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

Quarterly Environmental Monitoring and Audit Report for October to December 2023

(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/L162
Date : 04 March 2024

By Post & Email

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

Attn: Ms. TAM Im Fei

Dear Ms. TAM,

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

Verification of Quarterly EM&A Report (October to December 2023)

Reference is made to the Quarterly Environmental Monitoring and Audit (EM&A) Report of certified by the Environmental Team Leader in March 2024. We hereby verify the captioned submission in accordance with Clause 14.4 of the EM&A Manual for the project of Development of Lok Ma Chau Loop.

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

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

Raymond Dai
Independent Environmental Checker

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

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EXECUTIVE SUMMARY

Introduction

1. This is the 20th Quarterly Environmental Monitoring and Audit (EM&A) Report prepared for the project with 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) work conducted in the period from 1st October to 31st December 2023.

Summary of Construction Works undertaken during the Reporting Quarter

2. During the reporting quarter, 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 Works

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

4. Summary of the environmental exceedances of the reporting quarter for the Project is tabulated in **Table I**.

Table I Summary Table for Events Recorded in the Reporting Quarter

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

Environmental Monitoring	Parameter	No. of Non-Project related Exceedances		No. of Exceedance related to the Construction Works of the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
Water Quality	SS	0	0	--	0	0

Air Quality

5. All construction air quality monitoring including 1-hour TSP and 24-hour TSP monitoring were conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

Construction Noise

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

Water Quality

7. All water quality monitoring was conducted as scheduled in the reporting quarter. No action/Limit Level exceedance was recorded.

Ecological Monitoring

LMC Loop

Avifauna (Flight Line Survey)

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

Mammals

9. According to Clause 11.4.1.2 of EM&A Manual, the objective of mammals monitoring is to monitor the connectivity between the existing reed marsh and the EA. In view of current site condition of Loop, the connectivity between the existing reed marsh and the EA Zone has been fenced off due to other project's land occupier.

10. 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)

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

Avifauna (Pond 12)

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

Herptofauna

13. Herptofauna survey was conducted as scheduled October 2023. It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands. In addition, flooding has been recorded after extreme rain in September 2023. These may have an effect on the local Chinese Bullfrog population. However, no significant impact of construction activities on this species was observed.

14. No herpetofauna survey was conducted in November and December 2023 in the reporting quarter according to Section 11.4.2.2 of EM&A Manual.

Aquatic fauna

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

Contaminated Soil Remediation

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

17. No work related to land contamination was conducted in the reporting quarter.

Environmental Non-Compliance

18. No environmental non-compliance was recorded in the site inspections during the reporting quarter.

Environmental Complaint

19. Two environmental complaints were received in the reporting quarter. The Complaint Log is presented in **Appendix M**.

Notification of Summons and Successful Prosecutions

20. No notification of summons or successful environmental prosecutions was received in the

reporting quarter.

Reporting Change

21. This report has been prepared in compliance with the reporting requirements for the Quarterly 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 quarter.

Future Key Issues

22. The major site activities for the coming three months include:

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

(a) Wetland Compensation Establishment Works and Ecological Monitoring
(b) Road L1 Drainage and UU enabling works
(c) Additional Ground Investigation
(d) Structure Construction for Box Culverts
(e) Retaining Wall&Slope Works at WCR
(f) Drainage Works and Roadworks
(g) Woodland Compensation Works
(h) Meander Bridge South Piers Cap and Northern Span Construction
(i) Public Transport Interchange (PTI) 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.

Direct Road Link (DRL)

(b) Temporary works.
(c) Bored Pile works.
(d) Sheet piling works.
(e) ELS works.
(f) Segment precast.
(g) Pier construction.
(h) Construction of pile cap.

Lok Ma Chau (LMC) Road

(i) Sheet-piling works.
(j) Drainage works.
(k) Bored piling works.
(l) Water main installation.
(m) Pile cap construction.
(n) Nullah modification works
(o) Site formation.
(p) Underground utilities works.

(q) Construction of noise barrier.
(r) Soil-nailing.

Fanling Highway

(s) Construction of retaining wall.
(t) Pier construction.
(u) Installation of pierhead segment.
(v) Backfilling works for retaining wall.
(w) Sheet-piling works for retaining wall.
(x) Full span erection.
(y) Fabrication of precast segment.

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.

23. Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, noise, water quality, waste management and ecology.

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 20th Quarterly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from October to December 2023.

Structure of the report

1.3 The structure of the report is as follows:

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

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

Section 3: **Environmental Monitoring and Audit Requirement –** summarises monitoring location and parameters, monitoring programmes, monitoring frequencies, Action and Limit Levels, Event / Action Plans, and Site Audit inspection.

Section 4: **Monitoring Results –** summarises the monitoring results in the reporting quarter.

Section 5: **Environmental Site Inspection –** summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 6: **Non-Compliance of the Environmental Quality Performance Limits (Action and Limit) –** summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting period.

Section 7: **Future Key Issues –** summarises the impact forecast and monitoring schedule for the next three months.

Section 8: **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 in June 2018 for the Advance Works.

2.6 For MWP1, there is 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 quarter, 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 and the scope of works under the Contracts are summarised in **Table 2.1**.

Table 2.1 Site Layout and Scope of Works under the Contracts

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

Contracts Organization

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

Table 2.2 Key Contacts of the Project

Organization	Project Role	Contact Person	Tel No.	Fax No.
CEDD	Project Proponent	Mr. Davy KS CHAN	24176370	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 – Ms. Lila Lui	52610378	27740197
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
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

Summary of Construction Works Undertaken during Reporting Quarter

2.13 The major site activities undertaken in the reporting quarter 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

Month(s)	Major Site Activities
Oct 2023	(a) Wetland Ecological Monitoring Wetland Compensation Establishment Works and Ecological Monitoring. (b) Ground Investigation Works, Excavation and Lateral Support Cofferdam Construction for Vehicular Bridge over the Old Shenzhen River Meander. (c) Excavation and Lateral Support (ELS) Cofferdam Construction for Box Culvert A and C. (d) Excavation and Lateral Support (ELS) Cofferdam Construction and Underground Utilities (UU) installation for Road L1. (e) Deep Cement Mixing works, Drainage Works and Roadworks for Western Connection Road.
Nov 2023	(a) Wetland Ecological Monitoring Wetland Compensation Establishment Works and Ecological Monitoring. (b) Ground Investigation Works, Excavation and Lateral Support Cofferdam Construction for Vehicular Bridge over the Old Shenzhen River Meander. (c) Excavation and Lateral Support (ELS) Cofferdam Construction for Box Culvert A and C. (d) Excavation and Lateral Support (ELS) Cofferdam Construction and Underground Utilities (UU) installation for Road L1. (e) Retaining Wall Works for Western Connection Road.
Dec 2023	(a) Wetland Ecological Monitoring Wetland Compensation Establishment Works and Ecological Monitoring. (b) Ground Investigation Works, Excavation and Lateral Support Cofferdam Construction for Vehicular Bridge over the Old Shenzhen River Meander. (c) Excavation and Lateral Support (ELS) Cofferdam Construction for Box Culvert A and C. (d) Excavation and Lateral Support (ELS) Cofferdam Construction and Underground Utilities (UU) installation for Road L1. (e) Retaining Wall Works for Western Connection Road.

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

Month(s)	Major Site Activities
Oct 2023	(a) 85.68% (1095 out of 1278 trees felled), 17 nos. of trees transplanted. (b) Liaison with MTRCL. (c) TMLG Meetings. (d) SLG Meeting (Bi-weekly). (e) Bored Piling works at Integrated Structure. (f) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A carried out. (g) Monitoring of groundwater level at PW6A, Slope F18 and RW8a.

Month(s)	Major Site Activities
	(h) Watermain laying works is in progress in front of Bored Pile Wall BPW1 at north of Chau Tau West Road. (i) DRL-P07 Pre-drill works. (j) Sheet piling for Pile Cap of DRL-P04 completed, ELS is in progress. (k) Sheet piling for Pile Cap of DRL-P02, P03 and P05 are in progress. (l) Rebar fixing and formworks at FBP-06 Pile Cap is in progress. (m) Pier at DRL-P12 and DRL-P13 Pier construction works. (n) Subway construction completed. (o) Pai Lau - ABWF works in progress. (p) 2nd Stage for TTA along Lok Ma Chau Road S/B near CTWR. Implement for common trench for CLP, FMOs and HKCG for trial run. (q) DN700 water main installation. (r) PW6A Pipe Pile pre-boring works completed 30 out of 58 nos.
Nov 2023	(a) 85.68% (1095 out of 1278 trees felled). (b) Liaison with MTRCL. (c) TMLG Meetings. (d) SLG Meeting (Bi-weekly). (e) Retaining Wall RW9 Bay1 and Bay 2 construction completed. Backfilling works is in progress. (f) Bored Piling at FBP-P01 and 02 completed. Piling platform erection at FBP-P03 is in progress. (g) Bored Piling (4 nors along cell A north part) works at Integrated Structure completed, the breaking works of top slab along cell B (south part) is in progress. (h) ST01-P06 Pier construction is in progress, ST01-P05 site access and preparation works are in progress. (i) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A carried out. (j) PW6A Pipe Pile pre-boring works completed 49 out of 58 nos, 30 nos concreted. (k) Monitoring of groundwater level at PW6A. (l) Watermain laying works, FNOs and CLP laying works are in progress in front of Bored Pile Wall BPW1 at north of Chau Tau West Road. (m) DRL-P08 temporary works and existing UU protection works completed. DRL-P06 temporary border fence inspected and accepted by HKPF. Removal of existing border fence was in progress for plant mobilization of Bored Pile works at DRL-P06 and P07. (n) Sheet piling for Pile Cap of DRL-P02 to P05 completed, ELS is in progress. (o) Construction of FBP-06 Pile Cap completed. (p) Pier at DRL-P12 construction work completed, Pier at DRL-P13 construction is in progress. (q) RC structure of subway modification completed, and waterproofing is in progress. (r) DRL Approach Ramp AP04 sheet piling is in progress. (s) Pai Lau - ABWF works in progress. (t) 2nd Stage for 80m TTA along Lok Ma Chau Road S/B for common trench for CLP, FNOs and HKCG implemented on 31/10/2023. ELS for common trench by CRBC commenced. (u) DN700 water main installation along Lok Ma Chau Road. (v) RW-CTW sheet piling works in progress. (w) Pierhead segment at ST01-P04 installed.
Dec 2023	Reedbed Cell No. 3A

Month(s)	Major Site Activities
	(a) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A. Direct Road Link (DRL) (b) Temporary works are in progress. (c) Bored Pile works are in progress. (d) Sheet piling is in progress. (e) ELS works are in progress. Lok Ma Chau (LMC) Road (f) Sheet-piling works. (g) Drainage works. (h) Bored piling works. (i) Water main installation. (j) Pile cap construction. (k) Nullah modification works. (l) Site formation. Fanling Highway (m) Construction of retaining wall. (n) Pier construction. (o) Installation of pierhead segment. (p) Backfilling works for retaining wall. (q) Sheet-piling works for retaining wall.

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

Month(s)	Major Site Activities
Oct 2023	(a) Underground Utility detection. (b) Pre-drilling. (c) Trial pit excavation. (d) Material / Waste Lifting and Delivery. (e) Utilities diversion. (f) Bored pile construction. (g) Erect external scaffold outside LMC Station. (h) E&M. (i) ABWF. (j) Temporary Lighting system. (k) Site Demarcation. (l) ELS. (m) Tie beam and pile cap construction. (n) Column construction. (o) Falsework at EPTI. (p) EPTI RC deck construction.
Nov 2023	(a) Underground Utility detection. (b) Trial pit excavation. (c) Material / Waste Lifting and Delivery. (d) Utilities diversion. (e) Bored pile construction. (f) Erect external scaffold outside LMC Station. (g) E&M. (h) Double Deck Footbridge. (i) Temporary Lighting system. (j) Site Demarcation. (k) ELS installation Works. (l) Tie beam and pile cap construction.

Month(s)	Major Site Activities
	(m) Column construction. (n) Falsework at EPTI. (o) EPTI RC deck construction.
Dec 2023	(a) Underground Utility detection. (b) Trial pit excavation. (c) Material / Waste Lifting and Delivery. (d) Utilities diversion. (e) Bored pile construction. (f) Erect external scaffold outside LMC Station. (g) E&M. (h) Double Deck Footbridge. (i) Temporary Lighting system. (j) Site Demarcation. (k) ELS installation Works. (l) Tie beam and pile cap construction. (m) Column construction. (n) Falsework at EPTI. (o) EPTI RC deck construction.

Status of Environmental Licences, Notifications and Permits

2.14 A summary of the relevant permits, licences and/or notifications on environmental protection for the Contracts 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 Contract No. YL/2020/02 Contract No. YL/2021/01	EP-477/2013	22/11/2013	11/08/2021	Replaced by EP-473/2013/A
	EP-477/2013/A	12/08/2021	28/12/2023	Replaced by EP-473/2013/B
	EP-477/2013/B	29/12/2023	N/A	Valid
Construction Noise Permit (CNP)				
Contract No. YL/2020/01	GW-RN0944-23	7/09/2023	6/12/2023	Expired in the reporting period
	GW-RN0945-23	7/09/2023	6/12/2023	Expired in the reporting period
	GW-RN1315-23	8/12/2023	7/03/2024	Valid
	GW-RN1304-23	8/12/2023	7/03/2024	Valid
Contract No. YL/2020/02	GW-RN0927-23	09/09/2023	08/11/2023	Expired in the reporting period
	GW-RN1005-23	25/09/2023	31/10/2023	Expired in the reporting period
	GW-RN1115-23	09/11/2023	08/01/2024	Renewal CNP for GW-RN0927-23
	GW-RN1347-23	17/12/2023	29/02/2024	Valid
Contract No. YL/2021/01	GW-RN1021-23	24/09/2023	14/11/2023	Expired in the reporting period

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
	GW-RN1078-23	28/10/2023	27/12/2023	Expired in the reporting period
	GW-RN1363-23	28/12/2023	27/02/2024	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	17/5/2022	Till the Contract ends	Receipt acknowledged by EPD
Billing Account for Disposal of Construction Waste				
Contract No. YL/2020/01	7041333	27/07/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	7041861	15/10/2021	Till the Contract ends	Valid
Contract No. YL/2021/01	7043434	22/05/2022	Till the Contract ends	Valid
Registration of Chemical Waste Producer				
Contract No. YL/2020/01	WPN 5213-620-C4632-01	20/08/2021	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	15/07/2022	21/12/2026	Valid
	WT00041233-2022	18/07/2022	31/07/2027	Valid
Contract No. YL/2020/02	WT00041280-2022	27/07/2022	31/07/2027	Valid
	WT00042556-2022	23/11/2022	30/11/2027	Valid
	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
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

Summary of EM&A Requirements

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

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

3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENT

Monitoring Parameters and Monitoring Locations

Air Quality Monitoring

3.1 In accordance with the EM&A Manual, impact 1-hour and 24-hour TSP monitoring was conducted to monitor the air quality for the Project. The locations of monitoring stations are shown in **Figure 2**. **Table 3.1** describes the locations 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, 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.

3.2 **Table 3.2** summarises the monitoring parameters and frequencies of impact air quality monitoring during the Works Contracts activities.

Table 3.2 Impact Air Quality Monitoring Parameters, Frequency and Duration

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

Noise Monitoring

3.3 In accordance with the EM&A Manual, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The locations of the monitoring stations are shown in **Figure 3**. **Table 3.3** describes the locations of the noise monitoring stations.

Table 3.3 Location of Noise Monitoring Stations

Monitoring Station	Location	Measurement
NMS-1	Village house in Ha Wan Tsuen	Façade
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

Note:

(a) 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.

3.4 **Table 3.4** summarises the monitoring parameters and frequencies of construction noise monitoring during the Works Contracts activities.

Table 3.4 Noise Monitoring Parameters, Duration and Frequency

Monitoring Station	Parameter	Duration	Frequency
NMS-1 NMS-2 NMS-3 NMS-4A	L_{10}(30 min.) dB(A) L_{90}(30 min.) dB(A) L_{eq}(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.

Water Quality Monitoring

3.5 In accordance with the EM&A Manual, impact water quality monitoring was conducted to monitor the water quality for the Project. The locations of the monitoring stations are shown in **Figure 4**. **Table 3.5** describes the locations of the water quality monitoring stations.

3.6 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 and the completion was confirmed by Engineer Representative under Contract No. YL/2017/03 via email dated 15th June 2021. The additional monitoring station, BS1, was therefore proposed to be deleted from the water quality monitoring proramme starting from 28th June 2021. Other water quality monitoring stations remain unchanged. This Proposal for Update of Water Quality Monitoring Stations was verified by IEC and agreed by EPD via email dated 22nd June 2021.

Table 3.5 Location of 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).

3.7 **Table 3.6** summarises the monitoring parameters, monitoring depths and frequency of the water quality monitoring during the Works Contracts activities.

Table 3.6 Water Quality Monitoring Parameters, Depths and Frequency

Monitoring Station	Parameter (unit)	Depth	Frequency
CS1, IS1, IS2, IS4, CS5, IS6, BS1	• Temperature(°C) • pH (pH unit) • turbidity (NTU) • water depth (m) • salinity (ppt) • DO (mg/L and % of saturation) • SS (mg/L)	• 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.	• 3 days per week during the construction period of the Contract

Monitoring Methodology and Calibration Details

3.8 Monitoring works/equipment were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates could be referred to the relevant Monthly EM&A Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

3.9 The environmental quality performance limits i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix A**.

Landscape and Visual

3.10 Inspection of the implementation of landscape and visual mitigation measures was conducted during weekly site audit. Most of the necessary mitigation measures have been implemented and recommended follow-up actions have been discharged by the Contractors. Details of the audit findings and implementation status are summarised in **Appendix K** and **Appendix J**.

Ecology Monitoring

LMC Loop

Avifauna (Flight Line Survey)

3.11 Avifauna monitoring was carried out on a monthly basis to identify the number and species composition of birds using the flight line and monitor if there was any impact from construction works. The flight line corridor survey work was carried out at the Lok Ma Chau Lookout, according to Section 11.4.1.1 of the EM&A Manual.

Mammals

3.12 Monitoring of mammals was also required for Eurasian Otter, other mammals and dogs during the site formation and establishment period of Ecological Area, to observe the connectivity between the existing reed marsh and the Ecological Area, and if there was any sign of otter and mammals around the Ecological Area.

3.13 In view of current site condition of Loop, the connectivity between the existing reed marsh 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.

3.14 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

Avifauna (Flight Line Survey)

3.15 Refer to Section 3.11.

Avifauna (Pond 12)

3.16 Pond 12 avifauna survey was required to be carried out on a weekly basis to identify the number and species composition of birds using Pond 12, according to Section 11.4.2.1 of the EM&A Manual. Location of Pond 12 is shown in **Figure 5a.**

Herpetofauna

3.17 Herpetofauna monitoring of the only herpetofauna species of conservation interest in the area around Pond 12, the Chinese Bullfrog, was required to be conducted once monthly during wet season (March to October), including both day-time and night-time survey. The purpose of the survey is to ensure the abundance of the Chinese Bullfrog in the area of Pond 12, LMC Tsuen, and nearby wetlands is not affected by the construction works. The monitoring was conducted according to Section 11.4.2.2 of the EM&A Manual. Location of the Herpetofauna survey transect is shown in **Figure 5b** for reference.

Aquatic Fauna

3.18 Monthly surveys of the population of Rose Bitterling at streams and associated ponds south of Lung Hau Road, weekly *in-situ* monitoring of water quality and whole site audit were required 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. Weekly *in-situ* monitoring of water quality in LMC Meander was also required during the construction phase and the first 12 months of operation. The monitoring was conducted according to Section 11.4.2.3 of the EM&A Manual.

3.19 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 were 4 sampling points along the stream, and 4 sampling points at the ponds. The sampling locations are shown in **Figure 5c**.

3.20 *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**.

3.21 Measurements for *in-situ* monitoring of water quality included temperature, pH, salinity, turbidity and dissolved oxygen. Monitoring works/equipment were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates were provided in relevant Monthly EM&A Reports.

Land Contamination

3.22 According to Section 8.2 of EM&A Manual 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. 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.

3.23 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.

3.24 As advised by the Contractor, Decontamination for all hot spots (LD01 – LD05) was completed and backfilling of treated soil was completed on 31st May 2021. After completion of remediation works at each hot spots, Interim Remediation Reports (IRR) was prepared by the Land Contamination Specialist and submitted to EPD in accordance with Condition 2.16 of the EP-477/2013/A. The status of IRRs is summarised below:

(a) IRR for hot spot LD-001 endorsed by EPD on 6th January 2020
(b) IRR for hot spot LD-003 endorsed by EPD on 18th March 2020
(c) IRR for hot spot LD-002 commented by EPD on 3rd September 2020 and resubmitted by Contractor on 16th September 2020
(d) IRR for hot spot LD-005 endorsed by EPD on 23rd October 2020
(e) Final Remediation Report including the result of hotpsot LD-004 was submitted to EPD on 28th June 2021. The final Remediation Report was approved by EPD with minor comments in August 2021.

3.25 No work related to land contamination was conducted in the reporting quarter.

Site Audit Summary

3.26 Site audit was carried out on a weekly basis to monitor and audit the timely implementation of proper environmental management practices and mitigation measure of the Project. The observations and recommendations made during the reporting period are summarised in **Appendix K**.

Environmental Mitigation Measures

3.27 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the Project EM&A Manual for the Contractors to implement. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix J**.

Status of Waste Management

3.28 The amount of wastes generated by the major site activities of this Project during the reporting quarter is shown in **Appendix L**.

4 MONITORING RESULTS

Monitoring Schedule

4.1 The environmental monitoring schedules in the reporting quarter are presented in **Appendix O**.

Weather Conditions

4.2 The details of weather conditions for each individual monitoring session were presented in relevant monthly EM&A reports.

4.3 The weather conditions and wind data in the reporting quarter is summarised in **Appendix G**.

Air Quality

1-hour and 24-hour TSP Monitoring

4.4 All construction air quality monitoring was conducted as scheduled during the reporting quarter.

4.5 No Action/Limit Level exceedance was recorded in this reporting quarter. A summary of exceedance is attached in **Appendix I**.

4.6 **Table 4.1** and **Table 4.2** summarise the air quality monitoring results which are extracted from the monthly reports for this Project. The graphical presentations of the air quality monitoring results are shown in **Appendix B** and **Appendix C**.

Table 4.1 Summary of 1-hour TSP Monitoring Results in Reporting Quarter

Reporting Months	Air Quality Monitoring Station	Average $\mu g/m^3$	Range $\mu g/m^3$	Action Level $\mu g/m^3$	Limit Level $\mu g/m^3$
Oct 2023	DMS – 1a	55.1	31.0 – 125.2	353	500
	DMS – 2B	59.7	34.4 – 107.3	370	
	DMS – 3	56.5	28.1 – 81.1	351	
	DMS – 4A	44.7	25.3 – 65.0	350	
Nov 2023	DMS – 1a	68.3	41.9 – 139.7	353	
	DMS – 2B	100.4	49.1 – 165.8	370	
	DMS – 3	82.5	49.3 – 139.8	351	
	DMS – 4A	80.9	42.0 – 165.3	350	
Dec 2023	DMS – 1a	78.3	29.8 – 149.7	353	
	DMS – 2B	66.9	34.1 – 100.3	370	
	DMS – 3	65.5	20.7 – 135.5	351	
	DMS – 4A	63.4	25.7 – 125.6	350	

Table 4.2 Summary of 24-hour TSP Monitoring Results in Reporting Quarter

Reporting Months	Monitoring Station	Average $\mu g/m^3$	Range $\mu g/m^3$	Action Level $\mu g/m^3$	Limit Level $\mu g/m^3$
Oct 2023	DMS – 1a	52.1	18.8 – 134.1	184	260
	DMS – 2B	65.5	33.7 – 94.8	166	
	DMS – 3	33.6	22.7 – 44.9	166	
	DMS – 4A	33.8	21.1 – 44.2	152	
Nov 2023	DMS – 1a	57.7	34.0 – 81.6	184	
	DMS – 2B	84.1	66.6 – 96.3	166	
	DMS – 3	46.8	32.9 – 59.6	166	
	DMS – 4A	42.4	30.0 – 54.4	152	

Reporting Months	Monitoring Station	Average μg/m³	Range μg/m³	Action Level μg/m³	Limit Level μg/m³
Dec 2023	DMS – 1a	60.9	34.4 – 95.9	184	
	DMS – 2B	79.9	53.6 – 134.5	166	
	DMS – 3	60.5	35.1 – 83.6	166	
	DMS – 4A	47.3	31.2 – 66.4	152	

Construction Noise

4.7 All construction noise monitoring was conducted as scheduled in the reporting quarter.

4.8 No Action/Limit Level exceedance was recorded. A summary of exceedance is attached in **Appendix I**.

4.9 **Table 4.3** summarises the noise monitoring results which were extracted from the monthly reports for this Project. The graphical presentations of the construction noise monitoring results are shown in **Appendix D**.

Table 4.3 Summary of Noise Monitoring Results in Reporting Quarter

Reporting Months	Monitoring Station	Average $L_{eq\ (30\ min)}$, dB(A)	Range $L_{eq\ (30\ min)}$, dB(A)	Action Level	Limit Level, dB(A)
Oct 2023	NMS-1	64.5	59.5 – 67.7	When one documented complaint is received	75.0
	NMS-2	69.2	68.1 – 70.1		
	NMS-3	57.9	50.1 – 62.1		
	NMS-4A	52.2	49.5 – 55.4		
Nov 2023	NMS-1	62.1	55.8 – 64.6		
	NMS-2	69.7	69.0 – 70.5		
	NMS-3	54.5	49.1 – 58.8		
	NMS-4A	48.8	47.4 – 50.2		
Dec 2023	NMS-1	58.3	52.7 – 62.6		
	NMS-2	70.5	67.5 – 73.5		
	NMS-3	55.4	47.6 – 60.2		
	NMS-4A	52.1	48.7 – 54.6		

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.

Water Quality

4.10 All water quality monitoring was conducted as scheduled in the reporting quarter.

4.11 No water quality monitoring was conducted at IS6 in the reporting quarter since the channel was dry. Water quality monitoring station, IS6 would be further reviewed and a proposal for any alternative monitoring location including justification will be submitted for approval from IEC and EPD.

4.12 No Action/Limit Level exceedance was recorded. Photo records were provided in relevant monthly EM&A reports. A summary of exceedance is attached in **Appendix I**.

4.13 **Table 4.4** summarises the water quality monitoring results which were extracted from the monthly reports for this Project. The graphical presentations of the water quality monitoring results are shown in **Appendix E**.

Table 4.4 Summary of Water Quality Monitoring Results in Reporting Quarter

Reporting Months	Monitoring Station	Average (Depth average)	Range	Action Level	Limit Level
DO (mg/L)					
Oct 2023	IS1	7.9	7.2 – 11.6	7.0 / NA(4)	6.8 or 4(4)
	IS2	6.2	5.5 – 7.9	5.3 / NA(4)	5.2 or 4(4)
	IS4	4.9	4.2 – 7.8	4.1 / NA(4)	3.8 or 4(4)
Nov 2023	IS1	7.7	7.1– 8.7	7.0 / NA(4)	6.8 or 4(4)
	IS2	7.4	5.5 – 11.6	5.3 / NA(4)	5.2 or 4(4)
	IS4	4.9	4.3 – 6.8	4.1 / NA(4)	3.8 or 4(4)
Dec 2023	IS1	8.3	7.1 – 11.0	7.0 / NA(4)	6.8 or 4(4)
	IS2	7.6	5.6 – 13.3	5.3 / NA(4)	5.2 or 4(4)
	IS4	4.6	4.3 – 5.2	4.1 / NA(4)	3.8 or 4(4)
Turbidity (NTU)					
Oct 2023	IS1	11.7	5.5 – 25.0	27.7	29.9
	IS2	25.0	13.7 – 34.2	35.5	38.1
	IS4	8.4	3.1 – 27.7	70.9	74.6
Nov 2023	IS1	8.0	5.0 – 11.8	27.7	29.9
	IS2	24.0	15.5 – 31.5	35.5	38.1
	IS4	8.1	5.4 – 13.0	70.9	74.6
Dec 2023	IS1	10.1	7.7 – 12.5	27.7	29.9
	IS2	18.6	11.7 – 32.7	35.5	38.1
	IS4	13.9	5.0 – 58.7	70.9	74.6
SS (mg/L)					
Oct 2023	IS1	9.7	5.0 – 22.0	28.0	28.8
	IS2	20.5	11.5 – 39.0	39.8	41.2
	IS4	10.2	<2.5 – 38.5	155	175
Nov 2023	IS1	12.7	4.5 – 22.5	28.0	28.8
	IS2	25.3	17.5 – 31.0	39.8	41.2
	IS4	7.7	4.5 – 13.5	155	175
Dec 2023	IS1	13.5	9.0 – 17.0	28.0	28.8
	IS2	22.7	13.0 – 33.0	39.8	41.2
	IS4	12.0	4.0 – 54.5	155	175

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

Ecological Monitoring

LMC Loop

Avifauna (Flight Line Survey)

4.14 Monthly flight line survey was conducted by ET as scheduled in the reporting quarter. The flight line survey was carried out on 20th October 2023, 24th November 2023 and 22nd December 2023.

4.15 **Table 4.5** shows the summary of flight line survey results including the number of birds observed and the number of bird-flights for the species in the reporting quarter.

Table 4.5 Summary of Flight Line Survey Results in the Reporting Quarter

Species	Oct 2023		Nov 2023		Dec 2023	
	Birds Observed	Bird-flights	Birds Observed	Bird-flights	Birds Observed	Bird-flights
Little Egret 小白鷺	18	168	56	545	6	60
Great Egret 大白鷺	58	534	287	2,786	127	1,205
Black-faced Spoonbill 黑臉琵鷺	-	-	24	228	33	327
Grey Heron 蒼鷺	11	98	14	134	8	66
Great Cormorant 普通鸕鷀	376	3,387	1,034	10,164	468	4,372
Black Kite 黑鳶	-	-	-	-	1	10
Collared Crow 白頸鴉	-	-	-	-	5	40
Total	463	4,187	1,415	13,857	648	6,080

4.16 In the reporting quarter, flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-faced Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

4.17 The distribution of flight line usage in the reporting quarter is shown in **Appendix F.**

Mammals

4.18 In view of current site condition of Loop, the connectivity between the existing reed marsh 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.

4.19 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

Avifauna (Flight Line Survey)

4.20 Refer to Sections 4.14 to 4.17.

Avifauna (Pond 12)

4.21 Pond 12 avifauna surveys were carried out weekly as scheduled in the reporting quarter. The date of avifauna survey was shown in **Table 4.6**.

Table 4.6 The Date of Avifauna Survey in the Reporting Quarter

Month	Dates of Pond 12 Avifauna Survey
Oct 2023	3rd, 12th, 18th, 24th and 30th
Nov 2023	8th, 14th, 20th and 28th
Dec 2023	6th, 11th, 20th and 27th

4.22 **Table 4.7** shows the monitoring results during construction works as compared against the results before the commencement of works of the day. The monitoring results indicated Pond 12 was utilized by waterbird and wetland-dependent species in the reporting quarter during the monitoring. No significant impact of construction activities on bird use of the pond was observed.

Table 4.7 Summary of Avifauna Monitoring Results at Pond 12

Report Month	Number of Species		Abundance	
	Before Construction	During Construction	Before Construction	During Construction
Oct 2023	26	34	110	180
Nov 2023	21	29	113	212
Dec 2023	25	29	128	236

Herpetofauna

4.23 Herpetofauna survey was conducted as scheduled on 12th October 2023. No potential impact due to the construction activities of Western Connection Road was identified during the survey of Chinese Bullfrog in the reporting quarter. It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands. In addition, flooding has been recorded after extreme rain in September 2023. These may have an effect on the local Chinese Bullfrog population. However, no significant impact of construction activities on this species was observed.

4.24 No herpetofauna survey was conducted in November and December 2023 according to Section 11.4.2.2 of EM&A Manual.

Aquatic Fauna

4.25 Aquatic fauna survey was conducted as scheduled in the reporting quarter. The monthly aquatic fauna survey was carried out on 18th October, 20th November and 12th December 2023 while *in-situ* water monitoring for aquatic fauna at the stream and associated ponds south of Lok Ma Chau Road was shown in **Table 4.8**.

Table 4.8 Date of Water Quality Monitoring for Aquatic Fauna in the Reporting Quarter

Month	Dates of Water Quality Monitoring at the Stream and Associated Ponds South of Lung Hau Road
Oct 2023	3rd, 12th, 18th, 24th and 30th
Nov 2023	6th, 14th, 20th and 27th
Dec 2023	5th, 12th, 18th and 29th

4.26 No Action / Limit Level exceedance was recorded for the *in-situ* water quality monitoring in the report quarter.

4.27 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 quarter. In addition, no deterioration in the water quality due to the construction activities of the Western Connection Road was observed.

4.28 Relevant Monthly EM&A Reports could be referred to for the ecological monitoring photo records and results.

5 ENVIRONMENTAL SITE INSPECTION

Site Audits

5.1 Site audits were carried out by ET on weekly basis in the reporting quarter to monitor the timely implementation of proper environmental management practices and mitigation measures on the project site. No non-conformance was identified and the observation and recommendations made in each individual site audit session in the reporting period are summarised in **Appendix K**.

Implementation Status of Environmental Mitigation Measures

5.2 According to the EIA Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix J**.

Solid and Liquid Waste Management Status

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

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

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

6 NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

6.1 Environmental monitoring works were performed in the reporting quarter and all monitoring results were checked and reviewed. A summary of exceedance is attached in **Appendix I**.

6.2 No exceedance of Action/Limit Level of air quality, construction noise and water quality was recorded in the reporting quarter.

Summary of Environmental Non-Compliance

6.3 No environmental non-compliance was recorded in the reporting quarter. The observations and recommendations made in each individual site audit session were presented in **Appendix K**.

Summary of Environmental Complaint

6.4 Two environmental complaints were received in the reporting quarter. The Cumulative Complaint Log since the commencement of the Project is attached in **Appendix M**.

Summary of Environmental Summon and Successful Prosecution

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

Event and Action Plan

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

7 FUTURE KEY ISSUES

Key Issues in the Coming Three Months

7.1 The major construction activities undertaken in the coming three months will include:

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

(a) Wetland Compensation Establishment Works and Ecological Monitoring.
(b) Road L1 Drainage and UU enabling works.
(c) Additional Ground Investigation.
(d) Structure Construction for Box Culverts.
(e) Retaining Wall&Slope Works at WCR.
(f) Drainage Works and Roadworks.
(g) Woodland Compensation Works.
(h) Meander Bridge South Piers Cap and Northern Span Construction.
(i) Public Transport Interchange (PTI) 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.

Direct Road Link (DRL)

(b) Temporary works.
(c) Bored Pile works.
(d) Sheet piling works.
(e) ELS works.
(f) Segment precast.
(g) Pier construction.
(h) Construction of pile cap.

Lok Ma Chau (LMC) Road

(i) Sheet-piling works.
(j) Drainage works.
(k) Bored piling works.
(l) Water main installation.
(m) Pile cap construction.
(n) Nullah modification works
(o) Site formation.
(p) Underground utilities works.
(q) Construction of noise barrier.
(r) Soil-nailing.

Fanling Highway

(s) Construction of retaining wall.
(t) Pier construction.
(u) Installation of pierhead segment.
(v) Backfilling works for retaining wall.
(w) Sheet-piling works for retaining wall.
(x) Full span erection.
(y) Fabrication of precast segment.

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.

7.2 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, noise, water quality, waste management and ecology. Relevant Monthly EM&A Reports could be referred to for the proactive Environmental Protection Proforma summarising the major site activities, potential environmental impacts and recommended mitigation measures for the coming months.

Monitoring Schedule

7.3 The environmental monitoring schedules for the next reporting quarter are presented in **Appendix O.**

8 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

8.1 This Quarterly EM&A Report presents the EM&A work undertaken in October to December 2023 in accordance with EM&A Manual.

8.2 Environmental monitoring and audit works were performed in the reporting quarter and all monitoring results were checked and reviewed.

Air Quality Monitoring

8.3 All construction air quality monitoring including 1-hour TSP and 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

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

Water Quality Monitoring

8.5 All water quality monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded.

LMC Loop

Avifauna (Flight Line Survey)

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

Mammals

8.7 According to Clause 11.4.1.2 of the EM&A Manual, the connectivity between the existing reed marsh and the EA Zone has been fenced off due to other project's land occupier.

8.8 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 quarter and will be resumed subject to the site condition.

Western Connection Road

Avifauna (Flight Line Survey)

8.9 Avifauna monitoring was conducted as scheduled in the reporting quarter. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including EA Zone and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-faced Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Avifauna (Pond 12)

8.10 Avifauna survey at Pond 12 was conducted as scheduled in the reporting quarter. No significant impact of construction activities on bird use of the pond was observed.

Herptofauna

8.11 Herptofauna survey was conducted as scheduled October 2023. It was observed that the shallow agricultural ponds where Chinese Bullfrog were recorded has been altered into relatively dry agricultural lands. In addition, flooding has been recorded after extreme rain in September 2023. These may have an effect on the local Chinese Bullfrog population. However, no significant impact of construction activities on this species was observed.

8.12 No herpetofauna survey was conducted in November and December 2023 according to Section 11.4.2.2 of EM&A Manual.

Aquatic fauna

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

Land Contamination

8.14 Decontamination for five arsenic-contaminated zones (LD01 - LD05) identified in LMC Loop was completed and the final Remediation Report was submitted and approved by EPD in accordance with Condition 2.16 of the EP-477/2013/A under Contract No. YL/2017/03.

8.15 No work related to land contamination was conducted in the reporting quarter.

Environmental Site inspections

8.16 Environmental site inspections were conducted as weekly basis in the reporting quarter. No environmental non-compliance was recorded.

Environmental Complaint and Successful Prosecution

8.17 Two environmental complaints were received in the reporting quarter.

8.18 No notification of summons or successful prosecutions related to environmental was received in the reporting quarter.

Recommendations

8.19 The mitigation measures recommended in the EIA report and EM&A Manual are considered effective and efficient in minimizing environmental impacts due to construction of the Project during the reporting quarter. The EM&A programme implemented by the ET has effectively monitored the environmental impacts arising from the construction activities and ensure the proper implementation of mitigation measures.

8.20 The effectiveness and efficiency of the EM&A programme will be continuously reviewed. The EM&A programme will be improved if deficiencies of the existing EM&A programme are identified.

8.21 According to the environmental audits performed in the reporting quarter, the following recommendations were provided to remediate any potential impacts due to the Project:

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.

Construction Noise Impact

- To inspect the noise sources inside the site;
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers; and
- To provide and maintain properly temporary noise barriers or other appropriate sound reduction measures for operations of noisy equipment near the noise sensitive receivers, if necessary.

Water Impact

- To 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 identify any wastewater discharges from site;
- 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 discharge;
- To provide and enhance the protection and bunding around the storage area for excavated materials;

- To review the capacity of de-silting facilities for discharge and update maintenance records of wastewater treatment facilities;
- To ensure the drainage facilities are probably 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; and
- To implement the effective water quality mitigation measures according to the site drainage plan, and review the site drainage plan measures as appropriate.
- To regularly clear any floating vegetation at the meander to ensure a good flow of water.

Ecology Impact

- To maintain properly the 3m high olive-green fence around the construction site and along the works of meander bridge;
- To provide and maintain visual barrier along Ha Wan Tsuen Road;
- To ensure the powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any; and
- To prevent any surface runoff discharge into the stream, further enhance and secure the existing mitigation measures so as to prevent debris and runoff from discharging into nearby nullah.

Waste/Chemical Management

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

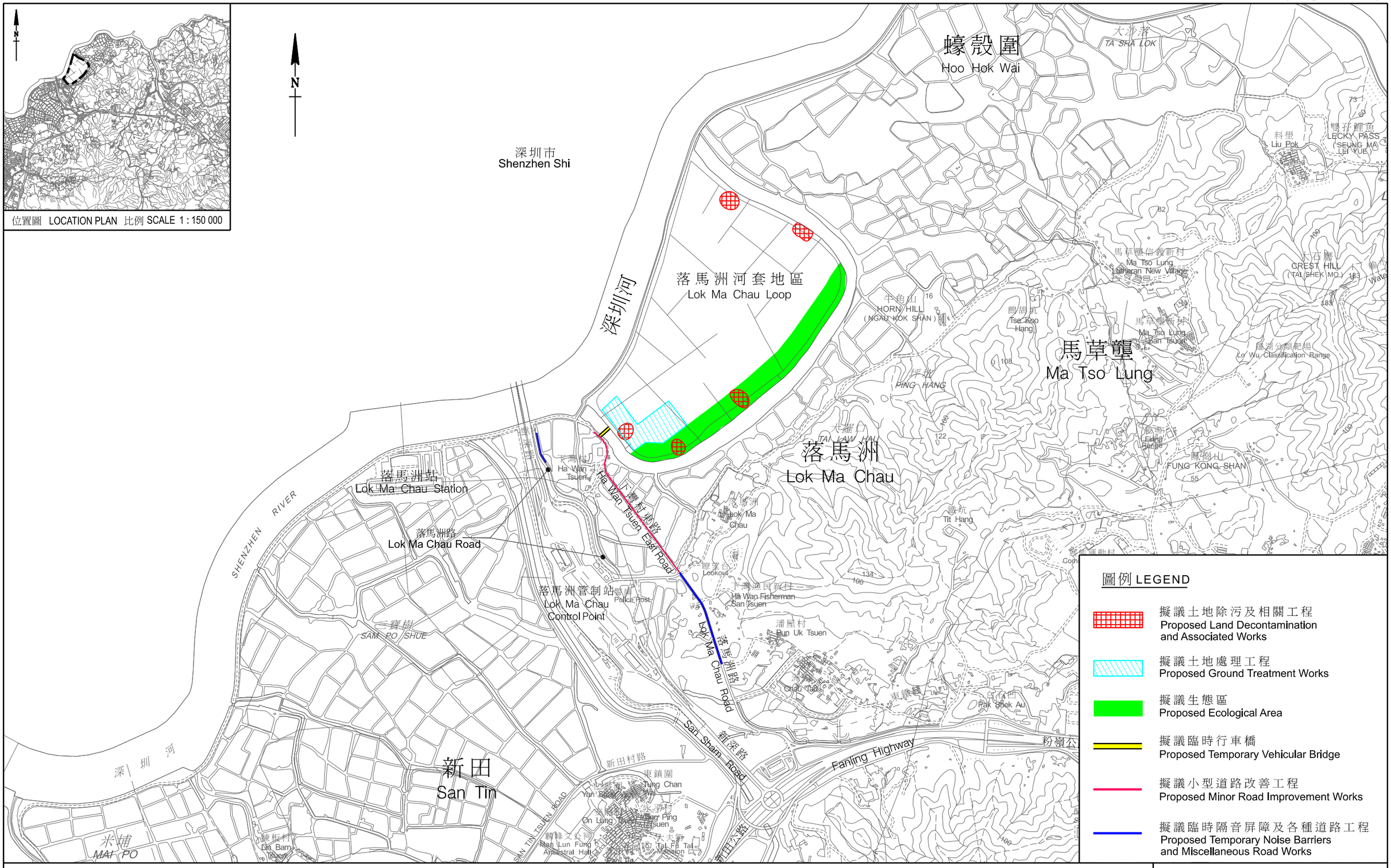
Landscape and Visual

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

Permits/Licences

- To display the Environmental Permit conspicuously on site.

FIGURE(S)



圖例 LEGEND

- 擬議土地除污及相關工程 Proposed Land Decontamination and Associated Works
- 擬議土地處理工程 Proposed Ground Treatment Works
- 擬議生態區 Proposed Ecological Area
- 擬議臨時行車橋 Proposed Temporary Vehicular Bridge
- 擬議小型道路改善工程 Proposed Minor Road Improvement Works
- 擬議臨時隔音屏障及各種道路工程 Proposed Temporary Noise Barriers and Miscellaneous Road Works

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

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

1/2/2018

A3 420MM X 297MM

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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

N

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

落馬洲河套地區
LOK MA CHAU LOOP

港鐵落馬洲站
MTR LOK MA CHAU STATION

深圳河
SHENZHEN RIVER

擬議落馬洲河套地區食水配水庫
(食水配水庫的工地平整及供水系統水管敷設由其他工程項目建造)
LMCL MWP1 FRESHWATER SERVICE RESERVOIR (SITE FORMATION AND WATERMAINS BY OTHERS)

現有食水管
EXISTING WATERMAINS

粉嶺公路
FANLING HIGHWAY

HORN HILL (NGAU KOK SHAN)
MA TSO LUNG
PING HANG
TAI LAU HAU
LOK MA CHAU
FUNG KONG SHAN
CREST HILL (TAI SHEK MO)
SAM PO SHUE
SAN TIN
HADDEN HILL (KI LUN SHAN)
KWU TUNG RESERVOIR
EAST RAIL LINE
CASTLE PEAK ROAD

AECOM

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

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

CONSULTANT
工程顧問公司
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例: A1 1 : 8000
DIMENSION UNIT 尺寸單位: METRES

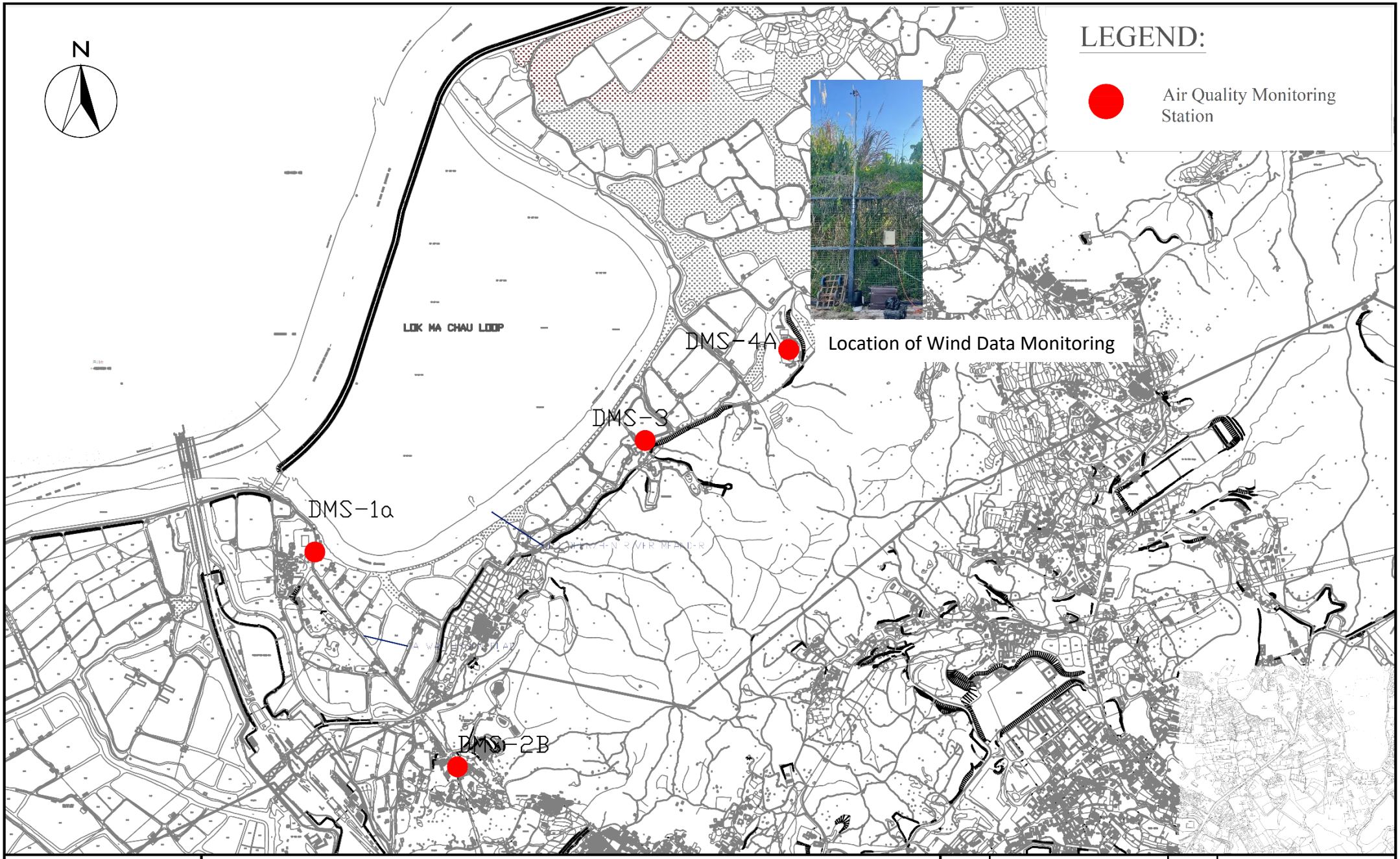
KEY PLAN
索引圖

PROJECT NO. 項目編號: 60588085
CONTRACT NO. 合約編號: CE 5/2018(CE)

SHEET TITLE
圖紙名稱
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
圖紙編號
60588085/ SK0099

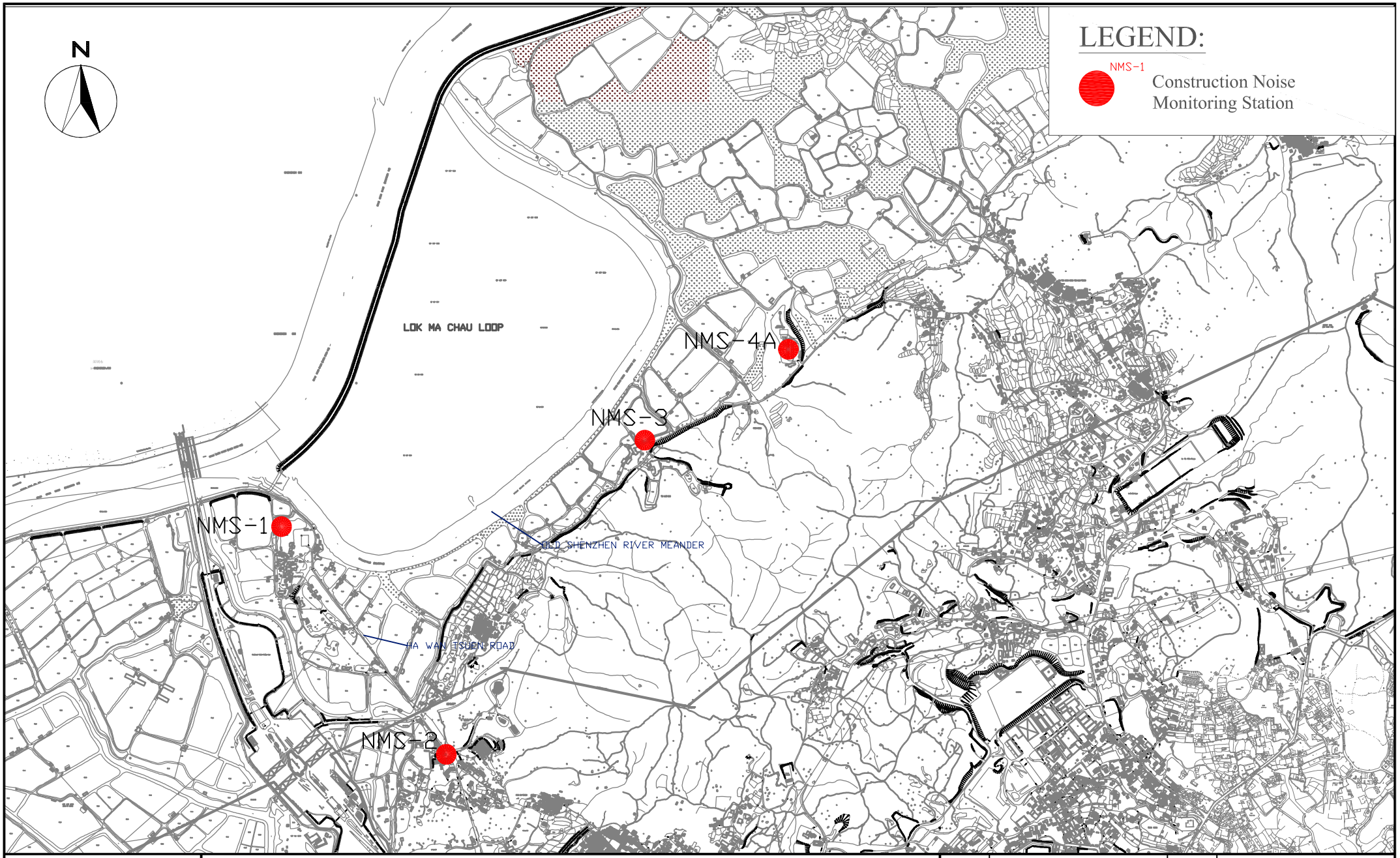
Plot File by: Tsuiwy
PATH: P:\PROJECTS\60588085\DRAWING\GISKETCH\SK0099.dgn
5/5/2020



WELLAB 匯力
consulting . testing . research

Service Contract No. WD/04/2020
Development of Lok Man Chau Loop: Main Work Package 1 - Environmental Team
Location of Air Quality Monitoring Stations

SCALE	1:400 A4	DATE	FEB 2023
CHECK	PC	DRAWN	IT
JOB No.	WMA21009	FIGURE NO. Fig 2	REV –



WELLAB 匯力
consulting . testing . research

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

Location of Noise Monitoring Stations

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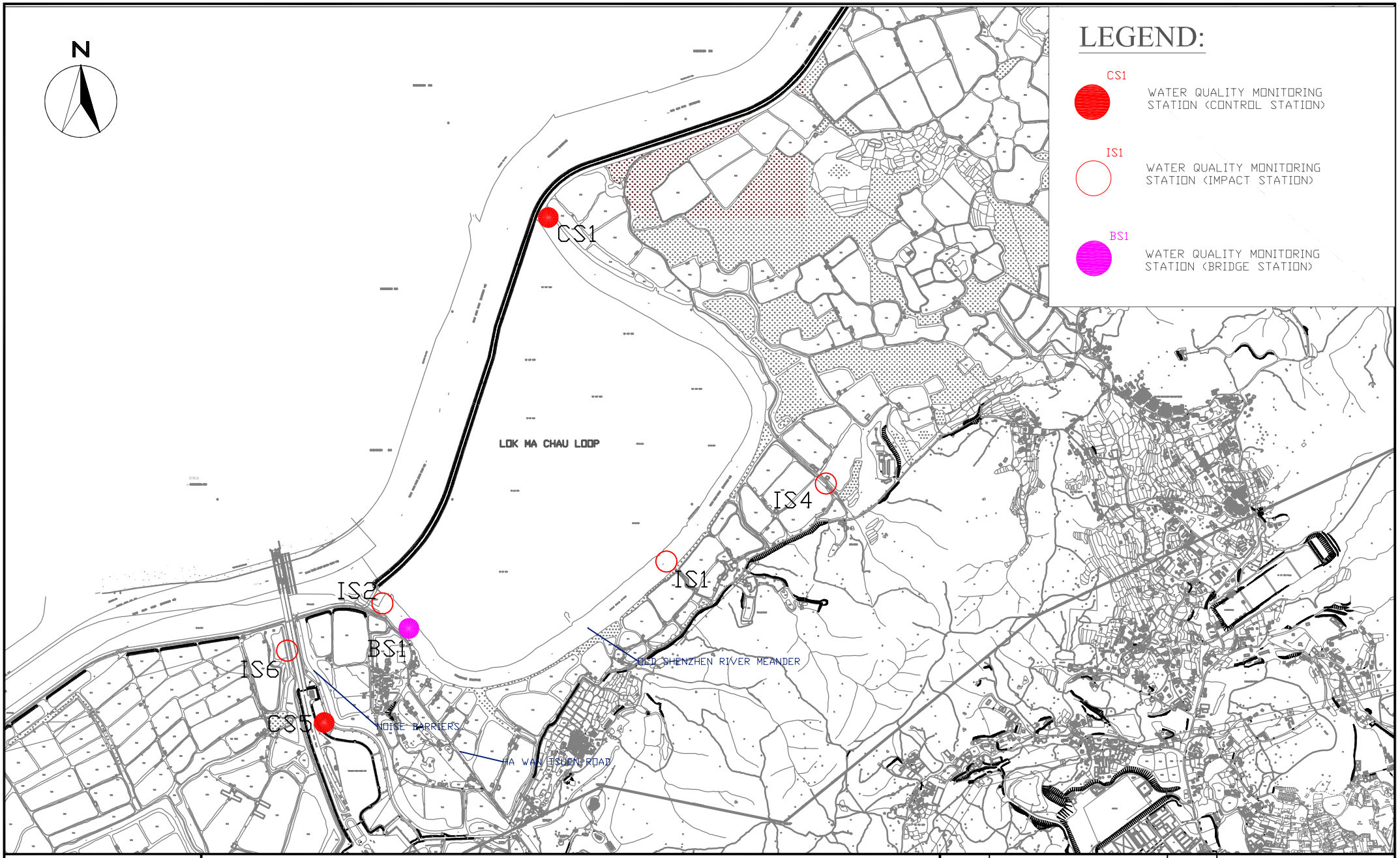
CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 3
		REV	-



WELLAB 匯力
consulting . testing . research

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

Location of Water Quality Monitoring Stations

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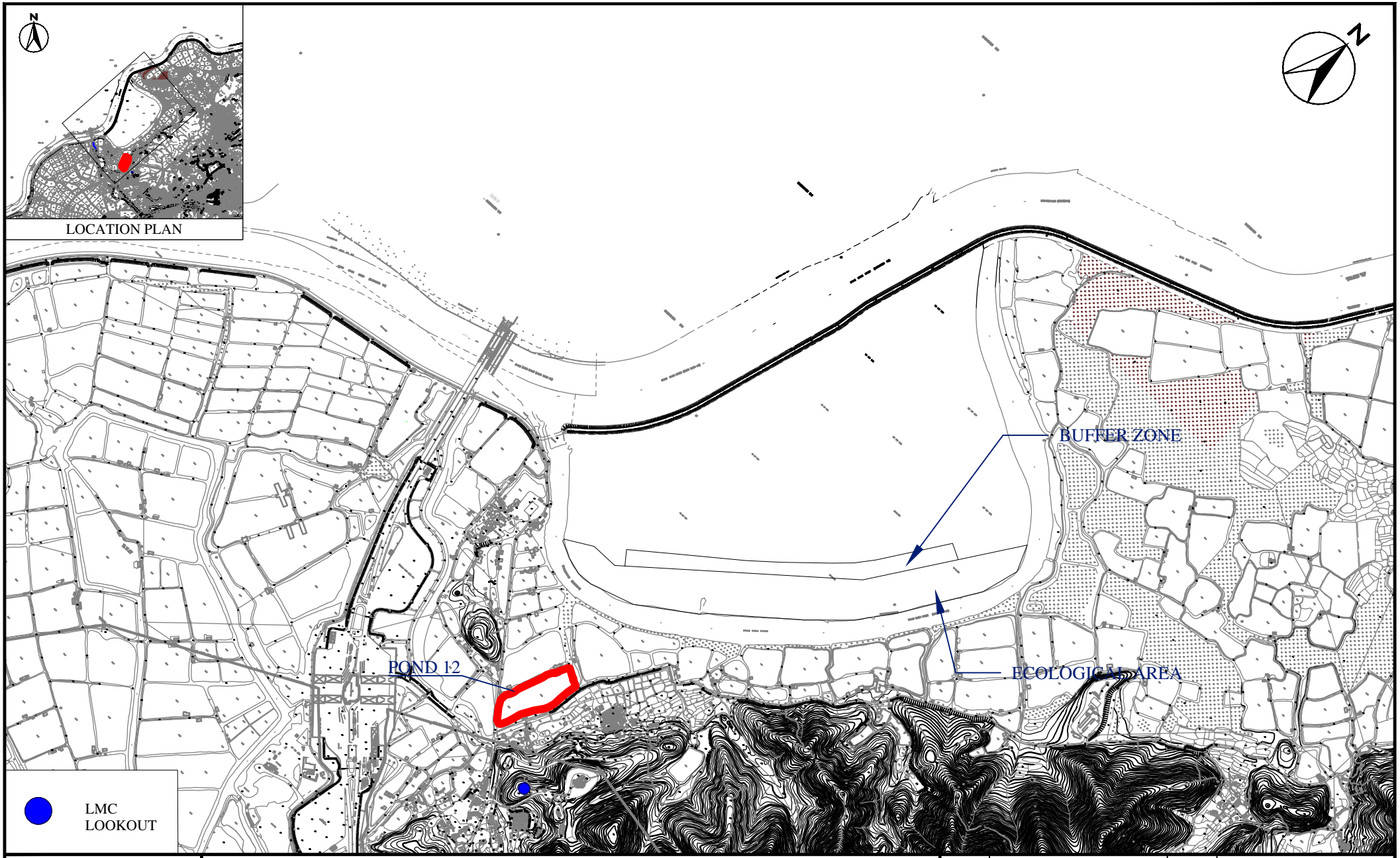
CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 4
		REV	-



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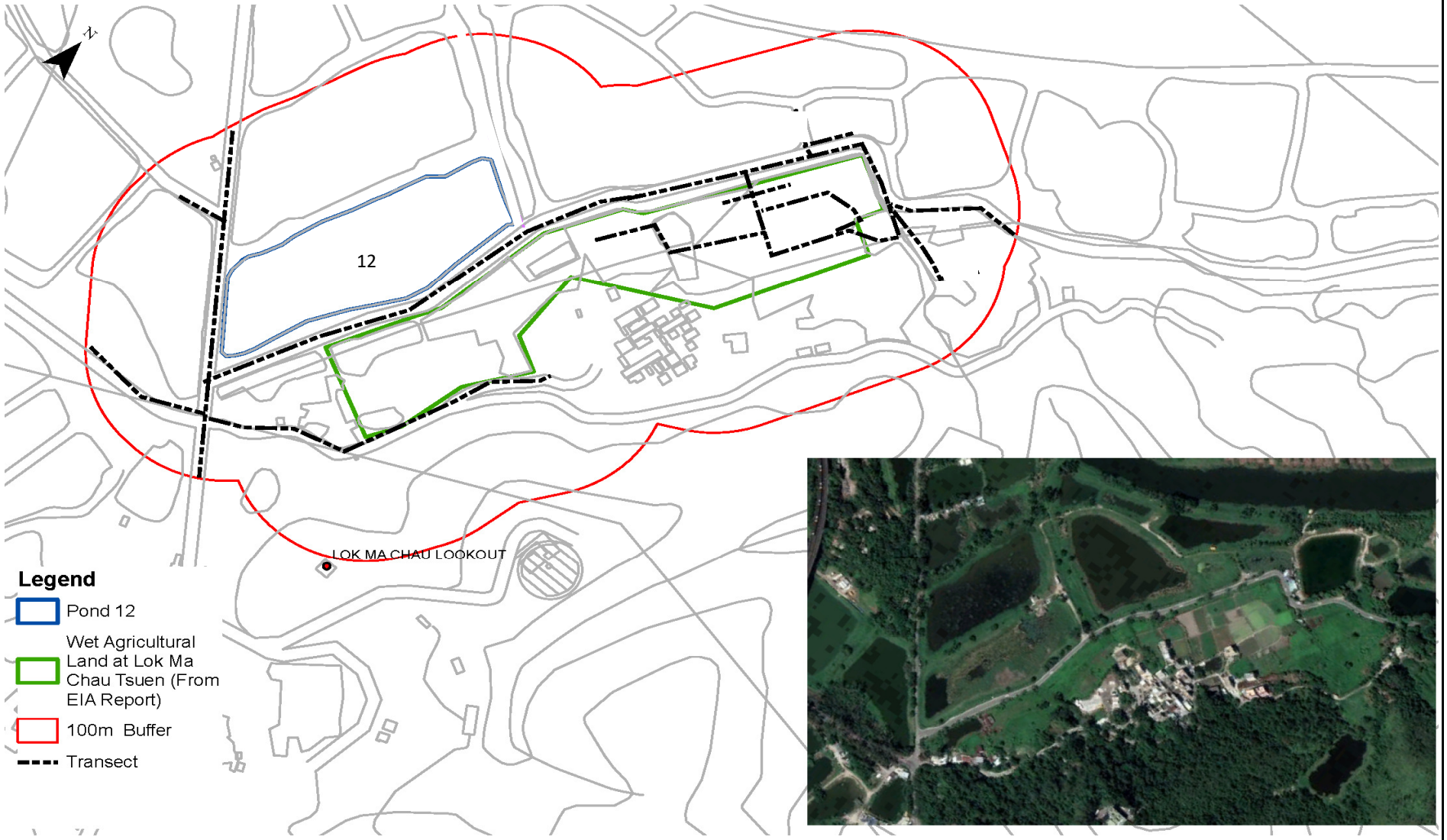
consulting . testing . research

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

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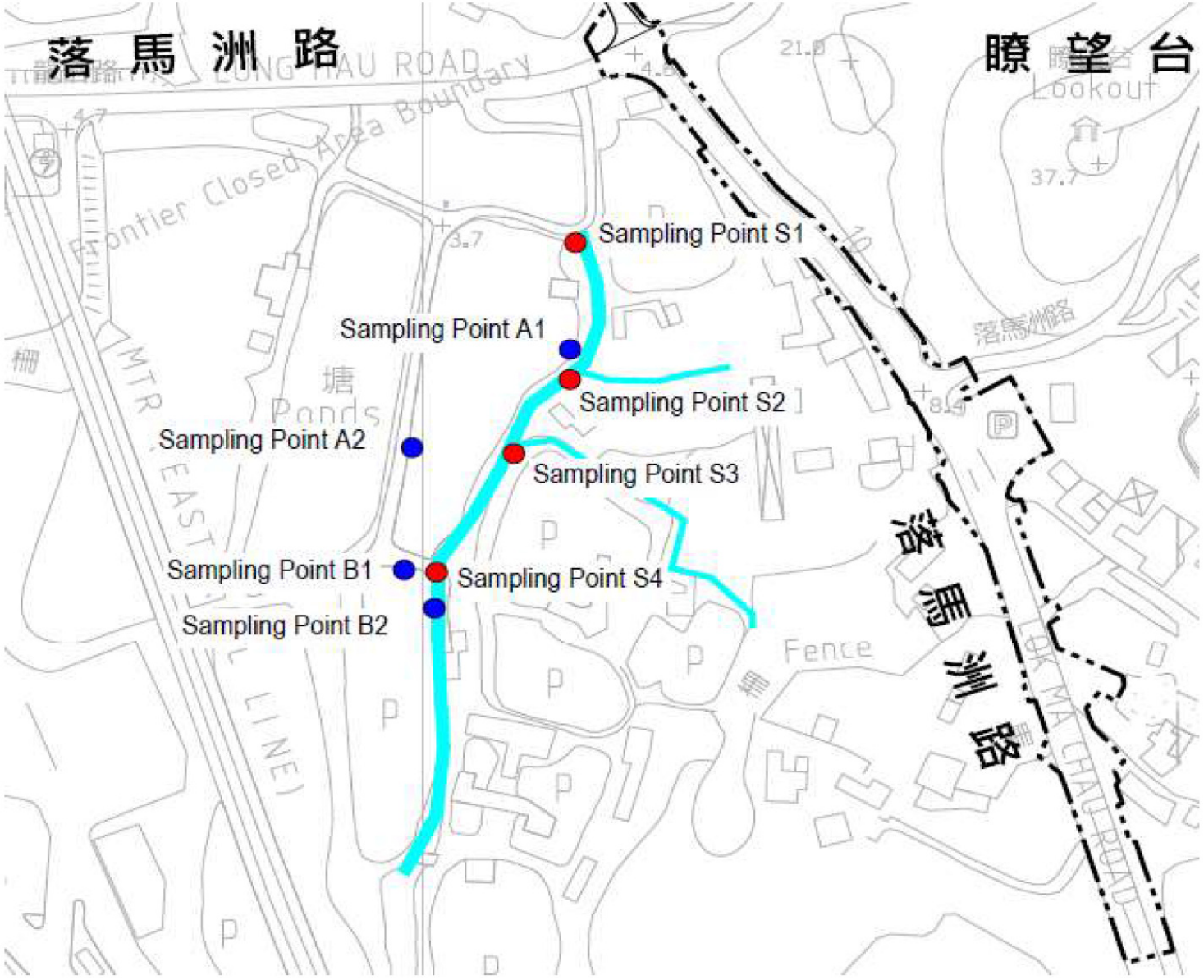


Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team Locations of Rose Bitterling Sampling Points	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
	Date Mar-22	Figure 5c	

APPENDIX A
ACTION AND LIMIT LEVELS

Appendix A - Action and Limit Levels

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

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

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

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

Table A-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 A-4 Action and Limit Levels for Water Quality

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

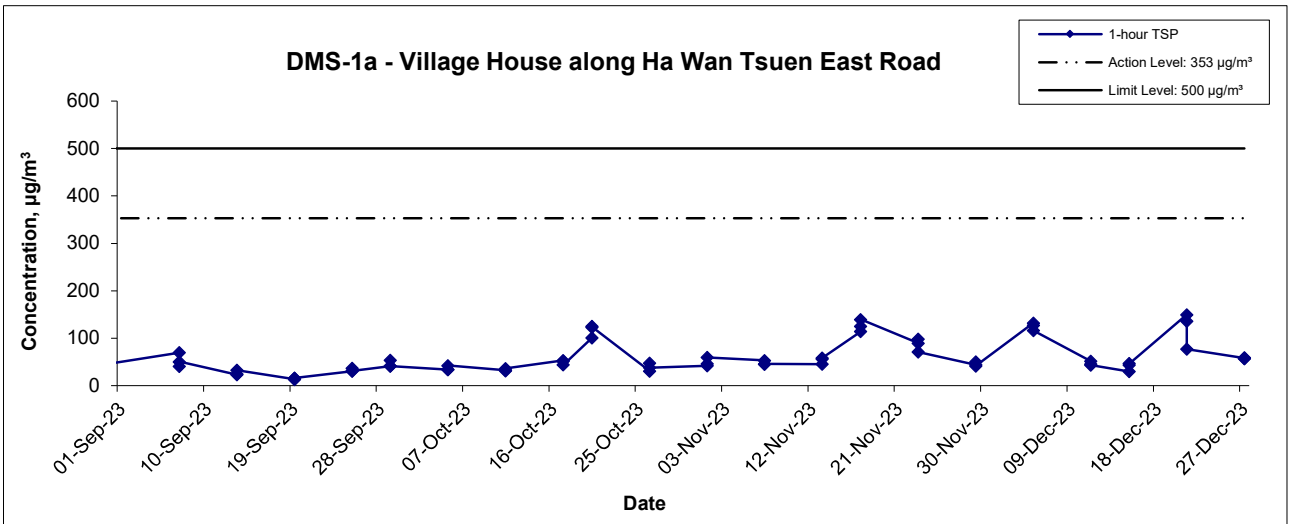
(2) For DO, non-compliance of the water quality limit would occur when monitoring result at impact stations was lower that the limit.

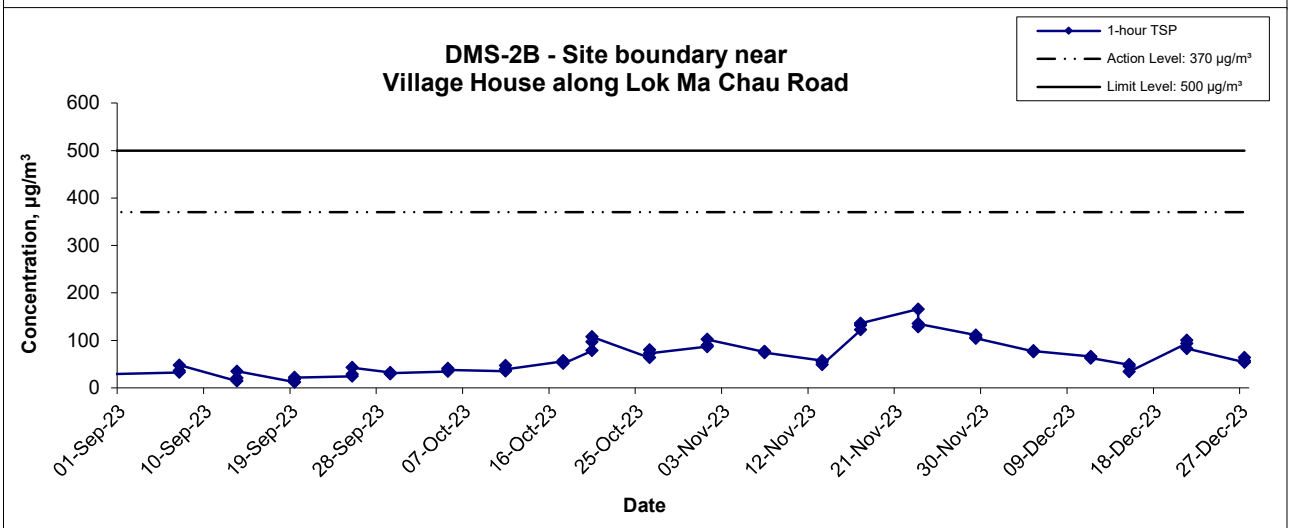
(3) For SS & turbidity, non-compliance of the water quality limits would occur when monitoring result at impact stations was higher than the limits.

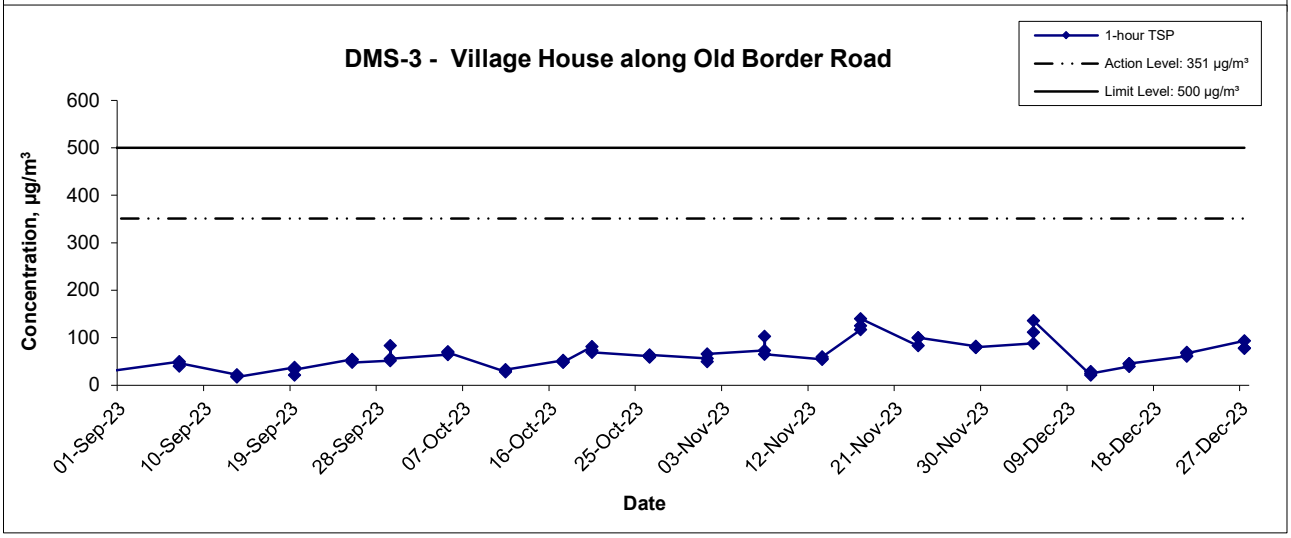
(4) The proposal of adopting 4 mg/L as the Limit Level of DO for the period from April to September due to seasonal change of DO was accepted by EPD via email on 10 Dec 2019.

APPENDIX B
GRAPHICAL PRESENTATION OF 1-HOUR TSP MONITORING RESULTS

1-hour TSP Concentration Levels

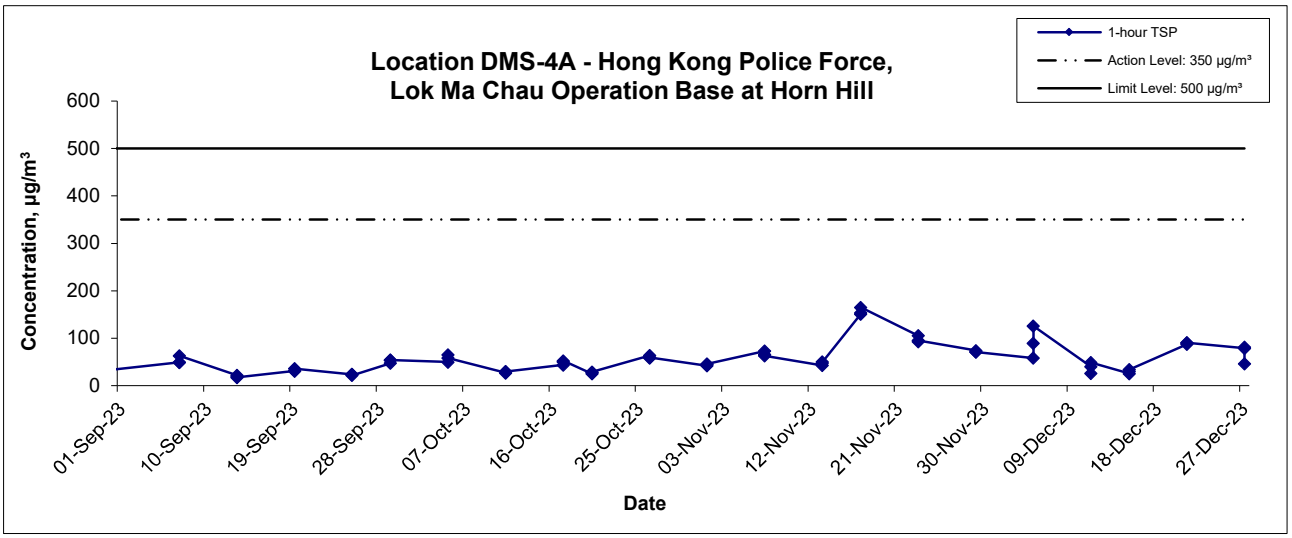






Title: Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
	Date: Dec 23	Appendix: B	

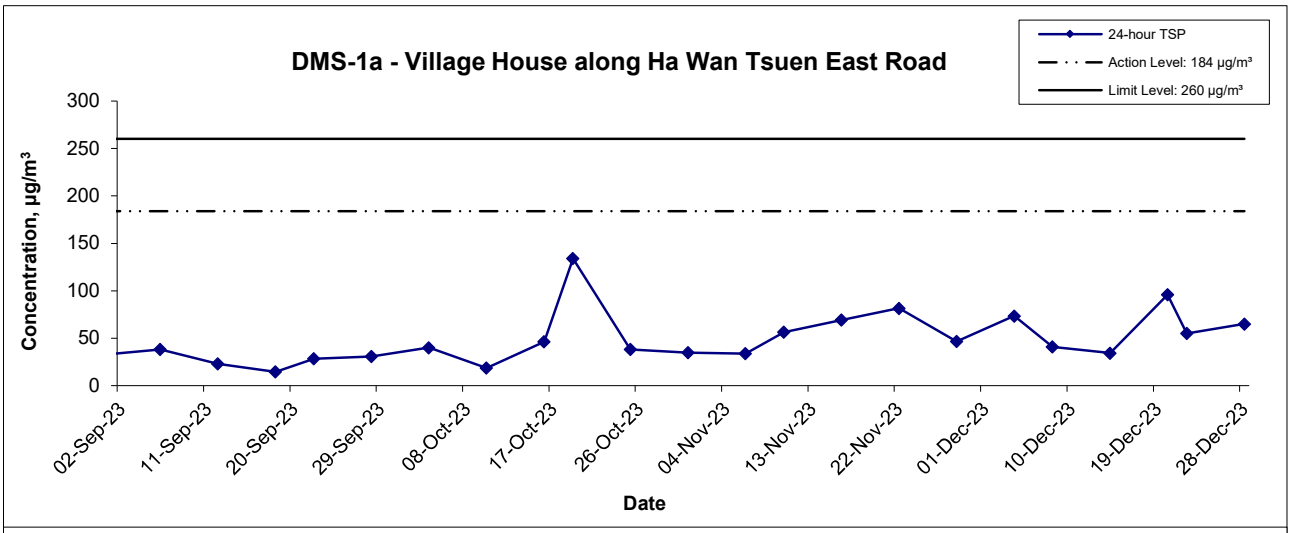
1-hour TSP Concentration Levels

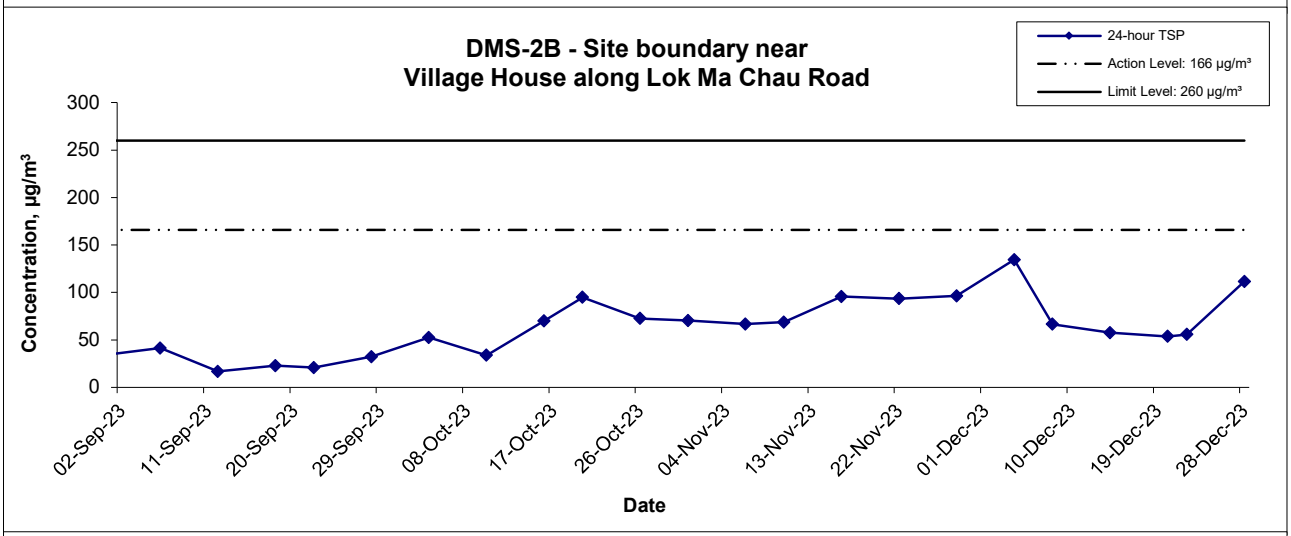


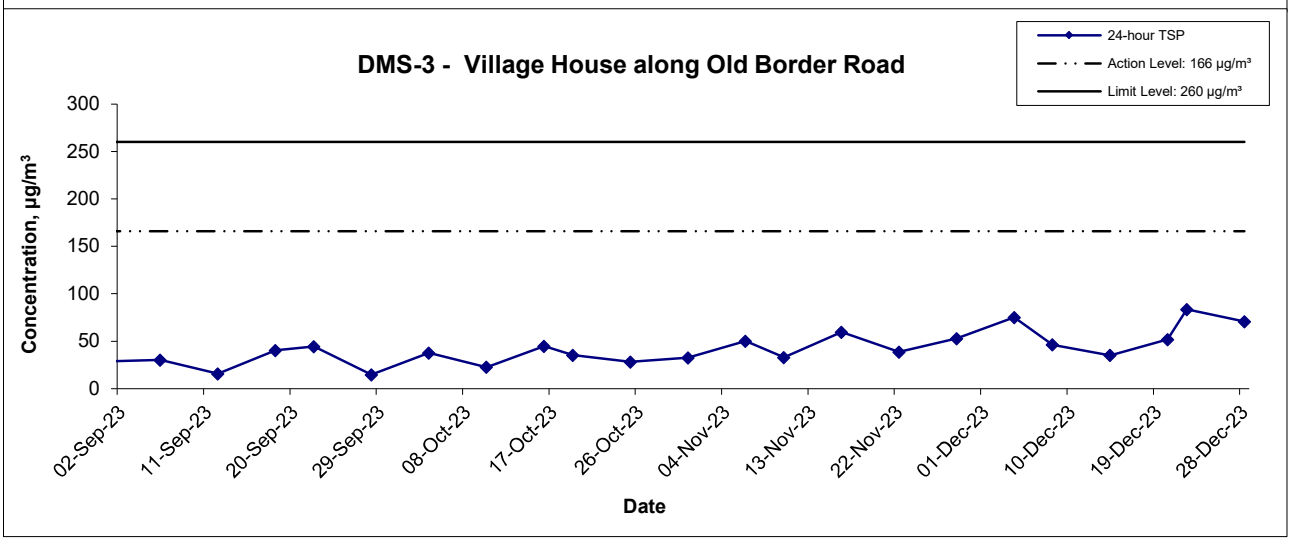
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S Date Dec 23	Project No. WMA21009 Appendix B	WELLAB 匯力 consulting . testing . research

APPENDIX C
GRAPHICAL PRESENTATION OF 24-HOUR TSP MONITORING RESULTS

24-hour TSP Concentration Levels

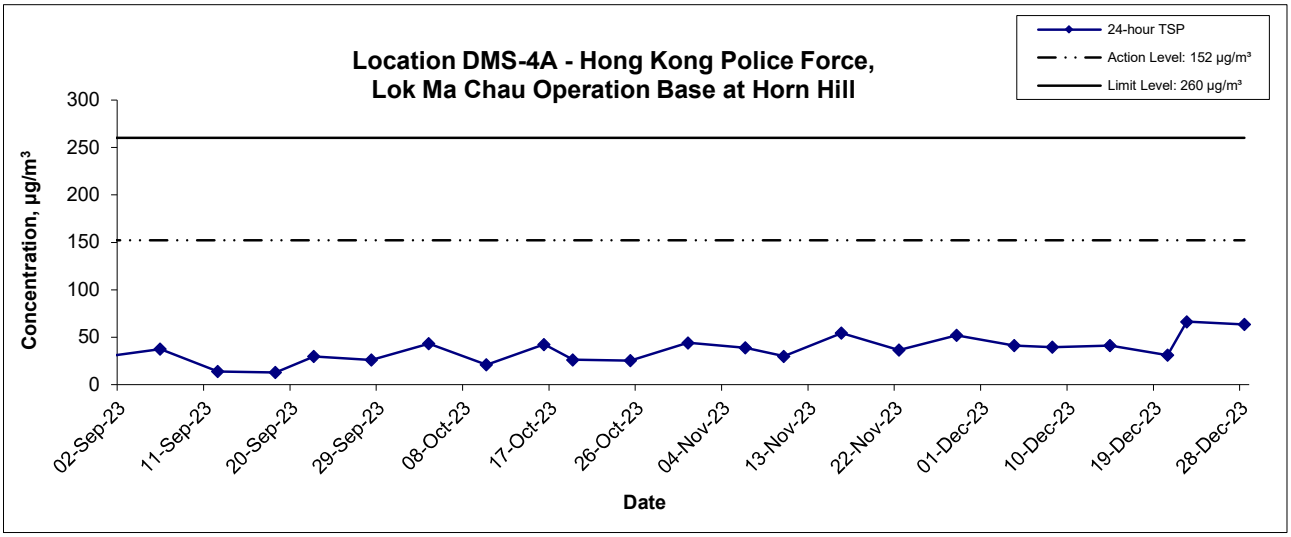






Title: Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
	Date: Dec 23	Appendix: C	

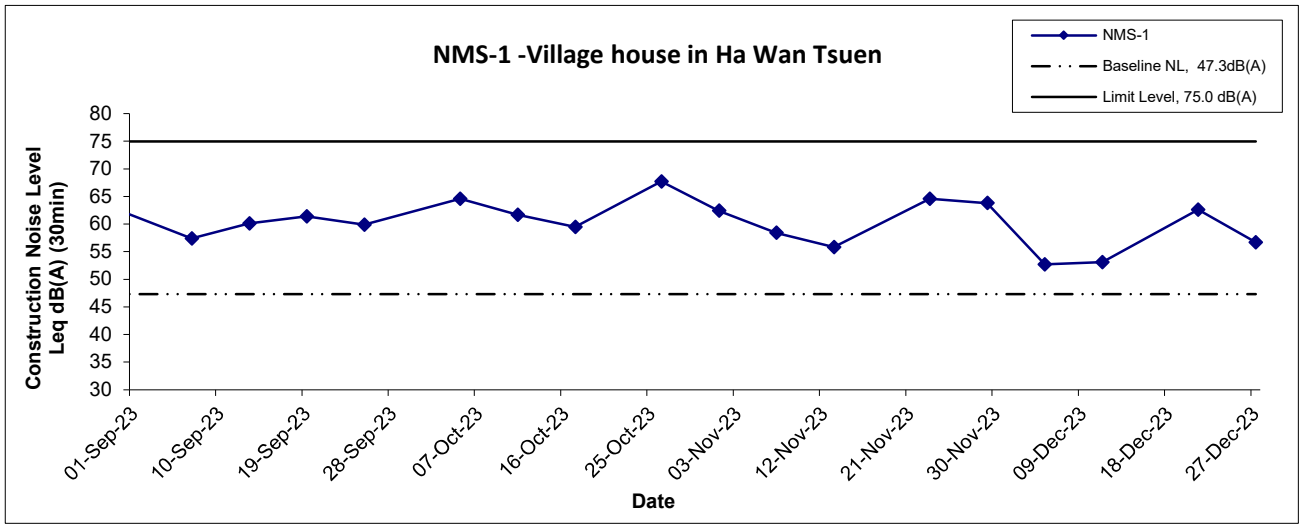
24-hour TSP Concentration Levels

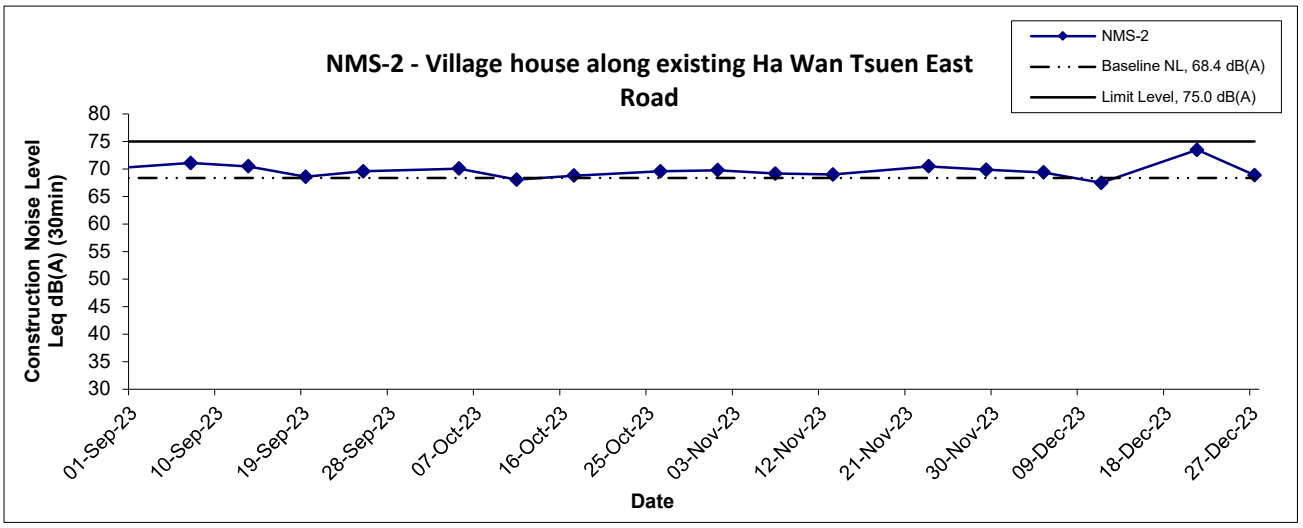


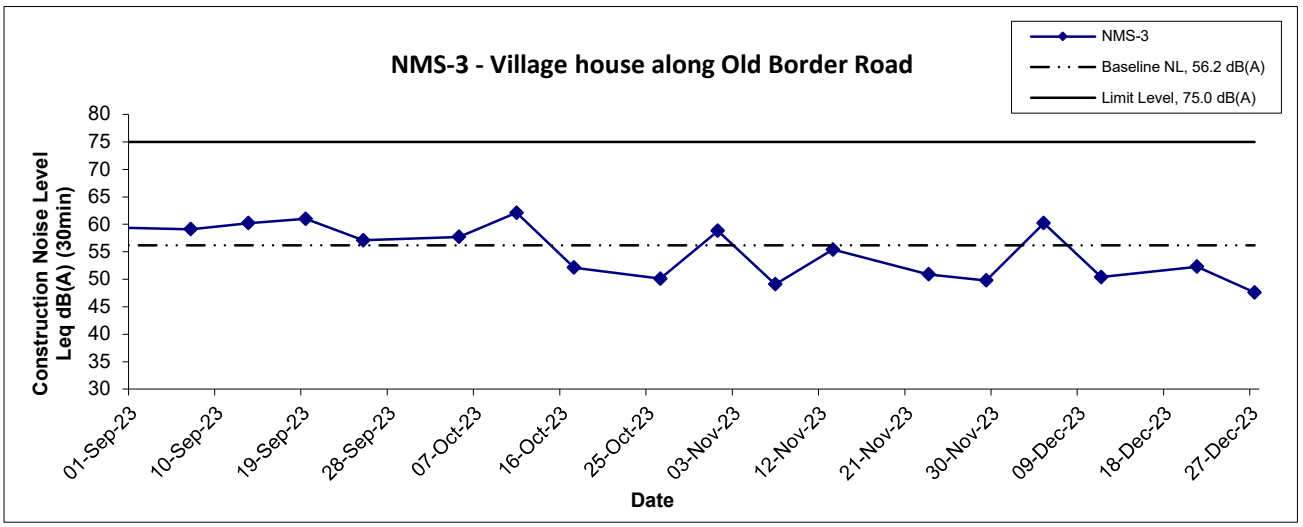
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S Date Dec 23	Project No. WMA21009 Appendix C	WELLAB 匯力 consulting . testing . research

APPENDIX D
GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS

Noise Levels

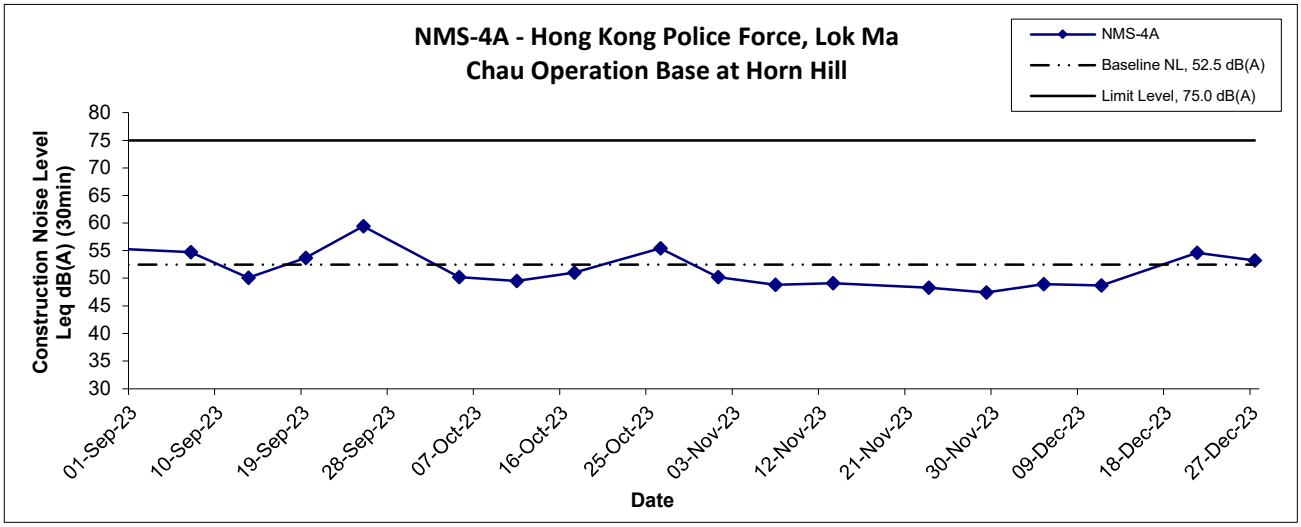






Title: Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
	Date: Dec 23	Appendix: D	

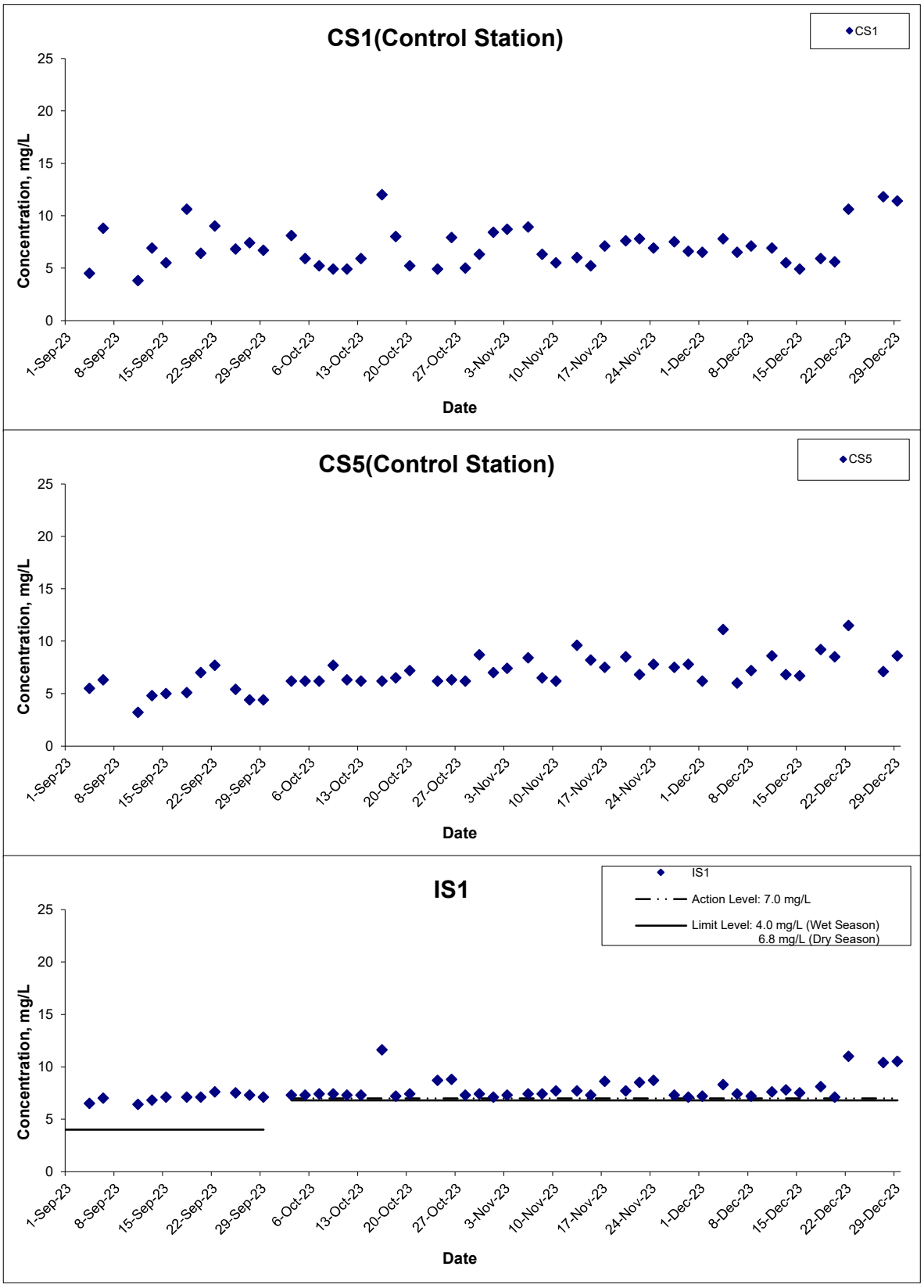
Noise Levels



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	WELLAB 匯力 consulting . testing . research
	Date: Dec 23	Appendix: D	

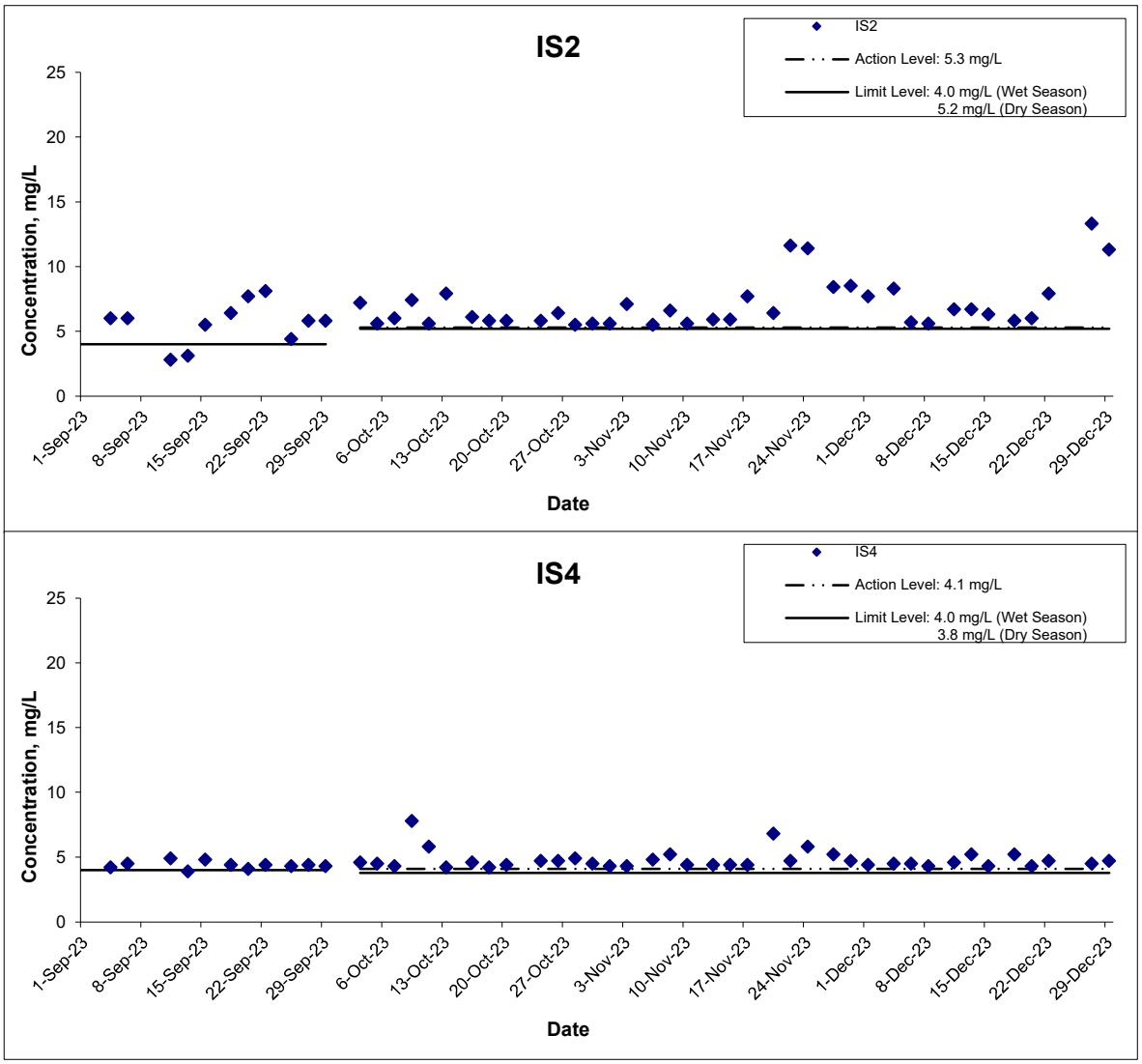
APPENDIX E
GRAPHICAL PRESENTATION OF WATER QUALITY MONITORING RESULTS

Dissolved Oxygen



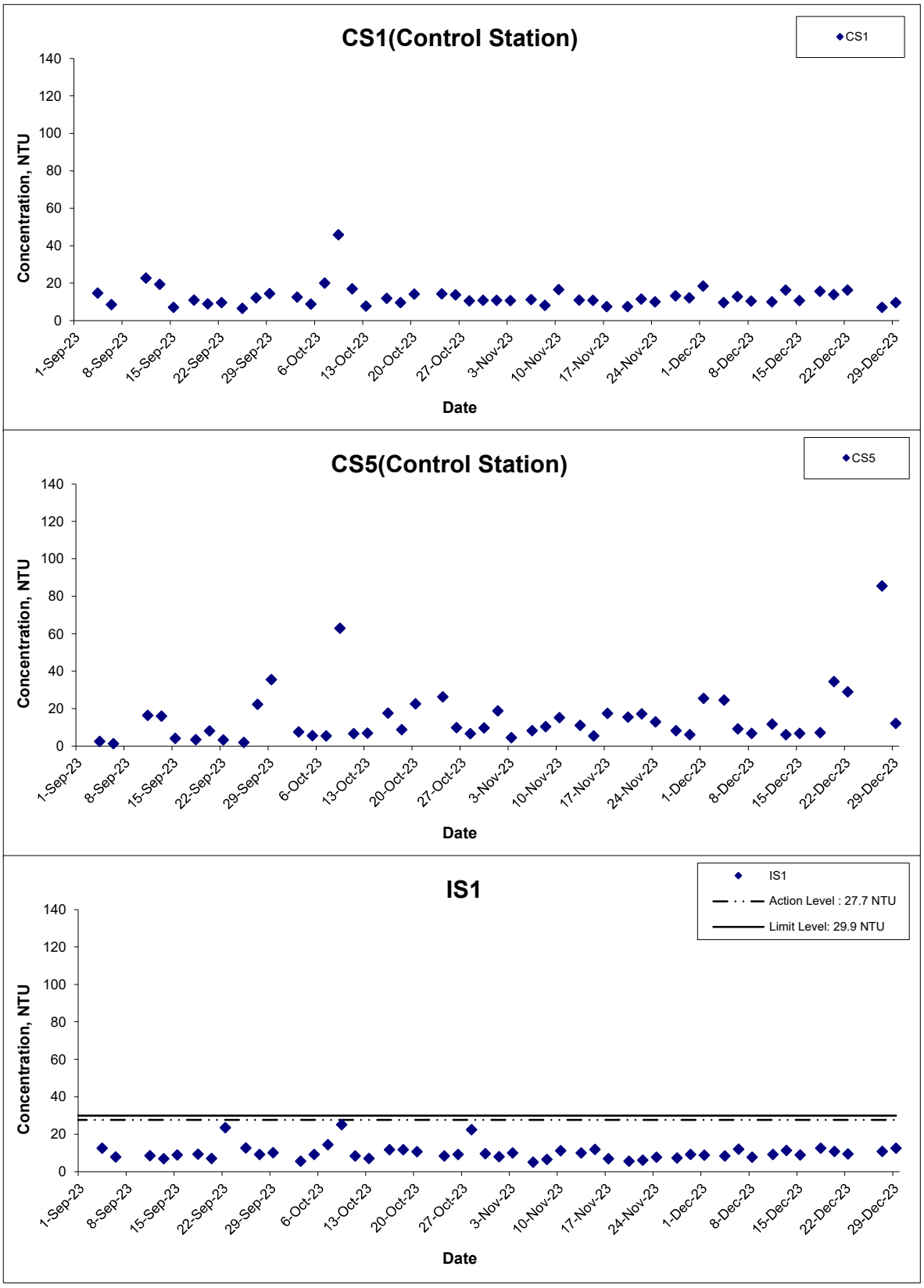
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
		Date Dec 23	Appendix E	

Dissolved Oxygen



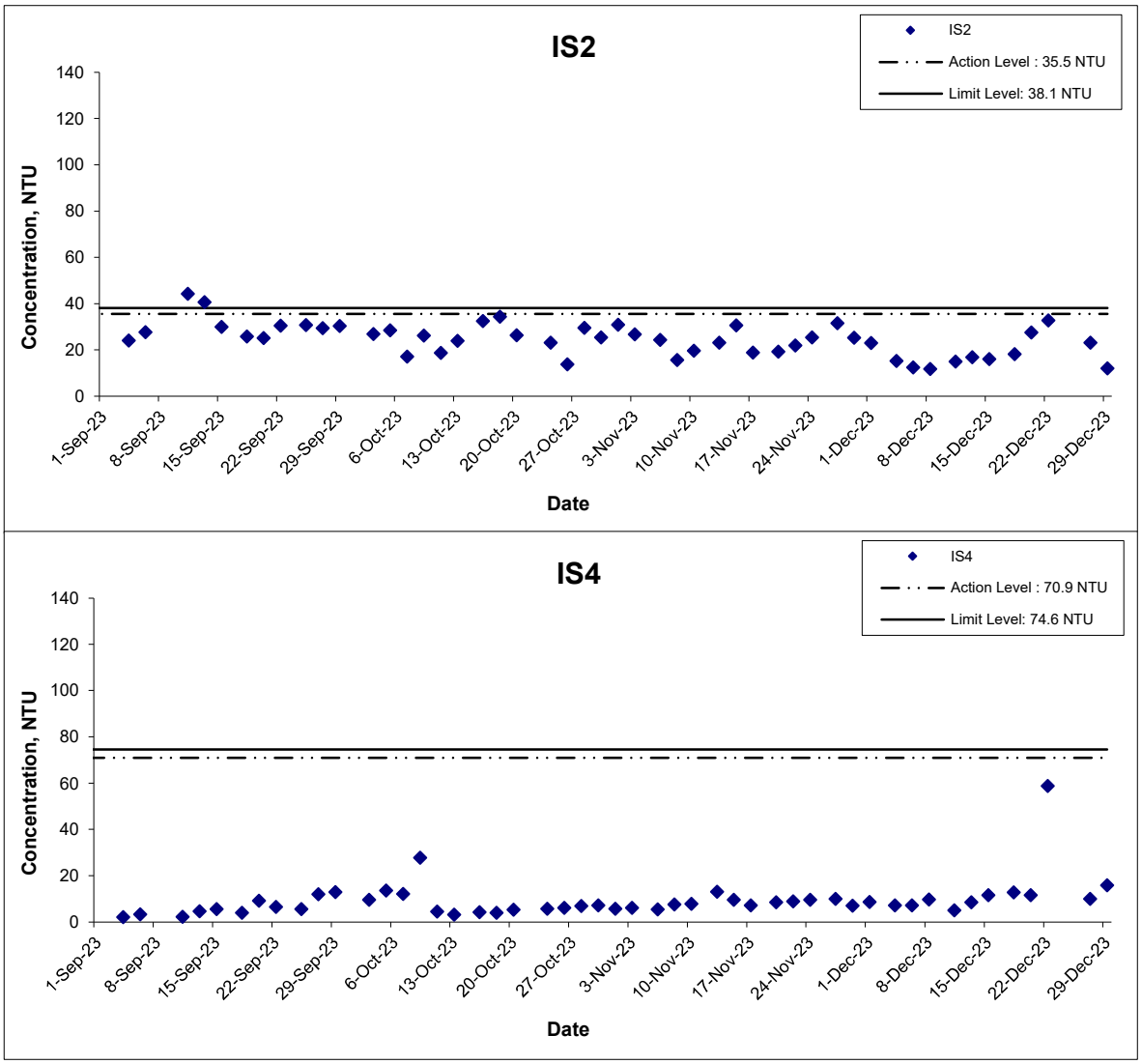
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
		Date Dec 23	Appendix E	

Turbidity



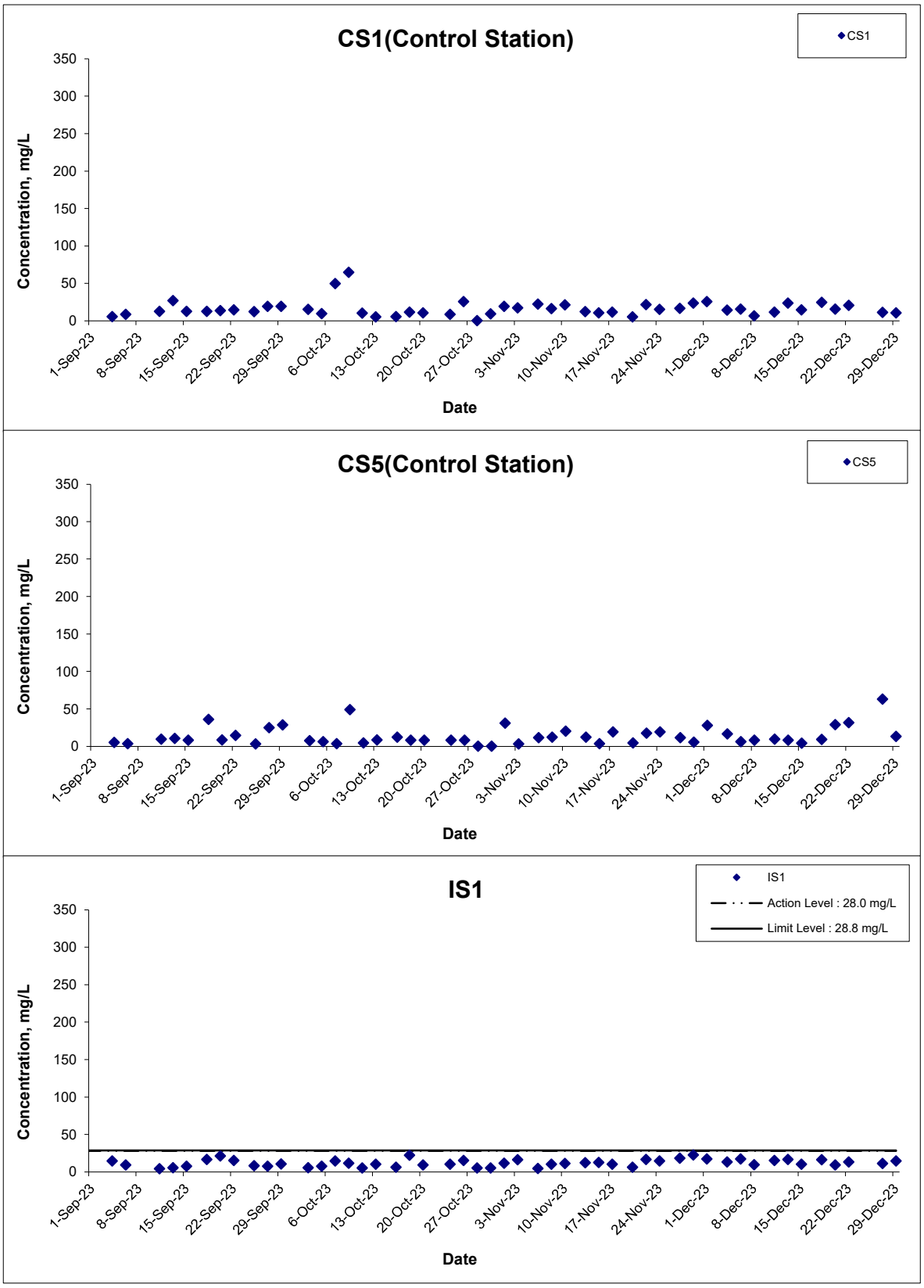
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
		Date Dec 23	Appendix E	

Turbidity



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	WELLAB 匯力 consulting . testing . research
		Date Dec 23	Appendix E	

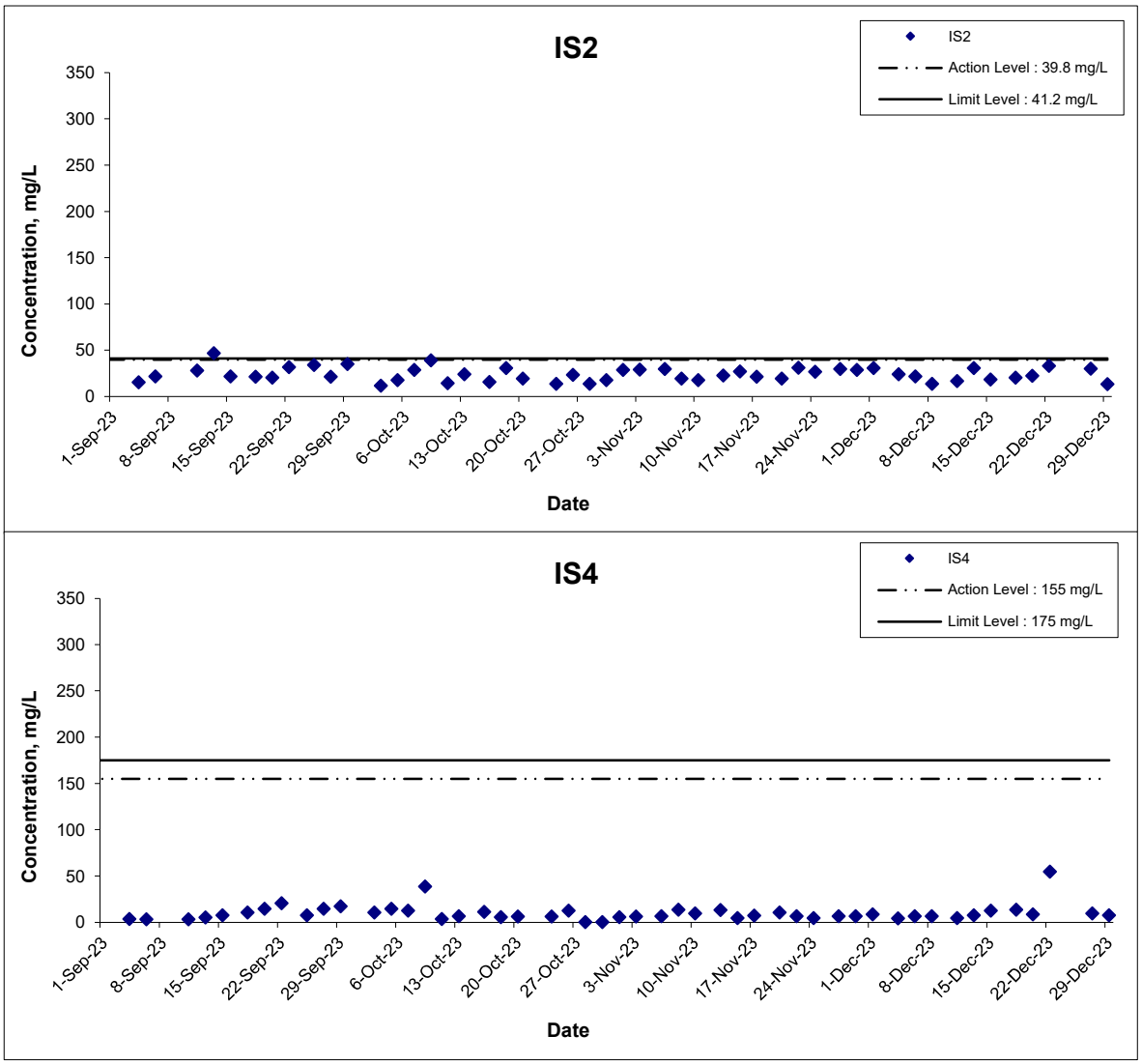
Suspended Solids



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

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	WELLAB 匯力 consulting . testing . research
		Date: Dec 23	Appendix: E	

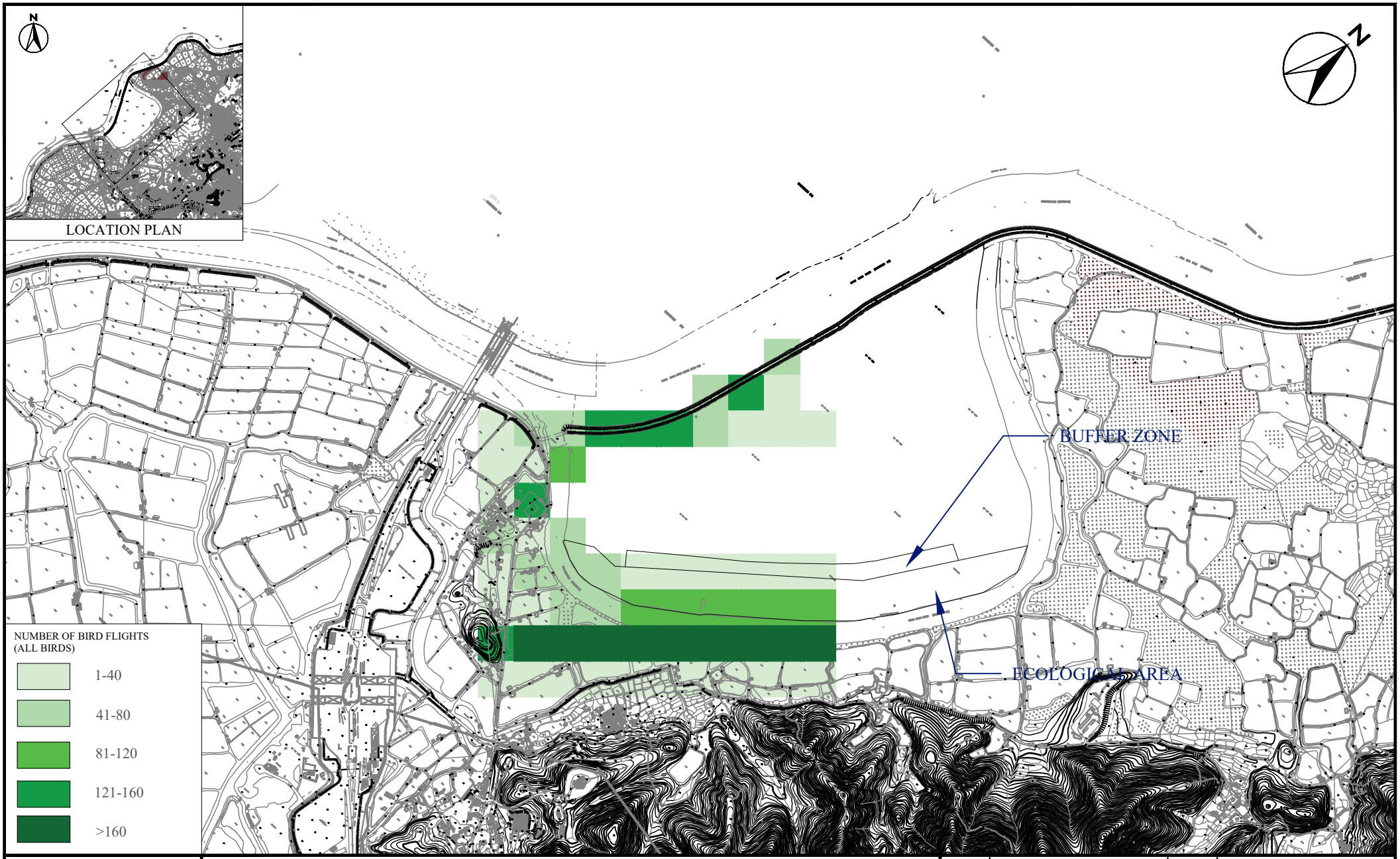
Suspended Solids



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

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: Dec 23	Project No.: WMA21009 Appendix: E	WELLAB 匯力 consulting . testing . research

APPENDIX F
DISTRIBUTION OF FLIGHT LINE USAGE



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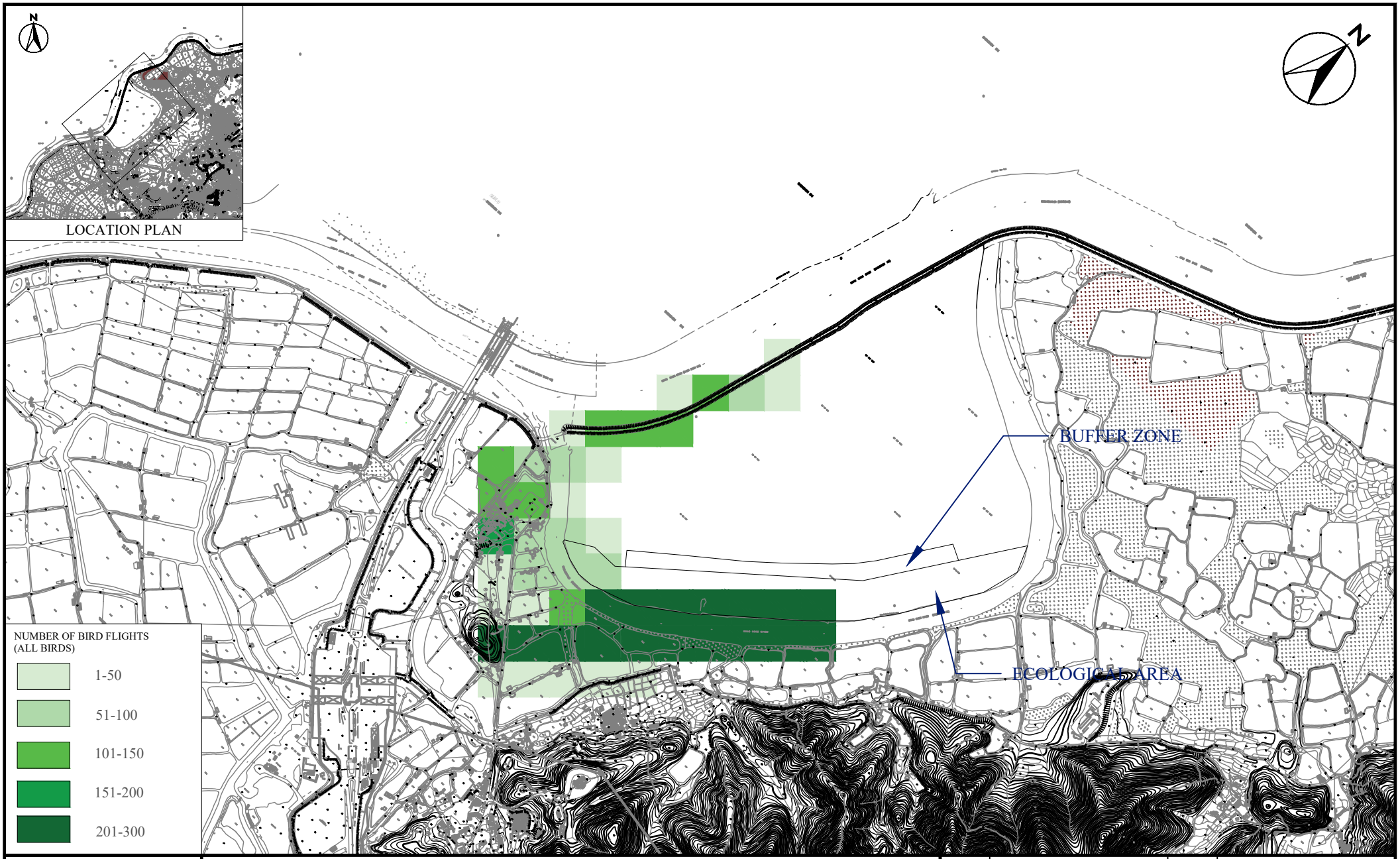
Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
Flight Lines of All Bird Species

SCALE	1:14000 @A4	DATE	October 2023
CHECK	IT	DRAWN	ML
JOB No.	WMA 21009	FIGURE NO.	Fig 6
		REV	-

WELLAB 匯力
consulting . testing . research

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
Flight Lines of All Bird Species

SCALE	1:14000 @A4	DATE	November 2023
CHECK	IT	DRAWN	ML
JOB No.	WMA 21009	FIGURE NO.	Fig 6
		REV	-



WELLAB 匯力
consulting . testing . research

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
Flight Lines of All Bird Species

SCALE	1:14000 @A4	DATE	December 2023
CHECK	IT	DRAWN	ML
JOB No.	WMA 21009	FIGURE NO. Fig 6	REV -

APPENDIX G
WEATHER CONDITION

APPENDIX G –
GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 October 2023	30.0	77	0.0
2 October 2023	29.5	76	0.4
3 October 2023	29.3	78	Trace
4 October 2023	30.8	73	0.0
5 October 2023	30.5	58	0.0
6 October 2023	28.3	62	Trace
7 October 2023	25.1	74	1.9
8 October 2023	24.2	87	92.2
9 October 2023	24.5	94	369.7
10 October 2023	25.3	83	2.3
11 October 2023	25.6	75	0.0
12 October 2023	25.7	72	0.0
13 October 2023	26.7	67	0.0
14 October 2023	26.6	66	0.0
15 October 2023	26.9	72	0.1
16 October 2023	26.5	70	0.0
17 October 2023	25.8	61	Trace

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
18 October 2023	24.6	85	38.3
19 October 2023	25.3	91	27.9
20 October 2023	25.9	82	0.2
21 October 2023	23.3	76	Trace
22 October 2023	24.5	71	Trace
23 October 2023	26.0	77	Trace
24 October 2023	26.8	76	0.0
25 October 2023	26.6	80	0.0
26 October 2023	26.2	78	0.0
27 October 2023	26.6	81	0.0
28 October 2023	25.8	85	9.5
29 October 2023	25.3	79	3.5
30 October 2023	26.1	77	Trace
31 October 2023	25.8	70	0.0

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

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 November 2023	25.8	70	0
2 November 2023	25.8	75	0
3 November 2023	26.0	78	0
4 November 2023	26.3	76	0
5 November 2023	26.7	77	0
6 November 2023	27.6	65	0
7 November 2023	25.9	70	0
8 November 2023	25.2	77	Trace
9 November 2023	25.7	81	0
10 November 2023	26.9	82	2.5
11 November 2023	25.3	85	0.6
12 November 2023	24.0	77	0
13 November 2023	22.0	67	0
14 November 2023	20.8	70	0
15 November 2023	22.8	71	0
16 November 2023	21.5	65	0
17 November 2023	18.8	37	0
18 November 2023	19.5	42	0

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
19 November 2023	20.5	59	0
20 November 2023	21.3	65	0
21 November 2023	22.0	70	0
22 November 2023	22.6	73	0
23 November 2023	23.0	74	0
24 November 2023	22.9	67	0
25 November 2023	21.9	66	0
26 November 2023	22.1	68	0
27 November 2023	23.0	68	0
28 November 2023	22.8	61	Trace
29 November 2023	22.7	73	0.2
30 November 2023	23.8	73	0

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

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 December 2023	21.5	69	0
2 December 2023	20.0	70	0
3 December 2023	21.4	73	Trace
4 December 2023	21.9	76	Trace
5 December 2023	21.7	73	0
6 December 2023	21.5	67	Trace
7 December 2023	21.0	47	0
8 December 2023	21.4	68	0
9 December 2023	22.9	80	0
10 December 2023	23.9	80	Trace
11 December 2023	24.2	85	0.3
12 December 2023	24.7	80	0.3
13 December 2023	22.3	82	Trace
14 December 2023	23.1	81	Trace
15 December 2023	24.4	81	0
16 December 2023	18.9	71	0.1
17 December 2023	13.4	69	0
18 December 2023	17.3	80	Trace

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
19 December 2023	16.8	75	0
20 December 2023	13.6	65	0
21 December 2023	10.9	65	0
22 December 2023	10.5	51	0
23 December 2023	11.0	58	0.2
24 December 2023	13.3	52	0
25 December 2023	14.9	51	0
26 December 2023	16.6	63	0
27 December 2023	18.7	62	Trace
28 December 2023	20.1	73	Trace
29 December 2023	19.4	79	0
30 December 2023	20.7	70	Trace
31 December 2023	21.8	73	0

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

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Oct-2023	0:00	0.9	SSW
1-Oct-2023	1:00	0.9	W
1-Oct-2023	2:00	0.4	W
1-Oct-2023	3:00	0.0	W
1-Oct-2023	4:00	0.4	W
1-Oct-2023	5:00	0.4	W
1-Oct-2023	6:00	0.4	W
1-Oct-2023	7:00	0.4	W
1-Oct-2023	8:00	0.9	W
1-Oct-2023	9:00	2.2	W
1-Oct-2023	10:00	2.2	W
1-Oct-2023	11:00	1.3	W
1-Oct-2023	12:00	1.8	W
1-Oct-2023	13:00	1.8	W
1-Oct-2023	14:00	1.8	W
1-Oct-2023	15:00	1.8	W
1-Oct-2023	16:00	1.8	W
1-Oct-2023	17:00	1.3	W
1-Oct-2023	18:00	0.9	W
1-Oct-2023	19:00	1.3	W
1-Oct-2023	20:00	0.0	W
1-Oct-2023	21:00	0.0	WNW
1-Oct-2023	22:00	0.0	W
1-Oct-2023	23:00	0.0	W
2-Oct-2023	0:00	0.0	WNW
2-Oct-2023	1:00	0.0	WNW
2-Oct-2023	2:00	0.0	---
2-Oct-2023	3:00	0.0	---
2-Oct-2023	4:00	0.0	W
2-Oct-2023	5:00	0.0	---
2-Oct-2023	6:00	0.0	---
2-Oct-2023	7:00	0.0	---
2-Oct-2023	8:00	0.0	W
2-Oct-2023	9:00	0.0	---
2-Oct-2023	10:00	0.0	---
2-Oct-2023	11:00	0.0	W
2-Oct-2023	12:00	0.0	WSW
2-Oct-2023	13:00	0.0	WSW
2-Oct-2023	14:00	0.0	E
2-Oct-2023	15:00	0.4	E
2-Oct-2023	16:00	0.0	---
2-Oct-2023	17:00	0.9	E
2-Oct-2023	18:00	1.3	E
2-Oct-2023	19:00	0.9	E
2-Oct-2023	20:00	0.0	E
2-Oct-2023	21:00	0.0	---
2-Oct-2023	22:00	0.0	---
2-Oct-2023	23:00	0.0	ENE
3-Oct-2023	0:00	0.0	---
3-Oct-2023	1:00	0.0	---
3-Oct-2023	2:00	0.0	E
3-Oct-2023	3:00	0.0	---
3-Oct-2023	4:00	0.0	---
3-Oct-2023	5:00	0.0	---
3-Oct-2023	6:00	0.0	---
3-Oct-2023	7:00	0.0	---
3-Oct-2023	8:00	0.0	---

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Oct-2023	9:00	0.0	---
3-Oct-2023	10:00	0.0	---
3-Oct-2023	11:00	0.0	---
3-Oct-2023	12:00	0.0	SSW
3-Oct-2023	13:00	0.0	---
3-Oct-2023	14:00	0.0	---
3-Oct-2023	15:00	0.0	---
3-Oct-2023	16:00	0.0	---
3-Oct-2023	17:00	0.0	---
3-Oct-2023	18:00	0.0	---
3-Oct-2023	19:00	0.0	---
3-Oct-2023	20:00	0.0	---
3-Oct-2023	21:00	0.0	---
3-Oct-2023	22:00	0.0	---
3-Oct-2023	23:00	0.0	---
4-Oct-2023	0:00	0.0	W
4-Oct-2023	1:00	0.4	W
4-Oct-2023	2:00	0.0	WNW
4-Oct-2023	3:00	0.0	WNW
4-Oct-2023	4:00	0.0	WNW
4-Oct-2023	5:00	0.0	---
4-Oct-2023	6:00	0.0	WSW
4-Oct-2023	7:00	0.0	SW
4-Oct-2023	8:00	0.0	SSW
4-Oct-2023	9:00	0.0	SSW
4-Oct-2023	10:00	0.0	WSW
4-Oct-2023	11:00	0.0	WSW
4-Oct-2023	12:00	0.0	SSW
4-Oct-2023	13:00	0.0	SW
4-Oct-2023	14:00	0.4	SSW
4-Oct-2023	15:00	0.4	SSW
4-Oct-2023	16:00	0.4	SSW
4-Oct-2023	17:00	0.4	S
4-Oct-2023	18:00	0.4	SSW
4-Oct-2023	19:00	0.4	SSW
4-Oct-2023	20:00	0.4	SSW
4-Oct-2023	21:00	0.4	SSW
4-Oct-2023	22:00	0.4	W
4-Oct-2023	23:00	0.4	SW
5-Oct-2023	0:00	0.4	SSW
5-Oct-2023	1:00	0.9	SSW
5-Oct-2023	2:00	0.4	SSW
5-Oct-2023	3:00	0.4	SSW
5-Oct-2023	4:00	0.4	W
5-Oct-2023	5:00	0.4	SSW
5-Oct-2023	6:00	0.9	W
5-Oct-2023	7:00	0.4	SSW
5-Oct-2023	8:00	0.4	SSW
5-Oct-2023	9:00	0.4	W
5-Oct-2023	10:00	0.9	W
5-Oct-2023	11:00	0.9	SSW
5-Oct-2023	12:00	0.4	SSW
5-Oct-2023	13:00	0.4	W
5-Oct-2023	14:00	0.4	W
5-Oct-2023	15:00	0.4	WSW
5-Oct-2023	16:00	0.4	SW
5-Oct-2023	17:00	0.4	SSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Oct-2023	18:00	0.0	SSW
5-Oct-2023	19:00	0.0	WSW
5-Oct-2023	20:00	0.4	W
5-Oct-2023	21:00	0.4	SSW
5-Oct-2023	22:00	0.0	SSW
5-Oct-2023	23:00	0.4	SSW
6-Oct-2023	0:00	0.4	SSW
6-Oct-2023	1:00	0.9	SSW
6-Oct-2023	2:00	0.4	SSW
6-Oct-2023	3:00	0.4	SSW
6-Oct-2023	4:00	0.4	SSW
6-Oct-2023	5:00	0.0	SW
6-Oct-2023	6:00	0.0	SSW
6-Oct-2023	7:00	0.0	SSW
6-Oct-2023	8:00	0.0	SSW
6-Oct-2023	9:00	0.4	SSW
6-Oct-2023	10:00	0.4	SSW
6-Oct-2023	11:00	0.4	SSW
6-Oct-2023	12:00	0.0	SSW
6-Oct-2023	13:00	0.4	SSW
6-Oct-2023	14:00	0.4	SSW
6-Oct-2023	15:00	0.9	SSW
6-Oct-2023	16:00	0.9	SSW
6-Oct-2023	17:00	0.4	SSW
6-Oct-2023	18:00	0.4	SSW
6-Oct-2023	19:00	0.9	SSW
6-Oct-2023	20:00	0.9	SSW
6-Oct-2023	21:00	0.4	SSW
6-Oct-2023	22:00	0.4	SSW
6-Oct-2023	23:00	0.4	SSW
7-Oct-2023	0:00	0.9	SSW
7-Oct-2023	1:00	0.9	WSW
7-Oct-2023	2:00	0.9	WSW
7-Oct-2023	3:00	0.4	WSW
7-Oct-2023	4:00	0.9	WSW
7-Oct-2023	5:00	0.9	SSW
7-Oct-2023	6:00	0.9	WSW
7-Oct-2023	7:00	0.4	N
7-Oct-2023	8:00	0.4	SW
7-Oct-2023	9:00	0.9	W
7-Oct-2023	10:00	0.9	SSW
7-Oct-2023	11:00	0.4	SSW
7-Oct-2023	12:00	0.9	SSW
7-Oct-2023	13:00	0.4	WSW
7-Oct-2023	14:00	0.4	WSW
7-Oct-2023	15:00	0.4	W
7-Oct-2023	16:00	0.4	WSW
7-Oct-2023	17:00	0.4	WSW
7-Oct-2023	18:00	0.9	SSW
7-Oct-2023	19:00	0.9	SSW
7-Oct-2023	20:00	0.9	SSW
7-Oct-2023	21:00	1.3	SSW
7-Oct-2023	22:00	1.3	SSW
7-Oct-2023	23:00	0.9	WSW
8-Oct-2023	0:00	0.9	WSW
8-Oct-2023	1:00	0.9	WSW
8-Oct-2023	2:00	0.4	WSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
8-Oct-2023	3:00	0.9	WSW
8-Oct-2023	4:00	0.4	WSW
8-Oct-2023	5:00	0.0	W
8-Oct-2023	6:00	0.0	WSW
8-Oct-2023	7:00	0.4	WSW
8-Oct-2023	8:00	0.4	WSW
8-Oct-2023	9:00	0.4	WSW
8-Oct-2023	10:00	0.4	WSW
8-Oct-2023	11:00	0.4	WSW
8-Oct-2023	12:00	0.0	---
8-Oct-2023	13:00	0.0	WSW
8-Oct-2023	14:00	0.0	WSW
8-Oct-2023	15:00	0.0	---
8-Oct-2023	16:00	0.0	SSW
8-Oct-2023	17:00	0.0	WSW
8-Oct-2023	18:00	0.0	WSW
8-Oct-2023	19:00	0.0	WSW
8-Oct-2023	20:00	0.9	WSW
8-Oct-2023	21:00	0.4	WSW
8-Oct-2023	22:00	0.4	WSW
8-Oct-2023	23:00	0.0	WSW
9-Oct-2023	0:00	0.4	WSW
9-Oct-2023	1:00	0.0	WSW
9-Oct-2023	2:00	0.4	WSW
9-Oct-2023	3:00	0.9	WSW
9-Oct-2023	4:00	0.4	WSW
9-Oct-2023	5:00	0.4	WSW
9-Oct-2023	6:00	0.0	WSW
9-Oct-2023	7:00	0.4	WSW
9-Oct-2023	8:00	0.4	WSW
9-Oct-2023	9:00	1.3	WSW
9-Oct-2023	10:00	0.4	WSW
9-Oct-2023	11:00	0.0	WSW
9-Oct-2023	12:00	0.4	WSW
9-Oct-2023	13:00	0.0	SSW
9-Oct-2023	14:00	0.0	WSW
9-Oct-2023	15:00	0.0	SSW
9-Oct-2023	16:00	0.0	SSW
9-Oct-2023	17:00	0.0	SSW
9-Oct-2023	18:00	0.0	WSW
9-Oct-2023	19:00	0.0	S
9-Oct-2023	20:00	0.0	S
9-Oct-2023	21:00	0.4	WSW
9-Oct-2023	22:00	0.4	WSW
9-Oct-2023	23:00	0.4	WSW
10-Oct-2023	0:00	0.4	WSW
10-Oct-2023	1:00	0.4	WSW
10-Oct-2023	2:00	0.4	WSW
10-Oct-2023	3:00	0.0	WSW
10-Oct-2023	4:00	0.0	WSW
10-Oct-2023	5:00	0.0	WSW
10-Oct-2023	6:00	0.4	WSW
10-Oct-2023	7:00	0.4	WSW
10-Oct-2023	8:00	0.4	WSW
10-Oct-2023	9:00	0.4	WSW
10-Oct-2023	10:00	0.4	WSW
10-Oct-2023	11:00	0.4	WSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Oct-2023	12:00	0.4	SSW
10-Oct-2023	13:00	0.4	SSW
10-Oct-2023	14:00	0.4	SSW
10-Oct-2023	15:00	0.4	SW
10-Oct-2023	16:00	1.3	WSW
10-Oct-2023	17:00	0.9	WSW
10-Oct-2023	18:00	0.9	WSW
10-Oct-2023	19:00	0.9	W
10-Oct-2023	20:00	0.4	W
10-Oct-2023	21:00	0.9	W
10-Oct-2023	22:00	0.9	W
10-Oct-2023	23:00	0.9	W
11-Oct-2023	0:00	0.4	W
11-Oct-2023	1:00	0.0	W
11-Oct-2023	2:00	0.4	W
11-Oct-2023	3:00	0.9	W
11-Oct-2023	4:00	0.9	W
11-Oct-2023	5:00	0.4	W
11-Oct-2023	6:00	0.4	W
11-Oct-2023	7:00	0.4	W
11-Oct-2023	8:00	0.9	W
11-Oct-2023	9:00	0.4	W
11-Oct-2023	10:00	0.9	W
11-Oct-2023	11:00	0.4	W
11-Oct-2023	12:00	0.4	W
11-Oct-2023	13:00	0.0	SSW
11-Oct-2023	14:00	0.4	W
11-Oct-2023	15:00	0.9	W
11-Oct-2023	16:00	0.4	W
11-Oct-2023	17:00	0.0	SSW
11-Oct-2023	18:00	0.4	W
11-Oct-2023	19:00	0.4	W
11-Oct-2023	20:00	0.9	W
11-Oct-2023	21:00	0.4	W
11-Oct-2023	22:00	0.4	W
11-Oct-2023	23:00	0.4	W
12-Oct-2023	0:00	0.0	W
12-Oct-2023	1:00	0.0	W
12-Oct-2023	2:00	0.0	W
12-Oct-2023	3:00	0.4	W
12-Oct-2023	4:00	0.9	SSW
12-Oct-2023	5:00	0.0	W
12-Oct-2023	6:00	0.0	W
12-Oct-2023	7:00	0.0	W
12-Oct-2023	8:00	0.0	W
12-Oct-2023	9:00	0.0	W
12-Oct-2023	10:00	0.4	W
12-Oct-2023	11:00	0.0	W
12-Oct-2023	12:00	0.4	SSW
12-Oct-2023	13:00	0.9	W
12-Oct-2023	14:00	0.4	W
12-Oct-2023	15:00	0.4	W
12-Oct-2023	16:00	0.0	W
12-Oct-2023	17:00	0.0	W
12-Oct-2023	18:00	0.0	WNW
12-Oct-2023	19:00	0.0	NW
12-Oct-2023	20:00	0.4	WNW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Oct-2023	21:00	0.9	W
12-Oct-2023	22:00	0.9	W
12-Oct-2023	23:00	0.9	W
13-Oct-2023	0:00	0.9	W
13-Oct-2023	1:00	1.3	W
13-Oct-2023	2:00	0.9	W
13-Oct-2023	3:00	0.0	WSW
13-Oct-2023	4:00	0.0	SW
13-Oct-2023	5:00	0.0	W
13-Oct-2023	6:00	0.0	---
13-Oct-2023	7:00	0.0	W
13-Oct-2023	8:00	0.0	---
13-Oct-2023	9:00	0.0	W
13-Oct-2023	10:00	0.0	W
13-Oct-2023	11:00	0.4	W
13-Oct-2023	12:00	0.9	W
13-Oct-2023	13:00	0.9	W
13-Oct-2023	14:00	0.4	W
13-Oct-2023	15:00	0.9	W
13-Oct-2023	16:00	0.4	W
13-Oct-2023	17:00	0.0	SW
13-Oct-2023	18:00	0.0	SSW
13-Oct-2023	19:00	0.0	WSW
13-Oct-2023	20:00	0.0	---
13-Oct-2023	21:00	0.0	---
13-Oct-2023	22:00	0.0	---
13-Oct-2023	23:00	0.0	---
14-Oct-2023	0:00	0.0	WNW
14-Oct-2023	1:00	0.4	NW
14-Oct-2023	2:00	0.4	NW
14-Oct-2023	3:00	0.0	WNW
14-Oct-2023	4:00	0.0	WNW
14-Oct-2023	5:00	0.0	W
14-Oct-2023	6:00	0.4	W
14-Oct-2023	7:00	0.4	W
14-Oct-2023	8:00	0.4	W
14-Oct-2023	9:00	0.9	W
14-Oct-2023	10:00	0.9	W
14-Oct-2023	11:00	1.3	W
14-Oct-2023	12:00	0.9	W
14-Oct-2023	13:00	0.4	W
14-Oct-2023	14:00	0.0	W
14-Oct-2023	15:00	0.0	SSW
14-Oct-2023	16:00	0.4	W
14-Oct-2023	17:00	0.4	W
14-Oct-2023	18:00	0.0	W
14-Oct-2023	19:00	0.9	W
14-Oct-2023	20:00	1.3	W
14-Oct-2023	21:00	0.4	W
14-Oct-2023	22:00	0.4	W
14-Oct-2023	23:00	0.0	W
15-Oct-2023	0:00	0.0	W
15-Oct-2023	1:00	1.3	W
15-Oct-2023	2:00	0.4	W
15-Oct-2023	3:00	0.4	W
15-Oct-2023	4:00	0.4	W
15-Oct-2023	5:00	0.4	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
15-Oct-2023	6:00	0.9	W
15-Oct-2023	7:00	0.4	W
15-Oct-2023	8:00	0.4	W
15-Oct-2023	9:00	0.9	W
15-Oct-2023	10:00	0.9	W
15-Oct-2023	11:00	1.3	W
15-Oct-2023	12:00	0.4	W
15-Oct-2023	13:00	0.4	W
15-Oct-2023	14:00	0.4	W
15-Oct-2023	15:00	1.8	W
15-Oct-2023	16:00	1.3	W
15-Oct-2023	17:00	1.3	W
15-Oct-2023	18:00	0.9	W
15-Oct-2023	19:00	0.9	W
15-Oct-2023	20:00	1.8	W
15-Oct-2023	21:00	1.8	W
15-Oct-2023	22:00	2.2	W
15-Oct-2023	23:00	1.8	W
16-Oct-2023	0:00	1.3	W
16-Oct-2023	1:00	0.4	W
16-Oct-2023	2:00	0.9	W
16-Oct-2023	3:00	1.8	W
16-Oct-2023	4:00	2.2	W
16-Oct-2023	5:00	2.2	W
16-Oct-2023	6:00	1.8	W
16-Oct-2023	7:00	1.3	W
16-Oct-2023	8:00	1.8	W
16-Oct-2023	9:00	2.7	W
16-Oct-2023	10:00	1.8	W
16-Oct-2023	11:00	2.2	W
16-Oct-2023	12:00	2.7	W
16-Oct-2023	13:00	2.2	W
16-Oct-2023	14:00	2.2	W
16-Oct-2023	15:00	2.2	W
16-Oct-2023	16:00	1.3	W
16-Oct-2023	17:00	1.3	W
16-Oct-2023	18:00	0.9	W
16-Oct-2023	19:00	1.3	W
16-Oct-2023	20:00	2.2	W
16-Oct-2023	21:00	1.8	W
16-Oct-2023	22:00	1.3	W
16-Oct-2023	23:00	0.9	W
17-Oct-2023	0:00	1.3	W
17-Oct-2023	1:00	0.9	W
17-Oct-2023	2:00	1.8	W
17-Oct-2023	3:00	2.2	W
17-Oct-2023	4:00	0.9	W
17-Oct-2023	5:00	0.9	W
17-Oct-2023	6:00	0.9	W
17-Oct-2023	7:00	2.2	W
17-Oct-2023	8:00	2.7	W
17-Oct-2023	9:00	1.3	W
17-Oct-2023	10:00	1.8	W
17-Oct-2023	11:00	1.8	W
17-Oct-2023	12:00	2.2	W
17-Oct-2023	13:00	3.1	W
17-Oct-2023	14:00	3.1	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
17-Oct-2023	15:00	2.7	W
17-Oct-2023	16:00	2.7	W
17-Oct-2023	17:00	0.9	W
17-Oct-2023	18:00	2.2	W
17-Oct-2023	19:00	2.2	W
17-Oct-2023	20:00	0.9	W
17-Oct-2023	21:00	1.8	W
17-Oct-2023	22:00	2.2	W
17-Oct-2023	23:00	2.2	W
18-Oct-2023	0:00	1.8	W
18-Oct-2023	1:00	1.8	W
18-Oct-2023	2:00	0.9	W
18-Oct-2023	3:00	0.4	W
18-Oct-2023	4:00	1.8	W
18-Oct-2023	5:00	2.2	W
18-Oct-2023	6:00	1.8	W
18-Oct-2023	7:00	1.8	W
18-Oct-2023	8:00	2.2	W
18-Oct-2023	9:00	1.3	W
18-Oct-2023	10:00	2.7	W
18-Oct-2023	11:00	2.2	WSW
18-Oct-2023	12:00	2.2	W
18-Oct-2023	13:00	0.4	WSW
18-Oct-2023	14:00	1.3	WSW
18-Oct-2023	15:00	0.9	WSW
18-Oct-2023	16:00	0.9	W
18-Oct-2023	17:00	0.4	W
18-Oct-2023	18:00	0.4	W
18-Oct-2023	19:00	0.4	W
18-Oct-2023	20:00	0.4	WSW
18-Oct-2023	21:00	0.4	W
18-Oct-2023	22:00	0.4	WSW
18-Oct-2023	23:00	0.4	W
19-Oct-2023	0:00	0.4	W
19-Oct-2023	1:00	0.4	W
19-Oct-2023	2:00	0.4	W
19-Oct-2023	3:00	1.3	W
19-Oct-2023	4:00	1.3	W
19-Oct-2023	5:00	1.3	W
19-Oct-2023	6:00	1.3	W
19-Oct-2023	7:00	1.8	W
19-Oct-2023	8:00	0.9	W
19-Oct-2023	9:00	0.0	W
19-Oct-2023	10:00	0.4	W
19-Oct-2023	11:00	0.4	W
19-Oct-2023	12:00	0.4	W
19-Oct-2023	13:00	0.4	W
19-Oct-2023	14:00	0.4	W
19-Oct-2023	15:00	0.0	W
19-Oct-2023	16:00	0.4	W
19-Oct-2023	17:00	0.4	SW
19-Oct-2023	18:00	0.9	W
19-Oct-2023	19:00	1.3	W
19-Oct-2023	20:00	0.4	W
19-Oct-2023	21:00	0.4	W
19-Oct-2023	22:00	0.0	W
19-Oct-2023	23:00	0.9	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
20-Oct-2023	0:00	0.9	W
20-Oct-2023	1:00	0.0	WSW
20-Oct-2023	2:00	0.0	W
20-Oct-2023	3:00	0.0	W
20-Oct-2023	4:00	0.0	W
20-Oct-2023	5:00	0.0	W
20-Oct-2023	6:00	0.0	WSW
20-Oct-2023	7:00	0.0	W
20-Oct-2023	8:00	0.0	SSW
20-Oct-2023	9:00	0.0	W
20-Oct-2023	10:00	0.4	SSW
20-Oct-2023	11:00	0.0	SSW
20-Oct-2023	12:00	0.0	SSW
20-Oct-2023	13:00	0.0	SW
20-Oct-2023	14:00	0.4	W
20-Oct-2023	15:00	0.4	W
20-Oct-2023	16:00	0.4	W
20-Oct-2023	17:00	0.0	W
20-Oct-2023	18:00	0.0	WNW
20-Oct-2023	19:00	0.0	W
20-Oct-2023	20:00	0.0	W
20-Oct-2023	21:00	0.0	W
20-Oct-2023	22:00	0.0	W
20-Oct-2023	23:00	0.0	---
21-Oct-2023	0:00	0.0	WSW
21-Oct-2023	1:00	0.0	W
21-Oct-2023	2:00	0.0	W
21-Oct-2023	3:00	0.0	WSW
21-Oct-2023	4:00	0.0	W
21-Oct-2023	5:00	0.0	W
21-Oct-2023	6:00	0.0	W
21-Oct-2023	7:00	0.0	W
21-Oct-2023	8:00	0.0	W
21-Oct-2023	9:00	0.4	SSW
21-Oct-2023	10:00	0.4	SSW
21-Oct-2023	11:00	0.4	W
21-Oct-2023	12:00	0.4	W
21-Oct-2023	13:00	0.4	W
21-Oct-2023	14:00	0.4	W
21-Oct-2023	15:00	0.4	W
21-Oct-2023	16:00	0.0	NW
21-Oct-2023	17:00	1.3	W
21-Oct-2023	18:00	1.8	W
21-Oct-2023	19:00	0.4	W
21-Oct-2023	20:00	0.9	W
21-Oct-2023	21:00	0.0	W
21-Oct-2023	22:00	0.4	W
21-Oct-2023	23:00	0.0	W
22-Oct-2023	0:00	0.9	W
22-Oct-2023	1:00	0.4	W
22-Oct-2023	2:00	0.0	W
22-Oct-2023	3:00	0.0	W
22-Oct-2023	4:00	0.0	W
22-Oct-2023	5:00	0.4	W
22-Oct-2023	6:00	0.0	W
22-Oct-2023	7:00	0.4	W
22-Oct-2023	8:00	0.9	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
22-Oct-2023	9:00	0.4	W
22-Oct-2023	10:00	0.4	W
22-Oct-2023	11:00	0.9	W
22-Oct-2023	12:00	1.3	W
22-Oct-2023	13:00	0.9	W
22-Oct-2023	14:00	0.9	W
22-Oct-2023	15:00	0.4	W
22-Oct-2023	16:00	0.0	NNW
22-Oct-2023	17:00	0.0	NW
22-Oct-2023	18:00	0.0	WNW
22-Oct-2023	19:00	0.0	---
22-Oct-2023	20:00	0.0	WNW
22-Oct-2023	21:00	0.0	W
22-Oct-2023	22:00	0.0	WNW
22-Oct-2023	23:00	0.0	W
23-Oct-2023	0:00	0.0	W
23-Oct-2023	1:00	0.0	W
23-Oct-2023	2:00	0.0	---
23-Oct-2023	3:00	0.0	W
23-Oct-2023	4:00	0.0	W
23-Oct-2023	5:00	1.3	W
23-Oct-2023	6:00	0.9	W
26-Oct-2023	13:00	1.3	W
26-Oct-2023	14:00	1.3	W
26-Oct-2023	15:00	0.9	W
26-Oct-2023	16:00	0.4	W
26-Oct-2023	17:00	0.9	W
26-Oct-2023	18:00	0.9	WNW
26-Oct-2023	19:00	0.9	W
26-Oct-2023	20:00	0.4	W
26-Oct-2023	21:00	0.4	NNW
26-Oct-2023	22:00	0.0	NNW
26-Oct-2023	23:00	0.0	W
27-Oct-2023	0:00	0.9	W
27-Oct-2023	1:00	0.9	W
27-Oct-2023	2:00	0.9	W
27-Oct-2023	3:00	0.4	NNW
27-Oct-2023	4:00	0.0	NNW
27-Oct-2023	5:00	0.4	W
27-Oct-2023	6:00	0.0	WNW
27-Oct-2023	7:00	0.0	W
27-Oct-2023	8:00	0.0	W
27-Oct-2023	9:00	0.0	W
27-Oct-2023	10:00	0.0	---
27-Oct-2023	11:00	0.0	W
27-Oct-2023	12:00	0.0	---
27-Oct-2023	13:00	0.4	W
27-Oct-2023	14:00	0.0	NW
27-Oct-2023	15:00	0.0	NW
27-Oct-2023	16:00	0.0	NNW
27-Oct-2023	17:00	0.0	W
27-Oct-2023	18:00	0.0	W
27-Oct-2023	19:00	0.0	W
27-Oct-2023	20:00	0.9	W
27-Oct-2023	21:00	1.8	W
27-Oct-2023	22:00	0.9	W
27-Oct-2023	23:00	0.4	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Oct-2023	0:00	0.4	W
28-Oct-2023	1:00	0.9	W
28-Oct-2023	2:00	0.4	W
28-Oct-2023	3:00	0.0	W
28-Oct-2023	4:00	0.0	ENE
28-Oct-2023	5:00	0.0	W
28-Oct-2023	6:00	0.0	W
28-Oct-2023	7:00	0.0	WSW
28-Oct-2023	8:00	0.0	W
28-Oct-2023	9:00	0.4	W
28-Oct-2023	10:00	0.4	W
28-Oct-2023	11:00	0.9	W
28-Oct-2023	12:00	0.4	W
28-Oct-2023	13:00	0.4	W
28-Oct-2023	14:00	0.0	W
28-Oct-2023	15:00	0.0	WNW
28-Oct-2023	16:00	0.0	W
28-Oct-2023	17:00	0.0	W
28-Oct-2023	18:00	0.9	W
28-Oct-2023	19:00	0.4	W
28-Oct-2023	20:00	1.3	W
28-Oct-2023	21:00	0.9	W
28-Oct-2023	22:00	0.4	W
28-Oct-2023	23:00	0.4	W
29-Oct-2023	0:00	0.4	W
29-Oct-2023	1:00	0.9	W
29-Oct-2023	2:00	0.4	W
29-Oct-2023	3:00	0.0	---
29-Oct-2023	4:00	0.0	---
29-Oct-2023	5:00	0.0	NNW
29-Oct-2023	6:00	0.0	W
29-Oct-2023	7:00	0.4	W
29-Oct-2023	8:00	0.4	W
29-Oct-2023	9:00	0.4	W
29-Oct-2023	10:00	0.4	W
29-Oct-2023	11:00	0.4	W
29-Oct-2023	12:00	1.3	W
29-Oct-2023	13:00	0.9	W
29-Oct-2023	14:00	0.9	W
29-Oct-2023	15:00	0.9	W
29-Oct-2023	16:00	1.3	W
29-Oct-2023	17:00	1.3	W
29-Oct-2023	18:00	1.3	W
29-Oct-2023	19:00	1.8	W
29-Oct-2023	20:00	1.3	W
29-Oct-2023	21:00	1.3	W
29-Oct-2023	22:00	1.3	W
29-Oct-2023	23:00	0.9	W
30-Oct-2023	0:00	0.0	W
30-Oct-2023	1:00	0.4	W
30-Oct-2023	2:00	0.0	WNW
30-Oct-2023	3:00	0.0	W
30-Oct-2023	4:00	0.4	W
30-Oct-2023	5:00	0.0	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Oct-2023	6:00	0.9	W
30-Oct-2023	7:00	0.9	W
30-Oct-2023	8:00	0.0	W
30-Oct-2023	9:00	0.0	---
30-Oct-2023	10:00	0.0	---
30-Oct-2023	11:00	0.0	W
30-Oct-2023	12:00	0.0	---
30-Oct-2023	13:00	0.0	---
30-Oct-2023	14:00	0.0	W
30-Oct-2023	15:00	0.0	W
30-Oct-2023	16:00	0.0	W
30-Oct-2023	17:00	0.0	WNW
30-Oct-2023	18:00	0.0	WNW
30-Oct-2023	19:00	0.4	W
30-Oct-2023	20:00	0.4	W
30-Oct-2023	21:00	0.4	W
30-Oct-2023	22:00	0.4	W
30-Oct-2023	23:00	0.4	W
31-Oct-2023	0:00	0.0	SSW
31-Oct-2023	1:00	0.4	W
31-Oct-2023	2:00	0.4	SSW
31-Oct-2023	3:00	0.4	SSW
31-Oct-2023	4:00	0.0	W
31-Oct-2023	5:00	0.0	SW
31-Oct-2023	6:00	0.0	W
31-Oct-2023	7:00	0.9	W
31-Oct-2023	8:00	0.4	W
31-Oct-2023	9:00	0.4	WNW
31-Oct-2023	10:00	0.4	W
31-Oct-2023	11:00	0.0	W
31-Oct-2023	12:00	0.0	W
31-Oct-2023	13:00	0.0	W
31-Oct-2023	14:00	0.0	W
31-Oct-2023	15:00	0.0	WNW
31-Oct-2023	16:00	0.4	WNW
31-Oct-2023	17:00	0.4	WNW
31-Oct-2023	18:00	0.9	W
31-Oct-2023	19:00	0.4	W
31-Oct-2023	20:00	0.4	W
31-Oct-2023	21:00	0.9	W
31-Oct-2023	22:00	0.4	W
31-Oct-2023	23:00	0.4	W
31-Oct-2023	0:00	0.4	W
31-Oct-2023	1:00	0.4	W
31-Oct-2023	2:00	0.4	W
31-Oct-2023	3:00	0.4	W
31-Oct-2023	4:00	0.4	W
31-Oct-2023	5:00	0.0	W
31-Oct-2023	6:00	0.0	---
31-Oct-2023	7:00	0.0	WSW
31-Oct-2023	8:00	0.0	W
31-Oct-2023	9:00	0.4	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
31-Oct-2023	10:00	0.4	W
31-Oct-2023	11:00	1.3	W
31-Oct-2023	12:00	1.3	W
31-Oct-2023	13:00	0.4	W
31-Oct-2023	14:00	0.9	W
31-Oct-2023	15:00	0.0	W
31-Oct-2023	16:00	0.0	WNW
31-Oct-2023	17:00	0.0	WNW
31-Oct-2023	18:00	0.0	W
31-Oct-2023	19:00	0.0	W
31-Oct-2023	20:00	0.4	W
31-Oct-2023	21:00	0.0	SSW
31-Oct-2023	22:00	0.0	SW
31-Oct-2023	23:00	0.0	W

Remark: No wind data were collected in the period between 23/10/23 (07:00) and 26/10/23(12:00) due to the power failure.

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Nov-2023	0:00	0.0	WSW
1-Nov-2023	1:00	0.0	WSW
1-Nov-2023	2:00	0.0	WSW
1-Nov-2023	3:00	0.0	WSW
1-Nov-2023	4:00	0.0	W
1-Nov-2023	5:00	0.0	W
1-Nov-2023	6:00	0.0	W
1-Nov-2023	7:00	0.4	NW
1-Nov-2023	8:00	0.0	WSW
1-Nov-2023	9:00	0.4	W
1-Nov-2023	10:00	0.4	WSW
1-Nov-2023	11:00	0.4	WNW
1-Nov-2023	12:00	0.0	NW
1-Nov-2023	13:00	0.0	NW
1-Nov-2023	14:00	0.4	NW
1-Nov-2023	15:00	0.4	WSW
1-Nov-2023	16:00	0.0	NW
1-Nov-2023	17:00	0.4	W
1-Nov-2023	18:00	0.0	WSW
1-Nov-2023	19:00	0.0	WNW
1-Nov-2023	20:00	0.0	W
1-Nov-2023	21:00	0.4	W
1-Nov-2023	22:00	0.9	W
1-Nov-2023	23:00	0.4	WNW
2-Nov-2023	0:00	0.0	W
2-Nov-2023	1:00	0.9	W
2-Nov-2023	2:00	0.4	W
2-Nov-2023	3:00	0.9	W
2-Nov-2023	4:00	0.9	W
2-Nov-2023	5:00	0.9	W
2-Nov-2023	6:00	0.9	W
2-Nov-2023	7:00	0.4	WSW
2-Nov-2023	8:00	0.9	W
2-Nov-2023	9:00	0.0	W
2-Nov-2023	10:00	0.4	W
2-Nov-2023	11:00	0.4	W
2-Nov-2023	12:00	0.9	W
2-Nov-2023	13:00	1.3	W
2-Nov-2023	14:00	0.9	WSW
2-Nov-2023	15:00	1.8	W
2-Nov-2023	16:00	0.4	WSW
2-Nov-2023	17:00	0.0	W
2-Nov-2023	18:00	0.0	W
2-Nov-2023	19:00	0.0	WNW
2-Nov-2023	20:00	0.0	WSW
2-Nov-2023	21:00	0.0	---
2-Nov-2023	22:00	0.0	---
2-Nov-2023	23:00	0.0	---
3-Nov-2023	0:00	0.0	W
3-Nov-2023	1:00	0.0	---
3-Nov-2023	2:00	0.0	W
3-Nov-2023	3:00	0.0	W
3-Nov-2023	4:00	0.0	---
3-Nov-2023	5:00	0.0	---

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Nov-2023	6:00	0.0	N
3-Nov-2023	7:00	0.0	NW
3-Nov-2023	8:00	0.0	NW
3-Nov-2023	9:00	0.4	WSW
3-Nov-2023	10:00	0.4	WSW
3-Nov-2023	11:00	0.9	WSW
3-Nov-2023	12:00	0.9	W
3-Nov-2023	13:00	0.9	W
3-Nov-2023	14:00	0.9	W
3-Nov-2023	15:00	0.9	W
3-Nov-2023	16:00	0.4	W
3-Nov-2023	17:00	0.4	W
3-Nov-2023	18:00	0.0	W
3-Nov-2023	19:00	0.0	WNW
3-Nov-2023	20:00	0.0	WNW
3-Nov-2023	21:00	0.0	---
3-Nov-2023	22:00	0.0	W
3-Nov-2023	23:00	0.0	WSW
4-Nov-2023	0:00	0.0	W
4-Nov-2023	1:00	0.0	W
4-Nov-2023	2:00	0.0	W
4-Nov-2023	3:00	0.4	W
4-Nov-2023	4:00	0.0	W
4-Nov-2023	5:00	0.0	---
4-Nov-2023	6:00	0.0	---
4-Nov-2023	7:00	0.0	W
4-Nov-2023	8:00	0.0	W
4-Nov-2023	9:00	0.0	WSW
4-Nov-2023	10:00	0.0	WSW
4-Nov-2023	11:00	0.0	W
4-Nov-2023	12:00	0.0	W
4-Nov-2023	13:00	0.0	W
4-Nov-2023	14:00	0.0	N
4-Nov-2023	15:00	0.4	W
4-Nov-2023	16:00	0.9	W
4-Nov-2023	17:00	0.9	W
4-Nov-2023	18:00	0.0	WNW
4-Nov-2023	19:00	0.0	W
4-Nov-2023	20:00	0.0	W
4-Nov-2023	21:00	0.0	W
4-Nov-2023	22:00	0.0	---
4-Nov-2023	23:00	0.0	---
5-Nov-2023	0:00	0.0	W
5-Nov-2023	1:00	0.0	WNW
5-Nov-2023	2:00	0.0	---
5-Nov-2023	3:00	0.0	---
5-Nov-2023	4:00	0.0	WNW
5-Nov-2023	5:00	0.0	---
5-Nov-2023	6:00	0.0	W
5-Nov-2023	7:00	0.0	W
5-Nov-2023	8:00	0.0	WSW
5-Nov-2023	9:00	0.4	W
5-Nov-2023	10:00	0.4	W
5-Nov-2023	11:00	0.0	W
5-Nov-2023	12:00	0.4	W
5-Nov-2023	13:00	0.4	WNW
5-Nov-2023	14:00	0.0	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Nov-2023	15:00	0.4	W
5-Nov-2023	16:00	0.4	W
5-Nov-2023	17:00	0.4	W
5-Nov-2023	18:00	0.4	W
5-Nov-2023	19:00	0.0	WNW
5-Nov-2023	20:00	0.0	NW
5-Nov-2023	21:00	0.0	NW
5-Nov-2023	22:00	0.0	WNW
5-Nov-2023	23:00	0.0	W
6-Nov-2023	0:00	0.0	WNW
6-Nov-2023	1:00	0.0	---
6-Nov-2023	2:00	0.0	WNW
6-Nov-2023	3:00	0.0	NW
6-Nov-2023	4:00	0.0	NW
6-Nov-2023	5:00	0.0	---
6-Nov-2023	6:00	0.0	---
6-Nov-2023	7:00	0.0	---
6-Nov-2023	8:00	0.0	WNW
6-Nov-2023	9:00	0.0	WNW
6-Nov-2023	10:00	0.0	W
6-Nov-2023	11:00	0.4	W
6-Nov-2023	12:00	0.9	W
6-Nov-2023	13:00	1.3	W
6-Nov-2023	14:00	0.9	WSW
6-Nov-2023	15:00	0.0	---
6-Nov-2023	16:00	0.0	---
6-Nov-2023	17:00	0.0	---
6-Nov-2023	18:00	0.0	---
6-Nov-2023	19:00	0.0	---
6-Nov-2023	20:00	0.4	W
6-Nov-2023	21:00	0.9	W
6-Nov-2023	22:00	0.0	W
6-Nov-2023	23:00	0.0	W
7-Nov-2023	0:00	0.0	W
7-Nov-2023	1:00	0.0	W
7-Nov-2023	2:00	0.0	W
7-Nov-2023	3:00	0.4	W
7-Nov-2023	4:00	0.4	W
7-Nov-2023	5:00	0.4	WNW
7-Nov-2023	6:00	0.0	W
7-Nov-2023	7:00	0.0	W
7-Nov-2023	8:00	0.0	W
7-Nov-2023	9:00	0.4	WNW
7-Nov-2023	10:00	0.0	W
7-Nov-2023	11:00	0.9	WSW
7-Nov-2023	12:00	0.4	W
7-Nov-2023	13:00	0.0	W
7-Nov-2023	14:00	0.0	W
7-Nov-2023	15:00	0.9	W
7-Nov-2023	16:00	0.4	W
7-Nov-2023	17:00	0.9	W
7-Nov-2023	18:00	0.4	W
7-Nov-2023	19:00	0.9	W
7-Nov-2023	20:00	0.9	W
7-Nov-2023	21:00	0.0	WSW
7-Nov-2023	22:00	0.4	WSW
7-Nov-2023	23:00	1.3	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
8-Nov-2023	0:00	0.4	W
8-Nov-2023	1:00	0.9	W
8-Nov-2023	2:00	1.8	W
8-Nov-2023	3:00	0.9	WSW
8-Nov-2023	4:00	1.3	WNW
8-Nov-2023	5:00	0.4	W
8-Nov-2023	6:00	1.3	W
8-Nov-2023	7:00	0.4	WSW
8-Nov-2023	8:00	0.4	W
8-Nov-2023	9:00	1.3	WSW
8-Nov-2023	10:00	2.7	W
8-Nov-2023	11:00	1.3	W
8-Nov-2023	12:00	2.2	W
8-Nov-2023	13:00	0.9	W
8-Nov-2023	14:00	0.4	W
8-Nov-2023	15:00	0.4	WSW
8-Nov-2023	16:00	1.3	WSW
8-Nov-2023	17:00	0.9	W
8-Nov-2023	18:00	0.4	WNW
8-Nov-2023	19:00	0.4	W
8-Nov-2023	20:00	0.0	W
8-Nov-2023	21:00	0.4	WNW
8-Nov-2023	22:00	0.4	W
8-Nov-2023	23:00	0.4	W
9-Nov-2023	0:00	0.0	W
9-Nov-2023	1:00	0.9	W
9-Nov-2023	2:00	0.4	W
9-Nov-2023	3:00	0.9	W
9-Nov-2023	4:00	0.9	WSW
9-Nov-2023	5:00	0.4	W
9-Nov-2023	6:00	1.3	W
9-Nov-2023	7:00	1.3	WSW
9-Nov-2023	8:00	1.8	W
9-Nov-2023	9:00	1.8	W
9-Nov-2023	10:00	1.8	WSW
9-Nov-2023	11:00	0.9	WSW
9-Nov-2023	12:00	0.9	WNW
9-Nov-2023	13:00	0.9	NW
9-Nov-2023	14:00	1.8	WSW
9-Nov-2023	15:00	0.9	W
9-Nov-2023	16:00	1.3	WSW
9-Nov-2023	17:00	0.4	W
9-Nov-2023	18:00	0.9	W
9-Nov-2023	19:00	0.4	WSW
9-Nov-2023	20:00	0.9	W
9-Nov-2023	21:00	0.0	W
9-Nov-2023	22:00	0.0	W
9-Nov-2023	23:00	0.4	W
10-Nov-2023	0:00	0.4	W
10-Nov-2023	1:00	0.9	WSW
10-Nov-2023	2:00	0.0	W
10-Nov-2023	3:00	0.0	---
10-Nov-2023	4:00	0.0	W
10-Nov-2023	5:00	0.4	WSW
10-Nov-2023	6:00	0.0	W
10-Nov-2023	7:00	0.4	W
10-Nov-2023	8:00	0.4	WSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Nov-2023	9:00	0.4	W
10-Nov-2023	10:00	0.9	WSW
10-Nov-2023	11:00	0.4	WSW
10-Nov-2023	12:00	1.3	WSW
10-Nov-2023	13:00	0.9	W
10-Nov-2023	14:00	0.9	WSW
10-Nov-2023	15:00	0.4	NNW
10-Nov-2023	16:00	0.9	WSW
10-Nov-2023	17:00	0.9	W
10-Nov-2023	18:00	0.9	W
10-Nov-2023	19:00	0.0	W
10-Nov-2023	20:00	0.0	W
10-Nov-2023	21:00	0.0	W
10-Nov-2023	22:00	0.0	WNW
10-Nov-2023	23:00	0.9	WNW
11-Nov-2023	0:00	1.3	WSW
11-Nov-2023	1:00	0.4	WNW
11-Nov-2023	2:00	0.9	W
11-Nov-2023	3:00	2.2	W
11-Nov-2023	4:00	0.9	WSW
11-Nov-2023	5:00	1.8	NW
11-Nov-2023	6:00	1.3	N
11-Nov-2023	7:00	1.3	W
11-Nov-2023	8:00	1.8	W
11-Nov-2023	9:00	1.3	W
11-Nov-2023	10:00	0.9	W
11-Nov-2023	11:00	0.9	W
11-Nov-2023	12:00	0.9	WNW
11-Nov-2023	13:00	1.8	W
11-Nov-2023	14:00	1.3	WSW
11-Nov-2023	15:00	0.9	WSW
11-Nov-2023	16:00	1.8	W
11-Nov-2023	17:00	2.2	WSW
11-Nov-2023	18:00	1.8	WSW
11-Nov-2023	19:00	0.9	WSW
11-Nov-2023	20:00	0.9	W
11-Nov-2023	21:00	0.4	W
11-Nov-2023	22:00	0.4	W
11-Nov-2023	23:00	0.0	W
12-Nov-2023	0:00	0.4	W
12-Nov-2023	1:00	0.0	WSW
12-Nov-2023	2:00	0.9	N
12-Nov-2023	3:00	0.0	N
12-Nov-2023	4:00	0.0	W
12-Nov-2023	5:00	0.4	WSW
12-Nov-2023	6:00	0.4	WSW
12-Nov-2023	7:00	0.9	W
12-Nov-2023	8:00	1.3	W
12-Nov-2023	9:00	0.4	W
12-Nov-2023	10:00	1.3	W
12-Nov-2023	11:00	1.3	WNW
12-Nov-2023	12:00	1.3	W
12-Nov-2023	13:00	1.3	W
12-Nov-2023	14:00	1.3	W
12-Nov-2023	15:00	1.3	W
12-Nov-2023	16:00	1.3	W
12-Nov-2023	17:00	1.3	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Nov-2023	18:00	1.3	WSW
12-Nov-2023	19:00	0.4	W
12-Nov-2023	20:00	0.4	WSW
12-Nov-2023	21:00	1.3	WSW
12-Nov-2023	22:00	0.4	WNW
12-Nov-2023	23:00	0.4	WSW
13-Nov-2023	0:00	0.4	WSW
13-Nov-2023	1:00	0.4	W
13-Nov-2023	2:00	1.3	WSW
13-Nov-2023	3:00	0.4	W
13-Nov-2023	4:00	0.0	W
13-Nov-2023	5:00	0.9	WNW
13-Nov-2023	6:00	1.3	WSW
13-Nov-2023	7:00	0.4	WSW
13-Nov-2023	8:00	0.9	SW
13-Nov-2023	9:00	0.4	W
13-Nov-2023	10:00	0.9	W
13-Nov-2023	11:00	0.9	WSW
13-Nov-2023	12:00	0.9	SSE
13-Nov-2023	13:00	0.4	S
13-Nov-2023	14:00	0.4	SSW
13-Nov-2023	15:00	0.0	SSW
13-Nov-2023	16:00	0.4	WSW
13-Nov-2023	17:00	0.4	WSW
13-Nov-2023	18:00	1.3	W
13-Nov-2023	19:00	0.9	WSW
13-Nov-2023	20:00	0.4	WSW
13-Nov-2023	21:00	0.9	N
13-Nov-2023	22:00	0.4	N
13-Nov-2023	23:00	0.4	N
14-Nov-2023	0:00	0.4	N
14-Nov-2023	1:00	0.4	N
14-Nov-2023	2:00	0.9	N
14-Nov-2023	3:00	0.4	N
14-Nov-2023	4:00	0.4	N
14-Nov-2023	5:00	0.4	SW
14-Nov-2023	6:00	0.4	W
14-Nov-2023	7:00	0.4	S
14-Nov-2023	8:00	0.4	N
14-Nov-2023	9:00	0.4	SSW
14-Nov-2023	10:00	0.4	W
14-Nov-2023	11:00	0.4	SW
14-Nov-2023	12:00	0.4	SSW
14-Nov-2023	13:00	0.4	WSW
14-Nov-2023	14:00	0.0	WSW
14-Nov-2023	15:00	0.4	N
14-Nov-2023	16:00	0.9	W
14-Nov-2023	17:00	0.9	N
14-Nov-2023	18:00	0.9	W
14-Nov-2023	19:00	0.4	WSW
14-Nov-2023	20:00	0.4	W
14-Nov-2023	21:00	0.0	WSW
14-Nov-2023	22:00	0.0	W
14-Nov-2023	23:00	0.0	W
15-Nov-2023	0:00	0.0	W
15-Nov-2023	1:00	0.0	W
15-Nov-2023	2:00	0.0	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
15-Nov-2023	3:00	0.4	W
15-Nov-2023	4:00	0.0	W
15-Nov-2023	5:00	0.4	WSW
15-Nov-2023	6:00	0.4	W
15-Nov-2023	7:00	0.4	SW
15-Nov-2023	8:00	0.9	W
15-Nov-2023	9:00	0.4	W
15-Nov-2023	10:00	0.0	W
15-Nov-2023	11:00	0.4	SSW
15-Nov-2023	12:00	1.3	W
15-Nov-2023	13:00	1.8	W
15-Nov-2023	14:00	0.9	WSW
15-Nov-2023	15:00	0.9	W
15-Nov-2023	16:00	1.8	W
15-Nov-2023	17:00	1.3	W
15-Nov-2023	18:00	0.0	W
15-Nov-2023	19:00	0.0	NW
15-Nov-2023	20:00	0.0	NW
15-Nov-2023	21:00	0.0	NW
15-Nov-2023	22:00	0.0	---
15-Nov-2023	23:00	0.0	NW
16-Nov-2023	0:00	0.0	---
16-Nov-2023	1:00	0.0	---
16-Nov-2023	2:00	0.0	---
16-Nov-2023	3:00	0.0	---
16-Nov-2023	4:00	0.0	---
16-Nov-2023	5:00	0.0	---
16-Nov-2023	6:00	0.0	WSW
16-Nov-2023	7:00	0.0	N
16-Nov-2023	8:00	0.0	WSW
16-Nov-2023	9:00	0.0	N
16-Nov-2023	10:00	0.0	N
16-Nov-2023	11:00	0.4	SW
16-Nov-2023	12:00	0.4	W
16-Nov-2023	13:00	0.9	SSE
16-Nov-2023	14:00	0.4	SW
16-Nov-2023	15:00	0.4	WNW
16-Nov-2023	16:00	0.4	N
16-Nov-2023	17:00	0.9	N
16-Nov-2023	18:00	0.4	SW
16-Nov-2023	19:00	0.4	SW
16-Nov-2023	20:00	0.4	N
16-Nov-2023	21:00	0.9	N
16-Nov-2023	22:00	0.4	W
16-Nov-2023	23:00	0.4	W
17-Nov-2023	0:00	0.4	W
17-Nov-2023	1:00	0.4	WSW
17-Nov-2023	2:00	0.4	N
17-Nov-2023	3:00	0.4	W
17-Nov-2023	4:00	0.4	W
17-Nov-2023	5:00	0.4	S
17-Nov-2023	6:00	0.4	SW
17-Nov-2023	7:00	0.0	SW
17-Nov-2023	8:00	0.9	W
17-Nov-2023	9:00	0.9	W
17-Nov-2023	10:00	0.9	W
17-Nov-2023	11:00	1.8	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
17-Nov-2023	12:00	1.3	WSW
17-Nov-2023	13:00	0.9	W
17-Nov-2023	14:00	0.9	S
17-Nov-2023	15:00	0.9	WSW
17-Nov-2023	16:00	0.4	W
17-Nov-2023	17:00	0.4	W
17-Nov-2023	18:00	0.9	WSW
17-Nov-2023	19:00	0.4	W
17-Nov-2023	20:00	0.0	W
17-Nov-2023	21:00	0.0	N
17-Nov-2023	22:00	0.0	N
17-Nov-2023	23:00	0.4	N
18-Nov-2023	0:00	0.4	WSW
18-Nov-2023	1:00	0.4	W
18-Nov-2023	2:00	0.4	N
18-Nov-2023	3:00	0.0	N
18-Nov-2023	4:00	0.0	N
18-Nov-2023	5:00	0.0	N
18-Nov-2023	6:00	0.4	N
18-Nov-2023	7:00	0.4	N
18-Nov-2023	8:00	1.3	N
18-Nov-2023	9:00	0.4	W
18-Nov-2023	10:00	0.9	W
18-Nov-2023	11:00	0.9	W
18-Nov-2023	12:00	0.9	N
18-Nov-2023	13:00	0.4	W
18-Nov-2023	14:00	0.4	W
18-Nov-2023	15:00	0.4	WSW
18-Nov-2023	16:00	0.0	SW
18-Nov-2023	17:00	0.0	W
18-Nov-2023	18:00	0.0	NNW
18-Nov-2023	19:00	0.4	WNW
18-Nov-2023	20:00	0.9	NW
18-Nov-2023	21:00	0.0	W
18-Nov-2023	22:00	0.0	---
18-Nov-2023	23:00	0.0	---
19-Nov-2023	0:00	0.0	---
19-Nov-2023	1:00	0.0	---
19-Nov-2023	2:00	0.0	---
19-Nov-2023	3:00	0.0	---
19-Nov-2023	4:00	0.0	---
19-Nov-2023	5:00	0.0	N
19-Nov-2023	6:00	0.0	N
19-Nov-2023	7:00	0.0	N
19-Nov-2023	8:00	0.9	N
19-Nov-2023	9:00	0.4	W
19-Nov-2023	10:00	0.9	W
19-Nov-2023	11:00	0.4	W
19-Nov-2023	12:00	0.4	W
19-Nov-2023	13:00	0.0	SW
19-Nov-2023	14:00	0.0	SW
19-Nov-2023	15:00	0.0	SW
19-Nov-2023	16:00	0.9	E
19-Nov-2023	17:00	0.9	E
19-Nov-2023	18:00	0.0	N
19-Nov-2023	19:00	0.0	N
19-Nov-2023	20:00	0.0	N

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Nov-2023	21:00	0.4	N
19-Nov-2023	22:00	0.0	N
19-Nov-2023	23:00	0.0	N
20-Nov-2023	0:00	0.0	---
20-Nov-2023	1:00	0.0	---
20-Nov-2023	2:00	0.0	NW
20-Nov-2023	3:00	0.0	---
20-Nov-2023	4:00	0.0	---
20-Nov-2023	5:00	0.0	---
20-Nov-2023	6:00	0.0	NW
20-Nov-2023	7:00	0.0	---
20-Nov-2023	8:00	0.0	---
20-Nov-2023	9:00	0.0	NW
20-Nov-2023	10:00	0.0	WSW
20-Nov-2023	11:00	0.0	SSW
20-Nov-2023	12:00	0.9	WSW
20-Nov-2023	13:00	1.3	W
20-Nov-2023	14:00	0.9	W
20-Nov-2023	15:00	0.4	W
20-Nov-2023	16:00	0.4	WNW
20-Nov-2023	17:00	0.9	WSW
20-Nov-2023	18:00	0.4	W
20-Nov-2023	19:00	0.0	W
20-Nov-2023	20:00	0.0	N
20-Nov-2023	21:00	0.0	---
20-Nov-2023	22:00	0.0	---
20-Nov-2023	23:00	0.0	---
21-Nov-2023	0:00	0.0	---
21-Nov-2023	1:00	0.0	---
21-Nov-2023	2:00	0.0	---
21-Nov-2023	3:00	0.0	W
21-Nov-2023	4:00	0.0	W
21-Nov-2023	5:00	0.4	W
21-Nov-2023	6:00	0.4	W
21-Nov-2023	7:00	0.4	W
21-Nov-2023	8:00	0.0	W
21-Nov-2023	9:00	0.0	W
21-Nov-2023	10:00	0.4	W
21-Nov-2023	11:00	0.4	WSW
21-Nov-2023	12:00	0.4	W
21-Nov-2023	13:00	0.4	W
21-Nov-2023	14:00	0.4	W
21-Nov-2023	15:00	0.4	NNW
21-Nov-2023	16:00	0.9	W
21-Nov-2023	17:00	1.3	W
21-Nov-2023	18:00	0.4	W
21-Nov-2023	19:00	0.0	---
21-Nov-2023	20:00	0.0	WNW
21-Nov-2023	21:00	0.0	---
21-Nov-2023	22:00	0.0	---
21-Nov-2023	23:00	0.0	---
22-Nov-2023	0:00	0.0	---
22-Nov-2023	1:00	0.0	---
22-Nov-2023	2:00	0.0	---
22-Nov-2023	3:00	0.0	---
22-Nov-2023	4:00	0.0	---
22-Nov-2023	5:00	0.0	---

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
22-Nov-2023	6:00	0.0	N
22-Nov-2023	7:00	0.0	---
22-Nov-2023	8:00	0.0	W
22-Nov-2023	9:00	0.4	W
22-Nov-2023	10:00	0.4	WSW
22-Nov-2023	11:00	0.4	WSW
22-Nov-2023	12:00	0.0	W
22-Nov-2023	13:00	0.0	SSW
22-Nov-2023	14:00	0.0	W
22-Nov-2023	15:00	0.0	SW
22-Nov-2023	16:00	0.0	WNW
22-Nov-2023	17:00	0.4	E
22-Nov-2023	18:00	0.0	E
22-Nov-2023	19:00	0.0	E
22-Nov-2023	20:00	0.0	NW
22-Nov-2023	21:00	0.9	NW
22-Nov-2023	22:00	0.0	WNW
22-Nov-2023	23:00	0.0	WNW
23-Nov-2023	0:00	0.0	---
23-Nov-2023	1:00	0.0	---
23-Nov-2023	2:00	0.0	---
23-Nov-2023	3:00	0.0	WNW
23-Nov-2023	4:00	0.0	---
23-Nov-2023	5:00	0.0	---
23-Nov-2023	6:00	0.0	---
23-Nov-2023	7:00	0.0	---
23-Nov-2023	8:00	0.0	---
23-Nov-2023	9:00	0.0	---
23-Nov-2023	10:00	0.0	WSW
23-Nov-2023	11:00	0.0	W
23-Nov-2023	12:00	0.0	SSW
23-Nov-2023	13:00	0.0	SSW
23-Nov-2023	14:00	0.0	W
23-Nov-2023	15:00	0.0	W
23-Nov-2023	16:00	0.0	W
23-Nov-2023	17:00	0.0	E
23-Nov-2023	18:00	0.0	ENE
23-Nov-2023	19:00	0.0	---
23-Nov-2023	20:00	0.0	NW
23-Nov-2023	21:00	0.4	NW
23-Nov-2023	22:00	0.0	NW
23-Nov-2023	23:00	0.0	---
24-Nov-2023	0:00	0.0	WNW
24-Nov-2023	1:00	0.0	---
24-Nov-2023	2:00	0.0	WNW
24-Nov-2023	3:00	0.0	WNW
24-Nov-2023	4:00	0.0	---
24-Nov-2023	5:00	0.0	---
24-Nov-2023	6:00	0.0	---
24-Nov-2023	7:00	0.0	---
24-Nov-2023	8:00	0.0	W
24-Nov-2023	9:00	0.4	WSW
24-Nov-2023	10:00	1.3	W
24-Nov-2023	11:00	3.1	W
24-Nov-2023	12:00	3.1	W
24-Nov-2023	13:00	3.1	WSW
24-Nov-2023	14:00	2.2	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
24-Nov-2023	15:00	1.3	W
24-Nov-2023	16:00	0.9	SW
24-Nov-2023	17:00	0.9	WNW
24-Nov-2023	18:00	0.9	N
24-Nov-2023	19:00	0.9	WNW
24-Nov-2023	20:00	0.9	WNW
24-Nov-2023	21:00	1.3	W
24-Nov-2023	22:00	1.3	SW
24-Nov-2023	23:00	2.2	W
25-Nov-2023	0:00	2.2	W
25-Nov-2023	1:00	0.9	W
25-Nov-2023	2:00	1.8	W
25-Nov-2023	3:00	2.2	WSW
25-Nov-2023	4:00	1.8	W
25-Nov-2023	5:00	1.3	WNW
25-Nov-2023	6:00	0.9	WNW
25-Nov-2023	7:00	0.4	W
25-Nov-2023	8:00	0.9	W
25-Nov-2023	9:00	1.3	W
25-Nov-2023	10:00	0.9	WSW
25-Nov-2023	11:00	1.3	WNW
25-Nov-2023	12:00	0.9	W
25-Nov-2023	13:00	0.4	W
25-Nov-2023	14:00	0.4	W
25-Nov-2023	15:00	0.4	NW
25-Nov-2023	16:00	1.3	W
25-Nov-2023	17:00	1.8	W
25-Nov-2023	18:00	1.8	N
25-Nov-2023	19:00	0.4	N
25-Nov-2023	20:00	1.8	W
25-Nov-2023	21:00	1.8	W
25-Nov-2023	22:00	1.3	W
25-Nov-2023	23:00	2.2	W
26-Nov-2023	0:00	1.3	W
26-Nov-2023	1:00	1.3	W
26-Nov-2023	2:00	0.9	W
26-Nov-2023	3:00	1.3	W
26-Nov-2023	4:00	1.3	W
26-Nov-2023	5:00	0.4	W
26-Nov-2023	6:00	0.0	WNW
26-Nov-2023	7:00	0.0	NW
26-Nov-2023	8:00	0.0	---
26-Nov-2023	9:00	0.0	W
26-Nov-2023	10:00	0.4	WSW
26-Nov-2023	11:00	0.9	W
26-Nov-2023	12:00	0.9	W
26-Nov-2023	13:00	1.3	W
26-Nov-2023	14:00	0.9	W
26-Nov-2023	15:00	0.9	W
26-Nov-2023	16:00	0.4	WNW
26-Nov-2023	17:00	0.0	SW
26-Nov-2023	18:00	0.0	WSW
26-Nov-2023	19:00	0.9	NW
26-Nov-2023	20:00	0.4	NW
26-Nov-2023	21:00	0.4	WNW
26-Nov-2023	22:00	0.0	WNW
26-Nov-2023	23:00	0.0	WNW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
27-Nov-2023	0:00	0.0	---
27-Nov-2023	1:00	0.0	---
27-Nov-2023	2:00	0.0	WNW
27-Nov-2023	3:00	0.0	---
27-Nov-2023	4:00	0.0	---
27-Nov-2023	5:00	0.0	---
27-Nov-2023	6:00	0.0	---
27-Nov-2023	7:00	0.0	---
27-Nov-2023	8:00	0.0	N
27-Nov-2023	9:00	0.4	W
27-Nov-2023	10:00	0.9	W
27-Nov-2023	11:00	0.9	W
27-Nov-2023	12:00	0.9	WSW
27-Nov-2023	13:00	0.4	SSE
27-Nov-2023	14:00	0.4	W
27-Nov-2023	15:00	1.3	W
27-Nov-2023	16:00	1.8	W
27-Nov-2023	17:00	0.4	WNW
27-Nov-2023	18:00	0.0	W
27-Nov-2023	19:00	0.0	---
27-Nov-2023	20:00	0.0	---
27-Nov-2023	21:00	0.0	---
27-Nov-2023	22:00	0.0	---
27-Nov-2023	23:00	0.0	---
28-Nov-2023	0:00	0.0	---
28-Nov-2023	1:00	0.0	NW
28-Nov-2023	2:00	0.0	WNW
28-Nov-2023	3:00	0.4	W
28-Nov-2023	4:00	0.4	W
28-Nov-2023	5:00	0.4	NW
28-Nov-2023	6:00	0.9	W
28-Nov-2023	7:00	0.9	W
28-Nov-2023	8:00	0.4	WSW
28-Nov-2023	9:00	0.0	W
28-Nov-2023	10:00	0.0	W
28-Nov-2023	11:00	0.4	W
28-Nov-2023	12:00	0.9	W
28-Nov-2023	13:00	1.3	WSW
28-Nov-2023	14:00	0.9	WSW
28-Nov-2023	15:00	1.3	W
28-Nov-2023	16:00	1.3	WNW
28-Nov-2023	17:00	1.3	W
28-Nov-2023	18:00	0.9	W
28-Nov-2023	19:00	0.4	W
28-Nov-2023	20:00	0.0	W
28-Nov-2023	21:00	0.0	W
28-Nov-2023	22:00	0.9	WSW
28-Nov-2023	23:00	0.9	W
29-Nov-2023	0:00	0.4	W
29-Nov-2023	1:00	0.0	WNW
29-Nov-2023	2:00	0.4	W
29-Nov-2023	3:00	0.9	WSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
29-Nov-2023	4:00	1.8	WSW
29-Nov-2023	5:00	1.3	W
29-Nov-2023	6:00	1.8	W
29-Nov-2023	7:00	0.9	WSW
29-Nov-2023	8:00	0.4	W
29-Nov-2023	9:00	0.9	W
29-Nov-2023	10:00	1.8	WSW
29-Nov-2023	11:00	0.9	WSW
29-Nov-2023	12:00	0.9	WSW
29-Nov-2023	13:00	1.3	W
29-Nov-2023	14:00	0.9	WNW
29-Nov-2023	15:00	1.3	WSW
29-Nov-2023	16:00	0.9	W
29-Nov-2023	17:00	1.3	W
29-Nov-2023	18:00	1.3	WSW
29-Nov-2023	19:00	0.0	W
29-Nov-2023	20:00	0.4	W
29-Nov-2023	21:00	0.9	W
29-Nov-2023	22:00	0.4	W
29-Nov-2023	23:00	0.0	W
30-Nov-2023	0:00	0.0	---
30-Nov-2023	1:00	0.0	---
30-Nov-2023	2:00	0.0	---
30-Nov-2023	3:00	0.0	---
30-Nov-2023	4:00	0.0	---
30-Nov-2023	5:00	0.0	---
30-Nov-2023	6:00	0.0	---
30-Nov-2023	7:00	0.0	---
30-Nov-2023	8:00	0.0	NNW
30-Nov-2023	9:00	0.4	W
30-Nov-2023	10:00	0.4	W
30-Nov-2023	11:00	0.4	W
30-Nov-2023	12:00	0.4	W
30-Nov-2023	13:00	0.4	W
30-Nov-2023	14:00	0.9	W
30-Nov-2023	15:00	1.8	W
30-Nov-2023	16:00	0.9	W
30-Nov-2023	17:00	0.4	W
30-Nov-2023	18:00	0.4	WNW
30-Nov-2023	19:00	1.3	W
30-Nov-2023	20:00	1.3	W
30-Nov-2023	21:00	0.9	W
30-Nov-2023	22:00	0.9	W
30-Nov-2023	23:00	1.3	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Dec-2023	0:00	0.4	W
1-Dec-2023	1:00	0.0	W
1-Dec-2023	2:00	0.4	W
1-Dec-2023	3:00	0.4	W
1-Dec-2023	4:00	1.3	W
1-Dec-2023	5:00	0.9	W
1-Dec-2023	6:00	0.4	W
1-Dec-2023	7:00	0.9	W
1-Dec-2023	8:00	0.9	W
1-Dec-2023	9:00	0.9	W
1-Dec-2023	10:00	0.9	W
1-Dec-2023	11:00	1.3	W
1-Dec-2023	12:00	1.3	W
1-Dec-2023	13:00	0.4	SSW
1-Dec-2023	14:00	0.4	SSW
1-Dec-2023	15:00	0.9	W
1-Dec-2023	16:00	0.4	SSW
1-Dec-2023	17:00	0.4	W
1-Dec-2023	18:00	0.4	W
1-Dec-2023	19:00	0.4	SSW
1-Dec-2023	20:00	0.9	W
1-Dec-2023	21:00	0.4	W
1-Dec-2023	22:00	0.9	W
1-Dec-2023	23:00	0.0	W
2-Dec-2023	0:00	0.4	W
2-Dec-2023	1:00	0.4	W
2-Dec-2023	2:00	0.9	W
2-Dec-2023	3:00	0.9	W
2-Dec-2023	4:00	0.9	W
2-Dec-2023	5:00	0.4	SW
2-Dec-2023	6:00	0.4	W
2-Dec-2023	7:00	0.0	W
2-Dec-2023	8:00	0.4	N
2-Dec-2023	9:00	0.9	N
2-Dec-2023	10:00	0.4	N
2-Dec-2023	11:00	0.0	N
2-Dec-2023	12:00	0.0	SW
2-Dec-2023	13:00	0.0	SSW
2-Dec-2023	14:00	0.0	SW
2-Dec-2023	15:00	0.0	W
2-Dec-2023	16:00	0.4	E
2-Dec-2023	17:00	0.0	E
2-Dec-2023	18:00	0.0	ENE
2-Dec-2023	19:00	0.0	---
2-Dec-2023	20:00	0.0	NW
2-Dec-2023	21:00	0.0	WSW
2-Dec-2023	22:00	0.4	W
2-Dec-2023	23:00	0.0	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Dec-2023	0:00	0.0	W
3-Dec-2023	1:00	0.4	W
3-Dec-2023	2:00	0.0	W
3-Dec-2023	3:00	0.0	W
3-Dec-2023	4:00	0.4	W
3-Dec-2023	5:00	0.0	W
3-Dec-2023	6:00	0.0	W
3-Dec-2023	7:00	0.0	W
3-Dec-2023	8:00	0.4	W
3-Dec-2023	9:00	0.4	W
3-Dec-2023	10:00	0.0	W
3-Dec-2023	11:00	0.0	W
3-Dec-2023	12:00	0.4	SSW
3-Dec-2023	13:00	0.4	SSW
3-Dec-2023	14:00	0.0	SSW
3-Dec-2023	15:00	0.0	SSW
3-Dec-2023	16:00	0.0	W
3-Dec-2023	17:00	0.0	W
3-Dec-2023	18:00	0.9	W
3-Dec-2023	19:00	1.3	W
3-Dec-2023	20:00	1.8	W
3-Dec-2023	21:00	0.9	W
3-Dec-2023	22:00	0.4	W
3-Dec-2023	23:00	0.0	W
4-Dec-2023	0:00	0.0	WNW
4-Dec-2023	1:00	0.4	WNW
4-Dec-2023	2:00	0.0	WNW
4-Dec-2023	3:00	0.0	---
4-Dec-2023	4:00	0.0	---
4-Dec-2023	5:00	0.0	W
4-Dec-2023	6:00	0.4	W
4-Dec-2023	7:00	0.0	W
4-Dec-2023	8:00	0.0	W
4-Dec-2023	9:00	0.0	W
4-Dec-2023	10:00	0.0	W
4-Dec-2023	11:00	0.0	W
4-Dec-2023	12:00	0.0	WSW
4-Dec-2023	13:00	0.0	SW
4-Dec-2023	14:00	0.9	ENE
4-Dec-2023	15:00	0.9	E
4-Dec-2023	16:00	0.9	E
4-Dec-2023	17:00	0.4	ENE
4-Dec-2023	18:00	0.0	ENE
4-Dec-2023	19:00	0.0	ENE
4-Dec-2023	20:00	0.0	---
4-Dec-2023	21:00	0.0	SSW
4-Dec-2023	22:00	0.0	SSW
4-Dec-2023	23:00	0.0	SW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Dec-2023	0:00	0.0	SW
5-Dec-2023	1:00	0.0	SSW
5-Dec-2023	2:00	0.0	SSW
5-Dec-2023	3:00	0.0	---
5-Dec-2023	4:00	0.0	---
5-Dec-2023	5:00	0.0	SSW
5-Dec-2023	6:00	0.0	WSW
5-Dec-2023	7:00	0.4	W
5-Dec-2023	8:00	0.4	W
5-Dec-2023	9:00	0.4	W
5-Dec-2023	10:00	0.0	W
5-Dec-2023	11:00	0.0	SSW
5-Dec-2023	12:00	0.0	SW
5-Dec-2023	13:00	0.0	E
5-Dec-2023	14:00	0.0	W
5-Dec-2023	15:00	0.0	E
5-Dec-2023	16:00	0.9	E
5-Dec-2023	17:00	0.4	E
5-Dec-2023	18:00	0.0	ENE
5-Dec-2023	19:00	0.0	ENE
5-Dec-2023	20:00	0.0	NW
5-Dec-2023	21:00	0.0	---
5-Dec-2023	22:00	0.0	NNW
5-Dec-2023	23:00	0.0	---
6-Dec-2023	0:00	0.0	NNW
6-Dec-2023	1:00	0.0	---
6-Dec-2023	2:00	0.0	---
6-Dec-2023	3:00	0.0	---
6-Dec-2023	4:00	0.0	---
6-Dec-2023	5:00	0.0	NNW
6-Dec-2023	6:00	0.0	---
6-Dec-2023	7:00	0.0	SSW
6-Dec-2023	8:00	0.0	SSW
6-Dec-2023	9:00	0.0	WSW
6-Dec-2023	10:00	0.0	WSW
6-Dec-2023	11:00	0.0	SSW
6-Dec-2023	12:00	0.0	SSW
6-Dec-2023	13:00	0.0	SW
6-Dec-2023	14:00	0.4	W
6-Dec-2023	15:00	0.4	SSW
6-Dec-2023	16:00	0.4	SSW
6-Dec-2023	17:00	0.0	SSW
6-Dec-2023	18:00	0.0	W
6-Dec-2023	19:00	0.0	W
6-Dec-2023	20:00	0.9	W
6-Dec-2023	21:00	0.4	W
6-Dec-2023	22:00	0.4	W
6-Dec-2023	23:00	0.4	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
7-Dec-2023	0:00	0.4	N
7-Dec-2023	1:00	0.0	N
7-Dec-2023	2:00	0.0	W
7-Dec-2023	3:00	0.0	WNW
7-Dec-2023	4:00	0.0	WNW
7-Dec-2023	5:00	0.4	W
7-Dec-2023	6:00	0.4	N
7-Dec-2023	7:00	0.0	N
7-Dec-2023	8:00	0.0	WSW
7-Dec-2023	9:00	0.0	SSW
7-Dec-2023	10:00	0.4	W
7-Dec-2023	11:00	0.9	SSW
7-Dec-2023	12:00	0.4	W
7-Dec-2023	13:00	0.0	W
7-Dec-2023	14:00	0.0	SSW
7-Dec-2023	15:00	1.3	W
7-Dec-2023	16:00	0.0	W
7-Dec-2023	17:00	0.0	NNW
7-Dec-2023	18:00	0.4	NW
7-Dec-2023	19:00	0.0	NW
7-Dec-2023	20:00	0.0	NW
7-Dec-2023	21:00	0.4	WNW
7-Dec-2023	22:00	0.0	NW
7-Dec-2023	23:00	0.0	W
8-Dec-2023	0:00	0.0	W
8-Dec-2023	1:00	0.0	---
8-Dec-2023	2:00	0.0	---
8-Dec-2023	3:00	0.0	---
8-Dec-2023	4:00	0.0	WNW
8-Dec-2023	5:00	0.0	WNW
8-Dec-2023	6:00	0.0	---
8-Dec-2023	7:00	0.0	---
8-Dec-2023	8:00	0.0	WNW
8-Dec-2023	9:00	0.0	WNW
8-Dec-2023	10:00	0.4	W
8-Dec-2023	11:00	0.4	W
8-Dec-2023	12:00	0.4	W
8-Dec-2023	13:00	0.9	W
8-Dec-2023	14:00	1.3	W
8-Dec-2023	15:00	0.9	W
8-Dec-2023	16:00	1.3	W
8-Dec-2023	17:00	0.4	W
8-Dec-2023	18:00	0.4	W
8-Dec-2023	19:00	0.0	W
8-Dec-2023	20:00	0.0	W
8-Dec-2023	21:00	0.4	W
8-Dec-2023	22:00	0.0	W
8-Dec-2023	23:00	0.0	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
9-Dec-2023	0:00	0.0	---
9-Dec-2023	1:00	0.0	W
9-Dec-2023	2:00	0.0	W
9-Dec-2023	3:00	0.4	W
9-Dec-2023	4:00	0.4	WNW
9-Dec-2023	5:00	0.4	WNW
9-Dec-2023	6:00	0.0	W
9-Dec-2023	7:00	0.0	W
9-Dec-2023	8:00	0.4	W
9-Dec-2023	9:00	0.0	W
9-Dec-2023	10:00	0.9	W
9-Dec-2023	11:00	1.8	W
9-Dec-2023	12:00	1.3	W
9-Dec-2023	13:00	0.9	WNW
9-Dec-2023	14:00	1.8	W
9-Dec-2023	15:00	0.9	W
9-Dec-2023	16:00	0.4	N
9-Dec-2023	17:00	0.4	WNW
9-Dec-2023	18:00	0.9	W
9-Dec-2023	19:00	0.4	W
9-Dec-2023	20:00	0.0	W
9-Dec-2023	21:00	0.0	W
9-Dec-2023	22:00	0.4	W
9-Dec-2023	23:00	0.9	W
10-Dec-2023	0:00	0.4	W
10-Dec-2023	1:00	0.4	W
10-Dec-2023	2:00	0.0	WSW
10-Dec-2023	3:00	0.0	WSW
10-Dec-2023	4:00	0.9	W
10-Dec-2023	5:00	0.0	W
10-Dec-2023	6:00	0.0	W
10-Dec-2023	7:00	0.4	W
10-Dec-2023	8:00	0.0	WNW
10-Dec-2023	9:00	0.4	W
10-Dec-2023	10:00	0.0	W
10-Dec-2023	11:00	0.9	W
10-Dec-2023	12:00	0.4	W
10-Dec-2023	13:00	0.9	W
10-Dec-2023	14:00	1.8	W
10-Dec-2023	15:00	2.2	W
10-Dec-2023	16:00	1.3	W
10-Dec-2023	17:00	0.4	W
10-Dec-2023	18:00	0.4	W
10-Dec-2023	19:00	0.0	WNW
10-Dec-2023	20:00	0.0	WNW
10-Dec-2023	21:00	0.4	W
10-Dec-2023	22:00	1.3	W
10-Dec-2023	23:00	0.9	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
11-Dec-2023	0:00	0.4	W
11-Dec-2023	1:00	0.4	W
11-Dec-2023	2:00	0.0	NW
11-Dec-2023	3:00	0.4	W
11-Dec-2023	4:00	0.4	W
11-Dec-2023	5:00	0.0	W
11-Dec-2023	6:00	0.0	W
11-Dec-2023	7:00	0.0	W
11-Dec-2023	8:00	0.4	W
11-Dec-2023	9:00	0.4	W
11-Dec-2023	10:00	0.0	W
11-Dec-2023	11:00	0.0	W
11-Dec-2023	12:00	0.0	WNW
11-Dec-2023	13:00	0.0	SW
11-Dec-2023	14:00	0.0	E
11-Dec-2023	15:00	0.0	E
11-Dec-2023	16:00	0.0	E
11-Dec-2023	17:00	0.0	E
11-Dec-2023	18:00	0.0	---
11-Dec-2023	19:00	0.0	---
11-Dec-2023	20:00	0.0	---
11-Dec-2023	21:00	0.0	---
11-Dec-2023	22:00	0.0	---
11-Dec-2023	23:00	0.0	---
12-Dec-2023	0:00	0.0	---
12-Dec-2023	1:00	0.0	---
12-Dec-2023	2:00	0.0	---
12-Dec-2023	3:00	0.0	---
12-Dec-2023	4:00	0.0	---
12-Dec-2023	5:00	0.0	---
12-Dec-2023	6:00	0.0	---
12-Dec-2023	7:00	0.0	---
12-Dec-2023	8:00	0.0	---
12-Dec-2023	9:00	0.0	SSW
12-Dec-2023	10:00	0.4	W
12-Dec-2023	11:00	0.4	W
12-Dec-2023	12:00	0.4	N
12-Dec-2023	13:00	0.4	N
12-Dec-2023	14:00	0.4	N
12-Dec-2023	15:00	0.4	N
12-Dec-2023	16:00	0.4	N
12-Dec-2023	17:00	0.4	N
12-Dec-2023	18:00	0.4	N
12-Dec-2023	19:00	1.8	N
12-Dec-2023	20:00	0.4	N
12-Dec-2023	21:00	0.0	N
12-Dec-2023	22:00	0.4	N
12-Dec-2023	23:00	0.4	N

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
13-Dec-2023	0:00	0.4	N
13-Dec-2023	1:00	0.9	N
13-Dec-2023	2:00	1.8	N
13-Dec-2023	3:00	0.9	N
13-Dec-2023	4:00	0.0	N
13-Dec-2023	5:00	0.9	N
13-Dec-2023	6:00	0.9	N
13-Dec-2023	7:00	0.4	N
13-Dec-2023	8:00	0.4	N
13-Dec-2023	9:00	0.9	N
13-Dec-2023	10:00	0.9	N
13-Dec-2023	11:00	0.9	N
13-Dec-2023	12:00	0.9	N
13-Dec-2023	13:00	0.9	N
13-Dec-2023	14:00	1.3	N
13-Dec-2023	15:00	1.3	N
13-Dec-2023	16:00	0.9	N
13-Dec-2023	17:00	0.4	N
13-Dec-2023	18:00	0.4	N
13-Dec-2023	19:00	0.0	N
13-Dec-2023	20:00	0.0	N
13-Dec-2023	21:00	0.0	N
13-Dec-2023	22:00	0.0	---
13-Dec-2023	23:00	0.0	N
14-Dec-2023	0:00	0.0	N
14-Dec-2023	1:00	0.0	N
14-Dec-2023	2:00	0.4	N
14-Dec-2023	3:00	0.4	N
14-Dec-2023	4:00	1.3	N
14-Dec-2023	5:00	1.3	N
14-Dec-2023	6:00	2.2	N
14-Dec-2023	7:00	0.9	N
14-Dec-2023	8:00	1.3	N
14-Dec-2023	9:00	2.2	N
14-Dec-2023	10:00	0.4	N
14-Dec-2023	11:00	0.4	N
14-Dec-2023	12:00	0.0	N
14-Dec-2023	13:00	0.0	N
14-Dec-2023	14:00	0.9	N
14-Dec-2023	15:00	0.4	N
14-Dec-2023	16:00	0.4	N
14-Dec-2023	17:00	0.0	N
14-Dec-2023	18:00	0.0	N
14-Dec-2023	19:00	0.4	N
14-Dec-2023	20:00	0.0	---
14-Dec-2023	21:00	0.0	---
14-Dec-2023	22:00	0.0	---
14-Dec-2023	23:00	0.0	N

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
15-Dec-2023	0:00	0.0	N
15-Dec-2023	1:00	0.4	N
15-Dec-2023	2:00	0.0	N
15-Dec-2023	3:00	0.4	N
15-Dec-2023	4:00	0.0	---
15-Dec-2023	5:00	0.0	N
15-Dec-2023	6:00	0.0	N
15-Dec-2023	7:00	0.0	N
15-Dec-2023	8:00	0.4	N
15-Dec-2023	9:00	0.9	N
15-Dec-2023	10:00	0.9	N
15-Dec-2023	11:00	0.4	N
15-Dec-2023	12:00	0.4	N
15-Dec-2023	13:00	0.4	N
15-Dec-2023	14:00	0.4	N
15-Dec-2023	15:00	0.9	N
15-Dec-2023	16:00	0.9	N
15-Dec-2023	17:00	0.9	N
15-Dec-2023	18:00	0.4	N
15-Dec-2023	19:00	0.4	N
15-Dec-2023	20:00	0.4	N
15-Dec-2023	21:00	0.0	N
15-Dec-2023	22:00	0.0	N
15-Dec-2023	23:00	0.0	N
16-Dec-2023	0:00	0.0	N
16-Dec-2023	1:00	0.0	N
16-Dec-2023	2:00	0.0	N
16-Dec-2023	3:00	0.0	---
16-Dec-2023	4:00	0.0	N
16-Dec-2023	5:00	0.0	N
16-Dec-2023	6:00	0.0	---
16-Dec-2023	7:00	0.9	N
16-Dec-2023	8:00	0.9	N
16-Dec-2023	9:00	1.3	N
16-Dec-2023	10:00	0.9	N
16-Dec-2023	11:00	0.9	N
16-Dec-2023	12:00	0.4	WSW
16-Dec-2023	13:00	0.4	W
16-Dec-2023	14:00	0.4	N
16-Dec-2023	15:00	0.9	W
16-Dec-2023	16:00	1.8	W
16-Dec-2023	17:00	1.8	W
16-Dec-2023	18:00	0.9	SW
16-Dec-2023	19:00	0.9	W
16-Dec-2023	20:00	1.3	N
16-Dec-2023	21:00	1.3	N
16-Dec-2023	22:00	1.8	W
16-Dec-2023	23:00	1.8	W

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
17-Dec-2023	0:00	1.3	WSW
17-Dec-2023	1:00	1.8	N
17-Dec-2023	2:00	1.3	N
17-Dec-2023	3:00	1.3	SSW
17-Dec-2023	4:00	1.3	W
17-Dec-2023	5:00	1.8	SSW
17-Dec-2023	6:00	1.3	W
17-Dec-2023	7:00	1.3	W
17-Dec-2023	8:00	1.3	W
17-Dec-2023	9:00	1.3	W
17-Dec-2023	10:00	1.8	N
17-Dec-2023	11:00	0.9	WSW
17-Dec-2023	12:00	0.9	SSW
17-Dec-2023	13:00	0.9	N
17-Dec-2023	14:00	0.9	SSW
17-Dec-2023	15:00	0.4	W
17-Dec-2023	16:00	0.4	SSW
17-Dec-2023	17:00	0.4	WSW
17-Dec-2023	18:00	0.4	W
17-Dec-2023	19:00	0.9	W
17-Dec-2023	20:00	0.9	W
17-Dec-2023	21:00	0.4	W
17-Dec-2023	22:00	0.9	W
17-Dec-2023	23:00	0.4	W
18-Dec-2023	0:00	0.4	W
18-Dec-2023	1:00	0.0	SW
18-Dec-2023	2:00	0.4	SSW
18-Dec-2023	3:00	0.4	WSW
18-Dec-2023	4:00	0.4	W
18-Dec-2023	5:00	0.9	W
18-Dec-2023	6:00	0.4	W
18-Dec-2023	7:00	0.0	W
18-Dec-2023	8:00	0.0	WSW
18-Dec-2023	9:00	0.4	W
18-Dec-2023	10:00	0.0	SSW
18-Dec-2023	11:00	0.0	W
18-Dec-2023	12:00	0.0	SW
18-Dec-2023	13:00	0.0	W
18-Dec-2023	14:00	0.0	W
18-Dec-2023	15:00	0.0	SSW
18-Dec-2023	16:00	0.0	SSW
18-Dec-2023	17:00	0.0	W
18-Dec-2023	18:00	0.0	W
18-Dec-2023	19:00	0.0	W
18-Dec-2023	20:00	0.0	W
18-Dec-2023	21:00	0.0	SW
18-Dec-2023	22:00	0.0	SSW
18-Dec-2023	23:00	0.0	SSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Dec-2023	0:00	0.0	SW
19-Dec-2023	1:00	0.0	W
19-Dec-2023	2:00	0.0	SW
19-Dec-2023	3:00	0.0	W
19-Dec-2023	4:00	0.0	WSW
19-Dec-2023	5:00	0.0	---
19-Dec-2023	6:00	0.0	SW
19-Dec-2023	7:00	0.4	SSW
19-Dec-2023	8:00	0.4	SSW
19-Dec-2023	9:00	0.4	SSW
19-Dec-2023	10:00	0.4	SSW
19-Dec-2023	11:00	0.4	SSW
19-Dec-2023	12:00	0.0	SSW
19-Dec-2023	13:00	0.0	SSW
19-Dec-2023	14:00	0.0	SW
19-Dec-2023	15:00	0.0	SW
19-Dec-2023	16:00	0.0	SSW
19-Dec-2023	17:00	0.0	SSW
19-Dec-2023	18:00	0.0	SSW
19-Dec-2023	19:00	0.0	SW
19-Dec-2023	20:00	0.4	SSW
19-Dec-2023	21:00	0.4	SSW
19-Dec-2023	22:00	0.4	W
19-Dec-2023	23:00	0.4	W
20-Dec-2023	0:00	0.4	W
20-Dec-2023	1:00	0.4	SSW
20-Dec-2023	2:00	0.4	W
20-Dec-2023	3:00	0.4	W
20-Dec-2023	4:00	0.9	W
20-Dec-2023	5:00	0.9	WSW
20-Dec-2023	6:00	0.4	W
20-Dec-2023	7:00	0.9	SSW
20-Dec-2023	8:00	0.9	SSW
20-Dec-2023	9:00	0.9	SW
20-Dec-2023	10:00	0.4	SW
20-Dec-2023	11:00	0.9	SSW
20-Dec-2023	12:00	0.9	W
20-Dec-2023	13:00	0.9	W
20-Dec-2023	14:00	0.9	W
20-Dec-2023	15:00	1.3	W
20-Dec-2023	16:00	0.9	W
20-Dec-2023	17:00	0.9	W
20-Dec-2023	18:00	0.9	W
20-Dec-2023	19:00	0.4	W
20-Dec-2023	20:00	1.3	W
20-Dec-2023	21:00	1.8	W
20-Dec-2023	22:00	0.4	W
20-Dec-2023	23:00	0.9	N

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Dec-2023	0:00	0.9	W
21-Dec-2023	1:00	0.4	N
21-Dec-2023	2:00	0.9	N
21-Dec-2023	3:00	0.9	N
21-Dec-2023	4:00	0.9	N
21-Dec-2023	5:00	0.9	N
21-Dec-2023	6:00	0.9	N
21-Dec-2023	7:00	0.9	N
21-Dec-2023	8:00	0.4	N
21-Dec-2023	9:00	0.4	W
21-Dec-2023	10:00	0.9	N
21-Dec-2023	11:00	1.3	SSW
21-Dec-2023	12:00	0.9	N
21-Dec-2023	13:00	0.4	N
21-Dec-2023	14:00	0.4	N
21-Dec-2023	15:00	0.9	N
21-Dec-2023	16:00	0.9	N
21-Dec-2023	17:00	0.4	N
21-Dec-2023	18:00	0.9	N
21-Dec-2023	19:00	0.4	N
21-Dec-2023	20:00	0.9	W
21-Dec-2023	21:00	0.9	W
21-Dec-2023	22:00	1.8	W
21-Dec-2023	23:00	1.8	W
22-Dec-2023	0:00	1.3	W
22-Dec-2023	1:00	0.9	W
22-Dec-2023	2:00	0.9	W
22-Dec-2023	3:00	0.9	WSW
22-Dec-2023	4:00	0.9	N
22-Dec-2023	5:00	0.4	N
22-Dec-2023	6:00	0.9	W
22-Dec-2023	7:00	0.9	N
22-Dec-2023	8:00	0.9	WSW
22-Dec-2023	9:00	1.3	W
22-Dec-2023	10:00	1.8	W
22-Dec-2023	11:00	1.3	SSW
22-Dec-2023	12:00	0.9	SSW
22-Dec-2023	13:00	0.4	SSW
22-Dec-2023	14:00	0.4	SSW
22-Dec-2023	15:00	0.4	SSW
22-Dec-2023	16:00	0.4	SSW
22-Dec-2023	17:00	0.4	W
22-Dec-2023	18:00	0.0	WSW
22-Dec-2023	19:00	0.0	WNW
22-Dec-2023	20:00	0.0	W
22-Dec-2023	21:00	0.4	W
22-Dec-2023	22:00	0.4	SSW
22-Dec-2023	23:00	0.4	SSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
23-Dec-2023	0:00	0.4	SW
23-Dec-2023	1:00	0.4	W
23-Dec-2023	2:00	0.4	SSW
23-Dec-2023	3:00	0.4	SSW
23-Dec-2023	4:00	0.4	SSW
23-Dec-2023	5:00	0.4	W
23-Dec-2023	6:00	0.4	W
23-Dec-2023	7:00	0.4	SSW
23-Dec-2023	8:00	0.4	SSW
23-Dec-2023	9:00	0.0	SSW
23-Dec-2023	10:00	0.9	SSW
23-Dec-2023	11:00	0.9	W
23-Dec-2023	12:00	0.9	SSW
23-Dec-2023	13:00	0.4	W
23-Dec-2023	14:00	0.4	SSW
23-Dec-2023	15:00	0.4	SW
23-Dec-2023	16:00	0.4	SSW
23-Dec-2023	17:00	0.4	W
23-Dec-2023	18:00	0.0	W
23-Dec-2023	19:00	0.0	WSW
23-Dec-2023	20:00	0.9	W
23-Dec-2023	21:00	0.9	W
23-Dec-2023	22:00	0.9	W
23-Dec-2023	23:00	0.9	W
24-Dec-2023	0:00	0.4	W
24-Dec-2023	1:00	0.4	W
24-Dec-2023	2:00	0.9	W
24-Dec-2023	3:00	0.9	W
24-Dec-2023	4:00	0.4	W
24-Dec-2023	5:00	0.4	W
24-Dec-2023	6:00	0.4	SSW
24-Dec-2023	7:00	0.0	W
24-Dec-2023	8:00	0.4	SW
24-Dec-2023	9:00	0.4	SSW
24-Dec-2023	10:00	0.4	N
24-Dec-2023	11:00	0.4	N
24-Dec-2023	12:00	0.4	SSW
24-Dec-2023	13:00	0.4	N
24-Dec-2023	14:00	0.4	SSW
24-Dec-2023	15:00	0.4	SW
24-Dec-2023	16:00	0.0	W
24-Dec-2023	17:00	0.0	SSW
24-Dec-2023	18:00	0.0	SSW
24-Dec-2023	19:00	0.0	SW
24-Dec-2023	20:00	0.0	---
24-Dec-2023	21:00	0.0	---
24-Dec-2023	22:00	0.0	N
24-Dec-2023	23:00	0.0	WSW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
25-Dec-2023	0:00	0.4	W
25-Dec-2023	1:00	0.4	W
25-Dec-2023	2:00	0.4	W
25-Dec-2023	3:00	0.0	W
25-Dec-2023	4:00	0.0	SSW
25-Dec-2023	5:00	0.0	W
25-Dec-2023	6:00	0.0	W
25-Dec-2023	7:00	0.0	W
25-Dec-2023	8:00	0.4	W
25-Dec-2023	9:00	0.4	W
25-Dec-2023	10:00	0.4	SSW
25-Dec-2023	11:00	0.4	W
25-Dec-2023	12:00	0.4	SSW
25-Dec-2023	13:00	0.4	SSW
25-Dec-2023	14:00	0.4	SSW
25-Dec-2023	15:00	0.0	SW
25-Dec-2023	16:00	0.0	SSW
25-Dec-2023	17:00	0.0	SSW
25-Dec-2023	18:00	0.0	---
25-Dec-2023	19:00	0.0	WSW
25-Dec-2023	20:00	0.0	NW
25-Dec-2023	21:00	0.0	---
25-Dec-2023	22:00	0.4	NW
25-Dec-2023	23:00	0.0	WNW
26-Dec-2023	0:00	0.0	---
26-Dec-2023	1:00	0.0	---
26-Dec-2023	2:00	0.0	---
26-Dec-2023	3:00	0.0	---
26-Dec-2023	4:00	0.0	---
26-Dec-2023	5:00	0.0	WNW
26-Dec-2023	6:00	0.0	NW
26-Dec-2023	7:00	0.0	---
26-Dec-2023	8:00	0.0	---
26-Dec-2023	9:00	0.0	WNW
26-Dec-2023	10:00	0.4	W
26-Dec-2023	11:00	0.4	W
26-Dec-2023	12:00	0.4	SSW
26-Dec-2023	13:00	0.4	SSW
26-Dec-2023	14:00	0.0	W
26-Dec-2023	15:00	0.0	SW
26-Dec-2023	16:00	0.0	WNW
26-Dec-2023	17:00	0.0	WNW
26-Dec-2023	18:00	0.0	NW
26-Dec-2023	19:00	0.4	W
26-Dec-2023	20:00	0.0	W
26-Dec-2023	21:00	0.0	WNW
26-Dec-2023	22:00	0.0	WNW
26-Dec-2023	23:00	0.0	WNW

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
27-Dec-2023	0:00	0.4	WNW
27-Dec-2023	1:00	0.0	WNW
27-Dec-2023	2:00	0.0	WNW
27-Dec-2023	3:00	0.0	WNW
27-Dec-2023	4:00	0.0	WNW
27-Dec-2023	5:00	0.0	---
27-Dec-2023	6:00	0.0	---
27-Dec-2023	7:00	0.0	WNW
27-Dec-2023	8:00	0.0	---
27-Dec-2023	9:00	0.0	WNW
27-Dec-2023	10:00	0.0	WNW
27-Dec-2023	11:00	0.0	WSW
27-Dec-2023	12:00	0.4	W
27-Dec-2023	13:00	0.0	W
27-Dec-2023	14:00	0.0	SSW
27-Dec-2023	15:00	0.0	SSW
27-Dec-2023	16:00	0.0	WSW
27-Dec-2023	17:00	0.0	NW
27-Dec-2023	18:00	0.0	---
27-Dec-2023	19:00	0.0	---
27-Dec-2023	20:00	0.0	---
27-Dec-2023	21:00	0.0	WNW
27-Dec-2023	22:00	0.4	W
27-Dec-2023	23:00	0.4	W
28-Dec-2023	0:00	0.0	W
28-Dec-2023	1:00	0.0	W
28-Dec-2023	2:00	0.9	W
28-Dec-2023	3:00	0.4	W
28-Dec-2023	4:00	0.4	W
28-Dec-2023	5:00	0.0	W
28-Dec-2023	6:00	0.0	W
28-Dec-2023	7:00	0.0	W
28-Dec-2023	8:00	0.0	W
28-Dec-2023	9:00	0.4	W
28-Dec-2023	10:00	0.4	W
28-Dec-2023	11:00	0.4	W
28-Dec-2023	12:00	0.4	SSW
28-Dec-2023	13:00	0.4	SSW
28-Dec-2023	14:00	0.0	SSW
28-Dec-2023	15:00	0.0	SW
28-Dec-2023	16:00	0.0	SSW
28-Dec-2023	17:00	0.0	E
28-Dec-2023	18:00	0.0	ENE
28-Dec-2023	19:00	0.0	ENE
28-Dec-2023	20:00	0.0	WNW
28-Dec-2023	21:00	0.4	W
28-Dec-2023	22:00	0.0	W
28-Dec-2023	23:00	0.0	---

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
29-Dec-2023	0:00	0.0	---
29-Dec-2023	1:00	0.0	---
29-Dec-2023	2:00	0.0	---
29-Dec-2023	3:00	0.0	WNW
29-Dec-2023	4:00	0.0	WNW
29-Dec-2023	5:00	0.0	WNW
29-Dec-2023	6:00	0.0	---
29-Dec-2023	7:00	0.0	W
29-Dec-2023	8:00	0.0	W
29-Dec-2023	9:00	1.8	W
29-Dec-2023	10:00	1.8	W
29-Dec-2023	11:00	1.3	W
29-Dec-2023	12:00	0.4	W
29-Dec-2023	13:00	0.9	W
29-Dec-2023	14:00	0.9	NNW
29-Dec-2023	15:00	0.4	NNW
29-Dec-2023	16:00	0.4	WNW
29-Dec-2023	17:00	0.4	W
29-Dec-2023	18:00	0.9	W
29-Dec-2023	19:00	0.9	W
29-Dec-2023	20:00	0.0	W
29-Dec-2023	21:00	0.0	W
29-Dec-2023	22:00	0.0	W
29-Dec-2023	23:00	0.0	W
30-Dec-2023	0:00	0.4	W
30-Dec-2023	1:00	0.0	NW
30-Dec-2023	2:00	0.0	WNW
30-Dec-2023	3:00	0.0	W
30-Dec-2023	4:00	0.0	W
30-Dec-2023	5:00	0.0	---
30-Dec-2023	6:00	0.0	N
30-Dec-2023	7:00	0.0	WNW
30-Dec-2023	8:00	0.0	NW
30-Dec-2023	9:00	0.0	W
30-Dec-2023	10:00	0.0	N
30-Dec-2023	11:00	0.0	---
30-Dec-2023	12:00	0.0	W
30-Dec-2023	13:00	0.0	E
30-Dec-2023	14:00	0.4	E
30-Dec-2023	15:00	0.4	E
30-Dec-2023	16:00	0.9	E
30-Dec-2023	17:00	0.0	E
30-Dec-2023	18:00	0.0	---
30-Dec-2023	19:00	0.0	SW
30-Dec-2023	20:00	0.0	SW
30-Dec-2023	21:00	0.0	---
30-Dec-2023	22:00	0.0	---
30-Dec-2023	23:00	0.0	---

Appendix G - Wind Data

Date	Time	Wind Speed m/s	Direction
31-Dec-2023	0:00	0.0	---
31-Dec-2023	1:00	0.0	---
31-Dec-2023	2:00	0.0	---
31-Dec-2023	3:00	0.0	---
31-Dec-2023	4:00	0.0	---
31-Dec-2023	5:00	0.0	---
31-Dec-2023	6:00	0.0	---
31-Dec-2023	7:00	0.0	---
31-Dec-2023	8:00	0.0	---
31-Dec-2023	9:00	0.0	---
31-Dec-2023	10:00	0.0	---
31-Dec-2023	11:00	0.0	SW
31-Dec-2023	12:00	0.0	SW
31-Dec-2023	13:00	0.0	SW
31-Dec-2023	14:00	0.0	SSW
31-Dec-2023	15:00	0.0	SW
31-Dec-2023	16:00	0.9	ENE
31-Dec-2023	17:00	0.0	ENE
31-Dec-2023	18:00	0.0	---
31-Dec-2023	19:00	0.0	---
31-Dec-2023	20:00	0.9	W
31-Dec-2023	21:00	2.7	W
31-Dec-2023	22:00	4.0	W
31-Dec-2023	23:00	3.6	W

APPENDIX H
EVENT ACTION PLANS

Appendix H Event / Action Plan for Air Quality

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

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1.Exceedance for one sample	Identify source, investigate the causes of exceedanceand propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of 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	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;	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	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,	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	8. If exceedance stops, cease additional monitoring.	of remedial measures.	consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	determined by the ER until the exceedance is abated.

Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level	Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial 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.	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	. Inform IEC, Contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; and 3. Discuss remedial measures with IEC and Contractor and ER.	1. Discuss with ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	1. Discuss with IEC, ET and Contractor on the implemented mitigation measures; 2. Make agreement on the remedial measures to be implemented; 3. Supervise the implementation of agreed remedial measures.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4.Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with ER, ET and IEC and purpose remedial measures to IEC and ER; and 7. Implement the agreed mitigation measures.
Action level being exceeded by two or more consecutive sampling days	Repeat in-situ measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss remedial measures with IEC, contractor and ER 5. Ensure remedial measures are implemented	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	1. Discuss with ET, IEC and Contractor on the 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.	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	Repeat measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER;	1. Discuss with ET, Contractor and ER on the implemented mitigation measures;	1. Discuss with ET, IEC and Contractor on the implemented remedial measures;	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	Inform IEC, contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; 3. Discuss mitigation measures with IEC, ER and Contractor; and 4. Ensure mitigation measures are implemented; and 5. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	1. Discuss with ET, IEC and Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; 4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed remedial measures. 7. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.

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

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

APPENDIX I
SUMMARY OF EXCEEDANCE

Appendix I: Exceedance Report

Reporting Quarter: October to December 2023

(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 J
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/m2 to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	#
S3.8	D2-DP 1/DP2/ DP3	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation • All vehicles shall be shut down in intermittent use • Only well-maintained plant should be operated on-site to avoid emission of dark smoke • Valid No-Road Mobile Machinery (NRMM) labels should be provided to regulated machines	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	^ ^ ^
S3.8	D2-DP 1/DP2/ DP3	• 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
		the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period. • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by					^ ^ * ^ ^ ^

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
		impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.					N/A N/A ^
S3.8	D4-DP1/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/DP2/DP3	Implement the following good site management practices: • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction	Control construction airborne noise	Contractor	All construction sites	Construction stage	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		equipment should be properly fitted and maintained during the construction works; • Mobile plant should be sited as far away from NSRs as possible and practicable; • Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.					^ ^
S4.8	N-CP2-DP1/DP2/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/DP2/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/DP2/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/DP2/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-DP1/N-CP6-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/DP2/DP3	Construction Runoff and Site Drainage In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures, where appropriate, should include the following: • Update and implementation of Stormwater Pollution Control Plan • At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.	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
		• 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					^ * ^ ^

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
		slope surfaces should be covered by tarpaulin or other means. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in 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.					* * * * ^ ^

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
		• 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					* ^ ^ * ^

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/DP2/DP3	*Groundwater from Contaminated Area* • No mitigation measure is required for groundwater treatment in LMC Loop. • Additional investigation is required to identify if contaminated groundwater is found. • 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	N/A N/A N/A N/A N/A
S5.7	W3-CP-DP1/DP2/DP3	*Sewage from Workforce* • Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate	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
		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.					^ ^
S5.7	W4-CP -DP1	<u>*Riverbanks Formation*</u> • In order to prevent sediment transport during riverbank works, deployment of silt curtain should be implemented, especially when construction works encroach or occur in close distance to water body. It is recommended to carry out all the riverbank works within a cofferdam or diaphragm wall. • Water quality of the Shenzhen River and the meander would be monitored to ensure effectiveness of the implemented mitigation measures.	Minimize water quality impact from riverbank works	Contractor	Riverbank works	Construction Phase	^ ^
S5.7	W1-CP -BR	<u>*Bio-remediation in Shenzhen River*</u> • 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	*Construction of Viaduct across Reedbed in LMC Station* 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: • On-site compensate the same area of the occupied reedbed; • Provide pilot plant during construction; or • Increase the hydraulic retention time of the proposed Loop STW. Details of these measures will be subject to further liaison with MTRC and a separate VEP application.	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/DP3	*Construction of Bridge Crossing* • Good site management as stipulated in ProPECC PN1/94 should be fully implemented to avoid polluted liquid or solid wastes from falling into the WSRs. • All the fishponds will be drained and no fishpond will be affected by bridge crossing. • 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 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-DP1/DP2/DP3	<u>*Waste Reduction Measures*</u> Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • proper storage and site practices to minimize the potential for damage and contamination of construction materials; • plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); • provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.	Reduce waste generation	Contractor	All construction sites where practicable	Construction phase	^ * ^ ^ ^
S7.6	WM2-DP1/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-DP1/DP2/DP3	<u>*Good Site Practice*</u> The following good site practices are recommended throughout the construction activities: • Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; • Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • Provision of sufficient waste disposal points and regular collection for disposal; • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;					^ ^ ^ *
S7.6	WM4-DP1/DP2/DP3	*Storage of Waste* The following recommendation should be implemented to minimize the impacts: • Waste such as soil should be handled and stored well to ensure secure containment; • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • Different locations should be designated to stockpile each material to enhance reuse;	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^ ^ ^
S7.6	WM5-DP1/DP2/DP3	*Collection and Transportation of Waste* The following recommendation should be implemented to minimize the impacts: • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation;	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	* ^

EIA Ref.	EM&A 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
		• Obtain relevant waste disposal permits from the appropriate authorities; and • Disposal of waste should be done at licensed waste disposal facilities.					^ ^
S7.6	WM6-DP1/DP2/DP3	*Excavated and C&D Material* Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at Public Fill Reception Facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • Maintain temporary stockpiles and reuse excavated fill material for backfilling; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified. The recommended C&D materials handling should include: • On-site Sorting of C&D Materials • Reuse of C&D Materials • Use of Standard Formwork and Planning of Construction Materials Purchasing • Provision of Wheel Wash Facilities Details refer to Section 7.6.1.4 of the EIA report.	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	^ ^ ^ ^ ^ ^ ^ ^
S7.6	WM7-DP1/DP2	*Contaminated Soil* As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to	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-DP1/DP2/DP3	*Chemical Waste* • If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in 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-DP1/DP2/DP3	*General Waste* • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean.	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
		• A reputable waste collector should be employed to remove general refuse on a daily basis.					
S7.6	WM10-DP1/DP2	*Sewage* • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts.	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	^ ^
S7.6	WM11-DP2	*Sediment* The following mitigation measures are recommended during transportation and stockpiling: • stockpiling area(s) must be properly designed and closed to the dredging locations as far as possible; • Stockpiling area(s) should be lined with impermeable sheeting and bunded; • stockpiles should be properly covered by impermeable sheeting; • 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	Minimize waste impacts from sediment	Contractor	All construction sites	Construction phase	N/A 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
		workers. In case contamination of excavated materials is confirmed after testing, the mitigation measures described in Land Contamination Impacts section should also be implemented to minimize potential environmental impacts.					
Land Contamination							
S8.7	LC1-D P2/DP3	<u>*Remediation of arsenic-contaminated soil*</u> • "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> • 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	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
		means; • Excavation should be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; • Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of contaminated soil to 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.					N/A N/A N/A N/A N/A
S8.7	LC3-D P1/DP2	*Solidification/Stabilization* • The loading, unloading, handling, transfer or storage of	To minimize the potential environmental impacts	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
	/DP3	cement should be carried out in an enclosed system; • Mixing process and other associated material handling activities should be properly scheduled to minimise potential noise impact and dust emission; • The mixing facilities should be sited as far apart as practicable from the nearby noise sensitive receivers; • Mixing of contaminated soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimise the potential for leaching; • Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area; • The run-off contained in the concrete bund area along the perimeter of the paved solidification / stabilization area, if any, will be collected, stored and used for the mixing process of cement / contaminated soil; • If stockpile of treated soil is required, the stockpiling site(s) should be lined with impermeable sheeting and bunded. • Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or site run-off during rainy season; and If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials.	arising from the handling of contaminated materials				N/A N/A 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
S8.7	LC4-D P3	<u>Safety Measures</u> • Set up a list of safety measures for site workers; • Provide written information and training on safety for site workers; • Keep a log-book and plan showing the 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.	To minimize the potential adverse effects on health and safety of construction workers	Contractor	Contaminated area	The course of remediation	N/A
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	Project Proponent /Detailed design	Entire contamination assessment area for	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
			land contamination assessment study	consultant	associated infrastructure in the adjacent areas in Hong Kong outside LMC Loop		
Landscape and Visual Impact (Construction Phase)							
S11.5.4 Table11.5.9	L-CP1-DP1/DP3	*Preservation and Protection of Existing Trees (Good Site Practice)* • The proposed works should avoid disturbance to the existing trees within and close to the works areas. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design phase for further retention of individual trees. • It is recommended that a full detailed tree survey and felling application will be undertaken and submitted for approval by the relevant government departments in accordance with ETWB TCW No. 3/2006, 'Tree Preservation'. This will be conducted during the detailed design phase of the project and submitted to DLO for approval. The methodology and scope including the programme for the tree survey and felling application are also subject to the approval of the relevant authorities.	Avoid disturbance and protection of existing trees	Detailed design consultant/ Contractor	Within project site	Detailed design and 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
		• Trees which are not in conflict with the proposals would be retained and shall be protected by means of fencing during construction phase to prevent damage to tree canopies and root zones from vehicles and storage of materials. • Specifications for the protection of existing trees will be provided during the preparation of the detailed tree survey by Detailed Design consultants at detailed design and construction phase.					^ ^
S11.5.4 Table 11.5.9	L-CP2-DP1/DP2/DP3	<u>*Works Area and Temporary Works Areas (Good Site Practice)*</u> • The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. • 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/DP2/DP3	<u>*Advance Implementation of Mitigation Planting*</u> • Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the	Minimize landscape impacts	Contractor	The whole project area where	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas.			applicable		
	L-CP4-DP1/DP2/DP3	*Transplantation of Existing Trees* • Some specimens have relatively higher amenity value which are in conflict with the proposals shall be considered for transplantation. For trees affected by the proposed infrastructure works the final receptor sites shall be preferably adjacent to their current locations alongside of the alignment to retain their contribution to the local landscape context. For the LMC Loop the receptor locations will be selected to allow the trees to be moved directly to their final locations in accordance with the detailed landscape proposals. • The transplanting proposals are subject to review at the 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	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
		undertaken by the detailed design consultants and following approval by the relevant departments.					
	L-CP6-DP1/DP2	*Creation of Wetland and Landscape Buffer* • The existing reedbed acquired for development areas for the project will be reinstated as part of the Ecological Area. The reinstatement shall be undertaken at the earliest possible stage during the construction phase of the project. • Creation of 12.78ha of Ecological Area (EA) containing reed marsh and marsh will be created at the southern portion of the LMC Loop, and a 50m width landscape buffer area will be set up in between the EA and the development area. Wetland creation concepts please refer to Figure 11.9zf and Chapter 12 Ecology Impact Assessment of this EIA. • Native tree and shrub mix will be utilised for the creation of landscape buffer along northern edge of EA to support the creation of avifauna habitat from ecologist perspectives as well as enhance the aesthetic and landscape diversity within 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,	Compensation of the loss of landscape resources	Project Proponent/ Detailed design consultant/ Contractor/ Operator	The whole project area where applicable	Detailed design, construction and operational phases	^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		Chapter 2 Project Description and Chapter 12 Ecology Impact Assessment of this EIA.					
	V-CP5-DP1/DP2/DP3	*Coordination with Concurrent Projects* • Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance.	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^
S11.6.5 Table 11.6.3	V-CP1-DP3	*Preservation and Protection of Existing Trees (Good Site Practice)* • 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	*Works Area and Temporary Works Areas (Good Site Practice)* • 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	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
		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.					
	V-CP3-DP3	*Advance Implementation of Mitigation Planting* • Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas.	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	*Coordination with Concurrent Projects* • 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	*Disturbance to Fish Ponds at HHW* • Development set back a minimum of 23m from the edge Meander. • Management of fish pond habitat to enhance ecological value to twice existing value, in order to compensate for disturbance to large waterbirds.	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

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
		• Creation and establishment will occur prior to commencement of substantive works associated with any element of the project for which fish pond compensation is required. *Construction phase* • Erection of a 3m high, dull green site boundary fence to minimise disturbance to wetland habitats caused by human activity in LMC Loop.					N/A #
S12.7	E2-DP1 /DP3	*Construction run-off* • 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;	Minimise the indirect impact from the increasing suspended solids and pollutants in LMC Meander	Contractor	Seawall,	During 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
		• If temporary access along a riverbed is unavoidable, this will be kept to the minimum in width and length. Temporary river crossings will be supported on stilts above the river bed; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby water bodies; • Construction debris and spoil will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies; • Construction effluent, site run-off and sewage will be properly collected and/or treated. Wastewater from any construction site will be minimised via the following in descending order: reuse, recycling and treatment; • Proper locations for discharge outlets of wastewater treatment facilities well away from sensitive receivers will be identified (i.e. treated wastewater will not be discharged into LMC Meander, natural streams, marsh, reedbed, active or abandoned fish ponds); • Adequate lateral support will be erected where necessary in order to prevent soil/mud from slipping into the Ecological Area or LMC Meander; • Site boundary will be clearly marked and any works beyond the boundary strictly prohibited;					^ * ^ ^ ^ ^ #

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
		• Regular water monitoring and site audit will be carried out at adequate points along LMC Meander, and at the outfalls of the natural streams around LMC Loop. If the monitoring and audit results show that pollution occurs, adequate measures including temporarily cessation of works will be considered.					^
S12.7	E3-DP1 /DP2/D P3	*Pollutant Runoff to Downstream areas from Accidental Spillage* • Prepare an emergency contingency plan The plan will include, but not be limited to, the following: - Potential emergency situations; - Chemicals or hazardous materials used on-site (and their location); - Emergency response team; - Emergency response procedures; - 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	• 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	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
		upwards in a way that reflects the sky. Unnecessary lighting should be eliminated. Appropriate glass and façade treatments should be used where required to minimise impact. Unnecessary lighting should be avoided. These include the following: • Fritting, or the placement of ceramic lines or dots on glass, has little effect on the human-perceived transparency of the window but creates a visual barrier to birds outside. This treatment also has the advantage of reducing air conditioning loads by lowering heat gain, while still allowing light transmission for interior spaces. It is most successful when the frits are applied on the outside surface. Frosted glass has similar effects. • Angled glass may be used only for smaller panes in buildings with a limited amount of glass. • The use of glass that reflects UV light (primarily visible to 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					^ ^ ^ ^

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
		suitable where non-operable windows are prevalent, which is often the case in modern buildings in HK. In terms of reducing night-time mortality impacts, eliminating unnecessary lighting is one of the easiest methods, and has the added advantage of saving energy and expense. Potential impacts of nocturnal avian collision with buildings should be minimised by not creating sky glow from the use of night-time lighting at or near the top of buildings or other structures. In addition to avoiding uplighting, light spillage should be minimised, while green and blue lights should be used where possible. As far as possible, lights should be controlled by motion sensors, and building operations should be managed in such a way as reduce or eliminate night lighting near windows. The potential advantages of removing unnecessary lighting in terms of reducing the carbon footprint of the LMC Loop development are obvious.					
S12.7	E5-DP1 /DP2/D P3	• 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	Minimize impacts on Eurasian Otter	Detailed design consultant/ Contractor	Construction site within the project	Detailed design, construction phase	^ ^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		be conducted in LMC Loop before the commencement of construction works. Work in the area of any otter holt found to cease pending examination by experienced Ecologist. If in use for breeding, works in the area will temporarily stop until end of breeding activity. • No construction activities within 100m of LMC Meander between one hour prior to sunset and one hour after sunrise. • Provision of compensatory reed marsh in the Ecological Area in LMC Loop, including open water channels and islands within the reed marsh, both of which features are considered to be used by the species.					^ ^
S12.7	E8-DP2	• Refer to E2 and E3	Prevent impacts on Rose Bitterling, small snakehead and *Somanniathelphus zanklon*	Contractor	Within project site	Construction phase	^
S12.7	E10-DP 1	• 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	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	^ ^

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
		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 building height in areas adjacent to the buffer zone for the EA. In addition, the sewage treatment works, which is located near the point where many birds cross from the Meander to HHW, should not exceed 15mPD.					^ N/A
S12.7	E11-DP 1	• 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	• 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	• Construction limited to wet season between the hours of	Minimize impacts from	Contractor/	Pond habitat	Construction and	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
	2	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.	the construction and operation disturbance impacts	Operator	along alignment (mainly Ha Wan Tsuen Road)	operation phases	^ ^
S12.7	E13-DP 3	• Use of viaduct alignment to minimize wetland loss. Compensatory wetland habitat elsewhere.	Minmize wetland loss	Project Proponent / Detailed design consultant / Contractor /	Within project site	Detailed design and construction phases	^
S12.7	E16-DP 1	• 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	• 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	^

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	E15-DP 2	• 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	• Use of opaque visual/noise barriers and roadside planting of trees and shrubs to minimize disturbance impacts.	Minimize impacts on flight line corridor from Western Connection Road	Project Proponent/ Detailed design consultant/ Contractor Operator	Construction site from Western Connection Road	Detailed design, construction and operation phases	^
S12.9	EG2-DP3	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-	• Reprovision of replacement Artificial Reefs(of the same volume as the existing ARs inside Marine Exclusion Zone)	Mitigate water quality impacts on the existing	Project proponent	To be determined	Construction phase or	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
			ARs			operation phase	
S11.7	F2	• Reduce re-suspension of sediments • Limit dredging and works fronts. • Good site practices • Strict enforcement of no marine dumping • Spill response plan	Minimise marine water quality impacts	Contractor	Seawall	During construction	N/A N/A N/A N/A N/A
S13.7	F4-DP3	During the construction phase, a layer of sheet pile wall will be 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.	Bund stability	Contractor	Fish ponds	Construction phase	N/A
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.	Avoid water quality impact	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
		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.					
S13.7	F7-DP3	*Dust Minimization* • During all excavation works, good site practice should be adopted to minimize impacts on fisheries. The below site practices should be adopted during this time. • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • In case the soil to be excavated is situated beneath the	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
		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 be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used.					
S13.7	F8-DP3	*Contingency plan* The contractor should prepare an emergency contingency plan for actions to be taken if significant impacts, such as accidental spillage of chemicals, water seepage from fish ponds, damaged/ destabilized pond bunds, pond water contamination by site runoff, on fish ponds occur. The contractor should submit the emergency contingency plan dealing with, but not limited to, the aforementioned potential impacts to the engineer for review, comment and approval. The fish pond operators will also be consulted for the details of the contingency plan, which will also be submitted to AFCD for review and comment. The plan should include, but not limited to, the following:	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
		• 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.					
Food Safety (Construction Phase)							
S15	F1-DP3	*Contingency plan* The contractor should have effective communication with Food and Environmental Hygiene Department (FEHD) / Centre of Food Safety (CFS), on food surveillance and food incidents. Food Surveillance Programme (http://www.cfs.gov.hk/english/programme/programme_fs/programme_fs.html). is undertaken by CFS to inspect food safety in Hong Kong, with a three-tier surveillance strategy (consisting of routine food surveillance, targeted food surveillance and seasonal food surveillance). Under this programme, aquatic products (including pond fish) at import, wholesale and retail levels are sampled for microbiological (i.e. bacteria and viruses), chemical (i.e. natural toxins, food additives and contaminants) and radiation testings. All food safety surveillance results of by a monthly "Food Safety Report" in press releases and also presented in CFS website. If pond fish samples do not comply with food safety standards and they are verified to be from fish ponds of concerned under this study through "food tracing", fish	Minimize significant impacts on fish ponds	Contractor	Fish pond within project site	Construction phase	N/A

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
		selling shall be stopped as instructed by CFS.					
S15	F2-DP3	*Dust Minimization* • During all excavation works, good site practice should be adopted to minimize the release of TSP, impact of land contamination and the associated food safety implications. The below site practices should be adopted during excavation works. • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;	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
		• 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 be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used.					

Remarks: ^ Compliance of mitigation measure

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

\# Recommendation was made during site audit but not yet improved/rectified by the contractor.

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

APPENDIX K
SITE AUDIT SUMMARY

Appendix K: Site Audit Summary

Table K-1: Observations and Recommendations of Site Audit in October 2023

Parameters	Date	Observations and Recommendations	Follow-up
Contract No. YL/2020/01			
Air Quality	18/10/2023	The stockpiles of inert materials should be covered properly at the site area near meander.	Stockpiles of inert materials was removed by the Contractor as observed during follow-up audit session on 25/10/2023.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	11/10/2023	The stockpiles of inert materials at temporary storage area and near Pai Lau should be properly covered with tarpaulin sheet or other appropriate measures to minimize muddy surface runoff.	The stockpiles of inert materials have been covered with tarpaulin sheet by the Contractor as observed during follow-up audit session on 18/10/2023.
Water Quality	11/10/2023	The muddy water from wheel washing at Box A should be properly collected for subsequent treatment before discharging out.	A sump pit with water pump have been provided to collect the wastewater and pumping to the wetsep for treatment by the Contractor as observed during follow-up audit session on 18/10/2023.
	11/10/2023	The gully at near Pai Lau should be properly protected to avoid the muddy surface runoff get into it directly.	The gully has been protected with the geotextile fabric by the Contractor as observed during follow-up audit session on 18/10/2023.
	18/10/2023	Temporary site drainage system should be established at the site area near meander.	Earth bund was provided to prevent surface runoff into meander by the Contractor as observed during follow-up audit session on 31/10/2023.
	25/10/2023	Exposed slope should be covered by impervious sheeting near meander.	The stockpile of material was flattened by the Contractor as observed during follow-up audit session on 31/10/2023.
	25/10/2023	Silt curtain should be deployed around the work area.	Silt curtained have been properly adjusted to surround the whole meander works area by the Contractor as observed during follow-up audit session on 31/10/2023.
	31/10/2023	Perimeter cut-off drains should be in place to prevent site surface runoff from spilling onto public access passage.	Sandbags were provided to avoid surface runoff from spilling onto public access passage by the Contractor as observed during follow-up audit session on 6/11/2023.
Waste / Chemical Management	--	No major environmental deficiency was identified during the reporting month.	--

Parameters	Date	Observations and Recommendations	Follow-up
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	11/10/2023	The green fences should be properly erected along WCR HWT Road for those area with noise barriers.	Green fences have been properly erected by the Contractor during follow-up audit session on 18/10/2023.
	25/10/2023	Green fences should be maintained properly along the meander.	Green hoarding has been erected properly by the Contractor as observed during follow-up audit session on 31/10/2023.
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	18/10/2023	The accumulated silt and sand at the lowest point within the concrete bund at RW9 should be cleared regularly.	The accumulated silt and sand were removed to avoid runoff by the Contractor as observed during follow-up audit session on 25/10/2023.
	31/10/2023	Provide impervious sheeting for stockpile at reedbed.	Stockpiles of dusty materials have been covered with tarpaulin sheet by the Contractor as observed during follow-up audit session on 10/11/2023.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	04/10/2023	Provide mitigation measures to avoid the soil from the works falling outside the works area and / or around the drainage system at near Lok Ma Chau Road.	The drainage system at near Lok Ma Chau Road has been provide mitigation measures by the Contractor as observed during follow-up audit session on 11/10/2023.
	18/10/2023	The accumulated silt and sand at the lowest point within the concrete bund at RW9 should be cleared regularly.	The accumulated silt and sand were removed to avoid runoff by the Contractor as observed during follow-up audit session on 25/10/2023.
Waste / Chemical Management	11/10/2023	Drip tray should be placed underneath the chemical container at LCS.	The chemical containers have been removed off site by the Contractor as observed during follow-up audit session on 18/10/2023.
	25/10/2023	Provide drip tray for chemical/fuel containers at 98C.	Chemical containers were removed from site by the Contractor as observed during follow-up audit session on 31/10/2023.
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No major environmental deficiency was identified during the reporting	--

Parameters	Date	Observations and Recommendations	Follow-up
		month.	
Ecology	18/10/2023 25/10/2023 31/10/2023	Discharge of site surface runoff to the nearby mitigation wetland near STEMDC should be avoided.	Environmental deficiencies were observed not improved/ rectified by the Contractor. Follow up action is needed in the next audit session.
	18/10/2023 25/10/2023 31/10/2023	Green fences / visual barrier should be properly erected at the site area next to STEMDC.	Environmental deficiencies were observed not improved/ rectified by the Contractor. Follow up action is needed in the next audit session.
	31/10/2023	Contractor was reminded to further enhance and secure the existing mitigation measures so as to prevent debris and runoff from discharging into nearby nullah.	The edge of the existing nullah has been paved to avoid the muddy water to discharged to the nullah as observed during follow-up audit session on 10/11/2023.
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/2021/01			
Air Quality	16/10/2023	Dust suppression measures should be applied for the dry exposed site area at EEAA.	Water spray was provided regularly at EEAA by the Contractor as observed during follow-up audit session on 25/10/2023.
	30/10/2023	Exposed site area should be sprayed with water for dust suppression	Dust suppression measures have been provided by the Contractor as observed during follow-up audit session on 10/11/2023.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	--	No major environmental deficiency was identified during the reporting month.	--
Waste / Chemical Management	--	No major environmental deficiency was identified during the reporting month.	--
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No major environmental deficiency was identified during the reporting month.	--
Ecology	--	No major environmental deficiency was identified during the reporting month.	--
Fisheries	--	No major environmental deficiency was identified during the reporting month.	--
Permits/Licences	--	No major environmental deficiency was identified during the reporting month.	--

Table K-2: Observations and Recommendations of Site Audit in November 2023

Parameters	Date	Observations and Recommendations	Follow-up
Contract No. YL/2020/01			
Air Quality	6/11/2023	Cover the stockpile with impervious sheeting at WCR as dust control.	The stockpile at WCR has been covered with impervious sheeting by the Contractor as observed during follow-up audit session on 15/11/2023.
	22/11/2023	Excavated dusty material at Box Culvert A site area should be covered by impervious sheeting or sprayed with water.	The excavated dusty material at Box Culvert A site area has been backfilled by the Contractor as observed during follow-up audit session on 29/11/2023.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	6/11/2023	Enhance the mitigation measure for the exposed slope at Meander South.	The mitigation measure for the exposed slope at Meander South has been enhanced by the Contractor as observed during follow-up audit session on 15/11/2023.
	22/11/2023	Stockpile of concrete debris should be located away from the nullah at meander bridge South works area.	Stockpile of concrete debris have been located away from the nullah at meander bridge South works area by the Contractor as observed during follow-up audit session on 29/11/2023.
Waste / Chemical Management	22/11/2023 29/11/2023	Drip trays should be provided at meander bridge South works area for chemical storage.	The chemical containers without drip tray have been removed by the Contractor as observed during follow-up audit session on 11/12/2023.
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No major environmental deficiency was identified during the reporting month.	--
Ecology	--	No major environmental deficiency was identified during the reporting month.	--
Fisheries	--	No major environmental deficiency was identified during the reporting month.	--
Permits/Licences	--	No major environmental deficiency was identified during the reporting month.	--
Contract No. YL/2020/02			
Air Quality	10/11/2023 15/11/2023	Exposed site area/ haul road should be sprayed with water regularly as dust preventive measures at reedbed, LCS and Sai Kwo Road.	Water has already been regularly sprayed at the reedbed and LCS areas by the Contractor as observed during follow-up audit session on 22/11/2023.
	22/11/2023	Exposed site area/ haul road should be sprayed with water regularly as dust preventive measures at near Fu Tai Parking area.	Water has already been regularly sprayed at Fu Tai Parking area by the Contractor as observed during follow-up audit session on 29/11/2023.
Noise	--	No major environmental deficiency	--

Parameters	Date	Observations and Recommendations	Follow-up
		was identified during the reporting month.	
Water Quality	--	No major environmental deficiency was identified during the reporting month.	--
Waste / Chemical Management	29/11/2023	The accumulation of construction wastes at near Fu Tai Parking area should be cleared regularly and properly cover before disposal.	The used cement bags have been cleared by the Contractor as observed during follow-up audit session on 7/12/2023.
	29/11/2023	The oil pollution in the river at the Fu Tai Parking area should be thoroughly cleaned to prevent contamination of nearby rivers and soil.	The oil spillage has been cleared by the Contractor and no further oil pollution was observed during follow-up audit session on 7/12/2023.
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No major environmental deficiency was identified during the reporting month.	--
Ecology	10/11/2023 15/11/2023 22/11/2023 29/11/2023	Green fences / visual barrier should be properly erected at the site area next to STEMDC.	Environmental deficiencies were observed not improved/ rectified by the Contractor. Follow up action is needed in the next audit session.
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/2021/01			
Air Quality	13/11/2023	Dust suppression measures should be provided for the stockpiles of dusty materials and exposed site area.	The stockpiles of dusty materials have been removed and watering has been provided for the dry exposed site area by the Contractor as observed during follow-up audit session on 20/11/2023.
	27/11/2023	Dust suppression measures should be further enhanced for the dry exposed site area.	Water was sprayed on dry exposed site area regularly by the Contractor as observed during follow-up audit session on 4/12/2023.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	10/11/2023	To provide additional sandbags for the exit at EEAA to prevent muddy.	Additional sandbags have been provided at the site exit to prevent muddy discharge by the Contractor as observed during follow-up audit session on 13/11/2023.
	20/11/2023	The collapsed barriers along the earth works at near nullah should be properly erected at EEAA.	The water barriers have been erected properly along the earth works by the Contractor as observed during follow-up audit session on 27/11/2023.
Waste / Chemical Management	27/11/2023	The nearly overflow oily water at the drip tray for the power pack should be cleared as chemical wastes.	The accumulation of oily water at the drip tray had been cleared by the Contractor as observed during

Parameters	Date	Observations and Recommendations	Follow-up
			follow-up audit session on 4/12/2023.
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	10/11/2023	Any object leaning onto protected trees shall be removed.	The construction materials / wastes have been removed away from the retained trees by the Contractor as observed during follow-up audit session on 13/11/2023.
Ecology	--	No major environmental deficiency was identified during the reporting month.	--
Fisheries	--	No major environmental deficiency was identified during the reporting month.	--
Permits/Licences	--	No major environmental deficiency was identified during the reporting month.	--

Table K-3: Observations and Recommendations of Site Audit in December 2023

Parameters	Date	Observations and Recommendations	Follow-up
Contract No. YL/2020/01			
Air Quality	4/12/2023	Dusty stockpile at TAR1 works area should be covered entirely with tarpaulin sheets or sprayed with water.	The stockpiles of dusty materials have been covered with tarpaulin sheet by the Contractor as observed during follow-up audit session on 11/12/2023.
	11/12/2023	The hoarding / water barriers fence at near meander bridge should be re-arranged to demarcate the site area clearly and the construction wastes outside the site boundary should be removed.	The hoarding/water barriers fence near meander bridge has been repositioned, and the construction waste outside the premises has been cleared by the Contractor as observed during follow-up audit session on 20/12/2023.
	11/12/2023	The stockpiles of dusty materials at Box A facing EA Zone should be covered with tarpaulin sheet properly.	The stockpiles of dusty materials at Box A facing EA Zone have been covered properly by the Contractor as observed during follow-up audit session on 20/12/202.
	20/12/2023	Exposed site area/ haul road should be sprayed with water regularly as dust preventive measures at Ha Wan Tsuen East Road.	Exposed site area/ haul road was sprayed with water regularly by the Contractor as observed during follow-up audit session on 27/12/202.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	11/12/2023	The floating vegetation at the meander should be cleared regularly to ensure a good flow of water.	The floating vegetation at the meander have been cleared by the Contractor as observed during follow-up audit session on 20/12/2023.
Waste / Chemical Management	4/12/2023	Drip trays should be provided at meander bridge South works area for chemical storage.	The chemical containers without drip tray have been removed by the Contractor as observed during follow-up audit session on 11/12/2023.
	11/12/2023	The hoarding / water barriers fence at near meander bridge should be re-arranged to demarcate the site area clearly and the construction wastes outside the site boundary should be removed.	The hoarding/water barriers fence near meander bridge has been repositioned, and the construction waste outside the premises has been cleared by the Contractor as observed during follow-up audit session on 20/12/2023.
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No major environmental deficiency was identified during the reporting month.	--
Ecology	27/12/2023	Provide maintenance to green hoarding around the meander bridge works area.	Green fences have been provided around the meander bridge works area by the Contractor as observed during follow-up audit session on 11/1/2024.

Parameters	Date	Observations and Recommendations	Follow-up
	27/12/2023	Construction debris should be covered or disposed of as soon as possible to avoid being washed into nearby water bodies.	Construction debris was cleaned to avoid the water pollution by the Contractor as observed during follow-up audit session on 3/1/2024.
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	7/12/2023 13/12/2023	The construction wastes at the public road should be cleared and a dust screen should be deployed around the dust generation works (Poon Uk Tsuen).	The construction wastes have been cleared and the concerned works have been completed as observed during follow-up audit session on 20/12/2023.
	13/12/2023 20/12/2023 27/12/2023	To enhance the dust suppression for the dusty haul road at Fu Tai site.	Water spraying has been provided for the dusty haul road by the Contractor as observed during follow-up audit session on 11/1/2024.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	13/12/2023 20/12/2023	Muddy water was observed discharging outside the site boundary at TAR2/DRLP09. The Contractor was reminded to establish appropriate site drainage system to collect the muddy surface runoff for subsequent treatment / recycle use.	Environmental deficiencies were observed not improved/ rectified by the Contractor in the reporting period. Follow up action is needed in the next audit session.
	13/12/2023	The nullah water which cannot be diverted and discharging into the site area was observed directly pumping out to the downstream at Fu Tai site. The Contractor was reminded that all site discharge should be properly collected for treatment before discharging out.	The water pump to pump out the site runoff directly outside the site has been removed by the Contractor as observed during follow-up audit session on 20/12/2023.
	20/12/2023 27/12/2023	No sufficient site drainage system was established to collect the muddy site surface runoff for subsequent treatment / recycle use at TAR2/DRLP09. The Contractor was reminded to establish appropriate it as soon as possible.	Environmental deficiencies were observed not improved/ rectified by the Contractor in the reporting period. Follow up action is needed in the next audit session.
	27/12/2023	Enhance the water mitigation measures of the works site in the nullah at Fu Tai.	The number of sandbags was increased, and a water pump system was provided for water treatment by the Contractor as observed during follow-up audit session on 3/1/2024.
Waste / Chemical Management	7/12/2023 13/12/2023	The construction wastes at the public road should be cleared and a dust screen should be deployed around the dust generation works (Poon Uk Tsuen).	The construction wastes have been cleared and the concerned works have been completed as observed during follow-up audit session on 20/12/2023.
	13/12/2023 20/12/2023	The chemical container at near the nullah shall be removed away from	Chemical container was removed to avoid land contamination by

Parameters	Date	Observations and Recommendations	Follow-up
	27/12/2023	the water bodies at Fu Tai site.	the Contractor as observed during follow-up audit session on 3/1/2024.
	27/12/2023	Hydraulic breaker should be placed on top of tarpaulin sheet to prevent land contamination from oil leakage.	Hydraulic breaker was removed by the Contractor to avoid land contamination as observed during follow-up audit session on 3/1/2024.
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	7/12/2023 13/12/2023 20/12/2023 27/12/2023	The green fences / visual barriers at the site area for DRL are not in 3m high. The Contractor was reminded to rectify it as soon as possible according to Condition 2.7(e) of EP.	Environmental deficiencies were observed not improved/ rectified by the Contractor in the reporting period. Follow up action is needed in the next audit session.
	13/12/2023 20/12/2023 27/12/2023	The construction site boundary is not clear at Fu Tai site and some construction materials/wastes were observed placing at the nearby grassland/stream. The Contractor was reminded to clear those materials/wastes and clearly delineate the work site to prevent encroachment onto adjacent areas/habitats.	A surveyor has checked and erected the flag to clearly delineate the work site as observed during follow-up audit session on 11/1/2024.
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/2021/01			
Air Quality	13/12/2023	The stockpiles of dusty materials should be properly covered with tarpaulin sheet.	The stockpiles have been cleared by the Contractor as observed during follow-up audit session on 18/12/2023.
	18/12/2023	Exposed works area should be sprayed with water for dust suppression.	Exposed works area has been sprayed with water by the Contractor as observed during follow-up audit session on 27/12/2023.
Noise	--	No major environmental deficiency was identified during the reporting month.	--
Water Quality	18/12/2023	Treated wastewater discharge was observed at discharge point of which licensing still awaits written approval. Contractors were reminded to immediately stop any discharging prior to obtaining proper discharge license, regardless of verbal approval. (EEAA).	The discharge has been stopped immediately. Treated wastewater would be redirected and properly discharge at a licensed discharge point by the Contractor as observed during follow-up audit session on 27/12/2023.
Waste / Chemical Management	--	No major environmental deficiency was identified during the reporting month.	--
Land Contamination	--	No major environmental deficiency was identified during the reporting	--

Parameters	Date	Observations and Recommendations	Follow-up
		month.	
Landscape and Visual	4/12/2023	Water barrier leaning onto the protected trees in tree protection zone should be moved away from the trees.	The water barriers have been moved away from the nearby trees by the Contractor as observed during follow-up audit session on 13/12/2023.
Ecology	--	No major environmental deficiency was identified during the reporting month.	--
Fisheries	--	No major environmental deficiency was identified during the reporting month.	--
Permits/Licences	--	No major environmental deficiency was identified during the reporting month.	--

APPENDIX L
WASTE GENERATION IN THE REPORTING PERIOD

Monthly Summary Waste Flow Table for 2023 (year)

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

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-23	0.491	0.000	0.000	0.000	0.491	0.919	0.000	0.067	0.000	0.000	0.000	0.018
Feb-23	0.715	0.000	0.000	0.000	0.715	0.000	0.000	0.150	0.000	1.100	0.000	0.027
Mar-23	1.129	0.000	0.000	0.000	1.129	0.000	0.012	0.132	0.016	0.000	0.000	0.032
Apr-23	2.910	0.000	0.000	0.000	2.910	0.000	0.000	0.160	0.000	0.000	0.000	0.012
May-23	2.590	0.000	0.000	0.000	2.590	0.412	0.007	0.133	0.010	0.000	0.000	0.022
Jun-23	0.831	0.000	0.000	0.000	0.831	4.051	0.000	0.158	0.000	0.000	0.000	0.016
Sub-total	8.665	0.000	0.000	0.000	8.665	5.382	0.019	0.800	0.026	1.100	0.000	0.126
Jul-23	1.393	0.000	0.000	0.000	1.393	0.494	0.000	0.287	0.000	0.000	0.000	0.058
Aug-23	2.192	0.000	0.000	0.000	2.192	4.081	0.000	0.000	0.000	0.000	0.000	0.047
Sep-23	2.489	0.000	0.000	0.000	2.489	12.732	0.000	0.301	0.000	0.000	0.000	0.049
Oct-23	1.913	0.000	0.000	0.000	1.913	6.212	0.010	0.002	0.002	0.000	0.000	0.070
Nov-23	1.918	0.000	0.000	0.000	1.918	2.156	0.000	0.000	0.000	0.000	0.000	0.026
Dec-23	0.875	0.000	0.000	0.000	0.875	0.866	0.001	0.157	0.015	0.000	0.000	0.042
Total	19.445	0.000	0.000	0.000	19.445	31.923	0.030	1.547	0.044	1.100	0.000	0.419

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

Monthly Summary Waste Flow Table for 2023 (year)

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

Project : Development of Lok Ma Chau Loop: Main Works Package 1– Contract 2, Western Connection Road Phase 2, Connection 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	0.432	0.000	0.000	0.000	0.432	0.000	0.000	0.000	0.000	0.000	0.428
Feb	0.257	0.000	0.000	0.000	0.257	0.095	0.000	0.000	0.000	0.000	0.403
Mar	1.359	0.000	0.000	0.000	1.359	0.090	0.000	0.004	0.001	0.000	0.171
Apr	0.621	0.000	0.000	0.000	0.621	0.000	0.000	0.000	0.000	0.000	0.107
May	0.864	0.000	0.000	0.000	0.864	0.126	0.000	0.012	0.000	0.000	0.330
Jun	0.828	0.000	0.000	0.000	0.828	0.000	0.002	0.055	0.018	0.000	0.076
Sub-total	4.361	0.000	0.000	0.000	4.361	0.311	0.002	0.071	0.018	0.000	1.514
Jul	0.603	0.000	0.000	0.000	0.603	0.356	0.000	0.000	0.001	0.000	0.213
Aug	1.607	0.000	0.000	0.000	1.607	0.000	0.000	0.000	0.000	0.000	0.056
Sep	1.202	0.000	0.000	0.000	1.202	0.000	0.000	0.000	0.000	0.000	0.141
Oct	0.756	0.000	0.000	0.000	0.756	0.225	0.000	0.000	0.000	0.000	0.250
Nov	1.269	0.000	0.000	0.000	1.269	0.000	0.000	0.000	0.000	0.000	0.143
Dec	1.269	0.000	0.000	0.000	1.269	0.282	0.000	0.000	0.000	0.000	0.148
Total	11.066	0.000	0.000	0.000	11.066	1.173	0.002	0.071	0.037	0.000	2.464

Note:

1. For non-inert portion of C&D material, assume the density of 1 m^3 general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m^3 per each full-filled dump truck.
3. All values are round off to the third decimal places.

Monthly Summary Waste Flow Table for 2023 (year)

Name of Person completing the record: Tino Law

Development of Lok Ma Chau Loop : Main Works Package 1 – Contract 3 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-23	0.597	0.000	0.000	0.000	0.597	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb-23	0.329	0.000	0.000	0.000	0.329	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar-23	0.706	0.000	0.000	0.000	0.706	0.000	0.011	0.000	0.005	0.000	0.000	0.001
Apr-23	0.231	0.000	0.000	0.000	0.231	0.000	0.000	0.000	0.000	0.000	0.000	0.003
May-23	0.683	0.000	0.000	0.000	0.683	0.000	0.003	0.000	0.005	0.000	0.000	0.003
Jun-23	1.196	0.000	0.000	0.000	1.196	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Sub-total	3.742	0.000	0.000	0.000	3.742	0.000	0.014	0.000	0.010	0.000	0.000	0.008
Jul-23	0.946	0.000	0.000	0.000	0.946	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Aug-23	0.047	0.000	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Sep-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
Oct-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Nov-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Dec-23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Total	4.735	0.000	0.000	0.000	4.735	0.000	0.014	0.000	0.010	0.000	0.000	0.026

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 M
COMPLAINT LOG

Appendix M - Complaint Log

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

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

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

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM-2021-10-01	11 October 2021	EPD	EPD File Ref.: N07/RN/00024120-21	EPD received a public complaint on 11 October 2021. The complainant alleged the following: (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, (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.	(a) Water Quality 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 inducted 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. (b) Noise 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	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
					plan according to the construction programme and closely check the effectiveness of the implemented mitigation measures on site so that the EP, EIA and EM&A manual recommendation and requirements are complied with. In addition, the Contractor was also reminded to prepare a contingency plan for emergency environmental incidents.	
COM-2021-11-01	15 November 2021	EPD	EPD File Ref.: N06/RN/00027302-21	EPD received a public complaint on 15 November 2021. The complainant concerned about the dust nuisance in the construction sites of "Development of Lok Ma Chau Loop" project.	According to the interim report, dust mitigation measures have been properly implemented on site: - Haul road of the main site have been paved with concrete and the speed of the vehicle has been restricted to below 8kmper hour within the construction area to minimize fugitive dust emission. - Wheel washing fallibilities have been established at the location where the vehicles into the haul road in order to keep clear of any loose surface material. - Mist spray and water trucks have been provided to water the paved haul road regularly and at least once per hour on exposed work site. - Water spray has been provided during the handling of the fill material at the site and all the dusty loads transported to, from and between site location have been covered. - Induction training and tool box talk have been provided to the site staff and workers regarding the dust suppression measure. - Temporary covers have been provided to stockpile of the dusty materials and the exposed slope.	Interim report was submitted to EPD on 25 Nov 2021

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					Further preventive measures, establishment of the automatic water spray system along the haul road and increasing the amount of the mist spray machine to enhance the efficiency of the dust suppression measures will also be provided.	
COM-2022-01-01	2 January 2022	EPD	EPD File Ref.: N06/RN/000000184-22	EPD received a public complaint by phone in Jan 2022 regarding noise from general construction work associated with the Lok Ma Chau Loop Development Project being carried out on 2.1.2022 at around 15:30 hours (i.e. within the restricted hours on Sunday).	According to the location under complaint, the work was likely carried out within the work site of "Direct Road Link to MTR Lok Ma Chau Station" and/or "Western Connection Road". Therefore, interim reports were submitted by Contract No.: YL/2020/01 and YL/2020/02 respectively:- <u>Contract No.: YL/2020/01</u> 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. 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. Based on the above information and investigation findings, the noise complaint is not related to the	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
					construction works of the Contract YL/2020/01. Contract No.: YL/2020/02 According to the site diary, no construction work was carried out during restricted hours at the location under complaint on 2 January 2022 for YL/2020/02. Nevertheless, construction team was reminded to strictly follow the requirement stated in the issued construction noise permit when construction work is required during restricted hours. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/02.	
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.	According to the interim report, no construction works was carried out at the location of complaint which is outside the site boundary of the Project from 1st April to 4th April 2022. Appropriate water quality mitigation measures have been properly implemented on site and there is no direct evidence to demonstrate the muddy discharge was inducted by the Project. Further preventive measures, such as set up a monitoring point at the exit of the site to check the wheels of the vehicles are clean enough so that no mud and grit adhered to the wheels of the trucks when leaving the site. In addition, sprinkler truck will be only operated at appropriate location within the project site to avoid nuisance to the public road user.	Final reply to 1823 on 12 April 2022. Interim report prepared by Contractor was agreed by IEC and ET

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM-2022-08-01	1 August 2022	EPD	EPD File Ref.: N06/RN/00015561-22	The complainant concerned about the muddy water discharged by a piling contractor "德運建築鑽探有限公司" on 20th July 2022	Contract No.: YL/2020/01 德運建築鑽探有限公司 is not related to the Contract No. YL/2020/01. After checking on site, the complaint was referred to other party.	Interim report was submitted to EPD on 18 Aug 2022
COM-2022-08-02	4 August 2022	EPD	EPD File Ref.: N06/RN/00015953-22	The complainant concerned about the muddy water discharging to the public area from a construction site near Fu Tai Car Park.	Contract No.: YL/2020/02 Joint site investigation with RSS was carried out on 5 Aug 2022 near Fu Tai Carpark. There were no construction works carried out near Fu Tai Carpark and no muddy water was noted. Preventive measures (sand bag bund) had been provided.	Interim report was submitted to EPD on 18 Aug 2022
COM-2022-10-01	14 October 2022	EPD	EPD File Ref.: N06/RN/00022308-22	The complainant concerned about the noise arising from piling works carried out at 6am in the morning and around 11pm at night at the construction site adjacent to the existing Lok Ma Chau MTR Station.	Contract No.: YL/2021/01 According to the interim report, the piling works were carried out with valid construction noise permit from 08:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site. Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment to minimize the noise generated from works and the impact to the nearby resident.	Interim report was submitted to EPD on 17 Nov 2022
COM-2022-10-02	14 October 2022	EPD	EPD File Ref.: N06/RN/00022342-22	The complainant concerned about the noise arising from piling works carried out before 7am and at around 11pm at the construction site adjacent to the existing Lok Ma Chau MTR Station.	Contract No.: YL/2021/01 According to the interim report, the piling works were carried out with valid construction noise permit from 08:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-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/000023772-22	The complainant concerned about the noise arising from percussive piling works carried out on 27 & 28 Oct 2022 in Lok Ma Chau Loop (at a work site near "落馬州河套區創科園地盤")	Contract No.: YL/2020/01 According to the interim report, no percussive pilling works were carried out under Contract No. YL/2020/01 inside Lok Ma Chau Loop on 27th and 28th 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/000026174-22	The complainant concerned about the noise arising from piling works carried out at around 7am to around 10pm at the construction site adjacent to the Lok Ma Chau minibus station (落馬州關口小巴站旁地盤).	Contract No.: YL/2021/01 According to the interim report, the piling works were carried out with valid construction noise permit from 09:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site. Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment and along the site boundary facing the resident of Shenzhen City to minimize the noise generated from works and the impact to the nearby resident. 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/00027607-22)	The complainant alleged that: "… 打樁噪音造成困擾,情況已維持幾個星期,最初只係星期六下午,近兩星期日日朝早點前後就開始,到黃昏點幾6點先至停". The complainant provided co-ordinate information (x=826305.0; y=842363.0) for reference.	Contract No.: YL/2020/01 According to the interim report, no percussive piling works were carried out since the commencement of the Contract with reference to the site diary records. Refer to the coordinate information (x=826305.0; y=842363.0) provided by the complainant, the location of concerned is not within the works area under the Contract. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.	Interim report was submitted to EPD on 22 Dec 2022
COM-2022-12-01	8 December 2022	EPD	EPD File Ref.: N06/RN/00028165-22)	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)	Contract No.: YL/2020/01 According to the interim report, no percussive piling works were carried out since the commencement of the Contract with reference to the site diary records. Refer to the coordinate information (x=826305.0; y=842363.0) provided by the complainant, the location of concerned is not within the works area under the Contract. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.	Interim report was submitted to EPD on 22 Dec 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				for reference, and did not indicate where he/she was affected by the construction noise.		
COM-2023-02-01	15 February 2023	EPD	EPD File Ref.: N06/RN/000004267-23)	The complaint was lodged by a resident of Shenzhen City '…"附上落马洲工程夜间持续到现在还在工作的视频，轰隆声非常影响我们住在对面深圳居民的休息！希望能得到改善！不要在夜间扰民！谢谢！". Two short videos were attached in EPD's email dated 15 February 2023.	Contract No.: YL/2021/01 According to the interim report, piling works were carried out by the Contractor from 09:00 to 23:00 with valid construction noise permit under Contract YL/2021/01 of the Public Transport Interchange of Lok Ma Chau MTR Station. Noise monitoring was conducted for works during the restricted hours and no exceedance was recorded. The duration of working time for core demoulding and casting extraction were also minimized in order to reduce noise levels. Acoustic canvas sheets were installed to enclose the engine of used PME and deployed along the site boundary facing the resident of Shenzhen City to minimize the noise generated from works and the impact to the nearby resident. For enhancement, a 3m high noise barrier was installed next the rotary drilling rig on 15 February 2023. All night works were reviewed and suspended until 19 February 2023.	Interim report was submitted to EPD on 24 Feb 2023
COM-2023-03-01	3 March 2023	EPD	EPD File Ref.: N06/RN/00	The complaint was lodged by a resident of Shenzhen City "附件有视频， 拍不到做工	Contract No.: YL/2021/01 According to the interim report, the piling works were	Interim report was submitted to EPD on 17

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
			006284 23	程，但机器的轰隆声从早到晚，即使现在 22:24 分还在热火朝天的工作中！孩子和老人都需要休息，特别是老人，这种声音让他们已经很久没能早点休息！！！望能解决！或者可否告知什么时候工程能结束？ A short video was attached in EPD's email on 8th March 2023.	carried out from 09:00 to 23:00 with valid construction noise permit under Contract YL/2021/01 at the Public Transport Interchange of Lok Ma Chau MTR Station. Other than the piling works, there were no construction works undertaken by Contract YL/2021/01 on that night. Noise source was recorded in the short video provided by the complaint. However, the noise source had yet to be ascertained. Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled. In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded. Acoustic canvas sheets were installed to enclose the engine of used powered mechanical equipment. A 3m high noise barrier was installed next to the rotary drilling rig. For enhancement, another 3m high noise barrier was 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.	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	Contract No.: YL/2021/01 According to the interim report, the piling works were	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.	carried out from 08:00 to 19:00 on 2 April (Sunday) and 08:00 to 23:00 on 3 April with valid construction noise permit under Contract YL/2021/01 at the Public Transport Interchange of Lok Ma Chau MTR Station. Other than the piling works, there were no construction works undertaken for Contract YL/2021/01 during the aforementioned periods. The complaint included a sound recording that captured noise, but the source of the noise has not yet been determined. Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. Frontline supervisor and sub-contractors have to apply a PTW one working day in advance of the construction works during restricted hours and attend the pre-work briefing prior to commencing works on site to ensure strict compliance with the conditions of construction noise permit. No works and PMEs were allowed without the approved PTW form. Based on the Contractor's record, two rotary drill rigs were operated as listed in Group L of granted CNP at 08:00 – 19:00 on 2 April (Sunday) and 19:00 – 23:00 on 3 April, and only one group (L) of the PME was used for carrying out construction work at the same time. PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled. The power generating part of the rotary drilling rigs was screened by	Apr 2023

<table>
<tr><th>Log Ref.</th><th>Date of Complaint</th><th>Complaint Route</th><th>Reference No.</th><th>Details of Complaint</th><th>Investigation Finding</th><th>Status</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>acoustic barrier. In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded. The duration of working time for core demoulding and casing extraction were also minimized in order to reduce noise levels. 3m high noise barriers were installed next to the rotary drilling rigs. Another noise barriers were erected facing the residential blocks of Shenzhen City.

All construction works performed during the restricted hours were reviewed and no non-compliance was identified. A refresher training on a CNP compliance was provided to relevant frontline staff and workers on 20th April 2023.</td><td></td></tr>
<tr><td>COM-2023-05-01</td><td>8 May 2023</td><td>EPD</td><td>EPD File Ref.: N06/RN/00011649 23</td><td>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。"</td><td>Contract No.: YL/2021/01

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:

<table>
<tr><td>Date</td><td colspan="2">6 May (Saturday)</td><td>14 May (Saturday)</td></tr>
<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></tr>
<tr><td>Location:</td><td colspan="3">The Public Transport Interchange of Lok Ma Chau MTR Station</td></tr>
<tr><td>Construction</td><td colspan="2">Piling works</td><td>Air lifting works</td></tr>
</table></td><td>Interim report was submitted to EPD on 17 May 2023</td></tr>
</table>

<table>
<tr><th>Log Ref.</th><th>Date of Complaint</th><th>Complaint Route</th><th>Reference No.</th><th>Details of Complaint</th><th>Investigation Finding</th><th>Status</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>
<table>
<tr><td>activities:</td><td></td><td></td></tr>
</table>
The noise recorded in the video was considered not arising from Contract YL/2021/01.

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.

PMEs used record
<table>
<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>
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</td><td></td></tr>
</table>

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					blocks of Shenzhen City. The generators used on site were Quality Powered Mechanical Equipment (QPME). 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). 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.	
COM-2023-10-01	2 October 2023	EPD	EPD File Ref.: N07/RN/00023409-23	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”.	Contract No.: YL/2020/02 According to the interim report, the following investigation was conducted: 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
					during the inspection. No adverse comment was received from EPD during the inspection regarding the captioned. 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. 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. 4. The construction activities conducted from 25 September 2023 to 6 October 2023 in Fu Tai works area are the following: (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,	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					therefore no wastewater was leaked to nearby nullah.) (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) 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. 5. Mitigation measures taken on wastewater pollution control and waste management: (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
					before discharge to the designated discharge point since the Discharge Licence (Licence Number: WT10001592-2023) was granted (early September 2023). (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. (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. 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.	
COM-2023-12-01	4 December 2023	EPD	N/A	EPD received a public complaint on 4 December 2023 regarding to muddy	<u>Contract No.: YL/2020/02</u> According to the interim report, the following	Interim report was submitted to EPD on 19

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				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.	investigation was conducted: 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: (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
					(a) Double layer of sandbags have been placed along the work area to prevent wastewater to be ran-off from the site. (b) Dust screen has been erected to minimize dust nuisance to nearby pedestrians. 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.	

APPENDIX N
SUMMARY OF SUCCESSFUL PROSECUTION

Appendix N - Summary of Successful Prosecution

Date of Successful Prosecution	Details of the Successful Prosecution	Status	Follow Up
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APPENDIX O
MONITORING SCHEDULE FOR THE PRESENT AND NEXT REPORTING QUARTER

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

Impact Monitoring Schedule (October 2023)

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

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
Impact Monitoring Schedule (November 2023)

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

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

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

* Remark: No water quality monitoring was conducted on 25 December 2023 due to public holiday (site closed).

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(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 (January 2024)

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

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

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Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Tentative Impact Monitoring Schedule (February 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Feb	2-Feb	3-Feb
					24hr TSP Water Quality Monitoring	
4-Feb	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	**10-Feb**
	Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Noise Water Quality Monitoring	Avifauna (Pond 12)	Water Quality Monitoring	24hr TSP	1hr TSP X 3 Water Quality Monitoring	Site close and no works due to Chinese Lunar Year Holiday
11-Feb	**12-Feb**	**13-Feb**	14-Feb	15-Feb	16-Feb	17-Feb
Site close and no works due to Chinese Lunar Year Holidays			Site close and no works	Avifauna (Pond 12) 1hr TSP X 3 Noise 24hr TSP Water Quality Monitoring		Aquatic Fauna Survey (Water Quality Monitoring only) Water Quality Monitoring
18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb
	Water Quality Monitoring	24hr TSP	1hr TSP X 3 Noise Water Quality Monitoring	Aquatic Fauna Survey Avifauna (Pond 12)	Avifauna (Flightline Survey) Water Quality Monitoring	
25-Feb	26-Feb	27-Feb	28-Feb	29-Feb		
	Aquatic Fauna Survey (Water Quality Monitoring only) 24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Water Quality Monitoring	Avifauna (Pond 12)		

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

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