

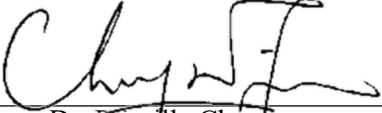
Civil Engineering and Development Department

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

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

**Monthly Environmental Monitoring and
Audit Report for July 2024**

(Version 1.0)

Certified By 
Dr. Priscilla Choy
(Environmental Team Leader)

REMARKS:

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

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

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Our ref.: LES/J2021-04/CS/L185
Date : 15 August 2024

By Post & Email

Civil Engineering and Development Department
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Attn: Mr. YIU Wai Kei, Ricky

Dear Mr. Yiu,

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

Verification of Monthly EM&A Report (July 2024)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report of certified by the Environmental Team Leader in August 2024. We hereby verify the captioned submission in accordance with Clause 3.4 of the Environmental Permit No. EP-477/2013/B 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
Wellab Limited

Mr. Eric Wong
Dr. Priscilla Choy

By Email
By Email

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EXECUTIVE SUMMARY

Introduction

1. This is the 67th Monthly Environmental Monitoring and Audit (EM&A) Report prepared for Environmental Permit No.: EP-477/2013/B - 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 31st July 2024 (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 (hereinafter called the “Contract 3”)

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

Environmental Aspect		Monitoring Parameter	Date
Air Quality		1-hr Total Suspended Particulates (TSP) Monitoring	2 nd , 5 th , 11 th , 17 th , 23 rd and 29 th July 2024
		24-hr TSP Monitoring	4 th , 10 th , 16 th , 22 nd and 26 th July 2024
Construction Noise		L _{eq30mins}	2 nd , 11 th , 17 th , 23 rd and 29 th July 2024
Water Quality		<ul style="list-style-type: none"> • Temperature • pH • Turbidity • Water depth • Salinity • Dissolved Oxygen (DO) • Suspended Solids (SS) 	2 nd , 4 th , 6 th , 8 th , 10 th , 12 th , 15 th , 17 th , 19 th , 22 nd , 24 th , 26 th , 29 th and 31 st July 2024
Ecological	Lok Ma Chau (LMC) Loop	Avifauna flight line survey	19 th July 2024
		Mammal monitoring (by infra-red flash cameras)	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
Ecological	Western Connection Road (WCR)	Avifauna flight line survey	19 th July 2024
		Avifauna survey at Pond 12	2 nd , 9 th , 15 th , 22 nd and 29 th July 2024
		Herpetofauna survey	8 th July 2024
		Aquatic Fauna survey	3 rd July 2024
		Water Quality Monitoring for Aquatic Fauna	<u>LMC Meander</u> 2 nd , 4 th , 6 th , 8 th , 10 th , 12 th , 15 th , 17 th , 19 th , 22 nd , 24 th , 26 th , 29 th and 31 st July 2024 <u>Stream and associated ponds south of Lung Hau Road</u> 3 rd , 8 th , 15 th and 22 nd July 2024
Site Environmental Audit	Environmental protection and pollution control measures	<u>Contract 1</u> 3 rd , 8 th , 17 th , 24 th and 31 st July 2024 <u>Contract 2</u> 3 rd , 10 th , 17 th , 24 th and 31 st July 2024 <u>Contract 3</u> 3 rd , 10 th , 15 th , 22 nd and 29 th July 2024	

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

Environmental Monitoring	Parameter	Action Level	Limit Level	Event & Action		
				Investigation Result	No. of Exceedance related to the Construction Works of the Project	Corrective Action
Air Quality	1-hr TSP	0	0	--	0	--
	24-hr TSP	0	0	--	0	--
Construction Noise	<u>Daytime</u> Leq(30min)	0	0	--	0	--
Water Quality	DO	0	0	--	0	--
	Turbidity	0	0	--	0	--
	SS	0	0	--	0	--

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. No Action/Limit Level exceedance was recorded.

Ecological Monitoring

LMC Loop

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). It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander and EA Zone.

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). It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander and EA Zone.

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

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 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	3 rd , 8 th , 17 th , 24 th and 31 st July 2024
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	3 rd , 10 th , 17 th , 24 th and 31 st July 2024
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	3 rd , 10 th , 15 th , 22 nd and 29 th July 2024

Complaint Log

20. One environmental complaint related to construction noise was received in June 2024 and referred to project team by EPD 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) WCR Retaining Wall, Slope Work, DCM5 & 7 (Area 1)
- (b) WCR Drainage Work and Fresh Watermains
- (c) Road L1 Drainage Works and UU enabling works
- (d) Meander Bridge South and Middle Spans Construction
- (e) HWT Pai Lau Finishing Works
- (f) Box Culvert A1 Outfall Portion Construction
- (g) Wetland Fence Construction
- (h) PT1 drainage 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

Reedbed Cell No. 3A:

- (a) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A

DRL:

- (a) Temporary works.
- (b) Bored Pile works.
- (c) Sheet piling works.
- (d) ELS works.
- (e) Segment precast.
- (f) Pier construction.
- (g) Construction of pile cap.
- (h) Pre-drill works.
- (i) Construction of Base Slab.
- (j) Pierhead segment erection.

LMC Road:

- (a) Sheet-piling works.
- (b) Drainage works.
- (c) Bored piling works.
- (d) Water main installation.
- (e) Pile cap construction.
- (f) Nullah modification works
- (g) Site formation.
- (h) Underground utilities works.
- (i) Construction of noise barrier.
- (j) Construction of box culvert.
- (k) Construction of retaining wall.
- (l) Construction of concrete structure.
- (m) Carpark traffic diversion works.

Fanling Highway:

- (a) Construction of retaining wall.
- (b) Pier construction.
- (c) Installation of pierhead segment.

- (d) Backfilling works for retaining wall.
- (e) Sheet-piling works for retaining wall.
- (f) Full span erection.
- (g) Fabrication of precast segment.
- (h) Installation of parapet at retaining wall.
- (i) Construction of subway.

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 Structural Steel Materials Delivery
- (b) LMC Station Strengthening Works
- (c) ELS Works and Pile Caps & Tie Beam Construction at Elevated PTI and Double deck Footbridge
- (d) Elevated PTI Superstructure Construction

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 67th EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme in the period from 1st to 31st July 2024.

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.

Section 9: **Environmental Site Inspection** - summarises the audit findings of the

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. EP-477/2013/A) was issued on 12th August 2021 for Development of Lok Ma Chau Loop. In December 2023, the Director of Environmental Protection further amends the Environmental Permit (No. EP-477/2013/A) based on the Application No. VEP-629/2023 and the latest Environmental Permit (No. EP-477/2013/B) was issued on 29th December 2023 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.
 - 1) 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 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 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 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. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works (Completed)	<ul style="list-style-type: none"> a) Land decontamination treatment within the Loop; b) Establishment of an Ecological Area (EA) within the Loop; c) Construction of a temporary access to the Loop; d) Minor improvement works to Ha Wan Tsuen East Road and other ancillary works; 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. 	Figure 1a
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	<ul style="list-style-type: none"> 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 about 1.3 ha offsite woodland compensation. 	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	<ul style="list-style-type: none"> 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 720m 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	<ul style="list-style-type: none"> a) Construction of an elevated public transport interchange of an approximate area of 5,700 square metres above the existing Lok Ma Chau 	Figure 1b

Contract(s)	Scope of Works	Site Layout Plan
Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	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. YIU Wai Kei, Ricky	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. YL/2020/01				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
CRCC-Kwan Lee-Paul Y. JV	Contractor	Site Agent – Mr. Sam Lee	9284 1964	2774 0197
		Senior Engineer – Mr. Max Mak	9263 1116	2774 0197
		Senior Engineer – Mr. Stephen Leung	9770 6390	2774 0197
		Environmental Officer – Kobe Lee	9603 9686	2774 0197
Contract No. YL/2020/02				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
China Road and Bridge Corporation	Contractor	Site Agent – Mr. Roger Poon	9503 2488	3996 9202
		Construction Team Leader – Mr. Angus Mok	98389224	3996 9202
		Environmental Officer – Mr. Calvin So	9724 6254	3996 9202

Organization	Project Role	Contact Person	Tel No.	Fax No.
Contract No. YL/2021/01				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
Paul Y.-Chun 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) North, Middle and South Span Bridge Deck Construction Work and South Side Superstructure for Vehicular Bridge over the Old Shenzhen River Meander
- (b) Excavation and Lateral Support (ELS) Cofferdam Construction for Box Culvert A and C
- (c) Excavation and Lateral Support (ELS) Cofferdam Construction and Underground Utilities (UU) installation, Drainage and sewerage works for Road L1
- (d) Drainage works and Excavation and Lateral Support (ELS) Cofferdam Construction for Public Transport Interchange
- (e) Retaining Wall Works, Drainage Works, Watermain works and Roadworks 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

Reedbed Cell No. 3A:

- (a) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A

DRL:

- (a) Temporary works are in progress.

- (b) Bored Piling works are in progress.
- (c) Sheet piling is in progress.
- (d) ELS works are in progress.
- (e) Excavation is in progress.
- (f) ABWF works are in progress.
- (g) Pier construction.
- (h) Backfilling of piling platform is in progress

LMC Road:

- (a) Sheet-piling works.
- (b) Drainage works.
- (c) Bored piling works.
- (d) Water main installation.
- (e) Pile cap construction.
- (f) Nullah modification works
- (g) Site formation.
- (h) ABWF works are in progress.
- (i) Construction of box culvert.
- (j) Construction of retaining wall.
- (k) Pier construction.
- (l) Construction of Noise Barriers.
- (m) Traffic islands modification works are in progress.

Fanling Highway:

- (a) Installation of pierhead segment.
- (b) Sheet-piling works for retaining wall.
- (c) Backfilling works for retaining wall.
- (d) Bored Piling works are in progress.
- (e) Construction of subway.

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

- (a) Underground Utility detection
- (b) Trial pit excavation
- (c) Material / Waste Lifting and Delivery
- (d) Utilities diversion
- (e) Erect external scaffold outside LMC Station
- (f) E&M

- (g) Double Deck Footbridge
- (h) Temporary Lighting system
- (i) Site Demarcation
- (j) ELS installation Works
- (k) Tie beam and pile cap construction
- (l) Column construction
- (m) Falsework at EPTI
- (n) EPTI RC deck construction

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

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
Contract No. YL/2020/01	EP-477/2013	22/11/2013	11/08/2021	Replaced by EP-473/2013/A
Contract No. YL/2020/02	EP-477/2013/A	12/08/2021	28/12/2023	Replaced by EP-473/2013/B
Contract No. YL/2021/01	EP-477/2013/B	29/12/2023	N/A	Valid
Construction Noise Permit (CNP)				
Contract No. YL/2020/01	GW-RN0642-24	15/06/2024	14/09/2024	Valid
	GW-RN0643-24	09/06/2024	08/08/2024	Valid
Contract No. YL/2020/02	GW-RN0493-24	10/05/2024	09/08/2024	Valid
	GW-RN0547-24	17/05/2024	16/08/2024	Valid
	GW-RN0572-24	29/05/2024	28/08/2024	Valid
	GW-RN0601-24	31/05/2024	30/08/2024	Valid
	GW-RN0656-24	18/06/ 2024	17/09/2024	Valid
	GW-RN0842-24	21/07/2024	20/09/2024	Valid
Contract No. YL/2021/01	GW-RN0848-24	25/07/2024	24/09/2024	Valid
	GW-RN0403-24	19/04/2024	07/07/2024	Expired in the reporting month
	GW-RN0713-24	28/06/2024	27/09/2024	Valid
	GW-RN0794-24	08/07/2024	07/10/2024	Valid
Notification pursuant to Air Pollution Control (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
Billing Account for Disposal of Construction Waste				

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
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 License under Water Pollution Control Ordinance				
Contract No. YL/2020/01	WT00039466-2021	22/09/2023	31/12/2026	Valid
	WT00041233-2022	31/10/2022	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
	WT00043043-2023	21/04/2023	30/04/2028	Valid
	WT10001592-2023	7/09/2023	30/09/2028	Valid
	WT10001042-2023	29/11/2023	30/11/2028	Valid
	WT10003163-2024	18/06/2024	30/06/2029	Valid
Contract No. YL/2021/01	WT00041259-2022	21/07/2022	31/07/2027	Valid
Specified Processes for Cement 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 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 Environmental Permit for Main Works Package 1

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 commencement of the works 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	*
2.7	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	28 Mar 2024 (Issue 1)	*
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 re-appraisal 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 re-appraisal report)	N/A

2.18	Updated Storm Water Pollution Control Plan	at least one month before the commencement of operation of the Project	To be submitted at least one month before the commencement of operation of the Project	N/A
2.22(a)	Traffic Noise Mitigation Plan (TNMP)	no later than one month before the commencement of construction of the traffic noise mitigation measures for the Project	22 July 2021 (Version A, dated July 2024)	N/A
2.24	Odour Mitigation Measures and Monitoring Plan (OMMMP)	no later than six months before the commencement of operation of the Project	21 May 2024	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/B
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.
2. 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	2

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	2
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 $\pm 3^\circ\text{C}$; the RH should be $< 50\%$ and not vary by more than $\pm 5\%$. 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	Concentration ($\mu\text{g}/\text{m}^3$)		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
DMS – 1a	39.8	14.4 – 77.5	353	500
DMS – 2B	42.7	20.7 – 94.2	370	
DMS – 3	30.3	11.6 – 49.3	351	
DMS – 4A	33.2	12.9 – 67.8	350	

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

Monitoring Station	Concentration ($\mu\text{g}/\text{m}^3$)		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
DMS – 1a	50.7	35.4 – 73.1	184	260
DMS – 2B	48.6	32.0 – 82.2	166	
DMS – 3	29.6	21.0 – 45.6	166	
DMS – 4A	15.4	11.1 – 26.5	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 / slope / stockpiles of materials, site vehicle / equipment movement
DMS-2B	Road traffic, exposed site area / slope / stockpiles of materials, site vehicle / equipment 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 Operation Base at Horn Hill	Free Field 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	2
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**.

Table 4.3 Noise Monitoring Parameters, Duration and Frequency

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

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} .

L_{90} is the level exceeded for 90% of the time. For 90% of the time, the noise level is above this level.

Monitoring Methodology and QA/QC Procedures

- The microphone head of the sound level meter was positioned at 1m from the exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acted as a reflecting surface;
- The battery condition was checked to ensure the correct functioning of the meter;
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - frequency weighting : A
 - time weighting : Fast
 - time measurement : $L_{eq}(30 \text{ min.}) \text{ dB(A)}$
(as six consecutive $L_{eq, 5\text{min}}$ readings) during non-restricted hours (i.e. 0700-1900 hrs on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment;
- During the monitoring period, the L_{eq} , L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible and observation record during measurement period should be provided; and
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. The wind speed should be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Maintenance and Calibration

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

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

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

Results and Observations

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

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

Monitoring Station	Noise Level, L_{eq} (30min) dB(A)		Action Level	Limit Level
	Average	Range		
NMS-1	66.1	52.6 – 72.5	When one documented complaint is received.	75 dB(A)
NMS-2	70.3	66.4 – 72.8		
NMS-3	59.9	53.0 – 65.7		
NMS-4A	55.2	52.1 – 57.1		

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 and 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	Breaking works, 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 programme 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:

1. 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.

pH

- 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 Quality System	Water 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**.

Table 5.4 Water Quality Monitoring Parameters, Depths and Frequency

Monitoring Station	Parameter (unit)	Depth	Frequency
CS1, IS1, IS2, IS4, CS5, IS6	<ul style="list-style-type: none"> • Temperature(°C) • pH (pH unit) • turbidity (NTU) • water depth (m) • salinity (ppt) • DO (mg/L and % of saturation) • SS (mg/L) 	<ul style="list-style-type: none"> • 3 water depths: 1m below water surface, mid-depth and 1m above river bed. • If the water depth was less than 3m, mid-depth sampling only. • If water depth was less than 6m, mid-depth might be omitted. 	<ul style="list-style-type: none"> • 3 days per week during the construction period of the Project

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.

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**.

Table 5.6 Summary of Water Quality Exceedances

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	0	0	0	0	0
IS2	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	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
	Limit Level	0	0	0	0	0

5.35 Water quality monitoring was conducted according to the schedule as shown in **Appendix D**. No Action/Limit Level exceedance was recorded.

5.36 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 (if necessary).

**IS6**

Event and Action Plan

5.37 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 19th July 2024. Sunrise time at 5:50 am and the survey started at 5:20 am and lasted for 2 hours. The weather was drizzle throughout the survey.

Monitoring Result

- 6.14 Total number of birds observed was 86. Four species were included in the record of the flight line survey, including Little Egret, Great Egret, Chinese Pond Heron and Black Kite. **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	35	0	11	24
Great Egret 大白鷺	38	0	5	33
Chinese Pond Heron 池鷺	9	5	3	1
Black Kite 黑鳶	4	0	0	4
Total	86	5	19	62

- 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 762. **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	330
Great Egret 大白鷺	355
Chinese Pond Heron 池鷺	39
Black Kite 黑鳶	38
Total	762

- 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). It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander and EA Zone.

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: 2nd, 9th, 15th, 22nd and 29th July 2024

6.32 In total, 306 individuals from 33 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**).

Table 6.3 Summary of Avifauna Monitoring Results at Pond 12

Monitoring Date	Number of Species		Abundance	
	Before Construction	During Construction	Before Construction	During Construction
2 nd July 2024	9	12	15	24
9 th July 2024	8	12	21	25
15 th July 2024	8	22	19	93
22 nd July 2024	6	16	14	40
29 th July 2024	6	17	16	39

- 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: 8th July 2024 (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: 3rd July 2024

LMC Meander

2nd, 4th, 6th, 8th, 10th, 12th, 15th, 17th, 19th,
22nd, 24th, 26th, 29th and 31st July 2024

Date of Water Quality Monitoring for
Aquatic Fauna

Stream and associated ponds south of
Lung Hau Road

3rd, 8th, 15th and 22nd July 2024

- 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 During the monitoring on 15th July 2024, muddy water was observed at S2, S3 and S4 which is considered due to the rainfall lead to the erosion from natural habitat along the stream. In addition, muddy water was also observed at S2 on 22nd July 2024 due to the anthropogenic activities of the nearby resident. Therefore, relative higher turbidity results were recorded.
- 6.56 *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**. No Action/Limit Level exceedance was recorded.

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)	Estimated Volume of Contaminated Soil (m ³)
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. 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 hotspot 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
Contract No. YL/2020/01	Inert	Reused in this Contract (Inert) (in '000 m ³)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	1.204	Tuen Mun Area 38 Fill Bank
Contract No. YL/2020/02		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	1.211	Tuen Mun Area 38 Fill Bank
Contract No. YL/2021/01		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
		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
Contract No. YL/2020/01	Non-inert	Recycled Metal ('000kg)	0	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.095	NENT Landfill
Contract No. YL/2020/02		Recycled Metal ('000kg)	0	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.232	NENT Landfill
Contract No. YL/2021/01		Recycled Metal ('000kg)	0	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.001	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, 8th, 10th, 15th, 17th, 22nd, 24th 29th and 31st July 2024 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 Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1	3 rd , 8 th , 17 th , 24 th and 31 st July 2024
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	3 rd , 10 th , 17 th , 24 th and 31 st July 2024
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	3 rd , 10 th , 15 th , 22 nd and 29 th July 2024

- 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 Recommendations	Follow-up
Contract No. YL/2020/01			
<i>Air Quality</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Noise</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Water Quality</i>	03/07/2024	The design of the sump pit should be further reviewed at LMC Loop which currently used to collect the rainwater instead.	The sump pits with water pump connected to the appropriate wastewater treatment facilities have been established at LMC Loop as observed during follow-up audit session on 08/07/2024. The effectiveness of this measure will be further checked in the upcoming site inspection.

Parameters	Date	Observations and Recommendations	Follow-up
	03/07/2024	The site drainage system at the site area near Pai Lau was observed not satisfactory. The Contractor was reminded to review and demonstrate the effectiveness of the drainage system with immediate effect.	The wetsep was operated properly and the treated discharge was observed clear as observed during follow-up audit session on 08/07/2024. The effectiveness of this drainage system will be further checked in the upcoming site inspection.
	03/07/2024	The temporary drainage channel at under meander bridge should be directed to the appropriate collection pit instead of meander.	The temporary drainage channel has been re-arranged so that no direct discharge to the meander as observed during follow-up audit session on 08/07/2024.
	03/07/2024	The maintenance records for the wetsep should be provided near meander.	The maintenance records have been provided for the wetsep near the meander as observed during follow-up audit session on 08/07/2024.
	03/07/2024 08/07/2024	The sand bag bund along the boundary of the meander near wheel washing bay should be erected and enhanced.	The sand bag bund along the boundary of the meander near wheel washing bay has been erected and enhanced by the Contractor as observed during follow-up audit session on 17/07/2024.
	17/07/2024	The erosion channel should be blocked to avoid directly discharge muddy surface runoff outside the site boundary (near Ma Tso Lung Roundabout).	Erosion channels have been blocked off with sandbags by the Contractor as observed during follow-up audit session on 24/07/2024.
	31/07/2024	The sand bag bund near the meander bridge should be enhanced to avoid the leakage of muddy water to the meander especially during heavy rainstorm.	Sand bag bund has been enhanced to avoid the leakage of muddy water to the meander by the Contractor as observed during follow-up audit session on 07/08/2024.
	31/07/2024	The wastewater treatment facilities including the water pump should be regularly checked to ensure they are functioning properly (near Pond 12).	The wastewater treatment facilities including the water pump have been checked regularly by the Contractor to ensure proper function as observed during follow-up audit session on 07/08/2024.
Waste / Chemical Management	08/07/2024	The contaminated soil at near the site office should be cleared as chemical wastes.	The contaminated soil at near the site office have been cleared by the Contractor as observed during follow-up audit session on 17/07/2024.
	24/07/2024	Oil spillage at WCR works area should be cleared.	The oil spillage has been cleared by the Contractor as observed during follow-up audit session on 31/07/2024.
Land Contamination	--	No major environmental deficiency was identified during the reporting	--

Parameters	Date	Observations and Recommendations	Follow-up
		month.	
Landscape and Visual	--	No major environmental deficiency was identified during the reporting month.	--
Ecology	03/07/2024	The green fences should be installed along Pond 12.	The green fences along Pond 12 have been properly installed as observed during follow-up audit session on 08/07/2024.
	03/07/2024	The damage green fences along the meander should be replaced.	The damage green fences along the meander have been replaced as observed during follow-up audit session on 08/07/2024.
	03/07/2024	The damage green fence should be properly replaced at meander bridge.	The damage green fence at meander bridge has been properly replaced by the Contractor as observed during follow-up audit session on 08/07/2024.
	17/07/2024	The green fences should be properly erected around the works area at meander bridge.	Green fences have been erected properly by the Contractor as observed during follow-up audit session on 24/07/2024.
	31/07/2024	The construction materials outside the green fences at Pond 12 should be removed.	The construction materials outside the green fences have been removed by the Contractor as observed during follow-up audit session on 07/08/2024.
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			
Air Quality	--	No major environmental deficiency was identified during the reporting month.	--
Noise	10/07/2024	Noise mitigation measures should be provided for the breaking works at Fu Tai Site Area.	Noise reduction blanket has been provided to enclose the breaker by the Contractor as observed during follow-up audit session on 17/07/2024.
Water Quality	03/07/2024	The wheel washing water should be properly collected for treatment at the site exit at Chau Tau West Road.	A sump pit with water pump were provided to collect the wheel washing water and divert to the appropriate wastewater treatment facilities by the Contractor as observed during follow-up audit session on 10/07/2024.
	03/07/2024	To effectively treat muddy water, the sump pit should be connected to a wetsep (LMC Road).	A sump pit has been properly connected to a wetsep by the Contractor as observed during follow-up audit session on

Parameters	Date	Observations and Recommendations	Follow-up
			10/07/2024.
	03/07/2024 10/07/2024 17/07/2024 24/07/2024	The rubbish blocking the bypass system at the nullah should be cleared (Chau Tau West Road).	The rubbish blocking the bypass system at the nullah have been cleared by the Contractor as observed during follow-up audit session on 31/07/2024.
	03/07/2024	Muddy water was observed leaking to the public gully from the construction site at Lok Ma Chau Road facing Fu Tai Site Area. The Contractor was reminded to rectify such deficiency and enhance water quality mitigation measures accordingly.	The sand bag bund along the bottom of water-filled barriers has been enhanced by the Contractor and no further muddy water leakage was observed as observed during follow-up audit session on 10/07/2024.
	10/07/2024	The accumulated mud was observed in front of the culvert at Chau Tau West Road. The Contractor was reminded to clear the mud and enhance the sand bag bund to avoid the discharge of muddy water via the culvert. Also, water pump should be provided to pump the collected muddy water to the appropriate wastewater treatment facilities.	Sand bag bund has been enhanced to avoid the discharge of muddy water via the culvert and water pump has been provided to pump out the muddy water to the appropriate wastewater treatment facilities as observed during follow-up audit session on 17/07/2024
	10/07/2024 17/07/2024 24/07/2024	The collected site discharge was observed pumping to the bypass system channel at Fu Tai Site. The Contractor was reminded to divert all site discharge to the appropriate treatment facilities.	No further collected site discharge was observed pumping to the bypass system channel by the Contractor as observed during follow-up audit session on 31/07/2024.
	10/07/2024	The channel erosion leading to the nearby habitat should be blocked to avoid discharging of site runoff outside (Fu Tai Site Area).	Sand bag bund has been erected by the Contractor to avoid the discharge of muddy water to the nearby habitat as observed during follow-up audit session on 17/07/2024.
	24/07/2024	Sand bag bund should be deployed along the site boundary near the nullah to avoid any gap at DRL-P09	Sand bag bund has been deployed along the site boundary near the nullah by the Contractor to avoid any gap as observed during the follow-up audit session on 31/07/2024.
	31/07/2024	Directly discharge of the site runoff to the nearby public drainage, nullah and habitat at different locations along the LMC Road was observed. Insufficient sedimentation tank as well as the wetsep cannot be functioned properly were also observed. The Contractor was reminded to urgently review the implemented water quality mitigation measure to avoid any water quality impact to the nearby	No directly discharge of the site runoff to the nearby public drainage, nullah and habitat was observed and the collected site surface runoff has also been diverted to the appropriate wastewater treatment facilities for subsequent treatment as observed during follow-up audit session on 07/08/2024. The effectiveness of the wetsep will be further monitored in the

Parameters	Date	Observations and Recommendations	Follow-up
		sensitive receivers.	coming site inspection.
	31/07/2024	Mud trails near the gullies at the site exit of the car park should be cleared and provide mitigation measures to avoid the re-occurrence of this incident.	Mud trails have been cleared and sand bag bund has been erected around the earth works by the Contractor as observed during follow-up audit session on 07/08/2024.
Waste / Chemical Management	17/07/2024	The chemical containers at DRL-P09 & P02 shall be temporary stored on site with drip tray.	The chemical containers without drip tray have been removed off site by the Contractor as observed during the follow-up audit session on 24/07/2024.
	17/07/2024	The rubbish which was not disposed properly at near the nullah at DRL-P02 shall be cleared.	The rubbish which was not disposed properly have been cleared by the Contractor as observed during follow-up audit session on 24/07/2024.
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	03/07/2024	The water-filled barriers should be properly erected along the site boundary in vicinity of the habitat at TAR1.	The water-filled barriers have been properly erected by the Contractor as observed during the follow-up audit session on 10/07/2024.
Fisheries	--	No major environmental deficiency was identified during the reporting month.	--
Permits/Licences	24/07/2024	Updated Environmental Permit should be displayed at the conspicuous location at TAR1.	Updated Environmental Permit has been displayed at the conspicuous location on site by the Contractor as observed during the follow-up audit session on 31/07/2024.
Contract No. YL/2021/01			
Air Quality	--	No major environmental deficiency was identified during the reporting month.	--
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	03/07/2024	The construction materials blocking the access to the wetsep for maintenance should be cleared at EPTI.	The construction materials blocking the access to the wetsep for maintenance have been cleared by the Contractor as observed during follow-up audit on 10/07/2024.
	03/07/2024	The sump pit to collect the muddy surface runoff at Line AB should be further reviewed and modified to ensure effective for muddy surface	The sump pit to collect the muddy surface runoff has been enhanced by the Contractor and no discharge of muddy water

Parameters	Date	Observations and Recommendations	Follow-up
		runoff collection from whole site.	outside the site boundary was observed during follow-up audit on 10/07/2024.
	29/07/2024	Muddy water surface runoff should be properly diverted to the nearby sump pit and pumped to the wetsep for treatment before discharging out (Gripline AB).	Muddy water surface runoff has been diverted by the Contractor to the nearby sump pit for subsequent wastewater treatment as observed during follow-up audit on 05/08/2024.
<i>Waste / Chemical Management</i>	22/07/2024	The oil spillage from the breaker should be cleared as chemical wastes and the breaker should be checked to ensure no further oil leakage before use (Gripline E).	The breaker has been repaired by the Contractor and no further oil leakage was noted as observed during follow-up audit on 29/07/2024.
<i>Land Contamination</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Landscape and Visual</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Ecology</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Fisheries</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Permits/Licences</i>	--	No major environmental deficiency was identified during the reporting month.	--

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 are summarised in **Table 10.1**.

Table 10.1 Compliance Status of Related Environmental Mitigation Measures

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
<u>Submission and Measures to Mitigate Ecological Impact</u>				
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;	Completed	November 2018	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	No otter holts/dens and herpetofauna species of conservation concern were identified.
		July 2021	Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	
(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;	Completed (for creating and establishing an Ecological Area)	Dec 2022	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	Ecological monitoring survey in the EA Zone during the 12-month establishment (1st January 2021 - 31st December 2021) and further 12-month establishment periods (1st January 2022 – 31st December 2022). The records of a key mammal, all six key bird, one key herpetofauna and three key dragonfly species, as well as the breeding nests of birds and other species of conservation importance demonstrate the positive attractiveness of this established EA Zone in Lok Ma Chau Loop.
		Not Completed (for lowrise building buffer zone of 50m width from the Ecological Area, with appropriate screenplanting;)		Operation phase ecological mitigation measure

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
(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 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;	Not Completed			To be implemented under Main Works Package 1
(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;	Not Completed			Operation phase ecological mitigation measure
(e) installing 3m-high olive green fence around construction areas to allow or deter different animal passages where appropriate;	Completed	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	The Contractor was reminded to maintain the green fence around construction areas.

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
(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;	Completed	Oct 2022		To mitigate the potential indirect and indirect construction disturbance of the LMC Loop Project (including the WCR); in which specific habitat features to promote their user by Eurasian Otter has been constructed, including the establishment of wetlands, otter holts, floating platforms, and rock platforms. Ecological monitoring survey in the OWCA during the 12-month establishment (October 2022 – October 2023).
(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;	Not Completed			To be implemented under Main Works Package 1
EP-477/2013/A (1 to 28 December 2023) (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;	Completed (the construction works associated with the site formation in the Ecological Area)	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	.
EP-477/2013/B (29 to 31 December 2023) (h) carrying out outside dry-season (from November to February next year), the construction works associated with the site formation in the Ecological Area and stabilization of the bank of the old Shenzhen River meander, to minimise disturbances to migratory birds/water birds;	Not Completed (stabilization of the bank of the old Shenzhen River meander)			To be implemented under Main Works Package 1
	Until 28 December 2023 (Western Connection Road along Ha Wan Tsuen Road)		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Until 28 December 2023 according to EP-477/2013/B

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
<p><u>EP-477/2013/A (1 to 28 December 2023)</u> (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;</p> <p><u>EP-477/2013/B (29 to 31 December 2023)</u> (i) using powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander (except the Meander Bridge) and other identified important ecologically sensitive areas, if any;</p>	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Site wide implementation. Restriction zone at 25m from the EA zone and 23m from the Meander according to approved HCMP (May 2022 (Issue 3)).
(j) prohibiting use of direct lighting on the old Shenzhen River meander and controlling nighttime lighting to reduce potential ecological impact;	Completed	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Site wide implementation.
(k) implementing measures to minimise magnitude of construction runoff and to avoid/minimise the potential impact of spillage events, if any; and	Completed	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Site wide implementation.

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
(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).	Completed (for temporary noise barriers)	July 2021	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	Completed (for temporary noise barriers)	July 2022	Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	
	Not Completed (for Operation Stage Noise barriers and using appropriate glass and façade treatment for buildings in the Loop)			Operation phase ecological mitigation measure

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
<p>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 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.</p>	Completed	May 2022 (Issue 3)	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
		Nov 2021 (Issue 4)	Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	

EP Requirements	Compliance Status	Remarks
Submissions or Measures to be implemented for Construction of the Project		
EP Condition 2.9 To mitigate construction stage noise impact, the following noise mitigation measures shall be 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 and 3b of this Permit;	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/B). (Appendix N) The TNBs installation under Contract 2 were completed in August 2022 (Figures 3a and 3b of EP-477/2013/B). (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 Fisheries 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 from the fish pond to the works area.	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: <ul style="list-style-type: none"> • No aquaculture activities include drying of ponds, reprofiling, harvesting and feeding; • 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

EP Requirements	Compliance Status	Remarks
		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 July 2024 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 Reedbed 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 m ² 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 EP, 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 OWCA (Areas 2, 7 and 9) has been substantially 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 OWCA 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 OWCA would be submitted by the Ecologist under YL/2020/01 separately.

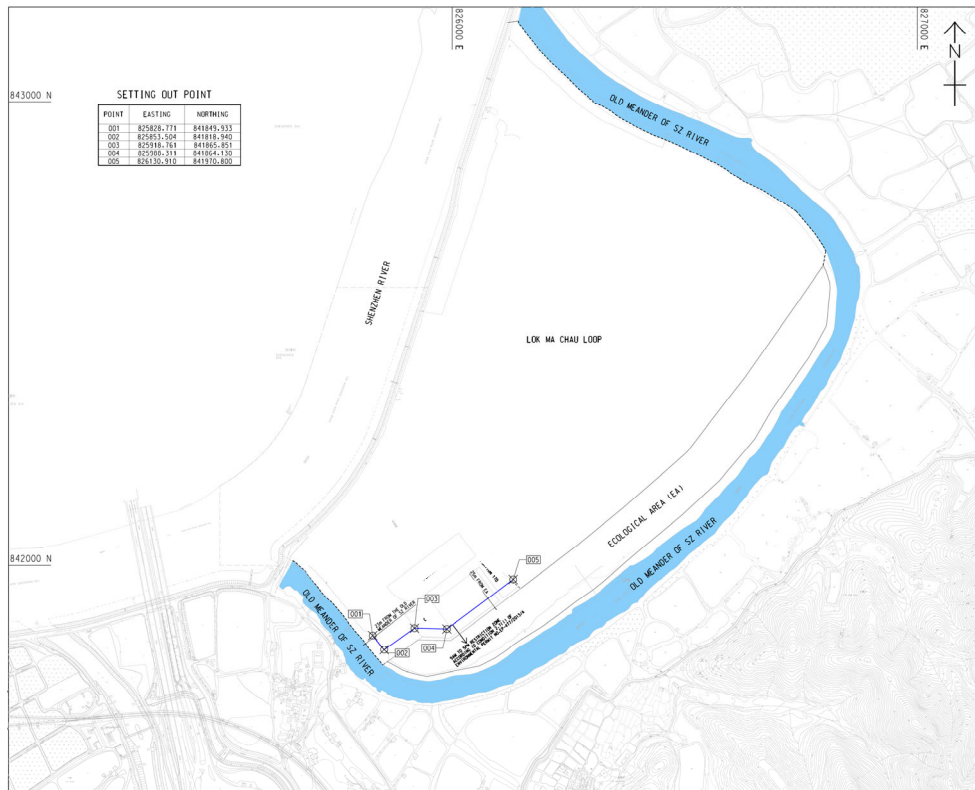
Ecological Mitigation Measures – Installation of 3m-high Olive Green Fence

- 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)



- 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 monitoring, construction noise and water quality monitoring.

Summary of Environmental Complaint

11.3 One environmental complaint related to construction noise was received in June 2024 and referred to project team by EPD 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 – Jun 2024	27	28	1
Jul 2024	1		0

Summary of Notification of Summons and Successful Prosecutions

11.4 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 – Jun 2024	0	0	0
Jul 2024	0		0

Table 11.3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Project related Prosecution
Jan 2019 – Jun 2024	0	0	0
Jul 2024	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) WCR Retaining Wall, Slope Work, DCM5 & 7 (Area 1)
- (b) WCR Drainage Work and Fresh Watermains
- (c) Road L1 Drainage Works and UU enabling works
- (d) Meander Bridge South and Middle Spans Construction
- (e) HWT Pai Lau Finishing Works
- (f) Box Culvert A1 Outfall Portion Construction
- (g) Wetland Fence Construction
- (h) PT1 drainage 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

Reedbed Cell No. 3A:

- (a) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A.

DRL:

- (a) Temporary works.
- (b) Bored Pile works.
- (c) Sheet piling works.
- (d) ELS works.
- (e) Segment precast.
- (f) Pier construction.
- (g) Construction of pile cap.
- (h) Pre-drill works.
- (i) Construction of Base Slab.
- (j) Pierhead segment erection.

LMC Road:

- (a) Sheet-piling works.

- (b) Drainage works.
- (c) Bored piling works.
- (d) Water main installation.
- (e) Pile cap construction.
- (f) Nullah modification works
- (g) Site formation.
- (h) Underground utilities works.
- (i) Construction of noise barrier.
- (j) Construction of box culvert.
- (k) Construction of retaining wall.
- (l) Construction of concrete structure.
- (m) Carpark traffic diversion works.

Fanling Highway:

- (a) Construction of retaining wall.
- (b) Pier construction.
- (c) Installation of pierhead segment.
- (d) Backfilling works for retaining wall.
- (e) Sheet-piling works for retaining wall.
- (f) Full span erection.
- (g) Fabrication of precast segment.
- (h) Installation of parapet at retaining wall.
- (i) Construction of subway.

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 Structural Steel Materials Delivery
- (b) LMC Station Strengthening Works
- (c) ELS Works and Pile Caps & Tie Beam Construction at Elevated PTI and Double deck Footbridge
- (d) Elevated PTI Superstructure Construction

12.2 The Contractor is recommended to maintain and enhance the water quality mitigation measures if necessary according to the updated construction site drainage plan during wet season. 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

and drainage facilities shall be not be clogged with sediment to avoid overflow during rainy season. 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 properly 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 July 2024 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 All water quality monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

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. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander and EA Zone.

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 EA Zone. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander and EA Zone.

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 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, 8th, 10th, 15th, 17th, 22nd, 24th 29th and 31st July 2024 by ET in the reporting month.

Environmental Complaints, Summons and Prosecutions

- 13.16 One environmental complaint related to construction noise was received in June 2024 and referred to project team by EPD 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 or erecting dust screen for the work site near public road;
- To design, establish and properly use the wheel washing facilities at the site exits;
- To pave the site exits / entrances;
- 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 and breaking works near the noise sensitive receivers, if necessary.

Water Impact

- To properly deploy and check regularly the silt curtain, ensure the works area are completely surrounded, and prevent any surface runoff discharge into the old Shenzhen River meander or stream;
- To establish, review and implement temporary drainage system to appropriate collection pit and demonstrate the effectiveness of the drainage system;
- To identify any wastewater discharges from site and review the implemented water quality mitigation measure to avoid any water quality impact to the nearby sensitive receivers;
- To provide maintenance on any leaking hoses to prevent water leakage;
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharged, and block out erosion channel to avoid directly muddy surface runoff outside the site boundary;
- 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 protected and maintained;
- 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;
- To implement the effective water quality mitigation measures according to the site drainage plan, and review the site drainage plan measures as appropriate; and
- To regularly clear any floating vegetation at the meander to ensure a good flow of water,

and floating rubbish within the silt curtain to avoid rubbish accumulation.

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, and properly erect the water-filled barriers along the site boundary in vicinity of the habitat;
- 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, further enhance and secure the existing mitigation measures so as to prevent debris and runoff from discharging into nearby nullah.
- The animal tunnel / passage should be free of obstruction and maintained to enhance its effectiveness.

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site and remove them promptly;
- To provide appropriate receptacles to ensure proper disposal of wastes on site;
- To avoid disposal of construction waste into the stream;
- 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 clear any oil spillage in the site area;
- To maintain the drip tray well and/or provide tarpaulin sheet properly for equipment to prevent oil and chemical leakage; and
- To avoid improper handling, storage and dispose of oil drums or chemical containers on site.

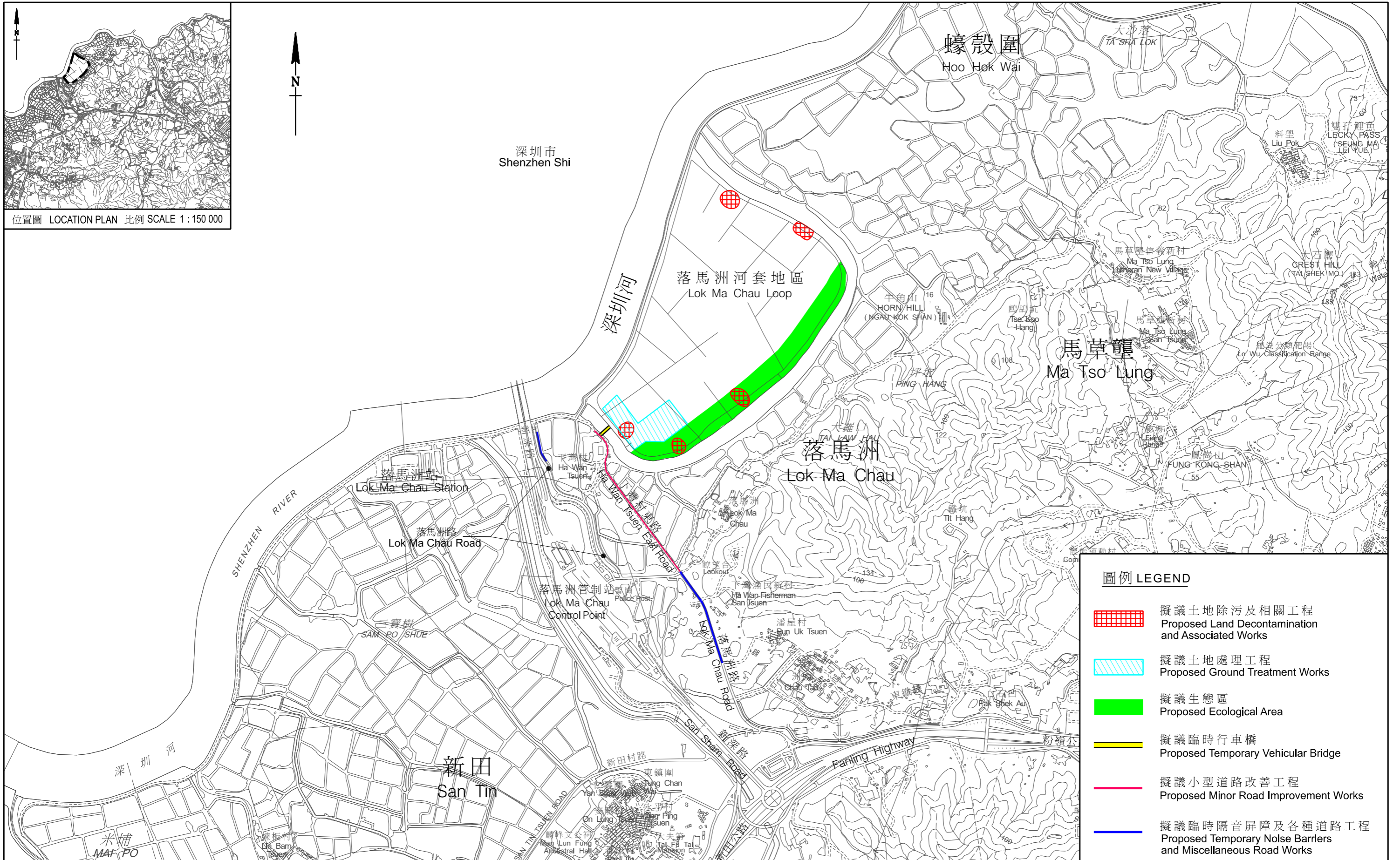
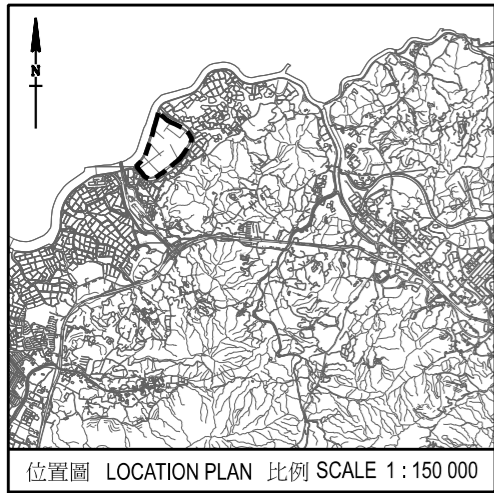
Landscape and Visual

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

Noise Impact

- To display updated Environmental Permits at conspicuous locations.

FIGURE(S)



工務計劃項目第748CL號—落馬洲河套地區發展：土地除污及前期工程
PWP ITEM No. 748CL-DEVELOPMENT OF LOK MA CHAU LOOP :
LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS

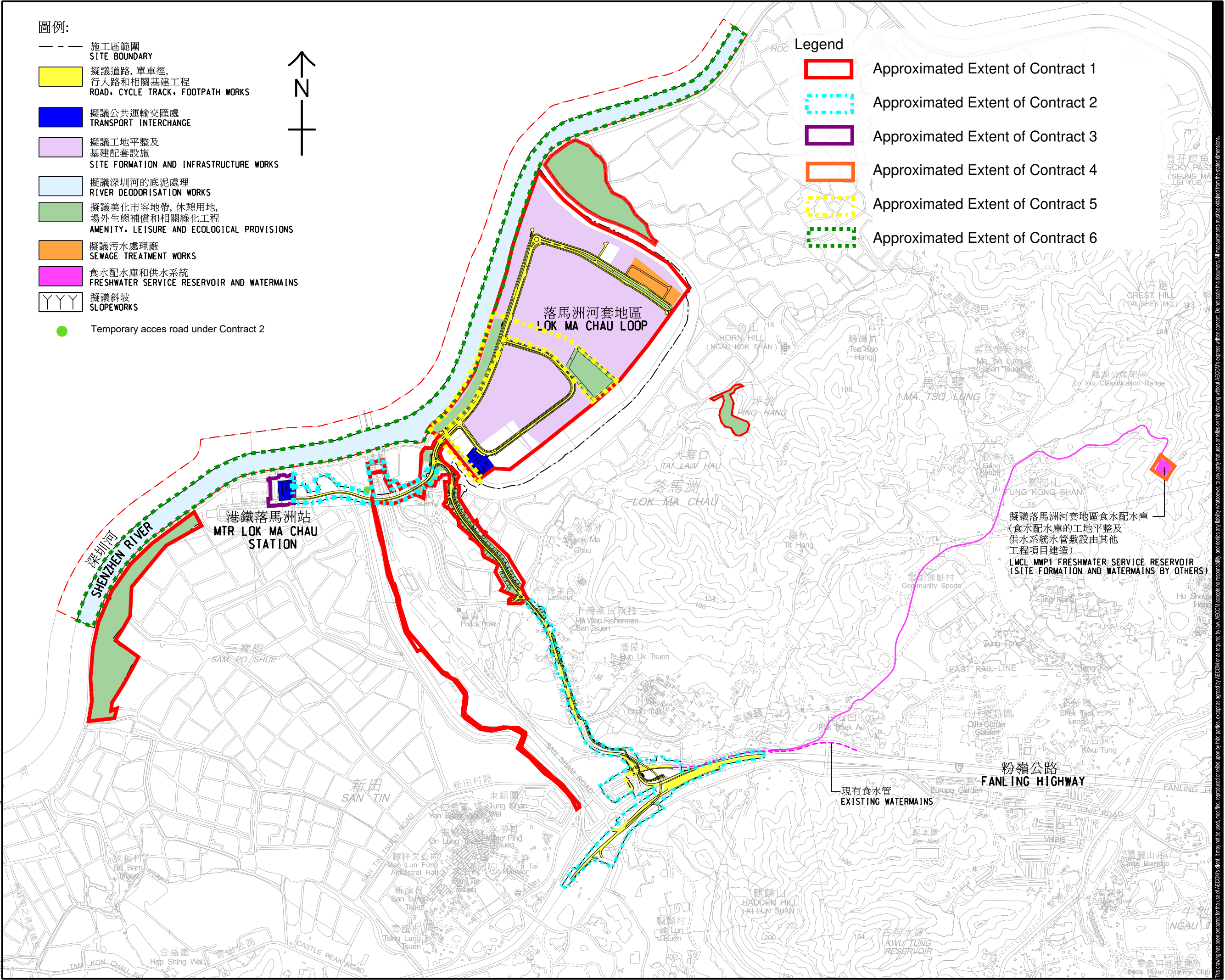
FIGURE 1 a
LAYOUT PLAN

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:
5/12/2020
P:\PROJECTS\60588085\DRAWING\SKETCH\SK0099.dgn
Plot File by: Tsuijuy
PATH: P:\PROJECTS\60588085\DRAWING\SKETCH\SK0099.dgn

- 圖例:**
- 施工區範圍
SITE BOUNDARY
 - 擬議道路, 單車徑, 行人路和相關基建工程
ROAD, CYCLE TRACK, FOOTPATH WORKS
 - 擬議公共運輸交匯處
TRANSPORT INTERCHANGE
 - 擬議工地平整及基建配套設施
SITE FORMATION AND INFRASTRUCTURE WORKS
 - 擬議深圳河的底泥處理
RIVER DEODORISATION WORKS
 - 擬議美化市容地帶, 休憩用地, 場外生態補償和相關綠化工程
AMENITY, LEISURE AND ECOLOGICAL PROVISIONS
 - 擬議污水處理廠
SEWAGE TREATMENT WORKS
 - 食水配水庫和供水系統
FRESHWATER SERVICE RESERVOIR AND WATERMAINS
 - 擬議斜坡
SLOPEWORKS
 - Temporary access road under Contract 2



- Legend**
- Approximated Extent of Contract 1
 - Approximated Extent of Contract 2
 - Approximated Extent of Contract 3
 - Approximated Extent of Contract 4
 - Approximated Extent of Contract 5
 - Approximated Extent of Contract 6



PROJECT
DEVELOPMENT OF
LOK MA CHAU LOOP
MAIN WORKS PACKAGE 1
DESIGN AND
CONSTRUCTION

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

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE
A1 1: 8000

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60588085

CONTRACT NO.
CE 5/2018(CE)

SHEET TITLE
落馬洲河套地區發展 -
第一期主體工程 -
工程平面圖 (圖一)
PROJECT LAYOUT (Figure 1b)

SHEET NUMBER
60588085/SK0099

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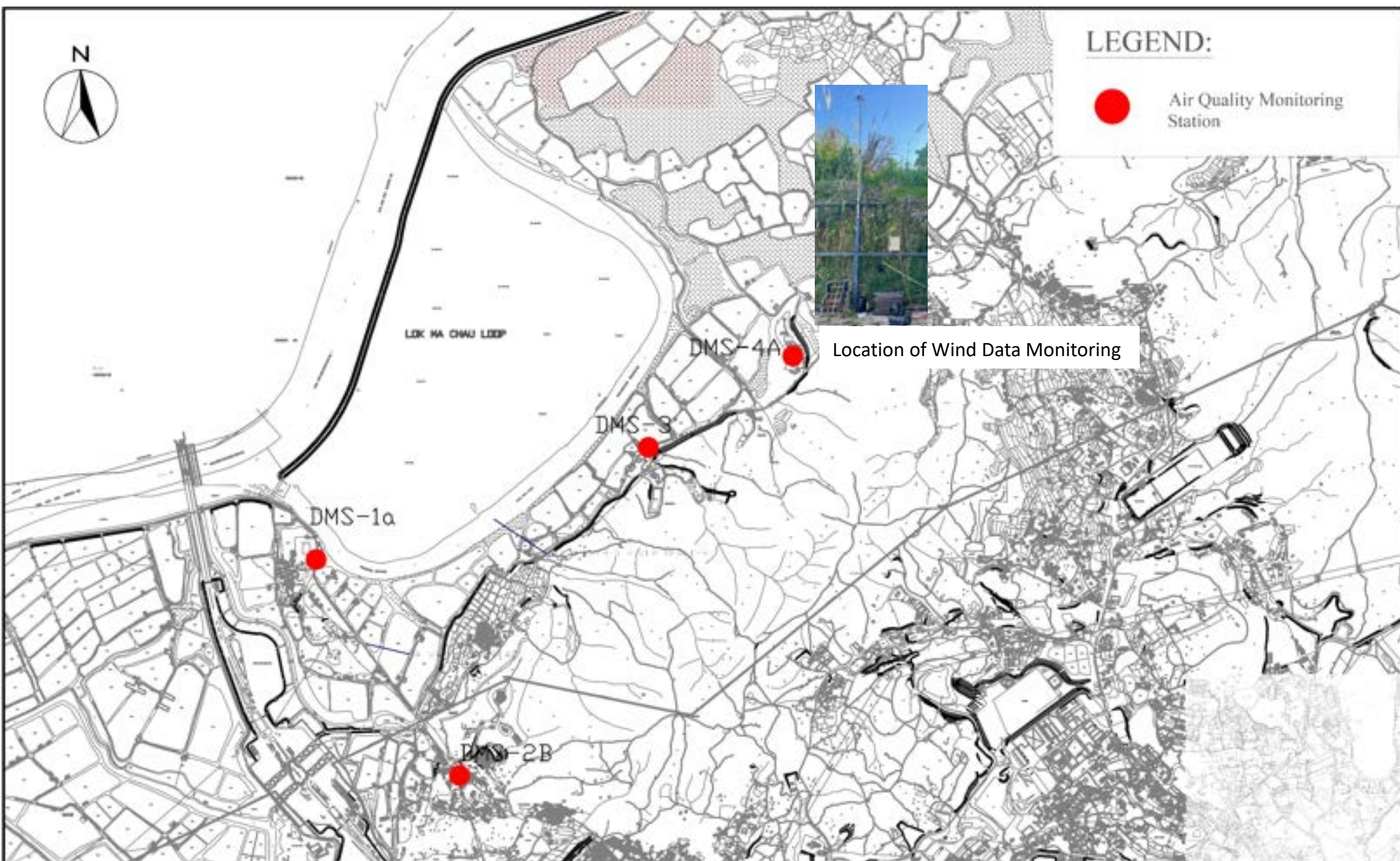


LEGEND:

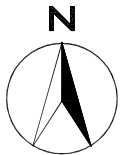
 Air Quality Monitoring Station



Location of Wind Data Monitoring

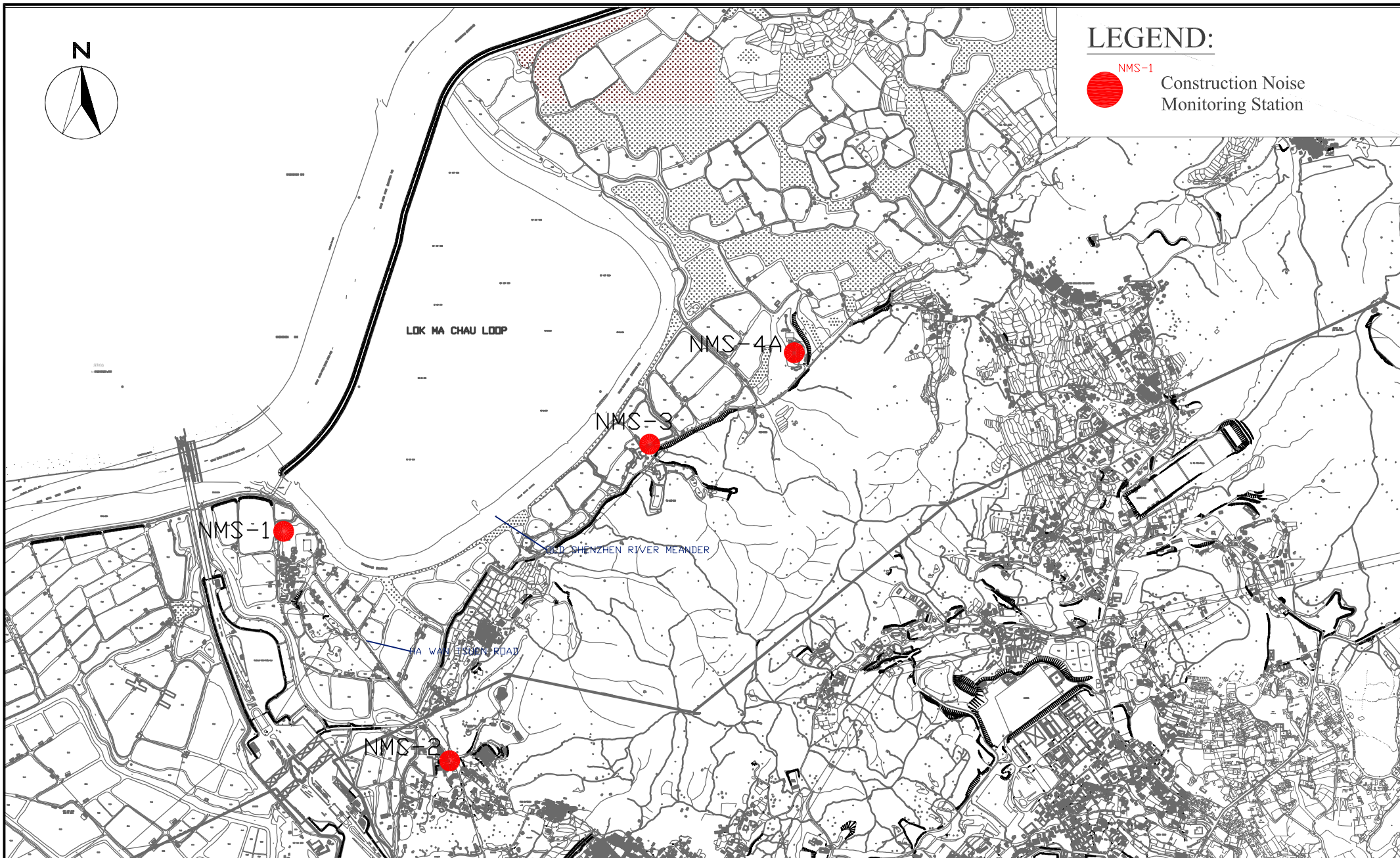


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CHECK	PC	DRAWN	IT
JOB No.	WMA21009	FIGURE NO.	Fig 2
		REV	-

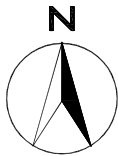


LEGEND:

NMS-1
 Construction Noise Monitoring Station

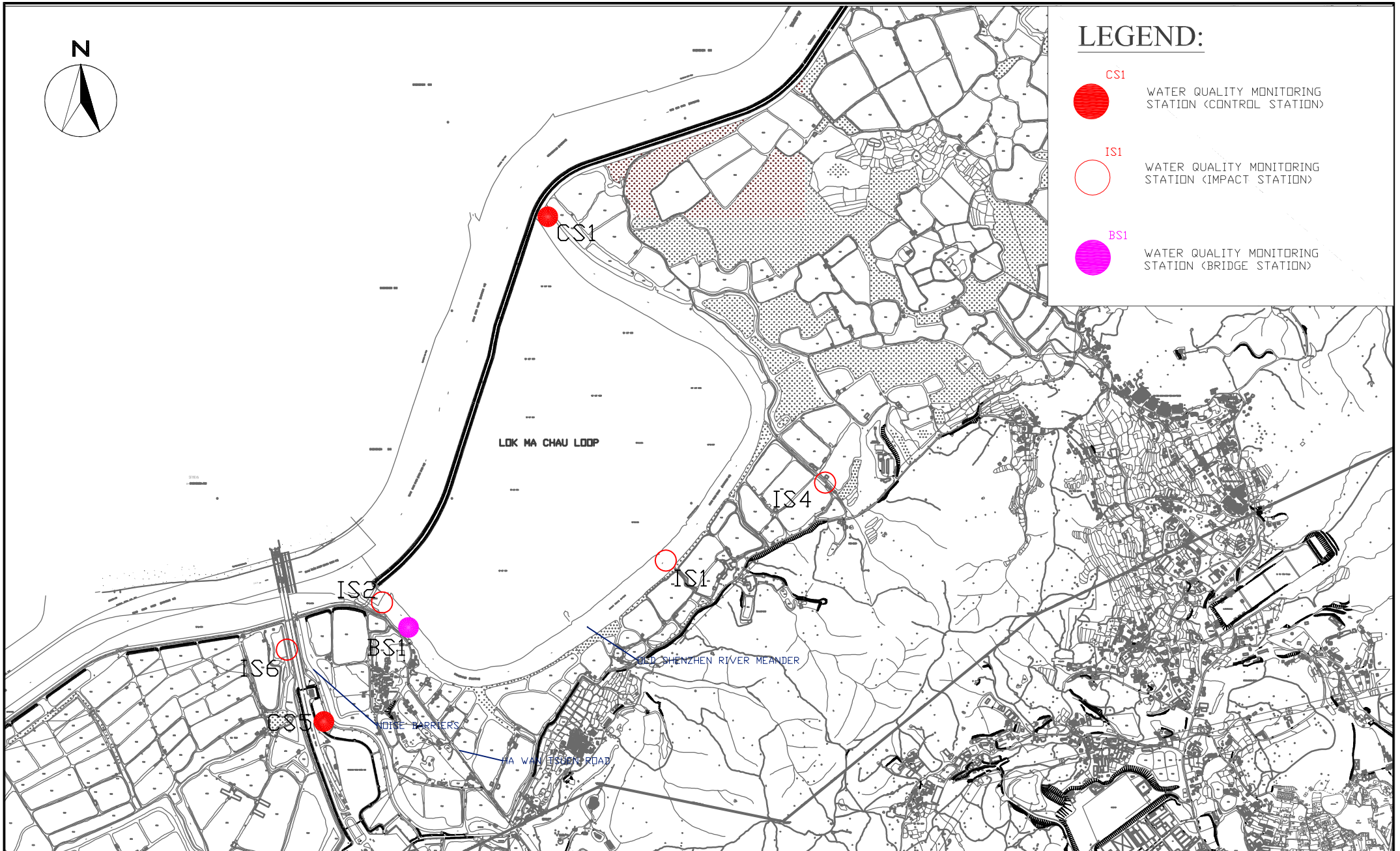


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JOB No.	WMA 21009	FIGURE NO.	Fig 3
		REV	-

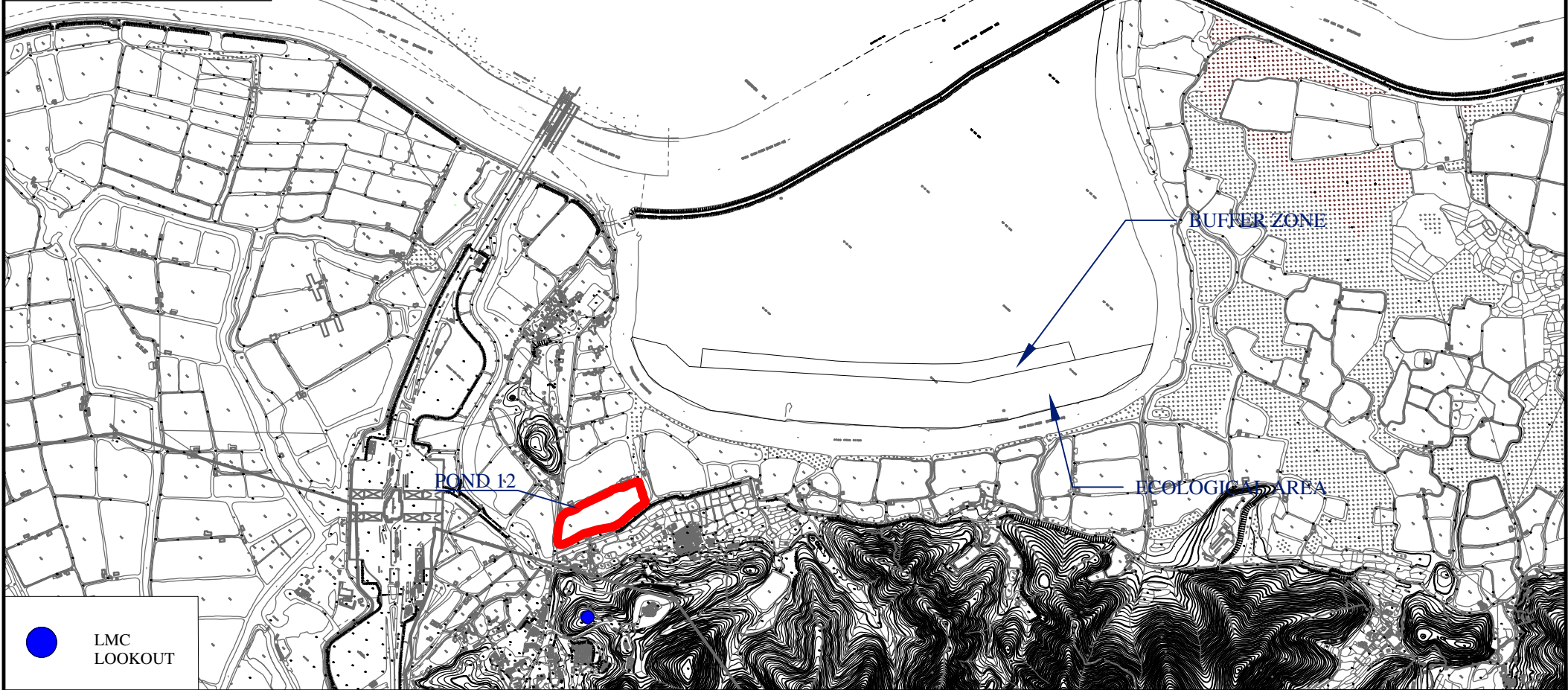
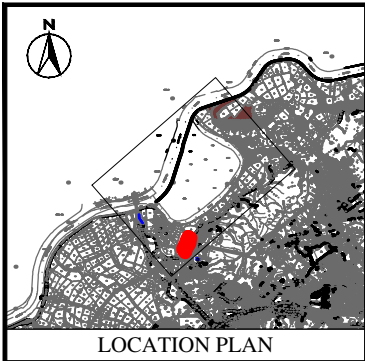


LEGEND:

- CS1 WATER QUALITY MONITORING STATION (CONTROL STATION)
- IS1 WATER QUALITY MONITORING STATION (IMPACT STATION)
- BS1 WATER QUALITY MONITORING STATION (BRIDGE STATION)

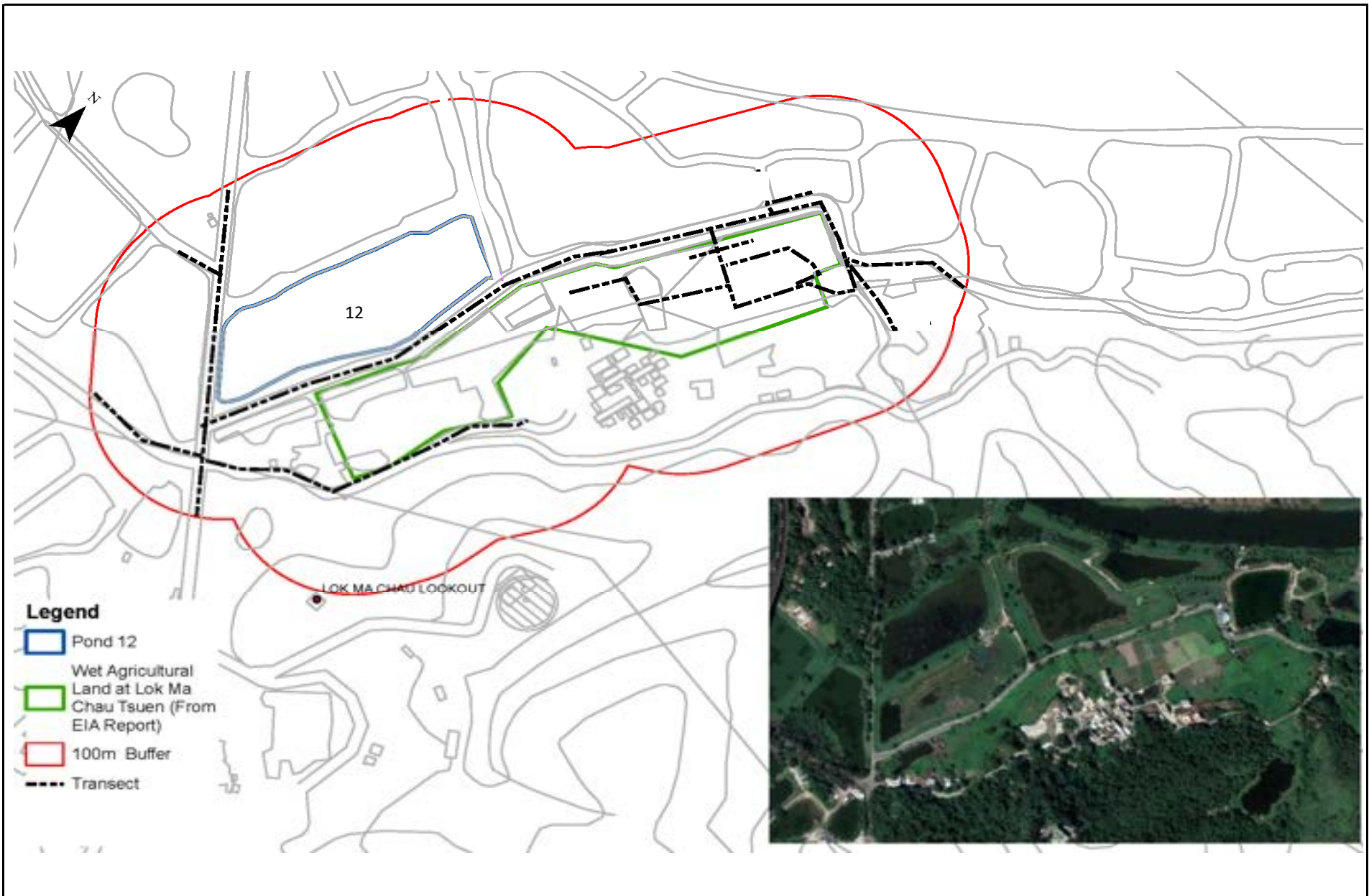


SCALE	1:400 A4	DATE	May 2021
CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 4
		REV	-



Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
 Locations of Pond 12 and Lok Ma Chau Lookout

SCALE	1:14000 @ A4	DATE	MAR 2022
CHECK	IT	DRAWN	ML
JOB No.	WMA 21009	FIGURE NO.	Fig 5a
		REV	-



Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team
 Locations of Transect for Monitoring of Chinese Bull Frog

Scale	N.T.S	Project No.	WMA21009	
Date	Mar-22	Figure	5b	



Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team

Locations of Rose Bitterling Sampling Points

Scale

N.T.S

Date

Mar-22

Project No.

WMA21009

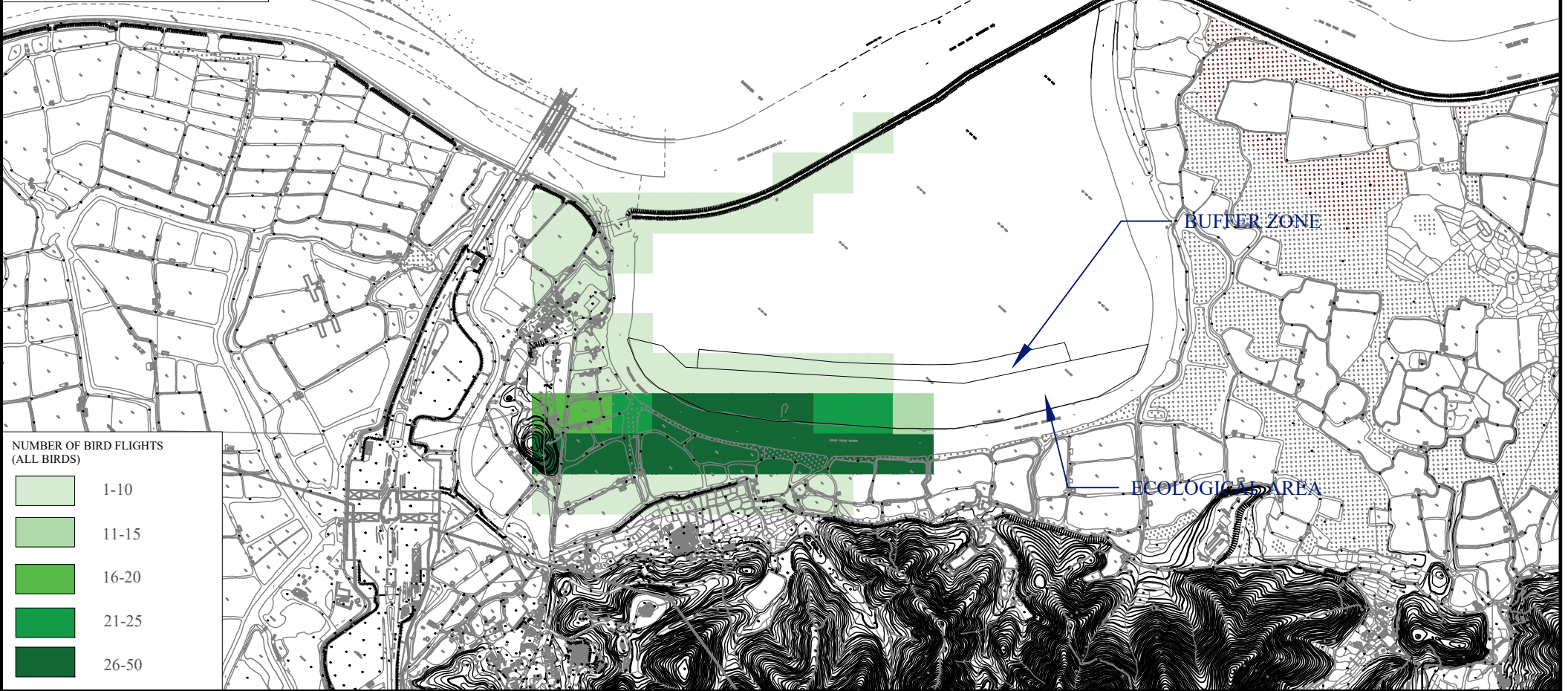
Figure

5c

WELLAB 匯力
 consulting . testing . research



LOCATION PLAN



NUMBER OF BIRD FLIGHTS
(ALL BIRDS)

- 1-10
- 11-15
- 16-20
- 21-25
- 26-50

SCALE	1:14000 @A4	DATE	July 2024
CHECK	IT	DRAWN	ML
JOB No.	WMA 21009	FIGURE NO.	Fig 6
		REV	-

**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**

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																					
							August					September				October			November		December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22
Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1 (MM)							714	326	13-May-23 A	22-Aug-25	415																	
Key Date and Section of the Works							139	139	08-Aug-24	24-Dec-24	-90																	
Contractual Required Key Dates							0	0	08-Aug-24	08-Aug-24	-19																	
KDD1020	KD 3-Complete the laying of permanent water main along Lok Ma Chou Road including connection to/along Castle Peak Rd	0	0		08-Aug-24*	-19	◆ KD 3-Complete the laying of permanent water main along Lok Ma Chou Road																					
Contractual Required Date for Section of the Works							39	39	08-Aug-24	15-Sep-24	0																	
SEW1010	Section 2A- Comprises the works at Lok Ma Chau Road within Portion 1,5 and 8 of the Site	0	0		08-Aug-24*	-19	◆ Section 2A- Comprises the works at Lok Ma Chau Road within Portion 1,5 and 8 of the Site																					
SEW1020	Section 2C- Comprises substructures and piling works of ST01 and CTFB within Portion 1,5,7 and 10 of the Site	0	0		08-Aug-24*	-19	◆ Section 2C- Comprises substructures and piling works of ST01 and CTFB within Portion 1,5,7 and 10 of the Site																					
SEW1015	Section 2B- Comprises the works at Junction of Castle Peak Road and Lok Ma Chau Road within Portion 10 of the Site	0	0		15-Sep-24*	0	◆ Section 2B- Comprises the works at Junction of Castle Peak Road and Lok Ma Chau Road within Portion 10 of the Site																					
Estimated Extended Completion Dates due to CE or IW (Compared to EOT Estimated Completion Days)							68	68	08-Aug-24	14-Oct-24	-19																	
ECD100130	Section 2C- Comprises substructures and piling works of ST01 and CTFB within Portion 1,5,7 and 10 of the Site	0	0		31-Aug-24*	0	◆ Section 2C- Comprises substructures and piling works of ST01 and CTFB within Portion 1,5,7 and 10 of the Site																					
ECD100170	KD 3-Complete the laying of permanent water main along Lok Ma Chou Road including the connection to/along Castle Peak Rd	0	0		01-Sep-24*	0	◆ KD 3-Complete the laying of permanent water main along Lok Ma Chou Road including the connection to/along Castle Peak Rd																					
ECD100120	Section 2B- Comprises the works at Junction of Castle Peak Road and Lok Ma Chau Road within Portion 10 of the Site	0	0		22-Sep-24*	0	◆ Section 2B- Comprises the works at Junction of Castle Peak Road and Lok Ma Chau Road within Portion 10 of the Site																					
ECD100110	Section 2A- Comprises the works at Lok Ma Chau Road within Portion 1,5 and 8 of the Site	0	0		25-Sep-24*	0	◆ Section 2A- Comprises the works at Lok Ma Chau Road within Portion 1,5 and 8 of the Site																					
EOT Days due to Inclement Weather from Mar to Sep 2023							47	47	08-Aug-24	23-Sep-24	-8																	
EOT.100170	Key Date - KD3 DN700 at LMC Road	23	23	08-Aug-24*	30-Aug-24	-19	Key Date - KD3 DN700 at LMC Road																					
EOT.100130	Section 2C - ST01 & CTFB Bridge Substructure	36	36	08-Aug-24*	12-Sep-24	-19	Section 2C - ST01 & CTFB Bridge Substructure																					
EOT.100120	Section 2B - Castle Peak Road Junction	0	0	16-Sep-24*	16-Sep-24	0	Section 2B - Castle Peak Road Junction																					
EOT.100110	Section 2A - LMC Road All Works	47	47	08-Aug-24*	23-Sep-24	-19	Section 2A - LMC Road All Works																					
EOT Days due to Inclement Weather from Jul to Nov 2022							45	45	31-Aug-24	14-Oct-24	-19																	
EOT.200130	Section 2C - ST01 & CTFB Bridge Substructure	7	7	13-Sep-24	19-Sep-24	-19	Section 2C - ST01 & CTFB Bridge Substructure																					
EOT.200170	Key Date - KD3 DN700 at LMC Road	21	21	31-Aug-24	20-Sep-24	-19	Key Date - KD3 DN700 at LMC Road																					
EOT.200120	Section 2B - Castle Peak Road Junction	7	7	16-Sep-24	22-Sep-24	0	Section 2B - Castle Peak Road Junction																					
EOT.200110	Section 2A - LMC Road All Works	21	21	24-Sep-24	14-Oct-24	-19	Section 2A - LMC Road All Works																					
Comparison of Extended Completion Dates and Planned Completion Dates							115	115	01-Sep-24	24-Dec-24	-100																	
CD.100170	Key Date - KD3 DN700 at LMC Road	71	71	02-Sep-24	11-Nov-24	-115	Key Date - KD3 DN700 at LMC Road																					
CD.100130	Section 2C - ST01 & CTFB Bridge Substructure	77	77	01-Sep-24	16-Nov-24	-120	Section 2C - ST01 & CTFB Bridge Substructure																					
CD.100110	Section 2A - LMC Road All Works	63	63	26-Sep-24	27-Nov-24	-131	Section 2A - LMC Road All Works																					
CD.100120	Section 2B - Castle Peak Road Junction	93	93	23-Sep-24	24-Dec-24	-100	Section 2B - Castle Peak Road Junction																					
General Submission,Preliminaries, Contractor's Design,Method Statement Submission and Approval							714	326	13-May-23 A	22-Aug-25	415																	
Contractor's Design Submission and Approval							478	90	13-May-23 A	20-Nov-24	189																	
Major Permanent Works Design							428	40	13-May-23 A	23-Sep-24	106																	
MPW1095	Submission for glass balustrades	90	16	13-May-23 A	26-Aug-24	106	Submission for glass balustrades																					
MPW1095-10	Acceptance of glass balustrades	24	24	27-Aug-24	23-Sep-24	106	Acceptance of glass balustrades																					
Major Temporary Works Design							117	90	08-Jul-24 A	20-Nov-24	189																	
MTW1185	ELS design for construction of Retaining Wall RW12	14	14	08-Aug-24	23-Aug-24	212	ELS design for construction of Retaining Wall RW12																					
MTW1195	ELS design for construction of Retaining Wall RW13	14	14	08-Aug-24	23-Aug-24	222	ELS design for construction of Retaining Wall RW13																					
MTW1205	ELS design for construction of Retaining Wall RW14	14	14	08-Aug-24	23-Aug-24	248	ELS design for construction of Retaining Wall RW14																					
MTW1215	ELS design for construction of Retaining Wall RW7	14	14	08-Aug-24	23-Aug-24	265	ELS design for construction of Retaining Wall RW7																					
MTW1210	ELS design for construction of DN600 and Associated Valve Chambers/bend blocks	45	45	08-Jul-24 A	28-Sep-24	12	ELS design for construction of DN600 and Associated Valve Chambers/bend blocks																					



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- Primary Baseline
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08-Jan-23	Rev.2.1k	DL	RP/RS
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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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																							
							August					September				October			November		December									
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22		
MTW1220	ELS design for construction of DN700 and Associated Valve Chambers/bend blocks	45	45	30-Sep-24	20-Nov-24	85	ELS design for co																							
Method Statement Submission and Approval for Major Construction Works																														
MSS1380	Method Statement submission & approval for Construction of Retaining Wall - RW12	14	14	24-Aug-24	09-Sep-24	212	Method Statement submission & approval for Construction																							
MSS1390	Method Statement submission & approval for Construction of Retaining Wall - RW13	14	14	24-Aug-24	09-Sep-24	222	Method Statement submission & approval for Construction																							
MSS1400	Method Statement submission & approval for Construction of Retaining Wall - RW14	14	14	24-Aug-24	09-Sep-24	248	Method Statement submission & approval for Construction																							
MSS1410	Method Statement submission & approval for Construction of Retaining Wall - RW7	14	14	24-Aug-24	09-Sep-24	261	Method Statement submission & approval for Construction																							
Preliminary																														
TMLG and Major TTA Scheme																														
PRE1270	Presentation and liaison with stakeholders before TTA implementation	20	20	08-Aug-24	27-Aug-24	844	Presentation and liaison with stakeholders before TTA implementat																							
Prefabrication of Precast Units																														
FPS1030	Fabrication of precast segments of DRL-Bridge	90	22	21-Feb-24 A	02-Sep-24	719	Fabrication of precast segments of DRL-Bridge																							
FPS1020	Fabrication of precast segments of CTFB-Bridge	90	90	08-Aug-24*	20-Nov-24	16	Fabrication of pre																							
Fabrication of roof covered walkway steelworks for Staircases and footbridge																														
FCW1000	Fabrication of steelwork, steel canopy and roofing system	270	270	24-Sep-24	22-Aug-25	101																								
Section 1 of the Works- Completion of the Works within Portion 1,2A,2B,3,5,7,8,9&10 of the Site																														
Superstructure for Bridge ST01																														
Construction of Pierhead Segment																														
Construction of Pierhead Segment at Pier ST01-P02																														
S010430	Diaphragm Construction (2nd Cast) pending for Designer's Modification to meet HyD's headroom standard	28	28	08-Aug-24*	09-Sep-24	-14	Diaphragm Construction (2nd Cast) pending for Designer's																							
Construction of Pierhead Segment at Pier ST01-P07 (based on Contractor's proposed design)																														
S60280	Implement TTA for Pierhead Construction Works	1	1	24-Sep-24	24-Sep-24	-6	Implement TTA for Pierhead Construction Works																							
S60290	Installation of falsework / Temporary Platform and Bearing	5	5	25-Sep-24	30-Sep-24	-6	Installation of falsework / Temporary Platform and																							
S60300	Erection of Pierhead Segment (SP7DU1)	12	12	01-Oct-24	14-Oct-24	-6	Erection of Pierhead Segment (SP7DU																							
S60310	Concreting Spacer	14	14	15-Oct-24	30-Oct-24	-6	Concreting Spacer																							
S60320	Nailing Down Tendons	7	7	31-Oct-24	07-Nov-24	-6	Nailing Down Tendons																							
Construction of Pierhead Segment at Pier ST01-P01																														
S011325	Implement TTA for Pierhead Segment at ST01-P01	1	1	23-Oct-24	23-Oct-24	-44	Implement TTA for Pierhead Segm																							
S011315	Installation of falsework / Temporary Platform System	14	14	24-Oct-24	08-Nov-24	-44	Installation of falsework /																							
Construction of Pierhead Segment at Pier ST01-P08																														
S011400	Implement TTA	1	1	04-Oct-24*	04-Oct-24	59	Implement TTA																							
S011335	Installation of falsework / Temporary Platform System	5	5	05-Oct-24	10-Oct-24	59	Installation of falsework / Temporary Platf																							
S011340	Erection of Pierhead Segment (SP8DU0)	12	12	11-Oct-24	24-Oct-24	59	Erection of Pierhead Segment (SP																							
Construction of Pierhead Segment at Pier ST01-P09																														
S011365	Implement TTA	1	1	25-Sep-24*	25-Sep-24	47	Implement TTA																							
S011355	Installation of falsework / Temporary Platform System	16	16	26-Sep-24	14-Oct-24	47	Installation of falsework / Temporary Pla																							
S011360	Installation of precast shell segment, formwork and fixing of the rebar	18	18	15-Oct-24	04-Nov-24	47	Installation of precast shell																							
S011370	Cast In-situ Pierhead Segment Infill at Pier ST01-P09	1	1	05-Nov-24	05-Nov-24	47	Cast In-situ Pierhead Segm																							
Erection of T-Span and End Span Segments																														
Delivery of Precast Segments and Preparation Works																														
Delivery and Assembly of Precast Segments on Site Yard																														
S01.SA.120	Delivery on Site - Precast Segments P06 (FBC)	0	0	08-Aug-24	08-Aug-24	70	◆ Delivery on Site - Precast Segments P06 (FBC)																							
Bridge ST01-A																														
Erection of Full Span Deck at Pier ST01-P01 to ST01-P02																														

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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																							
							August					September				October				November				December						
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22		
Full Span Preparation																														
S01.SA.50	Delivery on Site - Precast Segments P01-P02 (FS)	0	0	01-Oct-24	07-Nov-24	-14	◆ Delivery on Site - Precast Segments P01-P02 (FS)																							
S01.SA.170	Assembly Platform Erection for P01-P02 (FS)	13	13	01-Oct-24	15-Oct-24	-14	■ Assembly Platform Erection for P01-P02 (FS)																							
S01.SA.60	Assembly of Full Span Deck P01-P02	13	13	16-Oct-24	30-Oct-24	-14	■ Assembly of Full Span Deck P01-P02																							
S011775	Hanger Beam	7	7	31-Oct-24	07-Nov-24	-14	■ Hanger Beam																							
Bridge ST01-B																														
Erection of Full Span Deck at Pier ST01-P04 to ST01-P05																														
S011950	Dismantle Lifting Frame System at Pier P04	7	7	08-Aug-24	15-Aug-24	217	■ Dismantle Lifting Frame System at Pier P04																							
Erection of Full Span Deck at Pier ST01-P05 to ST01-P06																														
S011870	Install Temporary Strand Jack Frames on Pierhead (P05), and Commissioning of Lifting System	18	10	25-Jun-24 A	19-Aug-24	15	■ Install Temporary Strand Jack Frames on Pierhead (P05), and Commissioning of Lifting System																							
S011880	Delivery (by SPMT) and Erection of the Full Span Deck (14 to 16 hours operation)	7	7	20-Aug-24	27-Aug-24	15	■ Delivery (by SPMT) and Erection of the Full Span Deck (14 to 16 hours operation)																							
S011890	Cast In-situ Joint Stitch on either Ends	6	6	28-Aug-24	03-Sep-24	15	■ Cast In-situ Joint Stitch on either Ends																							
S011990	Stressing of the remaining permanent Top and Bottom Tendons + Grouting	6	6	04-Sep-24	10-Sep-24	15	■ Stressing of the remaining permanent Top and Bottom Tendons + Grouting																							
S012010	Dismantle Counter Weight (TTA)	14	14	11-Sep-24	26-Sep-24	15	■ Dismantle Counter Weight (TTA)																							
S011900	Dismantle Lifting Frame System at Pier P05	5	5	27-Sep-24	02-Oct-24	190	■ Dismantle Lifting Frame System at Pier P05																							
S012000	Dismantle Lifting Frame System at Pier P06	5	5	27-Sep-24	02-Oct-24	15	■ Dismantle Lifting Frame System at Pier P06																							
Erection of False Balance Cantilever End-Span at Pier ST01-P06																														
S60220	Implementation of TTA for Deck Erection at Pier ST01-P06 to Mid	1	1	11-Oct-24	11-Oct-24	15	■ Implementation of TTA for Deck Erection at Pier ST01-P06 to Mid																							
S60200	Erection of false balance cantilever precast segments at Pier ST01-P06 + stressing & Grouting (6 segments)	13	13	12-Oct-24	26-Oct-24	15	■ Erection of false balance cantilever precast segments at Pier ST01-P06 + stressing & Grouting (6 segments)																							
Superstructure for Cycle Track Cum Footbridge (CTFB)																														
Construction of Pierhead Segment																														
Construction of In-situ Pierhead segment at Abutment FBP-06																														
S013100	Installation of falsework	7	7	28-Aug-24	04-Sep-24	23	■ Installation of falsework																							
S013160	Installation of formwork and fixing of the rebar	14	14	05-Sep-24	20-Sep-24	23	■ Installation of formwork and fixing of the rebar																							
S013170	Construction of In-situ Pierhead segment at FBP-06	7	7	30-Sep-24	07-Oct-24	16	■ Construction of In-situ Pierhead segment at FBP-06																							
Construction of In-situ Pierhead segment at Pier FBP-01																														
S013175	Installation of falsework	7	7	08-Aug-24	15-Aug-24	47	■ Installation of falsework																							
S013180	Installation of formwork and fixing of the rebar	14	14	16-Aug-24	31-Aug-24	47	■ Installation of formwork and fixing of the rebar																							
S013190	Construction of In-situ Pierhead segment at FBP-01	7	7	08-Oct-24	15-Oct-24	16	■ Construction of In-situ Pierhead segment at FBP-01																							
Construction of In-situ Pierhead segment at Pier FBP-02																														
S013195	Installation of falsework	7	7	08-Aug-24	15-Aug-24	54	■ Installation of falsework																							
S013200	Installation of formwork and fixing of the rebar	14	14	16-Aug-24	31-Aug-24	54	■ Installation of formwork and fixing of the rebar																							
S013210	Construction of In-situ Pierhead segment at FBP-02	7	7	16-Oct-24	23-Oct-24	16	■ Construction of In-situ Pierhead segment at FBP-02																							
Construction of In-situ Pierhead segment at Pier FBP-03																														
S013215	Installation of falsework	7	7	16-Aug-24	23-Aug-24	89	■ Installation of falsework																							
S013220	Installation of formwork and fixing of the rebar	14	14	24-Aug-24	09-Sep-24	89	■ Installation of formwork and fixing of the rebar																							
S013230	Construction of In-situ Pierhead segment at FBP-03	7	7	24-Oct-24	31-Oct-24	51	■ Construction of In-situ Pierhead segment at FBP-03																							
Construction of In-situ Pierhead segment at Pier FBP-04																														
S013255	Flasework Erection for Pierhead (at Bridge CTFB-A)	7	7	07-Nov-24	14-Nov-24	89	■ Flasework Erection for Pierhead (at Bridge CTFB-A)																							
Construction of In-situ Pierhead segment at Pier FBP-05																														
S013235	Installation of falsework	7	7	01-Nov-24	08-Nov-24	51	■ Installation of falsework																							
Erection of T-Span and End Span Segments																														

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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																												
							August					September				October				November				December											
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22							
Erection of T-Span segments at Pier FBP-01							21	21	16-Oct-24	08-Nov-24	134																								
S014100	Erection of 1st pair of segments at Pier FBP-01	1	1	16-Oct-24	16-Oct-24	134	Erection of 1st pair of segments at Pier FBP-01																												
S014180	Cast in-situ stitches between the pierhead segment and 1st pair of segments	7	7	17-Oct-24	24-Oct-24	134	Cast in-situ stitches between the pierhead segment and 1st pair of segments																												
S014190	Erection of T-Span remaining segments(10 segments)	10	10	25-Oct-24	05-Nov-24	134	Erection of T-Span remaining segments(10 segments)																												
S014450	Stressing Permanent Top Tendon C at FBP-01	3	3	06-Nov-24	08-Nov-24	134	Stressing Permanent Top Tendon C at FBP-01																												
Erection of T-Span segments at Pier FBP-02							14	14	24-Oct-24	08-Nov-24	16																								
S014195	Erection of 1st pair of segments at Pier FBP-02	1	1	24-Oct-24	24-Oct-24	16	Erection of 1st pair of segments at Pier FBP-02																												
S014200	Cast in-situ stitches between the pierhead segment and 1st pair of segments	13	13	25-Oct-24	08-Nov-24	16	Cast in-situ stitches between the pierhead segment and 1st pair of segments																												
Erection of T-Span segments at Pier FBP-03							7	7	01-Nov-24	08-Nov-24	108																								
S014235	Erection of 1st pair of segments at Pier FBP-03	1	1	01-Nov-24	01-Nov-24	108	Erection of 1st pair of segments at Pier FBP-03																												
S014240	Cast in-situ stitches between the pierhead segment and 1st pair of segments	6	6	02-Nov-24	08-Nov-24	108	Cast in-situ stitches between the pierhead segment and 1st pair of segments																												
Existing Cycle Track Subway Modification							274	5	29-Sep-23 A	13-Aug-24	-33																								
Construction of Subway							274	5	29-Sep-23 A	13-Aug-24	-33																								
Bay14							274	5	29-Sep-23 A	13-Aug-24	-33																								
S014690.160	Finishing Works	14	5	29-Sep-23 A	13-Aug-24	-33	Finishing Works																												
S014690.170	Re-open Cycle Track	0	0		13-Aug-24	-33	Re-open Cycle Track																												
Retaining Walls							334	111	22-Nov-23 A	14-Dec-24	630																								
Retaining Wall RW8c							44	44	08-Aug-24	27-Sep-24	137																								
RW8c - Base Slab							18	18	08-Aug-24	28-Aug-24	137																								
S014770.20	Formworks, Rebar & Cast Base Slab - Bay 1	6	6	08-Aug-24	14-Aug-24	137	Formworks, Rebar & Cast Base Slab - Bay 1																												
S014770.40	Formworks, Rebar & Cast Base Slab - Bay 3	6	6	08-Aug-24	14-Aug-24	137	Formworks, Rebar & Cast Base Slab - Bay 3																												
S014770.30	Formworks, Rebar & Cast Base Slab - Bay 2	6	6	15-Aug-24	21-Aug-24	137	Formworks, Rebar & Cast Base Slab - Bay 2																												
S014770.50	Formworks, Rebar & Cast Base Slab - Bay 4	6	6	15-Aug-24	21-Aug-24	137	Formworks, Rebar & Cast Base Slab - Bay 4																												
S014770.60	Formworks, Rebar & Cast Base Slab - Bay 5	6	6	22-Aug-24	28-Aug-24	137	Formworks, Rebar & Cast Base Slab - Bay 5																												
S014770.70	Formworks, Rebar & Cast Base Slab - Bay 6	6	6	22-Aug-24	28-Aug-24	137	Formworks, Rebar & Cast Base Slab - Bay 6																												
RW8c - Wall Stem							38	38	15-Aug-24	27-Sep-24	137																								
S014770.80	Formworks, Rebar & Cast Wall Stem - Bay 1	6	6	15-Aug-24	21-Aug-24	137	Formworks, Rebar & Cast Wall Stem - Bay 1																												
S014770.100	Formworks, Rebar & Cast Wall Stem - Bay 3	6	6	15-Aug-24	21-Aug-24	137	Formworks, Rebar & Cast Wall Stem - Bay 3																												
S014770.90	Formworks, Rebar & Cast Wall Stem - Bay 2	6	6	22-Aug-24	28-Aug-24	137	Formworks, Rebar & Cast Wall Stem - Bay 2																												
S014770.110	Formworks, Rebar & Cast Wall Stem - Bay 4	6	6	22-Aug-24	28-Aug-24	137	Formworks, Rebar & Cast Wall Stem - Bay 4																												
S014770.120	Formworks, Rebar & Cast Wall Stem - Bay 5	6	6	29-Aug-24	04-Sep-24	137	Formworks, Rebar & Cast Wall Stem - Bay 5																												
S014770.130	Formworks, Rebar & Cast Wall Stem - Bay 6	6	6	29-Aug-24	04-Sep-24	137	Formworks, Rebar & Cast Wall Stem - Bay 6																												
S014780	Backfilling and removal of sheetpile	20	20	05-Sep-24	27-Sep-24	137	Backfilling and removal of sheetpile																												
Retaining Wall RW8b							283	60	22-Nov-23 A	16-Oct-24	121																								
Preparation Works RW8b							28	7	22-Nov-23 A	15-Aug-24	126																								
S014790	Installation of sheetpile / ELS	32	7	22-Nov-23 A	15-Aug-24	126	Installation of sheetpile / ELS																												
RW8b - Base Slab							24	24	08-Aug-24	04-Sep-24	121																								
S014800.10	Formworks, Rebar & Cast Base Slab - Bay 1	6	6	08-Aug-24	14-Aug-24	121	Formworks, Rebar & Cast Base Slab - Bay 1																												
S014800.30	Formworks, Rebar & Cast Base Slab - Bay 3	6	6	08-Aug-24	14-Aug-24	121	Formworks, Rebar & Cast Base Slab - Bay 3																												
S014800.20	Formworks, Rebar & Cast Base Slab - Bay 2	6	6	15-Aug-24	21-Aug-24	121	Formworks, Rebar & Cast Base Slab - Bay 2																												
S014800.40	Formworks, Rebar & Cast Base Slab - Bay 4	6	6	15-Aug-24	21-Aug-24	121	Formworks, Rebar & Cast Base Slab - Bay 4																												
S014800.50	Formworks, Rebar & Cast Base Slab - Bay 5	6	6	22-Aug-24	28-Aug-24	121	Formworks, Rebar & Cast Base Slab - Bay 5																												
S014800.70	Formworks, Rebar & Cast Base Slab - Bay 7	6	6	22-Aug-24	28-Aug-24	121	Formworks, Rebar & Cast Base Slab - Bay 7																												



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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																												
							August					September				October				November				December											
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22							
CS2 Slope Formation							22	22	08-Aug-24	29-Aug-24	842																								
Soil Nail at CS2							22	22	08-Aug-24	29-Aug-24	842																								
S2A.PA.A10064	Soil Nailing Installation	22	22	08-Aug-24	29-Aug-24	842	Soil Nailing Installation																												
Drain Pipe and Gully Installation at BPW1							6	6	08-Aug-24	13-Aug-24	858																								
S2A.PA.A100890	Excavate & Install Gully formers with outlet drain pipe	6	6	08-Aug-24	13-Aug-24	858	Excavate & Install Gully formers with outlet drain pipe																												
S2A.PA.A100900	Excavate and Install DN375 drain pipe connecting from slope drainage	6	6	08-Aug-24	13-Aug-24	858	Excavate and Install DN375 drain pipe connecting from slope drainage																												
Drainage Works at S/B							16	16	08-Aug-24	23-Aug-24	-92																								
S2A.PA.A100950	Implement TTA to occupy existing SB traffic lane	1	1	08-Aug-24	08-Aug-24	-92	Implement TTA to occupy existing SB traffic lane																												
S2A.PA.A100960	Excavate and install trench shoring for 375 & gully drain pipe	10	10	09-Aug-24	18-Aug-24	-92	Excavate and install trench shoring for 375 & gully drain pipe																												
S2A.PA.A100970	Backfill pipe trench	2	2	19-Aug-24	20-Aug-24	-92	Backfill pipe trench																												
S2A.PA.A100980	Place subbase	1	1	21-Aug-24	21-Aug-24	-92	Place subbase																												
S2A.PA.A100990	Backfill asphalt material for all pipe trenches	1	1	22-Aug-24	22-Aug-24	-92	Backfill asphalt material for all pipe trenches																												
S2A.PA.A101000	Apply road marking and open to public	1	1	23-Aug-24	23-Aug-24	-92	Apply road marking and open to public																												
Drainage Works at N/B							58	58	23-Aug-24	19-Oct-24	-92																								
S2A.PA.A101010	Implement TTA to occupy existing NB traffic lane	1	1	23-Aug-24	23-Aug-24	-92	Implement TTA to occupy existing NB traffic lane																												
S2A.PA.A101020	Excavate, shoring & blinding for 2 MHs	2	2	24-Aug-24	25-Aug-24	-92	Excavate, shoring & blinding for 2 MHs																												
S2A.PA.A101030	Fwk & concrete benching (2MHs)	1	1	26-Aug-24	26-Aug-24	-92	Fwk & concrete benching (2MHs)																												
S2A.PA.A101040	Fwk & rebar for walls & top slab (2 MHs)	2	2	27-Aug-24	28-Aug-24	-92	Fwk & rebar for walls & top slab (2 MHs)																												
S2A.PA.A101050	Concrete walls & top slab (2 MHs)	1	1	29-Aug-24	29-Aug-24	-92	Concrete walls & top slab (2 MHs)																												
S2A.PA.A101060	Excavate & shoring for pipe trench	2	2	30-Aug-24	31-Aug-24	-92	Excavate & shoring for pipe trench																												
S2A.PA.A101070	Install DN750	1	1	01-Sep-24	01-Sep-24	-92	Install DN750																												
S2A.PA.A101080	Backfill DN750 pipe	1	1	02-Sep-24	02-Sep-24	-92	Backfill DN750 pipe																												
S2A.PA.A101090	Excavate & install gully former / gully pipe	5	5	03-Sep-24	07-Sep-24	-92	Excavate & install gully former / gully pipe																												
S2A.PA.A101100	Excavate, shoring & blinding for 2 MHs	2	2	08-Sep-24	09-Sep-24	-92	Excavate, shoring & blinding for 2 MHs																												
S2A.PA.A101110	Fwk & concrete benching (2MHs)	1	1	10-Sep-24	10-Sep-24	-92	Fwk & concrete benching (2MHs)																												
S2A.PA.A101120	Fwk & rebar for walls & top slab (2 MHs)	2	2	11-Sep-24	12-Sep-24	-92	Fwk & rebar for walls & top slab (2 MHs)																												
S2A.PA.A101130	Concrete walls & top slab (2 MHs)	1	1	13-Sep-24	13-Sep-24	-92	Concrete walls & top slab (2 MHs)																												
S2A.PA.A101140	Excavate & shoring for pipe trench	2	2	14-Sep-24	15-Sep-24	-92	Excavate & shoring for pipe trench																												
S2A.PA.A101150	Install DN600	1	1	16-Sep-24	16-Sep-24	-92	Install DN600																												
S2A.PA.A101160	Backfill DN600 pipe	1	1	17-Sep-24	17-Sep-24	-92	Backfill DN600 pipe																												
S2A.PA.A101170	Excavate & install gully former / gully pipe	5	5	18-Sep-24	22-Sep-24	-92	Excavate & install gully former / gully pipe																												
S2A.PA.A101180	Excavate, shoring & blinding for 2 MHs	2	2	23-Sep-24	24-Sep-24	-89	Excavate, shoring & blinding for 2 MHs																												
S2A.PA.A101260	Excavate & shoring for pipe trench	2	2	23-Sep-24	24-Sep-24	-92	Excavate & shoring for pipe trench																												
S2A.PA.A101190	Fwk & concrete benching (2MHs)	1	1	25-Sep-24	25-Sep-24	-89	Fwk & concrete benching (2MHs)																												
S2A.PA.A101270	Install DN750	1	1	25-Sep-24	25-Sep-24	-92	Install DN750																												
S2A.PA.A101280	Backfill DN750 pipe	1	1	26-Sep-24	26-Sep-24	-92	Backfill DN750 pipe																												
S2A.PA.A101200	Fwk & rebar for walls & top slab (2 MHs)	2	2	26-Sep-24	27-Sep-24	-89	Fwk & rebar for walls & top slab (2 MHs)																												
S2A.PA.A101210	Concrete walls & top slab (2 MHs)	1	1	28-Sep-24	28-Sep-24	-89	Concrete walls & top slab (2 MHs)																												
S2A.PA.A101290	Excavate & shoring for pipe trench	2	2	27-Sep-24	28-Sep-24	-92	Excavate & shoring for pipe trench																												
S2A.PA.A101300	Install DN600	1	1	29-Sep-24	29-Sep-24	-92	Install DN600																												
S2A.PA.A101220	Excavate & shoring for pipe trench	2	2	29-Sep-24	30-Sep-24	-89	Excavate & shoring for pipe trench																												
S2A.PA.A101310	Backfill DN600 pipe	1	1	30-Sep-24	30-Sep-24	-92	Backfill DN600 pipe																												
S2A.PA.A101230	Install DN600	1	1	01-Oct-24	01-Oct-24	-89	Install DN600																												



Three Months Rolling Programme (Data Date : 08-Aug-24)
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3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DL	RP/RS
22-Aug-23	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS
27-May-24	Rev.3.0e	SLX	RP/RS

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																					
							August				September				October				November		December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22
S2A.PB.A10040	Weld and place DN700 watermain behind NB13	14	14	10-Aug-24	23-Aug-24	-55	Weld and place DN700 watermain behind NB13																					
S2A.PB.A10041	Backfill upto CLP bottom level	1	1	24-Aug-24	24-Aug-24	-55	Backfill upto CLP bottom level																					
S2A.PB.A10042	Install CLP 132kV ducts	2	2	25-Aug-24	26-Aug-24	-55	Install CLP 132kV ducts																					
S2A.PB.A10043	Install CLP 11kV ducts	2	2	27-Aug-24	28-Aug-24	-55	Install CLP 11kV ducts																					
S2A.PB.A10044	Backfill trench	3	3	29-Aug-24	31-Aug-24	-55	Backfill trench																					
Area 4 - Drainage works and NB Road Construction Works		1	1	08-Aug-24	08-Aug-24	863																						
S2A.PB.A10094	Place Roadbase for Carriageway	1	1	08-Aug-24	08-Aug-24	863	Place Roadbase for Carriageway																					
Portion C - Meter Car Park to Kwan Yin Temple CH200 to CH300		99	99	08-Aug-24	14-Nov-24	765																						
Noise Barrier NB16		67	67	24-Aug-24	29-Oct-24	-118																						
Steel Works and Panel Installation		12	12	23-Sep-24	04-Oct-24	-100																						
S2A.PC.A100900	Install post (18 nos.) for NB16	6	6	23-Sep-24	28-Sep-24	-108	Install post (18 nos.) for NB16																					
S2A.PC.A100910	Install panel and top tie beam (17 nos.) for NB16	6	6	29-Sep-24	04-Oct-24	-100	Install panel and top tie beam (17 nos.) for NB16																					
Footpath and Cycle Track		67	67	24-Aug-24	29-Oct-24	-118																						
S2A.PC.A100920	Subbase	30	30	24-Aug-24	22-Sep-24	-118	Subbase																					
S2A.PC.A100930	Road kerb	16	16	23-Sep-24	08-Oct-24	-118	Road kerb																					
S2A.PC.A100940	Paving blocks	14	14	09-Oct-24	22-Oct-24	-118	Paving blocks																					
S2A.PC.A100950	Road lighting ducts and drawpits 15nos.	14	14	09-Oct-24	22-Oct-24	-118	Road lighting ducts and drawpits 15nos.																					
S2A.PC.A100960	Road lighting installation 15 nos.	7	7	23-Oct-24	29-Oct-24	-118	Road lighting installation 15 nos.																					
Drainage Works at NB16		33	33	08-Aug-24	09-Sep-24	831																						
S2A.PC.A100610	300 dia. drain RMH40005 - CP013	3	3	08-Aug-24	10-Aug-24	-89	300 dia. drain RMH40005 - CP013																					
S2A.PC.A100730	5 gullies for SMH50010	6	6	08-Aug-24	13-Aug-24	-65	5 gullies for SMH50010																					
S2A.PC.A100680	Construct MH RMH40005 top slab	5	5	11-Aug-24	15-Aug-24	-89	Construct MH RMH40005 top slab																					
S2A.PC.A100820	300U EX to CP011 (50m)	8	8	08-Aug-24	15-Aug-24	855	300U EX to CP011 (50m)																					
S2A.PC.A100830	300U CP012 to CP011 (6m)	1	1	16-Aug-24	16-Aug-24	855	300U CP012 to CP011 (6m)																					
S2A.PC.A100740	2 gullies for RMH40005	2	2	16-Aug-24	17-Aug-24	-88	2 gullies for RMH40005																					
S2A.PC.A100750	Backfill SMH40050 - SMH40040	14	14	08-Aug-24	21-Aug-24	850	Backfill SMH40050 - SMH40040																					
S2A.PC.A100790	Backfill CP011 - SMH40020A	14	14	08-Aug-24	21-Aug-24	-87	Backfill CP011 - SMH40020A																					
S2A.PC.A100810	Backfill SMH50010 - SMH50020 (part)	15	15	08-Aug-24	22-Aug-24	-74	Backfill SMH50010 - SMH50020 (part)																					
S2A.PC.A100780	Backfill SMH40010 - SMH40000	16	16	08-Aug-24	23-Aug-24	-118	Backfill SMH40010 - SMH40000																					
S2A.PC.A100870	225U to CP013 (43m)	5	5	23-Aug-24	27-Aug-24	-87	225U to CP013 (43m)																					
S2A.PC.A100760	Backfill RM40010 (N/B) - RMH4005 (Part 1)	15	15	15-Aug-24	29-Aug-24	-89	Backfill RM40010 (N/B) - RMH4005 (Part 1)																					
S2A.PC.A100770	Backfill RMH40005 - SMH40010 (Part 1)	15	15	15-Aug-24	29-Aug-24	-89	Backfill RMH40005 - SMH40010 (Part 1)																					
S2A.PC.A100800	Backfill RMH40005 - CP013	14	14	16-Aug-24	29-Aug-24	-88	Backfill RMH40005 - CP013																					
S2A.PC.A100850	300U EX to CP012 (80m)	8	8	30-Aug-24	06-Sep-24	-89	300U EX to CP012 (80m)																					
S2A.PC.A100860	225U to CP010 (30m)	3	3	07-Sep-24	09-Sep-24	-89	225U to CP010 (30m)																					
Stage 1 Road Works S/B in front of NB16		13	13	08-Aug-24	20-Aug-24	851																						
S2A.PC.A100980	Asphalt pavement	13	13	08-Aug-24	20-Aug-24	851	Asphalt pavement																					
Modification of Existing Drainage System (30m) N/B		57	57	08-Aug-24	03-Oct-24	807																						
S2A.PC.A101230	Construct MH RM40020 benching	3	3	08-Aug-24	10-Aug-24	861	Construct MH RM40020 benching																					
S2A.PC.A101130	DN450 RM40005 - RM40010 (Part 2)	6	6	08-Aug-24	13-Aug-24	850	DN450 RM40005 - RM40010 (Part 2)																					
S2A.PC.A101170	Excavation for MH RM40000	8	8	08-Aug-24	15-Aug-24	-92	Excavation for MH RM40000																					
S2A.PC.A101140	Cross road gully pipe x 3	7	7	12-Aug-24	18-Aug-24	850	Cross road gully pipe x 3																					
S2A.PC.A101210	Construct MH RM40000 benching	3	3	17-Aug-24	19-Aug-24	-92	Construct MH RM40000 benching																					

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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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																							
							August				September				October				November				December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22		
S2A.PC.A101150	Temporary road reinstatement	3	3	19-Aug-24	21-Aug-24	850	Temporary road reinstatement																							
S2A.PC.A101180	Excavation for MH RM40010	6	6	17-Aug-24	22-Aug-24	845	Excavation for MH RM40010																							
S2A.PC.A101410	Backfill RMH40030 - RM40040 (Part 1)	15	15	08-Aug-24	22-Aug-24	-41	Backfill RMH40030 - RM40040 (Part 1)																							
S2A.PC.A101220	Construct MH RM40010 benching	3	3	24-Aug-24	26-Aug-24	845	Construct MH RM40010 benching																							
S2A.PC.A101250	450 dia. drain RMH40000 - RM40010	10	10	20-Aug-24	29-Aug-24	-92	450 dia. drain RMH40000 - RM40010																							
S2A.PC.A101260	450 dia. drain RMH40010 - RM40020	6	6	31-Aug-24	05-Sep-24	-92	450 dia. drain RMH40010 - RM40020																							
S2A.PC.A101300	Construct MH RM40000 top slab	6	6	31-Aug-24	05-Sep-24	-92	Construct MH RM40000 top slab																							
S2A.PC.A101340	3 gullies for MH RM40000	3	3	07-Sep-24	09-Sep-24	-91	3 gullies for MH RM40000																							
S2A.PC.A101290	DN450 RM40005 - RM40010 (Part 3)	4	4	07-Sep-24	10-Sep-24	-92	DN450 RM40005 - RM40010 (Part 3)																							
S2A.PC.A101320	Construct MH RM40020 top slab	6	6	07-Sep-24	12-Sep-24	-92	Construct MH RM40020 top slab																							
S2A.PC.A101310	Construct MH RM40010 top slab	7	7	11-Sep-24	17-Sep-24	-92	Construct MH RM40010 top slab																							
S2A.PC.A101360	5 gullies for MH RM40020	5	5	14-Sep-24	18-Sep-24	-92	5 gullies for MH RM40020																							
S2A.PC.A101350	3 gullies for MH RM40010	4	4	18-Sep-24	21-Sep-24	-90	3 gullies for MH RM40010																							
S2A.PC.A101380	Backfill RMH40000 - RM40010	12	12	22-Sep-24	03-Oct-24	-90	Backfill RMH40000 - RM40010																							
S2A.PC.A101390	Backfill RMH40010 - RM40020	12	12	22-Sep-24	03-Oct-24	-90	Backfill RMH40010 - RM40020																							
S2A.PC.A101420	Backfill RM40005 - RM40010 (Part 3)	12	12	22-Sep-24	03-Oct-24	-90	Backfill RM40005 - RM40010 (Part 3)																							
Permanent Road Works N/B		58	58	18-Sep-24	14-Nov-24	-118																								
S2A.PC.A101440	Subbase	13	13	18-Sep-24	30-Sep-24	-92	Subbase																							
S2A.PC.A101450	Road kerb	10	10	24-Sep-24	03-Oct-24	-92	Road kerb																							
S2A.PC.A101460	Paving blocks	9	9	30-Oct-24	07-Nov-24	-118	Paving blocks																							
S2A.PC.A101430	Asphalt pavement	13	13	02-Nov-24	14-Nov-24	-118	Asphalt pavement																							
Portion D - Kwan Yin Temple to Pai Lau CH300 to CH450		117	53	05-Jun-24 A	29-Sep-24	811																								
Retaining Wall RW6		20	20	08-Aug-24 A	27-Aug-24	837																								
S2A.PD.A100020	Formwork erection Bay 3 wall - Lower Portion	1	1	08-Aug-24 A	08-Aug-24	837	Formwork erection Bay 3 wall - Lower Portion																							
S2A.PD.A100021	Concreting Bay 3 wall - Lower Portion	1	1	09-Aug-24	09-Aug-24	837	Concreting Bay 3 wall - Lower Portion																							
S2A.PD.A100022	Formwork erection Bay 3 wall - Upper Portion	2	2	10-Aug-24	11-Aug-24	837	Formwork erection Bay 3 wall - Upper Portion																							
S2A.PD.A100023	Concreting Bay 3 wall - Upper Portion	1	1	12-Aug-24	12-Aug-24	837	Concreting Bay 3 wall - Upper Portion																							
S2A.PD.A100024	Backfill of RW6 Bay 1 - Bay 3 (Concurrent with drainage works)	15	15	13-Aug-24	27-Aug-24	837	Backfill of RW6 Bay 1 - Bay 3 (Concurrent with drainage works)																							
Drainage System (from NB16 South End to Pun Uk Tsuen)		76	12	05-Jun-24 A	19-Aug-24	852																								
S2A.PD.A100030	Construct MH SMH50020 benching	3	3	08-Aug-24	10-Aug-24	861	Construct MH SMH50020 benching																							
S2A.PD.A100031	Construct MH SMH50030 benching (on RW6 base slab Bay 2)	3	3	05-Jun-24 A	10-Aug-24	861	Construct MH SMH50030 benching (on RW6 base slab Bay 2)																							
S2A.PD.A100033	Construct MH SMH50020 & SMH50030 top slab	3	3	08-Aug-24	10-Aug-24	854	Construct MH SMH50020 & SMH50030 top slab																							
S2A.PD.A100036	DN450 SMH50030 to SMH50050 & SMH50050 to SMH50060	4	4	08-Aug-24 A	11-Aug-24	845	DN450 SMH50030 to SMH50050 & SMH50050 to SMH50060																							
S2A.PD.A100028	Backfill & Installation of Gullies to SMH50060 & SMH50070	7	7	08-Aug-24	14-Aug-24	857	Backfill & Installation of Gullies to SMH50060 & SMH50070																							
S2A.PD.A100037	Construct MH SMH50050 top slab	3	3	12-Aug-24	14-Aug-24	845	Construct MH SMH50050 top slab																							
S2A.PD.A100034	Backfill & Installation of Gullies to SMH50020 & SMH50030	7	7	11-Aug-24	17-Aug-24	854	Backfill & Installation of Gullies to SMH50020 & SMH50030																							
S2A.PD.A100038	Backfill & Installation of Gullies to SMH50050	5	5	15-Aug-24	19-Aug-24	845	Backfill & Installation of Gullies to SMH50050																							
UU Works and Lighting		27	27	08-Aug-24	03-Sep-24	837																								
S2A.PD.A100043	Placement of precast drawpits and laying of lighting ducts	7	7	08-Aug-24	14-Aug-24	-52	Placement of precast drawpits and laying of lighting ducts																							
S2A.PD.A100039	UU works (After completion of RW6 Structure)	7	7	13-Aug-24	19-Aug-24	852	UU works (After completion of RW6 Structure)																							
S2A.PD.A100044	Installation of Lighting Poles	5	5	15-Aug-24	19-Aug-24	-52	Installation of Lighting Poles																							
S2A.PD.A100041	UU works (After completion of drainage)	7	7	28-Aug-24	03-Sep-24	837	UU works (After completion of drainage)																							
Cut Slope (CS3)		7	7	08-Aug-24	14-Aug-24	-72																								

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Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																							
							August				September				October				November				December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22		
S2A.PD.A100045	Formation of cut slope CS3	7	7	08-Aug-24	14-Aug-24	-72	■ Formation of cut slope CS3																							
PW6A Shin Wall and Capping Beam (total 3 Bays)		37	37	15-Aug-24	20-Sep-24	-72																								
S2A.PD.A100046	Excavation and blinding for PW6A Skin Wall	3	3	15-Aug-24	17-Aug-24	-72	■ Excavation and blinding for PW6A Skin Wall																							
S2A.PD.A100047	Working Platform + Reinforcement fixing for PW6A Skin Wall	3	3	18-Aug-24	20-Aug-24	-72	■ Working Platform + Reinforcement fixing for PW6A Skin Wall																							
S2A.PD.A100048	Erection of formwork for base of skin wall Bay 1 & Bay 3	3	3	21-Aug-24	23-Aug-24	-72	■ Erection of formwork for base of skin wall Bay 1 & Bay 3																							
S2A.PD.A100049	Concreting Bay 1 & Bay 3 base	1	1	24-Aug-24	24-Aug-24	-72	■ Concreting Bay 1 & Bay 3 base																							
S2A.PD.A100050	Erection of formwork for base of skin wall Bay 2	1	1	25-Aug-24	25-Aug-24	-72	■ Erection of formwork for base of skin wall Bay 2																							
S2A.PD.A100051	Concreting Bay 2 base	1	1	26-Aug-24	26-Aug-24	-72	■ Concreting Bay 2 base																							
S2A.PD.A100052	Erection of formwork for Bay 1	4	4	27-Aug-24	30-Aug-24	-72	■ Erection of formwork for Bay 1																							
S2A.PD.A100053	Concreting Bay 1	1	1	31-Aug-24	31-Aug-24	-72	■ Concreting Bay 1																							
S2A.PD.A100054	Erection of formwork for Bay 2	4	4	01-Sep-24	04-Sep-24	-72	■ Erection of formwork for Bay 2																							
S2A.PD.A100055	Concreting Bay 2	1	1	05-Sep-24	05-Sep-24	-72	■ Concreting Bay 2																							
S2A.PD.A100056	Erection of formwork for Bay 3	4	4	06-Sep-24	09-Sep-24	-72	■ Erection of formwork for Bay 3																							
S2A.PD.A100057	Concreting Bay 3	1	1	10-Sep-24	10-Sep-24	-72	■ Concreting Bay 3																							
S2A.PD.A100058	Capping Beam Construction	10	10	11-Sep-24	20-Sep-24	-72	■ Capping Beam Construction																							
Road Works		46	46	15-Aug-24	29-Sep-24	-72																								
S2A.PD.A100059	Site formation for sub base, installation of kerbs & railings	10	10	15-Aug-24	24-Aug-24	-52	■ Site formation for sub base, installation of kerbs & railings																							
S2A.PD.A100060	Construction of 300 U-channel	10	10	15-Aug-24	24-Aug-24	-52	■ Construction of 300 U-channel																							
S2A.PD.A100063	Paving block placement for footpath	5	5	25-Aug-24	29-Aug-24	-52	■ Paving block placement for footpath																							
S2A.PD.A100064	Bituminous material paving for cycle track	2	2	30-Aug-24	31-Aug-24	-52	■ Bituminous material paving for cycle track																							
S2A.PD.A100065	Painting for cycle track	1	1	01-Sep-24	01-Sep-24	-52	■ Painting for cycle track																							
S2A.PD.A100066	Permanent reinstatement of southbound bituminous pavement	7	7	02-Sep-24	08-Sep-24	-52	■ Permanent reinstatement of southbound bituminous pavement																							
S2A.PD.A100061	Installation of root barrier and backfilling soil at amenity area	4	4	21-Sep-24	24-Sep-24	-72	■ Installation of root barrier and backfilling soil at amenity area																							
S2A.PD.A100062	Planting at amenity area	5	5	25-Sep-24	29-Sep-24	-72	■ Planting at amenity area																							
S2A.PD.A100067	Road Marking	1	1	29-Sep-24	29-Sep-24	-72	■ Road Marking																							
Portion E - Pai Lau to Chau Tau West Road CH450 to CH600		112	112	08-Aug-24	27-Nov-24	-122																								
Pun Uk Tsuen Junction UU Laying Works		23	23	08-Aug-24	30-Aug-24	-92																								
S2A.PE.A100060	FNOs ducts laying + Concrete Surround	2	2	08-Aug-24	09-Aug-24	-109	■ FNOs ducts laying + Concrete Surround																							
S2A.PE.A100070	Towngas Main Laying	2	2	10-Aug-24	11-Aug-24	-109	■ Towngas Main Laying																							
S2A.PE.A100080	Backfilling and Reinstatement North half portion	1	1	12-Aug-24	12-Aug-24	-109	■ Backfilling and Reinstatement North half portion																							
S2A.PE.A100090	TTA for Pun Uk Tsuen Junction (South half portion)	1	1	13-Aug-24	13-Aug-24	-109	■ TTA for Pun Uk Tsuen Junction (South half portion)																							
S2A.PE.A100100	Excavation for UU Common Trench	7	7	14-Aug-24	20-Aug-24	-109	■ Excavation for UU Common Trench																							
S2A.PE.A100110	DN700 Water Main Laying	2	2	21-Aug-24	22-Aug-24	-109	■ DN700 Water Main Laying																							
S2A.PE.A100120	DN450 Cross-road Drain Laying	1	1	23-Aug-24	23-Aug-24	-92	■ DN450 Cross-road Drain Laying																							
S2A.PE.A100130	CLP-132kV ducts laying + Concrete Surround	1	1	23-Aug-24	23-Aug-24	-92	■ CLP-132kV ducts laying + Concrete Surround																							
S2A.PE.A100140	CLP-11kV Duct Laying + Concrete Surround	2	2	24-Aug-24	25-Aug-24	-92	■ CLP-11kV Duct Laying + Concrete Surround																							
S2A.PE.A100150	FNOs ducts laying + Concrete Surround	2	2	26-Aug-24	27-Aug-24	-92	■ FNOs ducts laying + Concrete Surround																							
S2A.PE.A100160	Towngas Main Laying	2	2	28-Aug-24	29-Aug-24	-92	■ Towngas Main Laying																							
S2A.PE.A100170	Backfilling and Reinstatement South half portion	1	1	30-Aug-24	30-Aug-24	-92	■ Backfilling and Reinstatement South half portion																							
DN700 Watermain Laying Works		25	25	23-Aug-24	16-Sep-24	-109																								
S2A.PE.A100180	Installation of DN600 SV and Construction of DN150 Bypass	25	25	23-Aug-24	16-Sep-24	-109	■ Installation of DN600 SV and Construction of DN150 Bypass																							
S2A.PE.A100190	Laying across CTWR above 4 x DN1200 drains (After CTW TTA)	24	24	24-Aug-24	16-Sep-24	-109	■ Laying across CTWR above 4 x DN1200 drains (After C																							
Drainage System Works (from Pun Uk Tsuen to Chau Tau West Road)		112	112	08-Aug-24	27-Nov-24	-122																								

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																							
							August				September				October				November				December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22		
S2A.PE.A100280	DN450 SMH50090 to SMH50100 & SMH500100 to SMH50110	5	5	08-Aug-24	12-Aug-24	-131	DN450 SMH50090 to SMH50100 & SMH500100 to SMH50110																							
S2A.PE.A100290	Construct MHSMH50090, SMH50100 top slab	4	4	13-Aug-24	16-Aug-24	-131	Construct MHSMH50090, SMH50100 top slab																							
S2A.PE.A100300	Backfill & Installation of Gullies to SMH50090, SMH50100	8	8	17-Aug-24	24-Aug-24	-131	Backfill & Installation of Gullies to SMH50090, SMH50100																							
S2A.PE.A100310	Excavation for MH SMH50080	3	3	25-Aug-24	27-Aug-24	-131	Excavation for MH SMH50080																							
S2A.PE.A100320	Construct MHSMH50080 benching	4	4	28-Aug-24	31-Aug-24	-131	Construct MHSMH50080 benching																							
S2A.PE.A100330	DN450 SMH50080 to SMH50090	5	5	01-Sep-24	05-Sep-24	-131	DN450 SMH50080 to SMH50090																							
S2A.PE.A100340	Construct MHSMH50080 top slab	3	3	06-Sep-24	08-Sep-24	-130	Construct MHSMH50080 top slab																							
S2A.PE.A100360	Excavation for MH SMH50140, SMH50150 (After CTW TTA)	5	5	06-Sep-24	10-Sep-24	-131	Excavation for MH SMH50140, SMH50150 (After CTW TTA)																							
S2A.PE.A100350	Backfill & Installation of Gullies to SMH50080	5	5	09-Sep-24	13-Sep-24	-130	Backfill & Installation of Gullies to SMH50080																							
S2A.PE.A100370	Construct MHSMH50140, SMH50150 benching	4	4	11-Sep-24	14-Sep-24	-131	Construct MHSMH50140, SMH50150 benching																							
S2A.PE.A100380	DN450 SMH50130 to SMH50140 & SMH500140 to SMH50150	5	5	15-Sep-24	19-Sep-24	-131	DN450 SMH50130 to SMH50140 & SMH500140 to SMH50150																							
S2A.PE.A100390	Construct MHSMH50140, SMH50150 top slab	4	4	20-Sep-24	23-Sep-24	-131	Construct MHSMH50140, SMH50150 top slab																							
S2A.PE.A100400	Backfill & Installation of Gullies to SMH50140, SMH50150	8	8	24-Sep-24	01-Oct-24	-131	Backfill & Installation of Gullies to SMH50140, SMH50150																							
S2A.PE.A100410	Excavation for MH SMH50160, SMH50170	5	5	02-Oct-24	06-Oct-24	-131	Excavation for MH SMH50160, SMH50170																							
S2A.PE.A100420	Construct MHS MH50160, SMH50170 benching	4	4	07-Oct-24	10-Oct-24	-131	Construct MHS MH50160, SMH50170 benching																							
S2A.PE.A100430	DN450 SMH50150 to SMH50160 & SMH500160 to SMH50170	5	5	11-Oct-24	15-Oct-24	-131	DN450 SMH50150 to SMH50160 & SMH500160 to SMH50170																							
S2A.PE.A100440	Construct MH SMH50160, SMH50170 top slab	4	4	16-Oct-24	19-Oct-24	-131	Construct MH SMH50160, SMH50170 top slab																							
S2A.PE.A100450	Backfill & Installation of Gullies to SMH50160	8	8	20-Oct-24	27-Oct-24	-131	Backfill & Installation of Gullies to SMH50160																							
S2A.PE.A100460	Construction of drainage and Northbound Layby	59	59	30-Sep-24	27-Nov-24	-122	Construction of drainage and Northbound Layby																							
Connection of laid ducts/main with cross-road ducts/main		31	31	30-Sep-24	30-Oct-24	-122	Connection of laid ducts/main with cross-road ducts/main																							
S2A.PE.A100470	Connection of laid ducts/main with cross-road ducts/main	31	31	30-Sep-24	30-Oct-24	-122	Connection of laid ducts/main with cross-road ducts/main																							
4 x DN1200 Drainage Pipes Laying with Inlet and Outlet construction		18	18	30-Sep-24	17-Oct-24	-119	4 x DN1200 Drainage Pipes Laying with Inlet and Outlet construction																							
S2A.PE.A100480	Reinforcement fixing for base slab (After DN700 Laying)	3	3	30-Sep-24	02-Oct-24	-119	Reinforcement fixing for base slab (After DN700 Laying)																							
S2A.PE.A100490	Formwork erection for base slab	3	3	03-Oct-24	05-Oct-24	-119	Formwork erection for base slab																							
S2A.PE.A100500	Concreting for base slab	1	1	06-Oct-24	06-Oct-24	-119	Concreting for base slab																							
S2A.PE.A100510	Reinforcement fixing for wing walls	3	3	07-Oct-24	09-Oct-24	-119	Reinforcement fixing for wing walls																							
S2A.PE.A100520	Erection of formwork for wing walls	7	7	10-Oct-24	16-Oct-24	-119	Erection of formwork for wing walls																							
S2A.PE.A100530	Concreting for wing walls	1	1	17-Oct-24	17-Oct-24	-119	Concreting for wing walls																							
New Lighting		15	15	28-Oct-24	11-Nov-24	-129	New Lighting																							
S2A.PE.A100540	Placement of precast drawpits and laying of lighting ducts	15	15	28-Oct-24	11-Nov-24	-129	Placement of precast drawpits and laying of lighting ducts																							
Road Works Inc. Layby		12	12	28-Oct-24	08-Nov-24	-131	Road Works Inc. Layby																							
S2A.PE.A100560	Site formation for sub base, installation of kerbs & railings	12	12	28-Oct-24	08-Nov-24	-131	Site formation for sub base, installation of kerbs & railings																							
Portion F - Chau Tau West to EIBC CH600 to CH760		88	88	08-Aug-24	18-Nov-24	295	Portion F - Chau Tau West to EIBC CH600 to CH760																							
Retaining Wall RW-CTW (Remaining Works)		88	88	08-Aug-24	18-Nov-24	295	Retaining Wall RW-CTW (Remaining Works)																							
RW-CTW Backfilling and UU Works		28	28	08-Aug-24	09-Sep-24	295	RW-CTW Backfilling and UU Works																							
AW.RW100240	Install 150mm UPVC Pipe Wrapped	7	7	08-Aug-24	15-Aug-24	295	Install 150mm UPVC Pipe Wrapped																							
AW.RW100250	Backfill to Proposed Level	21	21	16-Aug-24	09-Sep-24	295	Backfill to Proposed Level																							
Other Remaining Works		60	60	10-Sep-24	18-Nov-24	295	Other Remaining Works																							
AW.RW100260	Install Railing on the top of Retaining Wall RW-CTW	30	30	10-Sep-24	14-Oct-24	295	Install Railing on the top of Retaining Wall RW-CTW																							
AW.RW100450	Installation of Parapets	30	30	15-Oct-24	18-Nov-24	295	Installation of Parapets																							
Water Main & Drainage Backfill and Road Construction (NB)		49	49	08-Aug-24	03-Oct-24	334	Water Main & Drainage Backfill and Road Construction (NB)																							
Watermain along Nullah from Chou Tau West to RW-CTW (CH.640-675)		49	49	08-Aug-24	03-Oct-24	334	Watermain along Nullah from Chou Tau West to RW-CTW (CH.640-675)																							
S2A.PF.2005	Design and application for consent / Statutory Requirement (WSD/DSD)	18	18	08-Aug-24*	28-Aug-24	-55	Design and application for consent / Statutory Requirement (WSD/DSD)																							

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- ◆ Milestone

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22-Aug-23	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS
27-May-24	Rev.3.0e	SLX	RP/RS

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																									
							August				September				October				November				December									
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22				
S2A.PF.2010	Consent approved from WSD/DSD	0	0	29-Aug-24*		-55	◆ Consent approved from WSD/DSD																									
S2A.PF.2040	Install DN700 Water Main, Test and Coat to welding joints	21	21	29-Aug-24	21-Sep-24	-55	Install DN700 Water Main, Test and Coat to welding joints																									
S2A.PF.5410	Drainage Works from Chau Tau West Rd (CH640 to CH675) (Part 2)	24	24	29-Aug-24	25-Sep-24	334	Drainage Works from Chau Tau West Rd (CH640 to CH675) (Part 2)																									
S2A.PF.2050	Reinstate Working Area	7	7	26-Sep-24	03-Oct-24	334	Reinstate Working Area																									
Portion G - Works from Nullah to CPR CH760 to CH990		310	72	04-Nov-23 A	31-Oct-24	669																										
Nullah Modification Remaining Works		310	72	04-Nov-23 A	31-Oct-24	-88																										
Trapezoidal Nullah		108	19	26-Apr-24 A	29-Aug-24	-35																										
RC Structure		97	8	26-Apr-24 A	16-Aug-24	-24																										
S2A.PG.A10034	No fine concrete bay 1	1	1	08-Aug-24	08-Aug-24	-24	No fine concrete bay 1																									
S2A.PG.A10035	Blinding Bay 1	2	2	09-Aug-24	10-Aug-24	-24	Blinding Bay 1																									
S2A.PG.A10036	Formwork erection Bay 1	4	4	12-Aug-24	15-Aug-24	-24	Formwork erection Bay 1																									
S2A.PG.A10000	Trapezoidal Nullah RC Construction	113	9	26-Apr-24 A	16-Aug-24	-28	Trapezoidal Nullah RC Construction																									
S2A.PG.A10037	Concrete Bay 1	1	1	16-Aug-24	16-Aug-24	-24	Concrete Bay 1																									
UU Works		19	19	08-Aug-24	29-Aug-24	-35																										
S2A.PG.A10001	CLP - 132kV UU Works (55m)	5	5	08-Aug-24*	13-Aug-24	-85	CLP - 132kV UU Works (55m)																									
S2A.PG.A10002	CLP - 11kV UU Works (55m)	3	3	14-Aug-24	16-Aug-24	-35	CLP - 11kV UU Works (55m)																									
S2A.PG.A10003	FNOs - UU Works (55m)	7	7	17-Aug-24	24-Aug-24	-35	FNOs - UU Works (55m)																									
S2A.PG.A10004	Towngas - UU Works (55m)	4	4	26-Aug-24	29-Aug-24	-35	Towngas - UU Works (55m)																									
Rectangular Nullah		310	72	04-Nov-23 A	31-Oct-24	-88																										
RC Structure		293	7	04-Nov-23 A	14-Aug-24	-26																										
S2A.PG.A10005	Rectangular Nullah RC Construction	293	7	04-Nov-23 A	14-Aug-24	-26	Rectangular Nullah RC Construction																									
S2A.PG.A10076	Backfill behind wall	31	7	23-Jul-24 A	14-Aug-24	-26	Backfill behind wall																									
Drainage		69	69	08-Aug-24	31-Oct-24	-85																										
S2A.PG.A10077	Excavation for manhole SMH81020	4	4	08-Aug-24	12-Aug-24	-81	Excavation for manhole SMH81020																									
S2A.PG.A10078	Construct MH SMH81020 benching	2	2	13-Aug-24	14-Aug-24	-81	Construct MH SMH81020 benching																									
S2A.PG.A10079	Construct MH SMH81020 top slab	4	4	15-Aug-24	19-Aug-24	-81	Construct MH SMH81020 top slab																									
S2A.PG.A10080	Excavation for drain SMH81020 - SMH81010	4	4	15-Aug-24	19-Aug-24	-80	Excavation for drain SMH81020 - SMH81010																									
S2A.PG.A10081	Lay pipe for drain SMH81020 - SMH81010	3	3	20-Aug-24	22-Aug-24	-80	Lay pipe for drain SMH81020 - SMH81010																									
S2A.PG.A10082	Excavation for manhole SMH81010	4	4	20-Aug-24	23-Aug-24	-81	Excavation for manhole SMH81010																									
S2A.PG.A10083	Construct MH SMH81010 benching	2	2	24-Aug-24	26-Aug-24	-81	Construct MH SMH81010 benching																									
S2A.PG.A10084	Construct MH SMH81010 top slab	3	3	28-Aug-24	30-Aug-24	-81	Construct MH SMH81010 top slab																									
S2A.PG.A10085	Excavation for drain SMH81010 - SMH81000	3	3	28-Aug-24	30-Aug-24	-81	Excavation for drain SMH81010 - SMH81000																									
S2A.PG.A10086	Lay pipe for drain SMH81010 - SMH81000	3	3	31-Aug-24	03-Sep-24	-81	Lay pipe for drain SMH81010 - SMH81000																									
S2A.PG.A10087	Excavation for manhole SMH81000	4	4	31-Aug-24	04-Sep-24	-81	Excavation for manhole SMH81000																									
S2A.PG.A10088	Construct MH SMH81000 benching	2	2	05-Sep-24	06-Sep-24	-81	Construct MH SMH81000 benching																									
S2A.PG.A10089	Construct MH SMH81000 top slab	4	4	07-Sep-24	11-Sep-24	-81	Construct MH SMH81000 top slab																									
S2A.PG.A10090	Backfill trench SMH81020 - SMH81000	12	12	17-Sep-24	03-Oct-24	-85	Backfill trench SMH81020 - SMH81000																									
S2A.PG.A10091	Gully 12nos.	12	12	25-Sep-24	10-Oct-24	-85	Gully 12nos.																									
S2A.PG.A10092	Backfill and kerb	17	17	10-Oct-24	31-Oct-24	-85	Backfill and kerb																									
UU Works		34	34	08-Aug-24	17-Sep-24	-85																										
S2A.PG.A10006	CLP - 132kV UU Works (55m)	13	13	08-Aug-24	22-Aug-24	-85	CLP - 132kV UU Works (55m)																									
S2A.PG.A10007	CLP - 11kV UU Works (55m)	10	10	23-Aug-24	03-Sep-24	-85	CLP - 11kV UU Works (55m)																									
S2A.PG.A10008	FNOs - UU Works (55m)	6	6	03-Sep-24	10-Sep-24	-85	FNOs - UU Works (55m)																									

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27-May-24	Rev.3.0e	SLX	RP/RS

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																												
							August					September					October					November					December								
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22							
S2A.PG.A10009	Towngas - UU Works (55m)	6	6	10-Sep-24	17-Sep-24	-85	Towngas - UU Works (55m)																												
EIBC ELS + Base RC Structure							89	48	09-May-24 A	02-Oct-24	693																								
RC Structure							59	18	09-May-24 A	29-Aug-24	723																								
S2A.PG.A100980	Blinding Bay 2	1	1	08-Aug-24	09-Aug-24	844	Blinding Bay 2																												
S2A.PG.A100990	Rebar fixing base slab Bay 2	6	6	09-Aug-24	15-Aug-24	844	Rebar fixing base slab Bay 2																												
S2A.PG.A101000	Formwork erection base slab Bay 2	2	2	15-Aug-24	17-Aug-24	683	Formwork erection base slab Bay 2																												
S2A.PG.A101010	Concrete base slab Bay 2	1	1	17-Aug-24	19-Aug-24	684	Concrete base slab Bay 2																												
S2A.PG.A101020	Formwork erection wall and top slab Bay 1	3	3	16-Aug-24	19-Aug-24	844	Formwork erection wall and top slab Bay 1																												
S2A.PG.A101030	Rebar fixing wall and top slab Bay 1	3	3	19-Aug-24	22-Aug-24	684	Rebar fixing wall and top slab Bay 1																												
S2A.PG.A101040	Concrete wall and top slab Bay 1	1	1	22-Aug-24	23-Aug-24	684	Concrete wall and top slab Bay 1																												
S2A.PG.A101050	Formwork erection wall and top slab Bay 2	3	3	21-Aug-24	24-Aug-24	844	Formwork erection wall and top slab Bay 2																												
S2A.PG.A101060	Rebar fixing wall and top slab Bay 2	3	3	24-Aug-24	28-Aug-24	683	Rebar fixing wall and top slab Bay 2																												
S2A.PG.A100110	RC Structure of EIBC	22	18	09-May-24 A	29-Aug-24	683	RC Structure of EIBC																												
S2A.PG.A101070	Concrete wall and top slab Bay 2	1	1	28-Aug-24	29-Aug-24	683	Concrete wall and top slab Bay 2																												
UU Works							33	33	23-Aug-24	02-Oct-24	-62																								
S2A.PG.A100120	CLP - 132kV UU Works (55m)	12	12	23-Aug-24	05-Sep-24	-62	CLP - 132kV UU Works (55m)																												
S2A.PG.A100130	CLP - 11kV UU Works (55m)	9	9	06-Sep-24	16-Sep-24	-62	CLP - 11kV UU Works (55m)																												
S2A.PG.A100140	FNOs - UU Works (55m)	6	6	17-Sep-24	24-Sep-24	-62	FNOs - UU Works (55m)																												
S2A.PG.A100150	Towngas - UU Works (55m)	6	6	25-Sep-24	02-Oct-24	-62	Towngas - UU Works (55m)																												
Watermain Works							54	54	08-Aug-24 A	30-Sep-24	-73																								
S2A.PG.A101200	Watermain - ELS and Excavation Stage 4	6	6	08-Aug-24 A	13-Aug-24	-73	Watermain - ELS and Excavation Stage 4																												
S2A.PG.A101210	Watermain Laying Works Stage 4	24	24	10-Aug-24	02-Sep-24	-73	Watermain Laying Works Stage 4																												
S2A.PG.A101220	Reinstatement Works Area Stage 4	6	6	30-Aug-24	04-Sep-24	-53	Reinstatement Works Area Stage 4																												
S2A.PG.A101230	Watermain - ELS and Excavation Stage 5	6	6	03-Sep-24	08-Sep-24	-73	Watermain - ELS and Excavation Stage 5																												
S2A.PG.A101240	Watermain Laying Works Stage 5	24	24	05-Sep-24	28-Sep-24	-73	Watermain Laying Works Stage 5																												
S2A.PG.A101250	Reinstatement Works Area Stage 5	6	6	25-Sep-24	30-Sep-24	-73	Reinstatement Works Area Stage 5																												
Portion H - Castle Peak Road Part in Section 2B							133	88	17-Jun-24 A	18-Nov-24	653																								
Uncle Liu CarPark							53	26	08-Jul-24 A	06-Sep-24	675																								
Relocation of Gullies							6	6	08-Aug-24	14-Aug-24	695																								
S2A.PH.A100004	CLP11kV	6	6	08-Aug-24	14-Aug-24	695	CLP11kV																												
Lighting and Road Works							53	26	08-Jul-24 A	06-Sep-24	-42																								
S2A.PH.A100012	Asphalt laying	2	2	08-Jul-24 A	09-Aug-24	-42	Asphalt laying																												
S2A.PH.A100013	Open new run-in for car park	1	1	10-Aug-24	10-Aug-24	-42	Open new run-in for car park																												
S2A.PH.A100009	Traffic signal ducting and drawpit	6	6	15-Aug-24	21-Aug-24	-42	Traffic signal ducting and drawpit																												
S2A.PH.A100014	Excavation existing run-in	6	6	22-Aug-24	28-Aug-24	-42	Excavation existing run-in																												
S2A.PH.A100015	Install new road light	6	6	22-Aug-24	28-Aug-24	-42	Install new road light																												
S2A.PH.A100016	Backfilling	6	6	22-Aug-24	28-Aug-24	-42	Backfilling																												
S2A.PH.A100017	Road kerb and paving block	6	6	29-Aug-24	04-Sep-24	-42	Road kerb and paving block																												
S2A.PH.A100018	Asphalt laying	2	2	05-Sep-24	06-Sep-24	-42	Asphalt laying																												
Traffic Island							31	31	19-Aug-24	24-Sep-24	-56																								
Traffic Island No.1							24	24	19-Aug-24	14-Sep-24	-49																								
S2A.PH.A100027	Remove temporary pavement	5	5	19-Aug-24*	23-Aug-24	-56	Remove temporary pavement																												
S2A.PH.A100028	Relocate directional sign	4	4	24-Aug-24	28-Aug-24	-49	Relocate directional sign																												

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14-Dec-23	Rev.3.0d	SLX	RP/RS
27-May-24	Rev.3.0e	SLX	RP/RS

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																							
							August				September				October				November				December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22		
S2A.PH.A100086	Traffic signal ducting and drawpit	7	7	16-Aug-24	24-Aug-24	-101	■ Traffic signal ducting and drawpit																							
S2A.PH.A100087	Traffic signal post installed in oil drum	2	2	24-Aug-24	27-Aug-24	-101	■ Traffic signal post installed in oil drum																							
S2A.PH.A100089	Remove existing road lighting	1	1	27-Aug-24	28-Aug-24	-101	■ Remove existing road lighting																							
S2A.PH.A100090	Construct directional sign footing	11	11	06-Sep-24	20-Sep-24	-101	■ Construct directional sign footing																							
S2A.PH.A100092	Install new road lighting	7	7	10-Oct-24	19-Oct-24	-87	■ Install new road lighting																							
S2A.PH.A100093	Install new traffic signal post	7	7	10-Oct-24	19-Oct-24	-87	■ Install new traffic signal post																							
S2A.PH.A100091	Lay kerb and paving block	20	20	27-Sep-24	23-Oct-24	-101	■ Lay kerb and paving block																							
S2A.PH.A100094	Construct temporary pavemet for TTA	16	16	14-Oct-24	01-Nov-24	-87	■ Construct temporary pavemet for TTA																							
S2A.PH.A100095	Traffic signal duct across carriageway (13 stages night work)	42	42	27-Sep-24	18-Nov-24	-101	■ Traffic signal duct across carriageway (13 stages night work)																							
S2A.PH.A100096	FNO duct across carriageway (13 stages night work)	42	42	27-Sep-24	18-Nov-24	-101	■ FNO duct across carriageway (13 stages night work)																							
Section 2B of the Works-Completion of the Works at Junction of Castle Peak Road and Lok Ma Chau Road		109	109	08-Aug-24	12-Dec-24	632																								
Construction of Temp Cycle Track and Road Widening at CP Road (Delay Event #3)		40	40	14-Aug-24	30-Sep-24	659																								
S01.DE03.2	Road Widening of CP Road for construction of ST01-P01 (Delay Event #3 Part 2) (PMI#20/CE#009)	40	40	14-Aug-24	30-Sep-24	659	■ Road Widening of CP Road for construction of ST01-P01 (Delay Event #3 Part 2)																							
Proposed EIBC to existing Box Culvert (PMI #44 request for quotation)		93	93	08-Aug-24	23-Nov-24	-70																								
Integrated Box Culvert Structure Construction		93	93	08-Aug-24	23-Nov-24	-70																								
Stage 3 - Construction of Integrated Structure		50	50	08-Aug-24	04-Oct-24	-94																								
Base Slab		14	14	08-Aug-24	23-Aug-24	-89																								
S2B.EIBC.1370	Construction of Base Slab Bay 2 (2m thick)	14	14	08-Aug-24	23-Aug-24	-89	■ Construction of Base Slab Bay 2 (2m thick)																							
Wall and Top Slab		50	50	08-Aug-24	04-Oct-24	-94																								
Wall & Top Slab Detail		50	50	08-Aug-24	04-Oct-24	-94																								
S2B.EIBC.1380	Formworks to Wall (external side)	5	5	08-Aug-24	13-Aug-24	-94	■ Formworks to Wall (external side)																							
S2B.EIBC.1380	Rebar Fixing to Walls (North Middle and South walls)	4	4	14-Aug-24	17-Aug-24	-94	■ Rebar Fixing to Walls (North Middle and South walls)																							
S2B.EIBC.1380	Formworks to Walls (Internal side including middle wall)	3	3	19-Aug-24	21-Aug-24	-94	■ Formworks to Walls (Internal side including middle wall)																							
S2B.EIBC.1380	Erection of Falseworks to Cell A & Cell B	3	3	22-Aug-24	24-Aug-24	-94	■ Erection of Falseworks to Cell A & Cell B																							
S2B.EIBC.1380	Formworks to Soffit Cell A & Cell B	3	3	26-Aug-24	28-Aug-24	-94	■ Formworks to Soffit Cell A & Cell B																							
S2B.EIBC.1380	Formworks & Rebar Fixing Top Slab	3	3	29-Aug-24	31-Aug-24	-94	■ Formworks & Rebar Fixing Top Slab																							
S2B.EIBC.1380	Cleaning and Inspection	1	1	02-Sep-24	02-Sep-24	-94	■ Cleaning and Inspection																							
S2B.EIBC.1380	Construction of Wall and Top Slab Bay 1	23	23	08-Aug-24	03-Sep-24	-72	■ Construction of Wall and Top Slab Bay 1																							
S2B.EIBC.1380	Concreting of Wall & Top Slab	1	1	03-Sep-24	03-Sep-24	-94	■ Concreting of Wall & Top Slab																							
S2B.EIBC.1390	Construction of Wall and Top Slab Bay 2	23	23	03-Sep-24	28-Sep-24	-94	■ Construction of Wall and Top Slab Bay 2																							
S2B.EIBC.1400	Remove external formworks and Backfill to underside with mass concrete	5	5	30-Sep-24	04-Oct-24	-94	■ Remove external formworks and Backfill to underside with mass concrete																							
Stage 4 - Construction of Cantilever Slab		43	43	05-Oct-24	23-Nov-24	-70																								
S2B.EIBC.1420	Remove Strut S1 and Cut sheet Pile (north side) for construction of Cantilever slab	3	3	05-Oct-24	08-Oct-24	-70	■ Remove Strut S1 and Cut sheet Pile (north side) for construction of Cantilever slab																							
S2B.EIBC.1430	Open cut excavation to formation level for construction of Cantilever Slab	3	3	09-Oct-24	11-Oct-24	-70	■ Open cut excavation to formation level for construction of Cantilever Slab																							
S2B.EIBC.1440	Blinding layer to Cantilever Slab	1	1	12-Oct-24	12-Oct-24	-70	■ Blinding layer to Cantilever Slab																							
S2B.EIBC.1450	Formworks, Rebar & Cast Cantilever slab bay 1	8	8	12-Oct-24	21-Oct-24	-70	■ Formworks, Rebar & Cast Cantilever slab bay 1																							
S2B.EIBC.1460	Formworks, Rebar & Cast Cantilever slab bay 2	8	8	22-Oct-24	30-Oct-24	-70	■ Formworks, Rebar & Cast Cantilever slab bay 2																							
S2B.EIBC.1470	Backfill to ground level (compaction and testing) (assumed 5 layers at 1 wk per layer)	21	21	31-Oct-24	23-Nov-24	-70	■ Backfill to ground level (compaction and testing) (assumed 5 layers at 1 wk per layer)																							
Modification to Nullah at FBP-03		93	93	08-Aug-24	23-Nov-24	290																								
Modification of Nullah to Facilitate Construction FBP-03		93	93	08-Aug-24	23-Nov-24	121																								
S2B.NM.2050	Block half of Nullah to Facilitate Expansion of Nullah on the North-East Wall	6	6	08-Aug-24	14-Aug-24	111	■ Block half of Nullah to Facilitate Expansion of Nullah on the North-East Wall																							
S2B.NM.2110	Substructure (Pilecap) for FB03 Completed	0	0	15-Aug-24	15-Aug-24	165	◆ Substructure (Pilecap) for FB03 Completed																							
S2B.NM.2060	Install Sheet Pile and Demolish North-East Wall	20	20	15-Aug-24	06-Sep-24	111	■ Install Sheet Pile and Demolish North-East Wall																							

3 Months Rolling Programme			
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08-Jan-23	Rev.2.1k	DL	RP/RS
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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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																
							August					September				October			November		December		
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17
S2B2120	Implement TTA Stage 4	1	1	27-Sep-24	27-Sep-24	-38																	
S2B2130	Gas Main along Lok Ma Chau Road to Castle Peak Road (40m)	4	4	28-Sep-24	03-Oct-24	-38																	
S2B2140	Implement TTA Stage 5	1	1	04-Oct-24	04-Oct-24	-38																	
S2B2150	Gas Main along Lok Ma Chau Road to Castle Peak Road (40m)	4	4	05-Oct-24	09-Oct-24	-38																	
S2B2280	Implement TTA Stage 6	1	1	10-Oct-24	10-Oct-24	-38																	
S2B2290	Gas Main along Lok Ma Chau Road to Castle Peak Road (37m)	4	4	12-Oct-24	16-Oct-24	-38																	
CLP 132kv and 11kv Ducts & Cables		25	25	14-Sep-24	16-Oct-24	-31																	
CLP 132 kv Duct (approx 298.3m)		25	25	14-Sep-24	16-Oct-24	-31																	
S2B2050	Implement TTA Stage 1	1	1	14-Sep-24	14-Sep-24	-83																	
S2B2060	Install CLP 132KV Ducting at junction of LMC and CP Road (40m)	4	4	16-Sep-24	20-Sep-24	-83																	
S2B2160	Implement TTA Stage 2	1	1	21-Sep-24	21-Sep-24	-31																	
S2B2170	Install CLP 132KV Ducting at junction of LMC and CP Road (40m)	4	4	23-Sep-24	26-Sep-24	-31																	
S2B2180	Implement TTA Stage 3	1	1	27-Sep-24	27-Sep-24	-31																	
S2B2200	Install CLP 132KV Ducting at junction of LMC and CP Road (40m)	4	4	28-Sep-24	03-Oct-24	-31																	
S2B2190	Implement TTA Stage 4 (Crossing CP road)	1	1	04-Oct-24	04-Oct-24	-31																	
S2B2210	Install CLP 132KV Ducting at junction of LMC and CP Road (Road Crossing at Castle Peak Road)	4	4	05-Oct-24	09-Oct-24	-31																	
S2B2300	Implement TTA to Footpath	1	1	10-Oct-24	10-Oct-24	-31																	
S2B2310	Install CLP 132KV Ducting at Castle Peak Rd Footpath (Remaining)	4	4	12-Oct-24	16-Oct-24	-31																	
CLP 11kv (approx. 153m)		20	20	16-Sep-24	10-Oct-24	-27																	
S2B2360	Implement TTA Stage 1 (along footpath)	1	1	16-Sep-24	16-Sep-24	-27																	
S2B2370	Install CLP 11kv Cable at junction of LMC and CP Road (60m)	4	4	17-Sep-24	21-Sep-24	-27																	
S2B2380	Implement TTA Stage 2 (Road Crossing)	1	1	23-Sep-24	23-Sep-24	-27																	
S2B2390	Install CLP 11kv Cable at junction of LMC and CP Road (30m)	4	4	24-Sep-24	27-Sep-24	-27																	
S2B2400	Implement TTA Stage 3 (Road Crossing)	1	1	28-Sep-24	28-Sep-24	-27																	
S2B2410	Install CLP 11kv Cable at junction of LMC and CP Road (30m)	4	4	30-Sep-24	04-Oct-24	-27																	
S2B2420	Implement TTA Stage 4 (Crossing CP road)	1	1	05-Oct-24	05-Oct-24	-27																	
S2B2430	Install CLP 11kv Cable at junction of LMC and CP Road (33m)	4	4	07-Oct-24	10-Oct-24	-27																	
Telecom Duct Works (By Others) (approx 237m)		30	30	20-Sep-24	26-Oct-24	-83																	
S2B2070	Implement TTA Stage 1	1	1	20-Sep-24	20-Sep-24	-83																	
S2B1115	Telecom Duct within Lok Ma Chau Road/Castle Peak Road junction (40m)	4	4	21-Sep-24	25-Sep-24	-83																	
S2B2220	Implement TTA Stage 2	1	1	26-Sep-24	26-Sep-24	-83																	
S2B2230	Telecom Duct within Lok Ma Chau Road/Castle Peak Road junction (40m)	4	4	27-Sep-24	02-Oct-24	-83																	
S2B2240	Implement TTA Stage 3	1	1	03-Oct-24	03-Oct-24	-83																	
S2B2250	Telecom Duct within Lok Ma Chau Road/Castle Peak Road junction (40m)	4	4	04-Oct-24	08-Oct-24	-83																	
S2B2260	Implement TTA Stage 4	1	1	09-Oct-24	09-Oct-24	-83																	
S2B2270	Telecom Duct within Lok Ma Chau Road/Castle Peak Road junction (40m)	4	4	10-Oct-24	15-Oct-24	-83																	
S2B2320	Implement TTA Stage 5	1	1	16-Oct-24	16-Oct-24	-83																	
S2B2330	Telecom Duct within Lok Ma Chau Road/Castle Peak Road junction (40m)	4	4	17-Oct-24	21-Oct-24	-83																	
S2B2340	Implement TTA Stage 6	1	1	22-Oct-24	22-Oct-24	-83																	
S2B2350	Telecom Duct within Lok Ma Chau Road/Castle Peak Road junction (37m)	4	4	23-Oct-24	26-Oct-24	-83																	
Road Works and Footpath at Portion 10		28	28	28-Oct-24	28-Nov-24	-64																	
Road Works at North Side of Castle Peak Road		14	14	28-Oct-24	12-Nov-24	-50																	
S2A.Z6.6640	Backfill, Road Formation/Road Widening and Paving Works	14	14	28-Oct-24	12-Nov-24	-50																	



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- Primary Baseline
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone

3 Months Rolling Programme			
Date	Revision	Checked	Approved
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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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																												
							August					September				October				November				December											
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22							
Road Works at South Side of Castle Peak Road							28	28	28-Oct-24	28-Nov-24	-86																								
S2A.Z6.6710	Backfill, Road Formation/Road Widening and Paving Works	28	28	28-Oct-24	28-Nov-24	-86	Backfill, Road																												
Section 2C of the Works- Completion of Substructure and Piling Works of ST01 and CTFB							150	91	31-May-24 A	21-Nov-24	110																								
Substructure and Piling Works for Bridge ST01							146	87	31-May-24 A	16-Nov-24	-24																								
Piling Works							91	34	31-May-24 A	16-Sep-24	-50																								
Installation of bored piles for Pier ST01-P01							91	34	31-May-24 A	16-Sep-24	-76																								
S02CP3535	Piling Platform Erection	15	3	31-May-24 A	10-Aug-24	-79	Piling Platform Erection																												
S02CP3540	Installation of bored piles for Pier ST01-P01 (2 nos) (CSD changed to 1 bored pile)	21	21	12-Aug-24	04-Sep-24	-79	Installation of bored piles for Pier ST01-P01 (2 nos) (CSD cha																												
S02CP3560	Sonic test and interface core	3	3	13-Sep-24	16-Sep-24	-76	Sonic test and interface core																												
Installation of bored piles for Abutment ST01-B01							51	31	16-Jul-24 A	12-Sep-24	-47																								
S02CP3500	Stage 1 - Installation of bored piles for Abutment ST01-B01 (1st 2 nos.)	37	6	16-Jul-24 A	14-Aug-24	-100	Stage 1 - Installation of bored piles for Abutment ST01-B01 (1st 2 n																												
S02CP3510	Stage 2 - Installation of bored piles for Abutment ST01-B01 (2nd 2 nos.)	15	15	15-Aug-24	31-Aug-24	-100	Stage 2 - Installation of bored piles for Abutment ST01-B01 (2nd 2																												
S02CP3520	Sonic test and interface core	3	3	10-Sep-24	12-Sep-24	-47	Sonic test and interface core																												
Pilehead Treatment, Pile Cap and Pier/Abutment Construction							87	87	08-Aug-24	16-Nov-24	-24																								
At Pier ST01-P01							41	41	05-Sep-24	22-Oct-24	-81																								
S02CP3990	Installation of ELS	7	7	05-Sep-24	12-Sep-24	-81	Installation of ELS																												
S02CP4000	Excavation and pilehead treatment	7	7	13-Sep-24	20-Sep-24	-81	Excavation and pilehead treatment																												
S02CP4010	Construction of pile cap	7	7	24-Sep-24	01-Oct-24	-81	Construction of pile cap																												
S02CP4020	Construction of pier	18	18	02-Oct-24	22-Oct-24	-81	Construction of pier																												
At Abutment ST01-B01							66	66	02-Sep-24	16-Nov-24	-103																								
S02CP3940	Installation of ELS	7	7	02-Sep-24	09-Sep-24	-103	Installation of ELS																												
S02CP3950	Excavation and pilehead treatment	7	7	10-Sep-24	17-Sep-24	-103	Excavation and pilehead treatment																												
S02CP3960	Construction of half pile cap and half Box Culvert Structure	12	12	18-Sep-24	01-Oct-24	-103	Construction of half pile cap and half Box Culve																												
S02CP3970	Construction of remaining pile cap and Box Culvert Structure	12	12	02-Oct-24	15-Oct-24	-103	Construction of remaining pile cap and																												
S02CP3980	Construction of abutment wall B01	28	28	16-Oct-24	16-Nov-24	-103	Construction of abut																												
At Abutment ST01-B02							84	84	08-Aug-24	13-Nov-24	-100																								
S02CP4190	Installation of ELS	7	7	08-Aug-24	15-Aug-24	-100	Installation of ELS																												
S02CP4200	Excavation and pilehead treatment	14	14	16-Aug-24	31-Aug-24	-100	Excavation and pilehead treatment																												
S02CP4210	Construction of pile cap	28	28	02-Sep-24	03-Oct-24	-100	Construction of pile cap																												
S02CP4220	Construction of abutment	28	28	12-Oct-24	13-Nov-24	-100	Construction of abutm																												
At Pier ST01-P09							41	41	08-Aug-24	24-Sep-24	-57																								
S02CP4150	Installation of ELS	2	2	08-Aug-24	09-Aug-24	-57	Installation of ELS																												
S02CP4160	Excavation and pilehead treatment	4	4	10-Aug-24	14-Aug-24	-57	Excavation and pilehead treatment																												
S02CP4170	Construction of pile cap	10	10	15-Aug-24	26-Aug-24	-57	Construction of pile cap																												
S02CP4180	Construction of pier	25	25	27-Aug-24	24-Sep-24	-57	Construction of pier																												
At Pier ST01-P08							42	42	08-Aug-24	25-Sep-24	-58																								
S02CP4090	Installation of ELS	2	2	08-Aug-24	09-Aug-24	-58	Installation of ELS																												
S02CP4100	Excavation and pilehead treatment	4	4	10-Aug-24	14-Aug-24	-58	Excavation and pilehead treatment																												
S02CP4130	Construction of pile cap	10	10	15-Aug-24	26-Aug-24	-58	Construction of pile cap																												
S02CP4140	Construction of pier	26	26	27-Aug-24	25-Sep-24	-58	Construction of pier																												
At Pier ST01-P07							40	40	08-Aug-24	23-Sep-24	-56																								
S02CP4070	Installation of ELS	2	2	08-Aug-24	09-Aug-24	-56	Installation of ELS																												
S02CP4080	Excavation and pilehead treatment	4	4	10-Aug-24	14-Aug-24	-56	Excavation and pilehead treatment																												

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- Primary Baseline
- Actual Work
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- Critical Remaining Work
- ◆ Milestone

3 Months Rolling Programme			
Date	Revision	Checked	Approved
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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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																												
							August				September				October				November				December												
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22							
S02CP4110	Construction of pile cap	10	10	15-Aug-24	26-Aug-24	-56	Construction of pile cap																												
S02CP4120	Construction of pier	24	24	27-Aug-24	23-Sep-24	-56	Construction of pier																												
Construction of DK-01 Pier (after completion of integrated structure)							23	23	30-Sep-24	25-Oct-24	-5																								
S02CP4230	Erect Working Platform for DK01	7	7	30-Sep-24	07-Oct-24	-89	Erect Working Platform for DK01																												
S02CP4260	Construction of pier DK01	16	16	08-Oct-24	25-Oct-24	-5	Construction of pier DK01																												
Substructure and Piling Works for CTFB							131	91	07-Jul-24 A	21-Nov-24	110																								
Pilehead Treatment, Pile Cap and Pier/Abutment Construction							131	91	07-Jul-24 A	21-Nov-24	110																								
At Abutment FBA-02							56	56	08-Aug-24	11-Oct-24	-5																								
S02C1160	Installation of ELS	7	7	08-Aug-24	15-Aug-24	-5	Installation of ELS																												
S02C1165	Excavation and pilehead treatment	14	14	16-Aug-24	31-Aug-24	-5	Excavation and pilehead treatment																												
S02C1170	Construction of pile cap	14	14	02-Sep-24	17-Sep-24	-5	Construction of pile cap																												
S02C1180	Construction of pier FBA-02	21	21	18-Sep-24	11-Oct-24	-5	Construction of pier FBA-02																												
At Abutment FBA-01 (Changed to Socket-H-piles 8 nos.)							35	35	12-Oct-24	21-Nov-24	110																								
S02C1060	Installation of ELS	7	7	12-Oct-24	19-Oct-24	110	Installation of ELS																												
S02C1065	Excavation and pilehead treatment	14	14	21-Oct-24	05-Nov-24	110	Excavation and pilehead treatment																												
S02C1070	Construction of pile cap	14	14	06-Nov-24	21-Nov-24	110	Construction of pier																												
At Pier FBP-03							18	7	07-Jul-24 A	15-Aug-24	89																								
S02C1050	Construction of pier FBP-03	18	7	07-Jul-24 A	15-Aug-24	89	Construction of pier FBP-03																												
At Pier FBP-04							28	28	05-Oct-24	06-Nov-24	-94																								
S02C800	Erection of Working Platform for FBP-04	7	7	05-Oct-24	12-Oct-24	-94	Erection of Working Platform for FBP-04																												
S02C810	Construction of pier FBP-04	21	21	14-Oct-24	06-Nov-24	-94	Construction of pier FBP-04																												
At Pier FBP-05							61	61	08-Aug-24	17-Oct-24	-77																								
S02C812	Installation of ELS	7	7	08-Aug-24	15-Aug-24	-77	Installation of ELS																												
S02C813	Excavation and pilehead treatment	9	9	16-Aug-24	26-Aug-24	-77	Excavation and pilehead treatment																												
S02C814	Construction of pile cap	14	14	27-Aug-24	11-Sep-24	-77	Construction of pile cap																												
S02C815	Backfill and Reinstate Nullah Structure at Pier FBP-05 (Including Dimantle Bore Piling Platform)	10	10	12-Sep-24	23-Sep-24	-77	Backfill and Reinstate Nullah Structure at Pier FBP-05																												
S02C816	Construction of pier	21	21	24-Sep-24	17-Oct-24	-77	Construction of pier																												
CTFB Approach Ramp							27	27	12-Oct-24	12-Nov-24	9																								
AP02 (South) Approach Ramp							27	27	12-Oct-24	12-Nov-24	9																								
AP02 Ramp Bay 1-6							27	27	12-Oct-24	12-Nov-24	9																								
AP02 - Bay 1 (3076mm)							23	23	12-Oct-24	07-Nov-24	13																								
S02C.1010	UU Detection / Trial Pit / UU Shifting (if any)	1	1	12-Oct-24	12-Oct-24	-5	UU Detection / Trial Pit / UU Shifting (if any)																												
S02C.1020	Sheet Piling	1	1	14-Oct-24	14-Oct-24	-5	Sheet Piling																												
S02C.1030	Excavation to formation level	2	2	15-Oct-24	16-Oct-24	-5	Excavation to formation level																												
S02C.1040	Blinding 75mm thick	1	1	17-Oct-24	17-Oct-24	-5	Blinding 75mm thick																												
S02C.1050	Cast Base Slab (1m thick)	6	6	18-Oct-24	24-Oct-24	-5	Cast Base Slab (1m thick)																												
S02C.1060	Cast Stem Walls (Part 1 Lower level) (Ribbed finish to external walls to 1m below F.G.L.)	6	6	25-Oct-24	31-Oct-24	-1	Cast Stem Walls (Part 1 Lower level)																												
S02C.1070	Cast Stem Walls (Part 2 Upper level)	4	4	01-Nov-24	05-Nov-24	5	Cast Stem Walls (Part 2 Upper level)																												
S02C.1080	No Fine Concrete Drainage Layer to Internal Walls /150mm Perforated Drainage Pipes	2	2	06-Nov-24	07-Nov-24	13	No Fine Concrete Drainage Layer to Internal Walls /150mm Perforated Drainage Pipes																												
AP02 - Bay 2 (12000mm)							26	26	14-Oct-24	12-Nov-24	-3																								
S02C.1090	UU Detection / Trial Pit / UU Shifting (if any)	1	1	14-Oct-24	14-Oct-24	-3	UU Detection / Trial Pit / UU Shifting (if any)																												
S02C.1100	Sheet Piling	2	2	15-Oct-24	16-Oct-24	-3	Sheet Piling																												
S02C.1110	Excavation to formation level	4	4	17-Oct-24	21-Oct-24	-3	Excavation to formation level																												

Three Months Rolling Programme (Data Date : 08-Aug-24)
 Period: 08-Aug-24 to 08-Nov-2024
 Page : 21 of 24

- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DL	RP/RS
22-Aug-23	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS
27-May-24	Rev.3.0e	SLX	RP/RS

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

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2024																					
							August					September				October			November		December							
							28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	10	17	24	01	08	15	22
Pierhead Segment at Bridge B							49	49	08-Aug-24	03-Oct-24	-32																	
S033480	Falsework Erection for Pierhead (at Bridge B)	7	7	08-Aug-24	15-Aug-24	-55	Falsework Erection for Pierhead (at Bridge B)																					
S033490	Pierhead (precast shell P5D0) Erection and Alignment	7	7	16-Aug-24	23-Aug-24	-55	Pierhead (precast shell P5D0) Erection and Alignment																					
S033500	Falsework Erection for End Span Erection Works	7	7	24-Aug-24	31-Aug-24	-32	Falsework Erection for End Span Erection Works																					
S032670	In-situ diaphragm casting at Pier DRL-P05 (26 days) + curing (14 days lag)	28	28	02-Sep-24	03-Oct-24	-32	In-situ diaphragm casting at Pier DRL-P05 (26 days) + curing (14 days lag)																					
Pierhead Segment At Pier DRL-P04							52	52	09-Sep-24	07-Nov-24	-54																	
S60820	Install Temporary Fixity at P04 (incl. checking and ice certification)	3	3	09-Sep-24	11-Sep-24	-54	Install Temporary Fixity at P04 (incl. checking and ice certification)																					
S60960	Flasework for Pierhead Erection	10	10	12-Sep-24	23-Sep-24	-54	Flasework for Pierhead Erection																					
S032690	Pierhead (precast shell P4DU0) erection	7	7	24-Sep-24	01-Oct-24	-54	Pierhead (precast shell P4DU0) erection																					
S033580	Falsework Modification	7	7	02-Oct-24	09-Oct-24	-54	Falsework Modification																					
S032700	In-situ diaphragm casting at Pier DRL-P04	25	25	10-Oct-24	07-Nov-24	-54	In-situ diaphragm casting at Pier DRL-P04																					
Pierhead Segment At Pier DRL-P03							52	52	24-Aug-24	23-Oct-24	-55																	
S60830	Install Temporary Fixity at P03 (incl. checking and ice certification)	3	3	24-Aug-24	27-Aug-24	-55	Install Temporary Fixity at P03 (incl. checking and ice certification)																					
S60950	Flasework for Pierhead Erection	10	10	28-Aug-24	07-Sep-24	-55	Flasework for Pierhead Erection																					
S032710	Pierhead (precast shell P3DU0) erection	7	7	09-Sep-24	16-Sep-24	-55	Pierhead (precast shell P3DU0) erection																					
S033570	Falsework Modification	7	7	17-Sep-24	24-Sep-24	-55	Falsework Modification																					
S032720	In-situ diaphragm casting at Pier DRL-P03	25	25	25-Sep-24	23-Oct-24	-55	In-situ diaphragm casting at Pier DRL-P03																					
Pierhead Segment At Pier DRL-P02							45	45	17-Sep-24	07-Nov-24	-55																	
S60840	Falsework Erection for Pierhead	6	6	17-Sep-24	23-Sep-24	-55	Falsework Erection for Pierhead																					
S60850	Pierhead (precast shell P2U0) erection and alignment	6	6	24-Sep-24	30-Sep-24	-55	Pierhead (precast shell P2U0) erection and alignment																					
S033120	Flasework Modification	6	6	01-Oct-24	07-Oct-24	-55	Flasework Modification																					
S032730	In-situ diaphragm casting at Pier DRL-P02	27	27	08-Oct-24	07-Nov-24	-55	In-situ diaphragm casting at Pier DRL-P02																					
Erection of T-Span and End Span Segments							84	84	08-Aug-24	13-Nov-24	-14																	
At Pier DRL-P13							14	14	30-Aug-24	14-Sep-24	23																	
S032830	Erection of T-Span at Pier DRL-P13 (20 segments) (incl.stressing of C-tendons)	14	14	30-Aug-24	14-Sep-24	23	Erection of T-Span at Pier DRL-P13 (20 segments) (incl.stressing of C-tendons)																					
At Pier DRL-P12							19	19	08-Aug-24	29-Aug-24	23																	
S032760	Erection of T-Span at Pier DRL-P12 (20 segments) (incl.stressing of C-tendons)	19	19	08-Aug-24	29-Aug-24	23	Erection of T-Span at Pier DRL-P12 (20 segments) (incl.stressing of C-tendons)																					
At Pier DRL-P11							15	15	16-Oct-24	01-Nov-24	-4																	
End Span in Bridge E							15	15	16-Oct-24	01-Nov-24	-4																	
S033340	Implement TTA	1	1	16-Oct-24	16-Oct-24	-4	Implement TTA																					
S032790	Erection of End Span at Bridge E of Pier DRL-P11 (11 segments)	14	14	17-Oct-24	01-Nov-24	-4	Erection of End Span at Bridge E of Pier DRL-P11 (11 segments)																					
At Pier DRL-P03							14	14	24-Oct-24	08-Nov-24	-55																	
S033060	Erection of T-Span at Pier DRL-P03 (20 segments) (incl.stressing of C-tendons)	14	14	24-Oct-24	08-Nov-24	-55	Erection of T-Span at Pier DRL-P03 (20 segments) (incl.stressing of C-tendons)																					
At Abutment DRL-A01							57	57	09-Sep-24	13-Nov-24	-14																	
S033240	Falseworks at Abutment A01 End Span	6	6	09-Sep-24	14-Sep-24	-56	Falseworks at Abutment A01 End Span																					
S033520	Pierhead Segment Erection (A01D0)	6	6	16-Sep-24	21-Sep-24	-56	Pierhead Segment Erection (A01D0)																					
S033530	Falseworks Erection after Pierhead Erection at A01	6	6	23-Sep-24	28-Sep-24	-56	Falseworks Erection after Pierhead Erection at A01																					
S033540	In-situ diaphragm casting (A01D0) at Pier A01	25	25	30-Sep-24	28-Oct-24	-56	In-situ diaphragm casting (A01D0) at Pier A01																					
S033550	A01D0 Falseworks Modification	14	14	29-Oct-24	13-Nov-24	-14	A01D0 Falseworks Modification																					

Three Months Rolling Programme (Data Date : 08-Aug-24)
 Period: 08-Aug-24 to 08-Nov-2024
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- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DL	RP/RS
22-Aug-23	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS
27-May-24	Rev.3.0e	SLX	RP/RS



Contract No. YL/2021/01 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 3 Direct Road

Link Phase 2

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	30	07	14	21	28	04	11	18	25	01	08	15	22	29	06	13	20	27	03	
Contract No. YL/2021/01 - C3 - Detailed Programme Rev. 17 (Ju																											
Contract Data Part 1																											
Contract Completion Dates																											
Key Dates																											
Planned Completion Dates																											
Planned Key Dates																											
Submissions and Preparation																											
Public Utility Application and Submission																											
Subletting																											
Design/MS/Temporary Works Submissions																											
Modification Works at MTR Lok Ma Chau Station																											
ABWF Works																											
Materials Submission																											
Elevated PTI																											
Double Deck Footbridge																											
Construction																											
Modification Works at MTR Lok Ma Chau Station																											
Preparation																											
Level 1 + 1M (Mezzanine)																											
New Mezzanine Floor and Blockwall																											
Remaining ABWF and E&M Works for KD2																											
Level 2 + 2M (Mezzanine)																											
Existing Block Wall Demolition																											
New Mezzanine Floor and Blockwall																											
Remaining Works																											
Remaining Level 1 Works after KD2																											
Remaining Level 2 Works after KD2																											
Wall Opening, Remaining Works and Inspections																											
Elevated Public Transport Interchange (EPTI)																											
EPTI - TTA Stage 3																											
Stage 3B																											
Area A - Pile cap & Tie Beam																											
Area C - Remaining Works																											
Area A - RC Column & Beam																											
Area A - Precast Beams																											
Area A - RC Slab																											
Area A - Remaining Works																											
Area B - ELS																											
Area B - Pile Cap & Tie Beam																											
Area B - Reinforcement Works																											
EPTI - TTA Stage 4A & 4B																											
Area A Superstructure																											
Area A - Remaining Works																											
Area B Superstructure																											
Area B - Remaining Works																											

Activity ID	Activity Name	Org Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	July 24												August 24												September 24												October 24												November 24											
								30	07	14	21	28	04	11	18	25	01	08	15	22	29	05	12	19	26	02	09	16	23	30	06	13	20	27	03																																
Area B-1A Superstructure																																																																			
Area B2 Superstructure																																																																			
Area B3 Superstructure																																																																			
Remaining Works																																																																			
Grid A-C																																																																			
Grid F-G																																																																			
Lifts and Escalators																																																																			
Road Lighting System																																																																			
Electrical and Lighting System																																																																			
Sump Pump System																																																																			
Irrigation System																																																																			
Double Deck Footbridge																																																																			
DDF - Stage 3																																																																			
DDF - Stage 4																																																																			

<p>Paul Y. – Chun Wo – CRCC JV</p>	<p> Remaining Level of Effort ◆◆ ◆ Milestone Actual Level of Effort Actual Work Remaining Work Critical Remaining Work </p>	<h2>Contract YL/2021/01 - Lok Ma Chau Loop Main Works</h2> <h3>Package 1 - Contract 3</h3> <h1>Three Month Rolling Programme</h1>	<p>Project ID : YLC3-DPr17-240802 Layout : YL202101 C3 02 MPR App B-3MRP Date : 05-Aug-24 / Page 2 of 3</p>	<p>Three Month Rolling Programme</p> <table border="1" style="width: 100%;"> <tr> <th>Date</th> <th>Revision</th> <th>Check...</th> <th>Approved</th> </tr> <tr> <td>05-Aug-24</td> <td>MPR No. 29</td> <td></td> <td></td> </tr> </table>	Date	Revision	Check...	Approved	05-Aug-24	MPR No. 29		
Date	Revision	Check...	Approved									
05-Aug-24	MPR No. 29											

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	July							August							September							October							November						
								30	07	14	21	28	04	11	18	25	01	08	15	22	29	05	12	19	26	02	09	16	23	30	06	13	20	27	03							
DDF-2314	Area 4b (b.L1 SFL Roof) - Construct RC Column	6	12-Sep-24	19-Sep-24	04-Sep-24	10-Sep-24	-7	Area 4b (b.L1 SFL Roof) - Construct RC Column																																		
Area 4b RC Column, Beam & Slab (up to Level 2 SFL)								Area 4b (b.L1 SFL Roof) - Construct RC Column																																		
DDF-2315	Area 4b (b.L2 SFL) - Install Platform & Falsework	7	20-Sep-24	27-Sep-24	11-Sep-24	19-Sep-24	-7	Area 4b (b.L2 SFL) - Install Platform & Falsework																																		
DDF-2316	Area 4b (b.L2 SFL) - Construct RC Slab & Beam	8	28-Sep-24	08-Oct-24	20-Sep-24	28-Sep-24	-7	Area 4b (b.L2 SFL) - Construct RC Slab & Beam																																		
DDF-2317	Area 4b (b.L2 SFL) - Construct RC Column	6	18-Oct-24	24-Oct-24	09-Oct-24	16-Oct-24	-7	Area 4b (b.L2 SFL) - Construct RC Column																																		
Area 4b RC Column, Beam & Slab (up to Level 2 SFL Roof)								Area 4b (b.L2 SFL) - Construct RC Column																																		
DDF-2318	Area 4b (b.L2 SFL Roof) - Install Platform & Falsework	7	25-Oct-24	01-Nov-24	17-Oct-24	24-Oct-24	-7	Area 4b (b.L2 SFL) - Install Platform & Falsework																																		
Portion 4								Area 4b (b.L2 SFL) - Install Platform & Falsework																																		
Portion 4 Works								Area 4b (b.L2 SFL) - Install Platform & Falsework																																		
P4-110	Upkeeping and Maintenance of Completed Works at Portion 4	780	16-Mar-23 A	24-Nov-24*	01-Jul-24	24-Nov-24	0	Area 4b (b.L2 SFL) - Install Platform & Falsework																																		

**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, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
DMS – 1a	353	500
DMS – 2A	370	
DMS – 3	351	
DMS – 4A	350	

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

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
DMS – 1	184	260
DMS – 2A	166	
DMS – 3	166	
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
DO (mg/L)	Depth average	IS1: <u>7.0 / NA</u> ⁽⁴⁾ IS2: <u>5.3 / NA</u> ⁽⁴⁾ IS4: <u>4.1 / NA</u> ⁽⁴⁾ IS6: <u>5.9</u> BS1: <u>3.9 / NA</u> ⁽⁴⁾	IS1: <u>6.8 or 4</u> ⁽⁴⁾ IS2: <u>5.2 or 4</u> ⁽⁴⁾ IS4: <u>3.8 or 4</u> ⁽⁴⁾ IS6: <u>5.8</u> BS1: <u>3.7 or 4</u> ⁽⁴⁾
		IS1: <u>27.7</u> IS2: <u>35.5</u> IS4: <u>70.9</u> BS1: <u>29.9</u>	IS1: <u>29.9</u> IS2: <u>38.1</u> IS4: <u>74.6</u> BS1: <u>32.6</u>
Turbidity (NTU)	Depth average	IS6: 120% of upstream control station (CS5)	IS6: 130% of upstream control station (CS5)
		IS1: <u>28.0</u> IS2: <u>39.8</u> IS4: <u>155</u> BS1: <u>36.5</u>	IS1: <u>28.8</u> IS2: <u>41.2</u> IS4: <u>175</u> BS1: <u>36.9</u>
SS (mg/L)	Depth average	IS6: 120% of upstream control station (CS5)	IS6: 130% of upstream 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 than 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
CERTIFICATES**

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

Station DMS-3 - Village House along Old Border Road File No. WMA21009/24/0020
 Date: 14-Jun-24 Operator: HL
 Equipment No.: WA-12-24 Next Due Date: 13-Aug-24
 Serial No. 10576

Ambient Condition			
Temperature, Ta (K)	303	Pressure, Pa (mmHg)	756.6

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0589	Intercept, bc	-0.02865
Last Calibration Date:	15-Jan-24	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-Jan-25	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.0	3.43	58.65	7.4	2.69
2	10.8	3.25	55.66	6.5	2.52
3	8.4	2.87	49.15	5.2	2.26
4	6.7	2.56	43.95	4.1	2.00
5	5.9	2.40	41.27	3.8	1.93

By Linear Regression of Y on X

Slope, mw = 0.0440 Intercept, bw : 0.0901
 Correlation coefficient* = 0.9981

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.02

Remarks: _____

Conducted by: Liz Muan Heo Signature: _____
 Checked by: Ho Ka Chuan Signature: _____

Date: 14/6/24
 Date: 14/6/24

**High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET**

Station DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill
 Date: 14-Jun-24
 Equipment No.: WA-12-07

File No. WMA21009/07/0020
 Operator: HL
 Next Due Date: 13-Aug-24
 Serial No. 1801

Ambient Condition			
Temperature, Ta (K)	303.4	Pressure, Pa (mmHg)	756.5

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0589	Intercept, bc	-0.02865
Last Calibration Date:	15-Jan-24	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-Jan-25	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X-axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	14.0	3.70	63.26	8.3	2.85
2	10.7	3.23	55.37	6.8	2.58
3	8.4	2.87	49.11	5.1	2.23
4	6.0	2.42	41.58	3.8	1.93
5	3.7	1.90	32.76	2.3	1.50

By Linear Regression of Y on X

Slope, mw = 0.0448 Intercept, bw = 0.0503

Correlation coefficient* = 0.9981

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.99

Remarks: _____

Conducted by: LEE MAN HEI Signature: _____

Date: 14/6/2024

Checked by: Lo Ka Chun Signature: _____

Date: 14/6/24

Certificate of Calibration

Calibration Certification Information			
Cal. Date: January 15, 2024	Rootsmeter S/N: 438320	Ta: 294	°K
Operator: Jim Tisch		Pa: 755.4	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 2896		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4360	3.3	2.00
2	3	4	1	1.0280	6.4	4.00
3	5	6	1	0.9150	8.0	5.00
4	7	8	1	0.8650	8.9	5.50
5	9	10	1	0.7190	12.8	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(Ta/Pa \right)}$ (y-axis)
1.0031	0.6985	1.4195	0.9956	0.6933	0.8823
0.9989	0.9717	2.0075	0.9915	0.9645	1.2477
0.9968	1.0894	2.2444	0.9894	1.0813	1.3950
0.9956	1.1510	2.3539	0.9882	1.1424	1.4631
0.9904	1.3775	2.8390	0.9831	1.3673	1.7645
QSTD	m=	2.08157	QA	m=	1.30344
	b=	-0.02865		b=	-0.01780
	r=	0.99981		r=	0.99981

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
For subsequent flow rate calculations:	
$Qstd = 1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	$Qa = 1/m \left(\left(\sqrt{\Delta H \left(Ta/Pa \right)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

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

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40696A
Date of Issue:	2024-07-15
Date Received:	2024-07-12
Date Tested:	2024-07-12
Date Completed:	2024-07-15
Next Due Date:	2024-09-14

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.	: X23808
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-02

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)	1.103
-------------------------	-------

PREPARED AND CHECKED BY:

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


PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-02	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23808	2203
Calibration Date:	12-Jul-24	12-Jul-24
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	22	26
2	43	51
3	60	67
4	77	81
5	96	103
Average	59.5	65.6

By Linear Regression of Y on X

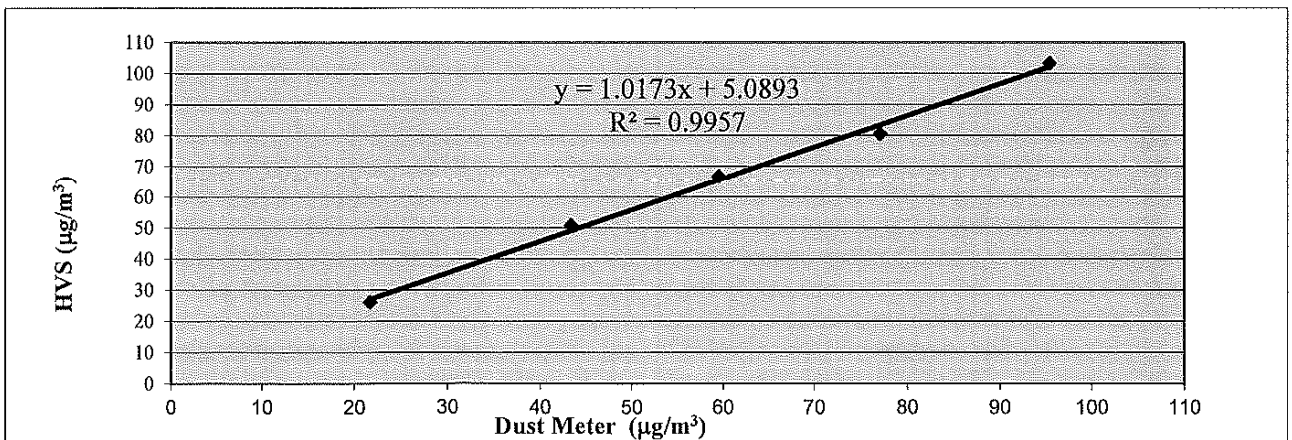
Slope, mw = 1.0173 Intercept, bw = 5.0893
Correlation coefficient* = 0.9978

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	65.6
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	59.5
Measuring time, (min)	60

Set Correlation Factor, SCF

SCF = | K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$) | 1.103



QC Reviewer: LIZ MON H&V Signature: her Date: 13/7/2024

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40308B
Date of Issue:	2024-05-13
Date Received:	2024-05-10
Date Tested:	2024-05-10
Date Completed:	2024-05-13
Next Due Date:	2024-07-12

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.	: 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)	1.105
-------------------------	-------

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


PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

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:	10-May-24	10-May-24
Location:	Wellab Office (Calibration Room)	

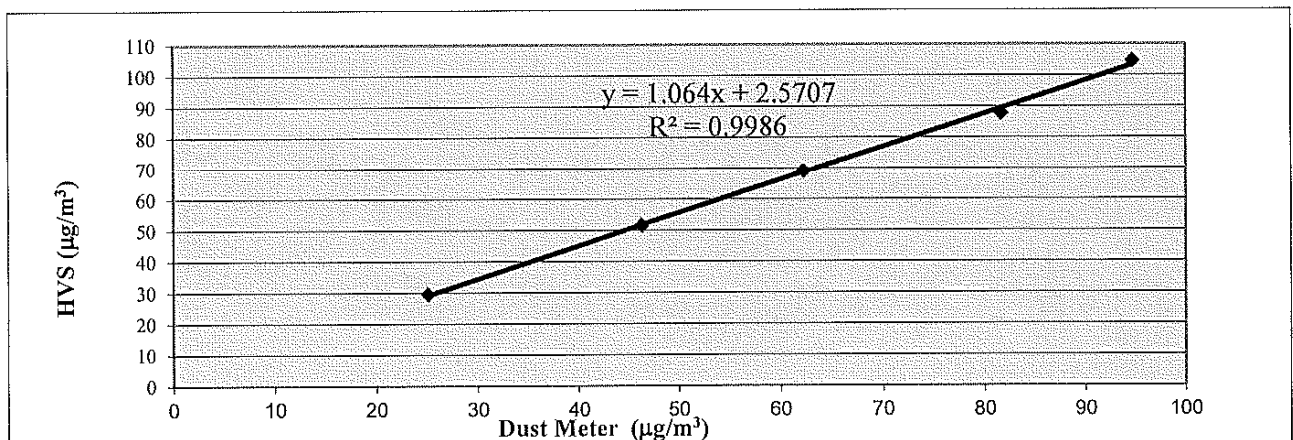
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	25	30
2	46	52
3	62	69
4	82	88
5	95	105
Average	62.0	68.6

By Linear Regression of Y on X
 Slope, mw = 1.0640 Intercept, bw = 2.5707
 Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	68.6
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	62.0
Measuring time, (min)	60

Set Correlation Factor, SCF
 SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)] 1.105



QC Reviewer: LBK WMM HBR Signature: he Date: 11/5/24

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40696B
Date of Issue:	2024-07-15
Date Received:	2024-07-12
Date Tested:	2024-07-12
Date Completed:	2024-07-15
Next Due Date:	2024-09-14

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. : 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)	1.112
-------------------------	-------

PREPARED AND CHECKED BY:

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


 PATRICK TSE
 General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

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:	12-Jul-24	12-Jul-24
Location:	Wellab Office (Calibration Room)	

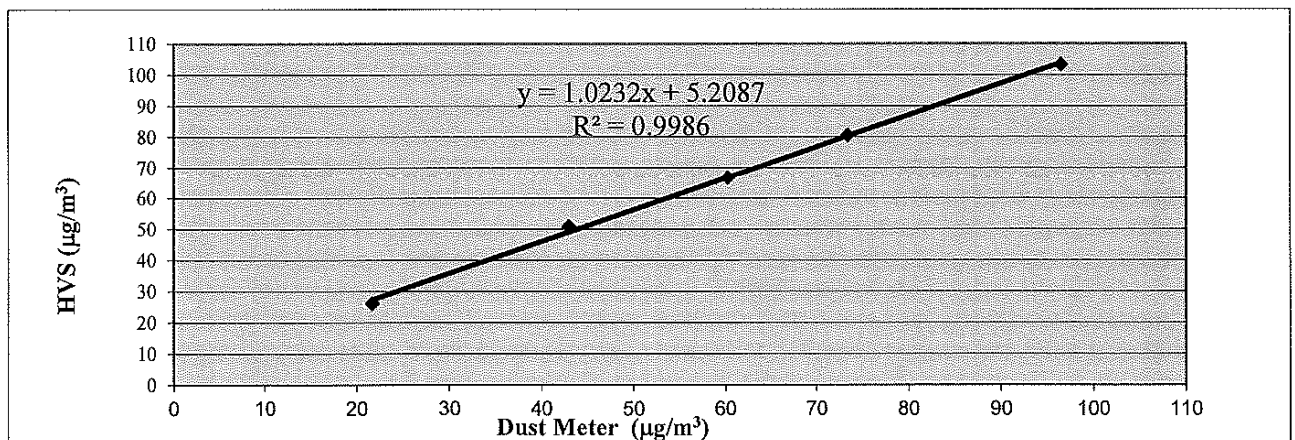
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	22	26
2	43	51
3	60	67
4	74	81
5	97	103
Average	59.0	65.6

By Linear Regression of Y on X

Slope, mw = 1.0232 Intercept, bw = 5.2087
Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	65.6
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	59.0
Measuring time, (min)	60
Set Correlation Factor, SCF	
SCF = $[K = \text{High Volume Sampler} / \text{Dust Meter}, (\mu\text{g}/\text{m}^3)]$	<u>1.112</u>



QC Reviewer: LBB MAM HEB Signature: hes Date: 13/7/2024

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40308C
Date of Issue:	2024-05-13
Date Received:	2024-05-10
Date Tested:	2024-05-10
Date Completed:	2024-05-13
Next Due Date:	2024-07-12
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. : 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)	1.153
-------------------------	-------

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


PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

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:	10-May-24	10-May-24
Location:	Wellab Office (Calibration Room)	

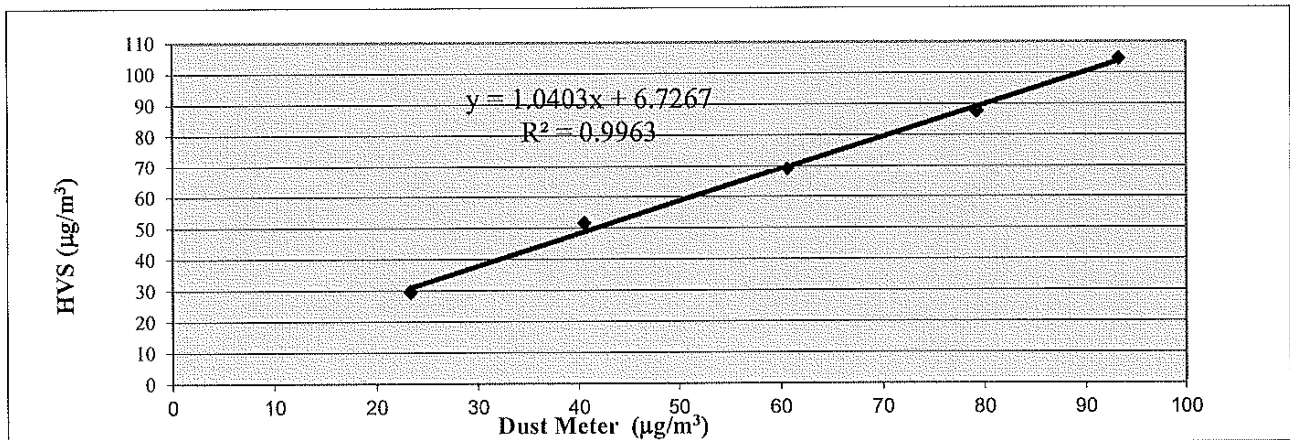
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	23	30
2	41	52
3	61	69
4	79	88
5	93	105
Average	59.5	68.6

By Linear Regression of Y on X
 Slope, $m_w =$ 1.0403 Intercept, $b_w =$ 6.7267
 Correlation coefficient* = 0.9982

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	68.6
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	59.5
Measuring time, (min)	60

Set Correlation Factor, SCF
 $\text{SCF} = | K = \text{High Volume Sampler} / \text{Dust Meter, } (\mu\text{g}/\text{m}^3) |$ 1.153



QC Reviewer: Bob Mann HSE Signature: hes Date: 11/5/24

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40696C
Date of Issue:	2024-07-15
Date Received:	2024-07-12
Date Tested:	2024-07-12
Date Completed:	2024-07-15
Next Due Date:	2024-09-14

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. : 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)	1.106
-------------------------	-------

PREPARED AND CHECKED BY:

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


PATRICK TSE
 General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

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:	12-Jul-24	12-Jul-24
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	20	26
2	42	51
3	63	67
4	75	81
5	97	103
Average	59.3	65.6

By Linear Regression of Y on X

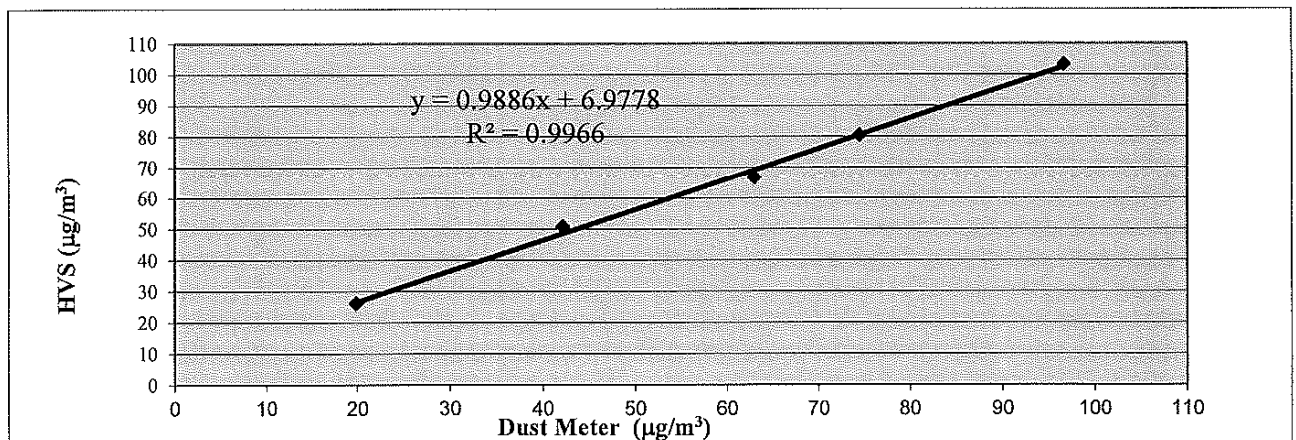
Slope, $m_w =$ 0.9886 Intercept, $b_w =$ 6.9778
 Correlation coefficient* = 0.9983

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	65.6
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	59.3
Measuring time, (min)	60

Set Correlation Factor, SCF

SCF = [$K = \text{High Volume Sampler} / \text{Dust Meter}, (\mu\text{g}/\text{m}^3)$] 1.106



QC Reviewer: LBB MAN HBZ Signature: hes Date: 13/7/2024

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40297
Date of Issue:	2024-06-24
Date Received:	2024-06-21
Date Tested:	2024-06-21
Date Completed:	2024-06-24
Next Due Date:	2024-08-23

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. : X24476
 Flow rate : 0.1 cfm
 Zero Count Test : 0 count per 1 minute
 Equipment No. : WA-01-05

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)	1.108
-------------------------	-------

PREPARED AND CHECKED BY:

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



PATRICK TSE
 General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter) Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-05	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24476	2203
Calibration Date:	21-Jun-24	21-Jun-24
Location:	Wellab Office (Calibration Room)	

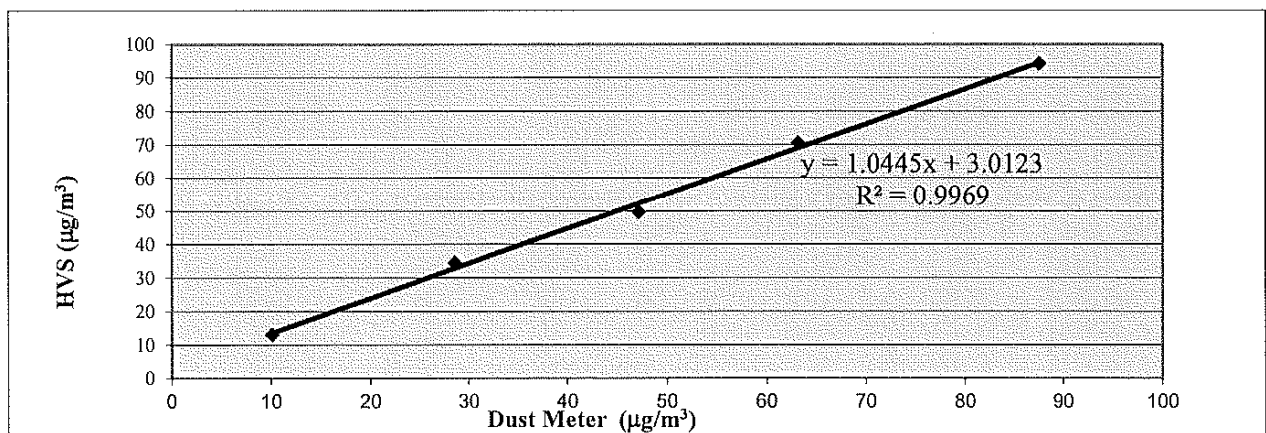
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	10	13
2	29	35
3	47	50
4	63	71
5	88	94
Average	47.3	52.5

By Linear Regression of Y on X
 Slope, $m_w =$ 1.0445 Intercept, $b_w =$ 3.0123
 Correlation coefficient* = 0.9985

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	52.5
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	47.3
Measuring time, (min)	60

Set Correlation Factor, SCF
 $\text{SCF} = [K = \text{High Volume Sampler} / \text{Dust Meter, } (\mu\text{g}/\text{m}^3)]$ 1.108



QC Reviewer: LEE MAN HAN Signature: Lee Date: 22/6/2024

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	39952
Date of Issue:	2024-03-11
Date Received:	2024-03-08
Date Tested:	2024-03-08
Date Completed:	2024-03-11
Next Due Date:	2025-03-10

Page: 1 of 1

ATTN: Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580011
Equipment No.	: WN-01-08

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.:	39952A
Date of Issue:	2024-03-11
Date Received:	2024-03-08
Date Tested:	2024-03-08
Date Completed:	2024-03-11
Next Due Date:	2025-03-10

Page: 1 of 1

ATTN: Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580013
Equipment No.	: 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.**


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.:	38750A
Date of Issue:	2023-08-21
Date Received:	2023-08-18
Date Tested:	2023-08-18
Date Completed:	2023-08-21
Next Due Date:	2024-08-20

Page: 1 of 1

ATTN: Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24791
Equipment No.	: N-09-04

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.:	38981A
Date of Issue:	2023-10-03
Date Received:	2023-09-29
Date Tested:	2023-09-29
Date Completed:	2023-10-03
Next Due Date:	2024-10-02

Page: 1 of 1

ATTN: Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

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

Test conditions:

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

Methodology:

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

Results:

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

PREPARED AND CHECKED BY:

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


PATRICK TSE
General Manager

TEST REPORT

APPLICANT: Wellab Limited
(EM&A Department)
Room 1808, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	40160E
Date of Issue:	2024-04-22
Date Received:	2024-04-19
Date Tested:	2024-04-19
Date Completed:	2024-04-22
Next Due Date:	2024-10-21

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.	: AK130520006

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
Laboratory Manager

TEST REPORT

Test Report No.:	40160E
Date of Issue:	2024-04-22
Date Received:	2024-04-19
Date Tested:	2024-04-19
Date Completed:	2024-04-22
Next Due Date:	2024-10-21

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 Direction (°)		Difference D (°)
Instrument Reading (W1)	Reference Value (W2)	D = W1 - W2
0	0	0
45	45	0
90	90	0
135.2	135	0.2
180	180	0
225.3	225	0.3
270.1	270	0.1
315	315	0
360	360	0

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

TEST REPORT

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

Test Report No.:	40350
Date of Issue:	2024-04-26
Date Received:	2024-04-25
Date Tested:	2024-04-25 to 2024-04-26
Date Completed:	2024-04-26

ATTN: Miss Mei Ling Tang

Page: 1 of 2

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-34
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	16J100895
- EXO Optical DO Sensor, Ti	599100-01	17A105017
- EXO conductivity/Temperature Sensor, Ti	599870	16H104746
- EXO Turbidity Sensor, Ti	599101-01	20J103604
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B100361

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.:	40350
Date of Issue:	2024-04-26
Date Received:	2024-04-25
Date Tested:	2024-04-25 to 2024-04-26
Date Completed:	2024-04-26

Page: 2 of 2

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings ($\mu\text{S}/\text{cm}$)	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$)	13200	12246-13534	Pass

Temperature performance checking

Reference thermometer- E431 Readings ($^{\circ}\text{C}$)	Instrument Readings ($^{\circ}\text{C}$)	Correction ($^{\circ}\text{C}$)	Comment
20.0	20.002	-0.002	N/A

pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.03	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.85	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.16	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.09	$<0.1\text{mg}/\text{L}$	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
7.94	8.08	Difference between Titration value and instrument reading $<0.2\text{mg}/\text{L}$	Pass

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.13	9.0-11.0	Pass
50 NTU	51.07	45.0-55.0	Pass
100 NTU	103.1	90.0-110.0	Pass

Depth performance checking

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

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

TEST REPORT

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

Test Report No.:	40594C
Date of Issue:	2024-06-21
Date Received:	2024-06-20
Date Tested:	2024-06-20 to 2024-06-21
Date Completed:	2024-06-21

ATTN: Miss Mei Ling Tang

Page: 1 of 2

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-121
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B101447
- EXO Optical DO Sensor, Ti	599100-01	16J101001
- EXO conductivity/Temperature Sensor, Ti	599870	17B100798
- EXO Turbidity Sensor, Ti	599101-01	17B102266
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B100250

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.:	40594C
Date of Issue:	2024-06-21
Date Received:	2024-06-20
Date Tested:	2024-06-20 to 2024-06-21
Date Completed:	2024-06-21
Page:	2 of 2

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings ($\mu\text{S}/\text{cm}$)	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$)	13200	12246-13534	Pass

Temperature performance checking

Reference thermometer- E431 Readings ($^{\circ}\text{C}$)	Instrument Readings ($^{\circ}\text{C}$)	Correction ($^{\circ}\text{C}$)	Comment
20.0	20.001	-0.001	N/A

pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.03	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.81	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.20	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.09	$<0.1\text{mg}/\text{L}$	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
7.92	7.99	Difference between Titration value and instrument reading $<0.2\text{mg}/\text{L}$	Pass

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	9.81	9.0-11.0	Pass
50 NTU	49.36	45.0-55.0	Pass
100 NTU	98.4	90.0-110.0	Pass

Depth performance checking

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

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

**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 (July 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul
		1hr TSP X 3 Noise Avifauna (Pond 12) Water Quality Monitoring	Aquatic Fauna Survey	24hr TSP Water Quality Monitoring	1hr TSP X 3	Water Quality Monitoring
7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul
	Aquatic Fauna Survey (Water Quality Monitoring only) Herpetofauna Survey Water Quality Monitoring	Avifauna (Pond 12)	24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Water Quality Monitoring	
14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul
	Aquatic Fauna Survey (Water Quality Monitoring only) Avifauna (Pond 12) Water Quality Monitoring	24hr TSP	1hr TSP X 3 Noise Water Quality Monitoring		Avifauna (Flightline Survey) Water Quality Monitoring	
21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul
	Aquatic Fauna Survey (Water Quality Monitoring only) Avifauna (Pond 12) 24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Water Quality Monitoring		24hr TSP Water Quality Monitoring	
28-Jul	29-Jul	30-Jul	31-Jul			
	1hr TSP X 3 Noise Avifauna (Pond 12) Water Quality Monitoring		Water Quality Monitoring			

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 (August 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Aug	2-Aug	3-Aug
				24hr TSP	Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Water Quality Monitoring	
4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug
	Aquatic Fauna Survey Water Quality Monitoring	Herpetofauna Survey	Avifauna (Pond 12) 24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Water Quality Monitoring	
11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug
	Avifauna (Pond 12) Water Quality Monitoring	24hr TSP	Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Noise Water Quality Monitoring		Avifauna (Flightline Survey) Water Quality Monitoring	
18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug
	Avifauna (Pond 12) 24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Water Quality Monitoring		Aquatic Fauna Survey (Water Quality Monitoring only) 24hr TSP Water Quality Monitoring	
25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug
	Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Noise Avifauna (Pond 12) Water Quality Monitoring		Water Quality Monitoring	24hr TSP	1hr TSP X 3 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
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)

APPENDIX E
1-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATION

Appendix E - 1-hour TSP Monitoring Results

Location DMS-1a - Village House along Ha Wan Tsuen East Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jul-24	9:00	Fine	77.5
2-Jul-24	10:00	Fine	67.3
2-Jul-24	11:00	Fine	68.7
5-Jul-24	8:00	Sunny	48.2
5-Jul-24	9:00	Sunny	63.8
5-Jul-24	10:00	Sunny	76.8
11-Jul-24	8:00	Sunny	23.6
11-Jul-24	9:00	Sunny	27.3
11-Jul-24	10:00	Sunny	30.6
17-Jul-24	8:00	Sunny	24.3
17-Jul-24	9:00	Sunny	17.1
17-Jul-24	10:00	Sunny	14.4
23-Jul-24	9:00	Sunny	22.6
23-Jul-24	10:00	Sunny	46.0
23-Jul-24	11:00	Sunny	36.3
29-Jul-24	9:00	Cloudy	21.9
29-Jul-24	10:00	Cloudy	24.7
29-Jul-24	11:00	Cloudy	25.2
		Minimum	14.4
		Maximum	77.5
		Average	39.8

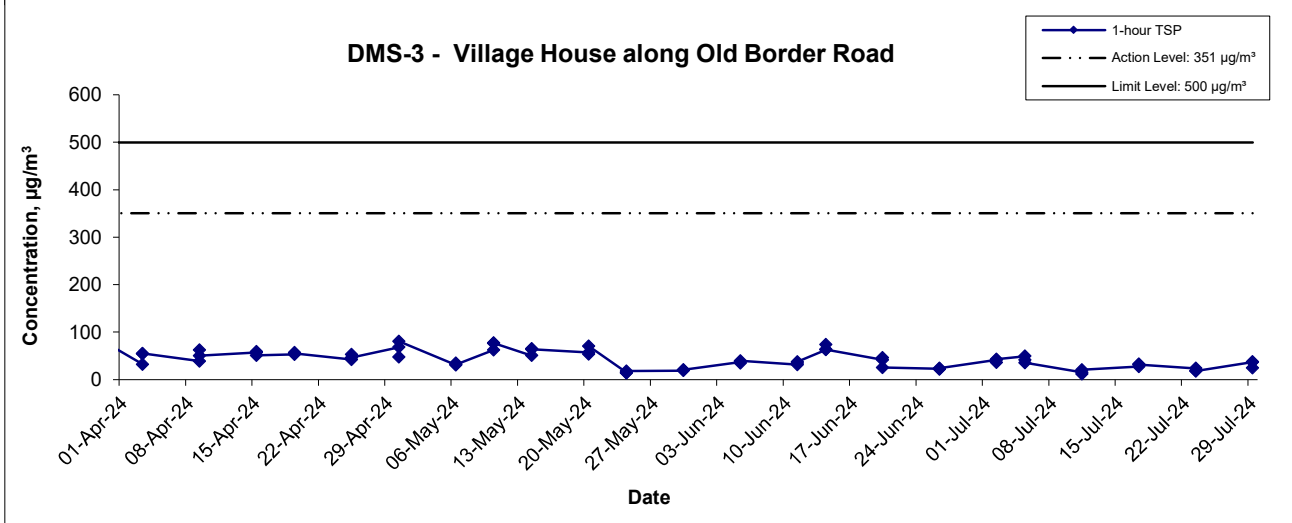
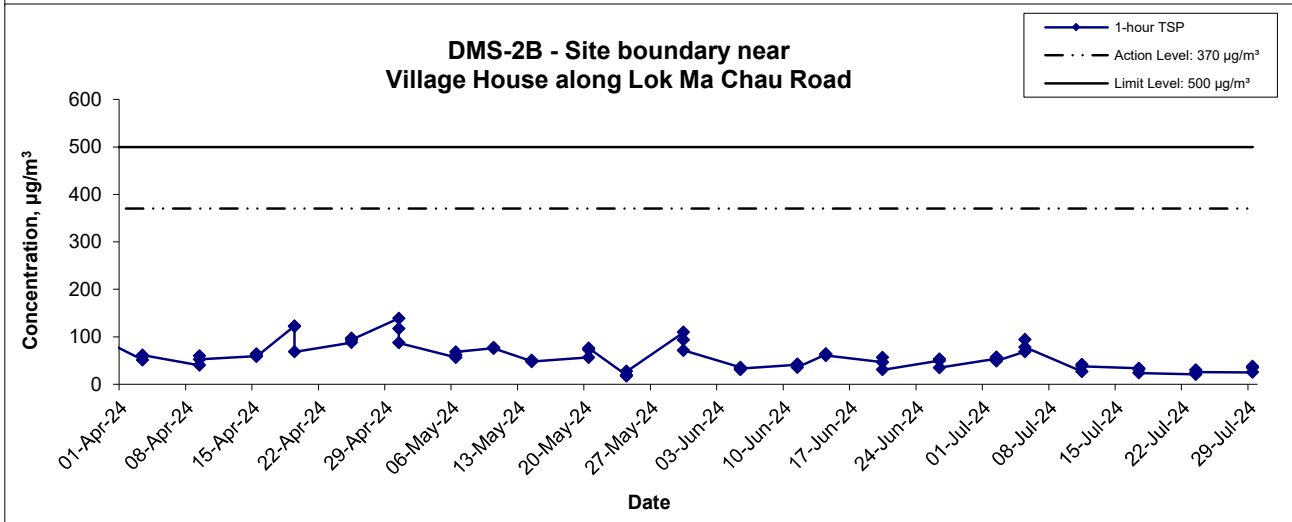
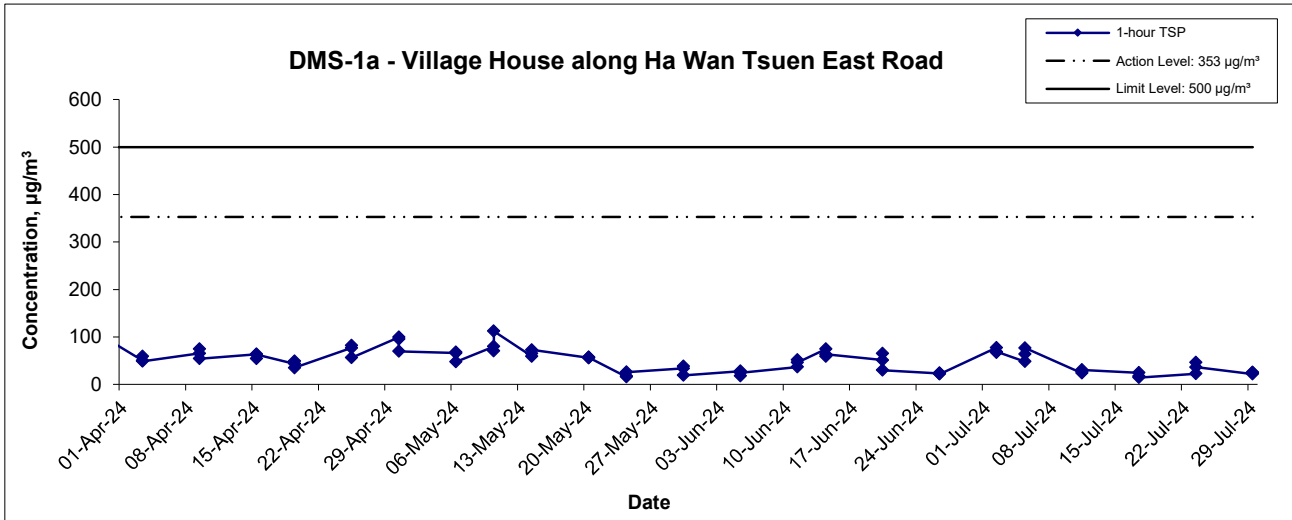
Location DMS-2B - Site boundary near Village House along Lok Ma Chau Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jul-24	9:00	Fine	54.0
2-Jul-24	10:00	Fine	57.2
2-Jul-24	11:00	Fine	49.2
5-Jul-24	8:00	Sunny	68.7
5-Jul-24	9:00	Sunny	94.2
5-Jul-24	10:00	Sunny	78.0
11-Jul-24	9:00	Sunny	26.7
11-Jul-24	10:00	Sunny	41.6
11-Jul-24	11:00	Sunny	37.9
17-Jul-24	8:30	Sunny	33.4
17-Jul-24	9:30	Sunny	31.4
17-Jul-24	10:30	Sunny	23.6
23-Jul-24	9:00	Sunny	20.7
23-Jul-24	10:00	Sunny	30.1
23-Jul-24	11:00	Sunny	25.4
29-Jul-24	9:00	Cloudy	25.0
29-Jul-24	10:00	Cloudy	34.7
29-Jul-24	11:00	Cloudy	37.5
		Minimum	20.7
		Maximum	94.2
		Average	42.7

Appendix E - 1-hour TSP Monitoring Results

Location DMS-3 - Village House along Old Border Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jul-24	13:05	Fine	41.7
2-Jul-24	14:05	Fine	36.0
2-Jul-24	15:05	Fine	43.0
5-Jul-24	8:30	Sunny	49.3
5-Jul-24	9:30	Sunny	41.8
5-Jul-24	10:30	Sunny	35.7
11-Jul-24	8:20	Sunny	15.2
11-Jul-24	9:20	Sunny	11.6
11-Jul-24	10:20	Sunny	20.6
17-Jul-24	8:30	Sunny	27.6
17-Jul-24	9:30	Sunny	32.9
17-Jul-24	10:30	Sunny	31.6
23-Jul-24	8:00	Sunny	23.6
23-Jul-24	9:00	Sunny	18.7
23-Jul-24	10:00	Sunny	18.0
29-Jul-24	9:00	Cloudy	36.8
29-Jul-24	10:00	Cloudy	37.1
29-Jul-24	11:00	Cloudy	24.9
		Minimum	11.6
		Maximum	49.3
		Average	30.3

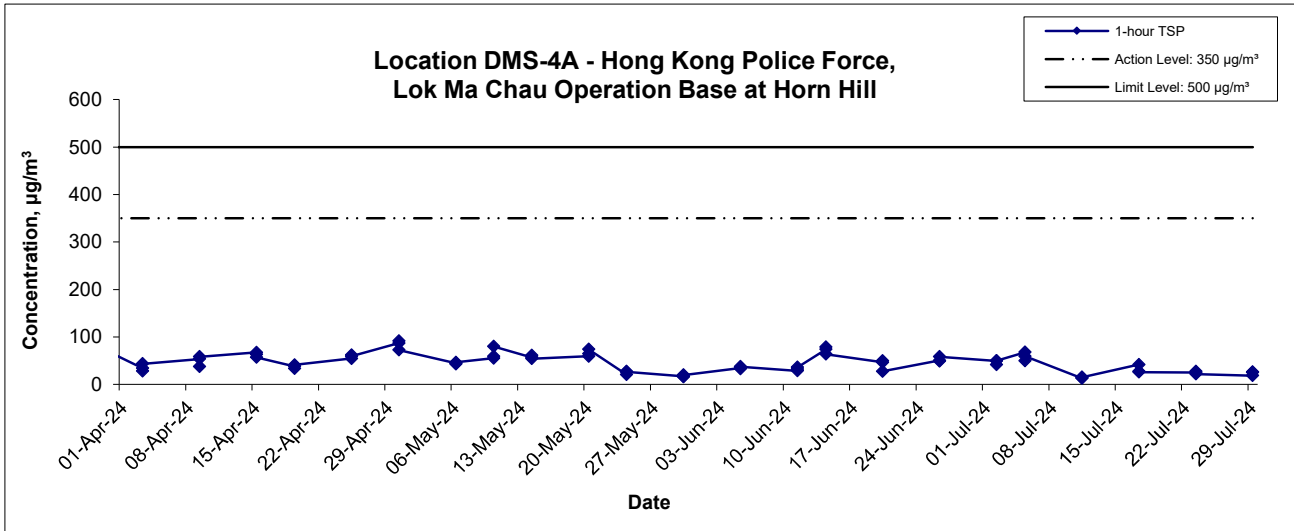
Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jul-24	8:00	Cloudy	49.3
2-Jul-24	9:00	Cloudy	41.8
2-Jul-24	10:00	Cloudy	49.9
5-Jul-24	13:05	Sunny	67.8
5-Jul-24	14:05	Sunny	49.5
5-Jul-24	15:05	Sunny	59.2
11-Jul-24	13:00	Sunny	13.0
11-Jul-24	14:00	Sunny	12.9
11-Jul-24	15:00	Sunny	15.0
17-Jul-24	13:00	Sunny	41.8
17-Jul-24	14:00	Sunny	27.6
17-Jul-24	15:00	Sunny	26.0
23-Jul-24	13:00	Sunny	24.8
23-Jul-24	14:00	Sunny	27.2
23-Jul-24	15:00	Sunny	21.9
29-Jul-24	9:00	Cloudy	18.5
29-Jul-24	10:00	Cloudy	25.1
29-Jul-24	11:00	Cloudy	25.8
		Minimum	12.9
		Maximum	67.8
		Average	33.2

1-hour TSP Concentration Levels



Title 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	Scale	N.T.S	Project No.	WMA21009	consulting . testing . research
	Date	Jul 24	Appendix	E	

1-hour TSP Concentration Levels



Title 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	Scale N.T.S	Project No. WMA21009	
	Date Jul 24	Appendix E	

**APPENDIX F
24-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATION**

Appendix F - 24-hour TSP Monitoring Results

Location DMS-1a - Village House along Ha Wan Tsuen East Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
4-Jul-24	8:00	Sunny	62.1
10-Jul-24	8:05	Sunny	35.6
16-Jul-24	8:05	Sunny	35.4
22-Jul-24	8:00	Sunny	47.1
26-Jul-24	085:45	Rainy	73.1
		Minimum	35.4
		Maximum	73.1
		Average	50.7

Location DMS-2B - Site boundary near Village House along Lok Ma Chau Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
4-Jul-24	8:00	Sunny	48.0
10-Jul-24	8:00	Sunny	36.5
16-Jul-24	8:30	Sunny	44.2
22-Jul-24	8:00	Sunny	32.0
26-Jul-24	8:40	Rainy	82.2
		Minimum	32.0
		Maximum	82.2
		Average	48.6

Appendix F - 24-hour TSP Monitoring Results

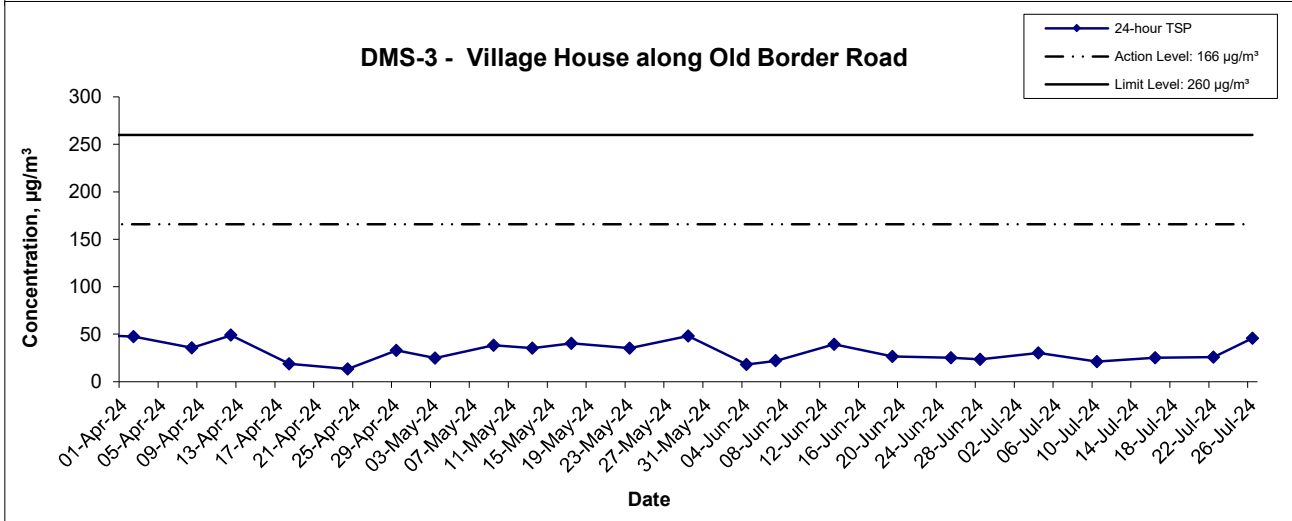
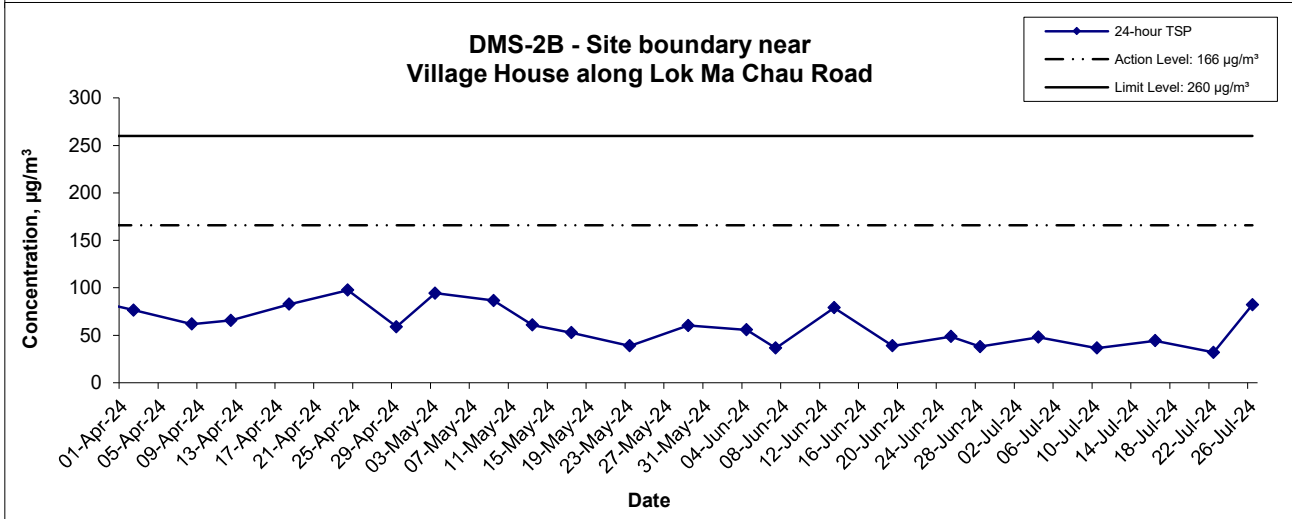
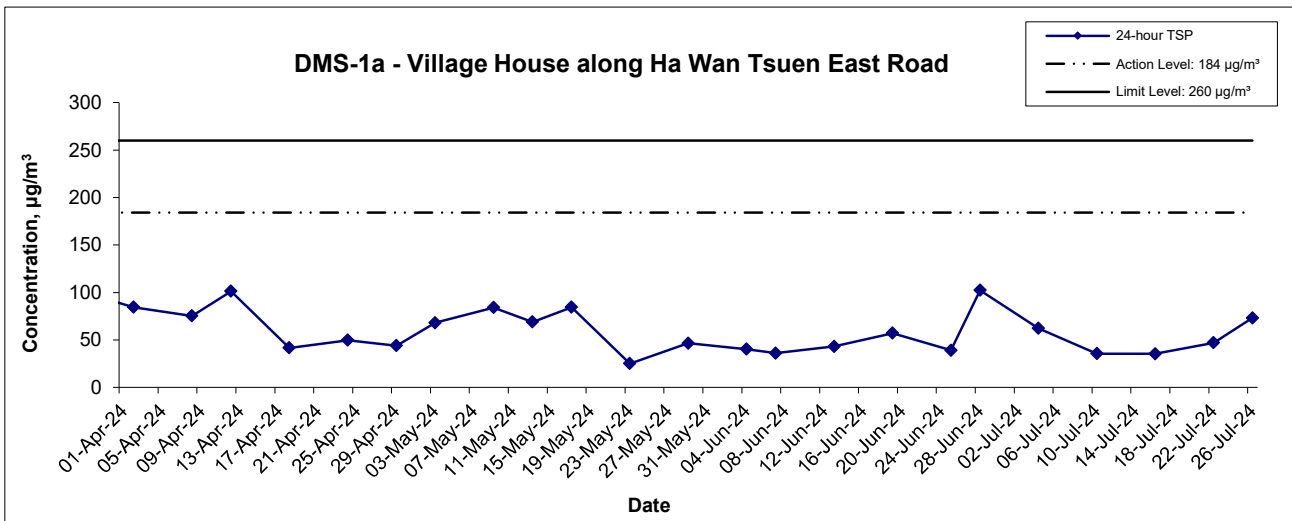
Location DMS-3 - Village House along Old Border Road

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final			
4-Jul-24	Rainy	301.6	760.7	2.9673	3.0206	0.0533	744.8	768.8	24.0	1.223	1.220	1.221	1758.6	30.3
10-Jul-24	Sunny	301.5	758.8	2.8798	2.9167	0.0369	777.4	801.4	24.0	1.220	1.220	1.220	1756.6	21.0
16-Jul-24	Sunny	300.8	759.0	2.9708	3.0151	0.0443	801.4	825.4	24.0	1.220	1.223	1.222	1759.0	25.2
22-Jul-24	Sunny	302.5	757.8	2.9367	2.9820	0.0453	825.4	849.4	24.0	1.217	1.217	1.217	1752.4	25.8
26-Jul-24	Rainy	303.3	747.1	2.8890	2.9682	0.0792	849.4	873.4	24.0	1.207	1.206	1.206	1737.0	45.6
													Min	21.0
													Max	45.6
													Average	29.6

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

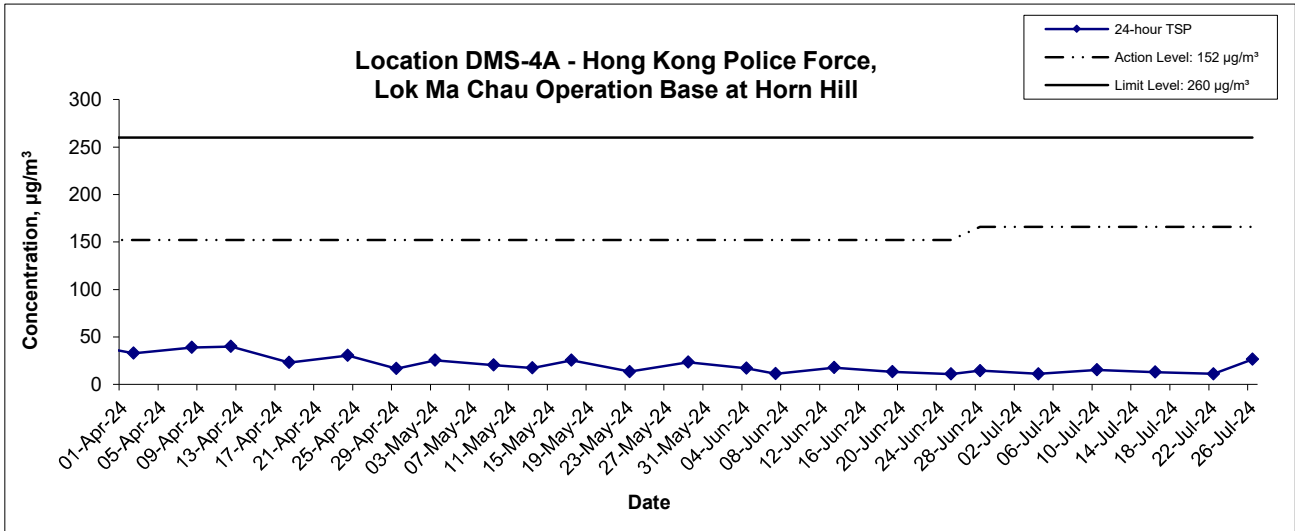
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final			
4-Jul-24	Rainy	301.6	760.7	2.9606	2.9802	0.0196	35549.4	35573.4	24.0	1.226	1.223	1.225	1763.4	11.1
10-Jul-24	Sunny	301.5	758.8	2.8996	2.9266	0.0270	35573.4	35597.4	24.0	1.224	1.223	1.223	1761.5	15.3
16-Jul-24	Sunny	300.8	759.0	2.9411	2.9637	0.0226	35597.4	35621.4	24.0	1.224	1.226	1.225	1763.8	12.8
22-Jul-24	Sunny	302.5	757.8	2.8567	2.8762	0.0195	35621.4	35645.4	24.0	1.220	1.220	1.220	1757.3	11.1
26-Jul-24	Rainy	303.3	747.1	2.9458	2.9919	0.0461	35645.4	35669.4	24.0	1.210	1.209	1.210	1742.2	26.5
													Min	11.1
													Max	26.5
													Average	15.4


24-hour TSP Concentration Levels



Title 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	Scale	N.T.S	Project No.	WMA21009	consulting . testing . research
	Date	Jul 24	Appendix	F	

24-hour TSP Concentration Levels



Title 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	Scale N.T.S	Project No. WMA21009	 consulting . testing . research
	Date Jul 24	Appendix F	

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

Appendix G - Noise Monitoring Results

Location NMS-1 -Village house in Ha Wan Tsuen							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-24	Cloudy	10:55	57.5	59.3	55.5	60.7	47.3
		11:00	65.9	70.5	56.7		
		11:05	57.3	59.6	55.0		
		11:10	58.5	60.9	55.6		
		11:15	57.1	56.3	54.8		
11:20	59.3	61.9	55.9				
11-Jul-24	Sunny	11:00	56.8	58.2	55.1	55.4	
		11:05	55.3	56.2	54.5		
		11:10	55.1	55.8	54.2		
		11:15	54.6	55.4	53.8		
		11:20	54.8	55.5	54.1		
11:25	55.6	56.6	54.7				
17-Jul-24	Sunny	10:30	59.9	61.1	58.6	58.8	
		10:35	59.0	59.8	58.2		
		10:40	59.0	59.5	57.9		
		10:45	58.2	58.9	57.5		
		10:50	58.5	59.1	57.8		
10:55	57.9	58.8	57.0				
23-Jul-24	Sunny	10:40	56.6	60.1	50.8	52.6	
		10:45	50.3	52.0	48.4		
		10:50	51.6	53.0	49.0		
		10:55	52.1	54.9	49.4		
		11:00	50.6	52.3	48.6		
11:05	50.1	51.4	48.5				
29-Jul-24	Cloudy	14:05	63.0	65.2	60.1	72.5	
		14:10	72.1	75.7	61.4		
		14:15	67.2	68.9	59.2		
		14:20	75.2	78.5	64.6		
		14:25	73.1	77.1	65.0		
14:30	74.8	79.4	61.2				

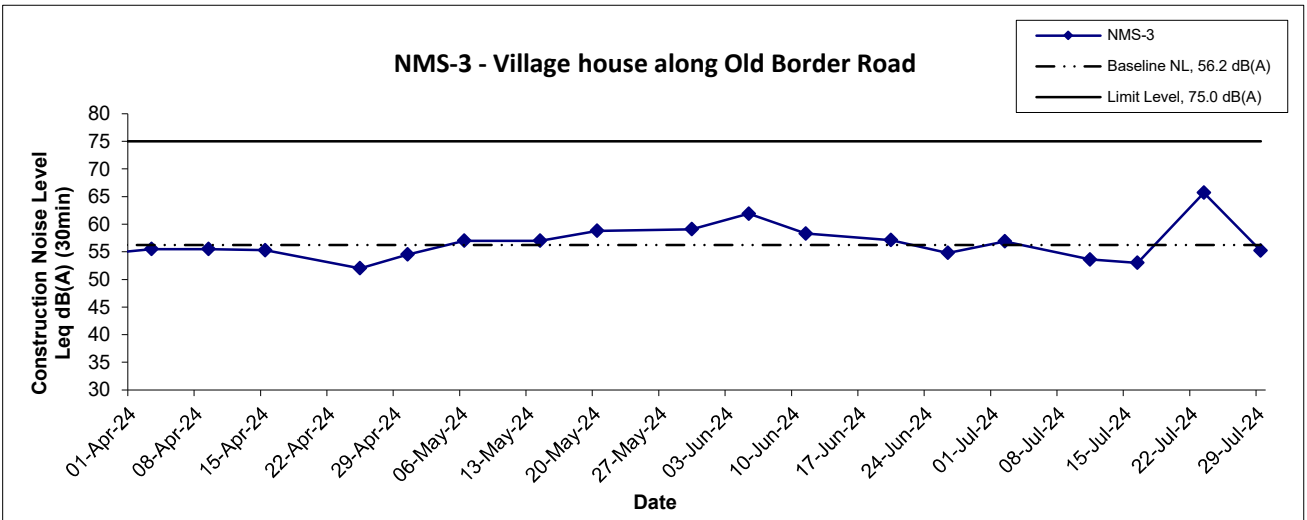
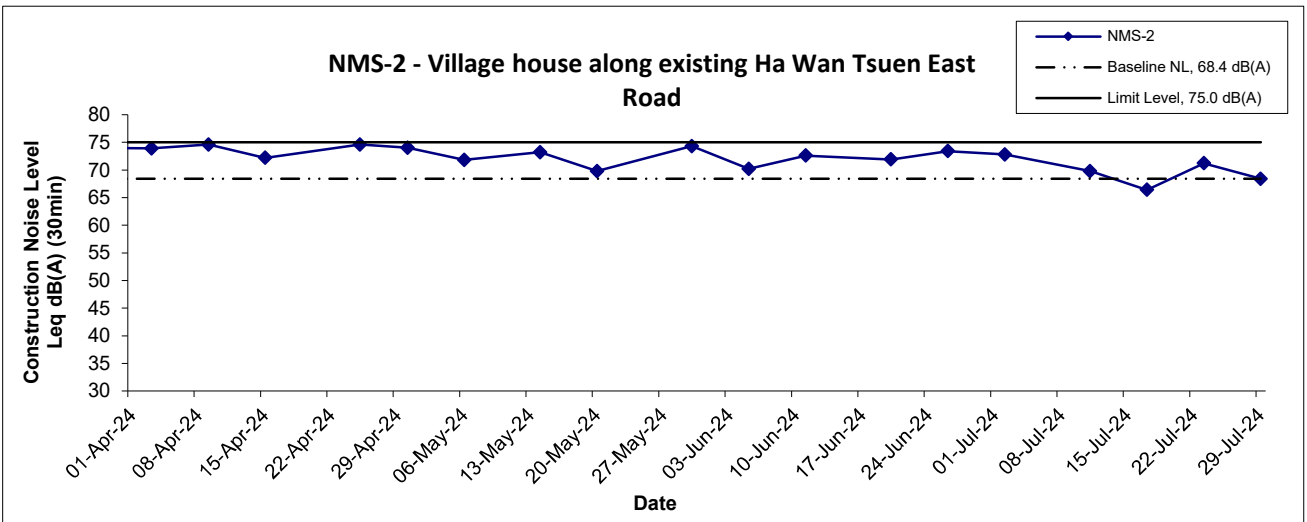
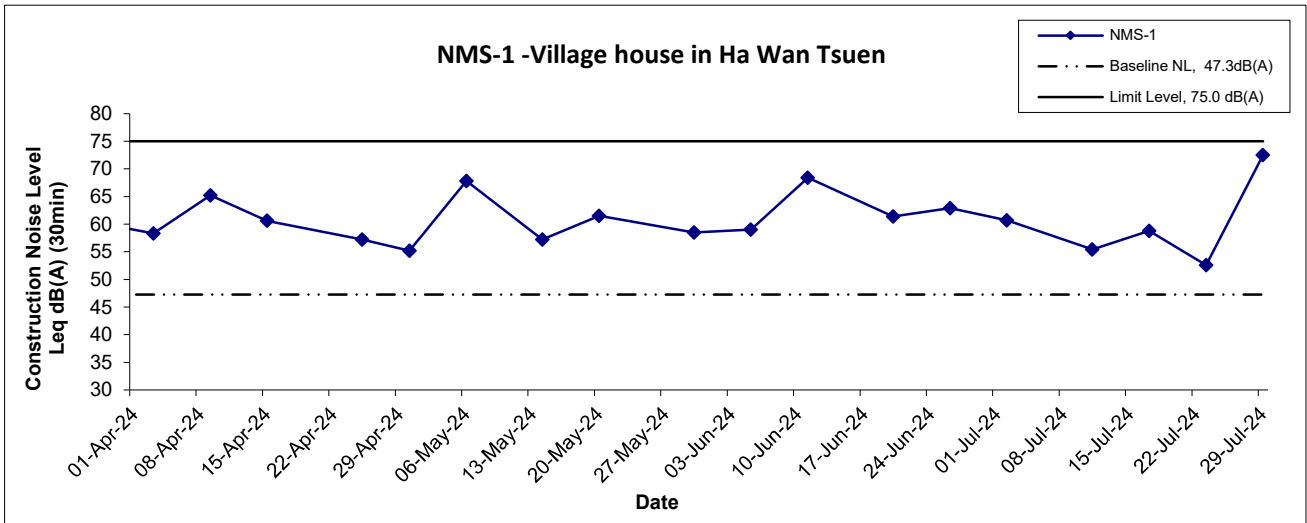
Location NMS-2 - Village house along existing Ha Wan Tsuen East Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-24	Cloudy	11:30	70.0	74.5	55.6	72.8	68.4
		11:35	72.1	75.0	58.0		
		11:40	73.2	76.7	62.2		
		11:45	74.8	78.1	61.0		
		11:50	72.1	75.7	64.9		
11:55	73.3	76.4	65.6				
11-Jul-24	Sunny	09:25	68.4	71.9	62.2	69.8	
		09:30	69.4	72.5	61.7		
		09:35	69.6	72.5	61.6		
		09:40	69.3	72.6	63.1		
		09:45	72.5	72.6	62.1		
09:50	68.2	71.3	61.9				
17-Jul-24	Sunny	13:00	65.8	69.0	60.8	66.4	
		13:05	67.8	70.5	60.2		
		13:10	65.9	69.5	60.4		
		13:15	66.3	68.7	61.2		
		13:20	66.5	69.4	61.3		
13:25	65.8	68.8	60.4				
23-Jul-24	Sunny	14:00	73.9	76.9	64.1	71.2	
		14:05	70.5	73.7	64.9		
		14:10	69.3	72.1	62.9		
		14:15	69.9	72.6	62.7		
		14:20	70.7	73.9	63.5		
14:25	71.4	75.0	63.6				
29-Jul-24	Cloudy	15:20	69.3	73.5	62.9	68.4	
		15:25	70.0	73.6	64.3		
		15:30	66.5	68.6	63.5		
		15:35	67.0	70.5	62.7		
		15:40	65.8	67.7	62.8		
15:45	69.8	72.3	63.4				

Appendix G - Noise Monitoring Results

Location NMS-3 - Village house along Old Border Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-24	Cloudy	13:20	57.5	58.6	55.0	56.9	56.2
		13:25	56.6	57.6	55.2		
		13:30	57.9	62.1	54.9		
		13:35	57.6	58.2	55.0		
		13:40	55.9	56.8	54.7		
13:45	55.4	56.4	54.4				
11-Jul-24	Sunny	08:45	52.4	54.0	50.4	53.6	
		08:50	53.6	56.5	51.3		
		08:55	53.2	54.2	51.2		
		09:00	55.5	59.0	52.0		
		09:05	52.9	53.2	51.6		
09:10	53.0	53.9	51.6				
16-Jul-24	Sunny	08:40	53.7	54.6	51.7	53.0	
		08:45	53.4	54.5	51.7		
		08:50	52.6	53.2	51.5		
		08:55	53.0	53.6	51.5		
		09:00	52.4	53.0	51.5		
09:05	52.7	53.6	51.9				
23-Jul-24	Sunny	09:00	62.0	64.3	52.5	65.7	
		09:05	66.5	71.5	51.4		
		09:10	67.5	72.7	56.1		
		09:15	68.0	72.9	52.1		
		09:20	65.7	70.3	52.9		
09:25	56.2	58.3	53.0				
29-Jul-24	Cloudy	11:05	55.1	56.0	53.9	55.2	
		11:10	55.2	56.3	54.2		
		11:15	55.5	55.8	53.9		
		11:20	54.4	54.9	54.0		
		11:25	55.0	56.5	53.9		
11:30	55.9	57.3	54.1				

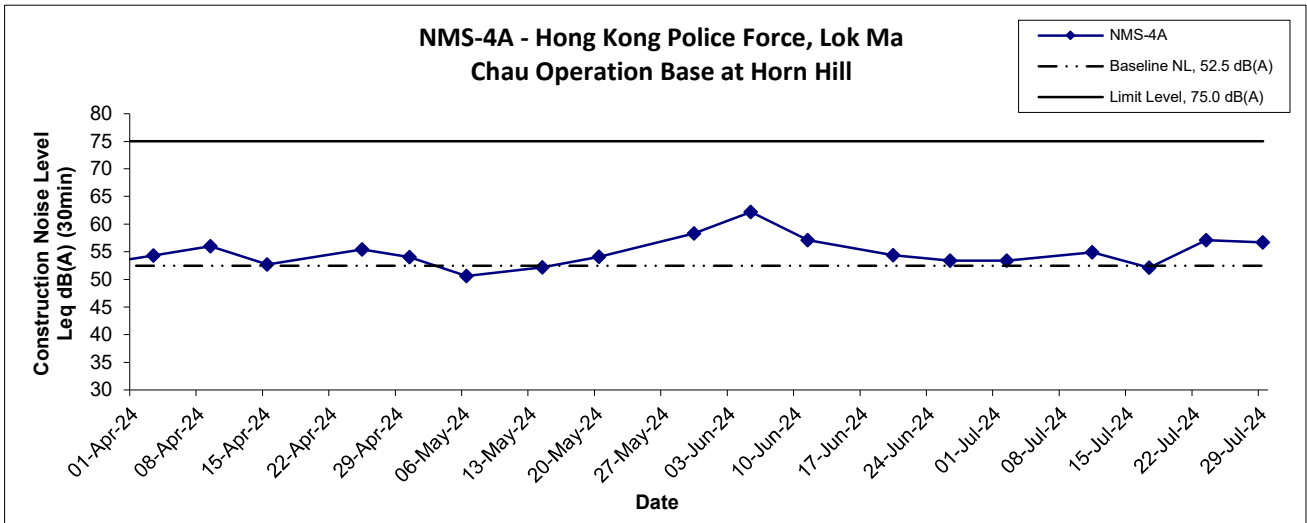
Location NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jul-24	Cloudy	08:15	53.8	54.6	52.9	53.4	52.5
		08:20	54.0	54.9	53.2		
		08:25	52.9	53.9	51.6		
		08:30	53.3	54.6	51.0		
		08:35	53.5	55.7	51.9		
08:40	52.9	53.8	52.0				
11-Jul-24	Sunny	13:00	52.9	54.1	51.2	54.9	
		13:05	56.6	58.2	51.0		
		13:10	57.1	57.6	51.2		
		13:15	54.0	55.6	51.3		
		13:20	52.8	54.3	51.4		
13:25	53.7	55.0	51.8				
17-Jul-24	Sunny	15:00	50.7	52.8	49.1	52.1	
		15:05	51.4	54.7	49.7		
		15:10	53.0	56.5	49.5		
		15:15	50.9	52.0	48.0		
		15:20	52.2	53.7	50.6		
15:25	53.5	57.2	52.0				
23-Jul-24	Sunny	16:00	54.3	54.7	53.3	57.1	
		16:05	56.5	58.2	53.3		
		16:10	59.5	62.3	53.5		
		16:15	55.3	56.7	53.0		
		16:20	57.8	60.0	51.6		
16:25	57.2	60.7	51.0				
29-Jul-24	Cloudy	10:20	52.7	53.5	51.7	56.7	
		10:25	53.7	55.0	51.9		
		10:30	57.2	59.6	53.8		
		10:35	58.6	58.9	53.8		
		10:40	57.1	58.4	55.7		
10:45	58.0	60.3	55.8				

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	Scale N.T.S	Project No. WMA21009	consulting . testing . research
	Date Jul 24	Appendix G	

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	Scale N.T.S	Project No. WMA21009	consulting . testing . research
	Date Jul 24	Appendix G	

**APPENDIX H
WATER QUALITY MONITORING
RESULTS AND GRAPHICAL
PRESENTATION**

Water Quality Monitoring Results at CS1

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Jul-24	Fine	Calm	15:56	Middle	0.5	33.2	33.2	8.9	8.9	0.6	0.6	131.7	131.7	9.4	9.4	12.9	13.0	8	8.5
						33.2		8.9		0.6		131.6		9.4		13.0		9	
4-Jul-24	Sunny	Calm	15:31	Middle	0.5	32.9	32.9	7.4	7.4	0.6	0.6	89.4	89.4	6.4	6.4	7.5	7.5	26	26.0
						32.9		7.4		0.6		89.3		6.4		7.4		26	
6-Jul-24	Sunny	Calm	15:47	Middle	0.2	34.4	34.4	8.3	8.3	0.8	0.8	97.3	97.5	6.8	6.8	11.1	11.1	10	9.5
						34.4		8.3		0.8		97.6		6.8		11.1		9	
8-Jul-24	Sunny	Calm	17:31	Middle	0.2	34.4	34.4	8.2	8.2	0.8	0.8	105.7	105.6	7.4	7.4	14.4	14.4	20	20.0
						34.4		8.2		0.8		105.5		7.4		14.4		20	
10-Jul-24	Sunny	Calm	10:41	Middle	0.5	33.8	33.8	7.9	7.9	0.7	0.7	128.7	129.0	9.1	9.1	7.6	7.6	42	41.5
						33.8		7.9		0.7		129.2		9.1		7.5		41	
12-Jul-24	Sunny	Calm	10:59	Middle	0.2	30.3	30.3	7.7	7.7	0.8	0.8	89.1	89.0	6.7	6.7	9.8	9.8	14	14.0
						30.3		7.7		0.8		88.8		6.7		9.7		14	
15-Jul-24	Rainy	Calm	11:13	Middle	0.5	34.3	34.3	7.7	7.7	0.7	0.7	110.2	110.2	7.7	7.7	6.3	6.3	8	8.0
						34.2		7.7		0.7		110.1		7.7		6.2		8	
17-Jul-24	Cloudy	Calm	14:19	Middle	0.5	35.0	35.0	9.1	9.1	0.7	0.7	99.5	99.5	6.9	6.9	4.7	4.7	22	21.0
						35.0		9.1		0.7		99.4		6.9		4.7		20	
19-Jul-24	Rainy	Calm	13:23	Middle	0.5	31.0	31.0	7.5	7.5	0.6	0.6	79.2	76.3	5.9	5.7	11.1	11.3	19	19.0
						31.0		7.5		0.6		73.4		5.4		11.4		19	
22-Jul-24	Sunny	Calm	16:35	Middle	0.5	34.4	34.4	8.3	8.3	0.6	0.6	123.0	123.1	8.6	8.6	4.8	4.8	9	9.0
						34.4		8.2		0.6		123.1		8.6		4.8		9	
24-Jul-24	Sunny	Calm	10:41	Middle	0.5	32.4	32.4	8.4	8.4	0.6	0.6	120.4	120.4	8.7	8.7	10.4	10.3	13	13.0
						32.4		8.4		0.6		120.4		8.7		10.2		13	
26-Jul-24	Cloudy	Calm	15:47	Middle	0.6	31.9	31.9	7.3	7.3	0.6	0.6	73.3	73.4	5.4	5.4	6.1	6.1	16	15.5
						31.9		7.3		0.6		73.4		5.4		6.0		15	
29-Jul-24	Rainy	Calm	11:34	Middle	0.5	29.6	29.6	7.2	7.2	0.5	0.5	54.3	54.2	4.1	4.1	7.2	7.2	12	12.0
						29.6		7.2		0.5		54.1		4.1		7.2		12	
31-Jul-24	Rainy	Calm	13:54	Middle	0.5	30.1	30.1	7.2	7.2	0.4	0.4	93.4	93.4	7.0	7.0	10.5	10.4	19	19.0
						30.1		7.2		0.4		93.3		7.0		10.3		19	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at CS5

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Jul-24	Fine	Calm	14:43	Middle	0.1	33.7	33.7	8.0	8.0	0.2	0.2	108.0	108.0	7.7	7.7	22.4	22.5	34	33.5
						33.7		8.0		0.2		108.0		7.7		22.6		33	
4-Jul-24	Sunny	Calm	14:28	Middle	0.2	30.8	30.8	7.9	7.9	0.1	0.1	75.0	75.0	5.6	5.6	22.2	22.2	40	40.0
						30.8		7.9		0.1		75.0		5.6		22.2		40	
6-Jul-24	Sunny	Calm	14:23	Middle	0.1	33.0	33.0	7.6	7.6	0.3	0.3	80.9	80.9	5.8	5.8	21.7	21.7	22	22.0
						33.0		7.6		0.3		80.9		5.8		21.7		22	
8-Jul-24	Sunny	Calm	16:15	Middle	0.1	32.9	32.9	7.7	7.7	0.4	0.4	88.0	88.0	6.3	6.3	27.0	27.1	15	15.0
						32.9		7.7		0.4		87.9		6.3		27.1		15	
10-Jul-24	Sunny	Calm	09:38	Middle	0.1	29.4	29.4	7.6	7.6	0.3	0.3	62.1	62.1	4.7	4.7	5.0	5.0	12	12.0
						29.4		7.6		0.3		62.1		4.7		5.0		12	
12-Jul-24	Sunny	Calm	09:46	Middle	0.1	30.7	30.7	8.5	8.5	0.3	0.3	85.6	85.5	6.4	6.4	33.7	33.6	47	47.0
						30.7		8.5		0.3		85.4		6.4		33.5		47	
15-Jul-24	Rainy	Calm	09:33	Middle	0.1	29.8	29.8	7.8	7.8	0.2	0.2	78.2	78.2	5.9	5.9	30.2	30.2	14	14.5
						29.8		7.8		0.2		78.1		5.9		30.2		15	
17-Jul-24	Cloudy	Calm	12:51	Middle	0.1	35.6	35.6	8.6	8.6	0.2	0.2	108.3	108.3	7.4	7.4	23.9	23.9	15	15.5
						35.6		8.6		0.2		108.3		7.4		23.8		16	
19-Jul-24	Rainy	Calm	12:44	Middle	0.1	28.8	28.8	7.9	7.9	0.1	0.1	82.4	82.4	6.4	6.4	44.8	44.8	24	24.5
						28.8		7.9		0.1		82.3		6.4		44.8		25	
22-Jul-24	Sunny	Calm	15:39	Middle	0.1	35.6	35.6	8.3	8.3	0.3	0.3	111.3	111.3	7.7	7.7	14.9	14.6	6	5.5
						35.6		8.3		0.3		111.3		7.7		14.3		5	
24-Jul-24	Sunny	Calm	09:09	Middle	0.1	30.1	30.1	8.0	8.0	0.3	0.3	87.5	87.5	6.6	6.6	7.9	7.9	24	24.0
						30.1		8.0		0.3		87.5		6.6		7.8		24	
26-Jul-24	Cloudy	Calm	16:34	Middle	0.3	31.3	31.3	8.0	8.0	0.4	0.4	80.0	80.0	5.9	5.9	62.6	62.5	16	16.0
						31.3		8.0		0.4		80.0		5.9		62.3		16	
29-Jul-24	Rainy	Calm	09:42	Middle	0.1	28.3	28.3	7.4	7.4	0.2	0.2	81.9	81.9	6.4	6.4	22.2	22.1	12	12.5
						28.3		7.4		0.2		81.8		6.4		22.0		13	
31-Jul-24	Rainy	Calm	12:21	Middle	0.2	28.7	28.7	7.7	7.7	0.2	0.2	88.0	87.9	6.8	6.8	30.8	30.9	17	16.5
						28.7		7.7		0.2		87.7		6.8		31.0		16	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at IS1

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Jul-24	Fine	Calm	15:30	Middle	0.4	33.1	33.1	8.3	8.3	0.6	0.6	144.4	144.7	10.3	10.4	13.3	12.6	21	21.5
						33.1		8.3		0.6		144.9		10.4		11.9		22	
4-Jul-24	Sunny	Calm	14:53	Middle	0.4	29.9	29.9	6.9	6.9	0.5	0.5	85.5	85.5	6.5	6.5	16.4	16.2	26	26.5
						29.9		6.9		0.5		85.5		6.5		16.0		27	
6-Jul-24	Sunny	Calm	15:36	Middle	0.2	34.3	34.3	8.3	8.3	0.9	0.9	97.0	97.1	6.8	6.8	9.3	9.3	9	9.0
						34.3		8.3		0.9		97.1		6.8		9.3		9	
8-Jul-24	Sunny	Calm	17:17	Middle	0.2	34.9	34.9	8.3	8.3	0.8	0.8	101.8	101.9	7.1	7.1	11.7	11.7	7	7.0
						34.9		8.3		0.8		101.9		7.1		11.6		7	
10-Jul-24	Sunny	Calm	10:17	Middle	0.4	31.9	31.9	7.4	7.4	0.6	0.6	70.9	70.8	5.2	5.2	13.5	13.6	24	24.0
						31.9		7.3		0.6		70.6		5.2		13.6		24	
12-Jul-24	Sunny	Calm	10:34	Middle	0.2	30.8	30.8	7.8	7.9	0.8	0.8	87.3	87.3	6.5	6.5	8.5	8.5	19	19.0
						30.8		7.9		0.8		87.2		6.5		8.5		19	
15-Jul-24	Rainy	Calm	09:56	Middle	0.5	30.6	30.6	7.0	7.0	0.6	0.6	66.1	66.4	4.9	5.0	25.5	25.7	21	21.0
						30.6		7.0		0.6		66.6		5.0		25.9		21	
17-Jul-24	Cloudy	Calm	13:45	Middle	0.4	33.4	33.4	8.9	8.9	0.6	0.6	79.9	79.9	5.7	5.7	18.6	18.6	22	23.0
						33.4		8.9		0.6		79.9		5.7		18.6		24	
19-Jul-24	Rainy	Calm	13:05	Middle	0.4	29.5	29.5	7.5	7.5	0.5	0.5	72.6	72.5	5.5	5.5	16.3	16.3	13	13.0
						29.5		7.5		0.5		72.4		5.5		16.3		13	
22-Jul-24	Sunny	Calm	16:15	Middle	0.4	33.5	33.5	7.8	7.8	0.6	0.6	142.8	142.7	10.2	10.2	19.6	20.1	17	17.0
						33.5		7.8		0.6		142.6		10.1		20.6		17	
24-Jul-24	Sunny	Calm	10:17	Middle	0.4	31.7	31.7	8.0	8.0	0.6	0.6	98.6	98.6	7.2	7.2	25.1	25.1	20	19.0
						31.7		8.0		0.6		98.5		7.2		25.1		18	
26-Jul-24	Cloudy	Calm	16:16	Middle	0.5	31.3	31.3	7.4	7.4	0.6	0.6	84.4	84.4	6.2	6.2	12.9	13.0	22	23.0
						31.3		7.4		0.6		84.4		6.2		13.0		24	
29-Jul-24	Rainy	Calm	11:06	Middle	0.5	27.7	27.7	7.1	7.1	0.4	0.4	78.6	78.6	6.2	6.2	13.3	13.3	25	25.0
						27.7		7.1		0.4		78.6		6.2		13.2		25	
31-Jul-24	Rainy	Calm	13:12	Middle	0.4	29.0	29.0	7.7	7.7	0.4	0.4	67.8	67.6	5.2	5.2	25.7	25.9	27	27.0
						29.0		7.7		0.4		67.3		5.2		26.0		27	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at IS2

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Jul-24	Fine	Calm	14:30	Middle	0.1	31.9	31.9	7.7	7.7	0.5	0.5	123.0	123.0	9.0	9.0	20.7	20.7	14	14.0
						31.9		7.7		0.5		123.0		9.0		20.7		14	
4-Jul-24	Sunny	Calm	14:16	Middle	0.1	32.3	32.3	7.4	7.4	0.5	0.5	125.6	125.7	9.1	9.1	27.5	27.6	31	31.0
						32.3		7.4		0.5		125.8		9.1		27.7		31	
6-Jul-24	Sunny	Calm	14:35	Middle	0.1	32.5	32.5	7.9	7.9	0.6	0.6	98.2	98.2	7.1	7.1	15.0	15.1	11	11.0
						32.5		7.9		0.6		98.2		7.1		15.1		11	
8-Jul-24	Sunny	Calm	16:30	Middle	0.1	32.7	32.7	7.8	7.8	0.8	0.8	94.1	94.1	6.8	6.8	18.0	18.0	15	15.0
						32.7		7.8		0.8		94.1		6.8		18.0		15	
10-Jul-24	Sunny	Calm	09:02	Middle	0.1	31.2	31.2	7.0	7.0	0.6	0.6	68.5	68.3	5.1	5.1	17.8	17.9	24	23.5
						31.2		7.0		0.6		68.0		5.0		17.9		23	
12-Jul-24	Sunny	Calm	10:04	Middle	0.1	31.8	31.8	7.7	7.7	0.5	0.5	76.4	76.4	5.6	5.6	27.5	27.5	29	29.5
						31.8		7.7		0.5		76.3		5.6		27.5		30	
15-Jul-24	Rainy	Calm	09:17	Middle	0.1	31.2	31.2	7.5	7.5	0.3	0.3	59.2	59.2	4.4	4.4	20.1	20.4	13	13.0
						31.2		7.5		0.3		59.2		4.4		20.6		13	
17-Jul-24	Cloudy	Calm	12:40	Middle	0.1	33.4	33.4	7.7	7.7	0.7	0.7	81.8	81.8	5.8	5.8	19.0	19.0	21	21.5
						33.4		7.7		0.7		81.7		5.8		19.0		22	
19-Jul-24	Rainy	Calm	12:34	Middle	0.1	29.5	29.5	7.7	7.7	0.2	0.2	57.0	56.4	4.3	4.3	28.3	27.6	34	34.0
						29.5		7.7		0.2		55.8		4.3		26.8		34	
22-Jul-24	Sunny	Calm	15:16	Middle	0.1	32.7	32.7	7.6	7.7	0.7	0.7	133.6	133.8	9.6	9.6	23.0	22.7	13	13.0
						32.7		7.7		0.7		133.9		9.6		22.4		13	
24-Jul-24	Sunny	Calm	08:53	Middle	0.1	31.1	31.1	8.2	8.2	0.1	0.1	98.2	98.2	7.3	7.3	19.8	20.0	29	29.5
						31.1		8.2		0.1		98.1		7.3		20.1		30	
26-Jul-24	Cloudy	Calm	17:36	Middle	0.1	30.0	30.0	7.9	7.9	0.1	0.1	65.4	65.1	4.9	4.9	26.6	26.7	15	14.5
						30.0		7.9		0.1		64.8		4.9		26.8		14	
29-Jul-24	Rainy	Calm	09:28	Middle	0.1	27.8	27.8	7.3	7.3	0.4	0.4	58.4	58.2	4.6	4.6	19.3	19.3	35	34.5
						27.8		7.3		0.4		57.9		4.5		19.2		34	
31-Jul-24	Rainy	Calm	12:10	Middle	0.2	28.5	28.5	7.5	7.5	0.3	0.3	59.1	59.2	4.6	4.6	29.6	29.3	30	30.0
						28.5		7.5		0.3		59.2		4.6		28.9		30	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

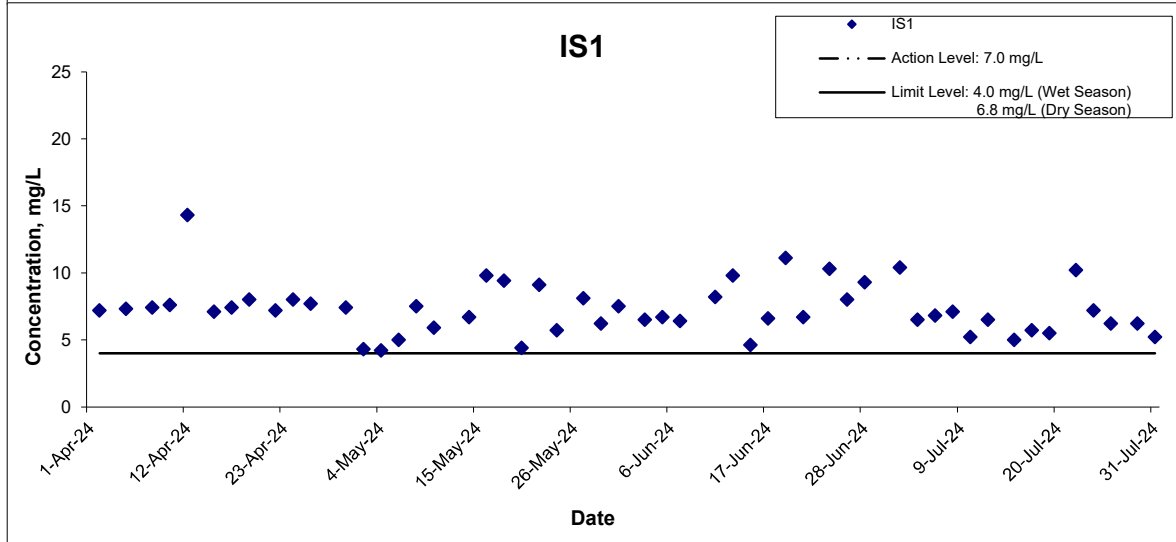
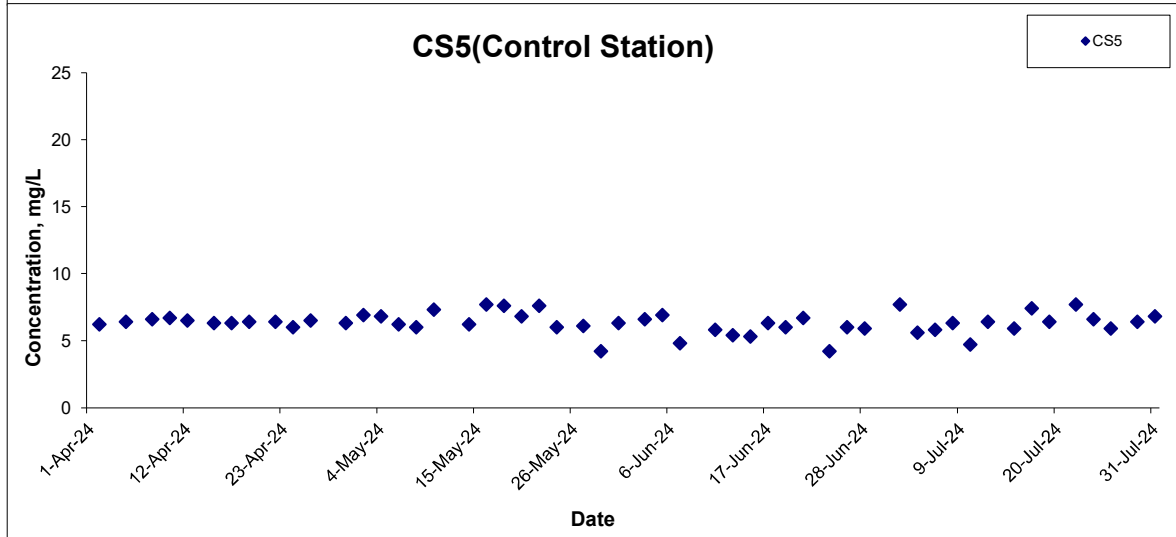
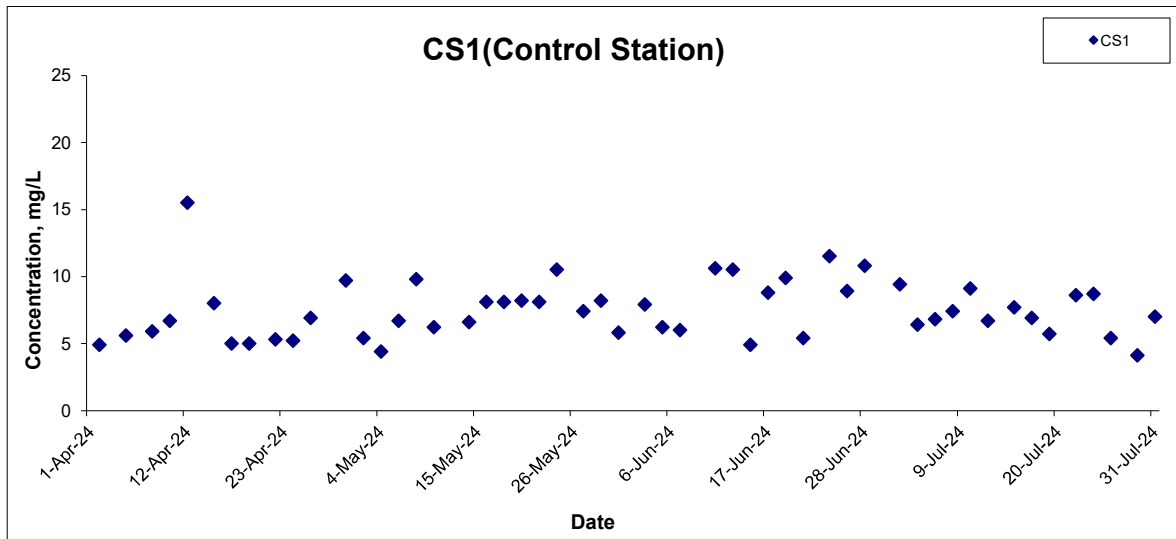
Water Quality Monitoring Results at IS4

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Jul-24	Fine	Calm	15:09	Middle	0.1	28.5	28.5	7.7	7.7	0.1	0.1	54.9	54.7	4.3	4.3	13.8	13.3	9	9.0
						28.5		7.7		0.1		54.5		4.2		12.7			
4-Jul-24	Sunny	Calm	14:39	Middle	0.2	28.6	28.6	7.4	7.4	0.04	0.04	54.9	55.1	4.3	4.3	10.5	10.4	37	36.0
						28.6		7.3		0.04		55.2		4.3		10.3			
6-Jul-24	Sunny	Calm	15:17	Middle	0.2	29.4	29.4	7.1	7.1	0.1	0.1	56.8	56.6	4.3	4.3	7.2	7.2	7	6.5
						29.4		7.1		0.1		56.3		4.3		7.1			
8-Jul-24	Sunny	Calm	16:50	Middle	0.2	29.7	29.7	7.1	7.1	0.1	0.1	57.4	57.4	4.4	4.4	8.0	8.0	8	8.0
						29.7		7.1		0.1		57.4		4.4		8.0			
10-Jul-24	Sunny	Calm	09:50	Middle	0.2	27.9	27.9	7.3	7.3	0.1	0.1	57.3	57.5	4.5	4.5	5.4	5.4	15	15.5
						27.9		7.3		0.1		57.7		4.5		5.3			
12-Jul-24	Sunny	Calm	10:15	Middle	0.2	28.6	28.6	7.2	7.2	0.1	0.1	59.1	58.7	4.6	4.6	9.2	9.2	8	8.0
						28.6		7.2		0.1		58.2		4.5		9.2			
15-Jul-24	Rainy	Calm	09:44	Middle	0.1	28.2	28.2	7.1	7.1	0.1	0.1	54.5	54.8	4.3	4.3	12.8	12.6	7	6.5
						28.2		7.1		0.1		55.1		4.3		12.4			
17-Jul-24	Cloudy	Calm	13:04	Middle	0.2	29.2	29.2	8.2	8.2	0.1	0.1	73.6	72.5	5.6	5.6	6.7	6.7	16	15.5
						29.2		8.2		0.1		71.4		5.5		6.7			
19-Jul-24	Rainy	Calm	12:52	Middle	0.2	27.5	27.5	7.4	7.4	0.1	0.1	57.6	57.3	4.5	4.5	7.8	7.8	17	17.0
						27.5		7.4		0.1		57.0		4.5		7.8			
22-Jul-24	Sunny	Calm	15:49	Middle	0.2	28.9	28.9	7.9	7.9	0.1	0.1	54.3	54.9	4.2	4.3	6.6	6.6	16	16.5
						28.9		7.8		0.1		55.4		4.3		6.5			
24-Jul-24	Sunny	Calm	09:41	Middle	0.2	28.5	28.5	7.7	7.7	0.1	0.1	56.2	56.5	4.4	4.4	8.9	9.0	7	7.0
						28.5		7.7		0.1		56.7		4.4		9.1			
26-Jul-24	Cloudy	Calm	15:17	Middle	0.2	28.8	28.8	7.3	7.3	0.1	0.1	55.5	55.6	4.3	4.3	6.2	6.2	25	24.5
						28.8		7.2		0.1		55.6		4.3		6.2			
29-Jul-24	Rainy	Calm	10:04	Middle	0.2	26.9	26.9	7.4	7.4	0.1	0.1	63.5	63.4	5.1	5.1	7.4	7.4	12	12.0
						26.9		7.4		0.1		63.3		5.1		7.3			
31-Jul-24	Rainy	Calm	12:32	Middle	0.3	27.1	27.1	7.8	7.8	0.1	0.1	57.2	57.1	4.6	4.6	4.1	4.1	5	5.5
						27.1		7.8		0.1		57.0		4.5		4.1			

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Dissolved Oxygen



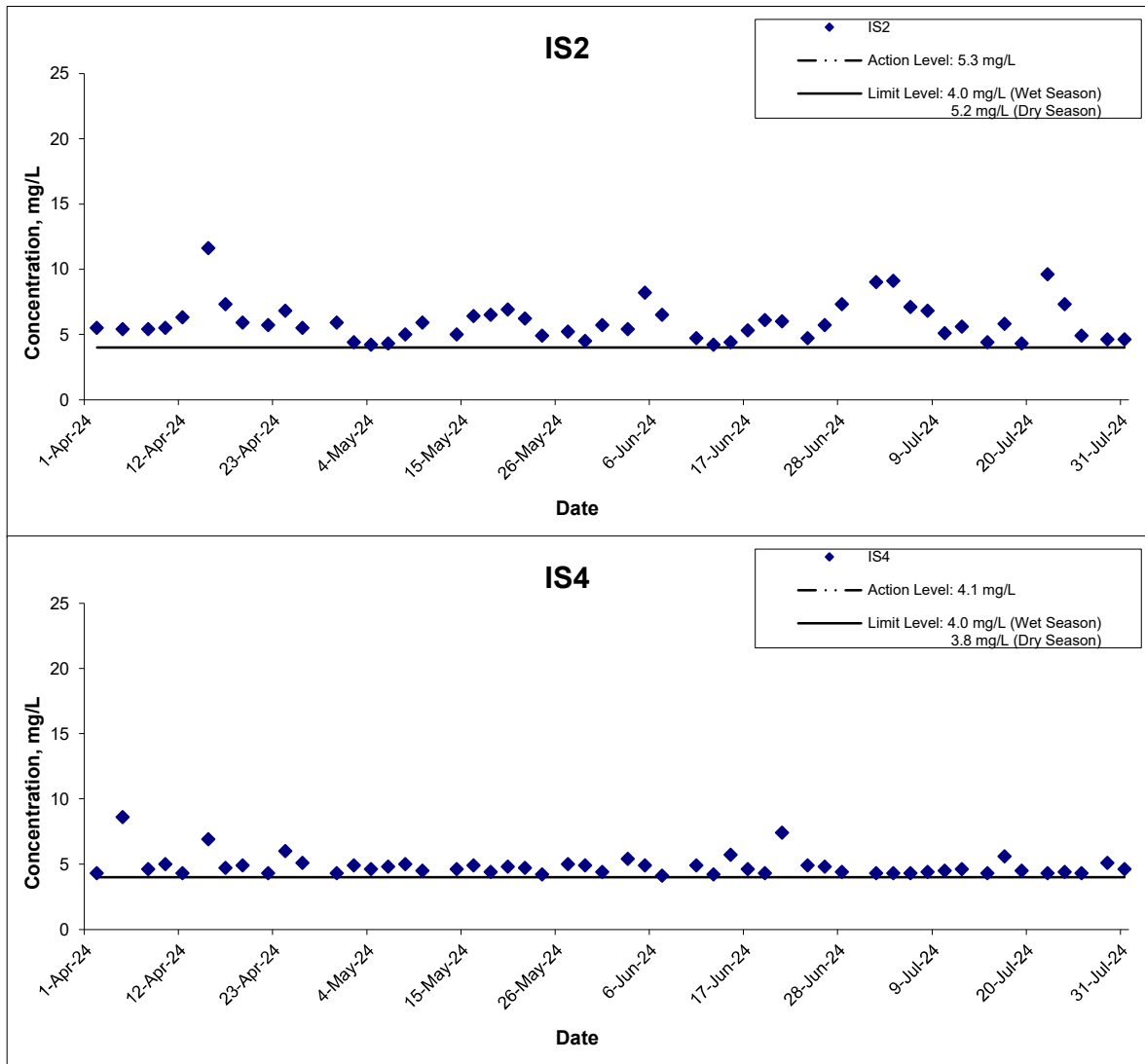
Title
 Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop:
 Main Works Package 1 - Environmental Team
 Graphical Presentation of Water Quality Monitoring
 Results

Scale
 N.T.S
 Date
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Dissolved Oxygen



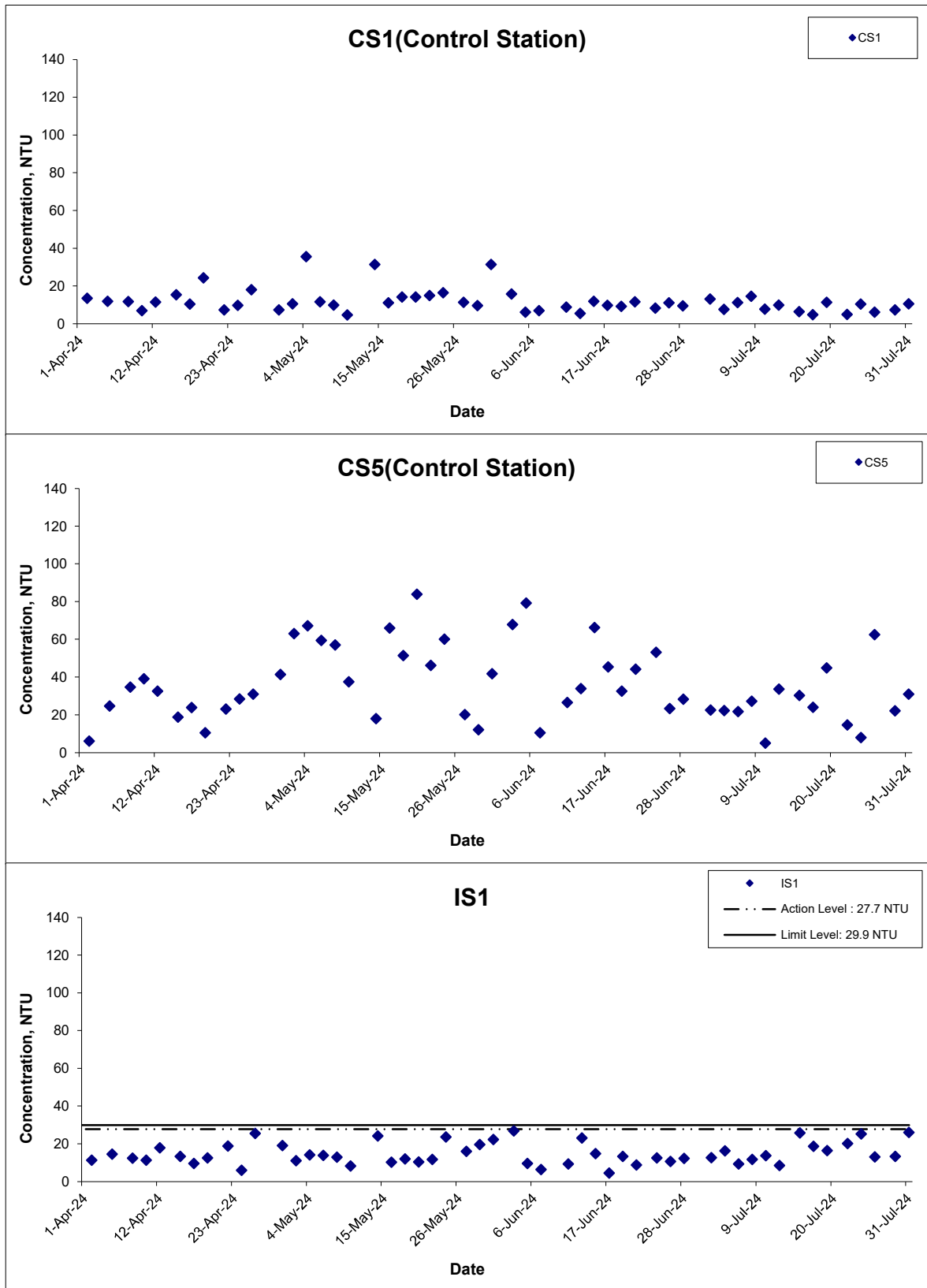
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Scale
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Turbidity



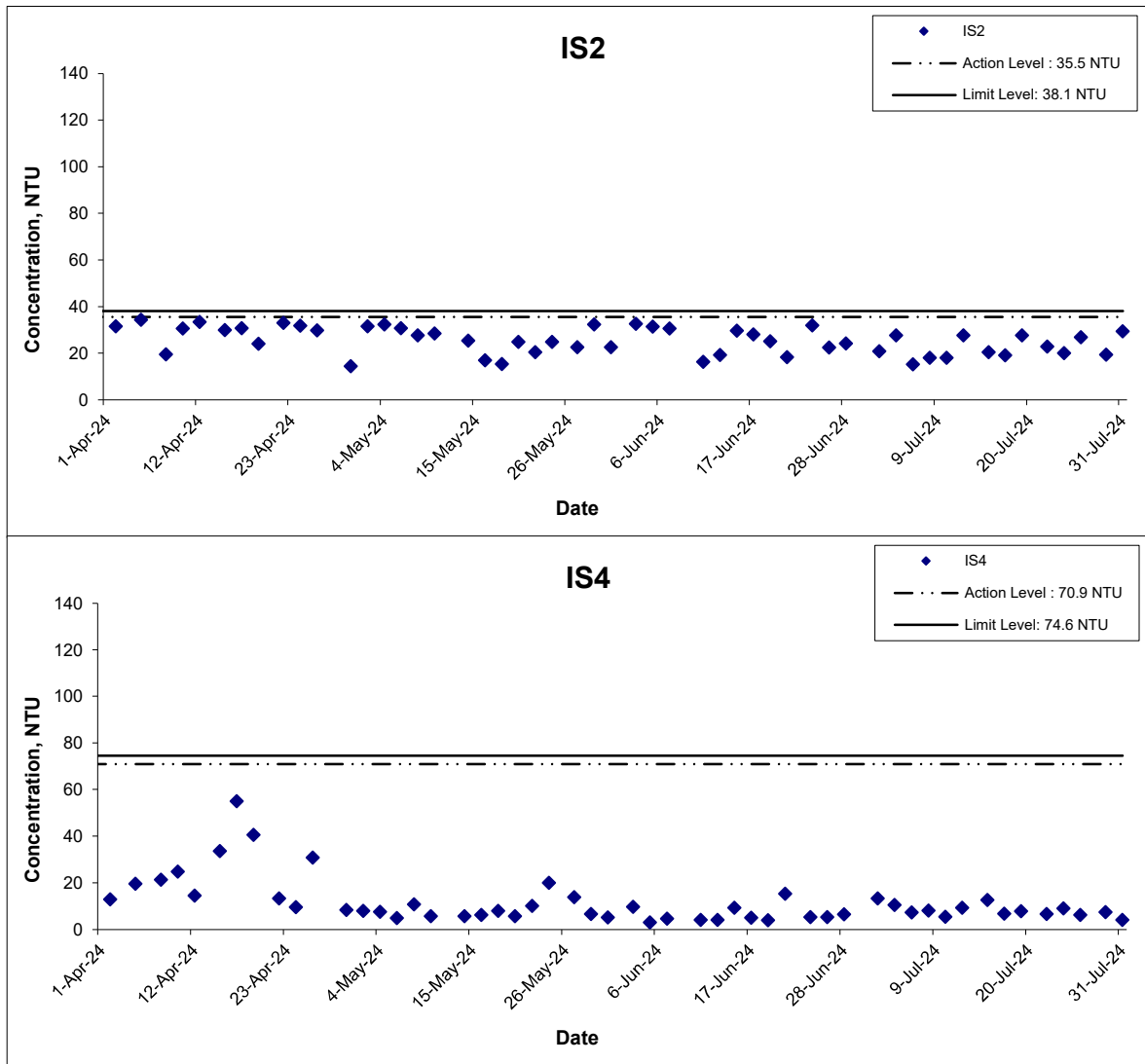
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 Development of Lok Ma Chau Loop:
 Main Works Package 1 - Environmental Team
Graphical Presentation of Water Quality Monitoring Results

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Turbidity



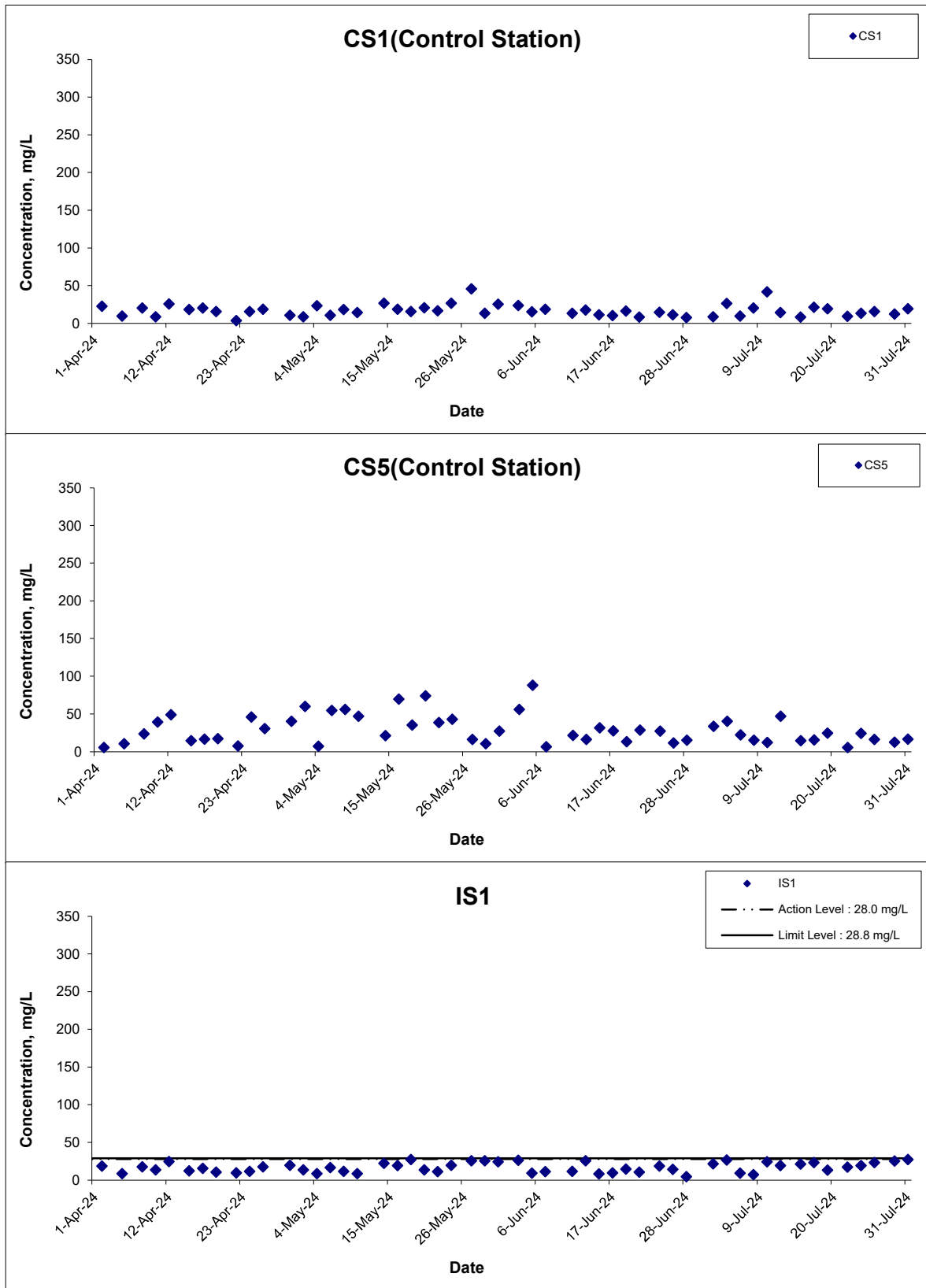
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 Development of Lok Ma Chau Loop:
 Main Works Package 1 - Environmental Team
Graphical Presentation of Water Quality Monitoring Results

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Suspended Solids



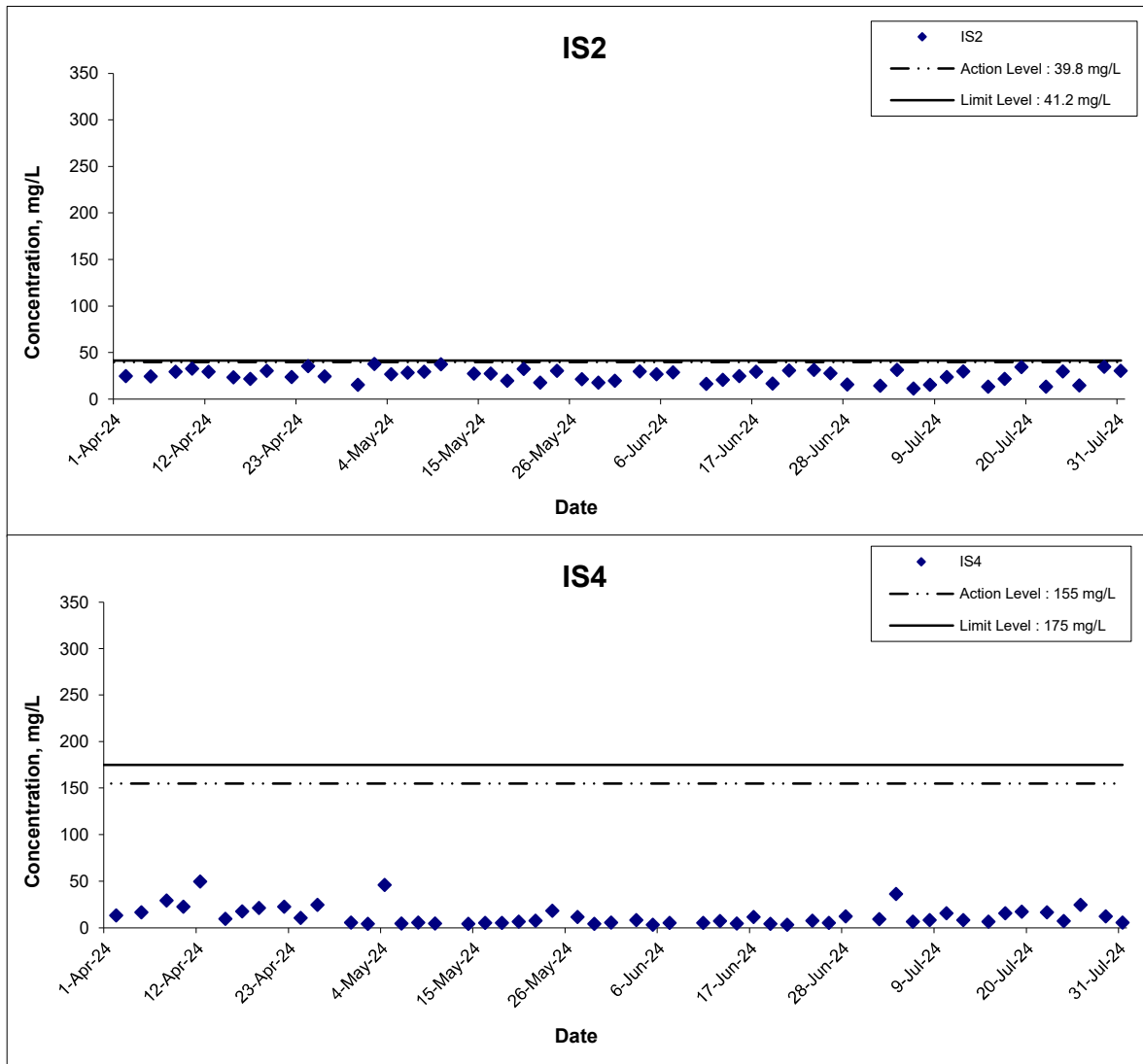
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 Development of Lok Ma Chau Loop:
 Main Works Package 1 - Environmental Team
 Graphical Presentation of Water Quality Monitoring
 Results

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Suspended Solids



Title 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 N.T.S	Project No. WMA21009	匯力 consulting . testing . research
	Date Jul 24	Appendix H	

APPENDIX I
WEATHER CONDITION

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

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 July 2024	30.6	78	2.5
2 July 2024	30.5	79	5.3
3 July 2024	30.5	78	0.0
4 July 2024	30.2	78	5.1
5 July 2024	30.7	76	1.5
6 July 2024	30.8	77	0.2
7 July 2024	31.6	74	Trace
8 July 2024	31.1	72	0.2
9 July 2024	31.0	72	Trace
10 July 2024	30.6	75	10.7
11 July 2024	30.2	78	6.5
12 July 2024	29.5	84	24.4
13 July 2024	30.7	76	8.0
14 July 2024	30.3	82	90.0
15 July 2024	29.7	85	13.6
16 July 2024	29.0	86	15.7
17 July 2024	29.5	83	13.7

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
18 July 2024	29.4	88	19.6
19 July 2024	29.0	89	40.5
20 July 2024	30.3	85	3.7
21 July 2024	30.1	83	4.7
22 July 2024	30.6	80	0.2
23 July 2024	30.7	76	0.0
24 July 2024	30.3	80	0.0
25 July 2024	30.9	78	Trace
26 July 2024	29.8	85	3.9
27 July 2024	28.7	88	34.7
28 July 2024	27.1	94	69.4
29 July 2024	27.6	89	6.7
30 July 2024	27.6	89	29.5
31 July 2024	28.1	88	48.2

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

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Jul-2024	00:00	0.0	ENE
1-Jul-2024	01:00	0.0	ENE
1-Jul-2024	02:00	0.0	---
1-Jul-2024	03:00	0.0	ESE
1-Jul-2024	04:00	0.0	---
1-Jul-2024	05:00	0.0	---
1-Jul-2024	06:00	0.0	NNE
1-Jul-2024	07:00	0.0	E
1-Jul-2024	08:00	0.0	ENE
1-Jul-2024	09:00	0.4	ENE
1-Jul-2024	10:00	0.4	ENE
1-Jul-2024	11:00	0.4	ENE
1-Jul-2024	12:00	1.3	ENE
1-Jul-2024	13:00	2.7	ENE
1-Jul-2024	14:00	2.2	ENE
1-Jul-2024	15:00	0.9	ENE
1-Jul-2024	16:00	0.4	ENE
1-Jul-2024	17:00	0.4	ENE
1-Jul-2024	18:00	0.4	ENE
1-Jul-2024	19:00	0.4	ENE
1-Jul-2024	20:00	0.0	ENE
1-Jul-2024	21:00	0.0	ENE
1-Jul-2024	22:00	0.0	ENE
1-Jul-2024	23:00	0.0	ENE
2-Jul-2024	00:00	0.0	ENE
2-Jul-2024	01:00	0.0	ENE
2-Jul-2024	02:00	0.0	ENE
2-Jul-2024	03:00	0.0	ENE
2-Jul-2024	04:00	0.0	ENE
2-Jul-2024	05:00	0.0	ENE
2-Jul-2024	06:00	0.0	ENE
2-Jul-2024	07:00	0.0	ENE
2-Jul-2024	08:00	0.4	ENE
2-Jul-2024	09:00	0.4	ENE
2-Jul-2024	10:00	0.4	ENE
2-Jul-2024	11:00	0.4	ENE
2-Jul-2024	12:00	0.4	ENE
2-Jul-2024	13:00	0.4	ENE
2-Jul-2024	14:00	0.4	ENE
2-Jul-2024	15:00	0.4	ENE
2-Jul-2024	16:00	0.4	ENE
2-Jul-2024	17:00	0.0	ENE
2-Jul-2024	18:00	0.0	ENE
2-Jul-2024	19:00	0.0	N
2-Jul-2024	20:00	0.0	NE
2-Jul-2024	21:00	0.0	---
2-Jul-2024	22:00	0.0	NNW
2-Jul-2024	23:00	0.0	W
3-Jul-2024	00:00	0.0	---
3-Jul-2024	01:00	0.0	NW
3-Jul-2024	02:00	0.0	---
3-Jul-2024	03:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Jul-2024	04:00	0.0	---
3-Jul-2024	05:00	0.0	W
3-Jul-2024	06:00	0.0	---
3-Jul-2024	07:00	0.0	WNW
3-Jul-2024	08:00	0.4	W
3-Jul-2024	09:00	0.4	W
3-Jul-2024	10:00	0.4	W
3-Jul-2024	11:00	0.4	NNW
3-Jul-2024	12:00	0.4	NNW
3-Jul-2024	13:00	0.4	W
3-Jul-2024	14:00	0.9	W
3-Jul-2024	15:00	0.9	W
3-Jul-2024	16:00	0.9	NW
3-Jul-2024	17:00	0.9	NNW
3-Jul-2024	18:00	0.4	W
3-Jul-2024	19:00	0.0	W
3-Jul-2024	20:00	0.4	W
3-Jul-2024	21:00	0.0	W
3-Jul-2024	22:00	0.0	W
3-Jul-2024	23:00	0.0	W
4-Jul-2024	00:00	0.0	W
4-Jul-2024	01:00	0.0	WSW
4-Jul-2024	02:00	0.0	W
4-Jul-2024	03:00	0.0	NNW
4-Jul-2024	04:00	0.0	---
4-Jul-2024	05:00	0.0	---
4-Jul-2024	06:00	0.0	---
4-Jul-2024	07:00	0.0	NW
4-Jul-2024	08:00	0.0	W
4-Jul-2024	09:00	0.4	E
4-Jul-2024	10:00	0.0	WNW
4-Jul-2024	11:00	0.0	W
4-Jul-2024	12:00	0.0	W
4-Jul-2024	13:00	0.0	WSW
4-Jul-2024	14:00	0.0	NW
4-Jul-2024	15:00	0.0	NNE
4-Jul-2024	16:00	0.0	W
4-Jul-2024	17:00	0.0	SW
4-Jul-2024	18:00	0.0	SW
4-Jul-2024	19:00	0.0	E
4-Jul-2024	20:00	0.0	---
4-Jul-2024	21:00	0.0	---
4-Jul-2024	22:00	0.0	---
4-Jul-2024	23:00	0.0	NW
5-Jul-2024	00:00	0.0	NW
5-Jul-2024	01:00	0.0	WNW
5-Jul-2024	02:00	0.0	---
5-Jul-2024	03:00	0.0	---
5-Jul-2024	04:00	0.0	NW
5-Jul-2024	05:00	0.0	---
5-Jul-2024	06:00	0.0	---
5-Jul-2024	07:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Jul-2024	08:00	0.0	NW
5-Jul-2024	09:00	0.0	---
5-Jul-2024	10:00	0.0	ENE
5-Jul-2024	11:00	0.0	ENE
5-Jul-2024	12:00	0.4	E
5-Jul-2024	13:00	0.0	---
5-Jul-2024	14:00	0.0	---
5-Jul-2024	15:00	0.0	---
5-Jul-2024	16:00	0.0	---
5-Jul-2024	17:00	0.0	---
5-Jul-2024	18:00	0.0	---
5-Jul-2024	19:00	0.0	---
5-Jul-2024	20:00	0.0	---
5-Jul-2024	21:00	0.0	---
5-Jul-2024	22:00	0.0	---
5-Jul-2024	23:00	0.0	---
6-Jul-2024	00:00	0.0	---
6-Jul-2024	01:00	0.0	---
6-Jul-2024	02:00	0.0	---
6-Jul-2024	03:00	0.0	---
6-Jul-2024	04:00	0.0	---
6-Jul-2024	05:00	0.0	---
6-Jul-2024	06:00	0.0	---
6-Jul-2024	07:00	0.0	---
6-Jul-2024	08:00	0.0	---
6-Jul-2024	09:00	0.0	---
6-Jul-2024	10:00	0.0	---
6-Jul-2024	11:00	0.0	---
6-Jul-2024	12:00	0.0	---
6-Jul-2024	13:00	0.0	---
6-Jul-2024	14:00	0.0	---
6-Jul-2024	15:00	0.0	---
6-Jul-2024	16:00	0.0	---
6-Jul-2024	17:00	0.0	---
6-Jul-2024	18:00	0.0	---
6-Jul-2024	19:00	0.0	---
6-Jul-2024	20:00	0.0	---
6-Jul-2024	21:00	0.0	---
6-Jul-2024	22:00	0.0	---
6-Jul-2024	23:00	0.0	---
7-Jul-2024	00:00	0.0	---
7-Jul-2024	01:00	0.0	---
7-Jul-2024	02:00	0.0	---
7-Jul-2024	03:00	0.0	---
7-Jul-2024	04:00	0.0	---
7-Jul-2024	05:00	0.0	---
7-Jul-2024	06:00	0.0	---
7-Jul-2024	07:00	0.0	---
7-Jul-2024	08:00	0.0	---
7-Jul-2024	09:00	0.0	---
7-Jul-2024	10:00	0.0	---
7-Jul-2024	11:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
7-Jul-2024	12:00	0.0	---
7-Jul-2024	13:00	0.0	---
7-Jul-2024	14:00	0.0	---
7-Jul-2024	15:00	0.0	---
7-Jul-2024	16:00	0.0	---
7-Jul-2024	17:00	0.0	---
7-Jul-2024	18:00	0.0	---
7-Jul-2024	19:00	0.0	---
7-Jul-2024	20:00	0.0	---
7-Jul-2024	21:00	0.0	---
7-Jul-2024	22:00	0.0	---
7-Jul-2024	23:00	0.0	---
8-Jul-2024	00:00	0.0	---
8-Jul-2024	01:00	0.0	---
8-Jul-2024	02:00	0.0	---
8-Jul-2024	03:00	0.0	---
8-Jul-2024	04:00	0.0	---
8-Jul-2024	05:00	0.0	---
8-Jul-2024	06:00	0.0	---
8-Jul-2024	07:00	0.0	---
8-Jul-2024	08:00	0.0	---
8-Jul-2024	09:00	0.0	---
8-Jul-2024	10:00	0.0	---
8-Jul-2024	11:00	0.0	---
8-Jul-2024	12:00	0.0	---
8-Jul-2024	13:00	0.0	---
8-Jul-2024	14:00	0.0	---
8-Jul-2024	15:00	0.0	---
8-Jul-2024	16:00	0.0	---
8-Jul-2024	17:00	0.0	---
8-Jul-2024	18:00	0.0	---
8-Jul-2024	19:00	0.0	---
8-Jul-2024	20:00	0.0	---
8-Jul-2024	21:00	0.0	---
8-Jul-2024	22:00	0.0	---
8-Jul-2024	23:00	0.0	---
9-Jul-2024	00:00	0.0	---
9-Jul-2024	01:00	0.0	---
9-Jul-2024	02:00	0.0	---
9-Jul-2024	03:00	0.0	---
9-Jul-2024	04:00	0.0	---
9-Jul-2024	05:00	0.0	---
9-Jul-2024	06:00	0.0	---
9-Jul-2024	07:00	0.0	---
9-Jul-2024	08:00	0.0	---
9-Jul-2024	09:00	0.0	---
9-Jul-2024	10:00	0.0	---
9-Jul-2024	11:00	0.0	---
9-Jul-2024	12:00	0.0	---
9-Jul-2024	13:00	0.0	---
9-Jul-2024	14:00	0.0	---
9-Jul-2024	15:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
9-Jul-2024	16:00	0.0	---
9-Jul-2024	17:00	0.0	---
9-Jul-2024	18:00	0.0	---
9-Jul-2024	19:00	0.0	---
9-Jul-2024	20:00	0.0	---
9-Jul-2024	21:00	0.0	---
9-Jul-2024	22:00	0.0	---
9-Jul-2024	23:00	0.0	---
10-Jul-2024	00:00	0.0	---
10-Jul-2024	01:00	0.0	---
10-Jul-2024	02:00	0.0	---
10-Jul-2024	03:00	0.0	---
10-Jul-2024	04:00	0.0	---
10-Jul-2024	05:00	0.0	---
10-Jul-2024	06:00	0.0	---
10-Jul-2024	07:00	0.0	---
10-Jul-2024	08:00	0.0	---
10-Jul-2024	09:00	0.0	---
10-Jul-2024	10:00	0.0	---
10-Jul-2024	11:00	0.0	---
10-Jul-2024	12:00	0.0	---
10-Jul-2024	13:00	0.0	---
10-Jul-2024	14:00	0.0	---
10-Jul-2024	15:00	0.0	---
10-Jul-2024	16:00	0.0	---
10-Jul-2024	17:00	0.0	---
10-Jul-2024	18:00	0.0	---
10-Jul-2024	19:00	0.0	---
10-Jul-2024	20:00	0.0	---
10-Jul-2024	21:00	0.0	---
10-Jul-2024	22:00	0.0	---
10-Jul-2024	23:00	0.0	---
11-Jul-2024	00:00	0.0	---
11-Jul-2024	01:00	0.0	---
11-Jul-2024	02:00	0.0	---
11-Jul-2024	03:00	0.0	---
11-Jul-2024	04:00	0.0	---
11-Jul-2024	05:00	0.0	---
11-Jul-2024	06:00	0.0	---
11-Jul-2024	07:00	0.0	---
11-Jul-2024	08:00	0.0	---
11-Jul-2024	09:00	0.0	---
11-Jul-2024	10:00	0.0	---
11-Jul-2024	11:00	0.0	---
11-Jul-2024	12:00	0.0	---
11-Jul-2024	13:00	0.0	---
11-Jul-2024	14:00	0.0	---
11-Jul-2024	15:00	0.0	---
11-Jul-2024	16:00	0.0	---
11-Jul-2024	17:00	0.0	---
11-Jul-2024	18:00	0.0	---
11-Jul-2024	19:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
11-Jul-2024	20:00	0.0	---
11-Jul-2024	21:00	0.0	---
11-Jul-2024	22:00	0.0	---
11-Jul-2024	23:00	0.0	---
12-Jul-2024	00:00	0.0	---
12-Jul-2024	01:00	0.0	---
12-Jul-2024	02:00	0.0	---
12-Jul-2024	03:00	0.0	---
12-Jul-2024	04:00	0.0	---
12-Jul-2024	05:00	0.0	---
12-Jul-2024	06:00	0.0	---
12-Jul-2024	07:00	0.0	---
12-Jul-2024	08:00	0.0	---
12-Jul-2024	09:00	0.0	---
12-Jul-2024	10:00	0.0	---
12-Jul-2024	11:00	0.0	---
12-Jul-2024	12:00	0.0	---
12-Jul-2024	13:00	0.0	---
12-Jul-2024	14:00	0.0	---
12-Jul-2024	15:00	0.0	---
12-Jul-2024	16:00	0.0	---
12-Jul-2024	17:00	0.0	---
12-Jul-2024	18:00	0.0	---
12-Jul-2024	19:00	0.0	---
12-Jul-2024	20:00	0.0	---
12-Jul-2024	21:00	0.0	---
12-Jul-2024	22:00	0.0	---
12-Jul-2024	23:00	0.0	---
13-Jul-2024	00:00	0.0	---
13-Jul-2024	01:00	0.0	---
13-Jul-2024	02:00	0.0	---
13-Jul-2024	03:00	0.0	---
13-Jul-2024	04:00	0.0	---
13-Jul-2024	05:00	0.0	---
13-Jul-2024	06:00	0.0	---
13-Jul-2024	07:00	0.0	---
13-Jul-2024	08:00	0.0	---
13-Jul-2024	09:00	0.0	---
13-Jul-2024	10:00	0.0	---
13-Jul-2024	11:00	0.4	ENE
13-Jul-2024	12:00	0.4	E
13-Jul-2024	13:00	0.4	ENE
13-Jul-2024	14:00	0.4	ENE
13-Jul-2024	15:00	0.4	ENE
13-Jul-2024	16:00	0.4	ENE
13-Jul-2024	17:00	0.4	ENE
13-Jul-2024	18:00	0.0	ENE
13-Jul-2024	19:00	0.0	NNW
13-Jul-2024	20:00	0.0	---
13-Jul-2024	21:00	0.0	---
13-Jul-2024	22:00	0.0	NW
13-Jul-2024	23:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
14-Jul-2024	00:00	0.0	---
14-Jul-2024	01:00	0.0	---
14-Jul-2024	02:00	0.0	WNW
14-Jul-2024	03:00	0.0	WNW
14-Jul-2024	04:00	0.0	WNW
14-Jul-2024	05:00	0.0	W
14-Jul-2024	06:00	0.0	W
14-Jul-2024	07:00	0.4	W
14-Jul-2024	08:00	0.4	W
14-Jul-2024	09:00	0.9	W
14-Jul-2024	10:00	1.3	W
14-Jul-2024	11:00	1.3	W
14-Jul-2024	12:00	1.3	W
14-Jul-2024	13:00	1.8	W
14-Jul-2024	14:00	1.8	W
14-Jul-2024	15:00	1.3	W
14-Jul-2024	16:00	1.8	W
14-Jul-2024	17:00	1.8	W
14-Jul-2024	18:00	2.2	W
14-Jul-2024	19:00	1.3	W
14-Jul-2024	20:00	0.4	W
14-Jul-2024	21:00	0.0	---
14-Jul-2024	22:00	0.4	W
14-Jul-2024	23:00	0.9	W
15-Jul-2024	00:00	0.4	W
15-Jul-2024	01:00	1.3	W
15-Jul-2024	02:00	0.9	W
15-Jul-2024	03:00	0.9	W
15-Jul-2024	04:00	0.9	W
15-Jul-2024	05:00	1.3	W
15-Jul-2024	06:00	0.9	W
15-Jul-2024	07:00	0.9	W
15-Jul-2024	08:00	0.4	W
15-Jul-2024	09:00	0.9	W
15-Jul-2024	10:00	0.9	W
15-Jul-2024	11:00	0.4	W
15-Jul-2024	12:00	1.3	W
15-Jul-2024	13:00	1.8	W
15-Jul-2024	14:00	1.3	W
15-Jul-2024	15:00	1.8	WSW
15-Jul-2024	16:00	1.8	W
15-Jul-2024	17:00	1.3	W
15-Jul-2024	18:00	1.3	W
15-Jul-2024	19:00	0.9	W
15-Jul-2024	20:00	0.9	W
15-Jul-2024	21:00	0.9	W
15-Jul-2024	22:00	0.0	W
15-Jul-2024	23:00	0.4	W
16-Jul-2024	00:00	0.4	W
16-Jul-2024	01:00	0.0	WSW
16-Jul-2024	02:00	0.0	WSW
16-Jul-2024	03:00	0.0	WNW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
16-Jul-2024	04:00	0.0	W
16-Jul-2024	05:00	0.0	W
16-Jul-2024	06:00	0.4	W
16-Jul-2024	07:00	0.9	W
16-Jul-2024	08:00	0.4	W
16-Jul-2024	09:00	0.9	W
16-Jul-2024	10:00	0.9	W
16-Jul-2024	11:00	0.9	WSW
16-Jul-2024	12:00	0.9	W
16-Jul-2024	13:00	0.9	W
16-Jul-2024	14:00	0.4	WSW
16-Jul-2024	15:00	1.8	W
16-Jul-2024	16:00	1.3	WSW
16-Jul-2024	17:00	1.3	WSW
16-Jul-2024	18:00	0.4	WSW
16-Jul-2024	19:00	0.9	WSW
16-Jul-2024	20:00	1.3	W
16-Jul-2024	21:00	0.0	WSW
16-Jul-2024	22:00	0.0	WSW
16-Jul-2024	23:00	0.0	WSW
17-Jul-2024	00:00	0.0	WSW
17-Jul-2024	01:00	0.0	---
17-Jul-2024	02:00	0.0	W
17-Jul-2024	03:00	0.0	WSW
17-Jul-2024	04:00	0.0	WSW
17-Jul-2024	05:00	0.0	---
17-Jul-2024	06:00	0.0	---
17-Jul-2024	07:00	0.0	ENE
17-Jul-2024	08:00	0.0	W
17-Jul-2024	09:00	0.4	W
17-Jul-2024	10:00	0.4	WSW
17-Jul-2024	11:00	0.9	WSW
17-Jul-2024	12:00	0.9	WNW
17-Jul-2024	13:00	0.9	W
17-Jul-2024	14:00	1.3	NW
17-Jul-2024	15:00	0.9	NW
17-Jul-2024	16:00	0.4	W
17-Jul-2024	17:00	0.9	NW
17-Jul-2024	18:00	0.9	NW
17-Jul-2024	19:00	0.4	NW
17-Jul-2024	20:00	0.0	W
17-Jul-2024	21:00	0.0	---
17-Jul-2024	22:00	0.0	W
17-Jul-2024	23:00	0.0	W
18-Jul-2024	00:00	0.0	---
18-Jul-2024	01:00	0.0	W
18-Jul-2024	02:00	0.0	---
18-Jul-2024	03:00	0.0	W
18-Jul-2024	04:00	0.0	---
18-Jul-2024	05:00	0.0	---
18-Jul-2024	06:00	0.0	---
18-Jul-2024	07:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
18-Jul-2024	08:00	0.0	---
18-Jul-2024	09:00	0.4	WSW
18-Jul-2024	10:00	0.4	WNW
18-Jul-2024	11:00	0.4	W
18-Jul-2024	12:00	1.3	W
18-Jul-2024	13:00	0.0	W
18-Jul-2024	14:00	0.4	ENE
18-Jul-2024	15:00	0.4	ENE
18-Jul-2024	16:00	0.0	NNW
18-Jul-2024	17:00	0.0	---
18-Jul-2024	18:00	0.0	---
18-Jul-2024	19:00	0.0	W
18-Jul-2024	20:00	0.4	W
18-Jul-2024	21:00	0.0	W
18-Jul-2024	22:00	0.9	W
18-Jul-2024	23:00	0.4	W
19-Jul-2024	00:00	0.0	---
19-Jul-2024	01:00	0.0	---
19-Jul-2024	02:00	0.0	W
19-Jul-2024	03:00	0.0	W
19-Jul-2024	04:00	0.0	W
19-Jul-2024	05:00	0.0	---
19-Jul-2024	06:00	0.0	W
19-Jul-2024	07:00	0.0	---
19-Jul-2024	08:00	0.0	WNW
19-Jul-2024	09:00	0.0	---
19-Jul-2024	10:00	0.0	---
19-Jul-2024	11:00	0.0	E
19-Jul-2024	12:00	0.0	ENE
19-Jul-2024	13:00	0.0	---
19-Jul-2024	14:00	0.0	W
19-Jul-2024	15:00	0.4	W
19-Jul-2024	16:00	0.0	WSW
19-Jul-2024	17:00	0.4	W
19-Jul-2024	18:00	0.4	WSW
19-Jul-2024	19:00	0.0	WSW
19-Jul-2024	20:00	0.0	WSW
19-Jul-2024	21:00	0.0	WSW
19-Jul-2024	22:00	0.4	W
19-Jul-2024	23:00	0.4	W
20-Jul-2024	00:00	0.0	WSW
20-Jul-2024	01:00	0.0	WSW
20-Jul-2024	02:00	0.4	WSW
20-Jul-2024	03:00	0.0	WSW
20-Jul-2024	04:00	0.0	W
20-Jul-2024	05:00	0.0	W
20-Jul-2024	06:00	0.4	WSW
20-Jul-2024	07:00	0.0	W
20-Jul-2024	08:00	0.0	WSW
20-Jul-2024	09:00	0.4	WSW
20-Jul-2024	10:00	0.9	WSW
20-Jul-2024	11:00	0.4	WSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
20-Jul-2024	12:00	0.0	W
20-Jul-2024	13:00	0.4	WSW
20-Jul-2024	14:00	0.4	W
20-Jul-2024	15:00	0.9	W
20-Jul-2024	16:00	0.4	WSW
20-Jul-2024	17:00	1.3	WSW
20-Jul-2024	18:00	0.9	WSW
20-Jul-2024	19:00	0.0	WSW
20-Jul-2024	20:00	0.4	WSW
20-Jul-2024	21:00	1.3	W
20-Jul-2024	22:00	0.4	WSW
20-Jul-2024	23:00	0.9	WSW
21-Jul-2024	00:00	0.4	WSW
21-Jul-2024	01:00	0.4	WSW
21-Jul-2024	02:00	0.4	WSW
21-Jul-2024	03:00	0.4	WSW
21-Jul-2024	04:00	0.9	WSW
21-Jul-2024	05:00	0.4	WSW
21-Jul-2024	06:00	0.9	WSW
21-Jul-2024	07:00	0.4	WSW
21-Jul-2024	08:00	0.4	WSW
21-Jul-2024	09:00	0.4	WSW
21-Jul-2024	10:00	1.3	WSW
21-Jul-2024	11:00	1.8	WSW
21-Jul-2024	12:00	1.3	W
21-Jul-2024	13:00	1.3	W
21-Jul-2024	14:00	2.2	W
21-Jul-2024	15:00	1.3	W
21-Jul-2024	16:00	0.9	W
21-Jul-2024	17:00	1.3	W
21-Jul-2024	18:00	1.3	W
21-Jul-2024	19:00	0.4	W
21-Jul-2024	20:00	0.4	W
21-Jul-2024	21:00	0.4	W
21-Jul-2024	22:00	0.4	W
21-Jul-2024	23:00	0.9	W
22-Jul-2024	00:00	0.0	W
22-Jul-2024	01:00	0.0	W
22-Jul-2024	02:00	0.0	W
22-Jul-2024	03:00	0.0	WSW
22-Jul-2024	04:00	0.0	WSW
22-Jul-2024	05:00	0.0	W
22-Jul-2024	06:00	0.0	W
22-Jul-2024	07:00	0.4	W
22-Jul-2024	08:00	0.4	W
22-Jul-2024	09:00	0.4	W
22-Jul-2024	10:00	0.4	W
22-Jul-2024	11:00	1.3	W
22-Jul-2024	12:00	1.8	W
22-Jul-2024	13:00	1.3	W
22-Jul-2024	14:00	1.8	W
22-Jul-2024	15:00	0.9	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
22-Jul-2024	16:00	1.3	W
22-Jul-2024	17:00	0.9	W
22-Jul-2024	18:00	0.0	W
22-Jul-2024	19:00	0.0	NW
22-Jul-2024	20:00	0.0	W
22-Jul-2024	21:00	0.0	W
22-Jul-2024	22:00	0.0	---
22-Jul-2024	23:00	0.4	W
23-Jul-2024	00:00	0.0	W
23-Jul-2024	01:00	0.0	---
23-Jul-2024	02:00	0.0	---
23-Jul-2024	03:00	0.0	---
23-Jul-2024	04:00	0.0	---
23-Jul-2024	05:00	0.0	---
23-Jul-2024	06:00	0.0	---
23-Jul-2024	07:00	0.0	W
23-Jul-2024	08:00	0.0	W
23-Jul-2024	09:00	0.0	W
23-Jul-2024	10:00	0.0	W
23-Jul-2024	11:00	0.0	E
23-Jul-2024	12:00	0.9	E
23-Jul-2024	13:00	0.4	E
23-Jul-2024	14:00	0.9	E
23-Jul-2024	15:00	0.9	E
23-Jul-2024	16:00	0.4	E
23-Jul-2024	17:00	0.4	E
23-Jul-2024	18:00	0.4	E
23-Jul-2024	19:00	0.4	E
23-Jul-2024	20:00	0.0	E
23-Jul-2024	21:00	0.0	E
23-Jul-2024	22:00	0.0	E
23-Jul-2024	23:00	0.0	E
24-Jul-2024	00:00	0.0	---
24-Jul-2024	01:00	0.0	ENE
24-Jul-2024	02:00	0.4	E
24-Jul-2024	03:00	0.4	E
24-Jul-2024	04:00	0.0	E
24-Jul-2024	05:00	0.0	E
24-Jul-2024	06:00	0.0	ENE
24-Jul-2024	07:00	0.0	ENE
24-Jul-2024	08:00	0.0	ENE
24-Jul-2024	09:00	0.4	E
24-Jul-2024	10:00	0.9	E
24-Jul-2024	11:00	0.4	ENE
24-Jul-2024	12:00	0.9	ENE
24-Jul-2024	13:00	0.4	E
24-Jul-2024	14:00	0.0	ENE
24-Jul-2024	15:00	0.0	E
24-Jul-2024	16:00	0.9	ENE
24-Jul-2024	17:00	0.4	ENE
24-Jul-2024	18:00	0.4	ENE
24-Jul-2024	19:00	0.4	E

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
24-Jul-2024	20:00	0.0	E
24-Jul-2024	21:00	0.0	E
24-Jul-2024	22:00	0.0	E
24-Jul-2024	23:00	0.0	E
25-Jul-2024	00:00	0.0	E
25-Jul-2024	01:00	0.4	E
25-Jul-2024	02:00	0.9	E
25-Jul-2024	03:00	0.9	E
25-Jul-2024	04:00	0.9	E
25-Jul-2024	05:00	0.9	E
25-Jul-2024	06:00	0.4	E
25-Jul-2024	07:00	0.4	ENE
25-Jul-2024	08:00	1.3	ENE
25-Jul-2024	09:00	1.8	ENE
25-Jul-2024	10:00	1.3	ENE
25-Jul-2024	11:00	1.8	ENE
25-Jul-2024	12:00	1.8	ENE
25-Jul-2024	13:00	1.8	ENE
25-Jul-2024	14:00	2.7	ENE
25-Jul-2024	15:00	2.7	ENE
25-Jul-2024	16:00	2.7	E
25-Jul-2024	17:00	1.8	E
25-Jul-2024	18:00	1.8	E
25-Jul-2024	19:00	1.8	ENE
25-Jul-2024	20:00	0.9	ENE
25-Jul-2024	21:00	1.3	ENE
25-Jul-2024	22:00	1.8	ENE
25-Jul-2024	23:00	1.8	ENE
26-Jul-2024	00:00	1.3	ENE
26-Jul-2024	01:00	0.0	ENE
26-Jul-2024	02:00	0.0	ENE
26-Jul-2024	03:00	0.0	NW
26-Jul-2024	04:00	0.0	NE
26-Jul-2024	05:00	0.4	WNW
26-Jul-2024	06:00	0.0	NW
26-Jul-2024	07:00	0.0	ENE
26-Jul-2024	08:00	0.0	ENE
26-Jul-2024	09:00	0.0	ENE
26-Jul-2024	10:00	0.0	ENE
26-Jul-2024	11:00	0.0	ENE
26-Jul-2024	12:00	0.0	ENE
26-Jul-2024	13:00	0.0	E
26-Jul-2024	14:00	0.4	E
26-Jul-2024	15:00	0.4	E
26-Jul-2024	16:00	0.4	ENE
26-Jul-2024	17:00	0.4	ENE
26-Jul-2024	18:00	0.4	ENE
26-Jul-2024	19:00	0.4	E
26-Jul-2024	20:00	0.0	ENE
26-Jul-2024	21:00	0.0	NW
26-Jul-2024	22:00	0.0	NW
26-Jul-2024	23:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
27-Jul-2024	00:00	0.0	ENE
27-Jul-2024	01:00	0.0	N
27-Jul-2024	02:00	0.0	ENE
27-Jul-2024	03:00	0.0	E
27-Jul-2024	04:00	0.0	NNW
27-Jul-2024	05:00	0.0	ENE
27-Jul-2024	06:00	0.0	---
27-Jul-2024	07:00	0.0	NW
27-Jul-2024	08:00	0.0	ENE
27-Jul-2024	09:00	0.0	---
27-Jul-2024	10:00	0.0	WNW
27-Jul-2024	11:00	0.9	WNW
27-Jul-2024	12:00	0.4	WNW
27-Jul-2024	13:00	0.4	W
27-Jul-2024	14:00	0.4	WNW
27-Jul-2024	15:00	0.4	W
27-Jul-2024	16:00	0.0	SSW
27-Jul-2024	17:00	0.0	W
27-Jul-2024	18:00	0.4	W
27-Jul-2024	19:00	0.0	W
27-Jul-2024	20:00	0.4	W
27-Jul-2024	21:00	0.4	WSW
27-Jul-2024	22:00	0.0	W
27-Jul-2024	23:00	0.4	W
28-Jul-2024	00:00	0.9	W
28-Jul-2024	01:00	0.4	W
28-Jul-2024	02:00	0.4	WSW
28-Jul-2024	03:00	0.4	WSW
28-Jul-2024	04:00	0.9	W
28-Jul-2024	05:00	0.4	WSW
28-Jul-2024	06:00	0.0	WSW
28-Jul-2024	07:00	0.0	---
28-Jul-2024	08:00	0.4	WSW
28-Jul-2024	09:00	0.0	WSW
28-Jul-2024	10:00	0.0	WSW
28-Jul-2024	11:00	0.0	---
28-Jul-2024	12:00	0.0	WSW
28-Jul-2024	13:00	0.0	W
28-Jul-2024	14:00	0.0	W
28-Jul-2024	15:00	0.4	WSW
28-Jul-2024	16:00	1.3	WSW
28-Jul-2024	17:00	0.9	WSW
28-Jul-2024	18:00	1.8	WSW
28-Jul-2024	19:00	0.4	WSW
28-Jul-2024	20:00	0.0	WSW
28-Jul-2024	21:00	0.9	WSW
28-Jul-2024	22:00	0.4	WSW
28-Jul-2024	23:00	0.9	WSW
29-Jul-2024	00:00	0.0	WSW
29-Jul-2024	01:00	0.0	---
29-Jul-2024	02:00	0.0	---
29-Jul-2024	03:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
29-Jul-2024	04:00	0.0	W
29-Jul-2024	05:00	0.0	WSW
29-Jul-2024	06:00	0.0	WSW
29-Jul-2024	07:00	0.0	WSW
29-Jul-2024	08:00	0.0	WSW
29-Jul-2024	09:00	0.4	W
29-Jul-2024	10:00	0.0	WSW
29-Jul-2024	11:00	0.0	WSW
29-Jul-2024	12:00	0.4	NNW
29-Jul-2024	13:00	0.4	NW
29-Jul-2024	14:00	0.0	ENE
29-Jul-2024	15:00	0.0	---
29-Jul-2024	16:00	0.0	WSW
29-Jul-2024	17:00	0.4	WSW
29-Jul-2024	18:00	0.4	WSW
29-Jul-2024	19:00	0.4	WSW
29-Jul-2024	20:00	0.4	WSW
29-Jul-2024	21:00	0.4	WSW
29-Jul-2024	22:00	0.9	WSW
29-Jul-2024	23:00	1.3	WSW
30-Jul-2024	00:00	1.3	WSW
30-Jul-2024	01:00	1.3	WSW
30-Jul-2024	02:00	0.4	WSW
30-Jul-2024	03:00	0.9	WSW
30-Jul-2024	04:00	0.4	WSW
30-Jul-2024	05:00	0.0	W
30-Jul-2024	06:00	0.0	WSW
30-Jul-2024	07:00	0.0	W
30-Jul-2024	08:00	0.0	WSW
30-Jul-2024	09:00	0.0	WSW
30-Jul-2024	10:00	0.4	WSW
30-Jul-2024	11:00	1.3	WSW
30-Jul-2024	12:00	0.9	WSW
30-Jul-2024	13:00	0.9	WSW
30-Jul-2024	14:00	0.0	ENE
30-Jul-2024	15:00	0.0	WSW
30-Jul-2024	16:00	0.0	WSW
30-Jul-2024	17:00	0.9	WSW
30-Jul-2024	18:00	0.9	WSW
30-Jul-2024	19:00	0.0	NW
30-Jul-2024	20:00	0.0	NW
30-Jul-2024	21:00	0.0	---
30-Jul-2024	22:00	0.0	NW
30-Jul-2024	23:00	0.0	---
31-Jul-2024	00:00	0.0	WNW
31-Jul-2024	01:00	0.0	---
31-Jul-2024	02:00	0.0	---
31-Jul-2024	03:00	0.0	---
31-Jul-2024	04:00	0.0	W
31-Jul-2024	05:00	0.0	NW
31-Jul-2024	06:00	0.0	W
31-Jul-2024	07:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
31-Jul-2024	08:00	0.0	W
31-Jul-2024	09:00	0.0	W
31-Jul-2024	10:00	0.0	---
31-Jul-2024	11:00	0.0	ENE
31-Jul-2024	12:00	0.0	E
31-Jul-2024	13:00	0.0	ESE
31-Jul-2024	14:00	0.0	E
31-Jul-2024	15:00	0.0	E
31-Jul-2024	16:00	0.0	E
31-Jul-2024	17:00	0.0	---
31-Jul-2024	18:00	0.0	---
31-Jul-2024	19:00	0.0	ENE
31-Jul-2024	20:00	0.0	ENE
31-Jul-2024	21:00	0.0	ENE
31-Jul-2024	22:00	0.0	ENE
31-Jul-2024	23:00	0.0	ENE

APPENDIX J
EVENT ACTION PLANS

Appendix J Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1.Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 5. Supervise the implementation 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control;

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	<ol style="list-style-type: none"> 1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as 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	<ol style="list-style-type: none"> 1. Inform IEC, Contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; and 3. Discuss remedial measures with IEC and Contractor and ER. 	<ol style="list-style-type: none"> 1. Discuss with ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Discuss with IEC, ET and Contractor on the implemented mitigation measures; 2. Make agreement on the remedial measures to be implemented; 3. Supervise the implementation of agreed remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with ER, ET and IEC and purpose remedial measures to IEC and ER; and 7. Implement the agreed mitigation measures.
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss remedial measures with IEC, contractor and ER 5. Ensure remedial measures are implemented 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Discuss with ET, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the remedial measures to be implemented; and 3. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 	<ol style="list-style-type: none"> 1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 	<ol style="list-style-type: none"> 1. Discuss with ET, IEC and Contractor on the implemented remedial measures; 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing;

	Action			
Event	ET	IEC	ER	Contractor
	3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Consider changes of working methods; 6. Discuss mitigation measures with IEC, ER and Contractor; and 7. Ensure the agreed remedial measures are implemented	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.	2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; and 4. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.	3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed remedial measures.
Limit level being exceeded by two or more consecutive sampling days	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.	1. Discuss with ET, IEC and Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; 4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed remedial measures. 7. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.

Event / Action Plan for Landscape and Visual during construction phase

Event	Action			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Inform the Contractor, IEC and ER 2. Discuss remedial actions with IEC, ER and Contractor 3. Monitor remedial actions until rectification has been completed 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of non-conformity in writing 2. Review and agree on the remedial measures proposed by the Contractor 3. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 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
Repeated Non-conformity	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 1. Notify the Contractor 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented 3. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 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
Air Quality	1-hr TSP	0	0	0	0
	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
Water Quality	Dissolved Oxygen (DO)	0	0	0	0
	Turbidity	0	0	0	0
	Suspended Solids (SS)	0	0	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**

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240703
Date	3 July 2024 (Wednesday)
Time	14:45-16:00

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	
240703-F01	• The design of the sump pit should be further reviewed at LMC Loop which currently used to collect the rainwater instead.	D3ii.
240703-F02	• The site drainage system at the site area near Pai Lau was observed not satisfactory. The Contractor was reminded to review and demonstrate the effectiveness of the drainage system with immediate effect.	D1, D7 & D14i.
240703-F05/ R02	• The temporary drainage channel at under meander bridge should be directed to the appropriate collection pit instead of meander.	D3i.
240703-R01	• The maintenance records for the wetsep should be provided near meander.	D7
240703-R04	• The sand bag bund along the boundary of the meander near the wheel washing bay should be erected and enhanced.	D4
	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	
240703-F03	• The green fences should be installed along Pond 12.	H2
240703-F04	• The damage green fences along the meander should be replaced.	H2
240703-R03	• The damage green fences should be properly replaced at meander bridge.	H2
	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.: 240626), follow-up action was required for item no. 240626-F01, F02, F03, F04, R01 which were remarked as 240703-F01, F02, F03, F04, F05/R02 respectively.	



	Name	Signature	Date
Recorded by	Ivy Tam		3 July 2024
Checked by	Dr. Priscilla Choy		3 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240708
Date	8 July 2024 (Monday)
Time	14:00-15:45

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	
240708-F01	• The sand bag bund along the boundary of the meander near the wheel washing bay should be erected and enhanced.	D4
	E. Waste / Chemical Management	
240708-R01	• The contaminated soil at near the site office should be cleared as chemical wastes.	E12
	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.: 240703), follow-up action was required for item no. 240703-R04 which was remarked as 240708-F01, Other identified environmental deficiencies were observed improved/ rectified by the Contractor.	



	Name	Signature	Date
Recorded by	Ivy Tam		8 July 2024
Checked by	Dr. Priscilla Choy		8 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240717
Date	17 July 2024 (Wednesday)
Time	9:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240717-R01	• The erosion channel should be blocked to avoid directly discharge muddy surface runoff outside the site boundary (near Ma Tso Lung Roundabout).	D4
	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	
240717-R02	• The green fences should be properly erected around the works area at meander bridge.	H2
	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.: 240708), all identified environmental deficiencies were observed improved/ rectified by the Contractor.	



	Name	Signature	Date
Recorded by	Ivy Tam		17 July 2024
Checked by	Dr. Priscilla Choy		17 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240724
Date	24 July 2024 (Wednesday)
Time	14:00-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Air Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>C. Noise</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>D. Water Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>E. Waste / Chemical Management</i>	
240724-R01	• Oil spillage at WCR works area should be cleared.	E 12
	<i>F. Land Contamination</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>H. Ecology</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>I. Fisheries</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>J. Permits/Licences</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>K. Others</i>	
	Follow-up on previous audit section (Ref. No.: 240717), all identified environmental deficiencies were observed improved/ rectified by the Contractor.	



	Name	Signature	Date
Recorded by	Adrian Lam		24 July 2024
Checked by	Dr. Priscilla Choy		24 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240731
Date	31 July 2024 (Wednesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240731-R01	• The sand bag bund near the meander bridge should be enhanced to avoid the leakage of muddy water to the meander especially during heavy rainstorm.	D4
240731-R02	• The wastewater treatment facilities including the water pump should be regularly checked to ensure they are functioning properly (near Pond 12).	D6iii & D7
	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	
240731-R03	• The construction materials outside the green fences at Pond 12 should be removed.	H4
	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.: 240724), all identified environmental deficiencies were observed improved/ rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		31 July 2024
Checked by	Dr. Priscilla Choy		31 July 2024

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

Inspection Information

Checklist Reference Number	240703
Date	3 July 2024 (Wednesday)
Time	09:30-11:30

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	
240703-F01	• The wheel washing water should be properly collected for treatment at the site exit at Chau Tau West Road.	D14i.
240703-F02	• To effectively treat muddy water, the sump pit should be connected to a wetsep (LMC Road)	D3
240703-F03	• The rubbish blocking the bypass system at the nullah should be cleared (Chau Tau West Road).	D8
240703-O01	• Muddy water was observed leaking to the public gully from the construction site at Lok Ma Chau Road facing Fu Tai Site Area. The Contractor was reminded to rectify such deficiency and enhance water quality mitigation measures accordingly.	D4
	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	
240703-R01	• The water-filled barriers should be properly erected along the site boundary in vicinity of the habitat at TAR1.	H2
	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.: 240626), follow-up action was required for item 240626-F01, F02 and R02, which were remarked as 240703-F01, F02 and F03 respectively. Other identified environmental deficiencies were observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		3 July 2024
Checked by	Dr. Priscilla Choy		3 July 2024

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

Inspection Information

Checklist Reference Number	240710
Date	10 July 2024 (Wednesday)
Time	09:30-10:45

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	
240710-R02	• Noise mitigation measures should be provided for the breaking works at Fu Tai Site Area.	C5
	D. Water Quality	
240710-F01	• The rubbish blocking the bypass system at the nullah should be cleared (Chau Tau West Road).	D8
240710-O01	• The accumulated mud was observed in front of the culvert at Chau Tau West Road. The Contractor was reminded to clear the mud and enhance the sand bag bund to avoid the discharge of muddy water via the culvert. Also, water pump should be provided to pump the collected muddy water to the appropriate wastewater treatment facilities.	D8
240710-O02	• The collected site discharge was observed pumping to the bypass system channel at Fu Tai Site. The Contractor was reminded to divert all site discharge to the appropriate treatment facilities.	D4
240710-R01	• The channel erosion leading to the nearby habitat should be blocked to avoid discharging of site runoff outside (Fu Tai Site Area).	D4
	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.: 240703), follow-up action was required for item 240703-F03, which was remarked as 240710-F01. Other identified environmental deficiencies were observed improved/ rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		10 July 2024
Checked by	Dr. Priscilla Choy		10 July 2024

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

Inspection Information

Checklist Reference Number	240717
Date	17 July 2024 (Wednesday)
Time	14:15-15:45

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	
240717-F01	• The rubbish blocking the bypass system at the nullah should be cleared (Chau Tau West Road).	D8
240717-F02	• The collected site discharge was observed pumping to the bypass system channel at Fu Tai Site. The Contractor was reminded to divert all site discharge to the appropriate treatment facilities.	D4
	E. Waste / Chemical Management	
240717-R01	• The chemical containers at DRL-P09 & P02 shall be temporary stored on site with drip tray.	E13
240717-R02	• The rubbish which was not disposed properly at near the nullah at DRL-P02 shall be cleared.	E1iii.
	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.: 240710), follow-up action was required for item 240710-F01 and O02, which were remarked as 240717-F01 and F02 respectively. Other identified environmental deficiencies were observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		17 July 2024
Checked by	Dr. Priscilla Choy		17 July 2024

Service Contract No. WD/04/2020

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

Inspection Information

Checklist Reference Number	240724
Date	24 July 2024 (Wednesday)
Time	9:30-10:45

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	
240724-F01	• The rubbish blocking the bypass system at the nullah should be cleared (Chau Tau West Road).	D8
240724-F02	• The collected site discharge was observed pumping to the bypass system channel at Fu Tai Site. The Contractor was reminded to divert all site discharge to the appropriate treatment facilities.	D4
240724-R02	• Sand bag bund should be deployed along the site boundary near the nullah to avoid any gap at DRL-P09.	D4
	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	
240724-R01	• Updated Environmental Permit should be displayed at the conspicuous location at TAR1.	J5
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 240717), follow-up action was required for item 240717-F01 and F02, which were remarked as 240724-F01 and F02 respectively. Other identified environmental deficiencies were observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		24 July 2024
Checked by	Dr. Priscilla Choy		24 July 2024

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

Inspection Information

Checklist Reference Number	240731
Date	31 July 2024 (Wednesday)
Time	10:45-11:45

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	
240731-O01	• Directly discharge of the site runoff to the nearby public drainage, nullah and habitat at different locations along the LMC Road was observed. Insufficient sedimentation tank as well as the wetsep cannot be functioned properly were also observed. The Contractor was reminded to urgently review the implemented water quality mitigation measure to avoid any water quality impact to the nearby sensitive receivers.	D4, D6 & D7
240731-R01	• Mud trails near the gullies at the site exit of the car park should be cleared and provide mitigation measures to avoid the re-occurrence of this incident.	D13
	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.: 240724), all identified environmental deficiencies were observed improved/ rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		31 July 2024
Checked by	Dr. Priscilla Choy		31 July 2024

Contract No. YL/2021/01 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 3 Direct Road



Link Phase 2

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240703
Date	3 July 2024 (Wednesday)
Time	13:30-14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240703-R01	• The construction materials blocking the access to the wetsep for maintenance should be cleared at EPTI.	D8
240703-R02	• The sump pit to collect the muddy surface runoff at Line AB should be further reviewed and modified to ensure effective for muddy surface runoff collection from whole site.	D3
	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.:240624), all environmental deficiencies was improved/rectified by the Contractor.	



	Name	Signature	Date
Recorded by	Ivy Tam		3 July 2024
Checked by	Dr. Priscilla Choy		3 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240710
Date	10 July 2024 (Wednesday)
Time	14:15-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Air Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>C. Noise</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>D. Water Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>F. Land Contamination</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>H. Ecology</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>I. Fisheries</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>J. Permits/Licences</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>K. Others</i>	
	• Follow-up on previous audit section (Ref. No.:240703), all environmental deficiencies was improved/rectified by the Contractor.	



	Name	Signature	Date
Recorded by	Ivy Tam		10 July 2024
Checked by	Dr. Priscilla Choy		10 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240715
Date	15 July 2024 (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	
	• 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.:240710), no major environmental deficiency was identified during the site inspection.	



	Name	Signature	Date
Recorded by	Him Ng		15 July 2024
Checked by	Dr. Priscilla Choy		15 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240722
Date	22 July 2024 (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	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
240722-R01	• The oil spillage from the breaker should be cleared as chemical wastes and the breaker should be checked to ensure no further oil leakage before use (Gripline E).	E12
	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.:240715), no major environmental deficiency was identified during the site inspection.	



	Name	Signature	Date
Recorded by	Ivy Tam		22 July 2024
Checked by	Dr. Priscilla Choy		22 July 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240729
Date	29 July 2024 (Monday)
Time	14:00-14:50

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	
240729-R01	• Muddy water surface runoff should be properly diverted to the nearby sump pit and pumped to the wetsep for treatment before discharging out (Gripline AB).	D4
	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.:240722), all environmental deficiencies was improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		29 July 2024
Checked by	Dr. Priscilla Choy		29 July 2024

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

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
Construction Dust Impact							
S3.8	D1-DP 1/DP2/ DP3	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 92.1%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.6 L/m ² to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	^
S3.8	D2-DP 1/DP2/ DP3	<p>The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation</p> <ul style="list-style-type: none"> • All vehicles shall be shut down in intermittent use • Only well-maintained plant should be operated on-site to avoid emission of dark smoke • Valid No-Road Mobile Machinery (NRMM) labels should be provided to regulated machines 	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	^ ^ ^
S3.8	D2-DP 1/DP2/ DP3	<ul style="list-style-type: none"> • Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction Phase • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty material do not leak from 	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	^ ^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>impervious sheeting or placed in an area sheltered on the top and the 3 sides;</p> <ul style="list-style-type: none"> • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turving, 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. 					<p>N/A</p> <p>N/A</p> <p>^</p>
S3.8	D4-DP 1/DP2/ DP3	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	^
Construction Noise Impact							
S4.8	N-CP1-DP1/D P2/DP3	<p>Implement the following good site management practices:</p> <ul style="list-style-type: none"> • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction 	Control construction airborne noise	Contractor	All construction sites	Construction stage	<p>^</p> <p>^</p> <p>^</p>

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
		<p>equipment should be properly fitted and maintained during the construction works;</p> <ul style="list-style-type: none"> • 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. 					<p>^</p> <p>^</p>
S4.8	N-CP2-DP1/D P2/DP3	Install temporary site hoarding (approx 2.4m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP3-DP1/D P2/DP3	Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction phase	*
S4.8	N-CP4-DP1/D P2/DP3	Use of "Quiet" Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP5-DP1/D P2/DP3	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP6-DP2	Setting the concrete lorry mixer at around 25m away from the existing NSRs along Ha Wan Tsuen Road and Lok Ma Chau Road	Reduce the noise levels from concrete lorry mixer	Contractor	Sections with NSRs along Ha Wan Tsuen Road and Lok	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
					Ma Chau Road		
S4.8	N-CP8-DP2	Provide temporary noise barrier during construction phase.	Control airborne noise from construction access road traffic	Contractor	Refer to Figure 4-8 of the EIA report	Construction phase	^
S4.8	N-CP7-DP2/N-CP6-D P1/N-C P6-DP3	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction phase	^
Water Quality Impact (Construction Phase)							
S5.7	W1-CP-DP1/D P2/DP3	<p>Construction Runoff and Site Drainage</p> <p>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures, where appropriate, should include the following:</p> <ul style="list-style-type: none"> Update and implementation of Stormwater Pollution Control Plan At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. 	Minimize water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction phase	^ *

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<ul style="list-style-type: none"> • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipments in order to avoid or minimize polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 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 based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed 					<p style="text-align: center;">*</p> <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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
		<p>slope surfaces should be covered by tarpaulin or other means.</p> <ul style="list-style-type: none"> • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction materials (for example, aggregates, sand and fill material) of should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events. 					<p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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
		<ul style="list-style-type: none"> • All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheelwash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. • Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any 					<p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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	<u>Groundwater from Contaminated Area</u> <ul style="list-style-type: none"> • 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 and a discharge license should be obtained under the WPCO through the Regional Offices of EPD. 	Minimize groundwater quality impact from contaminated area	Contractor	Areas where contamination is found.	Construction phase	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
S5.7	W3-CP -DP1/D P2/DP3	<u>Sewage from Workforce</u> <ul style="list-style-type: none"> • 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	^

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
		<p>portable toilets to cater 0.15m³/day/employed populations and be responsible for appropriate disposal and maintenance.</p> <ul style="list-style-type: none"> 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. 					<p>^</p> <p>^</p>
S5.7	W4-CP -DP1	<p><u>Riverbanks Formation</u></p> <ul style="list-style-type: none"> In order to prevent sediment transport during riverbank works, deployment of silt curtain should be implemented, especially when construction works encroach or occur in close distance to water body. It is recommended to carry out all the riverbank works within a cofferdam or diaphragm wall. Water quality of the Shenzhen River and the meander would be monitored to ensure effectiveness of the implemented mitigation measures. 	Minimize water quality impact from riverbank works	Contractor	Riverbank works	Construction Phase	<p>^</p> <p>^</p>
S5.7	W1-CP -BR	<p><u>Bio-remediation in Shenzhen River</u></p> <ul style="list-style-type: none"> Water quality monitoring and audit is recommended to ensure that the proposed bio-remediation operation would not result in adverse water quality impact. Details of the water quality monitoring programme are presented in the EM&A Manual. If unacceptable water quality impact in the receiving water is recorded, additional measures such as slowing down, or rescheduling of works should be 	Minimize water quality impact from bio-remediation of Shenzhen River	Contractor	Shenzhen River where practicable	Construction phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		implemented as necessary.					
S5.7	W4-CP -DP3	<p><u>Construction of Viaduct across Reedbed in LMC Station</u></p> <p>As a precautionary measures, three options are recommended to ensure the compliance of No Net Increase in Pollution Load in Deep Bay for further consideration. They include:</p> <ul style="list-style-type: none"> • 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. <p>Details of these measures will be subject to further liaison with MTRC and a separate VEP application.</p>	Minimize water quality impact from of viaduct on reedbed	Contractor	Construction sites across reedbed in LMC Station	Construction phase	N/A
S5.7	W5-CP -DP2/D P3	<p><u>Construction of Bridge Crossing</u></p> <ul style="list-style-type: none"> • Good site management as stipulated in ProPECC PN1/94 should be fully implemented to avoid polluted liquid or solid wastes from falling into the WSRs. • All the fishponds will be drained and no fishpond will be affected by bridge crossing. • In the meander, cofferdam or diaphragm walls should be deployed for protecting fish ponds or nearby rivers during bridge pier construction and or road widening work at fishponds. • For the low level viaducts crossing the small streams at Ma Tso Lung, Ping Hang and channel near Lung Hau Road, precast structures will be used such that there will be no construction work in the water streams, and thus, to avoid direct water quality impacts. 	Minimize water quality impact from construction of bridge crossing	Contractor	Construction sites for bridge crossing where practicable	Construction phase	N/A N/A N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
Waste Management (Construction Waste)							
S7.6	WM1-D P1/DP2 /DP3	<p><u>Waste Reduction Measures</u></p> <p>Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction:</p> <ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • 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	^
S7.6	WM2-D P1/DP2 /DP3	<p><u>Good Site Practice</u></p> <p>The following good site practices are recommended throughout the construction activities:</p> <ul style="list-style-type: none"> • Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of 	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</p> <ul style="list-style-type: none"> • 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; 					<p style="text-align: center;">^</p> <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>
S7.6	WM4-D P1/DP2 /DP3	<p><u>Storage of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> • Waste such as soil should be handled and stored well to ensure secure containment; • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • Different locations should be designated to stockpile each material to enhance reuse; 	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	<p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>
S7.6	WM5-D P1/DP2 /DP3	<p><u>Collection and Transportation of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation; 	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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
		<ul style="list-style-type: none"> Obtain relevant waste disposal permits from the appropriate authorities; and Disposal of waste should be done at licensed waste disposal facilities. 					^ ^
S7.6	WM6-D P1/DP2 /DP3	<p><u>Excavated and C&D Material</u></p> <p>Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at Public Fill Reception Facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials:</p> <ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified. <p>The recommended C&D materials handling should include:</p> <ul style="list-style-type: none"> On-site Sorting of C&D Materials Reuse of C&D Materials Use of Standard Formwork and Planning of Construction Materials Purchasing Provision of Wheel Wash Facilities <p>Details refer to Section 7.6.1.4 of the EIA report.</p>	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	^ ^ ^ ^ ^ ^ ^ ^
S7.6	WM7-D P1/DP2	<p><u>Contaminated Soil</u></p> <p>As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to</p>	Remediate contaminated soil	Contractor	All construction sites where	Construction phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
	/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 P1/DP2 /DP3	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> 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. 	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	*
S7.6	WM9-D P1/DP2 /DP3	<p><u>General Waste</u></p> <ul style="list-style-type: none"> General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. A reputable waste collector should be employed to remove 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		general refuse on a daily basis.					
S7.6	WM10-DP1/D P2	<u>Sewage</u> <ul style="list-style-type: none"> The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts. 	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	^ ^
S7.6	WM11-DP2	<u>Sediment</u> The following mitigation measures are recommended during transportation and stockpiling: <ul style="list-style-type: none"> stockpiling area(s) must be properly designed and closed to the dredging locations as far as possible; Stockpiling area(s) should be lined with impermeable sheeting and banded; stockpiles should be properly covered by impermeable sheeting; vehicles delivering the sediments should be covered, and truck bodies and tailgates should be sealed to prevent any discharge during transportation; bulk earth moving equipments should be utilized as much as possible to minimize workers' handling and contact of the excavated materials; and personal protective clothing should be provided to site workers. 	Minimize waste impacts from sediment	Contractor	All construction sites	Construction phase	N/A N/A N/A N/A N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		In case contamination of excavated materials is confirmed after testing, the mitigation measures described in Land Contamination Impacts section should also be implemented to minimize potential environmental impacts.					
Land Contamination							
S8.7	LC1-D P2/DP3	<u>Remediation of arsenic-contaminated soil</u> <ul style="list-style-type: none"> “Solidification/Stabilization” (S/S) treatment method was proposed for the remediation of arsenic-contaminated soil. Toxicity Characteristic Leaching Procedure (TCLP) test should be undertaken after S/S in order to ensure that the contaminant will not leach to the environment. Unconfined Compressive Strength (UCS) test should be conducted, and not less than 1MPa should be met prior to the backfilling or stockpiled for future reuse within the study area. Off-site disposal or reuse of the solidified material is not allowed. 	To remediate arsenic-contaminated soil	Project Proponent/ Contractor	LMC Loop, contaminated area	Prior to commencement of construction works within the contaminated area	N/A
S8.7	LC1-D P1/DP2 /DP3	<u>Excavation and Transportation</u> <ul style="list-style-type: none"> Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table 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 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
		<ul style="list-style-type: none"> • Excavation should be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; • Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of contaminated soil to minimize contaminated runoff; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used. 					<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
S8.7	LC3-D P1/DP2 /DP3	<p><u>Solidification/Stabilization</u></p> <ul style="list-style-type: none"> • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system; • Mixing process and other associated material handling 	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area	The course of remediation	<p>N/A</p> <p>N/A</p>

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
		<p>activities should be properly scheduled to minimise potential noise impact and dust emission;</p> <ul style="list-style-type: none"> • The mixing facilities should be sited as far apart as practicable from the nearby noise sensitive receivers; • Mixing of contaminated soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimise the potential for leaching; • Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area; • The run-off contained in the concrete bund area along the perimeter of the paved solidification / stabilization area, if any, will be collected, stored and used for the mixing process of cement / contaminated soil; • If stockpile of treated soil is required, the stockpiling site(s) should be lined with impermeable sheeting and bunded. • Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or site run-off during rainy season; and If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials. 					<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
S8.7	LC4-D P3	<p><u>Safety Measures</u></p> <ul style="list-style-type: none"> • Set up a list of safety measures for site workers; • Provide written information and training on safety for site 	To minimize the potential adverse effects on health and safety of construction	Contractor	Contaminated area	The course of remediation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>workers;</p> <ul style="list-style-type: none"> • 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. 	workers				
S8.8	LC5-D P3	<u>Re-appraisal on the entire contamination assessment area for associated infrastructure in the adjacent areas in Hong Kong outside LMC Loop.</u>	Ensure any potential contamination activities from land use changes after the approval of this land contamination assessment study	Project Proponent /Detailed design consultant	Entire contamination assessment area for associated infrastructure in the adjacent	After land resumption	^

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
		<p>and root zones from vehicles and storage of materials.</p> <ul style="list-style-type: none"> 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 Table 11.5.9	L-CP2- DP1/D P2/DP3	<p><u>Works Area and Temporary Works Areas (Good Site Practice)</u></p> <ul style="list-style-type: none"> The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. Construction site controls shall be enforced including the storage of materials, the location and appearance of site accommodation and site storage; and the careful design of site lighting to prevent light spillage. The temporary works areas shall be restored to its original condition or enhanced through the introduction of new amenity areas or planting areas following the completion of the construction phase. 	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^ ^ ^
	L-CP3- DP1/D P2/DP3	<p><u>Advance Implementation of Mitigation Planting</u></p> <ul style="list-style-type: none"> Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas. 	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^
	L-CP4-	<u>Transplantation of Existing Trees</u>	Minimize landscape	Contractor	The whole	Construction	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
	DP1/D P2/DP3	<ul style="list-style-type: none"> Some specimens have relatively higher amenity value which are in conflict with the proposals shall be considered for transplantation. For trees affected by the proposed infrastructure works the final receptor sites shall be preferably adjacent to their current locations alongside of the alignment to retain their contribution to the local landscape context. For the LMC Loop the receptor locations will be selected to allow the trees to be moved directly to their final locations in accordance with the detailed landscape proposals. The transplanting proposals are subject to review at the 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. 	impacts		project area where applicable	phase	^ ^ ^
	L-CP6- DP1/D P2	<u>Creation of Wetland and Landscape Buffer</u> <ul style="list-style-type: none"> The existing reedbed acquired for development areas for the project will be reinstated as part of the Ecological Area. 	Compensation of the loss of landscape resources	Project Proponent/ Detailed	The whole project area where	Detailed design, construction and operational	^

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
		<p>The reinstatement shall be undertaken at the earliest possible stage during the construction phase of the project.</p> <ul style="list-style-type: none"> Creation of 12.78ha of Ecological Area (EA) containing reed marsh and marsh will be created at the southern portion of the LMC Loop, and a 50m width landscape buffer area will be set up in between the EA and the development area. Wetland creation concepts please refer to Figure 11.9zf and Chapter 12 Ecology Impact Assessment of this EIA. Native tree and shrub mix will be utilised for the creation of landscape buffer along northern edge of EA to support the creation of avifauna habitat from ecologist perspectives as well as enhance the aesthetic and landscape diversity within 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. 		design consultant/ Contractor/ Operator	applicable	phases	^
	V-CP5-DP1/D P2/DP3	<p><u>Coordination with Concurrent Projects</u></p> <ul style="list-style-type: none"> Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance. 	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^

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
S11.6.5 Table 11.6.3	V-CP1- DP3	<p><u>Preservation and Protection of Existing Trees (Good Site Practice)</u></p> <ul style="list-style-type: none"> The proposed works should avoid disturbance to the existing trees within and close to the works areas. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design phase for further retention of individual trees. The preservation of existing tree shall provide instant greening and screening effect for proposed works. 	Minimise visual impact	Detailed design consultant / Contractor	The whole project area where applicable	Detailed design and construction phase	^
	V-CP2- DP3	<p><u>Works Area and Temporary Works Areas (Good Site Practice)</u></p> <ul style="list-style-type: none"> The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. 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. 	Minimise visual impact	Contractor	The whole project area where applicable	Construction phase	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
	V-CP3-DP3	<u>Advance Implementation of Mitigation Planting</u> <ul style="list-style-type: none"> Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas. 	Minimise visual impact and advance mitigation planting for screening purpose.	Detailed design consultant / Contractor	The whole project area where applicable	Detailed design and construction phases	N/A
	V-CP5-DP3	<u>Coordination with Concurrent Projects</u> <ul style="list-style-type: none"> Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance. 	Minimize visual impacts	Contractor	The whole project area where applicable	Construction phase	^
Ecology (Construction Phase)							
S12.7	E1-DP1	<u>Disturbance to Fish Ponds at HHW</u> <ul style="list-style-type: none"> Development set back a minimum of 23m from the edge Meander. Management of fish pond habitat to enhance ecological value to twice existing value, in order to compensate for disturbance to large waterbirds. Creation and establishment will occur prior to commencement of substantive works associated with any element of the project for which fish pond compensation is required. <u>Construction phase</u> <ul style="list-style-type: none"> Erection of a 3m high, dull green site boundary fence to 	On the disturbance to fish ponds at HHW	Detailed design consultant/ Contractor	Fish ponds at HHW and LMC	Detailed design, construction phase	N/A N/A N/A *

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
		minimise disturbance to wetland habitats caused by human activity in LMC Loop.					
S12.7	E2-DP1 /DP3	<p><u>Construction run-off</u></p> <ul style="list-style-type: none"> • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby water bodies; • Proper locations well away from nearby water bodies will be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies will be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work site; • If temporary access along a riverbed is unavoidable, this will be kept to the minimum in width and length. Temporary river crossings will be supported on stilts above the river bed; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby water 	Minimise the indirect impact from the increasing suspended solids and pollutants in LMC Meander	Contractor	Seawall,	During construction	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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
S12.7	E3-DP1 /DP2/D P3	<p><u>Pollutant Runoff to Downstream areas from Accidental Spillage</u></p> <ul style="list-style-type: none"> Prepare an emergency contingency plan The plan will include, but not be limited to, the following: <ul style="list-style-type: none"> Potential emergency situations; 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. 	Minimize indirect impact from pollutant runoff to downstream areas from accidental spillage	Contractor/ Operator	Area within project site near streams	Construction phase and operation phase	^
S12.7	E4-DP1 /DP2/D P3	<ul style="list-style-type: none"> Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project. Design of buildings should not incorporate use of night-time lighting at or near top of buildings, highly reflective materials should not be used where vegetation is adjacent and glass surfaces should not be angled upwards in a way that reflects the sky. Unnecessary lighting should be eliminated. Appropriate glass and façade treatments should be used where required to minimise impact. Unnecessary lighting should be avoided. <p>These include the following:</p> <ul style="list-style-type: none"> Fritting, or the placement of ceramic lines or dots on glass, 	Minimize the mortality impacts on birds	Developer / Detailed design consultant/ contractor/ operator	Area within project site	Detailed design, construction and operation phases	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>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.</p> <ul style="list-style-type: none"> • Angled glass may be used only for smaller panes in buildings with a limited amount of glass. • The use of glass that reflects UV light (primarily visible to birds, but not to humans) acts to reduce collision. • Film and art treatment allow glass surfaces to be used a medium of expression, often related to the nature and use of the building, as well indicating to birds their impenetrability. • Lightweight external screens can be added to windows or become a façade element of larger buildings, and are suitable where non-operable windows are prevalent, which is often the case in modern buildings in HK. <p>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</p>					<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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
		<p>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.</p>					
S12.7	E5-DP1 /DP2/D P3	<ul style="list-style-type: none"> • Minimize loss of natural vegetation along LMC Meander, and suitable replacement planting with possible installation of otter holts and the provision of potential feeding area and spraint locations for otters in the stabilized bank subject to detailed design. • No significant change to velocity of water flow, water level or water quality. • No direct lighting on Meander. • 3m high, dull green site boundary fence for all developments associated with the project. • Pre-construction surveys for otter holts or natal dens will be conducted in LMC Loop before the commencement of construction works. Work in the area of any otter holt found to cease pending examination by experienced Ecologist. If in use for breeding, works in the area will temporarily stop until end of breeding activity. • No construction activities within 100m of LMC Meander between one hour prior to sunset and one hour after 	Minimize impacts on Eurasian Otter	Detailed design consultant/ Contractor	Construction site within the project	Detailed design, construction phase	<p>^</p> <p>^</p> <p>^</p> <p>*</p> <p>^</p> <p>^</p>

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
		<p>sunrise.</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Refer to E2 and E3 	Prevent impacts on Rose Bitterling, small snakehead and <i>Somanniathelphus zanklon</i>	Contractor	Within project site	Construction phase	^
S12.7	E10-DP 1	<ul style="list-style-type: none"> Preserve undisturbed, semi-natural habitat conditions of LMC Meander and adjacent areas of LMC Loop up to approximately 150m in width in order to avoid disturbance to core part of flight line corridor. This area to comprise an Ecological Area largely constituting reed marsh and a 50m wide buffer zone densely planted with shrubs and trees. Small number of low buildings (max 14mPD high, except the building height of on-site STW is 15mPD high) allowed in inner 25m of this area at a plot ratio of 0.1. At Ha Wan Tsuen entry point for many birds to LMC Loop area provide a wider Ecological Area to minimize disturbance from nearby buildings. Further minimisation of impact by maintaining a lower 	Minimize impacts on flight line corridor from LMC Loop development	Developer / Detailed design consultant/ Contractor/ Operator	Within project site	Detailed design, construction and operation phases	<p>^</p> <p>^</p> <p>^</p> <p>N/A</p>

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
		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 1	<ul style="list-style-type: none"> Employ site boundary fence as long as possible. Use of movable barrier for more intense site formation activity. Provision of fencing with 30cm gap between the existing reed marsh and LMC Meander during the establishment period of Ecological Area and the gap will be closed once established. Restrict work to period from 0900h to 1700h. All major works along the edge of LMC Meander and in the Ecological Area will be conducted in the wet season. 	Minimize disturbance impacts of mitigation provisions	Contractor	Within project site	Construction phase	^ ^
S12.7	E12-DP 1/DP2/ DP3	<ul style="list-style-type: none"> Minimal night-time lighting No direct light on Meander 	Minimize impacts on LMC Meander	Contractor/ Operator	All	Construction and operation phases	^ ^
S12.7	E13-DP 2	<ul style="list-style-type: none"> Construction limited to wet season between the hours of 9am and 5pm. Use of opaque visual/noise barriers and planting of trees shrubs along length of road adjacent to fish ponds. Compensatory habitat management elsewhere to mitigate wetland loss. 	Minimize impacts from the construction and operation disturbance impacts	Contractor/ Operator	Pond habitat along alignment (mainly Ha Wan Tsuen Road)	Construction and operation phases	^ ^ ^
S12.7	E13-DP 3	<ul style="list-style-type: none"> Use of viaduct alignment to minimize wetland loss. Compensatory wetland habitat elsewhere. 	Minimize wetland loss	Project Proponent /	Within project site	Detailed design and	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
				Detailed design consultant / Contractor /		construction phases	
S12.7	E16-DP 1	<ul style="list-style-type: none"> Provision of compensatory reed marsh in the Ecological Area will provide habitat suitable for Common Evening Hawker. Measures designed to protect other fauna and water quality will generally benefit odonata. 	Protect Odonata	Project Proponent/ Detailed design consultant/ Contractor Operator	Ecological area	EA established prior to construction and manage at all phases	^ ^
S12.7	E14-DP 2	<ul style="list-style-type: none"> Replacement planting of native tree species relevant to Deep Bay area and the area impacted. Planting to occur in tandem with that required for woodland loss arising 	Minimize the ecological impacts	Contractor	Woodland and shrubland habitat along Ha Wan Tsuen Road	Construction phase	^
S12.7	E15-DP 2	<ul style="list-style-type: none"> Use noise/visual barriers to minimise disturbance. Construction activities should not be carried out before 0900h or after 1700h in order to minimise disturbance to the flight line corridor (and to mammals). 	Minimize impacts on flight line corridor from Western Connection Road	Contractor	Construction site from Western Connection Road	Construction phase	^ ^
S12.7	E16-DP 2	<ul style="list-style-type: none"> Use of opaque visual/noise barriers and roadside planting of trees and shrubs to minimize disturbance impacts. 	Minimize impacts on flight line corridor from Western Connection	Project Proponent/ Detailed	Construction site from Western	Detailed design, construction and operation	^

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
			Road	design consultant/ Contractor Operator	Connection Road	phases	
S12.9	EG2-D P3	All generic mitigation measures proposed in Tables 12.82a and 12.82b in the EIA report.	Avoid, minimize and mitigate overall ecological impact.	Project proponent / contractor / detailed design consultant / developer / operator	All areas.	All phases	^
Fisheries (Construction Phase)							
S13.7	F4-	<ul style="list-style-type: none"> Reprovision of replacement Artificial Reefs(of the same volume as the existing ARs inside Marine Exclusion Zone) 	Mitigate water quality impacts on the existing ARs	Project proponent	To be determined	Construction phase or operation phase	N/A
S11.7	F2	<ul style="list-style-type: none"> Reduce re-suspension of sediments Limit dredging and works fronts. Good site practices Strict enforcement of no marine dumping Spill response plan 	Minimise marine water quality impacts	Contractor	Seawall	During construction	N/A N/A N/A N/A
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 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
		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	^
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	^
S13.7	F7-DP3	<p><u>Dust Minimization</u></p> <ul style="list-style-type: none"> • 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	^

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
		<p>water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</p> <ul style="list-style-type: none"> • 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 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
		<p>be sealed to prevent any discharge during transport or during wet season;</p> <ul style="list-style-type: none"> • 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	<p><u>Contingency plan</u></p> <p>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:</p> <ul style="list-style-type: none"> • Potential emergency situations; • 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. 	Deal with any accidental spillage event	Contractor / Operator	Fish ponds	Construction and operational phases	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
Food Safety (Construction Phase)							
S15	F1-DP3	<p><u>Contingency plan</u></p> <p>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 selling shall be stopped as instructed by CFS.</p>	Minimize significant impacts on fish ponds	Contractor	Fish pond within project site	Construction phase	N/A
S15	F2-DP3	<p><u>Dust Minimization</u></p> <ul style="list-style-type: none"> 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	^

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
		<p>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;</p> <ul style="list-style-type: none"> • 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 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
		<p>contaminated run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season;</p> <ul style="list-style-type: none"> • 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**



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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 	 



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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • A stockpile of dusty material should not be extended 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; 	 

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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • 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; 	 

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 Proactive Environmental Protection Proforma



Working Period: 1st to 31st July 2024

- 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.




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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S4.8	All site area	Noise impact	<ul style="list-style-type: none"> Mobile plant should be sited as far away from NSRs as possible and practicable; All generator used onsite are Quality Powered Mechanical Equipment (QPME) registered with EPD. Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator. 	 



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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S5.7	All site area	Water Pollution Control	<ul style="list-style-type: none"> Update and implementation of Stormwater Pollution Control Plan. At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. 	 <p>The photo records include a site plan titled 'WCR Drainage Arrangement' and a photograph of a construction site. The site plan shows various drainage features: Discharge Point (green circle), Wet/Dep (blue square), Sedimentation Tank (blue rectangle), Water to Sump Pit/Discharge Point (blue line), Water Pump Hose (blue line with dots), Ground Runoff (red line), Sump Pit/Wheel Washing Facility (red rectangle), Gully with Drainage (red line), Sand Bag Bund (orange rectangle), and Cut-off Drain (black line). The photograph shows a construction site with large areas covered in green tarpaulin, with orange and white traffic cones and a red and white striped barrier in the foreground.</p>



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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipments in order to avoid or minimize polluted runoff. <p>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.</p>	 


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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> 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. <p>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.</p> <ul style="list-style-type: none"> 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/2020/01 – 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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • 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. 	


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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area	Waste Generation	<ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Proper storage and site practices to minimize the potential for damage and contamination of construction materials; 	


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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. 	


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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • Prepare Waste Management Plan and submit to the Engineer for approval • Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling 	 <p>The image shows a 'CONTRACTOR'S SUBMISSION FORM' for a Waste Management Plan (WMP-01) submitted to the Engineer. The form includes details such as the contractor's name (ACEC), project name, and submission date (18 October 2023). Below the form is a photograph of a large pile of excavated inert materials covered with a green tarp at a construction site, with safety cones and a road in the foreground.</p>


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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. 	


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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> 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. 	



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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA 12.7 EP 2.7	Constructi on site within the project Pond habitat along alignment (mainly Ha Wan Tsuen Road)	Ecology	Installing 3m high olive-green fence around construction areas to allow or deter different animal passages where appropriate; 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, to minimise disturbances to migratory birds/water birds;	

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 Proactive Environmental Protection Proforma

Working Period: 1st to 31st July 2024


Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
	Old Shenzhen River meander and other identified important ecologically 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/Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 	

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • 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 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;





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



Working Period: 1st to 31st July 2024

Proactive Environmental Protection Proforma

			<ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> • 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. 	

Proactive Environmental Protection Proforma

EIA S5.7	All site area	Water Pollution Control	<ul style="list-style-type: none">• At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal 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 equipment in order to avoid or minimize polluted runoff.	 
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- 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.



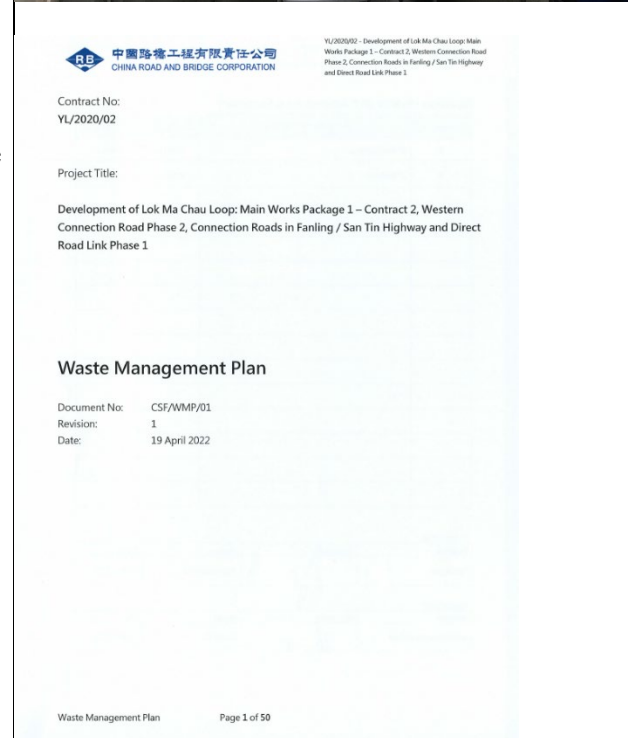
			<ul style="list-style-type: none">• Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.	
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Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area	Waste Generation	<ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • 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.





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





		<ul style="list-style-type: none">• 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.	 
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		<ul style="list-style-type: none">• 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.	 
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Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S12.7	All site area	Ecology	<ul style="list-style-type: none"> • Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project. • On-site compensate the same area of the occupied reedbed 	 


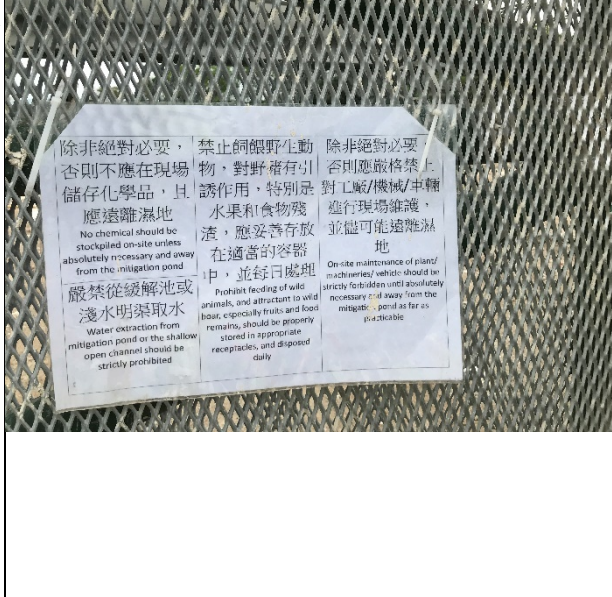
Proactive Environmental Protection Proforma



<p>ERR S4.2.2</p>	<p>STEMDC</p>	<p>Ecology</p>	<ul style="list-style-type: none">• Installation of 3m-high olive green fence site hoarding around construction areas to reduce disturbance and such installation should allow passage of animal • Use of mechanized equipment only during the period 9am to 5pm	 
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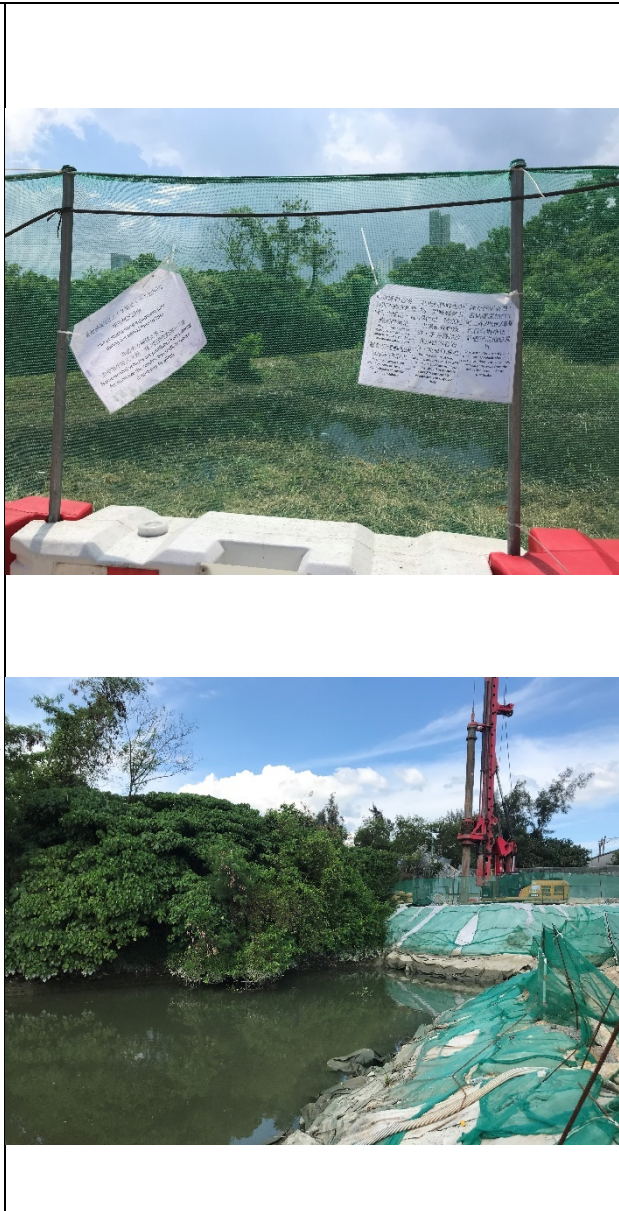
			<ul style="list-style-type: none">Well-defined and fenced work area to prevent intentional or accidental encroachment or trespassing to other part of the mitigation wetland for access, parking, operation of plants/machineries, or stockpiling of construction material/waste nearby <p>Wherever feasible, noise curtain should be installed around noisy plants machineries to minimize the potential audibled disturbance to wildlife in the adjacent habitats</p>	 
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			<p>Minimize the construction traffic within the mitigation wetland as far as practicable</p> <p>Measures to avoid any spillage or discharge of untreated runoff from the site to other part of the mitigation wetland should be implemented, including but not limited to provision of sandbags barrier and perimeter channels at site boundaries</p>	 
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			<p>Wheel washing bay and mobile toilet should be positioned outside and as far as practicable from the boundary of the mitigation wetland</p>	
			<p>Water extraction from the mitigation pond or the shallow open channel should be strictly prohibited</p>	

			<p>Any stockpiling should be away from the mitigation pond</p>	
			<p>No chemical should be stockpiled on-site unless absolutely necessary and away from the mitigation pond</p>	

			<p>On-site maintenance of plant/machineries/vehicle should be strictly forbidden until absolutely necessary and away from the mitigation pond as far as practicable</p>	
			<p>Waste and refuse should be stored or dumped in appropriate receptacles, and away from the mitigation pond</p>	

			<p>Prohibit feeding of wild animals, and any attractant to wild boar, especially fruits and food remains, should be properly stored in appropriate receptacles, and disposed daily</p> <p>All light sources installed within or in the boundary of the work Site should not be directed towards the mitigation pond, and any directional lighting should be pointing inwards, downwards or shielded so that little or no light is emitted above the horizontal plane unless absolutely</p>	
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Do not provide excessive lighting along the boundary of the work site and keep the intensity and duration of lighting to a strictly necessary minimum as far as practicable



Proper upkeep of the drainage pipe installed underneath the work area to avoid any clogging




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

Working Period: 1st to 31st July 2024


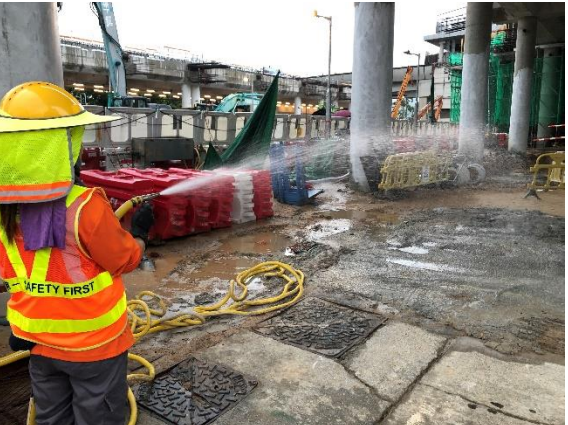
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ERR S6.1.2	STEMDC	Ecology	<ul style="list-style-type: none">water quality monitoring should be carried out by the Contractor during the construction of the pier DRL-P08, and covers the northern and southern parts of the mitigation pond - where the former could act as reference during the evaluation. By making reference to the water monitoring program of the Hong Kong Wetland Park for constructed wetlands, the monitoring parameters should include water temperature, turbidity, biological oxygen demand, nitrogenous and phosphorus compounds, salinity, pH and dissolved oxygen.	 <p>Water quality monitoring in July had been conducted on 11 July 2024.</p>
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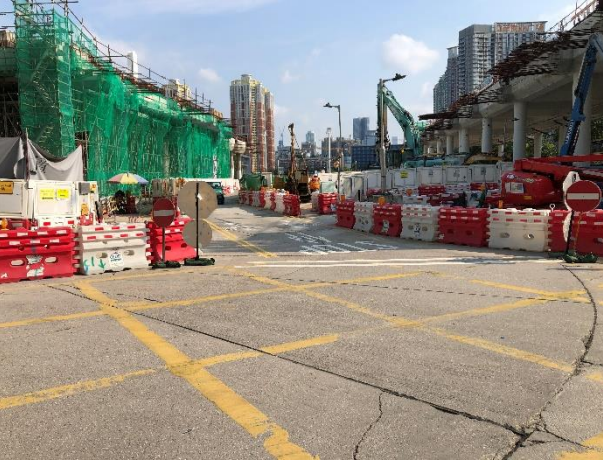

Contract No. YL/2021/01 – Development of Lok Ma Chau

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	<ul style="list-style-type: none"> Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 	 

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • 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; 	 

			<ul style="list-style-type: none">• 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;	 
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- 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.

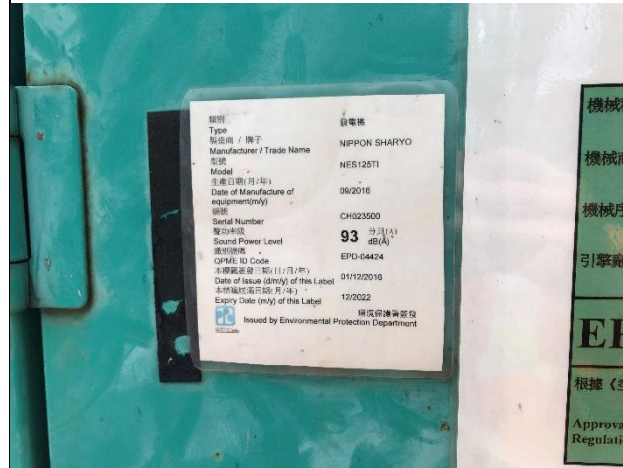


Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S4.8	All site area	Noise impact	<ul style="list-style-type: none"> • Mobile plant should be sited as far away from NSRs as possible and practicable; • Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator. 	 

• An acoustic canvas had been deployed along the site boundary facing the public.



• All generator used onsite are Quality Powered Mechanical Equipment (QPME) registered with EPD.



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

Working Period: 1st to 31st July 2024

<p>EIA S5.7</p>	<p>All site area</p>	<p>Water Pollution Control</p>	<ul style="list-style-type: none"> • Update and implementation of Stormwater Pollution Control Plan. • At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. 	<div data-bbox="1265 215 1646 742"> <p style="text-align: right;">YL/2021/01 - CIP 001/01</p> <p style="text-align: center;">Development of Lok Ma Chau Loop: Main Works Package 1 - Contract 3 - Direct Road Link Phase 2</p> <p style="text-align: center;">CONTRACTOR'S SUBMISSION FORM</p> <p>To : AECOM Attention : Mr. Roger Man (Project Manager's delegate)</p> <p>Submission Ref. No* : C5F/JS/000881 AECOM Ref. No. : Date of Submission : 12 March 2024 Title of Submission : Temporary Drainage Management Plan (Rev. 0) Proposed Location of Works : Portion 1 Specification/Drawing Reference : P.S. Clause 1.24A Description of Content : Pursuant to P.S. Clause 1.24(A), we would like to submit the captioned subject for your review and approval.</p> <p>Attachments : Yes Reply required by : Purpose of Submission : For Approval <input checked="" type="checkbox"/> For Comment <input type="checkbox"/> For Information <input type="checkbox"/> For Record <input type="checkbox"/> For Action <input type="checkbox"/></p> <p>FROM : Paul Y.-Chun Wo - CRCC Joint Venture</p> <table border="1"> <thead> <tr> <th colspan="2">Prepared by:</th> <th colspan="2">Reviewed by:</th> <th colspan="2">Approved & submitted by:</th> </tr> </thead> <tbody> <tr> <td>Title</td> <td>Graduate Engineer Stephen Leung</td> <td>Section Agent</td> <td>Charles Choi CW</td> <td>Site Agent</td> <td>Desmond Tang</td> </tr> <tr> <td>Signature</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Date</td> <td>12/3/2024</td> <td></td> <td>12/3/2024</td> <td></td> <td>12/3/2024</td> </tr> </tbody> </table> <p><small>*Main Code - 05:Environment 01 - Drainage Structures 02 - Erosion 03 - Silt Removal 04 - Road & Drainage Design 05 - Quality 06 - Administration 07 - Engineering Design 08 - Design / Inspection Works 09 - Survey 10 - Plant 11 - Programme & Project 12 - Health, Safety & Environment</small></p> </div> <div data-bbox="1265 917 1792 1324"> </div>	Prepared by:		Reviewed by:		Approved & submitted by:		Title	Graduate Engineer Stephen Leung	Section Agent	Charles Choi CW	Site Agent	Desmond Tang	Signature						Date	12/3/2024		12/3/2024		12/3/2024
Prepared by:		Reviewed by:		Approved & submitted by:																								
Title	Graduate Engineer Stephen Leung	Section Agent	Charles Choi CW	Site Agent	Desmond Tang																							
Signature																												
Date	12/3/2024		12/3/2024		12/3/2024																							

• 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 equipment in order to avoid or minimize polluted runoff.



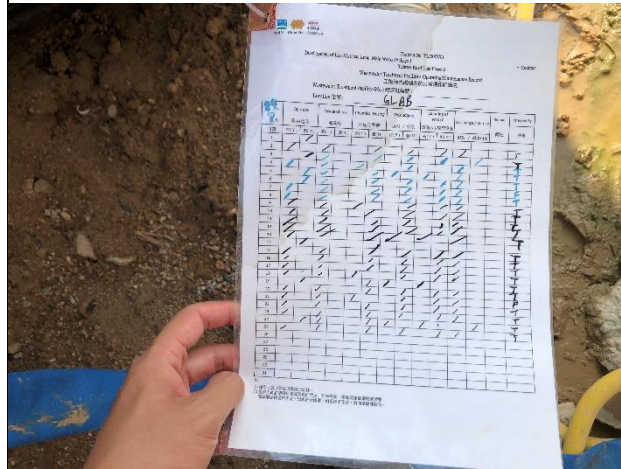
• Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m³ capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle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




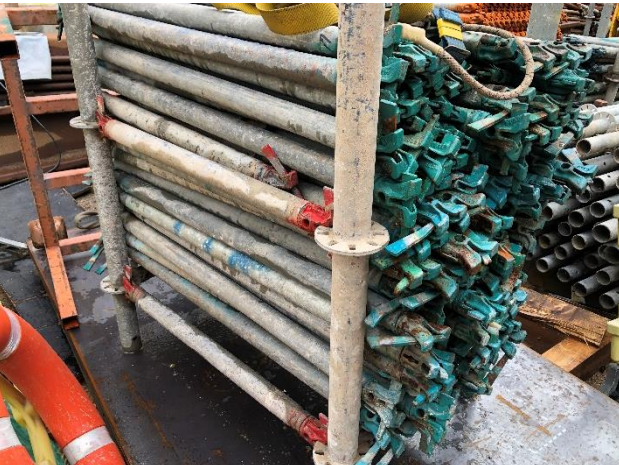
• All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms.



			<ul style="list-style-type: none">• 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.	 
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•An additional water pump had been set up and the concerned outlet have been sealed up with concrete



Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area	Waste Generation	<ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Proper storage and site practices to minimize the potential for damage and contamination of construction materials; 	 

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

Working Period: 1st to 31st July 2024

- 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

YL/2021/01_CSP_Env.01

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

CONTRACTOR'S SUBMISSION FORM

To : AECOM
 Attention : Mr. Roger Man (Project Manager's delegate)

Submission Ref. No* : CSF/HSE/0000005
 AECOM Ref. No. : -
 Date of Submission : 13 October 2023
 Title of Submission : Site Management Plan for Implementation of the Trip Ticket System Rev.19
 Proposed Location of Works : -
 Specification/Drawing Reference : PS Clause 25.25 (10)
 Description of Content : -
 According to PS Clause 25.25 (10), we would like to submit the Site Management Plan for Implementation of the Trip Ticket System (Rev.19) for your approval.



Attachments : Site Management Plan for Implementation of the Trip Ticket System (Rev.19)
 Reply required by : 21 days



Purpose of Submission:
 For Approval For Comment For Information For Record For Action

FROM : Paul Y – Chun Wo – CRCCL Joint Venture

	Prepared by:	Reviewed by:	Approved & submitted by:
Title	Environmental Officer (Tiao Law)	HSE Manager (Ho Wong)	Site Agent (Desmond Tang)
Signature			
Date	5 October 2023	5 October 2023	5 October 2023

*Form Code in Submission Ref. No.:
 P – Policy & Procedures FSE – Foundation STW – Sewage Treatment Works S – Survey FF – Park
 M – Site Information WQI – Water & Wastewater Services LMS – Landscaping P – Pipelines & Piling HSE – Health, Safety & Environment

		<ul style="list-style-type: none">• 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.	 
--	--	---	---

		<ul style="list-style-type: none">• 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.	 
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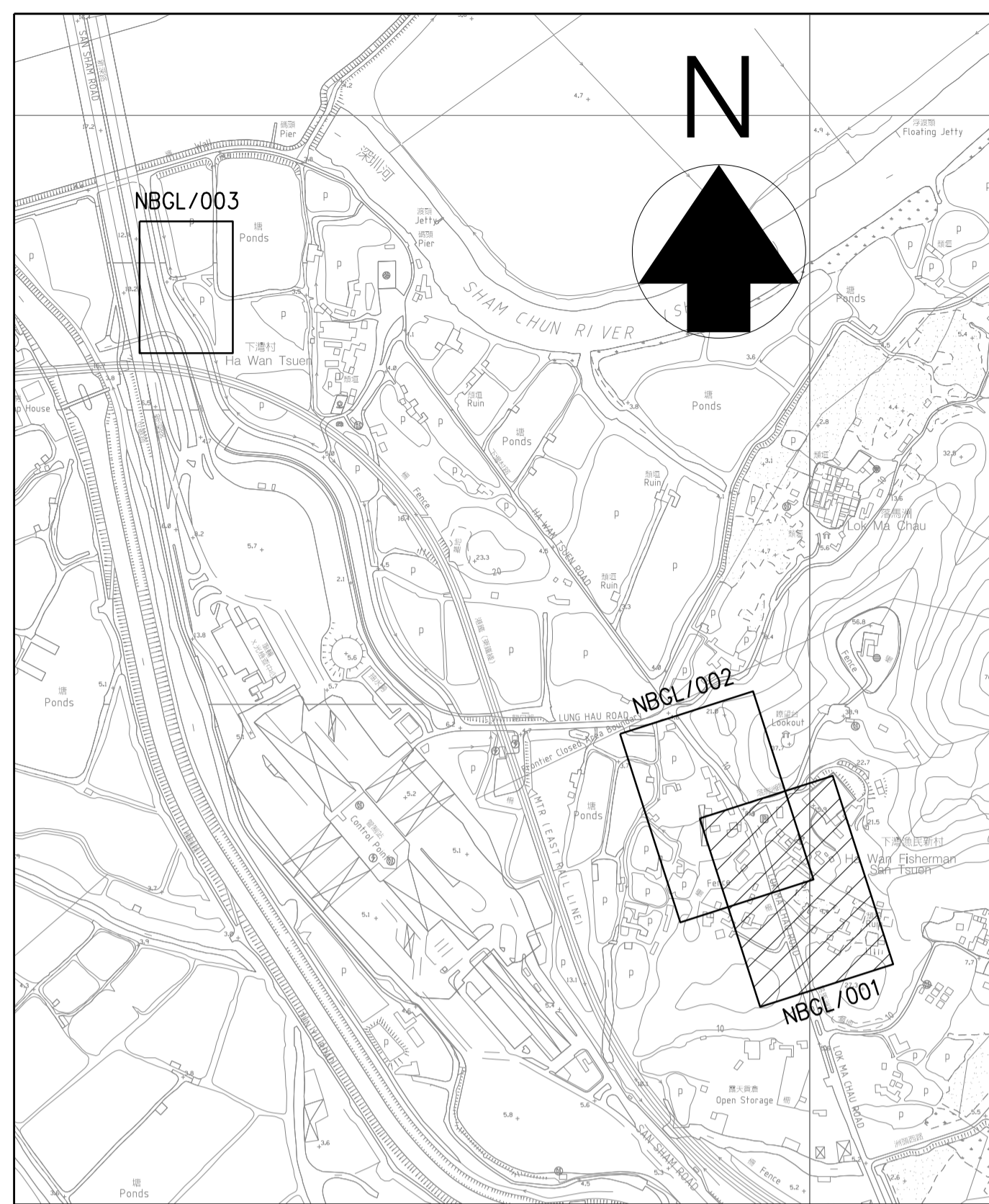
APPENDIX N
TEMPORARY NOISE BARRIERS

NOTES:

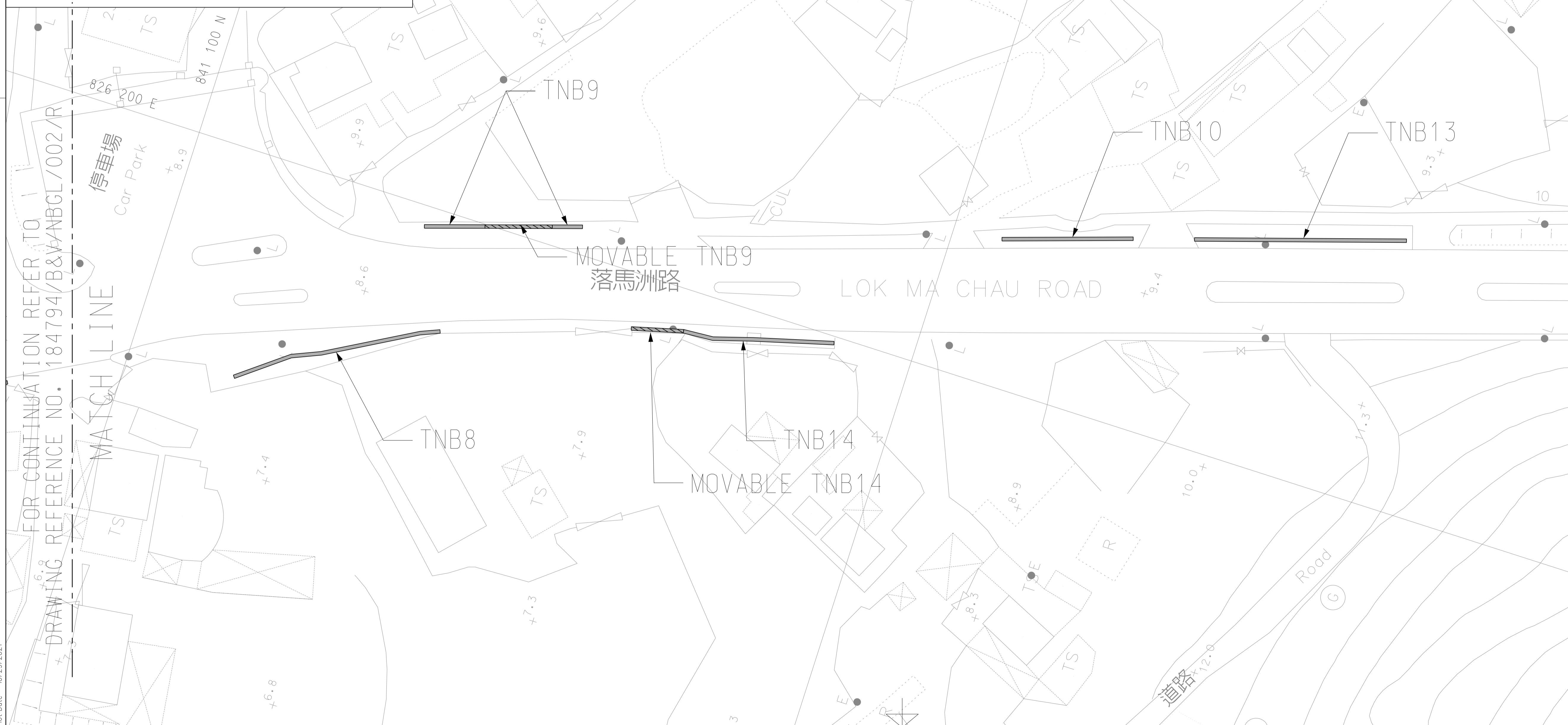
1. FOR DETAILS OF NOISE BARRIER, PLEASE REFER TO DRAWING NO. 184794/B&V/NB15/001/R & NO. 184794/B&V/NB15/002/R.

LEGEND:

- 1.5m - HIGH TEMPORARY NOISE BARRIER
- 1.5m - HIGH MOVEABLE TEMPORARY NOISE BARRIER



LOCATION PLAN
N.T.S.



FOR CONTINUATION REFER TO DRAWING REFERENCE NO. 184794/B&V/NBGL/002/R

MATCH LINE

WORK AS EXECUTED

DATE OF COMMENCEMENT : 22 JUN 2018

DATE OF COMPLETION :

核准
Approved

合約編號
Contract No. YL/2017/03

合約編號
Agreement No. CE 5/2014 (CE)

合約名稱
Contract title
DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND
ADVANCE ENGINEERING WORKS

圖則名稱
Drawing title
AS-CONSTRUCTED DRAWING
NOISE BARRIER -
GENERAL LAYOUT PLAN

(SHEET 1 OF 3)

圖則參考編號
Drawing Reference No. 184794/NBGL/001/R

修訂
Revision -

合約圖則編號
Contract Drawing No.

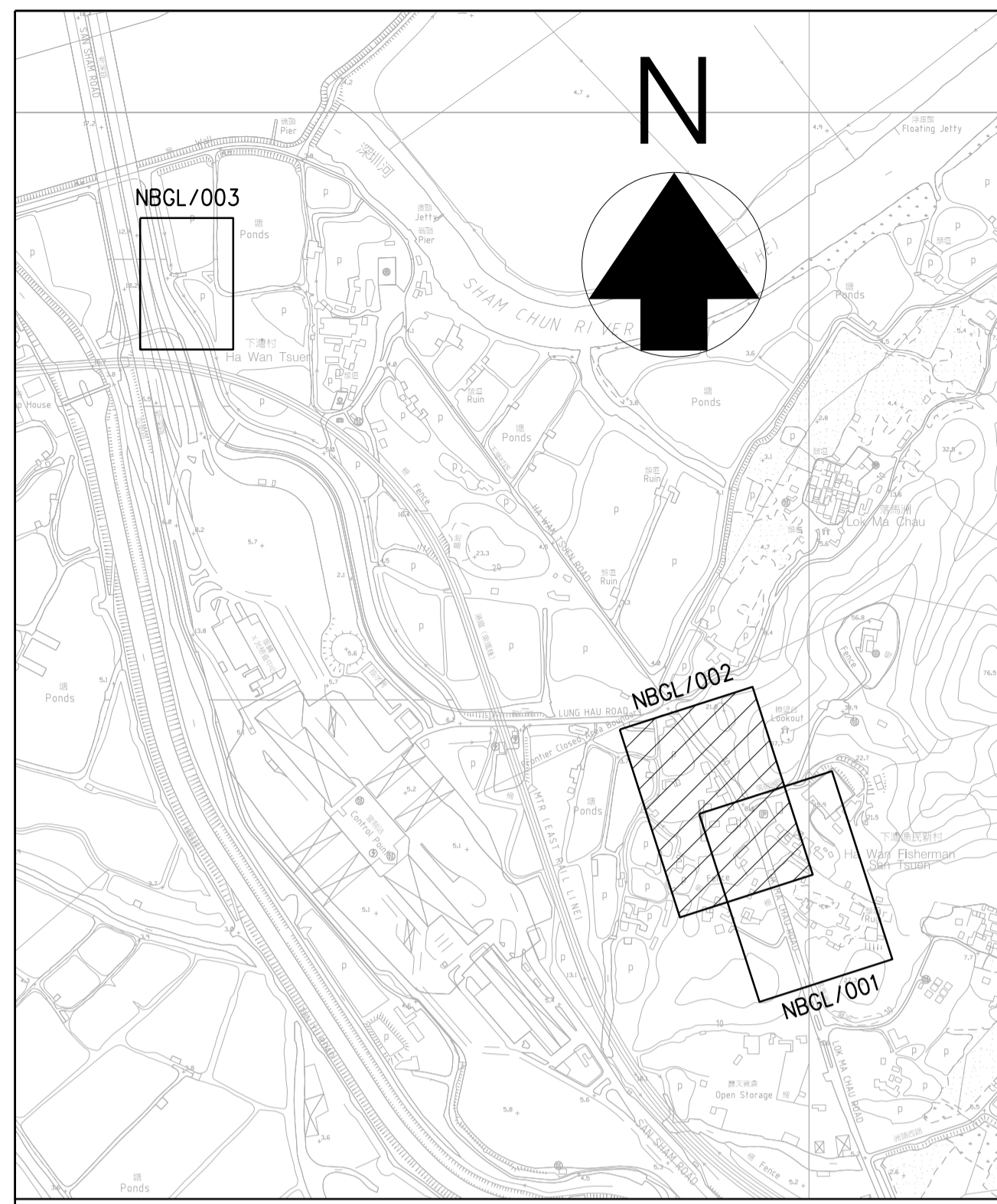
修訂
Revision -

比例
Scale A1 1 : 300
A3 1 : 600

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



BINNIES HONG KONG LIMITED
賓尼士工程顧問有限公司



LOCATION PLAN
N.T.S.



FOR CONTINUATION REFER TO DRAWING REFERENCE NO. 184794/B&V/NBGL/001/R

MATCH LINE

NOTES:
1. FOR DETAILS OF NOISE BARRIER, PLEASE REFER TO DRAWING NO. 184794/B&V/NB15/001/R & NO. 184794/B&V/NB15/002/R.

LEGEND:
 1.5m - HIGH TEMPORARY NOISE BARRIER
 1.5m - HIGH MOVEABLE TEMPORARY NOISE BARRIER

WORK AS EXECUTED

DATE OF COMMENCEMENT : 22 JUN 2018
DATE OF COMPLETION :

核准
Approved

合約編號
Contract No. YL/2017/03

合約編號
Agreement No. CE 5/2014 (CE)

合約名稱
Contract title
DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND
ADVANCE ENGINEERING WORKS

圖則名稱
Drawing title
AS-CONSTRUCTED DRAWING
NOISE BARRIER -
GENERAL LAYOUT PLAN
(SHEET 2 OF 3)

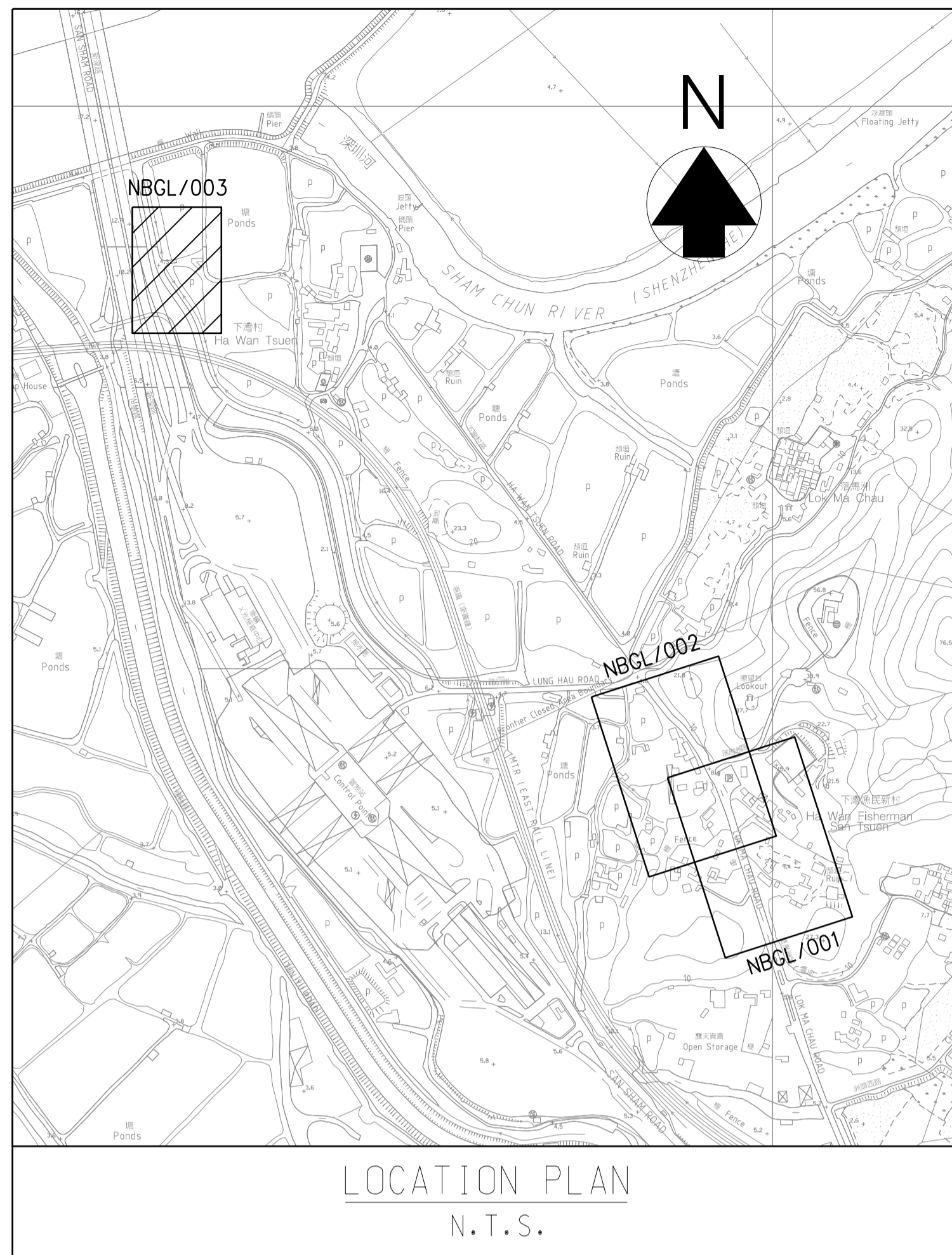
圖則參考編號
Drawing Reference No. 184794/NBGL/002/R 修訂
Revision -

合約圖則編號
Contract Drawing No. 修訂
Revision -

比例
Scale A1 1 : 300
A3 1 : 600

土木工程拓展署
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Development Department


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NOTE:
 1. FOR DETAILS OF NOISE BARRIER, PLEASE REFER TO DRAWING NO. 184794/B&V/NB08/001/R.






LEGEND:

 0.8m - HIGH TEMPORARY NOISE BARRIER (TYPE A)
 0.8m - HIGH TEMPORARY NOISE BARRIER (TYPE B)

WORK AS EXECUTED	
DATE OF COMMENCEMENT :	22 JUN 2018
DATE OF COMPLETION :	
核准 Approved	
合約編號 Contract No.	YL/2017/03
合約編號 Agreement No.	CE 5/2014 (CE)
合約名稱 Contract title	DEVELOPMENT OF LOK MA CHAU LOOP: LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS
圖則名稱 Drawing title	AS-CONSTRUCTED DRAWING NOISE BARRIER - GENERAL LAYOUT PLAN (SHEET 3 OF 3)
圖則參考編號 Drawing Reference No.	184794/NBGL/003/R 修訂 Revision -
合約圖則編號 Contract Drawing No.	修訂 Revision -
比例 Scale	A1 1 : 200 A3 1 : 400
土木工程拓展署 CEDD Civil Engineering and Development Department	
 binnies BINNIES HONG KONG LIMITED 賓尼士工程顧問有限公司	

Plot Date : 11/7/2021




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	
TNB2	
TNB11	
TNB3	
TNB4	



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	 A photograph showing a temporary noise barrier (TNB6) along a road. The barrier is a grey metal fence with a concrete base. In the background, there are buildings, including one with Chinese characters. A red line with the label 'TNB6' spans the length of the barrier.
TNB7	 A photograph showing a temporary noise barrier (TNB7) along a road. The barrier is a grey metal fence with a concrete base. In the background, there are buildings, including a multi-story one with a red roof and palm trees. A red line with the label 'TNB7' spans the length of the barrier.
TNB8	 A photograph showing a temporary noise barrier (TNB8) along a road. The barrier is a grey metal fence with a concrete base. In the background, there are trees and a building with a red roof. A red line with the label 'TNB8' spans the length of the barrier. The date '29/07/2021' is visible in the bottom right corner of the photo.

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	 A photograph showing a temporary noise barrier (TNB9) along a road. The barrier consists of grey concrete blocks with a chain-link fence on top. In the background, there are trees and a building. A red box highlights the barrier, with the label 'TNB9' in red text above it.
TNB10	 A photograph showing a temporary noise barrier (TNB10) along a road. The barrier consists of grey concrete blocks with a chain-link fence on top. In the background, there are trees and a building. A red box highlights the barrier, with the label 'TNB10' in red text above it. The date '29/4/2021' is visible in the bottom right corner.
TNB13	 A photograph showing a temporary noise barrier (TNB13) along a road. The barrier consists of grey concrete blocks with a chain-link fence on top. In the background, there are trees and a building. A red box highlights the barrier, with the label 'TNB13' in red text above it. The date '29/4/2021' is visible in the bottom right corner.




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
TNB14	
TNB15	




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

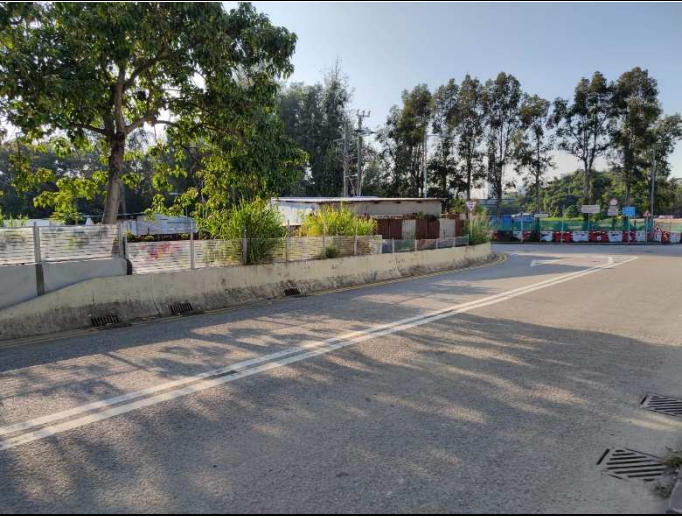
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
2	
3 4	
5	

TNB ID	Photo
6	
7	
8	

TNB ID	Photo	Construction Status
9		Completed
10		Completed
11		Completed

TNB ID	Photo
12	
13	
14	

TNB ID	Photo
17	

**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 2024 (year)

Name of Person completing the record:

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

Contract No.: YL/2020/01

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	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 '000m ³)
Jan-24	0.640	0.000	0.000	0.000	0.640	0.244	0.000	0.000	0.000	0.000	0.000	0.246
Feb-24	2.816	0.625	0.000	0.000	2.191	0.787	0.000	0.157	0.000	0.000	0.000	0.153
Mar-24	7.378	4.644	0.000	0.000	2.734	0.000	0.003	0.012	0.015	0.000	0.000	0.229
Apr-24	1.369	0.287	0.000	0.000	1.081	0.000	0.000	0.000	0.000	0.000	0.000	0.100
May-24	1.633	0.000	0.000	0.000	1.633	0.000	0.003	0.000	0.011	0.000	0.000	0.077
Jun-24	0.908	0.000	0.000	0.000	0.908	0.000	0.000	0.000	0.000	0.000	0.000	0.049
Sub-total	14.744	5.556	0.000	0.000	9.188	1.031	0.006	0.169	0.026	0.000	0.000	0.853
Jul-24	1.204	0.000	0.000	0.000	1.204	0.000	0.000	0.000	0.000	0.000	0.000	0.095
Aug-24												
Sep-24												
Oct-24												
Nov-24												
Dec-24												
Total	15.949	5.556	0.000	0.000	10.392	1.031	0.006	0.169	0.026	0.000	0.000	0.948

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 2024 (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 Roads in Fanling / San Tin Highway and Direct Road Link Phase 1

Contract No.: YL/2020/02

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)
Jan	1.863	0.000	0.000	0.000	1.863	1.332	0.000	0.000	0.000	0.000	0.274
Feb	0.702	0.000	0.000	0.000	0.702	0.419	0.000	0.000	0.000	0.000	0.226
Mar	2.750	0.000	0.000	0.000	2.750	1.530	0.000	0.000	0.000	0.000	0.194
Apr	1.647	0.000	0.000	0.000	1.647	1.824	0.000	0.000	0.000	0.000	0.397
May	1.962	0.000	0.000	0.000	1.962	0.990	0.000	0.000	0.000	0.000	0.302
Jun	3.663	0.000	0.000	0.000	3.663	1.290	0.000	0.000	0.000	0.000	0.215
Sub-total	12.587	0.000	0.000	0.000	12.587	7.385	0.000	0.000	0.000	0.000	1.609
Jul	1.211	0.000	0.000	0.000	1.211	0.522	0.000	0.000	0.000	0.000	0.232
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	13.797	0.000	0.000	0.000	13.797	7.907	0.000	0.000	0.000	0.000	1.840

Note:

1. For non-inert portion of C&D material, assume the density of 1 m³ general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m³ per each full-filled dump truck.
3. 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 2024 (year)

Name of Person completing the record: Tino Law

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

Contract No.: YL/2021/01

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	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 '000m ³)
Jan-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.003
Feb-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
Mar-24	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.012	0.015	0.000	0.000	0.006
Apr-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.013
May-24	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.010	0.000	0.000	0.024
Jun-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.027	0.025	0.000	0.000	0.050
Jul-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Aug-24	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-24	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-24	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-24	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-24	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	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.027	0.025	0.000	0.000	0.051

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 non-inert C&D wastes, including general refuse are disposed at NENT

**APPENDIX P
COMPLAINT LOGS**

Appendix P - Complaint LogContract 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-2021-10-01	11 October 2021	EPD	EPD File Ref.: N07/RN/00 024120-21	<p>EPD received a public complaint on 11 October 2021. The complainant alleged the following:</p> <p>(a) Discharge of muddy water from construction sites of “Development of Lok Ma Chau Loop” project to Shenzhen River in the morning of 8 October 2021; and,</p> <p>(b) Use of powered mechanical equipment (including excavators and dump trucks) in the construction sites of “Development of Lok Ma Chau Loop” project on Sunday.</p>	<p>(a) <u>Water Quality</u> Non-project related According to the interim report, wastewater treatment facilities and relevant mitigation measures were properly implemented and there is no direct evidence to demonstrate the muddy discharge was induced by the Contract. Further preventive measures, such as increasing the height of the temporary drainage by using sandbag and providing the earth bund with geo-textile along the site boundary, were implemented on 12 October 2021 in order to avoid muddy water from leaking into Shen Zhen River.</p> <p>(b) <u>Noise</u> Project related Typhoon No. 8 (Tropical cyclone: Lion Rock) was hoisted on 9 October 2021. Severe rainfall was recorded due to 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</p>	Interim report was submitted to EPD on 29 Oct 2021

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>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.</p> <p>In addition, the Contractor was also reminded to prepare a contingency plan for emergency environmental incidents.</p>	
COM-2021-11-01	15 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.	<p>According to the interim report, dust mitigation measures have been properly implemented on site:</p> <ul style="list-style-type: none"> - 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/00000184-22	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).	<p>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 Connection Road”. Therefore, interim reports were submitted by Contract No.: YL/2020/01 and YL/2020/02 respectively:-</p> <p><u>Contract No.: YL/2020/01</u></p> <p>According to the site diary, no construction work was carried out during restricted hours at the location under complaint for YL/2020/01 on 2 January 2022. For prevention measure, Permit –to –Work system has been implemented for all the construction works being conducted in the restricted hours to enhance site control. All the construction works need to inform JV at least one day in advance.</p> <p>In addition, all staff and workers involved in the site operation during the restricted hours have to obtain a valid site pass and display to the security guards when entering site area for the enhancement of the site security system.</p> <p>Based on the above information and investigation findings, the noise complaint is not related to the</p>	Interim report was submitted to EPD on 14 Feb 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>construction works of the Contract YL/2020/01.</p> <p><u>Contract No.: YL/2020/02</u> 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.</p> <p>Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/02.</p>	
COM-2022-04-01	4 April 2022	1823	1823 Case no: 3-7155426748	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.	<p>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.</p> <p>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.</p>	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	<u>Contract No.: YL/2020/01</u> 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.	<u>Contract No.: YL/2020/02</u> 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.	<u>Contract No.: YL/2021/01</u> 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.	<u>Contract No.: YL/2021/01</u> 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.	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
					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”)	<u>Contract No.: YL/2020/01</u> According to the interim report, no percussive piling 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 minibuss station (落馬州關口小巴士站旁地盤).	<u>Contract No.: YL/2021/01</u> 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. In addition, the duration of potential noisy construction activities (e.g., core demouling and casing extraction)	Interim report was submitted to EPD on 5 Dec 2022

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.	<p><u>Contract No.: YL/2020/01</u></p> <p>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.</p> <p>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.</p> <p>Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.</p>	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 co-ordinate information (x=826305.0; y=842363.0)	<p><u>Contract No.: YL/2020/01</u></p> <p>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.</p> <p>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.</p> <p>Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.</p>	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/0004267-23)	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.	<p><u>Contract No.: YL/2021/01</u></p> <p>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.</p> <p>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.</p> <p>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.</p>	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	<p><u>Contract No.: YL/2021/01</u></p> <p>According to the interim report, the piling works were</p>	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.	<p>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.</p> <p>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.</p> <p>In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded.</p> <p>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 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.</p>	Mar 2023
COM-2023-04-01	3 April 2023	EPD	EPD File Ref.: N06/RN/00	The complaint was lodged by a resident of Shenzhen City "this site is still operating at	<p><u>Contract No.: YL/2021/01</u></p> <p>According to the interim report, the piling works were</p>	Interim report 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.	<p>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.</p> <p>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 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.</p> <p>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</p>	Apr 2023

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status																				
					<p>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.</p> <p>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 20th April 2023.</p>																					
COM-2023-05-01	8 May 2023	EPD	EPD File Ref.: N06/RN/00 011649 23	<p>A public complaint was received by EPD on 8 May 2023 and supplemented a video taken by complainant on 14 May 2023. The complaint was lodged by a resident of Shenzhen City "地點，港鐵落馬洲站，樓下近巴士總站，福田口岸建築地盤剛，經常發出噪音，剛才星期六五月六號約15點40分，估計噪音超過100分配，另外經常在18:00後，及於星期日公眾假期等日子進行施工及發出噪音造成滋擾。"</p>	<p>Contract No.: YL/2021/01</p> <p>According to the interim report, construction activities being undertaken nearby Lok Ma Chau MTR Station on 6 May (Saturday) and 14 May (Sunday) 2023 were:</p> <table border="1"> <thead> <tr> <th>Date</th> <th colspan="2">6 May (Saturday)</th> <th colspan="2">14 May (Saturday)</th> </tr> </thead> <tbody> <tr> <td>Working Time:</td> <td>08:00 to 19:00 (Normal working hours)</td> <td>19:00 to 23:00 (Restricted hours)</td> <td>08:00 to 19:00 (Restricted hours)</td> <td></td> </tr> <tr> <td>Location:</td> <td colspan="4">The Public Transport Interchange of Lok Ma Chau MTR Station</td> </tr> <tr> <td>Construction</td> <td colspan="2">Piling works</td> <td colspan="2">Air lifting</td> </tr> </tbody> </table>	Date	6 May (Saturday)		14 May (Saturday)		Working Time:	08:00 to 19:00 (Normal working hours)	19:00 to 23:00 (Restricted hours)	08:00 to 19:00 (Restricted hours)		Location:	The Public Transport Interchange of Lok Ma Chau MTR Station				Construction	Piling works		Air lifting		Interim report was submitted to EPD on 17 May 2023
Date	6 May (Saturday)		14 May (Saturday)																							
Working Time:	08:00 to 19:00 (Normal working hours)	19:00 to 23:00 (Restricted hours)	08:00 to 19:00 (Restricted hours)																							
Location:	The Public Transport Interchange of Lok Ma Chau MTR Station																									
Construction	Piling works		Air lifting																							

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status															
					<table border="1" data-bbox="1220 338 1912 370"> <tr> <td>activities:</td> <td></td> <td>works</td> </tr> </table> <p>The noise recorded in the video was considered not arising from Contract YL/2021/01.</p> <p>Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. No works and PMEs were allowed without the approved PTW form.</p> <p>PMEs used record</p> <table border="1" data-bbox="1220 673 1912 960"> <tr> <td>Date:</td> <td>6 May (Saturday)</td> <td>14 May (Saturday)</td> </tr> <tr> <td>Time (restricted hours)</td> <td>19:00 to 23:00</td> <td>08:00 to 19:00</td> </tr> <tr> <td>Group of granted CNP:</td> <td>L</td> <td>M</td> </tr> <tr> <td>PMEs used:</td> <td>1 x Rotary drilling rig</td> <td>2 x De-senders 2 x Mobile cranes 2 x Air compressors</td> </tr> </table> <p>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 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. A 3m high noise barrier were installed next to the rotary drilling rig. Another noise barriers were erected facing the residential</p>	activities:		works	Date:	6 May (Saturday)	14 May (Saturday)	Time (restricted hours)	19:00 to 23:00	08:00 to 19:00	Group of granted CNP:	L	M	PMEs used:	1 x Rotary drilling rig	2 x De-senders 2 x Mobile cranes 2 x Air compressors	
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Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>blocks of Shenzhen City. The generators used on site were Quality Powered Mechanical Equipment (QPME).</p> <p>According to the calculation by the Contractor during the non-restricted hour on 6 May (Saturday), the mitigated noise level at the nearest residential building in Shenzhen based on the SWL of PMEs used were below 75dB(A).</p> <p>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 12 May 2023. The deployment of the temporary noise barriers would be reviewed from time to time to cater for the changing site conditions.</p>	
COM-2023-10-01	2 October 2023	EPD	EPD File Ref.: N07/RN/00 023409-23	EPD received a public complaint on 2 October 2023 regarding flytipping of C&D wastes from a construction site. “街燈 BD1944、BD1308附近有地盤非法傾倒建築物料(紅毛泥)到河流中，導致河中魚類死亡”。	<p><u>Contract No.: YL/2020/02</u></p> <p>According to the interim report, the following investigation was conducted:</p> <ol style="list-style-type: none"> 1. EPD SEPI Mr. Arthur Lau and his team, accompanied by CRBC Environmental Officer, Mr. Calvin So, carried out site inspection at Lok Ma Chau works area on 4 October 2023. During the inspection, no dead fish and construction waste was found in the nullah. Three water samples were taken by EPD (two from the nullah near street lamp post nos. BD1944 and BD1308 respectively, one from the wastewater treatment facility at Fu Tai works area) 	Interim report was submitted to EPD on 6 Nov 2023

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>during the inspection. No adverse comment was received from EPD during the inspection regarding the captioned.</p> <p>2. A joint site investigation amongst ET, IEC, AECOM and CRBC was carried out on 4 October 2023. No dead fish and deposition of construction waste (e.g. cement) was identified at the nullahs on both sides of Lok Ma Chau Road. Wastewater generated near Fu Tai works area was properly treated prior to discharge to the designated discharge point in accordance with the Discharge Licence (Licence Number: WT10001592-2023). No inert material was placed near the nullah in Fu Tai works area. No chemical is discharged to the existing Chau Tau nullah.</p> <p>3. The construction waste in Fu Tai works area was free from the nullah, sandbags were provided at the working area near the nullah. The inert construction waste (e.g. soil) generated in Fu Tai works area was transported to Reedbed works area for further arrangement, such as temporary storage for future use and disposal at designated Public Fill Bank.</p> <p>4. The construction activities conducted from 25 September 2023 to 6 October 2023 in Fu Tai works area are the following:</p> <p>(a) RCD drilling (Involving driven of steel casing into rock head level instead of applying bentonite, wastewater was collected and recycled by set of sedimentation tanks,</p>	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>therefore no wastewater was leaked to nearby nullah.)</p> <ul style="list-style-type: none"> (b) RCD airlifting (Wastewater was collected by set of sedimentation tanks and discharged after treatment of Wetsep to discharge point) (c) Concreting by tremie pipe without applying of curing compound (Wastewater was displaced by concrete within the steel casing and discharged after treatment of Wetsep to discharge point without any overflow) <p>The construction waste generated was transported to Reedbed works area for further arrangement. The construction activities conducted at the works area opposite to street lamp post no. BD1308 is unlikely to cause any effect to the nullah next to street lamp post no. BD1944 as nullah system is already diverted to different stream next to Chau Tau Ventilation Building. Therefore, the construction activities adjacent to the existing Chau Tau nullah were discrete from the downstream nullah.</p> <p>5. Mitigation measures taken on wastewater pollution control and waste management:</p> <ul style="list-style-type: none"> (a) Wastewaste treatment facilities were employed in Fu Tai Area. Wastewater generated in the area was treated properly in accordance with the Discharge Licence (Licence Number: WT10001592-2023) 	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>before discharge to the designated discharge point since the Discharge Licence (Licence Number: WT10001592-2023) was granted (early September 2023).</p> <p>(b) The nullah near Fu Tai works area is free from construction material, sandbags were provided at the working area near the nullah since the commencement of works in Fu Tai works area.</p> <p>(c) CCTVs were installed along the nullah in Lok Ma Chau Road for monitoring since August 2023. The site condition of the nullah in Lok Ma Chau Road can be seen at real time and recorded through the CCTVs. No dead fish and construction waste was found in the nullah during the period of 25 September 2023 to 4 October 2023. No incident of oil / chemical spillage at Fu Tai Site area.</p> <p>6. Nevertheless, CRBC will continue to comply with the Water Pollution Control Ordinance and Waste Disposal Ordinance. Based on the investigation result, it is considered that the complaint was not related to Contract No. YL/2020/02.</p>	
COM-2023-12-01	4 December 2023	EPD	N/A	EPD received a public complaint on 4 December 2023 regarding to muddy	<p><u>Contract No.: YL/2020/02</u></p> <p>According to the interim report, the following</p>	Interim report was submitted to EPD on 19

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				<p>water and dust nuisance from a construction site. "落馬洲潘屋村口有一個地盤排放出泥水及造成大塵滋擾。這地盤是鄰近村民等車的地方，可以影響到出入的老人。" The complainant made a request that "dust screens" should be set up at the construction area near "the public light bus stand" alleged as temporary nature for Pun Uk Tsuen.</p>	<p>investigation was conducted:</p> <ol style="list-style-type: none"> 1. Excavation and site clearance was conducted at the concerned site area. 2. EPD SEPI Mr. Arthur Lau and his team, accompanied by CRBC Environmental Officer, Mr. Calvin So and RSS, carried out site inspection at Pun Uk Tsuen works area on 5 December 2023. During the inspection, no muddy water and dust nuisance were found at the concerned site area. No adverse comment was received from EPD during the inspection under the subject complaint. 3. Mitigation measures took on site for wastewater pollution control and dust nuisance before receiving the complaint: <ol style="list-style-type: none"> (a) Sandbags have been placed along the boundary of the works area to prevent wastewater to be ran-off from the site. (b) Tarpaulin sheet has been provided for the exposed slopes to minimize the dust nuisance to nearby pedestrians. 4. Additional mitigation measures took on site to further strengthen the wastewater pollution control and dust nuisance after the complaint: 	Dec 2023

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>(a) Double layer of sandbags have been placed along the work area to prevent wastewater to be ran-off from the site.</p> <p>(b) Dust screen has been erected to minimize dust nuisance to nearby pedestrians.</p> <p>5. Nevertheless, CRBC will continue to comply with the Water Pollution Control Ordinance and Air Pollution Control Ordinance. Base on the investigation result, it is considered that the complaint was not related to Contract No. YL/2020/02.</p>	
COM-2024-1-01	14 January 2024	EPD	EPD File Ref.: N06/RN/0001389-24)	An environmental complaint has been received by EPD regarding construction works of the Lok Ma Chau Loop Project (Environmental Permit No. EP-477/2013/B). The complainant alleged that there was a construction noise generated from percussive piling works around the work site of Central Government – Aided Emergency Hospital. The details of the complaint according to EPD email dated 16 January 2024 is a	<p><u>Contract No.: YL/2020/01</u></p> <p>According to the interim report, the following investigation was conducted:</p> <ol style="list-style-type: none"> 1. Percussive piling works is not required under YL/2020/01, no percussive piling works were carried out since the commencement of the Contract and no site activities after 20:00 on 12 January 2024. 2. A site inspection conducted on 18 January 2024, by EPD SEPI, Mr Arthur Lau and his team, accompanied by representatives from JV at works area of Contract YL/2020/01. During the 	Interim report was submitted to EPD on 7 February 2024

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				follows, “投訴人投訴落馬洲福田口岸中央援港醫院附近有工程噪音滋擾事宜，投訴人表示在1月12日晚上九點半依然有打樁的聲音，嚴重滋擾投訴人休息。要求部問跟進和處理個案”。	inspection, no piling works was observed. No adverse comment was received from EPD during the inspection regarding the caption. 3. Based on above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/01.	
COM-2024-2-01	2 February 2024	EPD	EPD File Ref.: N06/RN/0003501-24)	EPD received a public complaint on 2 February 2024 " 2024年1月30經過，發現比以往更多白泥滲入渠道，應該由附近地盤排水導致，之前已有少量白泥滲入，當日經過直頭全白，此地盤公司已多次非法排污。"	<u>Contract No.: YL/2020/02</u> According to the interim report, the following investigation was conducted: 1. Bored piling works has been conducted at the concerned site area since 30 Dec 2023. 2. Mitigation measures taken on wastewater pollution control: • Wastewater treatment facilities were employed in Fu Tai Area. Wastewater generated in the area was treated properly in accordance with Discharge Licence (Licence Number: WT10001592-2023) before discharge to the designated discharge point since the Discharge Licence (Licence Number: WT10001592-2023) was granted (early September 2023).	Interim report was submitted to EPD on 27 February 2024

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<ul style="list-style-type: none"> • Designated personnel has been assigned to carry out regular maintenance for Wastewater treatment facilities at all time to ensure wastewater is treated properly prior to discharge. • Provision of wheel-washing bay for vehicles leaving site and sump pit has been constructed for collection of wastewater. • Wastewater treatment facilities including sump pits, sedimentation tanks and Wetsep have been provided on site to treat, reuse and discharge any wastewater generated. • Provision of sandbags to prevent surface run-off from entering nullah and public drainage system. <p>3. A site inspection of the nullah and the concerned works area between RSS and CRBC was carried out on 3 February 2024. No discharge of water, disposal of materials and overflow into the nullah from the works area was observed. Temporary wastewater treatment facilities such as WetSep and connecting pipes were observed to be functioned properly.</p> <p>4. EPD SEPI Mr. Arthur Lau and his team, accompanied by CRBC Environmental Officer, Mr. Calvin So and RSS, carried out site</p>	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>inspection at Fu Tai Carpark works area on 8 February 2024. During the inspection, no untreated wastewater was found discharging to public drain at the concerned site area. No adverse comment was received from EPD during the inspection under the subject complaint.</p> <p>5. Nevertheless, the contractor will continue to comply with the Water Pollution Control Ordinance. Holistic review of temporary drainage system including sedimentation tanks, cut-off drain, bunding and sump pits has been conducted to enhance the treatment capability of wastewater on site.</p>	
COM-2024-5-01	24 May 2024	EPD	EPD File Ref.: N06/RN/00 014224-24)	EPD received a public complaint on 24 May 2024 "投訴燈柱 BD0942 附近的馬路工程將污水直接排放到河道，要求環保署跟進及回覆。	<p><u>Contract No.: YL/2020/02</u></p> <p>The complaint was received by the Contractor on 4 June 2024. According to the interim report, the following investigation was conducted:</p> <ol style="list-style-type: none"> 1. Drainage works and road works has been conducted at the concerned site area since April 2024. 2. Mitigation measures taken on wastewater pollution control: <ul style="list-style-type: none"> • Wastewater treatment facilities were employed in Fu Tai Area (Next to Chau Tau West Road). 	Interim report was submitted to EPD on 24 June 2024

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>Wastewater generated in the area was treated properly in accordance with the Discharge Licence (Licence Number: WT10001592-2023) before discharge to the designated discharge point since the Discharge Licence (Licence Number: WT10001592-2023) was granted (early September 2023). Routine self-monitoring of the effluent discharge has been carried out. According to the latest lab test result of effluent discharge at the wastewater treatment facility as attached, the effluent discharge did not exceed the limits as stated in the Licence.</p> <ul style="list-style-type: none"> • Designated personnel has been assigned to carry out regular maintenance for Wastewater treatment facilities at all time to ensure wastewater is treated properly prior to discharge. • Concrete bund had been constructed to prevent the unaffected upstream water from flowing into the site area and water pipe had been placed to bypass the unaffected upstream water. • Wastewater treatment facilities including sump pits, sedimentation tanks and Wetsep have been provided on site to treat, reuse and discharge any wastewater generated. The wastewater treatment facilities has been indicated in the temporary site drainage plan which is 	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>incorporated in the Layout Plan.</p> <p>3. A site inspection of the nullah and the concerned works area between ET, IEC, RSS and CRBC was carried out on 5 June 2024. As observed, most of the works areas were hard-paved. No discharge of wastewater and overflow into the nullah from the works area was observed.</p> <p>4. EPD Ms. Leung and her team, accompanied by CRBC Environmental Officer, Mr. Calvin So and RSS, carried out site inspection at Lok Ma Chau Road works area on 12 June 2024. During the inspection, no untreated wastewater was found discharging to public drain at the concerned site area. No adverse comment was received from EPD during the inspection under the subject complaint.</p> <p>5. Base on the investigation result, it is considered that the complaint was not related to Contract No. YL/2020/02.</p> <p>6. Nevertheless, CRBC will continue to comply with the Water Pollution Control Ordinance.</p>	
COM-2024-6-01	2 June 2024	EPD	EPD File Ref.: N06/RN/00 014984-24)	EPD received a public complaint on 2 June 2024 " 投訴人於 2024 年 5 月 31 日晚上 10 時在落馬州巴	<p><u>Contract No.: YL/2021/01</u></p> <p>The complaint was received by the Contractor on 28 June 2024. The Contractor took immediately action with findings shown below:</p>	Interim report was submitted to EPD on 19 July 2024

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status																																																																														
				<p>士站乘搭的士，途徑新界的士站及九巴 B1 線巴士站中間的一個地盤有黃泥水湧出街道，投訴人表示已經向警方報案，並已拍攝照片及相片，要求部門跟進。”</p>	<p>Weather: Based on HKO’s record, Typhoon No. 3 (Typhoon - Maliksi) was issued on 31 May 2024 from 1640 hrs to 1640 hrs on 1 June 2024, and Amber Rainstorm Warning was issued on 31 May 2024 from 1530 hrs to 1700 hrs. The daily rainfall distribution records at Lok Ma Chau were listed below.</p> <p>Daily Total Rainfall (mm) at Lok Ma Chau 2024</p> <table border="1" data-bbox="1249 699 1917 847"> <thead> <tr> <th></th> <th>Jan</th> <th>Feb</th> <th>Mar</th> <th>Apr</th> <th>May</th> <th>Jun</th> <th>Jul</th> <th>Aug</th> <th>Sep</th> <th>Oct</th> <th>Nov</th> <th>Dec</th> </tr> </thead> <tbody> <tr> <td>27</td> <td>0.5</td> <td>0.0</td> <td>0.0</td> <td>2.0</td> <td>12.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>28</td> <td>0.5#</td> <td>0.0</td> <td>0.0</td> <td>9.0</td> <td>14.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>29</td> <td>***</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>30</td> <td>0.6#</td> <td></td> <td>0.0</td> <td>10.0</td> <td>1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>31</td> <td>0.0</td> <td></td> <td>0.0</td> <td></td> <td>48.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>JV carried out site investigation, there was no construction works carried out at the time of complaint. The source of leaking muddy water was considered as the heavy rainfall.</p> <p>Site condition: At the boundary of construction site, sandbags were placed along the plastic traffic barrier. The site entrance has been hard-paved. Water pumps were installed and connected to the wastewater treatment facilities to ensure all the surface runoff is properly being diverted and collected to the wastewater treatment facilities. Wastewater treatment facility have been provided</p>		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	27	0.5	0.0	0.0	2.0	12.5								28	0.5#	0.0	0.0	9.0	14.5								29	***	0.0	0.0	0.0	0.0								30	0.6#		0.0	10.0	1.0								31	0.0		0.0		48.5								
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31	0.0		0.0		48.5																																																																															

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>onsite and operated normally.</p> <ul style="list-style-type: none"> • EPD visited on 25 June 2024 to follow up the complaint and wastewater treatment facilities were checked with no comment. • Onsite investigation carried out among AECOM and JV on 28 June 2024. Observed that the additional sump pit and geotextiles should be provided and installed at the gully. • Hard-paving of the site entrances and installation of geotextile at the gully near the public area. • Review site drainage and additional sump pit location for wastewater collection. The location of sedimentation tank was changed nearby the additional sump pit. • Additional sump pit was provided with automatic water pump connected to waste water treatment facility was applied on site. • Check all water pipes were closed before leaving to ensure no leakage during the night time. • Sandbags were placed to direct wastewater to additional sump pit. • Sandbags were placed along the water barrier. • Check and clean the drainage system regularly. • Review the temporary drainage plan on a regular basis. • Ensure the lab test result of the effluent discharge at the wastewater treatment facility shows compliance 	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>with the approved discharge license</p> <ul style="list-style-type: none"> • Conduct a toolbox training of waste water discharge to workers. • The exposed site area has been covered with tarpaulin sheet. 	
COM-2024-7-01	24 Jun 2024	EPD	EPD File Ref.: N06/RN/00 017057-24)	<p>EPD received a public complaint on 24 June 2024 and referred to CEDD, AECOM, IEC and ET on 17 July 2024. The complaint was regarding construction works of the Lok Ma Chau Loop Project (Environmental Permit No. EP-477/2013/B). The complainant alleged that there was a construction noise generated from the construction site near the Ha Wan Tsuen Road. The details of the complaint is as follows. "元朗下灣村居民黃小姐投訴近來每個星期日 07:00-22:00，下灣村有地盤進行工</p>	<p><u>Contract No.: YL/2020/01</u></p> <p>The Contractor received complaint on 19 July 2024 and carried out complaint investigation, with details and findings shown below:</p> <p>Construction Activities being undertaken inside Western Connection Road (WCR) under Contract YL/2020/01;</p> <p>The site diary (16, 23 June 2024) shows that no noisy work was arranged on previous Sunday 07:00 – 22:00 in WCR.</p> <p>In accordance with current Construction Noise Permit (CNP) condition, the site is located in a non-designated area and Powered Mechanical Equipment (PME) applied in CNP can be used at WCR. Permit-to-work was also applied by subcontractor.</p> <p>The complainant did not indicate where he/she was affected by the construction noise.</p>	Interim report was prepared and will be submitted to EPD in August 2024

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				<p>程，傳出噪音，要求環保署跟進及回覆。另她表示地盤持有環保署噪音許證 (EP731-RN/10004943)，她不明白為何本署會批出許可證。".</p>	<p>A site inspection was conducted on June 26, 2024, by EPD, Ms. Fanny Leung and her team, accompanied by representatives from JV at works area of Contract YL/2020/01. During the inspection, no noisy works was observed and no adverse comment was received from EPD during the inspection. Construction Noise Permit (GW-RN0642-24) have been obtained with effective date from 15 June 2024 to 14 September 2024. Furthermore, temporary noise barrier was erected near the noise sensitive receivers.</p> <p>Based on above information and investigation findings, the noise complaint is not application to the construction works of the Contract YL/2020/01.</p>	

**APPENDIX Q
SUMMARY OF SUCCESSFUL
PROSECUTION**

Appendix Q - Summary of Successful Prosecution

Date of Successful Prosecution	Details of the Successful Prosecution	Status	Follow Up
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APPENDIX R
ECOLOGICAL MONITORING RESULTS

Appendix R1 – Avifauna Monitoring Results (Pond 12)

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	2 nd July 2024
					Weather Condition	Drizzle
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV	Cap.586, LC	1	1
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			1
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC		1
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		2	2
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR			2
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2	5
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)	1	1
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)		1
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		3	2
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		1	1
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		1	
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背棕鳥	M, WV, Sv	LC	1	4
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		3	3
Total No. of Species					9	12

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	2 nd July 2024
					Weather Condition	Drizzle
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
No. of Birds Recorded					15	24

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	9 th July 2024
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv		1	
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv	2		
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		1	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)	2	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		1	
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)	1	
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鶇鶇	R		1	
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		2	
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鶇	R		2	
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		3	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2	
Swinhoes White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R		3	
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	PM, WV		1	
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背椋鳥	M, WV, Sv	LC	5	
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		3	
Total No. of Species					8	12

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	9 th July 2024
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
No. of Birds Recorded					21	25

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	15 th July 2024
					Weather Condition	Drizzle
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Azure-winged Magpie	<i>Cyanopica cyanus</i>	灰喜鵲	R			1
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv			1
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			2
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC		1
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鸚	R			4
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		2
Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	栗葦鶉	UPM, SSV	LC		1
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU		1
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2	22
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)		1
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)		1
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶉	R	(VU)	1	2
Large-billed Crow	<i>Corvus macrorhynchus</i>	大嘴烏鴉	R		5	3
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)		1
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		3	2

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	15 th July 2024
					Weather Condition	Drizzle
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		2	3
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R			1
Swinhoes White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			2
White Wagtail	<i>Motacilla alba</i>	白鶇鶇	PM, WV			1
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背椋鳥	M, WV, Sv	LC	2	37
Yellow Bittern	<i>Ixobrychus sinensis</i>	黃葦鶇	USV, UPM	(LC)	1	1
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶇	R		3	3
Total No. of Species					8	22
No. of Birds Recorded					19	93

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	22 nd July 2024
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv			2
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV	Cap.586, LC		2
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷗	PM	RC		2
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		1
Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	栗葦鶉	UPM, SSV	LC		1
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2	8
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)		1
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)	1	1
Large-billed Crow	<i>Corvus macrorhynchus</i>	大嘴烏鴉	R			1
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		3	3
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶉	R		4	7
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R			1
Swinhoes White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			2
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背椋鳥	M, WV, Sv	LC		2
Yellow Bittern	<i>Ixobrychus sinensis</i>	黃葦鶉	USV, UPM	(LC)	2	3
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		2	3

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	22 nd July 2024
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Total No. of Species					6	16
No. of Birds Recorded					14	40

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	29 th July 2024
					Weather Condition	Drizzle
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Azure-winged Magpie	<i>Cyanopica cyanus</i>	灰喜鵲	R		6	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv			5
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV	Cap.586, LC		1
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			2
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R			2
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)		1
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			5
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)		1
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)		1
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鶇	R	(VU)	1	1
Large-billed Crow	<i>Corvus macrorhynchus</i>	大嘴烏鴉	R			2
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		1	2
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R			4
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		6	2
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R			1
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)	1	1

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	29 th July 2024
					Weather Condition	Drizzle
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Yellow Bittern	<i>Ixobrychus sinensis</i>	黃葦鶉	USV, UPM	(LC)		5
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		1	3
Total No. of Species					6	17
No. of Birds Recorded					16	39

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 – Herpetofauna (Chinese Bullfrog) Survey Results

Common Name	Species Name	Chinese Name	Date: 8 th July 2024					
			Weather Condition: Fine					
			Counts					
			Transect Walk					
			Day Transect			Night Transect		
			WAL	AFP	Others	WAL	AFP	Others
			Chinese Bullfrog	<i>Hoplobatrachus rugulosus</i>	虎紋蛙	0	0	0
<p><u>Remarks:</u> 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.</p>								

Note:

WAL – Wet Agricultural Land, AFP – Abandoned Fishpond

Appendix R3 – Aquatic Fauna (Rose Bitterling) Survey Results

Common Name	Species Name	Chinese Name	Date: 3 rd July 2024							
			Weather Condition: Fine							
			Counts							
			Location(s)							
			S1	S2	S3	S4	A1	A2	B1	B2
Rose Bitterling	<i>Rhodeus ocellatus</i>	高體鯉鰻	Direct Observation:							
			0	0	0	0	0	0	0	0
			Sweep Netting:							
			0	0	0	0	0	4	0	0

Appendix R4

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 03-Jul-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	10:19	31.4	31.4	7.3	7.3	0.1	0.1	41.5	41.5	3.1	3.1	3.5	3.6
			31.4		7.3		41.5		3.1					
A2	Sunny	10:00	32.0	32.0	7.5	7.5	0.1	0.1	28.2	28.1	2.1	2.1	3.0	3.0
			32.0		7.5		27.9		2.0					
B1	Sunny	09:52	32.0	32.0	7.7	7.8	0.1	0.1	111.2	111.5	8.1	8.2	14.4	14.5
			32.0		7.8		111.8		8.2					
B2	Sunny	09:44	31.7	31.8	7.8	7.8	0.1	0.1	85.6	86.1	6.3	6.4	13.4	13.2
			31.8		7.8		86.6		6.4					
S1	Sunny	10:31	30.8	30.8	7.0	7.0	0.1	0.1	44.7	44.7	3.3	3.3	9.1	9.1
			30.8		7.0		44.7		3.3					
S2	Sunny	10:11	30.1	30.1	7.9	7.9	0.1	0.1	83.6	83.6	6.3	6.3	32.2	32.3
			30.1		7.9		83.6		6.3					
S3	Sunny	09:29	28.3	28.4	7.8	7.8	0.1	0.1	51.3	51.2	4.0	4.0	39.6	39.7
			28.4		7.8		51.1		4.0					
S4	Sunny	09:37	28.7	28.7	8.1	8.2	0.1	0.1	48.0	47.8	3.7	3.7	43.3	43.7
			28.7		8.2		47.6		3.7					

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 08-Jul-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	10:29	32.5 32.5	32.5	7.4 7.4	7.4	0.1 0.1	0.1	57.3 57.4	57.4	4.2 4.2	4.2	7.2 7.4	7.3
A2	Sunny	10:11	32.2 32.2	32.2	7.5 7.5	7.5	0.1 0.1	0.1	23.3 22.5	22.9	1.7 1.6	1.7	4.7 4.8	4.8
B1	Sunny	10:04	31.8 31.8	31.8	7.5 7.5	7.5	0.1 0.1	0.1	103.3 103.1	103.2	7.6 7.6	7.6	11.1 11.0	11.1
B2	Sunny	09:57	31.9 31.9	31.9	7.7 7.7	7.7	0.1 0.1	0.1	91.1 90.6	90.9	6.7 6.6	6.7	12.8 12.8	12.8
S1	Sunny	10:35	31.1 31.1	31.1	7.3 7.3	7.3	0.1 0.1	0.1	61.3 61.2	61.3	4.6 4.5	4.6	22.5 22.9	22.7
S2	Sunny	10:21	30.4 30.4	30.4	7.8 7.8	7.8	0.1 0.1	0.1	73.4 73.4	73.4	5.5 5.5	5.5	26.5 25.7	26.1
S3	Sunny	09:44	28.7 28.7	28.7	8.0 8.0	8.0	0.1 0.1	0.1	42.9 42.7	42.8	3.3 3.3	3.3	46.3 45.9	46.1
S4	Sunny	09:51	28.9 28.9	28.9	7.8 7.8	7.8	0.1 0.1	0.1	44.0 43.0	43.5	3.4 3.3	3.4	25.9 25.6	25.8

Service Contract No. WD/04/2020

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

Water Quality Monitoring Results on 15-Jul-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Rainy	14:02	32.9 32.9	32.9	7.5 7.5	7.5	0.1 0.1	0.1	63.9 63.9	63.9	4.6 4.6	4.6	4.1 4.1	4.1
A2	Rainy	13:55	33.0 33.0	33.0	7.7 7.7	7.7	0.1 0.1	0.1	52.9 52.1	52.5	3.8 3.7	3.8	3.7 3.7	3.7
B1	Rainy	13:53	33.1 33.1	33.1	8.3 8.3	8.3	0.1 0.1	0.1	143.7 144.3	144.0	10.3 10.4	10.4	15.6 15.1	15.4
B2	Rainy	13:52	33.4 33.4	33.4	8.1 8.1	8.1	0.1 0.1	0.1	145.6 145.6	145.6	10.4 10.4	10.4	14.6 14.6	14.6
S1	Rainy	14:04	32.4 32.4	32.4	7.4 7.4	7.4	0.1 0.1	0.1	80.4 80.4	80.4	5.8 5.8	5.8	22.8 22.7	22.8
S2	Rainy	14:01	30.5 30.5	30.5	7.8 7.8	7.8	0.1 0.1	0.1	62.1 62.0	62.1	4.7 4.6	4.7	56.5 56.6	56.6
S3	Rainy	13:49	29.9 30.0	30.0	7.7 7.7	7.7	0.1 0.1	0.1	43.2 41.6	42.4	3.3 3.2	3.3	91.1 103.7	97.4
S4	Rainy	13:51	30.1 30.1	30.1	7.6 7.6	7.6	0.2 0.2	0.2	37.5 36.8	37.2	2.8 2.8	2.8	148.9 149.9	149.4

Service Contract No. WD/04/2020



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

Water Quality Monitoring Results on 22-Jul-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	09:48	31.2	31.3	7.2	7.2	0.1	0.1	42.9	42.9	3.2	3.2	9.6	9.6
			31.3		7.2		0.1		42.9		3.2			
A2	Sunny	09:30	31.2	31.3	7.0	7.0	0.1	0.1	30.9	30.8	2.3	2.3	6.4	6.3
			31.3		7.0		0.1		30.7		2.3			
B1	Sunny	09:23	30.9	30.9	7.3	7.3	0.1	0.1	96.6	96.9	7.2	7.2	13.2	13.0
			30.9		7.3		0.1		97.1		7.2			
B2	Sunny	09:17	30.8	30.8	7.5	7.5	0.1	0.1	84.1	83.9	6.3	6.3	14.1	14.1
			30.8		7.5		0.1		83.7		6.2			
S1	Sunny	09:55	30.6	30.6	7.2	7.2	0.1	0.1	70.0	70.0	5.2	5.2	16.5	16.4
			30.6		7.2		0.1		70.0		5.2			
S2	Sunny	09:41	30.3	30.4	7.3	7.3	0.1	0.1	72.0	72.0	5.4	5.4	378.0	392.8
			30.4		7.3		0.1		71.9		5.4			
S3	Sunny	09:04	28.8	28.8	7.7	7.7	0.1	0.1	33.9	33.8	2.6	2.6	46.5	46.1
			28.8		7.7		0.1		33.6		2.6			
S4	Sunny	09:11	29.1	29.1	7.5	7.5	0.1	0.1	31.7	31.2	2.4	2.4	18.5	18.6
			29.1		7.5		0.1		30.7		2.4			

**APPENDIX S
PHOTO RECORDS OF THE STATUS OF
PONDS**

Appendix S – Photo Records of the status of Ponds in July 2024

 A photograph of a two-story building with a rusted metal exterior and a corrugated metal roof. The building is situated next to a pond, with some vegetation in the foreground.	 A photograph of a pond filled with lily pads and other aquatic plants. The background shows a line of trees and a cloudy sky.
<p>Pond 5</p>	<p>Pond 6</p>
 A photograph of a pond surrounded by tall reeds and grasses. The sky is overcast with grey clouds.	 A photograph of a pond with reeds and grasses in the foreground. The background shows a line of trees and a cloudy sky.
<p>Pond 7</p>	<p>Pond 8</p>
 A photograph of a pond with reeds in the foreground. In the background, there are green hills under a cloudy sky.	 A photograph of a light blue building with a corrugated metal roof and several windows. The building is situated next to a pond.
<p>Pond 9</p>	<p>Pond 10</p>
 A photograph of a pond with reeds in the foreground. In the background, there are green hills under a cloudy sky.	 A photograph of a pond with reeds and grasses in the foreground. The background shows a line of trees and a cloudy sky.
<p>Pond 11</p>	<p>Pond 12</p>



Pond 13