Civil Engineering and Development Department

Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Environmental Permit No.: EP-477/2013/A - Development of Lok Ma Chau Loop

Monthly Environmental Monitoring and Audit Report for April 2023

(Version 1.0)

Certified By

Dr. Priscilla Cho

(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.

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Our ref.: LES/J2021-04/CS/L116

Date : 17 May 2023

By Post & Email

Civil Engineering and Development Department West Development Office West Division (5) 26/F, Tsuen Wan Government Office, 38 Sai Lau Kok Road, Tsuen Wan, New Territories

Attn: Ms. TAM Im Fei

Dear Ms. TAM,

Agreement No. WD/01/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Independent Environmental Checker

Verification of Monthly EM&A Report (April 2023)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report of certified by the Environmental Team Leader in May 2023. We hereby verify the captioned submission in accordance with Clause 3.4 of the Environmental Permit No. EP-477/2013/A for the project of Development of Lok Ma Chau Loop.

Should you have any query, please feel free to contact the undersigned.

Yours faithfully, For and On Behalf Of Lam Environmental Services Limited

Raymond Dai

Independent Environmental Checker

c.c. AECOM Mr. Eric Wong By Email Wellab Limited Dr. Priscilla Choy By Email

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EXECUTIVE SUMMARY

Introduction

- 1. This is the 52nd Monthly Environmental Monitoring and Audit (EM&A) Report prepared for Environmental Permit No.: EP-477/2013/A Development of Lok Ma Chau Loop (hereinafter called "the Project"). This report documents the findings of Environmental Monitoring and Audit (EM&A) works conducted in the period from 1st to 30th April 2023 (hereinafter called "the reporting month").
- 2. During the reporting month, the following Works Contracts were undertaken for the Project:
 - Contract No. YL/2020/01 Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (hereinafter called the "Contract 1")
 - Contract No.: YL/2020/02 Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 (hereinafter called the "Contract 2")
 - Contract No.: YL/2021/01 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 3 Direct Road Link Phase 2

Environmental Monitoring and Audit Activities

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

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

Environm	ental Aspect	Monitoring Parameter	Date		
Air Quality		1-hr Total Suspended Particulates (TSP) Monitoring 24-hr TSP Monitoring	4 th , 6 th , 12 th , 18 th , 24 th and 28 th April 2023 3 rd , 6 th , 11 th , 17 th , 21 st and 27 th April 2023		
Constructio	n Noise	L _{eq30mins}	4 th , 12 th , 18 th and 24 th April 2023		
Water Qual	ity	 Temperature pH Turbidity Water depth Salinity Dissolved Oxygen (DO) Suspended Solids (SS) 	3 rd , 6 th , 8 th , 11 th , 13 th , 15 th , 17 th , 19 th , 21 st , 24 th , 26 th and 28 th April 2023		
Ecological	Lok Ma Chau (LMC) Loop	Avifauna flight line survey	21st April 2023 Temporary suspended as the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier (i.e. emergency hospital)		

Environmental Aspect		Monitoring Parameter	Date	
		Avifauna flight line survey	21st April 2023	
		Avifauna survey at Pond 12	3 rd , 13 th , 19 th and 26 th April 2023	
		Herpetofauna survey	19 th April 2023	
	Western	Aquatic Fauna survey	26 th April 2023	
Ecological			LMC Meander	
Ecological	Road (WCR)		3 rd , 6 th , 8 th , 11 th , 13 th , 15 th , 17 th , 19 th ,	
		Water Quality Monitoring for	21st, 24th, 26th and 28th April 2023	
		Aquatic Fauna	Stream and associated ponds south of	
			Lung Hau Road	
			3 rd , 12 th , 19 th and 26 th April 2023	
			Contract 1	
			3 rd , 12 th , 19 th and 26 th April 2023	
Site Environmental Audit		Environmental protection and	Contract 2	
Site Enviro	iiiiciitai Audit	pollution control measures	3 rd , 12 th , 19 th and 26 th April 2023	
			Contract 3	
			3 rd , 12 th , 17 th and 24 th April 2023	

Breaches of Action and Limit Levels

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

Table II Summary Table for Environmental Exceedances in the Reporting Month

			Limit Level	Event & Action		
Environmental Monitoring	Parameter	Action Level		Investigation Result	No. of Exceedance related to the Construction Works of the	Corrective Action
A in Ossalitas	1-hr TSP	0	0		0	
Air Quality	24-hr TSP	0	0		0	
Construction Noise	Daytime Leq(30min)	0	0		0	
Water Quality	DO	0	3	Non-project related	0	Not required
	Turbidity	0	2	Non-project related	0	Not required
	SS	0	1	Non-project related	0	Not required

1-hour TSP Monitoring

5. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

6. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

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

Water Quality

8. All water quality monitoring was conducted as scheduled in the reporting month. Three (3) Limit Level exceedances of DO, two (2) Limit Level exceedances of Turbidity and one (1) Limit Level exceedance of Suspended Solids were recorded. After investigation, the exceedances were non-project related.

Ecological Monitoring

<u>LMC Loop</u>

Avifauna (Flight Line Survey)

9. Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Mammals

- 10. According the Clause 11.4.1.2 of EM&A Manual, the objective of mammals monitoring is to monitor the connectivity between the reed marsh in the LMC Loop and the EA Zone. In view of current site condition of Loop, the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier.
- 11. In addition, the 12-month establishment period of EA zone has also been completed. The mammals monitoring in the Loop has therefore been temporarily suspended since March 2022 and will be resumed subject to the site condition.

Western Connection Road

Avifauna (Flight Line Survey)

12. Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Avifauna (Pond 12)

13. Avifauna survey at Pond 12 was conducted as scheduled in the reporting month. Weekly count of birds using the Pond was recorded. No significant impact of construction activities on bird use of the pond was observed.

Herpetofauna

14. Herpetofauna survey was conducted as scheduled in the reporting month. It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands, which may have an effect on the local Chinese Bullfrog population. However, no significant impact of construction activities on this species was observed.

Aquatic fauna

15. Aquatic fauna survey was conducted as scheduled in the reporting month. No significant impact of construction activities on the stream was observed.

Land Contamination

- 16. Decontamination for five arsenic-contaminated zones (LD01 LD05) identified in LMC Loop was completed and the final Remediation Report was submitted and approved by EPD in accordance with Condition 2.16 of the EP-477/2013/A under Contract No. YL/2017/03.
- 17. No work related to land contamination was conducted in the reporting month.

Site Environmental Audit

18. In the reporting month, weekly joint site inspections to evaluate the site environmental performance had been carried out by the representatives of the Consultants, Independent Environmental Checker (IEC), Environmental Team (ET) and the Contractors. The date(s) of the weekly site environmental audit conducted under the Project are summarized in **Table III**.

Table III Summary Table for Site Environmental Audit in the Reporting Month

Contract(s)	Date(s) of Site Environmental Audit
Contract No. YL/2020/01 – Development of Lok	3 rd , 12 th , 19 th and 26 th April 2023
Ma Chau Loop: Main Works Package 1 -	
Contract 1 Site Formation and Infrastructure	
Works inside Lok Ma Chau Loop and Western	
Connection Road Phase 1	
Contract No.: YL/2020/02 – Development of Lok	3 rd , 12 th , 19 th and 26 th April 2023
Ma Chau Loop: Main Works Package 1 -	
Contract 2 Western Connection Road Phase 2,	
Connection Roads to Fanling / San Tin Highway	
and Direct Road Link Phase 1	
Contract No.: YL/2021/01 – Development of Lok	3 rd , 12 th , 17 th and 24 th April 2023
Ma Chau Loop: Main Works Package 1 -	
Contract 3 Direct Road Link Phase 2	

19. No non-compliance was recorded during the site inspections.

Complaint Log

20. One environmental complaint related to noise nuisance during restricted hour was received in the reporting month.

Notification of Summons and Successful Prosecutions

21. No notification of summons or successful prosecution was received in the reporting month.

Reporting Change

22. This report has been prepared in compliance with the reporting requirements for the subsequent monthly EM&A Report as required by the EM&A Manual for Development of Lok Ma Chau Loop (EM&A Manual). No reporting change was made in the reporting month.

Future Key Issues

23. Major site activities for the coming reporting months will include:

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

- (a) Wetland Compensation Establishment Works and Ecological Monitoring
- (b) Additional Ground Investigation
- (c) Deep Cement Mixing Work for Vehicular Bridge over the Old Shenzhen River Meander and Western Connection Road
- (d) Piling Construction for Vehicular Bridge over the old Shenzhen River Meander
- (e) Structure Construction for Box Culverts and WCR
- (f) Drainage Works and Roadworks
- (g) Woodland Compensation Works

Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Section 1

- (a) Tree Felling and Site Clearance along RW8 area and immediate vicinity. Forming of temporary carriageway to divert traffic.
- (b) Demolition of Subway Cycle Track Bay 12, 13, & 14, and to exposed and protect 132ky cables.
- (c) Excavation and lateral support for RW9 Bay 1 to Bay 4
- (d) Construction of retaining wall RW9 base slab Bays 5, 7, 9 and 11 and wall stem Bay 8 to 16
- (e) Commence construction of retaining wall RW8
- (f) Complete Interim watermain along TAR1 (under KD2)

Section 2A

- (g) Continue Bored Piling for Retaining Wall BPW1
- (h) Trim slope of CS1 and removal of piling platform for Retaining Wall BPW1
- (i) Site Clearance at LMC Road Zone 3, Zone 4, Zone 5 and Zone 6
- (j) Trial Pit to expose and shift existing Utilities in Zone 4
- (k) Liaison with utility companies for utility diversion
- (1) UU works along Lok Ma Chau Road

Section 2B

- (m) Preparation Works for EIBC foundation works
- (n) Preparation works for Nullah Diversion to Facilitate ST01-B01 Bored Piling

Section 2C

- (o) Bored pile and socketed H-Pile for Bridge ST01 and CTFB (ST01-P05 & FBP05, EIBC)
- (p) Backfill and construction of Pier at ST01-P02 & P03
- (q) Construction of FBA02 and FBP06 Pile caps
- (r) Construction of Pile Cap and Pier at ST01-P04 and P06

Section 3

- (s) Ground investigation / Pre-drilling and Trial Pits for Bridge DRL
- (t) Bored pile for Bridge DRL
- (u) ELS to Cofferdam, Pile Trimming/Treatment for DRL-P12 & P13
- (v) Commence construction of Pile Cap and Pier at DRL-P12 & P13
- (w) Forming site access for piling of DRL-P02 & P03

Section 5

(x) Construction of Pai Lau Columns, Structure and Finishes

Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

- (a) LMC Station L1 Structural Opening for E&M Diversion
- (b) UU Diversion for Watermain (MTR) and Drainage Diversion at EPTI
- (c) Traffic, Drainage and Road Lighting Diversion for Stage 2 Works at DDFB

1 INTRODUCTION

1.1 Wellab Limited (WELLAB) was appointed by the Civil Engineering and Development Department (CEDD) under Service Contract No. WD/04/2020 as the Environmental Team to undertake the Environmental Monitoring and Audit (EM&A) programme for the Works Contracts under Main Works Package 1 and the remaining works under Contract No. YL/2017/03 — Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works to ensure that the environmental performance of the Works Contracts comply with the requirements specified in the Environmental Permit (EP), Environmental Monitoring & Audit (EM&A) Manual, Environmental Impact Assessment (EIA) Report of the Project and other relevant statutory requirements.

Purpose of the report

1.2 This is the 52nd EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme in the period from 1st to 30th April 2023.

Structure of the report

- 1.3 The structure of the report is as follows:
 - Section 1: **Introduction -** purpose and structure of the report.
 - Section 2: **Project Information** summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.
 - Section 3: **Air Quality Monitoring -** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
 - Section 4: **Noise Monitoring -** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
 - Section 5: Water Quality Monitoring summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
 - Section 6: **Ecological Monitoring** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations and monitoring results.
 - Section 7 Land Contamination summarises the remediation works progress for contamination soil and relevant submission.
 - Section 8 Waste Management summarises the implementation status of waste management.

weekly site inspections undertaken within the reporting month.

Section 10: Implementation Status of Environmental Mitigation Measures - summarises the compliance status of environmental mitigation measures.

Section 11: **Environmental Non-conformance -** summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.

Section 12: **Future Key Issues -** summarises the impact forecast and monitoring schedule for the next three months.

Section 13: Conclusions and Recommendations

2 PROJECT INFORMATION

Background

- 2.1 The development at Lok Man Chau (LMC) Loop is one of the ten major infrastructure projects for economic growth of the Hong Kong Special Administrative Region (HKSAR). The HKSAR Government would work with the Shenzhen authorities to tap the land resources of the LMC Loop to meet future development needs and consolidate the strategic position of both cities in the Pan-Pearl River Delta region. The Project is to develop LMC Loop with higher education as the leading land use, complemented by high-tech research and development facilities and cultural and creative industries.
- 2.2 The planning and engineering study for the Loop development is a designated project (DP) classified under Item 1 Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). In October 2013, the EIA Report (AEIAR-176/2013) of the Project was approved by the Director of Environmental Protection pursuant to the EIA Ordinance in accordance with the EIA Study Brief (No. ESB-201/2008 and ESB-238/2011) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The Environmental Permit (EP) (EP no.: EP-477/2013) was also granted in November 2013.
- 2.3 Pursuant to Section 13 of the EIAO, the Director of Environmental Protection amends the Environmental Permit (No. EP-477/2013) based on the Application No. VEP- 595/2021 and the environmental Permit (Permit No. E EP-477/2013/A) was issued on 12th August 2021 for Development of Lok Ma Chau Loop.
- 2.4 The Loop development is implemented by three works packages in stages, namely: Advance Works, Main Works Package 1 (MWP1) and Main Works Package 2 (MWP2).
- 2.5 Contract No. YL/2017/03 Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works (hereinafter called the "Contract") was awarded to Sang Hing Kuly Joint Venture (hereinafter called the "Contractor 1") in June 2018 for the Advance Works. All construction works of Contract No. YL/2017/03 have been completed and the works were successfully handed over to AFCD and DSD on 30th December 2021.
- 2.6 For MWP1, there will be a total of 5 Works Contracts and the contract packaging is shown below.
 - Contract 1 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1
 - 2) Contract 2 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1
 - 3) Contract 3 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 3 Direct Road Link Phase 2
 - 4) Contract 4 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 4 Fresh Water Service Reservoir and Associated Waterworks
 - 5) Contract 5 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 5 Landscaping Works within Lok Ma Chau Loop

- 2.7 Contract No. YL/2020/01 Development of Lok Ma Chau Loop: Main Works Package 1
 Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (hereinafter called the "Contract 1") was awarded to CRCC-Kwan Lee-Paul Y. JV (hereinafter called the "Contractor 2") in July 2021.
- 2.8 Contract No.: YL/2020/02 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 (hereinafter called the "Contract 2") was awarded to China Road and Bridge Corporation (hereinafter called the "Contractor 3") in September 2021.
- 2.9 Contract No.: YL/2021/01 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 3 Direct Road Link Phase 2 (hereinafter called the "Contract 3") was awarded to Paul Y.-Chun Wo-CRCC JV (hereinafter called the "Contractor 4") in February 2022.
- 2.10 During the reporting month, the following Works Contracts were undertaken for the Project:
 - Contract No. YL/2020/01 Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (Contract 1)
 - Contract No.: YL/2020/02 Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 (Contract 2)
 - Contract No.: YL/2021/01 Development of Lok Ma Chau Loop: Main Works Package 1 Contract 3 Direct Road Link Phase 2 (Contract 3)
- 2.11 The layout of the construction works under the Project and the scope of works under the Project are summarized in **Table 2.1**.

Table 2.1 Site Layout and Scope of Works under the Project

Contract(s)	Scope of Works	Site Layout Plan
Contract No.	a) Land decontamination treatment within the Loop;	Figure 1a
YL/2017/03 –	b) Establishment of an Ecological Area (EA) within	
Development of Lok	the Loop;	
Ma Chau Loop: Land	c) Construction of a temporary access to the Loop;	
Decontamination and	d) Minor improvement works to Ha Wan Tsuen	
Advance Engineering	East Road and other ancillary works;	
Works (Completed)	e) Construction of temporary noise barriers and	
	miscellaneous road works along Lok Ma Chau	
	Road;	
	f) Ground treatment works to the first batch of land	
	parcels within the Loop for development of	
	buildings and associated facilities for Phase 1 of	
	the Hong Kong – Shenzhen Innovation and	
	Technology Park and development of the western	
	electricity substation; and	
	g) Implementation of environmental mitigation	
	measures for the works mentioned in the items	
	(a) to (f) above.	

Contract(s)	Scope of Works	Site Layout Plan
Contract No. YL/2020/01 — Development of Lok Ma Chau Loop: Main Works Package 1 — Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1	 a) Ground treatment and site formation works; b) Construction of carriageway, footpaths, cycle tracks and a public transport interchange within the Loop; c) Construction of Western Connection Road Phase 1 through widening of existing Ha Wan Tsuen East Road, which includes construction of footpath, cycle track, slopes, retaining walls and a vehicular bridge over the old Shenzhen River meander; d) Provision of other infrastructures, including a tertiary sewage treatment works and sewerage system, water supply system, drainage system, and other associated works; and e) Environmental mitigation measures including about 18 ha offsite wetland compensation and 	Figure 1b
Contract No.: YL/2020/02 — Development of Lok Ma Chau Loop: Main Works Package 1 — Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1	about 1.3 ha offsite weddand compensation and about 1.3 ha offsite woodland compensation. a) Construction of Western Connection Road Phase 2 through widening of a section of existing Lok Ma Chau Road; b) Construction of Direct Road Link Phase 1 comprising a viaduct of about 720mm long; construction of slip roads connecting Lok Ma Chau Road and Fanling Highway / San Tin Highway including a viaduct of about 340 m long; c) Construction of a cycle track cum footbridge; d) Construction of associated works including road improvement works, footpaths, cycle tracks, slopes, retaining walls, water supply system and drainage system; and e) Provision of noise barriers.	Figure 1b
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	 a) Construction of an elevated public transport interchange of an approximate area of 5,700 square metres above the existing Lok Ma Chau Spur Line Public Transport Interchange; b) Construction of an approximately 90 metres long double-deck footbridge and a lift tower of approximately 21 metres in height with three lifts and three escalators connecting the elevated public transport interchange mentioned above to the MTR Lok Ma Chau Station; c) Associated modification works within the MTR Lok Ma Chau Station; and d) Associated roadworks, landscaping, electrical and mechanical works and ancillary works. 	

Project Organisation

2.12 Different parties with different levels of involvement in the Project organization. The key personnel contact names and numbers are summarised in **Table 2.2**.

Table 2.2 Key Contacts of the Project

Organization	Project Role	Contact Person	Tel No.	Fax No.		
CEDD	Project Proponent	Mr. Davy KS CHAN	2417 6370	2412 0358		
WELLAB	ET	Dr Priscilla Choy – ET Leader	2898 7388	2898 7076		
Lam Environmental Services Limited (LAM)	IEC	Mr. Raymond Dai	2839 5666	2882 3331		
Contract No. YI	./2020/01					
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA		
		Site Agent – Mr. Jeremy Luk	9013 7913	2774 0197		
CRCC-Kwan	Control	Senior Engineer – Mr. Max Mak	9263 1116	2774 0197		
Lee-Paul Y. JV	Contractor	Senior Engineer – Mr. Stephen Leung	9770 6390	2774 0197		
		Environmental Officer – Ms. Lila Lui	5261 0378	2774 0197		
Contract No. YI	L/2020/02					
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA		
	Contractor	Site Agent – Mr. Roger Poon	9503 2488	3996 9202		
China Road and Bridge Corporation		Construction Team Leader – Mr. Angus Mok	98389224	3996 9202		
_		Environmental Officer – Mr. Calvin So	9724 6254	3996 9202		
Contract No. YL/2021/01						
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA		
Paul YChun Wo-CRCC JV	Contractor	Site Agent – Mr. Desmond Tang	5188 0815	3015 7861		
		Section Agent – Mr. Charles Choi	6350 0142	3015 7861		
		Environmental Officer – Mr. Tino Law	6856 4150	3015 7861		

Construction Programme

2.13 Copies of contractors' construction programmes are provided in **Appendix A**.

Summary of Construction Works Undertaken During Reporting Month

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

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

- (a) Wetland Compensation Establishment Works and Ecological Monitoring
- (b) Ground Investigation Works, Deep Cement Mixing works, Piling works and Excavation and Lateral Support Cofferdam Construction for Vehicular Bridge over the Old Shenzhen River Meander
- (c) Excavation and Lateral Support (ELS) Cofferdam Construction for Box Culvert A and C
- (d) Excavation and Lateral Support (ELS) Cofferdam Construction and Underground Utilities (UU) installation for Road L1
- (e) Deep Cement Mixing works for Western Connection Road

Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

- (a) Tree felling works
- (b) Pre-drilling works
- (c) Socketed H-pile, Approach Ramp & Abutment DRL-A01 and Compression load test for FBA-01-P4
- (d) Demolition of Existing Structures
- (e) DDA for Full-span erection of ST01
- (f) Retaining Wall BPW1 Bored Piling works, excavation for bored pile and concrete for bored pile
- (g) Bored pile works at ST01, CTFB and DRL
- (h) Construction of base slab Bay 16 to Bay 13, excavation for Bay 8 to 10 and deposition of rock fill
- (i) Trial pit to expose 132kV powerline and sheet piling
- (j) Construction of Pai Lau columns
- (k) TTA along footpath in Lok Ma Chau Road and Trial pit for CLP 132kV cable joint bay
- (1) Pile Cap for ST01-P02 and ST01-P03
- (m) Concrete plant trial in Precast Yard in Panyu, China

(n) Drainage diversion for forming site access near DRL-P03, temporary access ramp from LMC MTR Station to Reedbed No. 3, Site setup in Reedbed No.3, Pile head treatment for DRL-P12 and Sheet pile driving for ELS of DRL-P13

<u>Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package</u> 1 – Contract 3 Direct Road Link Phase 2

- (a) Underground Utility detection
- (b) Pre-drilling
- (c) Trial pit excavation
- (d) Material / Waste Lifting and Delivery
- (e) Utilities diversion
- (f) Bored pile construction
- (g) Erect external scaffold outside LMC Station
- (h) E&M
- (i) ABWF
- (j) Temporary Lighting system
- (k) Site Demarcation

Status of Environmental Licences, Notifications and Permits

2.15 A summary of the relevant permits, licences, and/or notifications on environmental protection for the Project is presented in **Table 2.3**.

Table 2.3 Status of Environmental Licences, Notifications and Permits

	Permit / License	Vali	d Period	
Contract No.	No.	From	To	Status
Environmental Permit (EF	P)			
Contract No. YL/2020/01 Contract No. YL/2020/02	EP-477/2013	22/11/2013	N/A	Valid
Contract No. YL/2021/01	EP-477/2013/A	12/08/2021	N/A	Valid
Construction Noise Permit	t (CNP)			
Contract No. YL/2020/01	GW-RN0359-23	14/04/2023	13/07/2023	Valid
Contract No. YL/2020/02	GW-RN0113-23	10/02/2023	09/06/2023	Valid
	GW-RN0142-23	09/02/2023	08/05/2023	Valid
	GW-RN0326-23	31/03/2023	30/06/2023	Valid
	GW-RN0386-23	09/05/2023	08//08/2023	Valid
Contract No. YL/2021/01	GW-RN0277-23	28/03/2023	27/06/2023	Valid
Notification pursuant to A	ir Pollution Contro	l (Construction	Dust) Regulation	
Contract No. YL/2020/01	469726	21/07/2021	Till the Contract ends	Receipt acknowledged by EPD
Contract No. YL/2020/02	471916	20/09/2021	Till the Contract ends	Receipt acknowledged by EPD
Contract No. YL/2021/01	479880	17/05/2022	Till the Contract ends	Receipt acknowledged by EPD

	Permit / License	Valid Period		
Contract No.	No.	From	То	Status
Billing Account for Dispos	sal of Construction V	Waste		
Contract No. YL/2020/01	7041333	27/07/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	7041861	15/10/2021	Till the Contract ends	Valid
Contract No. YL/2021/01	7043434	22/05/2022	Till the Contract ends	Valid
Registration of Chemical	Waste Producer			
Contract No. YL/2020/01	WPN 5213-620- C4632-01	21/07/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	WPN 5213-542- C1232-24	29/11/2021	Till the Contract ends	Valid
Contract No. YL/2021/01	WPN 5213-542- P3483-01	21/04/2022	Till the Contract ends	Valid
Effluent Discharge Licens	e under Water Pollu	ition Control C	Ordinance	
Contract No. YL/2020/01	WT00039466-2021	04/01/2023	31/12/2026	Valid
	WT00041233-2022	18/07/2022	31/07/2027	Valid
Contract No. YL/2020/02	WT00041280-2022	27/07/2022	31/07/2027	Valid
	WT00042556-2022	23/11/2022	30/11/2027	Valid
Contract No. YL/2021/01	WT00041259-2022	21/07/2022	31/07/2027	Valid
Specified Processes for Co	ement Works under	Air Pollution (Control Ordinance	
Contract No. YL/2020/01	L-3-270(1)	25/04/2023	24/04/2025	Valid

Status of Compliance with Environmental Permits Conditions

2.16 The status of compliance with Environmental Permit (EP) No. EP-477/2013/A and required submission related to this Project under the EP is summarized in **Table 2.4**:

Table 2.4 Summary Table for Status of Compliance / Required Submission under EP No. EP-477/2013/A $\,$

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
2.3	Management Organizations	no later than one month before the commencement of construction of the Project	<u>YL/2020/01:</u> 7 July 2021 <u>YL/2020/02:</u> 17 Nov 2021 <u>YL/2021/01:</u> 30 Mar 2022	*
2.4	Pedestrian Walkway Reserve in the Direct Link to MTR LMC Station	at least one month before the commencement of construction of the Direct Link, deposited with the Director	17 Nov 2021	*
2.5 & 2.6	Submission of Works Schedule and Location Plans	Works Schedule: at least one month before the commencement of the works of the Project Location Plan: at least two weeks before the	<u>YL/2020/01:</u> 7 July 2021 <u>YL/2020/02:</u> 17 Nov 2021 <u>YL/2021/01:</u> 30 Mar 2022	*

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
		commencement of the works of the Project		
2.7	Ecological Mitigation / Habitat Creation and Management Plan	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	7 Dec 2021 (Issue 4)	*
2.8	Landscape Plan	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	To be submitted at least one month before the commencement of corresponding parts of the works of the Project (tentative submission date will be supplemented once available)	*
2.11	Emergency Contingency Plan	at least one month before the commencement of the concerned works of the Project, deposited with the Director	26 Oct 2021	*
2.15	Re-appraisal report	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	18 Jun 2021	*
2.16	Remediation Report	no later than one month after the completion of the remediation works for approval	N/A (no remediation is required according to reappraisal report)	N/A
2.17	(a) Updated Contamination Assessment Plan (CAP) (b) Contamination Assessment Report (CAR) (c) Remedial Action Plan (RAP) (d) Remediation Report (RR)	 (a) submitted to the Director for approval (b) no later than two months after the completion of the Supplementary SI (c) submitted to the Director for approval (d) no later than one month after the completion of the remediation works for approval 	N/A (no remediation is required according to reappraisal report)	N/A
3.3	Baseline Monitoring Report	at least one month before commencement of construction of the Project.	3 Dec 2018	*
3.4	Monthly EM&A Report	within 10 working days after the end of each reporting month	Regular submitted within 10 working days after the end of each reporting month	*

Remarks: * Approval not required in EP-477/2013/A N/A – Not Applicable

3 AIR QUALITY MONITORING

Monitoring Requirements

- 3.1 In accordance with the EM&A Manual for Development of Lok Ma Chau Loop (EM&A Manual), impact 1-hour Total Suspended Particulates (TSP) and 24-hour TSP monitoring were conducted to monitor the air quality for the Project. **Appendix B** shows the established Action/Limit Levels for the air quality monitoring work.
- 3.2 Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was conducted for at least once every 6 days at 4 air quality monitoring stations.

Monitoring Location

3.3 Impact air quality monitoring was conducted at the 4 monitoring stations under the Project, as shown in **Figure 2**. **Table 3.1** describes the location of the air quality monitoring stations.

Table 3.1 Location of Air Quality Monitoring Stations

Monitoring Station	Location
DMS-1a (see Note 1)	Village House along Ha Wan Tsuen East Road
DMS-2A (see Note 2)	Village House along Lok Ma Chau Road
DMS-2B (see Note 3)	Site boundary near Village House along Lok Ma
	Chau Road
DMS-3	Village House along Old Border Road
DMS-4A (see Note 4)	Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Notes:

- 1. In view of the disturbance concerned by the villagers near the original air quality monitoring location DMS-1, an alternative location (DMS-1a) was proposed which was verified by IEC and agreed by EPD.
- Monitoring at DMS-2 (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (DMS-2A) was proposed which was verified by IEC and agreed by EPD.
- 3. Alternative location (DMS-2B) was proposed due to DMS-2A is situated within the site area for upcoming road widening works which was verified by IEC and agreed by EPD.
- 4. Proposed replacement monitoring location for Air Sensitive Receiver (ASR) MTL-20 Village house in Ma Tso Lung (DMS-4A) as no work would be conducted near ASR MTL-20 due to exclusion of the original Eastern Connection Road (ECR) which was verified by IEC and agreed by EPD.

Monitoring Equipment

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

Table 3.2 Air Quality Monitoring Equipment

Monitoring Station(s)	Equipment	Model and Make	Quantity
DMS-3	HVS Sampler for 24-hour TSP monitoring	TISCH Model: TE-5170	2
DMS-4A	1-hour TSP Dust Meter	Met One Instruments: AEROCET-831	4

Monitoring Station(s)	Equipment	Model and Make	Quantity
	Calibrator	TISCH Model: TE-5025A	1
⁽¹⁾ DMS-2B ⁽²⁾ DMS-1a	Dust Meter for 1- hour and 24-hour TSP monitoring	Met One Instruments: AEROCET-831	3
DMS-4A	Wind Anemometer	DAVIS Model: Vantage PRO2 6152CUK	1

Remarks:

- (1) Air quality monitoring has been conducted at DMS-2B (and suspended from DMS-2A) starting from 20 January 2023. Due to the complaint received from the nearby villager about the sound arising from HVS, dust meter was requested for air quality monitoring at DMS-2B starting from March 2023. IEC had no comment on the proposal of using dust meter for monitoring at DMS-2B.
- (2) The power supply from the Village House at DMS-1a is not secured for operation of HVS. Therefore, dust meter for 24-hr TSP monitoring at DMS-1a was proposed to ensure the monitoring data collection. IEC had no comment on the proposal of using dust meter for 24-hr TSP monitoring at DMS-1a on 21 June 2022.

Monitoring Parameters and Frequencies

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

Table 3.3 Impact Air Quality Monitoring Parameters and Frequencies

Parameters	Frequency
1-hr TSP	Three times in every 6 days
24-hr TSP	Once per 6 days

Monitoring Methodology and Quality Assurance/Quality Control (QA/QC) Procedure

24-hour TSP Air Quality Monitoring

Instrumentation

3.6 HVSs completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

HVS Installation

- 3.7 The following guidelines were adopted during the installation of HVS:
 - A horizontal platform with appropriate support was provided to secure the samplers against gusty wind;
 - No two samplers were placed less than 2 metres apart;
 - The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protruded above the sampler;

- A minimum of 2 metres of separation from walls, parapets and penthouses was required for rooftop samples;
- A minimum of 2 metres separation from any supporting structure, measured horizontally was required;
- No furnaces or incineration flues were nearby;
- Airflow around the sampler was unrestricted;
- The samplers were more than 20 metres from the drip line;
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring;
- Permission and access to the monitoring stations had been obtained to set up the samplers; and
- A secured supply of electricity was provided to operate the samplers.

Filters Preparation

- 3.8 Wellab Limited was the HOKLAS accredited laboratory (HOKLAS Registration No.083) and responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for the monitoring team.
- 3.9 All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ± 3 °C; the relative humidity (RH) was < 50% and not variable by more than $\pm 5\%$. A convenient working RH was 40%.
- 3.10 Wellab Limited has comprehensive QA and QC programmes.

Operating/Analytical Procedures

- 3.11 Operating/analytical procedures for the air quality monitoring were highlighted as follows:
 - Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 m³/min. and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50;
 - The power supply was checked to ensure the sampler worked properly;
 - On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station;
 - The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen;
 - The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges;
 - The shelter lid was closed and secured with the aluminum strip;
 - The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper could be found out by using the filter number);
 - After sampling, the filter was removed and kept in a clean and tightly sealed plastic bag. The filter paper was then returned to the Wellab Limited for reconditioning in

- the humidity-controlled chamber followed by accurate weighting by an electronic balance with a readout down to 0.1mg. The elapsed time was also recorded; and
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the RH should be < 50% and not vary by more than ±5%. A convenient working RH is 40%. Weighing results were returned for further analysis of TSP concentrations collected by each filter.

Maintenance/Calibration

- 3.12 The following maintenance/calibration was required for the HVS:
 - The high-volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition; and
 - All HVSs were calibrated (five-point calibration) using Calibration Kit prior to the commencement of the baseline monitoring and thereafter at bi-monthly intervals.

1-hour and 24-hour TSP Air Quality Monitoring

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

(AEROCET-831)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Press and hold the Power key momentarily to power on the unit and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 second to display the Sample Screen minutes.
- Press the START / STOP key to run the internal vacuum pump for 1 minute and ready to use.
- Use the select dial to select the PM range and press the START / STOP key to start a measurement.
- Finally, push the START/STOP key to stop the measuring after 1 hour sampling.
- For 24-hour TSP monitoring, the hold time was set for collection of 24-hour TSP samples. A separate automotive battery was used to support the dust meter for 24-hour TSP monitoring.
- Information such as sampling date, time, value and site condition were recorded during the monitoring period.
- All data were recorded in the data logger for further data processing.

Maintenance/Calibration

- 3.14 The following maintenance/calibration is required for the direct dust meters:
 - Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method prior to the commencement of the baseline monitoring. Dust meter will be checked and calibrated at bi-monthly intervals throughout the air quality monitoring period, if necessary.

Results and Observations

3.15 The monitoring results for 1-hour TSP and 24-hour TSP are summarised in **Table 3.4** and **Table 3.5** respectively. Detailed monitoring results and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.

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

Monitoring Station		centration ug/m³)	Action Limit Lev Level, μg/m³ μg/m³	Limit Level,
Station	Average	Range	Level, µg/III	μg/m
DMS – 1a	78.6	32.4 – 130.7	353	
DMS – 2B	77.0	41.2 - 140.4	370	500
DMS - 3	107.1	53.7 – 181.9	351	500
DMS – 4A	87.8	31.3 – 172.0	350	

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

Monitoring Station			Action Level, µg/m³	Limit Level, µg/m³
Station	Average	Range	Level, μg/III	μg/m
DMS – 1a	68.6	42.4 – 100.9	184	
DMS - 2B	70.9	47.5 – 119.6	166	260
DMS - 3	40.3	20.1 - 57.1	166	260
DMS – 4A	43.8	33.6 - 68.3	152	

- 3.16 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3.17 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3.18 According to our field observations, the major dust source identified at the designated air quality monitoring stations in the reporting month are as follows:

Table 3.6 Observation at Air Quality Monitoring Stations

Monitoring Station	Major Dust Source	
DMS-1a	Road traffic, exposed site area, site vehicle / equipment	
DMS-2B	movement Road traffic, exposed site area, site vehicle / equipment	
DWIS-2D	movement	
DMS-3	Road traffic	
DMS-4A	Road traffic	

- 3.19 The wind speed and wind direction were recorded by the installed Wind Anemometer set at DMS-4A. The location is shown in **Figure 2**.
- 3.20 The general weather condition and the wind data for the reporting month are summarised in **Appendix I**.

Event and Action Plan

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

4 NOISE MONITORING

Monitoring Requirements

4.1 In accordance with the EM&A Manual, four noise monitoring stations, namely NMS-1, NMS-2, NMS-3 and NMS-4A were selected for impact monitoring for the Project. Impact noise monitoring was conducted for at least once per week during the construction phase of the Project. **Appendix B** shows the established Action / Limit Levels for the noise monitoring works.

Monitoring Location

4.2 Impact noise monitoring was conducted at the 4 monitoring stations under the Project, as shown in **Figure 3**. **Table 4.1** describes the locations of the noise monitoring stations.

Table 4.1 Location of Noise Monitoring Stations

Monitoring Station	Location	Measurement
NMS-1	Village house in Ha Wan Tsuen	Façade Measurement
NMS-2	Village house along existing Ha Wan Tsuen	Free Field
NMS-3	Village house along Old Border Road	Free Field
NMS-4A (see Note 1)	Hong Kong Police Force, Lok Ma Chau	Free Field
	Operation Base at Horn Hill	measurement

Note:

 Proposed replacement monitoring location for Noise Sensitive Receiver (NSR) MTL-20 – Village house in Ma Tso Lung (NMS-4A) as no work would be conducted near NSR MTL-20 due to exclusion of the original ECR.

Monitoring Equipment

4.3 **Table 4.2** summarises the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix C**.

Table 4.2 Noise Monitoring Equipment

Equipment	Model	Quantity
Integrating Sound Level Meter	BSWA 308	3
Calibrator	SVANTEK SV 30A	2

Monitoring Parameters, Frequency and Duration

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

Monitoring Stations	Parameter	Duration	Frequency
NMS-1 NMS-2 NMS-3 NMS-4A	L10(30 min.) dB(A) L90(30 min.) dB(A) Leq(30 min.) dB(A) (as six consecutive Leq, 5min readings)	0700-1900 hrs on normal weekdays	Once per week

Table 4.3 Noise Monitoring Parameters, Duration and Frequency

Remarks:

A-weighted equivalent continuous sound pressure level (L_{eq}). It is the constant noise level which, under a given situation and time period, contains the same acoustic energy as the actual time-varying noise level.

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

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

Monitoring Methodology and QA/QC Procedures

- The microphone head of the sound level meter was positioned at 1m from the exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acted as a reflecting surface;
- The battery condition was checked to ensure the correct functioning of the meter;
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

frequency weighting : Atime weighting : Fast

time measurement : $L_{eq}(30 \text{ min.}) dB(A)$

(as six consecutive $L_{\text{eq, 5min}}$ readings) during non-restricted hours (i.e. 0700-1900 hrs on

normal weekdays)

- Prior to and after each noise measurement, the meter was calibrated using a
 Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before
 and after measurement was more than 1.0 dB, the measurement would be
 considered invalid and repeat of noise measurement would be required after recalibration or repair of the equipment;
- During the monitoring period, the L_{eq}, L₉₀ and L₁₀ were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible and observation record during measurement period should be provided; and
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. The wind speed should be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Maintenance and Calibration

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

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

Results and Observations

4.8 The noise monitoring results are summarised in **Table 4.4**. Detailed monitoring results and graphical presentations of noise monitoring are shown in **Appendix G**.

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

Monitoring Station	Noise Level, Leq (30min) dB(A)		Action Level	Limit Level
Monitoring Station	Average	Range	Action Level	Limit Level
NMS-1	60.7	59.1 – 62.3	When one	
NMS-2	71.2	68.6 - 72.7	documented	75 ID(A)
NMS-3	59.5	51.5 – 63.9	complaint is	75 dB(A)
NMS-4A	50.7	50.1 – 51.6	received.	

Remark: +3dB(A) façade correction included

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

- 4.9 All noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 4.10 According to our field observations, the major noise source identified at the designated noise monitoring stations in the reporting month are as follows:

Table 4.5 Observation at Noise Monitoring Stations

Monitoring Station	Major Noise Source
NMS-1	Excavation works, loading and unloading works, site vehicle / equipment movement
NMS-2	Excavation works, loading and unloading works, site vehicle / equipment movement
NMS-3	Road traffic
NMS-4A	Road traffic

Event and Action Plan

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

5 WATER QUALITY MONITORING

Monitoring Requirements

- 5.1 According to the EM&A Manual, impact water quality monitoring shall be carried out three days per week during the construction period. The interval between two sets of monitoring shall not be less than 36 hours.
- 5.2 Replicate in-situ measurements and samples collected from each independent sampling event shall be collected to ensure a robust statistically interpretable database.
- 5.3 Impact water quality monitoring was conducted at three depths (i.e. 1m below surface, mid-depth and 1m above river bed, except where the water depth was less than 6m, mid-depth station might be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored) dissolved oxygen (DO) concentration, DO saturation, suspended solids (SS), turbidity, pH, salinity and temperature were monitored in accordance with the requirements set out in the EM&A Manual.
- 5.4 **Appendix B** shows the established Action and Limit Levels for the water quality monitoring work.

Monitoring Locations

- 5.5 Impact water quality monitoring was conducted at 6 monitoring stations under the Project, which is summarised in **Table 5.1**. The locations of monitoring stations are shown in **Figure 4**.
- 5.6 Based on the updated construction programme under Contract No. YL/2017/03, the water-based construction works for temporary vehicular bridge was completed on 7th April 2021 which was confirmed by Engineer Representative under Contract No. YL/2017/03 via email dated 15th June 2021. The additional monitoring station, BS1 was therefore proposed to be deleted from the water quality monitoring proramme starting from 28th June 2021. Other water quality monitoring stations remain unchanged. This Proposal for Update of Water Quality Monitoring Stations was verified by IEC and agreed by EPD via email dated 22nd June 2021.

 Table 5.1
 Location for Water Quality Monitoring Stations

Monitoring Station	Location	Nature of the Location	
CS1	Control Station at Old Shenzhen River	Control Station at Meander	
IS1	Impact Station at Old Shenzhen River	Impact Station at Meander	
IS2	Impact Station at Old Shenzhen River	Impact Station at Meander	
IS4	Impact Station at Ping Hang Stream	Reference Station	
CS5	Control Station at south of Lung Hau	Control Station for IS6	
IS6	Impact Station near Lung Hau Road	Impact Station	
⁽¹⁾ BS1	Impact Station at Old Shenzhen River Meander	Additional impact station for temporary vehicular bridge	

Note:

 Terminated starting from 28th June 2021 according to Proposal for Update of Water Quality Monitoring Stations (approved by EPD on 22nd June 2021).

Monitoring Equipment

Instrumentation

5.7 A multi-parameter meters (Model YSI EXO) were used to measure DO, turbidity, salinity, pH and temperature.

DO and Temperature Measuring Equipment

- 5.8 The instrument for measuring DO and temperature was portable and weatherproof complete with cable, sensor, comprehensive operation manuals and use DC power source. It was capable of measuring:
 - A DO level in the range of 0-20 mg/L and 0-200% saturation; and
 - A temperature of 0-45 degree Celsius.
- 5.9 It had a membrane electrode with automatic temperature compensation complete with a cable.
- 5.10 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.
- 5.11 Salinity compensation was built-in in the DO equipment.

Turbidity

5.12 Turbidity was measured in-situ by the nephelometric method. The instrument was portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU. The probe cable was not less than 25m in length. The meter was calibrated in order to establish the relationship between NTU units and the levels of SS. The turbidity measurement was carried out on split water sample collected from the same depths of SS samples.

Sampler

5.13 A water sampler, consisting of a transparent Polyvinyl Chloride (PVC) of a capacity of not less than two litres which could be effectively sealed with cups at both ends was used. The water sampler had a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler was at the selected water depth. In addition, a self-made sampling bucket was also used for sampling at the monitoring station with shallow water.

Water Depth Detector

5.14 A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station.

<u>pH</u>

5.15 The instrument was consisting of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It was readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

Salinity

5.16 A portable salinometer capable of recording salinity within the range of 0-40 ppt was used for salinity measurements.

Sample Container and Storage

- 5.17 Following collection, water samples for laboratory analysis were stored in high density polythene bottles (250ml/1L) with no preservatives added, packed in ice (cooled to 4 C without being frozen) and kept in dark during both on-site temporary storage and shipment to the testing laboratory. The samples were delivered to the laboratory as soon as possible and the laboratory determination work was started within 24 hours after collection of the water samples. Sufficient volume of samples was collected to achieve the detection limit.
- 5.18 **Table 5.2** also summarises the type of sampling bottle and preservation method for laboratory testing.

Table 5.2 Types of Sampling Bottle and Preservation Method

Parameter	Preservation Method	Type of Sample Container
Total SS	Refrigerate	1 litre plastic bottle

Calibration of In-Situ Instruments

- 5.19 All in-situ monitoring instruments were checked, calibrated and certified by Wellab Limited before use, and subsequently re-calibrated at 3-month intervals throughout all stages of the water quality monitoring programme. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring event.
- 5.20 For the on-site calibration of field equipment (Multi-parameter Water Quality System), the BS 1427:2009, "Guide to on-site test methods for the analysis of waters" was observed.
- 5.21 Sufficient stocks of spare parts were maintained for replacement when necessary. Backup monitoring equipment was also being made available so that monitoring could proceed uninterrupted even when some equipment was under maintenance, calibration, etc.
- 5.22 The equipment used for impact water quality monitoring is shown in **Table 5.3** and copies of the calibration certificates are shown in **Appendix C**. All the monitoring equipment complied with the requirements set out in the EM&A Manual.

Table 5.3 Water Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Sonar Water Depth Detector	Garmin Fishfinder 140 / Garmin Striker plus 4	1
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or self-made sampling bucket	1
Multi-parameter Water Quality System	YSI EXO 1	2

Monitoring Parameters and Frequency

5.23 **Table 5.4** summarises the monitoring parameters, monitoring depths and frequency of the water quality monitoring. The water quality monitoring schedule for the reporting month is shown in **Appendix D**.

Monitoring **Depth** Frequency Parameter (unit) Station • 3 water depths: 1m Temperature(°C) below water surface, pH (pH unit) mid-depth and 1m above turbidity (NTU) river bed. 3 days per week water depth (m) • If the water depth was during the CS1, IS1, IS2, less than 3m, mid-depth salinity (ppt) construction period IS4, CS5, IS6 sampling only. of the Project DO (mg/L and • If water depth was less % of saturation) than 6m, mid-depth SS (mg/L)

Table 5.4 Water Quality Monitoring Parameters, Depths and Frequency

5.24 Monitoring location/position, time, water depth, sampling depth, pH, salinity, DO saturation, water temperature, tidal stages, weather conditions and any special phenomena or work underway nearby were recorded.

might be omitted.

Monitoring Methodology

Instrumentation

5.25 A multi-parameter meters (Model YSI EXO) were used to measure DO, turbidity, salinity, pH and temperature.

Operating/Analytical Procedures

5.26 At each measurement, two consecutive measurements of DO concentration, DO saturation, salinity, turbidity, pH and temperature were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the values between the first and second readings of each set was more than 25% of the value of the first readings, this set of readings was discarded and further readings were taken.

Laboratory Analytical Methods

5.27 The testing of all parameters was conducted by Wellab Limited for the water samples and comprehensive QA and QC procedures were in place in order to ensure the quality and consistency of results. The testing method, reporting limit and detection limit are provided in **Table 5.5**.

Table 5.5 Laboratory Analysis Method for Water Samples

Determinant	Instrumentation	Analytical Method	Limit of Reporting	Detection Limit
SS	Weighing	APHA 17ed 2540 D	2.5 mg/L	0.5 mg/L

Remark: The limit of reporting, 2.5mg/L has been adopted during baseline water quality monitoring stage

QA/QC Requirements

Decontamination Procedures

5.28 Water sampling equipment used during the course of the monitoring programme was decontaminated by manual washing and rinsed clean seawater/distilled water after each sampling event. All disposal equipment was discarded after sampling.

Sampling Management and Supervision

- 5.29 All sampling bottles were labelled with the sample identity laboratory number and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible after the sampling. All samples were stored in a cool box and kept at less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.
- 5.30 The laboratory determination work was started as soon as possible after collection of the water samples.

QC Measures for Sample Testing

- 5.31 The sample testing and following QC programme were performed by Wellab Limited for every batch of 20 samples:
 - ♦ One method blank; and
 - ♦ One set of QC samples.

Maintenance and Calibration

5.32 All in-situ monitoring instruments were checked, calibrated and certified by Wellab Limited before use, and subsequently re-calibrated at 3-month intervals throughout all stages of the water quality monitoring programme.

Results and Observations

- 5.33 The monitoring results and graphical presentation of water quality at the monitoring stations are shown in **Appendix H.**
- 5.34 The summary of exceedance recorded in the reporting month is shown in **Appendix K** and summarised in the **Table 5.6**.

Station	Exceedance Level	DO	Turbidity	SS	Total Number of Non-project Related Exceedances	Total Number of project Related Exceedances
IS1	Action Level	0	0	0	0	0
	Limit Level	2	0	0	2	0
IS2	Action Level	0	0	0	0	0
	Limit Level	1	2	1	4	0
IS4	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0
IS6	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0
Total	Action Level	0	0	0	0	0
Total	Limit Level	0	0	0	0	0

Table 5.6 Summary of Water Quality Exceedances

- 5.35 Water quality monitoring was conducted as scheduled in the reporting month. Three (3) Limit Level exceedances of DO, two (2) Limit Level exceedances of Turbidity and one (1) Limit Level exceedance of Suspended Solids were recorded on 19th and 21st April 2023. After investigation, the exceedances were non-project related.
- 5.36 According to the investigation, the exceedances are considered not related to the Project due to the following reasons:
 - 1) No water-based construction activity was conducted.



19 April 23



21 April 23

2) No pollution discharge from construction activity (YL/2020/01) nearby was observed.



19 April 23



21 April 23

- 3) Control Station's Turbidity / SS values already exceed the Action or Limit Levels on 19th April 2023.
- 4) Water quality mitigation measures as recommended in the EIA Report / EM&A Manual were implemented by the Contractor properly. Silt curtain was deployed to surround the works area and the concrete bund with sump pit and water pump were provided for pumping the collected site runoff to the wetsep for treatment before discharging out.









- 5) No adverse water quality due to contract works was observed at the exceeded station(s).
- 6) Other(s):
 - (a) Stagnant water condition was observed to cause the lower DO.
 - (b) Rainfall in Northern District was recorded before the water quality monitoring. Influx of muddy water was observed from Shenzhen River to the old Shenzhen River meander as well as the monitoring station, IS2 during the monitoring.



- 5.37 No water quality monitoring was conducted at IS6 in the reporting month since the channel was dry. Water quality monitoring station, IS6 will be further reviewed and a proposal for any alternative monitoring location including justification will be submitted for approval from IEC and EPD.
- 5.35 No water quality monitoring was conducted at IS4 during the period from 15th to 17th April 2023 as the stream were dry due to dry weather.



Event and Action Plan

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

6 ECOLOGICAL MONITORING

LMC Loop

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

Monitoring Requirements

- 6.1 As required under Section 11.4.1.1 of EM&A Manual, flight line corridor survey was required from the beginning of work until 12 months after the establishment of the Ecological Area or completion of work on the Western Connection Road, whichever was the later.
- 6.2 The purpose of the survey was to identify the number and species composition of birds using the flight line and monitor if there was any impact from construction works.

Monitoring Frequency

6.3 Flight line survey is required to be carried out on monthly basis.

Monitoring Location

6.4 The flight line corridor survey work should be carried out at the Lok Ma Chau Lookout, according to Section 11.4.1.1 of the EM&A Manual. The location at Lok Ma Chau Lookout is shown in **Figure 5a.**

Monitoring Methodology

- 6.5 Flight lines of birds through the area were surveyed once monthly at Lok Ma Chau Lookout, adjacent to the Loop.
- 6.6 Observations were carried out at Lok Ma Chau Lookout for two hours from 30 minutes before sunrise in the early morning.
- 6.7 During the survey, the surveyor marked on a standard map for the estimated location of the flight path used by waterbird species, birds of prey or other larger species of conservation interest passing through the area. Flights involving short hops from point to point were not recorded. The focus was on the flight line corridor over the Loop or the southwest section of old Shenzhen River meander.
- 6.8 During the survey, species generally commensal with man (e.g. Black-collared Starling), common and widespread in HK (e.g. Crested Myna) or small in size and not prone to following flight lines en masse (e.g. Barn Swallow) were ignored in order to concentrate on species of conservation interest and/or those prone to using flight lines (e.g. large waterbirds).
- 6.9 For each observation of birds in flight, the number, the species and their height above the ground were recorded. Height above the ground was estimated in relation to the level of the Loop and adjacent fish pond area, and/or the location of the observer.

- 6.10 Given the difficulty of accurately measuring height above ground from a distance, three height classes were used: 10m, 20m and 30m or above. In practice, this means birds were assigned to ranges of 5-15m (10m height class), 15-25m (20m height class) and 25m or above (30m height class). Approximate heights of observation points were 40m at Lok Ma Chau Lookout.
- 6.11 Flight line locations marked on the maps were then overlain with a 100m grid, each square having a unique number.
- 6.12 The number of birds of each species passing through each 100m grid (the number of "bird-flights") and their height above ground were then entered into an Excel spreadsheet. These data were then mapped, and on the figures produced a greater intensity of colour indicated a higher number of birds, as shown in **Figure 6.**

Monitoring Day

6.13 The flight line survey was carried out on 21st April 2023. Sunrise time at 5:58 am and the survey started at 5:28 am and lasted for 2 hours. The weather was overcast and drizzle throughout the survey.

Monitoring Result

6.14 Total number of birds observed was 196. Four species were included in the record of the flight line survey, including Little Egret, Great Egret, Chinese Pond Heron and Grey Heron. **Table 6.1** shows the summary of the number of birds observed in this Survey.

Table 6.1 Number of Birds Observed

Species	Number of Birds	Height class 1	Height Class 2	Height Class 3
Little Egret 小白鷺	132	0	15	117
Great Egret 大白鷺	59	2	5	52
Chinese Pond Heron 池鷺	3	1	2	0
Grey Heron 蒼鷺	2	0	0	2
Total	196	3	22	171

6.15 The total number of bird-flights (number of birds of each species passing through each 100m square) observed across all 100m grid squares was 2,008. **Table 6.2** shows the number of bird-flights for the four species respectively.

Table 6.2 Number of Bird-flights

Species	Total number of Bird-Flights
Little Egret 小白鷺	1350
Great Egret 大白鷺	610
Chinese Pond Heron 池鷺	26
Grey Heron 蒼鷺	22
Total	2,008

- 6.16 The distribution of flight line usage in this survey is shown in **Figure 6**.
- 6.17 Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Monitoring Requirements (Mammals)

Monitoring Requirements

- 6.18 As required under Section 11.4.1.2 of the EM&A Manual, monitoring of mammals are required for Eurasian Otter, other mammals and dogs during the site formation and establishment period of Ecological Area.
- 6.19 The purpose of the monitor is to observe the connectivity between the reed marsh in the LMC Loop and the Ecological Area, and if there was any sign of otter and mammals around the Ecological Area.

Monitoring Location

6.20 Three cameras should be placed where accessible, facing towards the Ecological Area and the Loop. The locations of cameras are subject to the project progress and result of the survey.

Monitoring Methodology

6.21 Monitoring of Eurasians Otter is notoriously difficult due to their secretive and nocturnal habits in Hong Kong. Therefore, remote-sensing (infra-red flash) cameras shall be used to detect any signs of Eurasian Otter and mammals.

Monitoring Results

- 6.22 In view of current site condition of Loop, the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier. In addition, 12-month establishment period of EA zone has also been completed.
- 6.23 The mammals monitoring in the Loop was therefore temporarily suspended since March 2022 and will be resumed subject to the site condition.

Western Connection Road

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

6.24 Refer to Sections 6.1 to 6.17.

Monitoring Requirements (Avifauna Monitoring – Pond 12)

Monitoring Requirements

- 6.25 As required under Section 11.4.2.1 of EM&A Manual, weekly counts of the number and species of bird using Pond 12 was required from the beginning of work until 12 months after the establishment of the Ecological Area or completion of work on the Western Connection Road, whichever is the later.
- 6.26 The purpose of the survey was to identify the number and species composition of birds using Pond 12 to ensure there would be no impacts greater than predicted from construction works.

Monitoring Frequency

6.27 Pond 12 avifauna survey is required to be carried out on a weekly basis.

Monitoring Location

6.28 Monitoring of avifauna was conducted at Pond 12. Location of Pond 12 is shown in Figure 5a.

Monitoring Methodology

- 6.29 The species and number of birds using Pond 12 were surveyed weekly. Each weekly survey started before the commencement of works of the day, and ended 1 hour after works had begun.
- 6.30 During the survey, the surveyor would identify and count each bird using Pond 12 with a pair of binoculars and a camera. The abundance and species of the identified birds would be recorded.

Monitoring Result

6.31 Pond 12 avifauna surveys were carried out weekly in the reporting month.

Dates of pond 12 avifauna survey: 3rd, 13th, 19th and 26th April 2023

- 6.32 In total, 191 individuals from 23 avifauna species were recorded at Pond 12 in the reporting month. The detailed results are shown in **Appendix R1**.
- 6.33 The monitoring results during construction works were compared against the results before the commencement of works of the day. The number of bird species and the abundance of birds recorded at Pond 12 during construction were higher than the results prior to the construction works. (Refer to **Table 6.3**).

Wellab

Manitaring Data	Number	of Species	Abundance	
Monitoring Date	Before Construction	During Construction	Before Construction	During Construction
3 rd April 2023	13	13	26	32
13 th April 2023	12	12	25	26
19 th April 2023	8	14	14	32
26 th April 2023	7	11	12	24

Table 6.3 Summary of Avifauna Monitoring Results at Pond 12

6.34 The monitoring results indicated Pond 12 was utilized by waterbirds and wetland-dependent species in the reporting month. No significant impact of construction activities on bird use of the pond was observed.

Herpetofauna

Monitoring Requirements

- 6.35 Under Section 11.4.2.2 of EM&A Manual, monitoring of the only herpetofauna species of conservation interest in the area around pond 12, the Chinese Bullfrog, should be conducted before and during the whole construction period.
- 6.36 The purpose of the survey was to ensure the abundance of the Chinese Bullfrog in the area of Pond 12, LMC Tsuen, and nearby wetlands is not affected by construction works.

Monitoring Frequency

6.37 Herpetofauna monitoring was conducted once monthly during wet season (March to October), including both day-time and night-time survey.

Monitoring Location

6.38 Herpetofauna monitoring was conducted along the designated transect around Pond 12, LMC Tsuen, as well as any nearby wetlands within a 100m radius into which disturbed bull frog may move. Location of the Herpetofauna survey transect is shown in **Figure 5b** for reference.

Monitoring Methodology

6.39 Survey along the transect was conducted once during daytime, and once during night time. Surveyors would actively search for presence of tadpoles, froglets or adults in potential habitats (such as ditches, ponds, marshes and wet agricultural land) through direct observation, or identification of vocalisations.

Monitoring Result

6.40 Herpetofauna survey was carried out once in the reporting month.

Date of Herpetofauna survey:

19th April 2023 (both day-time and night-time survey)

6.41 No potential impact due to the construction activities of Western Connection Road was identified during the survey of Chinese Bullfrog in the reporting month. It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands, which may have an effect on the local Chinese Bullfrog population. The detailed results are shown in **Appendix R2**.

Aquatic Fauna

Monitoring Requirements

- 6.42 Under Section 11.4.2.3 of EM&A Manual, surveys of the population of Rose Bitterling at streams and associated ponds south of Lung Hau Road and monitoring of water quality are required to identify potential impacts.
- 6.43 The purpose of the survey was to ensure the population of Rose Bitterling at the stream and associated ponds south of Lung Hau Road as well as the water quality at the area where Rose Bitterling is present are not affected by construction works.

Monitoring Frequency

- 6.44 Monitoring of Rose Bitterling population was conducted monthly during the construction period of WCR to identify potential impacts.
- 6.45 *In situ* monitoring of water quality was conducted weekly at the stream and associated ponds south of Lung Hau Road where Rose Bitterling is present, and whole site audit was carried out at the construction site to identify potential impacts on the stream.
- 6.46 *In situ* monitoring of water quality in LMC Meander was conducted weekly during the construction phase and the first 12 months of operation.

Monitoring Location

- 6.47 Monitoring of Rose Bitterling and *in situ* monitoring of water quality were conducted at the stream and associated ponds south of Lok Ma Chau Road where Rose Bitterling is present. There are 4 sampling points along the stream, and 4 sampling points at the ponds. The sampling locations are shown in **Figure 5c**.
- 6.48 *In situ* monitoring of water quality in LMC Meander was conducted at 3 monitoring stations, including CS1, IS1 and IS2, as stated in Section 6.3 of the EM&A Manual. The monitoring stations are shown in **Figure 4**.

Monitoring Methodology

- 6.49 Monitoring of Rose Bitterling was conducted by bankside observation with the aid of binoculars, for 5 minutes at each sampling point. After bankside observation, sweep netting was also carried out at each sampling point, if feasible.
- 6.50 The number of Rose Bitterling observed on bankside and by sweep netting at each sampling location was recorded. Other human activities or change in environment that may affect the survey result will be specified, if any.
- 6.51 Measurements for *in situ* monitoring of water quality include temperature, pH, salinity, turbidity and dissolved oxygen. Monitoring equipment for water quality monitoring is presented in Section 5.

Monitoring Result

6.52 Aquatic fauna survey was carried out once and weekly *in situ* water quality monitoring was conducted in the reporting month.

Date of Aquatic Fauna Survey: 26th April 2023

LMC Meander

3rd, 6th, 8th, 11th, 13th, 15th, 17th, 19th, 21st,

Date of Water Quality Monitoring for 24th, 26th and 28th April 2023

Aquatic Fauna Stream and associated non

Stream and associated ponds south of Lung Hau Road

3rd, 12th, 19th and 26th April 2023

- 6.53 No potential impact due to the runoff from the construction activities of the Western Connection Road was identified during the survey of Aquatic Fauna in the reporting month. In addition, no deterioration in the water quality due to the construction activities of the Western Connection Road was observed.
- 6.54 The detailed aquatic fauna (Rose Bitterling) results and *In situ* water quality monitoring results at the stream and associated ponds south of Lung Hau Road are shown in **Appendices R3** and **R4** respectively.
- 6.55 *In situ* water quality monitoring results in LMC Meander at 3 monitoring stations, including CS1, IS1 and IS2 are presented in Section 5 and **Appendix H**. One (1) Limit Level exceedance of DO, two (2) Limit Level exceedances of Turbidity and one (1) Limit Level exceedance of Suspended Solids were recorded at IS2 on 19th and 21st April 2023 respectively. After investigation, the exceedances were non-project related.

7 LAND CONTAMINATION

General

7.1 According to the EM&A Manual Section 8.2 and the details of the remediation and associated testing referred to in Chapter 8 of the EIA Report (AEIAR-176/2013), five (5) arsenic-contaminated zones were identified within the Loop. The estimated depth and volume of contaminated soil for each remediation zone are listed in **Table 7.1** below.

 Table 7.1
 Detailed Contamination Information for Designated Remediation Areas

Contamination Zone ID in EIA	Contamination Hot Spot	Estimated Vertical Extent of Contamination	Estimated Thickness (m)	Estimated Area of Contamination Zone (m ²)	Volume of
A-S24	LD-001	2.5m to 4.0m below existing ground level	1.5	4001	6002
A-SG10	LD-002	4.0m to 5.5m below existing ground level	1.5	3520	5280
A-S20	LD-003	2.5m to 4.0m below existing ground level	1.5	4989	7484
A-S03	LD-004-A	2.5m to 4.0m below existing ground level	1.5	4580	6870
A-S03a1	LD-004-B	4.0m to 5.5m below existing ground level	1.5	4452	6678
A-S03c1	LD-004-C	1.0m to 2.5m below existing ground level	1.5	5601	8402
A-S01	LD-005	2.5m to 5.5m below existing ground level	3.0	5576	16728

7.2 Based on the Contract requirements, "Solidification / Stabilisation" was the recommended treatment method to remediate all contaminated soils and Portland cement was proposed to be used for the contaminated soil treatment. The target of soil remediation is listed in **Table 7.2**.

Table 7.2 Contaminant Solidification & Stabilisation Target for Cement Solidification / Stabilisation (CS/S)

Contaminant	Toxicity Characteristic Leaching Procedure (TCLP) Limit of Arsenic	Unconfined Compressive Strength (UCS)
Metal – Arsenic	≤5 mg/L	≥1 Mpa

7.3 Trial of CS/S was undertaken between April and June 2019 and the second trial was conducted in August 2019. According to trial performance results, cement / soil ratios of 10% and 7.5% could achieve the remediation target and these ratios had been adopted for

the subsequent remediation work. The proposed cement/soil ratios were accepted by relevant parties before the remediation work started. The contaminated soil excavation and remediation commenced on site in mid-July 2019.

Remediation Work Progress in the Reporting Month

- 7.4 As advised by the Contractor, Decontamination for all Hotspots (LD01 LD05) was completed and backfilling of treated soil was completed on 31 May 2021. After completion of remediation works at each hot spots, Interim Remediation Reports (IRR) would be prepared by the Land Contamination Specialist and submitted to EPD in accordance with Condition 2.16 of the EP-477/2013/A. The status of IRRs are summarised below.
 - (a) IRR for hot spot LD-001 endorsed by EPD on 6th January 2020
 - (b) IRR for hot spot LD-003 endorsed by EPD on 18th March 2020
 - (c) IRR for hot spot LD-002 commented by EPD on 3rd September 2020 and resubmitted by Contractor on 16th September 2020
 - (d) IRR for hot spot LD-005 endorsed by EPD on 23rd October 2020
 - (e) Final Remediation Report including the result of hotpsot LD-004 was submitted to EPD on 28th June 2021. The final Remediation Report was approved by EPD with minor comments in August 2021.
- 7.5 No work related to land contamination was conducted in the reporting month.

8 WASTE MANAGEMENT

General

8.1 Waste management was carried out in accordance with the Waste Management Plan (WMP) for the Project.

Solid and Liquid Waste Management Status

8.2 The amount of waste generated by the activities of the Project in the reporting month is shown **Table 8.1**.

 Table 8.1
 Quantities of Waste Generated in the Reporting Month

Contract(s)		Waste Type	Quantity this month	Disposal / Dumping Grounds
		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
Contract No. YL/2020/01		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	0	N/A
		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
Contract No. YL/2020/02	Inert	Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m³)	0.621	N/A
		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
Contract No. YL/2021/01		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	0.231	N/A
		Recycled Metal ('000kg)	0	N/A
Contract No.		Recycled Paper / Cardboard Packing ('000kg)	0.160	N/A
YL/2020/01		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.012	NENT Landfill
		Recycled Metal ('000kg)	0	N/A
Contract No.	Non- inert	Recycled Paper / Cardboard Packing ('000kg)	0	N/A
YL/2020/02		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.107	NENT Landfill
		Recycled Metal ('000kg)	0	N/A
Contract No.		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
YL/2021/01		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.003	NENT Landfill

8.3 The amount of waste generated by the construction works of the Project in Waste Flow Table during the reporting month is shown in **Appendix O**.

9 ENVIRONMENTAL SITE INSPECTION

Site Audits

- 9.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures on the Project site. The summaries of site audits are attached in **Appendix L**.
- 9.2 Site audits were conducted by ET with the representative of the Consultants, the Contractor and IEC on 3rd, 12th, 17th, 19th, 24th and 26th April 2023 in the reporting month. Summary of site audits under the Project are presented in **Table 9.1.** The details of observations during site audit are shown in **Table 9.2.**

Table 9.1 Summary of Site Audits

Contract(s)	Date(s) of Site Environmental Audit
Contract No. YL/2020/01 – Development of Lok Ma Chau	3 rd , 12 th , 19 th and 26 th April 2023
Loop: Main Works Package 1 – Contract 1 Site Formation	
and Infrastructure Works inside Lok Ma Chau Loop and	
Western Connection Road Phase 1	
Contract No.: YL/2020/02 – Development of Lok Ma Chau	3 rd , 12 th , 19 th and 26 th April 2023
Loop: Main Works Package 1 - Contract 2 Western	_
Connection Road Phase 2, Connection Roads to Fanling / San	
Tin Highway and Direct Road Link Phase 1	
Contract No.: YL/2021/01 – Development of Lok Ma Chau	3 rd , 12 th , 17 th and 24 th April 2023
Loop: Main Works Package 1 – Contract 3 Direct Road Link	
Phase 2	

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

Table 9.2 Observations and Recommendations of Site Audit

Parameters	Date	Observations and	Follow-up
		Recommendations	
Contract No. YL	/2020/01		
Air Quality	19/04/2023	The idle stockpiles of dusty materials at Pond 10 should be covered with tarpaulin sheet esp. during rainstorm.	tarpaulin sheet by the Contractor as observed during follow-up audit session on 26/04/2023.
Noise		No major environmental deficiency was identified during the reporting month.	
W. O. Pr	12/04/2023	To enhance the bund surrounding the DCM works at WCR	The bund surrounding the DCM works has been enhanced by the Contractor as observed during follow-up audit session on 19/04/2023.
Water Quality	26/04/2023	diverted to the proper treatment facilities before discharging out (near	The collected water was properly diverted to the treatment facilities as observed during follow-up audit session on 03/05/2023.

Parameters	Date	Observations and	Follow-up
		Recommendations	.
Waste / Chemical Management		No major environmental deficiency was identified during the reporting month.	
Land Contamination		No major environmental deficiency was identified during the reporting month.	
Landscape and Visual		No major environmental deficiency was identified during the reporting month.	
Ecology		No major environmental deficiency was identified during the reporting month.	
Fisheries		No major environmental deficiency was identified during the reporting month.	
Permits/Licences		No major environmental deficiency was identified during the reporting month.	
Contract No. YL	/2020/02		
	03/04/2023		was observed from the crane after maintenance by the Contractor as observed during follow-up audit session on 12/04/2023.
Air Quality	12/04/2023		
Noise		No major environmental deficiency was identified during the reporting month.	
	03/04/2023	To provide bunding around site	Sand bag bund was provided along the site boundary the Contractor as observed during follow-up audit session on 12/04/2023.
Water Quality		The exposed slope protection works should be enhanced to avoid the discharge of muddy runoff to the nearby Reedbed 3A.	erected along the site boundary
		The stockpiles of dusty materials at near the nullah at Fu Tai Site Area should be covered properly with tarpaulin sheet.	
Waste / Chemical Management	26/04/2023		Contractor as observed during follow-up audit session on 03/05/2023.
Land Contamination		No major environmental deficiency was identified during the reporting month.	
Landscape and Visual		No major environmental deficiency was identified during the reporting month.	

Parameters	Date	Observations and Recommendations	Follow-up
Ecology	19/04/2023	The construction materials at the stream at Fu Tai site area should be cleared.	The construction materials at the stream have been cleared by the Contractor as observed during follow-up audit session on 26/04/2023.
Fisheries	-1	No major environmental deficiency was identified during the reporting month.	
Permits/Licences		No major environmental deficiency was identified during the reporting month.	
Contract No. YL	/2021/01		
Air Quality		The broken dust screen surrounding the potential dust generation works should be replaced at EEAA.	The torn dust screen has been replaced by the Contractor t as observed during follow-up audit session on 24/04/2023.
Noise		No major environmental deficiency was identified during the reporting month.	
	12/04/2023	To update the CNP and wetsep maintenance records at EEAA.	The updated CNP was displayed and the wetsep maintenance records were also updated by the Contractor as observed during follow-up audit session on 17/04/2023.
Water Quality	17/04/2023	The temporary storage of excavated materials should be covered and kept away from the nearby gullies at EEAA.	the Contractor as observed
	24/04/2023	To enhance water mitigation measures around EEAA to prevent surface runoff from flowing out of site area.	
Waste / Chemical Management		No major environmental deficiency was identified during the reporting month.	
Land Contamination		No major environmental deficiency was identified during the reporting month.	
Landscape and Visual		No major environmental deficiency was identified during the reporting month.	
Ecology		No major environmental deficiency was identified during the reporting month.	
Fisheries		No major environmental deficiency was identified during the reporting month.	
Permits/Licences	12/04/2023	To update the CNP and wetsep maintenance records at EEAA.	The updated CNP was displayed and the wetsep maintenance records were also updated by the Contractor as observed during follow-up audit session on 17/04/2023.

10 IMPEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 10.1 According to the EIA Report, EP and the EM&A Manual, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule is provided in **Appendix M**.
- 10.2 The Compliance status of environmental mitigation measures related to the Project according to EP-477/2013/A are summarised in **Table 10.1**.

Table 10.1 Compliance Status of Related Environmental Mitigation Measures

EP Requirements	Compliance Status	Remarks					
Submission and Measures to Mitigate Ecological Impa							
EP Condition 2.7 To reduce the ecological impact during construction and operation stages of the Project, a series of ecological mitigation measures shall be implemented as conforming to the relevant information and recommendations, including those described in Section 12.7 (Ecological Mitigation Measures), contained in the EIA Report. The key ecological mitigation measures shall include:							
(a) conducting pre-construction search for any otter holts/dens and herpetofaunal species of conservation concern in construction sites, with remedial measures such as setting of no works area around otter holts/den and translocation of important species identified, if any;	Yes	Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works The pre-construction search has been carried out in November 2018 before the Advance Works commencement. No otter holts/dens and herpetofauna species of conservation concern were identified. Development of Lok Ma Chau Loop Main Works Package 1 Contract 1 - Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 The pre-construction search has been carried out at Area, 2, 7 & 9 as well as LMC Loop and WCR site areas in May / June 2021 and June / July 2021 respectively before the Works commencement. No otter holts/dens and herpetofauna species of conservation concern were identified.					
(b) creating and establishing an Ecological Area, approximately 12.78 ha. in size, containing reed marsh and marsh habitat prior to total clearance of reed marsh in the Loop, including a lowrise building buffer zone of 50m width from the Ecological Area, with appropriate screenplanting;	Yes	Ecological Area has been established under the Contract. Low-rise building buffer zone and screenplanting which will be provided under Main Works Package 1.					
(c) stabilising the bank of the old Shenzhen River meander of the Loop, approximately 3.5 km long, including re-vegetation upon completion of the works	Yes	The EA design has implemented these measures.					

EP Requirements	Compliance Status	Remarks
and various ecological designs, such as practicability of installation of otter holts and provision of potential feeding area and spraint locations for otters in the stabilised bank;		
(d) creating a 23 m minimum width vegetated setback at the edges of the Loop along the southwestern and north-eastern sections of the meander;	N/A	Vegetated setback will be provided under Main Works Package 1
(e) installing 3m-high olive green fence around construction areas to allow or deter different animal passages where appropriate;	Yes	The Contractor was reminded to maintain and re-arrange the green fence around construction areas and ensure no disturbance to the exiting trees and reed marsh habitat.
(f) providing (i) permanent compensatory off-site wetland areas; and (ii) construction stage temporary compensatory off-site wetland areas during various construction stages of the Project, in advance of any corresponding wetland loss;	Yes	Creation of off-site wetland areas have been substantially completed.
(g) providing at least 0.4 ha woodland compensation area by planting trees and shrubs near Horn Hill, to compensate for the loss of woodland affected by the Western Connection Road (WCR) and other works of the Project;	N/A	To be implemented under Main Works Package 1
(h) carrying out outside dry-season (from November to February next year), the construction works associated with the site formation in the Ecological Area, stabilization of the bank of the old Shenzhen River meander, Western Connection Road along Ha Wan Tsuen Road, to minimise disturbances to migratory birds/water birds;	Yes	-
(i) using powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any;	Yes	-
(j) prohibiting use of direct lighting on the old Shenzhen River meander and controlling nighttime lighting to reduce potential ecological impact;	Yes	-
(k) implementing measures to minimise magnitude of construction runoff and to avoid/minimise the potential impact of spillage events, if any; and	Yes	-
(l) using opaque noise barriers along the proposed roads and using appropriate glass and façade treatment for buildings in the Loop to minimise the mortality of fast-moving wildlife (e.g. birds).	Yes	The works for noise barriers along Lok Ma Chau Road were completed under the Contract in October 2021. Façade treatment for buildings in the Loop will be provided under the responsible works packages.
Four hard copies and two electronic copies of an Ecological Mitigation / Habitat Creation and Management Plan shall be, at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director. The Plan(s) shall show the design details, locations, implementation	Yes	Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works The HCMP has been submitted and approved under the EP condition 2.7.

EP Requirements	Compliance Status	Remarks
programme, maintenance and management schedules, and drawings in the scale of 1:1,000 or other appropriate scale of the ecological mitigation measures of the Project. Before submission to the Director, the Plan(s) shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations contained in the EIA Report. All measures recommended in the finalised submission(s) under this Condition shall be fully and properly implemented.		Development of Lok Ma Chau Loop Main Works Package 1 – Design and Construction The HCMP has been submitted under the EP condition 2.7 and approved in December 2021.
Submissions or Measures to be implemented for Const	ruction of the P	roject
EP Condition 2.9 To mitigate construction stage noise in implemented during the construction stage of the Project:		
(a) temporary noise barriers shall be installed along the construction access roads to screen the construction traffic noise and noisy construction activities and equipment during different construction stages of the Project as described in Table 1 and Figures 2a, 2b, 3a	Yes	The temporary noise barriers (TNBs) along LMC Road were completed under the Contract in October 2021 (Figures 2a and 2b of EP-477/2013/A). (Appendix N)
and 3b of this Permit;		The TNBs installation under Contract 2 were completed in August 2022 (Figures 3a and 3b of EP-477/2013/A). (Appendix N) Due to the updated site condition,
		TNB5 deems to serve the function of TNB16 before the commencement of road widening works of the Western Connection Road.
(b) use of movable noise barriers, noise enclosures and quiet powered mechanical equipment for the noisy construction activities and equipment as described in Table 1 and with reference to the typical designs as shown in Figure 4 of this Permit;	Yes	-
(c) concrete lorry mixer(s) shall be operated at least 25 m away from the noise sensitive receivers (NSRs) No. HWTR-6 and HWTR-11 at the Western Connection Road as shown in Figures 2b and 3b as described in Table 1 of this Permit to avoid exceedance due to cumulative construction noise; and	Yes	-
(d) no percussive piling nor blasting by explosive shall be implemented in the Project.	Yes	-
EP Condition 2.10 To Mitigate Construction Stage Fisher	ies Impact	
For some fish ponds which will be partly affected by construction works, to mitigate construction stage fisheries impacts, a layer of sheet pile/barrier wall shall be erected to separate the works area from the remaining areas of the affected fish ponds before the commencement of other construction works, e.g. excavation or filling within the works area. The sheet pile/barrier wall shall be constructed by non-percussive piling method (e.g. Press-in method) to reduce the fisheries impact. In addition, the sheet pile/barrier wall shall have impermeable lining to minimise water loss	Not applicable	Based on the ground truthing during the weekly site inspections / site visits prior to the commencement of the works at all Ponds, no fisheries impacts were anticipated due to the following observation: No aquaculture activities include drying of ponds, reprofiling, harvesting and feeding;

EP Requirements	Compliance	Remarks
	Status	
from the fish pond to the works area.		 No evidence of recently used pond culture equipment; No presence of fish-rearing paraphernalia and No evidence of trimming of vegetation growing on pond bund. As such, the erection of sheet pile/barrier wall to mitigate construction stage fisheries impacts as stated in Condition 2.10 of the EP would not be applicable. The photographic records of Ponds in April 23 are shown in Appendix S.
EP Condition 2.12 To Mitigate Construction Stage Water	Quality Impact	~.
To reduce sediment transport arising from the stabilisation works at the bank of the old Shenzhen River meander of the LMC Loop, cofferdam/diaphragm wall and/or silt curtain system shall be deployed to surround the works area, from water surface down to the bottom of the meander, in order to minimise the sediment loss to the water body outside the works areas.	Yes	Silt curtain system was deployed to surround the works area under YL/2020/01.
EP Condition 2.14 To Minimise the Disturbance to the Re	edbed System of	MTR LMC Spurline
For the construction of the Direct Link, the existing reeds in the reedbed system of the MTR LMC Spurline shall not be removed by the construction works of the Project, except for the 2 areas with a total area of approximately 320 m² in size within the Reedbed No. 3 as shown in Figure 5 of this Permit. Upon the completion of works at the reedbed system, the affected reedbed system shall be reinstated.	Yes	These measures have been implemented under YL/2020/02.

Remark: N/A – Not fulfilled yet

Ecological Mitigation Measures – Offsite Wetland Compensation Areas (OWCAs)

- 10.3 According to the EIA Report, habitat loss and disturbance impacts are predicted for both construction and operation phase of the development of Lok Ma Chau Loop. All these impacts are expected to be compensated both temporarily (during construction phase) and permanently (during operation phase). Among other measures identified from EIA report to avoid, minimize and compensate for identified impacts, three areas of existing fishpond habitat (Areas 2, 7 and 9) were proposed in the EIA Report to provide OWCAs.
- 10.4 These Areas are located within a Priority Site for Enhanced Conservation, namely "Deep Bay wetlands outside the Ramsar site". Many of these fishponds are currently participating in the Nature Conservation Management Agreement Scheme in the Northwest New Territories, which has the objective of restoring and enhancing the conservation value of commercial fishponds in the area. In general, the activities involved in the establishment of OWCAs are in nature the same as those associated with commercial fishpond management currently taking place in the area. Therefore, there are

- no direct implications for the ecological impacts at OWCAs according to Section 12.7.9 of EIA report.
- 10.5 Under Environmental Permit (EP) number EP-477/2013/A, an Ecological Mitigation/ Habitat Creation and Management Plan (HCMP) is required for all habitat compensation measures required by the Project EIA. The OWCAs are established according to the HCMP which provides a framework and specifications for development and management of the OWCAs.
- 10.6 The OWCAs (Areas 2, 7 and 9) has been substantial completed and the starting date of establishment period is confirmed by AFCD on 14th October 2022.
- 10.7 According to Section 6.1.2 of approved HCMP, the monitoring of the OWCAs have been commenced for the establishment period starting from 14th October 2022. The Environmental Team would undertake the monitoring role through relevant EIAO Documents, audit mechanisms, participation at meetings, as well as certification of results and reports according to EM&A Manual, Section 11.5. The Monthly Monitoring and Management Report for OWCAs would be submitted by the Ecologist under YL/2020/01 separately.

Ecological Mitigation Measures – Installation of 3m-high Olive Green Fence

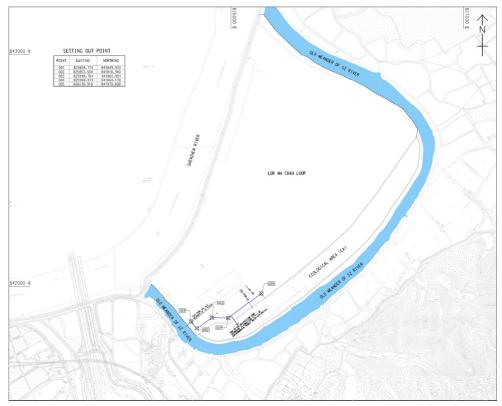
10.8 The green fence around the future Ribbon Park Reedbed has been removed and replaced by the hoarding due to the other project's land occupier since March 2022. (See Figure & photo below)



Wellab



10.9 Installation of the green fence alongside the Ecological Area and the Meander was proposed and completed on 20th May 2022. The layout plan of the green fence installation is shown below: -



10.10 The Contractor was reminded to maintain the green fence around construction areas and ensure no disturbance to the exiting trees and reed marsh habitat subject to the latest situation of LMC Loop.

11 ENVIRONMENTAL NON-CONFORMANCE (EXCEEDANCES)

Summary of Exceedances

- 11.1 Summary of exceedances is provided in **Appendix K**.
- 11.2 No Action/Limit Level exceedance was recorded for air quality and construction noise monitoring.
- 11.3 Three (3) Limit Level exceedances of DO, two (2) Limit Level exceedances of Turbidity and one (1) Limit Level exceedance of Suspended Solids were recorded. After investigation, the exceedances were non-project related.

Summary of Environmental Complaint

11.4 One environmental complaint related to noise nuisance during restricted hour was received in the reporting month. The statistical summary table of the environmental complaints is presented in **Table 11.1** and the details and status of the investigation are presented in Complaint Log as attached in **Appendix P**.

Table 11.1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Project related complaint
Jan 2019 – Mar 2023	19	20	1
Apr 2023	1		0

Summary of Notification of Summons and Successful Prosecutions

11.5 There was no prosecution or notification of summons received since the commencement of the Project. The statistical summary table of the summons and prosecution are presented in **Tables 11.2** and **11.3** respectively. Summary of successful prosecution as attached in **Appendix Q**.

 Table 11.2
 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Project related summon
Jan 2019 – Mar 2023	0	0	0
Apr 2023	0		0

Table 11.3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Project related Prosecution
Jan 2019 – Mar 2023	0	0	0
Apr 2023	0		0

12 FUTURE KEY ISSUES

Key Issues in the Coming Months

12.1 Major site activities for the coming reporting months will include:

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

- (a) Wetland Compensation Establishment Works and Ecological Monitoring
- (b) Additional Ground Investigation
- (c) Deep Cement Mixing Work for Vehicular Bridge over the Old Shenzhen River Meander and Western Connection Road
- (d) Piling Construction for Vehicular Bridge over the old Shenzhen River Meander
- (e) Structure Construction for Box Culverts and WCR
- (f) Drainage Works and Roadworks
- (g) Woodland Compensation Works

Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Section 1

- (a) Tree Felling and Site Clearance along RW8 area and immediate vicinity. Forming of temporary carriageway to divert traffic.
- (b) Demolition of Subway Cycle Track Bay 12, 13, & 14, and to exposed and protect 132kv cables.
- (c) Excavation and lateral support for RW9 Bay 1 to Bay 4
- (d) Construction of retaining wall RW9 base slab Bays 5, 7, 9 and 11 and wall stem Bay 8 to 16
- (e) Commence construction of retaining wall RW8
- (f) Complete Interim watermain along TAR1 (under KD2)

Section 2A

- (g) Continue Bored Piling for Retaining Wall BPW1
- (h) Trim slope of CS1 and removal of piling platform for Retaining Wall BPW1
- (i) Site Clearance at LMC Road Zone 3, Zone 4, Zone 5 and Zone 6
- (j) Trial Pit to expose and shift existing Utilities in Zone 4
- (k) Liaison with utility companies for utility diversion
- (l) UU works along Lok Ma Chau Road

Section 2B

- (m) Preparation Works for EIBC foundation works
- (n) Preparation works for Nullah Diversion to Facilitate ST01-B01 Bored Piling

Section 2C

- (o) Bored pile and socketed H-Pile for Bridge ST01 and CTFB (ST01-P05 & FBP05, EIBC)
- (p) Backfill and construction of Pier at ST01-P02 & P03
- (q) Construction of FBA02 and FBP06 Pile caps
- (r) Construction of Pile Cap and Pier at ST01-P04 and P06

Section 3

- (s) Ground investigation / Pre-drilling and Trial Pits for Bridge DRL
- (t) Bored pile for Bridge DRL
- (u) ELS to Cofferdam, Pile Trimming/Treatment for DRL-P12 & P13
- (v) Commence construction of Pile Cap and Pier at DRL-P12 & P13
- (w) Forming site access for piling of DRL-P02 & P03

Section 5

(x) Construction of Pai Lau Columns, Structure and Finishes

Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

- (a) LMC Station L1 Structural Opening for E&M Diversion
- (b) UU Diversion for Watermain (MTR) and Drainage Diversion at EPTI
- (c) Traffic, Drainage and Road Lighting Diversion for Stage 2 Works at DDFB
- 12.2 The Contractor is recommended to arrange and maintain the water quality mitigation measures according to the construction site drainage plan during wet season (i.e., March to October). The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. Efficient silt removal facilities shall deploy to ensure all treated effluent from wastewater treatment plant shall meet the requirements as stated in WPCO licences. The site drainage plan shall also be updated based on the site condition and construction programme.
- 12.3 Dust can be generated during construction works and exposed site area. To prevent high dust concentrations, the Contractor should pay attention on the air quality mitigation measures as far as practicable to minimise the dust impact to the villages which are located adjacent to the Project works. The Contractor was also reminded to follow the

Project Implementation Schedule in the approved EIA report / EM&A Manual to implement appropriate dust control measures including "watering in all works areas once per hour during working hours to control fugitive dust impact, particularly during dry weather and covering any excavated or stockpile of dusty material by impervious sheets and spraying all dusty material with water immediately prior to any loading transfer operations to keep the dusty materials wet during material handling at the stockpile areas" as well as the relevant dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation such that no adverse dust impact would arise from the Project works.

12.4 Ecology is also one of the key environmental issues during construction of the Project. Noise pollution has a negative impact on wildlife species by reducing habitat quality. Therefore, noise mitigation measures such as using quiet plants and noise barriers should be in place, where applicable. The Contractor should properly maintain the temporary noise barriers by frequently checking and maintaining the acoustic materials wrapped on noisy part of PME and ensure no gaps between noise barriers; proactively identify any potential construction noise impact to NSRs and provide sufficient mitigation measures if necessary. Moreover, the fencing used for the site boundary and as a visual barrier during the construction phase shall also be maintained at 3m high and of a dull or olive green colour, in order to minimise visual impact as this fencing is to shroud the most visible human activity (movement of persons and vehicles) from adjacent wetland areas. All ecological mitigation measures recommended in the Project Implementation Schedule in EP / approved EIA report / EM&A Manual should be properly implemented and maintained as far as practicable.

Monitoring Schedule for the Next Month

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

Construction Programme for the Next Month

12.6 Tentative construction programmes are provided in **Appendix A**.

13 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

13.1 The EM&A Report presents the EM&A works undertaken in April 2023 in accordance with EM&A Manual.

Air Quality

1-hour TSP Monitoring

13.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

13.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

13.4 All construction noise monitoring was conducted as scheduled in the reporting month.

No Action/Limit Level exceedance was recorded.

Water Quality

13.5 Water quality monitoring was conducted as scheduled in the reporting month. Three (3) Limit Level exceedances of DO, two (2) Limit Level exceedances of Turbidity and one (1) Limit Level exceedance of Suspended Solids were recorded. After investigation, the exceedances were non-project related.

Ecological Monitoring

LMC Loop

Avifauna (Flight Line Survey)

13.6 Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including EA Zone and along Shenzhen River. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Mammals

- 13.7 According to Clause 11.4.1.2 of the EM&A Manual, the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier.
- 13.8 In addition, the 12-month establishment period of EA zone has been completed. The mammals monitoring in the Loop was therefore temporarily suspended in the reporting month and will be resumed subject to the site condition.

Western Connection Road

Avifauna (Flight Line Survey)

13.9 Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Avifauna (Pond 12)

13.10 Avifauna survey at Pond 12 was conducted as scheduled in the reporting month. Weekly count of birds using the Pond was recorded. No significant impact of construction activities on bird use of the pond was observed.

Herpetofauna

13.11 Herpetofauna survey was conducted as scheduled in the reporting month. It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands, which may have an effect on the local Chinese Bullfrog population. However, no significant impact of construction activities on this species was observed.

Aquatic fauna

13.12 Aquatic fauna survey was conducted as scheduled in the reporting month. No significant impact of construction activities on the stream was observed.

Land Contamination

- 13.13 Decontamination for five arsenic-contaminated zones (LD01 LD05) identified in LMC Loop was completed and the final Remediation Report was submitted and approved by EPD in accordance with Condition 2.16 of the EP-477/2013/A under Contract No. YL/2017/03.
- 13.14 No work related to land contamination was conducted in the reporting month.

Environmental Site Inspection

13.15 Environmental site inspections were conducted on 3rd, 12th, 17th, 19th, 24th and 26th April 2023 by ET in the reporting month.

Environmental Complaints, Summons and Prosecutions

- 13.16 One environmental complaint was received in the reporting month.
- 13.17 No notification of summons or successful prosecution was received in the reporting month.

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

Recommendations

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

Air Quality Impact

- To provide the dust suppression measures such as water spraying on all haul roads, exposed work site areas and dust generation works;
- To provide and maintain impervious materials to cover the stockpiles of dusty materials;
- To design, establish and properly use the wheel washing facilities at the site exits;
- To keep maintain machinery to prevent emission of black smoke; and
- To inspect NRMM labels which should be displayed for all regulated machines.

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; and
- To provide and maintain properly temporary noise barriers or other appropriate sound reduction measures for operations of noisy equipment near the noise sensitive receivers, if necessary.

Water Impact

- To check the silt curtain regularly and prevent any surface runoff discharge into the old Shenzhen River meander or stream;
- To review and implement temporary drainage system;
- To identify any wastewater discharges from site;
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge;
- To provide and enhance the protection and bunding around the storage area for excavated materials;
- To review the capacity of de-silting facilities for discharge and update maintenance records of wastewater treatment facilities;
- To ensure the drainage facilities are probably maintained and not be clogged with sediment to avoid overflow;
- To maintain the cover for the exposed slope surfaces by tarpaulin or other means;
- To designate the area for wheel washing and set up the associated drainage for water from a wheel wash;
- To pave the exit points and ensure vehicles leaving the site are free from debris of dirt; and
- To implement the effective water quality mitigation measures according to the site drainage plan, and review the site drainage plan measures as appropriate.

Ecology Impact

• To maintain properly the 3m high olive-green fence around the construction site and

along the works of meander bridge;

- To provide and maintain visual barrier along Ha Wan Tsuen Road;
- To ensure the powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any; and
- To prevent any surface runoff discharge into the stream and clear up any construction materials at the streams.

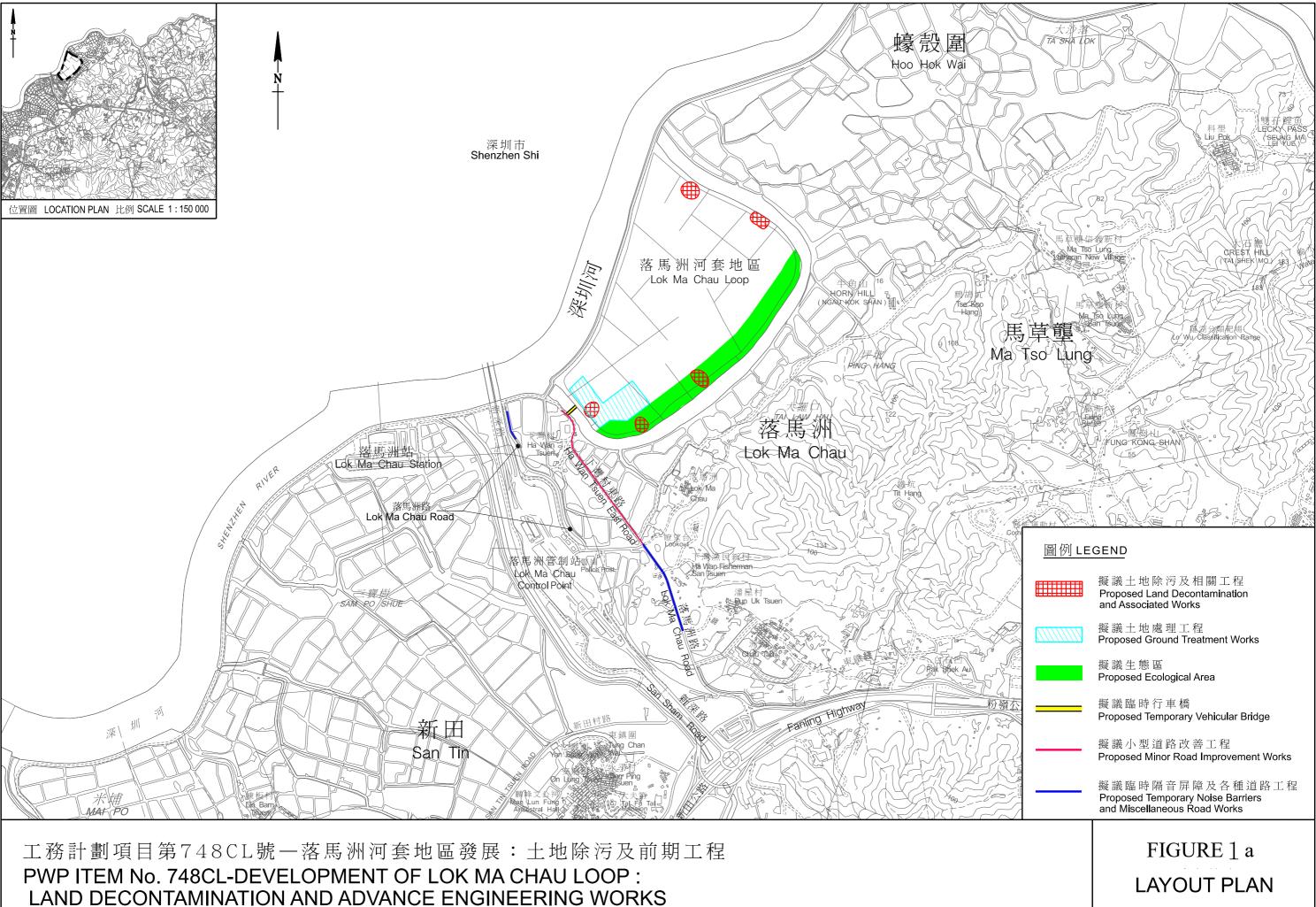
Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site;
- To carry out inspection of dump trucks at site exit to ensure inert and non-inert C&D materials are properly segregated before delivering off site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment and the site;
- To maintain the drip tray well and/or provide tarpaulin sheet properly for equipment to prevent oil and chemical leakage;
- To avoid improper handling, storage and dispose of oil drums or chemical containers on site.

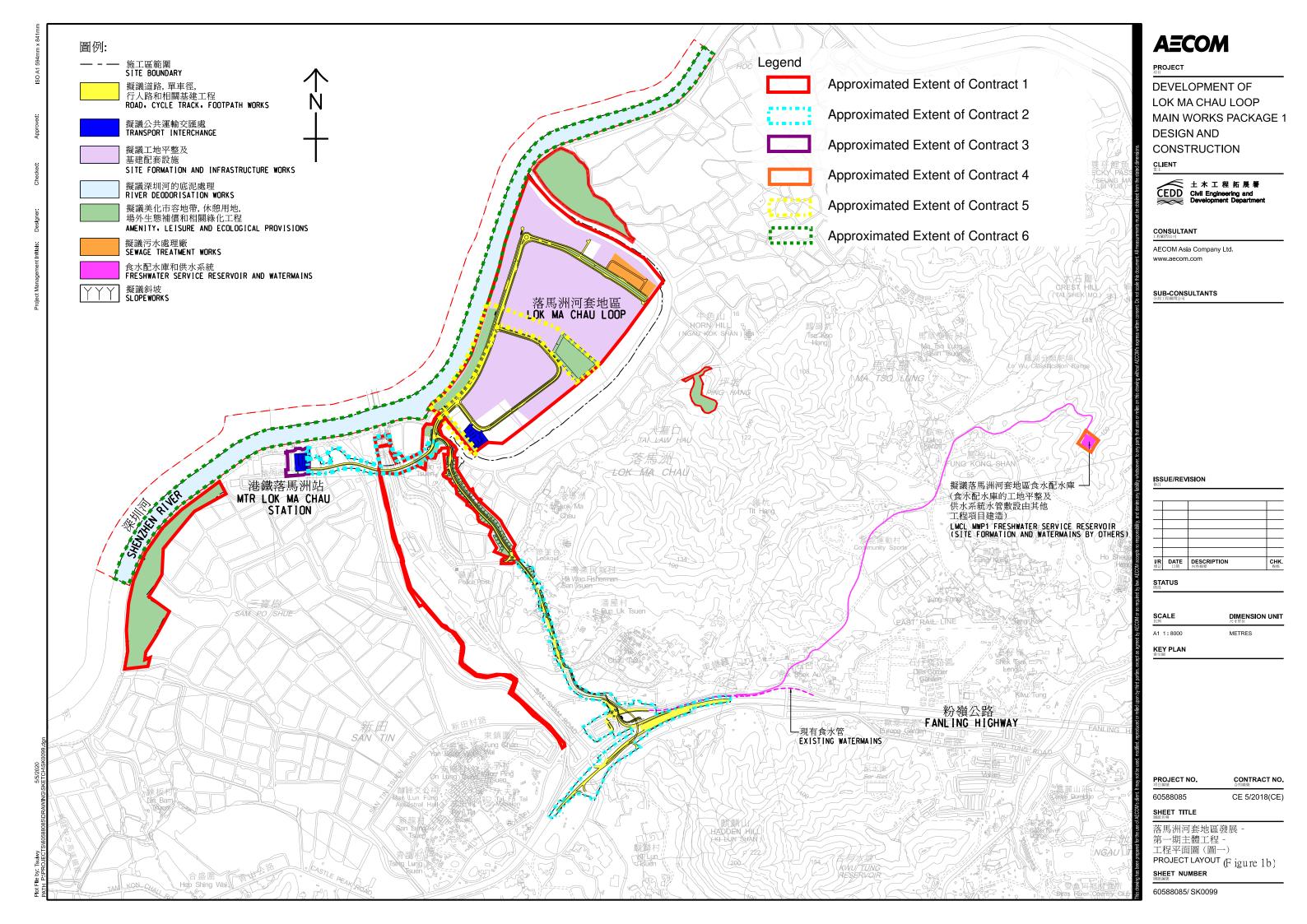
Landscape and Visual

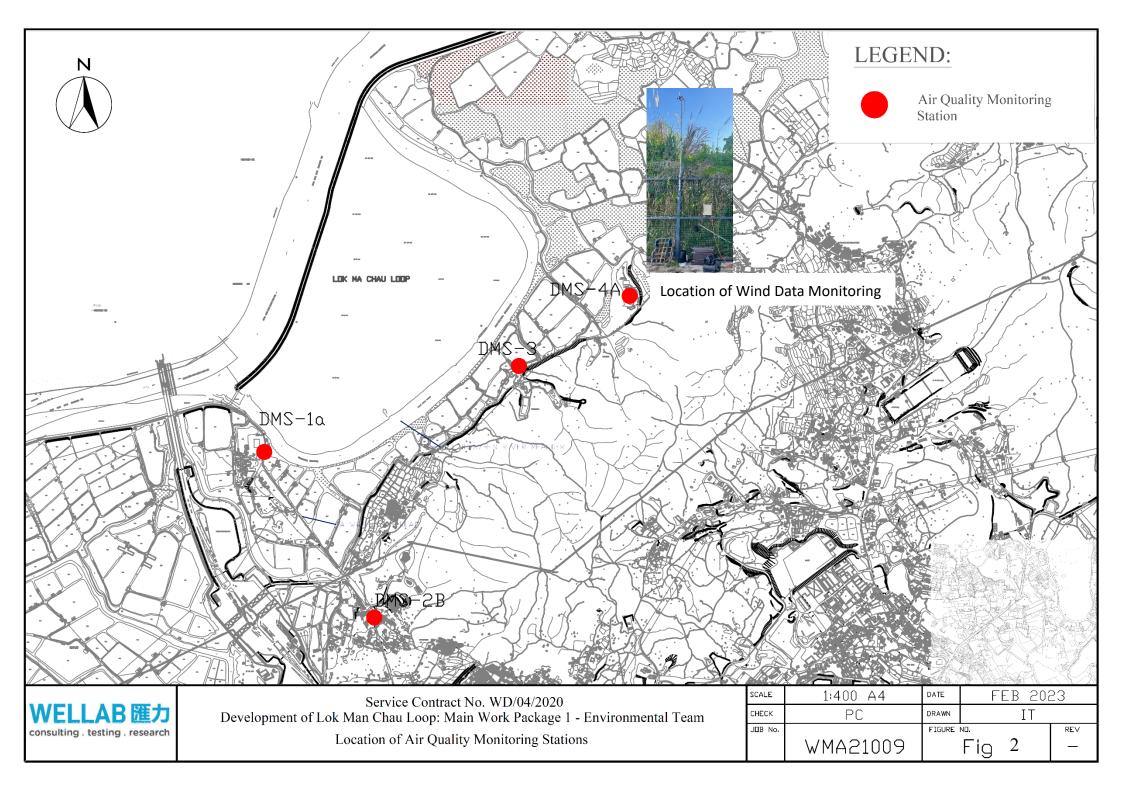
- To erect and maintain the protection fencing and tree protection zone around the preserved trees; and
- To avoid placing construction materials within the tree protection zone.

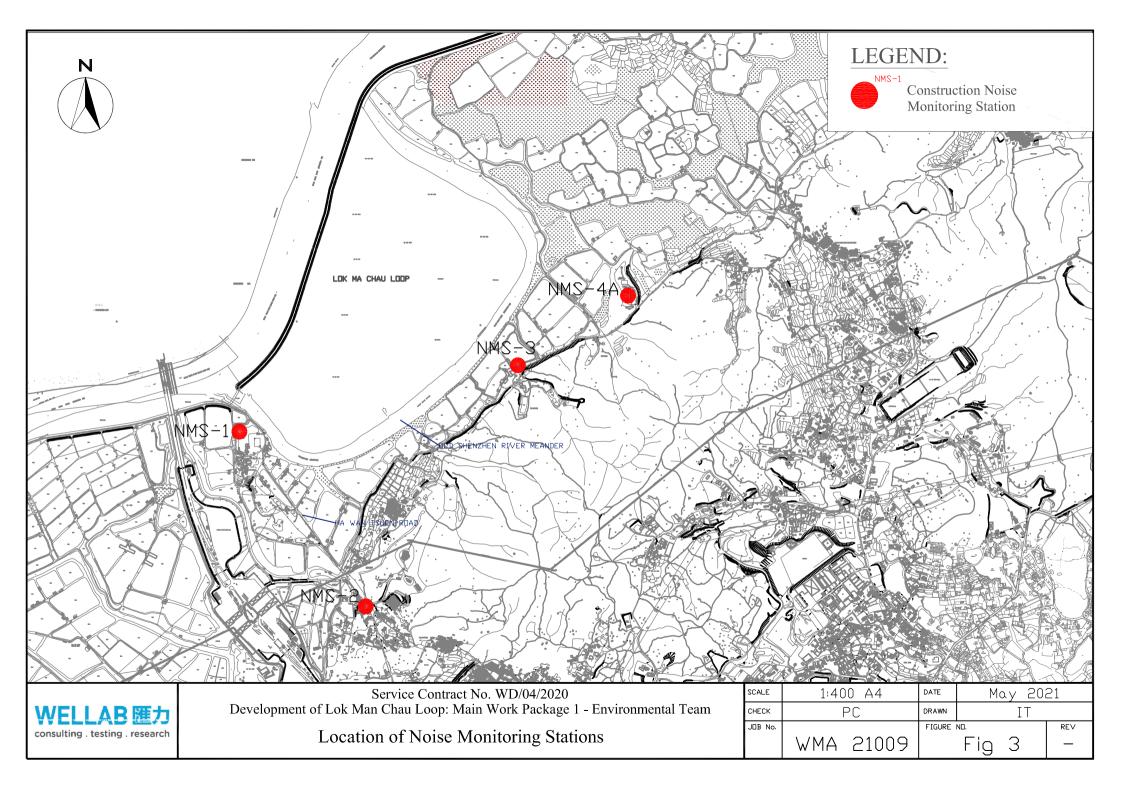
FIGURE(S)

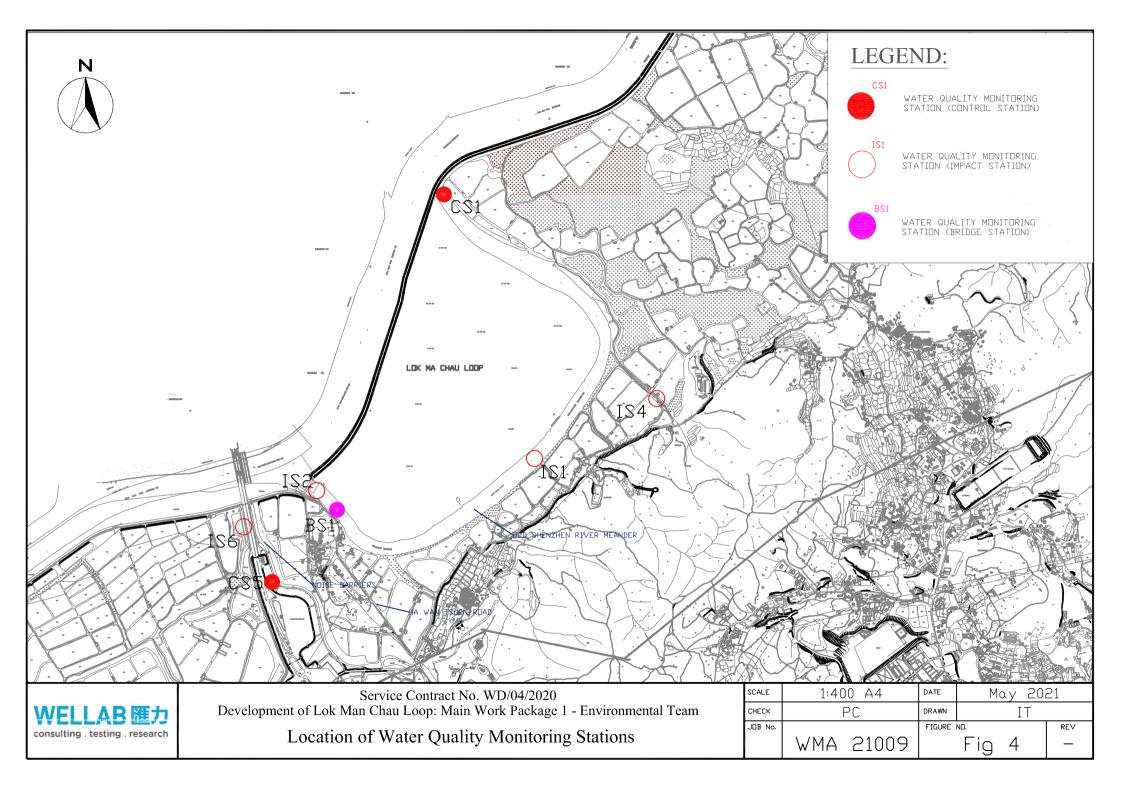


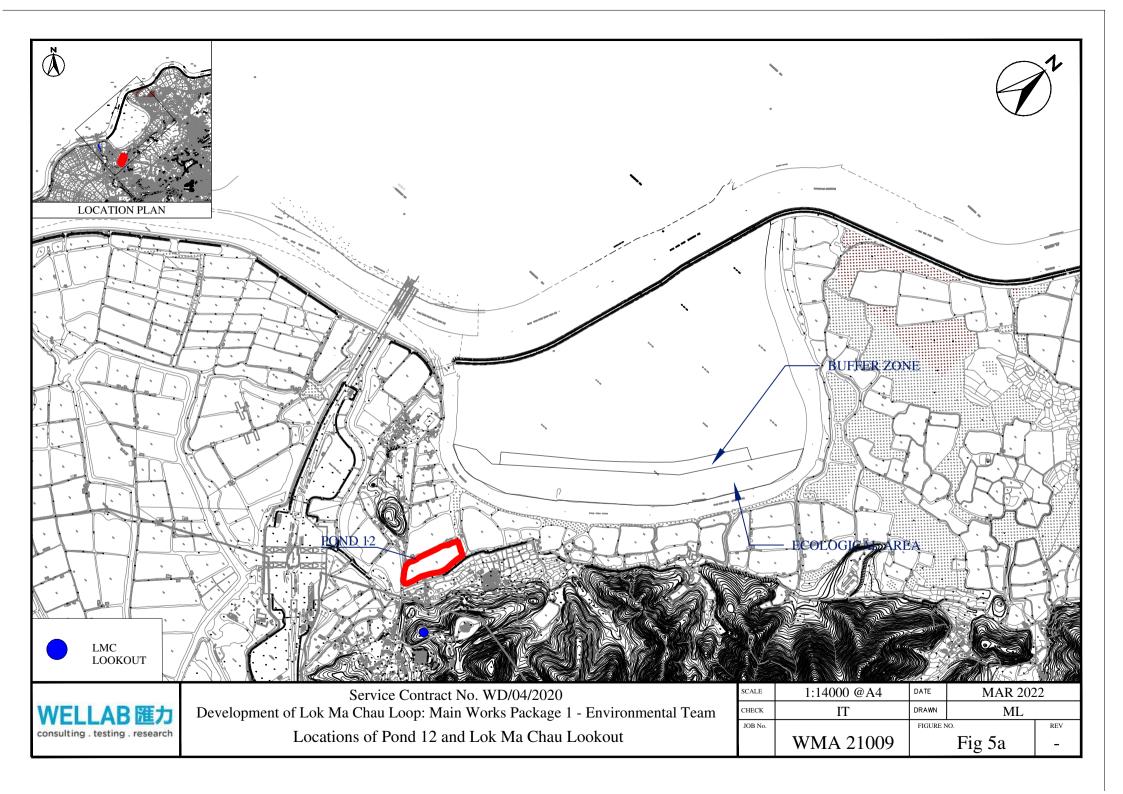
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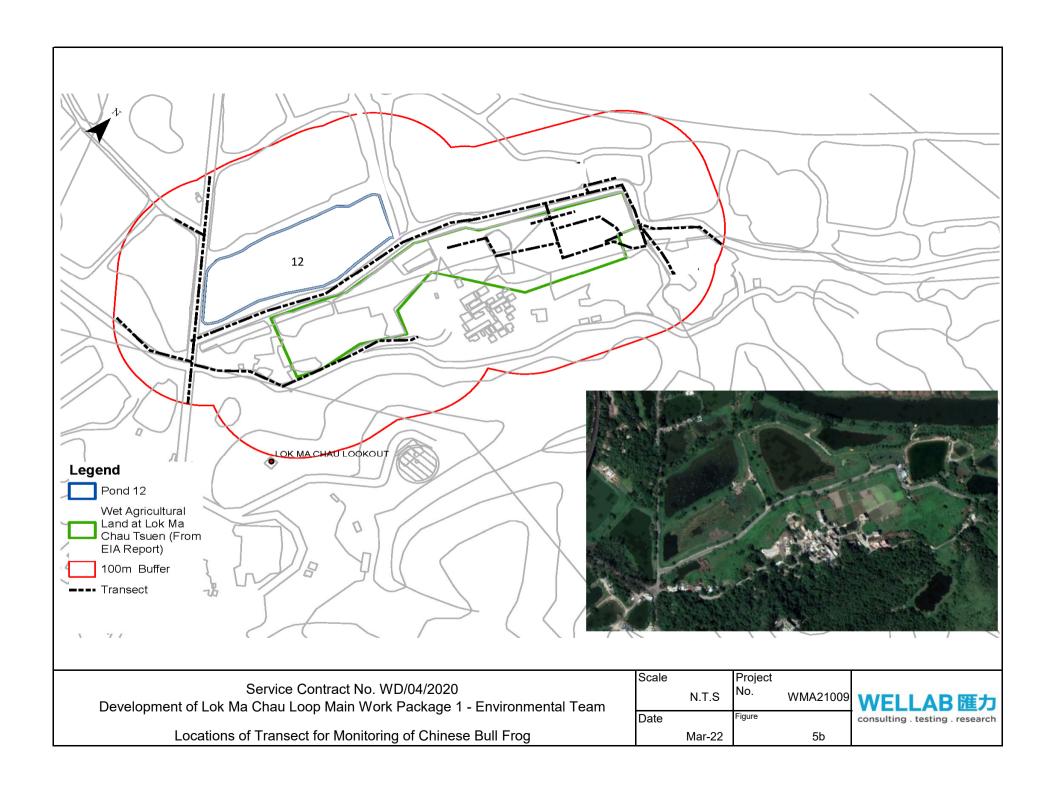


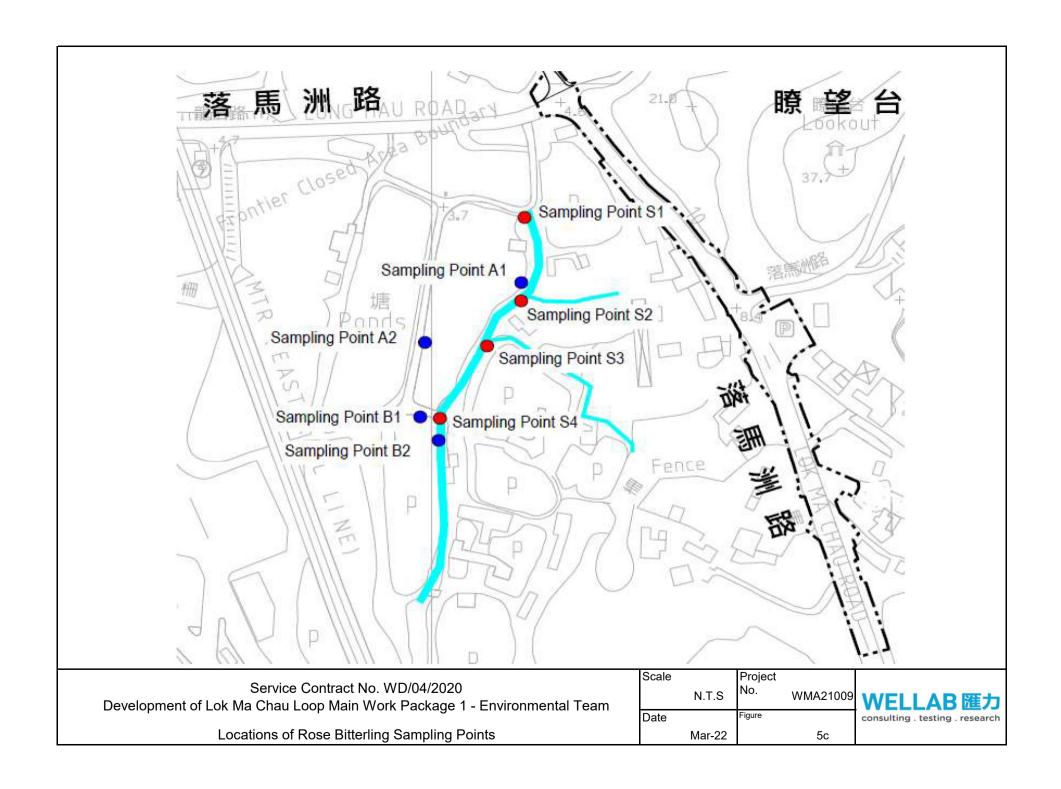


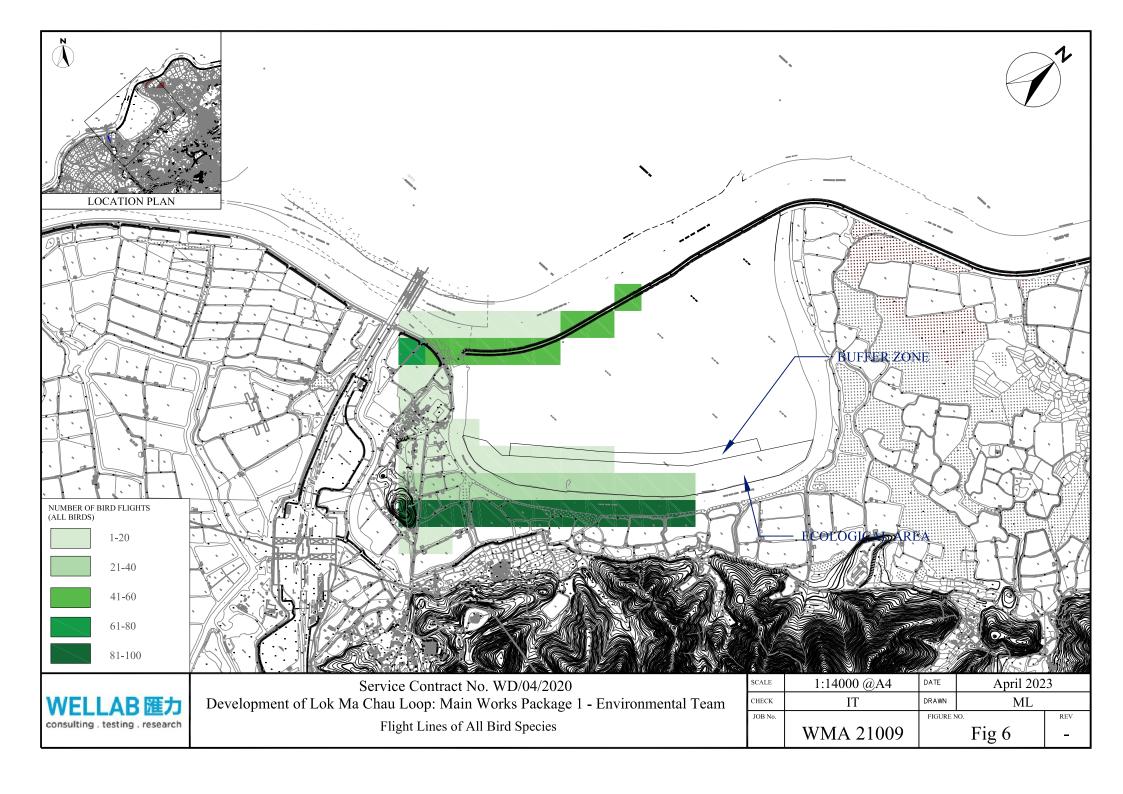












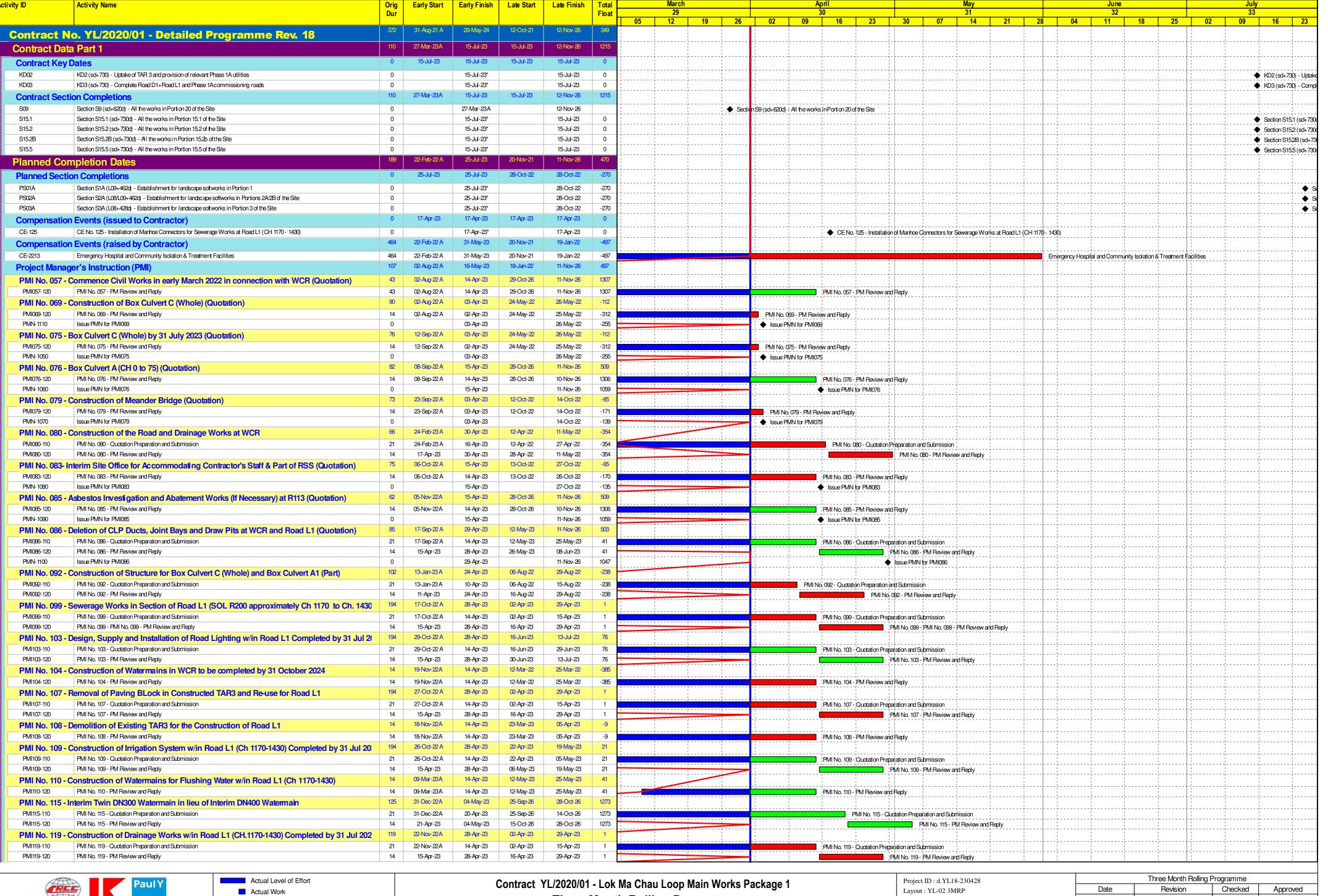
APPENDIX A CONSTRUCTION PROGRAMME

Contract No. YL/2020/01 - Development of Lok Ma Chau

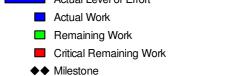
Loop: Main Works Package 1 – Contract 1 Site Formation

and Infrastructure Works inside Lok Ma Chau Loop and

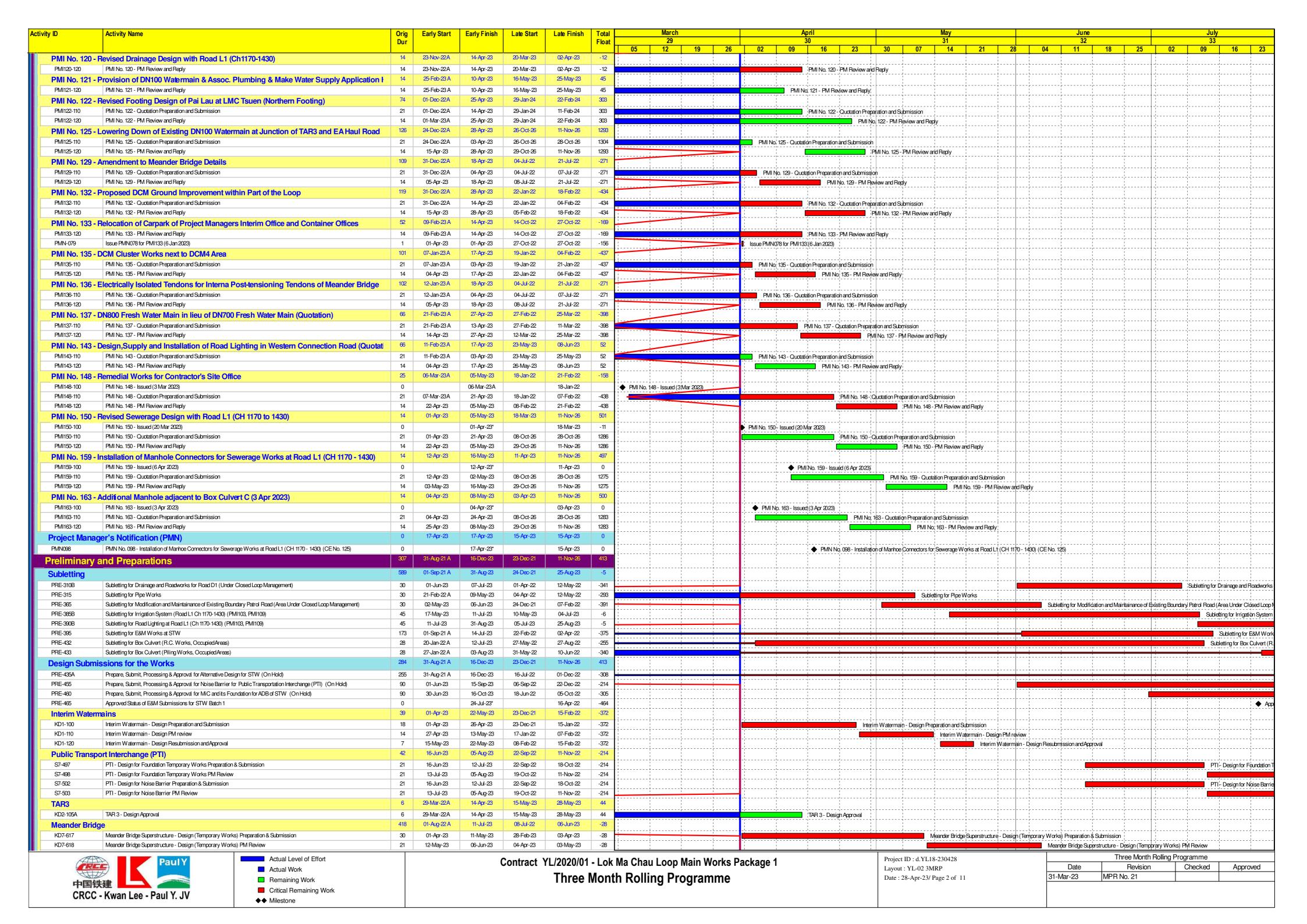
Western Connection Road Phase 1

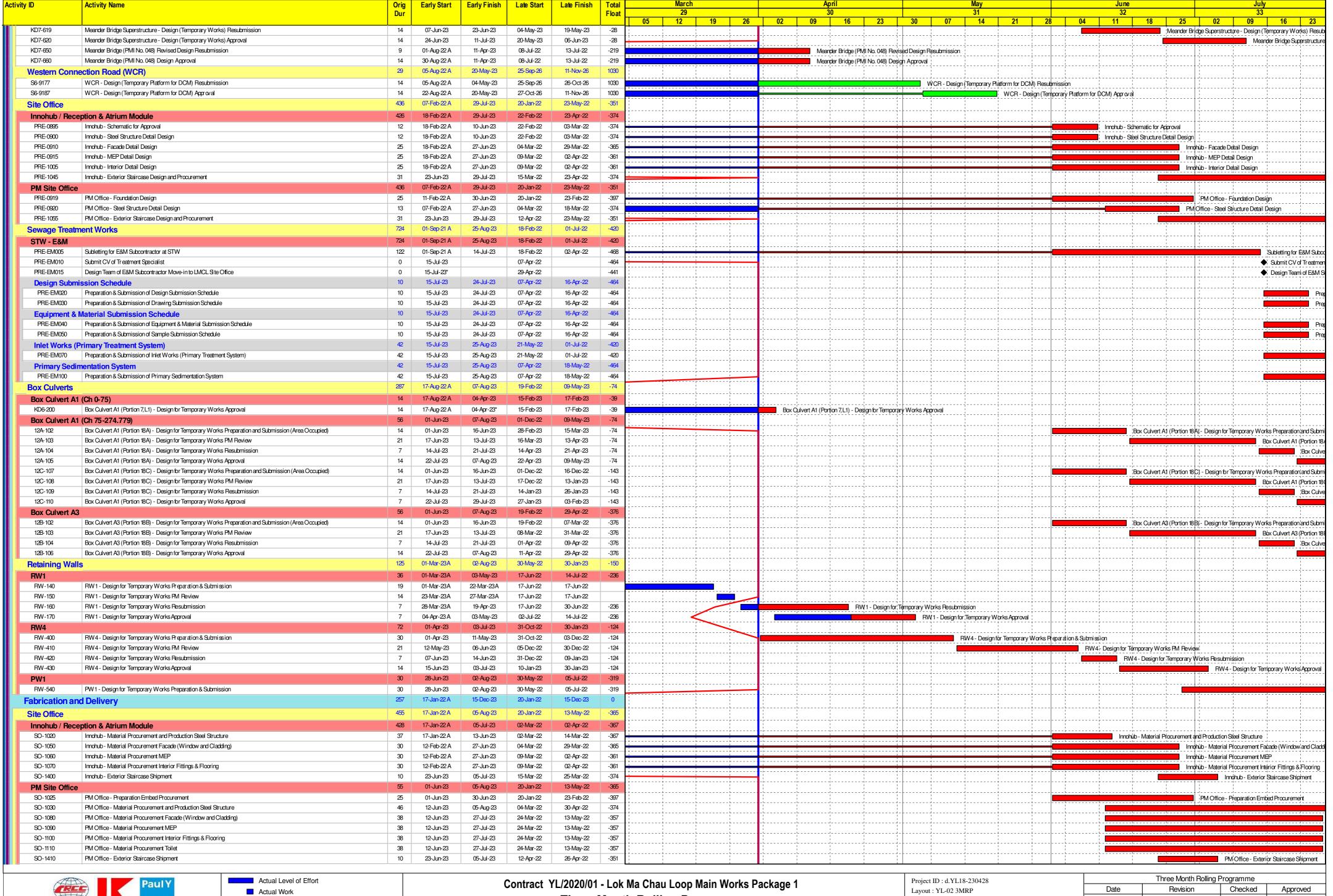




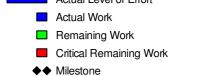


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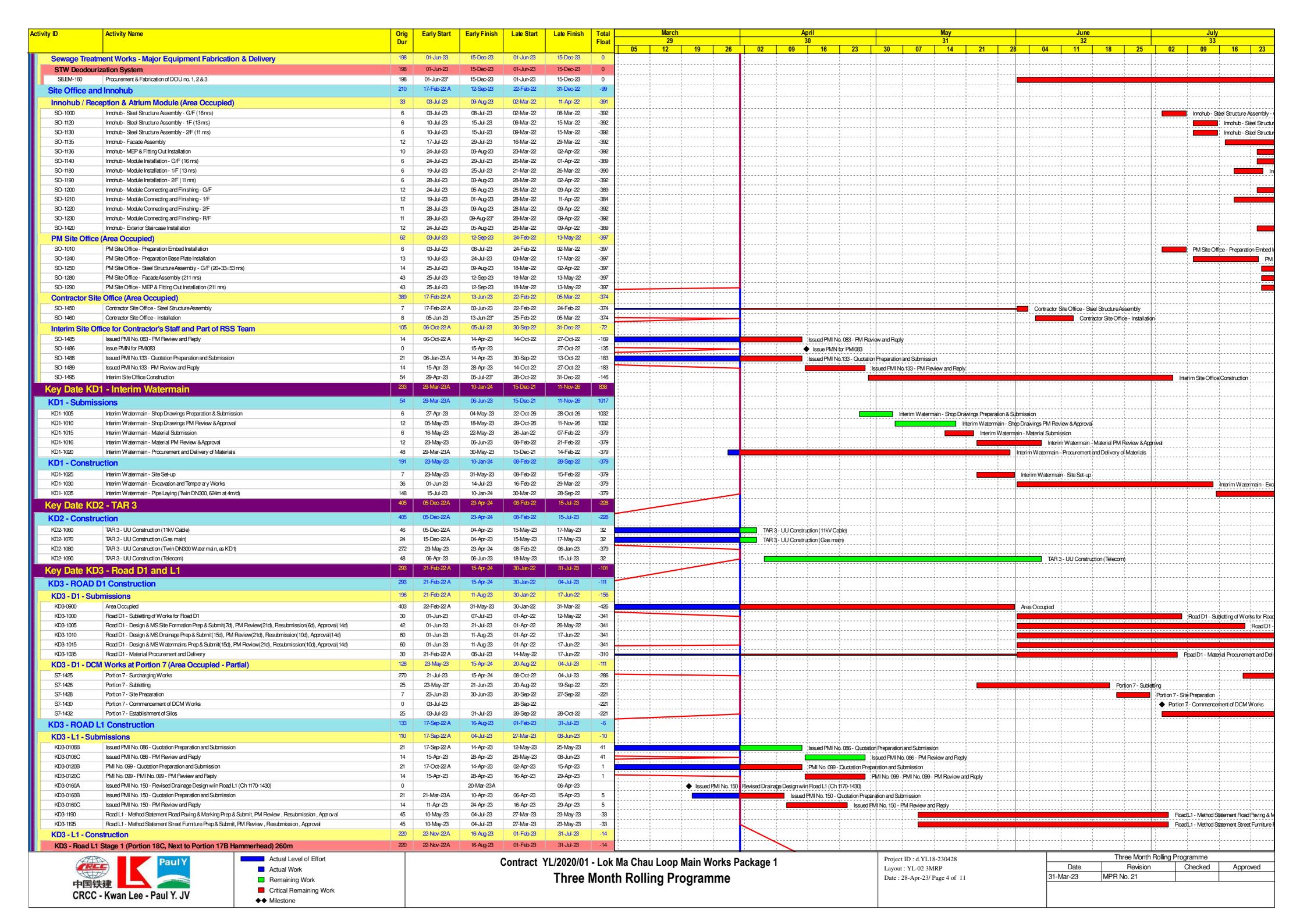


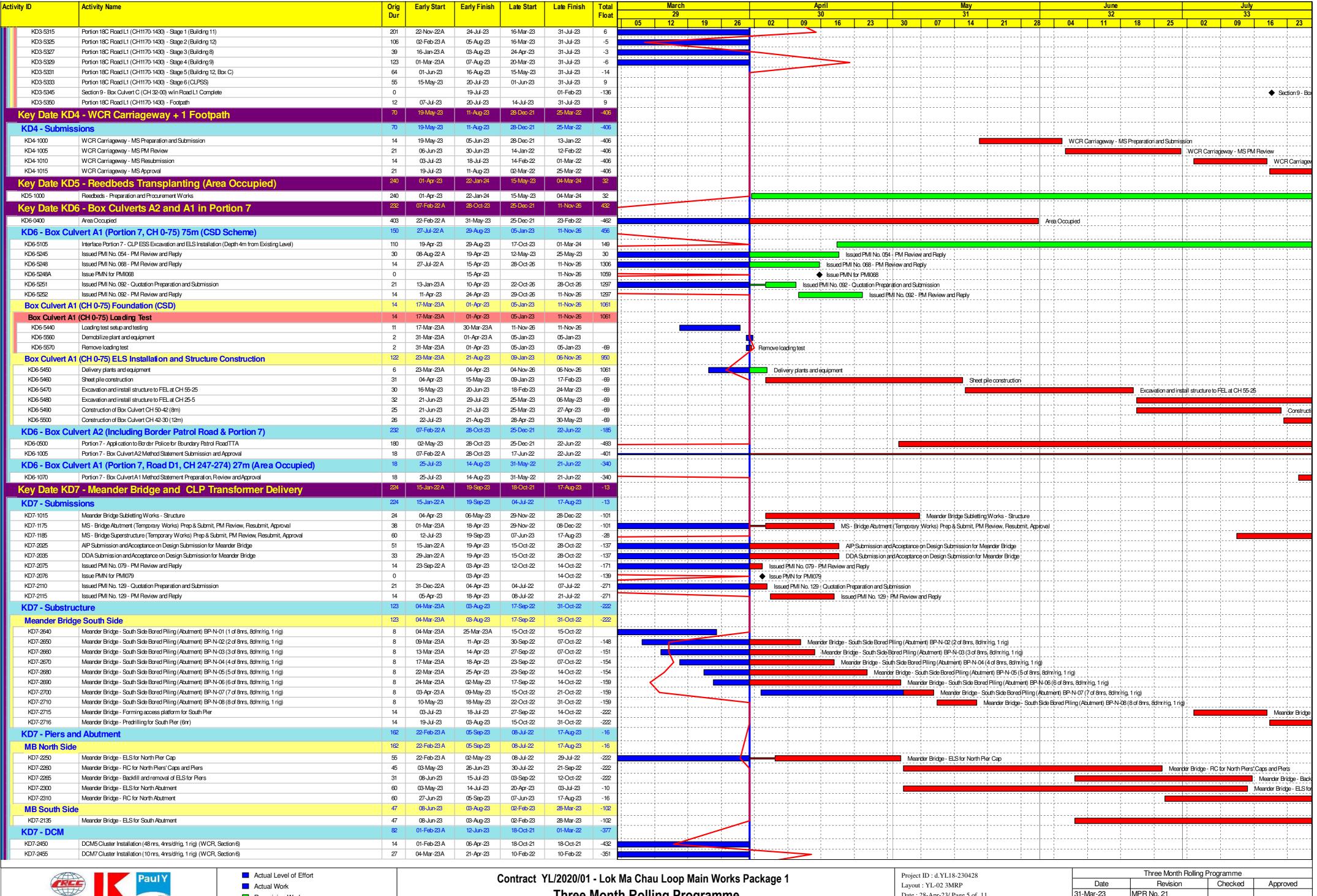






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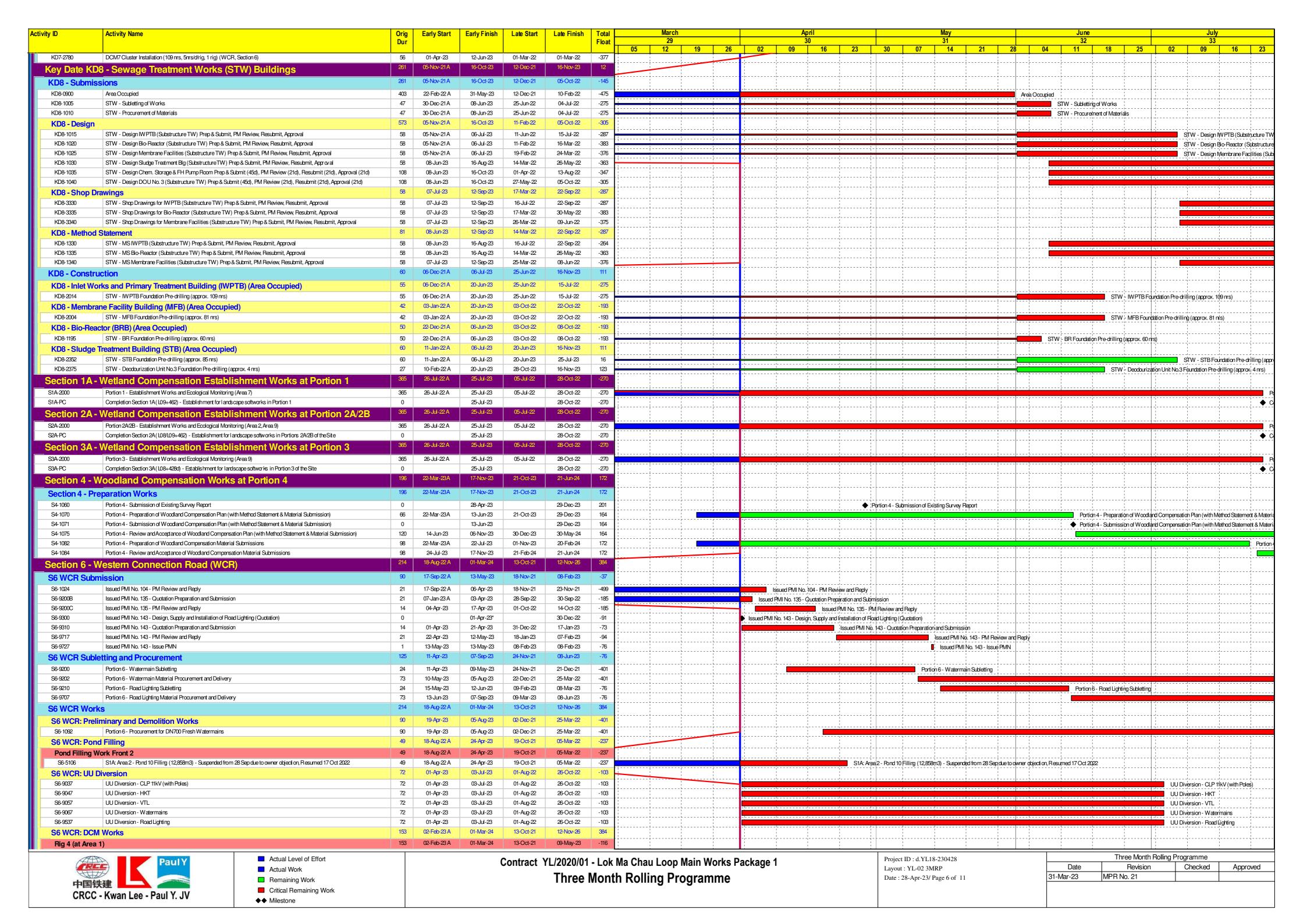
Remaining Work Critical Remaining Work

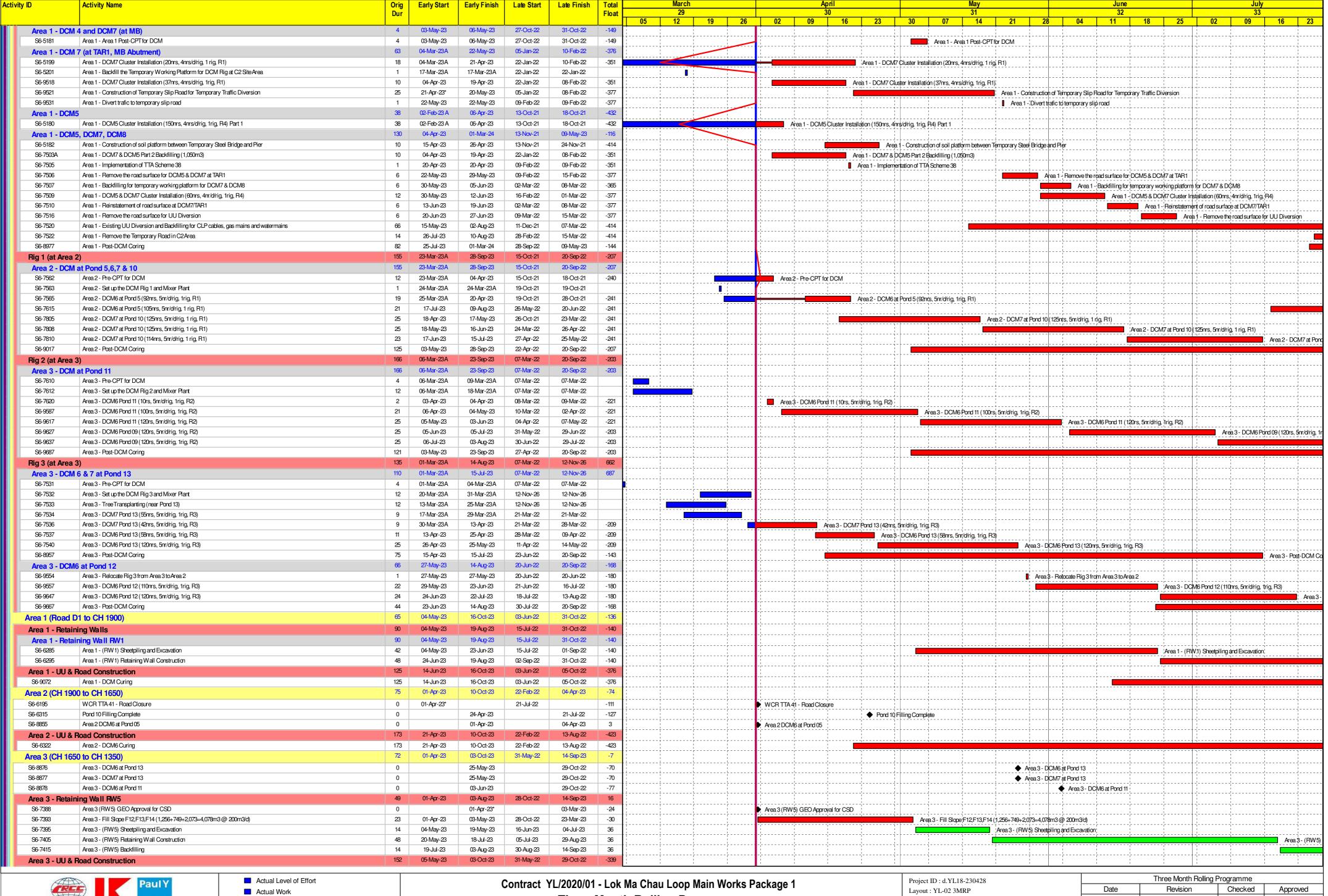
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Three Month Rolling Programme

Date: 28-Apr-23/ Page 5 of 11

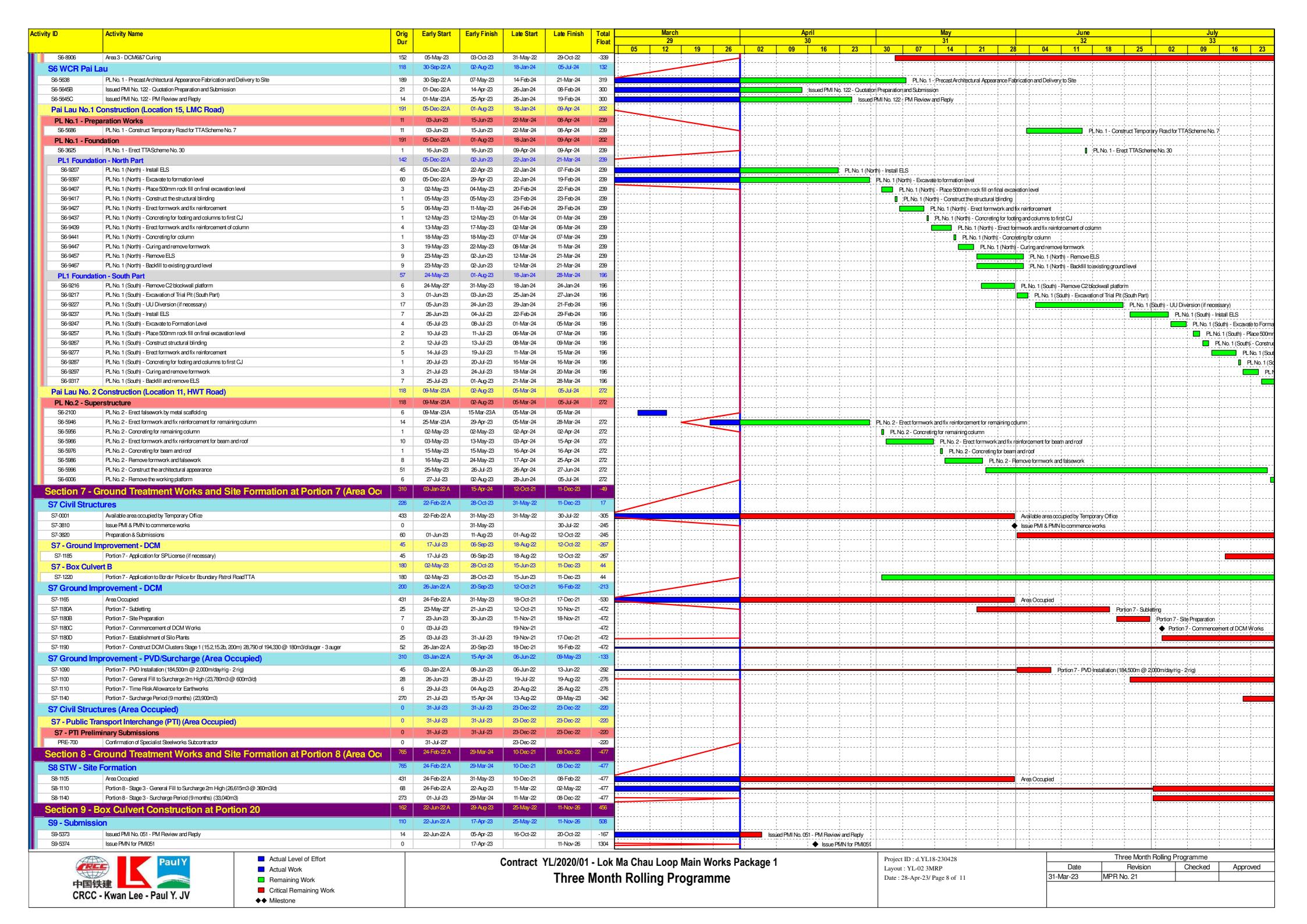
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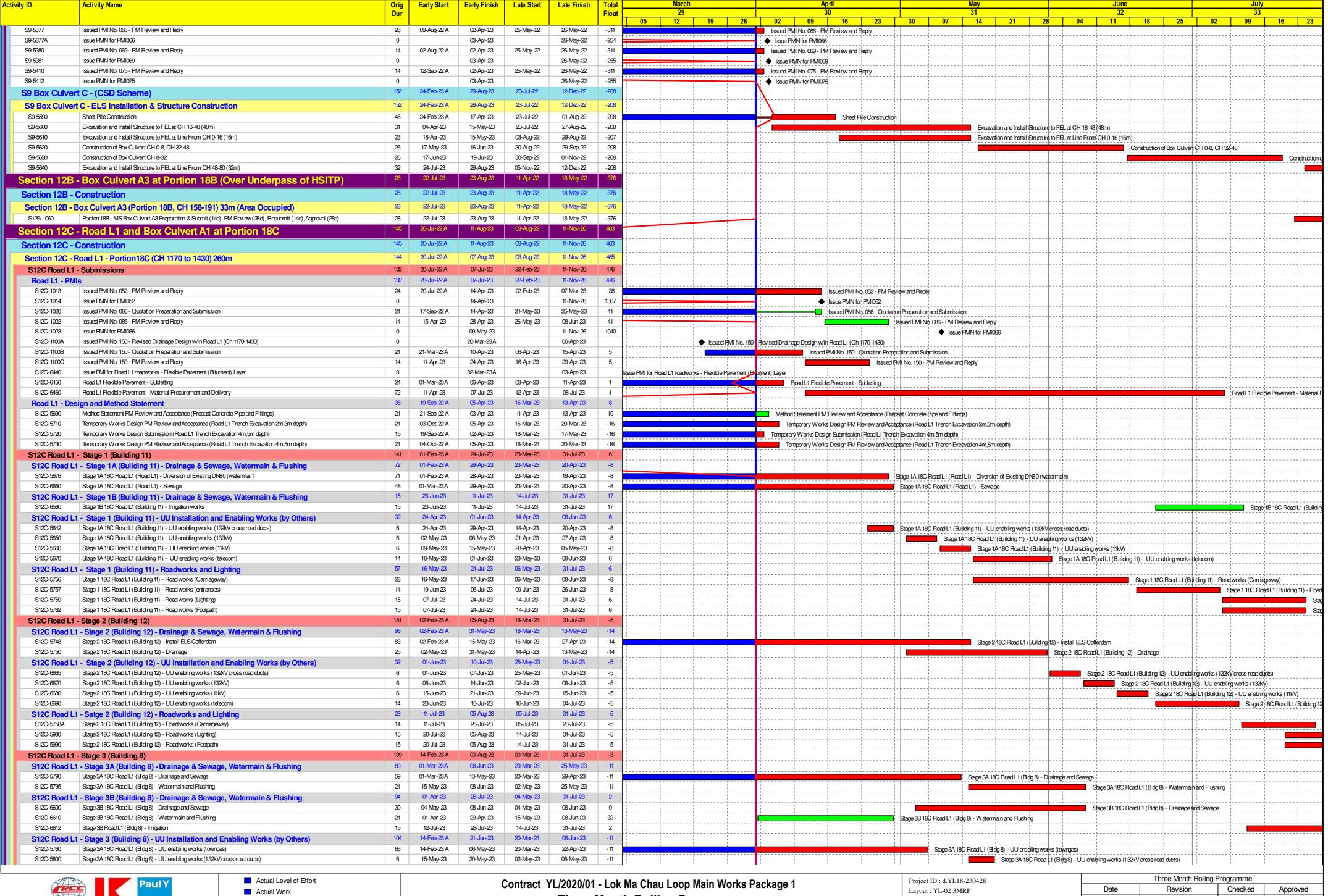






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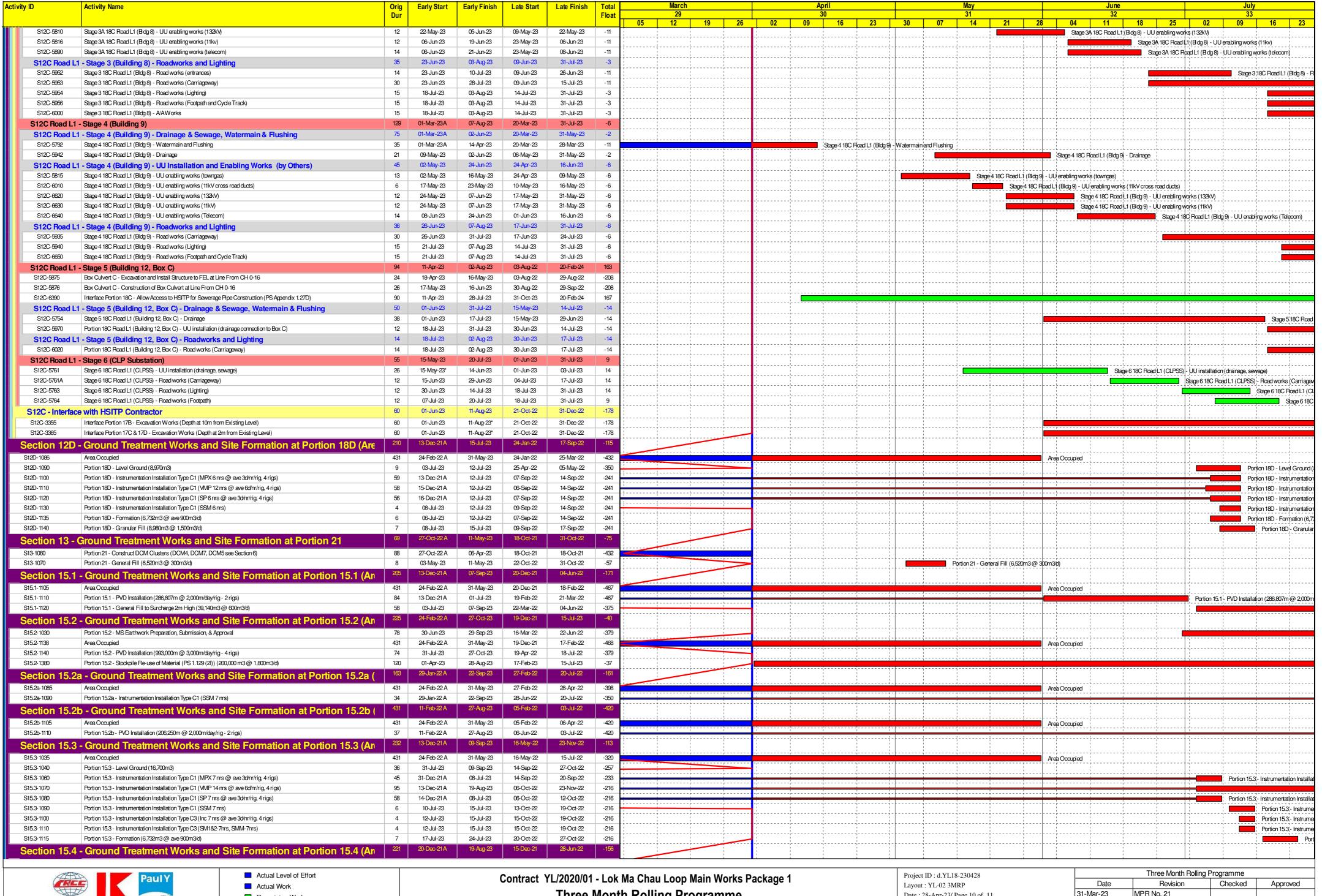






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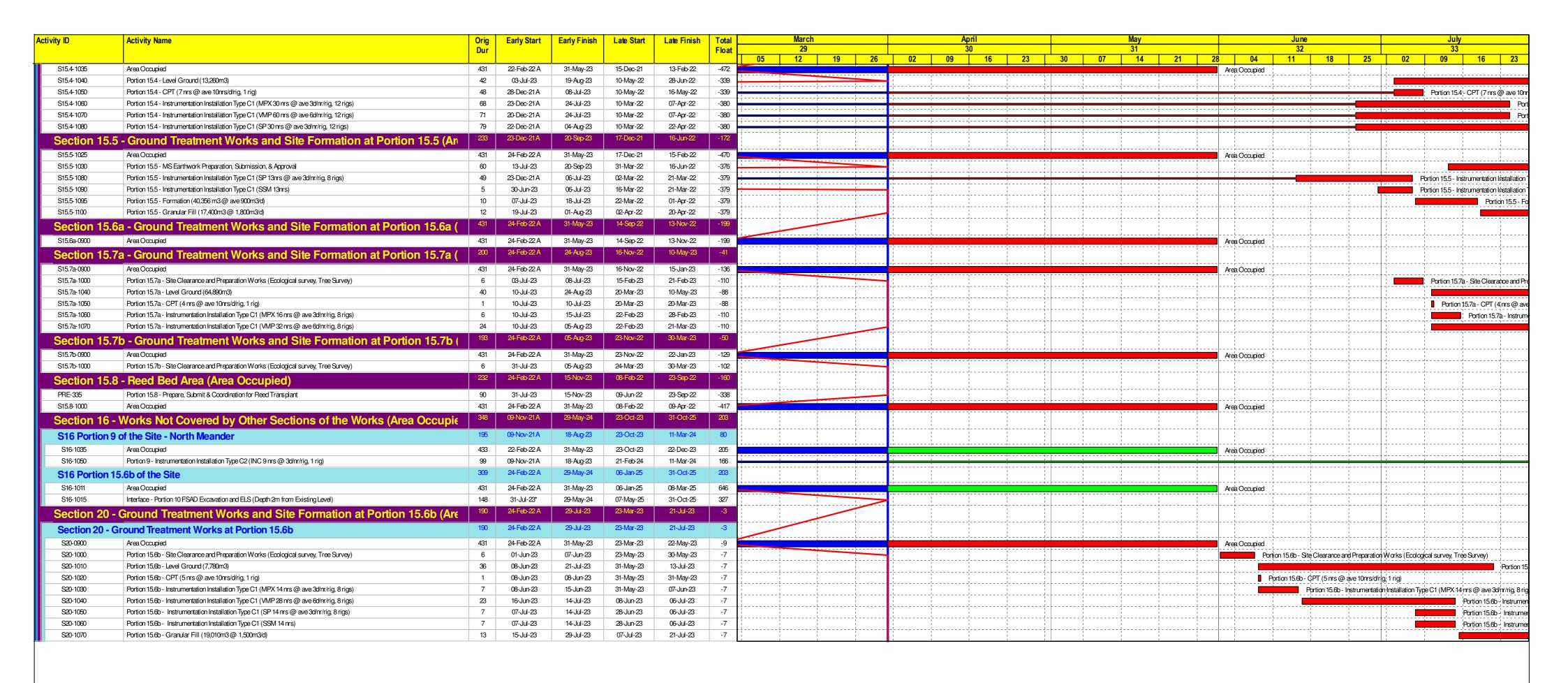
Remaining Work Critical Remaining Work

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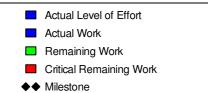
Three Month Rolling Programme

Date: 28-Apr-23/ Page 10 of 11

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Date	Revision	Checked	Approved
31-Mar-23	MPR No. 21		







	I hree Month Rolling Programme			
Date	Revision	Checked	Approved	
31-Mar-23	MPR No. 21			

Contract No. YL/2020/02 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 2 Western
Connection Road Phase 2, Connection Roads to Fanling /
San Tin Highway and Direct Road Link Phase 1

Contract No. YL/2020/02 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1 Section 1 of the Works-Completion of the Works within Portion 1,2A,2B,3,5,7,8,9&10 of the Si 136 100 23-Nov-22 A 19-Jul-23 Laying of Interim Water Main along TAR1 in Portion 2A and 2B Laying of Interim Water Main in Portion 2B 37 11-Apr-23 24-May-23 S010255 Implement TTA UU Detection, Trial Pit, Shift (if any) 0 12-Apr-23 12-Apr-23 Layying of interim water main CH.80 to CH.262.834 along TAR1 (182.8m) S010245 Lavving of interim water main CH.80 to CH.262.834 along TAR1 (182.8m) 24 12-Apr-23 10-May-23 S010250 Testing, Chemical Cleaning, Flushing, Connection and backfilling 12 11-May-23 Testing, Chemical Cleaning, Flushing, Connection and backfilling 31 27-Apr-23 Excavation and laying of interim water main CH.6.005 to CH.80 (74m) S010260 Excavation and laying of interim water main CH.6.005 to CH.80 (74m) 15 27-Apr-23 15-May-23 S010265 Testing, Chemical Cleaning, Flushing, Connection and backfilling 10 16-May-23 27-May-23 Testing, Chémical Cleaning, Flushing, Connection and backfilling ◆ Planned achievement of Key Date KD-2 of the Works Planned achievement of Key Date KD-2 of the Works 27-May-23 Existing Cycle Track Subway Modification J Detection / Protection (132kv) / Install sheetpile to temp. cofferda UU Detection / Protection (132kv) / Install sheetpile to temp. cofferdam S014680.1 Demolition of Top Portion Bay 12 10 01-Apr-23 A 21-Apr-23 S014680.2 Demolition of Top Portion Bay 13 10 20-Apr-23 02-May-23 Demolition of Top Portion Bay 13 S014680.3 Demolition of Top Portion Bay 14 10 29-Apr-23 11-May-23 10 12-May-23 23-May-23 Demolition of Lower Portion of Bay 12 S014680-10.1 Demolition of Lower Portion of Bay 12 S014680-10.2 Demolition of Lower Portion of Bay 13 10 20-May-23 Demolition of Lower Portion of Bay 13 Demolition of Lower Portion of Bay 14 10 30-May-23 Demolition of Base Slab Bay 12 -243 S014680-20.1 Demolition of Base Slab Bay 12 10 10-Jun-23 21-Jun-23 S014680-20 2 10 19-Jun-23 30-Jun-23 -243 Demolition of Base Slab Bay 13 S014680-20.3 10 28-Jun-23 10-Jul-23 82 23-Nov-22 A 19-Jul-23 21 23-Nov-22 A 05-May-23 Excavation & Disposal and Installation of Wailing, Struts and Stiffeners S014730 Excavation & Disposal and Installation of Wailing, Struts and Stiffeners 21 23-Nov-22 A 05-May-23 Stage 1 - RW9 Bay 16-5 82 01-Apr-23 A 19-Jul-23 12 01-Apr-23 A 24-Apr-23 Formworks, Rebar fixing and Cast Base Slab - Bay 12 S014735.70 Formworks, Rebar fixing and Cast Base Slab - Bay 12 6 01-Apr-23 A 17-Apr-23 S014735.100 Formworks, Rebar fixing and Cast Base Slab - Bay 10 6 01-Apr-23 A 17-Apr-23 Formworks, Rebar fixing and Cast Base Slab - Bay 10 24-Apr-23 Formworks, Rebair fixing and Cast Base Slab - Bay 11 S014735.80 Formworks, Rebar fixing and Cast Base Slab - Bay 11 6 18-Apr-23 Formworks, Rebair fixing and Cast Base Slab - Bay 9 S014735.90 Formworks, Rebar fixing and Cast Base Slab - Bay 9 6 18-Apr-23 24-Apr-23 Wall Stom 56 06-Apr-23 A 16-Jun-23 ormworks, Rebar fixing and Cast Wall Stem Bay 16 S014735.130 Formworks, Rebar fixing and Cast Wall Stem Bay 16 14 06-Apr-23 A 26-Apr-23 S014735.150 Formworks, Rebar fixing and Cast Wall Stem Bay 14 14 06-Apr-23 A 26-Apr-23 Formworks, Rebar fixing and Cast Wall Stem Bay 14 S014735.140 14 27-Apr-23 Formworks, Rebar fixing and Cast Wall Stem Bay 1: S014735.160 Formworks, Rebar fixing and Cast Wall Stem Bay 13 14 27-Apr-23 13-May-23 Formworks, Rebar fixing and Cast Wall Stem Bay 13 S014735.170 Formworks, Rebar fixing and Cast Wall Stem Bay 12 14 15-May-23 31-May-23 Formworks, Rebar fixing and Cast Wall Stem Bay 12 S014735.190 14 15-May-23 31-May-23 -224 Formworks, Rebar fixing and Cast Wall Stem Bay 10 ormworks, Rebar fixing and Cast Wall Stem Bay 1 S014735.180 Formworks, Rebar fixing and Cast Wall Stem Bay 11 16-Jun-23 14 01-Jun-23 S014735.200 Formworks, Rebar fixing and Cast Wall Stem Bay 9 14 01-Jun-23 16-Jun-23 Formworks, Rebar fixing and Cast Wall Stem Bay 9 Bay 8-5 Base Slat 12 17-Jun-23 03-Jul-23 S014740.10 Formworks, Rebar fixing and Cast Base Slab Bay 8 6 17-Jun-23 24-Jun-23 Formworks, Rebar fixing and Cast Base Slab Bay 6 S014740.30 Formworks, Rebar fixing and Cast Base Slab Bay 6 6 17-Jun-23 24-Jun-23 S014740.20 6 26-Jun-23 03-Jul-23 Formworks, Rebar fixing and Ca Formworks, Rebar fixing and Ca S014740.40 03-Jul-23 Formworks, Rebar fixing and Cast Base Slab Bay 5 6 26-Jun-23 Bay 8-5 Wall Stem 14 04-Jul-23 19-Jul-23 19-Jul-23 14 04-Jul-23 S014740.120 Formworks, Rebar fixing and Cast Wall Stem Bay 6 14 04-Jul-23 19-Jul-23 Section 2A of the Works-Completion of the Works at Lok Ma Chau Road within Portion 1,5 and 128 03-Aug-22 A 16-Aug-23 1472 0 11-Apr-23 11-Apr-23 S2A PW 1200 Demoliton of structure for workshop inside Temple (Ref. R31) (deleted) 0 11-Anr-23 11-Anr-23 Demoliton of structure for workshop inside Temple (Ref. R31) (deleted) 15 20-Mar-23 A 27-Apr-23 1285 Retaining Wall BPW1 15 20-Mar-23 A 27-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 33 Excavate, Rebar Cage & Concreting Bored Pile 33 S2A.Z1.1060.33 6 20-Mar-23 A 17-Apr-23 S2A 71 1060 35 Excavate, Rebar Cage & Concreting Bored Pile 35 6 21-Mar-23 A 17-Anr-23 Excavate. Rebar Cage & Concreting Bored Pile 35 Excavate, Rebar Cage & Concreting Bored Pile 34 6 23-Mar-23 A 17-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 36 6 28-Mar-23 A 17-Apr-23 S2A.Z1.1060.36 Excavate, Rebar Cage & Concreting Bored Pile 36 S2A.Z1.1060.37 Excavate, Rebar Cage & Concreting Bored Pile 37 6 30-Mar-23 A 17-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 37 Excavate, Rebar Cage & Concreting Bored Pile 38 6 03-Apr-23 A 17-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 39 S2A.Z1.1060.39 Excavate, Rebar Cage & Concreting Bored Pile 39 6 04-Apr-23 A 17-Apr-23 S2A 71 1060 40 Excavate, Rebar Cage & Concreting Bored Pile 40 6 14-Apr-23 20-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 40 Excavate, Rebar Cage & Concreting Bored Pile 41 6 15-Apr-23 21-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 42 6 17-Apr-23 22-Apr-23 S2A.Z1.1060.42 Excavate, Rebar Cage & Concreting Bored Pile 42 3 Months Rolling Programme Actual Work Three Month Rolling Programme (Data Date: 08-Apr-23) Date Revision Checked Approved Remaining Work Period: 09 Apr 23 to 08 Jul 23 08-Jan-23 | Rev.2.1k DML RP/RS 中國路橋工程有阻責任公司 Critical Remaining Work Civil Engineering and CHINA ROAD AND BRIDGE CORPORATION Page: 1 of 4 Development Department

Milestone

Contract No. YL/2020/02 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1 S2A.Z1.1060.43 Excavate, Rebar Cage & Concreting Bored Pile 43 19-Apr-23 25-Apr-23 Excavate, Rebar Cage & Concreting Bored Pile 44 S2A.Z1.1060.44 Excavate, Rebar Cage & Concreting Bored Pile 44 6 21-Apr-23 27-Apr-23 Zone 3: Mid-Eastside of LMC Road (NB-13, 14 and 16; approx. 170m) (SB Ch.+170 to Ch.+340 23 03-Oct-22 A 08-May-23 S2A 73 3140 03-Oct-22 A Implement TTA Tree Felling/ Site Clearance at Zones 3 & 4 S2A.Z3.3150 11 04-Oct-22 A Construction of Temporary Road to the East side (NB & SB) to facilitate construction on the West side Construction of Temporary Road to the East side (NB & SB) to facilitate construction on the We S2A.Z3.3160 12 24-Apr-23 08-May-23 Works Outside the Carriageway 97 11-Apr-23 05-Aug-23 97 11-Apr-23 Commence Works on NB 16 S2A.Z3.3310 Commence Works on NB 16 0 11-Apr-23 S2A 73 3260 Trial pit. Expose and Shift or Hang Utilities 36 12-Apr-23 24-May-23 Trial pit. Expose and Shift or Hang Utilities S2A.Z3.3270 36 26-Apr-23 08-Jun-23 ■ ELS Works to NB16 S2A.Z3.3280 36 11-May-23 23-Jun-23 ELS Works to NB16 S2A 73 3290 Blinding and Base slab for NB16 (5 bays 36 25-May-23 Blinding and Ba S2A.Z3.3320 Backfill and Reinstate Road & Footpath 36 24-Jun-23 05-Aug-23 e of LMC Road (NB-12, 15 & 23) (Zone 4 app 63 09-May-23 Noise barrier NB12 63 09-May-23 24-Jul-23 S2A.Z4.4120 nplement TTA / Survey & Setting-out Implement TTA / Survey & Setting-out Trial pit, Expose and Shift or hang existing CLP Cables clashing with NB12 S2A.Z4.4220 Trial pit, Expose and Shift or hang existing CLP Cables clashing with NB12 24 12-May-23 Installation of Sheet Pile S2A.Z4.4130 Installation of Sheet Pile 24 22-May-23 19-Jun-23 S2A.Z4.4140 ELS Works NB12 24 01-Jun-23 29-Jun-23 ELS Works NB12 S2A.Z4.4280 Blinding and Base slabs for NB12 24 10-Jun-23 10-Jul-23 S2A.Z4.4290 Wall stems for NB12 24 26-Jun-23 24-Jul-23 17 03-Aug-22 A 29-Apr-23 ■ Trée Felling/Tree Protection S2A.75.5140 Tree Felling/Tree Protection 17 03-Aug-22 A 29-Apr-23 S2A.Z5.5150 Site Clearance in Zone 5 152 17 03-Oct-22 A 29-Apr-23 ■ Site Clearance in Zone 5 Shifting of U/G Utilties 60 02-May-23 13-Jul-23 S2A.Z5.5120 Trial pit. Expose and Shift or Hang Utilities Clashing with RW6 60 02-May-23 13-Jul-23 15 14-Jul-23 31-Jul-23 S2A.Z5.5620 14-Jul-23 Survey & Setting-out - Slope F18 14-Jul-23 S2A 75.5640 Slope Benching 14 15-Jul-23 31-Jul-23 59 07-Jun-23 16-Aug-23 Survey & Setting Out S2A.Z5.5070 2 07-Jun-23 08-Jun-23 Survey & Setting Out ■ Installation of sheetpiles S2A.Z5.5080 Installation of sheetpiles 5 09-Jun-23 14-Jun-23 S2A.Z5.5100 Excavation and rockfill for base slab Blinding and Base Slab B S2A.Z5.5390.10 Blinding and Base Slab Bay 1 6 28-Jun-23 05-Jul-23 S2A 75.5390.20 Blinding and Base Slab Bay 2 6 06-Jul-23 12-Jul-23 S2A.Z5.5390.30 6 13-Jul-23 19-Jul-23 S2A.Z5.5390.40 Wall Stem Bay 1 28-Jul-23 8 20-Jul-23 S2A.Z5.5390.50 Wall Stem Bay 2 8 29-Jul-23 07-Aug-23 S2A.Z5.5390.60 Zone 6: Carriageway South of NB16 at LMC Rd. (approx. 580m) (NB & SB Ch.+340 to Ch.+920) CLP Cable Shifting (along NB of LMC Rd.) 50 06-May-23 24-Jun-23 rial Pit & Expose Cable alignment S2A.Z6.6680 24 07-May-23 30-May-23 Trial Pit & Expose Cable alignment S2A 76 6690 Shifting of CLP Cables 25 31-May-23 24-Jun-23 -209 Shifting of CLP Cables 23 07-Jul-23 ■ Implement TTA (NB Implement TTA (NB Ch.+340 to Ch.+380) 1 07-Jul-23 07-Jul-23 S2A.Z6.6020 S2A 76.6030 ELS works, Install DN700 Water Main, and Backfill & Reinstate Road-Segment 1 (40m lenth) 22 08-Jul-23 29-Jul-23 Section 2B of the Works-Completion of the Works at Junction of Castle Peak Road and Lok M 102 17-Apr-23 Proposed EIBC to exisiting Box Culvert (PMI #44 request for quotation) 102 17-Apr-23 17-Aug-23 Bored Piling to Integrated Box Culvert Structure 102 17-Apr-23 17-Aug-23 Open cut excavation Cell A (north side) S2BIBC.1070 6 17-Apr-23 22-Apr-23 Open cut excavation Cell A (north side) S2BIBC.1080 Install Concrete Block at Cell Aentrance 6 17-Apr-23 22-Apr-23 Install Concrete Block at Cell A entrance Carry-out Trial Pits / Utility Detection Install Instrumentation and undertake baseline monitoring 10 17-Apr-23 27-Apr-23 S2BIBC.1250 Install Instrumentation and undertake baseline monitoring S2BIBC 1090 Saw Cut and Remove Ton & Bottom Slab 6 24-Apr-23 29-Apr-23 -239 Saw Cut and Remove Top & Bottom Slab Backfill Cell A with roack fill material 02-May-23 7 02-May-23 09-May-23 S2BIBC.1110 Mobilisation of Plant S2BIBC.1120.10 Piling along Cell A - Bored Pile 1 & 3 39 16-May-23 03-Jul-23 Piling along Cell A - Bored Pile Temporay Diversion and Modification to Nullah at Abutment ST01-B0 73 17-Apr-23 14-Jul-23 Excavate and Break Existing Channel 12 17-Apr-23 29-Apr-23 Install Sheet Piling and King Post to form Temporary Channel to divert Nullah 24 03-May-23 31-May-23 nstall Sheet Piling and King Post to form Temporary Channel to divert Nullal S2B.NM.2010 Three Month Rolling Programme (Data Date: 08-Apr-23)





Period: 09 Apr 23 to 08 Jul 23

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	Actual Work
	Remaining Work
	Critical Remaining Work
•	◆ Milestone

3 Months Rolling Programme					
Date Revision Checked Approved					
08-Jan-23	Rev.2.1k	DML	RP/RS		

S2B.NM.2020 ELS Works and Construct Temporary Channel to Divert Nullah around Abutment ST01-B01 36 01-Jun-23 Section 2C of the Works-Completion of Substructure and Piling Works of ST01 and CTFB 119 19-Nov-22 A 07-Aug-23 1481 Substructure and Piling Works for Bridge ST01 G.I and Pre-drilling 8 19-Nov-22 A 19-Apr-23 Pre-drilling for EIBC (enlarge integrated box culvert) (8 nos Pre-drilling for EIBC (enlarge integrated box culvert) (8 nos) 0 19-Nov-22 A 01-Apr-23 A Pre-drilling works for Abutment ST01-B01 (4 nos) S02CP3080 Pre-drilling works for Abutment ST01-B01 (4 nos) 0 18-Feb-23 A 30-Mar-23 A Pre-drilling works for Pier ST01-P05 upon implementation of TTA S02CP3070 Pre-drilling works for Pier ST01-P05 upon implementation of TTA 8 11-Apr-23 19-Apr-23 119 70 27-Feb-23 A 06-Jul-23 Installation of bored piles for Pier ST01-P04 3 27-Feb-23 A 18-Apr-23 S02CP3380 Installation of bored piles for Pier ST01-P04 (2 nos) (CSD changed to 1 bored pilet) 0 27-Feb-23 A 25-Mar-23 A Installation of bored biles for Pier ST01-P04 (2 nos) (CSD changed to 1 bored pilet) Sonic test and interface core 3 15-Apr-23 18-Apr-23 Installation of bored piles for Pier ST01-P06 3 11-Apr-23 13-Apr-23 Sonic test and interface core 38 20-Apr-23 ■ Implement TTA S02CP3415 Implement TTA 1 20-Apr-23 20-Apr-23 S02CP3420 Installation of bored piles for Pier ST01-P05 (2 nos)(CSD changed to 1 bored pilet) 20 21-Apr-23 15-May-23 Installation of bored piles for Pier ST01-P05 (2 nos) (CSD changed to 1 bored pilet) Sonic test and interface core 3 02-Jun-23 05-Jun-23 06-Jul-23 Installation of bored piles for Pier DK-01 14 17-Jun-23 S02CP3780 Installation of bored piles for Pier DK-01 (2 nos) (under proposed EIBC)(not approved yet) Sonic test and interface 0 06-Jul-23 Pilehead Treatment, Pile Cap and Pier/Abutment Construction 86 11-Mar-23 A 24-Jul-23 At Pier ST01-P02 18 15-Mar-23 A 02-May-23 S02CP3830 0 15-Mar-23 A 27-Mar-23 A S02CP3840 Construction of pier 18 11-Apr-23 02-May-23 23-May-23 At Pier ST01-P03 18 11-Mar-23 A S02CP3860 0 11-Mar-23 A 27-Mar-23 A S02CP3870 Construction of pier 18 03-May-23 23-May-23 At Pier ST01-P04 65 03-May-23 20-Jul-23 18-May-23 S02CP3890 14 03-May-23 S02CP3895 Excavation and pilehead treatment 12 19-May-23 02-Jun-23 Excavation and pilehead treatment S02CP3900 14 03-Jun-23 S02CP3910 18 29-Jun-23 20-Jul-23 At Pier ST01-P06 26 20-Jun-23 21-Jul-23 S02CP4030 Installation of FLS S02CP4040 12 08-Jul-23 21-Jul-23 Excavation and pilehead treatment At Pier ST01-P05 14 08-Jul-23 24-Jul-23 102 03-Feb-23 A 21-Jul-23 S02C683 0 03-Feb-23 A 04-Apr-23 A Preparation, Setting-up & Load test for initial H-Pile Installation of Socket H-Pile FBA01-P S02C682.10 Installation of Socket H-Pile FBA01-P1 4 11-Apr-23 14-Apr-23 S02C682.20 Installation of Socket H-Pile FBA01-P2 Installation of Socket H-Pile FBA01-P3 S02C682.30 Installation of Socket H-Pile FBA01-P3 4 20-Apr-23 24-Apr-23 ■ Concrete Socket H-Pile FBA01-P1-P3 S02C682.40 Concrete Socket H-Pile FBA01-P1-P3 1 25-Apr-23 25-Apr-23 S02C682.50 4 28-Apr-23 Installation of Socket H-Pile FRA01-P4 Installation of Socket H-Pile FBA01-P5 Installation of Socket H-Pile FBA01-P5 4 04-May-23 08-May-23 S02C682.60 S02C682 70 Installation of Socket H-Pile FBA01-P6 4 09-May-23 12-May-23 Installation of Socket H-Pile FBA01-P6 S02C682.80 4 13-May-23 Installation of Socket H-Pile FBA01-P7 S02C682.90 Concret Socket H-Pile FBA01-P4-P7 1 18-May-23 18-May-23 Installation of Bored Pile for Pier FBP-01 20 03-Jun-23 27-Jun-23 Installation of bored piles for Pier FBP-01 (2 nos) (CSD changed to 1 BP, no time benefit) Installation of bored piles for Pier FBP-01 (2 nos) (C 20 28-Jun-23 21-Jul-23 S02C686 Installation of bored piles for Pier FBP-02 (2 nos) (CSD changed to 1 BP, no time benefit) 20 28-Jun-23 21-Jul-23 Installation of Bored Pile for Pier FBP-04 (deleted) integrated with proposed EIBC 0 11-Apr-23 S02C720 Installation of bored piles for Pier FBP-04 (2 nos) (CSD changed to 1 BP, no time benefit) 0 11-Apr-23 11-Apr-23 Sonic test and interface core S02C721 Sonic test and interface core 0 11-Apr-23 11-Apr-23 46 28-Apr-23 S2B.NM.2220 Commence Piling at FBP-05 0 28-Apr-23 S02C722 Installation of bored piles for Pier FBP-05 (2 nos) (CSD changed to 1 BP, no time benefit) 20 28-Apr-23 22-May-23 Installation of bored piles for Pier FBP-05 (2 nos) (CSD changed to 1 BP, no time benefit) 3 09-Jun-23 Pilehead Treatment, Pile Cap and Pier/Abutment Construction 98 11-Apr-23 07-Aug-23 At Pier FBP-06 89 11-Apr-23 Installation of ELS 11-Apr-23 Excavation and pilehead treatment S02C749 Excavation and pilehead treatment 12 27-Apr-23 11-May-23 S02C750 Construction of pile cap 28 12-May-23 14-Jun-23 Construction of pile cap 28 24-Jun-23 27-Jul-23 58 30-May-23 07-Aug-23 At Abutment FBA-02 3 Months Rolling Programme Actual Work Three Month Rolling Programme (Data Date: 08-Apr-23) Revision Checked Approved

Period: 09 Apr 23 to 08 Jul 23

Page: 3 of 4

中國路橋工程有阻責任公司

CHINA ROAD AND BRIDGE CORPORATION

Civil Engineering and

Development Department

Remaining Work

Milestone

Critical Remaining Work

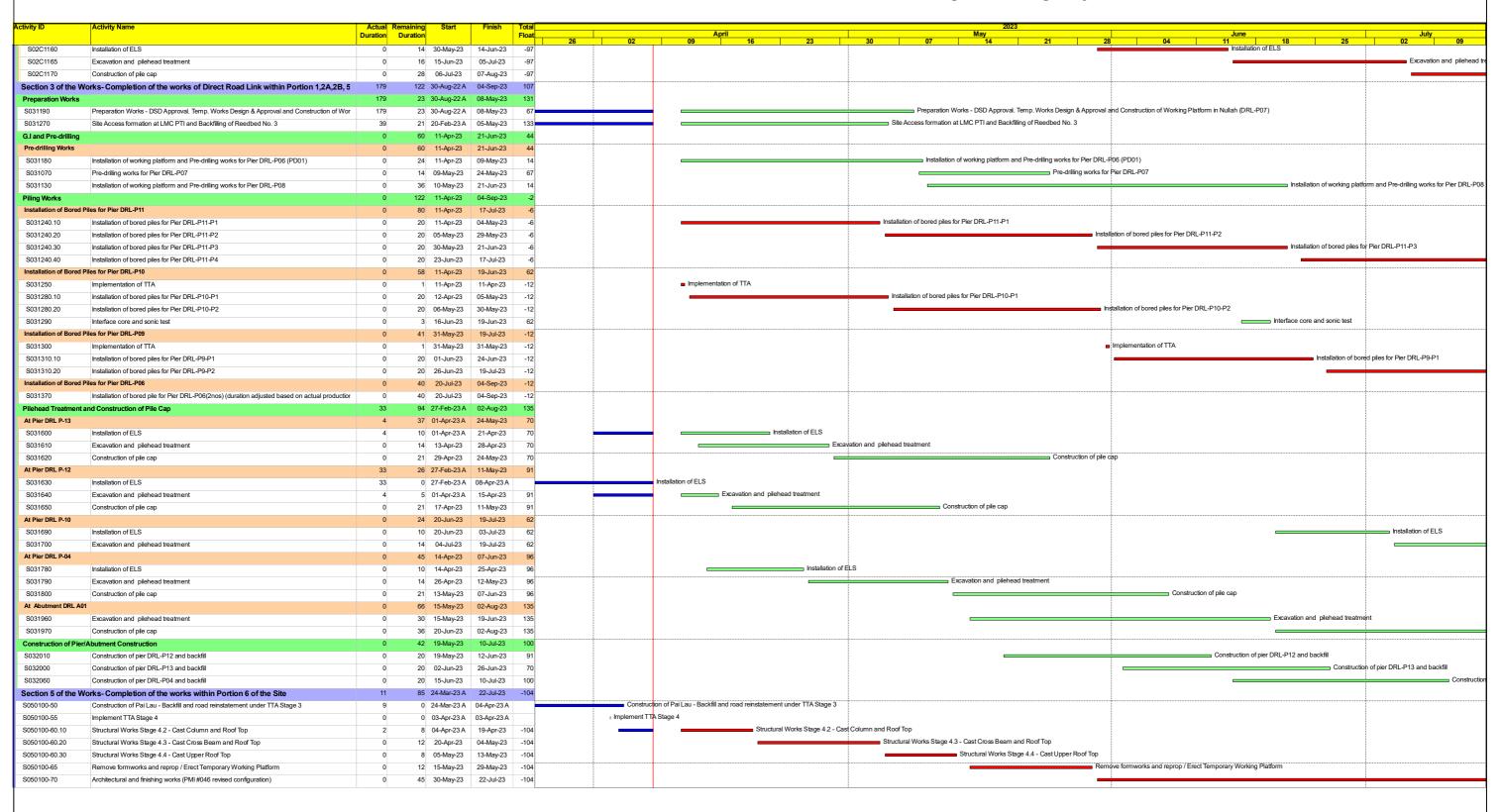
08-Jan-23 | Rev.2.1k

DML

RP/RS

Contract No. YL/2020/02 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1

Contract No. YL/2020/02 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1

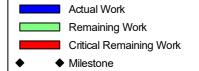






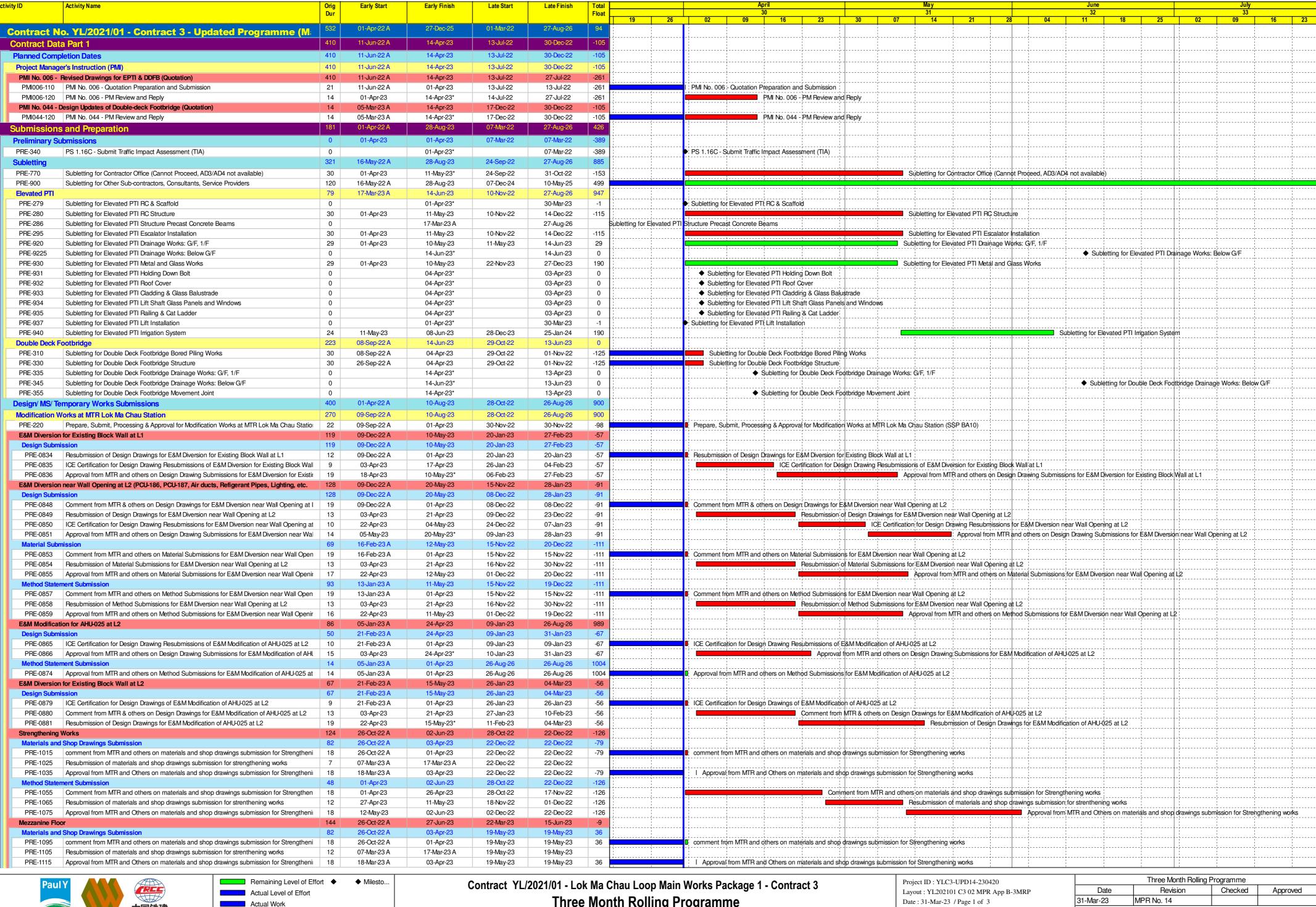
Three Month Rolling Programme (Data Date : 08-Apr-23) Period: 09 Apr 23 to 08 Jul 23

Page: 4 of 4

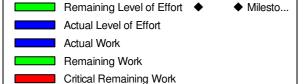


3 Months Rolling Programme				
Date Revision Checked Approved				
08-Jan-23	Rev.2.1k	DML	RP/RS	

Contract No. YL/2021/01 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 3 Direct Road
Link Phase 2

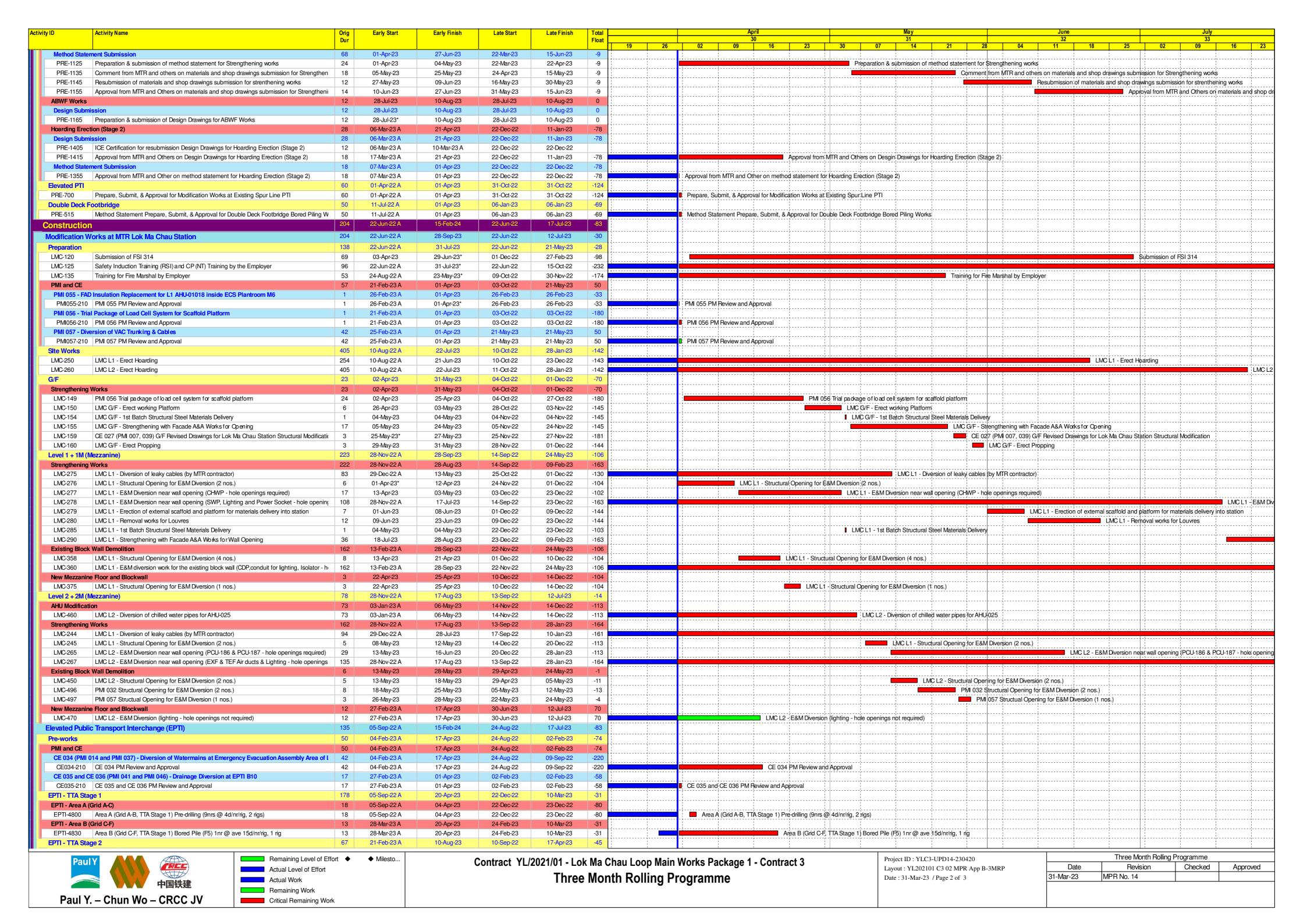


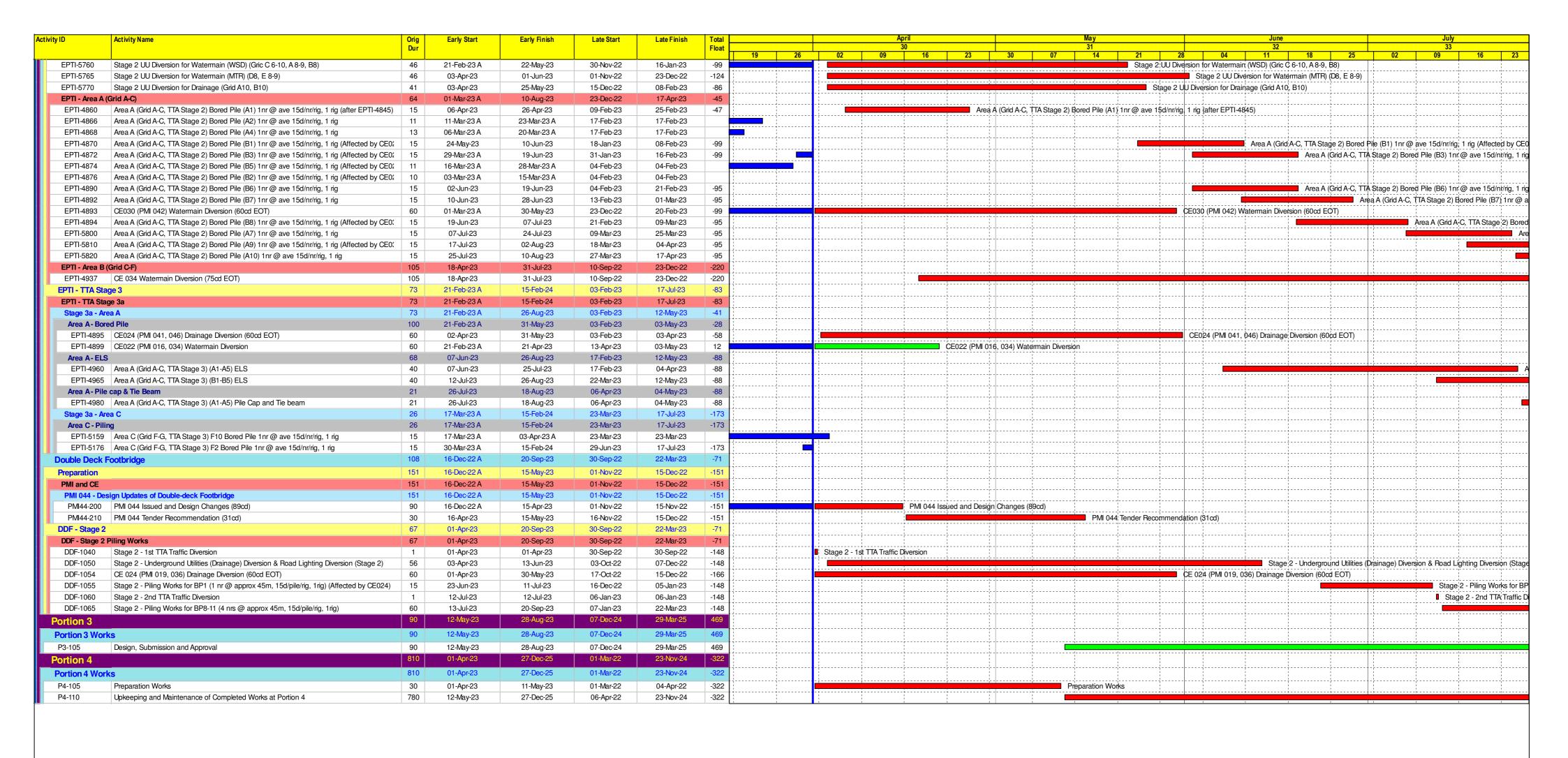




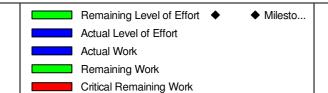
Three Month Rolling Programme

Three Month Rolling Programme			
Date	Revision	Checked	Approved
31-Mar-23	MPR No. 14		









Three Month Rolling Programme			
Date	Revision	Checked	Approved
31-Mar-23	MPR No. 14		

APPENDIX B ACTION AND LIMIT LEVELS

Appendix B - Action and Limit Levels

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

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

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

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

Table B-3 Action and Limit Levels for Construction Noise

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

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

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

Table B-4 Action and Limit Levels for Water Quality

Parameter (unit)	Water Depth	Action Level	Limit Level
		IS1: 7.0 / NA ⁽⁴⁾	IS1: <u>6.8 or 4⁽⁴⁾</u>
		IS2: <u>5.3 / NA⁽⁴⁾</u>	IS2: <u>5.2 or 4⁽⁴⁾</u>
DO (mg/L)	Depth average	IS4: <u>4.1 / NA⁽⁴⁾</u>	IS4: $3.8 \text{ or } 4^{(4)}$
		IS6: <u>5.9</u>	IS6: <u>5.8</u>
		BS1: <u>3.9 / NA⁽⁴⁾</u>	BS1: <u>3.7 or 4⁽⁴⁾</u>
		IS1: <u>27.7</u>	IS1: <u>29.9</u>
	Depth average	IS2: <u>35.5</u>	IS2: <u>38.1</u>
Turbidity (NTU)		IS4: <u>70.9</u>	IS4: <u>74.6</u>
Turbialty (NTO)		BS1: <u>29.9</u>	BS1: <u>32.6</u>
		IS6: 120% of upstream	IS6: 130% of upstream
		control station (CS5)	control station (CS5)
		IS1: <u>28.0</u>	IS1: <u>28.8</u>
		IS2: <u>39.8</u>	IS2: <u>41.2</u>
SS	Donth arrange	IS4: <u>155</u>	IS4: <u>175</u>
(mg/L)	Depth average	BS1: <u>36.5</u>	BS1: <u>36.9</u>
		IS6: 120% of upstream	IS6: 130% of upstream
		control station (CS5)	control station (CS5)

Note:

- (1) Depth-averaged was calculated by taking the arithmetic means of reading of all three depths
- (2) For DO, non-compliance of the water quality limit would occur when monitoring result at impact stations was lower that the limit.
- (3) For SS & turbidity, non-compliance of the water quality limits would occur when monitoring result at impact stations was higher than the limits.
- (4) The proposal of adopting 4 mg/L as the Limit Level of DO for the period from April to September due to seasonal change of DO was accepted by EPD via email on 10 Dec 2019.

APPENDIX C COPIES OF CALIBRATION CERTIFCATES



High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

						File No.	WMA21009/24/	0012
Station	DMS-3 - Village Hous	se along Old Border R	oad			Operator:		
Date:	1-Mar-23				Next	Due Date:		
Equipment No.:	WA-12-24		•			Serial No.	10576	
			Ambient C	Condition			14.00	
Tammavatı	To (V)	297	Pressure, Pa		<u> </u>	76	Ω	
remperan	ure, Ta (K)	491	riessuie, ra	(mining)	<u>L</u>	. 70.	7	
······			Orifice Transfer Sta	ndard Informat	ion		· · · · · · · · · · · · · · · · · · ·	
Seria	al No.	0993	Slope, me	0.0574	Intercept,		-0.04292	
Last Calibi	ration Date:	16-Jan-23		me x Qstd +	$bc = [\Delta H \times (Pa/7)]$	60) x (298/Ta	a)] ^{t/2}	
Next Calib	ration Date:	16-Jan-24		$Qstd = \{[\Delta H$	x (Pa/760) x (298	[/Ta)] ^{1/2} -bc}	/me	
			Calibration of	TSP Sampler		** **		
Calibration		Orf	ice	· · · · · · · · · · · · · · · · · · ·		HV	'S	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/	760) x (298/Ta)] ^{1/2}	Y-axis
1	11.8		3.46	61.00	7.4		2.74	
2	10.2		3.22	56.77	6.8		2.63	
3	8.8		2.99	52.78	5.7		2.41	
4	6.9		2.65	46.82	4,6		2.16	
5	4.2		2.06	36.70	3.0	<u></u>	1.75	
By Linear Regr Slope , mw =	ession of Y on X 0.0420			Intercept, bw	0.2039	· · · · · · · · · · · · · · · · · · ·		
Correlation	coefficient* =	0.9	9980					
*If Correlation C	Coefficient < 0.990, o	check and recalibrat	e.					
	······································	*	Sat Baint C	alaulatian				
From the TSP Fi	eld Calibration Curv	ve take Octd = 43 C	Set Point C	aicuiation				
	sion Equation, the "	•						
rioni ine Regies:	sion Equation, the	yanic according						
		mw ɔ	$Qstd + bw = [\Delta W]$	x (Pa/760) x (298	3/Ta)] ^{1/2}			
mu a		0.1.1.2	(5(0) 5) (5)	(200)				
I herefo	re, Set Point; W = (mw x Qsta + bw)	x (760 / Pa) x (Ta/	298)=	3.97			
Remarks:								
•			1.00.000.000.000					
•			,				, ,	•
Conducted by:	DE MAN HEV	Signature:	<u> </u>	<u>~()~</u>	_	Date:	1/3/20	23
Checked by:		Signature:		177		Date:	(1)	



High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

						File No.	WMA21009/07/0	0012
Station	DMS-4A - Hong Kong	g Police Force, Lok Ma	a Chau Operation Base	at Horn Hill		Operator:	HL	
Date:	1-Mar-23						30-Apr-23	
Equipment No.:	WA-12-07					Serial No	1801	
					,	·		
			Ambient C					
Temperat	ure, Ta (K)	294.7	Pressure, Pa	(mmHg)		770	.4	
			Orifice Transfer Sta	ndard Informat	ion			
Seria	al No.	0993	Slope, mc	0.0574	Intercept,	bc	-0.04292	
	ration Date:	16-Jan-23			$be = [\Delta H \times (Pa/76)]$		a)] ^{1/2}	
	ration Date:	16-Jan-24		$Qstd = \{[\Delta H$	x (Pa/760) x (298	3/Ta)] ^{1/2} -bc}	/ me	
WANTED		•						
			Calibration of	TSP Sampler				
Calibration		Orfi	ce	T		HV	'S	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	0) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/	760) x (298/Ta)] ^{1/2}	Y-axis
1	12.6		3.59	63.31	7.9		2.85	
2	10.3	-	3.25	57.31	6.4		2,56	
3	8.0		2.86	50.60	5.3		2.33	
4	6.6	:	2.60	46.03	4,6		2.17	
5	3.8		1.97	35.11	2.8		1.69	
	ession of Y on X							
Slope, mw =				Intercept, bw	0.3043			
	coefficient* =		985	_ .				
*If Correlation C	Coefficient < 0.990, c	heck and recalibrate	e.					
%			Set Point C	alculation				
From the TSP Fi	eld Calibration Curv	e, take Qstd = 43 C			•			
From the Regres	sion Equation, the "	" value according t	o					
		2218/ V	$Qstd + bw = [\Delta W]$	· (Pa/760) v (208	/Ta)1 ^{1/2}			
		III X	Qstu + bir – tari 2	(1 A/100) X (220	, x a j j			
Therefo	ore, Set Point; W = ($mw \times Qstd + bw)^2$	x (760 / Pa) x (Ta/	298)=	3.99			
Remarks:								
Activatio.								
	,		,	\wedge				
Conducted by:	LET MEN HER	Signature:		e//		Date:	1/3/202	3
Checked by:	to ka dun	Signature:		Xl~		Date: _	((3/10/	



RECALIBRATION DUE DATE:

January 16, 2024

Calibration Certification Information

Cal. Date: January 16, 2023

Rootsmeter 5/N: 438320

Ta: 293

°K

Operator: Jim Tisch

Pa: 749.0 Calibrator S/N: 0993

mm Hg

Calibration Model #:

TE-5025A

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3860	3.2	2.00
2	3	4	1	0.9880	6.4	4.00
3	5	6	1	0.8810	8.0	5.00
4	7	8	1	0.8410	8.8	5.50
5	9	10	1	0.6950	12.8	8.00

		Data Tabulation			
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$		Qa	$\sqrt{\Delta H \left(Ta/Pa \right)}$
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)
0.9981	0.7201	1.4159	0.9957	0.7184	0.8845
0.9938	1.0059	2.0024	0.9915	1.0035	1.2509
0.9917	1.1257	2.2388	0.9893	1.1230	1.3985
0.9906	1.1779	2.3480	0.9883	1.1751	1.4668
0.9853	1.4177	2.8318	0.9829	1.4143	1.7690
	m=	2.02881		m=	1.27041
QSTD	b=	-0.04292	QA [b=	-0.02681
	r=	0.99998		r=	0.99998

	Calculation	ns	
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va= ΔVoI((Pa-ΔP)/Pa)	
Qstd= Vstd/ΔTime		Qa= Va/ΔTime	
	For subsequent flow ra	te calculations:	
Qstd=	$1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$	$Qa = 1/m \left(\left(\sqrt{\Delta H \left(Ta/Pa \right)} \right)$	

	Standard Conditions
Tstd:	298.15 °K
Pstd:	760 mm Hg
	Key
ΔH: calibrator	manometer reading (in H2O)
ΔP: rootsmete	er manometer reading (mm Hg)
Ta: actual abs	olute temperature (°K)
	ometric pressure (mm Hg)
b: intercept	
m: slope	

RECALIBRATION

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

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002 www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009



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WELLAB LIMITED Room 1714, Technology Park 18 On Lai Street, Shatin New Territories, Hong Kong Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: 37894

Date of Issue: 2023-03-06

Date Received: 2023-03-03

Date Tested: 2023-03-03 2023-03-06

Date Completed: Next Due Date: 2023-05-05

Page: 1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for Calibration:

Description : Dust Monitor

Manufacturer : Met One Instruments Model No. : AEROCET-831

Serial No. : X23807 Flow rate : 0.1 cfm

Zero Count Test : 0 count per 1 minute

Equipment No. : WA-01-01

Test Conditions:

Room Temperature : 17-22 degree Celsius

Relative Humidity : 40-70%

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF) 1.134

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager

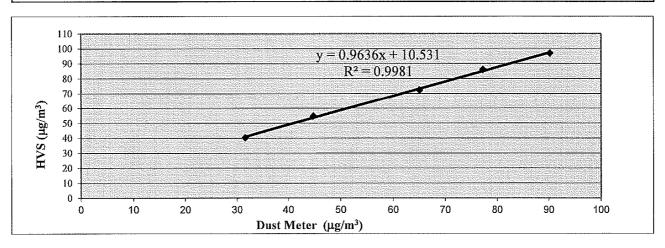
<u>TSP - Total Suspended Particulates (1 hr Dust Meter)</u> <u>Calibration Report</u>

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-01	WA-12-09
Model No.:	AEROCET-831	TE-5170
Serial No.	X23807	2203
Calibration Date:	3-Mar-23	3-Mar-23
Location:	Wellab Office ((Calibration Room)

1000000000	Dust Meter	HVS
Calibration Point	Mass Concentration (μg/m³)	Mass concentration (µg/m³)
	X-axis	Y-axis
1	32	40
2	45	55
3	65	72
4	77	86
5	90	97
Average	61.8	70.1
5 Average y Linear Regression of Slope, mw = Correlation coefficien	61.8 f Y on X 0.9636	

^{*}If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation 1	Factor		
Particaulate Concentration by High Volume Sampler (µg/m³)	70.1		
Particaulate Concentration by Dust Meter (µg/m³)	61.8		
Measureing time, (min)	60		
Set Correlation Factor, SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m³)]	1.134		
SCF - [K-Aigh volume Sampler / Dust Wieler, (µg/m) [



QC Reviewer:	LET MAN	Hov	Signature:	he	Date:	4/3/203



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

 Test Report No.:
 37894B

 Date of Issue:
 2023-03-06

 Date Received:
 2023-03-03

 Date Tested:
 2023-03-03

 Date Completed:
 2023-03-06

 Next Due Date:
 2023-05-05

Page:

: Dust Monitor

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for Calibration:

Description

Manufacturer : Met One Instruments
Model No. : AEROCET-831

Serial No. : X23809 Flow rate : 0.1 cfm

Zero Count Test : 0 count per 1 minute

Equipment No. : WA-01-03

Test Conditions:

Room Temperature : 17-22 degree Celsius

Relative Humidity : 40-70%

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF) 1.102

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

General Manager

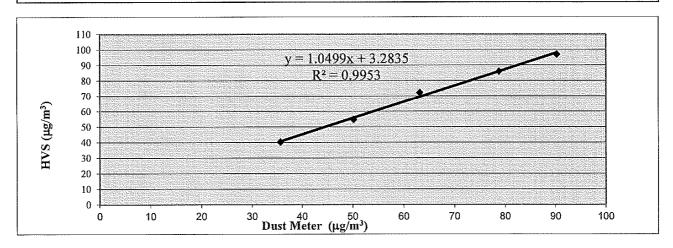
<u>TSP - Total Suspended Particulates (1 hr Dust Meter)</u> <u>Calibration Report</u>

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-03	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23809	2203
Calibration Date:	3-Mar-23	3-Mar-23
Location:	Wellab Office ((Calibration Room)

	Calibration	of 1 hr TSP	
	Dust Meter		HVS
Calibration Point	Mass Concentration (μg/m³)	Ma	ass concentration (µg/m³)
	X-axis		Y-axis
1	36		40
2	50		55
3	63		72
4	79		86
5	90		97
Average	63.6		70.1
By Linear Regression of Slope, mw = Correlation coefficie	1.0499	Intercept, bw =	3,2835

^{*}If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation	Factor
Particaulate Concentration by High Volume Sampler (µg/m³)	70.1
Particaulate Concentration by Dust Meter (µg/m³)	63.6
Measureing time, (min)	60
Set Correlation Factor, SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m³)]	1.102



QC Reviewer:	ltt	MIN	Utv	Signature:	hei	Date:	4/3/2023



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

 Test Report No.:
 37894C

 Date of Issue:
 2023-03-06

 Date Received:
 2023-03-03

 Date Tested:
 2023-03-03

 Date Completed:
 2023-03-06

Next Due Date: Page:

2023-05-05 1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for Calibration:

Description : Dust Monitor

Manufacturer : Met One Instruments Model No. : AEROCET-831

Serial No. : X23810 Flow rate : 0.1 cfm

Zero Count Test : 0 count per 1 minute

Equipment No. : WA-01-04

Test Conditions:

Room Temperature : 17-22 degree Celsius

Relative Humidity : 40-70%

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF) 1.154

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

General Manager

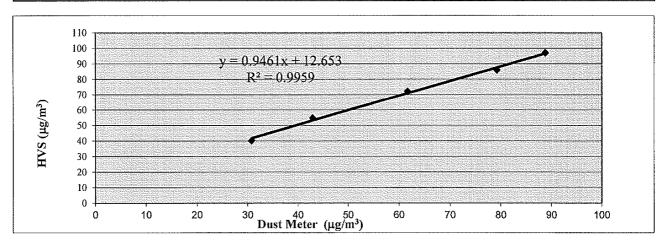
<u>TSP - Total Suspended Particulates (1 hr Dust Meter)</u> <u>Calibration Report</u>

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-04	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23810	2203
Calibration Date:	3-Mar-23	3-Mar-23
Location:	Wellab Office ((Calibration Room)

Dust Meter	HVS
	Mass concentration (µg/m³)
	Y-axis
31	40
43	55
62	72.
79	86
89	97
60.7	70.1
	Mass Concentration (μg/m³) X-axis 31 43 62 79 89

^{*}If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation	Factor
Particaulate Concentration by High Volume Sampler (μg/m³)	70.1
Particaulate Concentration by Dust Meter (μg/m³)	60.7
Measureing time, (min)	60
Set Correlation Factor , SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m³)]	1.154



QC Reviewer: Ltt Mm Hr Signature:	her Date:	4/3/2013
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TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	37858D
Date of Issue:	2023-02-27
Date Received:	2023-02-25
Date Tested:	2023-02-25
Date Completed:	2023-02-27
Next Due Date:	2023-04-26

Page:

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for Calibration:

Description

: Dust Monitor

Manufacturer

: Met One Instruments

Model No.

: AEROCET-831

Serial No.

: X24478 : 0.1 cfm

Flow rate
Zero Count Test

: 0 count per 1 minute

Equipment No.

: WA-01-10

Test Conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.

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

Results:

Correlation Factor (CF)

1.099

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSÈ

General Manager

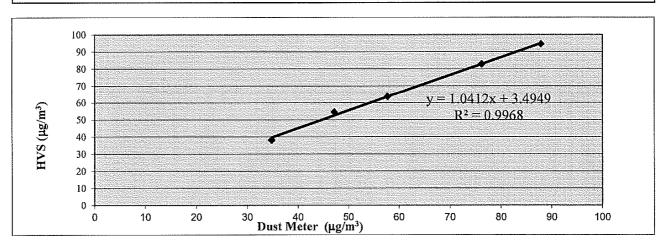
<u>TSP - Total Suspended Particulates (1 hr Dust Meter)</u> <u>Calibration Report</u>

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-10	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24478	2203
Calibration Date:	25-Feb-23	25-Feb-23
Location:	Wellab Office	(Calibration Room)

	Calibra	ition of 1 hr TSP
	Dust Meter	HVS
Calibration Point	Mass Concentration (μg/m	Mass concentration (μg/m³)
	X-axis	Y-axis
1	35	38
2	47	55
3	58	64
4	76	83
5	88	95
Average	60.8	66.8
By Linear Regression of Slope, mw = Correlation coefficie	1.0412	Intercept, bw = 3.4949

^{*}If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation F	
Particaulate Concentration by High Volume Sampler (µg/m³)	66.8
Particaulate Concentration by Dust Meter (µg/m³)	60.8
Measureing time, (min)	60
G-4-C	
Set Correlation Factor , SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m³)]	1.099



QC Reviewer. College Property Text Signature. 100 Date. 21. 21. 27.	QC Reviewer:	LEE MAN UEV		he ·	Date:	76/2/2023	
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TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

 Test Report No.:
 38139D

 Date of Issue:
 2023-04-24

 Date Received:
 2023-04-22

 Date Tested:
 2023-04-22

 Date Completed:
 2023-04-24

 Next Due Date:
 2023-06-23

Page:

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for Calibration:

Description : Dust Monitor

Manufacturer : Met One Instruments

Model No. : AEROCET-831 Serial No. : X24478

Flow rate : 0.1 cfm

Zero Count Test : 0 count per 1 minute

Equipment No. : WA-01-10

Test Conditions:

Room Temperature : 17-22 degree Celsius

Relative Humidity : 40-70%

Test Specifications & Methodology:

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

Results:

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager

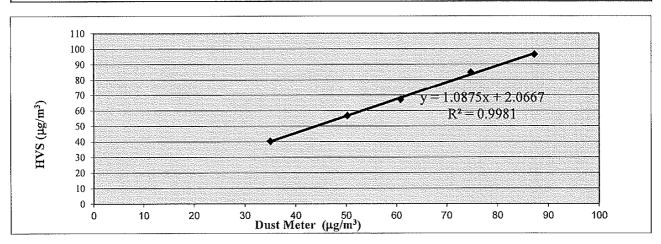
<u>TSP - Total Suspended Particulates (1 hr Dust Meter)</u> <u>Calibration Report</u>

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-10	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24478	2203
Calibration Date:	22-Apr-23	22-Apr-23
Location:	Wellab Office (Calibration Room)	

	Calibration	of 1 hr TSP	
	Dust Meter		HVS
Calibration Point	Mass Concentration (μg/m³)	M	lass concentration (μg/m³)
	X-axis		Y-axis
1	35		40
2	50		57
3	61		67
4	75		85
5	87		96
Average	61.7		69.1
By Linear Regression o		T / / / 1	2.0/(8
Slope, mw =	1.0875	Intercept, bw =	2.0667
Correlation coefficie	nt* = 0.9990		

^{*}If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Fac	
Particaulate Concentration by High Volume Sampler (µg/m³)	69.1
Particaulate Concentration by Dust Meter (µg/m³)	61.7
Measureing time, (min)	60
,	1.121
Set Correlation Factor , SCF SCF = [K=High Volume Sampler / Dust Meter, (μg/m³)]	1.121



QC Reviewer: Ltt Mon Her Signature: Nes Date: 13 (4 (2013	,
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TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

 Test Report No.:
 37893B

 Date of Issue:
 2023-03-06

 Date Received:
 2023-03-03

 Date Tested:
 2023-03-03

 Date Completed:
 2023-03-06

 Next Due Date:
 2024-03-05

Page:

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description

: Sound Level Meter

Manufacturer Model No.

: BSWA : BSWA 308

Serial No.
Equipment No.

: 580005 : WN-01-03

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

 Test Report No.:
 37894A

 Date of Issue:
 2023-03-13

 Date Received:
 2023-03-10

 Date Tested:
 2023-03-10

 Date Completed:
 2023-03-13

 Next Due Date:
 2024-03-12

Page:

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description

: Sound Level Meter

Manufacturer Model No.

: BSWA : BSWA 308

Serial No. Equipment No.

: 580013 : WN-01-09

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

General Manager



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	37894B
Date of Issue:	2023-03-13
Date Received:	2023-03-10
Date Tested:	2023-03-10
Date Completed:	2023-03-13
Next Due Date:	2024-03-12

Page:

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description

: Sound Level Meter

Manufacturer Model No.

: BSWA : BSWA 308 : 580017

Serial No. Equipment No.

: WN-01-10

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

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

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

General Manager



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.:	37163
Date of Issue:	2022-10-02
Date Received:	2022-09-30
Date Tested:	2022-10-02
Date Completed:	2022-10-02

Page:

Next Due Date:

1 of 1

2023-10-01

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description

: Acoustical Calibrator

Manufacturer

: SVANTEK

Model No. Serial No. : SV30A : 24803

Equipment No.

: N-09-03

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Methodology:

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

Results:

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

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE

General Manager



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1801, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

Test Report No.: 37163A

Date of Issue: 2022-10-02

Date Received: 2022-09-30

Date Tested: 2022-10-02

Date Tested:
Date Completed:

2022-10-02

Next Due Date:

2022-10-02 2023-10-01

Page:

1 of 1

ATTN:

Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description

: Acoustical Calibrator

Manufacturer

: SVANTEK

Model No.

: SV30A : 24780

Serial No. Equipment No.

: N-09-05

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Methodology:

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

Results:

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

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager



TEST REPORT

APPLICANT: Wellab Limited

(EM&A Department)

Room 1808, Technology Park,

18 On Lai Street,

Shatin, NT, Hong Kong

 Test Report No.:
 37674E

 Date of Issue:
 2022-12-28

 Date Received:
 2022-12-23

 Date Tested:
 2022-12-23

 Date Completed:
 2022-12-28

 Next Due Date:
 2023-06-27

ATTN:

Ms. Meiling Tang

Page:

1 of 2

Certificate of Calibration

Item for calibration:

Description

: Weather Stations, Vantage Pro2

Manufacturer

: Davis Instruments

Model No.

: 6152CUK

Serial No.

: AK130520007

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70 %

Test Specifications:

- 1. Performance check of anemometer
- 2. Performance check of wind direction sensor

Methodology:

In-house method with reference anemometer

PREPARED AND CHECKED BY:

For and On Behalf of WELLAB Ltd.

PATRICK TSE General Manager



TEST REPORT

Test Report No.: 37674E

Date of Issue: 2022-12-28

Date Received: 2022-12-23

Date Tested: 2022-12-23

Date Completed: 2022-12-28

Next Due Date: 2023-06-27

Page:

2 of 2

Results:

1. Performance check of anemometer

Air Velocity, m/s		Difference D (m/s)
Instrument Reading (V1) Reference Value (V1)		D = V1 - V2
2.00	2.00	0.00

2. Performance check of wind direction sensor

Wind Dir	Wind Direction (°)	
Instrument Reading (W1)	Reference Value (W2)	D = W1 - W2
0	0	0
45	45	0
90.1	90	0.1
135	135	0
180	180	0
225.3	225	0.3
270.1	270	0.1
315	315	0
360	360	0



WELLAB LIMITED
Room 1714, Technology Park
18 On Lai Street, Shatin,
N.T., Hong Kong.

Tel: 2898 7388 Fax: 2898 7076 Website: www.wellab.com.hk

TEST REPORT

APPLICANT: Wellab Limited (EM&A)

RM 1808, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Test Report No.: 38018D
Date of Issue: 2023-03-24

Date Received: 2023-03-23

Date Tested: 2023-03-23 to 2023-03-24

Date Completed: 2023-03-24

ATTN:

Miss Mei Ling Tang

Page:

1 of 2

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-129
Manufacturer:	YSI Incorporated	l, a Xylem brand
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B101455
- EXO Optical DO Sensor, Ti	599100-01	17M101337
- EXO conductivity/Temperature Sensor, Ti	599870	17B100784
- EXO Turbidity Sensor, Ti	599101-01	16J101112
- EXO pH Sensor Assembly, Guarded, Ti	599701	16J100565

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Test Specifications:

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

and Turbidi

Methodology:

According to manufacturer instruction manual, APHA 20e 4500-O C

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

PATRICK TSE General Manager WELLAB 瞳力 consulting . testing . research

WELLAB LIMITED
Room 1714, Technology Park
18 On Lai Street, Shatin,
N.T., Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

 Test Report No.:
 38018D

 Date of Issue:
 2023-03-24

 Date Received:
 2023-03-23

 Date Tested:
 2023-03-23 to 2023-03-24

 Date Completed:
 2023-03-24

Page:

2 of 2

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings (μS/cm)	Accetance Criteria	Comment
KCl stock solution	13200	12246-13534	Pass
(12890 μS/cm)			

Temperature performance checking

Reference thermometer-	Instrument Readings (°C)	Correction (°C)	Comment
E431 Readings (°C)			
20.0	20.001	-0.001	N/A

pH performance checking

	Instrument Readings	Accetance Criteria	Comment
	(pH unit)		
pH QC buffer 4.00	4.00	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.88	6.86 <u>+</u> 0.10	Pass
pH QC buffer 9.18	9.21	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Accetance Criteria	Comment
Zero DO soultion	0.08	<0.1mg/L	Pass

Winkler Titration value	Instrument Readings (mg/L)	Accetance Criteria	Comment
(mg/L)			
8.16	8.10	Difference between	Pass
		Titration value and	
		instrument reading	
		<0.2mg/L	

Turbidity performance checking

1	Turbidity stock solution	Instrument Readings (NTU)	Accetance Criteria	Comment
İ	10 NTU	9.58	9.0-11.0	Pass
İ	50 NTU	48.86	45.0-55.0	Pass
İ	100 NTU	97.2	90.0-110.0	Pass

Depth performance checking

Water Depth	Instrument Readings (m)	Accetance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass



WELLAB LIMITED Room 1714, Technology Park 18 On Lai Street, Shatin, N.T., Hong Kong. Tel: 2898 7388 Fax: 2898 7076

Website: www.wellab.com.hk

TEST REPORT

APPLICANT: Wellab Limited (EM&A)

RM 1808, Technology Park,

18 On Lai Street,

Shatin, N.T., Hong Kong

Test Report No.: 38018E Date of Issue: 2023-03-24

Date Received: 2023-03-23

Date Tested: 2023-03-23 to

2023-03-24 Date Completed: 2023-03-24

ATTN:

Miss Mei Ling Tang

Page:

1 of 2

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-150
Manufacturer:	YSI Incorporated	l, a Xylem brand
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B103705
- EXO Optical DO Sensor, Ti	599100-01	17B102237
- EXO conductivity/Temperature Sensor, Ti	599870	17B100807
- EXO Turbidity Sensor, Ti	599101-01	17B102280
- EXO pH Sensor Assembly, Guarded, Ti	599701	17C100695

Test conditions:

Room Temperature

: 17-22 degree Celsius

Relative Humidity

: 40-70%

Test Specifications:

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

Methodology:

According to manufacturer instruction manual, APHA 20e 4500-O C

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

PATRICK TSE General Manager



TEST REPORT

 Test Report No.:
 38018E

 Date of Issue:
 2023-03-24

 Date Received:
 2023-03-23

 Date Tested:
 2023-03-23 to 2023-03-24

 Date Completed:
 2023-03-24

Page:

2 of 2

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings (µS/cm)	Accetance Criteria	Comment
KCl stock solution	13400	12246-13534	Pass
(12890 μS/cm)			

Temperature performance checking

	Reference thermometer-	Instrument Readings (°C)	Correction (°C)	Comment
-	E431 Readings (°C)			
1	20.0	20.001	-0.001	N/A

pH performance checking

	Instrument Readings	Accetance Criteria	Comment
	(pH unit)		
pH QC buffer 4.00	3.99	4.00 <u>+</u> 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.19	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Accetance Criteria	Comment
Zero DO soultion	0.05	<0.1mg/L	Pass

Winkler Titration value	Instrument Readings (mg/L)	Accetance Criteria	Comment
(mg/L)			
8.16	8.02	Difference between	Pass
		Titration value and	
		instrument reading	
		<0.2mg/L	

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Accetance Criteria	Comment
10 NTU	10.01	9.0-11.0	Pass
50 NTU	51.64	45.0-55.0	Pass
100 NTU	99.31	90.0-110.0	Pass

Depth performance checking

Water Depth	Instrument Readings (m)	Accetance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

APPENDIX D ENVIRONMENTAL MONITORING SCHEDULES

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Impact Monitoring Schedule (April 2023)

2-Apr Aquatic Fauns Survey (Water Quality Monitoring and y Avifauns Survey (Pond 12) 3-Apr Avifauns Survey (Pond 12) 4-Apr Avifauns Survey (Pond 12) 4-Apr Avifauns Survey (Pond 12) 5-Apr Avifauns Survey (Pond 12) 4-Apr Avifauns Survey (Pond 12) 4-Apr Avifauns Survey (Pond 12) 10-Apr 11-Apr 11-Apr Avifauns Survey (Water Quality Monitoring and y Intr TSP X 3 Noise 4-Apr 17-Apr 17-Apr 18-Apr Avifauns Survey (Pond 12) 4-Apr 17-Apr 17-Apr 18-Apr Avifauns Survey (Pond 12) 4-Apr 17-Apr 17-Apr 18-Apr Avifauns Survey (Pond 12) 4-Apr 17-Apr 17-Apr 18-Apr Avifauns Survey (Pond 12) 4-Apr 17-Apr 18-Apr Avifauns Survey (Pond 12) 4-Apr 18-Apr 19-Apr Avifauns Survey (Pond 12) 4-Apr 19-Apr	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aquatic Fauna Survey (Pond 12) 24hr TSP Water Quality Monitoring 9-Apr 10-Apr 11-Apr 11-Apr 11-Apr Aquatic Fauna Survey (Water Quality Monitoring 16-Apr 17-Apr 17-Apr 17-Apr 18-Apr 18-Apr 19-Apr Aquatic Fauna Survey (Water Quality Monitoring Water Quality Monitoring Aquatic Fauna Survey (Water Quality Monitoring only) Avifauna Survey (Pond 12) Avifauna Survey (Pond 12) Avifauna Survey (Pond 12) Avifauna Survey Water Quality Monitoring 23-Apr 24-Apr 24-Apr 24-Apr 24-Apr 25-Apr Aquatic Fauna Survey Water Quality Monitoring Water Quality Monitoring 24-Apr 24-A			-				
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					24hr TSP		
30-Apr		Water Quality Monitoring		Water Quality Monitoring		Water Quality Monitoring	
	30-Apr						

Air Quality Monitoring Station

DMS-1a - Village House along Ha Wan Tsuen East Road

DMS-2B - Site boundary near Village House along Lok Ma Chau

DMS-3 - Village house along Old Border Road

DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Noise Monitoring Station

NMS-1 - Village House in Ha Wan Tsuen

NMS-2 - Village house along existing Ha Wan Tsuen East Road

NMS-3 - Village house along Old Border Road

NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Water Quality Monitoring Station

CS1 - Control Station at Old Shenzhen River Meander

IS1 - Impact Station at Old Shenzhen River Meander

IS2 - Impact Station at Old Shenzhen River Meander

IS4 - Impact Station for at Ping Hang Stream

CS5 - Control Station at channel at south of Lung Hau Road

IS6 - Impact Station next to Lung Hau Road

BS1 - Impact Station at Old Shenzhen River Meander

(Terminated starting from 28 June 2021- approved by EPD

via email dated 22 June 2021)

Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team Tentative Impact Monitoring Schedule (May 2023)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-May	2-May	3-May	4-May	5-May	6-May
		Aquatic Fauna Survey (Water				
		Quality Monitoring only)				
			Avifauna Survey (Pond 12)	1hr TSP X 3		
			24hr TSP	Noise		
		Water Quality Monitoring		Water Quality Monitoring		Water Quality Monitoring
7-May	8-May	9-May	10-May	11-May	12-May	13-May
	Aquatic Fauna Survey					
	Avifauna Survey (Pond 12)		1hr TSP X 3			
	Aviiauna Survey (Pond 12)	24hr TSP	Noise			
		24III 13F	Noise			
	Water Quality Monitoring		Water Quality Monitoring		Water Quality Monitoring	
14-May	15-May	16-May	17-May	18-May	19-May	20-May
	Aquatic Fauna Survey (Water					
	Quality Monitoring only)					
		1hr TSP X 3			Avifauna flight line survey	
	24hr TSP	Noise	Avifauna Survey (Pond 12)		24hr TSP	
	Water Quality Monitoring		Water Quality Monitoring		Water Quality Monitoring	
21-May	22-May	23-May	24-May	25-May	26-May	27-May
	-	•	Aquatic Fauna Survey (Water			-
			Quality Monitoring only)			
	1hr TSP X 3			1hr TSP X 3		
	Noise		24hr TSP	Avifauna Survey (Pond 12)		
				Herpetofauna Survey		
	Water Quality Monitoring		Water Quality Monitoring			Water Quality Monitoring
28-May	29-May	30-May	31-May			
			Aquatic Fauna Survey (Water			
			Quality Monitoring only)			
		A.H. TECH	1hr TSP X 3			
		24hr TSP	Noise			
	W. O. E. M. S.		Avifauna Survey (Pond 12)			
	Water Quality Monitoring	1	Water Quality Monitoring			

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

Air Quality Monitoring Station

DMS-1a - Village House along Ha Wan Tsuen East Road

 $\ensuremath{\mathsf{DMS-2B}}$ - Site boundary near Village House along Lok Ma Chau

DMS-3 - Village house along Old Border Road

DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Noise Monitoring Station

NMS-1 - Village House in Ha Wan Tsuen

NMS-2 - Village house along existing Ha Wan Tsuen East Road

 $NMS\mbox{-}3$ - Village house along Old Border Road

NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Water Quality Monitoring Station

CS1 - Control Station at Old Shenzhen River Meander

IS1 - Impact Station at Old Shenzhen River Meander

IS2 - Impact Station at Old Shenzhen River Meander

IS4 - Impact Station for at Ping Hang Stream

CS5 - Control Station at channel at south of Lung Hau Road

IS6 - Impact Station next to Lung Hau Road

BS1 - Impact Station at Old Shenzhen River Meander

(Terminated starting from 28 June 2021- approved by EPD $\,$

via email dated 22 June 2021)

IS6 - Impact Station next to Lung Hau Road

BS1 - Impact Station at Old Shenzhen River Meander (Terminated starting from 28 June 2021- approved by EPD

via email dated 22 June 2021)

APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix E - 1-hour TSP Monitoring Results

Location DMS-	1a - Village H	ouse along Ha Wan	Tsuen East Road
Date	Time	Weather	Particulate Concentration (µg/m³)
4-Apr-23	9:00	Cloudy	68.7
4-Apr-23	10:00	Cloudy	61.1
4-Apr-23	11:00	Cloudy	78.6
6-Apr-23	9:00	Cloudy	54.2
6-Apr-23	10:00	Cloudy	53.0
6-Apr-23	11:00	Cloudy	55.3
12-Apr-23	9:00	Sunny	80.6
12-Apr-23	10:00	Sunny	97.2
12-Apr-23	11:00	Sunny	90.6
18-Apr-23	9:00	Sunny	108.0
18-Apr-23	10:00	Sunny	78.4
18-Apr-23	11:00	Sunny	103.1
24-Apr-23	8:00	Cloudy	118.4
24-Apr-23	9:00	Cloudy	130.7
24-Apr-23	10:00	Cloudy	123.8
28-Apr-23	8:00	Sunny	32.4
28-Apr-23	9:00	Sunny	39.3
28-Apr-23	10:00	Sunny	42.2
		Minimum	32.4
		Maximum	130.7
		Average	78.6

ocation DMS-2	2B - Site bour	ndary near Village H	ouse along Lok Ma Chau Road
Date	Time	Weather	Particulate Concentration (µg/m³)
4-Apr-23	9:00	Cloudy	95.4
4-Apr-23	10:00	Cloudy	89.3
4-Apr-23	11:00	Cloudy	102.2
6-Apr-23	13:00	Cloudy	56.4
6-Apr-23	14:00	Cloudy	50.3
6-Apr-23	15:00	Cloudy	43.2
12-Apr-23	9:00	Sunny	64.4
12-Apr-23	10:00	Sunny	75.4
12-Apr-23	11:00	Sunny	79.3
18-Apr-23	9:00	Sunny	78.6
18-Apr-23	10:00	Sunny	62.2
18-Apr-23	11:00	Sunny	62.6
24-Apr-23	8:30	Cloudy	128.9
24-Apr-23	9:30	Cloudy	120.9
24-Apr-23	10:30	Cloudy	140.4
28-Apr-23	9:00	Sunny	41.2
28-Apr-23	10:00	Sunny	46.6
28-Apr-23	11:00	Sunny	49.4
_		Minimum	41.2
		Maximum	140.4
		Average	77.0

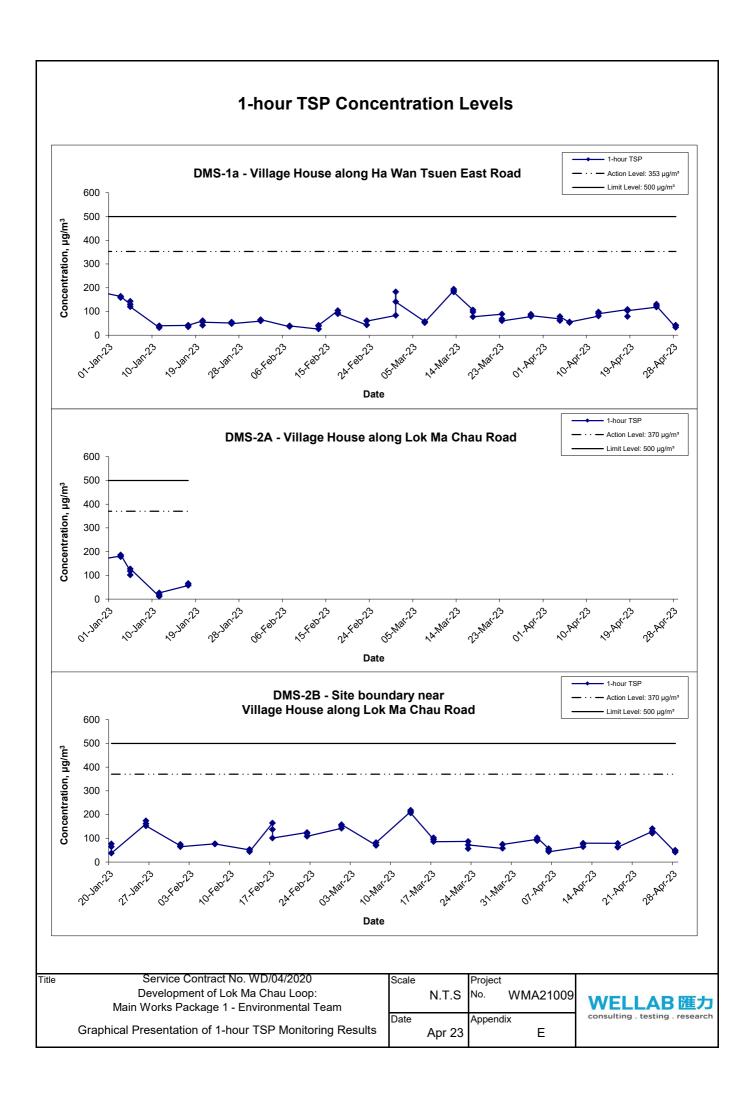
WMA21009\1-hr TSP Results Wellab

Appendix E - 1-hour TSP Monitoring Results

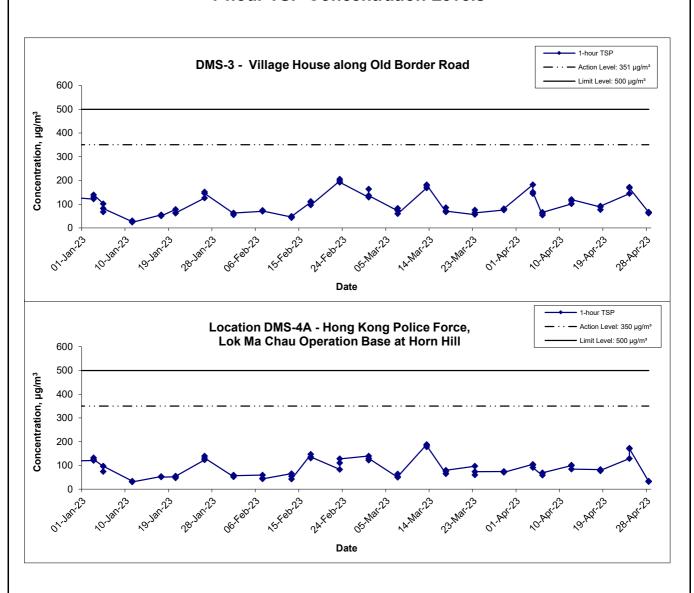
Location DMS-	3 - Village Ho	ouse along Old Bord	er Road
Date	Time	Weather	Particulate Concentration (μg/m³)
4-Apr-23	8:30	Cloudy	181.9
4-Apr-23	9:30	Cloudy	144.2
4-Apr-23	10:30	Cloudy	150.9
6-Apr-23	9:00	Cloudy	53.7
6-Apr-23	10:00	Cloudy	60.9
6-Apr-23	11:00	Cloudy	65.8
12-Apr-23	8:00	Sunny	101.2
12-Apr-23	9:00	Sunny	113.9
12-Apr-23	10:00	Sunny	119.8
18-Apr-23	13:00	Cloudy	88.4
18-Apr-23	14:00	Cloudy	76.6
18-Apr-23	15:00	Cloudy	91.8
24-Apr-23	14:00	Cloudy	144.5
24-Apr-23	15:00	Cloudy	171.9
24-Apr-23	16:00	Cloudy	168.3
28-Apr-23	13:00	Sunny	65.4
28-Apr-23	14:00	Sunny	61.4
28-Apr-23	15:00	Sunny	66.6
		Minimum	53.7
		Maximum	181.9
		Average	107.1

Date	Time	Weather	x Ma Chau Operation Base at Horn Hill Particulate Concentration (μg/m³)
4-Apr-23	8:30	Cloudy	104.3
4-Apr-23	9:30	Cloudy	101.5
4-Apr-23	10:30	Cloudy	90.4
6-Apr-23	9:00	Cloudy	58.2
6-Apr-23	10:00	Cloudy	67.4
6-Apr-23	11:00	Cloudy	68.4
12-Apr-23	8:00	Sunny	99.0
12-Apr-23	9:00	Sunny	100.6
12-Apr-23	10:00	Sunny	84.3
18-Apr-23	13:15	Cloudy	82.5
18-Apr-23	14:15	Cloudy	76.5
18-Apr-23	15:15	Cloudy	78.9
24-Apr-23	14:10	Cloudy	128.6
24-Apr-23	15:10	Cloudy	172.0
24-Apr-23	16:10	Cloudy	170.5
28-Apr-23	8:20	Sunny	31.3
28-Apr-23	9:20	Sunny	31.8
28-Apr-23	10:20	Sunny	33.7
		Minimum	31.3
		Maximum	172.0
		Average	87.8

WMA21009\1-hr TSP Results Wellab



1-hour TSP Concentration Levels



Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
Main Works Package 1 - Environmental Team
Graphical Presentation of 1-hour TSP Monitoring Results

Title



APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix F - 24-hour TSP Monitoring Results

Location DMS-	ocation DMS-1a - Village House along Ha Wan Tsuen East Road										
Date	Time	Weather	Particulate Concentration (µg/m³)								
3-Apr-23	8:35	Cloudy	50.5								
6-Apr-23	9:00	Cloudy	54.4								
11-Apr-23	8:40	Sunny	69.8								
17-Apr-23	8:00	Sunny	93.7								
21-Apr-23	9:11	Cloudy	100.9								
27-Apr-23	8:00	Sunny	42.4								
		Minimum	42.4								
		Maximum	100.9								
		Average	68.6								

Location DMS-	ocation DMS-2B - Site boundary near Village House along Lok Ma Chau Road											
Date	Time	Weather	Particulate Concentration (μg/m³)									
3-Apr-23	8:20	Cloudy	89.8									
6-Apr-23	9:00	Cloudy	53.4									
11-Apr-23	9:00	Sunny	53.4									
17-Apr-23	8:00	Sunny	61.6									
21-Apr-23	9:10	Cloudy	119.6									
27-Apr-23	8:15	Sunny	47.5									
		Minimum	47.5									
		Maximum	119.6									
		Average	70.9									

WMA21009\1-hr TSP Results Wellab

Appendix F - 24-hour TSP Monitoring Results

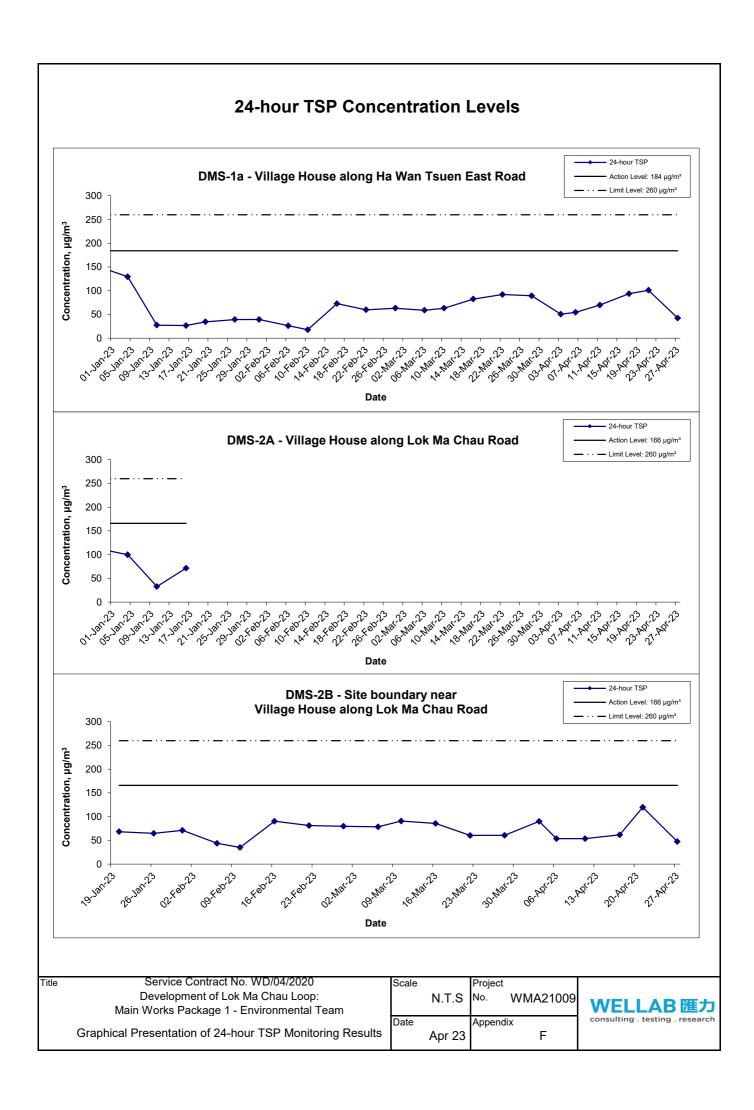
Location DMS-3 - Village House along Old Border Road

Start Date	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elapse	e Time	Sampling	Flow Rate	e (m³/min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m ³)	(µg/m ³)
3-Apr-23	Cloudy	294.0	761.9	2.9544	3.0157	0.0613	3819.6	3843.6	24.0	1.222	1.220	1.221	1758.3	34.9
6-Apr-23	Sunny	297.5	759.8	2.9650	3.0573	0.0923	3843.6	3867.6	24.0	1.211	1.211	1.211	1744.1	52.9
11-Apr-23	Sunny	293.6	764.4	2.9439	3.0446	0.1007	3888.6	3912.6	24.0	1.229	1.220	1.224	1762.9	57.1
17-Apr-23	Sunny	297.3	760.0	2.9798	3.0616	0.0818	3912.6	3936.6	24.0	1.213	1.211	1.212	1745.0	46.9
21-Apr-23	Cloudy	296.8	756.6	2.9486	3.0005	0.0519	3936.6	3960.6	24.0	1.210	1.210	1.210	1742.5	29.8
27-Apr-23	Sunny	293.5	764.2	2.8739	2.9094	0.0355	3960.8	3984.8	24.0	1.228	1.221	1.224	1763.1	20.1
													Min	20.1
													Max	57.1
													Average	40.3

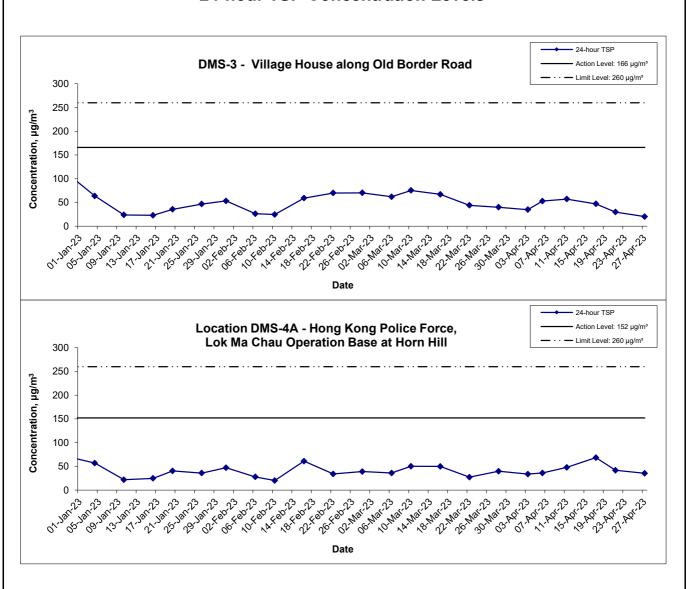
Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Start Date	Weather	Air Atmospheric		Filter Weight (g)		Particulate	Particulate Elapse Time		Sampling Flow Rate (e (m³/min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m ³ /min)	(m^3)	(µg/m ³)
3-Apr-23	Cloudy	294.0	761.9	2.9486	3.0074	0.0588	33362.6	33386.6	24.0	1.215	1.213	1.214	1748.3	33.6
6-Apr-23	Sunny	297.5	759.8	2.9711	3.0335	0.0624	33386.6	33410.6	24.0	1.204	1.204	1.204	1733.4	36.0
11-Apr-23	Sunny	293.6	764.4	2.9228	3.0067	0.0839	33410.6	33434.6	24.0	1.222	1.213	1.217	1753.1	47.9
17-Apr-23	Sunny	297.3	760.0	2.9396	3.0581	0.1185	33434.6	33458.6	24.0	1.205	1.203	1.204	1734.2	68.3
21-Apr-23	Cloudy	296.8	756.6	2.9231	2.9954	0.0723	33458.6	33482.6	24.0	1.203	1.202	1.203	1731.6	41.8
27-Apr-23	Sunny	293.5	764.2	2.9963	3.0580	0.0617	33482.6	33506.6	24.0	1.221	1.214	1.218	1753.3	35.2
													Min	33.6
													Max	68.3
													Average	43.8

WMA21009\24-hr TSP Results Wellab



24-hour TSP Concentration Levels



Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
Main Works Package 1 - Environmental Team
Graphical Presentation of 24-hour TSP Monitoring Results

Title

Scale Project
N.T.S No. WMA21009

Date Appendix F



APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

Appendix G - Noise Monitoring Results

Location NMS	-1 -Village ho	use in Ha W	an Tsuen						
Dete)A/a ath an	Time	Un	it: dB (A) (5-r	nin)	Average	Baseline Level		
Date	Weather	Time	L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}		
		09:20	57.0	58.3	54.8				
		09:25	57.4	58.5	54.8				
4-Apr-23	Cloudy	09:30	57.6	58.7	54.9	59.1			
4-Apr-23	Cloudy	09:35	58.6	61.1	55.0	39.1			
		09:40	60.7	64.5	54.9				
		09:45	61.3	65.2	54.2				
		08:30	60.9	64.4	55.5				
		08:35	62.4	65.7	57.0	61.5			
12-Apr-23	Sunny	08:40	63.5	66.8	57.1		47.3		
12-Api-23		08:45	62.1	65.1	56.6				
		08:50	58.8	61.5	55.0				
		08:55	59.8	62.8	55.0				
		09:10	59.4	61.2	54.7				
		09:15	57.5	59.8	54.5	59.2			
18-Apr-23	Sunny	09:20	57.3	59.7	54.5				
10-Api-23	Sullily	09:25	59.6	63.1	55.1	39.2			
		09:30	58.9	61.6	55.6				
		09:35	61.2	63.6	56.2				
		13:30	63.1	65.6	58.8				
		13:35	63.3	65.5	58.5				
24 Apr 22	Cloudy	13:40	63.7	65.8	59.9	62.3			
24-Apr-23	Cloudy	13:45	62.0	64.6	58.6	02.3			
		13:50	60.7	63.2	58.0				
		13:55	59.2	60.7	57.5				

Location NMS	Location NMS-2 - Village house along existing Ha Wan Tsuen East Road											
Date	Weather	Time	Un	it: dB (A) (5-n	nin)	Average	Baseline Level					
Date	vveatner	rime	L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}					
		10:30	73.4	76.1	61.3							
		10:35	72.0	73.9	62.7							
4-Apr-23	Cloudy	10:40	72.3	75.6	66.5	72.7						
4-Apr-23	Cloudy	10:45	71.1	74.4	67.0	12.1						
		10:50	73.5	77.3	66.8							
		10:55	73.4	75.8	65.7							
		09:30	71.6	75.1	60.6							
		09:35	73.4	77.5	61.5	72.0	68.4					
12-Apr-23	Sunny	09:40	72.8	78.1	60.7							
12-Ap1-23		09:45	70.3	73.8	60.8							
		09:50	72.0	75.3	62.8							
		09:55	71.5	75.2	62.1							
		10:30	69.9	73.3	58.6							
		10:35	68.2	72.2	56.5	68.6						
18-Apr-23	Sunny	10:40	67.2	71.1	54.6							
10-Ap1-23	Suring	10:45	68.9	71.6	61.2	00.0						
		10:50	68.3	72.7	56.8							
		10:55	68.9	73.4	61.1							
		16:35	70.4	74.6	65.7							
		16:40	72.2	75.1	66.1							
24 Apr 22	Claudy	16:45	71.6	73.4	66.3	70.2						
24-Apr-23	Cloudy	16:50	69.5	73.7	64.5	10.2						
		16:55	68.4	72.1	65.0							
		17:00	67.1	70.3	65.4							

WMA21009/Noise Results Wellab

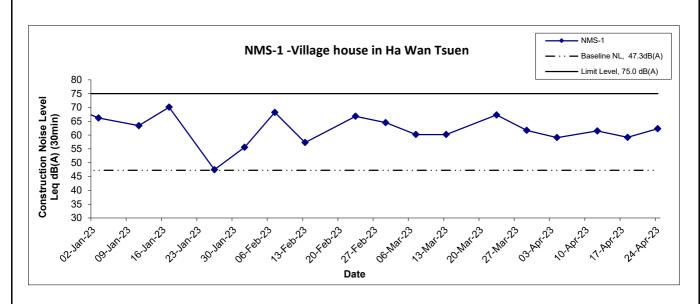
Appendix G - Noise Monitoring Results

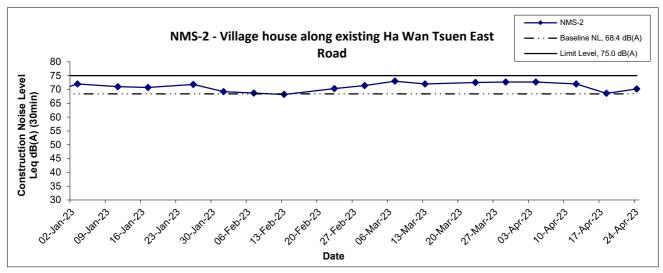
Location NMS	-3 - Village ho	ouse along C	old Border R	oad			
Date	Weather	Time	Un	it: dB (A) (5-n	nin)	Average	Baseline Level
Date	Date Weather	Time	L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}
		08:35	53.3	56.4	47.7		
		08:40	49.5	52.6	45.3		
4-Apr-23	Cloudy	08:45	53.5	58.2	46.0	51.5	
4-Api-25	Cloudy	08:50	50.1	52.5	46.8	31.3	
		08:55	50.1	52.2	46.9		
		09:00	50.8	52.8	46.1		
		10:50	65.0	69.9	45.5		
		10:55	63.2	68.1	47.7		
12-Apr-23	Sunny	11:00	69.5	69.9	48.0	63.9	ĺ
12-Ap1-23		11:05	53.7	55.0	43.8	03.9	
		11:10	51.0	53.8	44.0		56.2
		11:15	55.1	56.0	51.7		
		15:15	57.4	56.8	50.6		
		15:20	51.0	51.8	50.3	53.5	
18-Apr-23	Sunny	15:25	54.0	54.2	50.5		
10-Api-23	Suring	15:30	51.1	51.9	50.3	33.3	
		15:35	51.2	51.8	50.6		
		15:40	51.8	52.9	50.4		
		14:25	55.1	57.9	50.6		
		14:30	58.5	60.1	56.5	1	
24-Apr-23	Cloudy	14:35	58.7	60.2	55.3	58.6	
24-Mp1-23	Cloudy	14:40	59.7	61.3	56.3	56.0	
		14:45	58.6	60.7	55.4		
		14:50	59.6	62.3	57.1		

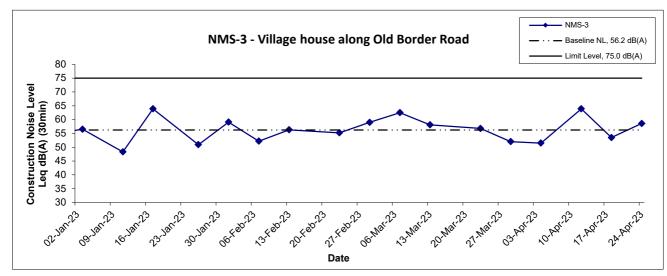
ocation NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill Unit: dB (A) (5-min) Average Baseline Level											
Date	Weather	Time	Un	it: dB (A) (5-r	nın)	Average	Baseline Level				
Date	Weather	Tillie	L _{eq}	L ₁₀	L 90	L _{eq}	L _{eq}				
		08:40	47.8	49.8	44.1						
		08:45	50.8	52.8	43.0						
4-Apr-23	Cloudy	08:50	51.3	53.4	44.2	50.4					
4-Apr-23	Cloudy	08:55	50.6	52.2	43.8	30.4					
		09:00	51.3	54.5	43.2						
		09:05	49.7	51.4	43.5						
		09:00	53.6	54.1	43.2						
		09:05	46.4	47.5	42.4	50.1					
12-Apr-23	Sunny	09:10	50.9	53.9	43.0						
12-Api-23		09:15	48.4	51.1	43.3						
		09:20	48.9	51.6	44.9						
		09:25	48.3	51.5	44.1		52.5				
		13:10	50.4	51.6	48.9	50.5					
		13:15	51.5	54.7	48.7						
18-Apr-23	Cloudy	13:20	49.3	50.7	48.0						
10-Ap1-23	Cloudy	13:25	49.8	51.0	48.2	50.5					
		13:30	50.5	51.9	49.0						
		13:35	51.2	53.5	48.7						
		15:05	47.2	49.3	44.4						
		15:10	52.7	53.7	44.3	51.6					
24 Apr 22	Cloudy	15:15	54.5	58.1	43.6						
24-Apr-23	Cloudy	15:20	49.1	51.1	43.6						
		15:25	50.9	51.1	43.2						
		15:30	51.8	54.2	43.4						

WMA21009/Noise Results Wellab

Noise Levels



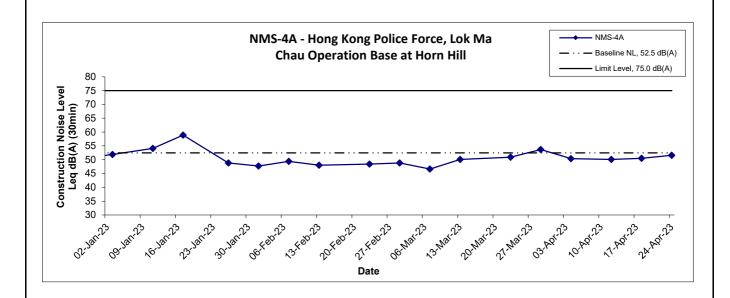




Title Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
Main Works Package 1 - Environmental Team
Graphical Presentation of Construction Noise Monitoring
Results

WELLAB 匯力 consulting . testing . research

Noise Levels



Title Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
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Graphical Presentation of Construction Noise Monitoring
Results

Scale Project
N.T.S No. WMA21009

Date Appendix
Apr 23 G



APPENDIX H
WATER QUALITY MONITORING
RESULTS AND GRAPHICAL
PRESENTATION

Water Quality Monitoring Results at CS1

Date	Weather	Sea	Sampling	Dent	th (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbid	ity(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition**	Time	Бері	(111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
3-Apr-23	Cloudy	Calm	09:49	Middle	0.5	21.6 21.6	21.6	7.4 7.4	7.4	5.8 5.8	5.8	57.1 56.9	57.0	4.9 4.9	4.9	14.5 14.7	14.6	16 17	16.5
6-Apr-23	Cloudy	Calm	09:05	Middle	0.6	24.0 24.0	24.0	7.2 7.2	7.2	5.6 5.6	5.6	63.4 63.3	63.4	5.2 5.2	5.2	10.0 9.9	10.0	21 21	21.0
8-Apr-23	Cloudy	Calm	12:21	Middle	0.4	23.1 23.2	23.2	7.4 7.3	7.4	3.5 3.5	3.5	93.4 93.4	93.4	7.8 7.8	7.8	6.0 6.1	6.1	7 8	7.5
11-Apr-23	Cloudy	Calm	10:32	Middle	0.4	25.2 25.2	25.2	7.2 7.2	7.2	3.5 3.5	3.5	99.4 99.3	99.4	8.0 8.0	8.0	6.4 6.4	6.4	17 18	17.5
13-Apr-23	Sunny	Calm	12:43	Middle	0.4	26.6 26.6	26.6	9.0 9.0	9.0	5.4 5.4	5.4	130.2 130.4	130.3	10.1 10.2	10.2	21.0 20.9	21.0	30 31	30.5
15-Apr-23	Cloudy	Calm	11:44	Middle	0.4	28.7 28.7	28.7	8.5 8.5	8.5	5.3 5.3	5.3	105.2 105.3	105.3	7.9 7.9	7.9	8.6 8.6	8.6	23 22	22.5
17-Apr-23	Sunny	Calm	09:09	Middle	0.5	27.7 27.7	27.7	7.8 7.8	7.8	5.8 5.8	5.8	102.1 102.3	102.2	7.8 7.8	7.8	18.4 18.4	18.4	30 36	33.0
19-Apr-23	Cloudy	Calm	10:06	Middle	0.5	27.7 27.7	27.7	8.2 8.2	8.2	5.1 5.1	5.1	53.8 53.7	53.8	4.1 4.1	4.1	16.4 16.4	16.4	20 20	20.0
21-Apr-23	Cloudy	Calm	14:34	Middle	0.3	26.6 26.6	26.6	7.4 7.4	7.4	5.2 5.2	5.2	27.8 28.3	28.1	2.2 2.2	2.2	11.8 12.0	11.9	11 12	11.5
24-Apr-23	Cloudy	Calm	16:39	Middle	0.5	26.1 26.1	26.1	7.4 7.4	7.4	5.3 5.3	5.3	65.8 65.5	65.7	5.2 5.2	5.2	16.1 16.0	16.1	8 8	8.0
26-Apr-23	Cloudy	Calm	14:33	Middle	0.3	26.7 26.7	26.7	8.1 8.1	8.1	4.9 4.9	4.9	86.2 86.1	86.2	6.7 6.7	6.7	9.0 9.1	9.1	12 14	13.0
28-Apr-23	Sunny	Calm	11:05	Middle	0.5	27.3 27.3	27.3	7.3 7.3	7.3	5.2 5.2	5.2	88.3 88.2	88.3	6.8 6.8	6.8	13.8 13.9	13.9	19 24	21.5

Water Quality Monitoring Results at CS5

Date	Weather	Sea	Sampling	Dent	th (m)	Tempera	ature (°C)	p	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ity(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition**	Time	Бері	ui (iii <i>)</i>	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
3-Apr-23	Cloudy	Calm	08:53	Middle	0.1	20.8 20.8	20.8	7.7 7.7	7.7	0.9 0.9	0.9	68.3 68.2	68.3	6.1 6.1	6.1	10.5 10.5	10.5	7 8	7.5
6-Apr-23	Cloudy	Calm	09:49	Middle	0.2	24.4 24.4	24.4	7.1 7.1	7.1	0.9 0.9	0.9	74.1 73.9	74.0	6.2 6.2	6.2	39.7 37.7	38.7	30 32	31.0
8-Apr-23	Cloudy	Calm	11:14	Middle	0.2	23.4 23.4	23.4	7.6 7.6	7.6	2.9 2.9	2.9	72.6 73.9	73.3	6.1 6.2	6.2	25.2 24.1	24.7	32 32	32.0
11-Apr-23	Cloudy	Calm	09:23	Middle	0.3	24.9 24.9	24.9	7.8 7.8	7.8	1.0 1.0	1.0	72.5 72.4	72.5	6.0 6.0	6.0	54.4 55.0	54.7	55 60	57.5
13-Apr-23	Sunny	Calm	11:41	Middle	0.2	24.2 24.2	24.2	7.7 7.7	7.7	1.1 1.1	1.1	74.1 73.9	74.0	6.2 6.2	6.2	13.5 13.5	13.5	11 12	11.5
15-Apr-23	Cloudy	Calm	10:57	Middle	0.1	29.3 29.3	29.3	8.2 8.2	8.2	0.9 0.9	0.9	99.0 99.0	99.0	7.6 7.5	7.6	8.0 8.0	8.0	22 23	22.5
17-Apr-23	Sunny	Calm	08:30	Middle	0.1	23.9 23.9	23.9	7.4 7.4	7.4	0.8 0.8	0.8	71.1 71.3	71.2	6.0 6.0	6.0	31.7 31.7	31.7	40 34	37.0
19-Apr-23	Cloudy	Calm	10:42	Middle	0.3	26.7 26.7	26.7	8.3 8.3	8.3	0.7 0.7	0.7	46.9 46.9	46.9	3.8 3.7	3.8	45.7 46.0	45.9	38 36	37.0
21-Apr-23	Cloudy	Calm	13:11	Middle	0.1	25.0 25.0	25.0	7.0 7.0	7.0	0.4 0.4	0.4	32.8 32.9	32.9	2.7 2.7	2.7	43.9 43.5	43.7	21 21	21.0
24-Apr-23	Cloudy	Calm	15:43	Middle	0.1	25.1 25.1	25.1	7.2 7.2	7.2	0.7 0.7	0.7	54.1 53.7	53.9	4.4 4.4	4.4	11.7 11.6	11.7	6 6	6.0
26-Apr-23	Cloudy	Calm	13:40	Middle	0.2	25.2 25.2	25.2	7.8 7.8	7.8	0.6 0.6	0.6	77.9 77.9	77.9	6.4 6.4	6.4	22.5 22.6	22.6	14 14	14.0
28-Apr-23	Sunny	Calm	12:40	Middle	0.2	24.8 24.8	24.8	7.2 7.2	7.2	0.7 0.7	0.7	51.7 51.2	51.5	4.3 4.2	4.3	9.7 9.9	9.8	29 26	27.5

Water Quality Monitoring Results at IS1

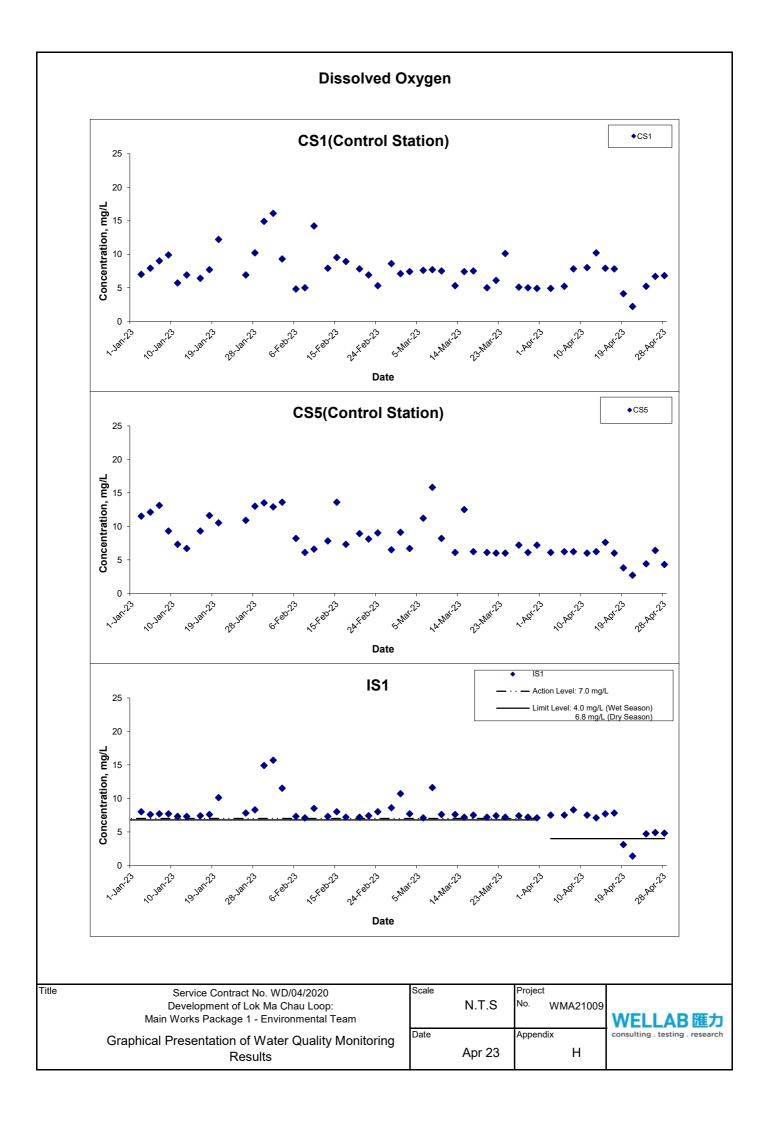
Date	Weather	Sea	Sampling	Dent	th (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbid	ity(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition**	Time	Бері	(111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
3-Apr-23	Cloudy	Calm	09:25	Middle	0.5	21.5 21.5	21.5	7.2 7.2	7.2	6.0 6.0	6.0	88.5 88.0	88.3	7.5 7.5	7.5	10.8 10.8	10.8	10 12	11.0
6-Apr-23	Cloudy	Calm	09:19	Middle	0.5	24.0 24.0	24.0	7.2 7.2	7.2	5.8 5.8	5.8	92.6 92.2	92.4	7.5 7.5	7.5	13.0 13.0	13.0	13 12	12.5
8-Apr-23	Cloudy	Calm	11:54	Middle	0.4	22.5 22.5	22.5	7.3 7.3	7.3	3.3 3.3	3.3	97.7 97.9	97.8	8.3 8.3	8.3	5.9 5.9	5.9	5 6	5.5
11-Apr-23	Cloudy	Calm	10:20	Middle	0.4	26.4 26.4	26.4	7.2 7.2	7.2	3.4 3.4	3.4	94.5 94.1	94.3	7.5 7.4	7.5	7.9 7.8	7.9	12 12	12.0
13-Apr-23	Sunny	Calm	12:24	Middle	0.4	26.5 26.5	26.5	7.5 7.5	7.5	5.6 5.6	5.6	90.9 90.9	90.9	7.1 7.1	7.1	20.4 20.3	20.4	14 15	14.5
15-Apr-23	Cloudy	Calm	11:31	Middle	0.4	29.4 29.4	29.4	7.8 7.7	7.8	3.9 3.9	3.9	103.1 103.2	103.2	7.7 7.7	7.7	6.9 6.8	6.9	7 8	7.5
17-Apr-23	Sunny	Calm	08:53	Middle	0.5	27.2 27.2	27.2	7.2 7.2	7.2	5.9 6.0	6.0	101.1 100.5	100.8	7.8 7.7	7.8	16.5 16.6	16.6	21 22	21.5
19-Apr-23	Cloudy	Calm	09:49	Middle	0.5	27.5 27.5	27.5	7.9 7.9	7.9	5.1 5.1	5.1	40.9 40.8	40.9	3.1 3.1	3.1	17.1 17.2	17.2	14 17	15.5
21-Apr-23	Cloudy	Calm	14:14	Middle	0.3	26.0 26.0	26.0	7.0 6.9	7.0	5.3 5.3	5.3	17.1 17.3	17.2	1.4 1.4	1.4	12.4 12.5	12.5	5 6	5.5
24-Apr-23	Cloudy	Calm	16:20	Middle	0.4	25.8 25.7	25.8	7.0 7.0	7.0	5.4 5.4	5.4	59.8 59.7	59.8	4.7 4.7	4.7	9.5 9.7	9.6	4	4.0
26-Apr-23	Cloudy	Calm	14:17	Middle	0.3	26.0 26.0	26.0	7.8 7.8	7.8	4.8 4.8	4.8	61.8 61.7	61.8	4.9 4.9	4.9	8.5 8.5	8.5	15 13	14.0
28-Apr-23	Sunny	Calm	11:19	Middle	0.5	26.8 26.8	26.8	7.3 7.3	7.3	5.2 5.2	5.2	61.9 61.6	61.8	4.8 4.8	4.8	12.6 12.8	12.7	25 22	23.5

Water Quality Monitoring Results at IS2

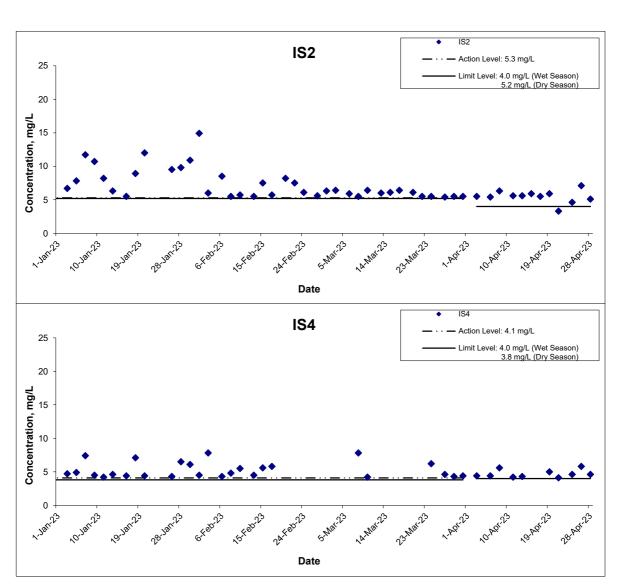
Date	Weather	Sea	Sampling	Dent	h (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbid	ity(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition**	Time	Бері	11 (111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
3-Apr-23	Cloudy	Calm	08:39	Middle	0.1	21.9 21.9	21.9	7.4 7.4	7.4	6.8 6.8	6.8	64.8 64.5	64.7	5.5 5.4	5.5	29.1 28.5	28.8	35 32	33.5
6-Apr-23	Cloudy	Calm	10:11	Middle	0.1	24.3 24.3	24.3	7.1 7.1	7.1	9.5 9.5	9.5	67.5 68.0	67.8	5.4 5.4	5.4	32.8 30.4	31.6	25 27	26.0
8-Apr-23	Cloudy	Calm	11:00	Middle	0.1	23.6 23.6	23.6	7.5 7.5	7.5	8.6 8.6	8.6	78.2 77.9	78.1	6.3 6.3	6.3	14.5 14.5	14.5	34 35	34.5
11-Apr-23	Cloudy	Calm	09:15	Middle	0.1	26.3 26.4	26.4	7.4 7.4	7.4	4.3 4.3	4.3	71.4 71.2	71.3	5.6 5.6	5.6	33.3 32.2	32.8	27 28	27.5
13-Apr-23	Sunny	Calm	11:28	Middle	0.1	25.2 25.2	25.2	7.4 7.4	7.4	1.7 1.7	1.7	68.4 67.9	68.2	5.6 5.5	5.6	30.3 30.2	30.3	36 38	37.0
15-Apr-23	Cloudy	Calm	10:46	Middle	0.1	27.8 27.8	27.8	7.6 7.6	7.6	1.6 1.6	1.6	76.2 76.2	76.2	5.9 5.9	5.9	28.0 27.7	27.9	34 39	36.5
17-Apr-23	Sunny	Calm	08:16	Middle	0.1	26.5 26.5	26.5	7.3 7.2	7.3	0.9 0.9	0.9	68.0 68.5	68.3	5.4 5.5	5.5	31.7 31.7	31.7	35 32	33.5
19-Apr-23	Cloudy	Calm	10:31	Middle	0.1	26.7 26.7	26.7	8.2 8.3	8.3	7.8 7.8	7.8	77.4 77.4	77.4	5.9 5.9	5.9	99.6 99.6	99.6	95 101	98.0
21-Apr-23	Cloudy	Calm	13:35	Middle	0.1	25.6 25.6	25.6	7.0 7.0	7.0	1.4 1.4	1.4	40.1 39.9	40.0	3.3 3.2	3.3	63.8 63.3	63.6	36 40	38.0
24-Apr-23	Cloudy	Calm	15:25	Middle	0.1	25.0 25.0	25.0	7.1 7.1	7.1	3.4 3.4	3.4	57.1 57.1	57.1	4.6 4.6	4.6	31.7 31.9	31.8	35 31	33.0
26-Apr-23	Cloudy	Calm	13:55	Middle	0.1	25.5 25.5	25.5	7.9 7.9	7.9	3.1 3.1	3.1	88.7 88.7	88.7	7.1 7.1	7.1	23.4 23.4	23.4	27 28	27.5
28-Apr-23	Sunny	Calm	12:56	Middle	0.1	25.5 25.5	25.5	7.1 7.1	7.1	5.3 5.3	5.3	64.1 64.0	64.1	5.1 5.1	5.1	30.2 31.1	30.7	33 38	35.5

Water Quality Monitoring Results at IS4

Date	Weather	Sea	Sampling	Dent	th (m)	Tempera	ature (°C)	ŗ	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbid	ity(NTU)	Suspended	Solids (mg/L)
Date	Condition	Condition**	Time	Бері	(111)	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
3-Apr-23	Cloudy	Calm	09:10	Middle	0.1	20.4 20.5	20.5	7.3 7.2	7.3	0.3 0.3	0.3	48.5 48.8	48.7	4.4 4.4	4.4	35.2 28.9	32.1	45 41	43.0
6-Apr-23	Cloudy	Calm	09:35	Middle	0.1	23.0 22.9	23.0	7.0 7.0	7.0	0.3 0.3	0.3	51.8 50.7	51.3	4.4 4.4	4.4	39.8 39.6	39.7	37 38	37.5
8-Apr-23	Cloudy	Calm	11:33	Middle	0.1	20.6 20.6	20.6	7.5 7.5	7.5	0.3 0.3	0.3	62.7 62.3	62.5	5.6 5.6	5.6	9.0 9.0	9.0	28 29	28.5
11-Apr-23	Cloudy	Calm	09:52	Middle	0.1	24.3 24.4	24.4	7.6 7.5	7.6	0.2 0.2	0.2	49.9 49.7	49.8	4.2 4.2	4.2	59.6 56.1	57.9	38 43	40.5
13-Apr-23	Sunny	Calm	12:02	Middle	0.1	23.6 23.7	23.7	7.5 7.5	7.5	0.3 0.3	0.3	51.2 51.0	51.1	4.3 4.3	4.3	34.0 34.6	34.3	67 61	64.0
19-Apr-23	Cloudy	Calm	09:19	Middle	0.1	27.0 27.0	27.0	7.3 7.3	7.3	0.2 0.2	0.2	63.1 63.1	63.1	5.0 5.0	5.0	7.5 7.6	7.6	12 13	12.5
21-Apr-23	Cloudy	Calm	13:52	Middle	0.1	25.2 25.2	25.2	7.0 7.1	7.1	0.2 0.2	0.2	50.2 49.6	49.9	4.1 4.1	4.1	4.0 4.0	4.0	4 4	4.0
24-Apr-23	Cloudy	Calm	16:06	Middle	0.1	25.8 25.8	25.8	6.6 6.6	6.6	0.1 0.1	0.1	56.8 56.8	56.8	4.6 4.6	4.6	55.7 49.9	52.8	24 22	23.0
26-Apr-23	Cloudy	Calm	14:52	Middle	0.1	23.4 23.4	23.4	8.0 8.0	8.0	0.3 0.3	0.3	68.3 68.0	68.2	5.8 5.8	5.8	6.2 6.3	6.3	29 33	31.0
28-Apr-23	Sunny	Calm	11:41	Middle	0.1	25.4 25.4	25.4	7.0 6.9	7.0	0.2 0.2	0.2	55.8 54.5	55.2	4.6 4.5	4.6	16.9 17.0	17.0	12 10	11.0



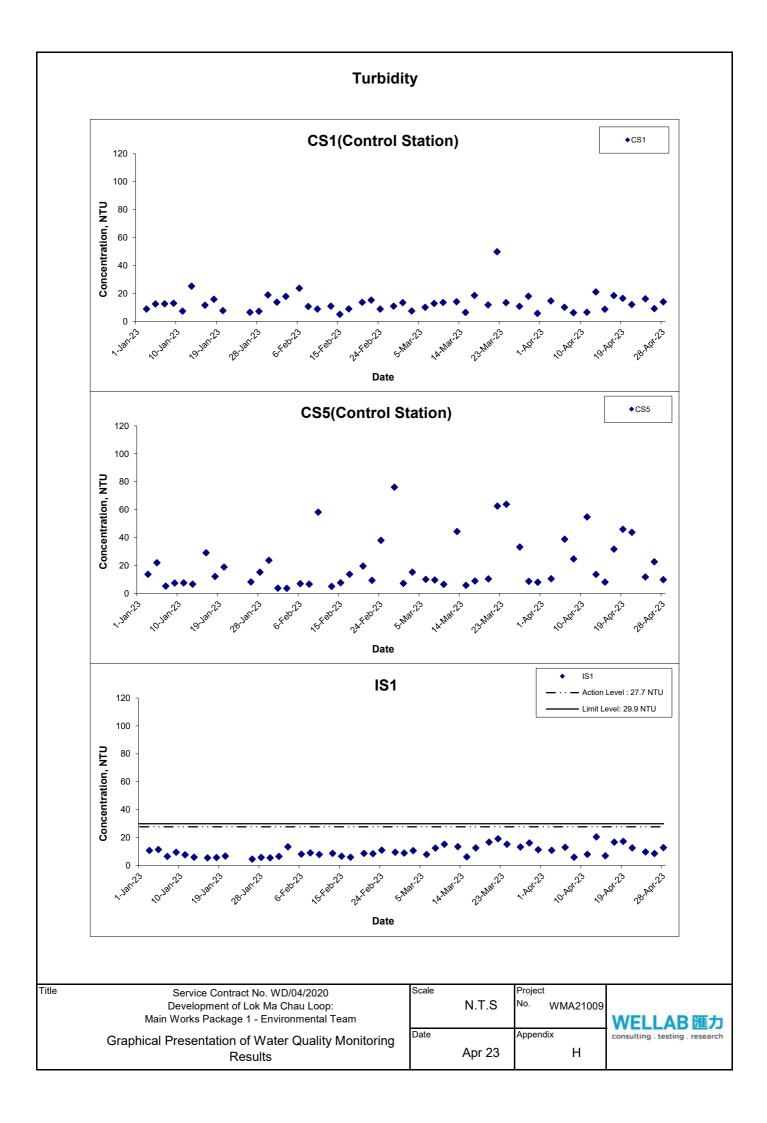
Dissolved Oxygen



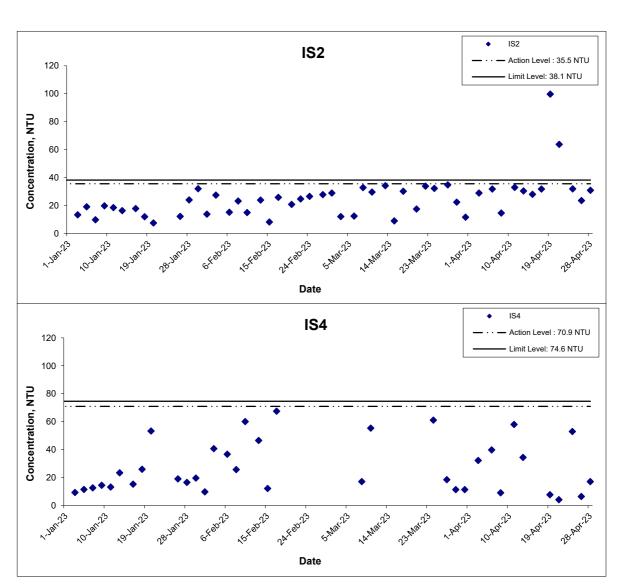
riue	Service Contract No. WD/04/2020
	Development of Lok Ma Chau Loop:
	Main Works Package 1 - Environmental Team
	Graphical Presentation of Water Quality Monitoring
	Results

Scale		Project
	N.T.S	No. WMA21009
Date		Appendix
	Apr 23	Н





Turbidity



Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
Main Works Package 1 - Environmental Team
Graphical Presentation of Water Quality Monitoring
Results

Title

Scale

N.T.S

Project
No. WMA21009

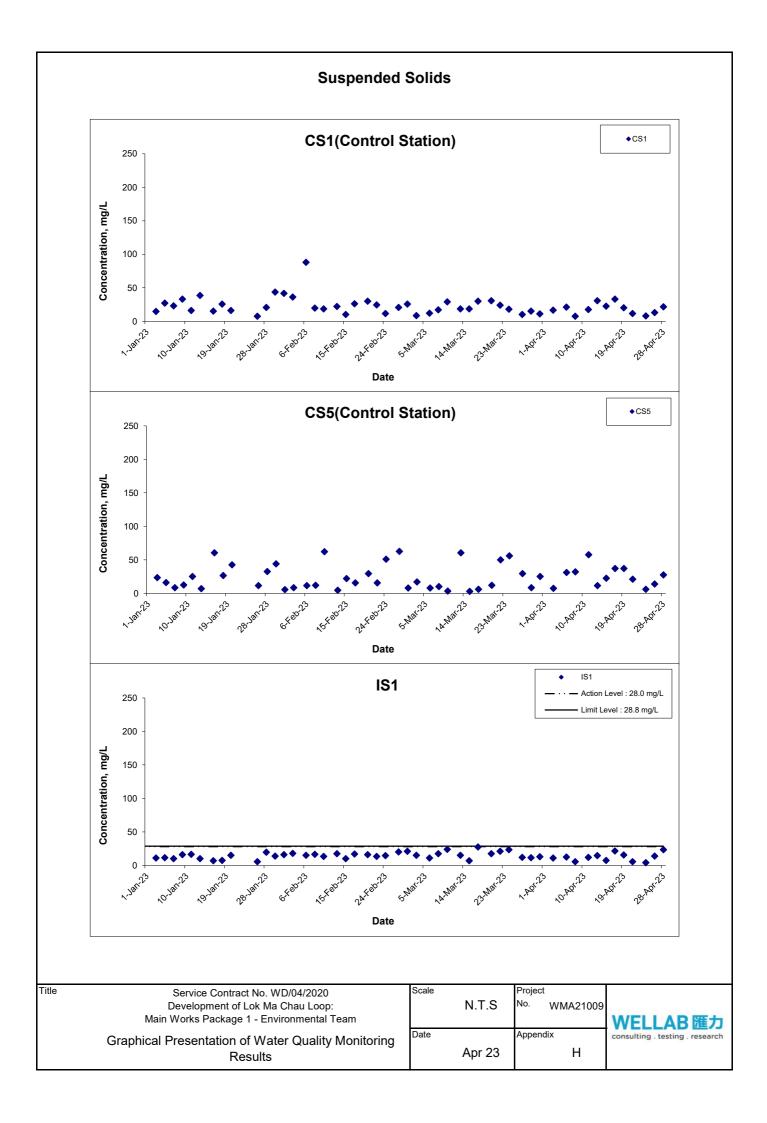
Date

Appendix

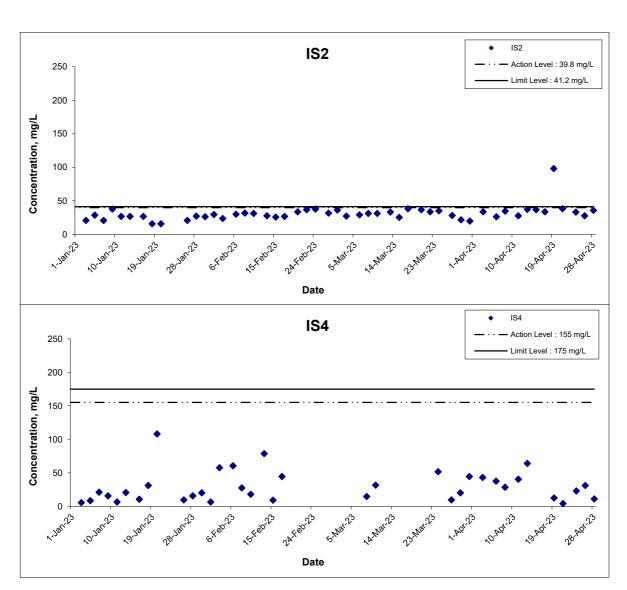
Apr 23

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Suspended Solids



Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
Main Works Package 1 - Environmental Team
Graphical Presentation of Water Quality Monitoring
Results

Title



APPENDIX I WEATHER CONDITION

APPENDIX I – GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 April 2023	20.3	89	0.7
2 April 2023	21.1	92	0.74
3 April 2023	20.9	90	2.1
4 April 2023	23.7	90	4.0
5 April 2023	25.3	89	0.4
6 April 2023	25.4	87	5.9
7 April 2023	21.8	74	4.4
8 April 2023	20.6	73	Trace
9 April 2023	19.8	72	2.6
10 April 2023	21.4	80	0.0
11 April 2023	24.2	81	0.0
12 April 2023	25.0	76	0.0
13 April 2023	23.4	78	0.0
14 April 2023	24.7	80	0.0
15 April 2023	26.9	70	0.0
16 April 2023	26.7	69	0.0

Development of Lok Ma Chau Loop Monthly EM&A Report – April 2023

Date	Mean Air Temperature (°C)	Mean Relative	Precipitation
Date	Mean Air Temperature (*C)	Humidity (%)	(mm)
17 April 2023	26.1	80	Trace
18 April 2023	26.7	81	Trace
19 April 2023	25.9	81	26.5
20 April 2023	24.0	94	18.2
21 April 2023	24.1	90	4.3
22 April 2023	23.1	89	0.7
23 April 2023	23.0	91	0.4
24 April 2023	23.5	89	1.0
25 April 2023	22.4	91	4.4
26 April 2023	21.6	73	0.0
27 April 2023	22.7	80	0.3
28 April 2023	24.1	84	0.9
29 April 2023	25.4	82	Trace
30 April 2023	24.6	73	0.0

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

Date	Time	Wind Speed m/s	Direction
1-Apr-2023	00:00	0.9	WSW
1-Apr-2023	01:00	1.3	WSW
1-Apr-2023	02:00	1.3	WSW
1-Apr-2023	03:00	0.4	WSW
1-Apr-2023	04:00	0.9	WSW
1-Apr-2023	05:00	0.9	WSW
1-Apr-2023	06:00	0.9	WSW
1-Apr-2023	07:00	0.4	WSW
1-Apr-2023	08:00	0.4	WSW
1-Apr-2023	09:00	0.0	WSW
1-Apr-2023	10:00	0.0	WSW
•			
1-Apr-2023	11:00	0.4	WSW
1-Apr-2023	12:00	0.4	WSW
1-Apr-2023	13:00	0.0	WSW
1-Apr-2023	14:00	0.4	WSW
1-Apr-2023	15:00	0.4	WSW
1-Apr-2023	16:00	0.4	WSW
1-Apr-2023	17:00	0.9	WSW
1-Apr-2023	18:00	0.4	WSW
1-Apr-2023	19:00	0.9	WSW
1-Apr-2023	20:00	0.4	WSW
1-Apr-2023	21:00	0.0	WSW
1-Apr-2023	22:00	0.0	WSW
1-Apr-2023	23:00	0.4	WSW
2-Apr-2023	00:00	0.0	WNW
2-Apr-2023	01:00	0.4	WNW
2-Apr-2023	02:00	0.0	WSW
2-Apr-2023	03:00	0.4	WSW
2-Apr-2023	04:00	0.4	WSW
2-Apr-2023	05:00	0.9	WSW
2-Apr-2023	06:00	0.4	WSW
2-Apr-2023	07:00	0.4	WSW
2-Apr-2023	08:00	0.4	WSW
2-Apr-2023 2-Apr-2023		0.0	WNW
	09:00	0.0	WSW
2-Apr-2023	10:00		
2-Apr-2023	11:00	0.4	WSW
2-Apr-2023	12:00	0.4	WSW
2-Apr-2023	13:00	0.4	WSW
2-Apr-2023	14:00	0.4	WSW
2-Apr-2023	15:00	0.0	WSW
2-Apr-2023	16:00	0.4	WSW
2-Apr-2023	17:00	0.4	WSW
2-Apr-2023	18:00	0.4	WSW
2-Apr-2023	19:00	0.4	WSW
2-Apr-2023	20:00	0.0	WSW
2-Apr-2023	21:00	0.9	WSW
2-Apr-2023	22:00	0.4	WSW
2-Apr-2023	23:00	0.0	WSW
3-Apr-2023	00:00	0.0	WSW
3-Apr-2023	01:00	0.9	WSW
3-Apr-2023	02:00	0.9	WSW
3-Apr-2023	03:00	0.9	WSW
3-Apr-2023	04:00	0.9	WSW
3-Apr-2023	05:00	0.9	WSW
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Date	Time	Wind Speed m/s	Direction
3-Apr-2023	07:00	0.4	WSW
3-Apr-2023	08:00	0.9	W
3-Apr-2023	09:00	0.4	WSW
3-Apr-2023	10:00	0.4	W
3-Apr-2023	11:00	0.4	WNW
3-Apr-2023	12:00	0.4	WSW
3-Apr-2023	13:00	0.4	WSW
3-Apr-2023	14:00	0.4	WSW
3-Apr-2023	15:00	0.9	WSW
3-Apr-2023	16:00	0.9	WSW
3-Apr-2023	17:00	0.4	WSW
3-Apr-2023	18:00	0.9	WSW
3-Apr-2023	19:00	0.9	WSW
3-Apr-2023	20:00	0.4	WNW
3-Apr-2023	21:00	0.9	WSW
		0.9	
3-Apr-2023	22:00		WSW
3-Apr-2023	23:00	0.4	WSW
4-Apr-2023	00:00	0.4	WNW
4-Apr-2023	01:00	0.4	WSW
4-Apr-2023	02:00	0.4	WSW
4-Apr-2023	03:00	0.4	WSW
4-Apr-2023	04:00	0.0	WSW
4-Apr-2023	05:00	0.0	SW
4-Apr-2023	06:00	0.0	WSW
4-Apr-2023	07:00	0.0	W
4-Apr-2023	08:00	0.0	WSW
4-Apr-2023	09:00	0.0	SW
4-Apr-2023	10:00	0.0	WSW
4-Apr-2023	11:00	0.4	NW
4-Apr-2023	12:00	0.9	WNW
4-Apr-2023	13:00	0.4	W
4-Apr-2023	14:00	0.0	W
4-Apr-2023	15:00	0.0	NW
4-Apr-2023	16:00	0.4	NW
4-Apr-2023	17:00	0.4	WNW
4-Apr-2023	18:00	0.4	WNW
4-Apr-2023	19:00	0.4	ENE
4-Apr-2023	20:00	0.0	ENE
4-Apr-2023	21:00	0.0	ENE
4-Apr-2023	22:00	0.0	WNW
4-Apr-2023 4-Apr-2023	23:00	0.0	NW
5-Apr-2023	00:00	0.0	SW
5-Apr-2023 5-Apr-2023	01:00	0.0	WNW
5-Apr-2023 5-Apr-2023	02:00		WNW
		0.0	WNW
5-Apr-2023	03:00	0.0	
5-Apr-2023	04:00	0.0	WNW
5-Apr-2023	05:00	0.0	WNW
5-Apr-2023	06:00	0.0	
5-Apr-2023	07:00	0.4	WNW
5-Apr-2023	08:00	0.0	WNW
5-Apr-2023	09:00	0.0	WNW
5-Apr-2023	10:00	0.0	WNW
5-Apr-2023	11:00	0.0	WNW
5-Apr-2023	12:00	0.0	WNW
5-Apr-2023	13:00	0.0	WNW

Date	Time	Wind Speed m/s	Direction
5-Apr-2023	14:00	0.0	ENE
5-Apr-2023	15:00	0.4	ENE
5-Apr-2023	16:00	0.4	ENE
5-Apr-2023	17:00	0.4	ENE
5-Apr-2023	18:00	0.0	ENE
5-Apr-2023	19:00	0.0	E
5-Apr-2023	20:00	0.0	E E
5-Apr-2023	21:00	0.0	
5-Apr-2023	22:00	0.0	
5-Apr-2023	23:00	0.0	
6-Apr-2023	00:00	0.0	NW
6-Apr-2023	01:00	0.0	NE
6-Apr-2023	02:00	0.0	
6-Apr-2023	03:00	0.0	
	04:00	0.0	E
6-Apr-2023			
6-Apr-2023	05:00	0.0	 FNF
6-Apr-2023	06:00	0.0	ENE
6-Apr-2023	07:00	0.0	 \^/\\\\
6-Apr-2023	08:00	0.0	WNW
6-Apr-2023	09:00	0.0	WNW
6-Apr-2023	10:00	0.4	ENE
6-Apr-2023	11:00	0.4	<u> </u>
6-Apr-2023	12:00	0.4	E
6-Apr-2023	13:00	0.4	E
6-Apr-2023	14:00	0.4	E
6-Apr-2023	15:00	0.4	E
6-Apr-2023	16:00	0.4	E
6-Apr-2023	17:00	0.4	E
6-Apr-2023	18:00	0.0	E
6-Apr-2023	19:00	0.0	ENE
6-Apr-2023	20:00	0.0	E
6-Apr-2023	21:00	0.0	ESE
6-Apr-2023	22:00	0.4	Е
6-Apr-2023	23:00	0.0	ENE
7-Apr-2023	00:00	0.0	E
7-Apr-2023	01:00	0.0	SSW
7-Apr-2023	02:00	0.4	WSW
7-Apr-2023	03:00	0.0	WSW
7-Apr-2023	04:00	0.0	WSW
7-Apr-2023	05:00	0.4	WSW
7-Apr-2023	06:00	0.4	WSW
7-Apr-2023	07:00	0.4	WSW
7-Apr-2023	08:00	0.4	WSW
7-Apr-2023	09:00	0.4	WSW
7-Apr-2023	10:00	0.4	SW
7-Apr-2023	11:00	0.4	SSW
7-Apr-2023	12:00	0.4	WSW
7-Apr-2023	13:00	0.4	SSW
7-Apr-2023	14:00	0.4	SW
7-Apr-2023	15:00	0.0	WSW
7-Apr-2023	16:00	0.0	SW
7-Apr-2023	17:00	0.0	WSW
7-Apr-2023 7-Apr-2023	18:00	0.0	SW
7-Apr-2023 7-Apr-2023	19:00	0.0	W
7-Apr-2023 7-Apr-2023	20:00	0.0	WNW
1-4h1-5059	20.00	0.0	VVINVV

Date	Time	Wind Speed m/s	Direction
7-Apr-2023	21:00	0.4	WNW
7-Apr-2023	22:00	0.4	WSW
7-Apr-2023	23:00	0.9	WSW
8-Apr-2023	00:00	0.4	WSW
8-Apr-2023	01:00	0.0	WSW
8-Apr-2023	02:00	0.0	W
8-Apr-2023	03:00	0.0	WSW
8-Apr-2023	04:00	0.4	WSW
8-Apr-2023	05:00	0.0	WSW
8-Apr-2023	06:00	0.4	WSW
•	07:00	0.4	WSW
8-Apr-2023			
8-Apr-2023	08:00	0.0	WSW
8-Apr-2023	09:00	0.0	WSW
8-Apr-2023	10:00	0.0	WSW
8-Apr-2023	11:00	0.0	SW
8-Apr-2023	12:00	0.0	SW
8-Apr-2023	13:00	0.0	SW
8-Apr-2023	14:00	0.0	WSW
8-Apr-2023	15:00	0.0	WSW
8-Apr-2023	16:00	0.0	W
8-Apr-2023	17:00	0.0	W
8-Apr-2023	18:00	0.4	WNW
8-Apr-2023	19:00	0.0	WSW
8-Apr-2023	20:00	0.4	WSW
8-Apr-2023	21:00	0.0	WSW
8-Apr-2023	22:00	0.4	WSW
8-Apr-2023	23:00	0.0	W
			WSW
9-Apr-2023	00:00	0.0	
9-Apr-2023	01:00	0.0	W
9-Apr-2023	02:00	0.0	WSW
9-Apr-2023	03:00	0.0	WSW
9-Apr-2023	04:00	0.0	WSW
9-Apr-2023	05:00	0.0	WSW
9-Apr-2023	06:00	0.0	WSW
9-Apr-2023	07:00	0.0	WSW
9-Apr-2023	08:00	0.0	WSW
9-Apr-2023	09:00	0.0	WSW
9-Apr-2023	10:00	0.0	W
9-Apr-2023	11:00	0.0	WNW
9-Apr-2023	12:00	0.0	
9-Apr-2023	13:00	0.0	
9-Apr-2023	14:00	0.0	SW
9-Apr-2023	15:00	0.0	W
9-Apr-2023	16:00	0.0	SW
9-Apr-2023	17:00	0.0	W
9-Apr-2023	18:00	0.4	WSW
9-Apr-2023	19:00	0.4	WSW
9-Apr-2023	20:00	0.4	W
9-Apr-2023	21:00	0.0	W
9-Apr-2023	22:00	0.0	WSW
9-Apr-2023	23:00	0.0	WSW
10-Apr-2023	00:00	0.0	WSW
10-Apr-2023	01:00	0.0	WSW
10-Apr-2023	02:00	0.0	WSW
10-Apr-2023	03:00	0.4	WSW

Date	Time	Wind Speed m/s	Direction
10-Apr-2023	04:00	0.0	WSW
10-Apr-2023	05:00	0.9	WSW
10-Apr-2023	06:00	0.4	WSW
10-Apr-2023	07:00	0.4	WSW
10-Apr-2023	08:00	0.4	WSW
10-Apr-2023	09:00	0.4	WSW
10-Apr-2023	10:00	0.4	WSW
10-Apr-2023	11:00	0.4	WSW
10-Apr-2023	12:00	0.4	W
10-Apr-2023	13:00	0.4	WNW
10-Apr-2023	14:00	0.4	NW
			WSW
10-Apr-2023	15:00	0.4	
10-Apr-2023	16:00	0.4	WSW
10-Apr-2023	17:00	0.4	WSW
10-Apr-2023	18:00	0.4	WSW
10-Apr-2023	19:00	0.4	WSW
10-Apr-2023	20:00	0.0	WSW
10-Apr-2023	21:00	0.0	WSW
10-Apr-2023	22:00	0.0	WSW
10-Apr-2023	23:00	0.0	WSW
11-Apr-2023	00:00	0.4	WSW
11-Apr-2023	01:00	0.0	WNW
11-Apr-2023	02:00	0.4	WNW
11-Apr-2023	03:00	0.4	WSW
11-Apr-2023	04:00	0.0	W
11-Apr-2023	05:00	0.0	WSW
11-Apr-2023	06:00	0.0	WSW
11-Apr-2023	07:00	0.0	WSW
11-Apr-2023	08:00	0.0	WSW
11-Apr-2023	09:00	0.0	WSW
11-Apr-2023	10:00	0.4	WSW
11-Apr-2023	11:00	0.9	WSW
11-Apr-2023	12:00	0.4	W
		0.4	WSW
11-Apr-2023	13:00		
11-Apr-2023	14:00	0.0	NW
11-Apr-2023	15:00	0.0	WNW
11-Apr-2023	16:00	0.0	WSW
11-Apr-2023	17:00	0.0	WSW
11-Apr-2023	18:00	0.0	WSW
11-Apr-2023	19:00	0.4	WSW
11-Apr-2023	20:00	0.0	WNW
11-Apr-2023	21:00	0.0	WNW
11-Apr-2023	22:00	0.0	WNW
11-Apr-2023	23:00	0.0	WSW
12-Apr-2023	00:00	0.0	WSW
12-Apr-2023	01:00	0.0	W
12-Apr-2023	02:00	0.0	W
12-Apr-2023	03:00	0.0	
12-Apr-2023	04:00	0.0	WNW
12-Apr-2023	05:00	0.4	WNW
12-Apr-2023	06:00	0.0	WNW
12-Apr-2023	07:00	0.0	NW
12-Apr-2023	08:00	0.0	
12-Apr-2023	09:00	0.0	
12-MP1-2020	10:00	0.0	

12-Apr-2023	Date	Time	Wind Speed m/s	Direction
12-Apr-2023	12-Apr-2023	11:00	0.0	SW
12-Apr-2023	12-Apr-2023	12:00	0.0	SW
12-Apr-2023		13:00	0.0	ENE
12-Apr-2023				
13-Apr-2023				VVIVV
13-Apr-2023				\\\\\\\
13-Apr-2023 02:00 1.3 WSW 13-Apr-2023 03:00 0.9 WSW 13-Apr-2023 04:00 0.4 WSW 13-Apr-2023 05:00 0.4 WSW 13-Apr-2023 06:00 0.4 WSW 13-Apr-2023 06:00 0.4 WSW 13-Apr-2023 07:00 0.4 WSW 13-Apr-2023 07:00 0.4 WSW 13-Apr-2023 08:00 0.9 WSW 13-Apr-2023 09:00 0.9 WSW 13-Apr-2023 10:00 0.9 WSW 13-Apr-2023 11:00 0.9 WNW 13-Apr-2023 13:00 0.9 WNW 13-Apr-2023 15:00 0.4 WNW 13-Apr-2023 15:00 0.4 WNW 13-Apr-2023 15:00 0.4 WNW 13-Apr-2023 16:00 0.9 NW 13-Apr-2023 17:00 0.4 WNW 13-Apr-2023 17:00 0.4 WNW 13-Apr-2023 18:00 0.9 WNW 13-Apr-2023 18:00 0.9 WNW 13-Apr-2023 18:00 0.0 WNW 13-Apr-2023 19:00 0.0 WNW 13-Apr-2023 19:00 0.0 WNW 13-Apr-2023 19:00 0.0 WSW 13-Apr-2023 20:00 0.0 WSW 13-Apr-2023 20:00 0.0 WSW 13-Apr-2023 20:00 0.0 WSW 13-Apr-2023 20:00 0.0 WSW 14-Apr-2023 00:00 0.0 WSW 14-Apr-2023 11:00 0.0 WSW 14-Apr-2023 11:00 0.0 WSW				
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14-Apr-2023 17:00 1.3 E				
	14-Apr-2023	17:00	1.3	E

Date	Time	Wind Speed m/s	Direction
14-Apr-2023	18:00	0.4	ENE
14-Apr-2023	19:00	0.0	Е
14-Apr-2023	20:00	0.0	
14-Apr-2023	21:00	0.0	Е
14-Apr-2023	22:00	0.0	ENE
14-Apr-2023	23:00	0.0	
15-Apr-2023	00:00	0.0	
15-Apr-2023	01:00	0.0	
15-Apr-2023	02:00	0.0	
15-Apr-2023	03:00	0.0	
15-Apr-2023	03:00	0.0	
15-Apr-2023	05:00	0.0	
15-Apr-2023	06:00	0.0	
15-Apr-2023	07:00	0.0	
15-Apr-2023	08:00	0.0	
15-Apr-2023	09:00	0.0	
15-Apr-2023	10:00	0.0	
15-Apr-2023	11:00	0.0	SSW
15-Apr-2023	12:00	0.4	SSW
15-Apr-2023	13:00	0.4	WSW
15-Apr-2023	14:00	0.0	SSW
15-Apr-2023	15:00	0.0	SSW
15-Apr-2023	16:00	0.4	SSW
15-Apr-2023	17:00	0.0	SSW
15-Apr-2023	18:00	0.0	SSW
15-Apr-2023	19:00	0.0	SSW
15-Apr-2023	20:00	0.0	SSW
15-Apr-2023	21:00	0.0	SW
15-Apr-2023	22:00	0.0	
15-Apr-2023	23:00	0.0	NW
16-Apr-2023	00:00	0.0	NW
16-Apr-2023	01:00	0.0	
16-Apr-2023	02:00	0.0	
16-Apr-2023	03:00	0.0	
16-Apr-2023	04:00	0.0	
16-Apr-2023	05:00	0.0	
16-Apr-2023	06:00	0.0	
16-Apr-2023	07:00	0.0	
16-Apr-2023	08:00	0.0	
16-Apr-2023	09:00	0.0	
16-Apr-2023	10:00	0.0	WSW
16-Apr-2023	11:00	0.0	WSW
16-Apr-2023	12:00	0.0	SSW
16-Apr-2023	13:00	0.0	S
16-Apr-2023	14:00	0.0	ENE
16-Apr-2023	15:00	0.9	ENE
16-Apr-2023	16:00	0.9	ENE
16-Apr-2023	17:00	0.4	NW
16-Apr-2023	18:00	0.4	NW
16-Apr-2023	19:00	0.0	W
16-Apr-2023	20:00	0.0	WNW
16-Apr-2023	21:00	0.0	W
16-Apr-2023	22:00	0.0	W
16-Apr-2023	23:00	0.0	W

Date	Time	Wind Speed m/s	Direction
17-Apr-2023	01:00	0.0	WSW
17-Apr-2023	02:00	0.0	WSW
17-Apr-2023	03:00	0.0	WNW
17-Apr-2023	04:00	0.0	
17-Apr-2023	05:00	0.0	W
17-Apr-2023	06:00	0.0	
17-Apr-2023	07:00	0.0	
17-Apr-2023	08:00	0.0	W
17-Apr-2023	09:00	0.0	W
17-Apr-2023	10:00	0.0	WSW
17-Apr-2023	11:00	0.4	WSW
17-Apr-2023	12:00	0.4	WSW
17-Apr-2023	13:00	0.4	WSW
17-Apr-2023	14:00	0.9	WSW
17-Apr-2023	15:00	0.9	WSW
17-Apr-2023	16:00	0.9	WSW
17-Apr-2023	17:00	0.4	WSW
17-Apr-2023	18:00	0.4	NW
17-Apr-2023	19:00	0.4	WNW
17-Apr-2023	20:00	0.4	W
17-Apr-2023	21:00	0.0	W
17-Apr-2023	22:00	0.0	WSW
17-Apr-2023	23:00	0.0	WSW
18-Apr-2023	00:00	0.0	WSW
18-Apr-2023	01:00	0.0	W
18-Apr-2023	02:00	0.0	WNW
18-Apr-2023	03:00	0.0	
18-Apr-2023	04:00	0.0	
18-Apr-2023	05:00	0.0	
18-Apr-2023	06:00	0.0	WNW
18-Apr-2023	07:00	0.0	
18-Apr-2023	08:00	0.0	WNW
18-Apr-2023	09:00	0.0	WNW
18-Apr-2023	10:00	0.0	WNW
18-Apr-2023	11:00	0.0	WNW
18-Apr-2023	12:00	0.4	ENE
18-Apr-2023	13:00	0.9	ENE
18-Apr-2023	14:00	1.3	ENE
18-Apr-2023	15:00	0.4	ENE
18-Apr-2023	16:00	0.0	ENE
18-Apr-2023	17:00	0.0	ENE
18-Apr-2023	18:00	0.0	ENE
18-Apr-2023	19:00	0.0	ENE
18-Apr-2023	20:00	0.0	ENE
18-Apr-2023	21:00	0.0	ENE
	22:00		ENE
18-Apr-2023		0.0	
18-Apr-2023	23:00	0.0	ENE
19-Apr-2023	00:00	0.0	ENE
19-Apr-2023	01:00	0.0	E
19-Apr-2023	02:00	0.0	E
19-Apr-2023	03:00	0.0	E
19-Apr-2023	04:00	0.0	ENE
19-Apr-2023	05:00	0.0	
19-Apr-2023	06:00	0.0	ENE
19-Apr-2023	07:00	0.0	ENE

Date	Time	Wind Speed m/s	Direction
19-Apr-2023	08:00	0.0	ENE
19-Apr-2023	09:00	0.0	ENE
19-Apr-2023	10:00	0.4	ENE
19-Apr-2023	11:00	0.4	ENE
19-Apr-2023	12:00	1.3	ENE
19-Apr-2023	13:00	1.3	ENE
19-Apr-2023	14:00	0.4	WNW
19-Apr-2023	15:00	0.0	
19-Apr-2023	16:00	0.4	ENE
19-Apr-2023	17:00	0.0	E
19-Apr-2023	18:00	0.0	
19-Apr-2023	19:00	0.0	
19-Apr-2023	20:00	0.0	WNW
19-Apr-2023	21:00	0.4	WNW
19-Apr-2023	22:00	0.0	WSW
19-Apr-2023	23:00	0.0	WNW
	00:00	0.0	WNW
20-Apr-2023 20-Apr-2023	00.00	0.0	
20-Apr-2023 20-Apr-2023	02:00	0.0	W
			W
20-Apr-2023	03:00	0.0	
20-Apr-2023	04:00	0.0	WNW
20-Apr-2023	05:00	0.4	WNW
20-Apr-2023	06:00	0.0	W
20-Apr-2023	07:00	0.0	WNW
20-Apr-2023	08:00	0.4	WNW
20-Apr-2023	09:00	0.0	
20-Apr-2023	10:00	0.0	WSW
20-Apr-2023	11:00	0.0	WSW
20-Apr-2023	12:00	0.4	W
20-Apr-2023	13:00	0.0	WSW
20-Apr-2023	14:00	0.4	W
20-Apr-2023	15:00	0.4	W
20-Apr-2023	16:00	0.4	WSW
20-Apr-2023	17:00	0.4	WSW
20-Apr-2023	18:00	0.4	W
20-Apr-2023	19:00	0.4	WSW
20-Apr-2023	20:00	0.4	WSW
20-Apr-2023	21:00	0.4	WSW
20-Apr-2023	22:00	0.4	WSW
20-Apr-2023	23:00	0.4	WSW
21-Apr-2023	00:00	0.4	WSW
21-Apr-2023	01:00	0.0	WSW
21-Apr-2023	02:00	0.0	WSW
21-Apr-2023	03:00	0.0	WSW
21-Apr-2023	04:00	0.0	WSW
21-Apr-2023	05:00	0.0	WNW
21-Apr-2023	06:00	0.0	WSW
21-Apr-2023	07:00	0.0	SW
21-Apr-2023	08:00	0.0	WSW
21-Apr-2023	09:00	0.4	WSW
21-Apr-2023	10:00	0.4	WSW
21-Apr-2023	11:00	0.4	WSW
21-Apr-2023	12:00	0.9	WSW
21-Apr-2023	13:00	0.9	WSW
∠ 1-MU1-ZUZJ	13.00	U. 4	VV 3 VV

Appendix I

Date	Time	Wind Speed m/s	Direction
21-Apr-2023	15:00	0.4	WSW
21-Apr-2023	16:00	0.4	WNW
21-Apr-2023	17:00	0.4	WNW
21-Apr-2023	18:00	0.4	WSW
21-Apr-2023	19:00	0.9	WSW
21-Apr-2023	20:00	0.0	WSW
21-Apr-2023	21:00	0.0	WSW
21-Apr-2023	22:00	0.4	W
21-Apr-2023	23:00	0.4	WSW
22-Apr-2023	00:00	0.9	WSW
·			WSW
22-Apr-2023	01:00	0.4	
22-Apr-2023	02:00	0.4	WSW
22-Apr-2023	03:00	0.9	WSW
22-Apr-2023	04:00	0.9	WSW
22-Apr-2023	05:00	0.9	WSW
22-Apr-2023	06:00	0.4	SW
22-Apr-2023	07:00	0.9	SW
22-Apr-2023	08:00	0.9	WSW
22-Apr-2023	09:00	0.4	WSW
22-Apr-2023	10:00	0.4	WSW
22-Apr-2023	11:00	1.3	WSW
22-Apr-2023	12:00	0.9	SW
22-Apr-2023	13:00	1.3	SW
22-Apr-2023	14:00	1.3	WSW
22-Apr-2023	15:00	1.3	WSW
22-Apr-2023	16:00	1.3	WSW
22-Apr-2023	17:00	0.9	WSW
22-Apr-2023	18:00	1.3	WSW
22-Apr-2023	19:00	1.3	WSW
22-Apr-2023	20:00	1.3	WSW
22-Apr-2023	21:00	0.9	WSW
			WSW
22-Apr-2023	22:00	0.9	
22-Apr-2023	23:00	0.9	WSW
23-Apr-2023	00:00	1.3	WSW
23-Apr-2023	01:00	1.3	WSW
23-Apr-2023	02:00	0.9	WSW
23-Apr-2023	03:00	0.4	WSW
23-Apr-2023	04:00	0.0	W
23-Apr-2023	05:00	0.4	WSW
23-Apr-2023	06:00	0.4	WSW
23-Apr-2023	07:00	0.4	WSW
23-Apr-2023	08:00	0.4	WSW
23-Apr-2023	09:00	0.4	W
23-Apr-2023	10:00	0.4	WSW
23-Apr-2023	11:00	0.9	WSW
23-Apr-2023	12:00	0.9	WSW
23-Apr-2023	13:00	0.4	WSW
23-Apr-2023	14:00	0.9	WSW
23-Apr-2023	15:00	0.9	WSW
	16:00	1.3	WSW
23-Apr-2023	17:00	0.9	WSW
23-Apr-2023			
23-Apr-2023	18:00	0.9	WSW
23-Apr-2023	19:00	0.4	WSW
23-Apr-2023	20:00	0.4	WSW
23-Apr-2023	21:00	0.4	WSW

Date	Time	Wind Speed m/s	Direction
23-Apr-2023	22:00	0.4	WSW
23-Apr-2023	23:00	0.0	WSW
24-Apr-2023	00:00	0.4	WSW
24-Apr-2023	01:00	0.4	WSW
24-Apr-2023	02:00	0.4	WSW
24-Apr-2023	03:00	0.0	WSW
24-Apr-2023	04:00	0.4	WSW
24-Apr-2023	05:00	0.4	WSW
24-Apr-2023	06:00	0.4	WSW
24-Apr-2023	07:00	0.0	WSW
24-Apr-2023	08:00	0.0	WSW
24-Apr-2023	09:00	0.4	WSW
24-Apr-2023	10:00	0.4	WSW
24-Apr-2023	11:00	0.9	WSW
24-Apr-2023	12:00	0.4	WSW
		0.4	WSW
24-Apr-2023	13:00		
24-Apr-2023	14:00	0.9	WSW
24-Apr-2023	15:00	0.4	WSW
24-Apr-2023	16:00	0.0	WSW
24-Apr-2023	17:00	0.0	W
24-Apr-2023	18:00	0.0	
24-Apr-2023	19:00	0.0	WNW
24-Apr-2023	20:00	0.4	W
24-Apr-2023	21:00	0.0	WSW
24-Apr-2023	22:00	0.0	
24-Apr-2023	23:00	0.4	WNW
25-Apr-2023	00:00	0.0	WNW
25-Apr-2023	01:00	0.0	
25-Apr-2023	02:00	0.0	
25-Apr-2023	03:00	0.0	
25-Apr-2023	04:00	0.0	
25-Apr-2023	05:00	0.0	W
25-Apr-2023	06:00	0.0	
25-Apr-2023	07:00	0.0	
25-Apr-2023	08:00	0.0	
25-Apr-2023	09:00	0.0	SW
25-Apr-2023	10:00	0.0	SSW
25-Apr-2023	11:00	0.0	SSW
25-Apr-2023	12:00	0.0	SW
25-Apr-2023	13:00	0.0	SSW
25-Apr-2023	14:00	0.0	SW
25-Apr-2023	15:00	0.0	SSW
25-Apr-2023	16:00	0.0	SSW
25-Apr-2023	17:00	0.0	SW
25-Apr-2023	18:00	0.0	SSW
25-Apr-2023	19:00	0.0	SSW
25-Apr-2023 25-Apr-2023	20:00	0.0	SSW
25-Apr-2023 25-Apr-2023	21:00		SSW
		0.0	SSW
25-Apr-2023	22:00	0.0	
25-Apr-2023	23:00	0.0	SSW
26-Apr-2023	00:00	0.0	SSW
26-Apr-2023	01:00	0.0	SSW
26-Apr-2023	02:00	0.0	SW
26-Apr-2023	03:00	0.0	SSW
26-Apr-2023	04:00	0.0	SSW

Date	Time	Wind Speed m/s	Direction
26-Apr-2023	05:00	0.0	SSW
26-Apr-2023	06:00	0.0	SSW
26-Apr-2023	07:00	0.0	SSW
26-Apr-2023	08:00	0.0	SW
26-Apr-2023	09:00	0.4	SW
26-Apr-2023	10:00	0.4	SW
26-Apr-2023	11:00	0.4	SSW
26-Apr-2023	12:00	0.4	SSW
26-Apr-2023	13:00	0.4	SSW
26-Apr-2023	14:00	0.0	SSW
26-Apr-2023	15:00	0.0	SSW
26-Apr-2023	16:00	0.0	WNW
26-Apr-2023	17:00	0.0	SW
26-Apr-2023	18:00	0.4	NW
26-Apr-2023	19:00	0.0	WSW
26-Apr-2023	20:00	0.4	WSW
26-Apr-2023	21:00	0.0	WSW
26-Apr-2023	22:00	0.0	WSW
26-Apr-2023	23:00	0.4	WSW
27-Apr-2023	00:00	0.4	WSW
27-Apr-2023	01:00	0.4	WSW
27-Apr-2023	02:00	0.4	WSW
27-Apr-2023	03:00	0.4	WSW
27-Apr-2023	04:00	0.4	WSW
27-Apr-2023	05:00	0.4	W
27-Apr-2023	06:00	0.4	WSW
27-Apr-2023	07:00	0.4	WSW
27-Apr-2023	08:00	0.4	WSW
27-Apr-2023	09:00	0.4	WSW
27-Apr-2023	10:00	0.9	WSW
27-Apr-2023	11:00	0.4	WSW
27-Apr-2023	12:00	0.4	WSW
27-Apr-2023	13:00	0.9	W
27-Apr-2023	14:00	0.9	WSW
27-Apr-2023	15:00	0.9	WSW
27-Apr-2023	16:00	0.9	WSW
27-Apr-2023	17:00	1.3	WSW
27-Apr-2023	18:00	0.9	WSW
27-Apr-2023	19:00	0.9	WSW
27-Apr-2023	20:00	0.4	WSW
27-Apr-2023	21:00	0.0	WSW
27-Apr-2023	22:00	0.4	WSW
27-Apr-2023	23:00	0.4	WSW

Date	Time	Wind Speed m/s	Direction
28-Apr-2023	00:00	0.0	WSW
28-Apr-2023	01:00	0.0	WSW
28-Apr-2023	02:00	0.0	WSW
28-Apr-2023	03:00	0.0	W
28-Apr-2023	04:00	0.0	WSW
28-Apr-2023	05:00	0.0	WSW
28-Apr-2023	06:00	0.0	WSW
28-Apr-2023	07:00	0.4	W
28-Apr-2023	08:00	0.4	WSW
28-Apr-2023	09:00	0.0	WSW
28-Apr-2023	10:00	0.4	WSW
28-Apr-2023	11:00	0.4	WSW
28-Apr-2023	12:00	0.4	NW
28-Apr-2023	13:00	0.4	WSW
28-Apr-2023	14:00	0.4	W
	15:00	0.4	WSW
28-Apr-2023	16:00		
28-Apr-2023		0.4	WNW
28-Apr-2023	17:00	0.4	NW
28-Apr-2023	18:00	0.4	NW
28-Apr-2023	19:00	0.4	WNW
28-Apr-2023	20:00	0.4	NW
28-Apr-2023	21:00	0.4	WNW
28-Apr-2023	22:00	0.0	WSW
28-Apr-2023	23:00	0.0	WSW
29-Apr-2023	00:00	0.0	
29-Apr-2023	01:00	0.0	W
29-Apr-2023	02:00	0.0	WSW
29-Apr-2023	03:00	0.0	
29-Apr-2023	04:00	0.0	W
29-Apr-2023	05:00	0.0	WNW
29-Apr-2023	06:00	0.0	WNW
29-Apr-2023	07:00	0.0	
29-Apr-2023	08:00	0.0	W
29-Apr-2023	09:00	0.0	WSW
29-Apr-2023	10:00	0.0	WSW
29-Apr-2023	11:00	0.0	
29-Apr-2023	12:00	0.0	W
29-Apr-2023	13:00	0.0	NW
29-Apr-2023	14:00	0.4	E
29-Apr-2023	15:00	0.0	
			WSW
29-Apr-2023	16:00	0.0	
29-Apr-2023	17:00	0.0	NNE
29-Apr-2023	18:00	0.0	NE
29-Apr-2023	19:00	0.0	ENE
29-Apr-2023	20:00	0.0	ENE
29-Apr-2023	21:00	0.0	SSW
29-Apr-2023	22:00	0.0	
29-Apr-2023	23:00	0.0	WSW
30-Apr-2023	00:00	0.0	SSW
30-Apr-2023	01:00	0.0	SSW
30-Apr-2023	02:00	0.0	SSW
30-Apr-2023	03:00	0.0	SSW
30-Apr-2023	04:00	0.0	SSW
30-Apr-2023	05:00	0.0	SSW
30-Apr-2023	06:00	0.0	WSW

Date	Time	Wind Speed m/s	Direction
30-Apr-2023	07:00	0.0	SW
30-Apr-2023	08:00	0.0	WSW
30-Apr-2023	09:00	0.0	WSW
30-Apr-2023	10:00	0.0	WSW
30-Apr-2023	11:00	0.0	SSW
30-Apr-2023	12:00	0.0	SSW
30-Apr-2023	13:00	0.0	WSW
30-Apr-2023	14:00	0.0	WSW
30-Apr-2023	15:00	0.0	WSW
30-Apr-2023	16:00	0.4	WSW
30-Apr-2023	17:00	0.0	WSW
30-Apr-2023	18:00	0.4	NW
30-Apr-2023	19:00	0.4	NW
30-Apr-2023	20:00	0.0	WSW
30-Apr-2023	21:00	0.0	WSW
30-Apr-2023	22:00	0.0	WSW
30-Apr-2023	23:00	0.0	WSW

APPENDIX J EVENT ACTION PLANS

Appendix J Event / Action Plan for Air Quality

	ACTION					
EVENT	ET	IEC	ER	CONTRACTOR		
ACTION LEVEL						
Exceedance for one sample	Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC, ER and Contractor; Repeat measurement to confirm finding; and 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.	I. Identify source, investigate the causes of exceedance and propose remedial measures Rectify any unacceptable practice and implement remedial measures; and 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; Inform IEC, ER and Contractor; Advise the ER and Contractor on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC, ER and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and ER; and If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET and ER on the effectiveness of the proposed remedial measures; and Supervise Implementation of remedial measures. 	Confirm receipt of notification of failure in writing; Notify Contractor; and 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 4. Amend proposal if appropriate.		

	ACTION				
EVENT	ET	IEC	ER	CONTRACTOR	
LIMIT LEVEL					
1.Exceedance for one sample	 Identify source, investigate the causes of exceedance and propose remedial measures; Inform ER, Contractor, IEC and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET, ER and Contractor on possible remedial measures; Advise the ER and ET on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures. 	Confirm receipt of notification of failure in writing; Notify Contractor; and Supervise and ensure remedial measures properly implemented.	 Identify source, investigate the causes of exceedance and propose remedial measures; Take immediate action to avoid further exceedance; Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; Implement the agreed proposals; and Amend proposal if appropriate. 	
2.Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and Supervise the implementation 	 Confirm receipt of notification of failure in writing; Notify Contractor; In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; Supervise and ensure remedial measures properly implemented; and If exceedance continues, consider what portion of the work is responsible and instruct the 	 Identify source, investigate the causes of exceedance and propose remedial measures; Take immediate action to avoid further exceedance; Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; 	

EVENT	ACTION				
	ET	IEC	ER	CONTRACTOR	
	8. If exceedance stops, cease additional monitoring.	of remedial measures.	Contractor to stop that portion of work until the exceedance is abated.	6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.	

Event / Action Plan for Construction Noise

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

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

			Action	
Event	ET	IEC	ER	Contractor
	3. Rectify unacceptable practice;	2. Review the proposed remedial	2. Request Contractor to critically review	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 	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.	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.	 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.
Limit level being exceeded by two or more consecutive sampling days	are implemented 1. 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.	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	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and Implement the agreed remedial measures. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.

Event / Action Plan for Landscape and Visual during construction phase

			Action	
Event	ET	IEC	ER	Contractor
Non-conformity on one occasion	Inform the Contractor, IEC and ER Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed	Check inspection report Check Contractor's working method Discuss with ET, ER and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures	Confirm receipt of notification of non-conformity in writing Review and agree on the remedial measures proposed by the Contractor Supervise implementation of remedial measures	Identify source and investigate the non-conformity Implement remedial measures Amend working methods agreed with ER as appropriate Rectify damage and undertake any necessary replacement
Repeated Non-conformity	1. Identify source(s) 2. Inform Contractor, IEC and ER 3. Discuss inspection frequency 4. Discuss remedial actions with IEC, ER and Contractor 5. Monitor remedial actions until rectification has been completed 6. If non-conformity stops, cease additional monitoring	1. Check inspection report 2. Check Contractor's working method 3. Discuss with ET, ER and Contractor on possible remedial measures 4. Advise ER on effectiveness of proposed remedial measures	Notify the Contractor In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented Supervise implementation of remedial measures	1. Identify source and investigate the non-conformity 2. Implement remedial measures 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity 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.

APPENDIX K SUMMARY OF EXCEEDANCE

Appendix K Exceedance Report

(A) Exceedance Report for Air Quality

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of the Project	
		Action Level	Limit Level	Action Level	Limit Level
A in Overlites	1-hr TSP	0	0	0	0
Air Quality	24-hr TSP	0	0	0	0

(B) Exceedance Report for Construction Noise

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of the Project	
		Action Level	Limit Level	Action Level	Limit Level
Noise	L _{eq} (30 min.) dB(A)	0	0	0	0

(C) Exceedance Report for Water Quality

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of the Project	
		Action Level	Limit Level	Action Level	Limit Level
	Dissolved Oxygen (DO)	0	3	0	0
Water Quality	Turbidity	0	2	0	0
	Suspended Solids (SS)	0	1	0	0

APPENDIX L SITE AUDIT SUMMARY

Contract No. YL/2020/01 - Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 1 Site Formation

and Infrastructure Works inside Lok Ma Chau Loop and

Western Connection Road Phase 1

Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230403	
Date	3 April 2023 (Monday)	
Time	15:00 – 16:00	

Ref. No.	Non-Compliance	Related Item No	
-	None identified		
	TONG MUNICULAR TONG MANAGEMENT OF THE PROPERTY	Related	
Ref. No.	Remarks/Observations	Item No	
	B. Air Quality	TCM 110	
	No environmental deficiency was identified during site inspection.		
	C. Noise		
	• No environmental deficiency was identified during site inspection.		
	• No environmental deficiency was identified during site inspection.		
	D. Water Quality		
	No environmental deficiency was identified during site inspection.		
	E. Waste / Chemical Management		
	No environmental deficiency was identified during site inspection.		
	The sharmonian deficiency was identified during site hisportion.		
	F. Land Contamination		
	No environmental deficiency was identified during site inspection.		
	G. Landscape and Visual		
	No environmental deficiency was identified during site inspection.		
	H. Ecology		
	No environmental deficiency was identified during site inspection.		
	I. Fisheries		
	No environmental deficiency was identified during site inspection.		
	J. Permits/Licences		
	No environmental deficiency was identified during site inspection.		
	K. Others		
	Follow-up on previous audit section (Ref. No.: 23032), no major environmental deficiency was identified during site inspection.		

	Name	Signature	Date
Recorded by	Adrian Lam		4 April 2023
Checked by	Dr. Priscilla Choy	RI	4 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230412
Date	12 April 2023 (Wednesday)
Time	9:30 – 10:50

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230412-R01	To enhance the bund surrounding the DCM works at WCR.	D19
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 230403), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam	Try	12 April 2023
Checked by	Dr. Priscilla Choy	WF	12 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230419
Date	19 April 2023 (Wednesday)
Time	9:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
	Trong identified	Related
Ref. No.	Remarks/Observations	Item No.
	B. Air Quality	
230419-R01	• The idle stockpiles of dusty materials at Pond 10 should be covered with tarpaulin sheet esp. during rainstorm.	B2
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230419-R01	• The idle stockpiles of dusty materials at Pond 10 should be covered with tarpaulin sheet esp. during rainstorm.	D9
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 230412), all environmental deficiencies were rectified by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam	Tun	19 April 2023
Checked by	Dr. Priscilla Choy	WF	19 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230426
Date	26 April 2023 (Wednesday)
Time	14:00 - 15:30

D.C.N.	No. Complement	Related
Ref. No.	Non-Compliance None identified	Item No.
<u>-</u>	None identified	- D.1.4.1
Dof No	Domonics/Observations	Related
Ref. No.	Remarks/Observations	Item No.
	B. Air Quality No environmental deficiency was identified during site inspection.	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230426-R01	The collected muddy water should be diverted to the proper treatment facilities before discharging	D6
230420-R01	out (near meander bridge).	D0
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	The six inclinations delivered with factoring one inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 230419), all environmental deficiencies were rectified by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam	Tun	26 April 2023
Checked by	Dr. Priscilla Choy	WF	26 April 2023

Contract No. YL/2020/02 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 2 Western
Connection Road Phase 2, Connection Roads to Fanling /
San Tin Highway and Direct Road Link Phase 1

Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team

Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number 230403		
Date	3 April 2023 (Wednesday)	
Time	09:30 – 11:15	

Ref. No.	Non-Compliance	Related Item No.
Rei. No.	Non-Compliance	
	None identified	-
Dof No	Damauks/Observedfore	Related
Ref. No.	Remarks/Observations	Item No
220402 B02	B. Air Quality	
230403-R02	To provide maintenance to the crane emitting black smoke at Reed bed 3A.	B 23
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230403-R01	To provide bunding around site boundary and exit at TAR1/	D 2
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 230329), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Adrian Lam	A	4 April2023
Checked by	Dr. Priscilla Choy	W.T	4 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230412
Date	12 April 2023 (Wednesday)
Time	14:00 – 15:40

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
230413-R01	• Three sides enclosures with top shelter should be provided for the cement debagging works at CS1.	B14
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 230403), all environmental deficiency was improved/rectified by Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam	Tin	12 April2023
Checked by	Dr. Priscilla Choy	WF	12 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team

Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230419
Date	19 April 2023 (Wednesday)
Time	14:00 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230419-R01	The exposed slope protection works should be enhanced to avoid the discharge of muddy runoff to the nearby Reedbed 3A.	D9
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
230419-R02	The construction materials at the stream at Fu Tai site area should be cleared.	H12
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 230412), all environmental deficiency was improved/rectified by Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam	Tuy	19 April2023
Checked by	Dr. Priscilla Choy	WF	19 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team

Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Checklist Reference Number	230426
Date	26 April 2023 (Wednesday)
Time	9:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	•
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
230426-R01	The stockpiles of dusty materials at near the nullah at Fu Tai Site Area should be covered properly with tarpaulin sheet.	B2
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230426-R01	The stockpiles of dusty materials at near the nullah at Fu Tai Site Area should be covered properly with tarpaulin sheet.	D9
	E. Waste / Chemical Management	
230426-R02	The chemical containers at Fu Tai Site Area and Reedbed 3 should be stored properly with drip tray.	E3i, 13
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 230419), all environmental deficiency was improved/rectified by Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam	Tun	26 April2023
Checked by	Dr. Priscilla Choy	WF	26 April 2023

Contract No. YL/2021/01 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 3 Direct Road
Link Phase 2

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2021/01 – Direct Road Link Phase 2

Weekly Site Inspection Record Summary

Checklist Reference Number	230403	
Date	3 April 2023 (Monday)	
Time	14:00 – 14:40	

D.C.N.	N. C. II	Related
Ref. No.	Non-Compliance	Item N
-	None identified	-
D-C M-	D	Relate
Ref. No.	Remarks/Observations	Item N
	B. Air Quality	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
16	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.:230327), all major environmental deficiency were rectified/ improved by the Contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam	A	4 April 2023
Checked by	Dr. Priscilla Choy	Win	4 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2021/01 – Direct Road Link Phase 2

Weekly Site Inspection Record Summary

Checklist Reference Number	230412
Date	12 April 2023 (Wednesday)
Time	11:00 – 11:45

D 4 N		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
D. C.NI	B 1 /Ol /	Related
Ref. No.	Remarks/Observations	Item No.
	B. Air Quality	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230412-R01	To update the CNP and wetsep maintenance records at EEAA.	D8
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	1 1/0 environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
·	J. Permits/Licences	
230412-R01	• To update the CNP and wetsep maintenance records at EEAA.	J1
	K. Others	
	• Follow-up on previous audit section (Ref. No.:230403), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam	Lun	12 April 2023
Checked by	Dr. Priscilla Choy	WF	12 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2021/01 – Direct Road Link Phase 2

Weekly Site Inspection Record Summary

Checklist Reference Number	230417
Date	17 April 2023 (Monday)
Time	14:00 – 15:00

D 4 M	N. G. W	Related
Ref. No.	Non-Compliance None identified	Item No.
-	None identified	- Dalatad
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
230417-R01	• The temporary storage of excavated materials should be covered and kept away from the nearby gullies at EEAA.	B2
230417-R02	• The broken dust screen surrounding the potential dust generation works should be replaced at EEAA.	B12
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230417-R01	The temporary storage of excavated materials should be covered and kept away from the nearby gullies at EEAA.	D19
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.:230412), all environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam	Tuy	17 April 2023
Checked by	Dr. Priscilla Choy	WF	17 April 2023

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2021/01 – Direct Road Link Phase 2

Weekly Site Inspection Record Summary

Checklist Reference Number	230424
Date	24 April 2023 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	No environmental deficiency was identified during site inspection.	
	C. Noise	
	No environmental deficiency was identified during site inspection.	
	D. Water Quality	
230424-R01	• To enhance water mitigation measures around EEAA to prevent surface runoff from flowing out of site area.	D 4,5
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	No environmental deficiency was identified during site inspection.	
	H. Ecology	
	No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.:230417), all environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam	A	26 April 2023
Checked by	Dr. Priscilla Choy	W.Z.	26 April 2023

APPENDIX M ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
Construct	tion Dust I				1		
S3.8	D1-DP	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed	Minimize dust impact at	Contractor	All construction	Construction	٨
	1/DP2/	worksites and haul road is proposed to achieve dust removal	the nearby sensitive		sites	stage	
	DP3	efficiency of 92.1%. While the above watering frequencies are to	receivers				
		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					
S3.8	D2-DP	The contractor shall follow the procedures and requirements	Reduce air pollution	Contractor	All construction	Construction	
	1/DP2/	given in the Air Pollution Control (Construction Dust) Regulation	emission from		sites	stage	
	DP3	All vehicles shall be shut down in intermittent use	construction vehicles and				^
		Only well-maintained plant should be operated on-site to	plants				*
		avoid emission of dark smoke					
		Valid No-Road Mobile Machinery (NRMM) labels should be					۸
		provided to regulated machines					
S3.8	D2-DP	Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance	Minimize dust impact at	Contractor	All construction	Construction	۸
	1/DP2/	throughout the construction Phase	the nearby sensitive		sites	stage	
	DP3	Any excavated or stockpile of dusty material should be	receivers				*
		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;					۸
		 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					۸
		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					۸
		sheeting to ensure that the dusty material do not leak from					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		the contribute.	Concerns to address	illeasures ?			
		the vehicle; • Where practicable, vehicle washing facilities with high					
		pressure water jet should be provided at every discernible					٨
		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					٨
		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					٨
		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					٨
		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,					٨
		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					

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	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		 impervious sheeting or placed in an area sheltered on the top and the 3 sides; Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked 					N/A
		 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 					N/A
		 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-DP	Implement regular dust monitoring under EM&A programme	Monitoring of dust impact	Contractor	Selected	Construction	۸
	1/DP2/	during the construction stage.			representative	stage	
	DP3				dust		
					monitoring		
					station		
Construct	tion Noise	Impact					
S4.8	N-CP1-	Implement the following good site management practices:	Control construction	Contractor	All construction	Construction	
	DP1/D	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction	airborne		sites	stage	۸
	P2/DP3	 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 	noise				۸
		from nearby NSRs; silencers or mufflers on construction					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		 equipment should be properly fitted and maintained during the construction works; Mobile plant should be sited as far away from NSRs as possible and practicable; Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 					۸
S4.8	N-CP2-	Install temporary site hoarding (approx 2.4m high) located on the site boundaries between noisy construction activities and NSRs.	Reduce the construction	Contractor	All construction	Construction	۸
	DP1/D	The conditions of the hoardings shall be properly maintained	noise levels at low-level		sites where	phase	
	P2/DP3	throughout the construction period.	zone of NSRs through		practicable		
			partial screening.				
S4.8	N-CP3-	Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator.	Screen the noisy plant	Contractor	All construction	Construction	۸
	DP1/D	plants including all compressor and generator.	items to be used at all		sites where	phase	
	P2/DP3		construction sites		practicable		
S4.8	N-CP4-	Use of "Quiet" Plant and Working Methods	Reduce the noise levels	Contractor	All construction	Construction	۸
	DP1/D		of plant items		sites where	phase	
	P2/DP3				practicable		
S4.8	N-CP5-	Sequencing operation of construction plants where practicable.	Operate sequentially	Contractor	All construction	Construction	۸
	DP1/D		within the same work site		sites where	phase	
	P2/DP3		to reduce the		practicable		
			construction airborne				
			noise				
S4.8	N-CP6-	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	Contractor	Sections with	Construction	۸
	DP2		from concrete lorry mixer		NSRs along Ha	phase	
					Wan Tsuen		
					Road and Lok		

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
					Ma Chau Road		
S4.8	N-CP8-	Provide temporary noise barrier during construction phase.	Control airborne noise	Contractor	Refer to Figure	Construction	۸
	DP2		from construction access		4-8 of the EIA	phase	
			road traffic		report		
S4.8	N-CP7-	Implement a noise monitoring under EM&A programme.	Monitor the construction	Contractor	Selected	Construction	۸
	DP2/N-		noise levels at the		representative	phase	
	CP6-D		selected representative		noise monitoring		
	P1/N-C		locations		station		
	P6-DP3						
Water Qua	ality Impac	t (Construction Phase)		ı	1		
S5.7	W1-CP	Construction Runoff and Site Drainage	Minimize water quality	Contractor	All construction	Construction	
	-DP1/D	In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection	impact from construction		sites where	phase	
	P2/DP3	Department,	site runoff and general		practicable		
		1994 (ProPECC PN 1/94), construction phase mitigation measures,	construction activities				
		where appropriate, should include the following:					
		Update and implementation of Stormwater Pollution Control Plan					۸
		At the start of site establishment, perimeter cut-off drains					
		to direct off-site water around the site should be					۸
		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.					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		Diversion of natural stormwater should be provided as far					۸
		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,					
		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					٨
		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					۸
		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					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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.					
		Measures should be taken to minimise the ingress of site					
		drainage into excavations. If the excavation of trenches in					۸
		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					۸
		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					۸
		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.					۸

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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					۸
		provided at every construction site exit where practicable.					
		Wash-water should have sand and silt settled out and					
		removed at least on a weekly basis to ensure the					
		continued efficiency of the process. The section of access					
		road leading to, and exiting from, the wheel-wash bay to					
		the public road should be paved with sufficient backfall					
		toward the 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					٨
		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					٨
		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					٨
		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					٨
		malpractices. Notices should be posted at conspicuous					.,
		locations to remind the workers not to discharge any					

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
		sewage or wastewater into the meander, wetlands and fish ponds.					
S5.7	W3-CP -DP1/D P2/DP3	 No mitigation measure is required for groundwater treatment in LMC Loop. Additional investigation is required to identify if contaminated groundwater is found. If the investigation results indicated that the groundwater to be generated from construction works would be contaminated, the contaminated groundwater should be either discharged into recharged wells, or properly treated in compliance with the requirements of Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters. If recharged well method were used, the groundwater quality in the recharged well should not be affected by recharging operation, i.e. the pollution levels of the recharged groundwater should not be higher than that in the recharging wells. If treatment and discharge method were used, the design of wastewater treatment facilities, such as active carbon and petrol interceptor, should be submitted to the EPD 	Minimize groundwater quality impact from contaminated area	Contractor	Areas where contamination is found.	Construction phase	N/A N/A N/A
		and a discharge license should be obtained under the WPCO through the Regional Offices of EPD.					
S5.7	W3-CP -DP1/D P2/DP3	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	Minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction phase	۸

Log Ref		recommended Measures & Main	implement	measures	Implement the	Status
Ref		Measures & Main	4.			
			the		measures?	
		Concerns to address	measures?			
	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 malpractices and achieve continual improvement of environmental performance on site.					۸
W4-CP	Riverbanks Formation	Minimize water quality	Contractor	Riverbank	Construction	
-DP1	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.	impact from riverbank works		works	Phase	۸
	Water quality of the Shenzhen River and the meander would be monitored to ensure effectiveness of the implemented mitigation measures.					۸
W1-CP	Bio-remediation in Shenzhen River	Minimize water quality	Contractor	Shenzhen River	Construction	
-BR	 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 	impact from bio-remediation of Shenzhen River		where practicable	phase	N/A
	-DP1 W1-CP	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. W4-CP 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. W1-CP 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	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. W4-CP 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. W1-CP 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	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. W4-CP 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. W1-CP Bio-remediation in Shenzhen River W4-CP	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. 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. W1-CP 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. from bio-remediation of Shenzhen River Minimize water quality impact from bio-remediation of Shenzhen River Minimize water quality impact from works Winimize water quality Contractor Shenzhen River Winimize water quality impact from bio-remediation of Shenzhen River Shenzhen River Water quality monitoring programme are presented in the water quality impact in the receiving water is recorded, additional measures such as	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. W4-CP 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. W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP W4-CP Bio-remediation in Shenzhen River W4-CP -BR W4-CP Sio-remediation in Shenzhen River W4-CP Sio-remediation in Shenzhen River W4-CP

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		implemented as necessary.					
S5.7	W4-CP	Construction of Viaduct across Reedbed in LMC Station	Minimize water quality	Contractor	Construction	Construction	N/A
	-DP3	As a precautionary measures, three options are recommended to	impact from of viaduct on		sites across	phase	
		ensure the compliance of No Net Increase in Pollution Load in	reedbed		reedbed in LMC		
		Deep Bay for further consideration. They include:			Station		
		On-site compensate the same area of the occupied					
		reedbed;					
		Provide pilot plant during construction; or					
		 Increase the hydraulic retention time of the proposed Loop STW. 					
		Details of these measures will be subject to further liaison with					
		MTRC and a separate VEP application.					
S5.7	W5-CP	Construction of Bridge Crossing	Minimize water quality	Contractor	Construction	Construction	N/A
	-DP2/D	Good site management as stipulated in ProPECC PN1/94	impact from construction		sites for bridge	phase	
	P3	should be fully implemented to avoid polluted liquid or	of bridge crossing		crossing where	·	
		solid wastes from falling into the WSRs.			practicable		N/A
		All the fishponds will be drained and no fishpond will be			practicable		IV/A
		 affected by bridge crossing. In the meander, cofferdam or diaphragm walls should be 					
		deployed for protecting fish ponds or nearby rivers during					N/A
		bridge pier construction and or road widening work at					
		fishponds.					
		For the low level viaducts crossing the small streams at					N/A
		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.					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (Construction Waste)	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
S7.6	WM1-D P1/DP2 /DP3	 Waste Reduction Measures 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 waste management procedures, including waste reduction, reuse and recycling. 	Reduce waste generation	Contractor	All construction sites where practicable	Construction phase	^ ^
S7.6	WM2-D P1/DP2 /DP3	Prepare Waste Management Plan and submit to the Engineer for approval	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	۸
S7.6	WM2-D P1/DP2 /DP3	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	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	۸

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
		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;					^ ^
S7.6	WM4-D P1/DP2 /DP3	Storage of Waste The following recommendation should be implemented to minimize the impacts: • Waste such as soil should be handled and stored well to ensure secure containment; • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • Different locations should be designated to stockpile each material to enhance reuse;	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^ ^
S7.6	WM5-D P1/DP2 /DP3	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;	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	^ ^

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		 Obtain relevant waste disposal permits from the appropriate authorities; and Disposal of waste should be done at licensed waste disposal facilities. 					^
S7.6	WM6-D	Excavated and C&D Material	Minimize waste impacts	Contractor	All construction	Construction	
	P1/DP2 /DP3	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	from excavated and C&D material		sites	phase	
		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 the use of recycled aggregates where appropriate; and					۸
		 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					٨
		Reuse of C&D Materials					۸
		Use of Standard Formwork and Planning of Construction					^
		Materials Purchasing					
		Provision of Wheel Wash Facilities					۸
		Details refer to Section 7.6.1.4 of the EIA report.					
S7.6	WM7-D	Contaminated Soil	Remediate contaminated	Contractor	All construction	Construction	
	P1/DP2	As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to	soil		sites where	phase	N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
	/DP3	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.			applicable		
S7.6	WM8-D	Chemical Waste	Control the chemical	Contractor	All construction	Construction	
	P1/DP2	If chemical wastes are produced at the construction site,	waste and ensure proper		sites	phase	*
	/DP3	the Contractors should register with EPD as chemical	storage, handling and				
		waste producers. Chemical wastes should be stored in	disposal				
		appropriate containers and collected by a licensed					
		chemical waste contractor. Chemical wastes (e.g. spent					
		lubricant oil) should be recycled at an appropriate facility as					
		far as possible, while the chemical waste that cannot be					
		recycled should be disposed of at either the Chemical					
		Waste Treatment Centre, or another licensed facility, in					
		accordance with the Waste Disposal (Chemical Waste)					
		(General) Regulation.					
S7.6	WM9-D	General Waste	Minimize production of	Contractor	All construction	Construction	
	P1/DP2	General refuse should be stored in enclosed bins	the general refuse and		sites	phase	۸
	/DP3	separately from construction and chemical wastes.	avoid odour, pest and				
		Recycling bins should also be placed to encourage	litter impacts				
		recycling.					۸
		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.					۸
		A reputable waste collector should be employed to remove					

EIA Ref.	EM&A Log	Recommended Mitigation Measures	Objectives of the recommended	Who to implement	Location of the measures	When to	Implementation Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		general refuse on a daily basis.					
S7.6	WM10-	<u>Sewage</u>	Minimize production of	Contractor	All construction	Construction	
	DP1/D	The WMP should document the locations and number of	sewage impacts		sites	phase	۸
	P2	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.					
S7.6	WM11-	<u>Sediment</u>	Minimize waste impacts	Contractor	All construction	Construction	
	DP2	The following mitigation measures are recommended during	from sediment		sites	phase	
		transportation and stockpiling:					
		stockpiling area(s) must be properly designed and closed					N/A
		to the dredging locations as far as possible;					
		Stockpiling area(s) should be lined with impermeable					N/A
		sheeting and bunded;					
		stockpiles should be properly covered by impermeable					N/A
		sheeting;					
		vehicles delivering the sediments should be covered, and					N/A
		truck bodies and tailgates should be sealed to prevent any					
		discharge during transportation;					
		bulk earth moving equipments should be utilized as much					N/A
		as possible to minimize workers' handling and contact of					
		the excavated materials; and					
		personal protective clothing should be provided to site					N/A
		workers.					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures In case contamination of excavated materials is confirmed after testing, the mitigation measures described in Land	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
		Contamination Impacts section should also be implemented to minimize potential environmental impacts.					
Land Con	 tamination	· ·					
S8.7	LC1-D	Remediation of arsenic-contaminated soil	To remediate	Project	LMC Loop,	Prior to	
	P2/DP3	 "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. 	arsenic-contaminated soil	Proponent/ Contractor	contaminated area	commencement of construction works within the contaminated area	N/A
S8.7	LC1-D P1/DP2 /DP3	 Excavation and Transportation Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; 	To minimise the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area		N/A N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		Excavation should be carried out during dry season as far					N/A
		as possible to minimise contaminated runoff from					
		contaminated soils;					N/A
		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 minimize contaminated runoff;					N/A
		Supply of suitable clean backfill material after excavation, if					
		required;					N/A
		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;					N/A
		Speed control for the trucks carrying contaminated					
		materials should be enforced; and					N/A
		Vehicle wheel washing facilities at the site's exit points					
		should be established and used.					
S8.7	LC3-D	Solidification/Stabilization	To minimize the potential	Contractor	Contaminated	The course of	
	P1/DP2	The loading, unloading, handling, transfer or storage of	environmental impacts		area	remediation	N/A
	/DP3	cement should be carried out in an enclosed system;	arising from the handling				
		Mixing process and other associated material handling	of contaminated materials				N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		activities should be properly scheduled to minimise					
		potential noise impact and dust emission;					
		The mixing facilities should be sited as far apart as					N/A
		practicable from the nearby noise sensitive receivers;					
		Mixing of contaminated soil and cement / water / other					N/A
		additive(s) should be undertaken at a solidification plant to					
		minimise the potential for leaching;					
		Runoff from the solidification / stabilization area should be					N/A
		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					N/A
		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)					N/A
		should be lined with impermeable sheeting and bunded.					
		Stockpiles should be properly covered by impermeable					N/A
		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.					
S8.7	LC4-D	Safety Measures	To minimize the potential	Contractor	Contaminated	The course of	N/A
	P3	Set up a list of safety measures for site workers;	adverse effects on health		area	remediation	
		Provide written information and training on safety for site	and safety of construction				

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		workers;	workers				
		Keep a log-book and plan showing the contaminated zones					
		and clean zones;					
		Maintain a hygienic working environment;					
		Avoid dust generation;					
		Provide face and respiratory protection gear to site workers					
		if necessary;					
		Provide personal protective clothing (e.g. chemical					
		resistant jackboot, liquid tight gloves) to site workers, if					
		necessary;					
		Provide first aid training and materials to site worker;					
		Bulk earth moving equipment should be utilized as much					
		as possible to minimize workers' handling and contact of					
		the contaminated materials; and					
		Eating, drinking and smoking should not be allowed in					
		contaminated areas to avoid inadvertent ingestion of					
		contaminant.					
S8.8	LC5-D	Re-appraisal on the entire contamination assessment area for	Ensure any potential	Project	Entire	After land	۸
	P3	associated infrastructure in the adjacent areas in Hong Kong	contamination activities	Proponent	contamination	resumption	
		outside LMC Loop.	from land use changes	/Detailed	assessment		
			after the approval of this	design	area for		
			land contamination	consultant	associated		
			assessment study		infrastructure in		
					the adjacent		

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
					areas in Hong		
					Kong outside		
					LMC Loop		
Landscap	e and Visu	al Impact (Construction Phase)			_		
S11.5.4	L-CP1-	Preservation and Protection of Existing Trees (Good Site	Avoid disturbance and	Detailed	Within project	Detailed design	
Table11.5	DP1/D	<u>Practice)</u>	protection of existing	design	site	and construction	
.9	P3	The proposed works should avoid disturbance to the	trees	consultant/		phase	٨
		existing trees within and close to the works areas. The tree		Contractor			
		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.					٨
		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.					۸
		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					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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.					
S11.5.4	L-CP2-	Works Area and Temporary Works Areas (Good Site Practice)	Minimize landscape	Contractor	The whole	Construction	
Table	DP1/D	The construction sequence and construction programme	impacts		project area	phase	^
11.5.9	P2/DP3	shall be optimized in order to minimize the duration of			where		
		impact.			applicable		
		Construction site controls shall be enforced including the					۸
		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					۸
		condition or enhanced through the introduction of new					
		amenity areas or planting areas following the completion of					
		the construction phase.					
	L-CP3-	Advance Implementation of Mitigation Planting	Minimize landscape	Contractor	The whole	Construction	
	DP1/D	Replanting of existing / disturbed vegetation shall be	impacts		project area	phase	^
	P2/DP3	undertaken at the earliest possible stage of the			where		
		construction phase of the project using predominantly			applicable		
		native plant species although ornamental species may be					
		used for roadside planting and amenity areas.					
	L-CP4-	<u>Transplantation of Existing Trees</u>	Minimize landscape	Contractor	The whole	Construction	

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
	DP1/D	Some specimens have relatively higher amenity value	impacts		project area	phase	۸
	P2/DP3	which are in conflict with the proposals shall be considered			where		
		for transplantation. For trees affected by the proposed			applicable		
		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					
		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-	Creation of Wetland and Landscape Buffer	Compensation of the loss	Project	The whole	Detailed design,	
	DP1/D	The existing reedbed acquired for development areas for	of landscape resources	Proponent/	project area	construction and	^
	P2	the project will be reinstated as part of the Ecological Area.		Detailed	where	operational	

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		The reinstatement shall be undertaken at the earliest		design	applicable	phases	
		possible stage during the construction phase of the project.		consultant/			
		Creation of 12.78ha of Ecological Area (EA) containing		Contractor/			
		reed marsh and marsh will be created at the southern		Operator			^
		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 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-	Coordination with Concurrent Projects	Minimize landscape	Contractor	The whole	Construction	
	DP1/D	Coordinated implementation programme with concurrent	impacts		project area	phase	^
	P2/DP3	projects to minimise impacts and where possible reduce			where		
		the period of disturbance.			applicable		

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
S11.6.5	V-CP1-	Preservation and Protection of Existing Trees (Good Site	Minimise visual impact	Detailed	The whole	Detailed design	۸
Table	DP3	Practice)		design	project area	and construction	
11.6.3		The proposed works should avoid disturbance to the		consultant /	where	phase	
		existing trees within and close to the works areas. The tree		Contractor	applicable		
		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.					
		The preservation of existing tree shall provide instant					
		greening and screening effect for proposed works.					
	V-CP2-	Works Area and Temporary Works Areas (Good Site Practice)	Minimise visual impact	Contractor	The whole	Construction	۸
	DP3	The construction sequence and construction programme			project area	phase	
		shall be optimized in order to minimize the duration of			where		
		impact.			applicable		
		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.					
		Hoarding designed with recessive colour shall be set up					
		around the construction site providing screening effect for					
		the construction works.					
		The site office or temporary above-ground structures shall					
		be sited at less visual prominent locations.					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
	V-CP3-	Advance Implementation of Mitigation Planting	Minimise visual impact	Detailed	The whole	Detailed design	N/A
	DP3	Replanting of existing / disturbed vegetation shall be	and advance mitigation	design	project area	and construction	
		undertaken at the earliest possible stage of the	planting for screening	consultant /	where	phases	
		construction phase of the project using predominantly	purpose.	Contractor	applicable		
		native plant species although ornamental species may be					
		used for roadside planting and amenity areas.					
	V-CP5-	Coordination with Concurrent Projects	Minimize visual impacts	Contractor	The whole	Construction	۸
	DP3	Coordinated implementation programme with concurrent			project area	phase	
		projects to minimise impacts and where possible reduce			where		
		the period of disturbance.			applicable		
Ecology (Constructi	on Phase)					
S12.7	E1-DP1	Disturbance to Fish Ponds at HHW	On the disturbance to fish	Detailed	Fish ponds at	Detailed design,	
		Development set back a minimum of 23m from the edge	ponds at HHW	design	HHW and LMC	construction	N/A
		Meander.		consultant/		phase	
		Management of fish pond habitat to enhance ecological		Contractor			N/A
		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					N/A
		element of the project for which fish pond compensation is					
		required.					
		Construction phase					
		Erection of a 3m high, dull green site boundary fence to					۸

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main	Who to implement the	Location of the measures	When to Implement the measures?	Implementation Status
			Concerns to address	measures?			
		minimise disturbance to wetland habitats caused by human					
040.7	E0 DD4	activity in LMC Loop.	NATIONAL AND A SUBSTITUTE OF	0	0	Din	
S12.7	E2-DP1	Construction run-off	Minimise the indirect	Contractor	Seawall,	During	^
	/DP3	Temporary sewerage and drainage will be designed and	impact from the			construction	Α
		installed to collect wastewater and prevent it from entering	increasing suspended				
		nearby water bodies;	solids and pollutants in				
		Proper locations well away from nearby water bodies will	LMC Meander				۸
		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,					۸
		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					۸
		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					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		bodies;					
		Construction debris and spoil will be covered and/or					۸
		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					۸
		construction site will be minimised via the following in					
		descending order: reuse, recycling and treatment;					
		Proper locations for discharge outlets of wastewater					۸
		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					۸
		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					۸
		the boundary strictly prohibited;					
		Regular water monitoring and site audit will be carried out					۸
		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.					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
S12.7	E3-DP1	Pollutant Runoff to Downstream areas from Accidental Spillage	Minimize indirect impact	Contractor/	Area within	Construction	۸
	/DP2/D	Prepare an emergency contingency plan The plan will	from pollutant runoff to	Operator	project site near	phase and	
	P3	include, but not be limited to, the following:	downstream areas from		streams	operation phase	
		- Potential emergency situations;	accidental spillage				
		- Chemicals or hazardous materials used on-site					
		(and their location);					
		- Emergency response team;					
		- Emergency response procedures;					
		- List of emergency telephone hotlines;					
		- Locations and types of emergency response					
		equipment;					
		- Training plan and testing for effectiveness.					
S12.7	E4-DP1	Use opaque, non-transparent, non-reflective noise barriers	Minimize the mortality	Developer /	Area within	Detailed design,	۸
	/DP2/D	for all developments associated with the Project.	impacts on birds	Detailed	project site	construction and	
	P3	Design of buildings should not incorporate use of		design		operation	^
		night-time lighting at or near top of buildings, highly		consultant/		phases	
		reflective materials should not be used where vegetation is		contractor/			
		adjacent and glass surfaces should not be angled upwards		operator			
		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,					۸

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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					۸
		buildings with a limited amount of glass.					
		The use of glass that reflects UV light (primarily visible to					۸
		birds, but not to humans) acts to reduce collision.					
		Film and art treatment allow glass surfaces to be used a					۸
		medium of expression, often related to the nature and use					
		of the building, as well indicating to birds their					
		impenetrability.					۸
		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					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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	Minimize loss of natural vegetation along LMC Meander,	Minimize impacts on	Detailed	Construction	Detailed design,	۸
	/DP2/D	and suitable replacement planting with possible installation	Eurasian Otter	design	site within the	construction	
	P3	of otter holts and the provision of potential feeding area		consultant/	project	phase	
		and spraint locations for otters in the stabilized bank		Contractor			
		subject to detailed design.					
		No significant change to velocity of water flow, water level					۸
		or water quality.					
		No direct lighting on Meander.					۸
		• 3m high, dull green site boundary fence for all					۸
		developments associated with the project.					
		Pre-construction surveys for otter holts or natal dens will be					۸
		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					۸
		between one hour prior to sunset and one hour after					

EIA Ref.	EM&A		Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log			recommended	implement	measures	Implement the	Status
	Ref			Measures & Main	the		measures?	
				Concerns to address	measures?			
			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.					
S12.7	E8-DP2	•	Refer to E2 and E3	Prevent impacts on Rose	Contractor	Within project	Construction	۸
				Bitterling, small		site	phase	
				snakehead and				
				Somanniathelphus				
				zanklon				
S12.7	E10-DP	٠	Preserve undisturbed, semi-natural habitat conditions of	Minimize impacts on flight	Developer /	Within project	Detailed design,	۸
	1		LMC Meander and adjacent areas of LMC Loop up to	line corridor from LMC	Detailed	site	construction and	
			approximately 150m in width in order to avoid disturbance	Loop development	design		operation	
			to core part of flight line corridor.		consultant/		phases	
		•	This area to comprise an Ecological Area largely		Contractor/			۸
			constituting reed marsh and a 50m wide buffer zone		Operator			
			densely planted with 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					۸
			area provide a wider Ecological Area to minimize					
			disturbance from nearby buildings.					
		•	Further minimisation of impact by maintaining a lower					N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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.					
S12.7	E11-DP	Employ site boundary fence as long as possible. Use of	Minimize disturbance	Contractor	Within project	Construction	۸
	1	movable barrier for more intense site formation activity.	impacts of mitigation		site	phase	
		Provision of fencing with 30cm gap between the existing	provisions				
		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.					
S12.7	E12-DP	Minimal night-time lighting	Minimize impacts on LMC	Contractor/	All	Construction and	۸
	1/DP2/	No direct light on Meander	Meander	Operator		operation	^
	DP3					phases	
S12.7	E13-DP	Construction limited to wet season between the hours of	Minimize impacts from	Contractor/	Pond habitat	Construction and	۸
	2	9am and 5pm.	the construction and	Operator	along alignment	operation	
		Use of opaque visual/noise barriers and planting of trees	operation disturbance		(mainly Ha Wan	phases	^
		shrubs along length of road adjacent to fish ponds.	impacts		Tsuen Road)		
		Compensatory habitat management elsewhere to mitigate					۸
		wetland loss.					
S12.7	E13-DP	Use of viaduct alignment to minimize wetland loss.	Minmize wetland loss	Project	Within project	Detailed design	۸
	3	Compensatory wetland habitat elsewhere.		Proponent /	site	and	

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
				Detailed		construction	
				design		phases	
				consultant /			
				Contractor /			
S12.7	E16-DP	Provision of compensatory reed marsh in the Ecological	Protect Odonata	Project	Ecological area	EA established	۸
	1	Area will provide habitat suitable for Common Evening		Proponent/		prior to	
		Hawker.		Detailed		construction and	^
		Measures designed to protect other fauna and water		design		manage at all	
		quality will generally benefit odonata.		consultant/		phases	
				Contractor			
				Operator			
S12.7	E14-DP	Replacement planting of native tree species relevant to	Minimize the ecological	Contractor	Woodland and	Construction	۸
	2	Deep Bay area and the area impacted. Planting to occur in	impacts		shrubland	phase	
		tandem with that required for woodland loss arising			habitat along Ha		
					Wan Tsuen		
					Road		
S12.7	E15-DP	Use noise/visual barriers to minimise disturbance.	Minimize impacts on flight	Contractor	Construction	Construction	۸
	2	Construction activities should not be carried out before	line corridor from		site from	phase	۸
		0900h or after 1700h in order to minimise disturbance to	Western Connection		Western		
		the flight line corridor (and to mammals).	Road		Connection		
					Road		
S12.7	E16-DP	Use of opaque visual/noise barriers and roadside planting	Minimize impacts on flight	Project	Construction	Detailed design,	۸
	2	of trees and shrubs to minimize disturbance impacts.	line corridor from	Proponent/	site from	construction and	
			Western Connection	Detailed	Western	operation	

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
			Road	design	Connection	phases	
				consultant/	Road		
				Contractor			
				Operator			
S12.9	EG2-D	All generic mitigation measures proposed in Tables 12.82a and	Avoid, minimize and	Project	All areas.	All phases	٨
	P3	12.82b in the EIA report.	mitigate overall ecological	proponent /			
			impact.	contractor /			
				detailed			
				design			
				consultant /			
				developer /			
				operator			
Fisheries	(Construc	tion Phase)					
S13.7	F4-	Reprovision of replacement Artificial Reefs(of the same	Mitigate water quality	Project	To be	Construction	N/A
		volume as the existing ARs inside Marine Exclusion Zone)	impacts on the existing	proponent	determined	phase or	
			ARs			operation	
						phase	
S11.7	F2	Reduce re-suspension of sediments	Minimise marine water	Contractor	Seawall	During	N/A
		Limit dredging and works fronts.	quality impacts			construction	N/A
		Good site practices					N/A
		Strict enforcement of no marine dumping					N/A
		Spill response plan					N/A
S13.7	F4-DP3	During the construction phase, a layer of sheet pile wall will be	Bund stability	Contractor	Fish ponds	Construction	N/A

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		erected along the site boundary adjacent to fish ponds after commencement of site works. The sheet pile wall will be constructed by silent piling method (Press-in method) which induces minimal vibration. Therefore the stability of the fish pond bund will not be influenced by the construction of the sheet pile wall, subsequent construction works and the loading from the road during operational phase. In addition, the sheet pile wall will have grouting or a grout curtain to avoid water seepage from the fish pond to the excavation area. With these measures, significant impacts are not anticipated.				phase	
S13.7	F5-DP3	Temporary traffic arrangements will be instigated to maintain or provide alternative access to fish ponds during construction phase.	Prevent Blockage of Access Roads to Fish Ponds	Contractor	Fish ponds	Construction phase	۸
S13.7	F6-DP3	Standard mitigation measures to control site runoff and other pollutants caused by construction activities and good site practices will be implemented during the construction phase of the Project. Excavated material and other inert construction wastes produced will be transferred to proper recipients (i.e. landfill) (see Waste Management Section). Sewage from the proposed development will be dealt with via a sewerage system and will not be discharged directly to surrounding water bodies.	Avoid water quality impact	Contractor	Fish ponds	Construction phase	۸
S13.7	F7-DP3	 Dust Minimization During all excavation works, good site practice should be adopted to minimize impacts on fisheries. The below site practices should be adopted during this time. Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with 	Dust minimization	Contractor	Fish ponds	Construction phase	۸

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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;					
		 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;					
		Excavation profiles must be properly designed and					
		executed with attention to the relevant requirements for					
		environment, health and safety;					
		In case the soil to be excavated is situated beneath the					
		groundwater table, it may be necessary to lower the					
		groundwater table by installing well points or similar					
		means;					
		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					

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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.					
S13.7	F8-DP3	Contingency plan The contractor should prepare an emergency contingency plan for actions to be taken if significant impacts, such as accidental spillage of chemicals, water seepage from fish ponds, damaged/destabilized pond bunds, pond water contamination by site runoff, on fish ponds occur. The contractor should submit the emergency contingency plan dealing with, but not limited to, the aforementioned potential impacts to the engineer for review, comment and approval. The fish pond operators will also be consulted for the details of the contingency plan, which will also be submitted to AFCD for review and comment. The plan should include, but not limited to, the following: • Potential emergency situations;	Deal with any accidental spillage event	Contractor / Operator	Fish ponds	Construction and operational phases	Α
		 Chemicals or hazardous materials used on-site (and their location); Emergency response team; Emergency response procedures; List of emergency telephone hotlines; Locations and types of emergency response equipment; Training plan and testing for effectiveness. 					

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
Food Safe	ty (Constr	uction Phase)					
S15	F1-DP3	Contingency plan The contractor should have effective communication with Food and Environmental Hygiene Department (FEHD) / Centre of Food Safety (CFS), on food surveillance and food incidents. Food Surveillance Programme (http://www.cfs.gov.hk/english/programme/programme_fs/programme_fs.html). is undertaken by CFS to inspect food safety in Hong Kong, with a three-tier surveillance strategy (consisting of routine food surveillance, targeted food surveillance and seasonal food surveillance). Under this programme, aquatic products (including pond fish) at import, wholesale and retail levels are sampled for microbiological (i.e. bacteria and viruses), chemical (i.e. natural toxins, food additives and contaminants) and radiation testings. All food safety surveillance results of by a monthly "Food Safety Report" in press releases and also presented in CFS website. If pond fish samples do not comply with food safety standards and they are verified to be from fish ponds of concerned under this study through "food tracing", fish	Minimize significant impacts on fish ponds	Contractor	Fish pond within project site	Construction phase	N/A
S15	F2-DP3	selling shall be stopped as instructed by CFS. Dust Minimization During all excavation works, good site practice should be adopted to minimize the release of TSP, impact of land contamination and the associated food safety implications. The below site practices should be adopted during excavation works. Any excavated or stockpile of dusty material should be	Dust minimization	Contractor	Fish pond within project site	Construction phase	۸

EIA Ref.	EM&A	Recommended Mitigation Measures	Objectives of the	Who to	Location of the	When to	Implementation
	Log		recommended	implement	measures	Implement the	Status
	Ref		Measures & Main	the		measures?	
			Concerns to address	measures?			
		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;					
		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;					
		Excavation profiles must be properly designed and					
		executed with attention to the relevant requirements for					
		environment, health and safety;					
		· In case the soil to be excavated is situated beneath the					
		groundwater table, it may be necessary to lower the					
		groundwater table by installing well points or similar					
		means;					
		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					

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

Remarks: ^

- Compliance of mitigation measure
- * Recommendation was made during site audit but improved/rectified by the contractor
- # Recommendation was made during site audit but not yet 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)

Contract No. YL/2020/01 - Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 1 Site Formation

and Infrastructure Works inside Lok Ma Chau Loop and

Western Connection Road Phase 1

Ref Locatio Workin Period	Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA All si S3.8 area	te Dust impact	 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; 	

Ref	Location/ Working	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
	Period			
EIA	All site	Dust impact	 A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones; 	
S3.8	area		• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area		 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; 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; 	

Working Period: 1st to 30th April 2023

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.

Ref Location/ Anticipated Recommended Mitigation Measures Photo Working Major Impacts Period Period	Records (Partial)
EIA All site Noise impact S4.8 area Noise impact Powered Mechanical Equipment (QPME) registered with EPD. Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator.	

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S5.7	All site area	Water Pollution Control	Update and implementation of Stormwater Pollution Control Plan.	Temporary Drainage Arrangement Plan for The Loop and Meander Bridge Sett 6 of 13 300 U-Channel 225 U-Channel 450 U-Channel Water Hose with Pump Snos. of 300 uPVC Soakaway Area 200mm bund wall Sett 3 of 13 Sett 1 of 13 Coccepted Area by Makeshift Hospital Sett 1 of 13 TAI LAW HA HAU HAU Sett 9 of 13 Sett 1 of 13 Sett 1 of 13 Sett 1 of 13 Sett 1 of 13 Sett 1 of 13 Sett 1 of 13 TAI LAW HA Sett 1 of 13
			• 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	Yes

Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
			drainage system will be undertaken by the contractor prior to the	
			commencement of construction.	G1
			• 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, 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.	

Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
			• 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) a li delle di la la la la la la la la la la la la la
			commencement of construction.	
			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.	
			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.	
				But of the control of

Ref	Location/ Working	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
	Period			
			• Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.	Do not discharge any sewage or wastewater into the nearby environment

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA \$7.6	All site area		 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; 	

Ref	Location/ Working	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
	Period			
	Period		Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.	

Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
			Prepare Waste Management Plan and submit to the Engineer for approval	Shortenance of last MA Class Loop Make Worth Findage 1 - Central States and MA Class Loop Make Worth Findage 1 - Central States and Information Worth Information Worth Information Worth Information Worth Information Control of the Part of the Control of the Con
			Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling	**Secretary of the Community of the Comm

Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
			General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.	

Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
			• 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	化學廢物 CHEMICAL WASTE
			chemical waste that cannot be recycled should be disposed of at either the	THE PARTY OF THE P
			Chemical Waste Treatment Centre, or another licensed facility, in	
			accordance with the Waste Disposal (Chemical Waste) (General)	
			Regulation.	

Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
EIA	Constructi on site	Ecology	Installing 3m high olive-green fence around construction areas to allow	
12.7	within the		or deter different animal passages where appropriate;	
EP	project			
2.7				
				A STATE OF THE STA
	Pond		Carrying out outside dry-season (from November to February next year),	
	habitat		the construction works associated with the site formation in the Ecological	
	along alignment		Area, stabilization of the bank of the old Shenzhen River meander,	
	(mainly		Western Connection Road along Ha Wan Tsuen Road, to minimise disturbances to migratory birds/water birds;	Total Vision Co.
	Ha Wan			
	Tsuen Road)			
	rtoud)			

				Working Terrod. 1 to 30 April 2023
Ref	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
	Old Shenzhen River meander and other identified important ecological ly sensitive areas,		Using powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any;	

Contract No. YL/2020/02 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 2 Western
Connection Road Phase 2, Connection Roads to Fanling /
San Tin Highway and Direct Road Link Phase 1

Ref*	Location/W orking Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	 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; 	

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA	All site	Dust impact	 A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic 	
S3.8	area		cones;	
			• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	

Proactive Environmental Protection Proforma

• 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;



• 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;



Proacti	oactive Environmental Protection Proforma				
		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.			
	I				

Proactive Environmental Protection Proforma

Ref*	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working Period	Major Impacts		
EIA S4.8	All site area	Noise impact	Mobile plant should be sited as far away from NSRs as possible and practicable;	HUACHI
			• Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator.	

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/ San Tin Highway and Direct Road Link Phase 1

Proactive Environmental Protection Proforma

_	Proactive	<u>Environmei</u>	<u>ital Protection Pi</u>	<u>cotorma</u>	
	EIA	All site area		• At the start of site establishment, perimeter cut-off	
	S5.7		Control	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	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
				as far as possible. The design of temporary on-site	
				drainage should prevent runoff going through site	
				surface, construction machinery and equipment in	
				order to avoid or minimize polluted runoff.	

Working Period: 1st to 30th April 2023

Proactive Environmental Protection Proforma

• Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped.



• The 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.



Proactive Environmental Protection Proforma

• 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.



• 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.



Contract No. YL/2020/02

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/ San Tin Highway and Direct Road Link Phase 1

Proactive Environmental Protection Proforma

• Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.



		ntal Protection Pr		
Ref*	Location/	Anticipated	Recommended Mitigation Measures	Photo Records (Partial)
	Working	Major Impacts		
	Period			
EIA	All site area	Waste	• Segregate and store different types of waste in	
S7.6			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; 	

Proactive Environmental Protection Proforma

Working Period: 1st to 30th April 2023

Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.

• Prepare Waste Management Plan and submit to the Engineer for approval



Proactive Environmental Protection Proforma

 Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling



• General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.



Working Period: 1st to 30th April 2023

Proactive Environmental Protection Proforma

• 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.



• If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.



Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
	Major Impacts		
Period			
1 CI IOU			
All site area		barriers for all developments associated with the	Coddie
		On-site compensate the same area of the occupied reedbed	
		area	area barriers for all developments associated with the Project.

Contract No. YL/2021/01 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 3 Direct Road
Link Phase 2

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	• 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;	

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	 A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; 	
			The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	

	• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exists should be kept clear of dusty materials;	
	• 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;	

	• 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.	
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Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S4.8	All site area	Noise impact	Mobile plant should be sited as far away from NSRs as possible and practicable;	
			• Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator.	♥ (CMG)

• An acoustic canvas had been deployed along the site boundary facing the resident of Shenzhen City. • All generator used onsite are Quality Powered Mechanical Equipment (QPME) registered with EPD.

EIA	All site area	Water Pollution Control	Update and implementation of Stormwater Pollution Control Plan	SUBDITION CONTRACTOR'S SUBMISSION FORM SUBSECTION FOR THE SUBMISSION FORM CONTRACTOR'S SUBMISSION FORM CONTRACTOR'S SUBMISSION FORM
S5.7			Control Plan.	To : ACCOME Attention : Mr. Roque Man (Paylors Ademands's defegate) Subminimization for Man' : CSYST/COMMEN ACCOM Ref. No. : CSYST/COMMEN ACCOM Ref. No. : CSYST/COMMEN Date of Subminimization : 3, Dec 2022 Take of Subminimization : 3, Dec 2022 Take of Subminimization : The Propriety Parkings Management Plan (Tex1) Proposed Location of Myodols : Postlan 1 Specification (Provinging Reference: E. E. Clause 1.24A. Description of Constant : E. Clause 1.24A. We would like to subtret the captioned subject for your review and appropriet.
				Attachments : Reply required by : Purpose of Eubersation
			• 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, 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 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.



• 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.



• 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 malpractices and achieve continual improvement of environmental performance on site.



|--|--|

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area		• 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;	

Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. Contract No. YL/2021/01 nt of Lok Ma Chau Loop: Main Works Package 1 – Contract 3

Direct Road Link Phase 2 Prepare Waste Management Plan and submit to the CONTRACTOR'S SURMISSION FORM Engineer for approval AECOM Attention : Mr. Roger Man [Project Manager's delegate] Submission Ref. No*. · CSE/HSE/00000SD Date of Submission Title of Submission : Waste Management Plan (Rev.04) Specification/Drawing Reference: PS Clause 25.20A(7) In response to the comments in your letter ref. C3/(YL2021/01)/C15/310/3B000199, we would like to re-submit the Waste Management Plan (Rev.04) for your approval. Reply required by : 21 days For Approval √ For Comment □ For Information □ For Record □ For Action □ Paul Y - Chun Wo - CRCC, Joint Venture Reviewed by: Prepared by: Approved & submitted by: (Lila Lui) wil 15 August 2022 15 August 2022 15 August 2022

• Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling



 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.

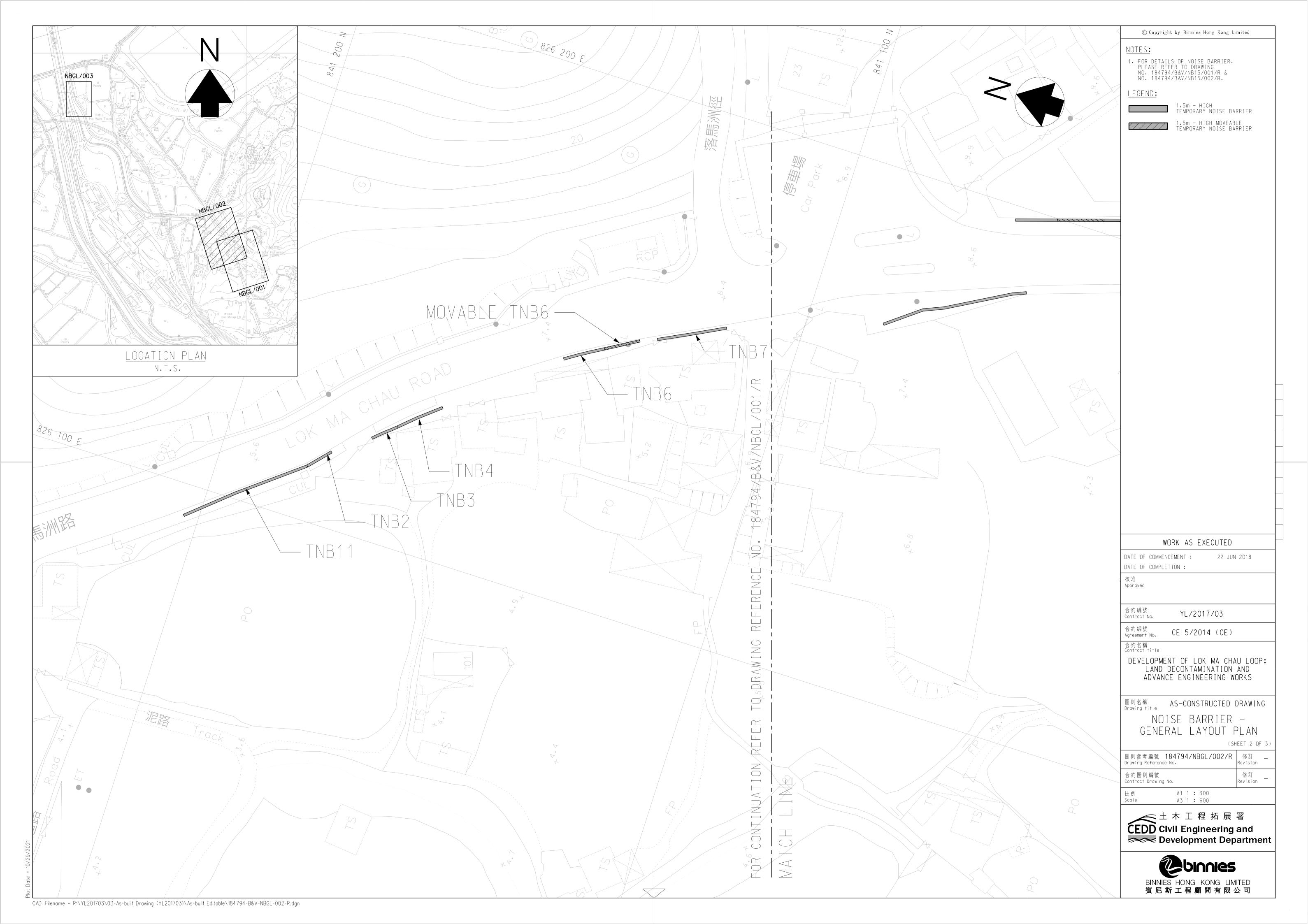


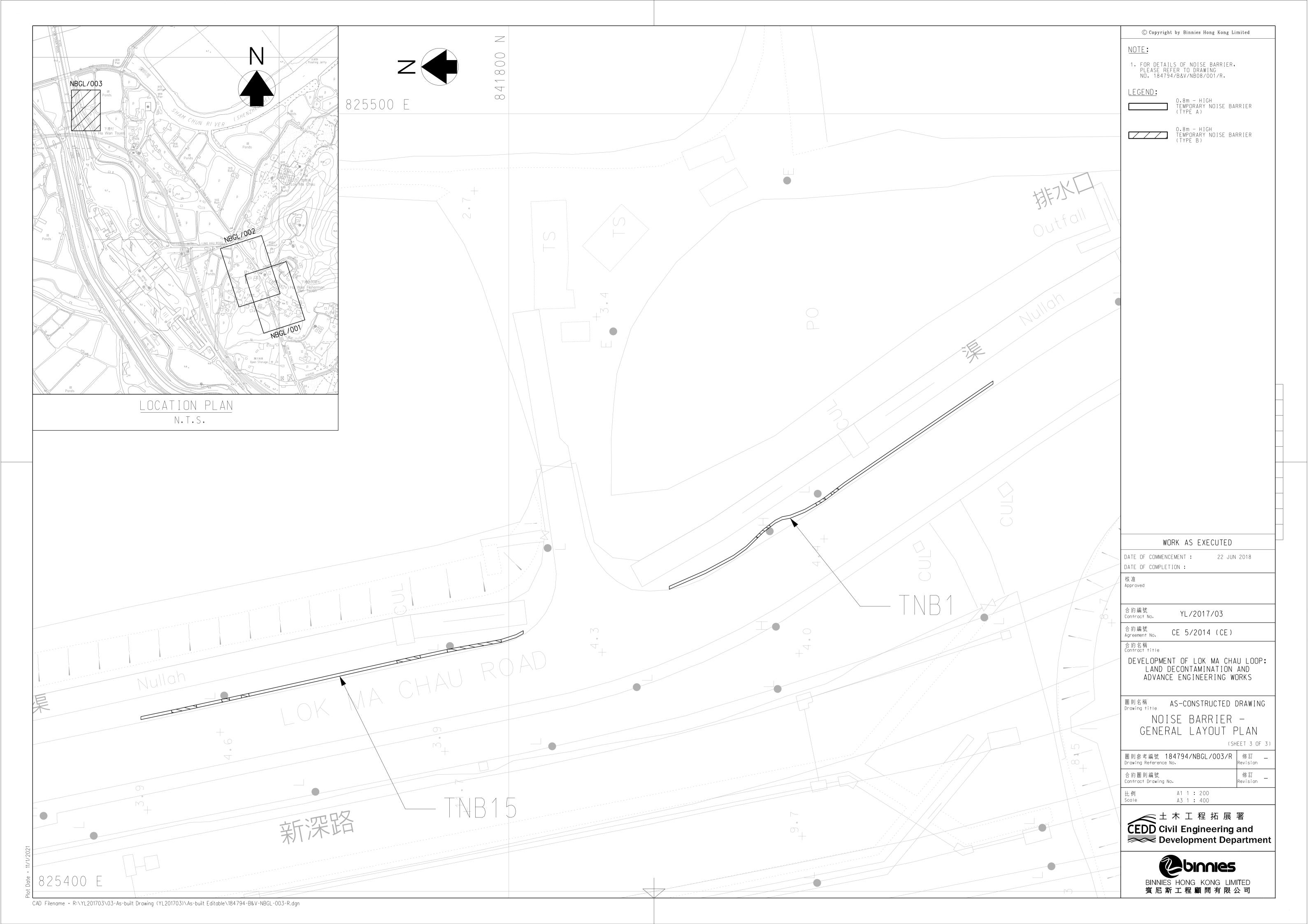
• If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.



APPENDIX N TEMPORARY NOISE BARRIERS







YL/2017/03 Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
TNB1	TNB1
TNB2	TAB II
TNB11	19/07/2021
TNB3	TNB4
TNB4	

YL/2017/03 Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
TNB6	TNB6
TNB7	
TNB8	29/07/2021

YL/2017/03

Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
TNB9	TNBS
TNB10	29/4/2021
TNB13	29/4/2021

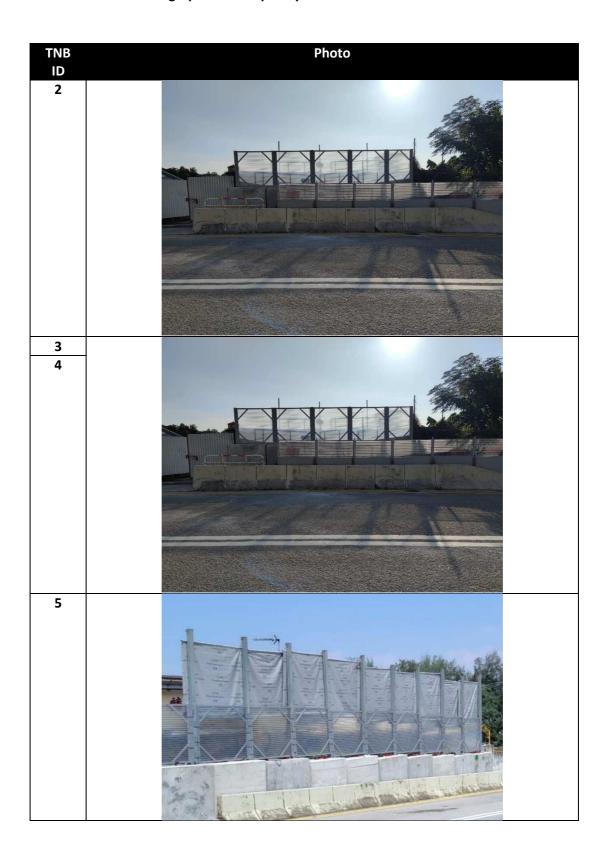
YL/2017/03

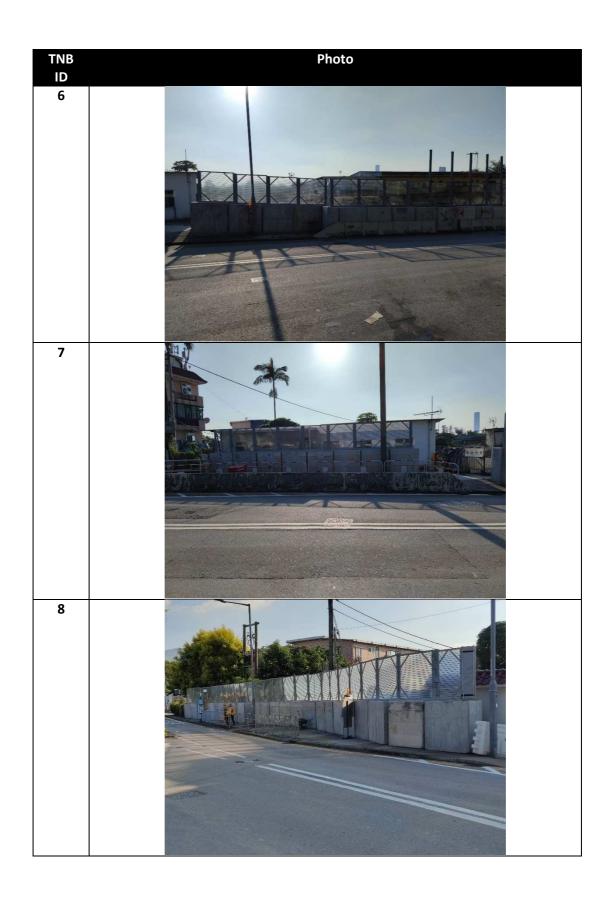
Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

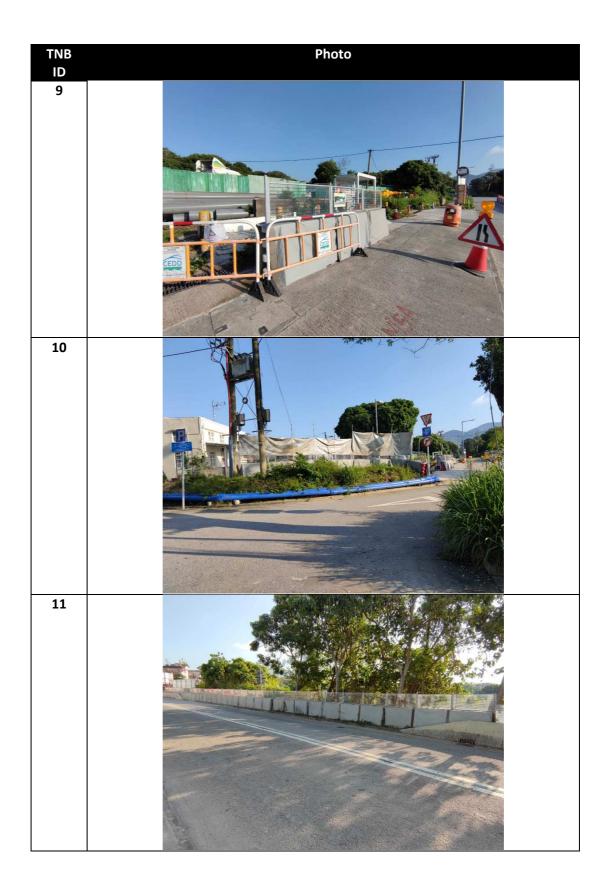


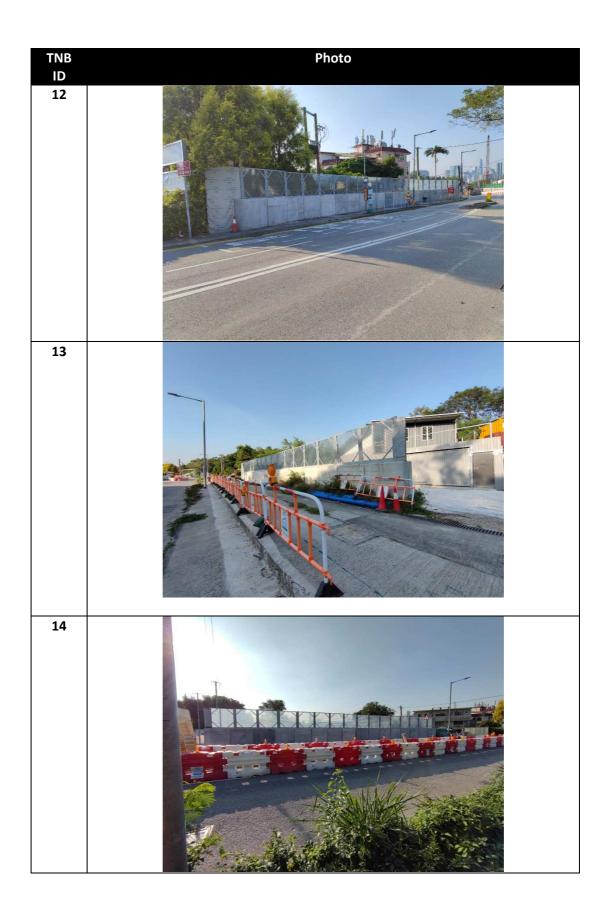
YL/2020/02 – Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

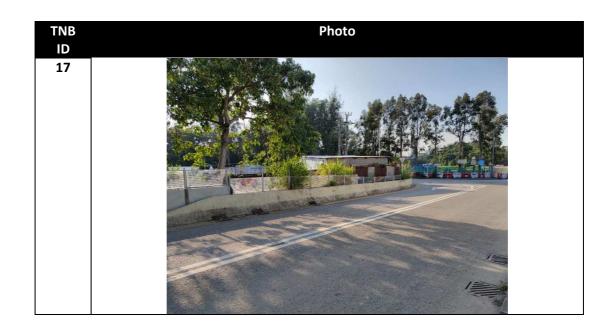
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road











APPENDIX O WASTE GENERATION IN THE REPORTING MONTH

Contract No. YL/2020/01 - Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 1 Site Formation

and Infrastructure Works inside Lok Ma Chau Loop and

Western Connection Road Phase 1

Monthly Summary Waste Flow Table for 2023 (year)

Name of Person completing the record: Lila Lui (EO)

Developmen	t of Lok Ma Chau Lo	op : Main Works	Package 1 – Cor	ntract 1 Site Form	ation and Infrastru	cture Works inside	de Lok Ma Chau Loop and Western Connection				Contract No.: YL/2020/01	
		Actual Quantit	ies of Inert C&D	Materials Gene	erated Monthly		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated (a)= (b)+(c)+(d)+(e)	Hard Rock and Large Broken Concrete (b)	*Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill (e)	Imported Fill	Metals	Paper/ cardboard packaging/	Plastics	Yard Waste	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)
Jan-23	0.491	0.000	0.000	0.000	0.491	0.919	0.000	0.067	0.000	0.000	0.000	0.018
Feb-23	0.715	0.000	0.000	0.000	0.715	0.000	0.000	0.150	0.000	1.100	0.000	0.027
Mar-23	1.129	0.000	0.000	0.000	1.129	0.000	0.012	0.132	0.016	0.000	0.000	0.032
Apr-23	2.910	0.000	0.000	0.000	0.000	0.000	0.000	0.160	0.000	0.000	0.000	0.012
May-23												
Jun-23												
Sub-total	5.244	0.000	0.000	0.000	2.335	0.919	0.012	0.509	0.016	1.100	0.000	0.088
Jul-23												
Aug-23												
Sep-23												
Oct-23												
Nov-23		·										
Dec-23		_				_		_	_	_	_	
Total	5.244	0.000	0.000	0.000	2.335	0.919	0.012	0.509	0.016	1.100	0.000	0.088

Remarks:

- 1.Assume the density of soil fill=2.0 tonnes/m3
- 2.Assume the density of rock and broken concrete=2.5 tonnes/m3
- 3. Assume the density of refuse = 1.5 tonnes/m3
- 4. The inert C&D material except slurry and bentonite are disposed at Tuen Mun 38
- 5. The slurry and bentonite are disposed at Tseung Kuwn O 137.
- 6. The non-inert C&D wastes, including general refuse are disposed at NENT

Contract No. YL/2020/02 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 2 Western
Connection Road Phase 2, Connection Roads to Fanling /
San Tin Highway and Direct Road Link Phase 1

Monthly Summary Waste Flow Table for 2023 (year)

Name of Person completing the record: Calvin So (EO)

Project: Development of Lok Ma Chau Loop: Main Works Package 1- Contract 2, Western Connection Road Phase 2,

	Connection Roa	ads in Fanling /	San Tin Highw	ay and Direct I	Road Link Phase	1				Contract No.: YL	2020/02	
		Actual Quantit	ies of Inert C&l	D Materials Ge	nerated Monthly		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse	
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)	
Jan	0.432	0.000	0.000	0.000	0.432	0.000	0.000	0.000	0.000	0.000	0.428	
Feb	0.257	0.000	0.000	0.000	0.257	0.095	0.000	0.000	0.000	0.000	0.403	
Mar	1.359	0.000	0.000	0.000	1.359	0.090	0.000	0.004	0.001	0.000	0.171	
Apr	0.621	0.000	0.000	0.000	0.621	0.000	0.000	0.000	0.000	0.000	0.107	
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Sub-total	2.669	0.000	0.000	0.000	2.669	0.185	0.000	0.004	0.001	0.000	1.108	
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Total	2.669	0.000	0.000	0.000	2.669	0.185	0.000	0.004	0.001	0.000	1.108	

Note:

- For non-inert portion of C&D material, assume the density of 1 m³ general refuse is equal to 200 kg.
- For inert portion of C&D material, assume 6 m³ per each full-filled dump truck.
- All values are round off to the third decimal places.

Contract No. YL/2021/01 – Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 3 Direct Road
Link Phase 2

Monthly Summary Waste Flow Table for 2023 (year)

Name of Person completing the record: Tino Law

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3

		Actual Quantit	ies of Inert C&D	Materials Gene	erated Monthly		Actual Quantities of C&D Wastes Generated Monthly					
Month	Total Quantity Generated (a)= (b)+(c)+(d)+(e)	Hard Rock and Large Broken Concrete (b)	*Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill (e)	Imported Fill	Metals	Paper/ cardboard packaging/	Plastics (see Note 3)	Yard Waste	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)
Jan-23	0.597	0.000	0.000	0.000	0.597	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb-23	0.329	0.000	0.000	0.000	0.329	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar-23	0.706	0.000	0.000	0.000	0.706	0.000	0.011	0.000	0.005	0.000	0.000	0.001
Apr-23	0.231	0.000	0.000	0.000	0.231	0.000	0.000	0.000	0.000	0.000	0.000	0.003
May-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	1.863	0.000	0.000	0.000	1.863	0.000	0.011	0.000	0.005	0.000	0.000	0.004
Jul-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	1.863	0.000	0.000	0.000	1.863	0.000	0.011	0.000	0.005	0.000	0.000	0.004

Remarks:

- 1.Assume the density of soil fill=2.0 tonnes/m3
- 2.Assume the density of rock and broken concrete=2.5 tonnes/m3
- 3.Assume the density of refuse = 1.5 tonnes/m3
- 4. The inert C&D material except slurry and bentonite are disposed at Tuen Mun 38
- 5. The slurry and bentonite are disposed at Tseung Kuwn O 137.
- 6.The non-inert C&D wastes, including general refuse are disposed at NENT

APPENDIX P COMPLAINT LOGS

Appendix P - Complaint Log

Contract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Complaint Nature	Investigation Finding	Status
1	9-Sep-19	EPD	EPD Ref: 25222-19	Water quality and air quality	Non-project related	Interim report was submitted to EPD on 23 Sep 2019
2	11-Oct-19	EPD	EPD Ref: 28550-19	Air quality	Non-project related	Interim report was submitted to EPD on 6 Nov 2019
3	30-Oct-19	EPD	EPD Ref: 30478-19	Air quality	Non-project related	Interim report was submitted to EPD 14 Nov 2019
4	10-Dec-19	1823 (CEDD)	1823 Case no: 2-6145710343	Noise and air quality	Non-project related	Final reply to 1823 on 24 Dec 2019. IR prepared by Contractor was agreed by IEC and ET
5	5-Mar-21	1823	1823 Case no: 3-6641544979	Air quality	Non-project related	Final reply to 1823 on 11 Mar 2021. IR prepared by Contractor was agreed by IEC and ET

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 / Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 / Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM-	11 October	EPD	EPD File	EPD received a public	(a) Water Quality	Interim report
2021-	2021		Ref.:	complaint on 11 October	Non-project related	was submitted
10-01			N07/RN/00	2021. The complainant	According to the interim report, wastewater treatment	to EPD on 29
			024120-21	alleged the following:	facilities and relevant mitigation measures were properly	Oct 2021
				(a) Discharge of muddy	implemented and there is no direct evidence to	
				water from construction sites	demonstrate the muddy discharge was inducted by the	
				of "Development of Lok Ma	Contract.	
				Chau Loop" project to	Further preventive measures, such as increasing the height	
				Shenzhen River in the	of the temporary drainage by using sandbag and providing	
				morning of 8 October 2021;	the earth bund with geo-textile along the site boundary,	
				and,	were implemented on 12 October 2021 in order to avoid	
				(b) Use of powered	muddy water from leaking into Shen Zhen River.	
				mechanical equipment		
				(including excavators and	(b) Noise	
				dump trucks) in the	Project related	
				construction sites of		
					Typhoon No. 8 (Tropical cyclone: Lion Rock) was hoisted	
				Chau Loop" project on	on 9 October 2021. Severe rainfall was recorded due to	
				Sunday.	the adverse weather. To avoid leakage of the muddy water	
					into the meander of the Shenzhen River, JV mobilized an	
					excavator and dump truck to clear the blockage as an	
					emergency measure.	
					ET reminded the Contractor to update the site drainage	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					plan according to the construction programme and closely check the effectiveness of the implemented mitigation measures on site so that the EP, EIA and EM&A manual recommendation and requirements are complied with. In addition, the Contractor was also reminded to prepare a contingency plan for emergency environmental incidents.	
COM- 2021- 11-01	November 2021	EPD	EPD File Ref.: N06/RN/00 027302-21	EPD received a public complaint on 15 November 2021. The complainant concerned about the dust nuisance in the construction sites of "Development of Lok Ma Chau Loop" project.	 According to the interim report, dust mitigation measures have been properly implemented on site: Haul road of the main site have been paved with concrete and the speed of the vehicle has been restricted to below 8kmper hour within the construction area to minimize fugitive dust emission. Wheel washing fallibilities have been established at the location where the vehicles into the haul road in order to keep clear of any loose surface material. Mist spray and water trucks have been provided to water the paved haul road regularly and at least once per hour on exposed work site. Water spray has been provided during the handling of the fill material at the site and all the dusty loads transported to, from and between site location have been covered. Induction training and tool box talk have been provided to the site staff and workers regarding the dust suppression measure. Temporary covers have been provided to stockpile of the dusty materials and the exposed slope. 	Interim report was submitted to EPD on 25 Nov 2021

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					Further preventive measures, establishment of the automatic water spray system along the haul road and increasing the amount of the mist spray machine to enhance the efficiency of the dust suppression measures will also be provided.	
COM- 2022- 01-01	2 January 2022	EPD	EPD File Ref.: N06/RN/00 000184-22	EPD received a public complaint by phone in Jan 2022 regarding noise from general construction work associated with the Lok Ma Chau Loop Development Project being carried out on 2.1.2022 at around 15:30 hours (i.e. within the restricted hours on Sunday).	According to the location under complaint, the work was likely carried out within the work site of "Direct Road Link to MTR Lok Ma Chau Station" and/or "Western	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM- 2022- 04-01	4 April 2022	1823	1823 Case no: 3- 715542674 8	The complainant concerned about the muddy surface runoff arising from the construction works of "Development of Lok Ma Chau Loop" project. at Lok Ma Chau Road near Ha Wan Tsuen Road.	Contract No.: YL/2020/02 According to the site diary, no construction work was carried out during restricted hours at the location under complaint on 2 January 2022 for YL/2020/02. Nevertheless, construction team was reminded to strictly follow the requirement stated in the issued construction noise permit when construction work is required during restricted hours. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/02. According to the interim report, no construction works was carried out at the location of complaint which is outside the site boundary of the Project from 1st April to 4th April 2022. Appropriate water quality mitigation measures have been properly implemented on site and there is no direct evidence to demonstrate the muddy discharge was inducted by the Project. Further preventive measures, such as set up a monitoring point at the exit of the site to check the wheels of the vehicles are clean enough so that no mud and grit adhered to the wheels of the trucks when leaving the site. In addition, sprinkler truck will be only operated at appropriate location within the project site to avoid nuisance to the public road user.	Final reply to 1823 on 12 April 2022. Interim report prepared by Contractor was agreed by IEC and ET

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM- 2022- 08-01	1 August 2022	EPD	EPD File Ref.: N06/RN/00 015561-22	The complainant concerned about the muddy water discharged by a piling contractor "德運建築鑽探有限公司" on 20 th July 2022	Contract No.: YL/2020/01 德運建築鑽探有限公司 is not related to the Contract No. YL/2020/01. After checking on site, the complaint was referred to other party.	Interim report was submitted to EPD on 18 Aug 2022
COM- 2022- 08-02	4 August 2022	EPD	EPD File Ref.: N06/RN/00 015953-22	The complainant concerned about the muddy water discharging to the public area from a construction site near Fu Tai Car Park.	Contract No.: YL/2020/02 Joint site investigation with RSS was carried out on 5 Aug 2022 near Fu Tai Carpark. There were no construction works carried out near Fu Tai Carpark and no muddy water was noted. Preventive measures (sand bag bund) had been provided.	Interim report was submitted to EPD on 18 Aug 2022
COM- 2022- 10-01	14 October 2022	EPD	EPD File Ref.: N06/RN/00 022308-22	The complainant concerned about the noise arising from piling works carried out at 6am in the morning and around 11pm at night at the construction site adjacent to the existing Lok Ma Chau MTR Station.	Contract No.: YL/2021/01 According to the interim report, the piling works were carried out with valid construction noise permit from 08:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site. Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment to minimize the noise generated from works and the impact to the nearby resident.	Interim report was submitted to EPD on 17 Nov 2022
COM- 2022- 10-02	14 October 2022	EPD	EPD File Ref.: N06/RN/00 022342-22	The complainant concerned about the noise arising from piling works carried out before 7am and at around 11pm at the construction site adjacent to the existing Lok Ma Chau MTR Station.	Contract No.: YL/2021/01 According to the interim report, the piling works were carried out with valid construction noise permit from 08:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-towork system) have been implemented on site.	Interim report was submitted to EPD on 17 Nov 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM	20.0 1	EDD	EDD E.I		Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment to minimize the noise generated from works and the impact to the nearby resident.	
COM- 2022- 10-03	28 October 2022	EPD	EPD File Ref.: N06/RN/00 023772-22	The complainant concerned about the noise arising from percussive piling works carried out on 27 & 28 Oct 2022 in Lok Ma Chau Loop (at a work site near "落馬州河套區創科園地盤")	Contract No.: YL/2020/01 According to the interim report, no percussive pilling works were carried out under Contract No. YL/2020/01 inside Lok Ma Chau Loop on 27 th and 28 th October 2022 according to per Condition 2.9 (d) of EP 477/2013/A.	Interim report was submitted to EPD on 22 Nov 2022
COM- 2022- 11-01	20 November 2022	EPD	EPD File Ref.: N07/RN/00 026174-22	The complainant concerned about the noise arising from piling works carried out at around 7am to around 10pm at the construction site adjacent to the Lok Ma Chau minibus station (落馬州關口 小巴站旁地盤).	Contract No.: YL/2021/01 According to the interim report, the piling works were carried out with valid construction noise permit from 09:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site. Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment and along the site boundary facing the resident of Shenzhen City to minimize the noise generated from works and the impact to the nearby resident.	Interim report was submitted to EPD on 5 Dec 2022
					In addition, the duration of potential noisy construction activities (e.g., core demouling and casing extraction)	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					were also minimized.	
COM- 2022- 12-01	4 December 2022	EPD	EPD File Ref.: N06/RN/00 027607-22)	The complainant alleged that: " 打樁噪音造成困擾,情況已維持幾個星期,最初只係星期六下午,近兩星期日日朝早點前後就開始,到黃昏點幾6點先至停". The complainant provided co-ordinate information (x=826305.0; y=842363.0) for reference.	Contract No.: YL/2021/01 According to the interim report, no percussive piling works were carried out since the commencement of the Contract with reference to the site diary records. Refer to the coordinate information (x=826305.0; y=842363.0) provided by the complainant, the location of concerned is not within the works area under the Contract. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.	Interim report was submitted to EPD on 22 Dec 2022
COM- 2022- 12-01	8 December 2022	EPD	EPD File Ref.: N06/RN/00 028165-22)	The complainant alleged that there was percussive piling works carried out within the work site of Lok Ma Chau Loop, and commented that "落馬洲河套地盤打樁噪音問題,到目前仍然如是". The complainant provided a video record of 7 Dec 2022 (taken at around 1500 hours) showing the suspected percussive piling work. The complainant provided coordinate information (x=826305.0; y=842363.0)	Contract No.: YL/2021/01 According to the interim report, no percussive piling works were carried out since the commencement of the Contract with reference to the site diary records. Refer to the coordinate information (x=826305.0; y=842363.0) provided by the complainant, the location of concerned is not within the works area under the Contract. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.	Interim report was submitted to EPD on 22 Dec 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				for reference, and did not indicate where he/she was affected by the construction noise.		
COM- 2023- 02-01	15 February 2023	EPD	EPD File Ref.: N06/RN/00 004267-23)	The complaint was lodged by a resident of Shenzhen City '…"附上落马洲工程夜间持续到现在还在工作的视频,轰隆声非常影响我们住在对面深圳居民的休息!希望能得到改善!不要在夜间扰民!谢谢!". Two short videos were attached in EPD's email dated 15 February 2023.	Contract No.: YL/2021/01 According to the interim report, piling works were carried out by the Contractor from 09:00 to 23:00 with valid construction noise permit under Contract YL/2021/01 of the Public Transport Interchange of Lok Ma Chau MTR Station. Noise monitoring was conducted for works during the restricted hours and no exceedance was recorded. The duration of working time for core demoulding and casting extraction were also minimized in order to reduce noise levels. Acoustic canvas sheets were installed to enclose the engine of used PME and deployed along the site boundary facing the resident of Shenzhen City to minimize the noise generated from works and the impact to the nearby resident. For enhancement, a 3m high noise barrier was installed next the rotary drilling rig on 15 February 2023. All night works were reviewed and suspended until 19 February 2023.	Interim report was submitted to EPD on 24 Feb 2023
COM- 2023- 03-01	3 March 2023	EPD	EPD File Ref.: N06/RN/00	The complaint was lodged by a resident of Shenzhen City "附件有视频, 拍不到做工	Contract No.: YL/2021/01 According to the interim report, the piling works were	Interim report was submitted to EPD on 17

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
			006284 23	程,但机器的轰隆声从早到晚,即使现在 22:24 分还在热火朝天的工作中!孩子和老人都需要休息,特别是老人,这种声音让他们已经很久没能早点休息!!望能解决!或者可否告知什么时候工程能结束? A short video was attached in EPD's email on 8 th March 2023.	carried out from 09:00 to 23:00 with valid construction noise permit under Contract YL/2021/01 at the Public Transport Interchange of Lok Ma Chau MTR Station. Other than the piling works, there were no construction works undertaken by Contract YL/2021/01 on that night. Noise source was recorded in the short video provided by the complaint. However, the noise source had yet to be ascertained. Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled. In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded. Acoustic canvas sheets were installed to enclose the engine of used powered mechanical equipment. A 3m high noise barrier was installed next to the rotary drilling rig. For enhancement, another 3m high noise barrier was	Mar 2023
					erected facing the residential blocks of Shenzhen City on 7 March 2023. The piling works at the site area near Lok	
					Ma Chau MTR Station are tentatively scheduled to be completed in the first quarter of 2024.	
COM-	3 April 2023	EPD	EPD File	The complaint was lodged by	Contract No.: YL/2021/01	Interim report
2023- 04-01			Ref.: N06/RN/00	a resident of Shenzhen City "this site is still operating at	According to the interim report, the piling works were	was submitted to EPD on 27

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
			009011-23	this time (10:15pm). It is not the first time it operates until this late but every single night since the work began. Last Sunday, it operated until 4pm". A sound recording and phot were attached to the email.	carried out from 08:00 to 19:00 on 2 April (Sunday) and 08:00 to 23:00 on 3 April with valid construction noise permit under Contract YL/2021/01 at the Public Transport Interchange of Lok Ma Chau MTR Station. Other than the piling works, there were no construction works undertaken for Contract YL/2021/01 during the aforementioned periods. The complaint included a sound recording that captured noise, but the source of the noise has not yet been determined. Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. Frontline supervisor and sub-contractors have to apply a PTW one working day in advance of the construction works during	Apr 2023
					restricted hours and attend the pre-work briefing prior to commencing works on site to ensure strict compliance with the conditions of construction noise permit. No works and PMEs were allowed without the approved PTW form	
					Based on the Contractor's record, two rotary drill rigs were operated as listed in Group L of granted CNP at 08:00 – 19:00 on 2 April (Sunday) and 19:00 – 23:00 on 3 April, and only one group (L) of the PME was used for carrying out construction work at the same time. PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled. The power generating part of the rotary drilling rigs was screened by	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					acoustic barrier. In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded. The duration of working time for core demoulding and casing extraction were also minimized in order to reduce noise levels. 3m high noise barriers were installed next to the rotary drilling rigs. Another noise barriers were erected facing the residential blocks of Shenzhen City.	
					All construction works performed during the restricted hours were reviewed and no non-compliance was identified. A refresher training on a CNP compliance was provided to relevant frontline staff and workers on 20 th April 2023.	

APPENDIX Q SUMMARY OF SUCCESSFUL PROSECUTION

Appendix Q - Summary of Successful Prosecution

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

APPENDIX R ECOLOGICAL MONITORING RESULTS

Appendix R1 – Avifauna Monitoring Results (Pond 12)

					Date	3 rd April 2023			
					Weather Condition	Sunny			
		Chinese	Hong	Conservation	Abun	dance			
Common Name	Species Name	Name	Kong Status	Status	Maximum count of bird species recorded (Point Count – 15 mins interval)				
					Before Construction	During Construction			
Barn Swallow	Hirundo rustica	家燕	PM, Sv		1	2			
Black-collared Starling	Gracupica nigricollis	黑領椋鳥	R		2	4			
Black Kite	Milvus migrans	黑鳶	R, WV		1	1			
Chinese Bulbul	Pycnonotus sinensis	白頭鵯	R		2	1			
Chinese Pond Heron	Ardeola bacchus	池鷺	R	PRC(RC)	1	1			
Crested Myna	Acridotheres cristatellus	八哥	R		3	5			
Oriental Magpie-Robin	Copsychus saularis	鵲鴝	R		1	1			
Plain Prinia	Prinia inornata	純色鷦鶯	R		2	1			
Red-whiskered Bulbul	Pycnonotus jocosus	紅耳鵯	R		2	1			
Spotted Dove	Streptopelia chinensis	珠頸斑鳩	R		1	3			
Spotted Munia	Lonchura punctulata	斑文鳥	R		4	5			
White-throated Kingfisher	Halcyon smyrnensis	白胸翡翠	R		1	1			
Yellow-bellied Prinia	Prinia flaviventris	黄腹鷦鶯	R		5	6			
	Total No. of Spe	cies			13	13			
	No. of Birds Reco		26	32					

					Date Weather Condition	13 th April 2023 Fine		
		Chinese	Kong		Abun	dance		
Common Name	Species Name			Conservation Status	Maximum count of bird species recorded (Point Count – 15 mins interval)			
					Before Construction	During Construction		
Barn Swallow	Hirundo rustica	家燕	PM, Sv			2		
Black-collared Starling	Gracupica nigricollis	黑領椋鳥	R		2	2		
Black Drongo	Dicrurus macrocercus	黑卷尾	Sv		1			
Black Kite	Milvus migrans	黑鳶	R, WV			2		
Chinese Bulbul	Pycnonotus sinensis	白頭鵯	R		1	1		
Great Egret	Ardea alba	大白鷺	R, WV	PRC(RC)		1		
Crested Myna	Acridotheres cristatellus	八哥	R		2	1		
Domestic Pigeon	Columba livia	原鴿	R		1	1		
Oriental Magpie-Robin	Copsychus saularis	鵲鴝	R		1			
Plain Prinia	Prinia inornata	純色鷦鶯	R		5	6		
Red-whiskered Bulbul	Pycnonotus jocosus	紅耳鵯	R		1			
Spotted Dove	Streptopelia chinensis	珠頸斑鳩	R			1		
Spotted Munia	Lonchura punctulata	斑文鳥	R		1	1		
White-shouldered Starling	Sturnia sinensis	灰背椋鳥	M, WV, Sv	LC	5	4		
White-throated Kingfisher	Halcyon smyrnensis	白胸翡翠	R		1			

			Kong		Date	13 th April 2023			
		Chinese Name			Weather Condition	Fine			
				Conservation Status	Abund	lance			
Common Name	Species Name				Maximum count of bird species recorded				
					(Point Count – 15 mins interval)				
					Before Construction	During Construction			
Yellow-bellied Prinia	Prinia flaviventris	黃腹鷦鶯	R		4	4			
	Total No. of Spec	ies			12	12			
	No. of Birds Recor	25	26						

					Date Weather Condition	19 th April 2023 Overcast			
		Chinese Name	Hong	Conservation Status	Abundance				
Common Name	Species Name		Kong		Maximum count of bird species recorded (Point Count – 15 mins interval)				
					Before Construction	During Construction			
Barn Swallow	Hirundo rustica	家燕	PM, Sv			2			
Black-collared Starling	Gracupica nigricollis	黑領椋鳥	R		1	1			
Chinese Bulbul	Pycnonotus sinensis	白頭鵯	R		1	2			
Common Myna	Acridotheres tristis	家八哥	UR			1			
Collared Crow	Corvus torquatus	白頸鴉	UR	LC, VU		2			
Great Egret	Ardea alba	大白鷺	R, WV	PRC(RC)		1			
Crested Myna	Acridotheres cristatellus	八哥	R		2	5			
Little Egret	Egretta garzetta	小白鷺	R	PRC(RC)		1			
Plain Prinia	Prinia inornata	純色鷦鶯	R		1	2			
Red-whiskered Bulbul	Pycnonotus jocosus	紅耳鵯	R		3	2			
Sooty-headed Bulbul	Pycnonotus aurigaster	白喉紅臀鵯	UR			1			
Spotted Munia	Lonchura punctulata	斑文鳥	R			1			
White-shouldered Starling	Sturnia sinensis	灰背椋鳥	M, WV, Sv	LC	4	8			
White-throated Kingfisher	Halcyon smyrnensis	白胸翡翠	R		1				
Yellow-bellied Prinia	Prinia flaviventris	黃腹鷦鶯	R		1	3			
	Total No. of Spec	ies			8	14			

				Consequetion	Date	19 th April 2023		
Common Name					Weather Condition	Overcast		
		Chinasa	Hong		Abundance			
	Species Name	Chinese Name	Kong Status	Conservation Status	Maximum count of b (Point Count – 1	•		
					Before Construction	During Construction		
	No. of Birds R	14	32					

					Date	26 th April 2023	
					Weather Condition	Sunny	
		Chinese Name	Kong	Conservation Status	Abund	lance	
Common Name	Species Name				Maximum count of bird species recorded (Point Count – 15 mins interval)		
					Before Construction	During Construction	
Black-collared Starling	Gracupica nigricollis	黑領椋鳥	R		1	2	
Black Drongo	Dicrurus macrocercus	黑卷尾	Sv		1		
Black Kite	Milvus migrans	黑鳶	R, WV			1	
Great Egret	Ardea alba	大白鷺	R, WV	PRC(RC)		1	
Crested Myna	Acridotheres cristatellus	八哥	R		1	1	
Domestic Pigeon	Columba livia	原鴿	R			1	
Eastern Cattle Egret	Bubulcus coromandus	牛背鷺	R, PM	(LC)	1		
Plain Prinia	Prinia inornata	純色鷦鶯	R		4	3	
Spotted Dove	Streptopelia chinensis	珠頸斑鳩	R			1	
Spotted Munia	Lonchura punctulata	斑文鳥	R		1	1	
White-shouldered Starling	Sturnia sinensis	灰背椋鳥	M, WV, Sv	LC		4	
White Wagtail	Motacilla alba	白鶺鴒	PM, WV			4	
Yellow-bellied Prinia	Prinia flaviventris	黃腹鷦鶯	R		3	5	
	Total No. of Spec	cies			7	11	
	No. of Birds Reco	12	24				

Note:

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

Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor

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

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

Cap.586: Endangered Species of Animals and Plants Ordinance (Cap.586)

CR: Rare in China Red Data Book Status

VU: Vulnerable in IUCN Red List Status

(VU): Vulnerable in China Red Data Book Status

EN: Endangered in IUCN Red List Status

(EN): Endangered in China Red Data Book Status

NT: Near Threatened in IUCN Red List Status

CR: Critically Endangered in IUCN Red List Status

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

Appendix R2 – Herptofauna (Chinese Bullfrog) Survey Results

Common Name	Species Name	Chinese Name	Date: 19th A	pril 2023						
			Weather Co	ondition: Sto	rm					
			Counts							
			Transect Walk							
			Day Transect Night Transect							
			WAL AFP Others WAL AFP Others							
Chinese Bullfrog	Hoplobatrachus rugulosus	虎紋蛙	0 0 0 15 0 0							

Remarks:

It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands, which may have an effect on the local Chinese Bullfrog population.

Note:

WAL – Wet Agricultural Land, AFP – Abandoned Fishpond

Appendix R3 – Aquatic Fauna (Rose Bitterling) Survey Results

Common Name	Species Name	Chinese Name	Date:	Date: 26 th April 2023						
			Weath	Weather Condition: Sunny						
			Counts							
			Location(s)							
			S1	S2	S3	S4	A1	A2	B1	B2
Rose Bitterling	Rhodeus ocellatus	高體鰟鮍	Direct	Observa	ation:					
			0	0	0	0	5	2	0	0
			Sweep Netting:							
			0 0 0 0 0 0 0						0	

Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team Water Quality Monitoring Results on 03-Apr-23

Location	Weather	Start	Tempera	iture (°C)	p	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)
Location	Condition	Time	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Cloudy	10:49	21.7 21.7	21.7	7.5 7.5	7.5	0.1 0.1	0.1	30.2 30.0	30.1	2.7 2.6	2.7	4.4 4.5	4.5
A2	Cloudy	10:34	21.7 21.7	21.7	7.3 7.3	7.3	0.1 0.1	0.1	39.7 39.6	39.7	3.5 3.5	3.5	3.6 3.7	3.7
B1	Cloudy	10:27	21.6 21.6	21.6	7.2 7.2	7.2	0.1 0.1	0.1	29.8 29.8	29.8	2.6 2.6	2.6	22.1 22.1	22.1
B2	Cloudy	10:20	21.6 21.6	21.6	7.3 7.3	7.3	0.1 0.1	0.1	30.4 30.2	30.3	2.7 2.7	2.7	25.4 25.4	25.4
S1	Cloudy	10:56	21.5 21.5	21.5	7.3 7.3	7.3	0.1 0.1	0.1	25.8 25.7	25.8	2.3 2.3	2.3	37.5 37.1	37.3
S2	Cloudy	10:42	22.1 22.1	22.1	7.7 7.7	7.7	0.1 0.1	0.1	69.5 69.4	69.5	6.1 6.1	6.1	8.2 8.2	8.2
S3	Cloudy	10:06	21.8 21.8	21.8	7.6 7.6	7.6	0.2 0.2	0.2	39.7 39.5	39.6	3.5 3.5	3.5	8.7 8.7	8.7
S4	Cloudy	10:14	21.7 21.7	21.7	7.5 7.5	7.5	0.1 0.1	0.1	34.6 34.4	34.5	3.0 3.0	3.0	7.5 7.6	7.6

Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team Water Quality Monitoring Results on 12-Apr-23

Location	Weather	Start	Tempera	ature (°C)	p	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ty(NTU)
Location	Condition	Time	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	11:12	24.5 24.5	24.5	7.4 7.4	7.4	0.1 0.1	0.1	62.5 61.7	62.1	5.2 5.1	5.2	3.6 3.6	3.6
A2	Sunny	10:57	24.4 24.3	24.4	7.4 7.4	7.4	0.1 0.1	0.1	52.5 52.3	52.4	4.4 4.4	4.4	3.8 3.8	3.8
B1	Sunny	10:50	24.0 24.0	24.0	7.9 7.8	7.9	0.1 0.1	0.1	122.4 122.4	122.4	10.3 10.3	10.3	19.7 19.8	19.8
B2	Sunny	10:44	25.5 25.5	25.5	7.9 7.9	7.9	0.1 0.1	0.1	140.3 140.9	140.6	11.5 11.5	11.5	21.9 21.9	21.9
S1	Sunny	11:19	23.4 23.4	23.4	7.2 7.2	7.2	0.2 0.2	0.2	30.5 30.3	30.4	2.6 2.6	2.6	21.1 21.1	21.1
S2	Sunny	11:05	23.2 23.2	23.2	7.6 7.6	7.6	0.1 0.1	0.1	68.5 67.9	68.2	5.9 5.8	5.9	5.3 5.3	5.3
S3	Sunny	10:31	23.3 23.3	23.3	7.5 7.5	7.5	0.1 0.1	0.1	49.9 49.4	49.7	4.3 4.2	4.3	7.7 7.8	7.8
S4	Sunny	10:38	24.1 24.1	24.1	7.4 7.4	7.4	0.1 0.1	0.1	47.6 47.5	47.6	4.0 4.0	4.0	7.0 7.0	7.0

Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team Water Quality Monitoring Results on 19-Apr-23

Location	Weather	Start	Tempera	ture (°C)	p	Н	Salin	ity ppt	DO Satu	ration (%)	Dissolved O	xygen (mg/L)	Turbidi	ity(NTU)
Location	Condition	Time	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Rainy	10:25	27.3 27.3	27.3	6.9 6.9	6.9	0.1 0.1	0.1	21.1 20.6	20.9	1.7 1.6	1.7	3.3 3.3	3.3
A2	Rainy	10:20	27.2 27.2	27.2	6.9 6.9	6.9	0.1 0.1	0.1	22.1 21.8	22.0	1.8 1.7	1.8	3.3 3.3	3.3
B1	Rainy	10:18	27.2 27.2	27.2	6.9 6.9	6.9	0.1 0.1	0.1	65.6 65.3	65.5	5.2 5.2	5.2	20.9 20.6	20.8
B2	Rainy	10:17	27.2 27.2	27.2	6.9 6.9	6.9	0.1 0.1	0.1	67.9 67.9	67.9	5.4 5.4	5.4	21.8 21.8	21.8
S1	Rainy	10:28	26.1 26.1	26.1	6.8 6.8	6.8	0.1 0.1	0.1	26.7 25.8	26.3	2.2 2.1	2.2	25.8 25.9	25.9
S2	Rainy	10:24	24.5 24.5	24.5	7.1 7.1	7.1	0.1 0.1	0.1	66.2 65.5	65.9	5.5 5.5	5.5	5.9 6.0	6.0
S3	Rainy	10:11	24.6 24.6	24.6	6.8 6.8	6.8	0.1 0.1	0.1	49.0 48.7	48.9	4.1 4.1	4.1	8.2 8.6	8.4
S4	Rainy	10:13	24.7 24.7	24.7	6.9 6.9	6.9	0.1 0.1	0.1	35.5 35.2	35.4	3.0 2.9	3.0	6.0 6.0	6.0

Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team Water Quality Monitoring Results on 26-Apr-23

Location	Weather	Start	Temperature (°C)		рН		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
Location	Condition	Time	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	10:50	24.3 24.3	24.3	7.0 7.0	7.0	0.1 0.1	0.1	19.8 19.8	19.8	1.7 1.7	1.7	5.1 5.1	5.1
A2	Sunny	10:26	24.8 24.8	24.8	7.2 7.2	7.2	0.1 0.1	0.1	35.1 35.0	35.1	2.9 2.9	2.9	4.5 4.4	4.5
B1	Sunny	10:22	23.8 23.8	23.8	7.5 7.5	7.5	0.1 0.1	0.1	102.2 102.2	102.2	8.6 8.6	8.6	17.3 17.1	17.2
B2	Sunny	10:16	24.2 24.1	24.2	7.5 7.5	7.5	0.1 0.1	0.1	103.9 103.5	103.7	8.7 8.7	8.7	16.8 16.7	16.8
S1	Sunny	10:59	23.1 23.1	23.1	6.8 6.8	6.8	0.1 0.1	0.1	45.2 44.3	44.8	3.9 3.8	3.9	42.7 45.2	44.0
S2	Sunny	10:37	23.3 23.3	23.3	7.0 7.0	7.0	0.1 0.1	0.1	64.5 64.2	64.4	5.5 5.5	5.5	9.0 8.8	8.9
S3	Sunny	10:01	22.6 22.6	22.6	7.3 7.3	7.3	0.1 0.1	0.1	53.9 53.1	53.5	4.7 4.6	4.7	11.4 11.7	11.6
S4	Sunny	10:09	22.9 22.9	22.9	7.3 7.3	7.3	0.1 0.1	0.1	48.3 48.1	48.2	4.2 4.1	4.2	7.5 7.5	7.5

APPENDIX S PHOTO RECORDS OF THE STATUS OF PONDS IN APRIL 2023

 $Appendix \ S-Photo \ Records \ of \ The \ status \ of \ Ponds \ in \ April \ 2023$

