start Time							10:00				
Abundance											
Transect Walk											
T3		T5									
		WAL	DAL	SWH	P	Heard	Flight				
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R						3		
Total No. of Species					10	7	16	5	1	4	14
Total No. of Conservation Interest Species					5	2	1	1	1	0	3
<p>Note: R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p>											

Appendix H1f. Avifauna Species Recorded for Water Birds Monitoring, 20 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		20/7/2020									
					Weather Condition		Sunny periods with cloudy intervals									
					Tidal Condition		Low									
					Tide Level (m)		1.36									
					Start Time		14:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv			2		7			4					
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R				12			3	4					
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R				1				2					
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)	6	1	1	3								
Common Greenshank	<i>Tringa nebularia</i>	青腳鶇	PM, WV	RC	1											
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R				1									
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R					2								
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR				7					1				
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶇	WV, PM		1											
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R				3					2				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		1		5			2	4					
Domestic Pigeon	<i>Columba livia</i>	原鴿	R				7					3				
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV				1									
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)	1			1								

Appendix H1f. Avifauna Species Recorded for Water Birds Monitoring, 20 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		20/7/2020									
					Weather Condition		Sunny periods with cloudy intervals									
					Tidal Condition		Low									
					Tide Level (m)		1.36									
					Start Time		14:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R				34									
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	3				1							
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷺	R, PM, WV	LC				3								
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R									1				
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	20								3			
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R				2									
Magpie Robin	<i>Copsychus saularis</i>	鵲鳩	R				8									
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鷗	R				14	1		3						
Plaintive Cuckoo	<i>Cacomantis merulinus</i>	八聲杜鵑	USV							1						
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R				23		1	3		10				
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R				3									
White Wagtail	<i>Motacilla alba</i>	白鵲鷗	PM, WV				3	1					3			
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R				1	1	2							

Appendix H1f. Avifauna Species Recorded for Water Birds Monitoring, 20 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date						
					20/7/2020						
					Weather Condition						
					Sunny periods with cloudy intervals						
					Tidal Condition						
					Low						
					Tide Level (m)						
					1.36						
Start Time											
14:00											
Abundance											
Transect Walk											
T3	T5										
	WAL	DAL	SWH	P	Heard	Flight					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)			1				
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R							3	
Total No. of Species					7	3	18	8	2	6	11
Total No. of Conservation Interest Species					5	1	2	2	1	0	1
<p>Note: R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p>											

Appendix H1g. Avifauna Species Recorded for Water Birds Monitoring, 27 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		27/7/2020									
					Weather Condition		Sunny periods with cloudy intervals									
					Tidal Condition		High									
					Tide Level (m)		2.01									
					Start Time		14:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv				1				2					
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R			16				5	2					
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R								2					
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)	1	5	1				3					
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU	2											
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R				2									
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR		2		3				2					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶯	WV, PM		1											
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R				4									
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		3		7			1	1					
Domestic Pigeon	<i>Columba livia</i>	原鴿	R			2	7									
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R				2				4					
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)	1				1							
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R				1									

Appendix H1g. Avifauna Species Recorded for Water Birds Monitoring, 27 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		27/7/2020									
					Weather Condition		Sunny periods with cloudy intervals									
					Tidal Condition		High									
					Tide Level (m)		2.01									
					Start Time		14:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	9	1	3				1					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸻	WV, PM	LC		3										
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R				1									
Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	R				2									
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R				2									
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		1		14						5			
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R											6		
White Headed Munia	<i>Lonchura maja</i>	白頭文鳥	R				2									
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	PM, WV				2							4		
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			2		2		1						
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R				2				1					
Total No. of Species					8	5	16	3	1	4	11					
Total No. of Conservation Interest Species					4	3	2	0	1							

Appendix H1g. Avifauna Species Recorded for Water Birds Monitoring, 27 July 2020, High Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		27/7/2020									
					Weather Condition		Sunny periods with cloudy intervals									
					Tidal Condition		High									
					Tide Level (m)		2.01									
					Start Time		14:00									
					Abundance											
					Transect Walk											
					T3		T5									
		WAL	DAL	SWH	P	Heard	Flight									

Note:
R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance
Cap.586 : Endangered Species of Animals and Plants Ordinance
CR: Rare in China Red Data Book Status
VU: Vulnerable in IUCN Red List Status
(VU): Vulnerable in China Red Data Book Status
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)
WAL: Wet Agricultural Land
DAL: Dry Agricultural Land
SWH: Shallow Water Habitat
P: Pond

Appendix H1h. Avifauna Species Recorded for Water Birds Monitoring, 27 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		27/7/2020									
					Weather Condition		A shower followed by sunny periods with cloudy intervals									
					Tidal Condition		Low									
					Tide Level (m)		0.91									
					Start Time		10:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv					1			7					
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv								1					
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領椋鳥	R		2	3	3			4						
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷗	PM	RC				1								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	8	5	2					1				
Common Koel	<i>Eudynamys scolopacea</i>	噪鵲	R				1									
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R			1		4								
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR				2									
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R							2						
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		1		5									
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)			1									
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R				3						5			

Appendix H1h. Avifauna Species Recorded for Water Birds Monitoring, 27 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		27/7/2020									
					Weather Condition		A shower followed by sunny periods with cloudy intervals									
					Tidal Condition		Low									
					Tide Level (m)		0.91									
					Start Time		10:00									
					Abundance											
					Transect Walk											
					T3	T5										
	WAL	DAL	SWH	P	Heard	Flight										
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	3				1							
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R								1					
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	16						4					
Magpie	<i>Pica pica</i>	喜鵲	R				1									
Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	R				1									
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鵲	R				3									
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV							1						
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		3	1	11			1	4					
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R				2									
White Wagtail	<i>Motacilla alba</i>	白鵲鴝	PM, WV			1	2									
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1	1			2						
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC				5								
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鷯	R							2						

Appendix H1h. Avifauna Species Recorded for Water Birds Monitoring, 27 July 2020, Low Tide

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		27/7/2020				
					Weather Condition			A shower followed by sunny periods with cloudy intervals			
					Tidal Condition		Low				
					Tide Level (m)		0.91				
					Start Time		10:00				
					Abundance						
					Transect Walk						
					T3	T5					
						WAL	DAL	SWH	P	Heard	Flight
Total No. of Species					6	6	14	4	1	6	7
Total No. of Conservation Interest Species					3	1	2	1	1	0	2
<p>Note: R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p>											

Appendix H1i. Waterbirds recorded in July 2020

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	LC	T3: River bank	Common resident and winter visitor. Widely distributed in Hong Kong.
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	RC	T5: Wet Agricultural Land, Shallow Water Habitat	Common passage migrant. Found in Deep Bay area, Long Valley, Kam Tin.
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	PRC(RC)	T3: River bank, River bed, in flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident. Widely distributed in Hong Kong.
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	LC, VU	T3: River bank	Uncommon resident. Found in Inner Deep Bay area, Nam Chung, Kei Ling Ha, Tai Mei Tuk, Pok Fu Lam, Chek lap Kok, Shuen Wan, Lam Tsuen.
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	RC	T3: River bank	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥		T5: Dry Agricultural Land, Shallow Water Habitat	Common passage migrant and winter visitor. Widely distributed in wetland habitat throughout Hong Kong.
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞		T5: Wet Agricultural Land, Shallow Water Habitat	Common resident. Found in Deep Bay area, Shuen Wan, Starling Inlet.
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸		T3: River bank	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	(LC)	T3: River bank T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat	Resident and common passage migrant. Widely distributed in Hong Kong.
Great Egret	<i>Ardea alba</i>	大白鷺	PRC(RC)	T3: River bank, River bed, in flight T5: Wet Agricultural Land, Pond, In flight	Common resident and winter visitor. Widely distributed in Hong Kong.
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷸	LC	T5: Shallow Water Habitat	Resident, Passage migrant and winter visitor. Found in Ha Tsuen, Lok Ma Chau, Kam Tin,

					Long Valley, Hong Kong Wetland Park.
Little Egret	<i>Egretta garzetta</i>	小白鷺	PRC(RC)	T3: River bank, River bed, in flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident. Widely distributed in coastal area throughout Hong Kong.
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	LC	T3: River bed T5: Wet Agricultural Land, Dry Agricultural Land	Common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong.
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥		T3: River bank T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Heard	Common resident. Widely distributed in wetland throughout Hong Kong.
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	(LC)	T3: River bank T5: Wet Agricultural Land, Dry Agricultural Land	Common resident. Widely distributed in coastal areas throughout Hong Kong.
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	LC	T5: Shallow Water Habitat	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor

Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)

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VU: Vulnerable in IUCN Red List Status

(VU): Vulnerable in China Red Data Book Status

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land

DAL: Dry Agricultural Land

SWH: Shallow Water Habitat

P: Pond

*Source: Hong Kong Biodiversity Database, AFCD (<https://www.afcd.gov.hk/English/conservation/hkbiodiversity/database/search.php>)

Appendix H1j. Birds recorded in July 2020

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv	
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC
Black-necked Starling	<i>Sturnus nigricollis</i>	黑領棕鳥	R	
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC
Blue Whistling Thrush	<i>Myophonus caeruleus</i>	紫嘯鶇	R	
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	PM, WV	RC
Common Koel	<i>Eudynamys scolopacea</i>	噪鶇	R	
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R	
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R	
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR	
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM	
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶇	R	
Crested Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	
Domestic Pigeon	<i>Columba livia</i>	原鴿	R	
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶇	PM,WV	

Appendix H1j. Birds recorded in July 2020

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶻	R	(VU)
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)
Greater Painted-snipe	<i>Rostratula benghalensis</i>	彩鷺	R, PM, WV	LC
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R	
Japanese White-eye	<i>Zosterops japonicus</i>	暗綠繡眼鳥	R	
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸻	WV, PM	LC
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R	
Magpie	<i>Pica pica</i>	喜鵲	R	
Magpie Robin	<i>Copsychus saularis</i>	鵲鴝	R	
Masked Laughing Thrush	<i>Garrulax perspicillatus</i>	黑臉噪鶇	R	
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV	
Plaintive Cuckoo	<i>Cacomantis merulinus</i>	八聲杜鵑	USV	
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R	
Red-Rumped Swallow	<i>Hirundo daurica</i>	金腰燕	UPM	
Sooty-headed Bulbul	<i>Pycnonotus aurigaster</i>	白喉紅臀鶇	UR	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	
Spotted Munia	<i>Lonchura punctulata</i>	斑文鳥	R	

Appendix H1j. Birds recorded in July 2020

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
White Headed Munia	<i>Lonchura maja</i>	白頭文鳥	R	
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	PM, WV	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R	
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	WV, PM	LC
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R	

Note:
R – Resident; WV – Winter visitor; PM – Passage migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance
Cap.586 : Endangered Species of Animals and Plants Ordinance
CR: Rare in China Red Data Book Status
VU: Vulnerable in IUCN Red List Status
(VU): Vulnerable in China Red Data Book Status
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)
WAL: Wet Agricultural Land
DAL: Dry Agricultural Land
SWH: Shallow Water Habitat
P: Pond

Appendix H2. Freshwater Macroinvertebrate Species Recorded for Aquatic Fauna Monitoring

Common Name	Scientific Name	Conservation Status	Date: 29/7/2020									
			Weather: Thunderstorm, followed by cloudy weather									
			Methods: Kick-netting, sweep netting and direct observation									
			Abundance									
			MS_01	MS_02	MS_03	MS_04*	MS_05	MS_06	MS_07	MS_08	MS_09	MS_10
Apple Snail	<i>Pomacea canaliculata</i>	-								+++		
Blood Worm	<i>Chironomidae</i>	-		+						+	+	
Chinese River Snail	<i>Sinotaia guangdongensis</i>	-			+			+				
Damselfly	<i>Copera sp.</i>	-						+				
Freshwater Snail	<i>Bellamya sp.</i>	-			+			+	+			
	<i>Radix plicatulus</i>	-						+				
Isopod	Isopod	-								+		
Marsh Beetle	<i>Scirtes sp.</i>	-									+	
Marshglider dragonfly	<i>Trithemis sp.</i>	-									+	
Mayfly	<i>Cloeon sp.</i>	-		+								
Ram's Horn Snail	<i>Gyraulus convexiusculus</i>	-		+						+		
Red-rimmed Melania	<i>Melanoides tuberculata</i>	-		+								
River Snail	<i>Sinotaia quadrata</i>	-						+				
Skimmer Dragonfly	<i>Macromiidae</i>	-						+				
	<i>Orthetrum sp. 1</i>	-			+					+		
	<i>Orthetrum sp. 2</i>	-			+							
Water Strider	<i>Metrocoris sp.</i>	-						+		+	+	+
	<i>Ptilomera tigrina</i>	-						+	++			

Appendix H2. Freshwater Macroinvertebrate Species Recorded for Aquatic Fauna Monitoring

Common Name	Scientific Name	Conservation Status	Date: 29/7/2020									
			Weather: Thunderstorm, followed by cloudy weather									
			Methods: Kick-netting, sweep netting and direct observation									
			Abundance									
			MS_01	MS_02	MS_03	MS_04*	MS_05	MS_06	MS_07	MS_08	MS_09	MS_10
Total No. of species			0	4	4	-	0	8	2	6	4	1
Total No. of Conservation Interest Species			0	0	0	-	0	0	0	0	0	0
<p>Note:</p> <p>+: species recorded within the study area (no. of individuals from 1-10)</p> <p>++: species commonly recorded within the study area (no. of individuals from 11-20)</p> <p>+++: most abundant species recorded within the study area (no. of individuals from 21 and above)</p> <p>*: Inaccessible monitoring station due to unsafe condition (high water level with rapid current)</p> <p>Remarks:</p> <p>[1] According to the observation on the date of survey and the rain flow record in the Reporting Month (Reference: http://www.weather.gov.hk/wxinfo/pastwx/metob202007.htm), the survey result was observed affected by the weather condition.</p>												

Appendix H3. Freshwater Fish Species Recorded for Aquatic Fauna Monitoring

Common Name	Scientific Name	Conservation Status	Date: 29/7/2020									
			Weather: Thunderstorm, followed by cloudy weather									
			Methods: Kick-netting, sweep netting and direct observation									
			Abundance									
			MS_01	MS_02	MS_03	MS_04*	MS_05	MS_06	MS_07	MS_08	MS_09	MS_10
Predaceous chub	<i>Parazacco spilurus</i>	VU								+		
Mosquito Fish	<i>Gambusia affinis</i>							+	+	+		
Total No. of species			0	0	0	-	0	1	1	2	0	0
Total No. of Conservation Interest Species			0	0	0	-	0	0	0	1	0	0
<p>Note:</p> <p>VU: Vulnerable in China Red Data Book Status</p> <p>+: species recorded within the study area (no. of individuals from 1-10)</p> <p>++: species commonly recorded within the study area (no. of individuals from 11-20)</p> <p>+++ : most abundant species recorded within the study area (no. of individuals from 21 and above)</p> <p>*: Inaccessible monitoring station due to unsafe condition (high water level with rapid current)</p> <p>Remarks:</p> <p>[1] According to the observation on the date of survey and the rain flow record in the Reporting Month (Reference: http://www.weather.gov.hk/wxinfo/pastwx/metob202007.htm), the survey result was observed affected by the weather condition.</p>												

Appendix H4. Mammal Species Recorded for Ecologically Sensitive Habitat Monitoring

Common Name	Species Name	Chinese Name	Local Restrictedness	Conservation Status	Date: 17/7/2020	
					Relative Abundance	
					Transect Walk	
					T1	T6
Domestic Cat	<i>Felis catus</i>	野貓	Uncommon		+	
Domestic Dog	<i>Canis lupus familiaris</i>	野狗	Common		+	+
Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	短吻果蝠	Very Common	Cap. 170	+	+
Total No. of species					3	2
Total No. of Conservation Interest Species					1	1
Note: Cap. 170: Species under protection of Wild Animals Protection Ordinance (Cap. 170) +: species recorded within transect routes ++: species commonly recorded within transect routes +++: dominant species within transect routes						

Appendix H5. Herpetofauna Species Recorded for Ecologically Sensitive Habitat Monitoring

Common Name	Species Name	Chinese Name	Conservation Status	Date: 17/7/2020	
				Relative Abundance	
				Transect Walk	
				T1	T6
Amphibian					
Asian Common Toad	<i>Bufo melanostictus</i>	黑眶蟾蜍		+	+
Asiatic Painted Frog	<i>Kaloula pulchra pulchra</i>	花狹口蛙		+	
Greenhouse Frog	<i>Eleutherodactylus planirostris</i>	溫室蟾		+	
Gunther's Frog	<i>Hylarana guentheri</i>	沼蛙		+	
Reptile					
Bowring's Gecko	<i>Hemidactylus bowringii</i>	原尾蜥虎		+	
Chinese gecko	<i>Gekko chinensis</i>	中國壁虎		+	
Total No. of species				6	1
Total No. of Conservation Interest Species				0	0
Note: +: species recorded within transect routes ++: species commonly recorded within transect routes +++: dominant species within transect routes					

Appendix H6. Butterfly Species Recorded Ecologically Sensitive Habitat Monitoring

Common Name	Species Name	Chinese Name	Local Restrictedness	Conservation Status	Date: 17/7/2020	
					Relative Abundance	
					Transect Walk	
					T1	T6
Angled Castor	<i>Ariadne ariadne</i>	波蛺蝶	Common		+	
Blue Tiger	<i>Tirumala limniace</i>	青斑蝶	Common		+	
Blue-spotted Crow	<i>Euploea midamus</i>	藍點紫斑蝶	Very common		+	+
Common Bluebottle	<i>Graphium sarpedon</i>	青鳳蝶	Common		+	
Common Grass Yellow	<i>Eurema hecabe</i>	寬邊黃粉蝶	Very common		++	
Common Indian Crow	<i>Euploea core</i>	幻紫斑蝶	Common	#	+	
Common Mormon	<i>Papilio polytes</i>	玉帶鳳蝶	Very common		++	+
Five-dot Sergeant	<i>Parathyma sulphitia</i>	殘鏢線蛺蝶	Common		+	
Great Egg-fly	<i>Hypolimnas bolina</i>	幻紫斑蛺蝶	Common		+	+
Great Mormon	<i>Papilio memnon</i>	美鳳蝶	Very common		+	+
Great Orange Tip	<i>Hebomoia glaucippe</i>	鶴頂粉蝶	Common		+	
Indian Cabbage White	<i>Pieris canidia</i>	東方菜粉蝶	Very common		++	+
Lemon Emigrant	<i>Catopsilia pomona</i>	遷粉蝶	Common		+	
Metallic Cerulean	<i>Jamides alecto</i>	素雅灰蝶	Very rare		+	
Pale Grass Blue	<i>Pseudozizeeria maha</i>	酢漿灰蝶	Very common		++	
Red Ring Skirt	<i>Hestina assimilis</i>	黑脈蛺蝶	Common		+	
Red-base Jezebel	<i>Delias pasithoe</i>	報喜斑粉蝶	Very common		+	
Silver Streak Blue	<i>Iraota timoleon</i>	鐵木菜異灰蝶	Uncommon		+	
Southern Sullied Sailer	<i>Neptis clinia</i>	珂環蛺蝶	Common		+	

Appendix H6. Butterfly Species Recorded Ecologically Sensitive Habitat Monitoring

Common Name	Species Name	Chinese Name	Local Restrictedness	Conservation Status	Date: 17/7/2020	
					Relative Abundance	
					Transect Walk	
					T1	T6
Spangle	<i>Papilio protenor</i>	藍鳳蝶	Very common		++	+
Straight Five-ring	<i>Ypthima lisandra</i>	黎桑矍眼蝶	Common		+	+
White-edged Blue Baron	<i>Euthalia phemius</i>	尖翅翠蛺蝶	Common		+	
Yellow Rajah	<i>Charaxes marmax</i>	螯蛺蝶	Uncommon	LC	+	
Total No. of species					23	7
Total No. of Conservation Interest Species					1	0
<p>Note:</p> <p>LC: listed as Local Concern by Fellowes et al (2002)</p> <p>#: Least concern in IUCN Red List Status</p> <p>+: species recorded within transect routes</p> <p>++: species commonly recorded within transect routes</p> <p>+++: dominant species within transect routes</p>						

Appendix H7. Odonata Species Recorded for Ecologically Sensitive Habitat Monitoring

Common Name	Species Name	Chinese Name	Local Restrictedness	Conservation Status	Date: 17/7/2020		
					Relative Abundance		
					Transect Walk		
					T1	T6	
Asian Amberwing	<i>Brachythemis contaminata</i>	黃翅蜻	Abundant		+		
Common Blue Skimmer	<i>Orthetrum glaucum</i>	黑尾灰蜻	Abundant		+		
Common Red Skimmer	<i>Orthetrum pruinosum</i>	赤褐灰蜻	Abundant		+		
Crimson Darter	<i>Crocothemis servilia</i>	紅蜻	Abundant		+		
Crimson Dropwing	<i>Trithemis aurora</i>	曉褐蜻	Abundant		+		
Green Skimmer	<i>Orthetrum sabina</i>	狹腹灰蜻	Abundant		+		
Marsh Skimmer	<i>Orthetrum luzonicum</i>	呂宋灰蜻	Abundant		++		
Scarlet Basker	<i>Urothemis signata</i>	赤斑曲鈎脈蜻	Common	LC	+		
Variegated Flutterer	<i>Rhyothemis variegata</i>	斑麗翅蜻	Common		+		
Wandering Glider	<i>Pantala flavescens</i>	黃蜻	Abundant		++		
Total No. of species						10	0
Total No. of Conservation Interest Species						1	0
Note: LC: listed as Local Concern by Fellowes et al (2002) +: species recorded within transect routes ++: species commonly recorded within transect routes +++: dominant species within transect routes							

APPENDIX I
WEATHER CONDITION

APPENDIX I –**GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD**

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 Jul 2020	30.2	78	1.1
2 Jul 2020	30.2	79	9.3
3 Jul 2020	29.2	84	29.5
4 Jul 2020	29.8	80	8.3
5 Jul 2020	30	77	1.3
6 Jul 2020	30.1	76	4.1
7 Jul 2020	30.1	77	0.7
8 Jul 2020	30	79	0.6
9 Jul 2020	30.1	79	Trace
10 Jul 2020	30.3	75	-
11 Jul 2020	30.4	76	-
12 Jul 2020	30.4	75	-
13 Jul 2020	30.5	74	-
14 Jul 2020	30.6	75	-
15 Jul 2020	30.5	74	-

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
16 Jul 2020	30.4	76	2.4
17 Jul 2020	30.3	75	2.5
18 Jul 2020	30.4	75	2.2
19 Jul 2020	30.3	75	-
20 Jul 2020	29.9	77	3.1
21 Jul 2020	30.4	76	-
22 Jul 2020	30	79	2.5
23 Jul 2020	31	73	Trace
24 Jul 2020	30.8	74	-
25 Jul 2020	30.7	75	-
26 Jul 2020	30.8	74	Trace
27 Jul 2020	30.5	75	2.3
28 Jul 2020	30.8	73	3
29 Jul 2020	30.5	77	2.6
30 Jul 2020	30.2	75	13.3
31 Jul 2020	27.9	84	36.6

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

APPENDIX J
EVENT ACTION PLANS

Appendix J:**Table J-1: Event / Action Plan for Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the 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; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
2. Exceedance for two or more consecutive samples	Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements	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 and ER on the effectiveness of the proposed remedial measures; and 5. Supervise	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the

	<p>to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.</p>	<p>Implementation of remedial measures.</p>		<p>agreed proposals; and 4. Amend proposal if appropriate.</p>
<p>LIMIT LEVEL</p>				
<p>1.Exceedance for one sample</p>	<p>Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor’s remedial actions and keep IEC, EPD and ER informed of the results.</p>	<p>1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial</p>	<p>1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.</p>	<p>1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.</p>

		measures.		
2.Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IEC, 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 possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor 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; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor’s remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;and 5. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented;and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer’s Representative

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

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify IEC, ER and Contractor;	1. Review the monitoring data submitted by the	1. Confirm receipt of notification of failure	1. Submit noise mitigation proposals

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss jointly with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	ET; 2. Review the construction methods and proposed remedial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient; 3. Supervise the implementation of remedial measures.	in writing; 2. Notify the Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	to ER and copy to the IEC and ET; 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER and Contractor; 3. Repeat measurements to confirm findings; 4. Increase the monitoring frequency; 5. Carry out analysis of Contractor's working procedures with the ER and Contractor to determine possible mitigation to be implemented; 6. Inform IEC, ER and Contractor the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC	1. Discuss amongst the ER, ET, and Contractor on the potential remedial actions; 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor; 3. Require the Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the ER and copy to the ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problems still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	informed of the results; 8. If exceedance stops, cease additional monitoring.		abated.	abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer’s Representative

Table J-3: Event / Action Plan for Water Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Inform IEC, Contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor’s working methods; and 3. Discuss remedial measures with IEC and Contractor and ER.	1. Discuss with ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the Effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the Implemented mitigation measures; 2. Make agreement on the remedial measures to be implemented; 3. Supervise the implementation of agreed remedial measures.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the noncompliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with ER, ET and IEC and purpose remedial measures to IEC and ER; and 7. Implement the agreed mitigation measures.
Action level being exceeded	1. Repeat in-situ measurement on next day of exceedance to confirm	1. Discuss with ET, Contractor and ER on the implemented	1. Discuss with ET, IEC and Contractor on the proposed mitigation	1. Identify source(s) of impact; 2. Inform the ER and

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
by more than one consecutive sampling days	<p>findings;</p> <p>2. Inform IEC, Contractor and ER;</p> <p>3. Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>4. Discuss remedial measures with IEC, contractor and ER</p> <p>5. Ensure remedial measures are implemented</p>	<p>mitigation measures;</p> <p>2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly;</p> <p>and</p> <p>3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</p>	<p>measures;</p> <p>2. Make agreement on the remedial measures to be implemented;</p> <p>and</p> <p>3. Discuss with ET,IEC and Contractor on the effectiveness of the implemented remedial measures.</p>	<p>confirm notification of the noncompliance in writing;</p> <p>3. Rectify unacceptable practice;</p> <p>4. Check all plant and equipment and consider changes of working methods;</p> <p>5. Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification;</p> <p>and</p> <p>6. Implement the agreed mitigation measures.</p>
Limit level being exceeded by one sampling day	<p>1. Repeat measurement on next day of exceedance to confirm findings;</p> <p>2. Inform IEC, Contractor and ER;</p> <p>3. Rectify unacceptable practice;</p> <p>4. Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>5. Consider changes of working</p>	<p>1. Discuss with ET, Contractor and ER on the implemented mitigation measures;</p> <p>2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly;</p> <p>and</p> <p>3. Review and advise the ET</p>	<p>1. Discuss with ET, IEC and Contractor on the implemented remedial measures;</p> <p>2. Request Contractor to critically review the working methods;</p> <p>3. Make agreement on the remedial measures to be implemented;</p> <p>and</p>	<p>1. Identify source(s) of impact;</p> <p>2. Inform the ER and confirm notification of the noncompliance in writing;</p> <p>3. Rectify unacceptable practice;</p> <p>4. Check all plant and equipment and consider changes of</p>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	<p>methods;</p> <p>6. Discuss mitigation measures with IEC, ER and Contractor;</p> <p>and</p> <p>7. Ensure the agreed remedial measures are implemented</p>	<p>and ER on the effectiveness of the implemented mitigation measures.</p>	<p>4. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.</p>	<p>Working methods;</p> <p>5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification;</p> <p>and</p> <p>6. Implement the agreed remedial measures.</p>
<p>Limit level being exceeded by more than one consecutive sampling days</p>	<p>1. Inform IEC, contractor and ER;</p> <p>2. Check monitoring data, all plant, equipment and Contractor's working methods;</p> <p>3. Discuss mitigation measures with IEC, ER and Contractor;</p> <p>and</p> <p>4. Ensure mitigation measures are implemented; and</p> <p>5. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days</p>	<p>1. Discuss with ET, Contractor and ER on the implemented mitigation measures;</p> <p>2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly;</p> <p>and</p> <p>3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</p>	<p>1. Discuss with ET, IEC and Contractor on the implemented remedial measures;</p> <p>2. Request Contractor to critically review the working methods;</p> <p>3. Make agreement on the remedial measures to be implemented;</p> <p>4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures;</p> <p>and</p> <p>5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.</p>	<p>1. Identify source(s) of impact;</p> <p>2. Inform the ER and confirm notification of the noncompliance in writing;</p> <p>3. Rectify Unacceptable practice;</p> <p>4. Check all plant and equipment and consider changes of working methods;</p> <p>5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification;</p> <p>and</p> <p>6. Implement the agreed</p>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
				remedial measures. 7. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer’s Representative

Table J-4: Actions in the event of LFG being detected

Parameter	Monitoring Results	Actions
O ₂	<19% v/v	Increase underground ventilation to restore O ₂ to >19% v/v
	<18% v/v	Stop works, evacuate all personnel, prohibit entry, and increase ventilation to restore O ₂ level to >19%
CH ₄	>10% LEL	Prohibit hot works, increase ventilation to restore CH ₄ to <10% LEL
	>20% LEL	Stop works, evacuate all personnel, increase ventilation further to restore CH ₄ to <10% LEL
CO ₂	>0.5% v/v	Increase ventilation to restore C O ₂ to <0.5% v/v
	>1.5% v/v	Stop works, evacuate all personnel, increase ventilation further to restore CO ₂ to <0.5%

Note: Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or another appropriately qualified person. As a minimum these should encompass those actions specified in the above table.

Table J-5: Event / Action Plan for Ambient Arsenic Monitoring

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the 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; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate
2. Exceedance	1. Identify source, investigate	1. Check monitoring	1. Confirm receipt	1. Submit proposals for

<p>for two or more consecutive samples</p>	<p>the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.</p>	<p>data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.</p>	<p>of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.</p>	<p>remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 2. Implement the agreed proposals; and 3. Amend proposal if appropriate.</p>
<p>LIMIT LEVEL</p>				
<p>1.Exceedance for one sample</p>	<p>1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily;</p>	<p>1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the</p>	<p>1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.</p>	<p>1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3</p>

	5. Assess effectiveness of Contractor’s remedial actions and keep IEC, EPD and ER informed of the results.	proposed remedial measures; 5. Supervise implementation of remedial measures.		working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	1. Notify IEC, 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 possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor 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; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor’s remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer’s Representative

Table J-6.1 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers

Action Level	Response	Limit Level	Response
Construction Phase			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.

* Whether numbers are significant will depend on species and season and should be determined following collection and evaluation of Baseline survey data.

Table J-6.2 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

Action Level	Response	Limit Level	Response
Construction Phase			
Reduction in species	Investigate cause and if	Reduction in taxa diversity	Investigate cause and if

diversity such that Action Level response is triggered.	cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	such that Limit Level response is triggered.	caused identified as related to Project instigate remedial action.
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* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

Table J-6.3 Action and Limit Levels and Responses to Evidence of Declines in non-aquatic Fauna

Action Level	Response	Limit Level	Response
Construction Phase			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.

* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

**APPENDIX K
SUMMARY OF EXCEEDANCE**

Appendix K: 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	
		Action Level	Limit Level	Action Level	Limit Level
Air Quality	1-hr TSP	0	0	0	0
	24-hr TSP	0	0	0	0
	24-hr RSP (Ambient Arsenic)	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	
		Action Level	Limit Level	Action Level	Limit Level
Noise	$L_{eq(30 \text{ min.})}$ dB(A)	0	0	0	0

(C) Exceedance Report for Landfill Gas

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Landfill Gas	O ₂ (% v/v) CH ₄ (% LEL) CO ₂ (%v/v)	0	0	0	0

APPENDIX L
SITE AUDIT SUMMARY

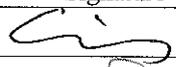
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work

Weekly Site Inspection Record Summary

Checklist Reference Number	200709
Date	9 July 2020 (Thursday)
Time	14:00-15:40

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
200709-R01	• The exposed worksite and haul road should be watered regularly.	B1
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
200709-R02	• Vehicles are observed not cleared of earth, mud before leaving the Portion 4.	D11
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landfill Gas Hazard	
	• No environmental deficiency was identified during site inspection.	
	H. Cultural Heritage	
	• No environmental deficiency was identified during site inspection.	
	I. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	J. Ecology	
	• No environmental deficiency was identified during site inspection.	
	K. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	L. Others	
	• Follow-up on previous audit section (Ref. No.:200630), all identified environmental deficiency was observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Kimmy Lui		13 July 2020
Checked by	Dr. Priscilla Choy		13 July 2020

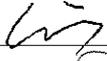
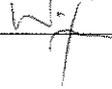
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work

Weekly Site Inspection Record Summary

Checklist Reference Number	200716
Date	16 July 2020 (Thursday)
Time	14:00-15:20

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
200716-R03	• The exposed worksites should be watered regularly.	B1
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200716-R02	• Chemical containers should be stored, labelled properly in designated area.	E2i
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landfill Gas Hazard	
	• No environmental deficiency was identified during site inspection.	
	H. Cultural Heritage	
	• No environmental deficiency was identified during site inspection.	
	I. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	J. Ecology	
200716-R01	• Hoarding erection is still processing, hoarding will be checked once in place.	J1
	K. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	L. Others	
	• Follow-up on previous audit section (Ref. No.:200709), all identified environmental deficiency was observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Kimmy Lui		16 July 2020
Checked by	Dr. Priscilla Choy		16 July 2020

Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work

Weekly Site Inspection Record Summary

Checklist Reference Number	200721
Date	21 July 2020 (Tuesday)
Time	9:30-11:20

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200721-R02	• Chemical containers should be stored, labelled properly in designated area.	E2i
200721-R03	• Oil is observed leaked from drip tray/equipment. Oil in drip tray should be cleared regularly.	E13
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landfill Gas Hazard	
	• No environmental deficiency was identified during site inspection.	
	H. Cultural Heritage	
	• No environmental deficiency was identified during site inspection.	
	I. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	J. Ecology	
200721-R01	• Hoarding erection is still processing, hoarding will be kept checking.	J1
	K. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	L. Others	
	• Follow-up on previous audit section (Ref. No.:200716), item 200716-R01 was remarked as 200721-R01. Follow-up action is needed to be reviewed.	

	Name	Signature	Date
Recorded by	Kimmy Lui		21 July 2020
Checked by	Dr. Priscilla Choy		21 July 2020

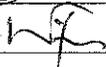
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work

Weekly Site Inspection Record Summary

Checklist Reference Number	200728
Date	28 July 2020 (Tuesday)
Time	9:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
200728-R01	• Contractor was reminded to clear the ponding water at Portion 6.	D12iv
	E. Waste / Chemical Management	
200728-R02	• Contractor was reminded to disposed general refuse regularly to avoid accumulation at Portion 6.	E1
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landfill Gas Hazard	
	• No environmental deficiency was identified during site inspection.	
	H. Cultural Heritage	
	• No environmental deficiency was identified during site inspection.	
	I. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	J. Ecology	
200728-R03	• Hoarding erection is still processing, hoarding will be kept checking.	J1
	K. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	L. Others	
	• Follow-up on previous audit section (Ref. No.:200721), item 200721-R01 was remarked as 200728-R03. Follow-up action is needed to be reviewed.	

	Name	Signature	Date
Recorded by	Kenneth Leung		30 July 2020
Checked by	Dr. Priscilla Choy		30 July 2020

Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park

Weekly Site Inspection Record Summary

Checklist Reference Number	200703
Date	03 July 2020 (Friday)
Time	10:00-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200703-R02	• Chemical waste should be disposed of properly in designated area.	E2ii
	F. Landscape & Visual	
200703-R01	• Retained tree should be carefully protected.	F1
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• No environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Kimmy Lui		3 July 2020
Checked by	Dr. Priscilla Choy		3 July 2020

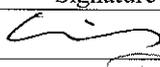
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park

Weekly Site Inspection Record Summary

Checklist Reference Number	200710
Date	10 July 2020 (Friday)
Time	10:00-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
200710-R01	• Sandbags should be renewed to prevent surface runoff extending beyond the construction site.	D18
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• No environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Kimmy Lui		13 July 2020
Checked by	Dr. Priscilla Choy		13 July 2020

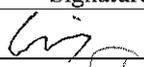
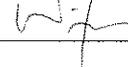
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park

Weekly Site Inspection Record Summary

Checklist Reference Number	200717
Date	17 July 2020 (Friday)
Time	10:00-11:15

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
200717-R03	• Stockpile of dusty materials should be covered by impervious sheeting or sprayed with water.	B2
	C. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
200717-R01	• Sandbags should be renewed to prevent surface runoff extending beyond the construction site.	D18
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Landscape & Visual	
200717-R02	• To keep checking the retained trees on site where site clearance works have been started and protect them carefully.	F1
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:200710), item 200710-R01 was remarked as 200717-R01. Follow-up action is needed to be reviewed.	

	Name	Signature	Date
Recorded by	Kimmy Lui		17 July 2020
Checked by	Dr. Priscilla Choy		17 July 2020

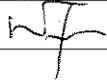
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park

Weekly Site Inspection Record Summary

Checklist Reference Number	200721
Date	21 July 2020 (Tuesday)
Time	14:00-14:25

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
200721-R03	• Stockpile of dusty materials should be covered by impervious sheeting or sprayed with water.	B2
	C. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
200721-R01	• Sandbags should be renewed to prevent surface runoff extending beyond the construction site.	D18
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Landscape & Visual	
200721-R02	• To keep checking the retained trees on site where site clearance works have been started and protect them carefully.	F1
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:200717), item 200717-R01, 200717-R02 and 200717-R03 were remarked as 200721-R01, 200721-R02 and 200721-R03. Follow-up action is needed to be reviewed.	

	Name	Signature	Date
Recorded by	Kimmy Lui		21 July 2020
Checked by	Dr. Priscilla Choy		21 July 2020

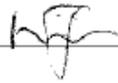
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park

Weekly Site Inspection Record Summary

Checklist Reference Number	200731
Date	31 July 2020 (Friday)
Time	10:00-10:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Air Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>C. Construction Noise Impact</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>D. Water Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>F. Landscape & Visual</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>G. Ecology</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>H. Permits/Licences</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>I. Others</i>	
	• Follow-up on previous audit section (Ref. No.:200721), all identified environmental deficiency was observed improved/rectified by the Contractor.	

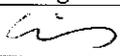
	Name	Signature	Date
Recorded by	Kimmy Lui		31 July 2020
Checked by	Dr. Priscilla Choy		31 July 2020

Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas
ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products

Weekly Site Inspection Record Summary

Checklist Reference Number	200702
Date	2 July 2020 (Thursday)
Time	10:00-10:35

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
200702-R01	• Rubbish in U-channel should be cleared and disposed of properly.	D17
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.: 200626), all identified environmental deficiency was observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Kimmy Lui		2 July 2020
Checked by	Dr. Priscilla Choy		2 July 2020

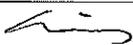
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/06 – Fanling North New Development Area, Phase 1: Re-provisioning of North District Temporary Wholesale Market for Agricultural Products

Weekly Site Inspection Record Summary

Checklist Reference Number	200709
Date	9 July 2020 (Thursday)
Time	10:00-10:40

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Air Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>C. Noise</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>D. Water Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>F. Landscape and Visual</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>G. Ecology</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>H. Permits/Licences</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>I. Others</i>	
	• Follow-up on previous audit section (Ref. No.: 200702), all identified environmental deficiency was observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Kimmy Lui		13 July 2020
Checked by	Dr. Priscilla Choy		13 July 2020

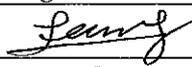
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products

Weekly Site Inspection Record Summary

Checklist Reference Number	200715
Date	15 July 2020 (Wednesday)
Time	14:00-14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.: 200709), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Kenneth Leung		16 July 2020
Checked by	Dr. Priscilla Choy		16 July 2020

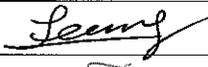
Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/06 – Fanling North New Development Area, Phase 1: Re-provisioning of North District Temporary Wholesale Market for Agricultural Products

Weekly Site Inspection Record Summary

Checklist Reference Number	200723
Date	23 July 2020 (Thursday)
Time	10:00-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
200723-R02	• Contractor was reminded to clear the dusty material on road surface.	B3
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200723-O01	• Chemical should be stored at designated area or with drip tray to prevent chemical leakage.	E3i
	F. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.: 200715), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Kenneth Leung		23 July 2020
Checked by	Dr. Priscilla Choy		23 July 2020

Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas

ND/2019/06 – Fanling North New Development Area, Phase 1: Re-provisioning of North District Temporary Wholesale Market for Agricultural Products

Weekly Site Inspection Record Summary

Checklist Reference Number	200730
Date	30 July 2020 (Thursday)
Time	10:00-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
200730-R01	• Stagnant water in drip tray should be cleared properly.	E14
	F. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	G. Ecology	
	• No environmental deficiency was identified during site inspection.	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.: 200723), all identified environmental deficiency was observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ella Ho		31 July 2020
Checked by	Dr. Priscilla Choy		31 July 2020

**APPENDIX M
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
Construction Dust Impact							
S3.8	D1	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 92.1%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.7 L/m ² to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	*
S3.8	D2	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	*
S3.8	D3	<p>Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction Phase</p> <ul style="list-style-type: none"> • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high 	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	* * ^ *

		<p>pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</p> <ul style="list-style-type: none"> • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period. • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally 						^
								^
								^
								^
								^
								N/A
								N/A
								N/A
								N/A

		<p>enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and</p> <ul style="list-style-type: none"> Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. 					N/A
S3.8	D4	<p>Implement regular dust monitoring under EM&A programme during the construction stage.</p>	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction phase	^
Noise Impact (Construction Phase)							
S4.9	N1	<p>Implement the following good site management practices:</p> <ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; Mobile plant should be sited as far away from NSRs as possible and practicable; Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	Control construction airborne noise	Contractor	All construction sites	Construction phase	^ ^ ^ ^ ^
S4.9	N2	<p>Install temporary site hoarding (approx 2.4m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.</p>	Reduce the construction noise levels at low-level zone of NSRs through partial	Contractor	All construction sites where practicable	Construction phase	^

			screening.				
S4.9	N3	Install movable noise barriers and full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N4	Use of "Quiet" Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction phase	N/A
S4.9	N5	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N6	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring stations	Construction phase	^

Water Quality Impact (Construction Phase)

S5.7	W1	<p><u>Construction Runoff and Site Drainage</u> In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures should be provided and the Storm Water Pollution Control Plan is given below. where appropriate, should include the following:</p> <p>Stormwater Pollution Control Plan</p> <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal 	Control construction runoff	Contractor	All construction sites	Construction phase	*
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		<p>facilities. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipments in order to avoid or minimize polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m³ capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped. • 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 silt/sediment trap. The silt/sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other 					<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p>
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		<p>means.</p> <ul style="list-style-type: none"> • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events. • All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately 					<p>^</p> <p>^</p> <p>*</p> <p>^</p> <p>^</p> <p>^</p>
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		<p>designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.</p> <ul style="list-style-type: none"> • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. • Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the meander, wetlands and fish ponds. 					N/A
S5.7	W2	<p><u>Stream Diversion</u></p> <ul style="list-style-type: none"> • In order to prevent sediment transport during riverbank works, deployment of silt curtain should be implemented, 	Minimize water quality impact due to stream diversion	Contractor	All streams that required diversion	Construction phase	N/A

		<p>especially when construction works encroach or occur in close distance to water body. It is recommended to carry out all the riverbank works and diversion works within a cofferdam or diaphragm wall and the work areas on riverbed should be kept in dry condition.</p>					
S5.7	W3	<p><u>Groundwater from Contaminated Area</u></p> <ul style="list-style-type: none"> For other inaccessible sites, site investigation is required when they are resumed and handed over to the Project Proponent to identify if contaminated groundwater is found. If the investigation results indicated that the groundwater to be generated from construction works would be contaminated, the contaminated groundwater should be either discharged into recharged wells, or properly treated in compliance with the requirements of Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters. If recharged well method were used, the groundwater quality in the recharged well should not be affected by recharging operation, i.e. the pollution levels of the recharged groundwater should not be higher than that in the recharging wells. If treatment and discharge method were used, the design of wastewater treatment facilities, such as active carbon and petrol interceptor, should be submitted to the EPD and a discharge license should be obtained under the 	<p>Minimize water quality impact due to potential groundwater from contaminated area</p>	<p>Contractor</p>	<p>All identified groundwater-contaminated areas</p>	<p>Construction phase</p>	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>

		WPCO through the Regional Offices of EPD.					
S5.7	W4	<p><u>Sewage from Workforce</u></p> <p>Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p> <p>Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measures.</p>	Handling of site sewage	Contractor	All construction sites	Construction Phase	^
Waste Management (Construction Waste)							
S7.6	WM1	<p><u>Waste Reduction Measures</u></p> <p>Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction:</p> <ul style="list-style-type: none"> • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; 	Reduce waste generation	Contractor	All construction sites where practicable	Prior to the commencement of construction	^

		<ul style="list-style-type: none"> proper storage and site practices to minimize the potential for damage and contamination of construction materials; plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc); provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. 					<p>^</p> <p>^</p> <p>N/A</p> <p>^</p>
S7.6	WM2	Prepare Waste Management Plan and submit to the Engineer for approval	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	N/A
S7.6	WM3	<p><u>Good Site Practice</u></p> <p>The following good site practices are recommended throughout the construction activities:</p> <ul style="list-style-type: none"> Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; Provision of sufficient waste disposal points and regular 	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>^</p>

		<p>collection for disposal;</p> <ul style="list-style-type: none"> • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; 					<p>^</p> <p>^</p>
S7.6	WM4	<p><u>Storage of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> • Waste such as soil should be handled and stored well to ensure secure containment; • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • Different locations should be designated to stockpile each material to enhance reuse; 	Minimize waste impacts from storage	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>^</p>
S7.6	WM5	<p><u>Collection and Transportation of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation; 	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>^</p>

		<ul style="list-style-type: none"> Obtain relevant waste disposal permits from the appropriate authorities; and Disposal of waste should be done at licensed waste disposal facilities. 					^
S7.6	WM6	<p><u>Excavated and C&D Material</u></p> <p>Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at Public Fill Reception Facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials:</p> <ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling; Carry out on-site sorting; Deliver surplus artificial hard materials to Tuen Mun Area 38 recycling plant or its successor for recycling into subsequent useful products; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and Implement a recording system for the amount of waste generated, recycled and disposed of for checking; <p>Standard formwork should be used as far as practicable in order to minimize the arising of C&D waste. The use of more durable formwork (e.g. metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling. The purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage.</p>	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>^</p> <p>N/A</p>

		Wheel wash facilities have to be provided at the site entrance before the trucks leaving the works area.					^
S7.6	WM7	<p><u>Contaminated Soil</u></p> <p>As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.</p>	Remediate contaminated soil	Contractor	All construction sites where applicable	Construction phase	^
S7.6	WM8	<p><u>Chemical Waste</u></p> <p>If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	*
S7.6	WM9	<p><u>General Waste</u></p> <ul style="list-style-type: none"> • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	N/A
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		<p>provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean.</p> <ul style="list-style-type: none"> • A reputable waste collector should be employed to remove general refuse on a daily basis. 					N/A
S7.6	WM10	<p><u>Sewage</u></p> <ul style="list-style-type: none"> • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts. 	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	N/A
S7.6	WM11	Topsoil reuse – Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. This is considered a general measure for good site practice.	Good site practice	Contractor/ Project Proponent	Onsite	Construction phase	N/A
Land Contamination							
S 8.4	LC2	Detailed site investigation (SI) for all inaccessible potentially contaminated sites in 2 NDAs	Verify the land contamination potential before the commencement of construction	Project Proponent Detailed Design Consultant Contractor	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	After the land is resumed and handed over to the Project Proponent	*

App M - IMPLEMENTATION SCHEDULE AND RECOMMENDED MITIGATION MEASURES

July 2020

S 8.5	LC3	Preparation and submission of supplementary Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) for all inaccessible potentially contaminated sites in 2 NDAs to EPD for agreement if land contamination is confirmed	Present the findings of SI and evaluate the potential environmental and human health impacts Recommend appropriate mitigation measures for the contaminated soil and groundwater identified in the assessment if remediation is required	Project Proponent/ Detailed Design Consultant	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	Prior to the commencement of any proposed construction works if land contamination is confirmed and remediation is required	*
S 8.5	LC4	Preparation and submission of Remediation Report to EPD for agreement	Demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed supplementary CAR and RAP	Project Proponent/ Detailed Design Consultant	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	Prior to the commencement of any proposed construction works if land contamination is confirmed and remediation is required	N/A
S 8.6	LC5	Re-appraisal of surveyed sites (if they become part of the land requirement for NDA development) that were not identified as potentially contaminated or could not be accessed for visual inspection during the site survey	Verify the land contamination potential due to potential change of land uses before the commencement of construction	Project Proponent/ Detailed Design Consultant	All surveyed sites (if they become part of the land requirement for NDA development (that were not	After the land is resumed and handed over to the Project Proponent.	N/A

					identified as potentially contaminated or could not be accessed for visual inspection during the site survey as listed in the CAP		
S 8.7.2 and Appendix 8.4	LC6	Treatment of arsenic-containing soil “Solidification/Stabilization” (S/S) treatment method was proposed for the treatment of arsenic-containing soil. Toxicity Characteristic Leaching Procedure (TCLP) test should be undertaken after S/S in order to ensure that the contaminant will not leach to the environment. Unconfined Compressive Strength (UCS) test should be conducted, and not less than 1MPa should be met prior to the backfilling or stockpiled for future reuse within the study area.	To treat the arsenic containing soil	Government Developer/ Contractor	KTN NDA	Prior to commencement of construction works within KTN NDA	N/A
S 8.7.2 and Appendix 8.4	LC7	Excavation and Transportation <ul style="list-style-type: none"> Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table; Excavation should be carried out during dry season as far as possible to minimize runoff from excavated soils; Stockpiling site(s) should be lined with impermeable sheeting 	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	KTN NDA	Prior to commencement of construction works within KTN NDA	N/A

		<p>and banded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season.</p> <p>Watering should be avoided on stockpiles of soil to minimize runoff;</p> <ul style="list-style-type: none"> • Supply of suitable backfill material after excavation, if require; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying excavated materials should be enforced; and Vehicle wheel washing facilities at the site's exit points should be established and used. 					
S 8.7.2 and Appendix 8.4	LC8	<p>Solidification/Stabilization</p> <ul style="list-style-type: none"> • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system; • Mixing process and other associated material handling activities should be properly scheduled to minimize potential noise impact and dust emission; • The mixing facilities should be sited as far apart as practicable from the nearby noise sensitive receivers; • Mixing of soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimize the potential for leaching; • Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area; 	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	KTN NDA	The course of treatment	N/A

		<ul style="list-style-type: none"> If stockpile of treated soil is required, the stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or site run-off during rainy season; and <p>If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials.</p>					
S 8.7.2 and Appendix 8.4	LC9	<p><u>Safety Measures</u></p> <ul style="list-style-type: none"> Set up a list of safety measures for site workers; Provide written information and training on safety for site workers; Keep a log-book and plan showing the zones requiring treatment and clean zones; Maintain a hygienic working environment; Avoid dust generation; Provide face and respiratory protection gear to site workers if necessary; Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers if necessary; Provide first aid training and materials to site worker; Bulk earth moving equipment should be utilized as much as possible to minimize worker <p>Eating, drinking and smoking should not be allowed in the excavation areas and treatment area to avoid inadvertent ingestion of arsenic containing soil.</p>	To minimize the potential adverse effects on health and safety of construction workers	Contractor	KTN NDA	The course of treatment	N/A
Landfill Gas Hazard							
S10.6	LFG1	<ul style="list-style-type: none"> Underground rooms or void should be avoided as far as 	To minimize the risk of LFG	Government /	Buildings within	Detailed	N/A

		<p>practicable in the proposed developments within the Consultation Zone and should be avoided totally in the proposed developments within the MTLL.</p> <ul style="list-style-type: none"> • Buildings or structures within the MTLL should be at ground level with raised floor slabs which are less prone to gas ingress. • For the high risk category, the use of active control of gas, including barriers and detection systems are recommended. These measures include the control of gas by mechanical means e.g. ventilation of spaces with air to dilute gas, or extraction of gas using fans or blowers. • For the low risk category, the provision of barriers to the movement of gas is recommended. Measures recommended include the use of membranes in floors or walls, or in trenches, coupled with high permeability vents such as nofines gravel in trenches or voids/permeable layers below structures. • The need and practicality of incorporating such measures should be reviewed in the detailed Qualitative LFG Hazards Assessment (QLFGHA) during the detailed design stage for developments within the 250m Consultation Zone and within MTLL. Recommendations on the detailed precautionary and protection measures to be adopted should be given in the QLFGHA. • The design and construction method of the proposed development within MTLL (i.e. the proposed recreational area in site E1-1) should be provided to EPD for 	<p>hazards to occupants within MTLL and its 250m Consultation Zone</p>	<p>Developer/ Detailed Design Consultant within MTLL and its 250m Consultation Zone</p>	<p>MTLL and its 250m Consultation Zone</p>	<p>design phase</p>	
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		<p>agreement in the design stage to ensure compatibility with the landfill restoration facilities and aftercare works within MTLL, such that these facilities and works will not be affected by the construction or operation of the proposed development.</p>					
S10.6	LFG2	<ul style="list-style-type: none"> • During all works, safety procedures should be implemented to minimize the risks of fires and explosions, asphyxiation of workers (especially in confined space) and toxicity effects resulting from contact with contaminated soils and groundwater. • Safety officers, specifically trained with regard to LFG and leachate related hazards and the appropriate actions to take in adverse circumstances, should be present on all worksites throughout the works. • All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it. • Those staff who work in, or have responsibility for “at risk” areas, including bore pilling and excavation works, should receive appropriate training on working in areas susceptible to LFG. • Enhanced personal hygiene practices including washing thoroughly after working and eating only in “clean” areas should be adopted where contact may have been made with any groundwater which is thought to be contaminated 	<p>To minimize the risk of LFG hazards to the staff and visitors within MTLL and its 250m Consultation Zone</p>	<p>Contractor</p>	<p>Construction sites within MTLL and its 250m Consultation Zone</p>	<p>Construction phase</p>	<p>N/A</p>

		<p>with leachate.</p> <ul style="list-style-type: none"> • Any offices / quarters set up on site should take precautions against LFG ingress, such as being raised off the ground. Other storage premises, e.g. shipping containers, where this is not possible should be well ventilated prior to entry. • Adequate precautions to prevent the accumulation of LFG under site buildings and within storage shed should be taken by raising buildings off the ground where appropriate and “airing” storage containers prior to entry by personnel and ensuring adequate ventilation at all times. • Smoking and naked flames should be prohibited within confined spaces. “No Smoking” and “No Naked Flame” notices in Chinese and English should be posted prominently around the construction site. Safety notices should be posted warning of the potential hazards. • Welding, flame-cutting or other hot works may only be carried out in confined spaces when controlled by a “permit to work” procedure, properly authorized by the Safety Officer. The permit to work procedure should set down clearly the requirements for continuous monitoring of methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure should also require the presence of an appropriately qualified person who shall be responsible for reviewing the gas measurements as they are made, and 					
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		<p>who shall have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise should be permitted to carry out hot works in confined areas.</p> <ul style="list-style-type: none"> • During the construction works, adequate fire extinguishers and breathing apparatus sets should be made available on site and appropriate training given in their use. • Ongoing gas monitoring should be considered for offices, stores etc set up on site. 					
S10.6	LFG3	<p>Utility Companies</p> <ul style="list-style-type: none"> • The developers should make the utility companies aware of the location and features of the site within the Consultation Zone during the respective detailed design stage as part of the QLFGHA. • The utilities companies should have a responsibility to train and ensure their staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms. • Should utility installation be required in site E1-1, the developers should make the utility companies aware of the potential constraints imposed by the landfill restoration facilities and aftercare works to ensure these facilities and works will remain unaffected. Appropriate precautionary measures against landfill gas should also be taken should utility installation be required within the MTLL. 	<p>To minimize the risk of LFG hazards to the occupants, maintenance personnel, visitors and other users within MTLL and its 250m Consultation Zone</p>	<p>Government / Developer within MTLL and its 250m Consultation Zone</p>	<p>Buildings within MTLL and its 250m Consultation Zone</p>	<p>Operation phase</p>	<p>N/A</p>

		<p>Building Management</p> <ul style="list-style-type: none"> • The management committee of the building estate will hold a special responsibility to ensure that the occupants of the building, its staff and maintenance workers are protected from LFG and that visitors to the site are also made aware as to the dangers and the precautions required to be taken. • Of primary importance to satisfactorily upholding this responsibility will be to ensure that strict procedures for maintaining control over all temporary and /or permanent works proposed at the site are reviewed with regard to the LFG hazard. This needs to be accompanied by a comprehensive contingency plan in case of incidents, including liaison with EPD officers, Fire Services Department, Landfill Restoration Contractors and others, as necessary. • All construction and maintenance (including utilities) personnel working at the site should be made aware of the hazards of LFG and its possible presence on site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on LFG hazards and the designs and procedural means by which these hazards are being minimized on site. In addition, entry to confined spaces such as refuse/store rooms, drainage manholes etc. should be preceded by a period of “airing” the space by opening the door widely allowing fresh air to enter. Where 					
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		<p>appropriate, monitoring of gas should also precede entry.</p> <ul style="list-style-type: none"> • Any proposed modifications or additions to the building structure should be subject to a further assessment of LFG hazard, particularly in areas where a gas membrane has been installed. Any penetrations of the membrane must be repaired as soon as possible after detection or works completion using similar products. • The building management company should also make arrangement with Landfill Restoration Contractor so that they are advised of all situations which may potentially threaten the safety of the building occupants resulting from any accidents or failures at the landfill site. The building management company should also have available suitable gas monitoring equipment for any ad hoc investigations necessary relating to LFG and be in a position to undertake any future routine monitoring of gas which may be considered necessary soloing completion of the defects correction period. • To ensure that all the above protection and precautionary measures and issues pertaining to LFG are properly and consistently addressed by future users and owners of the site, it is recommended that a comprehensive LFG hazard management system be developed by the owner of the building or its property management agency. The system should be developed by the developers of the sites as part of the QLFCHA before the occupation of the building and implemented during its operational phase. 					
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Cultural Heritage (Pre-construction Phase)							
S11.6.1	CH1	<p><u>Undertaking Further Archaeological Survey to Cover the Outstanding Areas</u></p> <p>Further archaeological surveys to cover the outstanding areas of the not-yet-surveyed-area with medium archaeological potential located in the areas with proposed development as presented in Figure 11.9 should be implemented after land resumption to confirm and verify the findings of the EIA. The survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance. It should be noted that the scope of further archaeological survey is based on the current proposed alignment. Any additional works areas which have not been covered by the current archaeological impact assessment should be covered as soon as possible. Subject to the findings of the archaeological survey to be conducted after land resumption, additional mitigation measures would be designed and implemented before the commencement of construction works to mitigate the adverse impact.</p>	To confirm and verify the findings of the EIA	Project Proponent/ Contractor/ Qualified Archaeologist	In the not-yet-surveyed-areas with medium archaeological potential located in the areas within Areas D1-11, A3-5, A3-6, B1-1, and B1-7,	After land resumption but before construction	N/A
S11.6.1	CH2	<p><u>Undertaking Survey-cum-Rescue Excavation</u></p> <p>A Survey-cum-Rescue Excavation should be conducted after land resumption and before the commencement of construction works to define the precise archaeological deposits extent and to preserve the archaeological resources by record. The excavation should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should</p>	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	In KTN NDA, for Site 3 and In FLN NDA for Site 5.	After land resumption but before construction commencement of the zone	N/A

		obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.					
S11.6.1	CH3	<p><u>Undertaking Preservation in-situ for Site 7</u></p> <p>Preservation in-situ of the cultivation deposits in Site 7 is proposed. If disturbance to the site by the design of the Central Park is unavoidable, further archaeological survey should be conducted after land resumption prior to the pre-construction stage to assess the feasibility to incorporate Site 7 into the design of the development plan of the proposed zone. Appropriate followup actions, including preservation of the significant archaeological deposits in-situ in the Central Park, would then be considered with the consent of AMO.</p> <p>The recommended mitigation measure of preservation in-situ with further archaeological survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.</p>	To preserve the archaeological resources as far as possible.	Project Proponent/ Contractor/ Qualified Archaeologist	Site 7 in FLN NDA	After land resumption prior to preconstruction stage of the proposed Central Park (Area C2-8, Zoning O)	N/A
S11.6.1	CH4	<p><u>Undertaking Induction Training</u></p> <p>Induction training should be provided to the construction Contractor before the commencement of the excavation works in Spots A, D, F to H. An induction will be conducted as part of the environmental health and safety induction programme to all site staff before they are deployed on site. The induction will</p>	To preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Spots A, D, F to H	Before the commencement of the excavation works and before site staff are deployed on site	N/A

		include an introduction on the historical development of the Site, the possible archaeological remains that may be encountered during ground excavation works as well as the reporting procedures in case suspected archaeological remains are identified. A set of the presentation material (in the form of power point presentation) with content details will be prepared by an archaeologist and submitted to AMO for reference and record purpose. The first induction briefing will be video recorded and it will be used as induction briefing material for new site staff.					
S11.6.1	CH5	<p><u>Undertaking Archaeological Impact Assessment before Construction at A1</u></p> <p>It is recommended that an Archaeological Impact Assessment to be conducted in the impacted area in Area B1-8 and B1-9 at A1 (Sheung Shui Wa Shan Site of Archaeological Interest) after land resumption and before construction when detail construction work information is available to determine the need for further archaeological follow up actions.</p>	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Area B1-8 and B1-9 zoned as R4 and R3 in A1	After land resumption but before construction	N/A
S11.6.1	CH6	<p><u>Undertaking Archaeological Impact Assessment before Construction within A1 but except Area B1-8 and B1-9</u></p> <p>Should there be any development work within the Sheung Shui Wa Shan Site of Archaeological Interest, it is recommended that an Archaeological Impact Assessment is required after land resumption and before construction when detail construction work information is available to determine the need for further</p>	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible.	Project Proponent/ Contractor/ Qualified Archaeologist	Area within A1 except Area B1-8 and B1-9 in R4 &R3 zoning	After land resumption but before construction	N/A

		archaeological follow up actions.					
S11.6.2	CH7	<p><u>Undertaking baseline condition survey and baseline vibration impact assessment</u></p> <p>In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s could be adopted for graded historic buildings) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report. The condition survey of graded historic building should be submitted to AMO for information.</p>	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	G303 and G308	Preconstruction stage before commencement of construction works during Schedule 3 study	N/A
S11.6.2	CH8	<p><u>Undertaking baseline condition survey and baseline vibration impact assessment</u></p> <p>In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration</p>	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	KT57, FL05, FL18, and FL2	Preconstruction stage before commencement of construction works	N/A

		limit (a vibration limit at 7.5mm/s and 15mm/s could be adopted for graded historic buildings and historic buildings respectively) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report. The condition survey of graded historic building should be submitted to AMO for information.					
S11.6.2	CH9	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u> Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out the Project Proponent.	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	Ancillary structures of G303, HKT01, HKT02, Entrance Gate of HKT03, HKT04, KT01 to KT10, KT13, KT36, KT39, KT40, KT41, KT43, KT45, KT47, KT50, KT54, KT62 to KT63, KT69, FL01, FL16, and FL35	Prior to Removal / Relocation of features before commencement of construction works during Schedule 3 study	N/A
S11.6.2	CH10	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u> Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features,	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	KT12 and KT61	Prior to Removal / Relocation of features before commencement of	N/A

		photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out by the Project Proponent.				construction works	
S11.6.2	CH11	Relocation of Built Heritages Relocation of built heritages to a reasonable location nearby may be required.	To preserve the directly impacted sites by relocation	Project Proponent/ Contractor	HKT01, HKT02, Entrance Gate of HKT03	After the photographic and cartographic records and before commencement of construction works	N/A
S11.6.2	CH12	Drainage System and Access Route Design For the retained built heritage items in developable area, drainage system and access route would be designed to prevent the persevered flooding and maintain the accessibility to the built heritage.	To prevent the persevered flooding and maintain the accessibility to the built heritage	Contractor /Detailed Design consultant	The retained built heritage items	Pre-construction phase	N/A
Cultural Heritage (Construction Phase)							
S11.6.1	CH13	<u>Inform Upon Archaeological Discovery</u> Pursuant to the Antiquities and Monuments Ordinance, the construction Contractor should inform the AMO immediately in case of discovery of antiquities or supposed antiquities in the course of excavation works in construction phase.	Special attention should be given to areas evaluated to have archaeological potential or significance.	Contractor	All soil excavation works	Immediately upon discovery during excavation works	N/A
S11.6.2	CH14	<u>Watertable Monitoring</u> Since the construction works and development activities may induce change in the watertable. It is recommended the Contractor should ensure that the change of watertable induced by the construction works and development activities will not result in settlement of built heritage.	To minimize the potential impacts to the built heritage items by the change of watertable induced by the works during the Construction phase	Contractor	Within NDAs	Construction phase	N/A
S11.6.2	CH15	<u>Conducting Construction Vibration Monitoring and Structural</u>	To minimize the potential	Contractor	Identified potential	Construction	

		<p><u>Strengthening Measures</u></p> <p>Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.</p>	<p>impacts during Construction phase on any identified potential vibration impacted built heritage features</p>		<p>vibration impacted built heritage features</p>	<p>phase, with details specified in baseline condition survey and baseline vibration impact assessment</p>	<p>N/A</p>
<p><i>Landscape and Visual Impact (Detailed Design, Prior to Construction, Construction and Operation Phases)</i></p>							
S.12.9	LV1	<p>General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.</p> <p>With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.</p>		<p>Detailed design consultant/ Contractor</p>	<p>Throughout NDAs,</p>	<p>Prior to Construction, Construction & for all planting, this should be installed as the areas become available, to achieve early establishment</p>	<p>N/A</p>
S.12.9 MM1	LV2	<p>Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the</p>	<p>Reduce topographical changes and minimize land resumption</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Throughout NDAs, particularly for reservoirs</p>	<p>Prior to Construction</p>	<p>N/A</p>

		natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.					
S.12.9 MM2	LV3	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines. All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape	Detailed Design Consultant	Throughout NDAs	Prior to Construction	N/A

		enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated. Construction time frame should also be considered and designs seek to keep it to a practical minimum.					
S12.9 MM14.4	LV 4	<p>Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed.</p> <p>For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream.</p> <p>Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.</p>	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section	Prior to Construction and Construction Phase	N/A
Landscape and Visual (Construction)							
S.12.9 MM3	LV5	Open Space Provision - the principles adopted in the RODP planning ensure that public open space systems are incorporated. All requirements for open space areas stipulated in the planning documents for the formulation of the Preliminary Layout Plan should be adhered to.	Reprovision of open space. Enhance visual amenity of the area and improve the overall landscape character	Government Developer/ Detailed Design Consultant/ Contractor/	Onsite as stipulated in the planning documents for the formulation of the Preliminary Layout Plan	Prior to Construction and Construction Phas	N/A
S.12.9	LV6	Tree Protection & Preservation – Exiting trees to be retained	Protect and Preserve Trees	Government /	Onsite	Prior to	N/A

MM4		<p>within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained</p>		<p>Detailed Design Consultant/ Contractor</p>		<p>Construction and Construction Phase</p>	
S.12.9 MM5	LV7	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible.</p> <p>A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of</p>	<p>Transplant Trees where suitable for transplantation</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite where possible. Otherwise consider offsite locations</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		<p>transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.</p>					
S.12.9 MM6	LV8	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>
S.12.9 MM7	LV9	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p>	<p>Compensate for trees and shrubs lost due to the Project.</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite where possible. Otherwise consider offsite locations</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		<p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>					
<p>S.12.9 MM8</p>	<p>LV10</p>	<p>Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 & E27 also).</p> <p>Native tree species are suggested for planting in the</p>					<p>N/A</p>

		<p>appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
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S.12.9 MM9	LV11	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and facilities	Government / Developer/ Detailed Design Consultant/ Contractor	On appropriate structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM10	LV12	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Developer/ Detailed Design Consultant/ Contractor	On appropriate buildings	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM11	LV13	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Developer/ Detailed Design Consultant/ Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

<p>S.12.9 MM12</p>	<p>LV14</p>	<p>Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.</p> <p>For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)</p>	<p>To soften the hard, straight edges and provide greening along roads.</p>	<p>Government / Developer/ Detailed Design Consultant/ Contractor</p>	<p>On viaducts or along roads</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>
<p>S.12.9 MM13 & EIA Annex 13</p>	<p>LV15</p>	<p>Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on- wetland areas within the LVNP. (See E4,E15 and E25 also)</p> <p>Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovioned watercourses.</p>	<p>Compensate for Marsh/ Wetland lost due to the Project.</p>	<p>Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority</p>	<p>Onsite where possible. Otherwise consider offsite locations</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

<p>S.12.9 MM14.1</p>	<p>LV16</p>	<p>Reprovision of Natural Stream – Where natural streams are unavoidably affected along some of their length, they can be diverted to avoid the proposed new developments and retain the integrity of the whole stream. Detailed design of any stream diversion should follow the Guidelines in ETWB Technical Circular (Works) No. 5/2005 (Protection of natural streams/ rivers from adverse impacts arising from construction works) and appropriate construction methods should be used.</p> <p>Two short stretches of the Ma Tso Lung Stream will be affected by Project in the KTN NDA; by the LMC Eastern Connection Road on the western border of Site F1-3 and further upstream by Site E-2.</p> <p>At both these locations, the stream will be reprovioned and maintain the flow between unaffected sections of the stream. The reprovioned stream will be provided with a natural bed and banks, as well as having an area of marsh/ pool next to it and trees and shrubs further from the banks. (See E2, E14 and E24 also)</p>	<p>Achieve a natural stream, similar to existing, including wetland planting provision for embankments</p>	<p>Government / Developer/ Detailed Design Consultant/ Contractor</p>	<p>Streams and channelized watercourses e.g. a Ma Tso Lung and Siu Han San Tsuen</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>
<p>S12.9 MM14.2</p>	<p>LV17</p>	<p>Stream Buffer Planting –Providing a minimum 10 m buffer with planting (where there is a general presumption against any development taking place) along streams where they flow close to developments, confers a degree of protection to the stream course and its associated vegetation.</p> <p>For the stream at Ma Tso Lung in KTN NDA, the middle and</p>	<p>Protect natural streams</p>	<p>Government / Developer/ Detailed Design Consultant/ Contractor</p>	<p>Streams and channelized watercourses e.g. a Ma Tso Lung and Siu Han San Tsuen</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		<p>upper sections will be designated as Green Belt zone where there is a general presumption against development as buffer to the stream.</p> <p>For the stream at Siu Hang San Tsuen in FLN NDA, within the NDA boundary much of the stream would be located underneath the viaduct for the proposed Fanling Bypass. To the south of the viaduct the stream flows through an Open Space area D1-3. In this Open Space zone a 10m buffer is proposed in which natural vegetation will be retained and enhanced and human activities will be limited in order to avoid direct impacts to the stream bed and to minimize potential indirect impacts to the stream and riparian corridor. (See E3 also)</p>					
S12.9 MM14.3	LV18	<p>Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.</p>	<p>Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses</p>	<p>Government / Developer/ Detailed Design Consultant/ Contractor</p>	<p>Channelized watercourse, particularly the Ma Wat River Channel Diversion</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.					
S12.9 MM15	LV19	<p>Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.</p> <p>All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.</p>	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A
S.12.9 MM16	LV20	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non- reflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	To screen undesirable views of the works site.	Contractor	Throughout NDAs	Construction Phase	N/A
S.12.9 MM17	LV21	<p>Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</p> <p>Street and night time lighting shall also be controlled to minimize</p>	To minimize glare impact to adjacent VSRs	Government / Developer/ Contractor	Throughout NDAs	Construction and Operation Phases	N/A

		glare impact to adjacent VSRs during the operation phase.					
Ecology (Prior to Construction Phase or throughout the project)							
S. 13.9	E1	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry. Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Detailed Design Consultant (EHCMP and WPMP).	FLN area A1-7 (egretry compensation). KTN areas E1-8 and G1-3 (woodland compensation).	Detailed design phase	N/A
S. 13.9	E2	Detailed design of development along lower reaches of Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream in OU zones F1-2 and F1-3 and detailed design of LMC Loop Eastern Connection Road with restoration of diverted stream and riparian corridor, permanent barrier and underpass on the at-grade section Compensation for the loss of seasonally wet grassland at Ma Tso Lung by habitat restoration and enhancement along diverted section of Ma Tso Lung Stream	Minimize impacts on Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream and riparian corridor of importance to species of conservation significance.	Project Proponent/ Detailed Design Consultant. (design of Ma Tso Lung Stream diversion and buffer zone habitat restoration measures)	KTN areas F1-2 and F1-3 and LMC Loop Eastern Connection Road.	Detailed design and construction phases.	N/A

S13.9	E3	Detailed design, implementation and management of Siu Hang San Tsuen Stream to have 10m wide vegetated buffer in Open Space zone D1-3, Fanling Bypass to cross stream on viaduct.	Minimize impacts on Siu Hang San Tsuen Stream and stream fauna.	PlanD, Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	FLN area D1-3.	Detailed design, construction and operation phases.	N/A
S.13.9	E4	Long Valley Nature Park (LVNP) designation, design and implementation. Enhancement of non-wetland habitats in LVNP. Planning for the advanced provision of alternative foraging habitat along main river channels for large waterbirds.	Compensate for wetland loss arising from the project and protection of Long Valley from adverse ecological impacts including provision of additional/alternative habitat for large waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Project Proponent/ Detailed Design Consultant (Long Valley Nature Park Habitat Creation & Management Plan)	Long Valley KTN area C1-9 and any suitable areas to be identified during the planning stage	Detailed design phase	N/A
S13.9	E5	Stringent planning control requirements in Long Valley north and west of Sheung Yue River, including Ho Sheung Heung egretty.	Protect these wetland areas from indirect impacts to habitats and fauna especially breeding ardeids foraging in these areas and utilizing flight-lines from Ho Sheung Heung egretty. Avoid habitat loss and disturbance to fauna of	PlanD.	KTN areas C2-1 and C2-2 , Ho Sheung Heung egretty and areas north of Long Valley along the Ng Tung River to the Shenzhen River	Detailed design phase	N/A

			<p>conservation significance, especially nesting ardeids</p> <p>Maintenance of ecological linkages with Deep Bay ecosystem and avoidance of severance of these linkages, especially for waterbirds</p>				
S13.9	E6	<p>Planning for creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; and detailed design of Open Space areas and development areas along river corridors.</p>	<p>Minimize disturbance to large waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.</p> <p>Maintain ecological linkages within NDA Project Area and between Project Area and Deep Bay ecosystem, especially for Long Valley and waterbirds.</p>	<p>Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority</p>	<p>Area along Ng Tung, Sheung Yue and Shek Sheung River</p>	<p>Detailed design, construction and operational phases.</p>	N/A
S13.9	E7	<p>Building setback and mounding in locations near Long Valley.</p> <p>KTN area B3-12 (30m setback from road D3) and KTN area C1-1 (15m setback and mounding along northern and northeastern boundaries).</p>	<p>Minimization of disturbance impacts to fauna using Long Valley.</p>	<p>PlanD</p>	<p>KTN area B3-12 (30m setback from road D3) and KTN area C1-1 (15m setback and mounding along northern and northeastern</p>	<p>Detailed design phase</p>	N/A

					boundaries.		
S13.9	E8	<p>Preparation and implementation of Guidelines for building design measures to minimize mortality and light and glare impacts to fauna. Guidelines to address the following measures: Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project.</p> <p>Measures to include the following:</p> <ul style="list-style-type: none"> • Fritting, or the placement of ceramic lines or dots on glass, which creates a visual barrier to birds and reduces air conditioning loads by lowering heat gain, while still allowing light transmission for interior spaces. It is most successful when the frits are applied on the outside surface. Frosted glass has similar effects; • Angled glass to be used only for smaller panes in buildings with a limited amount of glass; • The use of glass that reflects UV light (primarily visible to birds, but not to humans) to reduce collisions; • Film and art treatment allow glass surfaces to be used a medium of expression, often related to the nature and use of the building, as well indicating to birds their impenetrability; • Lightweight external screens can be added to windows or become a façade element of larger buildings, and are suitable where non-operable windows are prevalent, which is often the case in modern buildings in HK 	Minimize mortality and disturbance impacts on fauna, especially mammals and birds.	PlanD/ Project Proponent/ Developer/ Detailed Design Consultant	Near Long Valley	Detailed design phase	N/A

	E9	Not used					N/A
S13.8	E10	Review development footprint and layout of proposed developments in KTN areas D1-11a and G1-5 to avoid/minimize direct and indirect impacts on secondary woodland at Ho Sheung Heung and shrubland at Crest Hill.	Minimize loss of secondary woodland and shrubland of ecological value.	Project Proponent/Detail ed Design Consultant	KTN areas D1-11a and G1-5 to avoid/minimize direct and indirect impacts on secondary woodland at Ho Sheung Heung and Crest Hill	Detailed design phase	N/A
S13.9	E11	No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north or east of KTN D1-5 and east of D1-9 and C2-3, construction hours restricted to 09.00 to 17.30 during 1 March to 31 July on new pedestrian bridge over the Sheung Yue River, new pedestrian bridge over the tidal section of the Ng Tung River and existing bridge between KTN areas C2-2 and C1-8. Review Design and construction methods for all bridges especially those on the Sheung Yue and tidal Ng Tung Rivers and adopt methods which minimize impacts on Long Valley and the rivers, and disturbance and fragmentation impacts on fauna. No overlap in construction of bridges over main river channels. Measures to ensure no hydrological disruption to Long Valley Watercourse and water supply to Long Valley to be designed at	Minimize disturbance impacts (including cumulative impacts with cycle track project) to flight-lines of breeding ardeids.	Project Proponent/ Detailed Design Consultant Contractor	Along and within Sheung Yue and Ng Tung Rivers, Long Valley, Long Valley and watercourse upstream areas including KTN area B3-12	Detailed design/ construction phase.	N/A

		the detailed design stage for the rechannelisation of the Long Valley Watercourse and the development of areas through which it passes, including KTN area B3-12. Contingency plan to address any disruption to be included in LVNP HCMP. Avoid removal or interference with screen planting undertaken under the Construction of Cycle Tracks and Associated Supporting Facilities from Sha Po Tsuen to Shek Sheung project.					
Ecology (Construction Phase)							
S13.9	E12	Compensatory egret habitat provision and establishment. Review condition and location of egretries before commencement of works. Formulate and implement additional mitigation measures as appropriate. Phasing of works near and within Man Kam To Road Egret habitat outside breeding season	Compensate for loss of Man Kam To Road egret habitat. Avoid mortality of breeding egrets	Project Proponent/ Detailed Design Consultant/ Contractor	FLN area A1-7 500m from Man Kam To Road Egret habitat.	Construction phase.	N/A
S13.9	E13	Review design and construction methods for bridges, especially those on the Sheung Yue and tidal Ng Tung Rivers, and adopt measures which minimize impacts on rivers and disturbance and fragmentation impacts on fauna. No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north and east of KTN area D1-5 and east of D1-9 and C2-3 and restriction of working hours on new pedestrian bridges over the Sheung Yue River and tidal Ng Tung River to 09.00 to 17.30 during the ardeid breeding season	Minimize impacts on rivers and disturbance and fragmentation impacts on fauna	Project Proponent/ Detailed Design Consultant/ Contractor	Along and within the Sheung Yue, Ng Tung and Shek Sheung Rivers	Detailed design and construction phases.	N/A

		(1 March to 31 July) Provision of alternative foraging habitat along main river channels for large waterbirds.					
S13.9	E14	<p>Buffer zone of 15-30m as appropriate on both sides (not less than 45m total width) of Ma Tso Lung Stream north of the point where it is crossed by the LMC Loop Eastern Connection Road, and Ma Tso Lung Stream diversion during construction of the LMC Loop Eastern Connection Road; development along lower reaches of Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream in OU zones in KTN areas F1-2 and F1-3 to be set back beyond buffer.</p> <p>Construction and maintenance of permanent 1.2m high solid faunal barrier at all at-grade sections of LMC Loop eastern connection Road north of junction with road D4 within 15-30m as appropriate of Ma Tso Lung Stream buffer and construction of faunal underpass beneath road.</p> <p>Compensation for the loss of seasonally wet grassland at Ma Tso Lung by habitat restoration and enhancement along diverted section of Ma Tso Lung Stream.</p>	Minimize impacts direct and indirect impacts of habitat loss, disturbance, pollution and fragmentation on Ma Tso Lung Stream and marsh and riparian corridor of importance to species of conservation significance.	PlanD/ Project Proponent/ Developer/ Detailed Design Consultant/ Contractor. (Design of Ma Tso Lung Stream diversion and buffer zone habitat restoration measures)	KTN areas H1-1, F12 and F1-3 and Lok Ma Chau Loop Eastern Connection Road.	Detailed design and construction phases.	N/A

S.13.9	E15	Creation and enhancement of proposed Long Valley Nature Park and creation and enhancement of wetland and buffer planting within LVNP.	Compensate for wetland loss arising from the project	Project Proponent/ Contractor (LVNP Detailed Habitat Creation & Management Plan)	Long Valley, (KTN area C1-9).	Construction phase.	N/A
S13.9	E16	Creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; provision of Open Space areas and development areas along river corridors; Design and erection of 2m high solid dull green site barrier fence between river channel and any active works area along or adjacent to Ng Tung, Sheung Yue and Shek Sheung Rivers. Ng Tung, Sheung Yue and Shek Sheung Rivers screen planting.	Minimize disturbance to waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Detailed Design Consultant/ Contractor	Ng Tung, Sheung Yue and Shek Sheung Rivers	Detailed design and Construction phases.	N/A
S13.9	E17	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance on edge of development areas, including along any roads adjacent to or penetrating into areas/habitats of ecological importance. Erection of a 2m high dull green site barrier fence at the edge of the works area or 30m from Ma Tso Lung Stream and tributaries,	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna. Measures to minimize flight-line impacts to birds, especially breeding ardeids.	Contractor	Interface between areas/habitats/ fauna/ flora of ecological importance (e.g. KTN areas B1-3, C1-5, C1- 6, C1-	Construction phase.	N/A

		whichever distance is the greater.			9, C2-2, C2-4, C2-5, D1-8, E1-8, G1- 3, H1-1, Ma Tso Lung Stream and tributaries; FLN areas A1-3, A1-7 and A1-9) and works areas; and around any works areas north of the Fanling Bypass and north of the Ng Tung River west of the western terminus of the Fanling Bypass. Riparian corridor of Ma Tso Lung Stream and tributaries.		
S13.9	E18	Compensatory woodland planting, management and maintenance.	Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A

S13.9	E19	<p>Use opaque, non-transparent, non-reflective noise barriers for all construction sites.</p> <p>Unnecessary lighting should be avoided.</p>	<p>Minimize mortality impacts on birds.</p>	<p>Contractor</p>	<p>All construction sites</p>	<p>Construction phase.</p>	<p>N/A</p>
S13.9	E20	<p>Pre-site clearance check for presence of flora or fauna of conservation significance and bat roosts. If any are found, measures should be proposed and implemented to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p> <p>Pre-site clearance check on all construction sites and pre – works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of protected plant species/specimens of conservation significance. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works,</p> <p>Pre-site clearance of construction sites in Crest Hill area, KTN areas D1-7, D1-11 and G1-5 (where Eurasian Hobby was recorded) and on Cheung Po Tau, FLN area A3-1 (where Grey Nightjar was recorded) for presence of any breeding birds/breeding sites. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including</p>	<p>Minimize impacts to flora and fauna of conservation significance. Minimize impacts to protected fauna and flora species. Formulate and implement mitigation measures to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation.</p>	<p>Government/ Developer/ Contractor/ Ecologist</p>	<p>All construction sites.</p>	<p>Prior to clearance of vegetation and structures.</p>	<p>N/A</p>

		<p>adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p> <p>Pre-site clearance check on all construction sites for presence of Chinese Bullfrog, translocation to suitable areas including LVNP.</p>					
S13.9	E21	<p>Pre-works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of flora or fauna of conservation significance and bat roosts. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p> <p>Pre-site clearance check on all construction sites for presence of reptile species of conservation significance, capture and translocate to receptor site; review translocation options in respect to species in Ma Tso Lung area and determine whether release locally or elsewhere is appropriate. Seek agreement of relevant authorities including AFCD in respect of proposed measures then implement</p> <p>Pre-works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of Small Snakehead and <i>Sommaniathelphusa zanklon</i>. Capture any <i>Sommaniathelphusa</i></p>	<p>Minimize impacts to flora and fauna of conservation significance. Minimize impacts to protected fauna and flora species. Consider and implement adjustments to avoid, minimize or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation</p>	<p>Government/ Developer/ Contractor/ Ecologist</p>	<p>All construction sites.</p>	<p>Prior to clearance of vegetation and structures.</p>	<p>N/A</p>

		zanklon found and translocate to Ma Tso Lung Stream/ other suitable areas including LVNP					
S13.9	E22	Prevention of dust, run-off and pollutants impacting Deep Bay catchment area and areas of ecological importance.	Avoid increase to pollution entering ecologically sensitive Deep Bay ecosystem.	Contractor	All construction sites.	Construction	N/A

Specific Mitigation Measures for Designated Projects

DP4- KTN NDA Road D1 to D5 (New Road)

Noise Impacts (Operational Phase)

S4.9	N1- DP4	Provide noise barrier before operation of the proposed project and locations of barriers are stated as following: <ul style="list-style-type: none"> • KTN-NB04: Approx. 35m long, 3m high NB; • KTN-NB05: Approx. 40m long, 3m high NB; • KTN-NB06: Approx. 65m long CNB; • KTN-NB07: Approx. 65m long CNB; • KTN-NB08: Approx. 105m long CNB; • KTN-NB09: Approx. 60m long, 3m high NB; • KTN-NB10: Approx. 90m long, 3m high NB; • KTN-NB19: Approx. 30m long, 3m high NB; • KTN-NB20: Approx. 70m long, 5m high NB; • KTN-NB23: Approx. 80m long, 5m high NB; • KTN-NB24: Approx. 95m long, 7m vertical barrier with 3m cantilevered arm; • KTN-NB25: Approx. 30m long CNB; 	Control operational airborne noise due to road traffic	Project Proponent /Contractor	<u>Refer to Appendix 5-1</u>	Prior to operation of the Project	N/A
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		<ul style="list-style-type: none"> • KTN-NB35: Approx. 40m long CNB; • KTN-NB37: Approx. 80m long CNB; • KTN-NB38: Approx. 100m long, 3m high NB; • KTN-NB69: Approx. 120m long, 5m high NB; • KTN-NB70: Approx. 30m long, 7m vertical barrier with 3m cantilevered arm; • KTN-NB73: Approx. 75m long CNB; • KTN-NB75: Approx. 45m long, 3m high NB; • KTN-NB76: Approx. 40m long, 3m high NB; • KTN-NB82: Approx. 45m long, 3m high NB; • KTN-SE03: Approx. 75m long SE with opening to northwestern direction; • KTN-SE05: Approx. 80m long SE with opening to south direction; • KTN-SE07: Approx. 95m long SE with opening to southeastern direction; <p>KTN-FE02: Approx. 130m long FE</p>					
Water Quality Impacts (Operational Phase)							
S5.7	W1-DP4	<p><u>Road runoff</u></p> <p>In order to ensure the sand/silt traps removal efficiencies, the following measures should be implemented:</p> <ul style="list-style-type: none"> • Vehicle dust, tyre scraps and oils might be washed away from the road surface / open areas to the nearby water courses by surface runoff or road surface cleaning. <p>Subject to detailed design and requirement of relevant government departments, the capacities of road drainage system shall cater the runoff from 50 year-return-period</p>	Control water quality impact	Project Proponent / Detailed Design Consultant, / Maintenance Authority	All road works	Detailed design stage, Operation phase	*

		rainstorm. Proper drainage systems with silt traps and oil interceptors should be installed					
Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)							
S.12.A9	LV1-DP4	<p>General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.</p> <p>With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.</p>		Detailed Design Consultant/ Contractor	<u>Throughout NDAs,</u>	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	N/A
S.12.A9 MM1	LV2-DP4	<p>Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain.</p> <p>Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.</p>	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor/	<u>Throughout NDAs, particularly for reservoirs</u>	Prior to Construction	N/A

<p>S.12.A9 MM2</p>	<p>LV3- DP4</p>	<p>Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated.</p> <p>Construction time frame should also be considered and designs seek to keep it to a practical minimum.</p>	<p>Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape</p>	<p>Detailed Design Consultant/</p>	<p>Throughout NDAs</p>	<p>Prior to Construction</p>	<p>N/A</p>
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<p>S.12.A9 MM4</p>	<p>LV4- DP4</p>	<p>Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor’s works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>	<p>Protect and Preserve Trees</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite</p>	<p>Prior to Construction and Construction Phase</p>	<p>*</p>
<p>S.12.A9 MM5</p>	<p>LV5- DP4</p>	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted</p>	<p>Transplant Trees where suitable for transplantation</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite possible. Consider locations where Otherwise offsite locations</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		trees should be agreed prior to commencement of the work. For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department’s Vegetation Maintenance Ambit’ should be referred to.					
S.12.A9 MM6	LV6- DP4	Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow. In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.	To avoid substantial slope cutting and fill slopes. To prevent erosion and subsequent loss of landscape resources and character. To ensure man-made slopes are as visually amenable as possible.	Government Detailed Design Consultant/ Contractor	Onsite	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM7	LV7- DP4	Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006. Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in	Compensate for trees and shrubs lost due to the Project.	Government Detailed Design Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

		<p>suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested..</p>					
S.12.A9 MM8	LV8- DP4	<p>Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 & E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma</i></p>	<p>Reprovide areas of woodland to compensate for those areas of quality woodland lost.</p>	<p>Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority</p>	<p>In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	N/A

		malabathricum, Melastoma dodecandrum, Rhodomyrtus tomentosa, Rhapsiolepis indica, and Rhododendron simsii. The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.					
S.12.A9 MM9	LV9- DP4	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	On appropriate structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM11	LV10- DP4	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM12	LV11- DP4	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to	To soften the hard, straight edges and provide greening	Government Detailed Design	On viaducts or along roads.	Prior to Construction,	N/A

		cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics. For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	along roads.	Consultant/ Contractor		Construction Phase & Maintenance in Operation Phase	
S.12.A9 MM13 & EIA Annex 13	LV12- DP4	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on-wetland areas within the LVNP. (See E4,E15 and E25 also) Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ re-provisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM15	LV13- DP4	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs. All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A

Landscape and Visual (Construction)

S.12.A9 MM16	LV14- DP4	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor			N/A
S.12.A9 MM17	LV15- DP4	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase. Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	<u>Throughout NDAs</u>	Construction and Operation Phases	N/A
Ecology (Prior to Detailed Design Prior to Construction Phase)							
S. 13.9	E1- DP4	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry. Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Detailed Design Consultant (EHCMP and WPMP).	FLN area A1-7 (egretry compensation). KTN areas E1-8 and G1-3 (woodland compensation).	Detailed design phase.	N/A
Ecology (Detailed Design, Construction and Operational Phases)							
S13.9	E2- DP4	Use opaque, non-transparent, non-reflective noise barriers. Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/ Contractor	Throughout.	Throughout.	N/A

				Maintenance Authority.			
Ecology (Construction Phase)							
S.13.9	E3-DP4	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.	Contractor.	Interface between areas/habitats of ecological importance (KTN areas B1-3, E1-8, G1-3 and H1-1) and works areas	Construction phase.	N/A
S13.9	E4-DP4	Compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Project Proponent / Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
S13.8	E5-DP4	Maintenance of compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Maintenance Authority.	KTN areas E1-8 and G1-3.	Operation phase	N/A
Cultural Heritage (Pre-construction Phase)							
S11.6.1	CH1-DP4	<u>Undertaking Survey-cum-Rescue Excavation</u> A Survey-cum-Rescue Excavation should be conducted after land resumption and before the commencement of construction works to define the precise archaeological deposits extent and to preserve the archaeological resources by record. The excavation should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible.	Project Proponent / Contractor/ Qualified Archaeologist	In KTN NDA, for Site 1	After land resumption but before Construction commencement of the zones	N/A
S11.6.1	CH2-	<u>Undertaking Further Archaeological Survey to Cover the</u>	To confirm and verify the	Project	In the not-yet-	After land	N/A

	DP4	<p><u>Outstanding Areas</u></p> <p>Further archaeological surveys to cover the outstanding areas of the not-yet-surveyed-area with medium archaeological potential located with areas with proposed development as presented in Figure 11.9 should be implemented after land resumption to confirm and verify the findings of the EIA. The survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance. It should be noted that the scope of further archaeological survey is based on the current proposed alignment. Any additional works areas which have not been covered by the current archaeological impact assessment should be covered as soon as possible. Subject to the findings of the archaeological survey to be conducted after land resumption, additional mitigation measures would be designed and implemented before the commencement of construction works to mitigate the adverse impact.</p>	findings of the EIA	Proponent/ Contractor/ Qualified Archaeologist	surveyed- areas with medium archaeological potential located within the work extent of DP4	resumption but before construction	
S11.6.1	CH3- DP4	<p><u>Undertaking Induction Training</u></p> <p>Induction training should be provided to the construction Contractor before the commencement of the excavation works in Spot E. An induction will be conducted as part of the environmental health and safety induction programme to all site staff before they are deployed on site. The induction will include an introduction on the historical development of the Site, the possible archaeological remains that may be encountered during ground excavation works as well as the reporting</p>	To preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Spot E	Before the commencement of the excavation works and before site staff are deployed on site	N/A

		procedures in case suspected archaeological remains are identified. A set of the presentation material (in the form of power point presentation) with content details will be prepared by an archaeologist and submitted to AMO for reference and record purpose. The first induction briefing will be video recorded and it will be used as induction briefing material for new site staff.					
S11.6.2	CH4-DP4	<p><u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u></p> <p>Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out by the Project Proponent.</p>	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	Entrance Gate of HKT03, KT16, KT17 and KT18	Prior to Removal / Relocation of features before commencement of construction works	N/A
S11.6.2	CH5-DP4	<p><u>Undertaking baseline condition survey and baseline vibration impact assessment</u></p> <p>In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 15mm/s could be adopted for historic buildings) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA</p>	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	HKT03 (Main Building) and G308	Preconstruction stage before commencement of construction works	N/A

		report.					
S11.6.2	CH6-DP4	<u>Relocation of Built Heritages</u> Relocation of built heritages to a reasonable location nearby may be required.	To preserve the directly impacted sites by relocation	Project Proponent/ Contractor	Entrance Gate of HKT03	After the photographic and cartographic records and before commencement of construction works	N/A
Cultural Heritage (Construction Phase)							
S11.6.2	CH7-DP4	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u> Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment,	N/A
DP7-Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works (SWHSTW)							
Landscape and Visual (Construction Phase and Operational Phase)							
S.12.9 MM4	LV1-DP7	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any	Protect and Preserve Trees	Government / Detailed Design Consultant/ Contractor	<u>Onsite</u>	Prior to Construction and Construction Phase	N/A

		works adjacent to all retained trees, including trees in Contractor's works areas. A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.					
S.12.9 MM9	LV2- DP7	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	<u>On appropriate structures</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM10	LV3- DP7	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Detailed Design Consultant/ Contractor	<u>On appropriate buildings</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

DP12-Reprovision of temporary wholesale market in FLN NDA

Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)

S.12.D9	LV1- DP12	<p>General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.</p> <p>With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.</p>		Detailed design consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	N/A
S.12.D9 MM1	LV2- DP12	<p>Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain.</p> <p>Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.</p>	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor	Throughout NDAs, particularly for reservoirs	Prior to Construction	N/A
S.12.D9 MM2	LV3- DP12	<p>Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of</p>	Improve visual amenity of the new buildings, NDAs in general and integrate as	Detailed Design Consultant	Throughout NDAs	Prior to Construction	N/A

		<p>development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated.</p> <p>Construction time frame should also be considered and designs seek to keep it to a practical minimum.</p>	<p>best possible into the surrounding landscape</p>				
S.12.D9	LV4-	Tree Protection & Preservation – Existing trees to be retained	Protect and Preserve Trees	Government /	Onsite	Prior to	N/A

MM4	DP12	<p>within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>		<p>Detailed Design Consultant/ Contractor</p>		<p>Construction and Construction Phase</p>	
S.12.D9 MM5	LV5- DP12	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with</p>	<p>Transplant Trees where suitable for transplantation</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite where possible. Otherwise consider offsite locations</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		<p>ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.</p>					
S.12.D9 MM6	LV6- DP12	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character.</p> <p>Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>
S.12.D9 MM7	LV7- DP12	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p>	<p>Compensate for trees and shrubs lost due to the Project.</p>	<p>Government / Detailed Design Consultant/ Contractor</p>	<p>Onsite where possible. Otherwise consider offsite locations</p>	<p>Prior to Construction, Construction Phase & Maintenance in Operation Phase</p>	<p>N/A</p>

		<p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>					
S.12.D9 MM11	LV8- DP12	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
Landscape and Visual (Construction)							

<p>S.12.D9 MM16</p>	<p>LV9- DP12</p>	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	<p>To screen undesirable views of the works site.</p>	<p>Contractor</p>	<p>Throughout NDAs</p>	<p>Construction Phase</p>	<p>N/A</p>
<p>S.12.D9 MM17</p>	<p>LV10- DP12</p>	<p>Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</p> <p>Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.</p>	<p>To minimize glare impact to adjacent VSRs</p>	<p>Government / Contractor</p>	<p>Throughout NDAs</p>	<p>Construction and Operation Phases</p>	<p>N/A</p>

- Implementation status:**
- ^ Mitigation measure was fully implemented
 - * Observation/reminder was made during site audit but improved/rectified by the contractor
 - # Observation/reminder was made during site audit 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

**APPENDIX N
WASTE GENERATION IN THE
REPORTING MONTH**

Name of Department: Civil Engineering and Development Department

Monthly Summary Waste Flow Table for 2020

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	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 '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
January	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
February	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
March	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.065
April	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.351
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.793
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.202
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.411
July	0.000	0.000	5.907	0.000	0.000	0.000	0.000	0.000	17.800	0.000	0.455
August											
September											
October											
November											
December											
Total	0.000	0.000	5.907	0.000	0.000	0.000	0.000	0.000	17.800	0.000	1.866

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
1,310.619	300.000	1,010.619	0.000	0.000	0.000	20.000	10.000	20.000	0.500	10.000

- Notes: (1) The performance target are given in PS Clause 1.115(14)
 (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
 (4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³.
 (5) Conversion factors for reporting purpose:
 in-situ: rock = 2.5 tonnes/m³; soil = 2.0 tonnes/m³
 excavated: rock = 2.0 tonnes/m³; soil = 1.8 tonnes/m³
 broken concrete and bitumen = 2.4 tonnes/m³
 C&D Waste = 0.9 tonnes/m³
 Non-inert C&D material: 6.5m³/dump truck
 (6) Numbers are rounded off to the nearest three decimal places
 * Forecast

Sang Hing – Kuly Joint Venture

Contract No.: ND/2019/03

Kwu Tung North and Fanling North New Development Areas, Phase 1:

Development of Long Valley Nature Park

Name of Department: CEDD

Contract No.: ND/2019/03

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Monthly Summary Waste Flow Table for 2019 (Year)

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	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 '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Sang Hing – Kuly Joint Venture

Contract No.: ND/2019/03

Kwu Tung North and Fanling North New Development Areas, Phase 1:

Development of Long Valley Nature Park

Name of Department: CEDD

Contract No.: ND/2019/03

Monthly Summary Waste Flow Table for 2020 (Year)

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	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 '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0.01
Mar	0	0	0	0	0	0	0	0	0	0	0.004
Apr	0	0	0	0	0	0	0	0	0	0	0.038
May	0	0	0	0	0	0	0	0	0	0	0.004
June	0	0	0	0	0	0	0	0	0	0	0.015
July	0	0	0	0	0.1	0	0	0	0	0	0
Sub-Total	0	0	0	0	0	0	0	0	0	0	0.071
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	0	0	0	0	0.1	0	0	0	0	0	0.071

*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Sang Hing – Kuly Joint Venture**Contract No.: ND/2019/03****Kwu Tung North and Fanling North New Development Areas, Phase 1:****Development of Long Valley Nature Park**

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
2.5	1	2	0	0.5	5	1	0.2	0.2	1	3

*Remark: Figure to be revised if necessary

Notes:

- (1) The performance targets are given in ETWB Technical Circular PS Clause 6(14).
 - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
 - (4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m³. (ETWB Technical Circular PS Clause 5(4)(b) refers). [Delete Note (4) and the table above on the forecast, where inapplicable].
-

Monthly Summary Waste Flow Table
(PS Clauses 1.101 & 1.102)

Name of Department: CEDD

Contract No.:ND/2019/06

Monthly Summary Waste Flow Table for 2019 (year)

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	Reused in the Contract	Reused in the other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastic (see Note 3)	Chemical Waste	Others, e.g. general refuse
	in '000m3	in '000m3	in '000m3	in '000m3	in '000m3	in '000m3	in '000kg	in '000kg	in '000kg	in '000kg	in '000m3
Jan											
Feb											
Mar											
Apr											
May											
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov	0	0	0	0	0.927	0	0	0	0	0	0.008
Dec	0	0	0	0	0.428	0	0	0	0	0	0.071
Total	0	0	0	0	1.355	0	0	0	0	0	0.079

Monthly Summary Waste Flow Table for 2020 (year)

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	Reused in the Contract	Reused in the other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastic (see Note 3)	Chemical Waste	Others, e.g. general refuse
	in '000m3	in '000m3	in '000m3	in '000m3	in '000m3	in '000m3	in '000kg	in '000kg	in '000kg	in '000kg	in '000m3
Jan	0	0	0	0	1.558	0	0	0	0	0	0.038
Feb	0	0	0	0	0.548	0	0	0	0	0	0.011
Mar	0	0	0	0	0.145	0	0	0	0	0	0.022
Apr	0	0	0	0	1.741	0	0	0	0	0	0.043
May	0	0	0	0	0.063	0	0	0	0	0	0.035
June	0	0	0	0	0.008	0	0	0	0	0	0.014
Sub-total	0	0	0	0	4.062	0	0	0	0	0	0.162
July					1.562						0.025
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0.0	0.0	0.0	0.0	9.686	0.0	0.0	0.0	0.0	0.0	0.349

- Notes: (1) The performance targets are given in PS Clause 1.102(14).
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
*(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the works, together with a breakdown of the nature where the amount of C&D materials expected to be generated from the works is equal to or exceeding 50,000m3. [Delete Note (4) and the table above on the forecast, where inapplicable].

**APPENDIX O
COMPLAINT LOG**

Appendix O - Complaint Log

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
COM-2020-07-01	Public Road at Portion 6a (ND/2019/01)	13 th July 2020	The EPD visit on 13 July 2020 was to respond the complaint received from the 2nd week in July regarding the dust problem in public road of Portion 6a. Mr. Tse (EPD) observed muddy wheel track on the public road, and he expressed that the public road should keep free of mud even it was inside the project area. He also advised BKRWJV (the Contractor) to clean up the muddy wheel track and provide rectified photos to him.	A designated person is provided at the ingress/egress for vehicle washing before the wheel washing facility is in use, this is to make sure all vehicle are free of mud before leaving the site. And, the designated person is also responsible for cleaning the public road if any mud is found on it.	Closed

**APPENDIX P
SUMMARY OF SUCCESSFUL
PROSECUTION**

Appendix P - Summary of Successful Prosecution

Date of Successful Prosecution	Details of the Successful Prosecution	Status	Follow Up
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