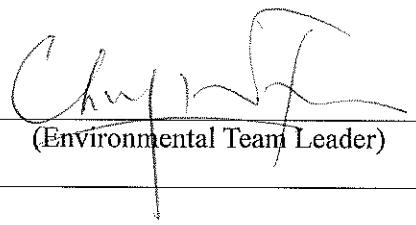
Black & Veatch Hong Kong Limited

Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works - Environmental Team

Quarterly Environmental Monitoring and Audit Report for January – March 2019

(version 1.0)

Approved By 

(Environmental Team Leader)

REMARKS:

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

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

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY 4

Introduction 4
Environmental Monitoring and Audit Progress 4
Breaches of Action and Limit Levels 4
Key Information in the Reporting Period 5

1 INTRODUCTION 6

Purpose of the report 6
Structure of the report 6

2 CONTRACT INFORMATION 7

Background 7
Contract Organisation 7
Construction Programme 8
Summary of Construction Works Undertaken During Reporting Period 8
Status of Environmental Licences, Notification and Permits 9

3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS 10

Monitoring Parameters and Monitoring Locations 10
Monitoring Methodology and Calibration Details 11
Environmental Quality Performance Limits (Action and Limit Levels) 11
Event and Action Plan 12
Implementation Status of Environmental Mitigation Measures 12
Site Audit Summary 12
Status of Waste Management 12

4 ENVIRONMENTAL MONITORING RESULTS 13

Air Quality Monitoring Results 13
Noise Quality Monitoring Results 14
Water Quality Monitoring Results 14
Ecological Monitoring Results 15

5 ENVIRONMENTAL NON-CONFORMANCE (EXCEEDANCES) 16

Summary of Exceedances 16

6 CONCLUSIONS AND RECOMMENDATIONS 17

Conclusions 17
Recommendations 18

LIST OF TABLES

Table I	Non-compliance (Exceedance) Record in the Reporting Period
Table II	Summary Table for Events Recorded in the Reporting Period
Table 2.1	Key Contacts of the Contract
Table 3.1	Summary of Impact EM&A Requirements
Table 3.2a	Action and Limit Levels for 1-Hour TSP
Table 3.2b	Action and Limit Levels for 24-Hour TSP
Table 3.2c	Action and Limit Levels for Construction Noise
Table 3.2d	Action and Limit Levels for Water Quality
Table 4.1	Summary Table of 1-hour TSP Monitoring Results during the Reporting Period
Table 4.2	Summary Table of 24-hour TSP Monitoring Results during the Reporting Period
Table 4.3	Observation at Dust Monitoring Stations
Table 4.4	Summary Table of Noise Monitoring Results during the Reporting Period
Table 4.5	Observation at Noise Monitoring Stations

LIST OF FIGURE

Figure 1	Site Layout Plan
Figure 2	Locations of Air Quality Monitoring Stations
Figure 3	Locations of Noise Monitoring Stations
Figure 4	Locations of Water Quality Monitoring Stations
Figure 5	Location of Ecological Monitoring

LIST OF APPENDICES

Appendix A Construction Programme
Appendix B Graphical Presentation of 1-hour TSP Monitoring Results
Appendix C Graphical Presentation of 24-hour TSP Monitoring Results
Appendix D Graphical Presentation of Noise Monitoring Results
Appendix E Graphical Presentation of Water Quality Monitoring Results
Appendix F Records of Ecological Monitoring Results
Appendix G Even Action Plans
Appendix H Updated Environmental Mitigation Implementation Schedule
Appendix I Site Audit Summary
Appendix J Waste Generation in the Reporting Period
Appendix K Summary of Exceedance
Appendix L Complaint Log
Appendix M Summary of Successful Prosecutions.

EXECUTIVE SUMMARY

Introduction

1. This is the 1st Quarterly Environmental Monitoring and Audit (EM&A) Report prepared for the project "Contract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works" (hereinafter called the "Contract"). This report documents the findings of EM&A Works performed in the period between January to March 2019.

Environmental Monitoring and Audit Progress

2. Environmental monitoring for the Contract was performed in accordance with the EM&A Manual and the monitoring results were checked and review. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

Breaches of Action and Limit Levels

3. Summary of the environmental exceedances of the reporting period is tabulated in **Table I.**

Table I Non-compliance (Exceedance) Record in the Reporting Period

Environmental Monitoring	Parameter	No. of non-project related Exceedance		Total No. of non-project related Exceedance	No. of Exceedance related to the Construction Activities of this Contract		Total 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	0	0
	24-hr TSP	0	0	0	0	0	0
Noise	$L_{eq(30min)}$	0	0	0	0	0	0
Water Quality	Dissolved Oxygen	1	9	10	0	0	0
	Turbidity	6	34	40	0	0	0
	Suspended Solids (SS)	6	40	46	0	0	0

Key Information in the Reporting Period

4. Summary of key information in the reporting period is tabulated in **Table II**.

Table II Summary Table for Key Information in the Reporting Period

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

1 INTRODUCTION

1.1 Wellab Limited (Wellab) was appointed by the Black & Veatch Hong Kong Limited (BV) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme for Contract No. YL/2017/03 – Development of Lok Ma Chau Loop" Land Decontamination and Advance Engineering Works (hereinafter called the "Contract").

Purpose of the report

1.2 This is the 1st Quarterly EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme from January to March 2019.

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: **Contract Information** - summarises background and scope of the Contract, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3: **Environmental Monitoring and Audit Requirement -** summarises the monitoring parameters, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, site audit summary and environmental mitigation measures.

Section 4: **Environmental Monitoring Results -** summarises the environmental monitoring results in terms of air quality, noise, water quality, and waste management.

Section 5: **Environmental Non-conformance -** summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting period.

Section 6: **Conclusions and Recommendation**

2 CONTRACT INFORMATION

Background

2.1 The Lok Ma Chau Loop (the Loop) was once within the administrative boundary of Shenzhen Municipal Government and now becomes a part of Hong Kong Special Administrative Region (HKSAR) as a result of the trading of Shenzhen River. As mentioned in the Policy Address in 2007, the HKSAR Government would cooperate with the Shenzhen authorities to develop the land resources of the loop to meet the development needs in the future, as well as to consolidate the strategic position of both Hong Kong and Shenzhen in the Pan-Pearl River Delta Region.

2.2 The Loop development is a Designated Project (DP) under Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). In October 2013, the EIA Report for the Loop development was approved by DEP pursuant to the EIA Ordinance. The Environmental Permit (EP) was also granted in November 2013.

2.3 Land decontamination and advance engineering works (Advance Works) under Contract No. YL/2017/03 are to pave way for the ensuing site formation and infrastructure works within the Loop.

2.4 **Figure 1** shows the layout of the Contract and the scope of the Contract works comprises the following major items:

- Land decontamination treatment within the Loop in accordance with the Contamination Assessment Report/ Remedial Action Plan of the EIA Report;
- Construction of temporary access to the Loop (comprising an approximately 60-metre-long temporary vehicular bridge across the old ShenZhen River meander), minor improvements works to Ha Wan Tsuen East Road and other ancillary works;
- Establishment of and Ecological Area zone of about 12.8 ha within the Loop;
- Construction of temporary noise barriers and miscellaneous road works along Lok Ma Chau Road;
- Ground treatment works to the first batch of land parcels within the Loop for development of building and associated facilities for Phase 1 of the Hong Kong-Shenzhen innovation and Technology Park, and for development of the western electricity substation.
- Implementation of environmental mitigation measures and other ancillary works.

Contract Organisation

2.5 Different parties with different levels of involvement in the Contract organization include:

- Consultant – Black & Veatch Hong Kong Ltd. (B&V)
- Contractor – Sang Hing- Kuly Joint Venture (SKJV)
- Environmental Team (ET) – Wellab Ltd. (Wellab)
- Independent Environmental Checker (IEC) – Jacky Leung (Nature & Technologies (HK) Ltd.)

2.6 The key personnel contact names and numbers are summarized in **Table 2.1.**

Table 2.1 Key Contacts of the Contract

Party	Role	Contact Person	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Cheung Biu, Jonathan	2417 6356	2412 0358
Black & Veatch	Consultant	Mr. Victor Go	2601 3988	--
Contractor (SKJV)	Project Director	Mr. Alan Sung	--	2452 5170
	Environmental Officer	Mr. David Nam	--	
Wellab	Environmental Team Leader	Dr. Priscilla Choy	2898 7388	2898 7076
Nature & Technologies (HK) Ltd	Independent Environmental Checker	Mr. Jacky Leung	2877 3122	2511 0922

Construction Programme

2.7 A copy of Contractor's construction programme is provided in **Appendix A**.

Summary of Construction Works Undertaken During Reporting Period

2.8 The major site activities undertaken in the reporting period included:

January 2019:

(a) Formation of haul road;
(b) Construction of land decontamination treatment plant;
(c) Excavation of top soil for land decontamination works at hot spot LD-001;
(d) Erection of 3m green fence;
(e) Installation of prefabricated vertical drains and strip drain;
(f) Predrilling of temporary bridge
(g) Piling for temporary bridge;
(h) Establishment of nursery areas for reed bed;

February 2019:

(a) Formation of haul road;
(b) Construction of land decontamination treatment plant;
(c) Excavation of top soil for land decontamination works at hot spot LD-001;
(d) Erection of 3m green fence;
(e) Installation of prefabricated vertical drains and strip drain;

(f) Piling for temporary bridge;

(g) Establishment of nursery areas for reed bed.

March 2019:

(a) Formation of haul road;

(b) Construction of land decontamination treatment plant;

(c) Excavation of top soil for land decontamination works at hot spot LD-001;

(d) Erection of 3m green fence;

(e) Installation of prefabricated vertical drains and strip drain;

(f) Piling for temporary bridge;

(g) Establishment and maintenance of nursery areas for reed bed;

(h) Earth moving work for trial surcharge filling;

(i) Site clearance at Ecological Area Zone;

(j) Preparation works for construction of stone blanket and stone column.

Status of Environmental Licences, Notification and Permits

2.9 The valid environmental licenses and permits were attached in the Monthly EM&A Reports.

3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

3.1 The EM&A Manual designates locations for the ET to monitor environmental impacts in terms of air quality, noise, water quality to the Contract. The monitoring locations are depicted in Figure. The details of monitoring requirements are presented in **Table 3.1**.

Table 3.1 Summary of Impact EM&A Requirements

Type of Monitoring	Parameter	Frequency	Location	Remarks
Air Quality	1-hr TSP	Three times / 6 days	DMS-1, DMS2A DMS-3, DMS-4A	While the highest dust impact was expected
	24-hr TSP	Once / 6 days		--
Noise	$L_{10(30\ min.)}$ dB(A) $L_{90(30\ min.)}$ dB(A) $L_{eq(30\ min.)}$ dB(A) (as six consecutive $L_{eq,\ 5min}$ readings)	Once per week	NMS-1, NMS-2 NMS-3, NMS-4A	Daytime on normal weekdays (0700-1900 hrs)
Water Quality	• Temperature(°C) • pH(pH unit) • turbidity (NTU) • water depth (m) • salinity (ppt) • dissolved oxygen (DO) (mg/L and % of saturation) • suspended solids (SS) (mg/L)	Impact monitoring: 3 days per week, during the construction period of the Contract	CS1, IS1, IS2, IS4, CS5, IS6, BS1	• 3 water depths: 1m below water surface, mid-depth and 1m above river bed. • If the water depth is less than 3m, mid-depth sampling only. • If water depth less than 6m, mid-depth may be omitted.
Ecological Monitoring	Avifauna Monitoring • To identify the number and bird species using the flight line	Once per month	LMC Lookout	Carry out from 30 minutes before sunrise for two hours
	Mammals Monitoring • To observe if there is any sign of otter and mammals	During the site formation of Ecological Area	Along the meander in the Ecological Area	Use of infrared cameras

Monitoring Methodology and Calibration Details

3.2 Monitoring works/equipment were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

3.3 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in Table 3.2a-d

Table 3.2a Action and Limit Levels for 1-Hour TSP

Location	Action Level, µg/m³	Limit Level, µg/m³
DMS – 1	353	500
DMS – 2A	370	
DMS – 3	351	
DMS – 4A	350	

Table 3.2b Action and Limit Levels for 24-Hour TSP

Location	Action Level, µg/m³	Limit Level, µg/m³
DMS – 1	184	260
DMS – 2A	166	
DMS – 3	166	
DMS – 4A	152	

Table 3.2c Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level, µg/m³
0700-1900 hrs on normal weekdays	When one documented complaint is received	75dB(A)

Table 3.2d Action and Limit Levels for Water Quality

Parameter (unit)	Water Depth	Action Level	Limit Level
Dissolved Oxygen (mg/L)	Depth average	CS1: 4.7 IS1: 7.0 IS2: 5.3 IS4: 4.1 IS6:5.9 CS5: 5.9 BS1:3.9	CS1: 4.5 IS1: 6.8 IS2: 5.2 IS4: 3.8 IS6: 5.8 CS5: 5.8 BS1: 3.7
Turbidity (NTU)	Depth average	CS1: 13.6 IS1: 27.7 IS2: 35.5 IS4: 70.9	CS1: 13.8 IS1: 29.9 IS2: 38.1 IS4: 74.6

		CS5: 4.9 BS1:29.9	CS5: 5.0 BS1:32.6
		IS6: 120% of upstream control station	IS6: 130% of upstream control station
Suspended Solids (mg/L)	Depth average	CS1: 18.5 IS1: 28.0 IS2: 39.8 IS4: 155 CS5: 5.0 BS1:36.5	CS1: 19.7 IS1: 28.8 IS2: 41.2 IS4: 175 CS5: 5.8 BS1:36.9
		IS6: 120% of upstream control station	IS6: 130% of upstream control station

Note:
(1) Depth-averaged is calculated by taking the arithmetic means of reading of all three depths
(2) For DO, non-compliance of the water quality limit occurs when monitoring result is lower that the limit.
(3) For SS & turbidity non-compliance of the water quality limits occur when monitoring result is higher than the limits.

Event and Action Plan

3.4 Should non-compliance of the criteria occur, action in accordance with the Action Plan in **Appendix G** shall be carried out.

Implementation Status of Environmental Mitigation Measures

3.5 Relevant mitigation measures as recommended in the EIA report have been stipulated in the EM&A Manual for the Contractor to implement. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix H**.

Site Audit Summary

3.6 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Contract site. The observations and recommendations made during the reporting period are summarized in **Appendix I**.

Status of Waste Management

3.7 The amount of wastes generated by the activities of the Contract during the reporting period is shown in **Appendix J**.

4 ENVIRONMENTAL MONITORING RESULTS

Air Quality Monitoring Results

4.1 The monitoring results for 1-hour TSP and 24-hour TSP are summarized in **Table 4.1 and 4.2** respectively. Graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices B and C** respectively.

Table 4.1 Summary Table of 1-hour TSP Monitoring Results during the Reporting Period

Month	Monitoring Station	Concentration (µg/m3)		Action Level, µg/m^3	Limit Level, µg/m^3
		Average	Range		
January 2019	DMS – 1	174.3	92.5 – 295.8	353	500
	DMS – 2A	173.5	89.0 – 303.4	370	
	DMS – 3	175.0	114.3 – 281.2	351	
	DMS – 4A	159.3	101.5 – 253.2	350	
February 2019	DMS – 1	126.9	42.2 – 302.2	353	
	DMS – 2A	109.3	62.0 – 190.5	370	
	DMS – 3	123.4	59.5 – 236.2	351	
	DMS – 4A	112.8	65.1 – 210.3	350	
March 2019	DMS – 1	122.7	87.1 – 207.2	353	
	DMS – 2A	109.8	57.7 – 237.0	370	
	DMS – 3	124.4	47.0 – 208.2	351	
	DMS – 4A	116.7	50.3 – 222.3	350	

Table 4.2 Summary Table of 24-hour TSP Monitoring Results during the Reporting Period

Month	Monitoring Station	Concentration (µg/m3)		Action Level, µg/m^3	Limit Level, µg/m^3
		Average	Range		
January 2019	DMS – 1	100.7	66.0 – 168.6	184	260
	DMS – 2A	87.6	64.7 – 112.6	166	
	DMS – 3	98.5	67.7 – 132.0	166	
	DMS – 4A	110.1	70.5 – 136.8	152	
February 2019	DMS – 1	69.1	46.7 – 127.6	184	
	DMS – 2A	70.9	56.0 – 85.6	166	
	DMS – 3	62.8	50.6 – 82.3	166	
	DMS – 4A	43.4	24.2 – 87.7	152	
March 2019	DMS – 1	69.6	19.4 – 104.8	184	
	DMS – 2A	49.7	32.5 – 68.1	166	
	DMS – 3	57.3	28.9 – 81.3	166	
	DMS – 4A	38.5	11.5 – 97.5	152	

4.2 According to our field observations, the major dust source identified at the designated air quality monitoring stations in the reporting period are as follows:

Table 4.3 Observation at Dust Monitoring Stations

Monitoring Stations	Major Dust Source
DMS-1	Excavator, Dump trucks, Backhoe, Crane, Drill rig, Road Traffic
DMS-2A	Road traffic
DMS-3	Excavator, Dump Truck, Road traffic
DMS-4A	Road traffic

Noise Quality Monitoring Results

4.3 The noise monitoring results are summarized in **Table 4.4**. Graphical presentations of noise monitoring are shown in **Appendix D**.

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

Month	Monitoring Station	Noise Level, $L_{eq\ (30min)}$ dB(A)		Limit Level
		Average	Range	
January 2019	NMS-1	62.5	58.8 – 65.0	75 dB(A)
	NMS-2	69.9	67.1 – 72.7	
	NMS-3	53.6	49.8 – 54.6	
	NMS-4A	50.8	39.2 – 54.9	
February 2019	NMS-1	56.8	39.0 – 59.5	
	NMS-2	71.7	65.8 – 73.7	
	NMS-3	53.1	47.1 – 55.8	
	NMS-4A	50.4	49.1 – 51.6	
March 2018	NMS-1	58.4	52.0 – 60.7	
	NMS-2	70.3	68.4 – 71.9	
	NMS-3	57.7	55.9 – 60.1	
	NMS-4A	50.4	47.3 – 53.4	

Remark: +3dB(A) Façade correction included

4.4 According to our field observations, the major noise source identified at the designated noise monitoring stations in the reporting period are as follows:

Table 4.5 Observation at Noise Monitoring Stations

Monitoring Stations	Major Dust Source
NMS-1	Mobile crane, Dump trucks, Backhoe, Drill rig, Road traffic
NMS-2	Road traffic
NMS-3	Road traffic
NMS-4A	N/A

Water Quality Monitoring Results

4.5 The graphical presentation of water quality at the monitoring stations is shown in **Appendix E**.

Ecological Monitoring Results

4.6 The graphical presentation of Ecological Monitoring (Avifauna) is shown in **Appendix F**.

4.7 The photographic record of Ecological Monitoring (Mammals) is shown in the Monthly EM&A Reports.

5 ENVIRONMENTAL NON-CONFORMANCE (EXCEEDANCES)

Summary of Exceedances

5.1 Summary of exceedance is provided in **Appendix K**. The details of the exceedances were attached in the Monthly EM&A Report.

Air Quality

5.2 No Action/Limit Level exceedance was recorded in the reporting period.

Noise

5.3 No Action/Limit Level exceedance was recorded in the reporting period.

Water Quality

5.4 Water monitoring station IS6 was found dried out in the monitoring period, thus, no monitoring was conducted. The water monitoring will resume once there is water flow at IS6. Other water quality monitoring was conducted as scheduled in the reporting period. One (1) Action Level non-project related exceedance and Nine (9) Limit Level non-project related exceedances for dissolved oxygen. Six (6) Action Level non-project related exceedances and Thirty Four (34) Limit Level non-project related exceedances were recorded for turbidity. Six (6) Action Level non-project related exceedance and Forty (40) Limit Level non-project related exceedances were recorded for suspended solids. After investigation, all exceedances are non-project related.

5.5 According to the investigation, the exceedances are considered not due to the Contract due to the following reasons:

1) No water-based construction activity was conducted;
2) No pollution discharge from land-based construction activity was observed;
3) The exceeded result were similar or within the range of baseline monitoring results
4) Influx of muddy water was observed from Shenzhen River (Mainland China) to Old Shenzhen River Meander (Hong Kong) during the monitoring which caused the dispersion of riverbed sediment to the monitoring station. Such disturbance resulted in excess of nutrient and caused the bacterial to decompose then used up the dissolved oxygen in the water
5) Green color of river was observed, it is considered due to rapid growth of algae that caused high turbidity and also contributed to high total suspended solid concentration.

6 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

6.1 This Quarterly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken in the period from January to March 2019 in accordance with EM&A Manual.

6.2 No Action /Limit Level exceedance was recorded for air quality and construction noise.

6.3 One (1) Action Level non-project related exceedance and Nine (9) Limit Level non-project related exceedances for dissolved oxygen. Six (6) Action Level non-project related exceedances and Thirty Four (34) Limit Level non-project related exceedances were recorded for turbidity. Six (6) Action Level non-project related exceedance and Forty (40) Limit Level non-project related exceedances were recorded for suspended solids. After investigation, all exceedances are non-project related.

6.4 During this quarter of Avifauna monitoring, no adverse impact from the activities was noticed from general observations.

6.5 Environmental site inspection was conducted on 4th, 11th, 18th, 25th January and 1st, 8th, 13th, 22nd February and 1st, 6th, 13th, 22nd, 29th March 2019 by ET in the reporting period.

6.6 There was no environmental complaints, no notification of summons and successful prosecution received in the reporting period.

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

Recommendations

6.8 According to the environmental audit performed in the reporting period, the following recommendations were made:

Air Quality Impact

- To enhance dust suppression measures such as water spray on all haul roads, stockpiles, dry surfaces and during unloading of material.
- To cover stockpile of dusty material by impervious material.
- To properly cover up the cement bags on all 3 sides when not in use to avoid dust impact.

Noise Impact

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

Water Impact

- To prevent any surface runoff discharge into meander or stream.
- To review and implement temporary drainage system.
- To identify any wastewater discharges from site.
- To remove the sand or dusty material away from the meander or stream.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To review the capacity of de-silting facilities for discharge.
- To ensure the drainage functions and not clogged with sediment to avoid overflow during rainy season.

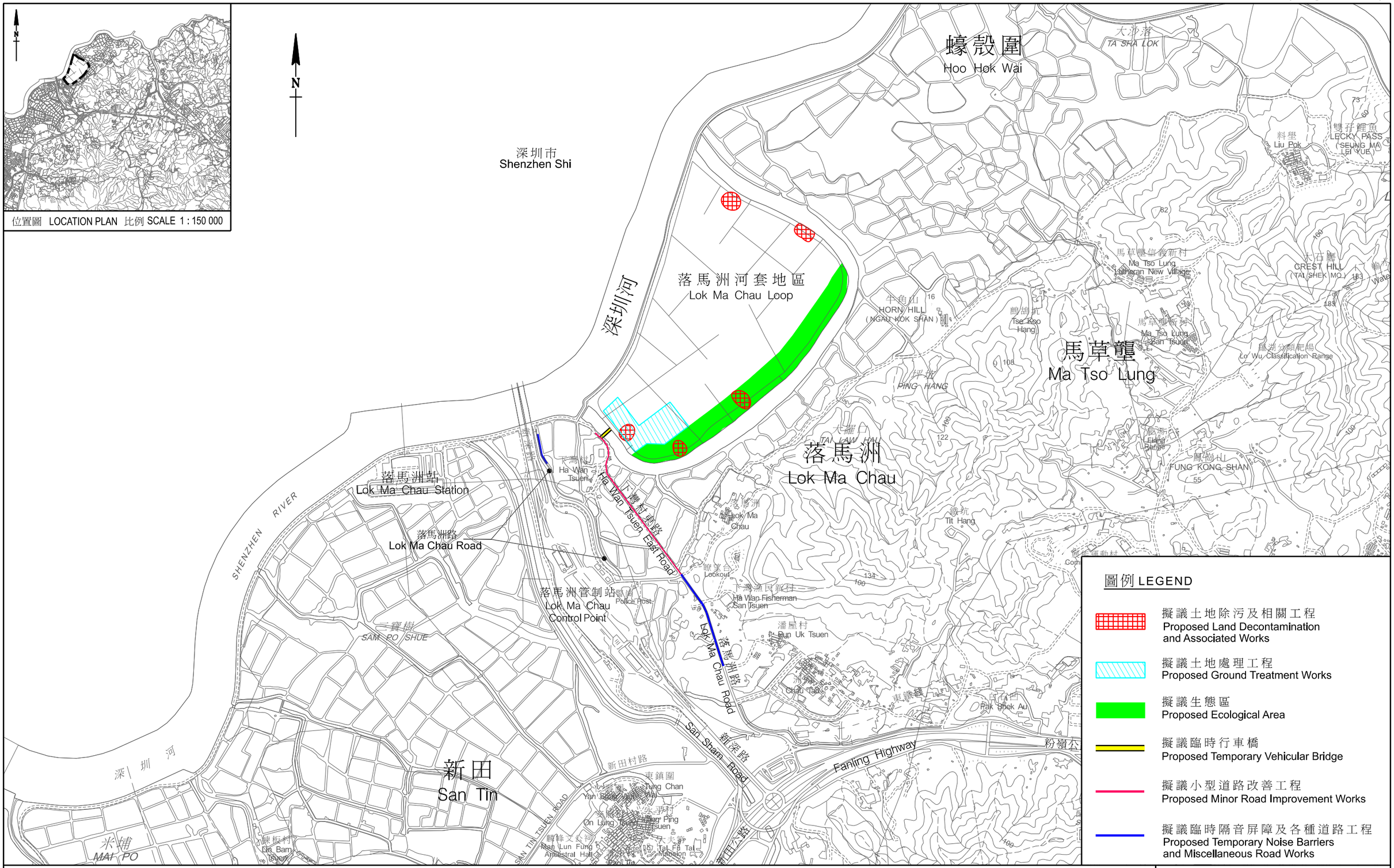
Ecology Impact

- To continuously set up the 3m high olive green fence around the construction site boundary.

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling, storage and dispose of oil drum or chemical containers on site.

FIGURE(S)



工務計劃項目第748CL號—落馬洲河套地區發展：土地除污及前期工程

PWP ITEM No. 748CL-DEVELOPMENT OF LOK MA CHAU LOOP : LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS

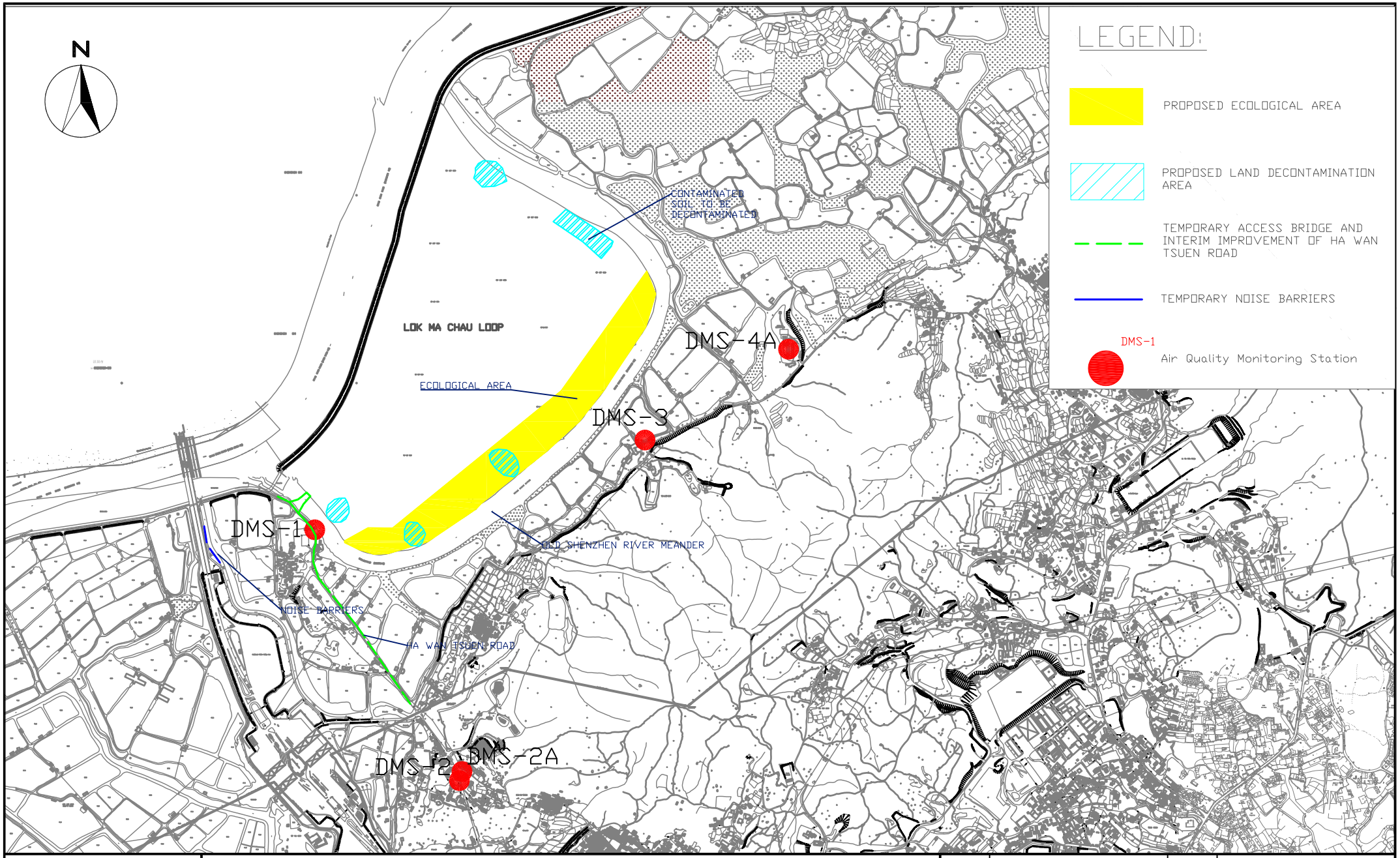
平面圖

LAYOUT PLAN

R:\Sketch-WDO\W1\W1-008\W1-008.dgn

1/2/2018

A3 420MM X 297MM

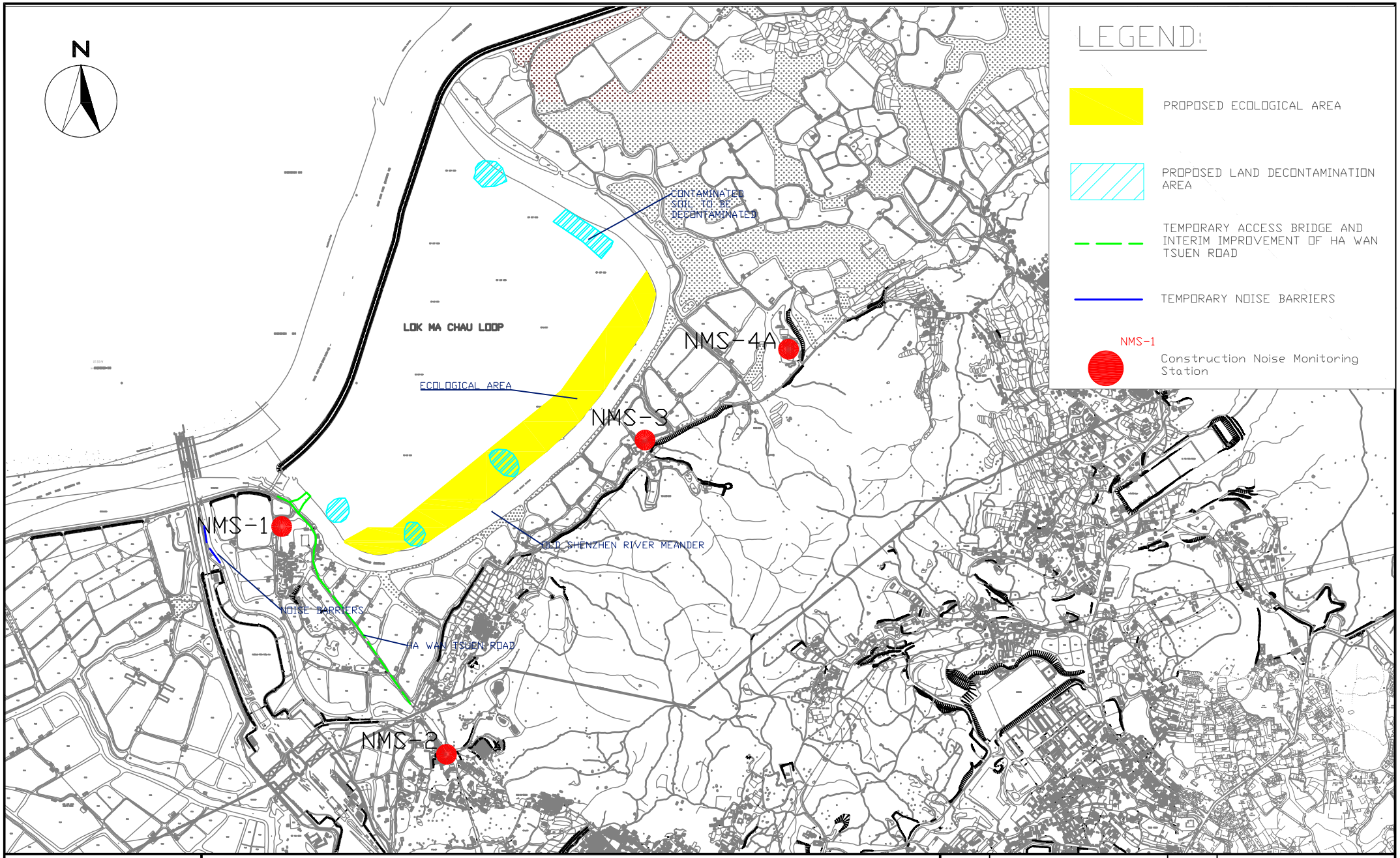


WELLAB 匯力
consulting . testing . research

DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS - DESIGN AND CONSTRUCTION

LOCATION OF AIR QUALITY MONITORING STATION

SCALE	1:400 A4	DATE	NOV 2018
CHECK	IT	DRAWN	VW
JOB No.	WMA 18047	FIGURE NO.	Fig 2
		REV	-

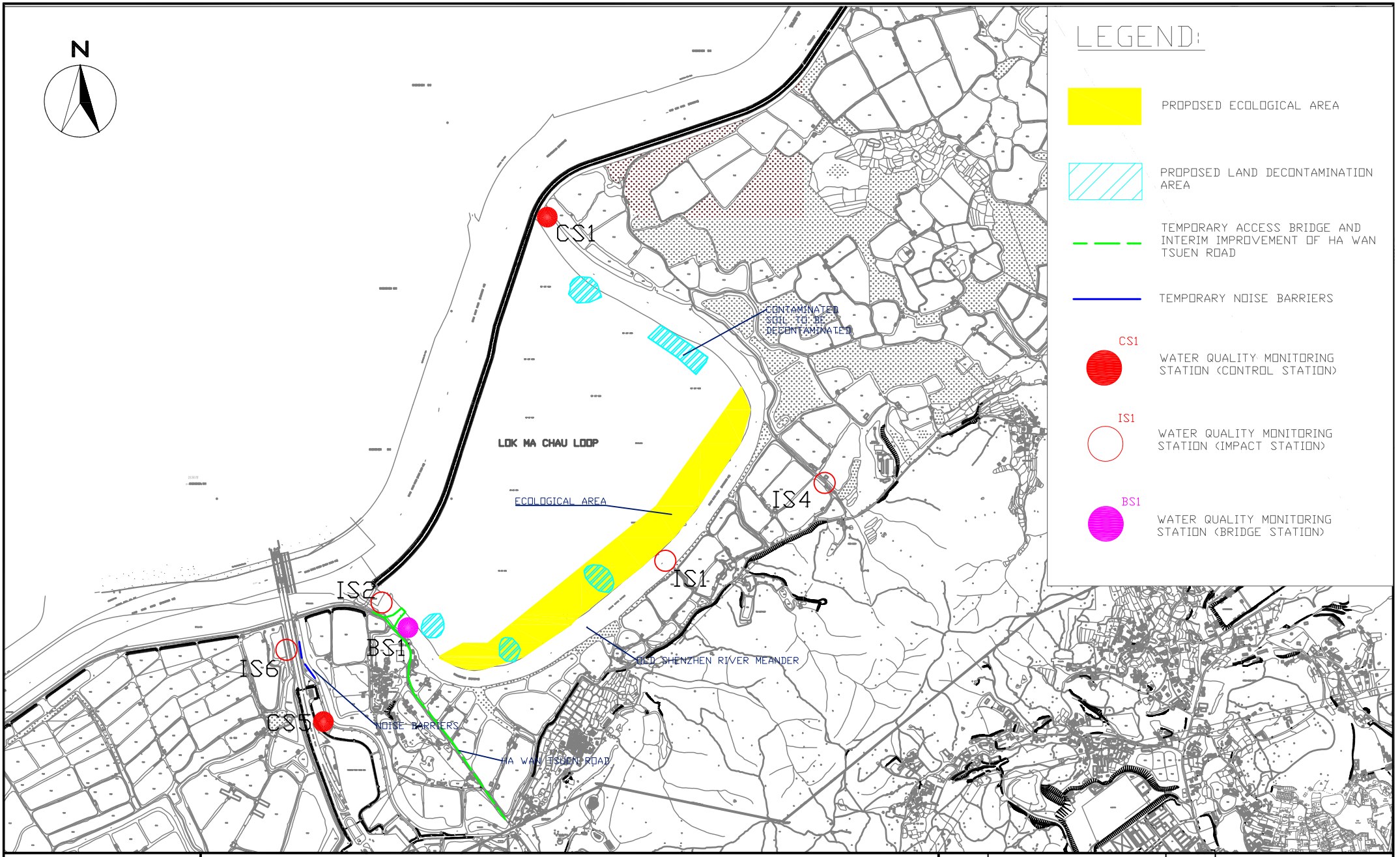


WELLAB 匯力
consulting . testing . research

DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS - DESIGN AND CONSTRUCTION

LOCATION OF NOISE QUALITY MONITORING STATION

SCALE	1:400 A4	DATE	NOV 2018
CHECK	IT	DRAWN	VW
JOB No.	WMA 18047	FIGURE NO.	Fig 3
		REV	-

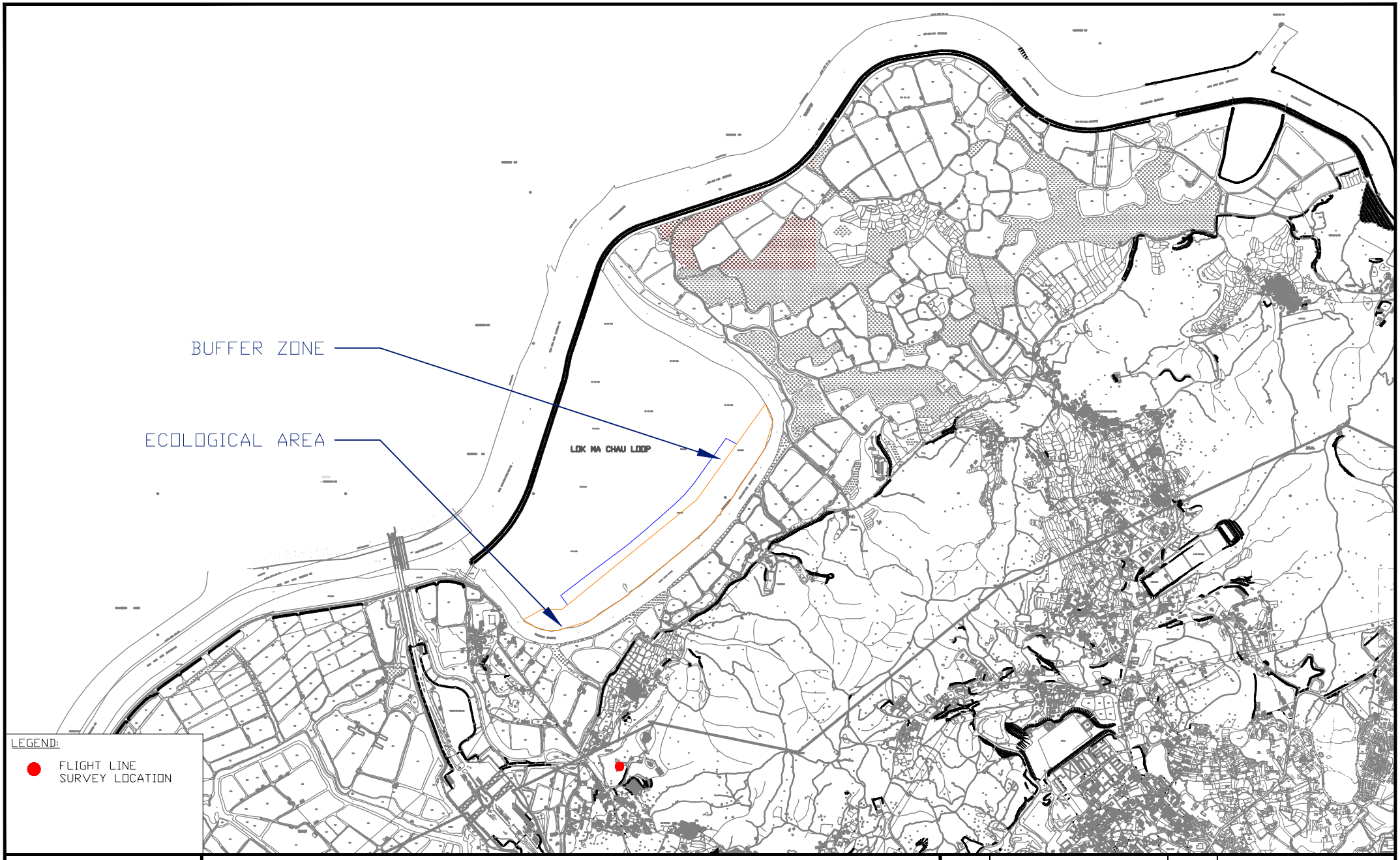


WELLAB 匯力
consulting . testing . research

DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS - DESIGN AND CONSTRUCTION

LOCATION OF WATER QUALITY MONITORING STATION

SCALE	1:400 A4	DATE	FEB 2019
CHECK	IT	DRAWN	JW
JOB No.	WMA 18047	FIGURE NO.	Fig 4
		REV	-



WELLAB

DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS - DESIGN AND CONSTRUCTION

COUNT LOCATION FOR FLIGHT LINES SURVEY OF ALL BIRD SPECIES AND LOCATIONS OF ECOLOGICAL AREA AND ITS BUFFER ZONE

SCALE	1:500 @A4	DATE	FEB 2019
CHECK	IT	DRAWN	JW
JOB No.	WMA 18047	FIGURE NO.	Fig 5
		REV	-

APPENDIX A
CONSTRUCTION PROGRAMME

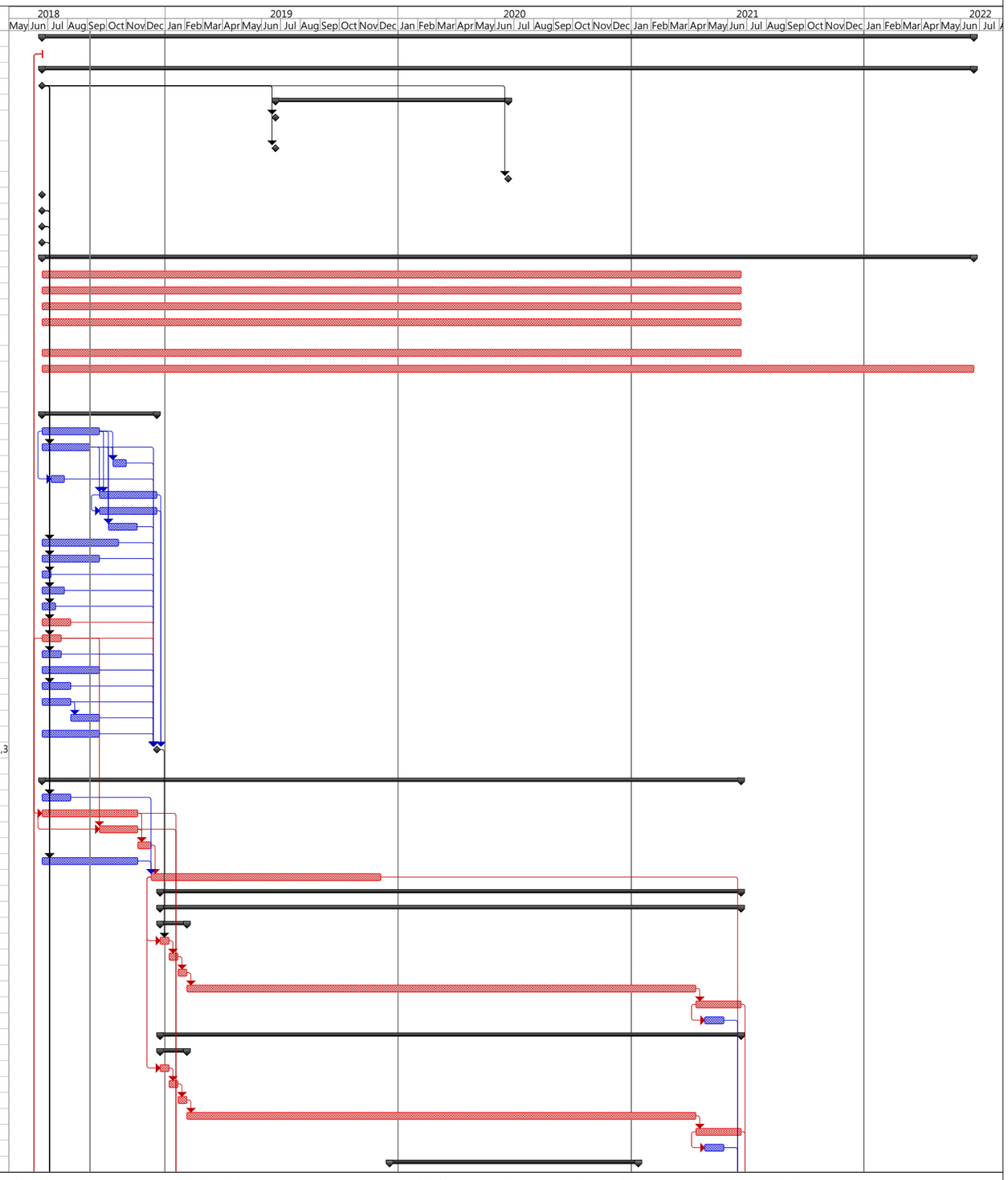
Contract No. YL/2017/03

Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works

Project Programme of the Works **Rev.2 (Data Date : 28 Aug 2018)**

Sang Hing - Kuly Joint Venture

ID	Activity ID	Task Name	Duration	Time risk allowance	Start	Finish	Float	Predecessors
1	**000000**	**Project Programme of the Works**	**1461 days?**		**Fri 22/6/18**	**Tue 21/6/22**	**0 days?**	
2			1 day?		Fri 22/6/18	Fri 22/6/18	0 days?	
3	**100000**	**1. Contract Key Dates**	**1461 days**		**Fri 22/6/18**	**Tue 21/6/22**	**0 days**	
4	**110000**	**1.1 Date for Commencement of the Works**	**0 days**		**Fri 22/6/18**	**Fri 22/6/18**	**0 days**	
5	**120000**	**1.2 Key Dates**	**365 days**		**Sat 22/6/19**	**Sun 21/6/20**	**0 days**	
6	121000	Completion of land decontamination works within the EA zone and ground treatment areas	0 days		Sat 22/6/19	Sat 22/6/19	0 days	4FS+366 days
7	122000	Completion of the temporary vehicular bridge across the old Shenzhen River meander	0 days		Sat 22/6/19	Sat 22/6/19	0 days	4FS+366 days
8	123000	Completion of Ecological Area within the Loop	0 days		Sun 21/6/20	Sun 21/6/20	0 days	4FS+731 days
9	**130000**	**1.3 Site Possession Dates**	**0 days**		**Fri 22/6/18**	**Fri 22/6/18**	**0 days**	
10	131000	Portion A	0 days		Fri 22/6/18	Fri 22/6/18	0 days	
11	132000	Portion B	0 days		Fri 22/6/18	Fri 22/6/18	0 days	
12	133000	Portion C	0 days		Fri 22/6/18	Fri 22/6/18	0 days	
13	**140000**	**1.4 Section Completion of the Works**	**1461 days**		**Fri 22/6/18**	**Tue 21/6/22**	**0 days**	
14	141000	Section I - works in the Portion A	1096 days		Fri 22/6/18	Mon 21/6/21	0 days	
15	142000	Section II - works in the Portion B	1096 days		Fri 22/6/18	Mon 21/6/21	0 days	
16	143000	Section III - decontamination work in the Portion B and the Portion C	1096 days		Fri 22/6/18	Mon 21/6/21	0 days	
17	144000	Section IV - ground treatment works and associated works in the Portion C	1096 days		Fri 22/6/18	Mon 21/6/21	0 days	
18	145000	Section V - all landscape softworks	1096 days		Fri 22/6/18	Mon 21/6/21	0 days	
19	146000	Section VI - all establishment and further establishment work in the Portion B	1461 days		Fri 22/6/18	Tue 21/6/22	0 days	
20								
21	**200000**	**2. Preliminary Works**	**180 days**		**Fri 22/6/18**	**Tue 18/12/18**	**5 days**	
22	201000	Subcontracting submission and approval	90 days		Fri 22/6/18	Wed 19/9/18	5 days	
23	202000	Design and approval of Hoarding & Fencing	75 days		Fri 22/6/18	Tue 4/9/18	20 days	4
24	203000	Construction of Hoarding & Fencing for Site Offices	21 days		Thu 11/10/18	Wed 31/10/18	53 days	23,22FS+21 days
25	204000	Set up Engineer's Temp Accommodation	21 days		Fri 6/7/18	Thu 26/7/18	150 days	22SS+14 days
26	205000	Set up Engineer's Office	90 days		Thu 20/9/18	Tue 18/12/18	5 days	23,22
27	206000	Set up Contractor's Site Office	90 days		Thu 20/9/18	Tue 18/12/18	5 days	26SS
28	207000	Submission and construction of Project Signboard	45 days		Thu 4/10/18	Sat 17/11/18	36 days	23,22FS+14 days
29	208000	Initial topographic survey	120 days		Fri 22/6/18	Fri 19/10/18	65 days	4
30	209000	Prepare, submit & Approve ICE	90 days		Fri 22/6/18	Wed 19/9/18	95 days	4
31	210000	Prepare, Submit Draft Safety Plan	14 days		Fri 22/6/18	Thu 5/7/18	171 days	4
32	211000	Review & Approve Safety Plan	35 days		Fri 22/6/18	Thu 26/7/18	150 days	4
33	212000	Prepare, Submit, Approve Environmental Management Plan	21 days		Fri 22/6/18	Thu 12/7/18	164 days	4
34	213000	Application & Approve Environmental Licenses	45 days		Fri 22/6/18	Sun 5/8/18	0 days	4
35	214000	Prepare, Submit & Approve Traffic Consultant	30 days		Fri 22/6/18	Sat 21/7/18	0 days	4
36	215000	Prepare and Submit Smart Card System	30 days		Fri 22/6/18	Sat 21/7/18	155 days	4
37	216000	Site Liaison Group	90 days		Fri 22/6/18	Wed 19/9/18	95 days	
38	217000	Permit Application for Temporary Access along Border Road	45 days		Fri 22/6/18	Sun 5/8/18	140 days	4
39	218000	Forming of temporary Access Road for Pedestrian	45 days		Fri 22/6/18	Sun 5/8/18	95 days	
40	219000	Installation of 3M-high Olive Green Fence along major reed marsh area	45 days		Mon 6/8/18	Wed 19/9/18	95 days	39
41	220000	Searching for Otter holts / dens and Herpetofaunal species	90 days		Fri 22/6/18	Wed 19/9/18	95 days	
42	299999	Complete all preliminary items	0 days		Tue 18/12/18	Tue 18/12/18	5 days	23,24,25,26,27,28,29,30,31,3
43								
44	**300000**	**3. Section I of the works - Works in the Portion A**	**1096 days**		**Fri 22/6/18**	**Mon 21/6/21**	**0 days**	
45	301000	Tree survey and submission	45 days		Fri 22/6/18	Sun 5/8/18	126 days	10,11
46	302000	Application for XP	150 days		Fri 22/6/18	Sun 18/11/18	0 days	35SS
47	303000	Prepare TTA for TMLG and approval from TD and RMO	60 days		Thu 20/9/18	Sun 18/11/18	0 days	46SS+90 days,35
48	304000	Application of Traffic Advice and Road Work Advice	21 days		Mon 19/11/18	Sun 9/12/18	0 days	46,47
49	305000	Liaison / coordination to Utility Undertakers / UU diversion	150 days		Fri 22/6/18	Sun 18/11/18	21 days	10,11
50	306000	tree felling / site clearance	360 days		Mon 10/12/18	Wed 4/12/19	0 days	48,49,45
51	**307000**	**Improvement of Ha Wan Tsuen East Road (approx. 850m)**	**911 days**		**Mon 24/12/18**	**Mon 21/6/21**	**0 days**	
52	**307100**	**Workfront I - Road works**	**911 days**		**Mon 24/12/18**	**Mon 21/6/21**	**0 days**	
53	**307110**	**Stage 1**	**42 days**		**Mon 24/12/18**	**Sun 3/2/19**	**0 days**	
54	307120	Drainage work - gully and u-channel & PL ducting	14 days	2 days	Mon 24/12/18	Sun 6/1/19	0 days	50SS+14 days,42
55	307130	Carriageway	14 days	2 days	Mon 7/1/19	Sun 20/1/19	0 days	54
56	307140	Footpath	14 days	1 day	Mon 21/1/19	Sun 3/2/19	0 days	55
57	**307150**	**Stage 2 - 20**	**798 days**	**60 days**	**Mon 4/2/19**	**Sun 11/4/21**	**0 days**	**56**
58	307160	Road marking, traffic sign and road furniture	71 days	6 days	Mon 12/4/21	Mon 21/6/21	0 days	57
59	307161	Lighting Installation by HyD	30 days		Mon 26/4/21	Tue 25/5/21	27 days	58SS+14 days
60	**307200**	**Workfront II - Road works**	**911 days**		**Mon 24/12/18**	**Mon 21/6/21**	**0 days**	
61	**307210**	**Stage 1**	**42 days**		**Mon 24/12/18**	**Sun 3/2/19**	**0 days**	
62	307220	Drainage work - gully and u-channel & PL ducting	14 days	2 days	Mon 24/12/18	Sun 6/1/19	0 days	50SS+14 days
63	307230	Carriageway	14 days	2 days	Mon 7/1/19	Sun 20/1/19	0 days	62
64	307240	Footpath	14 days	1 day	Mon 21/1/19	Sun 3/2/19	0 days	63
65	**307250**	**Stage 2 - 20**	**798 days**	**60 days**	**Mon 4/2/19**	**Sun 11/4/21**	**0 days**	**64**
66	**307260**	**Road marking, traffic sign and road furniture**	**71 days**	**6 days**	**Mon 12/4/21**	**Mon 21/6/21**	**0 days**	**65**
67	307261	Lighting Installation by HyD	30 days		Mon 26/4/21	Tue 25/5/21	27 days	66SS+14 days
68	**307300**	**Workfront III - Road works**	**390 days**		**Thu 19/12/19**	**Mon 11/1/21**	**161 days**	



Project: YL/2017/03 Development of Lok Ma Chau
Data Date: 28 Aug 2018
Submission: 30 Aug 2018

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

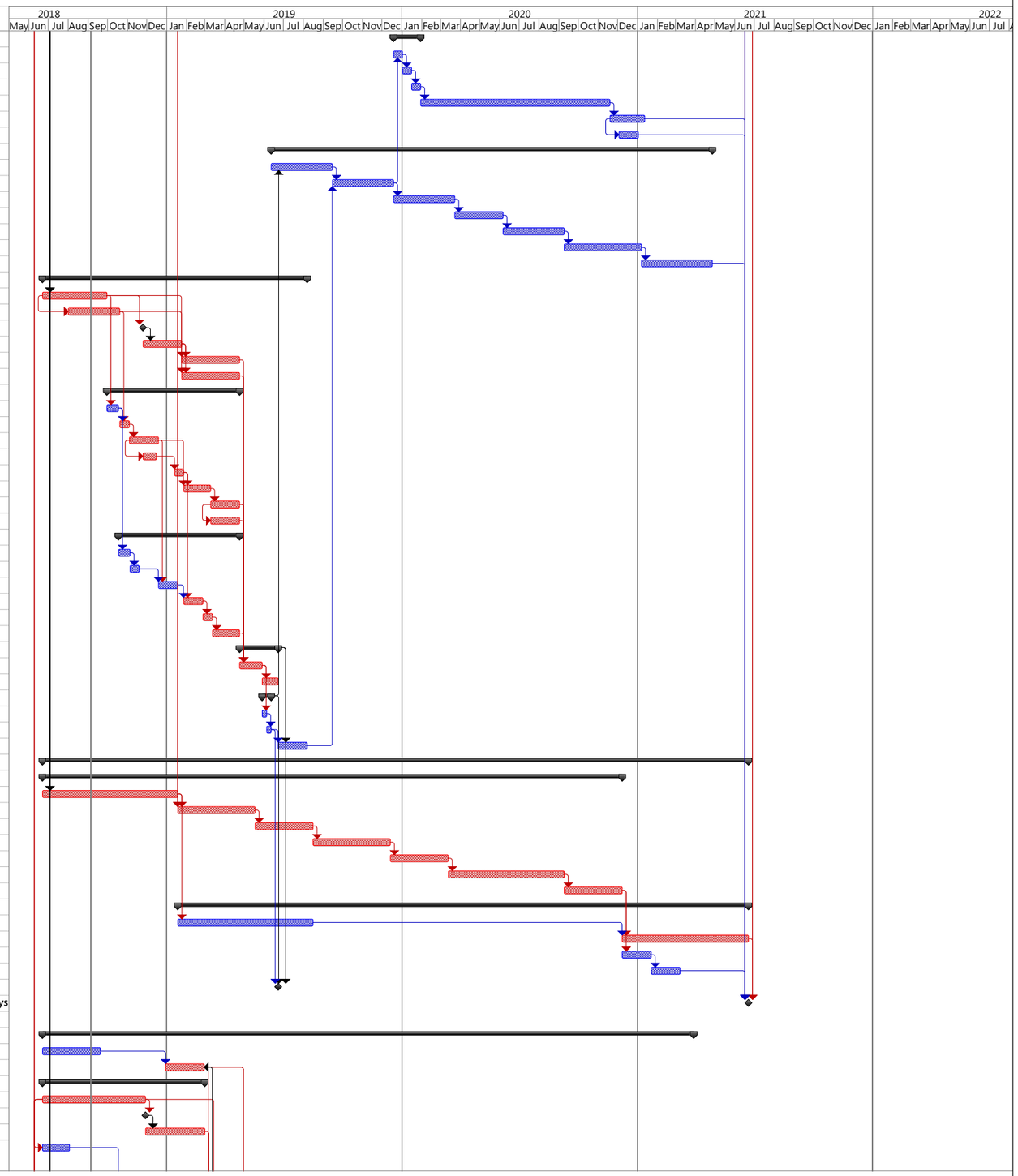
Contract No. YL/2017/03

Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works

Project Programme of the Works **Rev.2 (Data Date : 28 Aug 2018)**

Sang Hing - Kuly Joint Venture

ID	Activity ID	Task Name	Duration	Time risk allowance	Start	Finish	Float	Predecessors
69	**307310**	**Stage 1**	**42 days**		**Thu 19/12/19**	**Wed 29/1/20**	**161 days**	
70	307320	Drainage work - gully and u-channel & PL ducting	14 days	2 days	Thu 19/12/19	Wed 1/1/20	161 days	78
71	307330	Carriageway	14 days	2 days	Thu 2/1/20	Wed 15/1/20	161 days	70
72	307340	Footpath	14 days	1 day	Thu 16/1/20	Wed 29/1/20	161 days	71
73	**307350**	**Stage 2 - 8**	**294 days**	**28 days**	**Thu 30/1/20**	**Wed 18/11/20**	**161 days**	**72**
74	307360	Road marking, traffic sign and road furniture	54 days	6 days	Thu 19/11/20	Mon 11/1/21	161 days	73
75	307361	Lighting Installation by HyD	30 days		Thu 3/12/20	Fri 1/1/21	171 days	74SS+14 days
76	**307400**	**Workfront IV - Retaining Wall**	**685 days**		**Wed 12/6/19**	**Mon 26/4/21**	**26 days**	
77	307410	RW1.5 ~ RW1.8, RW3.4	95 days	7 days	Wed 12/6/19	Sat 14/9/19	26 days	110
78	307420	RW3.5, RW2.9 ~ RW3.3	95 days	7 days	Sun 15/9/19	Wed 18/12/19	26 days	77,113
79	307430	RW1.1 ~ RW1.4	95 days	7 days	Thu 19/12/19	Sun 22/3/20	26 days	78
80	307440	RW2.0 - RW2.3	75 days	7 days	Mon 23/3/20	Fri 5/6/20	26 days	79
81	307450	RW2.4 - RW2.8	95 days	7 days	Sat 6/6/20	Tue 8/9/20	26 days	80
82	307460	Backfilling	120 days	10 days	Wed 9/9/20	Wed 6/1/21	26 days	81
83	307470	Drainage work and roadwork	110 days	10 days	Thu 7/1/21	Mon 26/4/21	26 days	82
84	**308000**	**Vehicular Bridge**	**411 days**		**Fri 22/6/18**	**Tue 6/8/19**	**65 days**	
85	308100	Preparation and submission/CSD Preparation and submission	100 days	9 days	Fri 22/6/18	Sat 29/9/18	0 days	10,11
86	308200	Liaison and obtained approval from DSD & EPD for works in Meander	80 days		Wed 1/8/18	Fri 19/10/18	0 days	85SS+40 days
87	308210	Last day for approval of CSD and return to confirming design	0 days		Sun 25/11/18	Sun 25/11/18	0 days	85
88	308220	Approval from Supervisor and relevant government department	60 days		Sun 25/11/18	Wed 23/1/19	0 days	87
89	308300	Steel bridge fabrication	90 days	5 days	Thu 24/1/19	Tue 23/4/19	0 days	86FS+46 days,88
90	308400	Bearings and movement joints fabrication	90 days	5 days	Thu 24/1/19	Tue 23/4/19	0 days	85FS+60 days,88
91	**308500**	**Central Pier and South Abutment**	**206 days**		**Sun 30/9/18**	**Tue 23/4/19**	**0 days**	
92	308510	Site clearance and formation trimming	18 days	2 days	Sun 30/9/18	Wed 17/10/18	2 days	85
93	308520	Temporary Platform forming for Central Pier and South Abutment	15 days	2 days	Sat 20/10/18	Sat 3/11/18	0 days	92,86
94	308530	Predrilling work and determination of pile founding level	45 days	5 days	Sun 4/11/18	Tue 18/12/18	0 days	93
95	308540	Installation of preliminary pile	21 days	2 days	Sun 25/11/18	Sat 15/12/18	0 days	94SS+21 days
96	308550	Pile testing to preliminary pile	14 days	1 day	Sun 13/1/19	Sat 26/1/19	0 days	95FS+28 days
97	308560	Piling work (10 nos. for SA, 8 nos. for CP)	42 days	4 days	Sun 27/1/19	Sat 9/3/19	0 days	96,94
98	308570	Substructure - Pile Cap and Abutment	45 days	5 days	Sun 10/3/19	Tue 23/4/19	0 days	97
99	308580	Substructure - Pile cap and Pier	45 days	5 days	Sun 10/3/19	Tue 23/4/19	0 days	98SS
100	**308600**	**North Abutment**	**188 days**		**Thu 18/10/18**	**Tue 23/4/19**	**0 days**	
101	308610	Site clearance and formation trimming	18 days	2 days	Thu 18/10/18	Sun 4/11/18	39 days	92
102	308620	Temporary platform forming for North Abutment	14 days	1 day	Mon 5/11/18	Sun 18/11/18	39 days	101
103	308630	Predrilling work and determination of pile founding level	30 days	3 days	Wed 19/12/18	Thu 17/1/19	9 days	102,94
104	308640	Piling work (8 nos. for NA))	30 days	3 days	Sun 27/1/19	Mon 25/2/19	0 days	103,96
105	308650	Pile testing	15 days	1 day	Tue 26/2/19	Tue 12/3/19	0 days	104
106	308660	Substructure - Pile Cap and Abutment	42 days	4 days	Wed 13/3/19	Tue 23/4/19	0 days	105
107	**308700**	**Installation of superstructure**	**60 days**		**Wed 24/4/19**	**Sat 22/6/19**	**0 days**	
108	308710	Installation, Site Welding for Steel Structure	35 days	4 days	Wed 24/4/19	Tue 28/5/19	0 days	99,89,98,90,106
109	308720	RC decking and bituminous pavement	25 days	2 days	Wed 29/5/19	Sat 22/6/19	0 days	108
110	**308800**	**Association temporary road works for matching with bridge**	**14 days**		**Wed 29/5/19**	**Tue 11/6/19**	**11 days**	
111	308810	Temporary road formation works by backfilling	7 days	2 days	Wed 29/5/19	Tue 4/6/19	11 days	108
112	308820	Temporary road surface pavement	7 days	1 day	Wed 5/6/19	Tue 11/6/19	11 days	111
113	308900	Removal of temporary platform	45 days	4 days	Sun 23/6/19	Tue 6/8/19	65 days	107,112
114	**309000**	**Construction of Noise Barrier along Lok Ma Chau Road**	**1096 days**		**Fri 22/6/18**	**Mon 21/6/21**	**0 days**	
115	**309100**	**Construction of Concrete Footing**	**900 days**		**Fri 22/6/18**	**Mon 7/12/20**	**0 days**	
116	309110	Preparation and submission	210 days		Fri 22/6/18	Thu 17/1/19	0 days	10,11
117	309120	TNB10 and TNB13	120 days	10 days	Fri 18/1/19	Fri 17/5/19	0 days	46,47,116
118	309130	TNB 14	90 days	8 days	Sat 18/5/19	Thu 15/8/19	0 days	117
119	309140	TNB 8 and TNB 12	120 days	10 days	Fri 16/8/19	Fri 13/12/19	0 days	118
120	309150	TNB 9	90 days	8 days	Sat 14/12/19	Thu 12/3/20	0 days	119
121	309160	TNB 7, TNB 6, TNB 5 and TNB 16	180 days	15 days	Fri 13/3/20	Tue 8/9/20	0 days	120
122	309170	TNB 4, TNB 3, TNB 2 and TNB 11	90 days	8 days	Wed 9/9/20	Mon 7/12/20	0 days	121
123	**309200**	**Installation of Acrylic Noise Barrier**	**886 days**		**Fri 18/1/19**	**Mon 21/6/21**	**0 days**	
124	309210	Fabrication of acrylic noise barrier	210 days	15 days	Fri 18/1/19	Thu 15/8/19	480 days	116
125	309220	Installation of acrylic noise barrier	196 days	15 days	Tue 8/12/20	Mon 21/6/21	0 days	124,122
126	309300	TNB 1	45 days	4 days	Tue 8/12/20	Thu 21/1/21	106 days	122
127	309400	TNB 15	45 days	4 days	Fri 22/1/21	Sun 7/3/21	106 days	126
128	**310000**	**Key Date for temporary Vehicular Bridge**	**0 days**		**Sat 22/6/19**	**Sat 22/6/19**	**0 days**	**107,110,112**
129	**399999**	**Completion of Section I of the Works**	**0 days**		**Mon 21/6/21**	**Mon 21/6/21**	**0 days**	**127,58,66,74,83FS+30 days**
130								
131	**400000**	**4. Section II of the Works - Works in the Portion B**	**1011 days**		**Fri 22/6/18**	**Sun 28/3/21**	**0 days**	
132	410000	Tree survey and submission	90 days		Fri 22/6/18	Wed 19/9/18	101 days	
133	420000	Tree felling / site clearance	60 days	7 days	Sun 30/12/18	Wed 27/2/19	0 days	144FF-1 day,132
134	**430000**	**Preparation and submission**	**252 days**		**Fri 22/6/18**	**Thu 28/2/19**	**0 days**	
135	431000	Method statement and submission/CSD preparation	160 days		Fri 22/6/18	Wed 28/11/18	0 days	
136	431100	Last day for approval of CSD and return to confirming design	0 days		Wed 28/11/18	Wed 28/11/18	0 days	135
137	431200	Approval from Supervisor and relevant government department	92 days		Thu 29/11/18	Thu 28/2/19	0 days	136
138	432000	Preparation for all necessary submission by EP for notification to EPD for commencement of construction works. (by Contractor)	42 days		Fri 22/6/18	Thu 2/8/18	76 days	135SS



Project: YL/2017/03 Development of Lok Ma Chau
Data Date: 28 Aug 2018
Submission: 30 Aug 2018

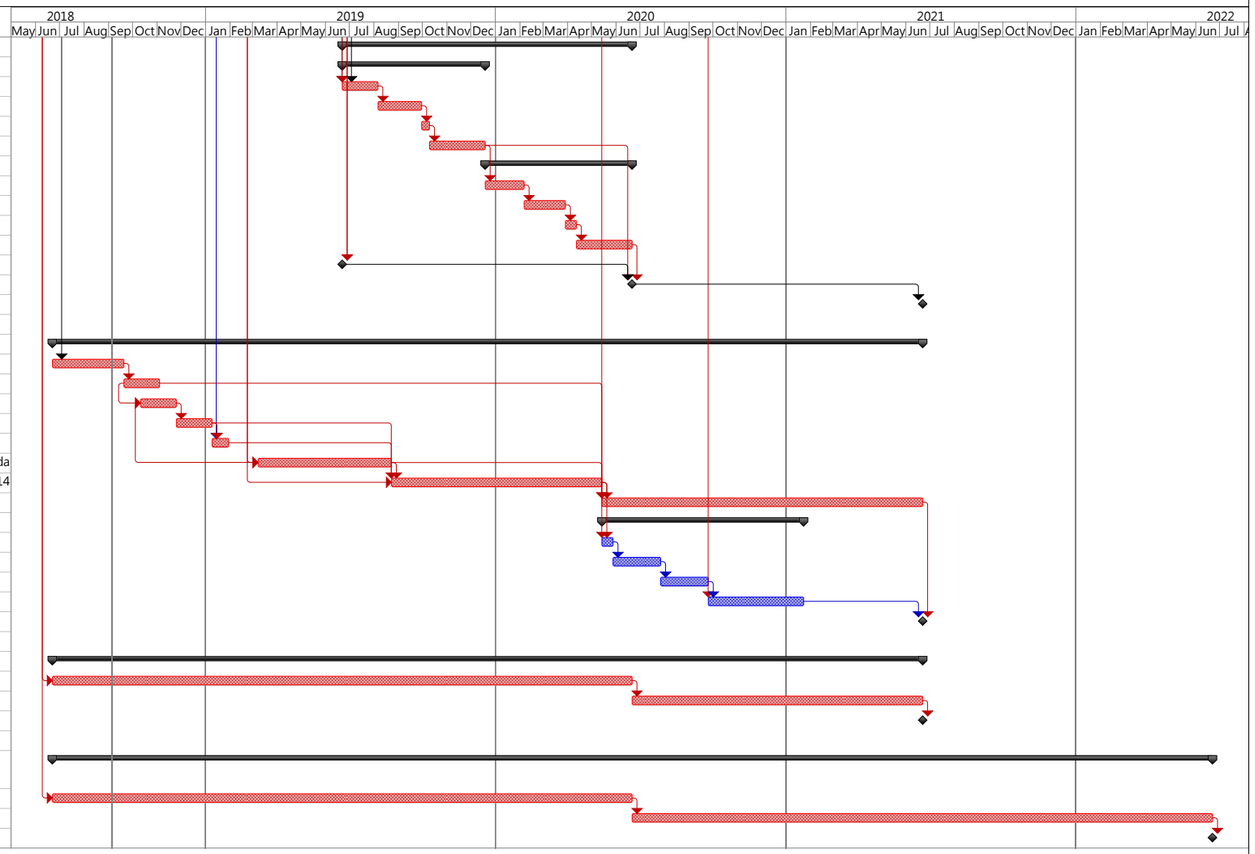
Task	Summary	Rolled Up Milestone	External Tasks	Inactive Task	Manual Task	Manual Summary	Progress
Critical Task	Rolled Up Task	Rolled Up Progress	Project Summary	Inactive Milestone	Duration-only	Start-only	Deadline
Milestone	Rolled Up Critical Task	Split	Group By Summary	Inactive Summary	Manual Summary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

ID	Activity ID	Task Name	Duration	Time risk allowance	Start	Finish	Float	Predecessors
139	432100	Appointment of ET/IEC (by others)	90 days		Fri 22/6/18	Wed 19/9/18	0 days	135SS
140	432200	Conduct Baseline Monitoring by ET (by others)	28 days		Thu 20/9/18	Wed 17/10/18	0 days	139
141	433000	Submission to EPD for notification of commencement of construction works at Portion B	30 days		Thu 18/10/18	Fri 16/11/18	0 days	140,138
142	440000	Determination of the toe level of stone column by cone penetration test (by other)	75 days		Thu 28/2/19	Mon 13/5/19	0 days	133,140
143	**450000**	**Works for stone column**	**245 days**		**Fri 1/3/19**	**Thu 31/10/19**	**0 days**	
144	450010	Commencement of construction works at Portion B	0 days		Fri 1/3/19	Fri 1/3/19	0 days	141FS+104 days,137
145	**451000**	**Stone column - workfront I (North Embankment)**	**194 days**		**Fri 1/3/19**	**Tue 10/9/19**	**0 days**	
146	451100	Excavation	60 days	5 days	Fri 1/3/19	Mon 29/4/19	0 days	144
147	451120	Rock filling	60 days	5 days	Fri 15/3/19	Mon 13/5/19	0 days	146SS+14 days,135
148	451130	Construction of stone column	120 days	10 days	Tue 14/5/19	Tue 10/9/19	0 days	147SS+60 days,142
149	**452000**	**Stone column - workfront II (South Embankment)**	**194 days**		**Fri 1/3/19**	**Tue 10/9/19**	**0 days**	
150	452100	Excavation	60 days	5 days	Fri 1/3/19	Mon 29/4/19	0 days	146SS
151	452200	Rock filling	60 days	5 days	Fri 15/3/19	Mon 13/5/19	0 days	150SS+14 days
152	452300	Construction of stone column	120 days	10 days	Tue 14/5/19	Tue 10/9/19	0 days	151SS+60 days,142
153	**453000**	**Stone column - workfront III (North Embankment)**	**174 days**		**Tue 30/4/19**	**Sun 20/10/19**	**11 days**	
154	453100	Excavation	90 days	7 days	Tue 30/4/19	Sun 28/7/19	11 days	133,146
155	453200	Rock filling	100 days	10 days	Tue 14/5/19	Wed 21/8/19	11 days	154SS+14 days,147
156	453300	Construction of stone column	100 days	10 days	Sat 13/7/19	Sun 20/10/19	11 days	155SS+60 days,142
157	**454000**	**Stone column - workfront IV (South Embankment)**	**174 days**		**Tue 30/4/19**	**Sun 20/10/19**	**11 days**	
158	454100	Excavation	90 days	7 days	Tue 30/4/19	Sun 28/7/19	11 days	133,150
159	454200	Rock filling	100 days	10 days	Tue 14/5/19	Wed 21/8/19	11 days	158SS+14 days,151
160	454300	Construction of stone column	100 days	10 days	Sat 13/7/19	Sun 20/10/19	11 days	159SS+60 days,142
161	**455000**	**Stone column - workfront V (Inter. Embankment)**	**215 days**		**Sun 31/3/19**	**Thu 31/10/19**	**0 days**	
162	455100	Excavation	100 days	7 days	Sun 31/3/19	Mon 8/7/19	0 days	146SS+30 days
163	455200	Rock filling	120 days	10 days	Sun 14/4/19	Sun 11/8/19	0 days	162SS+14 days
164	455300	Construction of stone column	120 days	10 days	Thu 4/7/19	Thu 31/10/19	0 days	163SS+81 days
165	461000	Excavation for EA zone (Workfront I)	90 days	7 days	Sat 3/8/19	Thu 31/10/19	0 days	152FS-39 days,148FS-39 da
166	462000	Excavation for EA zone (Workfront II)	83 days	7 days	Sun 1/3/20	Fri 22/5/20	0 days	156,160,165FS+120 days
167	463000	Planting of Vegetation inside EA Zone	30 days	2 days	Sat 23/5/20	Sun 21/6/20	0 days	166
168	471000	Construction of drainage incl. inlet, outlet structures and overflow weir	188 days	15 days	Wed 11/9/19	Mon 16/3/20	0 days	148,152
169	472000	Construction of PE pipes by trenchless method	120 days	10 days	Thu 9/1/20	Thu 7/5/20	50 days	168SS+120 days
170	473000	Installation of associated works (Penstocks and valves)	90 days	7 days	Mon 22/6/20	Sat 19/9/20	5 days	168,169,174
171	**481000**	**Construction of Embankment (North Embankment)**	**130 days**		**Sat 3/8/19**	**Tue 10/12/19**	**67 days**	
172	481100	Rockfill	90 days	10 days	Sat 3/8/19	Thu 31/10/19	67 days	165SS
173	481200	Eco-bag system construction	40 days	3 days	Fri 1/11/19	Tue 10/12/19	67 days	172
174	**482000**	**Construction of Embankment (South Embankment)**	**97 days**		**Tue 17/3/20**	**Sun 21/6/20**	**0 days**	
175	482100	Rockfill	70 days	7 days	Tue 17/3/20	Mon 25/5/20	0 days	168,173FS+30 days
176	482200	Eco-bag system construction	27 days	2 days	Tue 26/5/20	Sun 21/6/20	0 days	175
177	483000	Construction of access road along south embankment	95 days	12 days	Mon 22/6/20	Thu 24/9/20	0 days	176
178	484000	Construction of access road along intermediate embankment	90 days	10 days	Fri 25/9/20	Wed 23/12/20	0 days	177,170
179	485100	Construction of bird hide	95 days	7 days	Thu 24/12/20	Sun 28/3/21	0 days	178
180	485200	Construction of otter holts	95 days	7 days	Thu 24/12/20	Sun 28/3/21	0 days	179SS
181	486000	Installation of fencing along north embankment	95 days	7 days	Thu 24/12/20	Sun 28/3/21	0 days	179SS
182	**490000**	**Key Date**	**0 days**		**Sun 21/6/20**	**Sun 21/6/20**	**0 days**	**166,174,167**
183	**491000**	**Early completion of Section II of Works**	**0 days**		**Sun 28/3/21**	**Sun 28/3/21**	**0 days**	**181,180**
184	**499999**	**Completion of Section II of the Works**	**0 days**		**Mon 21/6/21**	**Mon 21/6/21**	**0 days**	**177,181,180,183FS+85 days**
185								
186	**500000**	**5. Section III of the Works - Land decontamination works in the Portions B & C**	**730 days**		**Fri 22/6/18**	**Sat 20/6/20**	**0 days**	
187	510000	Preparation and submission	90 days		Fri 22/6/18	Wed 19/9/18	1 day	12
188	520000	Treatment plants establishment	45 days	4 days	Thu 20/9/18	Sat 3/11/18	1 day	187
189	**530000**	**Soil decontamination**	**626 days**		**Thu 4/10/18**	**Sat 20/6/20**	**0 days**	
190	**531000**	**Works within the EA zone and ground treatment area**	**261 days**		**Thu 4/10/18**	**Fri 21/6/19**	**0 days**	
191	**531100**	**LD - 01 (ground improvement area - Portion C)**	**96 days**	**25 days**	**Thu 4/10/18**	**Mon 7/1/19**	**1 day**	
192	531110	Excavation of top layer of soil	21 days	2 days	Thu 4/10/18	Wed 24/10/18	1 day	188SS+14 days
193	531120	Excavation of contaminate soil and decontamination	35 days	3 days	Thu 25/10/18	Wed 28/11/18	1 day	192
194	531130	Confirming test of contamination area	10 days	1 day	Thu 29/11/18	Sat 8/12/18	1 day	193
195	531140	Backfilling and compaction	30 days	3 days	Sun 9/12/18	Mon 7/1/19	1 day	194
196	**531200**	**LD - 02 (Ecological area - Portion B)**	**113 days**		**Fri 1/3/19**	**Fri 21/6/19**	**0 days**	
197	531210	Excavation for contaminated soil for stockpiled for further treatment	21 days	4 days	Fri 1/3/19	Thu 21/3/19	0 days	146SS
198	531220	Excavation of contaminate soil and decontamination	35 days	10 days	Fri 22/3/19	Thu 25/4/19	0 days	197
199	531221	Confirming test of contamination area	12 days	1 day	Fri 26/4/19	Tue 7/5/19	0 days	198
200	531230	Backfilling and compaction	45 days	10 days	Wed 8/5/19	Fri 21/6/19	0 days	188FS+120 days,199
201	**531300**	**LD - 03 (Ecological area - Portion B)**	**113 days**		**Fri 1/3/19**	**Fri 21/6/19**	**0 days**	
202	531310	Excavation for contaminated soil for stockpiled for further treatment	21 days	4 days	Fri 1/3/19	Thu 21/3/19	0 days	197SS
203	531320	Excavation of contaminate soil and decontamination	35 days	10 days	Fri 22/3/19	Thu 25/4/19	0 days	197,202
204	531321	Confirming test of contamination area	12 days	1 day	Fri 26/4/19	Tue 7/5/19	0 days	203
205	531330	Backfilling and compaction	45 days	10 days	Wed 8/5/19	Fri 21/6/19	0 days	188FS+120 days,204

Project: YL/2017/03 Development of Lok Ma Chau
Data Date: 28 Aug 2018
Submission: 30 Aug 2018

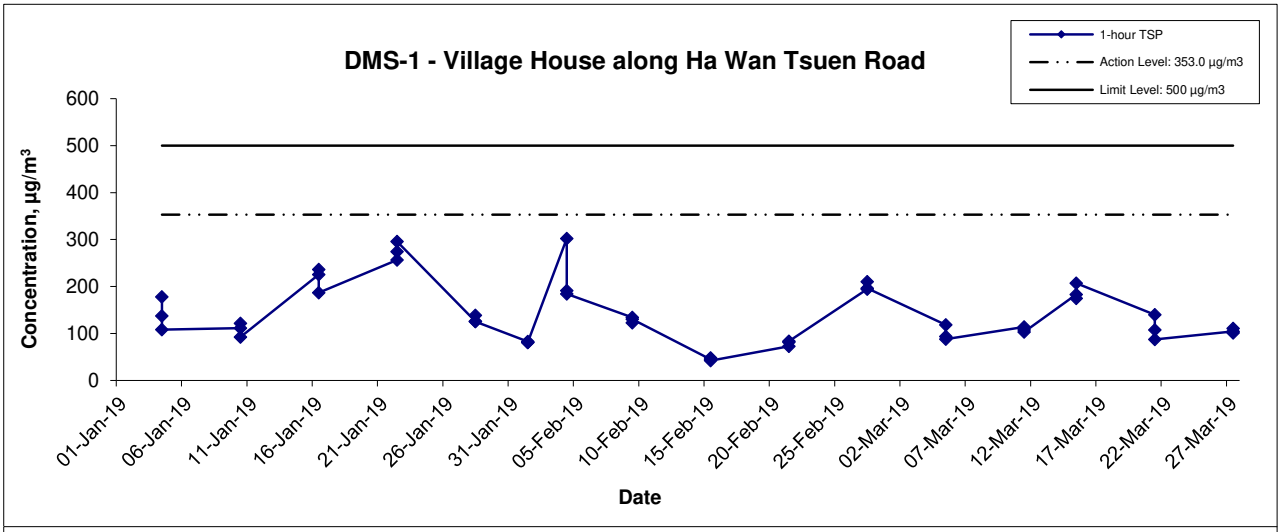
Task
Critical Task
Milestone
Summary
Rolled Up Task
Rolled Up Critical Task
Rolled Up Milestone
Rolled Up Progress
Split
External Tasks
Project Summary
Group By Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only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

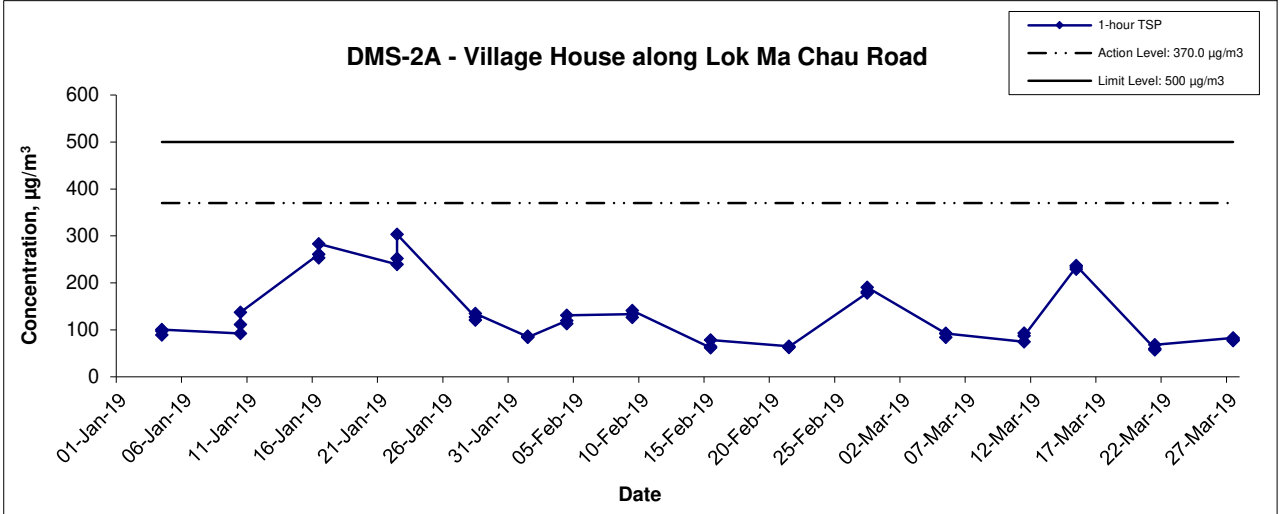
ID	Activity ID	Task Name	Duration	Time risk allowance	Start	Finish	Float	Predecessors
206	**532000**	**Works within Portion C**	**365 days**		**Sat 22/6/19**	**Sat 20/6/20**	**0 days**	
207	**532100**	**LD - 04 (Portion C)**	**180 days**	**35 days**	**Sat 22/6/19**	**Wed 18/12/19**	**0 days**	
208	532110	Excavation of top layer of soil	45 days	4 days	Sat 22/6/19	Mon 5/8/19	0 days	191,196,203
209	532120	Excavation of contaminate soil and decontamination	55 days	5 days	Tue 6/8/19	Sun 29/9/19	0 days	208
210	532130	Confirming test of contamination area	10 days	1 day	Mon 30/9/19	Wed 9/10/19	0 days	209
211	532140	Backfilling and compaction	70 days	6 days	Thu 10/10/19	Wed 18/12/19	0 days	210
212	**532200**	**LD - 05 (Portion C)**	**185 days**	**35 days**	**Thu 19/12/19**	**Sat 20/6/20**	**0 days**	
213	532210	Excavation of top layer of soil	49 days	5 days	Thu 19/12/19	Wed 5/2/20	0 days	211
214	532220	Excavation of contaminate soil and decontamination	52 days	5 days	Thu 6/2/20	Sat 28/3/20	0 days	213
215	532230	Confirming test of contamination area	14 days	1 day	Sun 29/3/20	Sat 11/4/20	0 days	214
216	532240	Backfilling and compaction	70 days	7 days	Sun 12/4/20	Sat 20/6/20	0 days	215
217	**540000**	**Key Date for works in EA zone and ground improvement area**	**0 days**		**Fri 21/6/19**	**Fri 21/6/19**	**0 days**	**205,200**
218	550000	Early completion of Section III of Works	0 days		Sat 20/6/20	Sat 20/6/20	0 days	217,211,216
219	**599999**	**Completion of Section III of the Works**	**0 days**		**Mon 21/6/21**	**Mon 21/6/21**	**0 days**	**218FS+366 days**
220								
221	**600000**	**6. Section IV of the Works - Ground treatment works in the Portion C**	**1096 days**		**Fri 22/6/18**	**Mon 21/6/21**	**0 days**	
222	610000	Preparation and submission	90 days		Fri 22/6/18	Wed 19/9/18	0 days	12
223	620000	Installation of instrumentation and monitoring	45 days	2 days	Thu 20/9/18	Sat 3/11/18	0 days	222
224	631000	Installation of PVD (Area I - Early handover part)	45 days	3 days	Thu 11/10/18	Sat 24/11/18	0 days	223SS+21 days
225	632000	Installation of PVD (Area II - Remaining Part - other than LD001)	45 days	3 days	Sun 25/11/18	Tue 8/1/19	0 days	224
226	633000	Installation of PVD (Area II - Remaining Part - LD-001 location)	21 days	1 day	Wed 9/1/19	Tue 29/1/19	0 days	225,195
227	641000	Surcharge filling and monitoring (Area I - Early handover part)	168 days	5 days	Fri 8/3/19	Thu 22/8/19	0 days	224SS+30 days,146SS+7 da
228	642000	Surcharge filling and monitoring (Area II - Remaining part)	265 days	5 days	Fri 23/8/19	Wed 13/5/20	0 days	227,225,226FS+205 days,14
229	651000	Instrumentation monitoring	404 days		Thu 14/5/20	Mon 21/6/21	0 days	228,223,227
230	**660000**	**Construction of Stone Column**	**254 days**		**Thu 14/5/20**	**Fri 22/1/21**	**150 days**	
231	661000	CPT Test as directed by SO	14 days		Thu 14/5/20	Wed 27/5/20	150 days	142,228
232	662000	Excavation	60 days	5 days	Thu 28/5/20	Sun 26/7/20	150 days	231
233	663000	Rock filling	60 days	5 days	Mon 27/7/20	Thu 24/9/20	150 days	232
234	664000	Construction of stone column	120 days	10 days	Fri 25/9/20	Fri 22/1/21	150 days	233,164
235	**699999**	**Completion of Section IV of the Works**	**0 days**		**Mon 21/6/21**	**Mon 21/6/21**	**0 days**	**234,229**
236								
237	**700000**	**7. Section V of the Works - Landscape softworks**	**1096 days**		**Fri 22/6/18**	**Mon 21/6/21**	**0 days**	
238	710000	Preparation Works	730 days	10 days	Fri 22/6/18	Sat 20/6/20	0 days	2SS
239	720000	Planting Works	366 days	20 days	Sun 21/6/20	Mon 21/6/21	0 days	238
240	**799999**	**Completion of Section V of the Works**	**0 days**		**Mon 21/6/21**	**Mon 21/6/21**	**0 days**	**239**
241								
242	**800000**	**8. Section VI of the Works - establishment and further establishment works in the Portion B**	**1461 days**		**Fri 22/6/18**	**Tue 21/6/22**	**0 days**	
243	810000	Preparation and Planting Works	730 days	10 days	Fri 22/6/18	Sat 20/6/20	0 days	2SS
244	820000	Establishment Works	731 days	20 days	Sun 21/6/20	Tue 21/6/22	0 days	243
245	**899999**	**Completion of Section V of the Works**	**0 days**		**Tue 21/6/22**	**Tue 21/6/22**	**0 days**	**244**

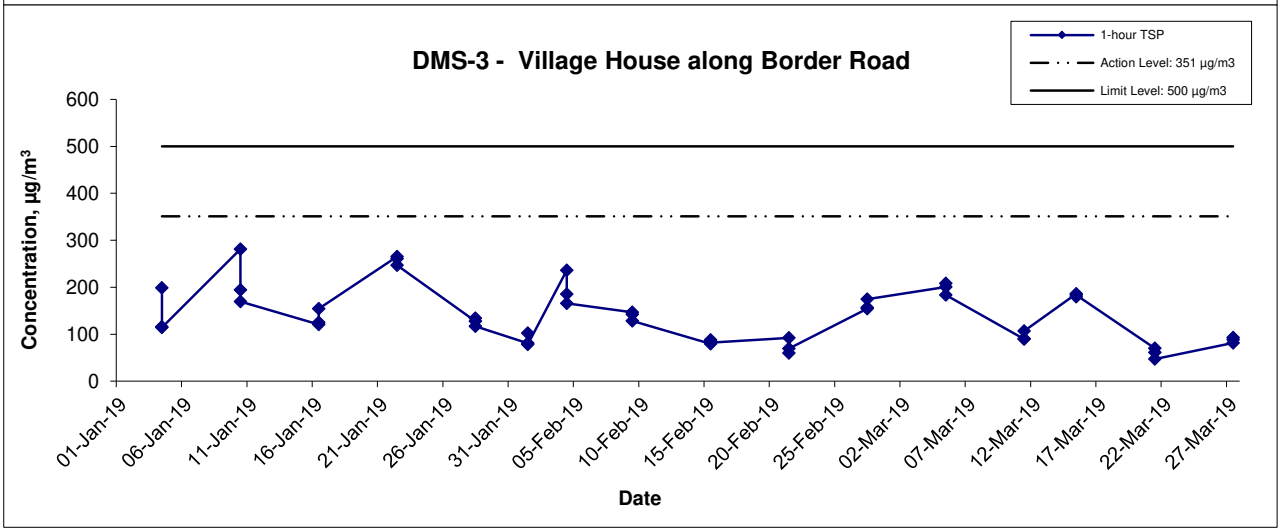


APPENDIX B
GRAPHICAL PRESENTATION OF 1-HOUR TSP MONITORING RESULTS

1-hour TSP Concentration Levels

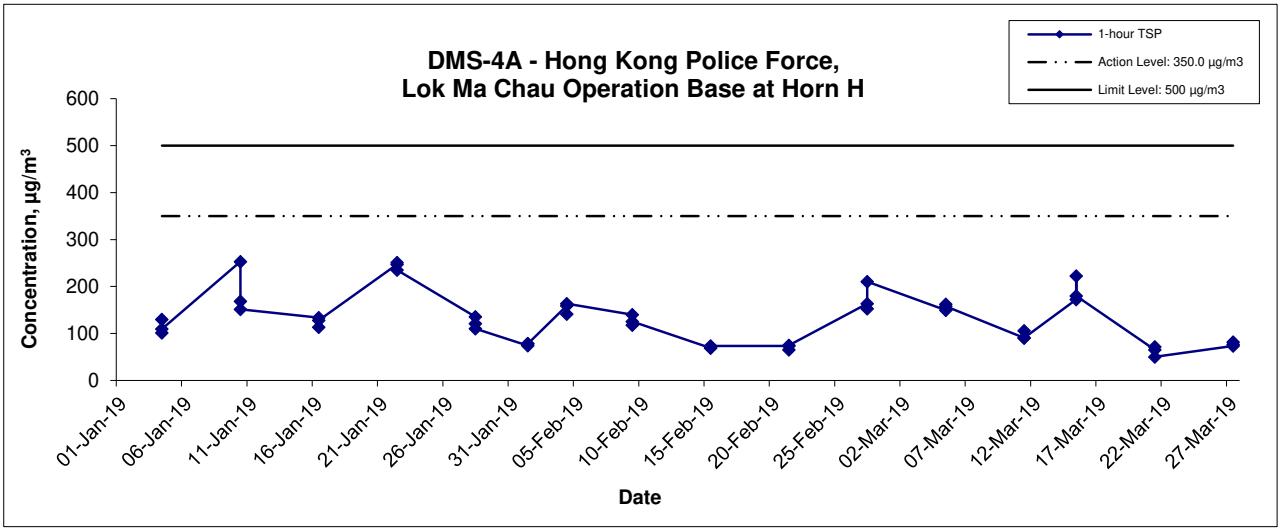






Title: Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S Date: Mar 19	Project No.: WMA18047 Appendix: B	WELLAB 匯力 consulting . testing . research

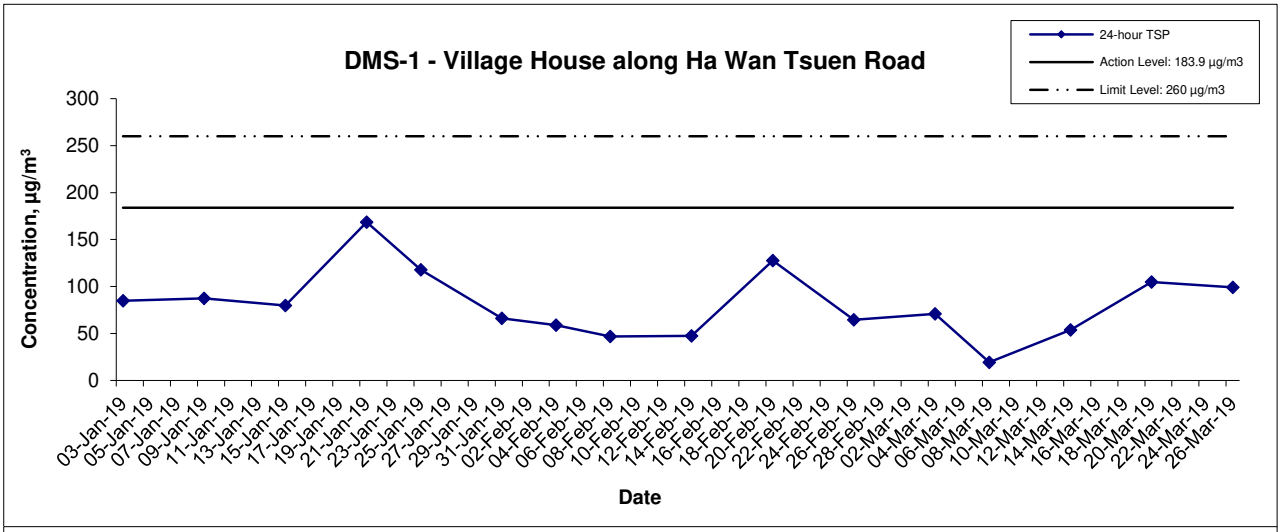
1-hour TSP Concentration Levels

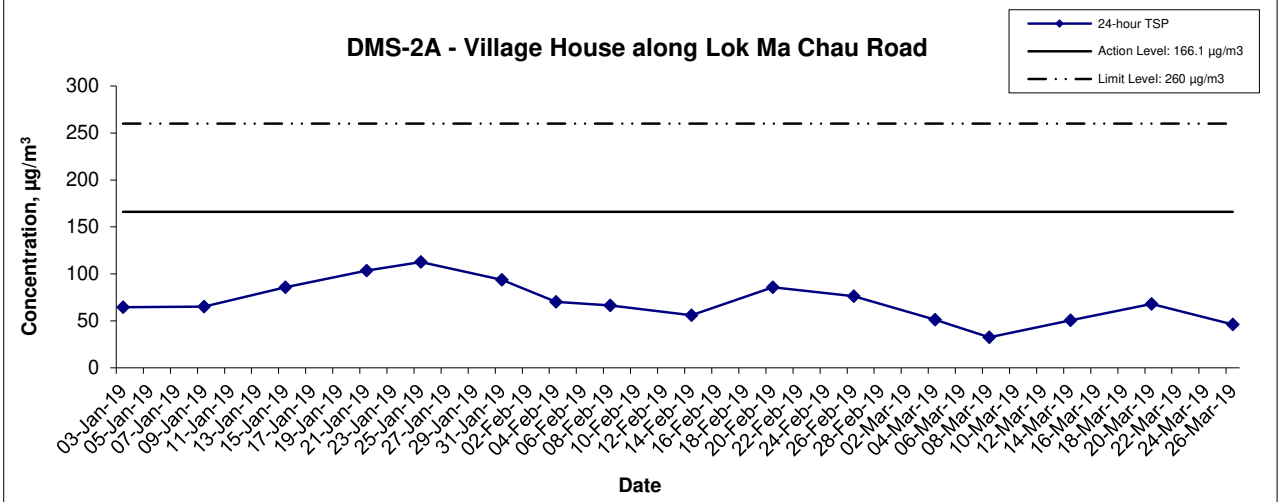


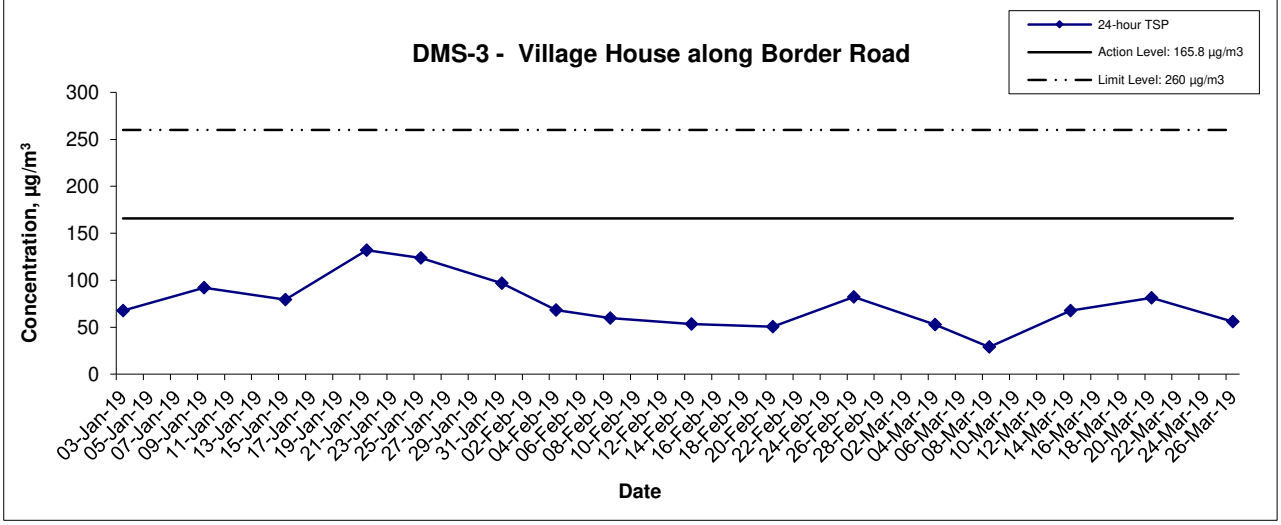
Title: Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S Date: Mar 19	Project No.: WMA18047 Appendix: B	WELLAB 匯力 consulting . testing . research

APPENDIX C
GRAPHICAL PRESENTATION OF 24-HOUR TSP MONITORING RESULTS

24-hour TSP Concentration Levels

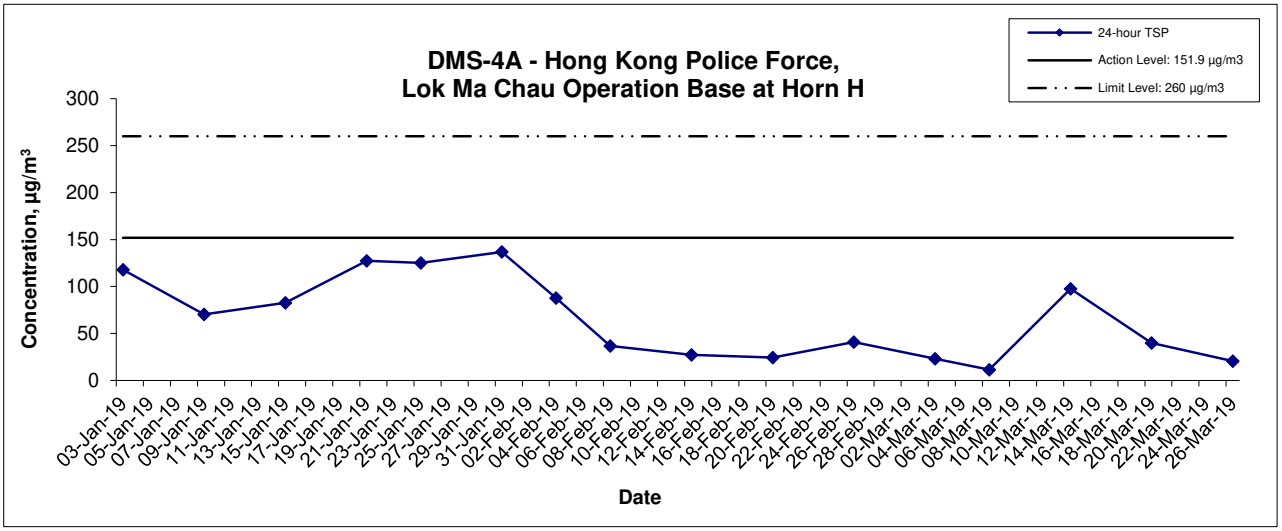






Title: Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S Date: Mar 19	Project No.: WMA18047 Appendix: C	WELLAB 匯力 consulting . testing . research

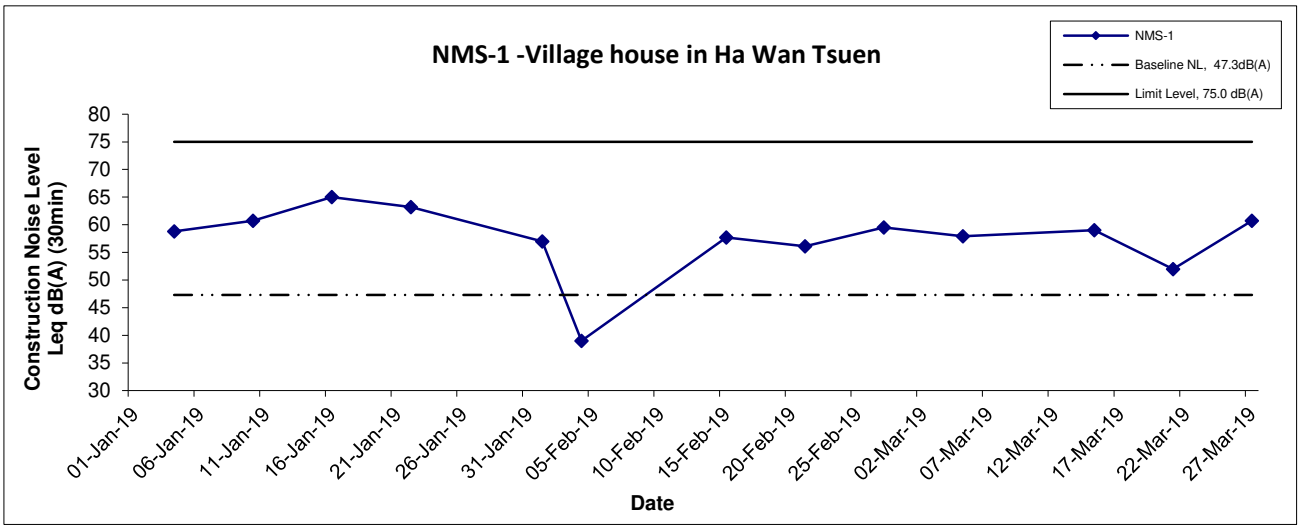
24-hour TSP Concentration Levels

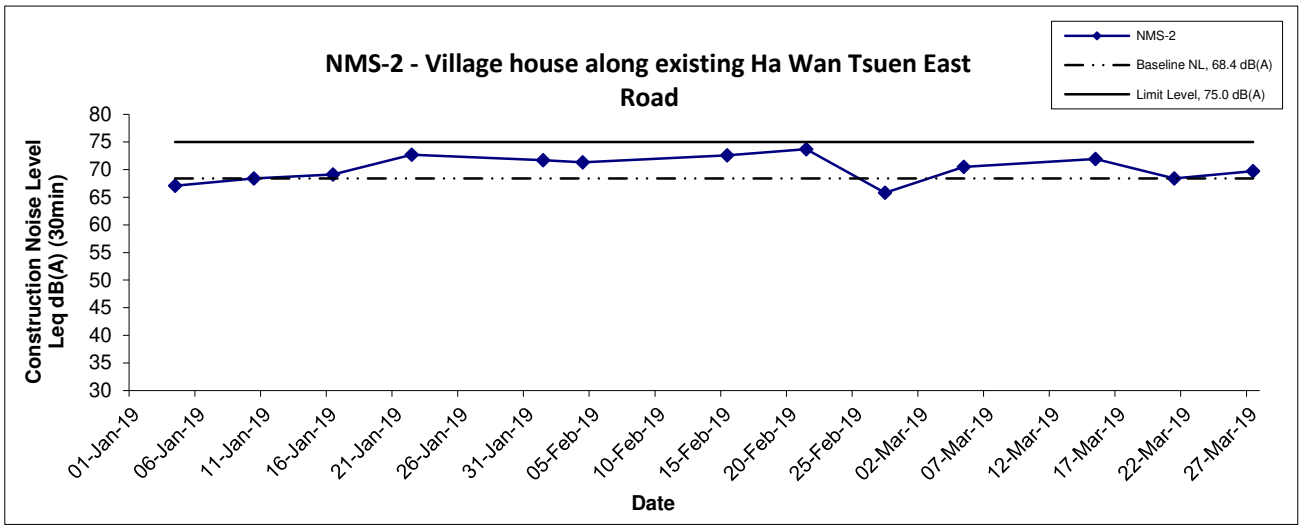


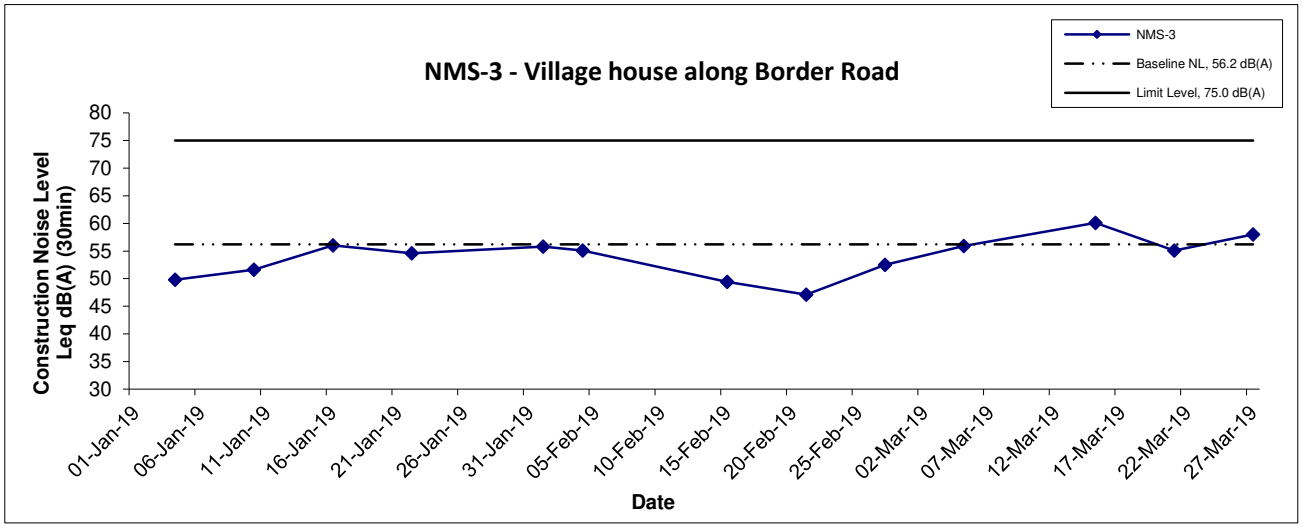
Title: Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction	Scale: N.T.S	Project No.: WMA18047	WELLAB 匯力 consulting . testing . research
Graphical Presentation of 24-hour TSP Monitoring Results	Date: Mar 19	Appendix: C	

APPENDIX D
GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS

Noise Levels

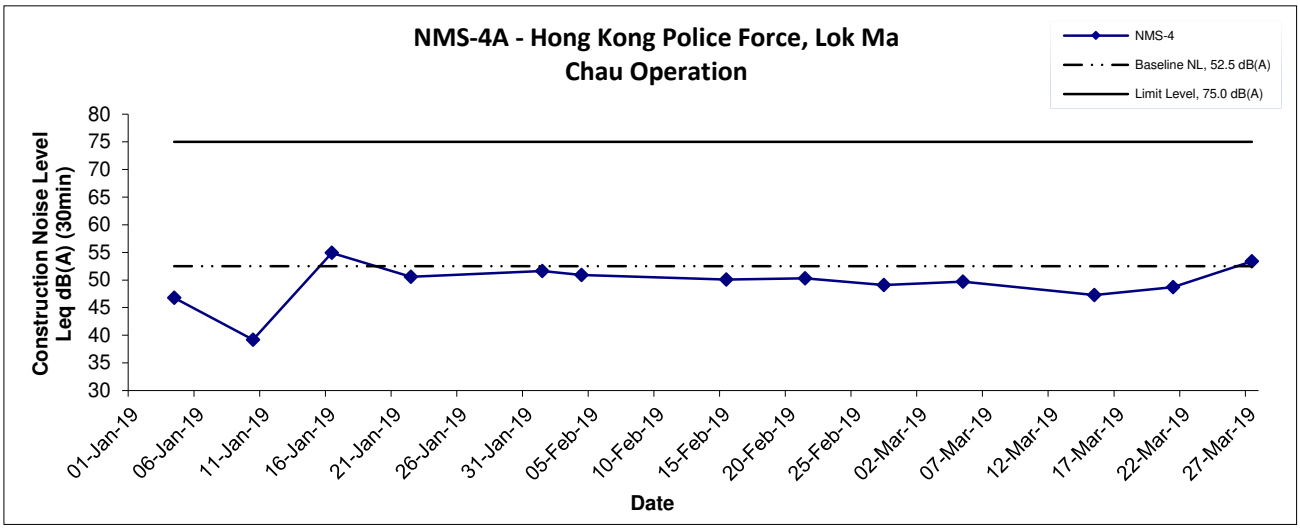






Title: Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works - Design and Construction Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Mar 19	Project No.: WMA18047 Appendix: D	WELLAB 匯力 consulting . testing . research

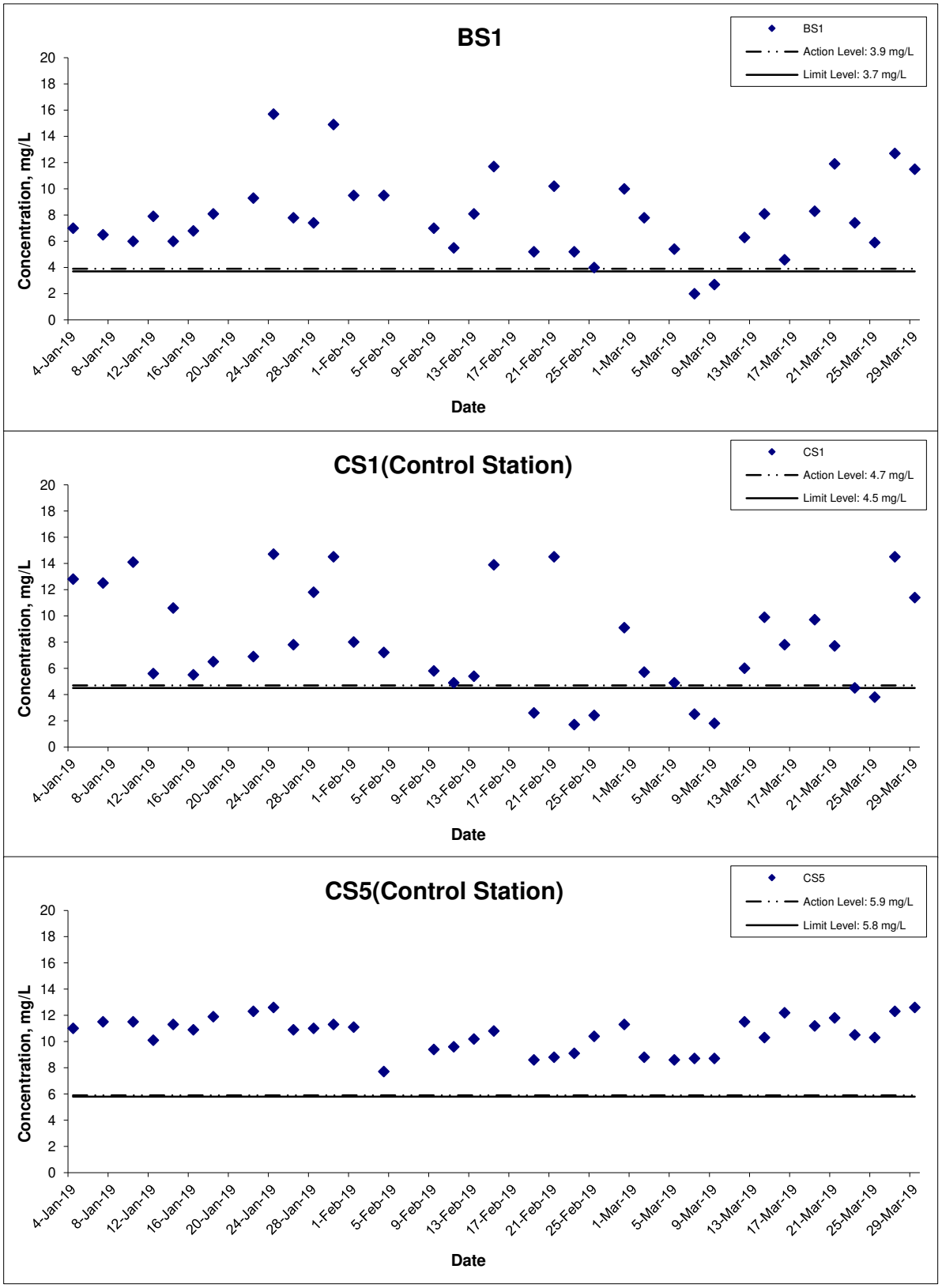
Noise Levels



Title: Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works - Design and Construction Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Mar 19	Project No.: WMA18047 Appendix: D	WELLAB 匯力 consulting . testing . research

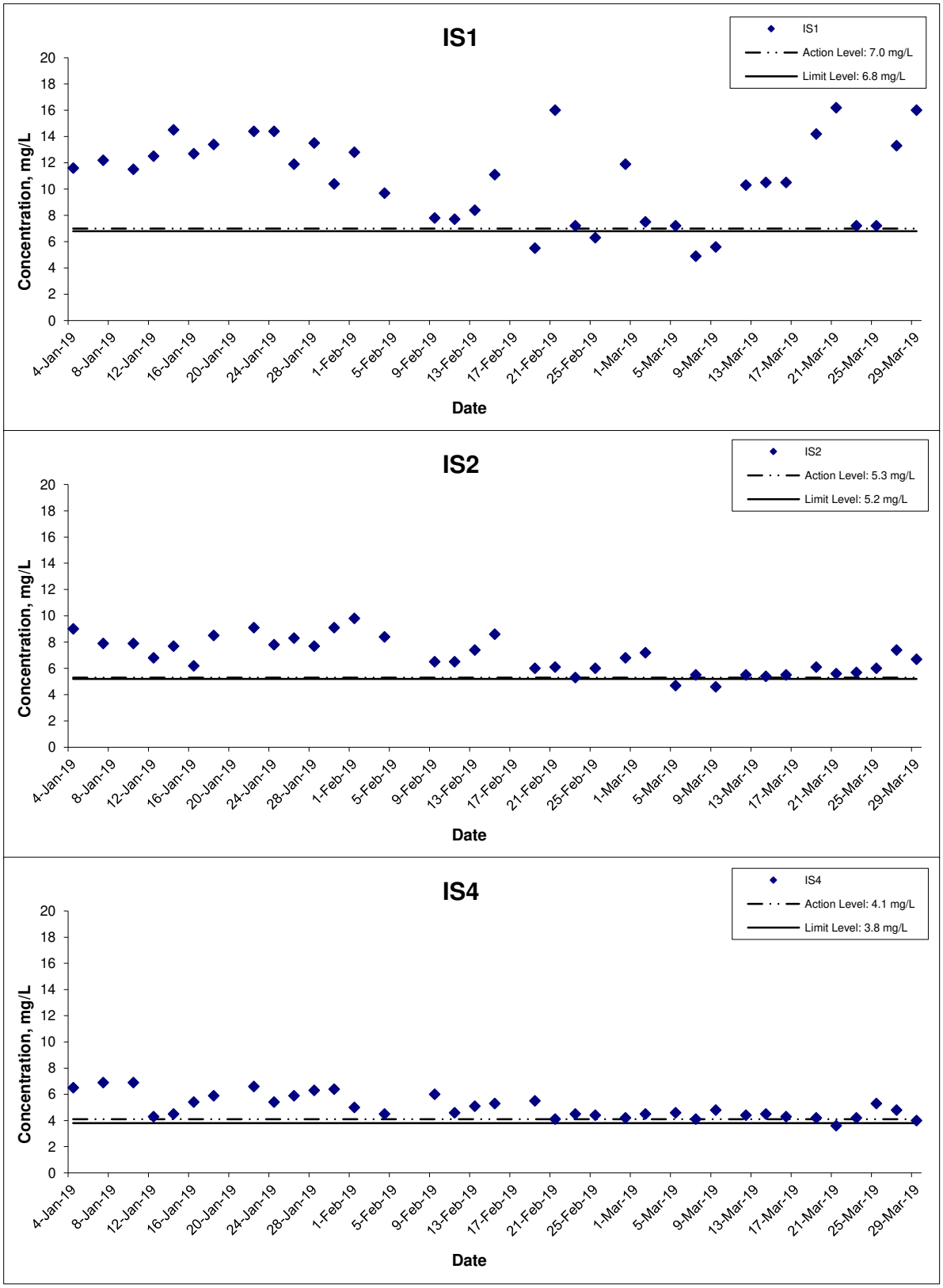
APPENDIX E
GRAPHICAL PRESENTATION OF WATER QUALITY MONITORING RESULTS

Dissolved Oxygen



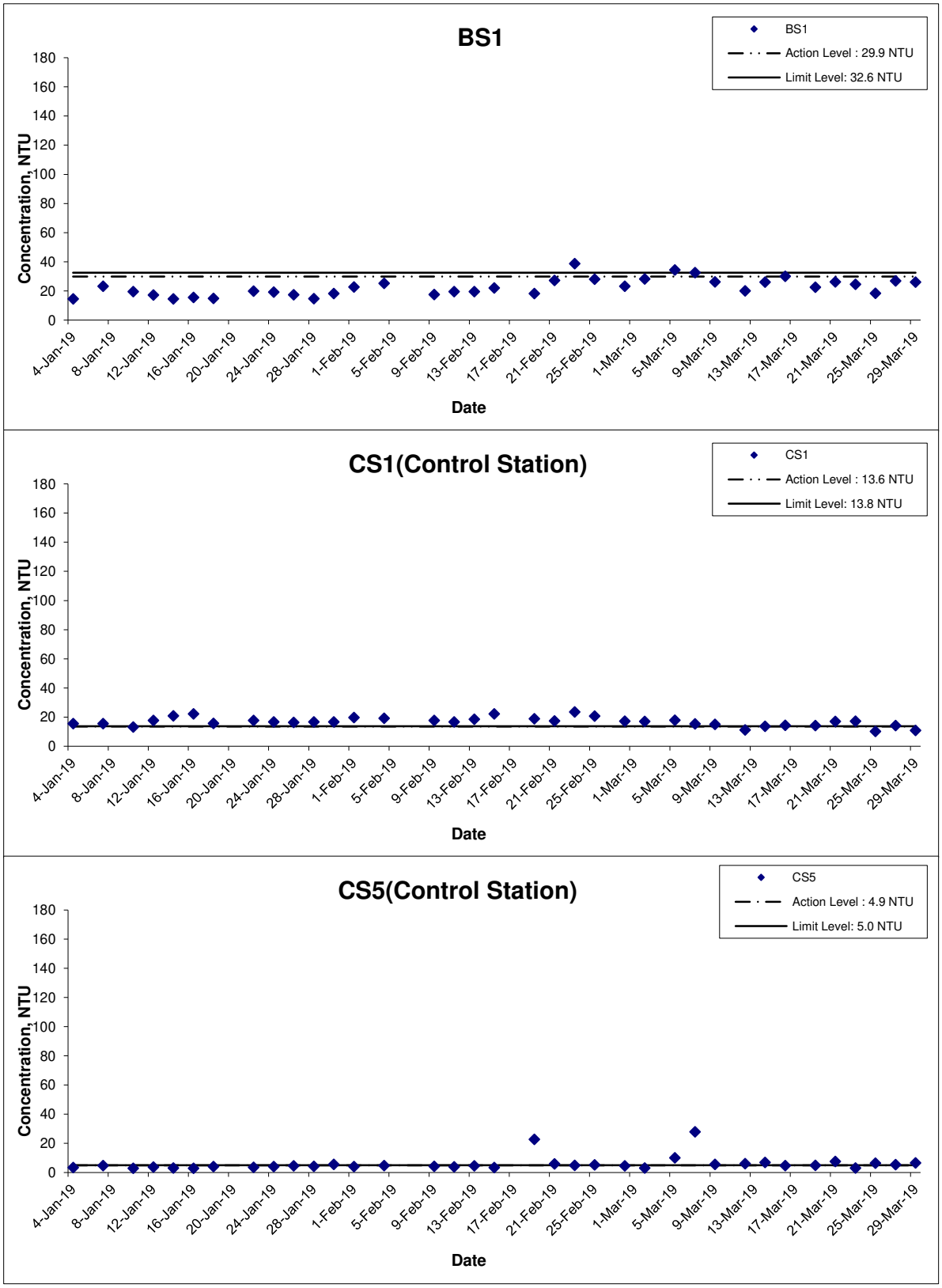
Title	Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA18047	WELLAB 匯力 consulting . testing . research
		Date: Mar 19	Appendix: E	

Dissolved Oxygen



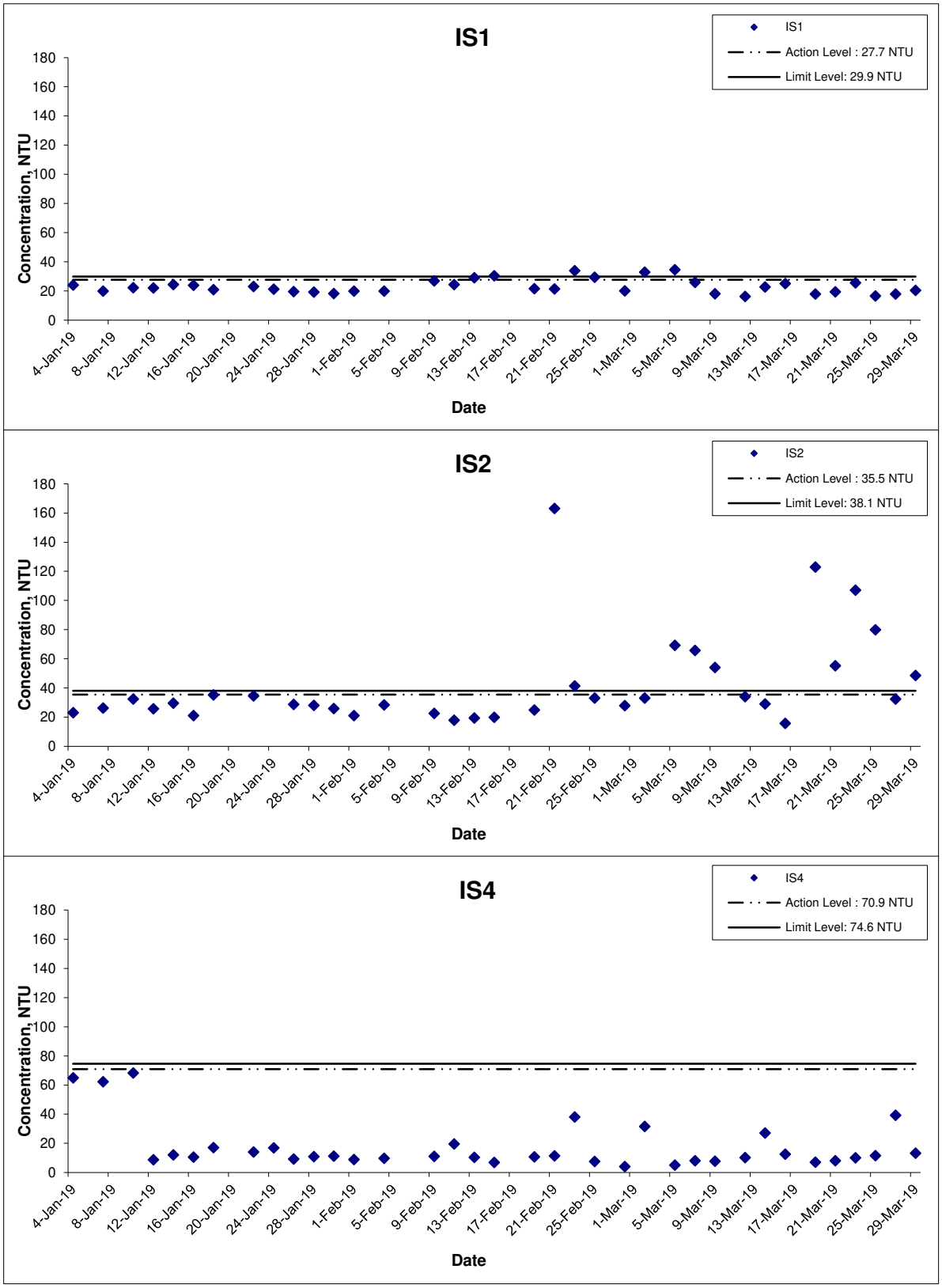
Title	Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA18047	WELLAB 匯力 consulting . testing . research
		Date: Mar 19	Appendix: E	

Turbidity



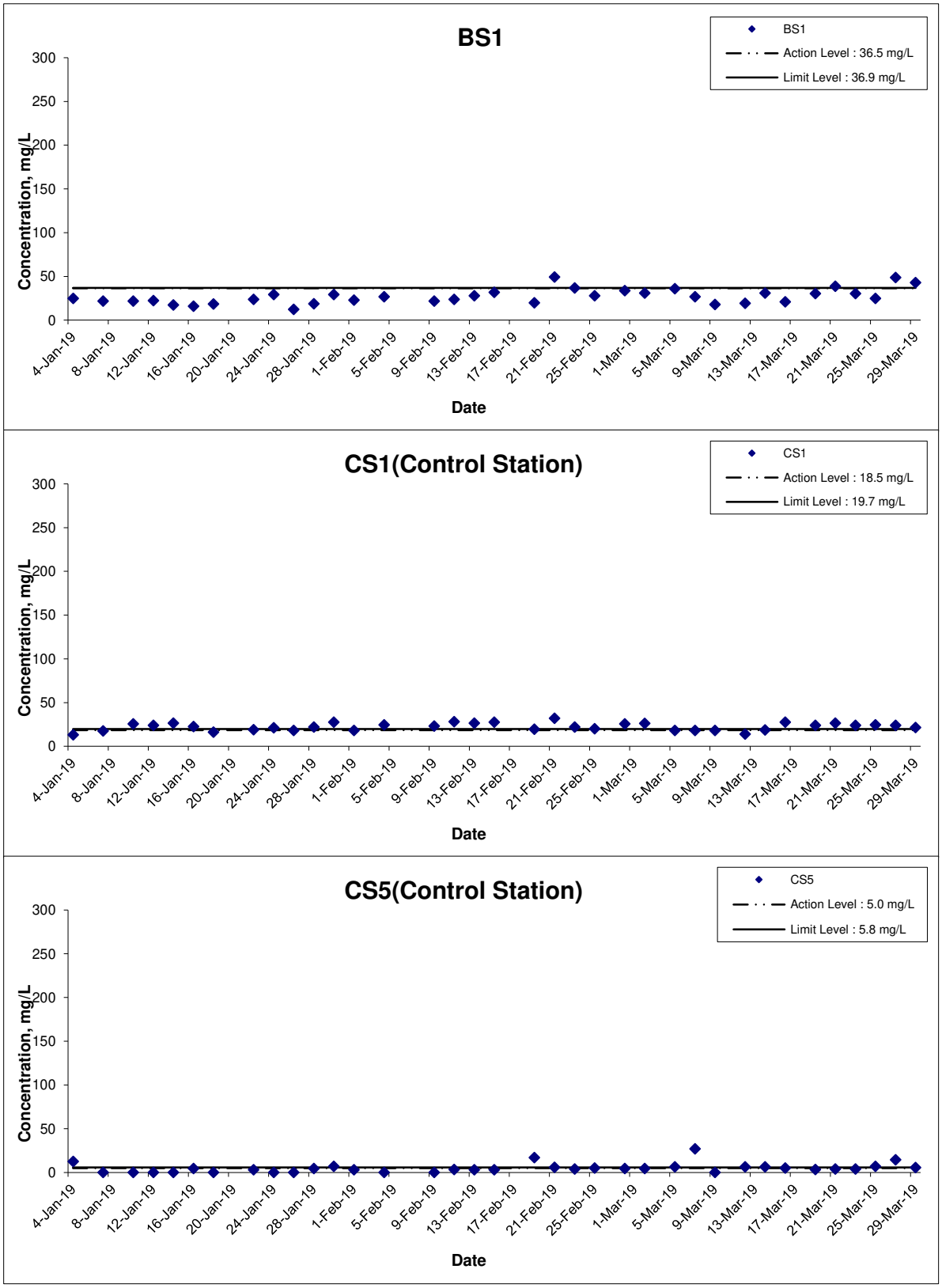
Title	Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA18047	WELLAB 匯力 consulting . testing . research
		Date: Mar 19	Appendix: E	

Turbidity



Title	Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S Date: Mar 19	Project No.: WMA18047 Appendix: E	WELLAB 匯力 consulting . testing . research

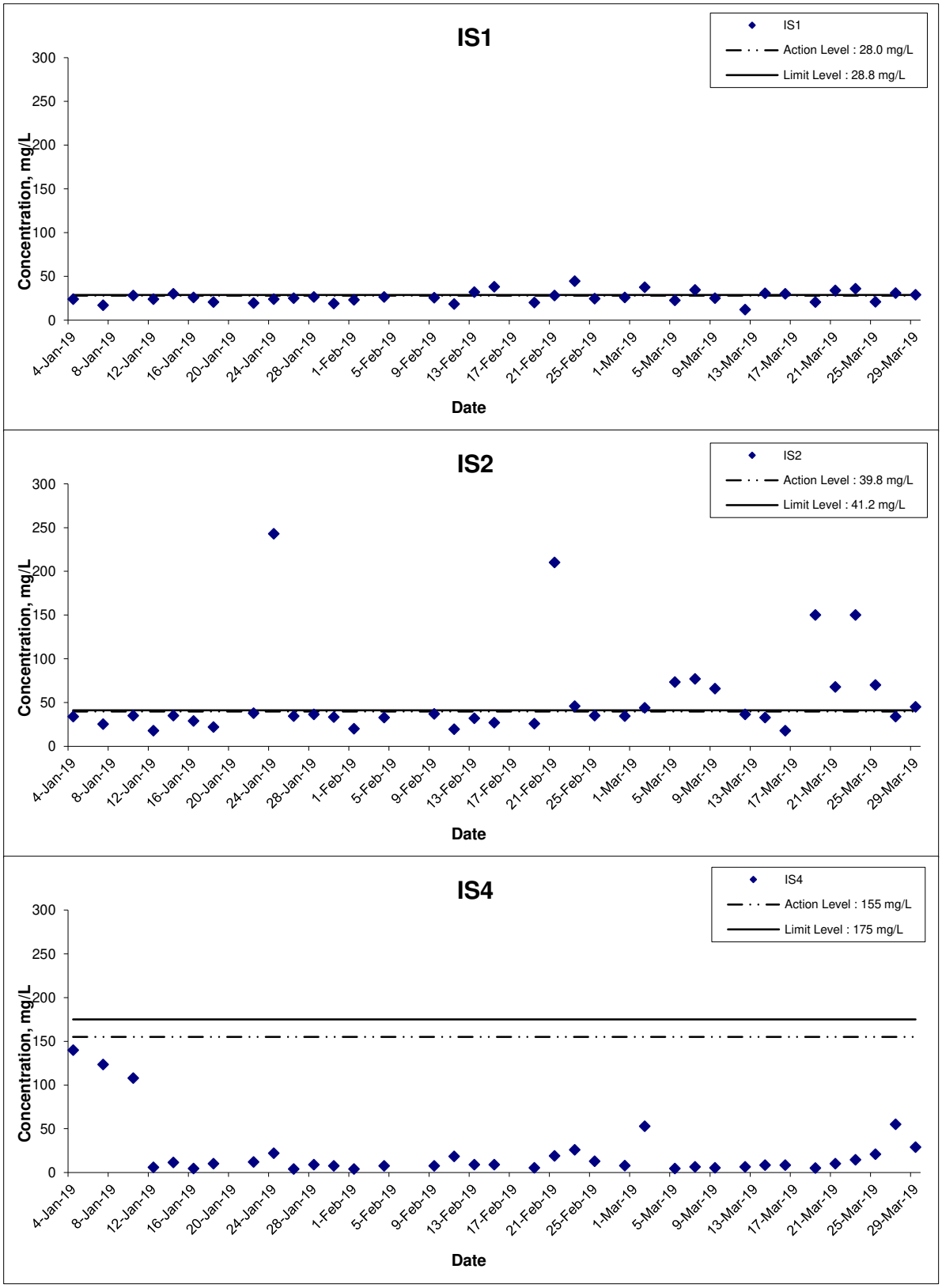
Suspended Solids



Remarks: The graphical point at zero concentration is presented as <2.5 mg/L

Title	Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA18047	WELLAB 匯力 consulting . testing . research
		Date: Mar 19	Appendix: E	

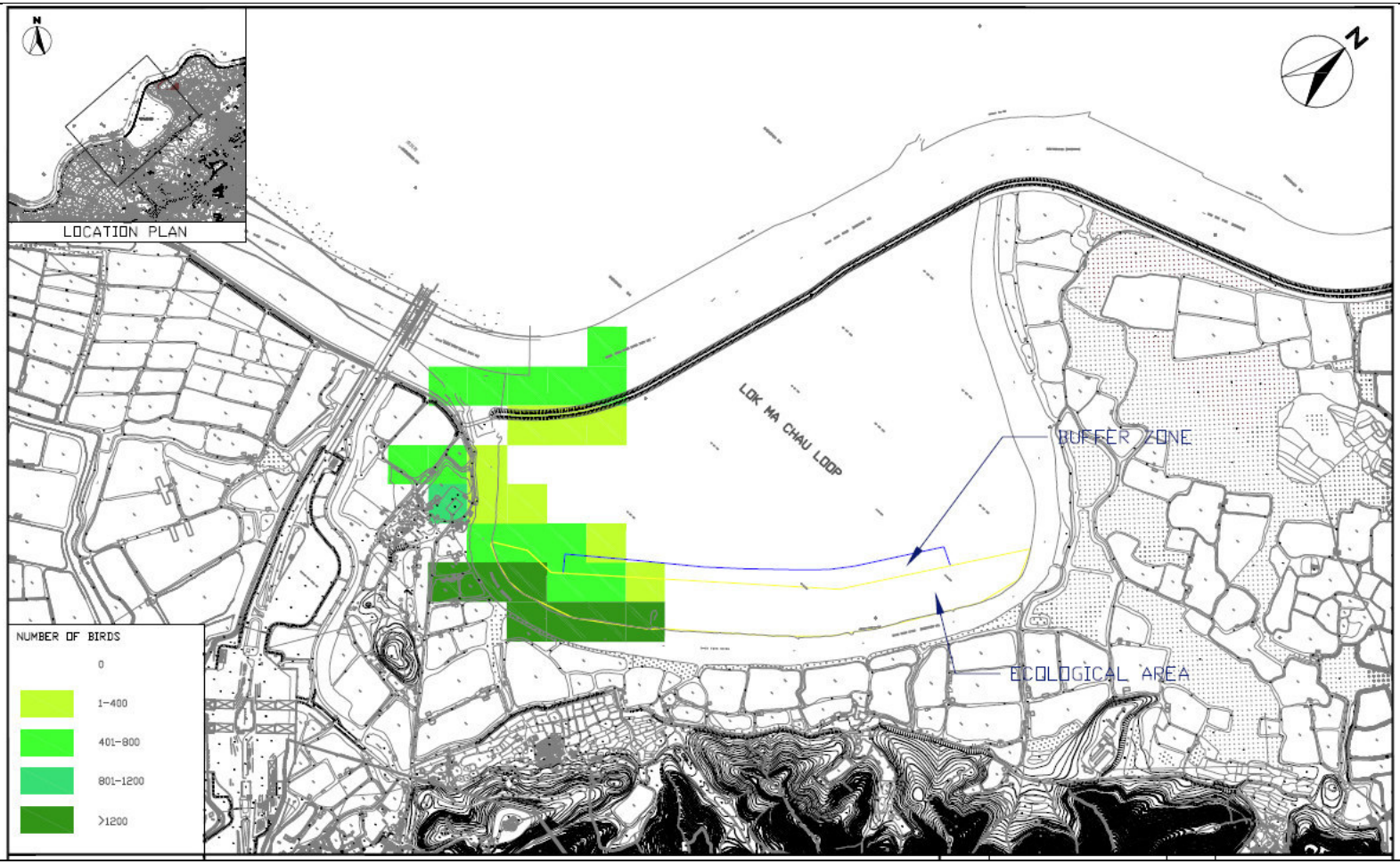
Suspended Solids



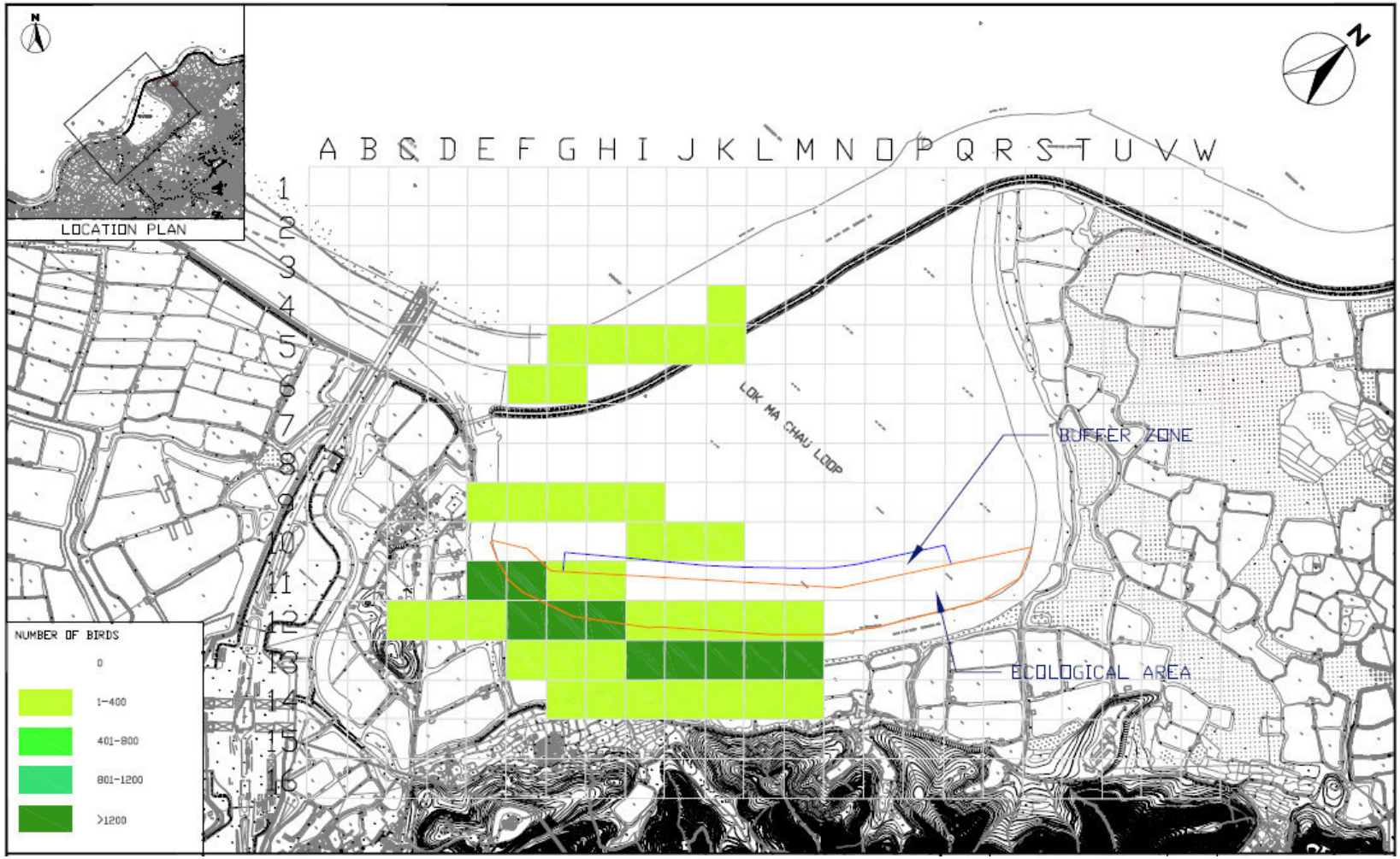
Title	Environmental Team for Contract No. YL/2017/03 - Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA18047	WELLAB 匯力 consulting . testing . research
		Date: Mar 19	Appendix: E	

APPENDIX F
RECORD OF ECOLOGICAL MONITORING

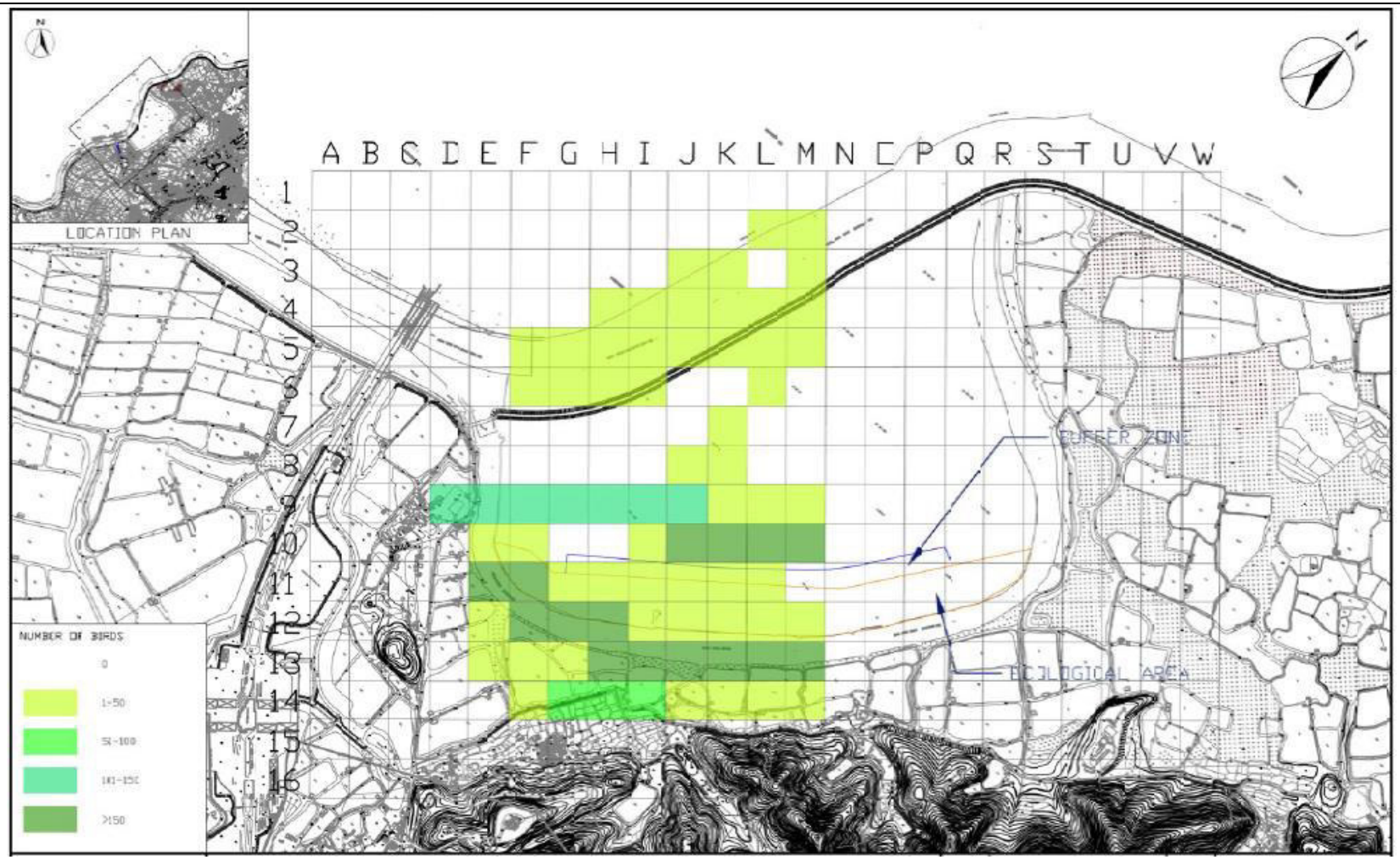
Appendix F – Flight Lines of All Birds Species



Bird Survey conducted in January 2019



Bird Survey conducted in February 2019



Bird Survey conducted in March 2019

APPENDIX G
EVENT ACTION PLANS

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 to confirm findings; 5. Increase monitoring frequency to daily;	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 agreed proposals; and

	6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedancecontinues, arrange meeting with IEC and ER;and 8. If exceedancestops, cease additional monitoring.	Implementation of remedial measures.		4. Amend proposal if appropriate.
LIMIT LEVEL				
1.Exceedance for one sample	Identify source, investigate the causes of exceedanceand 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.	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 measures.	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 exceedanceand 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.
2.Exceedance for two or more consecutive samples	Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring	1. Check monitoring data submitted by ET; 2. Check Contractor's working method;	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC,	1. Identify source, investigate the causes of exceedanceand propose remedial measures; 2. Take immediate action

	frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractorand 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 exceedancestops, cease additional monitoring.	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.	agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented;and 5. If exceedancecontinues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedanceis abated.	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 exceedanceis abated.

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

Each step of actions required shall be implemented within 1 working day unless otherwise specified or agreed with EPD.

Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level	Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementat-ion of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors 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. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	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.		measures 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 abated.	determined by the ER until the exceedance is abated.

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

Each step of actions required shall be implemented within 1 working day unless otherwise specified or agreed with EPD.

Event and Action Plan for Water Quality

	Action			
Event	**ET**	**IEC**	**ER**	**Contractor**
Action level being exceeded by one sampling day	. 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 non-compliance 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 by two or more consecutive sampling days	Repeat in-situ measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss remedial measures with IEC, contractor and ER	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed remedial measures submitted by Contractor and	1. Discuss with ET, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the remedial measures to be implemented ; and 3. Discuss with ET, IEC and Contractor on the effectiveness	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of

	Action			
Event	**ET**	**IEC**	**ER**	**Contractor**
	5. Ensure remedial measures are implemented	advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	of the implemented remedial measures.	working methods; 5. Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	Repeat measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Consider changes of working methods; 6. Discuss mitigation measures with IEC, ER and Contractor; and 7. Ensure the agreed remedial measures are implemented	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed 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 ET, IEC and Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; and 4. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and

	Action			
Event	**ET**	**IEC**	**ER**	**Contractor**
				6. Implement the agreed remedial measures.
Limit level being exceeded by two or more consecutive sampling days	Inform IEC, contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; 3. Discuss mitigation measures with IEC, ER and Contractor; and 4. Ensure mitigation measures are implemented; and 5. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed 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 ET, IEC and Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; 4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and 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.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed 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

Each step of actions required shall be implemented within 1 working day unless otherwise specified or agreed with EPD.

APPENDIX H
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
Construction Dust Impact							
S3.8	D1-DP1/DP2	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 1.6 L/m2 to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	#
S3.8	D2-DP1/DP2	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation • All vehicles shall be shut down in intermittent use • Only well-maintained plant should be operated on-site to avoid emission of dark smoke • Valid No-Road Mobile Machinery (NRMM) labels should be provided to regulated machines	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	^ ^ *
S3.8	D2-DP1/DP2	• Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction Phase • 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 material do not leak from the vehicle;	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	# * ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Where practicable, vehicle washing facilities with high 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; • 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;					* * ^ ^ ^ *

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• 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 enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • 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.					^ * ^
S3.8	D4-DP1/DP2	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	^
Construction Noise Impact							
S4.8	N-CP1-DP1/DP2	Implement the following good site management practices: • 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;	Control construction airborne noise	Contractor	All construction sites	Construction stage	^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.					^
S4.8	N-CP2-DP1/DP2	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.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP3-DP1/DP2	Install movable noise barriers and full enclosure, 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	^
S4.8	N-CP4-DP1/DP2	Use of “Quiet” Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP5-DP1/DP2	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	^
S4.8	N-CP6-DP2	Setting the concrete lorry mixer at around 25m away from the existing NSRs along Ha Wan Tsuen Road and Lok Ma Chau Road	Reduce the noise levels from concrete lorry mixer	Contractor	Sections with NSRs along Ha Wan Tsuen Road and Lok Ma Chau Road	Construction phase	^
S4.8	N-CP8-DP2	Provide temporary noise barrier during construction phase.	Control airborne noise from construction access road traffic	Contractor	Refer to Figure 4-8 of the EIA report	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
S4.8	N-CP7-DP2/N-CP6-DP1	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction phase	^
Water Quality Impact (Construction Phase)							
S5.7	W1-CP-DP1/DP 2	Construction Runoff and Site Drainage 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, where appropriate, should include the following: • Update and implementation of Stormwater Pollution Control Plan • 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 facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. • 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 8 m3 capacities,	Minimize water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction phase	^ * ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		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 means. • 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.					* * ^ #

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• 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 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 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					^ * ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheelwash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • 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.					^ ^ ^ ^
S5.7	W3-CP-DP1/DP2	*Groundwater from Contaminated Area* • No mitigation measure is required for groundwater treatment in LMC Loop. • Additional investigation is required to identify if contaminated groundwater is found	Minimize groundwater quality impact from contaminated area	Contractor	Areas where contamination is found.	Construction phase	^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• 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 WPCO through the Regional Offices of EPD.					^ ^ ^
S5.7	W3-CP-DP1/DP2	*Sewage from Workforce* • 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 to cater 0.15m3/day/employed populations and be responsible for appropriate disposal and maintenance. • 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	Minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction phase	^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		malpractices and achieve continual improvement of environmental performance on site.					
S5.7	W4-CP-DP1	*Riverbanks Formation* • In order to prevent sediment transport during riverbank works, deployment of silt curtain should be implemented, especially when construction works encroach or occur in close distance to water body. It is recommended to carry out all the riverbank works within a cofferdam or diaphragm wall. • Water quality of the Shenzhen River and the meander would be monitored to ensure effectiveness of the implemented mitigation measures.	Minimize water quality impact from riverbank works	Contractor	Riverbank works	Construction Phase	^ ^
S5.7	W1-CP-BR	*Bio-remediation in Shenzhen River* • Water quality monitoring and audit is recommended to ensure that the proposed bio-remediation operation would not result in adverse water quality impact. Details of the water quality monitoring programme are presented in the EM&A Manual. If unacceptable water quality impact in the receiving water is recorded, additional measures such as slowing down, or rescheduling of works should be implemented as necessary.	Minimize water quality impact from bio-remediation of Shenzhen River	Contractor	Shenzhen River where practicable	Construction phase	^
S5.7	W5-CP-DP2	*Construction of Bridge Crossing* • Good site management as stipulated in ProPECC PN1/94 should be fully implemented to avoid polluted liquid or solid wastes from falling into the WSRs. • All the fishponds will be drained and no fishpond will be affected by bridge crossing.	Minimize water quality impact from construction of bridge crossing	Contractor	Construction sites for bridge crossing where practicable	Construction phase	^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• In the meander, cofferdam or diaphragm walls should be deployed for protecting fish ponds or nearby rivers during bridge pier construction and or road widening work at fishponds. • For the low level viaducts crossing the small streams at Ma Tso Lung, Ping Hang and channel near Lung Hau Road, precast structures will be used such that there will be no construction work in the water streams, and thus, to avoid direct water quality impacts.					^ ^
Waste Management (Construction Waste)							
S7.6	WM1-DP1/DP2	*<u>Waste Reduction Measures</u>* 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: • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • 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	Reduce waste generation	Contractor	All construction sites where practicable	Construction phase	^ # ^ ^ N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		waste management procedures, including waste reduction, reuse and recycling.					
S7.6	WM2-DP1/DP2	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	WM2-DP1/DP2	*Good Site Practice* The following good site practices are recommended throughout the construction activities: • 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 collection for disposal; • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^ ^ ^ ^ ^
S7.6	WM4-DP1/DP2	*Storage of Waste* The following recommendation should be implemented to minimize the impacts:	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• 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;					^ ^ ^
S7.6	WM5-DP1/DP2	*Collection and Transportation of Waste* The following recommendation should be implemented to minimize the impacts: • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation; • Obtain relevant waste disposal permits from the appropriate authorities; and • Disposal of waste should be done at licensed waste disposal facilities.	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	^ ^ ^ ^
S7.6	WM6-DP1/DP2	*Excavated and C&D Material* 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: • Maintain temporary stockpiles and reuse excavated fill material for backfilling; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		the use of recycled aggregates where appropriate; and • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified. The recommended C&D materials handling should include: • On-site Sorting of C&D Materials • Reuse of C&D Materials • Use of Standard Formwork and Planning of Construction Materials Purchasing • Provision of Wheel Wash Facilities Details refer to Section 7.6.1.4 of the EIA report.					^ ^ ^ ^ ^
S7.6	WM7-DP1/DP2	*Contaminated Soil* 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.	Remediate contaminated soil	Contractor	All construction sites where applicable	Construction phase	N/A
S7.6	WM8-DP1/DP2	*Chemical Waste* • 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	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	#

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		accordance with the Waste Disposal (Chemical Waste) (General) Regulation.					
S7.6	WM9-DP1/DP2	*General Waste* • 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 provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. • A reputable waste collector should be employed to remove general refuse on a daily basis.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^ ^ ^
S7.6	WM10-DP1/DP2	*Sewage* • 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	^ ^
S7.6	WM11-DP2	*Sediment* The following mitigation measures are recommended during transportation and stockpiling: • stockpiling area(s) must be properly designed and closed to the dredging locations as far as possible; • Stockpiling area(s) should be lined with impermeable sheeting and bunded; • stockpiles should be properly covered by impermeable sheeting;	Minimize waste impacts from sediment	Contractor	All construction sites	Construction phase	^ ^ *

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• vehicles delivering the sediments should be covered, and truck bodies and tailgates should be sealed to prevent any discharge during transportation; • bulk earth moving equipments should be utilized as much as possible to minimize workers' handling and contact of the excavated materials; and • personal protective clothing should be provided to site workers. In case contamination of excavated materials is confirmed after testing, the mitigation measures described in Land Contamination Impacts section should also be implemented to minimize potential environmental impacts.					^ ^ ^
Land Contamination							
S8.7	LC1-DP2	*Remediation of arsenic-contaminated soil* • "Solidification/Stabilization" (S/S) treatment method was proposed for the remediation of arsenic-contaminated 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. Off-site disposal or reuse of the solidified material is not allowed.	To remediate arsenic-contaminated soil	Project Proponent/ Contractor	LMC Loop, contaminated area	Prior to commencement of construction works within the contaminated area	^
S8.7	LC1-DP1/DP2	*Excavation and Transportation* • Excavation profiles must be properly designed and executed with • attention to the relevant requirements for environment, health and	To minimise the potential environmental impacts arising from the handling of	Contractor	Contaminated area		^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		safety; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Excavation should be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; • 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 contaminated run-off during rainy season. Watering should be avoided on stockpiles of contaminated soil to minimise contaminated runoff; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated 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 contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used.	contaminated materials				^ ^ ^ ^ ^ ^ ^
S8.7	LC3-DP1/DP2	*Solidification/Stabilization* • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system;	To minimize the potential environmental impacts arising from the handling of	Contractor	Contaminated area	The course of remediation	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Mixing process and other associated material handling activities should be properly scheduled to minimise 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 contaminated soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimise 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; • The run-off contained in the concrete bund area along the perimeter of the paved solidification / stabilization area, if any, will be collected, stored and used for the mixing process of cement / contaminated soil; • 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 • If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials.	contaminated materials				^ ^ ^ ^ ^ ^ ^
Landscape and Visual Impact (Construction Phase)							
S11.5.4 Table11.5.	L-CP1-DP1	*Preservation and Protection of Existing Trees (Good Site Practice)*	Avoid disturbance and protection of existing trees	Detailed design consultant/	Within project site	Detailed design and construction	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
9		• The proposed works should avoid disturbance to the existing trees within and close to the works areas. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design phase for further retention of individual trees. • It is recommended that a full detailed tree survey and felling application will be undertaken and submitted for approval by the relevant government departments in accordance with ETWB TCW No. 3/2006, 'Tree Preservation'. This will be conducted during the detailed design phase of the project and submitted to DLO for approval. The methodology and scope including the programme for the tree survey and felling application are also subject to the approval of the relevant authorities. • Trees which are not in conflict with the proposals would be retained and shall be protected by means of fencing during construction phase to prevent damage to tree canopies and root zones from vehicles and storage of materials. • Specifications for the protection of existing trees will be provided during the preparation of the detailed tree survey by Detailed Design consultants at detailed design and construction phase.		Contractor		phase	^ ^ ^ ^
S11.5.4 Table 11.5.9	L-CP2-DP1/DP2	*<u>Works Area and Temporary Works Areas (Good Site Practice)</u>* • The construction sequence and construction programme shall be optimized in order to minimize the duration of impact.	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Construction site controls shall be enforced including the storage of materials, the location and appearance of site accommodation and site storage; and the careful design of site lighting to prevent light spillage. • The temporary works areas shall be restored to its original condition or enhanced through the introduction of new amenity areas or planting areas following the completion of the construction phase.					^
	L-CP3-DP1/DP2	*Advance Implementation of Mitigation Planting* • Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas.	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^
	L-CP4-DP1/DP2	*Transplantation of Existing Trees* • Some specimens have relatively higher amenity value which are in conflict with the proposals shall be considered for transplantation. For trees affected by the proposed infrastructure works the final receptor sites shall be preferably adjacent to their current locations alongside of the alignment to retain their contribution to the local landscape context. For the LMC Loop the receptor locations will be selected to allow the trees to be moved directly to their final locations in accordance with the detailed landscape proposals. • The transplanting proposals are subject to review at the	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		detailed design phase and to agreement-in-principle with the relevant management and maintenance agents and/or government departments. The implementation programme for the proposed works shall reserve sufficient time for the advanced tree transplanting preparation works to enhance the survival of the transplanted trees. • The transplanting proposals will be subject to the findings of the detailed tree survey and felling application to be undertaken by the detailed design consultants and following approval by the relevant departments.					
	L-CP6-DP1/DP2	*Creation of Wetland and Landscape Buffer* • The existing reedbed acquired for development areas for the project will be reinstated as part of the Ecological Area. The reinstatement shall be undertaken at the earliest possible stage during the construction phase of the project. • Creation of 12.78ha of Ecological Area (EA) containing reed marsh and marsh will be created at the southern portion of the LMC Loop, and a 50m width landscape buffer area will be set up in between the EA and the development area. Wetland creation concepts please refer to Figure 11.9zf and Chapter 12 Ecology Impact Assessment of this EIA. • Native tree and shrub mix will be utilised for the creation of landscape buffer along northern edge of EA to support the creation of avifauna habitat from ecologist perspectives as well as enhance the aesthetic and landscape diversity within	Compensation of the loss of landscape resources	Project Proponent/ Detailed design consultant/ Contractor/ Operator	The whole project area where applicable	Detailed design, construction and operational phases	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		the LMC Loop Development. • Creation of minimum 11.72 Ha. of permanent compensatory off-site wetland areas at Sam Po Shue and Hoo Hok Wai. For the potential locations for off-site wetlands please refer to Figure 11.9zf and 11.9zh, Chapter 2 Project Description and Chapter 12 Ecology Impact Assessment of this EIA.					^
	V-CP5-DP1/DP2	*Coordination with Concurrent Projects* • Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance.	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	N/A
Ecology (Construction Phase)							
S12.7	E1-DP1	*Disturbance to Fish Ponds at HHW* • Development set back a minimum of 23m from the edge Meander. • Management of fish pond habitat to enhance ecological value to twice existing value, in order to compensate for disturbance to large waterbirds. • Creation and establishment will occur prior to commencement of substantive works associated with any element of the project for which fish pond compensation is required. *Construction phase* • Erection of a 3m high, dull green site boundary fence to minimise disturbance to wetland habitats caused by human activity in LMC Loop.	On the disturbance to fish ponds at HHW	Detailed design consultant/ Contractor	Fish ponds at HHW and LMC	Detailed design, construction phase	N/A N/A N/A *
S12.7	E2-DP1	*Construction run-off*	Minimise the indirect impact	Contractor	Seawall,	During	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby water bodies; • Proper locations well away from nearby water bodies will be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies will be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work site; • If temporary access along a riverbed is unavoidable, this will be kept to the minimum in width and length. Temporary river crossings will be supported on stilts above the river bed; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby water bodies; • Construction debris and spoil will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies; • Construction effluent, site run-off and sewage will be properly collected and/or treated. Wastewater from any	from the increasing suspended solids and pollutants in LMC Meander			construction	^ ^ # ^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		construction site will be minimised via the following in descending order: reuse, recycling and treatment; • Proper locations for discharge outlets of wastewater treatment facilities well away from sensitive receivers will be identified (i.e. treated wastewater will not be discharged into LMC Meander, natural streams, marsh, reedbed, active or abandoned fish ponds); • Adequate lateral support will be erected where necessary in order to prevent soil/mud from slipping into the Ecological Area or LMC Meander; • Site boundary will be clearly marked and any works beyond the boundary strictly prohibited; • Regular water monitoring and site audit will be carried out at adequate points along LMC Meander, and at the outfalls of the natural streams around LMC Loop. If the monitoring and audit results show that pollution occurs, adequate measures including temporarily cessation of works will be considered.					^ ^ ^ ^
S12.7	E3-DP1/DP2	*Pollutant Runoff to Downstream areas from Accidental Spillage* • Prepare an emergency contingency plan • The plan will include, but not be limited to, the following: - Potential emergency situations; - Chemicals or hazardous materials used on-site (and their location); - Emergency response team; - Emergency response procedures;	Minimize indirect impact from pollutant runoff to downstream areas from accidental spillage	Contractor/ Operator	Area within project site near streams	Construction phase and operation phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		- List of emergency telephone hotlines; - Locations and types of emergency response equipment; - Training plan and testing for effectiveness.					
S12.7	E4-DP1/DP2	• Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project. • Design of buildings should not incorporate use of night-time lighting at or near top of buildings, highly reflective materials should not be used where vegetation is adjacent and glass surfaces should not be angled upwards in a way that reflects the sky. Unnecessary lighting should be eliminated. Appropriate glass and façade treatments should be used where required to minimise impact. Unnecessary lighting should be avoided. These include the following: • Fritting, or the placement of ceramic lines or dots on glass, has little effect on the human-perceived transparency of the window but creates a visual barrier to birds outside. This treatment also has the advantage of reducing 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 may 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	Minimize the mortality impacts on birds	Developer / Detailed design consultant/ contractor/ operator	Area within project site	Detailed design, construction and operation phases	^ ^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		birds, but not to humans) acts to reduce collision. • 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. In terms of reducing night-time mortality impacts, eliminating unnecessary lighting is one of the easiest methods, and has the added advantage of saving energy and expense. Potential impacts of nocturnal avian collision with buildings should be minimised by not creating sky glow from the use of night-time lighting at or near the top of buildings or other structures. In addition to avoiding uplighting, light spillage should be minimised, while green and blue lights should be used where possible. As far as possible, lights should be controlled by motion sensors, and building operations should be managed in such a way as reduce or eliminate night lighting near windows. The potential advantages of removing unnecessary lighting in terms of reducing the carbon footprint of the LMC Loop development are obvious.					^ ^
S12.7	E5-DP1/DP2	• Minimize loss of natural vegetation along LMC Meander, and suitable replacement planting with possible installation of otter holts and the provision of potential feeding area and spraint locations for otters in the stabilized bank subject to detailed design. • No significant change to velocity of water flow, water level or water quality.	Minimize impacts on Eurasian Otter	Detailed design consultant/ Contractor	Construction site within the project	Detailed design, construction phase	^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• No direct lighting on Meander. • 3m high, dull green site boundary fence for all developments associated with the project. • Pre-construction surveys for otter holts or natal dens will be conducted in LMC Loop before the commencement of construction works. Work in the area of any otter holt found to cease pending examination by experienced Ecologist. If in use for breeding, works in the area will temporarily stop until end of breeding activity. • No construction activities within 100m of LMC Meander between one hour prior to sunset and one hour after sunrise. • Provision of compensatory reed marsh in the Ecological Area in LMC Loop, including open water channels and islands within the reed marsh, both of which features are considered to be used by the species.					^ * N/A * N/A
S12.7	E8-DP2	• Refer to E2 and E3	Prevent impacts on Rose Bitterling, small snakehead and *Somanniathelphus zanklon*	Contractor	Within project site	Construction phase	N/A
S12.7	E10-DP1	• Preserve undisturbed, semi-natural habitat conditions of LMC Meander and adjacent areas of LMC Loop up to approximately 150m in width in order to avoid disturbance to core part of flight line corridor. • This area to comprise an Ecological Area largely constituting reed marsh and a 50m wide buffer zone densely planted with	Minimize impacts on flight line corridor from LMC Loop development	Developer / Detailed design consultant/ Contractor/ Operator	Within project site	Detailed design, construction and operation phases	^ N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		shrubs and trees. Small number of low buildings (max 14mPD high, except the building height of on-site STW is 15mPD high) allowed in inner 25m of this area at a plot ratio of 0.1. • At Ha Wan Tsuen entry point for many birds to LMC Loop area provide a wider Ecological Area to minimise disturbance from nearby buildings. • Further minimisation of impact by maintaining a lower building height in areas adjacent to the buffer zone for the EA. In addition, the sewage treatment works, which is located near the point where many birds cross from the Meander to HHW, should not exceed 15mPD.					N/A N/A
S12.7	E11-DP1	• Employ site boundary fence as long as possible. Use of movable barrier for more intense site formation activity. Provision of fencing with 30cm gap between the existing reed marsh and LMC Meander during the establishment period of Ecological Area and the gap will be closed once established. • Restrict work to period from 0900h to 1700h. All major works along the edge of LMC Meander and in the Ecological Area will be conducted in the wet season.	Minimize disturbance impacts of mitigation provisions	Contractor	Within project site	Construction phase	^ *
S12.7	E12-DP1/DP2	• Minimal night-time lighting • No direct light on Meander	Minimize impacts on LMC Meander	Contractor/ Operator	All	Construction and operation phases	^ ^
S12.7	E13-	• Construction limited to wet season between the hours of 9am and	Minimize impacts from the	Contractor/	Pond habitat	Construction and	*

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
	DP2	5pm. • Use of opaque visual/noise barriers and planting of trees shrubs along length of road adjacent to fish ponds. • Compensatory habitat management elsewhere to mitigate wetland loss.	construction and operation disturbance impacts	Operator	along alignment (mainly Ha Wan Tsuen Road)	operation phases	^ ^
S12.7	E16-DP1	• Provision of compensatory reed marsh in the Ecological Area will provide habitat suitable for Common Evening Hawker. • Measures designed to protect other fauna and water quality will generally benefit odonata.	Protect Odonata	Project Proponent/ Detailed design consultant/ Contractor Operator	Ecological area	EA established prior to construction and manage at all phases	^ ^
S12.7	E14-DP2	• Replacement planting of native tree species relevant to Deep Bay area and the area impacted. Planting to occur in tandem with that required for woodland loss arising	Minimize the ecological impacts	Contractor	Woodland and shrubland habitat along Ha Wan Tsuen Road	Construction phase	^
S12.7	E15-DP2	• Use noise/visual barriers to minimise disturbance. • Construction activities should not be carried out before 0900h or after 1700h in order to minimise disturbance to the flight line corridor (and to mammals).	Minimize impacts on flight line corridor from Western Connection Road	Contractor	Construction site from Western Connection Road	Construction phase	^ *
S12.7	E16-DP2	• Use of opaque visual/noise barriers and roadside planting of trees and shrubs to minimize disturbance impacts.	Minimize impacts on flight line corridor from Western Connection Road	Project Proponent/ Detailed design consultant/ Contractor	Construction site from Western Connection Road	Detailed design, construction and operation phases	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
				Operator			
Fisheries (Construction Phase)							
S13.7	F4-	• Reprovision of replacement Artificial Reefs(of the same volume as the existing ARs inside Marine Exclusion Zone)	Mitigate water quality impacts on the existing ARs	Project proponent	To be determined	Construction phase or operation phase	N/A
S11.7	F2	• Reduce re-suspension of sediments • Limit dredging and works fronts. • Good site practices • Strict enforcement of no marine dumping • Spill response plan	Minimise marine water quality impacts	Contractor	Seawall	During construction	N/A N/A N/A N/A N/A

Remarks: ^ Compliance of mitigation measure

* Recommendation was made during site audit but improved/rectified by the contractor

N/A Not Applicable at this stage as no such site activities were conducted in the reporting period (e.g. concrete batching plan, barging point, seawall dredging and filling, bored piling, landscaping works etc)

APPENDIX I
SITE AUDIT SUMMARY

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190104
Date	04 January 2019 (Friday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during site inspection.	
	B. Ecology • No environmental deficiency was identified during site inspection.	
	C. Land Contamination • No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual • No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190104-O01	• The PVD installation equipment was observed without NRMM label. The Contractor was reminded to display it conspicuously on equipment during operation.	E 18
190104-R01	• The Contractor was reminded to provide watering at least once per hour on the exposed work sites and haul road for dust suppression.	E 5
	F. Construction Noise Impact • No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management • 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.	

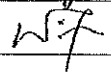
	Name	Signature	Date
Recorded by	Ivy Tam		07 January 2019
Checked by	Dr. Priscilla Choy		07 January 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190111
Date	11 January 2019 (Friday)
Time	11:00 – 12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during site inspection.	
	B. Ecology	
190111-R02	• The 3m high olive green fence shall be erected around the construction area.	B3
190111-R03	• The Contractor was reminded to establish an effective system to control the PMEs only operating between 0900 and 1700 within 100m of Meander.	B4
	C. Land Contamination • No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual • No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190111-O01	• The exposed areas and haul roads were observed not wet enough. The Contractor was reminded to review the arrangement of water, e.g. increase the frequency of watering, so that the dust generation from the dry exposed areas/haul road can be avoided.	E5
	F. Construction Noise Impact • No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management • 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.:190104), follow up action is required for the item 190104-O01 and 190104-R02 which are renamed as 190111-F01 and 190111-O01.	

	Name	Signature	Date
Recorded by	Ivy Tam		17 January 2019
Checked by	Dr. Priscilla Choy		17 January 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190118
Date	18 January 2019 (Friday)
Time	14:40 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	B. Ecology	
190118-R03	• The 3m high olive green fence shall be erected around the construction area.	B3
190118-R04	• The Contractor was reminded to establish an effective system to control the PMEs only operating between 0900 and 1700 within 100m of Meander.	B4
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190118-O01	• Dust generation due to the construction vehicles movement was observed. The Contractor was reminded all haul roads should be watered at least once per hour to maintain the surface of haul road wet.	E5
190118-O02	• The PVD installation equipment was observed without NRMM label. The contractor was reminded to display it conspicuously on equipment during operation.	E18
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190118-R06	• Chemical containers at near the wetsep shall be stored properly.	G3i
	H. Permits/Licences	
190118-R05	• The Environmental Permit shall be displaced conspicuously at all vehicular site entrance/ exits.	H5
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190111), follow up action is required for items 190111-F01, 191111-O01, 190111-R02 and 190111-R03 which are renamed as 190118-O02, 190118-O01, 190118-R03 and 190118-R04 respectively.	

	Name	Signature	Date
Recorded by	Ivy Tam	Ivy	22 January 2019
Checked by	Dr. Priscilla Choy		22 January 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190125
Date	25 January 2019 (Friday)
Time	10:00 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during site inspection.	
190125-R03 190125-R04	*B. Ecology* • The 3m high olive green fence shall be erected around the construction area. • A flag indicating the operating hours for PMEs was established, but the indicator near the decontamination zone 2 is yet to be set up. Contractor should ensure there is a clear indicator within 100m of meander.	B3 B4
	C. Land Contamination • No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual • No environmental deficiency was identified during site inspection.	
190125-O01	*E. Air Quality* • Dust generation due to the construction vehicles movement and unloading of material was observed. The Contractor was reminded to implement a more systematic procedure to ensure the site area is watered once an hour and there is an effective dust suppression procedure	E5
190125-O02	• The PVD installation equipment was observed without NRMM label. The contractor was reminded to display it conspicuously on equipment during operation.	E18
	F. Construction Noise Impact • No environmental deficiency was identified during site inspection.	
190125-R05	*G. Waste / Chemical Management* • Chemical containers near the wetsep shall be stored properly.	G3i
	H. Permits/Licences • No environmental deficiency was identified during site inspection.	
	I. Others • Follow-up on previous audit section (Ref. No.:190118), follow up action is required for items 190118-O01, 191118-O02, 190118-R03 and 190118-R06 which are renamed as 190125-O01, 190125-O02, 190125-R03 and 190125-R05 respectively.	

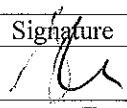
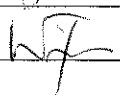
	Name	Signature	Date
Recorded by	Jonathan Lee		25 January 2019
Checked by	Dr. Priscilla Choy		25 January 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190201
Date	01 February 2019 (Friday)
Time	15:00 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	B. Ecology	
190201-R02	• The 3m high olive green fence shall be erected around the construction area.	B3
190201-R03	• Indicator near the decontamination zone 2 is yet to be set up. Contractor should ensure there is a clear indicator within 100m of meander.	B4
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190201-O01	• Dust generation due to the construction vehicles movement and unloading of material was observed. The Contractor should continue to implement a proper watering system for haul road and site area.	E5
190201-R05	• Stockpile shall be covered properly with impervious material to avoid dust generation.	E6
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190201-R04	• Chemical containers near the wetsep shall be stored properly.	G3i
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190125), follow up action is required for items 190125-O01, 190125-R03, 190125-R04 and 190125-R05 which are renamed as 190201-O01, 190201-R02, 190201-R03 and 190201-R04 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		04 February 2019
Checked by	Dr. Priscilla Choy		04 February 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190208
Date	08 February 2019 (Friday)
Time	15:45 – 17:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality • No environmental deficiency was identified during site inspection.	
	B. Ecology	
190208-R04	• Provide drip tray for the chemical container near the wetsep	G3i
190208-R05	• A system to ensure the PMEs only operating between 0900 to 1700 hours should be implemented for all site area within 100 m of Meander	B4
	C. Land Contamination • No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual • No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190208-O01	• Stockpile of dusty materials were observed without cover/partially covered. The Contractor was reminded to fully cover all stockpiles to avoid dust emission.	E6
190208-O02	• Part of the exposed site areas and haul road were observed dry. The Contractor was reminded to ensure the implementation of watering should cover all site areas and haul road	E5
	F. Construction Noise Impact • No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190208-O03	• The setup of chemical waste storage area was observed not complying with the EPD requirement. The Contractor was reminded to review the relevant requirement to modify it.	G2i, G2ii
	H. Permits/Licences • No environmental deficiency was identified during site inspection.	
	I. Others • Follow-up on previous audit section (Ref. No.:190201), follow up action is required for items 190201-O01, 190201-R03, 190201-R04 and 190201-R05 which are renamed as 190208-O02, 190208-R05, 190208-R04 and 190208-O01 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		13 February 2019
Checked by	Dr. Priscilla Choy		13 February 2019

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	190213
Date	13 February 2019 (Wednesday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
190213-O05	• The soak away method from the wetsep tank is not recommended, Contractor should implement an alternate system to discharge water according to discharge license.	A6iii
190213-R09	• Cut-off drain near the temporary bridge should be enhanced.	A2
190213-O06	• The tires of dump trucks after using the wheel wash facility were observed muddy, Contractor should improve the wheel washing facility.	E3
	B. Ecology	
190213-R08	• A system to ensure the PMEs only operating between 0900 to 1700 hours should be implemented for all site area within 100 m of Meander	B4
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190213-O01	• Stockpile of dusty materials were observed without cover/partially covered. The Contractor was reminded to fully cover all stockpiles to avoid dust emission.	E6
190213-O02	• Part of the exposed site areas were observed dry. The Contractor was reminded to ensure the implementation of watering should cover all site areas.	E5
190213-R10	• Cement mixing machine should be carried out in an enclosed system.	E17ii
190213-R11	• Hoarding should be provided along the site area near the temp. bridge.	E10
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190213-O03	• The setup of chemical waste storage area was observed not complying with the EPD requirement. The Contractor was reminded to review the relevant requirement to modify it.	G2i, G2ii
190213-O04	• A number of drip trays were observed filled with sediments and should be sealed.	G8
190213-R07	• Drip tray should be provided for chemical containers near wetsep.	G3i
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190208), follow up action is required for items 190208-O01, 190208-O02, 190208-O03, 190208-R04 and 190213-R05 which are renamed as 190213-O01, 190213-O02, 190213-O03, 190213-R07 and 190213-R08 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		15 February 2019
Checked by	Dr. Priscilla Choy		15 February 2019

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	190222
Date	22 February 2019 (Friday)
Time	14:30 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
190222-O02	• The soak away method from the wetsep tank is not recommended, Contractor should implement an alternate system to discharge water according to discharge license.	A6iii
190222-R05	• Cut-off drain near the temporary bridge should be enhanced to avoid any construction runoff from entering the meander.	A2
190222-O03	• The tires of dump trucks after using the wheel washing facility were observed muddy, Contractor should improve the wheel washing facility.	A14i
	B. Ecology	
	• No environmental deficiency was identified during site inspection.	
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190222-O01	• Part of the exposed site areas were observed dry. The Contractor was reminded to ensure the implementation of watering should cover all site areas.	E5
190222-R04	• Hoarding should be erected along the site area near the temporary bridge.	E10
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190222-R06	• Chemical containers should be stored properly with drip tray to avoid any on site contamination.	G8
190222-R07	• A number of drip trays were observed filled with sediments	G8
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190213), follow up action is required for items 190213-O02, 190213-O04, 190213-O05, 190213-O06, 190213-R09 and 190213-R11 which are renamed as 190222-O01, 190222-R07, 190222-O02, 190222-O03, 190222-O04 and 190222-R05 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		26 February 2019
Checked by	Dr. Priscilla Choy		26 February 2019

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	190301
Date	01 March 2019 (Friday)
Time	14:30 – 16:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
190301-O01	• Partial of the tires of dump trucks after using the wheel washing facility were not cleaned, Contractor should improve the facility effectiveness.	A14i
	B. Ecology	
	• No environmental deficiency was identified during site inspection.	
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190301-R02	• Watering on haul road was observed, but other exposed area was observed dry. The Contractor was reminded to ensure the implementation of a more proficient method to cover the exposed area.	E5
190301-R04	• In Portion A, dust resuspension was observed under windy situation, Contractor was reminded to cover the stockpile when not in use with impervious material.	E6
190301-R05	• The enclosed system for cement mixing machine should be properly deployed.	E11
190301-R06	• NRMM label should be displayed on PMEs for inspection.	E18
190301-R07	• Hoarding around the air compressor and cement mixing machine should be enhanced.	E10
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190301-R03	• Chemical containers should be stored properly with drip tray to avoid any on site contamination.	G8
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190222), follow up action is required for items 190222-O01, 190222-O03, 190222-O04 and 190222-R06, which are remarked as 190301-R02, 190301-O01, 190301-R07 and 190301-R03 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		04 March 2019
Checked by	Dr. Priscilla Choy		04 March 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190306
Date	06 March 2019 (Wednesday)
Time	09:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
190306-O01	• Partial of the tires of dump trucks after using the wheel washing facility were not cleaned, Contractor should improve the facility effectiveness.	A14i
190306-R03	• Drainage near the wheel washing facility was not functioning as intended, the Contractor was reminded to rectify the situation to avoid overflow during rainy season.	A7
190306-R06	• Large amount of water was accumulated at LD-001. Contractor was reminded to properly treat the water prior to discharge and/or reuse.	A12
	B. Ecology	
	• No environmental deficiency was identified during site inspection.	
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190306-R02	• In Portion A, partial of the stockpile was observed not covered. Contractor was reminded to cover the stockpile when not in use with impervious material.	E6
190306-R04	• NRMM label should be displayed on PMEs for inspection.	E18
190306-R05	• Hoarding around the air compressor and cement mixing machine should be enhanced.	E10
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
	• .	
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190301), follow up action is required for items 190301-O01, 190301-R06 and 190301-R07, which are remarked as 190306-O01, 190306-R04 and 190306-R05 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		11 March 2019
Checked by	Dr. Priscilla Choy		11 March 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190313
Date	13 March 2019 (Wednesday)
Time	09:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
190313-F05	*A. Water Quality* • Large amount of water was accumulated at LD-001. Contractor was reminded to properly treat the water prior to discharge and/or reuse.	A5
	B. Ecology • No environmental deficiency was identified during site inspection.	
	C. Land Contamination • No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual • No environmental deficiency was identified during site inspection.	
190313-R04	*E. Air Quality* • In Portion A, partial of the stockpile was observed not covered. Contractor was reminded to cover the stockpile with impervious material when not in use.	E6
190313-O02	• Haul road and exposed area was observed dry, Contractor was reminded to there should be a proper system to water those area for once an hour.	E5
190313-R03	• Bags of cement were observed not covered, Contractor was reminded to cover them with impervious material when cement is not in use.	E16
	F. Construction Noise Impact • No environmental deficiency was identified during site inspection.	
190313-O01	*G. Waste / Chemical Management* • Chemical waste containers found near the temporary bridge should be stored properly in the chemical waste storage.	G2ii
	H. Permits/Licences • No environmental deficiency was identified during site inspection.	
	I. Others • Follow-up on previous audit section (Ref. No.:190306), follow up action is required for items 190306-R02, 190306-R06, which are remarked as 190313-R04, 190313-F05 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		15 March 2019
Checked by	Dr. Priscilla Choy		15 March 2019

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	190322
Date	22 March 2019 (Friday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
190322-R03	*A. Water Quality* • Drainage near the wetsep was clogged, Contractor was reminded to rectify the situation to avoid overflow during rainy season *B. Ecology* • No environmental deficiency was identified during site inspection. *C. Land Contamination* • No environmental deficiency was identified during site inspection. *D. Landscape & Visual* • No environmental deficiency was identified during site inspection.	A7
190322-R02	*E. Air Quality* • Haul road was wet but other exposed area was observed dry, Contractor was reminded to enhance the watering system to water those area for once an hour. *F. Construction Noise Impact* • No environmental deficiency was identified during site inspection.	E5
190322-O01	*G. Waste / Chemical Management* • Chemical waste containers were cleared but were not found in the chemical waste storage, Contractor was reminded to properly store the containers and dispose them properly. *H. Permits/Licences* • No environmental deficiency was identified during site inspection. *I. Others* • Follow-up on previous audit section (Ref. No.:190313), follow up action is required for items 190313-O01, 190313-O02, which are remarked as 190322-O01, 190322-R02 respectively.	G2ii

	Name	Signature	Date
Recorded by	Jonathan Lee		26 March 2019
Checked by	Dr. Priscilla Choy		26 March 2019

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	190329
Date	29 March 2019 (Friday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	A. Water Quality	
190329-R04	• Drainage near the wetsep was clogged, Contractor was reminded to rectify the situation to avoid overflow during rainy season	A7
190329-R06	• Water ponding near the soil storage area should be cleared properly	A12
	B. Ecology	
	• No environmental deficiency was identified during site inspection.	
	C. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	D. Landscape & Visual	
	• No environmental deficiency was identified during site inspection.	
	E. Air Quality	
190329-R03	• Partial of haul road was wet but other exposed area was observed dry, Contractor was reminded to enhance the watering system to water those area for once an hour.	E5
	F. Construction Noise Impact	
	• No environmental deficiency was identified during site inspection.	
	G. Waste / Chemical Management	
190329-O01	• Chemical waste containers were not found in the chemical waste storage, Contractor was reminded to properly store the containers and dispose them properly.	G2ii
190329-O02	• Oil spillage was observed beside workers resting area, Contractor should clear it properly.	G7
190329-R05	• Chemical containers were not stored properly in numerous location.	G3i
	H. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	I. Others	
	• Follow-up on previous audit section (Ref. No.:190322), follow up action is required for items 190322-O01, 190322-R02 & 190322-R03 which are remarked as 190329-O01, 190329-R03 & 190329-R04 respectively.	

	Name	Signature	Date
Recorded by	Jonathan Lee		01 April 2019
Checked by	Dr. Priscilla Choy		01 April 2019

APPENDIX J
WASTE GENERATION IN THE REPORTING PERIOD

生興 － 豐利聯營
Sang Hing – Kuly Joint Venture

Monthly Summary Waste Flow Table for 2019

Contract No.: YL/2017/03

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 Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, 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]
Jan	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	33.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05400
SUB-TOTAL	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05400
TOTAL	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05400

Note: **Conversion to 1000m^3 for general refuse is number of truck dumped multiply by 13.5 m3 (volumn of rubbish skip on site)**

Conversion to 1000m^3 for Inert C&D is weight in 1000kg multiply by 0.0005

Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

APPENDIX K
SUMMARY OF EXCEEDANCE

Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works – Environmental Team

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

(B) Exceedance Report for Construction Noise (NIL in the reporting period)

(C) Exceedance Report for Water 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
Water Quality	Dissolved Oxygen (DO)	1	9	0	0
	Turbidity	6	34	0	0
	Suspended Solids (SS)	6	40	0	0

APPENDIX L
COMPLAINT LOG

Appendix L - Complaint Log

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
--	--	--	--	--	--

APPENDIX M
SUMMARY OF PROSECUTIONS

Appendix M - Summary of Successful Prosecution

Date of Successful Prosecution	Details of the Successful Prosecution	Status	Follow Up
--	--	--	--