Civil Engineering and Development Department

Agreement No. CE 59/2015 (EP)
Environmental Team for
Tseung Kwan O – Lam Tin Tunnel
Design and Construction

Monthly Environmental Monitoring and Audit Report for April 2023

(Version 1.0)

Approved By

(Dr. HF Chan,
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.

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

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ANEWR

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Your reference:

Our reference: HKCEDD08/50/108795

Date: 15 May 2023

Attention: Mr Raymond Chan

BY FAX & POST
(Fax no.: 2739 0076)

Dear Sirs

Agreement No.: NTE 06/2016
Independent Environmental Checker for Tseung Kwan O – Lam Tin Tunnel
Monthly Environmental Monitoring and Audit Report for April 2023 (version 1.0)

We refer to the emails of 12 May 2023 from Cinotech Consultants Limited attaching the Monthly Environmental Monitoring and Audit Report for April 2023 (version 1.0).

We have no comment and hereby verify the captioned report in accordance with Clause 4.4 of the Environmental Permit no. EP-458/2013/C.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Alex Chan on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/CYCA/lsmt

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EXECUTIVE SUMMARY

Introduction

1. This is the 78th Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the "Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel – Design and Construction" (hereinafter called "the Project"). This report documents the findings of EM&A Works conducted in April 2023.

2. During the reporting month, the following works contracts were undertaken:
   - Contract No. NE/2015/01 – Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works;
   - Contract No. NE/2015/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works;
   - Contract No. NE/2017/01 – Tseung Kwan O – Lam Tin Tunnel –Tseung Kwan O Interchange and Associated Works
   - Contract No. NE/2017/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works.
   - Contract No. NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System (TCSS) and Associated Works
   - Contract No. NE/2017/07 – Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works.

Environmental Monitoring 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. The implementation of mitigation measures in operation phase is presented in **Appendix X**.

4. Summary of the non-compliance (exceedance) in the reporting month for the Project is tabulated in **Table I**.

Table I Non-compliance (exceedance) Record for the Project in the Reporting Month

Environmental Monitoring	No. of Non-compliance (Exceedance)		No. of Non-compliance (Exceedance) due to Construction Activities of this Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Air Quality	1	1	0	0	Refer to Appendix K
Noise	0	0	0	0	Refer to Appendix K & O
Marine Water Quality	6	33	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A[1]	0	N/A[1]	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A

Note:(1) No Limit Level for Groundwater Level Monitoring (Piezometer Monitoring).

Air Quality Monitoring

5. No Action/Limit Level exceedance for 1-hour TSP monitoring was recorded.

6. One (1) Action Level exceedance for 24-hour TSP monitoring was recorded. The case is considered as non-project related.

7. One (1) Limit Level exceedances for 24-hour TSP monitoring was recorded. The case is considered as non-project related.

Construction Noise Monitoring

8. No Action Level exceedance was recorded due to documented complaints in the reporting month. The Summary of Documented Complaints in Reporting Month is tabulated in **Table III.**

9. No project-related Limit Level exceedance was recorded due to monitoring results in this reporting month.

Water Quality Monitoring

10. Groundwater quality monitoring had been suspended since October 2019 upon the agreement by EPD. Further details should be founded at **Section 5.1**.

11. All marine water quality monitoring was conducted as scheduled in the reporting month. There were six (6) Action Level and thirty-three (33) Limit Level exceedances recorded in Monitoring Stations (M) during marine water quality monitoring. During this reporting month, no sand plume was observed during the water quality monitoring and site audits, therefore there is no direct evidence that the recent exceedances were due to the construction works of the Project. Details of this investigation are presented in **Section 5**. Daily silt curtain inspection and weekly diving inspection have been carried out by contractor, the

record, as reviewed by the site auditors, indicated that silt curtains were found in good conditions.

12. Since all marine works are completed in November 2021, the post-reclamation marine water quality monitoring was initiated in December 2021. In accordance to EP condition No. 3.4, upon the completion of the year-round monitoring, the marine water quality in the embayment area shall be summarised and reported with suggestions for improvements, if applicable. The monitoring location is presented in **Figure 9** and the last monitoring was carried out in November 2022, no further monitoring is required.

13. Construction phase daily piezometer monitoring by the Contractor commenced in June 2018. It has switched to monthly basis on 3 October 2018 as the construction activity was 120m away from the piezometer gate. No monitoring was conducted in the reporting month.

Ecological Monitoring

14. Post-translation coral monitoring survey shall be conducted once every 3 months for a period of 12 months after completion of coral translocation. The post-translocation coral monitoring surveys were completed in November 2017.

Monitoring on Cultural Heritage

15. Monitoring of impacts on Cultural Heritage at Cha Kwo Ling Tin Hau Temple commenced in May 2017. No Alert, Alarm, and Action (AAA) Level exceedance was recorded in the reporting month.

Landscape and Visual Monitoring and Audit

16. The implementation of landscape and visual mitigation measures was checked during the environmental site inspections. Recommended follow-up actions have been discharged by the Contractor. Details of the audit findings and implementation status are presented in **Section 10**.

Landfill Gas Monitoring

17. Monitoring of landfill gases commenced in December 2016 and was carried out by the Contractor at excavation location, Portion III. Upon the completion of construction within the concerned area, landfill gas monitoring for operational phase is commenced from the end of December 2022. No Limit Level exceedance was recorded in the reporting period.

Environmental Site Inspection

18. Joint weekly site inspections were conducted by representatives of the Contractor, Engineer, and Environmental Team. The representative of the IEC joined the site inspection for NE2015/01 and NE/2017/07 on 19 April 2023 & NE/2015/02, NE/2017/01, NE/2017/02, and NE/2017/06 on 20 April 2023 respectively. Details of the audit findings and implementation status are presented in **Section 10**.

Waste Management

19. Wastes generated from this Project include inert construction and demolition (C&D) materials, non-inert C&D materials, and marine sediment. Details of waste management data are presented in **Section 11** and **Appendix P**.

Key Information in the Reporting Month

20. Summary of key information in the reporting month is tabulated in **Table II**

Table II Key Information in the Reporting Month

Monthly Complaints	Event Details		Action Taken	Status
	Number	Nature		
April 2023	1	Noise	Details refer to App O	Draft CIR submitted
March 2023	3	Noise	Details refer to App O	Draft CIR submitted / Closed
February 2023	0	---	N/A	N/A
January 2023	0	---	N/A	N/A
December 2022	7	Air / Noise	Details refer to App O	Draft CIR submitted / Investigation undergoing / Closed
November 2022	2	Noise	Details refer to App O	Draft CIR submitted
October 2022	1	Noise	Details refer to App O	Draft CIR submitted
September 2022	2	Noise	Details refer to App O	Closed
August 2022	5	Air / Noise	Details refer to App O	Closed
July 2022	3[*4]	Noise / Water	Details refer to App O	Closed
June 2022	3	Noise	Details refer to App O	Closed
May 2022	7	Noise	Details refer to App O	Closed
April 2022	11[*3]	Air / Noise	Details refer to App O	Closed
March 2022	4[*2]	Noise / Water	Details refer to App O	Draft CIR submitted / Closed
February 2022	5[*1]	Noise	Details refer to App O	Closed
January 2022	4	Noise	Details refer to App O	Closed
Notifications of any summons & prosecutions received	0	---	N/A	N/A

*1: 2 complaints in February 2022 were received in early March 2022.
*2: 1 complaint in March 2022 was received in April 2022 and 1 complaint was missing and found in August 2022
*3: 3 complaints in April 2022 were received in May 2022
*4: 1 complaint in June 2022 were received in July 2022

21. Summary of complaints received in the reporting month is tabulated in **Table III.**

Table III Summary of Complaints Details in Reporting Month

Complaint No.	Complaint	Investigation Findings	Follow-up Action / Mitigation Measure
Lam Tin Side			
N/A	N/A	N/A	N/A
Tseung Kwan O Side			
639	Construction Noise Nuisance during public holiday at Tseung Kwan O (Apr & May 2023)	The complaint case for 16 Apr 2023 is considered as non-project-related as there were no construction activities conducted during the time of complaint. The details shall be referred to CIR-N189.	Nil

Key Construction Work in the reporting month & the next reporting month

22. Summary of key construction work in the reporting month is tabulated in **Table IV**.

Table IV Summary Table for Key Construction Work in the Reporting Month

Contract No.	Project Title	Site Activities (April 2023)	
NE/2015/01	Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) Site Formation Area 1G1, 1G2, 2 & 5 2) Site Formation Slope Stabilization 3) Bridge Noise Barrier/ Noise Enclosure 4) Road S02-2a2b Noise Enclosure 5) EHC4 Construction 6) Semi Enclosure Structures 7) Type 1E RC, 1D RC Structures 8) CKLR Underground Utilities 9) Landscape Deck 10) LTI Drainage, Road Pavement 11) Lei Yue Mun Road Junction Modification Works 12) Stage 1 Commissioning Outstanding Works
		Main Tunnel	13) N/A
		TKO Interchange	14) Miscellaneous Works 15) Slope stabilization works
NE/2015/02	Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Top soil placing and planter construction 2) Cleaning works and defect rectification 3) Demolition of BMCPC temporary access road 4) E&M testing works	
NE/2015/03	Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. The EM&A works were terminated in late April 2020.	
NE/2017/01	Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	1) Demolition works of site office 2) Defects Rectification 3) Trimming of bottom Blisters	
NE/2017/02	Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Road works 3) Construction of drainage and watermain 4) Asphalt paving 5) Pier, Staircase and lift shaft construction	
NE/2017/06	Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	1) Testing and Commissioning 2) Defects Rectification	
NE/2017/07	Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) E&M Pre-handover inspection 2) E&M defect rectification works	

Future Key Issues

23. The future key environmental issues in the coming month include:

Table V Summary Table for Site Activities in the next Reporting Period

Contract No. and Project Title	Site Activities (May 2023)		Key Environmental Issues *
NE/2015/01 - Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) Site Formation Area 1G1, 1G2, 2 & 5 2) Site Formation Slope Stabilization 3) Bridge Noise Barrier & Noise Enclosure 4) Road S02-2a2a & 2a2b Noise Enclosure 5) EHC 4 Construction 6) Semi Enclosure Structures 7) Type 1E RC Structures 8) Type 1D RC Structures 9) CKLR Underground Utilities 10) LTI Drainage & Road Pavement 11) Lei Yue Mun Road Junction Modification Works 12) Stage 1 Commissioning Outstanding Works	(A) / (B) / (C) / (D) / (E) / (G)
	Main Tunnel	13) N/A	N/A
	TKO Interchange	14) Miscellaneous Works 15) Slope Stabilization Works	(A) / (C) / (D) / (E) / (F) / (I)
NE/2015/02 - Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Top soil placing and planter construction 2) Cleaning works and defect rectification 3) Demolition of BMCPC temporary access road 4) E&M testing works		(A) / (B) / (C) / (D) / (E) / (G) / (I)
NE/2015/03 - Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. Materials are being removed from works area.		N/A
NE/2017/01 – Tseung Kwan O Interchange and Associated Works	1) Defects rectification		(A) / (B) / (E) / (F) / (G)
NE/2017/02 –Tseung Kwan O - Lam Tin Tunnel - Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Road works 3) Construction of drainage and watermain		(A) / (B) / (E) / (F) / (G)
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System (TCSS) and Associated Works	1) Testing and Commissioning 2) Defects Rectification		(E)
NE/2017/07 - Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) E&M Pre-handover inspection 2) E&M defect rectification works		N/A

Note:
(A) Watering for dust generation from haul road, stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
(B) Noisy construction activity such as rock-breaking activities and piling works;
(C) Runoff from exposed slope or site area;
(D) Wastewater and runoff discharge from site;
(E) Accumulation of silt, mud and sand along U-channels and sedimentation tanks;
(F) Set up and implementation of temporary drainage system for the surface runoff;
(G) Storage of chemicals/fuel and chemical waste/waste oil on site;
(H) Accumulation and storage of general and construction waste on site; and
(I) Marine water quality impact and indirect impact to coral communities due to marine construction for TKO-LTT reclamation

1. INTRODUCTION

1.1 Cinotech Consultants Limited (Cinotech) was commissioned by Civil Engineering and Development Department (CEDD) as the Environmental Team (ET) to undertake environmental monitoring and auditing services for the Works Contracts involved in the implementation of Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) project 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 TKO-LTT project and other relevant statutory requirements. This is the 78th Monthly EM&A report summarizing the EM&A works for the Project in April 2023.

Purpose of the Report

1.2 This is the 78th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in April 2023.

Structure of the Report

1.3 The structure of the report is as follows:

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

Section 2: **Contract Information** – summarises background and scope of the Contract, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting month.

Section 3: **Air Quality Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 4: **Noise Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 5: **Water Quality Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 6: **Ecological Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations and Action and Limit Levels, monitoring results and Event / Action Plans.

Section 7: **Cultural Heritage** –summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations and monitoring results.

Section 8: **Landscape and Visual Monitoring Requirements** – summarises the requirements of landscape and visual monitoring

Section 9: **Landfill Gas Monitoring** – summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, monitoring results and Limit Levels and Action Plan

Section 10: **Environmental Site Inspection** – summarises the audit findings of the weekly site inspections undertaken within the reporting month.

Section 11: **Waste Management** – summarises the waste management data in the reporting month.

Section 12: **Environmental Non-conformance** – summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.

Section 13: **Future Key Issues** – summarises the impact forecast and monitoring schedule for the next three months.

Section 14: **Conclusions and Recommendation**

2. PROJECT INFORMATION

Background

2.1 In 2002, Civil Engineering and Development Department (CEDD) commissioned an integrated planning and engineering study under Agreement No. CE 87/2001 (CE) "Further Development of Tseung Kwan O – Feasibility Study" (the "TKO Study") to formulate a comprehensive plan for further development of TKO New Town. It recommended to further develop TKO to house a total population of 450,000 besides the district's continuous commercial and industrial developments.

2.2 At present, the Tseung Kwan O Tunnel is the main connection between Tseung Kwan O (TKO) and other areas in the territory. To cope with the anticipated transport need, the TKO Study recommended the provision of Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) (hereinafter referred to as "the Project") and Cross Bay Link (CBL) to meet the long-term traffic demand between TKO and the external areas. The site layout plan for the Project is shown in **Figure 1**. CBL was also entrusted with part of the marine viaducts near Tseung Kwan O Interchange since the commencement of the CBL project the December 2018.

2.3 The Environmental Impact Assessment (EIA) Report for the TKO-LTT project was approved under the Environmental Impact Assessment Ordinance (EIAO) in July 2013. The corresponding Environmental Permit (EP) was issued in August 2013 (EP no.: EP-458/2013). Variations to the EP was applied and the latest EP (EP no.: EP-458/2013/C) was issued by the Director of Environmental Protection (DEP) in January 2017.

2.4 The commencement dates of construction of this Project are:

- Contract No. NE/2015/01 and Contract No. NE/2015/02: 7 November 2016.
- Contract No. NE/2015/03: 29 May 2017.
- Contract No. NE/2017/02: 15 March 2018.
- Contract No. NE/2017/01: 23 May 2018.
- Contract No. NE/2017/06: 09 November 2018.
- Contract No. NE/2017/07: 22 February 2021

2.5 The implementation of mitigation measures in operation phase of NE/2015/02 and NE/2017/02 is presented in **Appendix X**.

Project Organizations

2.6 Different parties with different levels of involvement in the project organization include:

- Project Proponent – Civil Engineering and Development Department (CEDD)
- The Engineer and the Engineer's Representative (ER) – AECOM
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
- Independent Environmental Checker (IEC) – AnewR Consulting Limited (AnewR)

2.7 The key contacts of the Project are shown in **Table 2.1**.

Table 2.1 Key Project Contacts

Party	Role	Contact Person	Phone No.	Fax No.
CEDD	Project Proponent	Mr. LO Sai Pak, Sunny	2301 1384	2739 0076
AECOM	Engineer's Representative	Mr. Jackie CW, Ng	3910 1601	3910 1600
Cinotech	Environmental Team	Dr. HF Chan	2151 2088	3107 1388
		Mr. KS Lee	2151 2091	
AnewR	Independent Environmental Checker	Mr. James Choi	2618 2836	3007 8648

Construction Activities undertaken during the Reporting Month

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

Table 2.2 Summary Table for Major Site Activities in the Reporting Month

Contract No.	Project Title	Site Activities (April 2023)	
NE/2015/01	Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) Site Formation Area 1G1, 1G2, 2 & 5 2) Site Formation Slope Stabilization 3) Bridge Noise Barrier/ Noise Enclosure 4) Road S02-2a2b Noise Enclosure 5) EHC4 Construction 6) Semi Enclosure Structures 7) Type 1E RC, 1D RC Structures 8) CKLR Underground Utilities 9) Landscape Deck 10) LTI Drainage, Road Pavement 11) Lei Yue Mun Road Junction Modification Works 12) Stage 1 Commissioning Outstanding Works
		Main Tunnel	13) N/A
		TKO Interchange	14) Miscellaneous Works 15) Slope stabilization works
NE/2015/02	Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Top soil placing and planter construction 2) Cleaning works and defect rectification 3) Demolition of BMCPC temporary access road 4) E&M testing works	
NE/2015/03	Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. The EM&A works were terminated in late April 2020.	
NE/2017/01	Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	1) Demolition works of site office 2) Defects Rectification 3) Trimming of bottom Blisters	
NE/2017/02	Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Road works 3) Construction of drainage and watermain 4) Asphalt paving 5) Pier, Staircase and lift shaft construction	

Contract No.	Project Title	Site Activities (April 2023)
NE/2017/06	Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	1) Testing and Commissioning 2) Defects Rectification
NE/2017/07	Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) E&M Pre-handover inspection 2) E&M defect rectification works

2.9 The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in **Table 2.3**.

Table 2.3 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Construction Works	Major Environmental Impact	Control Measures
As mentioned in **Table 2.2**	Noise, dust impact, water quality and waste generation	• Sufficient watering of the works site with active dust emitting activities • Properly cover the stockpiles • On-site waste sorting and implementation of trip ticket system • Appropriate desilting/sedimentation devices provided on site for treatment before discharge • Use of quiet plant and well-maintained construction plant • Provide movable noise barrier

Status of Environmental Licences, Notification and Permits

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

Table 2.4 Summary of the Status of Environmental Licences, Notification and Permits

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
N/A	EP-458/2013/C	20/1/2017	N/A	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation				
NE/2015/01	EPD Ref no.: 405305	21/07/2016	N/A	Valid
	EPD Ref no.: 405582	28/07/2016	N/A	Valid
NE/2015/02	EPD Ref no.: 406100	12/08/2016	N/A	Valid
NE/2015/03	EPD Ref no.: 416072	26/04/2017	N/A	Valid
NE/2017/02	EPD Ref no.: 429867	19/01/2018	N/A	Valid
NE/2017/01	EPD Ref no.: 430070	25/01/2018	N/A	Valid
NE/2017/06	EPD Ref no.: 461507	03/11/2020	N/A	Valid
Billing Account for Construction Waste Disposal				
NE/2015/01	Account No. 7025431	11/07/2016	N/A	Valid
NE/2015/02	Account No. 7025654	16/08/2016	N/A	Valid
NE/2015/03	Account No. 7026805	30/12/2016	N/A	Valid
NE/2017/02	Account No. 7029651	22/12/2017	N/A	Valid
NE/2017/01	Account No. 7029994	01/02/2018	N/A	Valid
NE/2017/06	Account No. 7032520	22/11/2018	N/A	Valid
NE/2017/07	Account No. 7031412	24/07/2018	N/A	Valid
Billing Account for Vessel Disposal				
NE/2015/01	Account No. 7027764	09/12/2022	01/06/2023	Valid
Registration of Chemical Waste Producer				
NE/2015/01	Waste Producer No. 5218-290-L2881-02	22/08/2016	N/A	Valid
	Waste Producer No. 5213-833-L2532-03	22/08/2016	N/A	Valid
NE/2015/02	Waste Producer No. 5213-838-C4094-01	23/08/2016	N/A	Valid
NE/2015/03	Waste Producer No. 5213-265-W3435-04	19/07/2017	N/A	Valid
NE/2017/02	Waste Producer No. 5213-833-Z4004-04	01/02/2018	N/A	Valid
NE/2017/01	Waste Producer No. 5213-833-C4262-01	12/02/2018	N/A	Valid
NE/2017/07	Waste Producer No. 5213-839-C1232-19	28/08/2018	N/A	Valid
Effluent Discharge License under Water Pollution Control Ordinance				
NE/2015/01	WT00039948-2021	28/02/2022	30/11/2026	Valid

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
	WT00040291-2022	13/01/2022	30/11/2026	Valid
	WT00041172-2022	09/06/2022	31/03/2027	Valid
	WT00041237-2022	09/06/2022	31/03/2027	Valid
	WT00041840-2022	17/08/2022	31/08/2027	Valid
NE/2015/02	WT00030654-2018	16/04/2018	30/04/2023	Valid
NE/2015/02	WT00040338-2022	28/01/2022	28/02/2027	Valid
NE/2017/01	WT00030711-2018	11/04/2018	30/04/2023	Valid
	WT00030716-2018	23/05/2018	31/05/2023	Valid
NE/2017/02	WT00030654-2018	16/04/2018	30/04/2023	Valid
NE/2017/07	WT00032842-2018	01/03/2019	31/03/2024	Valid
	WT00034178-2019	15/07/2019	31/07/2024	Valid
Construction Noise Permit (CNP)				
NE/2015/01	GW-RE0107-23	06/02/2023	02/04/2023	Valid until 02 Apr 2023
	GW-RE0128-23	09/02/2023	06/05/2023	Valid
	GW-RE0163-23	10/03/2023	09/06/2023	Valid
	GW-RE0183-23	27/02/2023	23/05/2023	Valid
	GW-RE0201-23	01/03/2023	26/05/2023	Valid
	GW-RE0225-23	16/03/2023	15/06/2023	Valid
	GW-RE0338-23	12/04/2023	30/06/2023	Valid
	GW-RE0420-23	09/05/2023	20/06/2023	Valid
NE/2015/02	GW-RE1364-22	21/12/2022	20/06/2023	Valid
	GW-RE0210-23	07/03/2023	31/08/2023	Valid
NE/2017/01	GW-RE1254-22	16/11/2022	15/05/2023	Valid
NE/2017/06	GW-RE1150-22	21/11/2022	20/05/2023	Valid
	GW-RE1170-22	21/11/2022	20/04/2023	Valid until 20 Apr 2023
	GW-RE0317-23	20/04/2023	31/08/2023	Valid
Marine Dumping Permit				
NE/2017/01	EP/MD/21-011	N/A	N/A	N/A

Summary of EM&A Requirements

2.11 The EM&A programme requires construction noise monitoring, air quality monitoring, water quality monitoring, environmental site audit, etc. The EM&A requirements for each parameter 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 Report.

2.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 10** of this report.

2.13 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the monitoring parameters of the required environmental monitoring works and audit works for the Project in the reporting month.

3. AIR QUALITY

Monitoring Requirements

3.1 According to EM&A Manual of the Project, 1-hour and 24-hour TSP monitoring are required to monitor the air quality. For regular impact monitoring, a sampling frequency of at least once in every six days shall be undertaken at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Six designated monitoring stations were selected for air quality monitoring programme. **Table 3.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

Table 3.1 Locations for Air Quality Monitoring

Monitoring Stations	Location	Location of Measurement
AM1	Tin Hau Temple	Ground Level
AM2	Sai Tso Wan Recreation Ground	Ground Level
AM3	Yau Lai Estate Bik Lai House	Rooftop (41/F)
AM4(1)	Sitting-out Area at Cha Kwo Ling Village	Ground Level
AM4(B)(2) (*)(^)	Flat 103 Cha Kwo Ling Village	Ground Level
AM5(A)(*)	Tseung Kwan O DSD Desilting Compound	Ground Level
AM6(A) (*)	Park Central, L1/F Open Space Area	1/F

Remarks: (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

(*) Air quality monitoring at designated station AM4(24hr TSP,)AM5 and AM6 was rejected by the premise owners. Therefore, baseline and impact air quality monitoring works were carried out at alternative air quality monitoring stations AM4(A)(24hr TSP only), AM5(A) and AM6(A) respectively.

(^)In June 2022, the 24 TSP Monitoring at AM4(A) is suspended and under application for relocation, as the office had to be demolished. Once the proposal for relocation is approved, the monitoring at AM4(A) will be conducted at AM4(B). For the time being, as the station CKL2 for the 24 hr TSP monitoring, carried out under EM&A works for Trunk Road T2 Project (EP-451/2013), is located in close proximity to AM4(A); the results from CKL2 are adopted as reference for the 24 TSP monitoring at AM4(A), which has similar environment when compared with that for CKL2.

Monitoring Equipment

3.3 High Volume Samplers (HVS) were used to carry out 24-hour TSP monitoring. Direct reading dust meter were also used to measure 1-hour average TSP levels. The 1-hour sampling was determined periodically by HVS to check the validity and accuracy of the results measured by direct reading method.

3.4 Wind data monitoring equipment was set at rooftop (about 41/F) of Yau Lai Estate Bik Lai House for logging wind speed and wind direction such that the wind sensors are clear of obstructions or turbulence caused by building. The wind data monitoring equipment is re-calibrated at least once every six months and the wind directions are divided into 16 sectors of 22.5 degrees each. The location is shown in **Figure 2**.

3.5 **Table 3.2** summarizes the equipment to be used in the air quality monitoring. Copies of calibration certificates are attached in **Appendix B**.

Table 3.2 Air Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Calibrator	TISCH Model: TE-5025A	1
1-hour TSP Dust Meter	Sibata Model No.: LD-3B / LD-5R	8
	Met One Instruments Model No.: AEROCET-831	0
	Handheld Particle Counter Hal-HPC300 / Hal-HPC301	0
HVS Sampler	TISCH Model: TE-5170	1
	GMW Model: GS2310	5
Wind Anemometer	Davis Weather Monitor II, Model no. 7440	1
	Davis Weather Stations, Vantage Pro 2, Model No. 6152CUK	0

Monitoring Parameters and Frequency

3.6 **Table 3.3** summarizes the monitoring parameters, monitoring period and frequencies of air quality monitoring.

Table 3.3 Frequency and Parameters of Air Quality Monitoring

Monitoring Stations	Parameter	Frequency
AM1, AM2, AM3, AM4, AM5(A) and AM6(A)	1-hour TSP	3 times per 6 days
AM1, AM2, AM3, AM4(B), AM5(A) and AM6(A)	24-hour TSP	Once per 6 days

Monitoring Methodology

1-hour TSP Monitoring

Measuring Procedures

3.7 The measuring procedures of the 1-hour dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(Model LD3 / LD3B / LD5R)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

(AEROCET-531)

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Remove the red rubber cap from the AEROCET-531 inlet nozzle.
- Turn on the power switch that is located on the right side of the AEROCET-531.
- On power up the product intro screen is displayed for 3 seconds. The intro screen displays the product name and firmware version.
- Then the main counter screen will be displayed.
- Press the START button. Internal vacuum pump start running. After 1 minute the pump will stop and the 0.5μm and 5μm channels will show the cumulative counts of particles larger than 0.5μm and 5μm per cubic foot.
- The AEROCET-531 is now checked out and ready for use.
- To switch off the AEROCET-531 power to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, and display value and site condition were recorded during the monitoring period.
-
- (Equipment: Hal Technology; Model no. Hal-HPC300 / Hal-HPC301)
- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

3.8 The following maintenance/calibration is required for the direct dust meters:

- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

3.9 High volume samplers (HVS) (TISCH Model: TE-5170 and GMW Model: GS2310) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

3.10 The positioning of the HVS samplers are as follows:

- a horizontal platform with appropriate support to secure the samplers against gusty wind shall be provided;
- no two samplers shall be placed less than 2 meters apart

- the distance between the sampler and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the sampler;
- a minimum of 2 metres of separation from walls, parapets and penthouses is required for rooftop samplers;
- a minimum of 2 metres of separation from any supporting structure, measured horizontally is required;
- no furnace or incinerator flue is nearby;
- airflow around the sampler is unrestricted;
- the sampler is more than 20 metres from the dripline;
- any wire fence and gate, to protect the sampler, shall not cause any obstruction during monitoring;
- permission must be obtained to set up the samplers and to obtain access to the monitoring stations; and
- a secured supply of electricity is needed to operate the samplers.

Operating/analytical procedures for the operation of HVS

3.11 Prior to the commencement of the dust sampling, the flow rate of the high-volume sampler was properly set (between 1.1 m^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

3.12 For TSP sampling, fiberglass filters with a collection efficiency of > 99% for particles of 0.3μm diameter were used.

3.13 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

3.14 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centred with the stamped number upwards, on a supporting screen.

3.15 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

3.16 The shelter lid was closed and secured with the aluminium strip.

3.17 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

3.18 After sampling, the filter was removed and sent to the HOKLAS laboratory (ALS Hong Kong) for weighing. The elapsed time will be also recorded.

3.19 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

3.20 The following maintenance/calibration is required for the HVS:

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

Results and Observations

3.21 No Action/Limit Level exceedance was recorded for 1-hour TSP monitoring.

3.22 One (1) Action Level and One (1) Limit Level exceedance was recorded for 24-hour TSP monitoring. However, the exceedance were caused by the heavy traffic flow.

3.23 The air temperature, precipitation and the relative humidity data was obtained from Hong Kong Observatory where the wind speed and wind direction were recorded by the installed Wind Anemometer at rooftop of Yau Lai Estate Bik Lai House (41/F). The location is shown in **Figure 2**. This weather information for the reporting month is summarized in **Appendix C**.

3.24 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.

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

Table 3.4 Major Dust Source during Air Quality Monitoring

Station	Major Dust Source
AM1 – Tin Hau Temple	Road Traffic at Cha Kwo Ling Road
AM2 – Sai Tso Wan Recreation Ground	N/A
AM3 – Yau Lai Estate Bik Lai House	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
AM4 - Sitting-out Area at Cha Kwo Ling Village	Road Traffic at Cha Kwo Ling Road
AM4(B) – Flat 103 Cha Kwo Ling Village*	Road Traffic at Cha Kwo Ling Road
AM5(A) - Tseung Kwan O DSD Desilting Compound	Vehicle Movement within the Desilting Compound
AM6(A) - Park Central, L1/F Open Space Area	Road Traffic at Po Yap Road

* In June 2022, the 24 TSP Monitoring at *AM4(A)* is suspended and under application for relocation, as the office had to be demolished. Once the proposal for relocation is approved, the monitoring at *AM4(A)* will be conducted at AM4(B). For the time being, as the station *CKL2* for the 24 hr TSP monitoring, carried out under EM&A works for Trunk Road T2 Project (EP-451/2013), is located in close proximity to *AM4(A*); the results from *CKL2* are adopted as reference for the 24 TSP monitoring at AM4(A), which has similar environment when compared with that for *CKL2*.

4. NOISE

Monitoring Requirements

4.1 According to EM&A Manual of the Project, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

4.2 Noise monitoring was conducted at 8 designated monitoring stations (CM1, CM2, CM3, CM4, CM5, CM6 (A), CM7 (A), and CM8 (A) in the reporting period. **Table 4.1** and **Figure 3** show the locations of these stations.

Table 4.1 Noise Monitoring Stations

Monitoring Stations	Locations	Location of Measurement
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	Rooftop (41/F)
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	Rooftop (41/F)
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	Rooftop (40/F)
CM4	Tin Hau Temple, Cha Kwo Ling	Ground Level
CM5	CCC Kei Faat Primary School, Yau Tong	Rooftop (6/F)
CM6(A)*	Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores	Ground Level
CM7(A)*	Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores	Ground Level
CM8(A)*	Park Central, L1/F Open Space Area	1/F

Remarks:
* Noise monitoring at designated station CM6, CM7 & CM8 was rejected by the premise owners. Therefore, baseline and impact noise monitoring works were carried out at alternative noise monitoring stations CM6(A), CM7(A) and CM8(A) respectively.

Monitoring Equipment

4.3 Integrating Sound Level Meter was used for impact noise monitoring. The meters are Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) that also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 4.2** summarizes the noise monitoring equipment being used. Copies of calibration certificates are attached in **Appendix B**.

Table 4.2 Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 957/ 959 / 979	1
	BSWA308 SLM	3
Calibrator	SV30A	1
	Brüel & Kjær 4231	0
	ST-120	1

4.4 **Table 4.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**. Additional weekly impact monitoring are carried out for evening time (1900 – 2300 hours) for monitoring stations CM1, CM2, CM3 & CM6(A) and night-time (2300 – 0700 hours) for monitoring stations CM1, CM2 & CM3.

Table 4.3 Frequency and Parameters of Noise Monitoring

Monitoring Stations	Parameter	Period	Frequency	Measurement
CM1	L_{10}(30 min) dB(A) L_{90}(30 min) dB(A) L_{eq}(30 min) dB(A)	0700-1900 hrs on normal weekdays	Once per week	Façade
CM2				Façade
CM3				Façade
CM4				Façade
CM5				Façade
CM6(A)				Free Field
CM7(A)				Free Field
CM8(A)				Façade
CM1	L_{10}(5 min) dB(A) L_{90}(5 min) dB(A) L_{eq}(5 min) dB(A)	1900 – 0700 hrs on normal weekdays		Façade
CM2				Façade
CM3				Façade
CM6(A)		1900 – 2300 hrs on normal weekdays		Free Field

Monitoring Methodology and QA/QC Procedure

4.5 The monitoring procedures are as follows:

- The monitoring station was normally be at a point 1m from the exterior of the sensitive receivers building façade and be at a position 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces. All records for free field noise levels was adjusted with a correction of +3 dB(A).
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time was set as follows:
  - frequency weighting: A
  - time weighting : Fast
  - measurement time : 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement will be more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- At the end of the monitoring period, the L_{eq}, L_{90} and L_{10} was recorded. In addition, noise sources was recorded on a standard record sheet.
- Noise monitoring will be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. Supplementary monitoring was provided to ensure sufficient data would be obtained.

Maintenance and Calibration

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

4.7 The sound level meter and calibrator was checked and calibrated at yearly intervals.

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

Results and Observations

4.9 No Action Level exceedance was recorded due to documented complaints in the reporting month. No project-related Limit Level exceedance during daytime was recorded due to monitoring results in this reporting month. No project-related Limit level exceedances for evening/night-time construction noise monitoring was recorded.

4.10 Noise monitoring results and graphical presentations are shown in **Appendix G**.

4.11 The major noise source identified at the noise monitoring stations are shown in **Table 4.4**.

Table 4.4 Major Noise Source during Noise Monitoring

Monitoring Stations	Locations	Major Noise Source
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM4	Tin Hau Temple, Cha Kwo Ling	Road Traffic at Cha Kwo Ling Road
CM5	CCC Kei Faat Primary School, Yau Tong	Road Traffic at Yau Tong Road
CM6(A)	Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores	Road Traffic at O King Road near Ocean Shores
CM7(A)	Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores	Road Traffic at Tong Yin Street
CM8(A)	Park Central, L1/F Open Space Area	Road Traffic at Po Yap Road

4.12 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured L_{eq} – Baseline L_{eq} = CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 4.5, 4.6 and 4.7**.

Table 4.5 Baseline Noise Level and Noise Limit Level for Monitoring Stations

Station	Baseline Noise Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)	Noise Limit Level, dB (A) (at 0700 – 1900 hrs on normal weekdays)
CM1	65.5	75
CM2	63.6	
CM3	65.6	
CM4	62.0	
CM5	68.2	70*
CM6(A)	61.9	75
CM7(A)	58.3	
CM8(A)	69.1	
(*) Noise Limit Level is 65 dB(A) during school examination periods.		

Table 4.6 Baseline Noise Level and Noise Limit Level for Monitoring Stations (Evening-time & Daytime (Holiday))

Station	Baseline Noise Level, dB (A) (Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime (0700-1900 hrs))	Noise Limit Level, dB (A) (Evening time on all days (1900-2300 hrs) and Holidays (including Sundays) during daytime (0700-1900 hrs))
CM1	64.4	70
CM2	62.2	
CM3	64.7	
CM6(A)	60.2	65[1]
1. ASR B was adopted according to the EIA as traffic in the surrounding area has not been changed.		

Table 4.7 Baseline Noise Level and Noise Limit Level for Monitoring Stations (Night-time)

Station	Baseline Noise Level, dB (A) (Night-time (2300 – 0700 hrs)	Noise Limit Level, dB (A) (Night-time (2300 – 0700 hrs)
CM1	14-day baseline monitoring results for the time period of impact measurement at each station would be adopted	55
CM2		
CM3		

5. WATER QUALITY

Monitoring Requirements

Groundwater Quality

5.1 The existing groundwater quality monitoring programme has been suspended as the monitoring results had been deemed non-representative of the impact from the project justified by two major factors: (1) influence on the monitoring results from non-project related factors, such as anthropogenic activities and natural phenomenon; and (2) large separation between the monitoring stations and works area. In addition, as no alternative locations for the groundwater quality monitoring were available, the groundwater quality monitoring has been suspended since October 2019 upon the agreement by EPD.

Marine Water Quality

5.2 Marine water quality monitoring was conducted three times per week at the designated monitoring stations. Monitoring took place two times per monitoring day during mid ebb and mid flood tides at three depths (1 meter from surface, mid depth and 1 meter from the bottom). For Tseung Kwan O Salt Water Intake (i.e. Station M6), water sampling and in-situ measurements was taken at the vertical level where the water abstraction point of the intake is located (i.e. approximately mid-depth level). If the water depth is less than 6m, the mid-depth measurement may be omitted. If the depth is less than 3m, only the mid-depth measurements need to be taken.

5.3 Duplicate in-situ measurements (Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity) and water samples (suspended solids (SS)) at each depth were monitored in accordance with the requirements in the EM&A Manual. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides were not less than 0.5m.

5.4 According to the Environmental Review Report (ERR) for Variations of Environmental Permit (Ref: C45-03), water quality monitoring and audit programme was implemented for monitoring of oxygen depletion (e.g. Dissolved Oxygen (DO) level) in this embayed waters during the period when the fully enclosed barrier is installed. A “Proposal for Water Quality Monitoring in Temporary Marine Embayment” has been submitted to EPD in July 2017 to propose the monitoring frequency, parameter, location, etc. EPD has no further comment on the Proposal. Since January 2020, the cofferdam has been partially removed and the seawater is no longer enclosed. Therefore, no embayment water quality monitoring is required.

Groundwater Level Monitoring (Piezometer Monitoring)

5.5 Daily piezometer monitoring at any time of the day shall be carried throughout the whole period when any tunnel construction activities are carried out within +/- 50m of the piezometer gate in plan. The monitoring commenced in June 2018. It has switched to monthly basis since 3 October 2018 as the construction activity was 120m away from the piezometer gate. No monitoring was conducted in the reporting month.

5.6 Referring to EM&A Manual Section 4.2.5, after completion of the tunnel construction, a 1- year post-monitoring on the groundwater levels (piezometer monitoring) above the tunnel will need to be carried out by contractor responsible for tunnel construction. The frequency of groundwater level monitoring is recommended to conduct on a monthly basis by the Engineer.

5.7 Alternative groundwater level monitoring locations, namely TKO-LBH403(P) and TKO-LBH434(P), are proposed for the post-construction monitoring since most of the previously adopted monitoring locations became obsolete for the following reasons:

1) recorded dry since baseline monitoring
2) destroyed due to tunnel excavations work
3) inaccessible due to obstruction by fallen trees.

The post-monitoring locations and the monitoring results are shown in **Appendix S**.

Monitoring Locations

Marine Water Quality

5.8 A total of twelve monitoring stations are designated for the water quality monitoring program according to EM&A Manual. One additional monitoring station (W1) is designated for monitoring of oxygen depletion in the embayed waters during the period when the fully enclosed barrier is installed. In addition, an extra monitoring station (W2) was set up in December 2021 for post-reclamation marine water monitoring. The locations are also summarized in **Table 5.2**. Their locations shown on **Figure 5** with the exception of W2, which was presented in **Figure 9**.

Table 5.2 Marine Quality Monitoring Stations

Monitoring Stations	Descriptions	Coordinates	
		Easting	Northing
M1	Junk Bay Coral Site – Junk Bay near Chiu Keng Wan	844255	817565
M2	Junk Bay Coral Site – Junk Bay	844076	817087
M3	Junk Bay Coral Site – Junk Island	844491	817890
M4	Junk Bay Coral Site –Chiu Keng Wan	843209	816416
M5	Junk Bay Coral Site – Fat Tong Chau	845463	815769
M6	Tseung Kwan O Salt Water Intake	845512	817442
C1	Control Station – Southeast	844696	814773
C2	Control Station – Northwest	842873	816014
G1	Gradient Station	844418	817560
G2	Gradient Station	844290	817384
G3	Gradient Station	844488	817735
G4	Gradient Station	844967	817551
W2	Embayed Area formed by TKO-LT Tunnel Reclamation	844313	817801

Monitoring Equipment

5.9 For in-situ monitoring, a multi-parameter meter was used to measure Dissolved oxygen (DO) concentration, DO saturation (DO %), pH, temperature and turbidity. A sampler was used to collect water samples for laboratory analysis of SS, BOD_5, TOC, Total Nitrogen, Ammonia-N and Total Phosphate.

Dissolved Oxygen (DO) and Temperature Measuring Equipment

5.10 The instrument for measuring dissolved oxygen and temperature was portable and weatherproof complete with cable, sensor, comprehensive operation manuals and use DC power source. It was capable of measuring:

- a dissolved oxygen level in the range of 0-20 mg/L and 0-200% saturation; and
- a temperature of 0-45 degree Celsius.

5.11 It has a membrane electrode with automatic temperature compensation complete with a cable.

5.12 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.

5.13 Salinity compensation was built-in in the DO equipment.

Turbidity

5.14 Turbidity was measured in-situ by the nephelometric method. The instrument was portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU. The probe cable was not be less than 25m in length.

pH

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

Water Depth Detector

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

Water Sampler

5.17 Water samples collected for laboratory analysis were stored in high density polythene bottles sample containers, with appropriate preservatives added. All sampling bottles were labelled (waterproof) with the sampling date and time, sample lot number and sampling location reference number to avoid mishandling.

Sample Container and Storage

5.18 Following collection, water samples for laboratory analysis were stored in high density polythene bottles, with preservative appropriately added where necessary. They will be packed in ice (cooled to 4°C without being frozen), delivered to the laboratory and analysed as soon as possible.

Calibration of In-Situ Instruments

5.19 All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring.

5.20 For the on-site calibration of field equipment, the BS 1427:1993, "Guide to Field and on-site test methods for the analysis of waters" was observed.

5.21 Before each round of monitoring, a zero check in distilled water was performed with the turbidity probe. The probe was then be calibrated with a solution of known NTU.

5.22 Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was also made available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, etc.

5.23 **Table 5.3** summarizes the equipment used in the water quality monitoring program. Copies of the calibration certificates of the equipment are shown in **Appendix B**.

Table 5.3 Water Quality Monitoring Equipment

Equipment	Model and Make	Qty.
Water Sampler	Kahlsico Water-Bottle Model 135DW 150	1
Multi-parameter Water Quality System	YSI 6820-C-M	0
	Aquaread AP-2000-D	0
	YSI EXO1 Multiparameter Sondes	1
Monitoring Position Equipment	"Magellan" Handheld GPS Model GPS-320	1
Water Depth Detector	Fishfinder 140	1

Monitoring Parameters and Frequency

5.24 **Table 5.4** summarizes the monitoring parameters, monitoring period and frequencies of the water quality monitoring in the reporting period.

Table 5.4 Water Quality Monitoring Parameters and Frequency

Monitoring Stations	Parameters, unit	Depth	Frequency
Marine Water Quality			
M1 M2 M3 M4 M5 M6 C1 C2 G1 G2 G3 G4	*In-situ*: Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity Laboratory Testing: Suspended Solids (SS)	M1-M5, C1-C2, G1-G4 • 3 water depths: 1m below water surface, mid-depth and 1m above sea bed. • If the water depth is less than 3m, mid-depth sampling only. • If the water depth is less than 6m, omit mid-depth sampling. M6 • at the vertical level where the water abstraction point of the intake is located(i.e. approximately mid-depth level)	3 days per week / 2 per monitoring day (1 for mid-ebb and 1 for mid-flood)
W2	*In-situ*: Dissolved oxygen (DO), pH, temperature and salinity	• 3 water depths: 1m below water surface, mid-depth and 1m above sea bed. • If the water depth is less than 3m, mid-depth sampling only. • If the water depth is less than 6m, omit mid-depth sampling.	Once per month

Monitoring Methodology

Marine Water Quality

5.25 The monitoring stations were accessed using survey boat by the guide of a hand-held Global Positioning System (GPS). The depth of the monitoring location was measured using depth meter in order to determine the sampling depths. Afterwards, the probes of the in-situ measurement equipment was lowered to the predetermined depths (1 m below water surface, mid-depth and 1 m above seabed) and the measurements was carried out accordingly. The in-situ measurements at predetermined depths was carried out in duplicate. In case the difference in the duplicate in-situ measurement results was larger than 25%, the third set of in-situ measurement would be carried out for result confirmation purpose.

5.26 Water sampler was lowered into the water to the required depths of sampling. Upon reaching the pre-determined depth, a messenger to activate the sampler was then released to travel down the wire. The water sample was sealed within the sampler before retrieving. At each station, water samples for SS at three depths (1 m below water surface, mid-depth and 1 m above seabed) were collected accordingly. Water samples were stored in a cool box and kept at less than 4°C but without frozen and sent to the laboratory as soon as possible.

Laboratory Analytical Methods

5.27 The testing of all parameters were conducted by ALS Hong Kong (HOKLAS Registration No.083) and comprehensive quality assurance and control procedures in place in order to ensure quality and consistency in results. The testing method and limit of reporting are provided in **Table 5.5**.

Table 5.5 Methods for Laboratory Analysis for Water Samples

Parameters (Unit)	Proposed Method	Reporting Limit	Detection Limit
SS (mg/L)	APHA 2540 D	0.5 mg/L (1)	0.5 mg/L
BOD_5 (mg O_2/L)	APHA 19ed 5210B	2 mg O_2/L	--
TOC (mg-TOC/L)	In-house method SOP020 (Wet Oxidation)	1 mg-TOC/L	--
Total Nitrogen (mg/L)	In-house method SOP063 (FIA)	0.6 mg/L	--
Ammonia-N (mg NH_3-N/L)	In-house method SOP057 (FIA)	0.05 mg NH_3-N/L	--
Total Phosphorus (mg-P/L)(2)	In-house method SOP055 (FIA)	0.05 mg-P/L	--

Note:
1) Limit of Reporting is reported as Detection Limit for non-HOKLAS report.
2) Parameter Total Phosphorus represents the laboratory testing for total phosphate content in water which is the sum of all three forms of phosphates in water.

QA/QC Requirements

Decontamination Procedures

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

Sampling Management and Supervision

5.29 Water samples were dispatched to the testing laboratory for analysis as soon as possible after the sampling. All samples were stored in a cool box and kept at less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.

5.30 QA/QC procedures as attached in **Appendix J** are available for the parameters analysed in the HOKLAS-accredited laboratory, ALS Hong Kong.

Results and Observations

Groundwater Quality Monitoring

5.31 Monitoring of groundwater quality had been suspended since October 2019. (Details refer to Section 5.1)

Marine Water Quality Monitoring

5.32 Marine water monitoring results and graphical presentations are shown in **Appendix I**. Other relevant data was also recorded, such as monitoring location / position, time, sampling depth, weather conditions and any special phenomena or work underway nearby.

5.33 Calculated Action and Limit Levels for Marine Water Quality is presented in **Appendix I**. There were six (6) Action Level and thirty-three (33) Limit Level exceedances recorded in Monitoring Stations (M) during marine water quality monitoring.

5.34 The last post reclamation marine water quality monitoring was carried out in November 2022. No further monitoring is required.

5.35 Exceedances of turbidity and suspended solid were recorded on from various monitoring stations non-specifically among all stations including the control stations. Investigations over April 2023 showed that the range of SS levels recorded in April 2023 remained consistent with the records in recent months. All Contractor is reminded to strictly follow the approved drainage plan and clear drainage regularly. In particular, all drainage shall be checked and cleared after heavy rainstorm as sediments may accumulate along pipes and culverts. Further details can be found in **Appendix K**.

5.36 Silt curtain inspections are carried out before the commencement of the construction works every day and diving surveys are also conducted once a week to inspect the silt curtain below the water level. The inspection report are verified by both the RE and the diving specialist and the records are reviewed weekly during the site audits.

Groundwater Level Monitoring (Piezometer Monitoring)

5.37 Daily piezometer monitoring at any time of the day shall be carried throughout the whole period when any tunnel construction activities are carried out within +/- 50m of the piezometer gate in plan.

5.38 Construction phase daily piezometer monitoring by the Contractor commenced in June 2018. As the construction activity was 120m away from the piezometer gate, no monitoring was conducted in this reporting month.

5.39 A 1- year post-monitoring in operational phase conducted by the Contractor was commenced in December 2022 due to the completion of the tunnel construction.

Mitigation Measures Adopted by Contractors for Surface runoff Prevention

5.40 During dry season, the Contractors have maintained the mitigation measures adopted on Site, in order to prevent surface run-off and muddy water from discharging to the public areas. The mitigation measures adopted by each Contract are summarised below:

NE2015/01

5.41 At Lam Tin Side, the Site drainage systems are divided into two parts, namely the site formation and tunnel site drainage which includes:

1. Site formation drainage system collects surface run-off from open excavation areas including slope works and flows naturally to the lowest point in the Site, where they are pumped to the wetseps and sedimentation tank for treatment near LTI site entrance before they are discharged to the designated discharge point.
2. Tunnel drainage system collects surface run-off from the tunnel which are then pumped to the sedimentation tanks near tunnel adit, where three sets of wetseps and sedimentation tanks were set up. The treated water will be discharged to designated discharge point near the Eastern Harbour Crossing (EHC) area.

5.42 At Eastern Harbour Crossing (EHC), two sets of wetseps and sedimentation tanks are set up on site. The wastewater will flow to the lowest catchpit by gravity, which are then pumped to wetseps for wastewater treatment. The sandbags/bunds are also set up at the vehicle entrance to surface run-off from the Site.

5.43 At Tseung Kwan O (TKO), the surface run-off from the slope are directed to the lowest point at cavern via the permanent drainage, which are then pumped to the sedimentation tanks for wastewater treatment via temporary pipes. The treated water will be discharged at designated discharge points. The wetseps and sedimentation tanks are provided under the BMCPC bridge and at the two sides of marine working platform. Water from natural stream will also be diverted to existing drainage to avoid overloading the capacity of the wastewater treatment system. The reservoir on the right side of marine working platform will be enlarged to cater for higher water storage demands. During heavy rainfall, the water stored at the exit of the tunnel shall be pumped into the sedimentation tanks on the right.

NE2015/02

5.44 The exposed sloped area at Portion 9 has been covered with geotextile or tarpaulin to avoid surface run-off. Since March 2021, the stormwater at Portion IX, VIII, VII, VI, II and I will be collected towards to the sedimentation tanks at the edge of site boundary.

5.45 Certain amount of stormwater received in Portion 9 will be directed and pumped via the flex tube and sump towards the water treatment system and the approved discharge points (as shown in **Appendix V**). Water generated from Portion VI and V and some water in Portion IX are treated via storage tanks and sedimentation tanks and discharged into approved discharge points (manholes of DN2100 Drain and Area Z).

5.46 The peripheral open U-channel are also provided along the site boundary, which shall be directed to the storage tank and WetSep for treatment in Area A.

5.47 Regular cleaning depending on site conditions are provided for the WetSep at Area A and Z; and the storage tanks and sedimentation tanks at Area A. The water treated by the sedimentation tank and the wetsep shall be discharged towards the designated discharge point. Quality of the effluent are also monitored regularly.

NE2017/02

5.48 Existing manholes are covered with sandbags and geotextiles to avoid surface run-off from entering the channels.

5.49 Stockpiles are covered with tarpaulin to avoid surface run-off.

5.50 Concrete blocks and sandbags are placed along the periphery of the site boundary to avoid surface run-off.

5.51 Stormwater within the site enters the excavated area and flow naturally into the sump due height difference. The stormwater collected in the sump shall be pumped into the sedimentation tank where the run-off is treated before discharging into the designated discharge point.

NE2015/03

5.52 The existing manhole cover are covered with geotextile to prevent muddy water from entering the existing U-channels along the side of Po Shun Road. Manhole inspection are carried out by taking silt measurement regularly in case if silt enters the channel, and silt shall be removed from the manhole if silt were found.

5.53 Sandbags were placed at the periphery of the site along the hoarding to prevent surface runoff from escaping the site.

5.54 Exposed slopes are covered with tarpaulin to prevent surface run-off.

5.55 The surface run-off shall be pumped into the sedimentation tank where they are treated before entering the designated discharge points.

NE2017/01

5.56 Temporary peripheral open U-channels and sumps are provided for collecting the stormwater, which are pumped and directed towards the sedimentation tank for treatment. The treated water shall be directed to the designated discharge point.

6. ECOLOGY

Post-Translocation Coral Monitoring

6.1 Post-translocation monitoring survey is recommended in the EM&A Manual to audit the success of coral translocation. Information gathered during each post-translocation monitoring survey should include observations on the presence, survival, health condition and growth of the translocated coral colonies. These parameters should then be compared with the baseline results collected from the pre-translocation survey.

6.2 Under Contract No. NE/2015/01 and NE/2015/02, a total of 14 and 29 coral colonies were tagged and translocated respectively from the Donor Site to the Recipient Site in November 2016. Ten (10) corals at the Recipient Site were also tagged by each Contract as reference for post-translocation monitoring.

6.3 The post-translocation coral monitoring shall be conducted once every 3 months after completion for a period of 12 months. Location of post-translocation coral monitoring is shown in **Figure 7**. The fourth post-translocation coral monitoring was carried out on 07 November 2017. No further monitoring is required.

7. CULTURAL HERITAGE

Monitoring Requirement

7.1 According to the EP Conditions and EM&A Manual, monitoring of vibration impacts was conducted when the construction works are less than 100m from the Built Heritage in close proximity of the worksite, namely the Cha Kwo Ling Tin Hau temple. Tilting and settlement monitoring should be applied on the Cha Kwo Ling Tin Hau Temple. Construction works less than 100m from the Cha Kwo Ling Tin Hau temple commenced on 8 May 2017.

7.2 As stated in the "*Built Heritage Mitigation Plan*" for this Project, during the period of the construction works conducted within 100m from the Cha Kwo Ling Tin Hau Temple, monitoring on settlement and tilting will be conducted once a day for the Cha Kwo Ling. Monitoring of vibration will be conducted during blasting at Cha Kwo Ling area once a day. When there is no blasting to be conducted at the area, vibration monitoring at the Cha Kwo Ling Tin Hau Temple will be conducted once per day when there are piling works or rock breaking works within the 100m from the Cha Kwo Ling Tin Hau Temple.

Monitoring Locations

7.3 One vibration monitoring point and three building settlement monitoring points were proposed for monitoring of the cultural heritage. The building settlement markers were placed on the wall on three sides of the Temple, except the front, of the Cha Kwo Ling Tin Hau Temple and the vibration monitoring point is located within the Cha Kwo Ling Tin Hau Temple. Monitoring Location is shown in **Figure 8**.

Monitoring Equipment

7.4 Building settlement is measured via a settlement marker attached to the wall of Cha Kwo Ling Tin Hau Temple by adhesive tape.

7.5 Vibration monitoring was conducted by using vibrographs: MicroMate manufactured by Instantel. These vibrographs will be calibrated annually and its performance follows the requirements given in the "*Guidance Note on Vibration Monitoring*" (GN-VM) issued by the Civil Engineering and Development Department, which is based on the Performance Specification for Blasting Seismographs by International Society of Explosive Engineers (ISEE (2000)).

7.6 **Table 7.1** summarizes the equipment employed by the Contractor for cultural heritage monitoring. Copies of calibration certificates are attached in **Appendix B**.

Table 7.1 Cultural Heritage Monitoring Equipment

Equipment	Manufacturer and Model	Quantity
Digital Level for tilting	Leica LS15 Serial No.: 701141	1
Digital Caliper for tilting	Mitutoyo CD-6" ASX Serial No.: A17047921	1
iCivil-1011 Inclinometer for building settlement	iCivil-1011 Inclinometer Serial No.: HK110118 / HK110120	2
Vibrographs for vibration monitoring	MicroMate manufactured by Instantel Model No.: 721A2501 (Main unit) Model No.: 721A2901 (Geophone) Model No.: 721A0201 (Linear microphone)	 1 1 1

Monitoring Methodology

7.7 Vibrograph (velocity seismograph) was deployed at each monitoring station to measure and record the PPV and amplitude of ground motion in three mutually perpendicular directions. Vibration monitoring equipment fulfils the requirements stated in the Government guidelines and is calibrated to HOKLAS standards. Each monitoring would not be more than 10 minutes. Settlement monitoring should be conducted by surveyors manually.

Alert, Alarm and Action Levels

7.8 The Alert, Alarm and Action (AAA) Levels are given in **Table 7.2**.

Table 7.2 AAA Levels for Monitoring for Cultural Heritage

Parameter	Alert Level	Alarm Level	Action Level
Vibration	ppv: 4.5 mm/s	ppv: 4.8 mm/s	ppv: 5mm/s Maximum Allowable Vibration Amplitude: 0.1mm
Building Settlement Markers	6mm	8mm	10mm
Building Tilting(1)	1:2000	1:1500	1:1000

Remarks:
(1) Building tilting measurement was replaced by building settlement point measurement. The tilting can be calculated by the ratio of the maximum settlement difference between 2 points and the distance between the 2 points.

Results

7.9 In the reporting month, cultural heritage monitoring was carried out by the Contractor at the aforesaid location on 26 occasions. No AAA Level exceedance was recorded in the reporting month. The monitoring results are presented in **Appendix T**.

Mitigation Measures for Cultural Heritage

7.10 According to Condition 3.6 of the EP (EP No.: EP-458/2013/C), to prevent damage to Cha Kwo Ling Tin Hau Temple and its Fung Shui rocks (Child-given rocks) during the construction phase, a temporarily fenced-off buffer zone (Rocks buffer zone is 5 m from the edge of Rocks and 15m from the edge of Rocks alter) with allowance for public access (minimum 1 m) around the temple and the Fung Shui rocks shall be provided. The open yard in front of the temple should be kept as usual for annual Tin Hau festival.

7.11 As there is a large buffer distance from the current works to Cha Kwo Ling Tin Hau Temple and the Fung Shui rocks (Child-given rocks), the temporarily fenced-off rocks buffer zone and from the edge of Rocks alter is not required. The fenced-off rocks buffer zone would be implemented when there is construction activities in vicinity of the cultural heritage.

8. LANDSCAPE AND VISUAL IMPACT REQUIREMENTS

8.1 Landscape and visual mitigation measures during the construction phase shall be checked to ensure that they are fully realized and implemented on site.

8.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures listed in "Implementation Schedule and Recommended Mitigation Measures" (shown in **Appendix N)**. The summaries of observations and recommendations related to landscape and visual impacts, if any, are shown in **Appendix L**.

8.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.

9. LANDFILL GAS MONITORING

Monitoring Requirement

9.1 In accordance with the EM&A Manual, monitoring of landfill gas is required for construction works within the Sai Tso Wan Landfill Consultation Zone during the construction phase & within buildings and enclosures during the operational phase. This section presents the results of landfill gas measurements performed by the Contractor. **Appendix A** shows the Limit Levels for the monitoring works.

9.2 The "Landfill Gas Monitoring Proposal", including the monitoring programme and detailed actions, is submitted to the EPD for approval. Details of monitoring in this Proposal is in line with the monitoring requirements stipulated in the EM&A Manual.

9.3 Inspection and landfill gas monitoring should be carried out at buildings and enclosures (e.g. administration building, ventilation building, workshop, tunnel, etc.) prior to the operation as preventive measures. The monitoring should be continued through the operation of the Project.

9.4 As the completion date of construction within the concerned areas was 11 December 2022. A prior measure was conducted on 09 December 2022. The landfill gas monitoring for operational phase would start from the end of December 2022. The landfill gas measurement was conducted on 25th April 2023 in this reporting month.

Monitoring Parameters and Frequency

9.5 Monitoring parameters for Landfill gas monitoring include Methane, Carbon dioxide and Oxygen.

9.6 According to the implementation schedule and recommended mitigation measures of the EM&A Manual, measurements of the following frequencies should be carried out:

<u>Excavations deeper than 1m</u>

- at the ground surface before excavation commences;
- immediately before any worker enters the excavation;
- at the beginning of each working day for the entire period the excavation remains open; and
- periodically throughout the working day whilst workers are in the excavation.

<u>Excavations between 300mm and 1m deep</u>

- directly after the excavation has been completed; and
- periodically whilst the excavation remains open.

<u>For excavations less than 300mm deep</u>

- monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person

<u>For tunnel, subway, buildings, enclosures and any other underground structures</u>

- prior to the operation and monthly for the first year of operation

<u>For any construction required for the maintenance work during operational stage</u>

- at least daily before starting the work of the day

Monitoring Locations

9.7 Monitoring of oxygen, methane and carbon dioxide was performed for operational phase at the Administration Building, Sewage Pumping Station, Stormwater Pumping Station, West Ventilation Building and part of the tunnel area at Lam Tin within the consultation zone of Sai Tso. In this reporting month, the area required to be monitored for landfill gas are shown below and **Figure 6** shows the landfill gas monitoring locations.

Table 9.1 Landfill Gas Monitoring Locations in Operational Phase

ID	Description
PT#1	ADMINSTRATION BUILDING - G/F - LOBBY (MAIN ENTRANCE)
PT#2	ADMINSTRATION BUILDING - G/F - CARPENTER WORKSHOP
PT#3	ADMINSTRATION BUILDING - G/F - E&M WORKSHOP
PT#4	ADMINSTRATION BUILDING - G/F - ELECTRONIC WORKSHOP
PT#5	ADMINSTRATION BUILDING - G/F - FIRST AID ROOM
PT#6	SEWAGE PUMPING STATION
PT#7	STORMWATER PUMPING STATION
PT#8	WEST VENTILATION BUILDING
PT#9	TUNNEL AREA #1
PT#10	TUNNEL AREA #2

Monitoring Equipment

9.8 **Table 9.2** summarizes the equipment employed by the Contractor for the landfill gas monitoring.

Table 9.2 Landfill Gas Monitoring Equipment

Equipment	Model and Make	Quantity
Portable gas detector	ALTAIR 5X Multigas Detector (Serial No. 152097)	1

Results and Observations

9.9 In the reporting month, no landfill gas monitoring was carried out by the Contractor at the aforesaid locations on 130 occasions due to the completion of construction works. No Limit Level exceedance for operational phase landfill gas monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix R**. Copies of calibration certificates are attached in **Appendix B.**

10. ENVIRONMENTAL AUDIT

Site Audits

10.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix L**.

10.2 Joint weekly site audits by the representatives of the Engineer, Contractor and the ET were conducted in the reporting month as shown in below:

- Contract No. NE/2015/01: 4, 12, 19, 26
- Contract No. NE/2015/02: 4, 13, 20, 27
- Contract No. NE/2017/01: 4, 13, 20, 27
- Contract No. NE/2017/02: 4, 13, 20, 27
- Contract No. NE/2017/06: 4, 13, 20, 27
- Contract No. NE/2017/07: 4, 12, 19, 26

10.3 Monthly joint site inspection with the representative of IEC was conducted for NE/2015/01 and NE/2017/07 on 19 April 2023, while NE/2015/02, NE/2017/01, NE/2017/02 and NE/2017/06 were conducted on 20 April 2023.

10.4 The EM&A programme of Contract No. NE/2015/03 had been terminated on 21 April 2020 under the approval of EPD.

Implementation Status of Environmental Mitigation Measures

10.5 According to the EIA Study 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 Implementation Schedule and Recommended Mitigation Measures is provided in **Appendix N**.

10.6 During site inspections in the reporting month, no non-compliance was recorded on reporting month. The observations and recommendations made during the audit sessions are summarized in **Appendix L**.

11. WASTE MANAGEMENT

11.1 Waste generated from this Project includes inert construction and demolition (C&D) materials, non-inert C&D materials and marine sediments. Inert C&D waste includes soil, broken rock, broken concrete and building debris, while non-inert C&D materials are made up of C&D waste which cannot be reused or recycled and has to be disposed of at the designated landfill sites. Marine sediment shall be expected from excavation and dredging works of this Project.

11.2 With reference to relevant handling records of this Project, the quantities of different types of waste generated in the reporting month are summarised and presented in **Appendix P**.

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

12. ENVIRONMENTAL NON-CONFORMANCE

Summary of Exceedances

12.1 No project-related Limit Level exceedance of noise was recorded due to the monitoring results in the reporting month. No Action Level exceedances of construction noise were recorded in the reporting month.

12.2 One (1) Limit Level exceedance of air quality was recorded in the reporting month. One (1) Action Level exceedance of air quality monitoring was recorded in the reporting month.

12.3 Six (6) Action Level and Thirty-three (33) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.

12.4 Post-reclamation marine water quality monitoring was completed in November 2022.

12.5 Actions carried out in accordance with the Event and Action Plans in **Appendix M** are presented in **Appendix K** – Summary of Exceedance.

Summary of Environmental Complaint

12.6 One (1) environmental complaint was received in the reporting month. The Cumulative Complaint Log is presented in **Appendix O**. The investigation status and result are also reported in **Appendix O**.

Summary of Environmental Summon and Successful Prosecution

12.7 No notification of summon or successful environmental prosecution was received in this reporting period. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix O**.

13. FUTURE KEY ISSUES

13.1 Tentative construction programmes for the next three months are provided in **Appendix Q**.

13.2 Major site activities to be undertaken for the next reporting period are summarized in **Table 13.1**.

Table 13.1 Summary Table for Site Activities in the next Reporting Period

Contract No. and Project Title	Site Activities (May 2023)		Key Environmental Issues *
NE/2015/01 - Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) Site Formation Area 1G1, 1G2, 2 & 5 2) Site Formation Slope Stabilization 3) Bridge Noise Barrier & Noise Enclosure 4) Road S02-2a2a & 2a2b Noise Enclosure 5) EHC 4 Construction 6) Semi Enclosure Structures 7) Type 1E RC Structures 8) Type 1D RC Structures 9) CKLR Underground Utilities 10) LTI Drainage & Road Pavement 11) Lei Yue Mun Road Junction Modification Works 12) Stage 1 Commissioning Outstanding Works	(A) / (B) / (C) / (D) / (E) / (G)
	Main Tunnel	13)N/A	N/A
	TKO Interchange	14)Miscellaneous Works 15)Slope Stabilization Works	(A) / (C) / (D) / (E) / (F) / (I)
NE/2015/02 - Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Top soil placing and planter construction 2) Cleaning works and defect rectification 3) Demolition of BMCPC temporary access road 4) E&M testing works		(A) / (B) / (C) / (D) / (E) / (G) / (I)
NE/2015/03 - Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge	The construction works under the contract had been completed in December 2019. Materials are being removed from works area.		N/A
NE/2017/01 – Tseung Kwan O Interchange and Associated Works	1) Defects rectification		(A) / (B) / (E) / (F) / (G)
NE/2017/02 –Tseung Kwan O - Lam Tin Tunnel - Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Road works 3) Construction of drainage and watermain		(A) / (B) / (E) / (F) / (G)
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	1) Testing and Commissioning 2) Defects Rectification		(E)

Contract No. and Project Title	Site Activities (May 2023)	Key Environmental Issues *
NE/2017/07 - Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) E&M Pre-handover inspection 2) E&M defect rectification works	N/A

Note:
(A) Watering for dust generation from haul road, stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
(B) Noisy construction activity such as rock-breaking activities and piling works;
(C) Runoff from exposed slope or site area;
(D) Wastewater and runoff discharge from site;
(E) Accumulation of silt, mud and sand along U-channels and sedimentation tanks;
(F) Set up and implementation of temporary drainage system for the surface runoff;
(G) Storage of chemicals/fuel and chemical waste/waste oil on site;
(H) Accumulation and storage of general and construction waste on site; and
(I) Marine water quality impact and indirect impact to coral communities due to marine construction for TKO-LTT reclamation.

Key Issues for the Coming Month

13.3 Key environmental issues in the coming month include:

- Watering for dust generation from haul road, stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- Noisy construction activity such as rock-breaking activities and piling works;
- Runoff from exposed slope or site area;
- Wastewater and runoff discharge from site;
- Accumulation of silt, mud and sand along U-channels and sedimentation tanks;
- Set up and implementation of temporary drainage system for the surface runoff;
- Precaution measures in case of heavy rainfall brought along by typhoon;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation and storage of general and construction waste on site; and
- Marine water quality impact and indirect impact to coral communities due to marine construction for TKO-LTT reclamation.

14. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

14.1 This is the 78th Environmental Monitoring and Audit (EM&A) Report which presents the EM&A works undertaken during the period in April 2023 in accordance with EM&A Manual and the requirement under EP.

Air Quality Monitoring

14.2 No Action/Limit Level exceedance for 1-hour TSP monitoring was recorded.

14.3 One (1) Limit Level exceedance for 24-hour TSP monitoring was recorded.

14.4 One (1) Action Level exceedance for 24-hour TSP monitoring was recorded.

Construction Noise Monitoring

14.5 No project-related Limit Level exceedance was recorded due to the monitoring results recorded in this reporting month.

14.6 No Action Level exceedance was recorded for documented complaints. The details of complaint shall be referred to **Appendix O**.

Water Quality Monitoring

14.7 Groundwater quality monitoring had been suspended since October 2019. Details shall be referred to **Section 5.1**.

14.8 Six (6) Action Level and Thirty-three (33) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.

14.9 Post-reclamation marine water quality monitoring was completed in November 2022.

14.10 Tunnel construction activities are within +/- 50m of the piezometer gate in plan. Construction phase daily piezometer monitoring by the Contractor commenced in June 2018. It has switched to monthly basis since 3 October 2018 as the construction activity was 120m away from the piezometer gate. No monitoring was conducted in the reporting month.

14.11 Upon completion of the tunnel construction, a 1- year post-monitoring on the groundwater levels (piezometer monitoring) above the tunnel will need to be carried out by contractor responsible for tunnel construction.

Ecological Monitoring

14.12 The post-translocation coral monitoring surveys were completed in November 2017.

Monitoring on Cultural Heritage

14.13 No Alert Alarm and Action (AAA) Level exceedance of cultural heritage monitoring on cultural heritage was recorded in the reporting month.

Landscape and Visual Monitoring and Audit

14.14 No non-compliance of the landscape and visual impact was recorded in the reporting month.

Landfill Gas Monitoring

14.15 As the excavation works at Portion III was completed on 11 December 2022, a prior measure was conducted on 09 December 2022 and the landfill gas monitoring for operational phase was commenced from the end of December 2022. The landfill gas measurement was conducted on 25th April 2023 in this reporting month.

Environmental Site Inspection

14.16 Joint weekly site inspections were conducted by representatives of the Contractor, Engineer and Environmental Team. During site inspections in the reporting month, no non-compliance was identified. The environmental deficiency observed during the reporting month are shown in **Appendix L.**

Complaint, Prosecution and Notification of Summons

14.17 One (1) environmental complaints, no successful prosecution and notification of summon were received during the reporting period.

Recommendations

14.18 The following recommendations were made to the Contractor for the reporting month:
Air Quality Impact

- To regularly apply watering on dry surface should be applied to minimize erosion.
- To aim the water spray at the rock breaking point for effective dust suppression.
- To water materials before loading/unloading.
- To turn off idle equipment.

Construction Noise

- To provide sufficient noise barriers for noisy PMEs as practically at LTI according to CNMP.
- To repair the gaps between the noise barriers.
- To place compatible noise barrier close to the breaking point for effective noise screening.
- To erect sound proof canvases on derrick lighter barge

Water Quality Impact

- To clear the oil slick and check for any damage of the silt curtain.
- To repair damaged or missing silt curtain
- To check whether the curtain has been set to the seabed.
- To ensure that the pumping rate of bored pile is sufficient to avoid discharging waste water into the sea.
- To clear floating refuse between the cofferdam and silt curtain.
- To clear oil slick within and outside cofferdam.
- To control the amount of loading materials in the barge to avoiding spillage.
- To cover stockpile near seafront.
- To remove wastewater and oil in drip tray.
- To remove pond/still water.

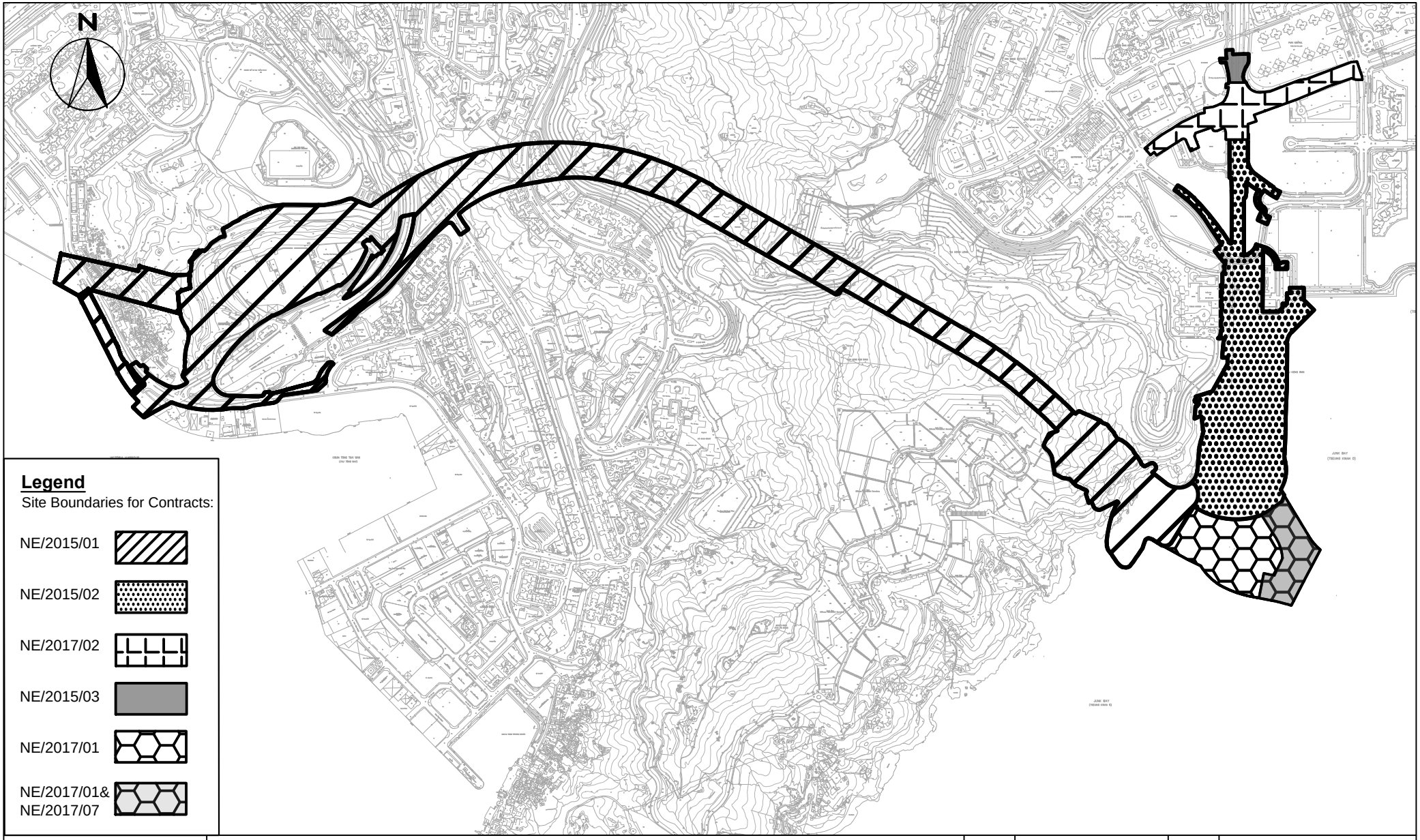
Waste/Chemical Management

- To bund or lock the chemical storage area.
- To clear dripping oil from bored piling machine.
- To clear oil slick on seawater.
- To clear oil on the floor.

Landscape and Visual

- To avoid placing any construction materials in the tree protection zone.

FIGURES



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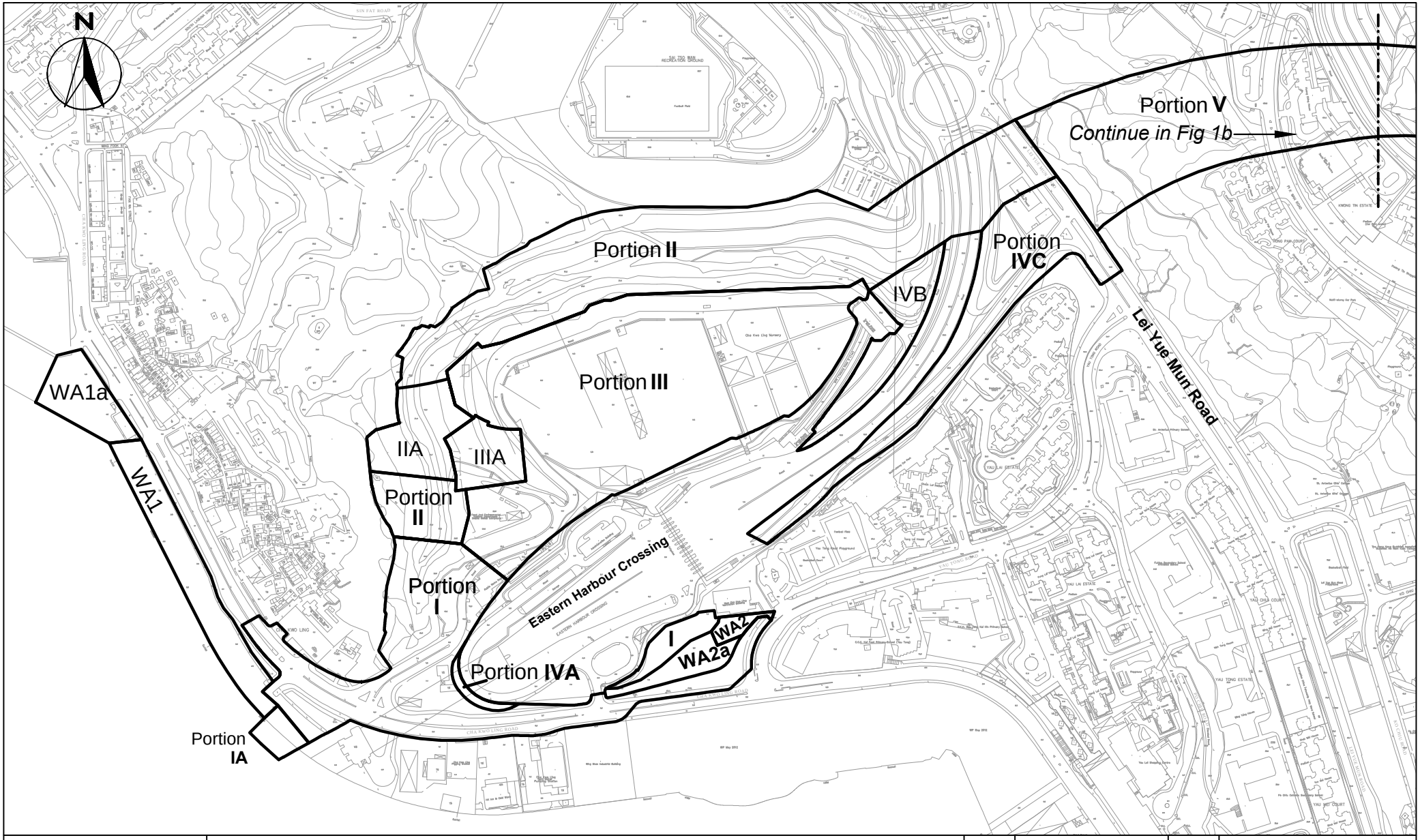
Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Layout Plan

SCALE	1:13000@A4	DATE	15 April 2021
CHECK	CC	DRAWN	KC
JOB No.	MA16034	FIGURE NO. 1	REV -



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Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions under Works Contract No. NE/2015/01 (LT)

SCALE	1:5000@A4	DATE	15 April 2021
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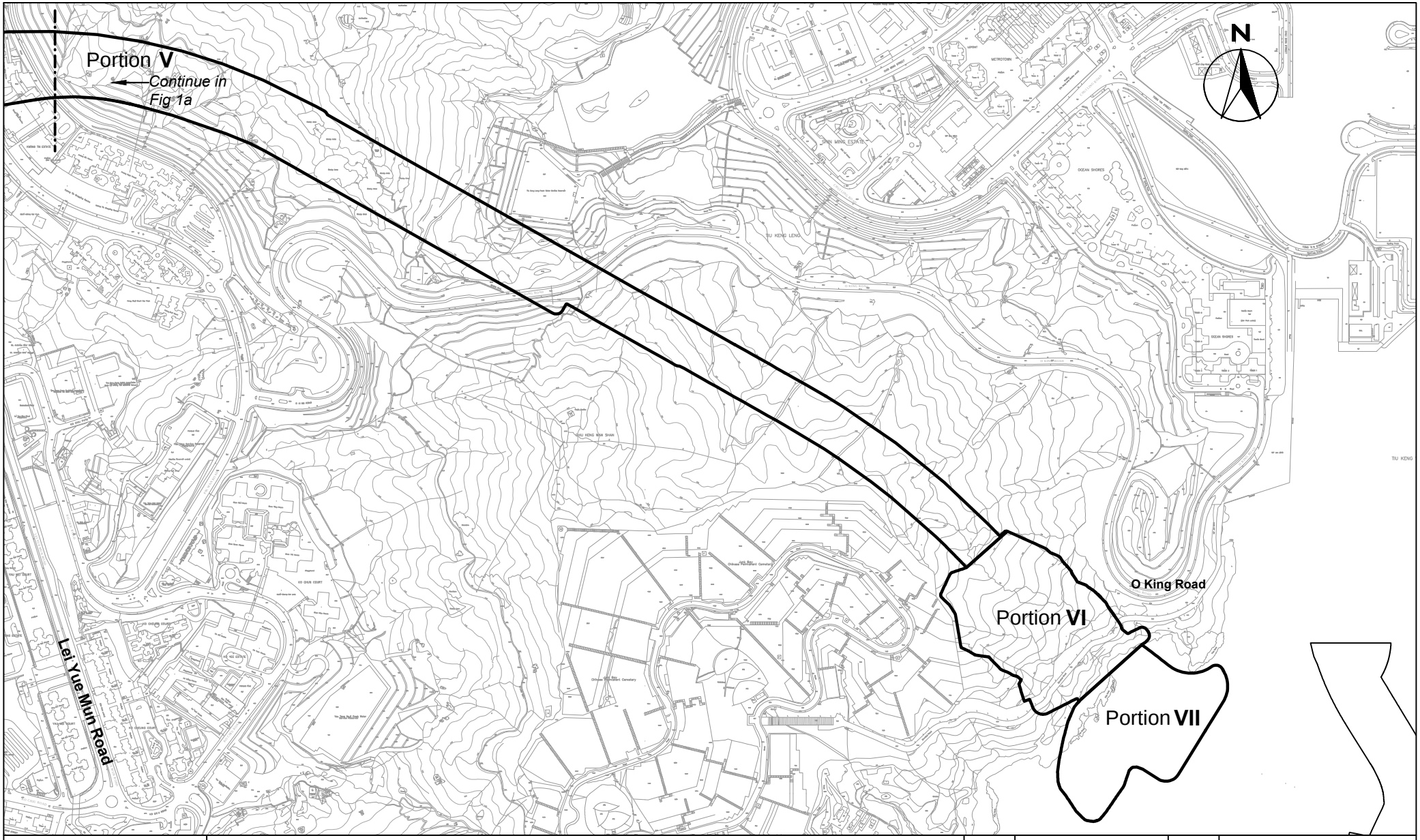

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Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions under Works Contract No. NE/2015/01 (TKO)

SCALE	1:7000@A4	DATE	15 April 2021
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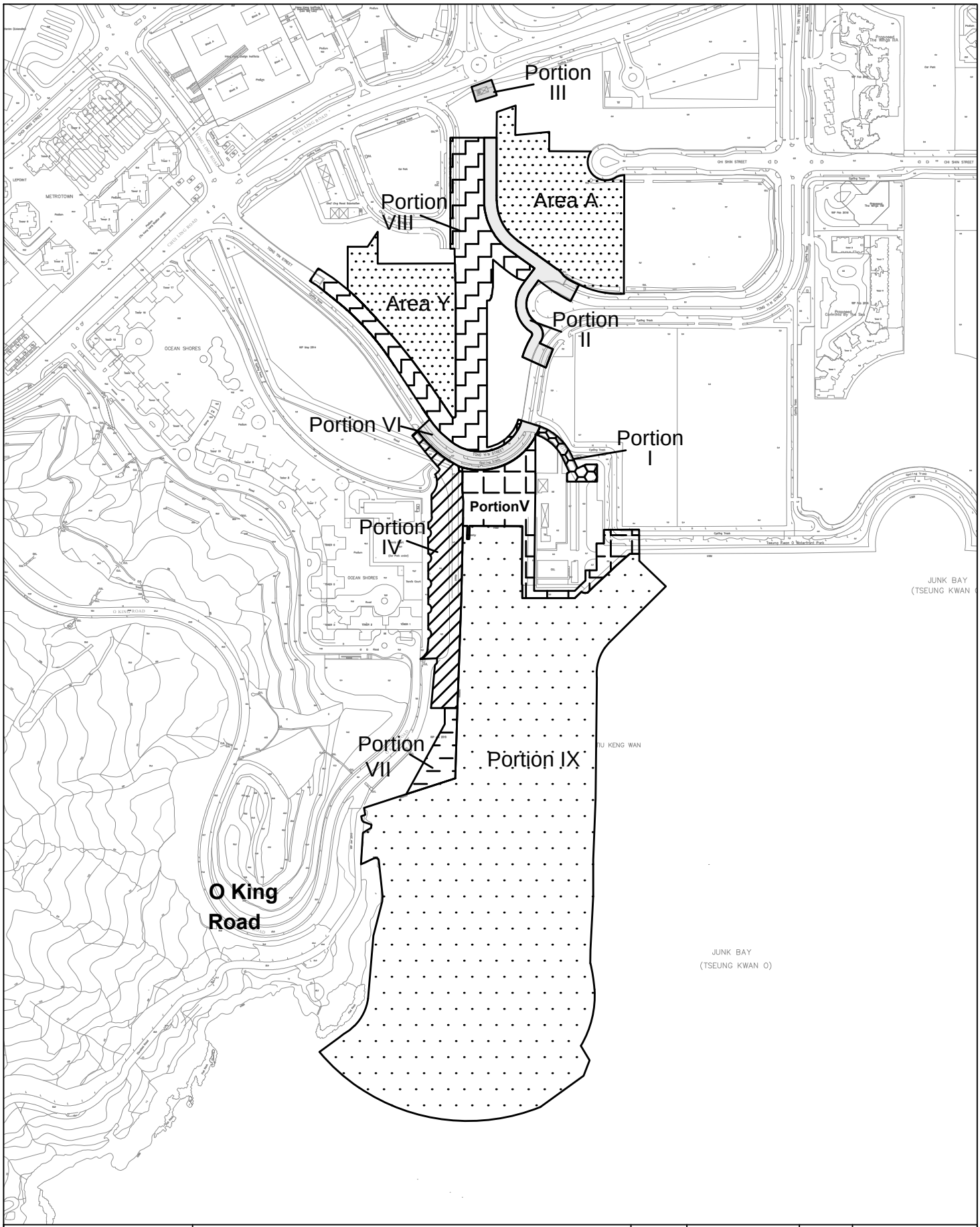
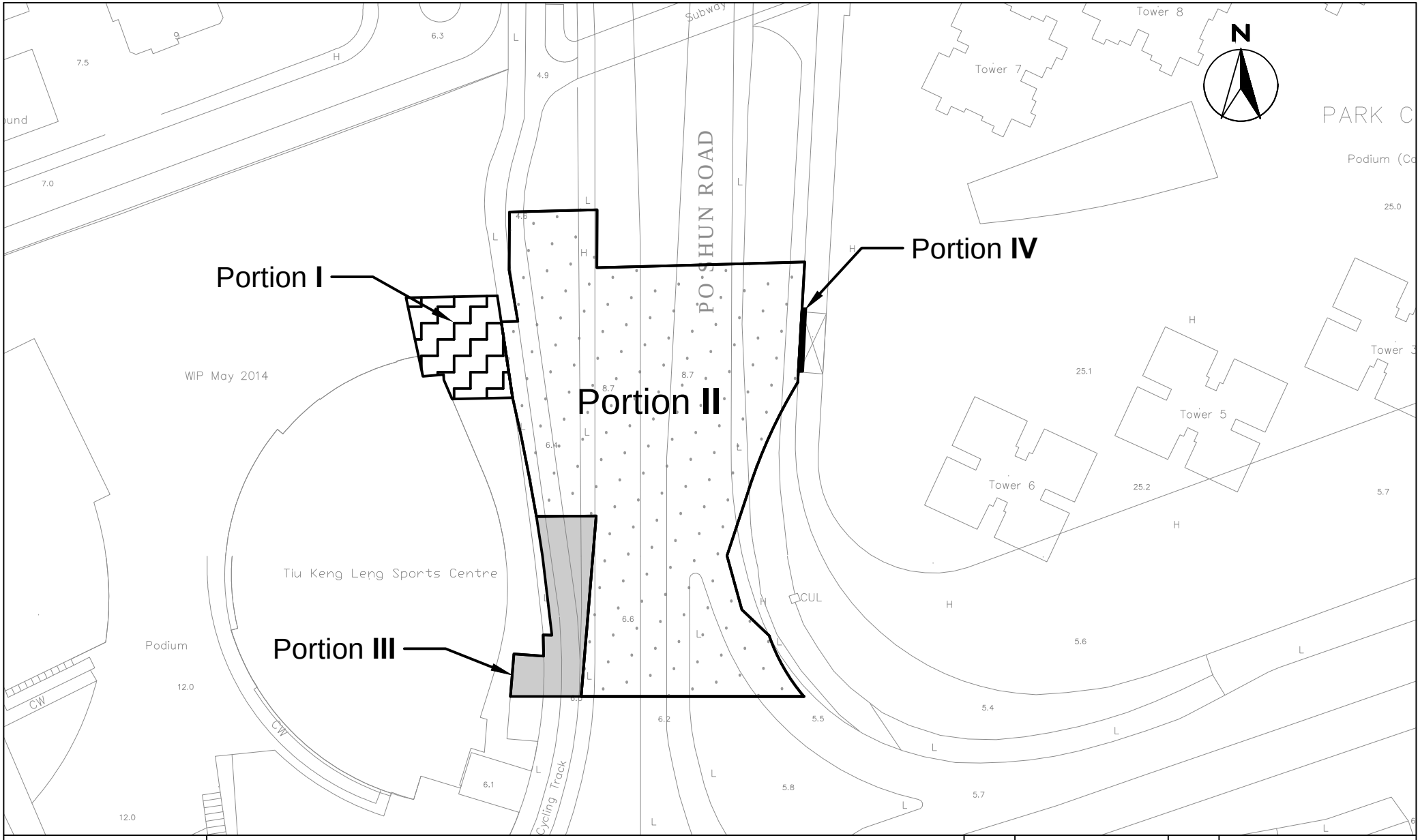


CINOTECH Cinotech Consultants Limited	Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction **Site Portions under Works Contract No. NE/2015/02**	SCALE	1:5000@A4	DATE	25 July 2021
		CHECK	CC	DRAWN	KC
		JOB No.	MA16034	FIGURE NO. 1c	REV -



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Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions in Tseung Kwan O under Works Contract No. NE/2015/03

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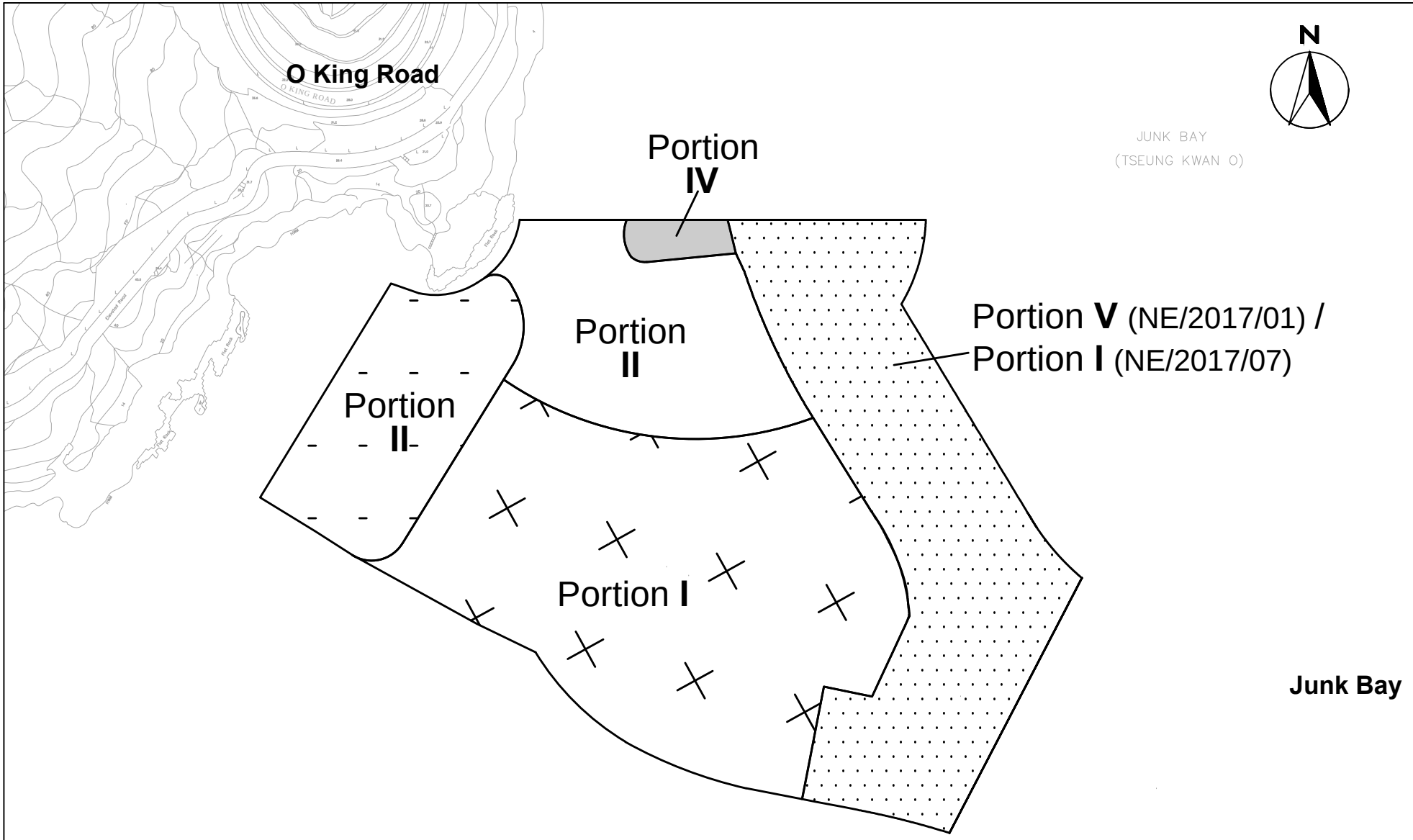

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Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions in Tseung Kwan O under Works Contract No. NE/2017/01

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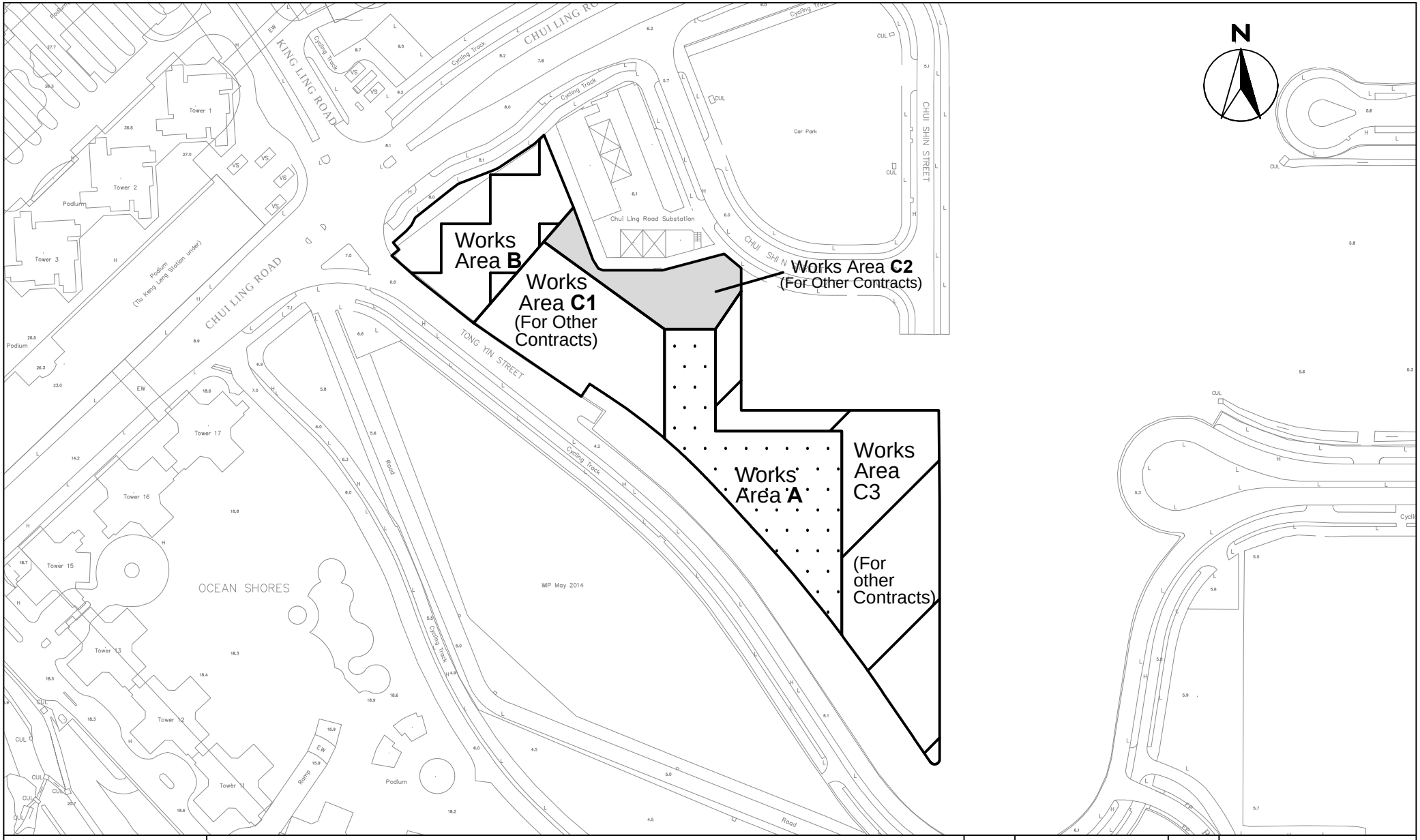

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Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions in Tseung Kwan O (Site Office) under Works Contract No. NE/2017/02

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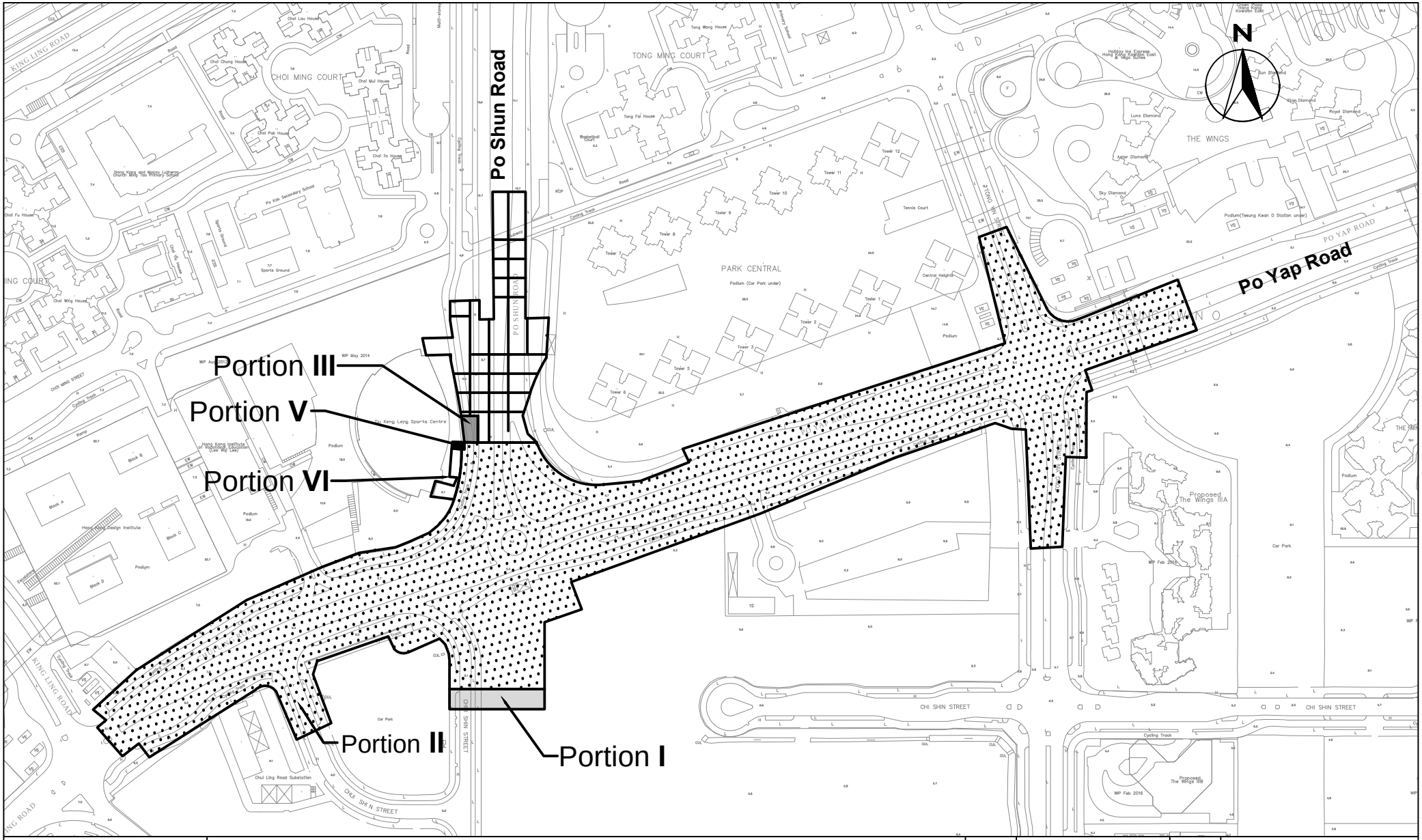
JOB No.	MA16034	FIGURE NO. 1f	REV -



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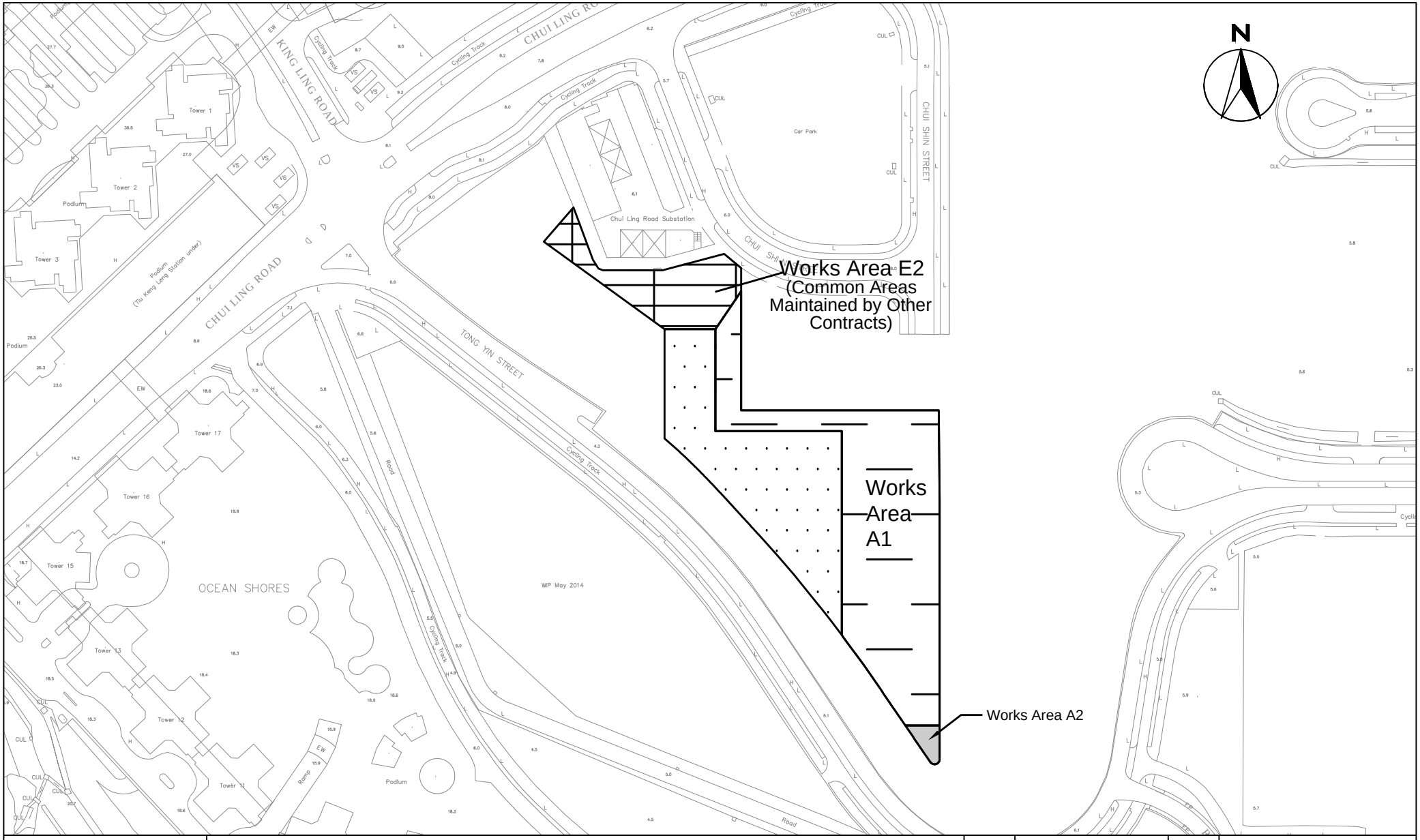
Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions in Tseung Kwan O under Works Contract No. NE/2017/02

SCALE	1:3000@A4	DATE	15 April 2021
CHECK	CC	DRAWN	KC
JOB No.	MA16034	FIGURE NO. 1g	REV -



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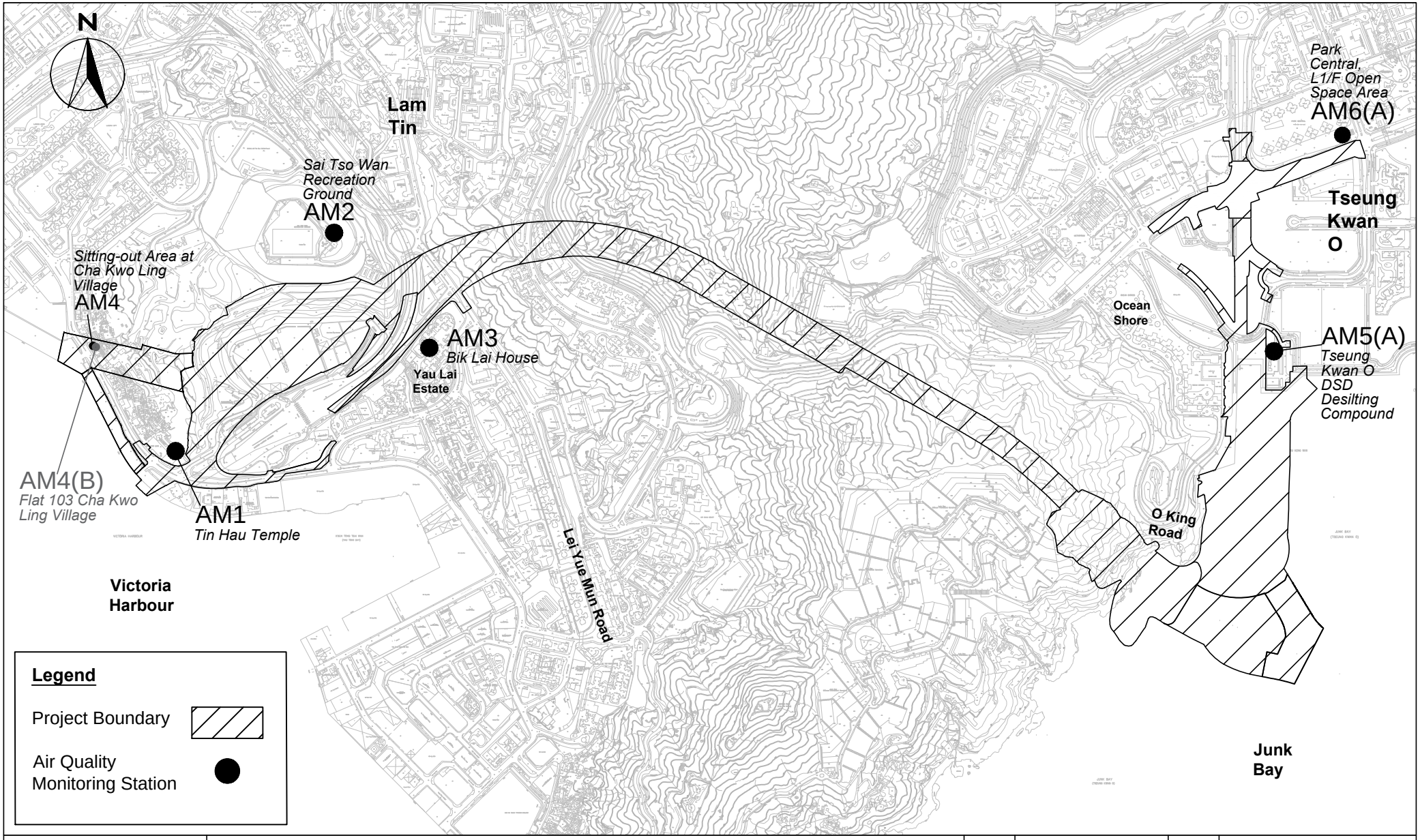
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Site Portions in Tseung Kwan O (Site Office) under Works Contract No. NE/2017/01

SCALE	1:2000@A4	DATE	15 April 2021
CHECK	CC	DRAWN	KC
JOB No.	MA16034	FIGURE NO.	1h
		REV	-



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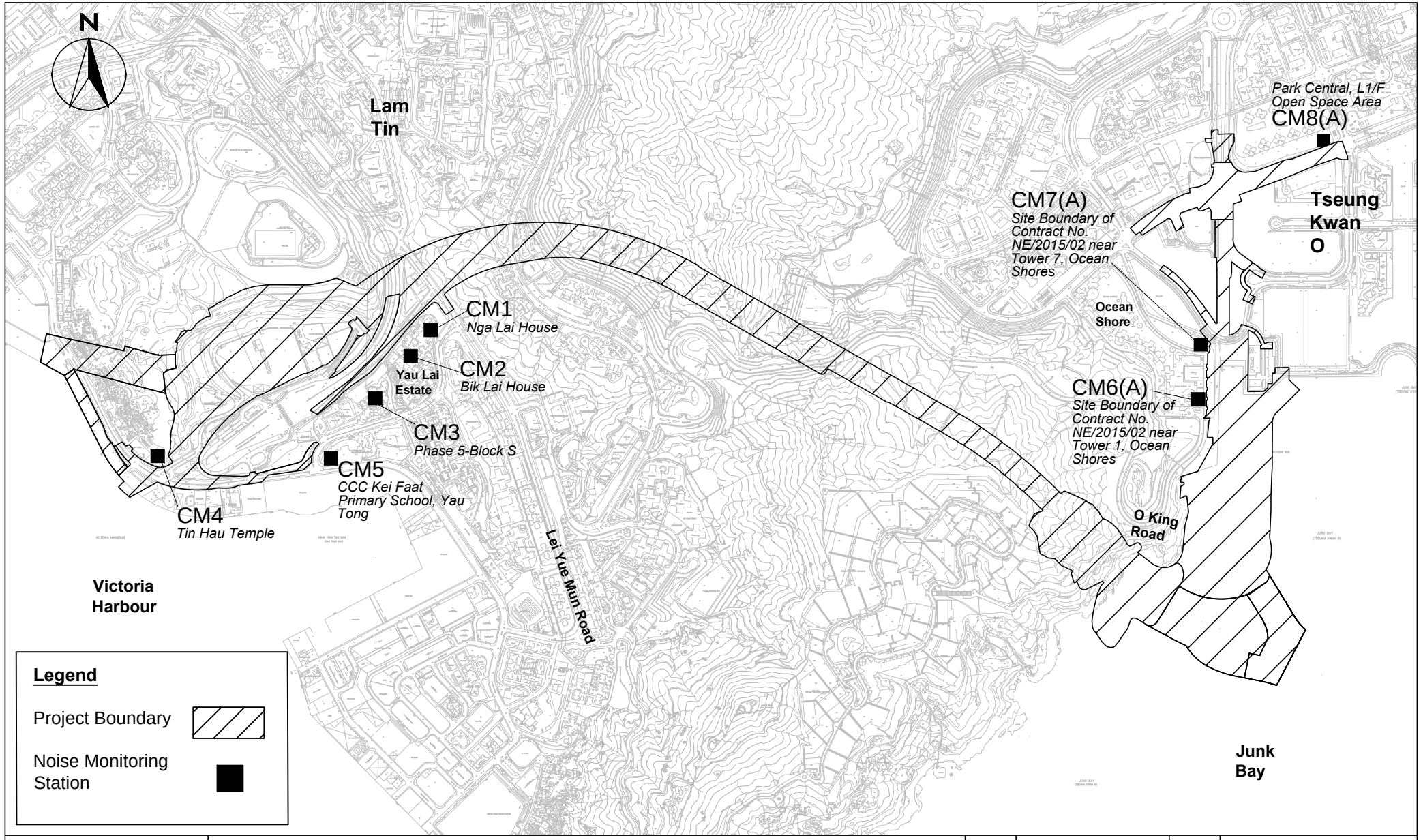
Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Air Quality Monitoring Station

SCALE	1:13000@A4	DATE	2 October 2022
CHECK	CC	DRAWN	KC
JOB No.	MA16034	FIGURE NO.	2
		REV	-



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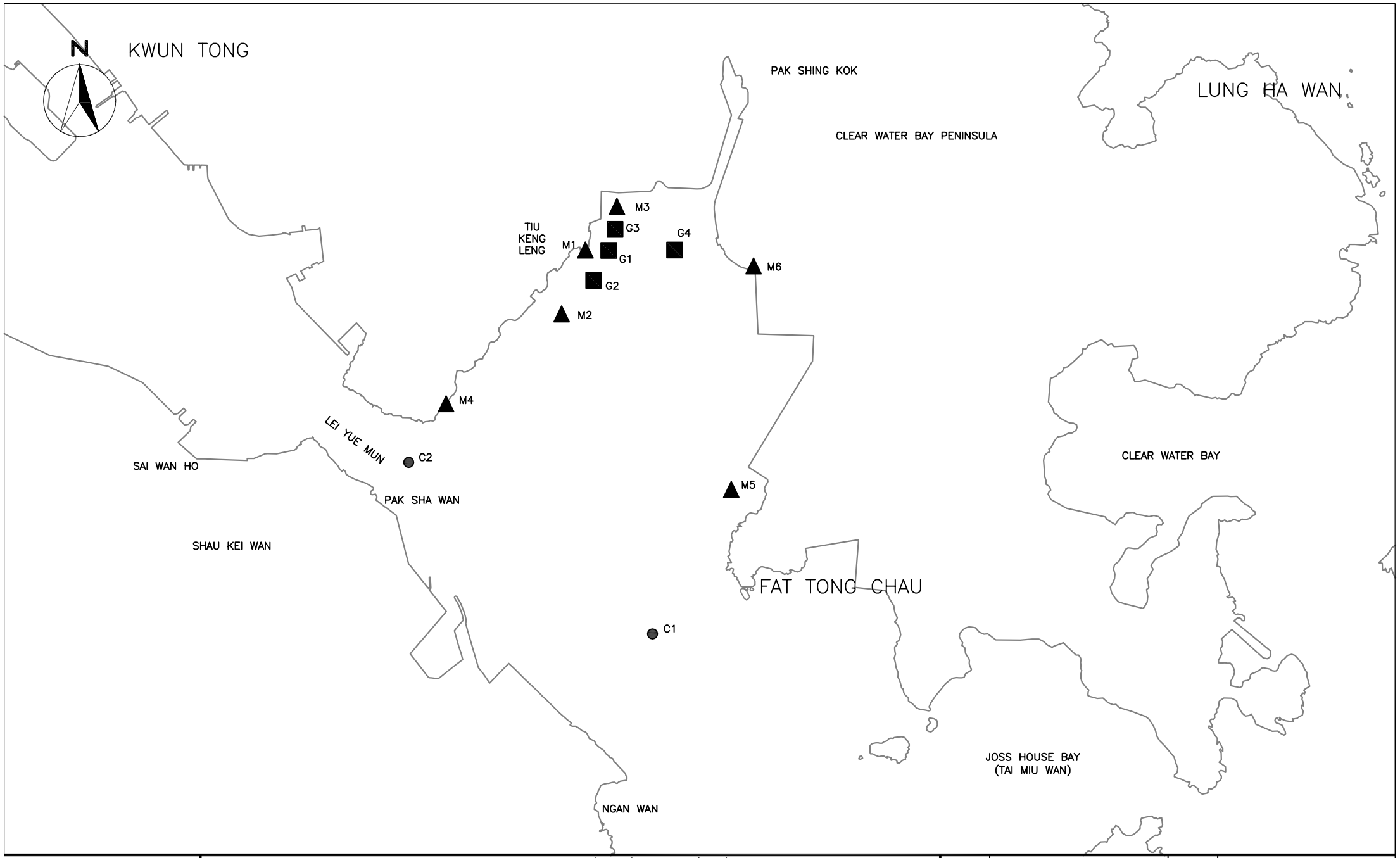
Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction

Noise Monitoring Stations

SCALE	1:13000@A4	DATE	11 March 2021
CHECK	CC	DRAWN	KC
JOB No.	MA16034	FIGURE NO. 3	REV -



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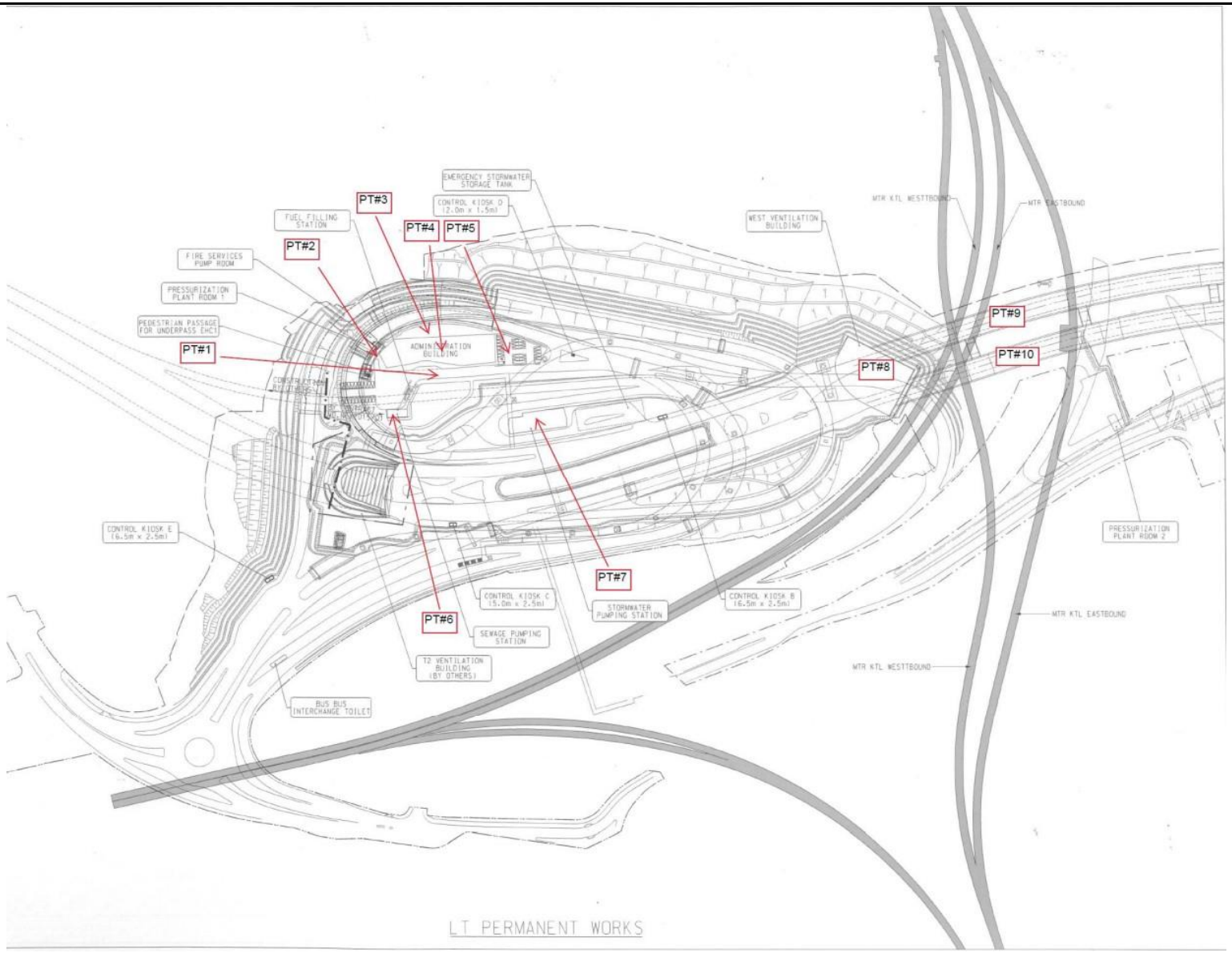
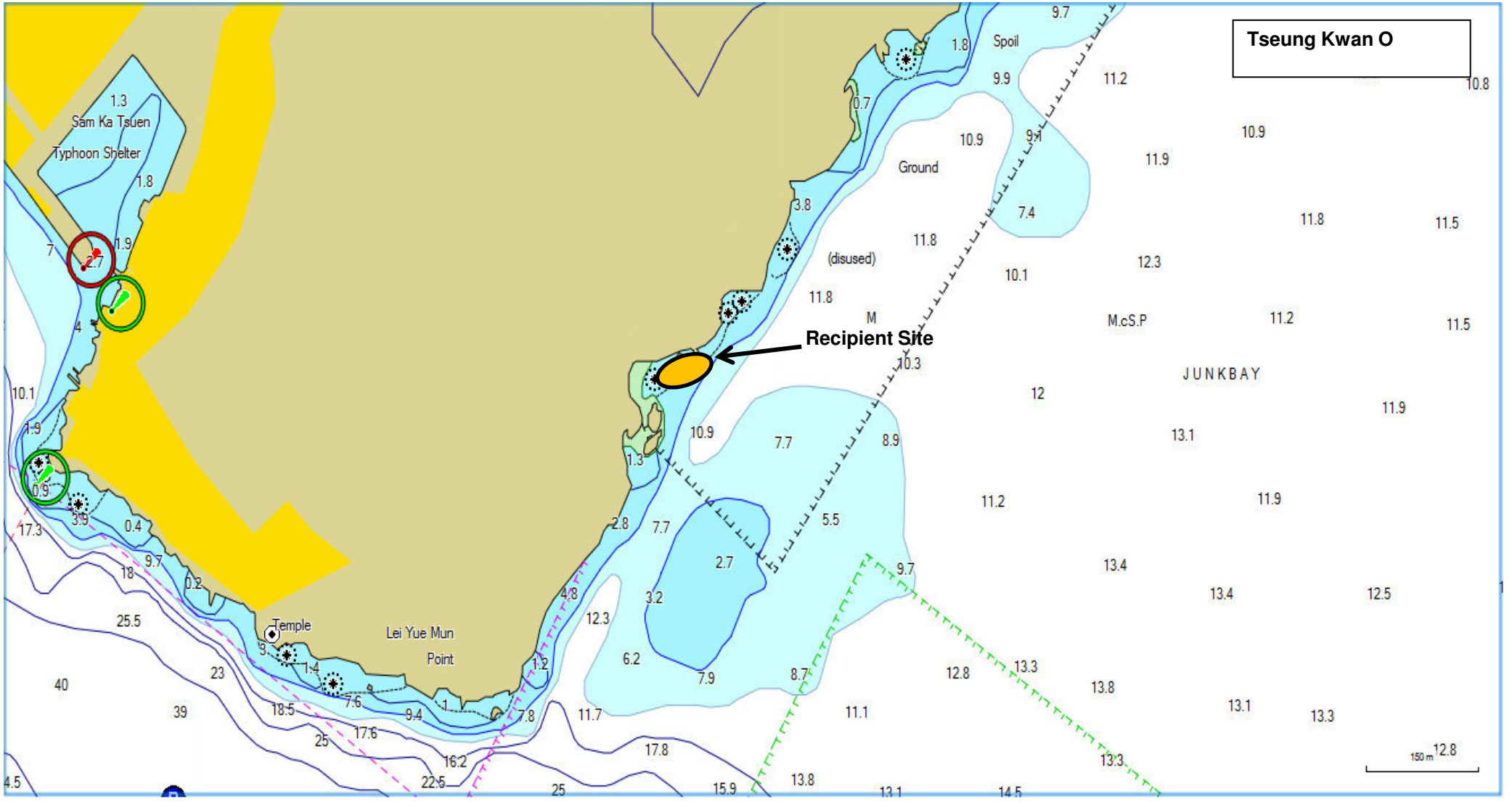
Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel – Design and Construction

Locations of Water Quality Monitoring Stations

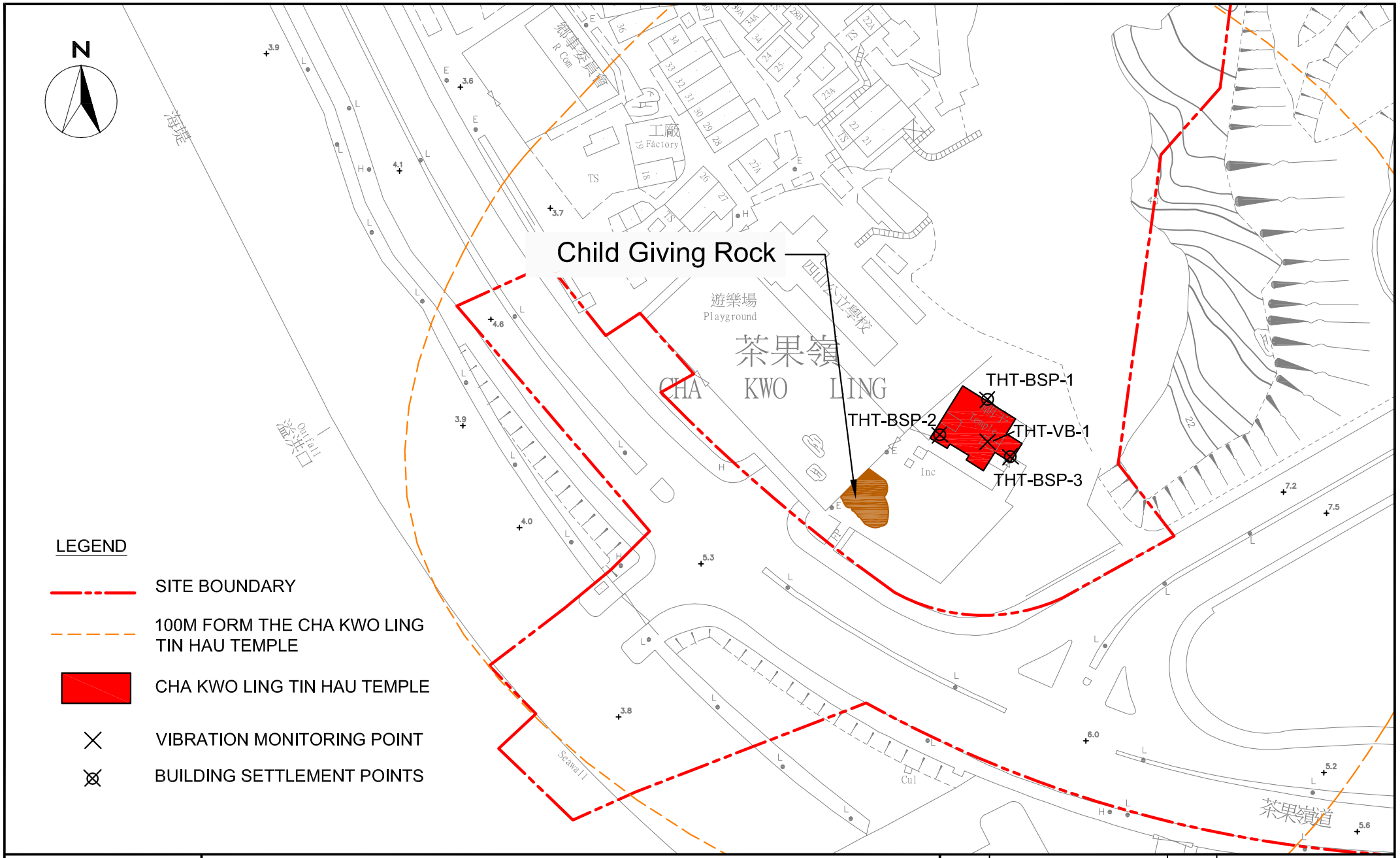
SCALE	N.T.S	DATE	AUG 2016
CHECK	JF	DRAWN	JW
PROJECT NO.	MA16034	FIGURE NO.	5
		REV	–



Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Locations of Operational Phase Landfill Gas Monitoring	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Dec-2022	Figure: 6	



Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Location of Post-translocation Coral Monitoring	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Mar-17	Figure: 7	



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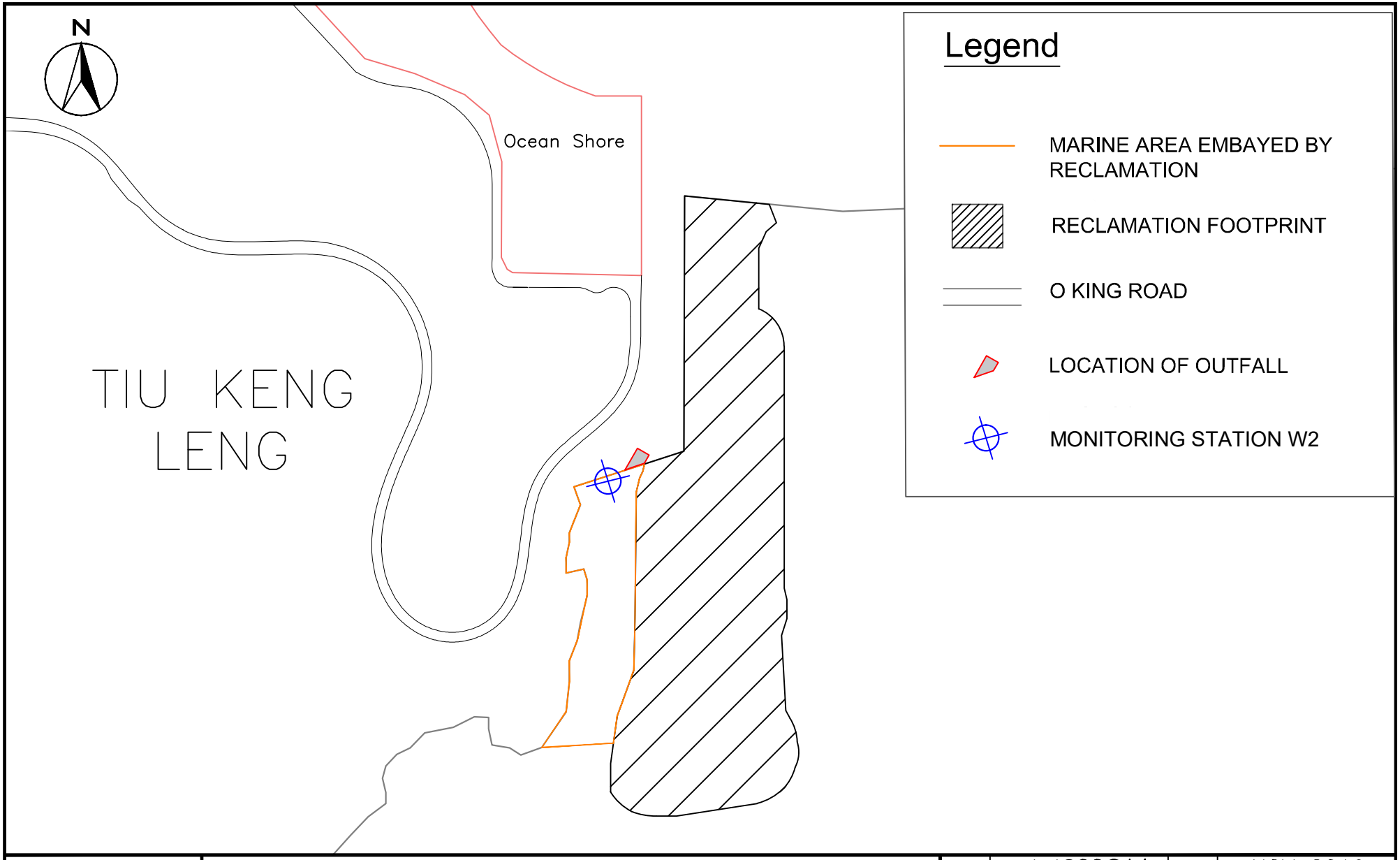
Agreement No. CE/59/2015 (EP)
Environmental Team for Tsueng Kwan O - Lam Tin Tunnel - Design and Construction

Locations of Monitirong for Cultural Heritage

SCALE	N.T.S.	DATE	FEB 2018
CHECK	JF	DRAWN	AC
JOB No.	MA16034	FIGURE NO. 8	REV -



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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction

Location of Embayment formed by Reclamation and Monitoring Station W2

SCALE	1:4000@A4	DATE	NOV 2019
CHECK	BC	DRAWN	KC
PROJECT NO.	MA16034	FIGURE NO.	9
		REV	—

APPENDIX A
ACTION AND LIMIT LEVELS

APPENDIX A – Action and Limit Levels

Air Quality

1-hr TSP

Monitoring Stations	**Location**	Action Level, µg/m³	**Limit** Level, µg/m³
AM1	Tin Hau Temple	275	500
AM2	Sai Tso Wan Recreation Ground	273	
AM3	Yau Lai Estate Bik Lai House	271	
AM4	Sitting-out Area at Cha Kwo Ling Village	278	
AM5(A)	Tseung Kwan O DSD Desilting Compound	273	
AM6(A)	Park Central, L1/F Open Space Area	285	

24-hr TSP

Monitoring Stations	**Location**	Action Level, µg/m³	**Limit** Level, µg/m³
AM1	Tin Hau Temple	173	260
AM2	Sai Tso Wan Recreation Ground	192	
AM3	Yau Lai Estate Bik Lai House	167	
AM4(B)	Flat 103 Cha Kwo Ling Village	210	
AM5(A)	Tseung Kwan O DSD Desilting Compound	175	
AM6(A)	Park Central, L1/F Open Space Area	165	

Noise

Time Period	**Action Level**	**Limit Level**
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) [(1)]
1900-2300 on all days and 0700-2300 on general holidays (including Sundays)		60/65/70 dB(A)[(2)(3)]
2300-0700 on all days		45/50/55 dB(A)[(2)(3)]

[1] 70 dB(A) for schools and 65 dB(A) for schools during examination period.
[2] Acceptable Noise Levels for Area Sensitivity Rating of A/B/C
3 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

Groundwater

Parameters	Action	Limit
DO in mg L^{-1}	7.6	7.6
pH	6.0 – 8.9	6.0 – 9.0
BOD_5 in mg L^{-1}	2.0	2.0
TOC in mg L^{-1}	Stream 1 and Stream 2: 9	Stream 1 and Stream 2: 9
	Stream 3: 6	Stream 3: 6
Total Nitrogen in mg L^{-1}	2.0	2.1
Ammonia-N in mg L^{-1}	0.15	0.20
Total Phosphate in mg L^{-1}	0.05	0.05
SS in mg L^{-1}	7.6	12.1
Turbidity in NTU	2.1	2.3

Notes:

1. For pH, non-compliance of the water quality limits occurs when monitoring result is out of the range of the limits.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. For turbidity, SS, 5-day biochemical oxygen demand (BOD_5), Total organic carbon (TOC), Total Nitrogen, Ammonia-N and Total Phosphate, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
4. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

Groundwater Level Monitoring

Drill Hole No.	38568-LDH1	TKO-LBH907
Action Level (mPD)	+74.65	+17.59

Marine Water Quality

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2, 4 and 5)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU*** or 120% of upstream control station's Turbidity at the same tide of the same day	***22.2 NTU*** or 130% of upstream control station's Turbidity at the same tide of the same day
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2, 4 ad 5)	**Stations G1-G4**		
	Surface	***6.0 mg/L*** or 120% of upstream control station's SS at the same tide of the same day	***6.9mg/L*** or 130% of upstream control station's SS at the same tide of the same day
	Stations M1-M5		
	Surface	***6.2 mg/L*** or 120% of upstream control station's SS at the same tide of the same day	***7.4 mg/L*** or 130% of upstream control station's SS at the same tide of the same day
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L*** or 120% of upstream control station's SS at the same tide of the same day	***7.9 mg/L*** or 130% of upstream control station's SS at the same tide of the same day
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.
5. Refer to Appendix I – Marine Water Quality Monitoring Results and Graphical Presentations for results of upstream control stations at each tide on each day.

Water Quality Monitoring in Temporary Marine Embayment

Parameter (unit)	Depth	Action Level	Limit Level
DO in mg/L (See Note 1 and 2)	Depth Average	***4.8 mg/L*** (4)	***4 mg/L*** (3)
	Bottom	***2.4 mg/L*** (4)	***2 mg/L*** (3)

Notes:
1. "depth-averaged" is calculated by taking the arithmetic means of reading of all sampling depths.
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
3. Current Water Quality Objectives (WQOs) for marine waters of Hong Kong
4. As an alert for adverse water quality impact, the Action Level is set as 120% of the Current WQOs for marine waters of Hong Kong.

Ecology

Post-translocation Coral Monitoring

Parameter	Action Level Definition	Limit Level Definition
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of partial mortality occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.

Landfill Gas Monitoring

Parameter	Limit Level
Oxygen	<19%
	<18%
Methane	>10% LEL (i.e. > 0.5% by volume)
	>20% LEL (i.e. > 1% by volume)
Carbon Dioxide	>0.5%
	>1.5%

Alert, Alarm, Action Levels for Built Heritage Monitoring

Parameter	Alert Level	Alarm Level	Action Level
Vibration	ppv:4.5mm/s	ppv: 4.8mm/s	ppv: 5mm/s Maximum Allowable Vibration Amplitude: 0.1mm
Building Settlement Point	6mm	8mm	10mm
Building Tilting	1:2000	1:1500	1:1000

APPENDIX B
COPIES OF CALIBRATION CERTIFICATES

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/05/0040

Project No. AM1 - Tin Hau Temple

Date: 9-Feb-23 Next Due Date: 12-Apr-23 Operator: SK

Equipment No.: A-01-05 Model No.: GS2310 Serial No. 10599

Ambient Condition			
Temperature, Ta (K)	292.5	Pressure, Pa (mmHg)	762.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.3	3.69	62.78	10.1	3.21
2	10.5	3.28	55.85	7.4	2.75
3	7.7	2.81	47.91	5.5	2.37
4	5.7	2.41	41.30	3.5	1.89
5	3.4	1.86	32.03	2.0	1.43

By Linear Regression of Y on X

Slope , mw = **0.0580** **Intercept, bw =** **-0.4535**

Correlation coefficient* = **0.9982**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.08**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 9-Feb-23

Checked by: Henry Leung Signature: Date: 9-Feb-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/08/0040

Project No. AM2 - Sai Tso Wan Recreation Ground

Date: 9-Feb-23 Next Due Date: 12-Apr-23 Operator: SK

Equipment No.: A-01-08 Model No.: GS2310 Serial No. 1287

Ambient Condition			
Temperature, Ta (K)	292.5	Pressure, Pa (mmHg)	762.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.6	3.73	63.48	9.7	3.15
2	10.8	3.32	56.63	7.2	2.71
3	8.0	2.86	48.82	5.5	2.37
4	5.6	2.39	40.94	3.8	1.97
5	3.4	1.86	32.03	2.3	1.53

By Linear Regression of Y on X

Slope , mw = **0.0505** **Intercept, bw =** **-0.0949**

Correlation coefficient* = **0.9986**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.22**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 9-Feb-23

Checked by: Henry Leung Signature: Date: 9-Feb-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/03/0040

Project No. AM3 - Yau Lai Estate, Bik Lai House

Date: 9-Feb-23 Next Due Date: 11-Apr-23 Operator: SK

Equipment No.: A-01-03 Model No.: GS2310 Serial No. 10379

Ambient Condition			
Temperature, Ta (K)	292.5	Pressure, Pa (mmHg)	762.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.2	3.67	62.54	9.2	3.07
2	10.4	3.26	55.58	6.9	2.66
3	8.3	2.91	49.72	5.3	2.33
4	5.3	2.33	39.85	3.3	1.84
5	3.0	1.75	30.13	2.2	1.50

By Linear Regression of Y on X

Slope , mw = **0.0486** **Intercept, bw =** **-0.0343**

Correlation coefficient* = **0.9949**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.13**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 9-Feb-23

Checked by: Henry Leung Signature: Date: 9-Feb-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/37/0040

Project No. AM5(A) - Tseung Kwan O DSD Desilting Compound

Date: 9-Feb-23 Next Due Date: 12-Apr-23 Operator: SK

Equipment No.: A-01-37 Model No.: GS2310 Serial No. 1704

Ambient Condition			
Temperature, Ta (K)	292.6	Pressure, Pa (mmHg)	761.7

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.3	3.68	62.74	9.8	3.16
2	10.8	3.32	56.60	7.4	2.75
3	8.4	2.93	49.98	5.8	2.43
4	5.5	2.37	40.56	3.5	1.89
5	3.0	1.75	30.11	2.0	1.43

By Linear Regression of Y on X

Slope , mw = 0.0529 **Intercept, bw =** -0.2062

Correlation coefficient* = 0.9978

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.19**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 9-Feb-23

Checked by: Henry Leung Signature: Date: 9-Feb-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/07/0040

Project No. AM6 - Park Central

Date: 6-Mar-23 Next Due Date: 6-May-23 Operator: SK

Equipment No.: A-01-07 Model No.: GS2310 Serial No. 10592

Ambient Condition			
Temperature, Ta (K)	293	Pressure, Pa (mmHg)	766.9

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.0	3.65	62.21	8.8	3.01
2	9.4	3.11	52.98	6.2	2.52
3	7.9	2.85	48.62	4.8	2.22
4	5.0	2.27	38.80	3.1	1.78
5	3.2	1.81	31.16	2.2	1.50

By Linear Regression of Y on X

Slope , mw = 0.0488 **Intercept, bw =** -0.0753

Correlation coefficient* = 0.9955

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

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

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 6-Mar-23

Checked by: Henry Leung Signature: Date: 6-Mar-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/05/0041

Project No. AM1 - Tin Hau Temple

Date: 12-Apr-23 Next Due Date: 13-Jun-23 Operator: SK

Equipment No.: A-01-05 Model No.: GS2310 Serial No. 10599

Ambient Condition			
Temperature, Ta (K)	298	Pressure, Pa (mmHg)	759.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.2	3.63	61.85	9.9	3.14
2	10.3	3.21	54.70	7.3	2.70
3	7.5	2.74	46.77	5.4	2.32
4	5.6	2.37	40.49	3.4	1.84
5	3.2	1.79	30.75	1.8	1.34

Calibration of TSP Sampler

By Linear Regression of Y on X

Slope , mw = **0.0583** **Intercept, bw =** **-0.4639**

Correlation coefficient* = **0.9982**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.18**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 12-Apr-23

Checked by: Henry Leung Signature: Date: 12-Apr-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/08/0041

Project No. AM2 - Sai Tso Wan Recreation Ground

Date: 12-Apr-23 Next Due Date: 13-Jun-23 Operator: SK

Equipment No.: A-01-08 Model No.: GS2310 Serial No. 1287

Ambient Condition			
Temperature, Ta (K)	298	Pressure, Pa (mmHg)	759.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.5	3.67	62.54	9.5	3.08
2	10.6	3.25	55.49	7.0	2.64
3	7.8	2.79	47.68	5.3	2.30
4	5.4	2.32	39.77	3.7	1.92
5	3.2	1.79	30.75	2.1	1.45

By Linear Regression of Y on X

Slope , mw = **0.0502** **Intercept, bw =** **-0.0940**

Correlation coefficient* = **0.9988**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.27**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 12-Apr-23

Checked by: Henry Leung Signature: Date: 12-Apr-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/03/0041

Project No. AM3 - Yau Lai Estate, Bik Lai House

Date: 12-Apr-23 Next Due Date: 12-Jun-23 Operator: SK

Equipment No.: A-01-03 Model No.: GS2310 Serial No. 10379

Ambient Condition			
Temperature, Ta (K)	298	Pressure, Pa (mmHg)	759.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.1	3.62	61.62	9.0	3.00
2	10.3	3.21	54.70	6.7	2.59
3	8.2	2.86	48.87	5.1	2.26
4	5.2	2.28	39.04	3.2	1.79
5	2.9	1.70	29.30	1.9	1.38

By Linear Regression of Y on X

Slope , mw = **0.0499** **Intercept, bw =** **-0.1311**

Correlation coefficient* = **0.9973**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.07**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 12-Apr-23

Checked by: Henry Leung Signature: Date: 12-Apr-23

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High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA16034/37/0041

Project No. AM5(A) - Tseung Kwan O DSD Desilting Compound

Date: 12-Apr-23 Next Due Date: 13-Jun-23 Operator: SK

Equipment No.: A-01-37 Model No.: GS2310 Serial No. 1704

Ambient Condition			
Temperature, Ta (K)	298	Pressure, Pa (mmHg)	759.3

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	**mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$**			
Next Calibration Date:	16-Jan-24	**Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc**			

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Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ **Y-axis**
1	13.1	3.62	61.62	9.7	3.11
2	10.6	3.25	55.49	7.3	2.70
3	8.2	2.86	48.87	5.6	2.37
4	5.3	2.30	39.41	3.3	1.82
5	2.9	1.70	29.30	1.9	1.38

By Linear Regression of Y on X

Slope , mw = **0.0536** **Intercept, bw =** **-0.2427**

Correlation coefficient* = **0.9976**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

mw x Qstd + bw = [ΔW x (Pa/760) x (298/Ta)]$^{1/2}$

Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) = **4.26**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 12-Apr-23

Checked by: Henry Leung Signature: Date: 12-Apr-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

File No. MA20003/55/018

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village

Date: 4-Mar-23 Next Due Date: 4-May-23 Operator: SK

Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

Ambient Condition			
Temperature, Ta (K)	292.6	Pressure, Pa (mmHg)	768.4

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	16-Jan-24	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

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Calibration of TSP Sampler					
Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	13.2	3.69	62.78	10.4	3.27
2	11.0	3.37	57.36	8.4	2.94
3	8.8	3.01	51.37	6.4	2.57
4	5.4	2.36	40.37	3.2	1.82
5	3.0	1.76	30.24	1.8	1.36

By Linear Regression of Y on X

Slope , mw = **0.0600** **Intercept, bw =** **-0.5162**

Correlation coefficient* = **0.9974**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

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

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **4.14**

Remarks:

Conducted by: Wong Shing Kwai Signature: Date: 4-Mar-23

Checked by: Henry Leung Signature: Date: 4-Mar-23

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Laser Dust Monitor

Date of Calibration 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD.

Validity of Calibration Record 31-May-23

Model No.: LD-3B

Serial No.: 2Y6194

Equipment No.: SA-01-02

Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-03

Before Sensitivity Adjustment 578

Tisch Calibration Orifice No.: 3864

After Sensitivity Adjustment 578

Calibration of 1 hr TSP			
Calibration Point	Laser Dust Monitor		HVS
	Total Count	Count / Minute **X-axis**	Mass concentration (μg/m^3) **Y-axis**
1	4080	72.0	137.0
2	3600	63.0	119.0
3	2880	52.0	98.0
Average		**62.3**	**118.0**

By Linear Regression of Y on X

Slope , mw = **1.9485**

Intercept, bw = **-3.4568**

Correlation coefficient* = **0.9999**

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (μg/m3)] **1.9**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Limited)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration: 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record: 31-May-23

Model No.: LD-5R

Serial No.: 8Y2374

Equipment No.: SA-01-04 — Sensitivity: 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment: 652

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment: 652

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	71.0	132.0
2	64.0	119.0
3	53.0	98.0
Average	**62.7**	**116.3**

By Linear Regression of Y on X

Slope , mw = **1.8907** **Intercept, bw =** **-2.1498**

Correlation coefficient* = **1.0000**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	116.3
Particaulate Concentration by Dust Meter (µg/m^3)	62.7
Measureing time, (min)	60.0
Set Correlation Factor , SCF	
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]	**1.9**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration: 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record: 31-May-23

Model No.: LD-5R

Serial No.: 8Y2373

Equipment No.: SA-01-05 — Sensitivity: 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment: 657

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment: 657

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	72.0	133.0
2	63.0	113.0
3	53.0	98.0
Average	**62.7**	**114.7**

By Linear Regression of Y on X

Slope , mw = **1.8358** — **Intercept, bw =** **-0.3764**

Correlation coefficient* = **0.9937**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	114.7
Particaulate Concentration by Dust Meter (µg/m^3)	62.7
Measureing time, (min)	60.0
Set Correlation Factor , SCF	
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]	**1.8**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration: 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record: 31-May-23

Model No.: LD-5R

Serial No.: 972777

Equipment No.: SA-01-06 — Sensitivity: 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment: 645

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment: 645

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	69.0	136.0
2	62.0	118.0
3	51.0	100.0
Average	**60.7**	**118.0**

By Linear Regression of Y on X

Slope , mw = 1.9676 — **Intercept, bw =** -1.3684

Correlation coefficient* = 0.9919

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	118.0
Particaulate Concentration by Dust Meter (µg/m^3)	60.7
Measureing time, (min)	60.0

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] **1.9**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record 31-May-23

Model No.: LD-5R

Serial No.: 972778

Equipment No.: SA-01-07 — Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment 735 CPM

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment 735 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	66.0	135.0
2	58.0	117.0
3	47.0	96.0
Average	**57.0**	**116.0**

By Linear Regression of Y on X

Slope , mw = **2.0440** **Intercept, bw =** **-0.5055**

Correlation coefficient* = **0.9989**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	116.0
Particaulate Concentration by Dust Meter (µg/m^3)	57.0
Measureing time, (min)	60.0
Set Correlation Factor , SCF	
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]	**2.0**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record 31-May-23

Model No.: LD-5R

Serial No.: 972779

Equipment No.: SA-01-08 — Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment 744 CPM

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment 744 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	69.0	136.0
2	58.0	117.0
3	49.0	96.0
Average	**58.7**	**116.3**

By Linear Regression of Y on X

Slope , mw = **1.9900** **Intercept, bw =** **-0.4153**

Correlation coefficient* = **0.9963**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	116.3
Particaulate Concentration by Dust Meter (µg/m^3)	58.7
Measureing time, (min)	60.0

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] **2.0**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record 31-May-23

Model No.: LD-5R

Serial No.: 972780

Equipment No.: SA-01-09 — Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment 739 CPM

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment 739 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	71.0	138.0
2	61.0	118.0
3	51.0	97.0
Average	**61.0**	**117.7**

By Linear Regression of Y on X

Slope , mw = **2.0500** **Intercept, bw =** **-7.3833**

Correlation coefficient* = **0.9999**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	117.7
Particaulate Concentration by Dust Meter (µg/m^3)	61.0
Measureing time, (min)	60.0

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] **1.9**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

CINOTECH CONSULTANTS LIMITED

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator — Date of Calibration 31-Mar-23

Manufacturer: Sibata Scientific Technology LTD. — Validity of Calibration Record 31-May-23

Model No.: LD-5R

Serial No.: 972781

Equipment No.: SA-01-10 — Sensitivity 0.001 mg/m3

High Volume Sampler No.: A-01-03 — Before Sensitivity Adjustment 734 CPM

Tisch Calibration Orifice No.: 3864 — After Sensitivity Adjustment 734 CPM

Calibration of 1 hr TSP		
Calibration Point	**Laser Dust Monitor**	**HVS**
	Mass Concentration (µg/m3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	80.0	130.0
2	70.0	112.0
3	59.0	95.0
Average	**69.7**	**112.3**

By Linear Regression of Y on X

Slope , mw = **1.6647** **Intercept, bw =** **-3.6375**

Correlation coefficient* = **0.9990**

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	112.3
Particaulate Concentration by Dust Meter (µg/m^3)	69.7
Measureing time, (min)	60.0

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] **1.6**

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: _____

Technical Officer (Wong Shing Kwai)

Approved by: _____

Project Manager (Henry Leung)

TISCH Environmental

RECALIBRATION DUE DATE:
January 16, 2024

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	January 16, 2023	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 749.0	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3864**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4440	3.2	2.00
2	3	4	1	1.0220	6.4	4.00
3	5	6	1	0.9100	8.0	5.00
4	7	8	1	0.8710	8.8	5.50
5	9	10	1	0.7210	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9981	0.6912	1.4159	0.9957	0.6896	0.8845
0.9938	0.9724	2.0024	0.9915	0.9701	1.2509
0.9917	1.0898	2.2388	0.9893	1.0872	1.3985
0.9906	1.1373	2.3480	0.9883	1.1346	1.4668
0.9853	1.3665	2.8318	0.9829	1.3633	1.7690
QSTD	**m=**	**2.09452**	**QA**	**m=**	**1.31155**
	b=	**-0.03493**		**b=**	**-0.02182**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

RECALIBRATION

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

Certificate of Calibration - Wind Monitoring Station

Description:	Yau Lai Estate, Bik Lai House
Manufacturer:	Davis Instruments
Model No.:	Davis7440
Serial No.:	MC01010A44
Equipment No.:	SA-03-04
Date of Calibration	18-Feb-2023
Next Due Date	18-Aug-2023

1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	D = V1 – V2
0.0	0.0	0.0
1.2	1.3	-0.1
2.5	2.5	0.0
3.8	3.9	-0.1

2. Performance check of Wind Direction

Wind Direction (^{o})		Difference D (^{o})
Wind Direction Reading (W1)	Marine Compass Value (W2)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer

2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by: _____ Wong Shing Kwai

Approved by: _____ Henry Leung

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00318 Issue Date : 20 Jan 2023
Application No. : HP00227

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-08-12

Manufacturer: : SVANTEK

Other information :

Model No.	SVAN 957
Serial No.	23851
Microphone No.	22391

Date Received : 20 Jan 2023

Test Period : 20 Jan 2023 to 20 Jan 2023

Test Requested : Performance checking for Sound Level Meter

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

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00318 Issue Date : 20 Jan 2023
Application No. : HP00227

Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	93.9	- 0.1	± 1.5
114.0	113.8	- 0.2	± 1.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00333 Issue Date : 20 Jan 2023
Application No. : HP00212

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-02

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	570187
Microphone No.	590079

Date Received : 18 Jan 2023

Test Period : 20 Jan 2023 to 20 Jan 2023

Test Requested : Performance checking for Sound Level Meter

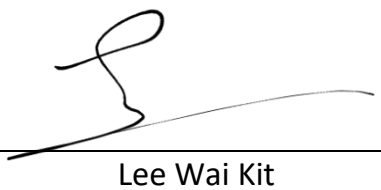
Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED



Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00333 Issue Date : 20 Jan 2023
Application No. : HP00212

Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.0	± 0.0	± 1.5
114.0	114.2	+ 0.2	± 1.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00288 Issue Date : 10 Nov 2022
Application No. : HP00176

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-13-03

Manufacturer: : SOUNDTEK

Other information :

Model No.	ST-120
Serial No.	181001637

Date Received : 10 Nov 2022

Test Period : 10 Nov 2022 to 10 Nov 2022

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00288 Issue Date : 10 Nov 2022
Application No. : HP00176

Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Description	Sound Meter
Manufacturer	BSWA Technology
Model No.	BSWA 308
Serial No.	570183
Microphone No.	570605
Equipment No.	N-12-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.1	+ 0.1	± 0.3
114.0	114.2	+ 0.2	± 0.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00287 Issue Date : 09 Nov 2022
Application No. : HP00168

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Sound Level Calibrator.

Equipment No.: : N-09-02

Manufacturer: : SVANTEK

Other information :

Model No.	SV 30A
Serial No.	10965

Date Received : 08 Nov 2022

Test Period : 08 Nov 2022 to 08 Nov 2022

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00287 Issue Date : 09 Nov 2022
Application No. : HP00168

Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Description	Sound Meter
Manufacturer	BSWA Technology
Model No.	BSWA 308
Serial No.	570183
Microphone No.	570605
Equipment No.	N-12-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.2	+ 0.2	± 0.3
114.0	114.1	+ 0.1	± 0.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00361 Issue Date : 30 Mar 2023
Application No. : HP00236

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-04

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	580238
Microphone No.	570605

Date Received : 27 Mar 2023

Test Period : 28 Mar 2023 to 28 Mar 2023

Test Requested : Performance checking for Sound Level Meter

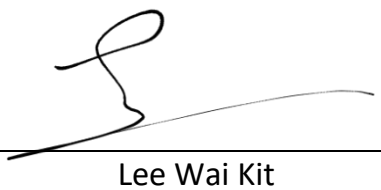
Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED



Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00361 Issue Date : 30 Mar 2023
Application No. : HP00236

Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.2	+ 0.2	± 1.5
114.0	114.3	+ 0.3	± 1.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00364 Issue Date : 03 Apr 2023
Application No. : HP00240

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be Integrating Sound Level Meter.

Equipment No.: : N-12-05

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	580287
Microphone No.	570610

Date Received : 03 Apr 2023

Test Period : 03 Apr 2023 to 03 Apr 2023

Test Requested : Performance checking for Sound Level Meter

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

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00364 Issue Date : 03 Apr 2023
Application No. : HP00240

Certificate of Calibration

Measuring equipment :

Description	Sound Calibrator
Manufacturer	Brüel & Kjær
Model No.	TYPE 4231
Serial No.	2326353
Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.2	+ 0.2	± 1.5
114.0	114.2	+ 0.2	± 1.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00352 Issue Date : 24 Feb 2023
Application No. : HP00228

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be YSI EXO1 Multi-parameter Sonde.

Equipment No.: : SW-08-128

Manufacturer: : YSI Incorporated, a Xylem brand

Other information :

Description:	Serial No.
- EXO Optical DO Sensor, Ti	17B102215
- EXO conductivity/Temperature Sensor, Ti	17B100803
- EXO Turbidity Sensor, Ti	17B102258
- EXO pH Sensor Assembly, Guarded, Ti	16J101274

Date Received : 14 Feb 2023

Test Period : 14 Feb 2023 to 24 Feb 2023

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

Test Method : According to manufacturer instruction manual, APHA 23rd Ed 4500-O G

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The results relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

Lee Wai Kit
Laboratory Manager

High Precision Chemical Testing Ltd.
Rm 1904, Technology Park
18 On Lai Street, Shatin
NT, Hong Kong
Tel: +852 3841 4388 Website: https://www.hpct.com.hk

Report No. : 00352 Issue Date : 24 Feb 2023
Application No. : HP00228

Certificate of Calibration

Test Result :

Conductivity performance checking

Expected Reading (mS/cm)	Instrument Readings (mS/cm)	Acceptance Criteria	Comment
146.9	150.1	140-154	Pass
1412	1402	1341-1483	Pass
6667	6590	6334-7000	Pass
12890	12950	12246-13535	Pass
58670	58000	55737-61604	Pass

Temperature performance checking

Expected Reading (℃)	Instrument Readings (℃)	Acceptance Criteria	Comment
10.0	10.316	10.0 ± 2.0	Pass
25.0	25.368	25.0 ± 2.0	Pass
35.0	35.327	35.0 ± 2.0	Pass

pH performance checking

Expected Reading (pH unit)	Instrument Readings (pH unit)	Acceptance Criteria	Comment
4.01	4.01	4.01 ± 0.2	Pass
7.00	7.01	7.00 ± 0.2	Pass
10.01	9.90	10.01 ± 0.2	Pass

D.O. performance checking

Expected Reading	Instrument Readings (mg/L)	Acceptance Criteria	Comment
0.00	0.74	--	--
8.26	8.19	±0.20	Pass

Turbidity performance checking

Expected Reading(NTU)	Instrument Readings (NTU)	Acceptance Criteria	Comment
0	0.02	--	--
5	4.90	4.5-5.5	Pass
50	49.33	45-55	Pass
100	100.13	90-110	Pass

Note : "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

- End of report -

MSA Hong Kong Ltd.
25/F Jupiter Tower, 9 Jupiter Street, Hong Kong
Tel 852-22587588 Fax 25478780 Email info.hk@msasafety.com Website www.msasafety.com

Ref. 2022/08/017 Date: 19-Aug-22
Customer Leighton China State Joint Venture

CERTIFICATE FOR CALIBRATION CHECK TEST

Model	Serial No.	Calibration Check Gas	Regulator	Full Scale	Response
Altair 5X	152097	1.45% Methane,	.25litre/min	100% LEL	29%LEL
		15% Oxygen		30% Vol	15% O2
		60ppm Carbon Monoxide		1999 ppm	60ppm CO
		20ppm Hydrogen Sulfide		200 ppm	20ppm H2S
		2.5% Carbon Dioxide		10% Vol	2.5% CO2
		25ppm Ammonia	Demand	100 ppm	25ppm NH3

Remarks: Regular inspection completed. Calibration passed

MSA Hong Kong Ltd. certify that instrument/s listed above has/have been calibrated check tested on:
19-Aug-22

This instrument was calibrated in accordance with all requirements of the specifications of MSA.

This instrument must be calibration checked prior to use in accordance with the instruction manual.

This instrument was calibrated using NIST traceable equipment and was in accordance with all requirements of the drawings and specifications of MSA.

For and on behalf of
MSA Hong Kong Ltd.

Authorised Signature

CALIBRATION CERTIFICATE

Calibration Item:	Micromate System ISEE (Calibration with Geophone UM13704)
Model No.:	721A2501
Serial No.:	UM13704
Calibration Date:	29 April, 2022
Next Calibration Date:	29 April 2023
Method Used:	In-house Method B3-001
In-house Testing Procedure No.:	B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

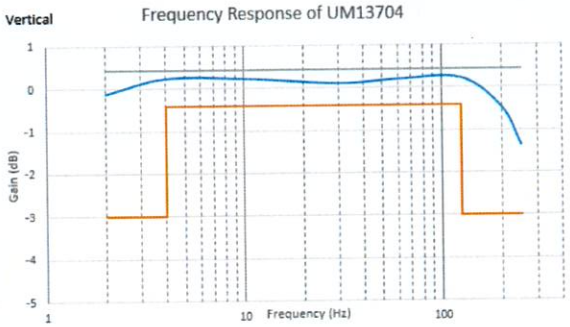
Authorized by: _____

(Isaac Au Yeung)

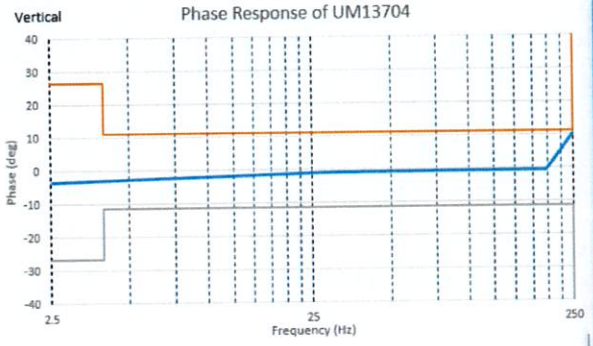
Date: 29 April 2022

Frequency Responses of UM13704

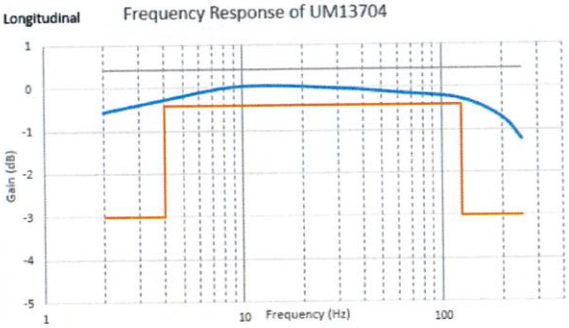
Vertical



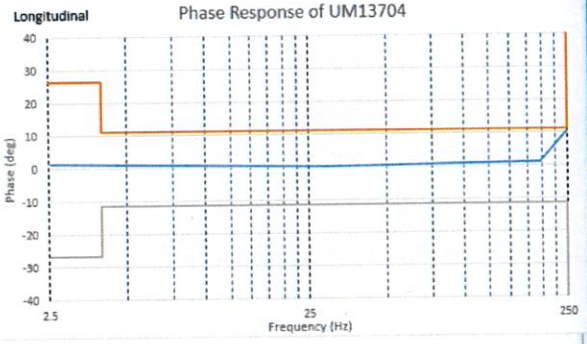
Vertical



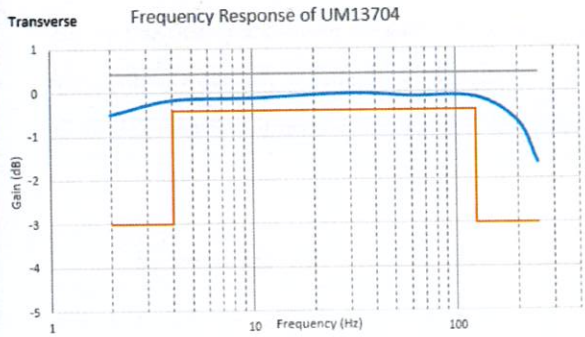
Longitudinal



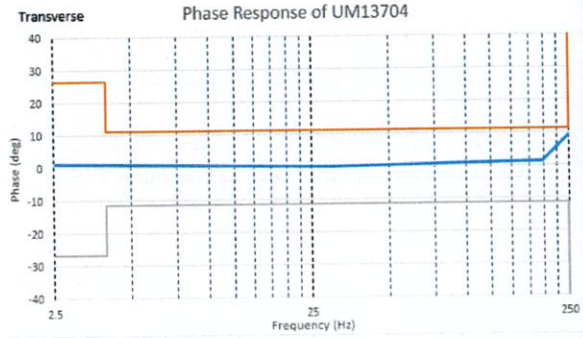
Longitudinal



Transverse



Transverse



CALIBRATION CERTIFICATE

Calibration Item:	TRIAXIAL GEOPHONE (Calibration with main unit UM13704)
Part Number:	721A2901
Serial No.:	UM13704
Calibration Date:	29 April 2022
Next Calibration Date:	29 April 2023
Method Used:	In-house Method B3-001
In-house Testing Procedure No.:	B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: _____

(Isaac Au Yeung)

Date: 29 April 2022

CALIBRATION CERTIFICATE

Calibration Item:	Linear Microphone (Calibration with main unit UM13704)
Model No.:	721A0201
Serial No.:	UL3385
Calibration Date:	29 April 2022
Next Calibration Date:	29 April 2023
Method Used:	In-house Method MM-002
In-house Testing Procedure No.:	MM-002

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
Linear Microphone	714A9801	BH13695
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter	339A	2025A04515
Bruel & Kjaer Microphone	4193	2677340
Low Frequency Calibrator	42AE	105366
Bruel & Kjaer Conditional Amplifier	269	2152173

*References are traceable to NIST or equivalent.

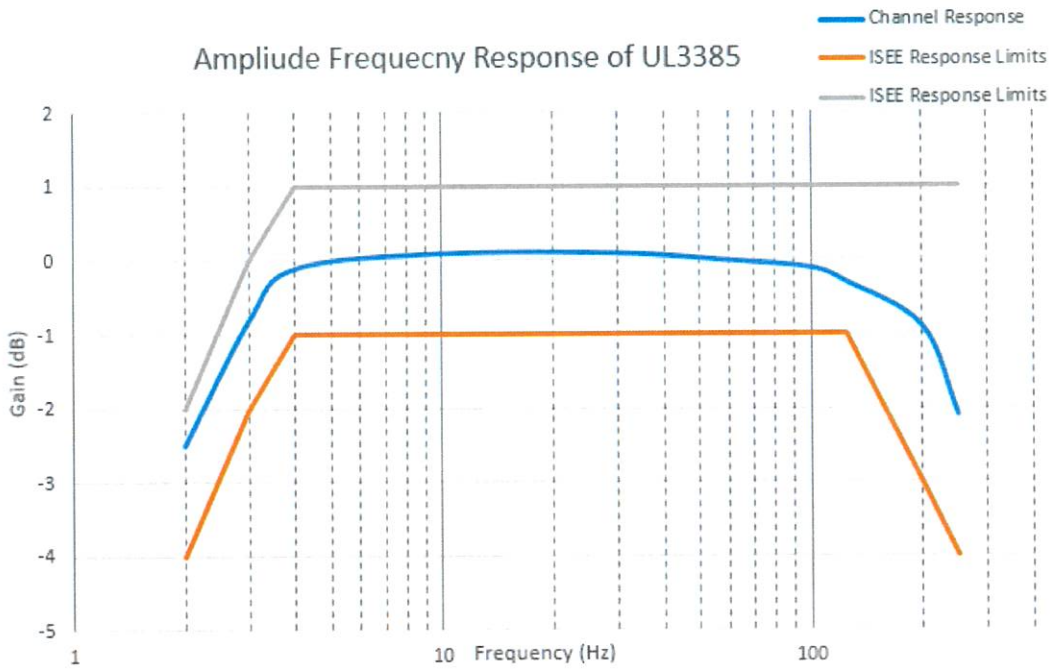
INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: _____

(Isaac Au Yeung)

Date: 29 April 2022

Frequency Responses UL3385



APPENDIX C
WEATHER INFORMATION

Table I: Weather over the Reporting Month

April 2023				
Table I				
Day	Mean Pressure (hPa)	Air Temperature Mean (°C)	Mean Relative Humidity (%)	Total Rainfall (mm)
1	1012.7	20.3	89.0	0.7
2	1012.2	21.1	92.0	0.7
3	1011.8	20.9	90.0	2.1
4	1009.3	23.7	90.0	4.0
5	1009.5	25.3	89.0	0.4
6	1011.0	25.4	87.0	5.9
7	1015.2	21.8	74.0	4.4
8	1020.1	20.6	73.0	Trace
9	1018.4	19.8	72.0	2.6
10	1014.9	21.4	80.0	0.0
11	1012.9	24.2	81.0	0.0
12	1012.3	25.0	76.0	0.0
13	1012.8	23.4	78.0	0.0
14	1010.8	24.7	80.0	0.0
15	1009.3	26.9	70.0	0.0
16	1009.5	26.7	69.0	0.0
17	1011.5	26.1	80.0	Trace
18	1010.1	26.7	81.0	Trace
19	1005.1	25.9	81.0	26.5
20	1004.1	24.0	94.0	18.2
21	1007.3	24.1	90.0	4.3
22	1010.5	23.1	89.0	0.7
23	1013.3	23.0	91.0	0.4
24	1014.2	23.5	89.0	1.0
25	1013.9	22.4	91.0	4.4
26	1014.6	21.6	73.0	0.0
27	1015.2	22.7	80.0	0.3
28	1013.8	24.1	84.0	0.9
29	1011.6	25.4	82.0	Trace
30	1012.1	24.6	73.0	0.0

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
1 Apr 2023	12:00 AM	SSW	0.1
1 Apr 2023	1:00 AM	S	0.1
1 Apr 2023	2:00 AM	W	0.2
1 Apr 2023	3:00 AM	WSW	0.1
1 Apr 2023	4:00 AM	ESE	0.1
1 Apr 2023	5:00 AM	ESE	0.1
1 Apr 2023	6:00 AM	WNW	0.1
1 Apr 2023	7:00 AM	S	0.1
1 Apr 2023	8:00 AM	W	0.1
1 Apr 2023	9:00 AM	WSW	0.1
1 Apr 2023	10:00 AM	ESE	0.1
1 Apr 2023	11:00 AM	ESE	0.1
1 Apr 2023	12:00 PM	WNW	0.2
1 Apr 2023	1:00 PM	WNW	0.1
1 Apr 2023	2:00 PM	NW	0.2
1 Apr 2023	3:00 PM	SW	0.2
1 Apr 2023	4:00 PM	SSW	0.2
1 Apr 2023	5:00 PM	WSW	0.2
1 Apr 2023	6:00 PM	SSW	0.2
1 Apr 2023	7:00 PM	SSW	0.2
1 Apr 2023	8:00 PM	SSW	0.2
1 Apr 2023	9:00 PM	WSW	0.1
1 Apr 2023	10:00 PM	SW	0.1
1 Apr 2023	11:00 PM	E	0.1
2 Apr 2023	12:00 AM	ENE	0.1
2 Apr 2023	1:00 AM	ENE	0.1
2 Apr 2023	2:00 AM	E	0.1
2 Apr 2023	3:00 AM	E	0.1
2 Apr 2023	4:00 AM	E	0.1
2 Apr 2023	5:00 AM	NNW	0.1
2 Apr 2023	6:00 AM	SSW	0.1
2 Apr 2023	7:00 AM	S	0.1
2 Apr 2023	8:00 AM	W	0.1
2 Apr 2023	9:00 AM	WSW	0.1
2 Apr 2023	10:00 AM	ESE	0.6
2 Apr 2023	11:00 AM	ESE	0.8
2 Apr 2023	12:00 PM	WNW	1.5
2 Apr 2023	1:00 PM	S	0.6
2 Apr 2023	2:00 PM	W	2.7
2 Apr 2023	3:00 PM	WSW	1.1
2 Apr 2023	4:00 PM	ESE	0.3
2 Apr 2023	5:00 PM	ESE	0.6
2 Apr 2023	6:00 PM	WNW	0.4
2 Apr 2023	7:00 PM	WNW	0.1
2 Apr 2023	8:00 PM	SSW	0.1
2 Apr 2023	9:00 PM	SW	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
2 Apr 2023	10:00 PM	SSW	0.1
2 Apr 2023	11:00 PM	E	0.1
3 Apr 2023	12:00 AM	NNE	0.1
3 Apr 2023	1:00 AM	WNW	0.1
3 Apr 2023	2:00 AM	W	0.1
3 Apr 2023	3:00 AM	SW	0.1
3 Apr 2023	4:00 AM	WSW	0.1
3 Apr 2023	5:00 AM	NNE	0.1
3 Apr 2023	6:00 AM	W	0.1
3 Apr 2023	7:00 AM	NE	0.1
3 Apr 2023	8:00 AM	SW	0.1
3 Apr 2023	9:00 AM	SW	0.1
3 Apr 2023	10:00 AM	WSW	0.1
3 Apr 2023	11:00 AM	WNW	0.1
3 Apr 2023	12:00 PM	SSW	1.1
3 Apr 2023	1:00 PM	W	1.2
3 Apr 2023	2:00 PM	WNW	2.2
3 Apr 2023	3:00 PM	SW	2.2
3 Apr 2023	4:00 PM	W	3.6
3 Apr 2023	5:00 PM	WNW	0.2
3 Apr 2023	6:00 PM	WNW	0.1
3 Apr 2023	7:00 PM	W	0.1
3 Apr 2023	8:00 PM	W	0.1
3 Apr 2023	9:00 PM	SW	0.1
3 Apr 2023	10:00 PM	SSW	0.1
3 Apr 2023	11:00 PM	SSW	0.1
4 Apr 2023	12:00 AM	SW	0.1
4 Apr 2023	1:00 AM	SW	0.1
4 Apr 2023	2:00 AM	SW	0.1
4 Apr 2023	3:00 AM	SW	0.1
4 Apr 2023	4:00 AM	SW	0.1
4 Apr 2023	5:00 AM	SW	0.1
4 Apr 2023	6:00 AM	WNW	0.1
4 Apr 2023	7:00 AM	NE	0.1
4 Apr 2023	8:00 AM	SSW	0.2
4 Apr 2023	9:00 AM	S	0.2
4 Apr 2023	10:00 AM	W	0.2
4 Apr 2023	11:00 AM	WSW	0.1
4 Apr 2023	12:00 PM	ESE	0.1
4 Apr 2023	1:00 PM	ESE	0.1
4 Apr 2023	2:00 PM	WNW	0.1
4 Apr 2023	3:00 PM	S	0.1
4 Apr 2023	4:00 PM	W	0.1
4 Apr 2023	5:00 PM	WSW	0.1
4 Apr 2023	6:00 PM	ESE	0.1
4 Apr 2023	7:00 PM	ESE	0.2

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
4 Apr 2023	8:00 PM	WNW	0.1
4 Apr 2023	9:00 PM	WNW	0.1
4 Apr 2023	10:00 PM	WNW	0.1
4 Apr 2023	11:00 PM	ENE	0.1
5 Apr 2023	12:00 AM	ESE	0.1
5 Apr 2023	1:00 AM	E	0.1
5 Apr 2023	2:00 AM	ENE	0.1
5 Apr 2023	3:00 AM	NE	0.1
5 Apr 2023	4:00 AM	NE	0.1
5 Apr 2023	5:00 AM	E	0.2
5 Apr 2023	6:00 AM	E	0.1
5 Apr 2023	7:00 AM	E	0.2
5 Apr 2023	8:00 AM	E	0.2
5 Apr 2023	9:00 AM	SE	0.2
5 Apr 2023	10:00 AM	ESE	0.2
5 Apr 2023	11:00 AM	E	0.2
5 Apr 2023	12:00 PM	E	0.2
5 Apr 2023	1:00 PM	SE	0.5
5 Apr 2023	2:00 PM	ENE	0.2
5 Apr 2023	3:00 PM	E	0.1
5 Apr 2023	4:00 PM	E	0.2
5 Apr 2023	5:00 PM	SE	0.1
5 Apr 2023	6:00 PM	ENE	0.1
5 Apr 2023	7:00 PM	ENE	0.1
5 Apr 2023	8:00 PM	E	0.1
5 Apr 2023	9:00 PM	ESE	0.1
5 Apr 2023	10:00 PM	NE	0.1
5 Apr 2023	11:00 PM	E	0.1
6 Apr 2023	12:00 AM	ENE	0.1
6 Apr 2023	1:00 AM	NE	0.1
6 Apr 2023	2:00 AM	SSE	0.1
6 Apr 2023	3:00 AM	ENE	0.1
6 Apr 2023	4:00 AM	E	0.1
6 Apr 2023	5:00 AM	E	0.1
6 Apr 2023	6:00 AM	ENE	0.1
6 Apr 2023	7:00 AM	ESE	0.1
6 Apr 2023	8:00 AM	ESE	0.1
6 Apr 2023	9:00 AM	ESE	0.1
6 Apr 2023	10:00 AM	SSE	0.1
6 Apr 2023	11:00 AM	ENE	0.1
6 Apr 2023	12:00 PM	ENE	0.1
6 Apr 2023	1:00 PM	SE	0.1
6 Apr 2023	2:00 PM	SSW	0.1
6 Apr 2023	3:00 PM	SSW	0.1
6 Apr 2023	4:00 PM	S	0.1
6 Apr 2023	5:00 PM	W	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
6 Apr 2023	6:00 PM	WSW	0.1
6 Apr 2023	7:00 PM	ESE	0.1
6 Apr 2023	8:00 PM	ESE	0.1
6 Apr 2023	9:00 PM	WNW	0.1
6 Apr 2023	10:00 PM	S	0.2
6 Apr 2023	11:00 PM	W	0.4
7 Apr 2023	12:00 AM	WSW	0.2
7 Apr 2023	1:00 AM	ESE	0.1
7 Apr 2023	2:00 AM	ESE	0.1
7 Apr 2023	3:00 AM	WNW	0.1
7 Apr 2023	4:00 AM	WNW	0.1
7 Apr 2023	5:00 AM	ENE	0.9
7 Apr 2023	6:00 AM	SE	0.1
7 Apr 2023	7:00 AM	E	0.6
7 Apr 2023	8:00 AM	E	0.8
7 Apr 2023	9:00 AM	ESE	0.1
7 Apr 2023	10:00 AM	S	0.1
7 Apr 2023	11:00 AM	SSE	0.1
7 Apr 2023	12:00 PM	ESE	0.7
7 Apr 2023	1:00 PM	S	0.1
7 Apr 2023	2:00 PM	E	0.4
7 Apr 2023	3:00 PM	ESE	1.0
7 Apr 2023	4:00 PM	E	0.1
7 Apr 2023	5:00 PM	E	0.1
7 Apr 2023	6:00 PM	ESE	0.8
7 Apr 2023	7:00 PM	ENE	0.1
7 Apr 2023	8:00 PM	E	0.2
7 Apr 2023	9:00 PM	S	0.1
7 Apr 2023	10:00 PM	SE	0.1
7 Apr 2023	11:00 PM	E	0.1
8 Apr 2023	12:00 AM	E	0.1
8 Apr 2023	1:00 AM	ESE	0.2
8 Apr 2023	2:00 AM	E	0.1
8 Apr 2023	3:00 AM	ESE	0.1
8 Apr 2023	4:00 AM	NE	0.1
8 Apr 2023	5:00 AM	ESE	0.1
8 Apr 2023	6:00 AM	SSW	0.1
8 Apr 2023	7:00 AM	S	0.1
8 Apr 2023	8:00 AM	W	0.1
8 Apr 2023	9:00 AM	WSW	0.1
8 Apr 2023	10:00 AM	ESE	0.1
8 Apr 2023	11:00 AM	ESE	0.1
8 Apr 2023	12:00 PM	WNW	0.1
8 Apr 2023	1:00 PM	S	0.4
8 Apr 2023	2:00 PM	W	0.1
8 Apr 2023	3:00 PM	WSW	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
8 Apr 2023	4:00 PM	ESE	0.2
8 Apr 2023	5:00 PM	ESE	0.1
8 Apr 2023	6:00 PM	WNW	0.4
8 Apr 2023	7:00 PM	WNW	0.1
8 Apr 2023	8:00 PM	NE	0.3
8 Apr 2023	9:00 PM	NE	0.2
8 Apr 2023	10:00 PM	NE	0.2
8 Apr 2023	11:00 PM	ENE	0.2
9 Apr 2023	12:00 AM	W	0.1
9 Apr 2023	1:00 AM	ENE	0.1
9 Apr 2023	2:00 AM	ENE	0.4
9 Apr 2023	3:00 AM	NE	0.1
9 Apr 2023	4:00 AM	ENE	0.2
9 Apr 2023	5:00 AM	ENE	0.2
9 Apr 2023	6:00 AM	SSW	0.2
9 Apr 2023	7:00 AM	S	0.2
9 Apr 2023	8:00 AM	W	0.2
9 Apr 2023	9:00 AM	WSW	0.3
9 Apr 2023	10:00 AM	ESE	0.4
9 Apr 2023	11:00 AM	ESE	1.0
9 Apr 2023	12:00 PM	WNW	0.4
9 Apr 2023	1:00 PM	S	0.4
9 Apr 2023	2:00 PM	W	0.3
9 Apr 2023	3:00 PM	WSW	0.3
9 Apr 2023	4:00 PM	ESE	0.3
9 Apr 2023	5:00 PM	ESE	0.2
9 Apr 2023	6:00 PM	WNW	0.2
9 Apr 2023	7:00 PM	WNW	0.1
9 Apr 2023	8:00 PM	E	0.1
9 Apr 2023	9:00 PM	ESE	0.1
9 Apr 2023	10:00 PM	E	0.1
9 Apr 2023	11:00 PM	E	0.1
10 Apr 2023	12:00 AM	ENE	0.1
10 Apr 2023	1:00 AM	E	0.1
10 Apr 2023	2:00 AM	ENE	0.1
10 Apr 2023	3:00 AM	ESE	0.1
10 Apr 2023	4:00 AM	SE	0.1
10 Apr 2023	5:00 AM	SE	0.2
10 Apr 2023	6:00 AM	E	0.1
10 Apr 2023	7:00 AM	ESE	0.1
10 Apr 2023	8:00 AM	NE	0.1
10 Apr 2023	9:00 AM	SE	0.2
10 Apr 2023	10:00 AM	SSE	0.1
10 Apr 2023	11:00 AM	SSE	0.1
10 Apr 2023	12:00 PM	S	0.1
10 Apr 2023	1:00 PM	SSE	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
10 Apr 2023	2:00 PM	SSE	0.1
10 Apr 2023	3:00 PM	SSE	0.1
10 Apr 2023	4:00 PM	SE	0.1
10 Apr 2023	5:00 PM	ENE	0.1
10 Apr 2023	6:00 PM	S	0.1
10 Apr 2023	7:00 PM	SSW	0.2
10 Apr 2023	8:00 PM	S	0.1
10 Apr 2023	9:00 PM	W	0.2
10 Apr 2023	10:00 PM	WSW	0.2
10 Apr 2023	11:00 PM	ESE	0.2
11 Apr 2023	12:00 AM	ESE	0.2
11 Apr 2023	1:00 AM	WNW	0.2
11 Apr 2023	2:00 AM	S	0.2
11 Apr 2023	3:00 AM	W	0.1
11 Apr 2023	4:00 AM	WSW	0.2
11 Apr 2023	5:00 AM	ESE	0.1
11 Apr 2023	6:00 AM	ESE	0.1
11 Apr 2023	7:00 AM	WNW	0.1
11 Apr 2023	8:00 AM	WNW	0.1
11 Apr 2023	9:00 AM	E	0.1
11 Apr 2023	10:00 AM	E	2.9
11 Apr 2023	11:00 AM	ESE	0.1
11 Apr 2023	12:00 PM	E	0.1
11 Apr 2023	1:00 PM	ESE	0.2
11 Apr 2023	2:00 PM	ENE	0.1
11 Apr 2023	3:00 PM	ENE	0.1
11 Apr 2023	4:00 PM	E	0.1
11 Apr 2023	5:00 PM	ENE	0.2
11 Apr 2023	6:00 PM	NE	0.1
11 Apr 2023	7:00 PM	ENE	0.1
11 Apr 2023	8:00 PM	E	0.1
11 Apr 2023	9:00 PM	ESE	0.1
11 Apr 2023	10:00 PM	E	0.1
11 Apr 2023	11:00 PM	ENE	0.1
12 Apr 2023	12:00 AM	NE	0.1
12 Apr 2023	1:00 AM	E	0.1
12 Apr 2023	2:00 AM	NNE	0.1
12 Apr 2023	3:00 AM	ENE	0.1
12 Apr 2023	4:00 AM	ESE	0.1
12 Apr 2023	5:00 AM	NNE	0.1
12 Apr 2023	6:00 AM	NNW	0.1
12 Apr 2023	7:00 AM	E	0.1
12 Apr 2023	8:00 AM	ENE	0.4
12 Apr 2023	9:00 AM	SE	0.1
12 Apr 2023	10:00 AM	SE	0.1
12 Apr 2023	11:00 AM	ESE	0.2

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
12 Apr 2023	12:00 PM	SE	0.5
12 Apr 2023	1:00 PM	E	0.1
12 Apr 2023	2:00 PM	SSW	0.2
12 Apr 2023	3:00 PM	S	0.1
12 Apr 2023	4:00 PM	W	0.1
12 Apr 2023	5:00 PM	WSW	0.2
12 Apr 2023	6:00 PM	ESE	0.1
12 Apr 2023	7:00 PM	ESE	0.1
12 Apr 2023	8:00 PM	WNW	0.1
12 Apr 2023	9:00 PM	S	0.1
12 Apr 2023	10:00 PM	W	0.1
12 Apr 2023	11:00 PM	WSW	0.1
13 Apr 2023	12:00 AM	ESE	0.1
13 Apr 2023	1:00 AM	ESE	0.1
13 Apr 2023	2:00 AM	WNW	0.1
13 Apr 2023	3:00 AM	WNW	0.2
13 Apr 2023	4:00 AM	ENE	0.1
13 Apr 2023	5:00 AM	W	0.1
13 Apr 2023	6:00 AM	S	0.1
13 Apr 2023	7:00 AM	SW	0.1
13 Apr 2023	8:00 AM	ESE	0.1
13 Apr 2023	9:00 AM	WSW	0.1
13 Apr 2023	10:00 AM	SSE	0.1
13 Apr 2023	11:00 AM	WSW	0.1
13 Apr 2023	12:00 PM	WNW	0.1
13 Apr 2023	1:00 PM	W	0.2
13 Apr 2023	2:00 PM	NW	0.1
13 Apr 2023	3:00 PM	W	0.2
13 Apr 2023	4:00 PM	WNW	0.2
13 Apr 2023	5:00 PM	WSW	0.2
13 Apr 2023	6:00 PM	SW	0.2
13 Apr 2023	7:00 PM	WSW	0.2
13 Apr 2023	8:00 PM	ENE	0.2
13 Apr 2023	9:00 PM	ESE	0.1
13 Apr 2023	10:00 PM	WNW	0.1
13 Apr 2023	11:00 PM	WSW	0.1
14 Apr 2023	12:00 AM	SW	0.1
14 Apr 2023	1:00 AM	#N/A	0.1
14 Apr 2023	2:00 AM	E	0.1
14 Apr 2023	3:00 AM	SW	0.1
14 Apr 2023	4:00 AM	ENE	0.1
14 Apr 2023	5:00 AM	ENE	0.1
14 Apr 2023	6:00 AM	E	0.1
14 Apr 2023	7:00 AM	E	0.1
14 Apr 2023	8:00 AM	ENE	0.2
14 Apr 2023	9:00 AM	SE	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
14 Apr 2023	10:00 AM	SSW	0.1
14 Apr 2023	11:00 AM	S	0.5
14 Apr 2023	12:00 PM	W	0.1
14 Apr 2023	1:00 PM	WSW	0.5
14 Apr 2023	2:00 PM	ESE	0.1
14 Apr 2023	3:00 PM	ESE	0.1
14 Apr 2023	4:00 PM	WNW	0.2
14 Apr 2023	5:00 PM	S	0.1
14 Apr 2023	6:00 PM	W	0.1
14 Apr 2023	7:00 PM	WSW	0.2
14 Apr 2023	8:00 PM	ESE	0.1
14 Apr 2023	9:00 PM	ESE	0.1
14 Apr 2023	10:00 PM	WNW	0.1
14 Apr 2023	11:00 PM	WNW	0.2
15 Apr 2023	12:00 AM	ESE	1.0
15 Apr 2023	1:00 AM	SSE	0.1
15 Apr 2023	2:00 AM	ENE	0.1
15 Apr 2023	3:00 AM	ESE	0.1
15 Apr 2023	4:00 AM	ESE	0.6
15 Apr 2023	5:00 AM	NE	0.1
15 Apr 2023	6:00 AM	ENE	0.1
15 Apr 2023	7:00 AM	ENE	0.2
15 Apr 2023	8:00 AM	E	0.1
15 Apr 2023	9:00 AM	E	0.1
15 Apr 2023	10:00 AM	E	0.1
15 Apr 2023	11:00 AM	ENE	0.2
15 Apr 2023	12:00 PM	ESE	0.1
15 Apr 2023	1:00 PM	SSE	0.1
15 Apr 2023	2:00 PM	ESE	0.1
15 Apr 2023	3:00 PM	E	0.1
15 Apr 2023	4:00 PM	E	0.1
15 Apr 2023	5:00 PM	E	0.1
15 Apr 2023	6:00 PM	E	0.1
15 Apr 2023	7:00 PM	SSW	0.1
15 Apr 2023	8:00 PM	S	0.1
15 Apr 2023	9:00 PM	W	0.2
15 Apr 2023	10:00 PM	WSW	0.1
15 Apr 2023	11:00 PM	ESE	0.2
16 Apr 2023	12:00 AM	ESE	0.2
16 Apr 2023	1:00 AM	WNW	0.2
16 Apr 2023	2:00 AM	S	0.2
16 Apr 2023	3:00 AM	W	0.2
16 Apr 2023	4:00 AM	WSW	0.2
16 Apr 2023	5:00 AM	ESE	0.1
16 Apr 2023	6:00 AM	ESE	0.1
16 Apr 2023	7:00 AM	WNW	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	Time	Direction	Wind Speed m^{-s}
16 Apr 2023	8:00 AM	WNW	0.1
16 Apr 2023	9:00 AM	ESE	0.1
16 Apr 2023	10:00 AM	ESE	0.1
16 Apr 2023	11:00 AM	ESE	0.1
16 Apr 2023	12:00 PM	E	0.1
16 Apr 2023	1:00 PM	SE	0.4
16 Apr 2023	2:00 PM	SSE	0.2
16 Apr 2023	3:00 PM	ENE	0.1
16 Apr 2023	4:00 PM	E	0.1
16 Apr 2023	5:00 PM	SSW	0.3
16 Apr 2023	6:00 PM	E	0.1
16 Apr 2023	7:00 PM	E	0.1
16 Apr 2023	8:00 PM	SE	0.1
16 Apr 2023	9:00 PM	ENE	0.1
16 Apr 2023	10:00 PM	ENE	0.1
16 Apr 2023	11:00 PM	ENE	0.1
17 Apr 2023	12:00 AM	SE	0.1
17 Apr 2023	1:00 AM	SSW	0.1
17 Apr 2023	2:00 AM	S	0.1
17 Apr 2023	3:00 AM	W	0.1
17 Apr 2023	4:00 AM	WSW	0.1
17 Apr 2023	5:00 AM	ESE	0.1
17 Apr 2023	6:00 AM	ESE	0.1
17 Apr 2023	7:00 AM	WNW	0.1
17 Apr 2023	8:00 AM	S	0.1
17 Apr 2023	9:00 AM	W	0.1
17 Apr 2023	10:00 AM	WSW	0.1
17 Apr 2023	11:00 AM	ESE	0.1
17 Apr 2023	12:00 PM	ESE	0.1
17 Apr 2023	1:00 PM	WNW	0.1
17 Apr 2023	2:00 PM	WNW	0.1
17 Apr 2023	3:00 PM	SE	0.1
17 Apr 2023	4:00 PM	ENE	0.1
17 Apr 2023	5:00 PM	ENE	0.1
17 Apr 2023	6:00 PM	E	0.1
17 Apr 2023	7:00 PM	ENE	0.1
17 Apr 2023	8:00 PM	E	0.1
17 Apr 2023	9:00 PM	SSE	0.1
17 Apr 2023	10:00 PM	ENE	0.1
17 Apr 2023	11:00 PM	E	0.1
18 Apr 2023	12:00 AM	ESE	0.1
18 Apr 2023	1:00 AM	E	0.1
18 Apr 2023	2:00 AM	E	0.1
18 Apr 2023	3:00 AM	WSW	0.1
18 Apr 2023	4:00 AM	ESE	0.1
18 Apr 2023	5:00 AM	E	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
18 Apr 2023	6:00 AM	E	0.1
18 Apr 2023	7:00 AM	NE	0.1
18 Apr 2023	8:00 AM	ENE	0.2
18 Apr 2023	9:00 AM	SSE	0.5
18 Apr 2023	10:00 AM	SSE	0.6
18 Apr 2023	11:00 AM	ESE	0.4
18 Apr 2023	12:00 PM	SSE	0.5
18 Apr 2023	1:00 PM	E	0.1
18 Apr 2023	2:00 PM	NNW	0.1
18 Apr 2023	3:00 PM	NNE	0.4
18 Apr 2023	4:00 PM	NNE	0.1
18 Apr 2023	5:00 PM	ESE	0.1
18 Apr 2023	6:00 PM	ESE	0.1
18 Apr 2023	7:00 PM	ENE	0.1
18 Apr 2023	8:00 PM	SE	0.1
18 Apr 2023	9:00 PM	SSW	0.1
18 Apr 2023	10:00 PM	S	0.5
18 Apr 2023	11:00 PM	W	0.1
19 Apr 2023	12:00 AM	WSW	0.1
19 Apr 2023	1:00 AM	ESE	0.2
19 Apr 2023	2:00 AM	ESE	0.1
19 Apr 2023	3:00 AM	WNW	0.1
19 Apr 2023	4:00 AM	S	0.1
19 Apr 2023	5:00 AM	W	0.1
19 Apr 2023	6:00 AM	WSW	0.1
19 Apr 2023	7:00 AM	ESE	0.1
19 Apr 2023	8:00 AM	ESE	0.1
19 Apr 2023	9:00 AM	WNW	0.1
19 Apr 2023	10:00 AM	WNW	0.1
19 Apr 2023	11:00 AM	E	0.2
19 Apr 2023	12:00 PM	SSE	0.1
19 Apr 2023	1:00 PM	E	0.2
19 Apr 2023	2:00 PM	ENE	0.2
19 Apr 2023	3:00 PM	E	0.2
19 Apr 2023	4:00 PM	E	0.2
19 Apr 2023	5:00 PM	SE	0.2
19 Apr 2023	6:00 PM	NW	0.2
19 Apr 2023	7:00 PM	ESE	0.1
19 Apr 2023	8:00 PM	E	0.7
19 Apr 2023	9:00 PM	ENE	0.1
19 Apr 2023	10:00 PM	ESE	0.9
19 Apr 2023	11:00 PM	ESE	0.1
20 Apr 2023	12:00 AM	SSW	0.1
20 Apr 2023	1:00 AM	E	0.1
20 Apr 2023	2:00 AM	ENE	0.1
20 Apr 2023	3:00 AM	ENE	1.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
20 Apr 2023	4:00 AM	E	0.1
20 Apr 2023	5:00 AM	E	0.1
20 Apr 2023	6:00 AM	E	0.1
20 Apr 2023	7:00 AM	SE	0.2
20 Apr 2023	8:00 AM	E	0.1
20 Apr 2023	9:00 AM	ESE	0.1
20 Apr 2023	10:00 AM	E	3.1
20 Apr 2023	11:00 AM	ESE	0.4
20 Apr 2023	12:00 PM	ESE	0.2
20 Apr 2023	1:00 PM	ENE	0.2
20 Apr 2023	2:00 PM	E	0.5
20 Apr 2023	3:00 PM	SSW	0.1
20 Apr 2023	4:00 PM	S	0.1
20 Apr 2023	5:00 PM	W	0.1
20 Apr 2023	6:00 PM	WSW	0.1
20 Apr 2023	7:00 PM	ESE	0.1
20 Apr 2023	8:00 PM	ESE	0.1
20 Apr 2023	9:00 PM	WNW	0.1
20 Apr 2023	10:00 PM	S	0.5
20 Apr 2023	11:00 PM	W	0.1
21 Apr 2023	12:00 AM	WSW	0.1
21 Apr 2023	1:00 AM	ESE	0.3
21 Apr 2023	2:00 AM	ESE	0.1
21 Apr 2023	3:00 AM	WNW	0.1
21 Apr 2023	4:00 AM	WNW	0.1
21 Apr 2023	5:00 AM	ESE	0.1
21 Apr 2023	6:00 AM	ENE	0.1
21 Apr 2023	7:00 AM	E	0.1
21 Apr 2023	8:00 AM	S	0.1
21 Apr 2023	9:00 AM	E	0.4
21 Apr 2023	10:00 AM	SSE	0.3
21 Apr 2023	11:00 AM	S	0.9
21 Apr 2023	12:00 PM	SE	0.4
21 Apr 2023	1:00 PM	S	0.2
21 Apr 2023	2:00 PM	S	0.1
21 Apr 2023	3:00 PM	SSE	0.1
21 Apr 2023	4:00 PM	SE	0.2
21 Apr 2023	5:00 PM	S	0.9
21 Apr 2023	6:00 PM	E	0.5
21 Apr 2023	7:00 PM	ESE	0.1
21 Apr 2023	8:00 PM	E	0.1
21 Apr 2023	9:00 PM	E	0.1
21 Apr 2023	10:00 PM	E	0.1
21 Apr 2023	11:00 PM	SSW	0.1
22 Apr 2023	12:00 AM	S	0.1
22 Apr 2023	1:00 AM	W	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
22 Apr 2023	2:00 AM	WSW	0.1
22 Apr 2023	3:00 AM	ESE	0.1
22 Apr 2023	4:00 AM	ESE	0.1
22 Apr 2023	5:00 AM	WNW	0.1
22 Apr 2023	6:00 AM	S	0.2
22 Apr 2023	7:00 AM	W	0.6
22 Apr 2023	8:00 AM	WSW	0.1
22 Apr 2023	9:00 AM	ESE	0.1
22 Apr 2023	10:00 AM	ESE	0.1
22 Apr 2023	11:00 AM	WNW	0.1
22 Apr 2023	12:00 PM	WNW	0.7
22 Apr 2023	1:00 PM	SW	1.9
22 Apr 2023	2:00 PM	WNW	3.1
22 Apr 2023	3:00 PM	W	2.7
22 Apr 2023	4:00 PM	SSW	0.3
22 Apr 2023	5:00 PM	WNW	1.5
22 Apr 2023	6:00 PM	W	0.4
22 Apr 2023	7:00 PM	WSW	0.2
22 Apr 2023	8:00 PM	SW	0.1
22 Apr 2023	9:00 PM	W	0.1
22 Apr 2023	10:00 PM	SSW	0.1
22 Apr 2023	11:00 PM	W	0.1
23 Apr 2023	12:00 AM	WSW	0.1
23 Apr 2023	1:00 AM	SW	0.1
23 Apr 2023	2:00 AM	SW	0.1
23 Apr 2023	3:00 AM	SW	0.1
23 Apr 2023	4:00 AM	WSW	0.1
23 Apr 2023	5:00 AM	WSW	0.1
23 Apr 2023	6:00 AM	WSW	0.1
23 Apr 2023	7:00 AM	WSW	0.1
23 Apr 2023	8:00 AM	WNW	0.1
23 Apr 2023	9:00 AM	SW	0.2
23 Apr 2023	10:00 AM	SW	0.1
23 Apr 2023	11:00 AM	N	0.2
23 Apr 2023	12:00 PM	W	2.7
23 Apr 2023	1:00 PM	SW	1.5
23 Apr 2023	2:00 PM	SW	0.3
23 Apr 2023	3:00 PM	WSW	0.1
23 Apr 2023	4:00 PM	NW	0.1
23 Apr 2023	5:00 PM	WNW	0.1
23 Apr 2023	6:00 PM	ESE	0.1
23 Apr 2023	7:00 PM	E	0.1
23 Apr 2023	8:00 PM	E	0.1
23 Apr 2023	9:00 PM	E	0.1
23 Apr 2023	10:00 PM	ENE	0.1
23 Apr 2023	11:00 PM	SSE	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
24 Apr 2023	12:00 AM	E	0.6
24 Apr 2023	1:00 AM	SE	0.1
24 Apr 2023	2:00 AM	SSE	0.1
24 Apr 2023	3:00 AM	E	0.1
24 Apr 2023	4:00 AM	ENE	0.1
24 Apr 2023	5:00 AM	E	0.1
24 Apr 2023	6:00 AM	ENE	0.1
24 Apr 2023	7:00 AM	E	0.2
24 Apr 2023	8:00 AM	ENE	0.1
24 Apr 2023	9:00 AM	SSW	0.2
24 Apr 2023	10:00 AM	S	2.2
24 Apr 2023	11:00 AM	W	0.2
24 Apr 2023	12:00 PM	WSW	0.5
24 Apr 2023	1:00 PM	ESE	0.1
24 Apr 2023	2:00 PM	ESE	0.2
24 Apr 2023	3:00 PM	WNW	0.1
24 Apr 2023	4:00 PM	S	0.7
24 Apr 2023	5:00 PM	W	0.7
24 Apr 2023	6:00 PM	WSW	0.1
24 Apr 2023	7:00 PM	ESE	0.6
24 Apr 2023	8:00 PM	ESE	0.1
24 Apr 2023	9:00 PM	WNW	0.1
24 Apr 2023	10:00 PM	WNW	0.1
24 Apr 2023	11:00 PM	E	0.1
25 Apr 2023	12:00 AM	ENE	0.1
25 Apr 2023	1:00 AM	E	0.1
25 Apr 2023	2:00 AM	E	0.1
25 Apr 2023	3:00 AM	E	0.1
25 Apr 2023	4:00 AM	NE	0.1
25 Apr 2023	5:00 AM	ENE	0.1
25 Apr 2023	6:00 AM	E	0.1
25 Apr 2023	7:00 AM	ENE	0.1
25 Apr 2023	8:00 AM	ESE	0.1
25 Apr 2023	9:00 AM	E	0.2
25 Apr 2023	10:00 AM	S	0.3
25 Apr 2023	11:00 AM	ESE	0.1
25 Apr 2023	12:00 PM	ENE	0.1
25 Apr 2023	1:00 PM	SE	0.1
25 Apr 2023	2:00 PM	S	0.1
25 Apr 2023	3:00 PM	ESE	0.1
25 Apr 2023	4:00 PM	SW	0.1
25 Apr 2023	5:00 PM	ESE	0.9
25 Apr 2023	6:00 PM	ESE	1.2
25 Apr 2023	7:00 PM	E	0.3
25 Apr 2023	8:00 PM	ESE	0.1
25 Apr 2023	9:00 PM	NNE	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
25 Apr 2023	10:00 PM	SE	0.1
25 Apr 2023	11:00 PM	NE	0.1
26 Apr 2023	12:00 AM	ESE	0.1
26 Apr 2023	1:00 AM	E	0.1
26 Apr 2023	2:00 AM	ENE	0.2
26 Apr 2023	3:00 AM	ENE	0.2
26 Apr 2023	4:00 AM	NE	0.2
26 Apr 2023	5:00 AM	ESE	0.9
26 Apr 2023	6:00 AM	ENE	0.1
26 Apr 2023	7:00 AM	E	0.1
26 Apr 2023	8:00 AM	ENE	1.0
26 Apr 2023	9:00 AM	NE	0.1
26 Apr 2023	10:00 AM	N	0.1
26 Apr 2023	11:00 AM	SE	0.2
26 Apr 2023	12:00 PM	S	0.1
26 Apr 2023	1:00 PM	SE	0.4
26 Apr 2023	2:00 PM	ESE	2.2
26 Apr 2023	3:00 PM	S	0.1
26 Apr 2023	4:00 PM	ESE	0.2
26 Apr 2023	5:00 PM	ENE	0.1
26 Apr 2023	6:00 PM	ENE	0.1
26 Apr 2023	7:00 PM	WNW	0.1
26 Apr 2023	8:00 PM	ESE	0.1
26 Apr 2023	9:00 PM	ESE	0.1
26 Apr 2023	10:00 PM	SE	0.1
26 Apr 2023	11:00 PM	ESE	0.1
27 Apr 2023	12:00 AM	ESE	0.1
27 Apr 2023	1:00 AM	E	0.2
27 Apr 2023	2:00 AM	SSW	0.1
27 Apr 2023	3:00 AM	S	0.2
27 Apr 2023	4:00 AM	W	0.2
27 Apr 2023	5:00 AM	WSW	0.2
27 Apr 2023	6:00 AM	ESE	0.3
27 Apr 2023	7:00 AM	ESE	0.3
27 Apr 2023	8:00 AM	WNW	0.5
27 Apr 2023	9:00 AM	S	0.5
27 Apr 2023	10:00 AM	W	0.4
27 Apr 2023	11:00 AM	WSW	0.4
27 Apr 2023	12:00 PM	ESE	0.6
27 Apr 2023	1:00 PM	ESE	0.5
27 Apr 2023	2:00 PM	WNW	0.6
27 Apr 2023	3:00 PM	WNW	0.5
27 Apr 2023	4:00 PM	NE	0.4
27 Apr 2023	5:00 PM	ESE	0.4
27 Apr 2023	6:00 PM	E	0.3
27 Apr 2023	7:00 PM	E	0.2

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
27 Apr 2023	8:00 PM	NE	0.2
27 Apr 2023	9:00 PM	SE	0.2
27 Apr 2023	10:00 PM	SSE	0.2
27 Apr 2023	11:00 PM	ENE	0.2
28 Apr 2023	12:00 AM	E	0.1
28 Apr 2023	1:00 AM	ENE	0.2
28 Apr 2023	2:00 AM	ENE	0.1
28 Apr 2023	3:00 AM	ESE	0.1
28 Apr 2023	4:00 AM	NNE	0.1
28 Apr 2023	5:00 AM	E	0.1
28 Apr 2023	6:00 AM	E	0.1
28 Apr 2023	7:00 AM	E	0.1
28 Apr 2023	8:00 AM	ESE	0.1
28 Apr 2023	9:00 AM	SSE	0.1
28 Apr 2023	10:00 AM	SSW	0.3
28 Apr 2023	11:00 AM	S	0.1
28 Apr 2023	12:00 PM	W	0.6
28 Apr 2023	1:00 PM	WSW	0.1
28 Apr 2023	2:00 PM	ESE	0.1
28 Apr 2023	3:00 PM	ESE	0.1
28 Apr 2023	4:00 PM	WNW	0.1
28 Apr 2023	5:00 PM	S	0.2
28 Apr 2023	6:00 PM	W	0.3
28 Apr 2023	7:00 PM	WSW	0.4
28 Apr 2023	8:00 PM	ESE	0.4
28 Apr 2023	9:00 PM	ESE	0.5
28 Apr 2023	10:00 PM	WNW	0.4
28 Apr 2023	11:00 PM	WNW	0.4
29 Apr 2023	12:00 AM	NNE	0.7
29 Apr 2023	1:00 AM	ESE	0.5
29 Apr 2023	2:00 AM	SSW	0.5
29 Apr 2023	3:00 AM	S	0.4
29 Apr 2023	4:00 AM	W	0.4
29 Apr 2023	5:00 AM	WSW	0.3
29 Apr 2023	6:00 AM	ESE	0.4
29 Apr 2023	7:00 AM	ESE	0.3
29 Apr 2023	8:00 AM	WNW	0.4
29 Apr 2023	9:00 AM	S	0.3
29 Apr 2023	10:00 AM	W	0.1
29 Apr 2023	11:00 AM	WSW	0.1
29 Apr 2023	12:00 PM	ESE	0.2
29 Apr 2023	1:00 PM	ESE	0.1
29 Apr 2023	2:00 PM	WNW	0.1
29 Apr 2023	3:00 PM	WNW	0.1
29 Apr 2023	4:00 PM	W	0.1
29 Apr 2023	5:00 PM	SSW	0.1

Appendix C - Weather Conditions during Monitoring Period

April 2023			
Table II: Wind Speed and Directions			
Date	**Time**	**Direction**	**Wind Speed m^{-s}**
29 Apr 2023	6:00 PM	SW	0.1
29 Apr 2023	7:00 PM	WSW	0.1
29 Apr 2023	8:00 PM	ENE	0.1
29 Apr 2023	9:00 PM	ESE	0.1
29 Apr 2023	10:00 PM	SE	0.2
29 Apr 2023	11:00 PM	ENE	0.1
30 Apr 2023	12:00 AM	E	0.2
30 Apr 2023	1:00 AM	ESE	0.2
30 Apr 2023	2:00 AM	ENE	0.2
30 Apr 2023	3:00 AM	E	0.2
30 Apr 2023	4:00 AM	W	0.2
30 Apr 2023	5:00 AM	SSW	0.2
30 Apr 2023	6:00 AM	S	0.1
30 Apr 2023	7:00 AM	W	0.1
30 Apr 2023	8:00 AM	WSW	0.1
30 Apr 2023	9:00 AM	ESE	0.1
30 Apr 2023	10:00 AM	ESE	0.1
30 Apr 2023	11:00 AM	WNW	0.1
30 Apr 2023	12:00 PM	S	1.0
30 Apr 2023	1:00 PM	W	0.1
30 Apr 2023	2:00 PM	WSW	1.6
30 Apr 2023	3:00 PM	ESE	1.9
30 Apr 2023	4:00 PM	ESE	1.3
30 Apr 2023	5:00 PM	WNW	0.6
30 Apr 2023	6:00 PM	WNW	0.1
30 Apr 2023	7:00 PM	W	0.1
30 Apr 2023	8:00 PM	WSW	0.1
30 Apr 2023	9:00 PM	W	0.1
30 Apr 2023	10:00 PM	WSW	0.1
30 Apr 2023	11:00 PM	W	0.1

APPENDIX D
ENVIRONMENTAL MONITORING SCHEDULES

Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Impact Air Quality and Noise Monitoring Schedule (April 2023)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Apr
2-Apr	3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr
	24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]		**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3] **24 hr TSP**		
9-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr
		24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]		**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3] **24 hr TSP**	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]
16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr
				24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A), CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr
			24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]	**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
30-Apr						

Air Quality Monitoring Station

AM1 - Tin Hau Temple
AM2 - Sai Tso Wan Recreation Ground
AM3 - Yau Lai Estate Bik Lai House
AM4[(1)] - Sitting-out Area at Cha Kwo Ling Village
AM4(B)[(2)] - Flat 103 Cha Kwo Ling Village
AM5(A) - Tseung Kwan O DSD Desilting Compound
AM6(A) - Park Central, L1/F Open Space Area

Noise Monitoring Station

CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong
CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong
CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong
CM4 - Tin Hau Temple, Cha Kwo Ling
CM5 - CCC Kei Faat Primary School, Yau Tong
CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores
CM7(A) - Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores
CM8(A) - Park Central, L1/F Open Space Area

Note (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Impact Water Quality Monitoring Schedule April 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Apr
2-Apr	3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr
	Mid-Ebb 11:19 Mid-Flood 16:30					
9-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr
			Mid-Ebb 16:30 Mid-Flood 8:51		Mid-Ebb -- Mid-Flood 11:57	
16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr
	Mid-Ebb 10:43 Mid-Flood 16:09		Mid-Ebb 11:56 Mid-Flood 16:30		Mid-Ebb 13:06 Mid-Flood 8:00	
23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr
	Mid-Ebb 15:04 Mid-Flood 8:00		Mid-Ebb 16:30 Mid-Flood 10:33		Mid-Ebb -- Mid-Flood 11:46	
30-Apr						

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

Monitoring Station:

C1, C2, G1, G2, G3, G4, M1, M2, M3, M4, M5, M6

Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Impact Air Quality and Noise Monitoring Schedule (May 2023)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-May	2-May	3-May	4-May	5-May	6-May
		24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]		**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
7-May	8-May	9-May	10-May	11-May	12-May	13-May
	24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]			**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3] **24 hr TSP**	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)]
14-May	15-May	16-May	17-May	18-May	19-May	20-May
				24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3, CM6(A)] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
21-May	22-May	23-May	24-May	25-May	26-May	27-May
			24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]		
28-May	29-May	30-May	31-May	1-Jun	2-Jun	3-Jun
		24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]			

Air Quality Monitoring Station

AM1 - Tin Hau Temple
AM2 - Sai Tso Wan Recreation Ground
AM3 - Yau Lai Estate Bik Lai House
AM4[(1)] - Sitting-out Area at Cha Kwo Ling Village
AM4(B)[(2)] - Flat 103 Cha Kwo Ling Village
AM5(A) - Tseung Kwan O DSD Desilting Compound
AM6(A) - Park Central, L1/F Open Space Area

Noise Monitoring Station

CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong
CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong
CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong
CM4 - Tin Hau Temple, Cha Kwo Ling
CM5 - CCC Kei Faat Primary School, Yau Tong
CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores
CM7(A) - Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores
CM8(A) - Park Central, L1/F Open Space Area

Note (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

Agreement No. CE/59/2015 (EP)

Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction

Tentative Impact Water Quality Monitoring Schedule May 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-May	2-May	3-May	4-May	5-May	6-May
			Mid-Ebb 11:05 Mid-Flood 16:30		Mid-Ebb 12:05 Mid-Flood 16:30	
7-May	8-May	9-May	10-May	11-May	12-May	13-May
	Mid-Ebb 13:58 Mid-Flood 8:00		Mid-Ebb 15:43 Mid-Flood 8:05		Mid-Ebb 16:30 Mid-Flood --	
14-May	15-May	16-May	17-May	18-May	19-May	20-May
	Mid-Ebb 9:29 Mid-Flood 14:57		Mid-Ebb 10:53 Mid-Flood 16:30		Mid-Ebb 12:09 Mid-Flood 16:30	
21-May	22-May	23-May	24-May	25-May	26-May	27-May
	Mid-Ebb 14:05 Mid-Flood 8:00		Mid-Ebb 15:27 Mid-Flood --			
28-May	29-May	30-May	31-May			
	Mid-Ebb 8:34 Mid-Flood 13:24		Mid-Ebb 9:55 Mid-Flood 15:57			

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

Monitoring Station:

C1, C2, G1, G2, G3, G4, M1, M2, M3, M4, M5, M6

Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Impact Air Quality and Noise Monitoring Schedule (June 2023)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Jun	2-Jun	3-Jun
					Noise [Evening time (19:00-23:00)] [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun
	24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]		**24 hr TSP**	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun	17-Jun
			24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]	**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun
		24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]		**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	
25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	
	24 hr TSP	**1 hr TSP X3** [AM1, AM2, AM3] [AM4,AM5(A), AM6(A)] **Noise [Daytime (07:00-19:00)]** [CM1, CM2, CM3, CM4, CM5] [CM6(A), CM7(A), CM8(A))] **Noise [Evening time (19:00-23:00)]** [CM6(A)]			**Noise [Evening time (19:00-23:00)]** [CM1, CM2, CM3] **Noise [Night-time (23:00-07:00)]** [CM1, CM2, CM3]	

Air Quality Monitoring Station

AM1 - Tin Hau Temple
AM2 - Sai Tso Wan Recreation Ground
AM3 - Yau Lai Estate Bik Lai House
AM4[(1)] - Sitting-out Area at Cha Kwo Ling Village
AM4(B)[(2)] - Flat 103 Cha Kwo Ling Village
AM5(A) - Tseung Kwan O DSD Desilting Compound
AM6(A) - Park Central, L1/F Open Space Area

Noise Monitoring Station

CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong
CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong
CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong
CM4 - Tin Hau Temple, Cha Kwo Ling
CM5 - CCC Kei Faat Primary School, Yau Tong
CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores
CM7(A) - Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores
CM8(A) - Park Central, L1/F Open Space Area

Note (1) For 1-hour TSP monitoring; (2) For 24-hour TSP monitoring

Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Tentative Impact Water Quality Monitoring Schedule June 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Jun	2-Jun	3-Jun
					Mid-Ebb 11:00 Mid-Flood 16:30	
4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun
	Mid-Ebb 13:01 Mid-Flood 8:00		Mid-Ebb 14:46 Mid-Flood 8:00		Mid-Ebb 16:30 Mid-Flood 9:15	
11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun	17-Jun
18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun
25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	

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

*The marine water monitoring shall be terminated from 9 June 2023 due to the completion of marine works.

Monitoring Station:

C1, C2, G1, G2, G3, G4, M1, M2, M3, M4, M5, M6

APPENDIX E
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

APPENDIX E - 1-HOUR TSP MONITORING RESULTS

Location AM1 - Tin Hau Temple			
Date	Time	Weather	Particulate Concentration (μg/m^3)
4-Apr-23	9:15	Fine	63.0
4-Apr-23	10:15	Fine	54.0
4-Apr-23	11:15	Fine	54.0
6-Apr-23	16:00	Sunny	44.0
6-Apr-23	17:00	Sunny	52.0
6-Apr-23	18:00	Sunny	48.0
12-Apr-23	12:50	Fine	50.0
12-Apr-23	13:50	Fine	38.0
12-Apr-23	14:50	Fine	44.0
15-Apr-23	9:11	Sunny	50.0
15-Apr-23	10:11	Sunny	44.0
15-Apr-23	11:11	Sunny	56.0
21-Apr-23	12:10	Cloudy	68.4
21-Apr-23	13:10	Cloudy	76.0
21-Apr-23	14:10	Cloudy	74.1
27-Apr-23	11:45	Cloudy	118.0
27-Apr-23	12:45	Cloudy	116.0
27-Apr-23	13:45	Cloudy	106.0
		Average	64.2
		Maximum	118.0
		Minimum	38.0

Location AM2 - Sai Tso Wan Recreation Ground			
Date	Time	Weather	***Particulate Concentration (μg/m^3)***
4-Apr-23	16:00	Cloudy	114.0
4-Apr-23	17:00	Cloudy	110.2
4-Apr-23	18:00	Cloudy	104.5
6-Apr-23	13:00	Fine	32.0
6-Apr-23	14:00	Fine	30.0
6-Apr-23	15:00	Fine	36.0
12-Apr-23	9:00	Sunny	64.6
12-Apr-23	10:00	Sunny	66.5
12-Apr-23	11:00	Sunny	58.9
15-Apr-23	10:17	Sunny	49.4
15-Apr-23	11:17	Sunny	57.0
15-Apr-23	12:17	Sunny	66.5
21-Apr-23	9:00	Cloudy	62.0
21-Apr-23	10:00	Cloudy	50.0
21-Apr-23	11:00	Cloudy	54.0
27-Apr-23	16:00	Fine	41.8
27-Apr-23	17:00	Fine	47.5
27-Apr-23	18:00	Fine	51.3
		Average	60.9
		Maximum	114.0
		Minimum	30.0

APPENDIX E - 1-HOUR TSP MONITORING RESULTS

Location AM3 - Yau Lai Estate Bik Lai House			
Date	Time	Weather	***Particulate Concentration (µg/m ^{3})***
4-Apr-23	12:03	Fine	81.0
4-Apr-23	13:03	Fine	57.6
4-Apr-23	14:03	Fine	68.4
6-Apr-23	16:00	Fine	49.4
6-Apr-23	17:00	Fine	49.4
6-Apr-23	18:00	Fine	51.3
12-Apr-23	15:59	Fine	60.0
12-Apr-23	16:59	Fine	66.0
12-Apr-23	17:59	Fine	74.0
15-Apr-23	12:16	Sunny	20.9
15-Apr-23	13:16	Sunny	26.6
15-Apr-23	14:16	Sunny	38.0
21-Apr-23	15:30	Cloudy	57.0
21-Apr-23	16:30	Cloudy	51.3
21-Apr-23	17:30	Cloudy	51.3
27-Apr-23	16:00	Cloudy	72.0
27-Apr-23	17:00	Cloudy	76.0
27-Apr-23	18:00	Cloudy	84.0
		Average	57.5
		Maximum	84.0
		Minimum	20.9

Location AM4 - Sitting-out Area at Cha Kwo Ling Village			
Date	Time	Weather	***Particulate Concentration (µg/m ^{3})***
4-Apr-23	9:00	Cloudy	186.2
4-Apr-23	10:00	Cloudy	167.2
4-Apr-23	11:00	Cloudy	171.0
6-Apr-23	9:00	Fine	44.0
6-Apr-23	10:00	Fine	38.0
6-Apr-23	11:00	Fine	30.0
12-Apr-23	9:10	Fine	56.0
12-Apr-23	10:10	Fine	70.0
12-Apr-23	11:10	Fine	72.0
15-Apr-23	15:24	Sunny	63.0
15-Apr-23	16:24	Sunny	70.2
15-Apr-23	17:24	Sunny	68.4
21-Apr-23	9:00	Cloudy	62.7
21-Apr-23	10:00	Cloudy	57.0
21-Apr-23	11:00	Cloudy	70.3
27-Apr-23	9:00	Cloudy	50.0
27-Apr-23	10:00	Cloudy	52.0
27-Apr-23	11:00	Cloudy	60.0
		Average	77.1
		Maximum	186.2
		Minimum	30.0

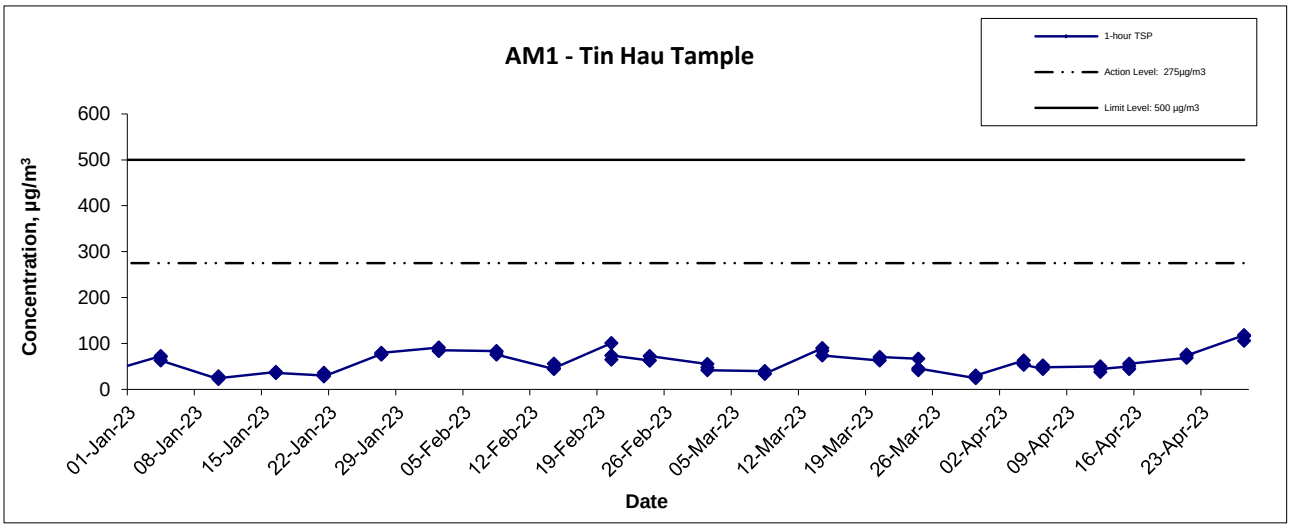
APPENDIX E - 1-HOUR TSP MONITORING RESULTS

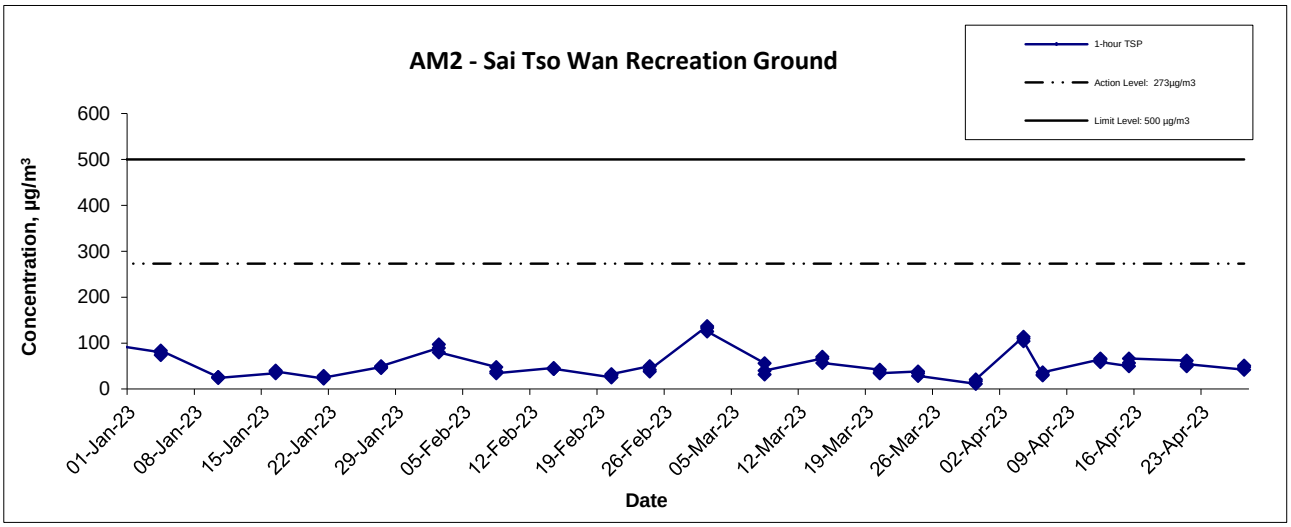
Location AM5(A) - Tseung Kwan O DSD Desilting Compound			
Date	Time	Weather	***Particulate Concentration (µg/m ^{3})***
4-Apr-23	13:00	Cloudy	108.3
4-Apr-23	14:00	Cloudy	96.9
4-Apr-23	15:00	Cloudy	95.0
6-Apr-23	13:00	Fine	72.2
6-Apr-23	14:00	Fine	76.0
6-Apr-23	15:00	Fine	66.5
12-Apr-23	16:00	Sunny	66.5
12-Apr-23	17:00	Sunny	58.9
12-Apr-23	18:00	Sunny	62.7
15-Apr-23	12:20	Sunny	50.0
15-Apr-23	13:20	Sunny	60.0
15-Apr-23	14:20	Sunny	46.0
21-Apr-23	13:00	Cloudy	90.0
21-Apr-23	14:00	Cloudy	98.0
21-Apr-23	15:00	Cloudy	88.0
27-Apr-23	13:00	Fine	74.1
27-Apr-23	14:00	Fine	83.6
27-Apr-23	15:00	Fine	81.7
		Average	76.4
		Maximum	108.3
		Minimum	46.0

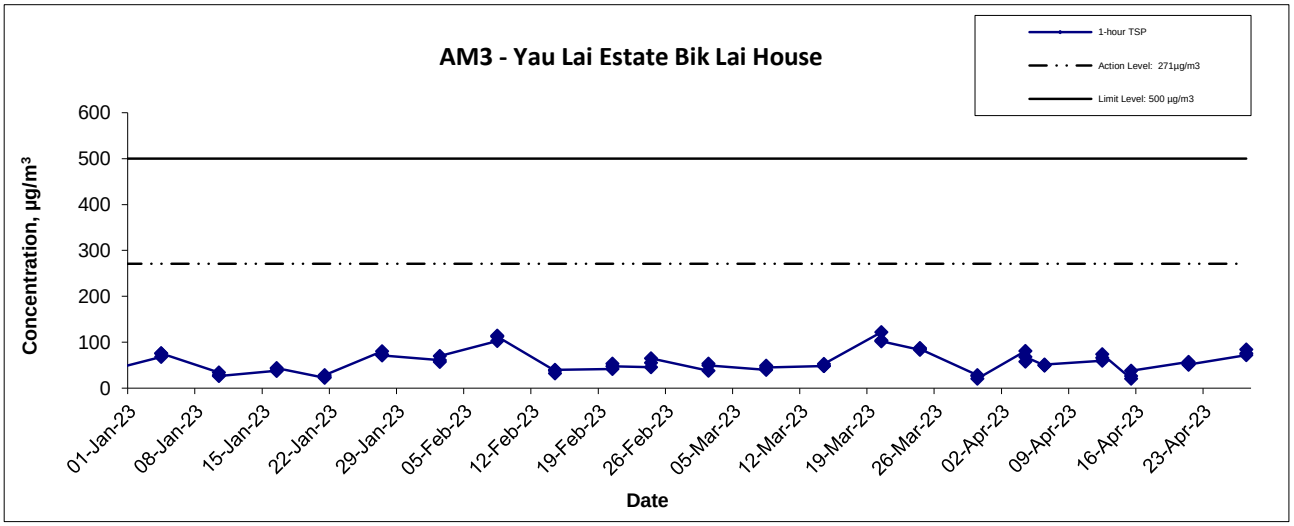
Location AM6(A) - Park Central, L1/F Open Space Area			
Date	Time	Weather	Particulate Concentration (µg/m^3)
4-Apr-23	9:00	Cloudy	121.6
4-Apr-23	10:00	Cloudy	115.9
4-Apr-23	11:00	Cloudy	114.0
6-Apr-23	9:00	Fine	110.2
6-Apr-23	10:00	Fine	106.4
6-Apr-23	11:00	Fine	112.1
12-Apr-23	13:00	Sunny	96.9
12-Apr-23	14:00	Sunny	100.7
12-Apr-23	15:00	Sunny	104.5
15-Apr-23	11:48	Sunny	28.5
15-Apr-23	12:48	Sunny	24.7
15-Apr-23	13:48	Sunny	24.7
21-Apr-23	16:00	Cloudy	70.0
21-Apr-23	17:00	Cloudy	78.0
21-Apr-23	18:00	Cloudy	68.0
27-Apr-23	9:00	Fine	58.9
27-Apr-23	10:00	Fine	62.7
27-Apr-23	11:00	Fine	74.1
		Average	81.8
		Maximum	121.6
		Minimum	24.7

APPENDIX E - 1-HOUR TSP MONITORING RESULTS

1-hr TSP Concentration Levels



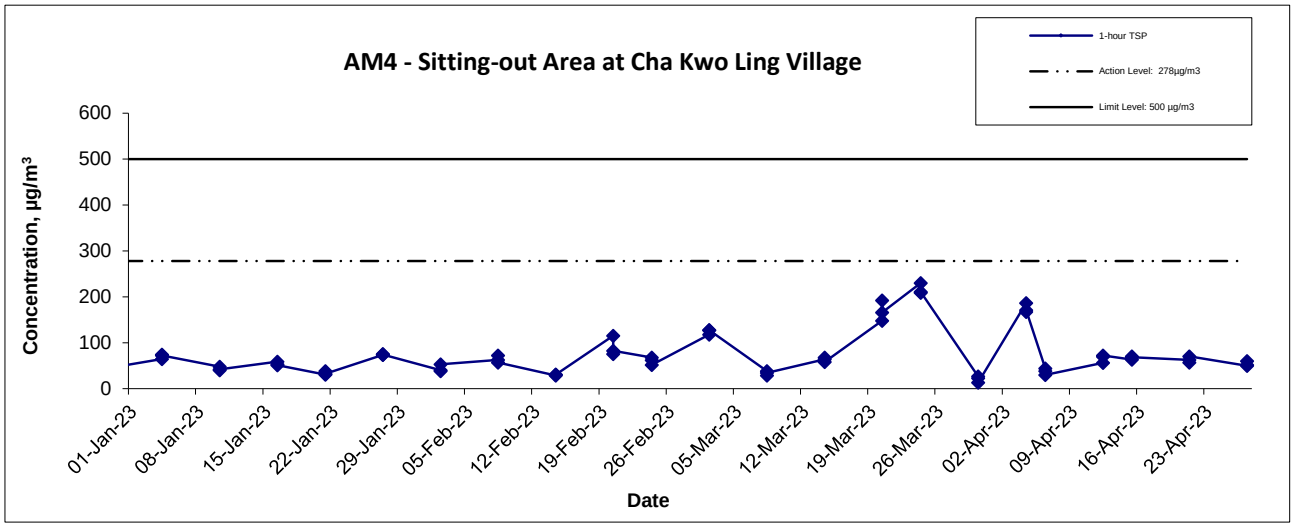


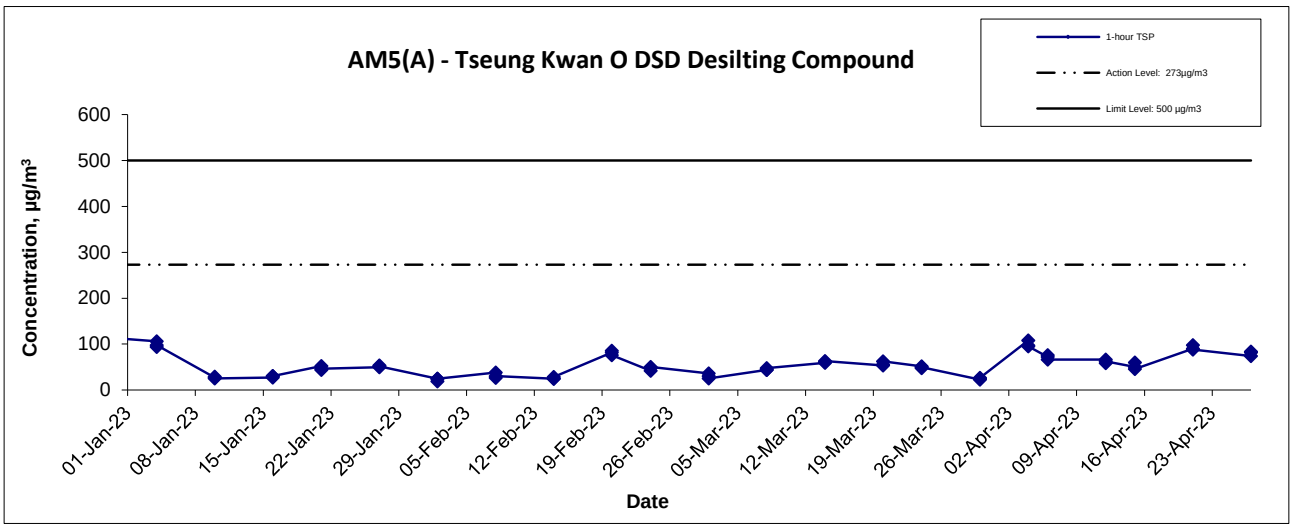


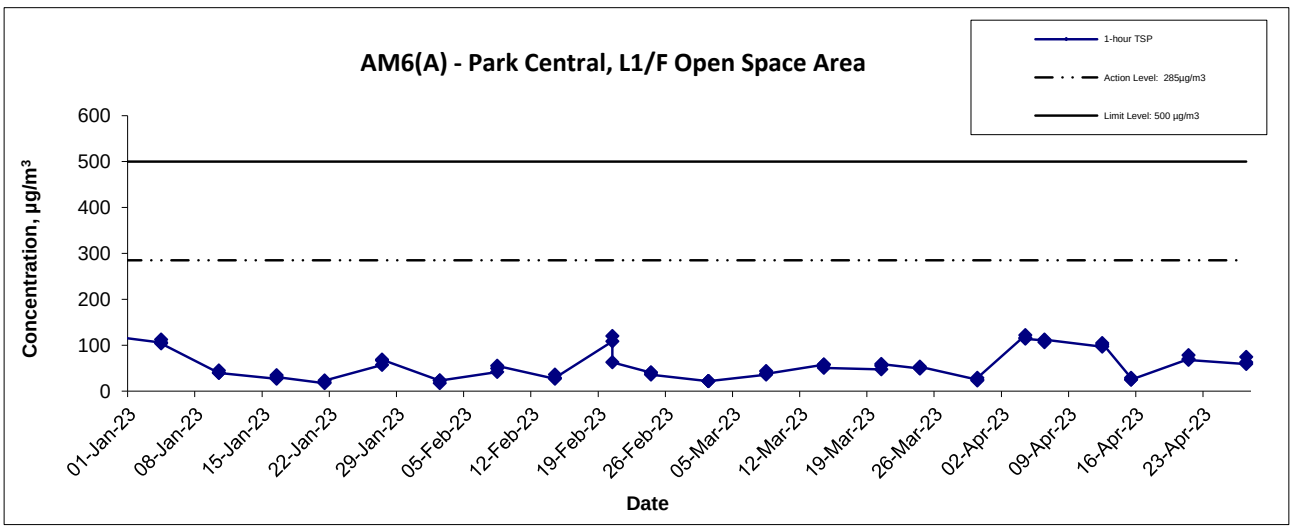
Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S Date Apr-23	Project No. MA16034 Appendix E	CINOTECH

APPENDIX E - 1-HOUR TSP MONITORING RESULTS

1-hr TSP Concentration Levels







Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S Date Apr-23	Project No. MA16034 Appendix E	CINOTECH

APPENDIX F
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix F - 24-hour TSP Monitoring Results

Location AM1 - Tin Hau Temple

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m^3/min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m^3/min)	(m^3)	(μg/m^3)
3-Apr-23	Cloudy	3.3655	3.6600	0.2945	11586.6	11610.6	24.0	1.21	1.21	1.21	1743.3	168.9
6-Apr-23	Sunny	3.3871	3.5907	0.2036	11610.6	11634.6	24.0	1.21	1.21	1.21	1742.0	116.9
11-Apr-23	Cloudy	3.3781	3.6715	0.2934	11634.6	11658.6	24.0	1.21	1.21	1.21	1739.2	168.7
14-Apr-23	Rainy	3.3213	3.4275	0.1062	11658.6	11682.6	24.0	1.22	1.21	1.22	1750.1	60.7
20-Apr-23	Cloudy	3.3193	3.3703	0.0510	11682.6	11706.6	24.0	1.22	1.22	1.22	1751.2	29.1
26-Apr-23	Fine	3.3953	3.5153	0.1200	11706.6	11730.6	24.0	1.22	1.22	1.22	1762.3	68.1
											Min	29.1
											Max	168.9
											Average	102.1

Location AM2 - Sai Tso Wan Recreation Ground

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m^3/min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m^3/min)	(m^3)	(μg/m^3)
3-Apr-23	Cloudy	3.3681	3.4553	0.0872	32656.7	32680.7	24.0	1.21	1.21	1.21	1740.7	50.1
6-Apr-23	Fine	3.3564	3.4059	0.0495	32680.7	32704.7	24.0	1.20	1.21	1.21	1739.1	28.5
11-Apr-23	Cloudy	3.3495	3.3933	0.0438	32704.7	32728.7	24.0	1.21	1.20	1.21	1735.9	25.2
14-Apr-23	Rainy	3.3953	3.5371	0.1418	32728.7	32752.7	24.0	1.22	1.21	1.22	1749.9	81.0
20-Apr-23	Cloudy	3.3610	3.4073	0.0463	32752.7	32776.7	24.0	1.22	1.22	1.22	1751.2	26.4
26-Apr-23	Fine	3.3703	3.4277	0.0574	32776.7	32800.7	24.0	1.23	1.22	1.23	1764.3	32.5
											Min	25.2
											Max	81.0
											Average	40.6

Location AM3 - Yau Lai Estate, Bik Lai House

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m^3/min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m^3/min)	(m^3)	(μg/m^3)
3-Apr-23	Cloudy	3.3391	3.3893	0.0502	6909.6	6933.6	24.0	1.21	1.20	1.21	1739.4	28.9
6-Apr-23	Fine	3.3183	3.3580	0.0397	6933.6	6957.6	24.0	1.20	1.21	1.21	1737.8	22.8
11-Apr-23	Fine	3.3181	3.3680	0.0499	6957.6	6981.6	24.0	1.21	1.20	1.20	1734.5	28.8
14-Apr-23	Rainy	3.3320	3.3759	0.0439	6981.6	7005.6	24.0	1.22	1.21	1.22	1750.9	25.1
20-Apr-23	Cloudy	3.3465	3.3770	0.0305	7005.6	7029.6	24.0	1.22	1.22	1.22	1752.1	17.4
26-Apr-23	Sunny	3.3068	3.4484	0.1416	7029.6	7053.6	24.0	1.23	1.22	1.23	1765.0	80.2
											Min	17.4
											Max	80.2
											Average	33.9

Location AM4(B) - Flat 103 Cha Kwo Ling Village

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m^3/min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m^3/min)	(m^3)	(μg/m^3)
3-Apr-23	Fine	3.2940	3.5693	0.2753	18151.2	18175.2	24.0	1.21	1.20	1.21	1737.9	158.4
6-Apr-23	Cloudy	3.3510	3.4930	0.1420	18175.2	18199.2	24.0	1.20	1.21	1.21	1736.6	81.8
11-Apr-23	Fine	3.3488	3.7337	0.3849	18199.2	18223.2	24.0	1.20	1.20	1.20	1733.9	***222.0***
14-Apr-23	Rainy	3.3222	3.8378	0.5156	18247.2	18271.2	24.0	1.20	1.20	1.20	1729.4	***298.1***
20-Apr-23	Fine	3.3923	3.5650	0.1727	18295.2	18319.2	24.0	1.20	1.20	1.20	1730.5	99.8
26-Apr-23	Fine	3.3792	3.7160	0.3368	18319.2	18343.2	24.0	1.21	1.21	1.21	1741.2	193.4
											Min	81.8
											Max	***298.1***
											Average	175.6

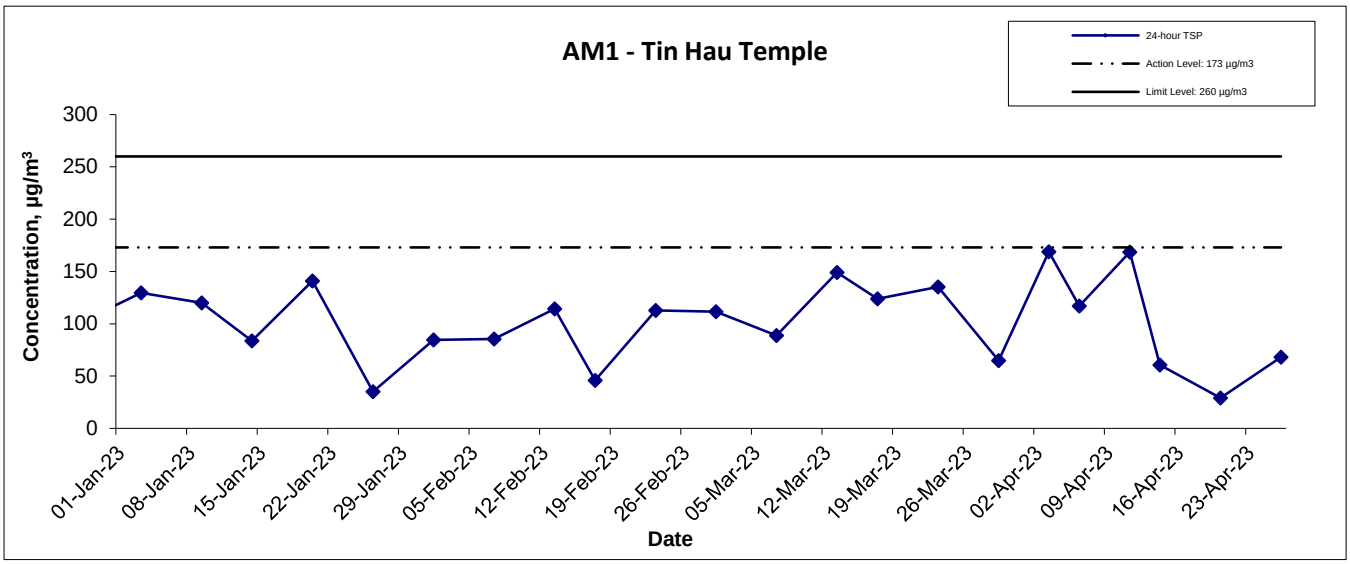
Location AM5(A) - Tseung Kwan O DSD Desilting Compound

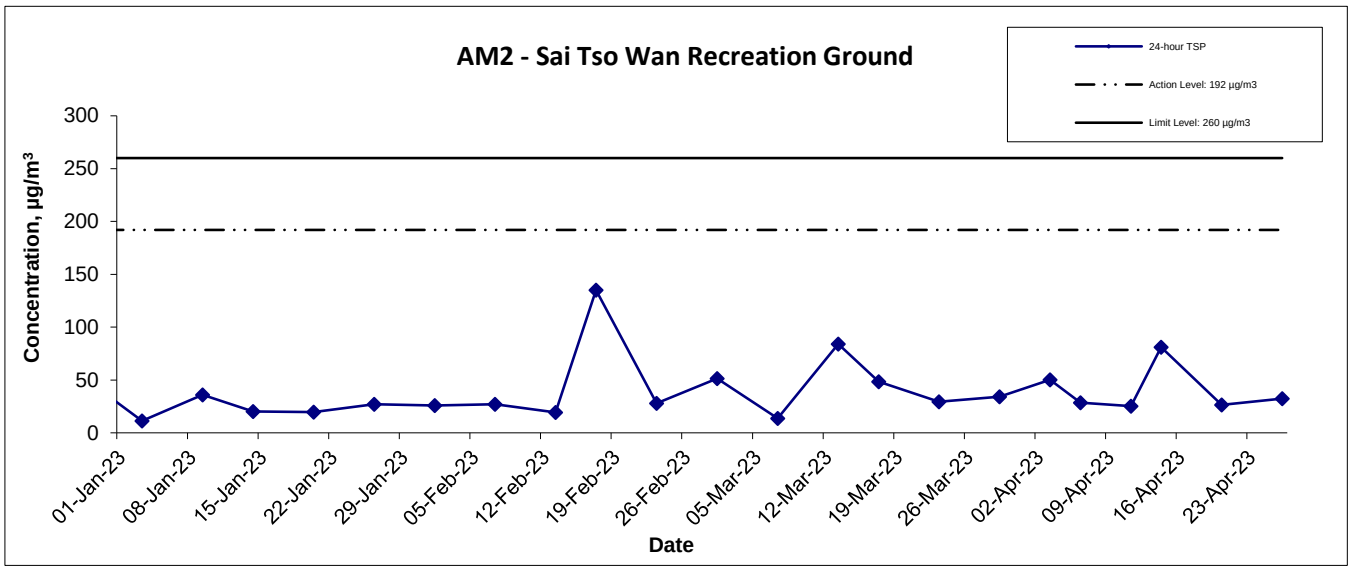
Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m^3/min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m^3/min)	(m^3)	(μg/m^3)
3-Apr-23	Cloudy	3.3824	3.4925	0.1101	34246.8	34270.8	24.0	1.21	1.21	1.21	1741.8	63.2
6-Apr-23	Fine	3.3782	3.4213	0.0431	34270.8	34294.8	24.0	1.20	1.21	1.21	1740.3	24.8
11-Apr-23	Cloudy	3.3749	3.4299	0.0550	34294.8	34318.8	24.0	1.21	1.21	1.21	1737.3	31.7
14-Apr-23	Rainy	3.3730	3.4588	0.0858	34318.8	34342.8	24.0	1.22	1.21	1.22	1750.2	49.0
20-Apr-23	Cloudy	3.3834	3.4310	0.0476	34342.8	34366.8	24.0	1.22	1.22	1.22	1751.4	27.2
26-Apr-23	Fine	3.3753	3.4317	0.0564	34366.8	34390.8	24.0	1.26	1.26	1.26	1807.8	31.2
											Min	24.8
											Max	63.2
											Average	37.8

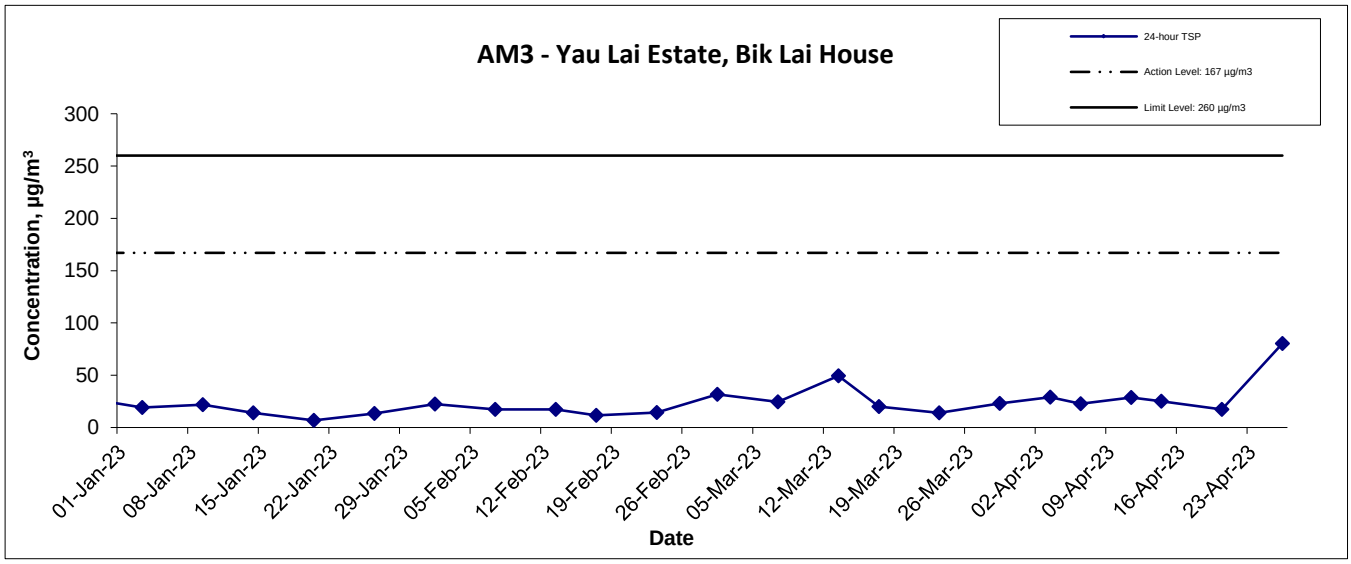
Location AM6(A) - Park Central, L1/F Open Space Area

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m^3/min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m^3/min)	(m^3)	(μg/m^3)
3-Apr-23	Cloudy	3.3283	3.4303	0.1020	5932.9	5956.9	24.0	1.21	1.20	1.21	1737.4	58.7
6-Apr-23	Sunny	3.3743	3.4926	0.1183	5956.9	5980.9	24.0	1.20	1.21	1.21	1735.8	68.2
11-Apr-23	Cloudy	3.3217	3.4990	0.1773	5980.9	6004.9	24.0	1.20	1.20	1.20	1732.6	102.3
14-Apr-23	Rainy	3.3093	3.5577	0.2484	6004.9	6028.9	24.0	1.20	1.20	1.20	1727.1	143.8
20-Apr-23	Cloudy	3.3183	3.3926	0.0743	6028.9	6052.9	24.0	1.20	1.20	1.20	1728.4	43.0
26-Apr-23	Fine	3.3303	3.4375	0.1072	6052.9	6076.9	24.0	1.26	1.26	1.26	1808.2	59.3
											Min	43.0
											Max	143.8
											Average	79.2

24-hr TSP Concentration Levels







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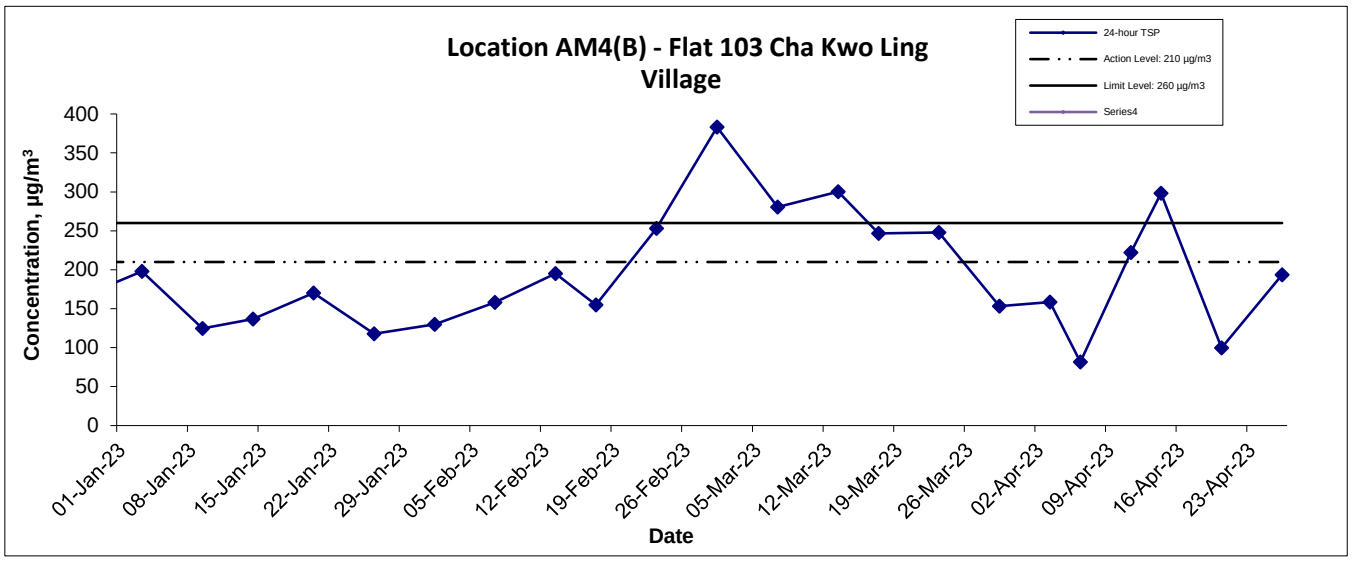
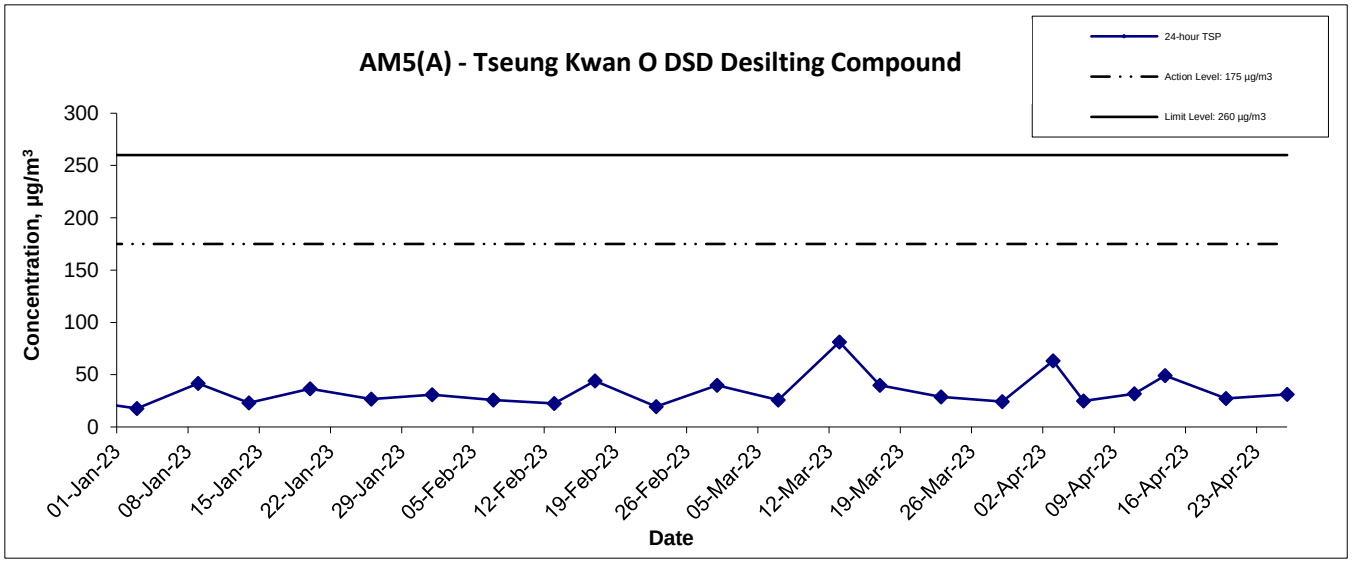
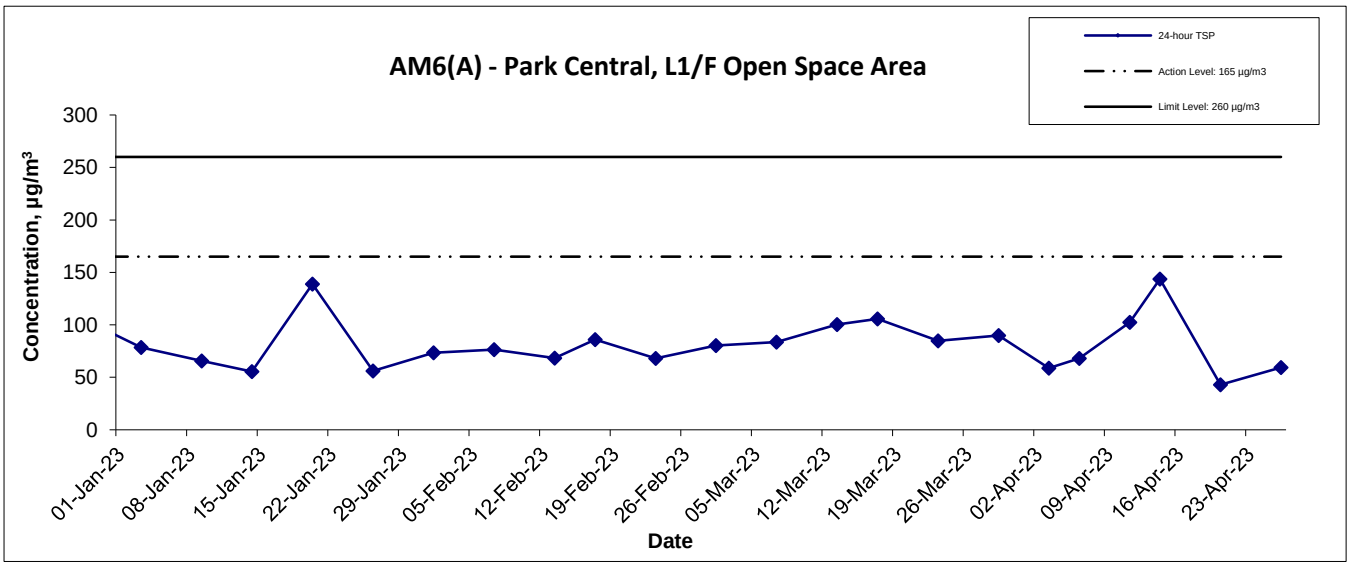
24-hr TSP Concentration Levels







Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S Date Apr-23	Project No. MA16034 Appendix F	CINOTECH

APPENDIX G
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix G - Noise Monitoring Results

(0700-1900 hrs on Normal Weekdays)

Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	14:20	Sunny	71.2	74.9	59.5	65.5	70
12-Apr-23	13:05	Sunny	67.5	68.9	66.0	65.5	63
21-Apr-23	11:37	Cloudy	71.8	74.1	68.1	65.5	71
27-Apr-23	10:54	Cloudy	67.0	68.4	65.3	65.5	62

Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	13:07	Sunny	73.8	76.6	64.6	63.6	73
12-Apr-23	13:48	Sunny	69.1	71.2	66.5	63.6	68
21-Apr-23	12:29	Cloudy	72.0	73.6	67.2	63.6	71
27-Apr-23	11:38	Cloudy	68.6	70.3	66.2	63.6	67

Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	15:07	Sunny	69.4	72.5	61.6	65.6	67
12-Apr-23	14:48	Sunny	70.0	72.4	66.6	65.6	68
21-Apr-23	13:42	Cloudy	71.1	73.4	66.5	65.6	70
27-Apr-23	12:56	Cloudy	66.3	67.6	64.8	65.6	58

Location CM4 - Tin Hau Temple, Cha Kwo Ling							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	10:41	Sunny	69.7	72.2	58.7	62.0	69
12-Apr-23	10:45	Sunny	64.8	68.7	58.0	62.0	62
21-Apr-23	15:02	Cloudy	60.8	62.9	56.1	62.0	61 Measured ≦ Baseline
27-Apr-23	10:00	Cloudy	64.6	66.6	62.0	62.0	61

Location CM5 - CCC Kei Faat Primary School, Yau Tong							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	15:51	Sunny	67.9	68.5	62.6	68.2	68 Measured ≦ Baseline
12-Apr-23	11:31	Sunny	66.4	68.7	62.3	68.2	66 Measured ≦ Baseline
21-Apr-23	14:12	Cloudy	67.2	69.6	61.5	68.2	67 Measured ≦ Baseline
27-Apr-23	13:41	Cloudy	67.4	69.4	63.2	68.2	67 Measured ≦ Baseline

Appendix G - Noise Monitoring Results

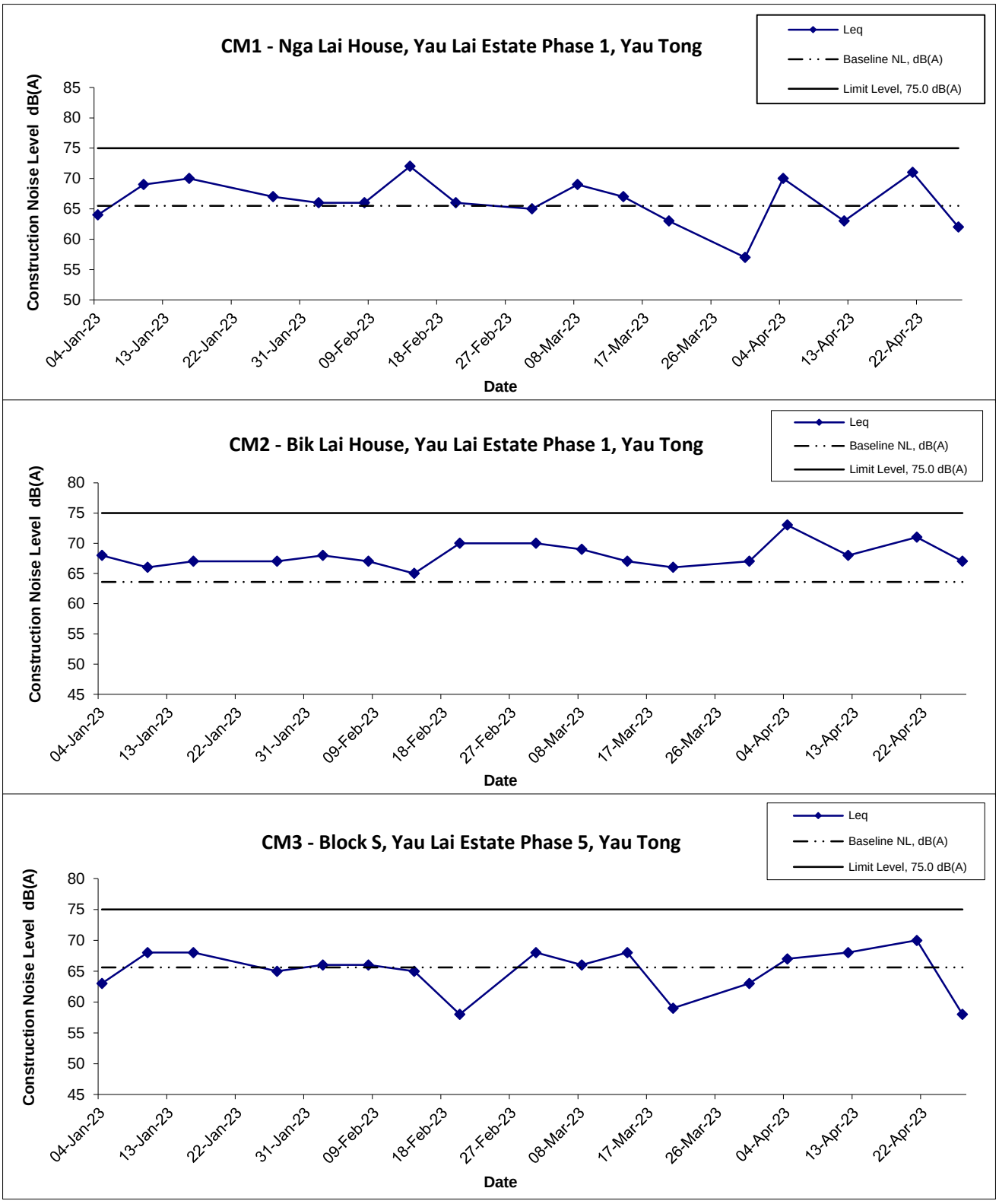
(0700-1900 hrs on Normal Weekdays)

Location CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	14:00	Sunny	64.4	67.4	58.4	61.9	61
12-Apr-23	13:00	Sunny	66.1	67.8	60.9	61.9	64
21-Apr-23	14:28	Cloudy	67.7	63.8	57.6	61.9	66
27-Apr-23	11:30	Fine	64.8	66.7	61.5	61.9	62

Location CM7(A) - Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	15:00	Sunny	63.0	66.4	55.2	58.3	61
12-Apr-23	14:00	Sunny	65.5	67.4	62.8	58.3	65
21-Apr-23	15:02	Cloudy	64.7	66.9	59.5	58.3	64
27-Apr-23	10:40	Fine	67.9	69.2	64.7	58.3	67

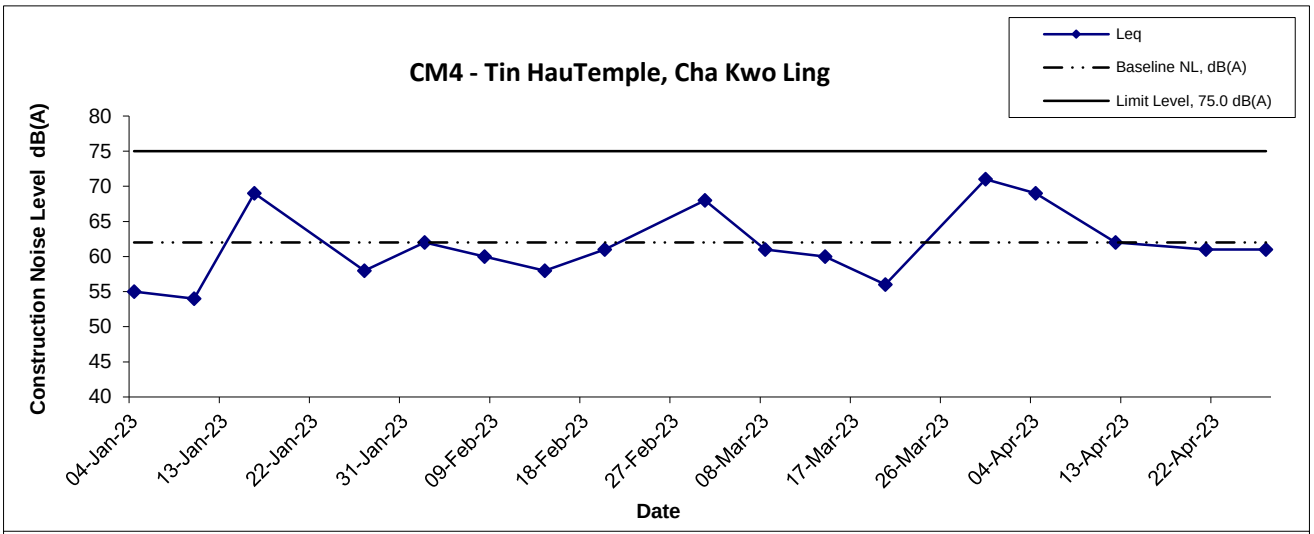
Location CM8(A) - Park Central, L1/F Open Space Area							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
04-Apr-23	13:00	Sunny	61.0	63.2	56.7	69.1	61 Measured ≦ Baseline
12-Apr-23	15:00	Sunny	65.4	67.3	62.4	69.1	65 Measured ≦ Baseline
21-Apr-23	16:11	Cloudy	65.5	67.8	60.3	69.1	66 Measured ≦ Baseline
27-Apr-23	10:00	Fine	64.7	66.2	61.3	69.1	65 Measured ≦ Baseline

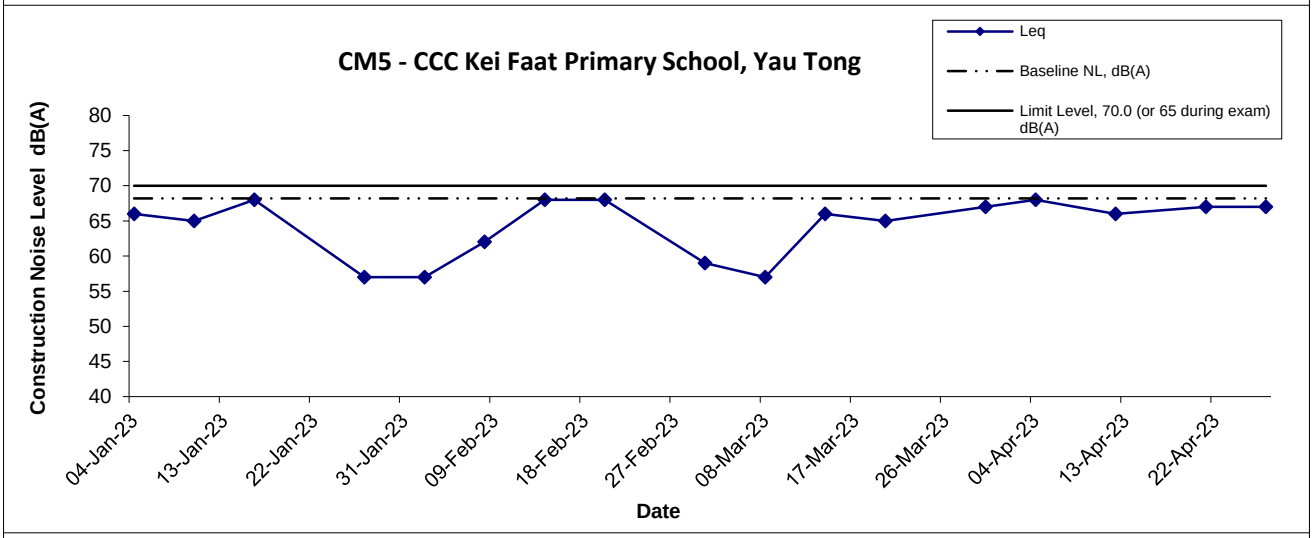
Noise Levels

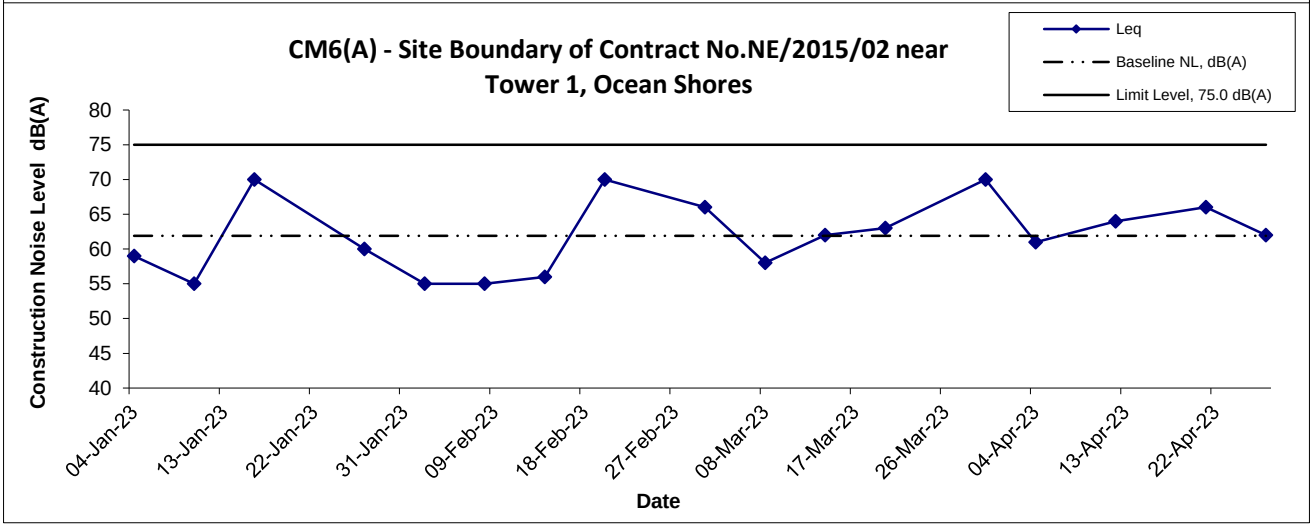


Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Apr-23	Project No.: MA16034 Appendix: G	CINOTECH

Noise Levels







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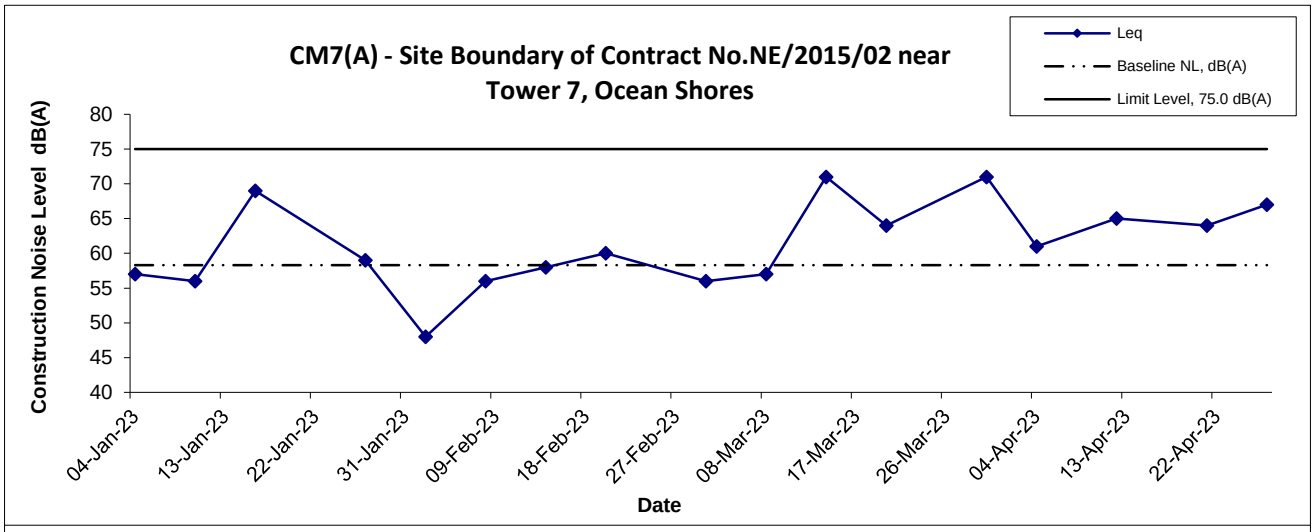
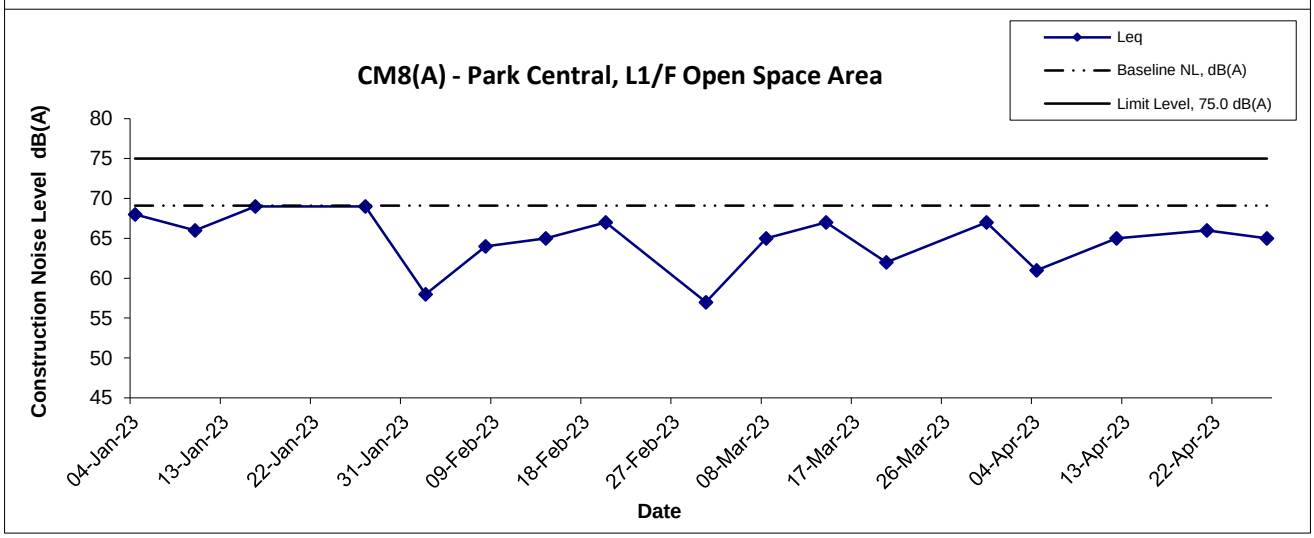
Noise Levels





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Appendix G - Noise Monitoring Results

(Restricted Hours - 19:00 to 23:00 on all other days & 07:00 to 23:00 holidays)

Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
6-Apr-23	21:51	Fine	64.5	66.7	62.1	65.0	64.4	56
	21:56		65.7	67.2	63.1			
	22:01		64.8	66.3	62.8			
14-Apr-23	21:30	Fine	48.5	49.4	46.4	47.9		48Measured ≦ Baseline
	21:35		47.4	48.5	46.3			
	21:40		47.7	48.9	46.4			
21-Apr-23	22:30	Fine	42.4	44.4	39.8	41.5		42Measured ≦ Baseline
	22:35		41.7	43.1	39.7			
	22:40		40.2	41.7	38.5			
28-Apr-23	22:30	Fine	47.0	48.2	44.9	46.4		46Measured ≦ Baseline
	22:35		46.2	47.7	44.6			
	22:40		46.0	47.4	44.5			

Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
6-Apr-23	21:23	Fine	68.5	69.1	65.8	66.4	62.2	64
	21:28		64.6	66.2	62.8			
	21:33		65.0	66.8	62.4			
14-Apr-23	22:00	Fine	48.9	50.8	47.1	48.2		48Measured ≦ Baseline
	22:05		47.8	48.8	46.7			
	22:10		47.7	48.9	46.5			
21-Apr-23	22:00	Fine	48.8	50.4	46.8	48.7		49Measured ≦ Baseline
	22:05		49.1	50.7	47.1			
	22:10		48.0	48.0	46.8			
28-Apr-23	22:00	Fine	42.9	44.1	41.9	42.5		43Measured ≦ Baseline
	22:05		41.8	43.1	40.5			
	22:10		42.7	44.0	40.5			

Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
6-Apr-23	20:49	Fine	67.5	68.7	63.9	65.9	64.7	60
	20:54		65.2	66.9	62.9			
	20:59		64.4	66.2	62.0			
14-Apr-23	22:30	Fine	49.8	51.6	47.1	47.7		48Measured ≦ Baseline
	22:35		48.9	50.5	46.7			
	22:40		36.0	37.1	32.3			
21-Apr-23	21:37	Fine	40.5	39.8	32.4	39.7		40Measured ≦ Baseline
	21:42		41.0	43.1	33.6			
	21:47		36.0	37.1	32.3			
28-Apr-23	22:30	Fine	52.6	53.7	49.7	48.5		49Measured ≦ Baseline
	22:35		42.7	44.0	40.5			
	22:40		40.5	41.4	39.9			

Location CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
4-Apr-23	19:00	Fine	58.9	61.3	54.7	58.8	60.2	60Measured ≦ Baseline
	19:05		58.8	61.2	54.8			
	19:10		58.6	61.1	54.5			
12-Apr-23	19:00	Fine	58.6	61.3	53.7	58.4		58Measured ≦ Baseline
	19:05		58.4	61.1	53.6			
	19:10		58.2	61.0	53.4			
21-Apr-23	19:00	Fine	57.8	58.7	56.3	56.1		56Measured ≦ Baseline
	19:05		56.5	57.3	56.0			
	19:10		52.6	53.7	49.7			
27-Apr-23	19:00	Fine	60.6	64.7	55.3	60.5		48
	19:05		60.5	64.7	55.2			
	19:10		60.3	64.5	55.1			

Appendix G - Noise Monitoring Results

(Restricted Hours - 2300-0700 on all days)

Location CM1 - Nga Lai House, Yau Lai Estate Phase 1, Yau Tong								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
6-Apr-23	23:00	Fine	53.5	55.3	51.2	54.0	63.7	54Measured ≦ Baseline
	23:05		54.1	56.0	52.1			
	23:10		54.4	55.5	50.9			
14-Apr-23	23:00	Fine	47.9	49.3	46.4	48.5	63.7	49Measured ≦ Baseline
	23:05		48.8	50.9	47.1			
	23:10		48.8	50.3	46.1			
21-Apr-23	23:00	Fine	47.6	49.0	45.7	47.9	63.7	48Measured ≦ Baseline
	23:05		48.6	50.5	46.1			
	23:10		47.4	48.7	45.8			
28-Apr-23	23:00	Fine	45.5	47.8	43.9	46.3	63.7	46Measured ≦ Baseline
	23:05		46.8	48.5	45.1			
	23:10		46.6	48.8	44.9			

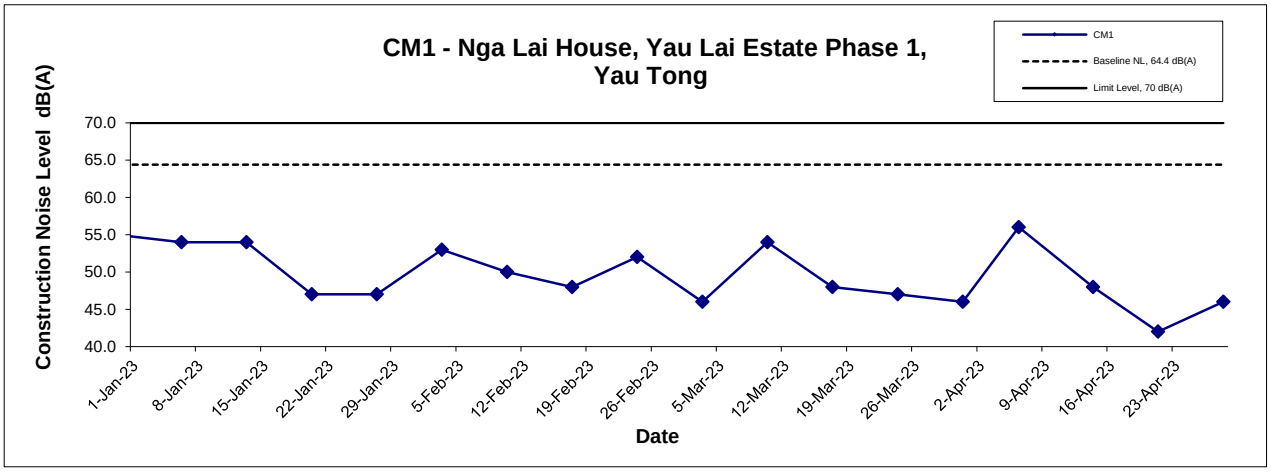
Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
6-Apr-23	23:30	Fine	53.9	55.8	51.3	54.5	60.8	55Measured ≦ Baseline
	23:35		54.4	56.8	50.8			
	23:40		55.1	57.6	51.5			
14-Apr-23	23:30	Fine	46.6	48.1	44.6	46.6	60.8	47Measured ≦ Baseline
	23:35		47.0	49.0	44.8			
	23:40		46.1	47.8	44.2			
21-Apr-23	23:30	Fine	37.6	39.0	35.7	37.9	60.8	38Measured ≦ Baseline
	23:35		38.6	40.5	36.1			
	23:40		37.4	38.7	35.8			
28-Apr-23	23:30	Fine	48.8	50.0	46.5	48.9	60.8	49Measured ≦ Baseline
	23:35		49.2	50.2	47.9			
	23:40		48.7	49.9	46.9			

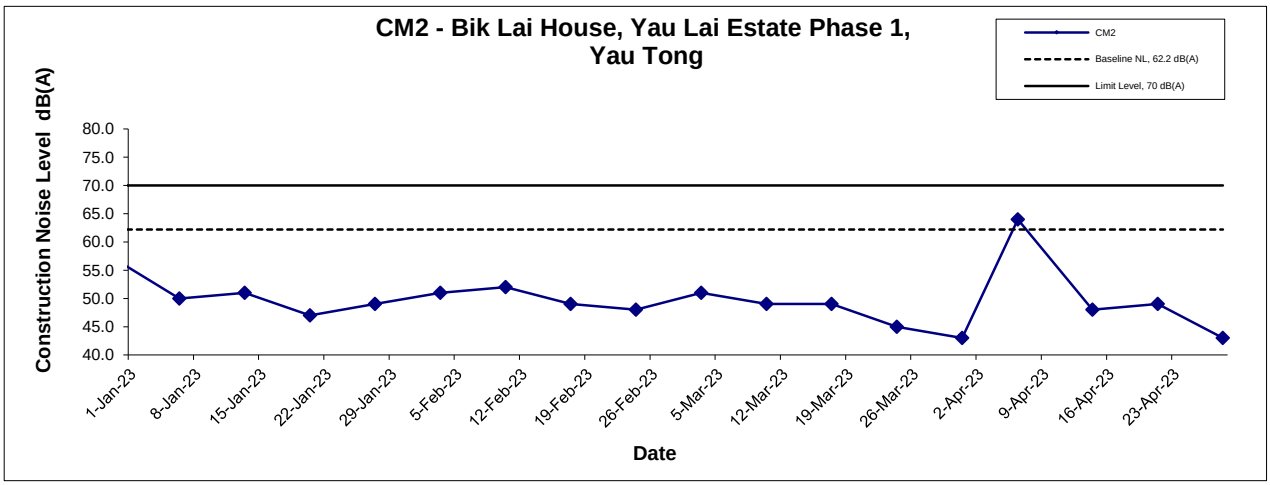
Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong								
Date	Time	Weather	dB (A) (5-min)				Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	Average L_{eq}	L_{eq}	L_{eq}
6-Apr-23	23:55	Fine	54.3	57.0	50.8	53.8	61.8	54Measured ≦ Baseline
	0:00		53.6	55.4	51.0			
	0:05		53.6	55.8	51.1			
14-Apr-23	23:55	Fine	45.6	46.9	44.0	45.0	61.8	45Measured ≦ Baseline
	0:00		44.5	46.1	43.0			
	0:05		44.9	46.2	43.4			
21-Apr-23	23:55	Fine	49.2	51.2	48.5	48.9	61.8	49Measured ≦ Baseline
	0:00		49.2	50.3	47.4			
	0:05		48.3	49.3	46.1			
28-Apr-23	23:55	Fine	43.9	45.0	42.5	43.8	61.8	44Measured ≦ Baseline
	0:00		43.4	44.8	42.0			
	0:05		44.0	45.4	42.1			

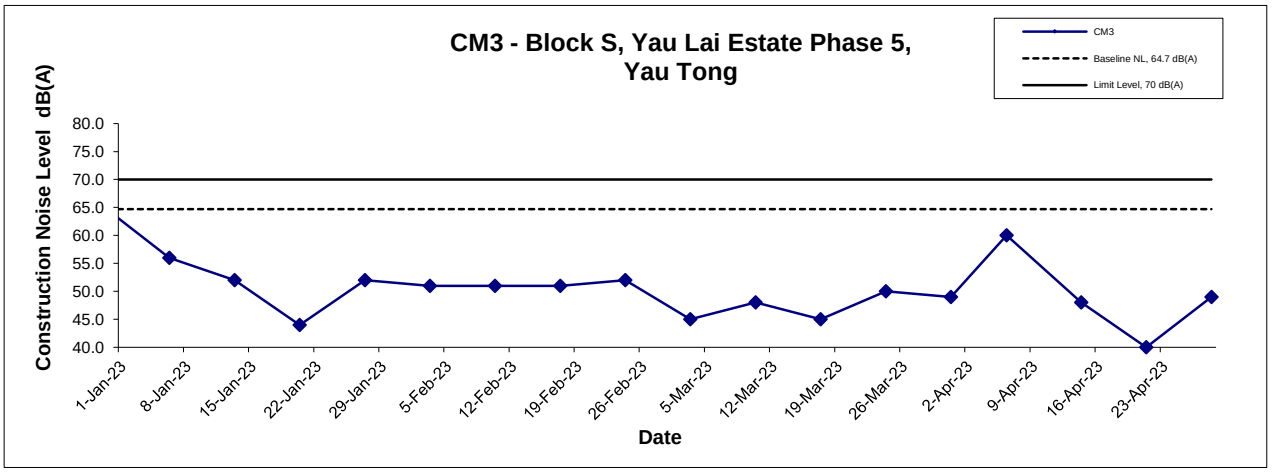
Remark:

"Measured ≦ Baseline" means that the averaged measured Leq is smaller than the baseline Leq, and therefore the measured levels are not valid exceedances.

Noise Levels
(Restricted Hours - 19:00 - 23:00 on normal weekdays)

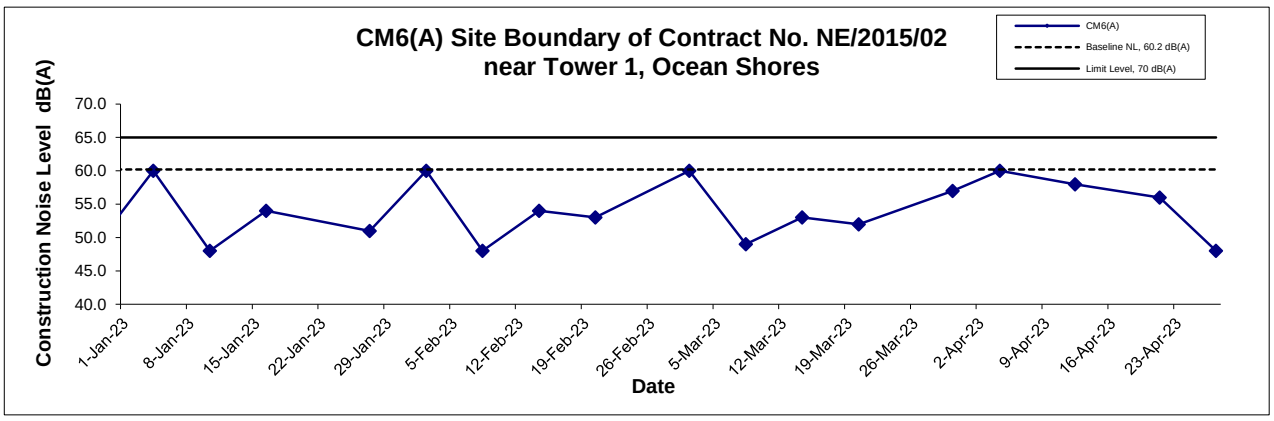






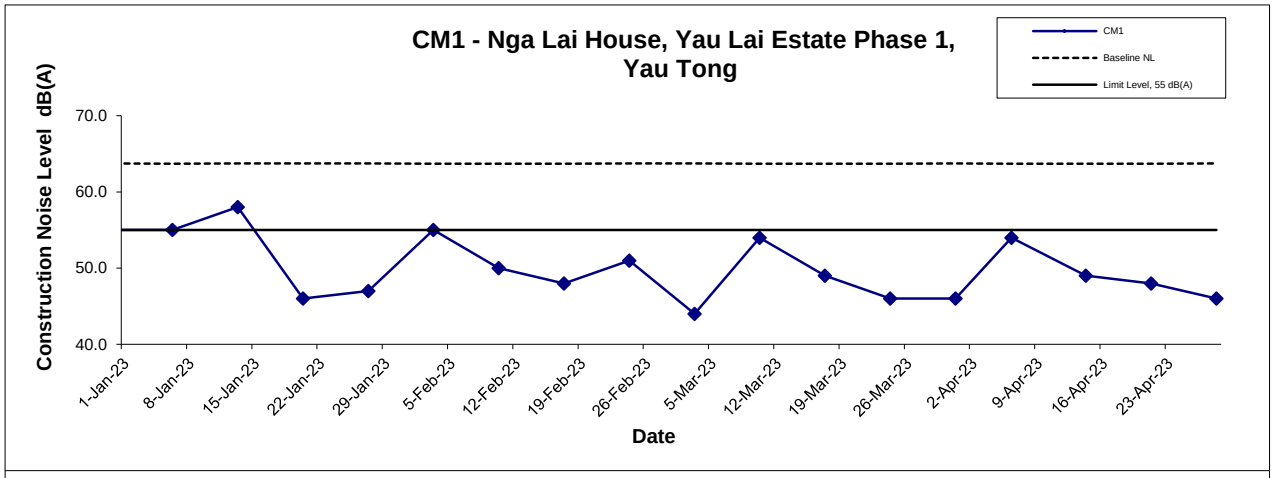
Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of Restricted Noise Monitoring Results	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Apr-2023	Appendix: G	

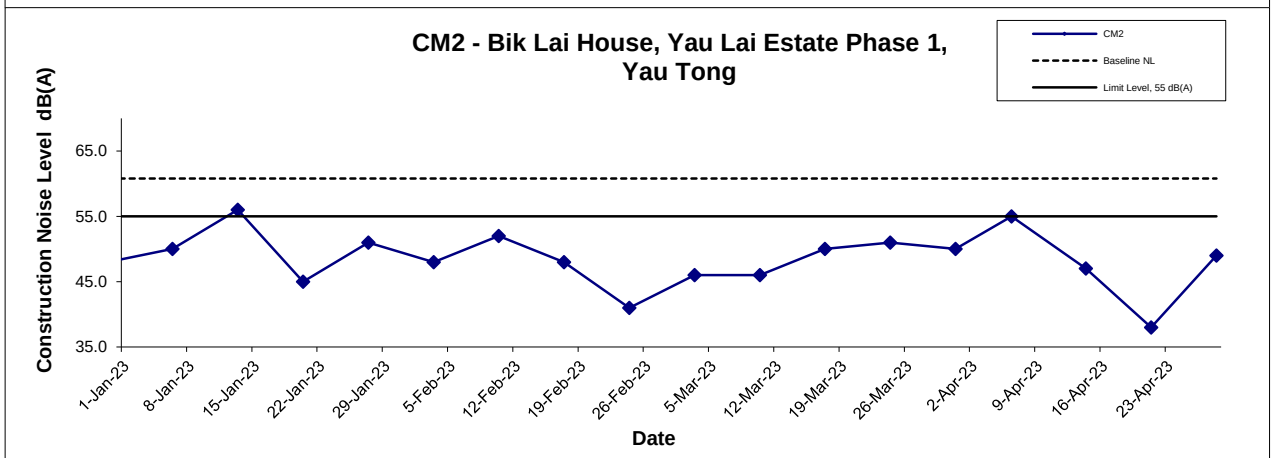
Noise Levels
(Restricted Hours - 19:00 - 23:00 on normal weekdays)

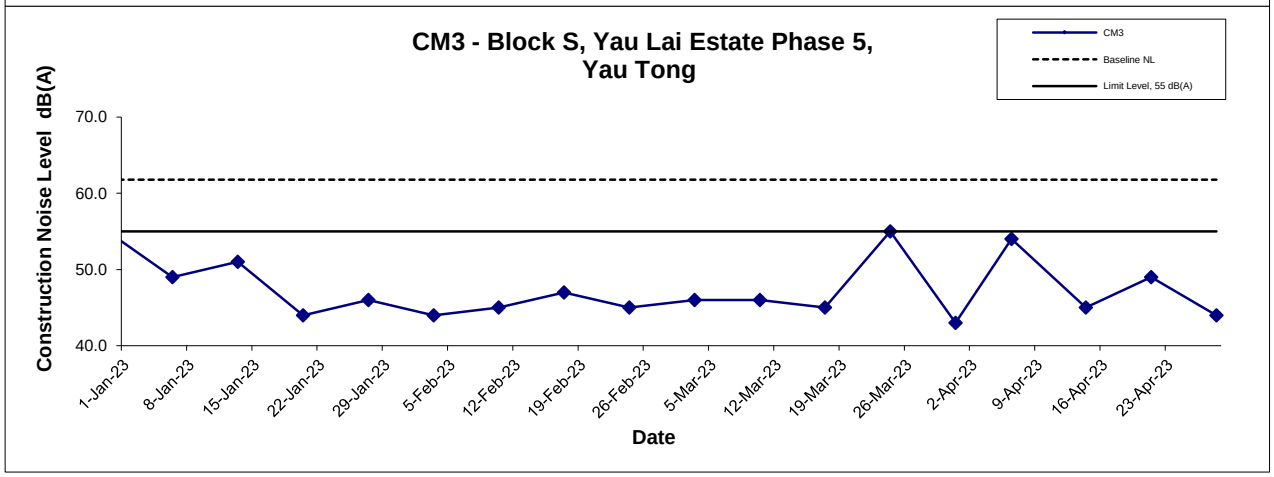


Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of Restricted Noise Monitoring Results	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Apr-2023	Appendix: G	

Noise Levels
(Restricted Hours - 2300-0700 on normal weekdays)







Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of Restricted Noise Monitoring Results	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Apr-2023	Appendix: G	

APPENDIX I
MARINE WATER QUALITY MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 03 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Rainy	Moderate	11:55	Surface	1.1	21.3	21.3	8.1	8.1	33.7	33.7	92.3	92.2	6.7	6.7	6.7	1.6	1.6	2.1	1.4	1.6	2.1
						21.3		8.1		33.7		92.1		6.7			1.7			1.8		
				Middle	9.1	21.4	21.4	8.1	8.1	33.9	33.9	91.4	91.4	6.6	6.6		1.6	1.6		2.3	2.2	
						21.4		8.1		33.9		91.3		6.6			1.6			2.0		
				Bottom	17.1	21.4	21.4	8.1	8.1	33.9	33.9	91.7	91.7	6.7	6.7	6.7	3.1	3.1		2.7	2.6	
						21.4		8.1		33.9		91.7		6.7			3.1			2.5		
C2	Rainy	Moderate	11:12	Surface	1.1	21.3	21.3	8.1	8.1	33.8	33.8	90.6	90.6	6.6	6.6	6.6	2.0	1.9	1.8	2.1	2.3	1.8
						21.3		8.1		33.8		90.5		6.6			1.9			2.4		
				Middle	16.0	21.4	21.4	8.0	8.0	33.8	33.8	90.6	90.6	6.6	6.6		1.7	1.7		1.6	1.7	
						21.4		8.0		33.8		90.5		6.6			1.7			1.8		
				Bottom	30.9	21.4	21.4	8.1	8.1	33.9	33.9	90.4	90.4	6.6	6.6	6.6	1.8	1.8		1.2	1.3	
						21.4		8.1		33.9		90.4		6.6			1.8			1.4		
G1	Rainy	Moderate	11:33	Surface	1.1	21.3	21.3	8.1	8.1	33.6	33.6	91.7	91.5	6.7	6.7	6.6	1.4	1.4	1.4	2.5	2.7	2.1
						21.3		8.1		33.7		91.3		6.7			1.4			2.8		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.5	90.6	6.6	6.6		1.4	1.4		2.2	2.2	
						21.3		8.1		33.8		90.6		6.6			1.4			2.1		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	90.0	90.0	6.6	6.5	6.5	1.5	1.5		1.6	1.5	
						21.3		8.1		33.8		89.9		6.5			1.5			1.4		
G2	Rainy	Moderate	11:25	Surface	1.1	21.3	21.3	8.1	8.1	33.7	33.7	94.3	94.0	6.9	6.8	6.7	1.6	1.6	1.9	1.4	1.6	2.1
						21.3		8.1		33.7		93.7		6.8			1.5			1.7		
				Middle	5.1	21.3	21.3	8.1	8.1	33.8	33.8	91.2	91.4	6.6	6.6		2.0	1.9		2.2	2.2	
						21.3		8.1		33.8		91.6		6.7			1.8			2.1		
				Bottom	9.1	21.4	21.4	8.1	8.1	33.9	33.9	90.2	90.3	6.6	6.6	6.6	2.3	2.3		2.3	2.5	
						21.4		8.1		33.9		90.4		6.6			2.3			2.7		
G3	Rainy	Moderate	11:36	Surface	1.2	21.3	21.3	8.1	8.1	33.7	33.7	91.3	91.3	6.6	6.6	6.6	2.0	2.0	1.9	1.6	1.8	2.2
						21.3		8.1		33.7		91.2		6.6			2.1			1.9		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.6	90.7	6.6	6.6		1.7	1.7		2.1	2.3	
						21.3		8.1		33.8		90.7		6.6			1.6			2.4		
				Bottom	7.2	21.3	21.3	8.1	8.1	33.8	33.8	90.1	90.0	6.6	6.5	6.5	2.0	2.0		2.8	2.7	
						21.3		8.1		33.8		89.9		6.5			2.1			2.6		
G4	Rainy	Moderate	11:43	Surface	1.0	21.3	21.3	8.1	8.1	33.8	33.8	93.0	92.9	6.8	6.8	6.7	1.6	1.6	1.8	2.4	2.3	1.8
						21.3		8.1		33.8		92.7		6.8			1.6			2.2		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.8	90.9	6.6	6.6		1.7	1.7		1.7	1.8	
						21.3		8.1		33.8		91.0		6.6			1.7			1.8		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	90.0	90.0	6.6	6.5	6.5	2.0	2.1		1.3	1.4	
						21.3		8.1		33.8		89.9		6.5			2.1			1.4		
M1	Rainy	Moderate	11:30	Surface	1.0	20.9	21.1	8.1	8.1	33.5	33.5	93.2	92.9	6.8	6.8	6.7	1.3	1.3	1.4	1.3	1.4	1.8
						21.2		8.1		33.5		92.6		6.8			1.3			1.5		
				Middle	3.1	21.3	21.3	8.1	8.1	33.7	33.7	90.1	90.2	6.6	6.6		1.3	1.3		1.8	1.8	
						21.3		8.1		33.7		90.2		6.6			1.3			1.8		
				Bottom	5.0	21.3	21.3	8.1	8.1	33.7	33.7	90.2	90.2	6.6	6.6	6.6	1.5	1.5		2.4	2.3	
						21.3		8.1		33.7		90.1		6.6			1.5			2.1		
M2	Rainy	Moderate	11:21	Surface	1.0	21.3	21.3	8.1	8.1	33.8	33.8	95.3	94.9	6.9	6.9	6.8	1.7	1.7	1.6	1.1	1.2	1.7
						21.3		8.1		33.8		94.4		6.9			1.7			1.3		
				Middle	6.0	21.3	21.3	8.1	8.1	33.8	33.8	91.1	91.2	6.6	6.6		1.5	1.5		1.5	1.7	
						21.3		8.1		33.8		91.3		6.6			1.5			1.8		
				Bottom	10.9	21.3	21.4	8.1	8.1	33.8	33.8	90.5	90.5	6.6	6.6	6.6	1.5	1.5		2.4	2.3	
						21.4		8.1		33.8		90.5		6.6			1.5			2.2		
M3	Rainy	Moderate	11:39	Surface	1.1	21.3	21.3	8.1	8.1	33.3	33.3	89.8	89.7	6.6	6.5	6.6	1.5	1.5	1.6	1.5	1.7	1.0
						21.3		8.1		33.4		89.5		6.5			1.5			1.8		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.5	90.5	6.6	6.6		1.6	1.6		1.4	1.3	
						21.3		8.1		33.8		90.5		6.6			1.6			1.2		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	89.9	89.8	6.5	6.5	6.5	1.8	1.9		<0.1	<0.1	
						21.3		8.1		33.8		89.6		6.5			1.9			<0.1		
M4	Rainy	Moderate	11:17	Surface	1.1	21.3	21.3	8.1	8.1	33.8	33.8	93.2	93.1	6.8	6.8	6.7	1.8	1.8	1.9	1.5	1.4	1.8
						21.4		8.1		33.8		93.0		6.8			1.8			1.3		
				Middle	5.2	21.4	21.4	8.1	8.1	33.8	33.8	91.7	91.8	6.7	6.7		1.9	1.9		1.9	1.8	
						21.4		8.1		33.8		91.9		6.7			1.8			1.7		
				Bottom	9.1	21.4	21.4	8.1	8.1	33.9	33.9	91.2	91.2	6.6	6.6	6.6	1.9	1.9		2.2	2.2	
						21.4		8.1		33.9		91.2		6.6			2.0			2.1		
M5	Rainy	Moderate	11:50	Surface	1.0	21.3	21.3	8.1	8.1	33.8	33.8	93.7	93.4	6.8	6.8	6.7	4.1	4.0	3.1	2.3	2.5	3.0
						21.3		8.1		33.8		93.0		6.8			4.0			2.6		
				Middle	6.0	21.4	21.4	8.1	8.1	33.9	33.9	91.9	91.8	6.7	6.7		2.4	2.3		2.9	3.0	
						21.4		8.1		33.9		91.6		6.7			2.3			3.1		
				Bottom	11.1	21.4	21.4	8.1	8.1	33.9	33.9	91.9	91.9	6.7	6.7	6.7	2.9	2.9		3.4	3.6	
						21.4		8.1		33.9		91.8		6.7			2.9			3.8		
M6	Rainy	Moderate	11:47	Surface	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-	1.4	-	-	2.7
						-		-		-		-		-			-			-		
				Middle	2.1	21.3	21.3	8.1	8.1	33.7	33.7	90.3	90.3	6.6	6.6		1.4	1.4		2.5	2.7	
						21.3		8.1		33.7		90.2		6.6			1.4			2.9		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 3 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 2.1 NTU	***C2: 2.3 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.7 mg/L	***C2: 2.9 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.7 mg/L	***C2: 2.9 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 1.6 mg/L	***C2: 1.7 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 03 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Rainy	Moderate	17:04	Surface	1.1	21.3	21.3	8.1	8.1	33.7	33.7	91.9	91.8	6.7	6.7	6.7	1.7	1.7	2.1	1.1	1.3	1.8
						21.3		8.1		33.7		91.6		6.7			1.7			1.4		
				Middle	9.1	21.4	21.4	8.1	8.1	33.9	33.9	91.5	91.5	6.7	6.7		1.6	1.6		1.9	1.8	
						21.4		8.1		33.9		91.5		6.7			1.6			1.7		
				Bottom	17.2	21.4	21.4	8.1	8.1	33.9	33.9	91.6	91.6	6.7	6.6	6.6	3.2	3.1		2.2	2.4	
						21.4		8.1		33.9		91.5		6.6			3.1			2.5		
C2	Rainy	Moderate	16:22	Surface	1.1	21.3	21.3	8.1	8.1	33.8	33.8	90.5	90.5	6.6	6.6	6.6	1.9	1.9	1.8	2.7	2.9	2.2
						21.3		8.1		33.8		90.5		6.6			1.9			3.1		
				Middle	15.9	21.4	21.4	8.1	8.0	33.8	33.8	90.6	90.6	6.6	6.6		1.6	1.6		2.2	2.4	
						21.4		8.0		33.8		90.6		6.6			1.6			2.6		
				Bottom	31.1	21.4	21.4	8.1	8.0	33.9	33.8	90.4	92.7	6.6	6.7	6.7	1.8	1.8		1.6	1.4	
						21.3		7.9		33.7		95.0		6.9			1.8			1.2		
G1	Rainy	Moderate	16:43	Surface	1.1	21.3	21.3	8.1	8.1	33.7	33.7	91.2	91.2	6.6	6.6	6.6	1.4	1.4	1.4	1.4	1.6	2.6
						21.3		8.1		33.7		91.1		6.6			1.4			1.8		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.3	90.4	6.6	6.6		1.5	1.5		2.5	2.7	
						21.3		8.1		33.8		90.4		6.6			1.5			2.9		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	89.8	89.8	6.5	6.5	6.5	1.5	1.5		3.2	3.4	
						21.3		8.1		33.8		89.7		6.5			1.5			3.5		
G2	Rainy	Moderate	16:35	Surface	1.1	21.3	21.3	8.1	8.1	33.7	33.7	93.3	93.1	6.8	6.8	6.7	1.5	1.5	2.0	3.1	3.3	2.3
						21.3		8.1		33.7		92.9		6.8			1.5			3.4		
				Middle	5.1	21.3	21.3	8.1	8.1	33.8	33.8	90.6	90.8	6.6	6.6		2.3	2.2		2.5	2.4	
						21.3		8.1		33.8		90.9		6.6			2.2			2.2		
				Bottom	9.0	21.4	21.4	8.1	8.1	33.9	33.9	90.6	90.8	6.6	6.6	6.6	2.2	2.1		1.5	1.4	
						21.4		8.1		33.9		90.9		6.6			2.1			1.2		
G3	Rainy	Moderate	16:46	Surface	1.2	21.3	21.3	8.1	8.1	33.7	33.7	91.0	91.0	6.6	6.6	6.6	1.5	1.5	1.8	2.2	2.4	3.1
						21.3		8.1		33.7		91.0		6.6			1.5			2.6		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.4	90.5	6.6	6.6		1.8	1.7		2.8	3.0	
						21.3		8.1		33.8		90.5		6.6			1.7			3.1		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	89.6	89.5	6.5	6.5	6.5	2.2	2.3		3.7	3.9	
						21.3		8.1		33.8		89.3		6.5			2.3			4.1		
G4	Rainy	Moderate	16:53	Surface	1.0	21.3	21.3	8.1	8.1	33.8	33.8	92.5	92.5	6.7	6.7	6.7	1.6	1.6	1.8	1.8	1.9	2.4
						21.3		8.1		33.8		92.4		6.7			1.5			1.9		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.5	90.6	6.6	6.6		1.8	1.7		2.3	2.4	
						21.3		8.1		33.8		90.7		6.6			1.7			2.5		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	89.7	89.6	6.5	6.5	6.5	2.2	2.2		2.8	3.0	
						21.3		8.1		33.8		89.5		6.5			2.3			3.1		
M1	Rainy	Moderate	16:40	Surface	1.1	21.3	21.3	8.1	8.1	33.5	33.6	92.1	92.0	6.7	6.7	6.6	1.3	1.3	1.4	3.9	3.7	2.5
						21.3		8.1		33.6		91.9		6.7			1.3			3.4		
				Middle	3.0	21.3	21.3	8.1	8.1	33.7	33.7	90.2	90.2	6.6	6.6		1.4	1.4		2.5	2.4	
						21.3		8.1		33.7		90.2		6.6			1.4			2.2		
				Bottom	5.0	21.3	21.3	8.1	8.1	33.7	33.7	90.0	90.0	6.6	6.5	6.5	1.5	1.5		1.8	1.6	
						21.3		8.1		33.7		89.9		6.5			1.5			1.4		
M2	Rainy	Moderate	16:30	Surface	1.1	21.3	21.3	8.1	8.1	33.8	33.8	94.0	93.7	6.8	6.8	6.7	1.6	1.6	1.5	2.4	2.3	1.9
						21.3		8.1		33.8		93.4		6.8			1.6			2.2		
				Middle	6.1	21.3	21.3	8.1	8.1	33.8	33.8	90.8	90.9	6.6	6.6		1.5	1.5		1.9	1.8	
						21.3		8.1		33.8		90.9		6.6			1.5			1.7		
				Bottom	11.0	21.4	21.4	8.1	8.1	33.8	33.8	90.6	90.7	6.6	6.6	6.6	1.5	1.5		1.4	1.5	
						21.4		8.1		33.9		90.8		6.6			1.5			1.5		
M3	Rainy	Moderate	16:49	Surface	1.1	21.3	21.3	8.1	8.1	33.4	33.5	89.6	89.7	6.5	6.5	6.6	1.4	1.4	1.7	1.7	1.8	2.2
						21.3		8.1		33.6		89.8		6.5			1.5			1.8		
				Middle	4.1	21.3	21.3	8.1	8.1	33.8	33.8	90.3	90.4	6.6	6.6		1.6	1.6		2.3	2.2	
						21.3		8.1		33.8		90.4		6.6			1.6			2.0		
				Bottom	7.1	21.3	21.3	8.1	8.1	33.8	33.8	89.3	89.2	6.5	6.5	6.5	2.0	2.1		2.5	2.7	
						21.3		8.1		33.8		89.0		6.5			2.1			2.8		
M4	Rainy	Moderate	16:26	Surface	1.1	21.4	21.4	8.1	8.1	33.8	33.8	92.8	92.8	6.8	6.7	6.7	1.7	1.8	1.9	3.0	3.2	2.7
						21.4		8.1		33.8		92.7		6.7			1.8			3.4		
				Middle	5.1	21.4	21.4	8.1	8.1	33.8	33.8	91.5	91.6	6.7	6.7		2.0	1.9		2.8	2.7	
						21.4		8.1		33.8		91.6		6.7			1.9			2.5		
				Bottom	9.2	21.4	21.4	8.1	8.1	33.9	33.9	91.1	91.1	6.6	6.6	6.6	2.0	1.9		2.3	2.3	
						21.4		8.1		33.9		91.1		6.6			1.9			2.3		
M5	Rainy	Moderate	17:00	Surface	1.0	21.3	21.3	8.1	8.1	33.8	33.8	92.4	92.2	6.7	6.7	6.7	3.6	3.5	2.9	2.1	2.2	2.6
						21.3		8.1		33.8		91.9		6.7			3.5			2.3		
				Middle	6.0	21.4	21.4	8.1	8.1	33.9	33.9	92.1	92.1	6.7	6.7		2.5	2.4		2.7	2.6	
						21.4		8.1		33.9		92.0		6.7			2.4			2.5		
				Bottom	11.1	21.4	21.4	8.1	8.1	33.9	33.9	91.8	91.8	6.7	6.7	6.7	2.9	2.9		2.9	3.1	
						21.4		8.1		33.9		91.8		6.7			2.9			3.2		
M6	Rainy	Moderate	16:57	Surface	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-	1.3	-	-	3.1
						-		-		-		-		-			-			-		
				Middle	2.1	21.3	21.3	8.1	8.1	33.7	33.7	90.2	90.2	6.6	6.6		8.0	8.0		3.2	3.1	
						21.3		8.1		33.7		90.2		6.6			8.0			2.9		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 3 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 3.7 NTU	***C1: 4.0 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 1.5 mg/L	***C1: 1.6 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 1.5 mg/L	***C1: 1.6 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.8 mg/L	***C1: 3.1 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 12 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	16:55	Surface	1.0	22.9	22.9	8.1	8.1	33.3	33.3	92.8	92.6	6.6	6.6	6.7	1.2	1.2	1.4	5.9	6.3	5.5
						22.9		8.1		33.3		92.4		6.6			1.2			6.7		
				Middle	9.0	21.9	21.9	8.1	8.1	33.7	33.7	93.7	93.7	6.8	6.8		1.0	1.0		4.1	5.0	
						21.9		8.1		33.7		93.6		6.8			1.0			5.9		
				Bottom	17.0	21.8	21.8	8.1	8.1	33.9	33.9	93.9	93.9	6.8	6.8	6.8	2.0	2.0		5.9	5.2	
						21.8		8.1		33.9		93.8		6.8			2.1			4.5		
C2	Sunny	Moderate	16:14	Surface	1.0	22.6	22.5	7.9	7.9	33.4	33.4	91.7	91.5	6.5	6.5	6.5	1.3	1.3	1.2	6.8	6.2	5.6
						22.4		8.0		33.4		91.3		6.5			1.4			5.6		
				Middle	16.0	21.8	21.8	8.1	8.1	33.7	33.7	90.4	90.4	6.5	6.5		1.3	1.3		7.1	6.2	
						21.8		8.1		33.7		90.4		6.5			1.2			5.3		
				Bottom	31.1	21.8	21.8	8.1	8.1	33.7	33.7	90.4	90.5	6.5	6.5	6.5	1.0	1.1		4.7	4.3	
						21.8		8.1		33.7		90.5		6.5			1.1			3.8		
G1	Sunny	Moderate	16:35	Surface	1.0	22.6	22.6	8.1	8.1	33.4	33.4	93.3	93.1	6.7	6.6	6.6	0.5	0.6	1.1	4.5	4.9	4.2
						22.6		8.1		33.4		92.9		6.6			0.6			5.2		
				Middle	4.0	22.2	22.2	8.1	8.1	33.5	33.5	91.9	91.9	6.6	6.6		1.2	1.1		4.0	4.0	
						22.2		8.1		33.5		91.8		6.6			1.1			3.9		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.5	33.5	91.4	91.4	6.6	6.6	6.6	1.5	1.5		3.7	3.9	
						22.0		8.1		33.5		91.4		6.6			1.5			4.1		
G2	Sunny	Moderate	16:29	Surface	1.0	22.5	22.2	8.1	8.1	33.4	33.4	92.2	92.1	6.6	6.6	6.5	1.2	1.2	2.0	4.0	4.4	4.4
						21.8		8.1		33.4		91.9		6.6			1.2			4.7		
				Middle	5.0	21.8	21.8	8.1	8.1	33.6	33.6	89.8	89.8	6.5	6.5		1.6	1.6		4.4	4.6	
						21.8		8.1		33.6		89.7		6.5			1.6			4.7		
				Bottom	9.0	21.8	21.8	8.1	8.1	33.7	33.7	90.3	90.5	6.5	6.5	6.5	3.1	3.1		4.7	4.4	
						21.8		8.1		33.7		90.6		6.5			3.2			4.0		
G3	Sunny	Moderate	16:38	Surface	1.0	22.8	22.8	8.1	8.1	33.3	33.3	93.9	93.7	6.7	6.7	6.6	1.3	1.2	1.8	5.6	5.0	4.9
						22.8		8.1		33.3		93.5		6.6			1.2			4.4		
				Middle	4.1	22.2	22.2	8.1	8.1	33.5	33.5	91.6	91.7	6.6	6.6		1.6	1.6		4.3	4.4	
						22.2		8.1		33.5		91.7		6.6			1.6			4.4		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.5	33.5	89.4	89.2	6.4	6.4	6.4	2.5	2.4		4.9	5.5	
						22.0		8.1		33.6		88.9		6.4			2.4			6.0		
G4	Sunny	Moderate	16:44	Surface	1.0	22.6	22.6	8.1	8.1	33.4	33.4	91.9	91.9	6.6	6.6	6.5	1.3	1.3	1.8	5.3	5.5	4.9
						22.6		8.1		33.4		91.9		6.6			1.3			5.7		
				Middle	4.0	22.4	22.4	8.1	8.1	33.4	33.4	91.0	91.1	6.5	6.5		1.4	1.3		3.6	4.1	
						22.4		8.1		33.4		91.2		6.5			1.3			4.6		
				Bottom	7.0	22.1	22.1	8.1	8.1	33.5	33.5	88.4	88.3	6.4	6.3	6.3	2.8	2.8		5.7	5.0	
						22.1		8.1		33.5		88.2		6.3			2.7			4.2		
M1	Sunny	Moderate	16:33	Surface	1.0	22.9	22.9	8.1	8.1	33.3	33.3	94.3	94.3	6.7	6.7	6.6	1.1	1.1	1.3	4.0	4.3	4.6
						22.9		8.1		33.3		94.2		6.7			1.1			4.6		
				Middle	3.0	22.5	22.5	8.1	8.1	33.4	33.4	92.7	92.7	6.6	6.6		1.1	1.1		4.3	4.7	
						22.5		8.1		33.4		92.7		6.6			1.1			5.1		
				Bottom	5.1	22.2	22.2	8.1	8.1	33.5	33.5	91.5	91.5	6.6	6.6	6.6	1.8	1.8		4.8	4.9	
						22.2		8.1		33.5		91.4		6.6			1.9			4.9		
M2	Sunny	Moderate	16:26	Surface	1.0	22.6	22.7	8.1	8.1	33.4	33.4	92.9	92.9	6.6	6.6	6.6	1.1	1.2	2.4	5.2	4.8	4.5
						22.7		8.1		33.4		92.8		6.6			1.2			4.4		
				Middle	6.0	21.8	21.8	8.1	8.1	33.7	33.7	91.1	91.1	6.6	6.6		1.6	1.7		3.9	4.5	
						21.8		8.1		33.7		91.0		6.6			1.8			5.0		
				Bottom	11.0	21.7	21.7	8.1	8.1	33.8	33.8	90.0	90.0	6.5	6.5	6.5	4.3	4.3		4.4	4.1	
						21.7		8.1		33.8		90.0		6.5			4.3			3.8		
M3	Sunny	Moderate	16:41	Surface	1.0	22.6	22.6	8.0	8.0	33.4	33.4	93.2	93.0	6.6	6.6	6.6	1.1	1.1	1.5	4.7	4.4	4.5
						22.6		8.1		33.4		92.7		6.6			1.2			4.1		
				Middle	4.0	22.3	22.3	8.1	8.1	33.4	33.4	91.2	91.2	6.5	6.5		1.3	1.3		5.0	4.6	
						22.2		8.1		33.4		91.2		6.5			1.4			4.1		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.5	33.5	89.4	89.4	6.4	6.4	6.4	2.0	2.1		4.7	4.6	
						22.0		8.1		33.5		89.3		6.4			2.2			4.4		
M4	Sunny	Moderate	16:22	Surface	1.0	22.9	23.0	8.0	8.0	33.3	33.3	93.3	93.3	6.6	6.6	6.6	1.1	1.1	1.8	5.8	5.3	5.0
						23.0		8.0		33.3		93.3		6.6			1.1			4.8		
				Middle	5.0	22.0	22.0	8.1	8.1	33.5	33.5	90.5	90.6	6.5	6.5		1.4	1.4		4.8	5.3	
						22.0		8.1		33.5		90.6		6.5			1.3			5.8		
				Bottom	9.0	21.8	21.8	8.1	8.1	33.7	33.7	90.7	90.7	6.6	6.6	6.6	2.9	2.9		3.7	4.3	
						21.8		8.1		33.7		90.7		6.6			2.9			4.9		
M5	Sunny	Moderate	16:51	Surface	1.0	22.4	22.4	8.1	8.1	33.4	33.4	92.2	92.0	6.6	6.6	6.7	1.1	1.1	1.4	3.7	4.0	4.5
						22.4		8.1		33.4		91.7		6.6			1.1			4.2		
				Middle	6.1	21.9	21.9	8.1	8.1	33.7	33.7	93.8	93.8	6.8	6.8		1.1	1.1		4.7	4.6	
						21.9		8.1		33.7		93.7		6.8			1.2			4.5		
				Bottom	11.0	21.8	21.8	8.1	8.1	33.9	33.9	94.4	94.4	6.8	6.8	6.8	2.1	2.1		4.1	4.8	
						21.8		8.1		33.9		94.4		6.8			2.1			5.5		
M6	Sunny	Moderate	16:47	Surface	-	-	-	-	-	-	-	-	-	-	-	6.5	-	-	1.3	-	-	5.0
						-		-		-		-		-			-			-		
				Middle	2.0	22.5	22.5	8.1	8.1	33.4	33.4	91.1	91.1	6.5	6.5		1.3	1.3		5.3	5.0	
						22.5		8.1		33.4		91.0		6.5			1.3			4.6		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 12 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 1.3 NTU	***C2: 1.4 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 7.4 mg/L	***C2: 8.1 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 7.4 mg/L	***C2: 8.1 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 5.1 mg/L	***C2: 5.5 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 12 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	9:31	Surface	1.0	22.9	22.9	8.0	8.0	33.3	33.3	96.1	94.7	6.8	6.7	6.7	1.3	1.2	1.3	5.3	5.8	5.1
						22.9		8.1		33.3		93.3		6.6			1.2			6.3		
				Middle	9.0	21.9	21.9	8.1	8.1	33.7	33.7	93.5	93.0	6.7	6.7		0.9	0.9		5.8	6.3	
						21.9		8.1		33.7		92.4		6.7			0.9			6.7		
				Bottom	17.0	21.8	21.8	8.1	8.1	33.9	33.9	93.5	93.7	6.7	6.8	6.8	1.7	1.7		3.3	3.3	
						21.8		8.1		33.9		93.8		6.8			1.8			3.3		
C2	Sunny	Moderate	8:50	Surface	1.1	22.4	22.5	7.8	7.9	33.4	33.4	92.1	92.0	6.6	6.6	6.5	1.2	1.2	1.2	2.8	3.1	3.5
						22.6		7.9		33.4		91.8		6.5			1.2			3.4		
				Middle	16.0	21.8	21.8	8.1	8.0	33.7	33.7	90.4	90.4	6.5	6.5		1.3	1.3		3.4	3.4	
						21.8		8.0		33.7		90.3		6.5			1.4			3.4		
				Bottom	31.1	21.8	21.8	8.1	8.1	33.7	33.7	90.3	90.4	6.5	6.5	6.5	1.1	1.1		3.6	4.0	
						21.8		8.1		33.7		90.4		6.5			1.1			4.4		
G1	Sunny	Moderate	9:11	Surface	1.0	22.6	22.6	8.0	8.0	33.4	33.4	95.7	94.8	6.8	6.8	6.7	0.6	0.6	1.0	4.4	4.6	3.9
						22.6		8.0		33.4		93.9		6.7			0.6			4.8		
				Middle	4.0	22.2	22.2	8.1	8.1	33.5	33.5	91.6	91.6	6.6	6.6		0.8	0.8		3.3	3.6	
						22.2		8.1		33.5		91.5		6.6			0.8			3.8		
				Bottom	7.0	22.1	22.0	8.1	8.1	33.5	33.5	91.5	91.5	6.6	6.6	6.6	1.5	1.5		3.7	3.7	
						22.0		8.1		33.5		91.5		6.6			1.5			3.6		
G2	Sunny	Moderate	9:05	Surface	1.0	22.8	22.6	8.0	8.0	33.3	33.4	92.7	92.5	6.6	6.6	6.5	1.1	1.2	1.7	5.2	4.6	5.4
						22.5		8.1		33.4		92.3		6.6			1.2			4.0		
				Middle	5.0	21.8	21.8	8.1	8.1	33.6	33.6	89.8	90.0	6.5	6.5		1.7	1.7		4.9	5.7	
						21.9		8.1		33.6		90.1		6.5			1.6			6.4		
				Bottom	9.0	21.8	21.8	8.1	8.1	33.7	33.7	89.8	90.0	6.5	6.5	6.5	2.3	2.3		6.0	5.9	
						21.8		8.1		33.7		90.1		6.5			2.2			5.8		
G3	Sunny	Moderate	9:14	Surface	1.0	22.7	22.7	8.0	8.0	33.3	33.3	96.1	95.4	6.8	6.8	6.7	1.4	1.3	1.7	4.0	4.2	4.0
						22.8		8.1		33.3		94.6		6.7			1.2			4.4		
				Middle	4.1	22.2	22.2	8.1	8.1	33.5	33.5	91.8	92.0	6.6	6.6		1.6	1.5		3.5	3.9	
						22.2		8.1		33.5		92.1		6.6			1.5			4.2		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.5	33.5	90.6	90.2	6.5	6.5	6.5	2.2	2.2		3.8	3.9	
						22.0		8.1		33.5		89.7		6.5			2.3			3.9		
G4	Sunny	Moderate	9:20	Surface	1.0	22.6	22.6	8.1	8.1	33.4	33.4	92.2	92.1	6.6	6.6	6.5	1.6	1.5	1.7	4.1	4.4	4.2
						22.6		8.1		33.4		91.9		6.6			1.5			4.6		
				Middle	4.0	22.5	22.5	8.1	8.1	33.4	33.4	91.3	91.4	6.5	6.5		1.3	1.3		4.8	4.2	
						22.5		8.1		33.4		91.5		6.5			1.3			3.6		
				Bottom	7.0	22.2	22.1	8.1	8.1	33.5	33.5	89.7	89.2	6.4	6.4	6.4	2.3	2.4		4.4	4.0	
						22.1		8.1		33.5		88.6		6.4			2.4			3.6		
M1	Sunny	Moderate	9:09	Surface	1.1	23.0	23.0	8.1	8.1	33.3	33.3	94.8	94.7	6.7	6.7	6.7	0.8	0.9	1.1	2.7	3.2	4.2
						23.0		8.1		33.3		94.5		6.7			0.9			3.6		
				Middle	3.0	22.6	22.6	8.1	8.1	33.4	33.4	92.7	93.0	6.6	6.6		1.1	1.1		4.4	4.5	
						22.7		8.1		33.4		93.3		6.6			1.1			4.5		
				Bottom	5.0	22.4	22.3	8.1	8.1	33.4	33.4	92.3	92.0	6.6	6.6	6.6	1.3	1.3		5.6	4.9	
						22.3		8.1		33.5		91.7		6.6			1.3			4.2		
M2	Sunny	Moderate	9:02	Surface	1.0	22.7	22.7	8.1	8.1	33.4	33.4	94.2	93.6	6.7	6.7	6.6	1.2	1.1	2.4	3.7	3.3	3.9
						22.6		8.1		33.4		93.0		6.6			1.1			2.9		
				Middle	6.0	21.8	21.8	8.1	8.1	33.7	33.6	90.9	90.8	6.6	6.5		1.8	1.8		3.6	3.8	
						21.8		8.1		33.6		90.6		6.5			1.7			4.0		
				Bottom	11.0	21.7	21.7	8.1	8.1	33.8	33.8	90.2	90.2	6.5	6.5	6.5	4.2	4.3		4.1	4.7	
						21.7		8.1		33.8		90.1		6.5			4.3			5.3		
M3	Sunny	Moderate	9:18	Surface	1.0	22.6	22.6	8.0	8.0	33.4	33.4	95.3	94.5	6.8	6.7	6.6	1.1	1.1	1.5	3.1	3.9	4.1
						22.6		8.0		33.4		93.7		6.7			1.1			4.6		
				Middle	4.0	22.2	22.3	8.1	8.1	33.4	33.4	91.3	91.5	6.5	6.6		1.4	1.4		2.6	3.1	
						22.3		8.1		33.4		91.6		6.6			1.3			3.6		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.5	33.5	89.9	89.7	6.5	6.5	6.5	2.0	2.0		5.3	5.4	
						22.0		8.1		33.5		89.5		6.4			1.9			5.4		
M4	Sunny	Moderate	8:57	Surface	1.0	22.8	22.9	8.1	8.1	33.3	33.3	93.2	93.2	6.6	6.6	6.6	1.1	1.1	1.8	5.6	5.1	3.7
						22.9		8.1		33.3		93.2		6.6			1.1			4.5		
				Middle	5.1	22.0	22.3	8.1	8.1	33.5	33.5	90.6	91.3	6.5	6.5		1.3	1.2		3.0	2.9	
						22.5		8.1		33.4		91.9		6.6			1.1			2.7		
				Bottom	9.0	21.8	21.8	8.1	8.1	33.7	33.7	90.6	90.7	6.5	6.5	6.5	3.0	3.0		3.8	3.2	
						21.8		8.1		33.7		90.7		6.6			2.9			2.6		
M5	Sunny	Moderate	9:27	Surface	1.0	22.4	22.4	8.1	8.1	33.4	33.4	93.2	92.8	6.7	6.6	6.7	1.1	1.1	1.4	3.6	3.1	3.4
						22.4		8.1		33.4		92.4		6.6			1.1			2.6		
				Middle	6.1	21.9	21.9	8.1	8.1	33.7	33.7	93.5	93.2	6.7	6.7		1.2	1.2		3.8	3.4	
						21.9		8.1		33.7		92.9		6.7			1.3			3.0		
				Bottom	11.0	21.8	21.8	8.1	8.1	33.9	33.9	94.3	94.4	6.8	6.8	6.8	1.9	1.9		3.1	3.7	
						21.8		8.1		33.9		94.4		6.8			2.0			4.3		
M6	Sunny	Moderate	9:24	Surface	-	-	-	-	-	-	-	-	-	-	-	6.5	-	-	1.3	-	-	3.3
						-		-		-		-		-			-			-		
				Middle	2.0	22.5	22.5	8.1	8.1	33.4	33.4	91.2	91.2	6.5	6.5		8.0	8.0		2.8	3.3	
						22.5		8.1		33.4		91.1		6.5			8.0			3.7		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 12 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 2.1 NTU	***C1: 2.3 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 7.0 mg/L	***C1: 7.5 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 7.0 mg/L	***C1: 7.5 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 4.0 mg/L	***C1: 4.3 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 14 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	11:50	Surface	1.1	22.7	22.7	8.1	8.1	33.5	33.5	97.3	96.8	6.9	6.9	6.9	1.1	1.2	1.7	5.6	5.5	4.5
						22.7		8.1		33.5		96.2		6.8			1.2			5.3		
				Middle	9.0	22.2	22.2	8.1	8.1	33.6	33.6	95.2	95.4	6.8	6.8		1.1	1.1		4.0	4.3	
						22.2		8.1		33.6		95.5		6.8			1.2			4.5		
				Bottom	17.0	22.1	22.1	8.1	8.1	33.8	33.8	94.5	94.4	6.8	6.8	6.8	2.8	2.7		3.5	3.7	
						22.1		8.1		33.8		94.3		6.8			2.7			3.8		
C2	Sunny	Moderate	11:11	Surface	1.0	22.2	22.2	7.9	8.0	33.6	33.6	93.0	93.1	6.7	6.7	6.7	1.6	1.6	2.5	4.3	4.5	4.1
						22.2		8.0		33.6		93.1		6.7			1.7			4.7		
				Middle	16.0	22.1	22.1	8.1	8.1	33.8	33.8	93.0	93.0	6.7	6.7		2.0	2.1		3.9	4.1	
						22.1		8.1		33.8		93.0		6.7			2.1			4.2		
				Bottom	31.0	22.1	22.1	8.1	8.1	33.8	33.8	92.4	92.2	6.6	6.6	6.6	3.8	3.8		3.6	3.8	
						22.1		8.1		33.8		91.9		6.6			3.8			3.9		
G1	Sunny	Moderate	11:31	Surface	1.1	22.3	22.4	8.1	8.1	33.6	33.6	97.0	97.1	6.9	6.9	6.9	1.5	1.5	1.4	3.8	4.0	3.4
						22.4		8.1		33.6		97.1		6.9			1.5			4.1		
				Middle	4.1	22.1	22.1	8.1	8.1	33.7	33.7	95.8	95.9	6.9	6.9		1.5	1.4		3.4	3.6	
						22.2		8.1		33.7		96.0		6.9			1.4			3.7		
				Bottom	7.0	22.1	22.1	8.1	8.1	33.7	33.7	95.4	95.3	6.9	6.8	6.8	1.4	1.4		2.8	2.7	
						22.1		8.1		33.7		95.1		6.8			1.4			2.5		
G2	Sunny	Moderate	11:24	Surface	1.1	22.3	22.3	8.1	8.1	33.5	33.5	97.8	97.8	7.0	7.0	6.9	1.4	1.3	1.4	4.2	4.4	3.8
						22.3		8.1		33.6		97.8		7.0			1.3			4.5		
				Middle	5.0	22.1	22.1	8.1	8.1	33.7	33.7	95.8	96.0	6.9	6.9		1.3	1.3		3.9	3.8	
						22.1		8.1		33.7		96.2		6.9			1.3			3.6		
				Bottom	9.0	22.1	22.1	8.1	8.1	33.7	33.8	94.9	94.5	6.8	6.8	6.8	1.6	1.5		3.3	3.2	
						22.1		8.1		33.8		94.0		6.8			1.5			3.0		
G3	Sunny	Moderate	11:34	Surface	1.0	22.3	22.3	8.1	8.1	33.6	33.6	96.3	96.3	6.9	6.9	6.9	1.5	1.5	1.6	3.4	3.2	4.1
						22.3		8.1		33.6		96.3		6.9			1.5			3.0		
				Middle	4.0	22.1	22.2	8.1	8.1	33.7	33.6	94.6	95.2	6.8	6.8		1.4	1.4		4.4	4.3	
						22.2		8.1		33.6		95.8		6.9			1.4			4.1		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.7	33.7	92.7	92.4	6.7	6.6	6.6	1.9	1.9		5.0	4.9	
						22.0		8.1		33.7		92.0		6.6			1.9			4.7		
G4	Sunny	Moderate	11:39	Surface	1.1	22.2	22.2	8.1	8.1	33.7	33.6	96.3	96.3	6.9	6.9	6.9	3.3	3.3	3.8	6.8	6.6	5.4
						22.3		8.1		33.6		96.3		6.9			3.2			6.3		
				Middle	4.0	22.1	22.1	8.1	8.1	33.7	33.7	95.1	95.2	6.8	6.8		3.6	3.6		5.6	5.5	
						22.1		8.1		33.7		95.2		6.8			3.6			5.4		
				Bottom	7.1	22.1	22.1	8.1	8.1	33.7	33.7	94.6	94.5	6.8	6.8	6.8	4.4	4.4		3.8	4.0	
						22.1		8.1		33.7		94.4		6.8			4.5			4.2		
M1	Sunny	Moderate	11:28	Surface	1.1	22.2	22.3	8.1	8.1	33.5	33.5	95.2	95.0	6.8	6.8	6.8	1.3	1.2	1.4	5.8	5.6	4.3
						22.3		8.1		33.4		94.8		6.8			1.2			5.4		
				Middle	3.0	22.2	22.2	8.1	8.1	33.7	33.6	95.3	94.9	6.8	6.8		1.4	1.4		4.5	4.4	
						22.2		8.1		33.6		94.4		6.8			1.5			4.2		
				Bottom	5.0	22.2	22.1	8.1	8.1	33.7	33.7	95.8	95.6	6.9	6.9	6.9	1.4	1.4		3.2	3.1	
						22.1		8.1		33.7		95.3		6.8			1.5			2.9		
M2	Sunny	Moderate	11:21	Surface	1.0	22.4	22.4	8.1	8.1	33.6	33.6	98.3	98.4	7.0	7.0	7.0	1.0	1.0	1.8	2.8	3.0	4.3
						22.4		8.1		33.6		98.4		7.0			1.0			3.2		
				Middle	6.0	22.2	22.2	8.1	8.1	33.7	33.7	96.0	96.6	6.9	6.9		1.4	1.3		4.2	4.4	
						22.2		8.1		33.7		97.2		7.0			1.3			4.6		
				Bottom	11.1	22.1	22.0	8.1	8.1	33.8	33.8	93.9	93.3	6.7	6.7	6.7	3.2	3.2		5.1	5.4	
						22.0		8.1		33.8		92.6		6.7			3.1			5.7		
M3	Sunny	Moderate	11:36	Surface	1.1	22.2	22.2	8.1	8.1	33.6	33.6	96.6	96.4	6.9	6.9	6.9	1.3	1.2	1.7	4.6	4.8	4.1
						22.2		8.1		33.6		96.1		6.9			1.2			5.0		
				Middle	4.0	22.1	22.2	8.1	8.1	33.7	33.7	95.6	95.8	6.9	6.9		1.6	1.6		4.4	4.1	
						22.2		8.1		33.7		96.0		6.9			1.6			3.8		
				Bottom	7.0	22.0	22.0	8.1	8.1	33.8	33.8	92.6	92.4	6.7	6.6	6.6	2.2	2.3		3.1	3.3	
						22.0		8.1		33.8		92.1		6.6			2.3			3.5		
M4	Sunny	Moderate	11:17	Surface	1.1	22.3	22.3	8.1	8.1	33.6	33.6	94.2	94.2	6.7	6.7	6.7	1.5	1.5	1.4	3.7	3.9	3.1
						22.4		8.1		33.6		94.2		6.7			1.5			4.0		
				Middle	5.1	22.1	22.1	8.1	8.1	33.7	33.7	94.3	94.2	6.8	6.8		1.5	1.5		3.2	3.0	
						22.1		8.1		33.7		94.0		6.7			1.5			2.8		
				Bottom	9.0	22.1	22.1	8.1	8.1	33.8	33.8	94.2	94.3	6.8	6.8	6.8	1.4	1.3		2.4	2.6	
						22.1		8.1		33.8		94.4		6.8			1.2			2.7		
M5	Sunny	Moderate	11:46	Surface	1.0	22.2	22.3	8.1	8.1	33.6	33.6	98.0	98.0	7.0	7.0	7.0	1.1	1.1	1.3	2.7	2.5	4.2
						22.3		8.1		33.6		98.0		7.0			1.1			2.3		
				Middle	6.1	22.2	22.2	8.1	8.1	33.7	33.7	97.7	97.7	7.0	7.0		1.2	1.1		3.6	3.7	
						22.2		8.1		33.7		97.7		7.0			1.1			3.7		
				Bottom	11.0	22.1	22.1	8.1	8.1	33.8	33.8	95.4	95.1	6.8	6.8	6.8	1.7	1.7		6.7	6.5	
						22.1		8.1		33.8		94.8		6.8			1.7			6.2		
M6	Sunny	Moderate	11:42	Surface	-	-	-	-	-	-	-	-	-	-	-	6.9	-	-	1.6	-	-	2.6
						-		-		-		-		-			-			-		
				Middle	2.1	22.2	22.2	8.1	8.1	33.7	33.7	96.0	96.1	6.9	6.9		8.0	8.0		2.4	2.6	
						22.2		8.1		33.7		96.2		6.9			8.0			2.7		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 14 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 3.3 NTU	***C1: 3.6 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 6.5 mg/L	***C1: 7.1 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 6.5 mg/L	***C1: 7.1 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 4.4 mg/L	***C1: 4.7 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:
1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 17 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	11:47	Surface	1.0	23.7	23.6	8.2	8.2	33.5	33.4	111.0	114.6	7.8	8.0	7.8	1.3	1.4	2.0	3.5	3.4	4.5
						23.6		8.2		33.4		118.1		8.3			1.4			3.2		
				Middle	9.0	22.8	22.8	8.2	8.2	33.6	33.6	104.4	107.0	7.4	7.6		1.6	1.7		4.0	4.2	
						22.8		8.2		33.6		109.5		7.8			1.7			4.4		
				Bottom	17.0	22.7	22.7	8.2	8.2	33.8	33.8	99.6	99.5	7.1	7.1	7.1	3.0	3.1		5.8	6.0	
						22.7		8.2		33.8		99.4		7.1			3.1			6.2		
C2	Sunny	Moderate	10:55	Surface	1.1	23.3	23.3	8.0	8.0	33.1	33.1	106.8	107.2	7.5	7.5	7.2	1.3	1.3	2.2	7.0	7.2	6.2
						23.4		8.1		33.1		107.5		7.6			1.2			7.4		
				Middle	16.1	22.6	22.6	8.1	8.1	33.7	33.7	96.2	96.3	6.8	6.8		2.4	2.4		6.4	6.6	
						22.6		8.1		33.7		96.3		6.9			2.5			6.8		
				Bottom	31.1	22.6	22.6	8.1	8.1	33.8	33.8	95.3	95.3	6.8	6.8	6.8	2.8	2.8		4.6	4.8	
						22.6		8.1		33.8		95.2		6.8			2.7			5.0		
G1	Sunny	Moderate	11:26	Surface	1.0	23.7	23.7	8.3	8.3	33.4	33.4	131.9	133.5	9.2	9.3	8.9	1.8	1.7	1.7	7.0	6.8	5.8
						23.7		8.3		33.4		135.1		9.4			1.7			6.6		
				Middle	4.0	23.0	23.1	8.2	8.2	33.6	33.5	116.5	119.3	8.2	8.4		1.6	1.6		5.8	6.0	
						23.1		8.2		33.5		122.0		8.6			1.6			6.1		
				Bottom	7.0	22.8	22.8	8.2	8.2	33.6	33.6	106.6	105.7	7.6	7.5	7.5	1.8	1.9		4.3	4.6	
						22.7		8.2		33.7		104.8		7.4			1.9			4.9		
G2	Sunny	Moderate	11:16	Surface	1.0	23.9	23.9	8.3	8.3	33.4	33.4	134.5	135.5	9.4	9.4	8.8	1.2	1.1	1.7	4.8	5.0	4.2
						23.9		8.3		33.4		136.5		9.5			1.1			5.1		
				Middle	5.0	22.9	22.9	8.2	8.2	33.6	33.6	111.9	114.0	7.9	8.1		1.8	1.8		4.1	4.1	
						23.0		8.2		33.6		116.0		8.2			1.7			4.1		
				Bottom	9.0	22.7	22.7	8.2	8.1	33.6	33.6	101.9	101.6	7.2	7.2	7.2	2.1	2.1		3.2	3.5	
						22.7		8.1		33.6		101.3		7.2			2.1			3.7		
G3	Sunny	Moderate	11:31	Surface	1.0	23.6	23.6	8.3	8.3	33.4	33.4	129.3	129.8	9.1	9.1	8.8	1.5	1.5	1.6	7.3	7.2	5.3
						23.6		8.3		33.4		130.2		9.1			1.5			7.0		
				Middle	4.0	23.0	23.1	8.2	8.2	33.5	33.5	118.0	119.5	8.3	8.4		1.3	1.3		5.0	5.3	
						23.2		8.2		33.5		120.9		8.5			1.3			5.5		
				Bottom	7.0	22.7	22.7	8.2	8.2	33.6	33.6	103.8	102.6	7.4	7.3	7.3	1.9	1.8		3.4	3.6	
						22.7		8.1		33.6		101.4		7.2			1.8			3.7		
G4	Sunny	Moderate	11:38	Surface	1.0	23.1	23.1	8.2	8.2	33.5	33.5	114.3	114.6	8.1	8.1	8.0	1.8	1.9	2.3	6.4	6.7	5.4
						23.2		8.2		33.5		114.8		8.1			2.0			7.0		
				Middle	4.1	22.9	22.9	8.2	8.2	33.6	33.5	110.7	112.4	7.8	8.0		2.0	2.0		6.0	5.8	
						23.0		8.2		33.5		114.1		8.1			2.0			5.6		
				Bottom	7.0	22.7	22.7	8.2	8.1	33.7	33.7	101.4	101.0	7.2	7.2	7.2	3.1	3.1		4.0	3.7	
						22.7		8.1		33.7		100.6		7.1			3.1			3.4		
M1	Sunny	Moderate	11:22	Surface	1.1	23.6	23.6	8.3	8.3	33.5	33.4	130.2	130.7	9.1	9.2	8.9	1.1	1.1	1.5	4.3	4.2	3.4
						23.6		8.3		33.4		131.1		9.2			1.1			4.1		
				Middle	3.0	23.2	23.3	8.2	8.2	33.5	33.5	122.4	123.1	8.6	8.7		1.5	1.5		3.6	3.4	
						23.4		8.2		33.5		123.7		8.7			1.4			3.2		
				Bottom	5.1	22.8	22.8	8.2	8.2	33.6	33.6	106.0	105.8	7.5	7.5	7.5	1.9	1.9		2.8	2.6	
						22.8		8.2		33.6		105.6		7.5			1.9			2.3		
M2	Sunny	Moderate	11:09	Surface	1.0	23.8	23.8	8.3	8.3	33.4	33.4	128.5	129.5	9.0	9.0	8.3	1.1	1.1	2.1	1.8	1.7	2.3
						23.8		8.3		33.4		130.4		9.1			1.1			1.5		
				Middle	6.0	22.7	22.7	8.2	8.2	33.7	33.7	103.3	105.9	7.3	7.5		1.5	1.5		2.2	2.4	
						22.8		8.2		33.7		108.4		7.7			1.5			2.6		
				Bottom	11.0	22.6	22.6	8.1	8.1	33.7	33.7	95.1	95.2	6.8	6.8	6.8	3.7	3.6		2.8	3.0	
						22.6		8.1		33.7		95.3		6.8			3.6			3.1		
M3	Sunny	Moderate	11:34	Surface	1.0	23.6	23.6	8.3	8.2	33.4	33.4	132.7	131.9	9.3	9.2	8.8	1.8	1.8	1.7	1.7	1.5	2.3
						23.6		8.2		33.4		131.1		9.2			1.8			1.3		
				Middle	4.0	23.0	23.2	8.2	8.2	33.5	33.5	116.6	118.2	8.3	8.3		1.4	1.5		2.6	2.4	
						23.3		8.2		33.5		119.8		8.4			1.5			2.2		
				Bottom	7.0	22.9	22.8	8.2	8.2	33.6	33.6	105.3	104.8	7.5	7.4	7.4	1.7	1.8		3.1	3.0	
						22.8		8.2		33.6		104.3		7.4			1.8			2.9		
M4	Sunny	Moderate	11:03	Surface	1.0	23.2	23.2	8.2	8.2	33.6	33.6	109.7	110.4	7.7	7.8	7.7	1.6	1.6	2.0	1.5	1.7	2.2
						23.3		8.2		33.6		111.1		7.8			1.6			1.8		
				Middle	5.0	22.8	22.8	8.2	8.2	33.6	33.6	106.2	107.2	7.5	7.6		2.1	2.0		2.3	2.2	
						22.8		8.2		33.6		108.2		7.7			1.9			2.1		
				Bottom	9.0	22.7	22.7	8.2	8.2	33.7	33.7	103.1	102.0	7.3	7.2	7.2	2.4	2.4		2.5	2.7	
						22.7		8.2		33.7		100.8		7.2			2.5			2.8		
M5	Sunny	Moderate	11:45	Surface	1.1	23.1	23.2	8.2	8.2	33.5	33.5	117.0	117.4	8.3	8.3	8.1	1.6	1.6	2.0	4.5	4.3	3.4
						23.2		8.2		33.5		117.8		8.3			1.6			4.1		
				Middle	6.1	22.8	22.9	8.2	8.2	33.6	33.6	109.9	110.7	7.8	7.8		1.7	1.7		3.2	3.4	
						22.9		8.2		33.6		111.4		7.9			1.7			3.6		
				Bottom	11.0	22.7	22.7	8.2	8.2	33.8	33.8	101.9	101.6	7.2	7.2	7.2	2.7	2.8		2.6	2.4	
						22.7		8.2		33.8		101.3		7.2			2.8			2.1		
M6	Sunny	Moderate	11:42	Surface	-	-	-	-	-	-	-	-	-	-	-	7.7	-	-	1.7	-	-	1.3
						-		-		-		-		-			-			-		
				Middle	2.0	23.0	23.0	8.2	8.2	33.5	33.5	109.5	109.6	7.7	7.7		1.7	1.7		1.4	1.3	
						23.0		8.2		33.5		109.7		7.8			1.7			1.2		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 17 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 3.3 NTU	***C2: 3.6 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 8.6 mg/L	***C2: 9.4 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 8.6 mg/L	***C2: 9.4 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 5.8 mg/L	***C2: 6.2 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 17 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	16:50	Surface	1.0	23.5	23.4	8.2	8.2	33.4	33.4	118.4	119.4	8.3	8.4	7.9	1.4	1.4	2.1	7.1	7.0	5.1
						23.3		8.2		33.5		120.3		8.5			1.4			6.9		
				Middle	9.0	22.8	22.8	8.2	8.2	33.6	33.6	104.0	104.2	7.4	7.4		1.8	1.7		4.6	4.5	
						22.8		8.2		33.6		104.3		7.4			1.6			4.3		
				Bottom	17.0	22.7	22.7	8.2	8.2	33.8	33.8	99.4	99.5	7.1	7.1	7.1	3.2	3.1		3.6	3.8	
						22.7		8.2		33.8		99.5		7.1			3.0			4.0		
C2	Sunny	Moderate	15:57	Surface	1.1	23.4	23.3	8.1	8.1	33.1	33.1	107.6	107.5	7.6	7.6	7.2	1.3	1.3	2.3	5.4	5.2	6.4
						23.3		8.1		33.1		107.3		7.6			1.4			5.0		
				Middle	16.0	22.6	22.6	8.1	8.1	33.7	33.7	96.3	96.3	6.8	6.8		2.6	2.5		6.4	6.6	
						22.6		8.1		33.7		96.2		6.8			2.5			6.7		
				Bottom	31.1	22.6	22.6	8.1	8.1	33.8	33.8	95.2	95.2	6.8	6.8	6.8	2.9	3.0		7.4	7.6	
						22.6		8.1		33.8		95.2		6.8			3.0			7.7		
G1	Sunny	Moderate	16:28	Surface	1.1	23.7	23.7	8.3	8.3	33.4	33.4	135.9	136.3	9.5	9.5	8.9	1.6	1.6	1.7	4.2	4.0	3.5
						23.7		8.3		33.4		136.6		9.6			1.6			3.8		
				Middle	4.0	23.1	23.0	8.2	8.2	33.6	33.6	116.6	116.5	8.2	8.2		1.6	1.6		3.5	3.4	
						23.0		8.2		33.6		116.4		8.2			1.6			3.2		
				Bottom	7.0	22.7	22.7	8.2	8.1	33.7	33.7	103.9	103.0	7.4	7.3	7.3	2.0	2.0		3.0	3.0	
						22.7		8.1		33.7		102.1		7.3			1.9			3.0		
G2	Sunny	Moderate	16:19	Surface	1.0	23.9	23.9	8.3	8.3	33.4	33.4	136.6	136.5	9.5	9.5	8.7	1.1	1.1	1.7	3.1	3.2	3.9
						23.9		8.3		33.4		136.3		9.5			1.1			3.3		
				Middle	5.0	22.9	22.9	8.2	8.2	33.6	33.6	110.6	111.0	7.8	7.9		2.0	2.0		3.6	3.8	
						22.9		8.2		33.6		111.3		7.9			1.9			4.0		
				Bottom	8.0	22.7	22.7	8.1	8.1	33.6	33.6	101.2	101.1	7.2	7.2	7.2	2.1	2.1		4.8	4.6	
						22.7		8.1		33.7		100.9		7.2			2.1			4.3		
G3	Sunny	Moderate	16:34	Surface	1.1	23.6	23.6	8.3	8.3	33.4	33.4	130.4	131.1	9.1	9.2	8.7	1.5	1.4	1.6	2.8	2.7	3.5
						23.6		8.3		33.4		131.8		9.2			1.4			2.6		
				Middle	4.0	23.0	23.0	8.2	8.2	33.5	33.5	114.7	116.0	8.1	8.2		1.5	1.4		3.5	3.4	
						23.0		8.2		33.5		117.2		8.3			1.4			3.3		
				Bottom	7.0	22.7	22.7	8.1	8.1	33.6	33.6	100.9	100.6	7.2	7.1	7.1	1.8	1.8		4.7	4.5	
						22.7		8.1		33.6		100.2		7.1			1.8			4.2		
G4	Sunny	Moderate	16:40	Surface	1.0	23.2	23.2	8.2	8.2	33.5	33.5	115.1	115.2	8.1	8.1	7.9	2.0	2.0	2.4	4.7	4.5	3.6
						23.2		8.2		33.5		115.3		8.1			2.0			4.2		
				Middle	4.0	22.9	22.9	8.2	8.2	33.6	33.6	109.3	109.7	7.7	7.8		2.0	2.0		3.6	3.5	
						22.9		8.2		33.6		110.0		7.8			2.0			3.3		
				Bottom	7.0	22.7	22.7	8.1	8.1	33.7	33.7	99.9	99.8	7.1	7.1	7.1	3.4	3.3		2.9	2.8	
						22.7		8.1		33.7		99.6		7.1			3.3			2.7		
M1	Sunny	Moderate	16:24	Surface	1.0	23.6	23.6	8.3	8.3	33.4	33.4	131.3	131.8	9.2	9.2	8.9	1.1	1.1	1.6	2.9	3.1	2.7
						23.6		8.3		33.4		132.3		9.3			1.2			3.2		
				Middle	3.0	23.1	23.1	8.2	8.2	33.6	33.6	119.9	120.8	8.5	8.5		1.5	1.6		2.9	2.7	
						23.1		8.2		33.6		121.6		8.6			1.6			2.5		
				Bottom	5.0	22.8	22.8	8.2	8.2	33.6	33.6	105.2	105.0	7.5	7.4	7.4	1.9	1.9		2.1	2.2	
						22.8		8.2		33.6		104.8		7.4			2.0			2.3		
M2	Sunny	Moderate	16:12	Surface	1.0	23.8	23.8	8.3	8.3	33.4	33.4	130.5	130.4	9.1	9.1	8.2	1.1	1.1	2.1	2.6	2.4	3.0
						23.8		8.3		33.4		130.3		9.1			1.2			2.2		
				Middle	6.0	22.7	22.7	8.2	8.2	33.7	33.7	102.8	103.0	7.3	7.3		1.7	1.7		3.2	3.1	
						22.7		8.2		33.7		103.2		7.3			1.8			2.9		
				Bottom	11.1	22.6	22.6	8.1	8.1	33.7	33.7	95.1	95.2	6.8	6.8	6.8	3.6	3.6		3.4	3.6	
						22.6		8.1		33.7		95.2		6.8			3.6			3.7		
M3	Sunny	Moderate	16:37	Surface	1.0	23.7	23.6	8.2	8.2	33.4	33.4	129.6	129.0	9.1	9.0	8.6	1.8	1.8	1.7	3.4	3.6	3.0
						23.6		8.2		33.4		128.4		9.0			1.7			3.7		
				Middle	4.0	23.0	23.0	8.2	8.2	33.5	33.5	113.4	114.5	8.0	8.1		1.4	1.4		3.2	3.1	
						23.0		8.2		33.5		115.5		8.2			1.4			2.9		
				Bottom	7.1	22.8	22.8	8.1	8.1	33.6	33.6	103.4	102.5	7.3	7.3	7.3	2.0	1.9		2.5	2.4	
						22.8		8.1		33.6		101.5		7.2			1.9			2.2		
M4	Sunny	Moderate	16:05	Surface	1.0	23.3	23.3	8.2	8.2	33.6	33.6	111.1	111.2	7.8	7.8	7.7	1.6	1.6	2.1	2.0	2.2	2.7
						23.3		8.2		33.6		111.2		7.8			1.6			2.3		
				Middle	5.0	22.8	22.8	8.2	8.2	33.6	33.6	105.6	105.8	7.5	7.5		2.2	2.1		2.6	2.7	
						22.8		8.2		33.6		106.0		7.5			2.1			2.8		
				Bottom	9.0	22.7	22.6	8.2	8.1	33.7	33.8	100.1	98.9	7.1	7.0	7.0	2.7	2.7		3.1	3.3	
						22.6		8.1		33.8		97.6		6.9			2.7			3.4		
M5	Sunny	Moderate	16:47	Surface	1.0	23.2	23.4	8.2	8.2	33.4	33.4	118.2	118.7	8.3	8.3	8.0	1.5	1.5	2.2	2.3	2.4	1.8
						23.5		8.2		33.4		119.1		8.4			1.5			2.5		
				Middle	6.1	22.8	22.8	8.2	8.2	33.6	33.6	108.0	108.5	7.7	7.7		1.8	1.8		1.9	1.8	
						22.8		8.2		33.6		108.9		7.7			1.7			1.6		
				Bottom	11.0	22.7	22.7	8.2	8.2	33.8	33.8	100.8	100.5	7.2	7.1	7.1	3.2	3.3		1.5	1.4	
						22.7		8.2		33.8		100.2		7.1			3.3			1.2		
M6	Sunny	Moderate	16:44	Surface	-	-	-	-	-	-	-	-	-	-	-	7.7	-	-	1.7	-	-	1.8
						-		-		-		-		-			-			-		
				Middle	2.0	23.0	23.0	8.2	8.2	33.5	33.5	109.7	109.4	7.8	7.7		8.0	8.0		1.9	1.8	
						22.9		8.2		33.5		109.0		7.7			8.0			1.7		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 17 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 3.7 NTU	***C1: 4.0 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 8.4 mg/L	***C1: 9.1 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 8.4 mg/L	***C1: 9.1 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 4.6 mg/L	***C1: 4.9 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 19 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Rainy	Moderate	12:45	Surface	1.0	23.6	23.6	8.1	8.1	32.8	32.8	99.2	99.2	7.0	7.0	7.0	2.1	2.1	2.5	2.2	2.3	3.1
						23.6		8.1		32.8		99.2		7.0			2.0			2.4		
				Middle	9.1	23.4	23.4	8.1	8.1	33.2	33.2	100.4	100.0	7.1	7.0		2.0	2.1		2.8	3.0	
						23.4		8.1		33.2		99.6		7.0			2.1			3.2		
				Bottom	17.0	23.1	23.1	8.1	8.1	33.5	33.6	98.2	98.0	6.9	6.9	6.9	3.4	3.5		3.7	3.9	
						23.1		8.1		33.6		97.8		6.9			3.5			4.0		
C2	Rainy	Moderate	12:01	Surface	1.0	23.6	23.6	7.9	7.9	32.5	32.5	95.8	95.8	6.7	6.7	6.8	1.8	1.9	3.1	2.2	2.3	3.1
						23.6		8.0		32.5		95.8		6.7			2.0			2.3		
				Middle	16.0	23.3	23.3	8.1	8.1	33.2	33.2	97.2	96.9	6.8	6.8		3.6	3.5		3.1	3.0	
						23.3		8.1		33.2		96.6		6.8			3.4			2.9		
				Bottom	31.0	23.3	23.3	8.1	8.1	33.3	33.3	98.0	98.1	6.9	6.9	6.9	3.8	3.8		3.7	3.9	
						23.3		8.1		33.3		98.2		6.9			3.8			4.1		
G1	Rainy	Moderate	12:21	Surface	1.0	23.4	23.5	8.1	8.1	32.9	32.8	99.0	99.0	7.0	7.0	7.0	2.5	2.5	2.6	2.3	2.2	2.7
						23.5		8.1		32.8		98.9		7.0			2.5			2.1		
				Middle	4.1	23.4	23.4	8.1	8.1	33.0	32.9	98.5	98.5	6.9	6.9		2.7	2.7		2.7	2.8	
						23.5		8.1		32.9		98.4		6.9			2.6			2.9		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.0	33.1	98.5	98.6	6.9	6.9	6.9	2.8	2.7		3.1	3.2	
						23.4		8.1		33.1		98.6		6.9			2.7			3.3		
G2	Rainy	Moderate	12:14	Surface	1.1	23.4	23.4	8.1	8.1	33.0	33.0	100.6	100.5	7.1	7.1	7.1	2.4	2.4	2.3	2.6	2.8	2.2
						23.4		8.1		33.0		100.4		7.1			2.4			2.9		
				Middle	5.0	23.4	23.4	8.1	8.1	33.1	33.1	101.5	101.3	7.1	7.1		2.6	2.7		2.2	2.2	
						23.4		8.1		33.1		101.0		7.1			2.7			2.1		
				Bottom	9.0	23.4	23.4	8.1	8.1	33.4	33.4	103.2	103.7	7.3	7.3	7.3	1.9	1.9		1.9	1.8	
						23.4		8.1		33.4		104.1		7.3			1.9			1.7		
G3	Rainy	Moderate	12:25	Surface	1.0	23.5	23.5	8.1	8.1	32.8	32.8	98.9	98.9	7.0	7.0	6.9	2.6	2.6	2.6	2.2	2.2	2.5
						23.5		8.1		32.8		98.8		7.0			2.6			2.1		
				Middle	4.1	23.4	23.5	8.1	8.1	32.9	32.9	98.5	98.6	6.9	6.9		2.6	2.6		2.6	2.5	
						23.5		8.1		32.9		98.6		6.9			2.6			2.4		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.1	33.1	98.7	98.9	7.0	7.0	7.0	2.6	2.5		3.0	2.9	
						23.4		8.1		33.1		99.0		7.0			2.5			2.8		
G4	Rainy	Moderate	12:34	Surface	1.0	23.5	23.5	8.1	8.1	32.8	32.8	99.1	99.1	7.0	7.0	7.0	2.3	2.4	2.4	1.4	1.6	2.2
						23.5		8.1		32.8		99.0		7.0			2.4			1.7		
				Middle	4.0	23.4	23.4	8.1	8.1	33.0	33.0	98.7	98.7	7.0	7.0		2.4	2.4		2.1	2.3	
						23.4		8.1		33.0		98.7		7.0			2.5			2.4		
				Bottom	7.1	23.4	23.4	8.1	8.1	33.1	33.1	99.1	99.5	7.0	7.0	7.0	2.4	2.4		3.0	2.8	
						23.4		8.1		33.1		99.8		7.0			2.4			2.6		
M1	Rainy	Moderate	12:18	Surface	1.0	23.4	23.4	8.1	8.1	33.0	33.0	100.9	100.9	7.1	7.1	7.1	2.6	2.6	2.6	3.8	3.6	2.8
						23.4		8.1		33.0		100.9		7.1			2.5			3.4		
				Middle	3.1	23.4	23.4	8.1	8.1	33.1	33.1	102.1	101.7	7.2	7.2		2.7	2.7		2.8	2.6	
						23.4		8.1		33.1		101.3		7.1			2.7			2.4		
				Bottom	5.0	23.4	23.4	8.1	8.1	33.1	33.1	102.5	102.6	7.2	7.2	7.2	2.5	2.5		2.1	2.2	
						23.4		8.1		33.1		102.6		7.2			2.4			2.2		
M2	Rainy	Moderate	12:10	Surface	1.0	23.4	23.4	8.1	8.1	33.0	33.0	101.0	100.8	7.1	7.1	7.1	2.7	2.6	2.3	2.5	2.4	3.4
						23.4		8.1		33.0		100.5		7.1			2.6			2.2		
				Middle	6.0	23.4	23.4	8.1	8.1	33.2	33.2	102.1	101.4	7.2	7.1		2.0	2.0		3.8	3.9	
						23.4		8.1		33.1		100.7		7.1			2.1			4.0		
				Bottom	11.0	23.2	23.2	8.1	8.1	33.5	33.5	102.1	101.7	7.2	7.2	7.2	2.1	2.1		4.0	3.9	
						23.2		8.1		33.5		101.3		7.1			2.2			3.7		
M3	Rainy	Moderate	12:30	Surface	1.1	23.5	23.5	8.1	8.1	32.8	32.8	99.3	99.2	7.0	7.0	7.0	2.3	2.3	2.3	3.5	3.6	3.1
						23.5		8.1		32.8		99.0		7.0			2.3			3.7		
				Middle	4.0	23.4	23.4	8.1	8.1	33.0	33.0	98.7	98.7	6.9	6.9		2.3	2.3		3.1	3.3	
						23.5		8.1		32.9		98.7		7.0			2.4			3.4		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.1	33.1	98.9	99.1	7.0	7.0	7.0	2.3	2.3		2.5	2.3	
						23.4		8.1		33.1		99.2		7.0			2.2			2.1		
M4	Rainy	Moderate	12:06	Surface	1.0	23.5	23.5	8.1	8.1	33.0	33.0	99.0	99.1	7.0	7.0	7.0	2.6	2.6	2.5	3.3	3.5	2.8
						23.5		8.1		33.0		99.1		7.0			2.6			3.7		
				Middle	5.1	23.4	23.4	8.1	8.1	33.1	33.1	99.7	99.5	7.0	7.0		2.7	2.7		2.6	2.7	
						23.4		8.1		33.0		99.2		7.0			2.7			2.8		
				Bottom	9.0	23.4	23.4	8.1	8.1	33.3	33.3	101.5	102.2	7.1	7.2	7.2	2.1	2.1		2.5	2.3	
						23.4		8.1		33.3		102.8		7.2			2.1			2.1		
M5	Rainy	Moderate	12:41	Surface	1.0	23.5	23.5	8.1	8.1	32.8	32.8	99.0	99.1	7.0	7.0	7.0	2.3	2.3	2.3	1.4	1.6	2.3
						23.5		8.1		32.8		99.1		7.0			2.3			1.7		
				Middle	6.0	23.4	23.4	8.1	8.1	33.1	33.1	99.2	99.1	7.0	7.0		2.5	2.4		2.1	2.2	
						23.4		8.1		33.1		99.0		7.0			2.4			2.3		
				Bottom	11.0	23.3	23.3	8.1	8.1	33.2	33.2	100.2	100.5	7.1	7.1	7.1	2.4	2.3		3.1	3.3	
						23.3		8.1		33.2		100.8		7.1			2.2			3.4		
M6	Rainy	Moderate	12:38	Surface	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	2.4	-	-	3.0
						-		-		-		-		-			-			-		
				Middle	2.1	23.5	23.5	8.1	8.1	32.9	32.9	99.2	99.1	7.0	7.0		2.5	2.4		2.8	3.0	
						23.5		8.1		32.9		99.0		7.0			2.4			3.2		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 19 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 4.6 NTU	***C2: 5.0 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.7 mg/L	***C2: 2.9 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.7 mg/L	***C2: 2.9 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 4.7 mg/L	***C2: 5.1 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 19 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Rainy	Moderate	16:50	Surface	1.0	23.6	23.5	8.1	8.1	32.8	32.8	99.2	99.2	7.0	7.0	7.0	2.2	2.1	2.5	2.3	2.5	3.0
						23.5		8.1		32.8		99.2		7.0			2.1			2.6		
				Middle	8.0	23.4	23.4	8.1	8.1	33.2	33.2	101.1	101.0	7.1	7.1		2.1	2.1		3.0	3.1	
						23.4		8.1		33.2		100.8		7.1			2.1			3.2		
				Bottom	17.0	23.1	23.1	8.1	8.1	33.6	33.6	97.7	97.6	6.9	6.9	6.9	3.3	3.4		3.6	3.6	
						23.0		8.1		33.6		97.5		6.9			3.4			3.5		
C2	Rainy	Moderate	16:06	Surface	1.0	23.6	23.6	8.0	8.0	32.4	32.4	95.8	95.8	6.7	6.7	6.8	1.9	1.9	3.1	3.7	3.9	3.0
						23.6		8.0		32.4		95.8		6.7			1.8			4.1		
				Middle	16.0	23.3	23.3	8.1	8.1	33.2	33.2	97.4	97.4	6.9	6.9		3.8	3.7		2.8	3.0	
						23.3		8.1		33.2		97.3		6.9			3.7			3.1		
				Bottom	31.1	23.3	23.3	8.1	8.1	33.3	33.3	98.4	98.4	6.9	6.9	6.9	3.7	3.7		2.4	2.3	
						23.3		8.1		33.3		98.4		6.9			3.7			2.1		
G1	Rainy	Moderate	16:26	Surface	1.0	23.6	23.6	8.1	8.1	32.7	32.7	98.8	98.8	7.0	7.0	6.9	2.4	2.5	2.6	3.0	3.1	2.7
						23.6		8.1		32.7		98.8		7.0			2.5			3.2		
				Middle	4.0	23.4	23.4	8.1	8.1	33.0	33.0	98.5	98.5	6.9	6.9		2.7	2.7		2.8	2.7	
						23.4		8.1		33.0		98.5		6.9			2.7			2.6		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.1	33.1	98.9	99.0	7.0	7.0	7.0	2.6	2.6		2.4	2.3	
						23.4		8.1		33.1		99.0		7.0			2.7			2.1		
G2	Rainy	Moderate	16:18	Surface	1.0	23.4	23.4	8.1	8.1	33.0	33.0	100.4	100.4	7.1	7.1	7.1	2.4	2.5	2.2	3.4	3.6	2.6
						23.4		8.1		33.0		100.4		7.1			2.5			3.7		
				Middle	5.0	23.4	23.4	8.1	8.1	33.1	33.1	101.6	101.6	7.2	7.1		2.3	2.3		2.8	2.6	
						23.4		8.1		33.1		101.5		7.1			2.3			2.4		
				Bottom	9.0	23.3	23.4	8.1	8.1	33.4	33.4	104.3	104.4	7.3	7.3	7.3	1.8	1.9		1.6	1.5	
						23.4		8.2		33.4		104.5		7.4			1.9			1.4		
G3	Rainy	Moderate	16:30	Surface	1.1	23.5	23.5	8.1	8.1	32.8	32.8	98.8	98.8	7.0	7.0	6.9	2.4	2.3	2.5	3.0	3.3	2.8
						23.5		8.1		32.8		98.8		7.0			2.3			3.5		
				Middle	4.0	23.4	23.4	8.1	8.1	33.0	33.0	98.5	98.5	6.9	6.9		2.6	2.6		2.7	2.9	
						23.4		8.1		33.0		98.4		6.9			2.5			3.0		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.1	33.1	99.5	99.6	7.0	7.0	7.0	2.5	2.5		2.1	2.2	
						23.4		8.1		33.1		99.6		7.0			2.5			2.3		
G4	Rainy	Moderate	16:39	Surface	1.0	23.5	23.5	8.1	8.1	32.8	32.8	99.0	99.0	7.0	7.0	7.0	2.4	2.4	2.4	1.6	1.7	1.0
						23.5		8.1		32.8		99.0		7.0			2.4			1.7		
				Middle	4.0	23.4	23.4	8.1	8.1	33.0	33.0	98.8	98.8	7.0	7.0		2.3	2.3		1.4	1.5	
						23.4		8.1		33.0		98.8		7.0			2.3			1.5		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.1	33.1	100.1	100.2	7.1	7.1	7.1	2.4	2.3		<0.1	<0.1	
						23.4		8.1		33.1		100.3		7.1			2.3			<0.1		
M1	Rainy	Moderate	16:23	Surface	1.0	23.4	23.4	8.1	8.1	33.0	33.0	100.9	100.9	7.1	7.1	7.1	2.5	2.6	2.6	1.3	1.5	2.1
						23.4		8.1		33.0		100.9		7.1			2.6			1.6		
				Middle	3.0	23.4	23.4	8.1	8.1	33.1	33.1	102.4	102.4	7.2	7.2		2.6	2.7		2.1	2.2	
						23.4		8.1		33.1		102.3		7.2			2.7			2.3		
				Bottom	5.0	23.4	23.4	8.1	8.1	33.2	33.2	102.7	102.8	7.2	7.2	7.2	2.5	2.5		2.5	2.7	
						23.4		8.1		33.2		102.9		7.2			2.5			2.9		
M2	Rainy	Moderate	16:15	Surface	1.0	23.4	23.4	8.1	8.1	33.0	33.0	100.2	100.2	7.1	7.1	7.1	2.7	2.7	2.2	2.6	2.5	1.9
						23.4		8.1		33.0		100.1		7.1			2.7			2.3		
				Middle	6.1	23.4	23.4	8.1	8.1	33.2	33.2	103.0	102.8	7.2	7.2		1.8	1.8		1.6	1.8	
						23.4		8.1		33.2		102.6		7.2			1.9			1.9		
				Bottom	11.0	23.2	23.2	8.1	8.1	33.5	33.5	100.8	100.7	7.1	7.1	7.1	2.1	2.1		1.3	1.4	
						23.2		8.1		33.5		100.6		7.1			2.1			1.5		
M3	Rainy	Moderate	16:35	Surface	1.0	23.5	23.5	8.1	8.1	32.8	32.8	99.0	99.0	7.0	7.0	7.0	2.3	2.3	2.2	1.8	1.8	2.3
						23.5		8.1		32.8		98.9		7.0			2.4			1.8		
				Middle	4.0	23.4	23.4	8.1	8.1	33.0	33.0	98.8	98.8	7.0	7.0		2.2	2.2		2.5	2.3	
						23.4		8.1		33.0		98.7		7.0			2.2			2.1		
				Bottom	7.0	23.4	23.4	8.1	8.1	33.1	33.1	99.5	99.6	7.0	7.0	7.0	2.1	2.2		3.0	2.9	
						23.4		8.1		33.1		99.6		7.0			2.2			2.7		
M4	Rainy	Moderate	16:11	Surface	1.1	23.5	23.5	8.1	8.1	33.0	33.0	99.1	99.1	7.0	7.0	7.0	2.7	2.7	2.4	1.3	1.5	2.2
						23.5		8.1		33.0		99.1		7.0			2.6			1.6		
				Middle	5.0	23.4	23.4	8.1	8.1	33.1	33.1	100.4	100.3	7.1	7.1		2.6	2.6		2.1	2.3	
						23.4		8.1		33.1		100.1		7.0			2.6			2.4		
				Bottom	9.0	23.4	23.4	8.1	8.1	33.3	33.3	103.4	103.6	7.3	7.3	7.3	2.0	2.0		2.6	2.8	
						23.4		8.1		33.3		103.8		7.3			2.0			2.9		
M5	Rainy	Moderate	16:46	Surface	1.0	23.5	23.5	8.1	8.1	32.8	32.8	99.1	99.1	7.0	7.0	7.0	2.3	2.3	2.4	2.7	2.9	2.5
						23.5		8.1		32.8		99.1		7.0			2.3			3.1		
				Middle	6.0	23.4	23.4	8.1	8.1	33.1	33.1	99.6	99.5	7.0	7.0		2.7	2.6		2.5	2.4	
						23.4		8.1		33.1		99.4		7.0			2.5			2.3		
				Bottom	11.0	23.3	23.3	8.1	8.1	33.2	33.3	101.2	101.3	7.1	7.1	7.1	2.2	2.3		2.1	2.2	
						23.3		8.1		33.3		101.4		7.1			2.3			2.3		
M6	Rainy	Moderate	16:42	Surface	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	2.3	-	-	1.5
						-		-		-		-		-			-			-		
				Middle	2.0	23.5	23.5	8.1	8.1	32.9	32.9	99.0	99.0	7.0	7.0		8.0	8.0		1.6	1.5	
						23.5		8.1		32.9		99.0		7.0			8.0			1.3		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 19 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 4.0 NTU	***C1: 4.4 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.9 mg/L	***C1: 3.2 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.9 mg/L	***C1: 3.2 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 4.3 mg/L	***C1: 4.6 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 21 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Moderate	13:59	Surface	1.1	23.3	23.3	8.1	8.1	33.1	33.1	93.3	93.2	6.6	6.6	6.5	1.6	1.6	2.6	3.6	3.5	2.9
						23.3		8.1		33.1		93.0		6.6			1.6			3.3		
				Middle	9.0	23.1	23.1	8.1	8.1	33.4	33.4	90.4	90.4	6.4	6.4		2.8	2.8		2.6	2.8	
						23.1		8.1		33.4		90.4		6.4			2.7			3.0		
				Bottom	17.1	23.1	23.1	8.1	8.1	33.4	33.4	89.9	89.9	6.4	6.4	6.4	3.5	3.5		2.1	2.4	
						23.1		8.1		33.4		89.9		6.4			3.5			2.6		
C2	Cloudy	Moderate	13:14	Surface	1.0	23.5	23.4	8.0	8.0	32.5	32.6	90.6	90.6	6.4	6.4	6.4	1.1	1.2	2.7	3.3	3.1	2.6
						23.4		8.0		32.8		90.5		6.4			1.3			2.9		
				Middle	16.0	23.1	23.1	8.1	8.1	33.4	33.4	89.6	89.6	6.3	6.3		3.3	3.3		2.7	2.6	
						23.1		8.1		33.4		89.6		6.3			3.2			2.4		
				Bottom	31.0	23.1	23.1	8.1	8.1	33.4	33.4	89.2	89.2	6.3	6.3	6.3	3.8	3.7		2.1	2.2	
						23.1		8.1		33.4		89.2		6.3			3.7			2.3		
G1	Cloudy	Moderate	13:37	Surface	1.0	23.4	23.4	8.1	8.1	32.7	32.7	93.9	93.7	6.6	6.6	6.5	1.2	1.2	1.4	2.8	2.6	3.3
						23.4		8.1		32.7		93.5		6.6			1.2			2.4		
				Middle	4.0	23.2	23.2	8.1	8.1	33.1	33.2	91.6	91.7	6.5	6.5		1.3	1.3		3.2	3.4	
						23.2		8.1		33.2		91.7		6.5			1.3			3.5		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.4	33.4	91.1	91.1	6.4	6.4	6.4	1.6	1.7		3.8	4.0	
						23.1		8.1		33.4		91.1		6.4			1.7			4.2		
G2	Cloudy	Moderate	13:30	Surface	1.0	23.4	23.4	8.1	8.1	32.4	32.4	93.5	93.0	6.6	6.6	6.5	1.2	1.3	1.4	2.5	2.4	3.1
						23.4		8.1		32.4		92.5		6.5			1.3			2.2		
				Middle	5.0	23.2	23.2	8.1	8.1	33.2	33.2	91.9	91.9	6.5	6.5		1.4	1.4		2.7	2.9	
						23.2		8.1		33.2		91.9		6.5			1.4			3.0		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.4	33.4	92.0	92.1	6.5	6.5	6.5	1.6	1.6		4.3	4.1	
						23.1		8.1		33.4		92.1		6.5			1.6			3.9		
G3	Cloudy	Moderate	13:41	Surface	1.1	23.3	23.3	8.1	8.1	32.9	32.9	93.7	93.7	6.6	6.6	6.6	1.3	1.3	1.5	1.9	1.8	1.0
						23.3		8.1		32.9		93.6		6.6			1.3			1.7		
				Middle	4.0	23.3	23.3	8.1	8.1	33.1	33.1	92.5	92.6	6.5	6.5		1.4	1.4		1.4	1.3	
						23.3		8.1		33.1		92.6		6.5			1.4			1.2		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.4	33.4	91.0	91.0	6.4	6.4	6.4	1.8	1.8		<0.1	<0.1	
						23.1		8.1		33.4		90.9		6.4			1.9			<0.1		
G4	Cloudy	Moderate	13:47	Surface	1.1	23.3	23.3	8.1	8.1	33.0	33.0	92.6	92.6	6.5	6.5	6.5	2.9	2.8	3.0	1.2	1.3	1.8
						23.3		8.1		33.0		92.5		6.5			2.7			1.4		
				Middle	4.0	23.2	23.2	8.1	8.1	33.2	33.2	91.7	91.9	6.5	6.5		2.5	2.5		1.9	1.8	
						23.2		8.1		33.2		92.0		6.5			2.4			1.6		
				Bottom	7.1	23.1	23.1	8.1	8.1	33.4	33.4	89.2	89.2	6.3	6.3	6.3	3.6	3.6		2.1	2.2	
						23.1		8.1		33.4		89.2		6.3			3.6			2.3		
M1	Cloudy	Moderate	13:35	Surface	1.0	23.3	23.3	8.1	8.1	32.6	32.6	93.0	92.8	6.6	6.6	6.5	1.2	1.2	1.5	1.2	1.3	1.7
						23.3		8.1		32.6		92.6		6.5			1.2			1.4		
				Middle	3.0	23.3	23.3	8.1	8.1	32.9	32.9	91.4	91.5	6.5	6.5		1.4	1.4		1.8	1.7	
						23.3		8.1		32.9		91.5		6.5			1.4			1.6		
				Bottom	5.0	23.2	23.2	8.1	8.1	33.1	33.1	89.8	89.5	6.3	6.3	6.3	2.1	2.0		2.3	2.2	
						23.2		8.1		33.2		89.2		6.3			1.9			2.1		
M2	Cloudy	Moderate	13:26	Surface	1.0	23.4	23.4	8.1	8.1	32.9	32.9	93.8	93.8	6.6	6.6	6.5	1.4	1.3	1.7	2.2	2.3	2.6
						23.4		8.1		32.9		93.8		6.6			1.2			2.4		
				Middle	6.0	23.1	23.1	8.1	8.1	33.3	33.3	91.3	91.4	6.5	6.5		1.8	1.9		2.6	2.5	
						23.1		8.1		33.3		91.4		6.5			1.9			2.4		
				Bottom	11.0	23.1	23.1	8.1	8.1	33.4	33.4	90.5	90.5	6.4	6.4	6.4	1.9	1.9		3.3	3.1	
						23.1		8.1		33.4		90.5		6.4			1.9			2.9		
M3	Cloudy	Moderate	13:44	Surface	1.0	23.4	23.4	8.1	8.1	32.7	32.7	93.8	93.7	6.6	6.6	6.5	1.3	1.4	1.6	1.3	1.5	2.2
						23.4		8.1		32.8		93.5		6.6			1.4			1.7		
				Middle	4.0	23.2	23.2	8.1	8.1	33.1	33.1	91.7	91.8	6.5	6.5		1.4	1.3		2.3	2.2	
						23.2		8.1		33.1		91.9		6.5			1.3			2.1		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.4	33.4	90.4	90.5	6.4	6.4	6.4	2.2	2.2		2.5	2.8	
						23.1		8.1		33.4		90.6		6.4			2.2			3.0		
M4	Cloudy	Moderate	13:21	Surface	1.0	23.2	23.2	8.1	8.1	33.3	33.3	91.4	91.3	6.5	6.4	6.4	2.5	2.5	2.8	2.2	2.2	1.8
						23.1		8.1		33.3		91.1		6.4			2.6			2.2		
				Middle	5.0	23.1	23.1	8.1	8.1	33.4	33.4	90.8	90.8	6.4	6.4		2.6	2.5		1.6	1.8	
						23.1		8.1		33.4		90.8		6.4			2.5			1.9		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.4	33.4	90.4	90.4	6.4	6.4	6.4	3.3	3.3		1.5	1.4	
						23.1		8.1		33.5		90.4		6.4			3.3			1.3		
M5	Cloudy	Moderate	13:54	Surface	1.0	23.3	23.3	8.1	8.1	33.0	33.0	93.5	93.3	6.6	6.6	6.5	1.0	1.1	1.5	2.3	2.5	3.0
						23.3		8.1		33.0		93.1		6.6			1.1			2.6		
				Middle	6.0	23.2	23.2	8.1	8.1	33.3	33.3	91.7	91.8	6.5	6.5		1.5	1.5		2.7	2.9	
						23.2		8.1		33.3		91.8		6.5			1.5			3.0		
				Bottom	11.0	23.1	23.1	8.1	8.1	33.4	33.5	91.5	91.4	6.5	6.5	6.5	1.9	1.8		3.8	3.6	
						23.1		8.1		33.5		91.3		6.5			1.8			3.4		
M6	Cloudy	Moderate	13:51	Surface	-	-	-	-	-	-	-	-	-	-	-	6.6	-	-	1.7	-	-	2.4
						-		-		-		-		-			-			-		
				Middle	2.1	23.3	23.3	8.1	8.1	33.1	33.1	93.4	93.3	6.6	6.6		1.8	1.7		2.1	2.4	
						23.3		8.1		33.1		93.1		6.6			1.7			2.6		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 21 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 4.5 NTU	***C2: 4.8 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 3.7 mg/L	***C2: 4.0 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 3.7 mg/L	***C2: 4.0 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.6 mg/L	***C2: 2.9 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 21 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Moderate	8:44	Surface	1.0	23.3	23.3	8.1	8.1	33.1	33.1	97.0	95.3	6.8	6.7	6.6	1.5	1.5		<0.1	<0.1	
						23.3		8.1		33.1		93.5		6.6			1.5			<0.1		
				Middle	9.0	23.1	23.1	8.1	8.1	33.4	33.4	90.5	90.6	6.4	6.4		2.8	2.8	2.6	1.2	1.3	1.0
						23.1		8.1		33.4		90.6		6.4			2.7			1.4		
				Bottom	17.1	23.1	23.1	8.1	8.1	33.4	33.4	89.9	89.9	6.4	6.4	6.4	3.6	3.6		1.9	1.8	
						23.1		8.1		33.4		89.9		6.4			3.5			1.7		
C2	Cloudy	Moderate	7:59	Surface	1.0	23.4	23.5	8.0	8.0	32.7	32.6	91.1	90.9	6.4	6.4	6.4	1.2	1.2		1.2	1.3	
						23.5		8.0		32.5		90.7		6.4			1.2			1.4		
				Middle	16.1	23.1	23.1	8.1	8.1	33.4	33.4	89.6	89.6	6.3	6.3		3.5	3.4	2.7	1.6	1.7	1.8
						23.1		8.1		33.4		89.5		6.3			3.3			1.8		
				Bottom	31.0	23.1	23.1	8.1	8.1	33.5	33.4	89.3	89.3	6.3	6.3	6.3	3.4	3.4		2.1	2.3	
						23.1		8.1		33.4		89.2		6.3			3.4			2.4		
G1	Cloudy	Moderate	8:23	Surface	1.0	23.3	23.3	8.1	8.1	32.8	32.7	97.4	96.0	6.9	6.8	6.6	1.2	1.2		1.3	1.5	
						23.4		8.1		32.7		94.5		6.7			1.2			1.6		
				Middle	4.0	23.2	23.2	8.1	8.1	33.2	33.2	91.7	91.9	6.5	6.5		1.4	1.4	1.4	2.2	2.4	2.2
						23.2		8.1		33.2		92.0		6.5			1.4			2.5		
				Bottom	7.0	23.2	23.2	8.1	8.1	33.3	33.3	91.1	91.1	6.4	6.4	6.4	1.6	1.6		2.8	2.9	
						23.1		8.1		33.4		91.1		6.4			1.6			3.0		
G2	Cloudy	Moderate	8:15	Surface	1.0	23.4	23.4	8.1	8.1	32.7	32.6	96.3	95.0	6.8	6.7	6.6	1.2	1.2		1.4	1.6	
						23.4		8.1		32.5		93.6		6.6			1.1			1.7		
				Middle	5.0	23.2	23.2	8.1	8.1	33.2	33.2	91.8	91.9	6.5	6.5		1.4	1.4	1.3	2.0	2.2	2.2
						23.2		8.1		33.2		92.0		6.5			1.4			2.3		
				Bottom	9.0	23.2	23.2	8.1	8.1	33.3	33.4	91.6	91.8	6.5	6.5	6.5	1.4	1.4		3.0	2.9	
						23.1		8.1		33.4		91.9		6.5			1.5			2.7		
G3	Cloudy	Moderate	8:26	Surface	1.0	23.4	23.3	8.1	8.1	32.8	32.8	96.6	95.3	6.8	6.7	6.6	1.3	1.3		1.7	1.8	
						23.3		8.1		32.9		93.9		6.6			1.4			1.8		
				Middle	4.0	23.3	23.3	8.1	8.1	33.1	33.0	92.6	92.9	6.5	6.6		1.4	1.4	1.5	2.4	2.3	2.3
						23.3		8.1		33.0		93.1		6.6			1.4			2.1		
				Bottom	7.0	23.2	23.2	8.1	8.1	33.3	33.3	91.8	91.5	6.5	6.5	6.5	1.7	1.7		2.9	2.8	
						23.1		8.1		33.4		91.1		6.4			1.8			2.6		
G4	Cloudy	Moderate	8:32	Surface	1.0	23.3	23.3	8.1	8.1	32.9	32.9	93.5	93.2	6.6	6.6	6.5	2.8	2.8		1.4	1.6	
						23.3		8.1		32.9		92.8		6.5			2.8			1.7		
				Middle	4.0	23.2	23.2	8.1	8.1	33.2	33.2	92.0	92.2	6.5	6.5		2.1	2.2	2.7	2.2	2.3	2.2
						23.2		8.1		33.1		92.4		6.5			2.2			2.4		
				Bottom	7.1	23.1	23.1	8.1	8.1	33.4	33.4	90.5	89.9	6.4	6.4	6.4	3.1	3.2		2.5	2.7	
						23.1		8.1		33.4		89.3		6.3			3.2			2.9		
M1	Cloudy	Moderate	8:20	Surface	1.0	23.3	23.3	8.1	8.1	32.6	32.6	93.9	93.6	6.6	6.6	6.5	1.3	1.3		2.1	2.2	
						23.3		8.1		32.6		93.2		6.6			1.2			2.3		
				Middle	3.0	23.3	23.3	8.1	8.1	32.9	32.8	91.6	91.8	6.5	6.5		1.3	1.3	1.4	1.6	1.7	1.7
						23.3		8.1		32.8		91.9		6.5			1.3			1.8		
				Bottom	5.0	23.3	23.2	8.1	8.1	33.0	33.1	91.1	90.7	6.4	6.4	6.4	1.5	1.5		1.4	1.3	
						23.2		8.1		33.1		90.2		6.4			1.5			1.2		
M2	Cloudy	Moderate	8:11	Surface	1.0	23.4	23.4	8.1	8.1	32.9	32.9	94.6	94.3	6.7	6.6	6.6	1.1	1.2		1.4	1.3	
						23.4		8.1		32.9		94.0		6.6			1.2			1.2		
				Middle	6.0	23.1	23.2	8.1	8.1	33.3	33.3	91.4	91.9	6.5	6.5		1.6	1.6	1.4	1.9	1.8	1.8
						23.2		8.1		33.3		92.3		6.5			1.7			1.7		
				Bottom	11.0	23.1	23.1	8.1	8.1	33.4	33.4	90.6	90.6	6.4	6.4	6.4	1.5	1.5		2.3	2.2	
						23.1		8.1		33.4		90.5		6.4			1.6			2.1		
M3	Cloudy	Moderate	8:29	Surface	1.0	23.4	23.4	8.1	8.1	32.6	32.7	96.6	95.3	6.8	6.7	6.6	1.3	1.3		2.7	2.8	
						23.4		8.1		32.7		94.0		6.6			1.2			2.9		
				Middle	4.0	23.2	23.3	8.1	8.1	33.1	33.1	92.0	92.4	6.5	6.5		1.3	1.3	1.6	2.4	2.2	2.2
						23.3		8.1		33.1		92.7		6.5			1.3			2.0		
				Bottom	7.1	23.2	23.1	8.1	8.1	33.3	33.4	90.7	90.5	6.4	6.4	6.4	2.2	2.3		1.7	1.5	
						23.1		8.1		33.4		90.3		6.4			2.3			1.2		
M4	Cloudy	Moderate	8:06	Surface	1.0	23.2	23.2	8.1	8.1	33.3	33.3	91.5	91.5	6.5	6.5	6.4	2.4	2.4		2.8	2.9	
						23.2		8.1		33.3		91.4		6.5			2.4			3.0		
				Middle	5.0	23.1	23.1	8.1	8.1	33.4	33.4	90.8	90.9	6.4	6.4		2.4	2.4	2.7	2.5	2.4	2.2
						23.1		8.1		33.4		90.9		6.4			2.4			2.2		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.5	33.4	90.4	90.4	6.4	6.4	6.4	3.5	3.4		1.3	1.5	
						23.1		8.1		33.4		90.4		6.4			3.4			1.6		
M5	Cloudy	Moderate	8:39	Surface	1.0	23.3	23.3	8.1	8.1	33.0	33.0	96.8	95.2	6.8	6.7	6.6	1.2	1.1		1.6	1.8	
						23.3		8.1		33.0		93.6		6.6			1.0			1.9		
				Middle	6.0	23.2	23.2	8.1	8.1	33.3	33.2	91.8	92.0	6.5	6.5		1.5	1.5	1.5	2.2	2.4	2.3
						23.2		8.1		33.2		92.1		6.5			1.4			2.6		
				Bottom	11.0	23.1	23.1	8.1	8.1	33.4	33.4	91.5	91.5	6.5	6.5	6.5	1.9	1.9		2.7	2.9	
						23.1		8.1		33.5		91.4		6.5			1.9			3.0		
M6	Cloudy	Moderate	8:36	Surface	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-		-	-	
						-		-		-		-		-			-			-		
				Middle	2.1	23.3	23.3	8.1	8.1	33.0	33.1	95.7	94.6	6.8	6.7		8.0	8.0	1.9	2.3	2.5	2.5
						23.3		8.1		33.1		93.5		6.6			8.0			2.7		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 21 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 4.3 NTU	***C1: 4.7 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: n.a. mg/L	***C1: n.a. mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: n.a. mg/L	***C1: n.a. mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.2 mg/L	***C1: 2.3 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 24 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Moderate	15:46	Surface	1.0	23.4	23.4	8.1	8.1	33.3	33.3	95.5	95.4	7.0	7.0	7.0	1.2	1.2	1.9	2.6	2.4	2.8
						23.3		8.1		33.3		95.3		7.0			1.2			2.2		
				Middle	9.0	23.0	23.0	8.1	8.1	33.5	33.5	95.1	95.1	6.9	6.9		1.9	1.8		3.0	2.9	
						23.0		8.1		33.5		95.0		6.9			1.8			2.8		
				Bottom	17.1	22.9	22.9	8.1	8.1	33.6	33.6	94.9	94.9	6.9	6.9	6.9	2.6	2.6		3.1	3.2	
						22.9		8.1		33.6		94.9		6.9			2.6			3.2		
C2	Cloudy	Moderate	15:01	Surface	1.0	23.4	23.4	8.0	8.0	32.8	32.9	94.2	94.2	6.9	6.9	6.9	0.9	1.0	2.0	3.5	3.3	5.0
						23.3		8.0		33.0		94.2		6.9			1.1			3.0		
				Middle	16.0	22.9	22.9	8.1	8.1	33.5	33.5	93.6	93.6	6.8	6.8		2.3	2.3		5.0	4.8	
						22.9		8.1		33.5		93.6		6.8			2.3			4.5		
				Bottom	31.0	22.8	22.8	8.1	8.1	33.6	33.6	93.3	93.3	6.8	6.8	6.8	2.7	2.6		6.8	7.0	
						22.8		8.1		33.6		93.3		6.8			2.6			7.2		
G1	Cloudy	Moderate	15:25	Surface	1.0	23.5	23.5	8.1	8.1	33.0	33.1	95.5	95.4	7.0	7.0	6.9	1.0	1.1	1.1	3.2	3.4	3.8
						23.5		8.1		33.1		95.2		7.0			1.1			3.5		
				Middle	4.0	23.1	23.1	8.1	8.1	33.4	33.4	94.6	94.5	6.9	6.9		1.0	1.1		3.6	3.7	
						23.1		8.1		33.4		94.4		6.9			1.1			3.8		
				Bottom	7.0	22.9	22.9	8.1	8.1	33.5	33.5	96.1	96.4	7.0	7.1	7.1	1.2	1.2		4.4	4.3	
						22.9		8.1		33.5		96.6		7.1			1.2			4.2		
G2	Cloudy	Moderate	15:18	Surface	1.0	23.7	23.7	8.1	8.1	32.9	32.9	95.7	95.4	7.0	7.0	7.0	1.3	1.3	1.4	2.6	2.7	2.3
						23.7		8.1		32.9		95.1		7.0			1.4			2.8		
				Middle	5.0	23.0	23.0	8.1	8.1	33.4	33.4	95.1	95.1	7.0	7.0		1.2	1.2		2.5	2.4	
						23.1		8.1		33.4		95.1		7.0			1.2			2.2		
				Bottom	9.0	22.9	22.9	8.1	8.1	33.5	33.5	94.6	94.6	6.9	6.9	6.9	1.7	1.7		1.9	1.8	
						22.9		8.1		33.5		94.6		6.9			1.7			1.7		
G3	Cloudy	Moderate	15:28	Surface	1.0	23.4	23.4	8.1	8.1	33.2	33.2	95.7	95.5	7.0	7.0	7.0	1.2	1.1	1.1	2.3	2.4	2.7
						23.4		8.1		33.2		95.3		7.0			1.1			2.4		
				Middle	4.0	23.1	23.1	8.1	8.1	33.3	33.3	96.3	96.1	7.1	7.0		0.9	0.9		2.5	2.5	
						23.1		8.1		33.3		95.8		7.0			0.9			2.4		
				Bottom	7.0	22.9	22.9	8.1	8.1	33.5	33.5	97.0	97.0	7.1	7.1	7.1	1.2	1.3		2.9	3.2	
						22.9		8.1		33.5		97.0		7.1			1.3			3.5		
G4	Cloudy	Moderate	15:34	Surface	1.0	23.2	23.2	8.1	8.1	33.2	33.2	95.7	95.7	7.0	7.0	7.0	2.0	2.0	2.1	3.6	3.7	4.4
						23.2		8.1		33.2		95.7		7.0			1.9			3.8		
				Middle	4.0	23.0	23.1	8.1	8.1	33.4	33.4	96.4	96.4	7.1	7.1		1.8	1.8		4.5	4.4	
						23.1		8.1		33.4		96.4		7.1			1.7			4.3		
				Bottom	7.1	22.9	22.9	8.1	8.1	33.6	33.6	95.6	95.8	7.0	7.0	7.0	2.7	2.7		4.8	5.0	
						22.9		8.1		33.6		95.9		7.0			2.7			5.2		
M1	Cloudy	Moderate	15:22	Surface	1.1	23.5	23.5	8.1	8.1	33.0	33.0	95.4	95.4	7.0	7.0	7.0	1.2	1.2	1.4	2.8	2.7	2.5
						23.5		8.1		33.0		95.3		7.0			1.2			2.6		
				Middle	3.0	23.2	23.2	8.1	8.1	33.2	33.2	95.0	94.9	7.0	6.9		1.4	1.4		2.6	2.5	
						23.2		8.1		33.2		94.8		6.9			1.4			2.4		
				Bottom	5.0	23.0	23.0	8.1	8.1	33.4	33.4	94.3	94.1	6.9	6.9	6.9	1.8	1.7		2.4	2.3	
						23.0		8.1		33.4		93.9		6.9			1.6			2.1		
M2	Cloudy	Moderate	15:13	Surface	1.0	23.6	23.6	8.1	8.1	33.1	33.1	96.0	95.9	7.0	7.0	7.0	1.2	1.2	1.5	2.2	2.2	2.8
						23.6		8.1		33.1		95.8		7.0			1.2			2.2		
				Middle	6.0	22.9	22.9	8.1	8.1	33.5	33.5	94.9	94.9	7.0	6.9		1.5	1.5		2.6	2.5	
						22.9		8.1		33.5		94.9		6.9			1.5			2.4		
				Bottom	11.0	22.9	22.9	8.1	8.1	33.6	33.6	94.7	94.7	6.9	6.9	6.9	1.7	1.8		3.6	3.7	
						22.9		8.1		33.6		94.7		6.9			1.8			3.8		
M3	Cloudy	Moderate	15:31	Surface	1.0	23.5	23.5	8.1	8.1	33.1	33.1	96.0	95.8	7.0	7.0	7.1	1.1	1.2	1.2	3.2	3.3	3.5
						23.5		8.1		33.1		95.6		7.0			1.2			3.3		
				Middle	4.0	23.1	23.1	8.1	8.1	33.3	33.3	97.6	97.6	7.2	7.2		1.0	1.0		3.6	3.4	
						23.1		8.1		33.3		97.6		7.2			0.9			3.2		
				Bottom	7.0	23.0	23.0	8.1	8.1	33.5	33.5	97.9	98.2	7.2	7.2	7.2	1.6	1.6		4.0	3.8	
						23.0		8.1		33.5		98.4		7.2			1.5			3.6		
M4	Cloudy	Moderate	15:08	Surface	1.0	23.2	23.2	8.1	8.1	33.4	33.5	95.2	95.2	7.0	6.9	6.9	1.9	2.0	1.9	3.5	3.3	2.8
						23.2		8.1		33.5		95.1		6.9			2.0			3.1		
				Middle	5.0	23.0	23.0	8.1	8.1	33.5	33.5	94.8	94.8	6.9	6.9		1.7	1.7		2.5	2.7	
						23.0		8.1		33.5		94.7		6.9			1.7			2.9		
				Bottom	9.0	22.9	22.9	8.1	8.1	33.6	33.6	94.6	94.6	6.9	6.9	6.9	2.2	2.2		2.6	2.5	
						22.9		8.1		33.6		94.6		6.9			2.2			2.3		
M5	Cloudy	Moderate	15:41	Surface	1.0	23.3	23.4	8.1	8.1	33.2	33.2	95.8	95.7	7.0	7.0	7.0	0.9	0.9	1.3	2.2	2.3	2.7
						23.4		8.1		33.2		95.5		7.0			0.9			2.4		
				Middle	6.0	23.0	23.0	8.1	8.1	33.4	33.4	95.2	95.2	7.0	7.0		1.3	1.3		2.9	2.8	
						23.0		8.1		33.5		95.2		7.0			1.3			2.6		
				Bottom	11.0	22.9	22.9	8.1	8.1	33.6	33.6	95.7	95.7	7.0	7.0	7.0	1.8	1.8		3.1	3.1	
						22.9		8.1		33.6		95.7		7.0			1.8			3.0		
M6	Cloudy	Moderate	15:38	Surface	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	1.4	-	-	2.3
						-		-		-		-		-			-			-		
				Middle	2.0	23.1	23.1	8.1	8.1	33.3	33.3	95.5	95.4	7.0	7.0		1.4	1.4		2.1	2.3	
						23.1		8.1		33.3		95.3		7.0			1.4			2.5		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 24 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 3.2 NTU	***C2: 3.4 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 3.9 mg/L	***C2: 4.2 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 3.9 mg/L	***C2: 4.2 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 8.4 mg/L	***C2: 9.1 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 24 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Cloudy	Moderate	8:57	Surface	1.0	23.5	23.5	8.1	8.1	33.3	33.3	98.4	97.1	7.2	7.1	7.0	1.1	1.1	1.8	2.9	3.1	4.0
						23.4		8.1		33.3		95.7		7.0			1.2			3.2		
				Middle	9.0	23.0	23.0	8.1	8.1	33.5	33.5	95.1	95.0	6.9	6.9		1.8	1.8		3.7	3.9	
						23.0		8.1		33.5		94.8		6.9			1.8			4.0		
				Bottom	17.1	22.9	22.9	8.1	8.1	33.6	33.6	94.8	94.9	6.9	6.9	6.9	2.6	2.6		5.2	5.0	
						22.9		8.1		33.6		94.9		6.9			2.6			4.8		
C2	Cloudy	Moderate	8:12	Surface	1.1	23.4	23.4	8.0	8.0	32.9	32.9	94.1	94.2	6.9	6.9	6.9	0.9	0.9	2.0	3.3	3.3	3.7
						23.4		8.0		32.8		94.3		6.9			1.0			3.2		
				Middle	16.1	22.9	22.9	8.1	8.1	33.6	33.6	93.6	93.6	6.8	6.8		2.5	2.5		3.5	3.6	
						22.9		8.1		33.6		93.5		6.8			2.5			3.7		
				Bottom	31.0	22.8	22.8	8.1	8.1	33.6	33.6	93.2	93.2	6.8	6.8	6.8	2.6	2.5		4.3	4.2	
						22.8		8.1		33.6		93.2		6.8			2.5			4.0		
G1	Cloudy	Moderate	8:36	Surface	1.0	23.5	23.5	8.1	8.1	33.1	33.1	98.0	97.0	7.2	7.1	7.0	1.0	1.0	1.1	2.2	2.4	2.9
						23.5		8.1		33.1		95.9		7.0			1.0			2.5		
				Middle	4.0	23.1	23.1	8.1	8.1	33.4	33.4	94.3	94.3	6.9	6.9		1.1	1.1		2.7	2.9	
						23.2		8.1		33.3		94.3		6.9			1.1			3.0		
				Bottom	7.0	23.0	23.0	8.1	8.1	33.5	33.5	94.8	95.3	6.9	7.0	7.0	1.1	1.1		3.2	3.4	
						22.9		8.1		33.5		95.7		7.0			1.2			3.6		
G2	Cloudy	Moderate	8:29	Surface	1.0	23.6	23.6	8.1	8.1	33.1	33.0	97.1	96.4	7.1	7.0	7.0	1.3	1.3	1.3	4.4	4.2	3.6
						23.7		8.1		33.0		95.7		7.0			1.2			3.9		
				Middle	5.0	23.1	23.1	8.1	8.1	33.4	33.4	95.0	95.0	7.0	6.9		1.2	1.2		3.5	3.4	
						23.1		8.1		33.4		94.9		6.9			1.2			3.2		
				Bottom	9.0	22.9	22.9	8.1	8.1	33.5	33.5	94.6	94.6	6.9	6.9	6.9	1.5	1.6		3.1	3.2	
						22.9		8.1		33.5		94.5		6.9			1.6			3.2		
G3	Cloudy	Moderate	8:40	Surface	1.0	23.5	23.5	8.1	8.1	33.1	33.1	98.3	97.2	7.2	7.1	7.0	1.1	1.1	1.1	2.8	2.9	3.3
						23.5		8.1		33.1		96.0		7.0			1.2			3.0		
				Middle	4.0	23.1	23.2	8.1	8.1	33.3	33.3	95.5	95.3	7.0	7.0		1.1	1.1		3.4	3.4	
						23.2		8.1		33.2		95.1		7.0			1.1			3.4		
				Bottom	7.0	23.0	22.9	8.1	8.1	33.4	33.5	96.7	96.9	7.1	7.1	7.1	1.1	1.2		3.6	3.5	
						22.9		8.1		33.5		97.0		7.1			1.2			3.4		
G4	Cloudy	Moderate	8:46	Surface	1.0	23.2	23.2	8.1	8.1	33.2	33.2	96.6	96.3	7.1	7.0	7.0	2.0	2.0	2.0	2.8	2.6	3.3
						23.2		8.1		33.2		95.9		7.0			2.0			2.4		
				Middle	4.0	23.1	23.1	8.1	8.1	33.4	33.4	96.3	96.1	7.1	7.0		1.6	1.6		3.2	3.4	
						23.1		8.1		33.3		95.8		7.0			1.6			3.5		
				Bottom	7.1	22.9	22.9	8.1	8.1	33.6	33.6	95.9	95.7	7.0	7.0	7.0	2.2	2.3		4.1	3.9	
						22.9		8.1		33.6		95.5		7.0			2.3			3.7		
M1	Cloudy	Moderate	8:34	Surface	1.0	23.5	23.5	8.1	8.1	33.0	33.0	96.7	96.2	7.1	7.0	7.0	1.2	1.2	1.3	2.3	2.2	2.8
						23.5		8.1		33.0		95.6		7.0			1.2			2.1		
				Middle	3.0	23.2	23.3	8.1	8.1	33.2	33.2	94.8	95.0	6.9	6.9		1.3	1.3		2.6	2.8	
						23.3		8.1		33.1		95.1		7.0			1.3			3.0		
				Bottom	5.0	23.1	23.0	8.1	8.1	33.3	33.3	94.8	94.7	6.9	6.9	6.9	1.5	1.4		3.4	3.3	
						23.0		8.1		33.3		94.5		6.9			1.4			3.1		
M2	Cloudy	Moderate	8:25	Surface	1.0	23.6	23.6	8.1	8.1	33.1	33.1	97.0	96.7	7.1	7.0	7.0	1.1	1.2	1.4	3.4	3.6	2.9
						23.6		8.1		33.1		96.3		7.0			1.2			3.7		
				Middle	6.0	22.9	23.0	8.1	8.1	33.5	33.5	94.9	95.0	6.9	6.9		1.3	1.3		2.8	2.9	
						23.0		8.1		33.5		95.1		7.0			1.4			3.0		
				Bottom	11.0	22.9	22.9	8.1	8.1	33.6	33.6	94.6	94.7	6.9	6.9	6.9	1.6	1.6		2.5	2.4	
						22.9		8.1		33.6		94.7		6.9			1.6			2.2		
M3	Cloudy	Moderate	8:43	Surface	0.0	23.5	23.5	8.0	8.0	33.0	33.0	97.9	97.1	7.2	7.1	7.1	1.1	1.1	1.2	2.1	2.3	3.3
						23.5		8.1		33.1		96.3		7.0			1.1			2.4		
				Middle	4.0	23.1	23.2	8.1	8.1	33.3	33.3	97.5	97.0	7.1	7.1		0.9	0.9		3.6	3.5	
						23.3		8.1		33.3		96.5		7.1			0.9			3.3		
				Bottom	7.0	23.0	23.0	8.1	8.1	33.5	33.5	97.3	97.5	7.1	7.1	7.1	1.6	1.6		3.9	4.1	
						23.0		8.1		33.5		97.7		7.2			1.7			4.3		
M4	Cloudy	Moderate	8:20	Surface	1.0	23.2	23.2	8.1	8.1	33.4	33.4	95.5	95.4	7.0	7.0	6.9	1.9	1.9	2.0	1.9	1.8	2.3
						23.2		8.1		33.4		95.3		7.0			1.9			1.6		
				Middle	5.0	23.0	23.0	8.1	8.1	33.5	33.5	94.7	94.8	6.9	6.9		1.6	1.7		2.5	2.4	
						23.0		8.1		33.5		94.8		6.9			1.7			2.2		
				Bottom	9.0	22.9	22.9	8.1	8.1	33.6	33.6	94.5	94.6	6.9	6.9	6.9	2.3	2.3		2.8	2.9	
						22.9		8.1		33.6		94.6		6.9			2.2			2.9		
M5	Cloudy	Moderate	8:53	Surface	1.0	23.2	23.2	8.1	8.1	33.2	33.2	98.1	97.0	7.2	7.1	7.0	1.0	0.9	1.3	3.7	3.6	3.1
						23.3		8.1		33.2		95.9		7.0			0.9			3.4		
				Middle	6.0	23.0	23.0	8.1	8.1	33.5	33.4	95.2	95.2	7.0	7.0		1.3	1.3		2.8	3.0	
						23.0		8.1		33.4		95.1		7.0			1.3			3.2		
				Bottom	11.0	22.9	22.9	8.1	8.1	33.6	33.6	95.3	95.5	7.0	7.0	7.0	1.7	1.7		2.5	2.6	
						22.9		8.1		33.6		95.6		7.0			1.8			2.7		
M6	Cloudy	Moderate	8:50	Surface	-	-	-	-	-	-	-	-	-	-	-	7.0	-	-	1.5	-	-	3.6
						-		-		-		-		-			-			-		
				Middle	2.1	23.2	23.2	8.1	8.1	33.3	33.3	97.0	96.3	7.1	7.0		8.0	8.0		3.7	3.6	
						23.2		8.1		33.3		95.6		7.0			8.0			3.4		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 24 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 3.1 NTU	***C1: 3.3 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 3.7 mg/L	***C1: 4.0 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 3.7 mg/L	***C1: 4.0 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 6.0 mg/L	***C1: 6.5 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 26 April 2023

(Mid-Ebb Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	16:58	Surface	1.0	23.2	23.2	8.1	8.1	33.6	33.6	93.0	92.9	6.6	6.5	6.6	1.7	1.8	1.9	1.6	1.8	2.5
						23.2		8.1		33.6		92.8		6.5			1.8			1.9		
				Middle	9.0	23.0	23.0	8.2	8.2	33.8	33.8	93.4	93.4	6.6	6.6		1.7	1.7		2.4	2.6	
						23.0		8.2		33.8		93.3		6.6			1.7			2.7		
				Bottom	16.9	23.0	23.0	8.2	8.2	33.9	33.9	92.5	92.5	6.5	6.5	6.5	2.3	2.3		2.9	3.1	
						23.0		8.2		33.9		92.4		6.5			2.4			3.3		
C2	Sunny	Moderate	16:11	Surface	1.0	23.1	23.1	8.1	8.1	33.7	33.7	93.5	93.5	6.6	6.6	6.5	0.6	0.6	2.2	2.2	2.3	2.7
						23.1		8.1		33.7		93.4		6.6			0.6			2.4		
				Middle	16.0	23.1	23.1	8.1	8.1	33.8	33.8	92.1	92.1	6.5	6.5		3.1	3.1		2.7	2.7	
						23.1		8.1		33.8		92.1		6.5			3.0			2.6		
				Bottom	31.1	23.1	23.1	8.1	8.1	33.8	33.8	91.7	91.7	6.5	6.5	6.5	2.9	2.9		2.9	3.2	
						23.1		8.1		33.8		91.7		6.5			3.0			3.4		
G1	Sunny	Moderate	16:37	Surface	1.1	23.2	23.2	8.1	8.1	33.5	33.5	91.0	90.9	6.4	6.4	6.3	1.8	1.7	1.9	2.6	2.8	3.4
						23.3		8.1		33.5		90.8		6.4			1.7			2.9		
				Middle	4.0	23.1	23.1	8.1	8.1	33.7	33.7	88.8	88.9	6.3	6.3		1.6	1.7		3.2	3.4	
						23.1		8.1		33.7		88.9		6.3			1.7			3.5		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.8	33.8	90.1	90.2	6.4	6.4	6.4	2.3	2.3		4.0	4.2	
						23.1		8.1		33.8		90.3		6.4			2.4			4.3		
G2	Sunny	Moderate	16:30	Surface	1.0	23.2	23.1	8.1	8.1	33.5	33.6	91.2	91.0	6.4	6.4	6.5	1.8	1.7	1.8	1.8	1.7	2.2
						23.1		8.1		33.6		90.8		6.4			1.7			1.6		
				Middle	5.0	23.1	23.1	8.1	8.1	33.8	33.8	92.1	92.1	6.5	6.5		1.8	1.7		2.4	2.3	
						23.1		8.1		33.8		92.0		6.5			1.7			2.1		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.8	33.8	91.9	92.0	6.5	6.5	6.5	2.0	2.0		2.6	2.8	
						23.1		8.1		33.8		92.1		6.5			2.0			2.9		
G3	Sunny	Moderate	16:40	Surface	1.1	23.3	23.4	8.1	8.1	33.5	33.5	91.2	91.2	6.4	6.4	6.3	1.6	1.6	1.9	2.4	2.6	2.1
						23.4		8.1		33.5		91.1		6.4			1.6			2.7		
				Middle	4.0	23.1	23.1	8.1	8.1	33.7	33.7	88.7	88.8	6.3	6.3		1.8	1.8		2.1	2.2	
						23.1		8.1		33.7		88.9		6.3			1.8			2.3		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.8	33.8	88.4	88.4	6.2	6.2	6.2	2.5	2.4		1.3	1.5	
						23.1		8.1		33.8		88.3		6.2			2.4			1.6		
G4	Sunny	Moderate	16:46	Surface	1.2	23.2	23.2	8.1	8.1	33.6	33.6	90.6	90.3	6.4	6.4	6.4	1.9	1.9	2.0	1.2	1.4	2.2
						23.3		8.1		33.6		90.0		6.3			1.8			1.6		
				Middle	4.0	23.1	23.1	8.1	8.1	33.7	33.7	90.2	90.1	6.4	6.4		1.9	1.8		2.4	2.3	
						23.1		8.1		33.7		90.0		6.4			1.7			2.1		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.8	33.8	90.5	90.8	6.4	6.4	6.4	2.2	2.2		3.0	2.9	
						23.1		8.1		33.8		91.0		6.4			2.2			2.7		
M1	Sunny	Moderate	16:35	Surface	1.1	23.1	23.1	8.1	8.1	33.5	33.5	89.5	89.5	6.3	6.3	6.3	1.8	1.8	1.9	1.9	1.9	2.5
						23.1		8.1		33.5		89.4		6.3			1.8			1.8		
				Middle	3.1	23.1	23.1	8.1	8.1	33.7	33.7	90.1	90.0	6.4	6.3		1.8	1.8		2.6	2.5	
						23.1		8.1		33.7		89.8		6.3			1.8			2.4		
				Bottom	5.0	23.1	23.1	8.1	8.1	33.8	33.8	90.8	90.8	6.4	6.4	6.4	2.0	2.0		2.8	3.1	
						23.1		8.1		33.8		90.8		6.4			2.0			3.3		
M2	Sunny	Moderate	16:24	Surface	1.0	23.2	23.2	8.1	8.1	33.5	33.5	91.9	91.7	6.5	6.5	6.5	1.5	1.5	2.0	3.1	3.0	2.9
						23.1		8.1		33.5		91.5		6.5			1.5			2.9		
				Middle	6.0	23.0	23.0	8.1	8.1	33.8	33.8	93.1	93.1	6.6	6.6		1.8	1.8		2.7	2.8	
						23.0		8.1		33.8		93.1		6.6			1.9			2.8		
				Bottom	11.0	23.1	23.1	8.1	8.1	33.9	33.9	92.4	92.4	6.5	6.5	6.5	2.8	2.7		2.9	2.9	
						23.1		8.1		33.9		92.4		6.5			2.7			2.8		
M3	Sunny	Moderate	16:42	Surface	1.0	23.3	23.3	8.1	8.1	33.5	33.5	92.5	91.9	6.5	6.5	6.3	1.7	1.7	2.1	2.4	2.6	2.3
						23.3		8.1		33.5		91.2		6.4			1.7			2.8		
				Middle	4.0	23.2	23.2	8.1	8.1	33.7	33.7	86.3	86.7	6.1	6.1		2.5	2.5		2.4	2.3	
						23.2		8.1		33.7		87.0		6.1			2.5			2.1		
				Bottom	7.1	23.1	23.1	8.1	8.1	33.8	33.8	89.7	90.0	6.3	6.3	6.3	2.1	2.1		2.1	2.1	
						23.1		8.1		33.8		90.3		6.4			2.1			2.1		
M4	Sunny	Moderate	16:18	Surface	1.0	23.2	23.2	8.1	8.1	33.6	33.6	93.1	93.0	6.6	6.6	6.6	1.8	1.8	1.7	2.7	2.9	2.3
						23.2		8.1		33.6		92.9		6.5			1.8			3.0		
				Middle	5.0	23.0	23.0	8.1	8.1	33.7	33.7	93.5	93.5	6.6	6.6		1.5	1.5		2.3	2.3	
						23.0		8.1		33.7		93.4		6.6			1.5			2.3		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.8	33.8	93.1	93.1	6.6	6.6	6.6	1.8	1.8		1.7	1.6	
						23.1		8.1		33.8		93.0		6.6			1.9			1.5		
M5	Sunny	Moderate	16:53	Surface	1.0	23.2	23.2	8.1	8.1	33.7	33.7	91.9	91.7	6.5	6.5	6.5	2.3	2.3	2.3	1.6	1.8	2.6
						23.2		8.1		33.7		91.5		6.5			2.2			1.9		
				Middle	6.0	23.0	23.0	8.1	8.1	33.7	33.7	92.4	92.4	6.5	6.5		1.5	1.5		2.4	2.6	
						23.1		8.1		33.7		92.3		6.5			1.6			2.8		
				Bottom	11.0	23.0	23.0	8.2	8.2	33.9	33.9	92.2	92.2	6.5	6.5	6.5	3.1	3.1		3.1	3.4	
						23.0		8.2		33.9		92.1		6.5			3.2			3.6		
M6	Sunny	Moderate	16:49	Surface	-	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.8	-	-	3.0
						-		-		-		-		-			-			-		
				Middle	2.1	23.2	23.2	8.1	8.1	33.7	33.7	89.4	89.2	6.3	6.3		2.8	2.8		3.2	3.0	
						23.2		8.1		33.7		89.0		6.3			2.8			2.7		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 26 April 2023 (Mid-Ebb Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C2: 3.5 NTU	***C2: 3.8 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.8 mg/L	***C2: 3.0 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 2.8 mg/L	***C2: 3.0 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C2: 3.8 mg/L	***C2: 4.1 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 26 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	11:23	Surface	1.0	23.2	23.2	8.1	8.1	33.6	33.6	94.5	93.8	6.7	6.6	6.6	1.8	1.8	1.8	2.0	1.9	2.3
						23.2		8.1		33.6		93.0		6.6			1.7			1.7		
				Middle	9.0	23.0	23.0	8.2	8.2	33.8	33.8	93.3	93.1	6.6	6.6		1.6	1.5		2.4	2.4	
						23.0		8.2		33.8		92.8		6.6			1.4			2.3		
				Bottom	16.9	23.0	23.0	8.2	8.2	33.9	33.9	92.7	92.6	6.5	6.5	6.5	2.2	2.2		2.5	2.6	
						23.0		8.2		33.9		92.5		6.5			2.2			2.7		
C2	Sunny	Moderate	10:36	Surface	1.1	23.1	23.1	8.0	8.0	33.7	33.7	93.6	93.6	6.6	6.6	6.5	0.7	0.6	1.8	3.7	4.0	3.2
						23.1		8.0		33.7		93.5		6.6			0.6			4.2		
				Middle	16.0	23.1	23.1	8.1	8.1	33.8	33.8	92.1	92.2	6.5	6.5		2.0	1.9		3.4	3.3	
						23.1		8.1		33.8		92.3		6.5			1.8			3.1		
				Bottom	31.1	23.1	23.1	8.1	8.1	33.8	33.8	91.8	91.8	6.5	6.5	6.5	3.0	3.0		2.7	2.5	
						23.1		8.1		33.8		91.7		6.5			2.9			2.3		
G1	Sunny	Moderate	11:03	Surface	1.1	23.3	23.2	8.1	8.1	33.5	33.5	93.1	92.2	6.6	6.5	6.4	1.7	1.7	1.8	2.2	2.4	2.8
						23.2		8.1		33.5		91.2		6.4			1.8			2.5		
				Middle	4.0	23.1	23.1	8.1	8.1	33.7	33.7	89.0	89.3	6.3	6.3		1.6	1.6		2.7	2.8	
						23.1		8.1		33.7		89.6		6.3			1.6			2.8		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.8	33.8	89.0	89.5	6.3	6.3	6.3	1.9	1.9		3.4	3.2	
						23.1		8.1		33.8		89.9		6.3			2.0			3.0		
G2	Sunny	Moderate	10:55	Surface	1.1	23.1	23.1	8.1	8.1	33.6	33.6	92.4	91.9	6.5	6.5	6.5	1.8	1.8	1.8	2.4	2.3	2.9
						23.1		8.1		33.5		91.3		6.4			1.8			2.1		
				Middle	5.0	23.1	23.1	8.1	8.1	33.8	33.8	92.0	91.8	6.5	6.5		1.6	1.6		3.0	2.9	
						23.1		8.1		33.8		91.5		6.5			1.5			2.8		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.8	33.8	91.9	91.9	6.5	6.5	6.5	1.9	1.9		3.7	3.5	
						23.1		8.1		33.8		91.8		6.5			2.0			3.3		
G3	Sunny	Moderate	11:06	Surface	1.1	23.3	23.3	8.1	8.1	33.5	33.5	93.0	92.2	6.5	6.5	6.4	1.5	1.6	1.9	2.4	2.3	2.8
						23.3		8.1		33.5		91.3		6.4			1.6			2.1		
				Middle	4.1	23.1	23.2	8.1	8.1	33.7	33.7	89.1	89.5	6.3	6.3		1.7	1.7		2.9	2.8	
						23.2		8.1		33.6		89.9		6.3			1.6			2.6		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.8	33.8	88.7	88.6	6.3	6.2	6.2	2.5	2.5		3.5	3.4	
						23.1		8.1		33.8		88.4		6.2			2.5			3.2		
G4	Sunny	Moderate	11:11	Surface	1.1	23.2	23.2	8.1	8.1	33.6	33.6	92.7	91.8	6.5	6.5	6.4	2.0	2.0	1.9	1.7	1.6	2.2
						23.2		8.1		33.6		90.8		6.4			1.9			1.4		
				Middle	4.0	23.1	23.1	8.1	8.1	33.7	33.7	89.9	89.8	6.3	6.3		1.7	1.7		2.4	2.3	
						23.2		8.1		33.7		89.7		6.3			1.7			2.2		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.7	33.7	90.2	90.3	6.4	6.4	6.4	2.1	2.2		3.0	2.9	
						23.1		8.1		33.8		90.4		6.4			2.2			2.7		
M1	Sunny	Moderate	11:00	Surface	1.1	23.1	23.1	8.1	8.1	33.5	33.5	90.5	90.2	6.4	6.4	6.3	1.9	1.9	1.9	3.0	2.8	2.3
						23.1		8.1		33.5		89.8		6.3			1.8			2.6		
				Middle	3.0	23.1	23.1	8.1	8.1	33.7	33.6	89.7	89.6	6.3	6.3		1.8	1.8		2.4	2.3	
						23.1		8.1		33.6		89.5		6.3			1.8			2.2		
				Bottom	5.0	23.1	23.1	8.1	8.1	33.7	33.8	90.1	90.4	6.4	6.4	6.4	1.9	1.9		1.9	1.8	
						23.1		8.1		33.8		90.7		6.4			1.9			1.6		
M2	Sunny	Moderate	10:49	Surface	1.1	23.1	23.2	8.1	8.1	33.5	33.5	92.6	92.3	6.5	6.5	6.5	1.6	1.5	2.0	3.2	3.1	2.7
						23.2		8.1		33.5		92.0		6.5			1.5			2.9		
				Middle	6.0	23.0	23.0	8.1	8.1	33.8	33.8	93.1	92.8	6.6	6.5		1.8	1.8		2.5	2.6	
						23.0		8.1		33.8		92.4		6.5			1.7			2.7		
				Bottom	11.0	23.1	23.1	8.1	8.1	33.8	33.8	93.0	92.7	6.6	6.5	6.5	2.6	2.6		2.5	2.3	
						23.1		8.1		33.9		92.4		6.5			2.7			2.1		
M3	Sunny	Moderate	11:08	Surface	1.0	23.3	23.3	8.1	8.1	33.5	33.5	94.3	93.7	6.6	6.6	6.4	1.6	1.7	2.0	2.9	2.8	2.3
						23.3		8.1		33.5		93.1		6.6			1.7			2.6		
				Middle	4.0	23.1	23.2	8.1	8.1	33.7	33.7	87.3	88.3	6.2	6.2		2.2	2.1		2.5	2.4	
						23.2		8.1		33.7		89.2		6.3			2.1			2.2		
				Bottom	7.0	23.1	23.1	8.1	8.1	33.7	33.7	86.6	87.9	6.1	6.2	6.2	2.2	2.2		1.8	1.9	
						23.1		8.1		33.8		89.2		6.3			2.1			1.9		
M4	Sunny	Moderate	10:43	Surface	1.1	23.2	23.2	8.1	8.1	33.6	33.6	94.1	93.7	6.6	6.6	6.6	1.8	1.8	1.6	1.8	1.7	2.3
						23.2		8.1		33.6		93.2		6.6			1.8			1.5		
				Middle	5.0	23.0	23.1	8.1	8.1	33.7	33.7	93.3	93.1	6.6	6.6		1.5	1.6		2.2	2.4	
						23.1		8.1		33.7		92.9		6.6			1.6			2.5		
				Bottom	9.0	23.1	23.1	8.1	8.1	33.8	33.8	93.3	93.2	6.6	6.6	6.6	1.3	1.3		3.2	3.0	
						23.1		8.1		33.8		93.1		6.6			1.4			2.8		
M5	Sunny	Moderate	11:19	Surface	1.0	23.1	23.1	8.1	8.1	33.6	33.7	93.6	92.8	6.6	6.5	6.5	2.1	2.2	2.3	1.9	1.8	2.5
						23.2		8.1		33.7		91.9		6.5			2.3			1.6		
				Middle	6.0	23.1	23.1	8.1	8.1	33.7	33.7	92.3	91.9	6.5	6.5		1.6	1.6		2.6	2.5	
						23.1		8.1		33.7		91.5		6.5			1.7			2.3		
				Bottom	11.1	23.0	23.0	8.2	8.2	33.8	33.8	92.3	92.3	6.5	6.5	6.5	3.1	3.1		3.1	3.4	
						23.0		8.2		33.9		92.2		6.5			3.2			3.6		
M6	Sunny	Moderate	11:15	Surface	-	-	-	-	-	-	-	-	-	-	-	6.3	-	-	2.8	-	-	2.9
						-		-		-		-		-			-			-		
				Middle	2.0	23.2	23.2	8.1	8.1	33.7	33.7	90.3	90.0	6.4	6.3		8.0	8.0		2.7	2.9	
						23.2		8.1		33.7		89.6		6.3			8.0			3.1		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 26 April 2023 (Mid-Flood Tide)

Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 2.6 NTU	***C1: 2.8 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.2 mg/L	***C1: 2.4 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.2 mg/L	***C1: 2.4 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 3.1 mg/L	***C1: 3.4 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction
Water Quality Monitoring Results on 28 April 2023

(Mid-Flood Tide)

Location	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
C1	Sunny	Moderate	12:23	Surface	1.1	23.6	23.5	8.1	8.1	33.8	33.8	96.6	96.5	6.8	6.8	6.7	1.5	1.5	1.6	2.8	2.9	2.6
						23.5		8.1		33.8		96.4		6.8			1.5			3.0		
				Middle	9.1	23.0	23.0	8.1	8.1	33.8	33.8	94.0	94.1	6.6	6.6		1.5	1.5		2.7	2.6	
						23.0		8.1		33.8		94.2		6.7			1.5			2.5		
				Bottom	17.0	23.0	23.0	8.1	8.1	33.8	33.8	92.7	92.7	6.5	6.5	6.5	1.7	1.7		2.3	2.4	
						23.0		8.1		33.8		92.7		6.5			1.8			2.5		
C2	Sunny	Moderate	11:36	Surface	1.0	23.4	23.4	7.9	8.0	33.7	33.7	97.1	97.1	6.8	6.8	6.7	1.3	1.3	1.2	2.6	2.5	2.1
						23.4		8.0		33.7		97.1		6.8			1.4			2.3		
				Middle	16.0	23.1	23.1	8.1	8.1	33.8	33.8	93.9	94.0	6.6	6.6		0.8	0.8		2.1	2.2	
						23.1		8.1		33.8		94.1		6.6			0.8			2.3		
				Bottom	31.0	23.0	23.0	8.1	8.1	33.8	33.8	92.7	92.6	6.5	6.5	6.5	1.4	1.4		1.6	1.7	
						23.0		8.1		33.8		92.4		6.5			1.4			1.8		
G1	Sunny	Moderate	11:59	Surface	1.0	23.5	23.5	8.1	8.1	33.7	33.7	95.8	95.7	6.7	6.7	6.6	1.2	1.2	1.3	2.3	2.2	2.5
						23.5		8.1		33.7		95.5		6.7			1.1			2.1		
				Middle	4.1	23.1	23.2	8.1	8.1	33.7	33.7	92.7	93.2	6.5	6.6		1.1	1.1		2.4	2.5	
						23.3		8.1		33.7		93.6		6.6			1.1			2.5		
				Bottom	7.1	23.0	23.0	8.1	8.1	33.8	33.8	91.4	91.4	6.5	6.5	6.5	1.6	1.6		2.8	2.7	
						23.0		8.1		33.8		91.4		6.5			1.6			2.6		
G2	Sunny	Moderate	11:50	Surface	1.1	23.3	23.3	8.1	8.1	33.7	33.7	96.2	95.5	6.8	6.7	6.7	1.5	1.5	1.4	2.7	2.9	2.5
						23.2		8.1		33.7		94.8		6.7			1.6			3.0		
				Middle	5.1	23.1	23.1	8.1	8.1	33.7	33.7	94.2	94.2	6.6	6.6		1.2	1.2		2.6	2.4	
						23.1		8.1		33.7		94.2		6.6			1.3			2.2		
				Bottom	9.1	23.0	23.0	8.1	8.1	33.8	33.8	93.2	92.8	6.6	6.5	6.5	1.5	1.5		2.1	2.2	
						23.0		8.1		33.8		92.4		6.5			1.6			2.3		
G3	Sunny	Moderate	12:02	Surface	1.1	23.5	23.5	8.1	8.1	33.7	33.7	94.0	93.9	6.6	6.6	6.5	1.6	1.7	1.8	2.1	2.2	2.4
						23.5		8.1		33.7		93.8		6.6			1.7			2.2		
				Middle	4.1	23.1	23.2	8.1	8.1	33.7	33.7	91.4	92.1	6.4	6.5		1.7	1.7		2.5	2.4	
						23.3		8.1		33.7		92.8		6.5			1.6			2.3		
				Bottom	7.1	23.0	23.0	8.1	8.1	33.8	33.8	89.9	89.9	6.4	6.3	6.3	2.1	2.1		2.6	2.7	
						23.0		8.1		33.8		89.9		6.3			2.1			2.8		
G4	Sunny	Moderate	12:11	Surface	1.1	23.4	23.4	8.1	8.1	33.7	33.7	93.8	93.8	6.6	6.6	6.6	1.8	1.8	1.8	3.6	3.4	2.7
						23.4		8.1		33.7		93.8		6.6			1.8			3.1		
				Middle	4.1	23.1	23.2	8.1	8.1	33.7	33.7	92.9	93.0	6.5	6.5		1.7	1.7		2.8	2.7	
						23.2		8.1		33.7		93.1		6.6			1.7			2.5		
				Bottom	7.1	23.0	23.0	8.1	8.1	33.8	33.8	92.2	92.1	6.5	6.5	6.5	1.8	1.8		2.3	2.2	
						23.0		8.1		33.8		91.9		6.5			1.9			2.1		
M1	Sunny	Moderate	11:55	Surface	1.0	23.4	23.3	8.1	8.1	33.5	33.6	93.8	93.6	6.6	6.6	6.6	1.0	1.0	1.2	2.4	2.4	2.9
						23.3		8.1		33.6		93.4		6.6			1.0			2.4		
				Middle	3.1	23.2	23.2	8.1	8.1	33.7	33.7	92.4	92.6	6.5	6.5		1.3	1.2		2.7	2.9	
						23.2		8.1		33.6		92.7		6.5			1.2			3.1		
				Bottom	5.0	23.1	23.1	8.1	8.1	33.7	33.7	92.0	92.1	6.5	6.5	6.5	1.5	1.5		3.3	3.4	
						23.1		8.1		33.7		92.1		6.5			1.5			3.5		
M2	Sunny	Moderate	11:46	Surface	1.1	23.6	23.5	8.1	8.1	33.6	33.7	96.0	95.6	6.7	6.7	6.7	1.4	1.4	1.6	2.6	2.7	2.4
						23.3		8.1		33.7		95.1		6.7			1.5			2.8		
				Middle	6.0	23.0	23.1	8.1	8.1	33.7	33.7	94.0	94.3	6.6	6.6		1.2	1.2		2.4	2.3	
						23.1		8.1		33.7		94.5		6.7			1.2			2.2		
				Bottom	11.1	23.0	23.0	8.1	8.1	33.8	33.8	93.1	93.1	6.6	6.6	6.6	2.0	2.1		2.1	2.1	
						23.0		8.1		33.8		93.0		6.6			2.2			2.1		
M3	Sunny	Moderate	12:06	Surface	1.0	23.4	23.3	8.1	8.1	33.6	33.6	95.6	95.1	6.7	6.7	6.6	1.7	1.7	1.6	2.6	2.7	2.2
						23.3		8.1		33.7		94.5		6.6			1.7			2.8		
				Middle	4.1	23.1	23.1	8.1	8.1	33.7	33.7	92.3	92.4	6.5	6.5		1.6	1.5		2.4	2.2	
						23.1		8.1		33.7		92.4		6.5			1.5			2.0		
				Bottom	7.1	23.1	23.1	8.1	8.1	33.8	33.8	92.1	92.2	6.5	6.5	6.5	1.6	1.6		1.7	1.8	
						23.0		8.1		33.8		92.3		6.5			1.6			1.9		
M4	Sunny	Moderate	11:42	Surface	1.1	23.6	23.6	8.1	8.1	33.7	33.7	98.2	97.8	6.9	6.8	6.8	1.3	1.3	1.3	1.7	1.8	2.3
						23.6		8.1		33.8		97.4		6.8			1.3			1.9		
				Middle	5.0	23.1	23.1	8.1	8.1	33.7	33.7	95.1	95.3	6.7	6.7		1.4	1.4		2.1	2.2	
						23.1		8.1		33.7		95.5		6.7			1.3			2.3		
				Bottom	9.0	23.1	23.0	8.1	8.1	33.7	33.7	94.6	94.5	6.7	6.7	6.7	1.4	1.3		2.6	2.8	
						23.0		8.1		33.8		94.4		6.7			1.3			2.9		
M5	Sunny	Moderate	12:19	Surface	1.1	23.2	23.2	8.1	8.1	33.8	33.8	95.0	94.8	6.7	6.7	6.7	1.7	1.7	1.6	1.6	1.8	2.3
						23.2		8.1		33.8		94.5		6.7			1.7			1.9		
				Middle	6.1	23.1	23.1	8.1	8.1	33.8	33.8	94.5	94.5	6.7	6.7		1.4	1.4		2.2	2.3	
						23.1		8.1		33.8		94.4		6.7			1.3			2.4		
				Bottom	11.1	23.0	23.0	8.1	8.1	33.8	33.8	94.2	94.1	6.7	6.6	6.6	1.6	1.6		2.9	2.8	
						23.0		8.1		33.8		94.0		6.6			1.6			2.6		
M6	Sunny	Moderate	12:15	Surface	-	-	-	-	-	-	-	-	-	-	-	6.7	-	-	1.6	-	-	1.8
						-		-		-		-		-			-			-		
				Middle	2.1	23.2	23.2	8.1	8.1	33.7	33.7	95.0	94.8	6.7	6.7		8.0	8.0		1.6	1.8	
						23.2		8.1		33.7		94.6		6.7			8.0			1.9		
				Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
						-		-		-		-		-			-			-		

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Action and Limit Levels for Marine Water Quality on 28 April 2023 (Mid-Flood Tide)

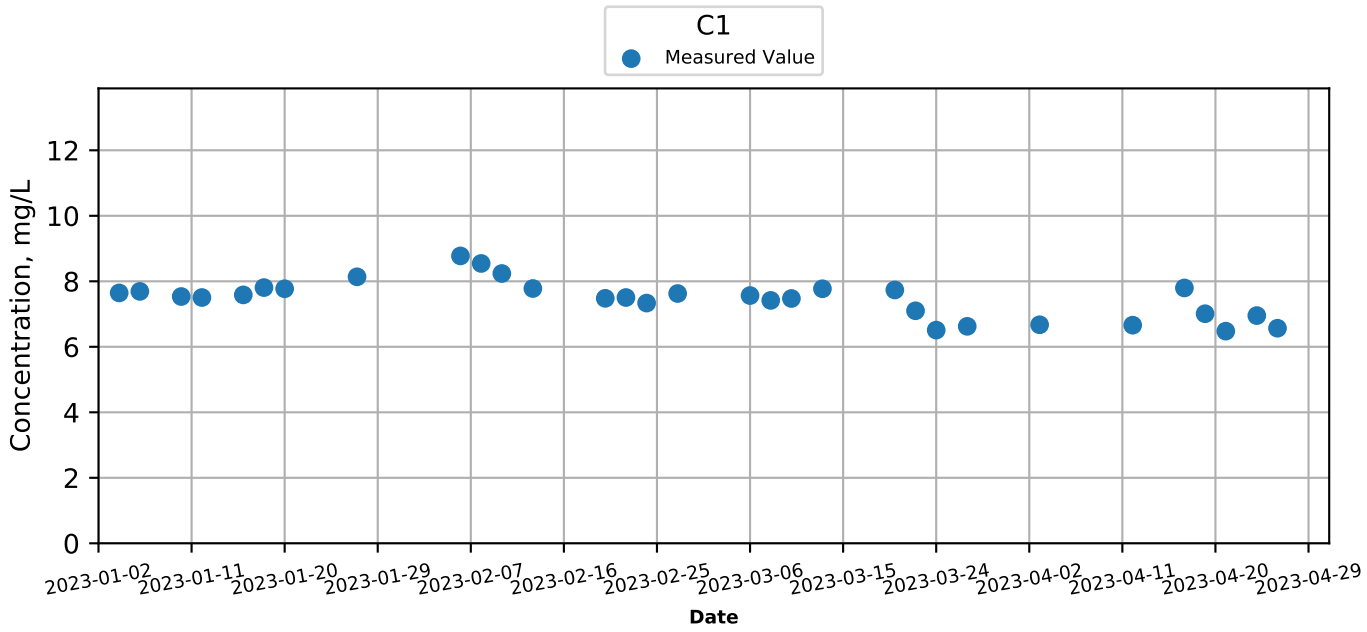
Parameter (unit)	**Depth**	**Action Level**	**Limit Level**
DO in mg/L (See Note 1 and 4)	**Stations G1-G4, M1-M5**		
	Depth Average	***4.9 mg/L***	***4.6 mg/L***
	Bottom	***4.2 mg/L***	***3.6 mg/L***
	Station M6		
	Intake Level	***5.0 mg/L***	***4.7 mg/L***
Turbidity in NTU (See Note 2 and 4)	**Stations G1-G4, M1-M5**		
	Bottom	***19.3 NTU***	***22.2 NTU***
		or 120% of upstream control station's Turbidity at the same tide of the same day	or 130% of upstream control station's Turbidity at the same tide of the same day
		C1: 2.1 NTU	***C1: 2.3 NTU***
	Station M6		
	Intake Level	***19.0 NTU***	***19.4 NTU***
SS in mg/L (See Note 2 and 4)	**Stations G1-G4**		
	Surface	***6.0 mg/L***	***6.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 3.5 mg/L	***C1: 3.8 mg/L***
	Stations M1-M5		
	Surface	***6.2 mg/L***	***7.4 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 3.5 mg/L	***C1: 3.8 mg/L***
	Stations G1-G4, M1-M5		
	Bottom	***6.9 mg/L***	***7.9 mg/L***
		or 120% of upstream control station's SS at the same tide of the same day	or 130% of upstream control station's SS at the same tide of the same day
		C1: 2.9 mg/L	***C1: 3.1 mg/L***
	Station M6		
	Intake Level	***8.3 mg/L***	***8.6 mg/L***

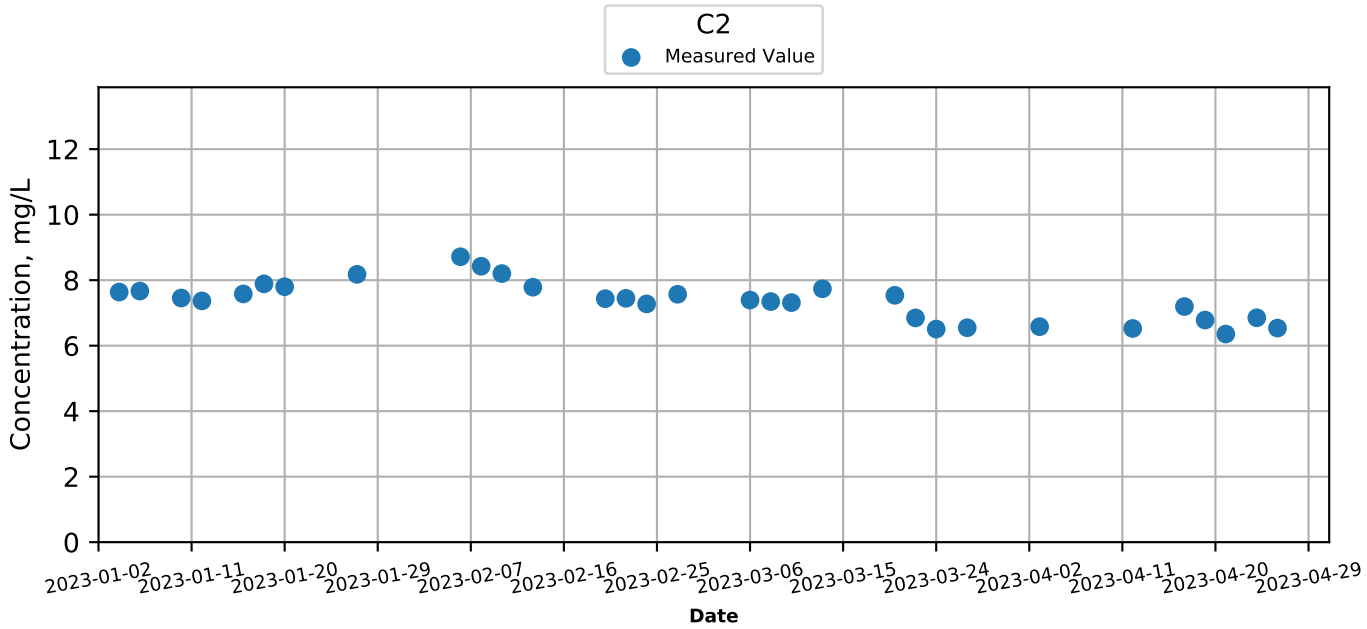
Notes:

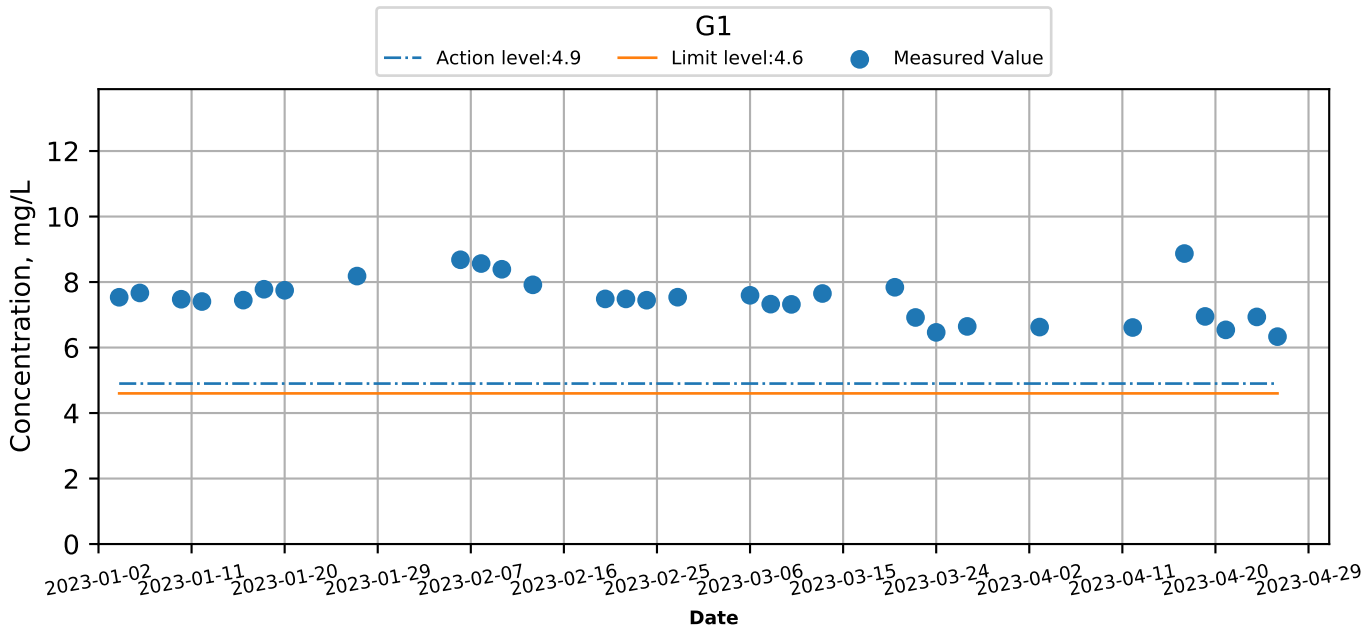
1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values are derived based on baseline water quality monitoring results to show the actual baseline water quality condition.

Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb

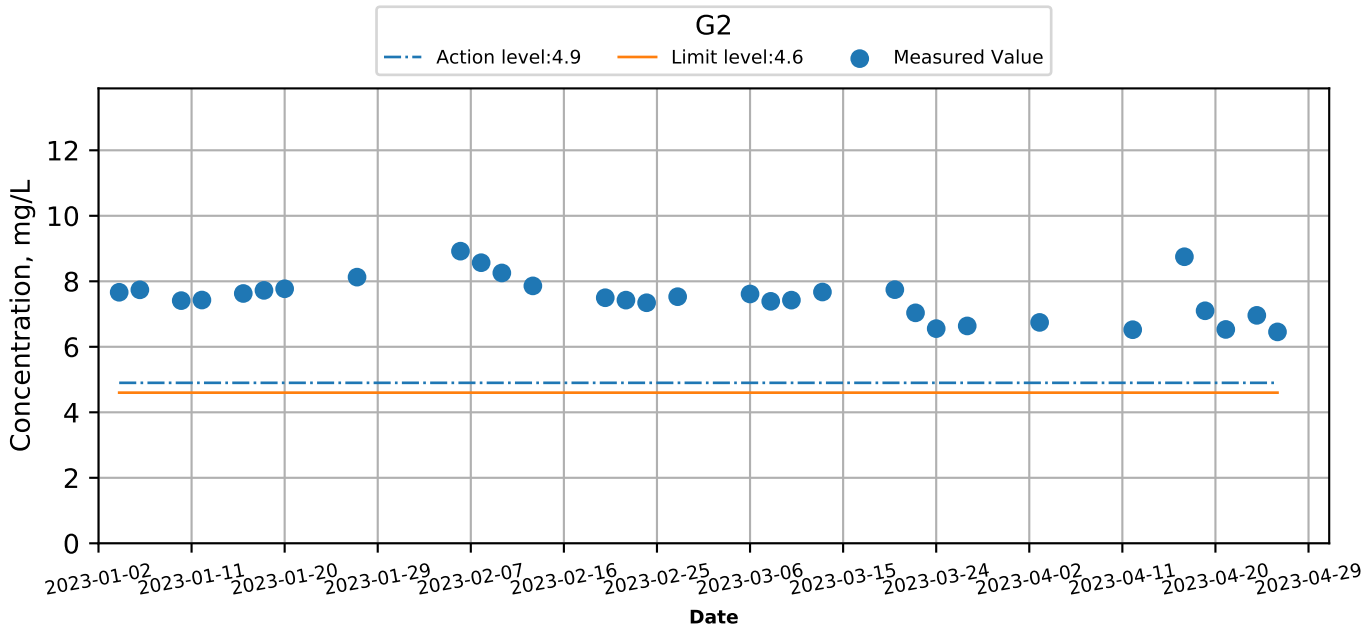


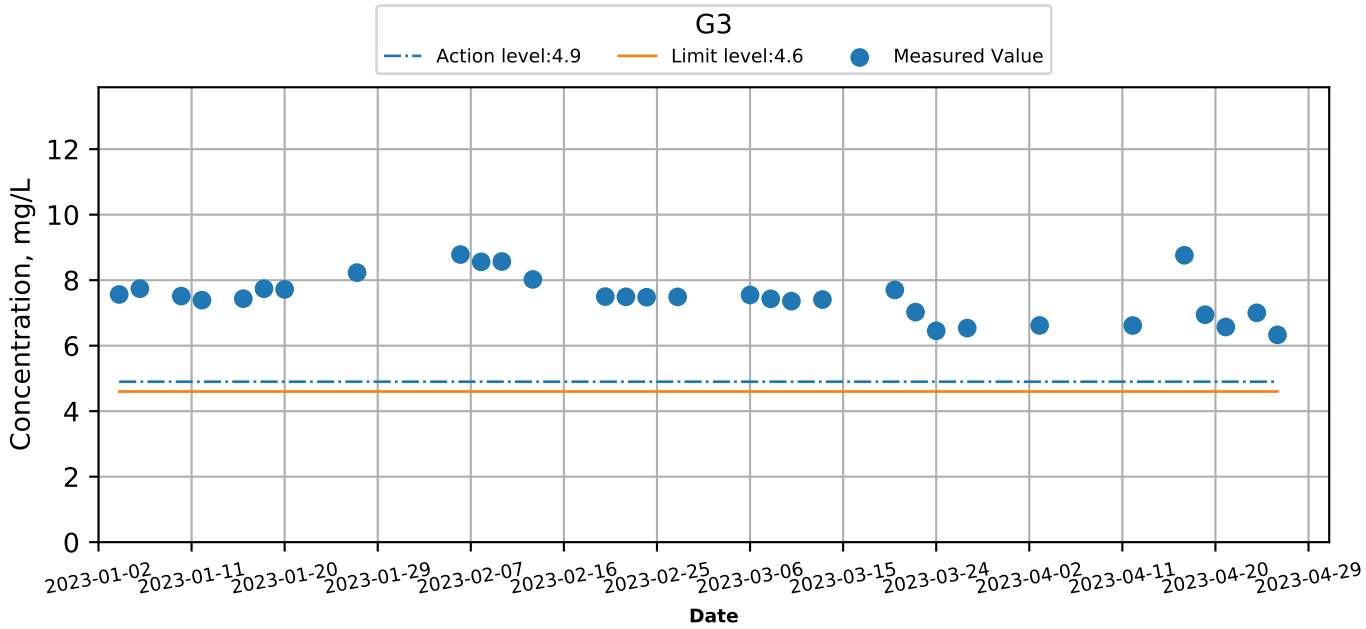


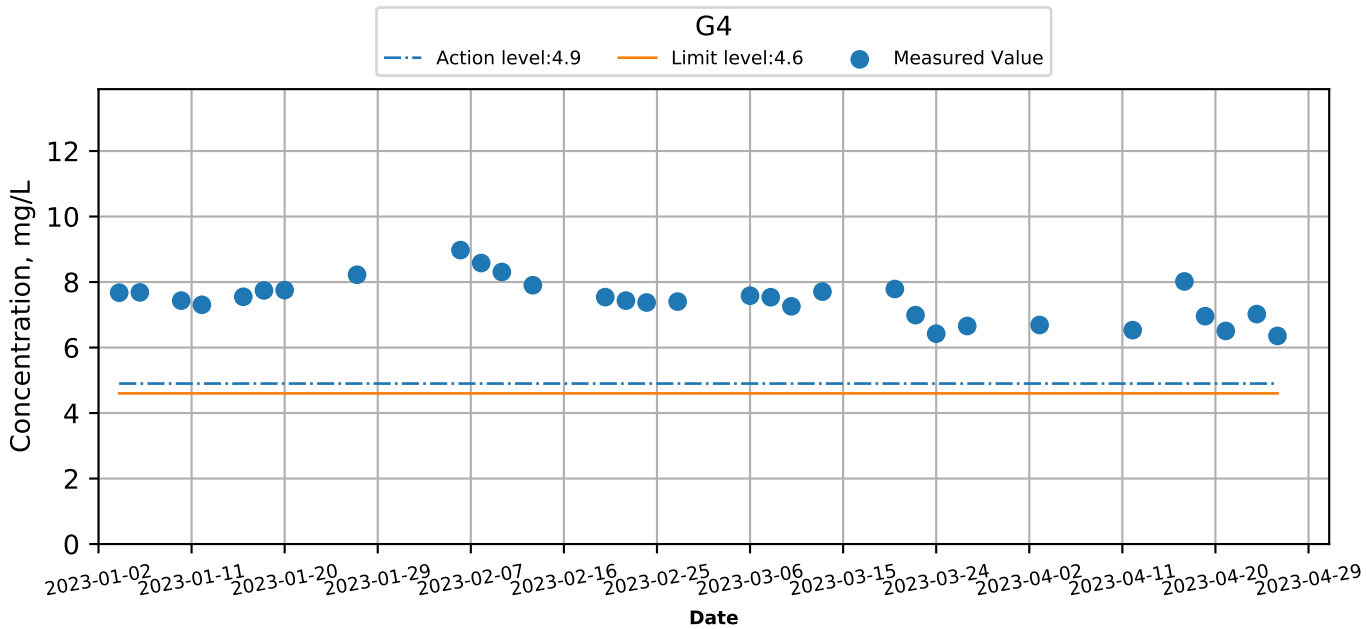


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb

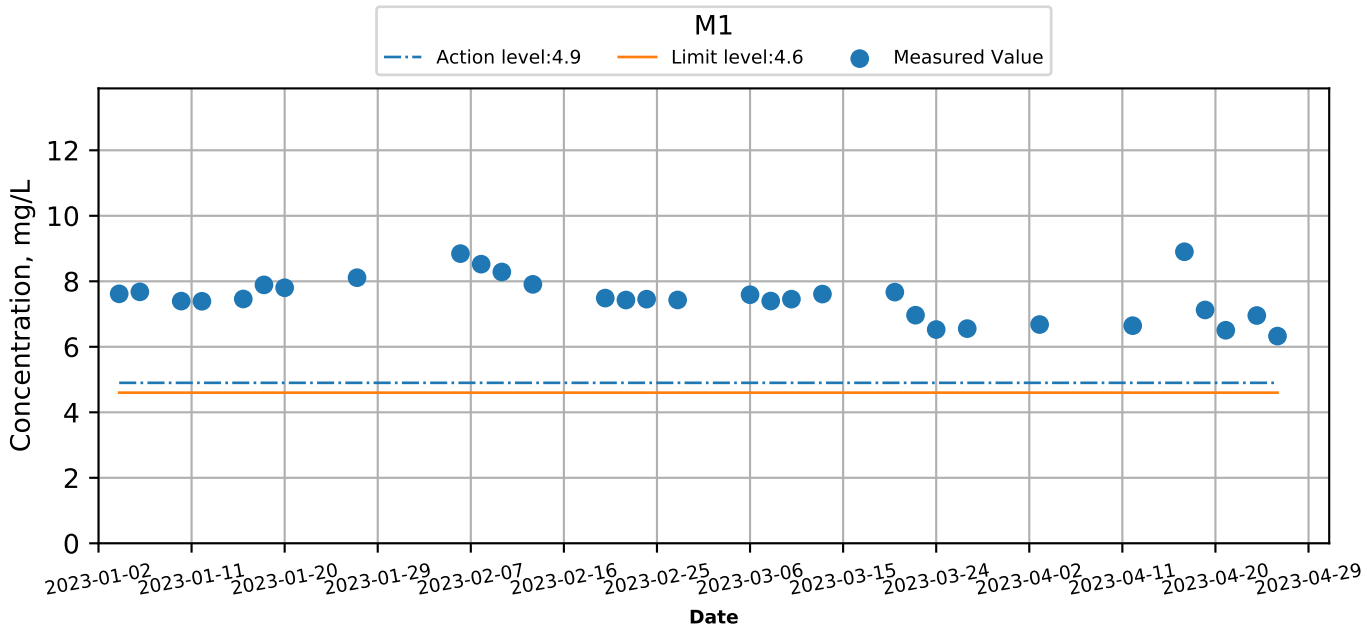


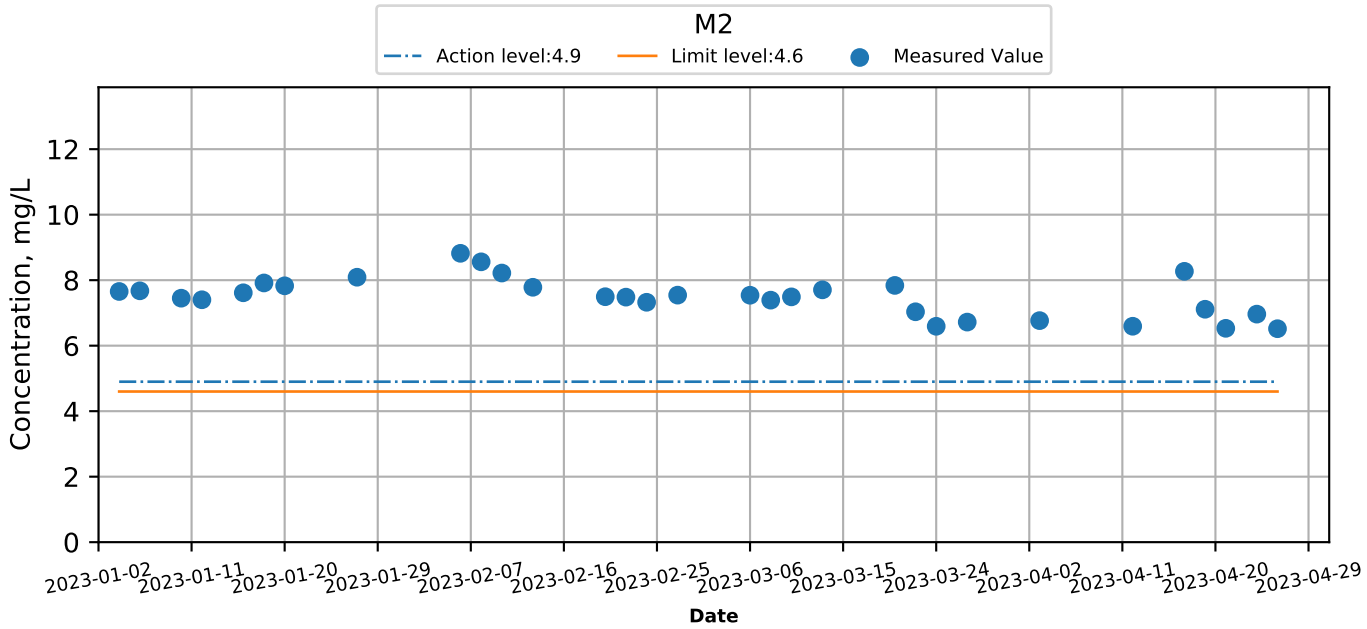


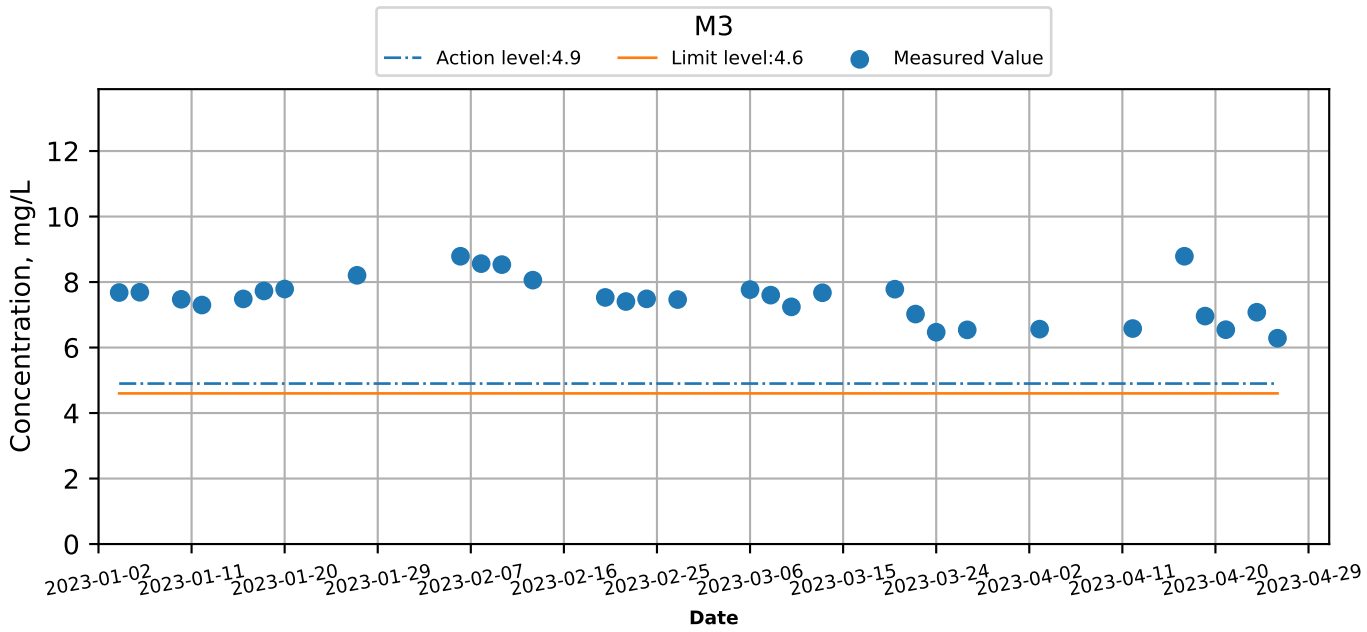


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb

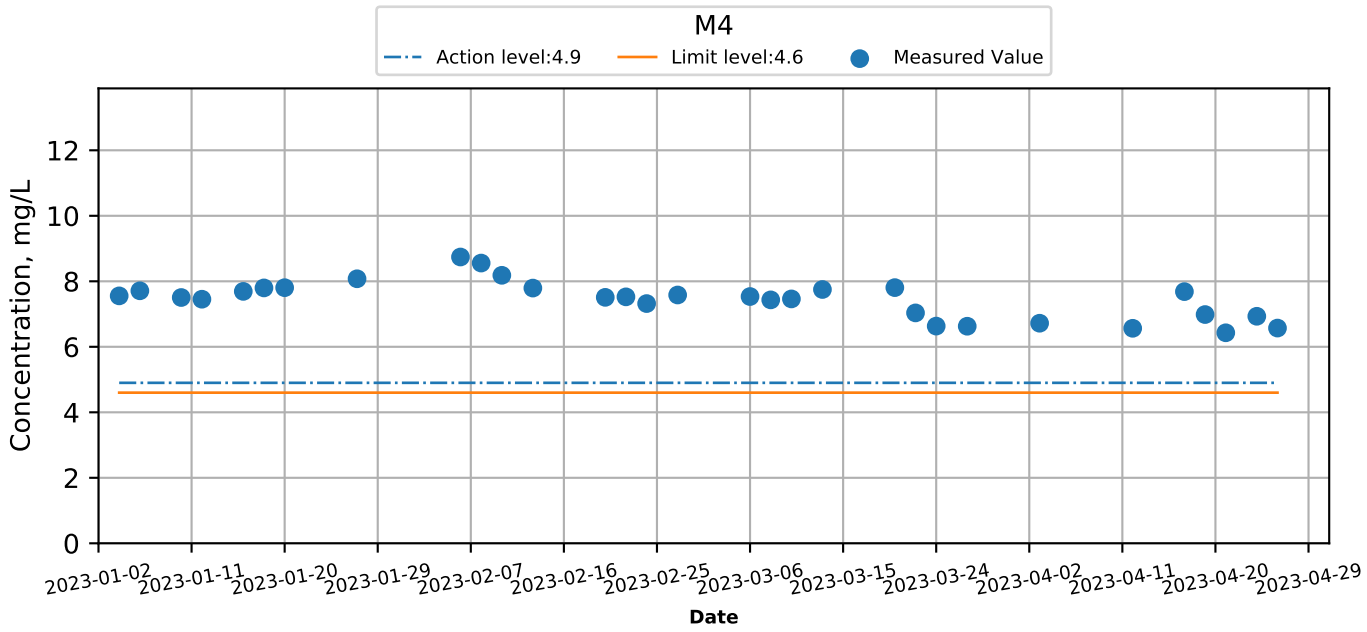


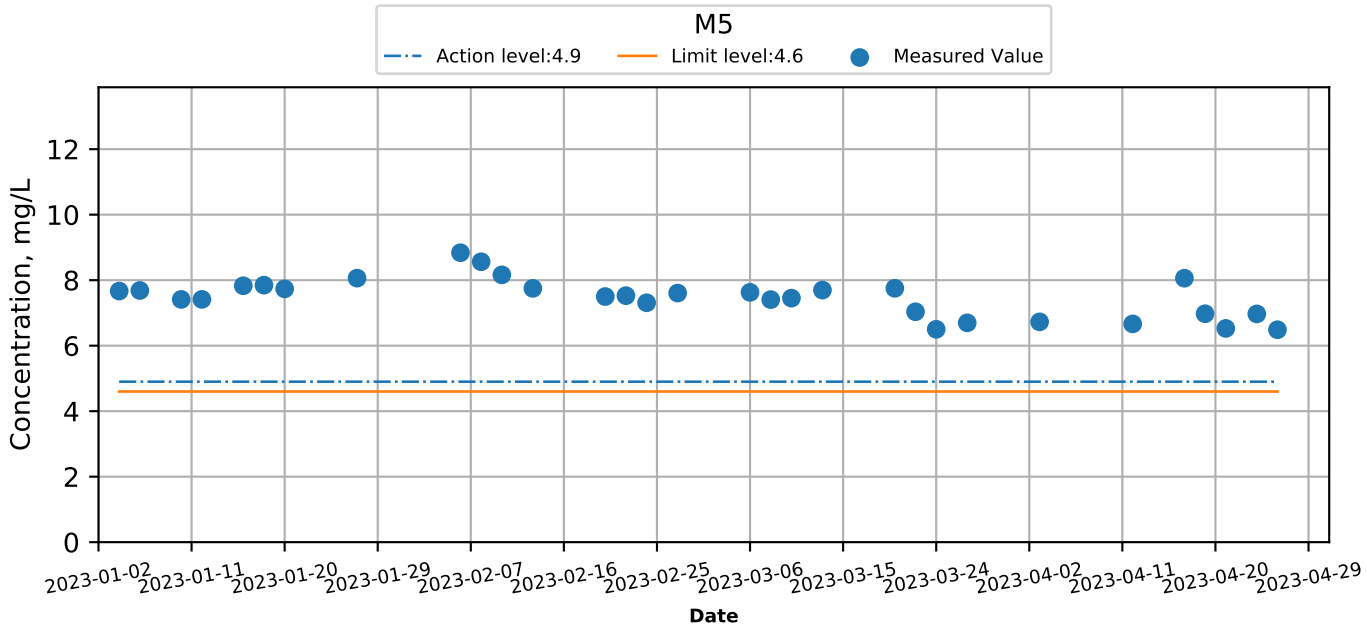




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

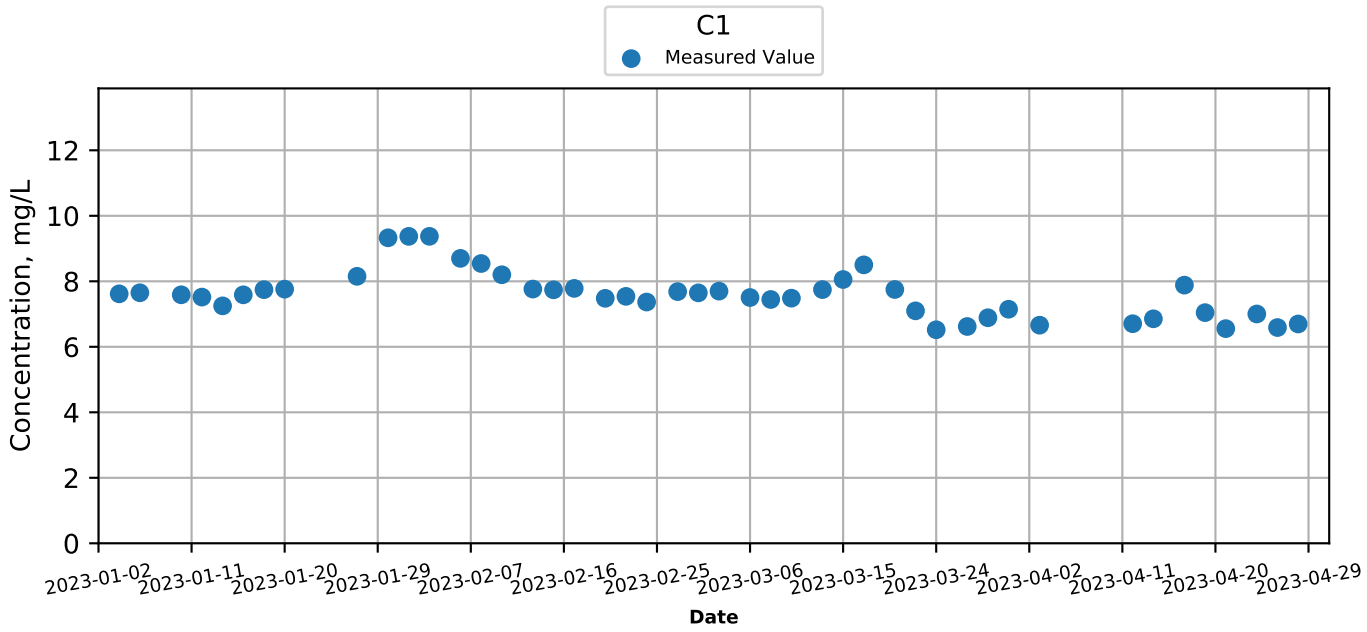
Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb

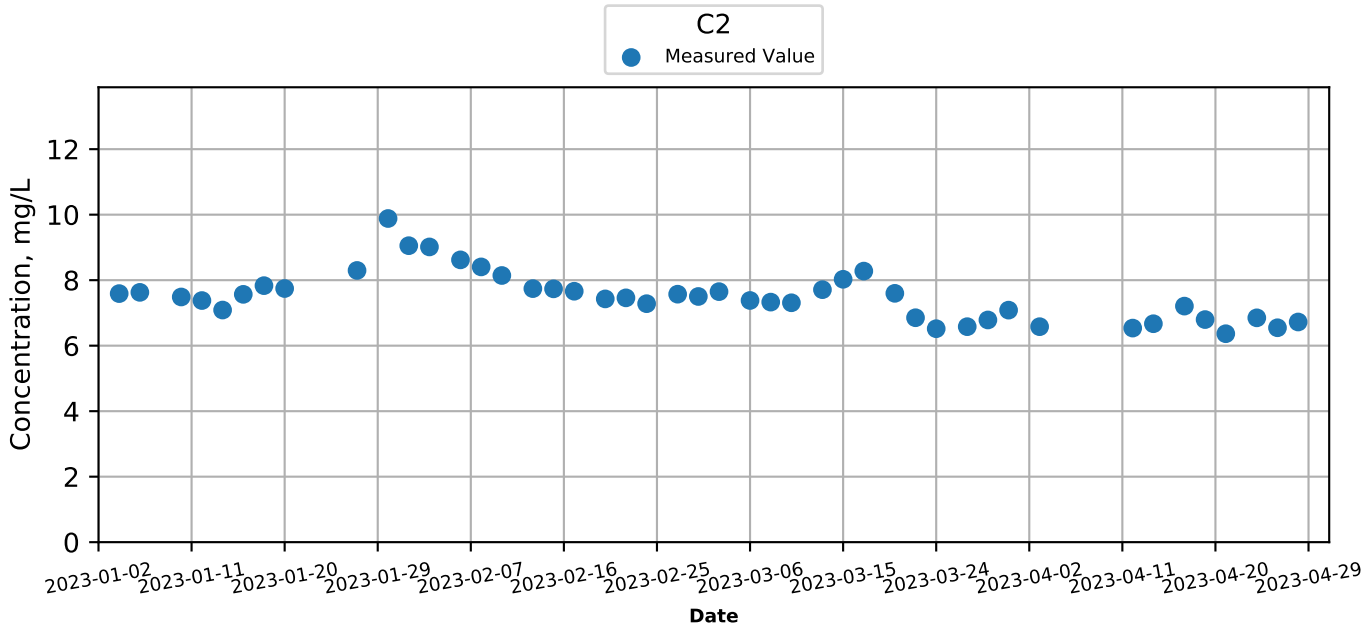


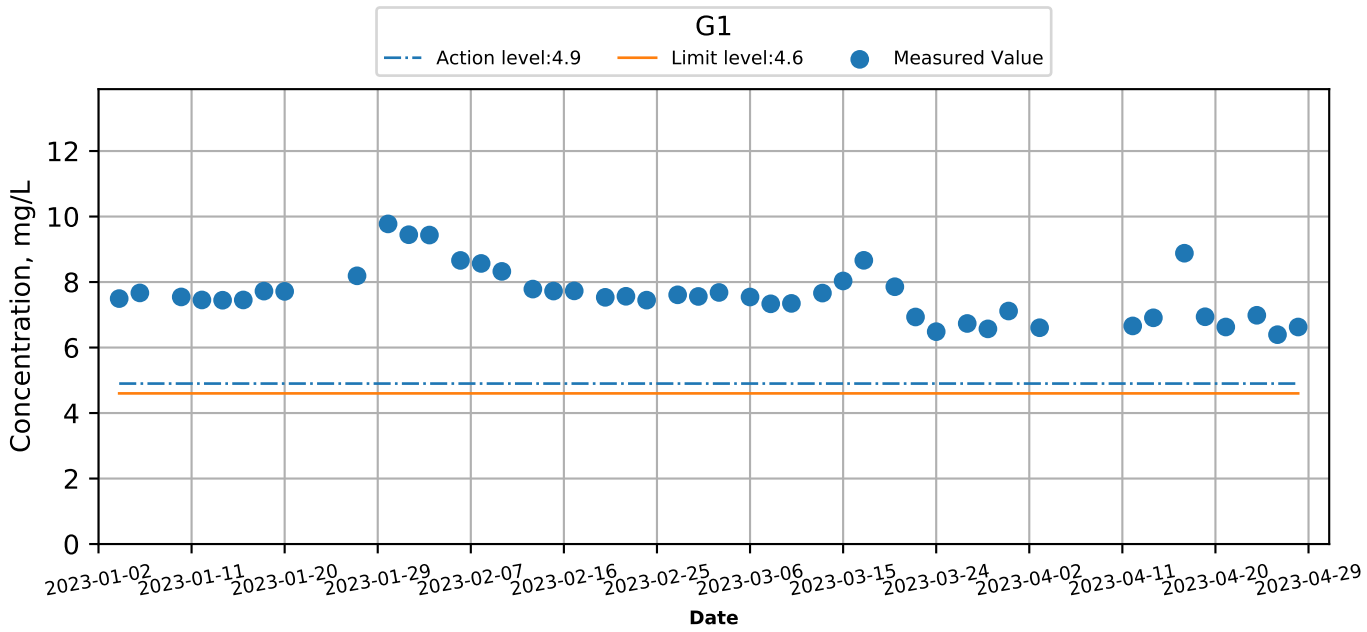


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood

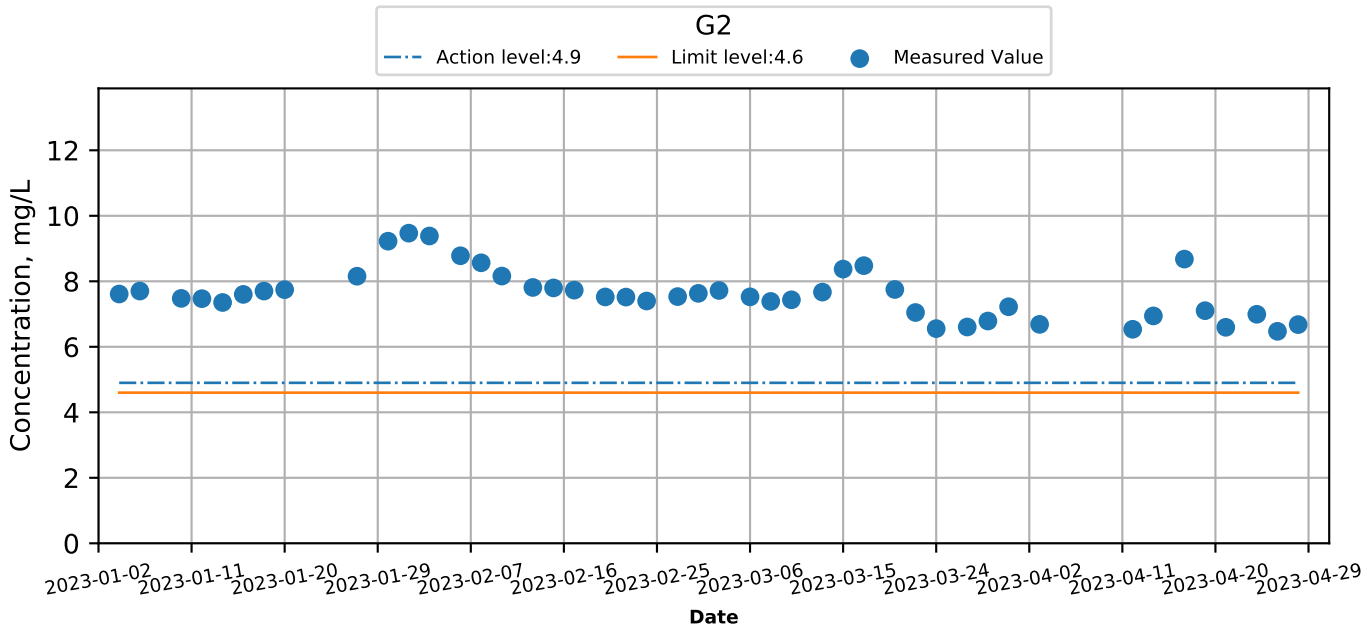


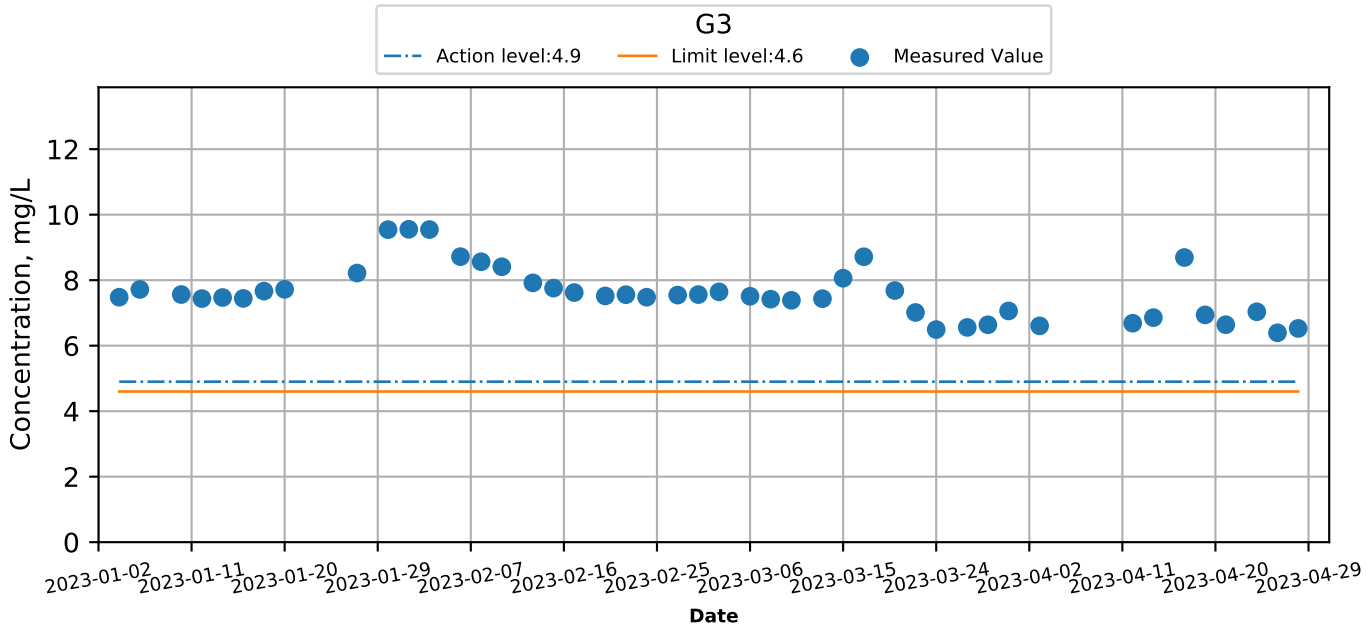


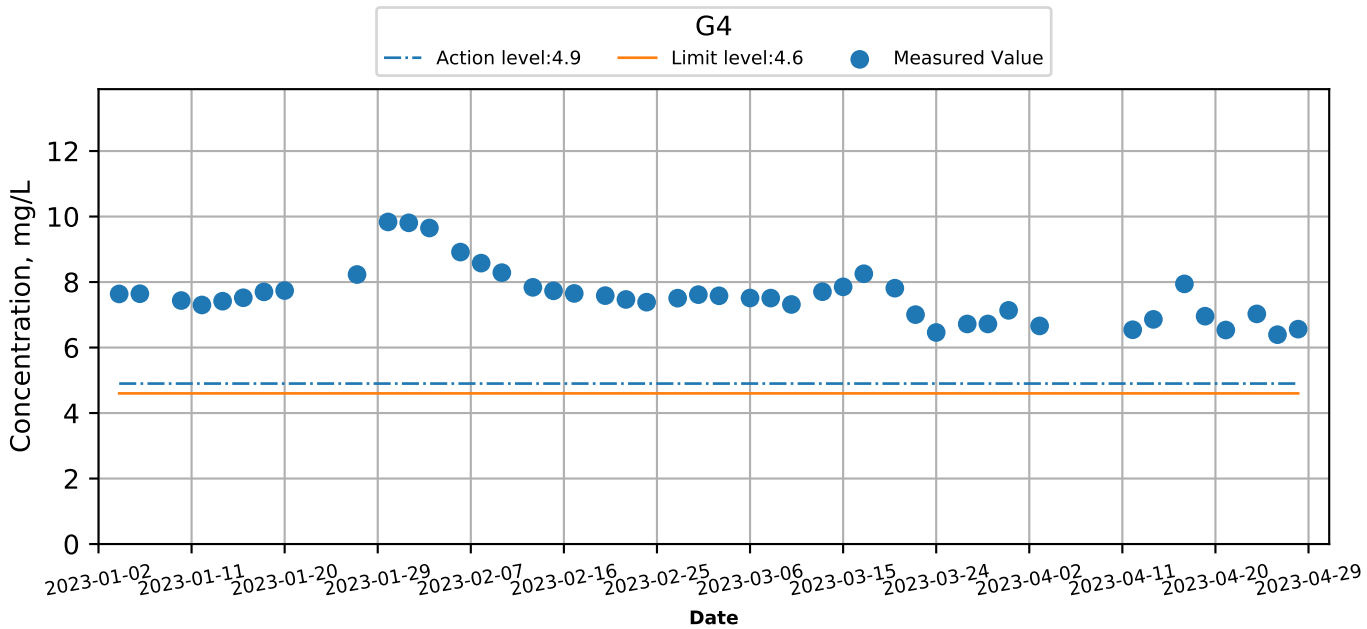


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood

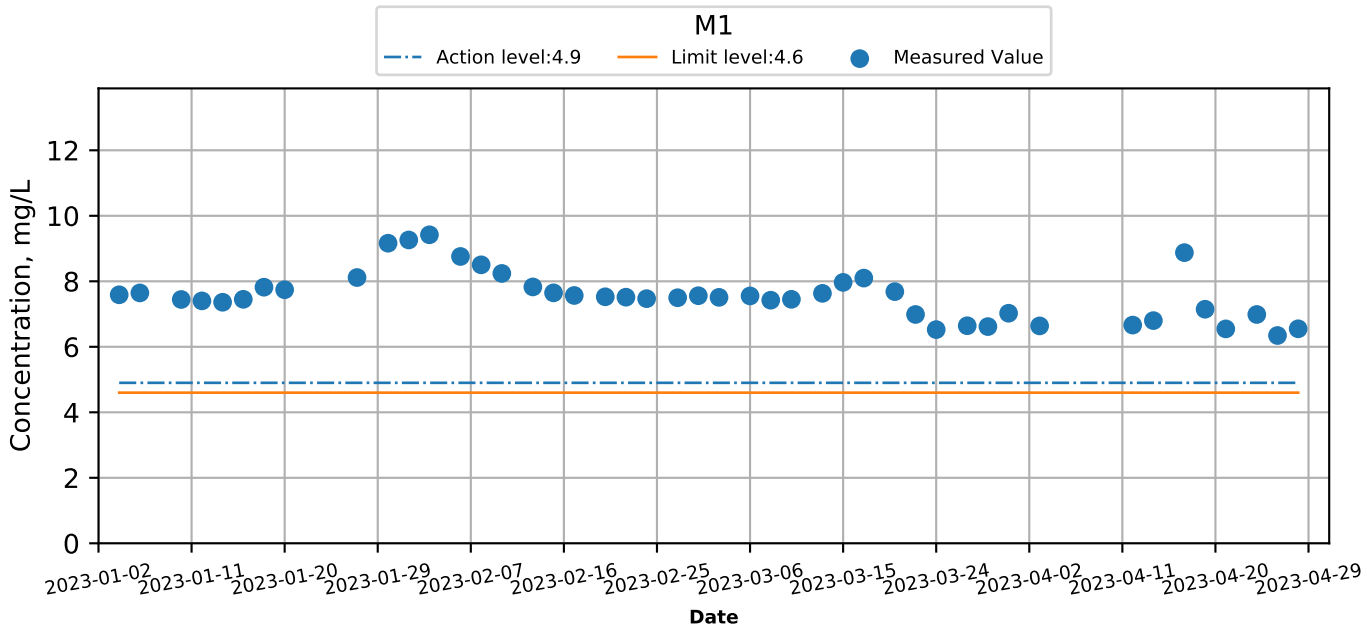


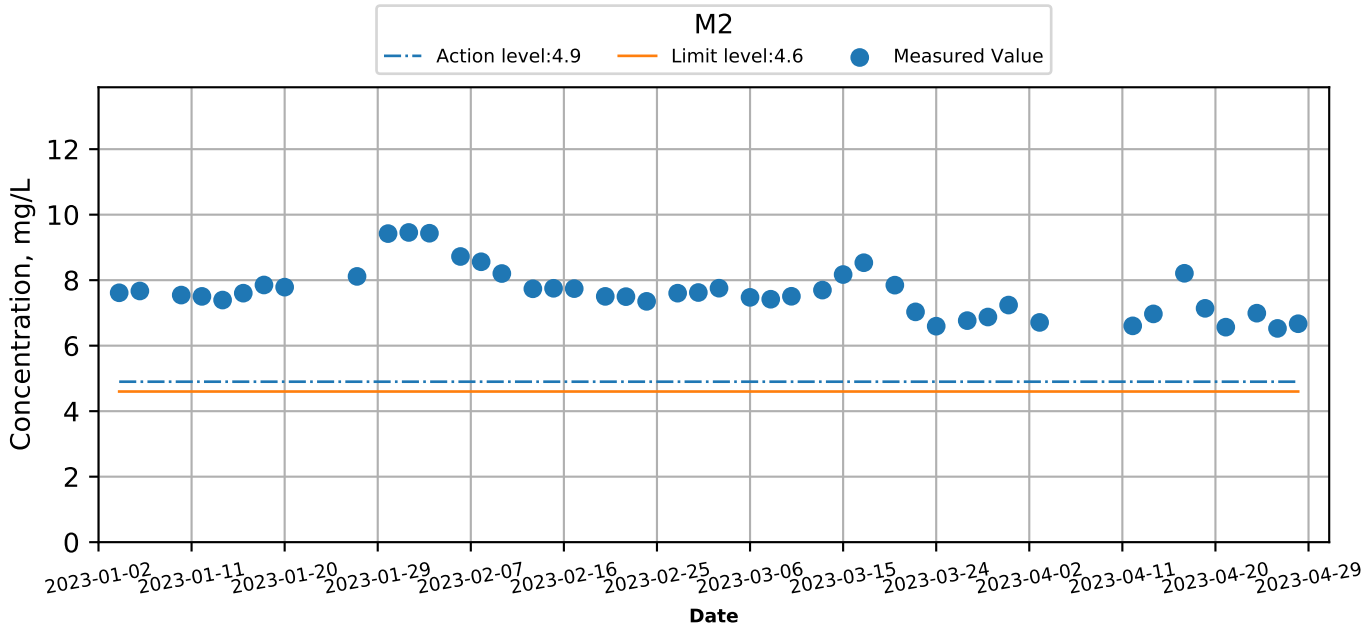


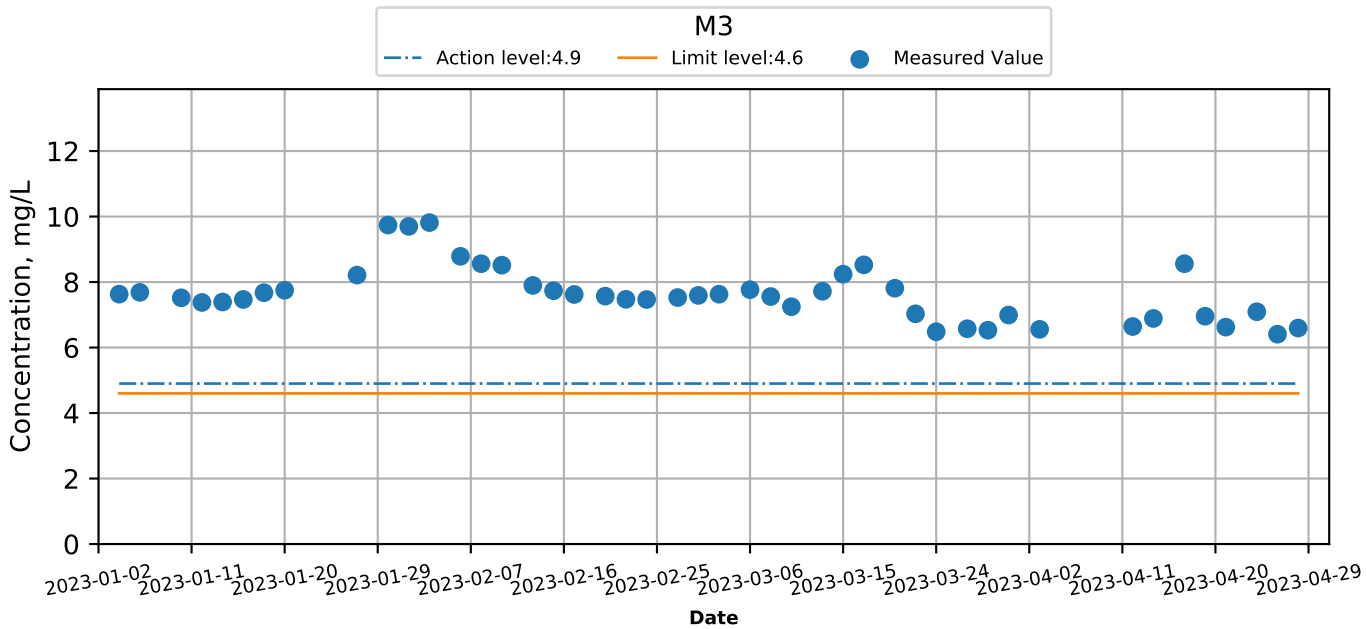


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood

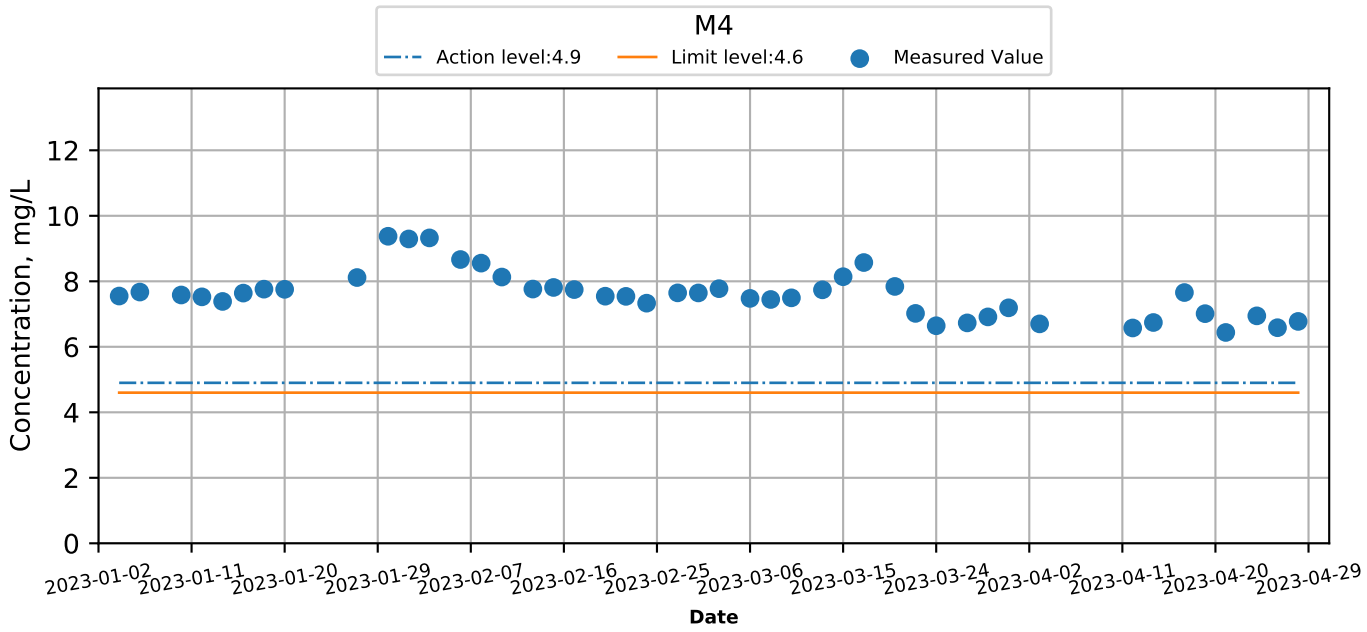


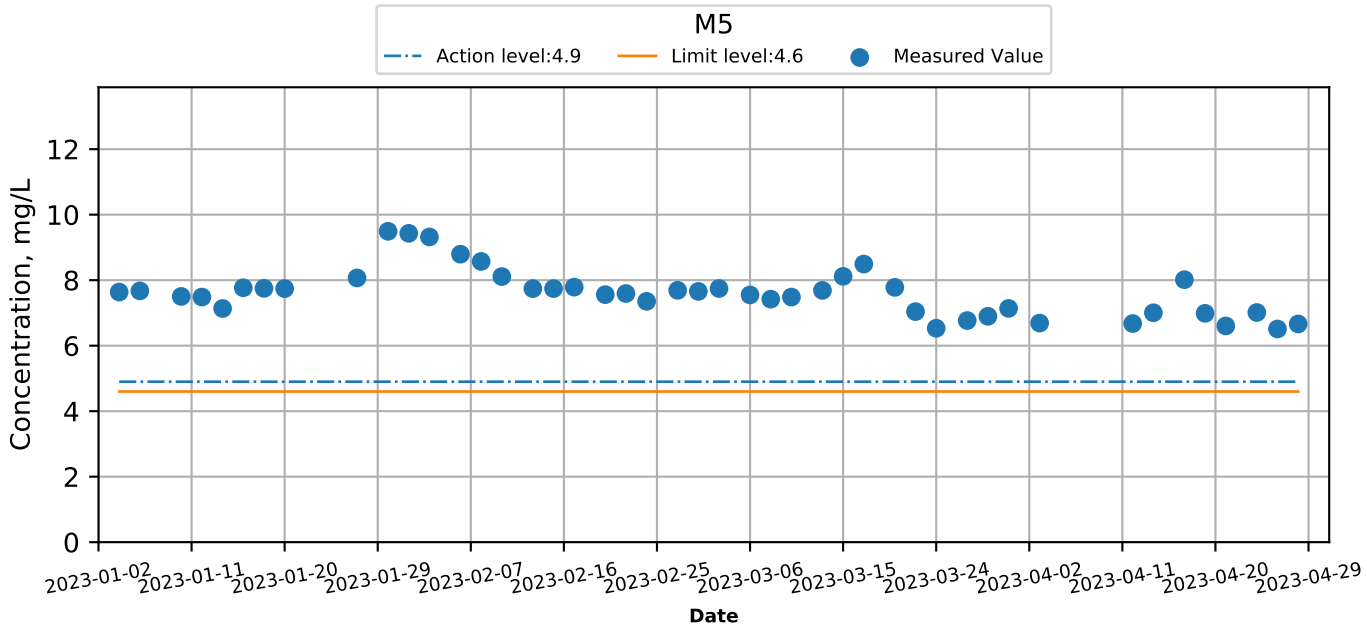




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

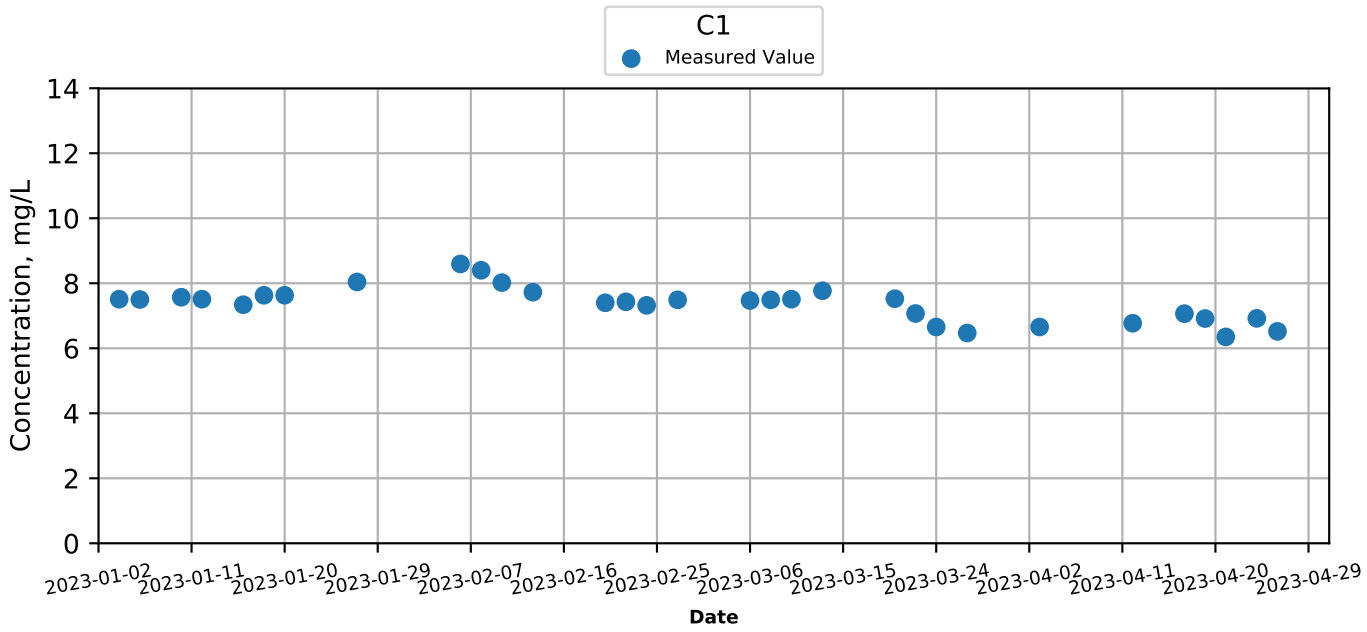
Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood

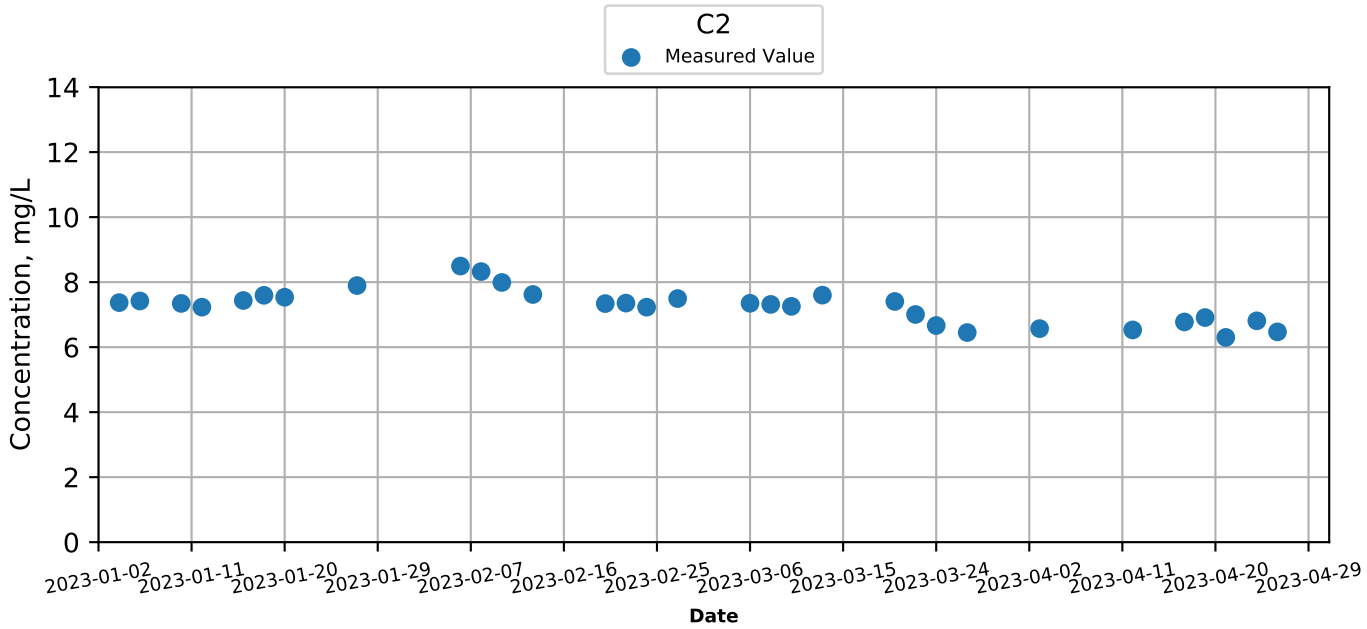


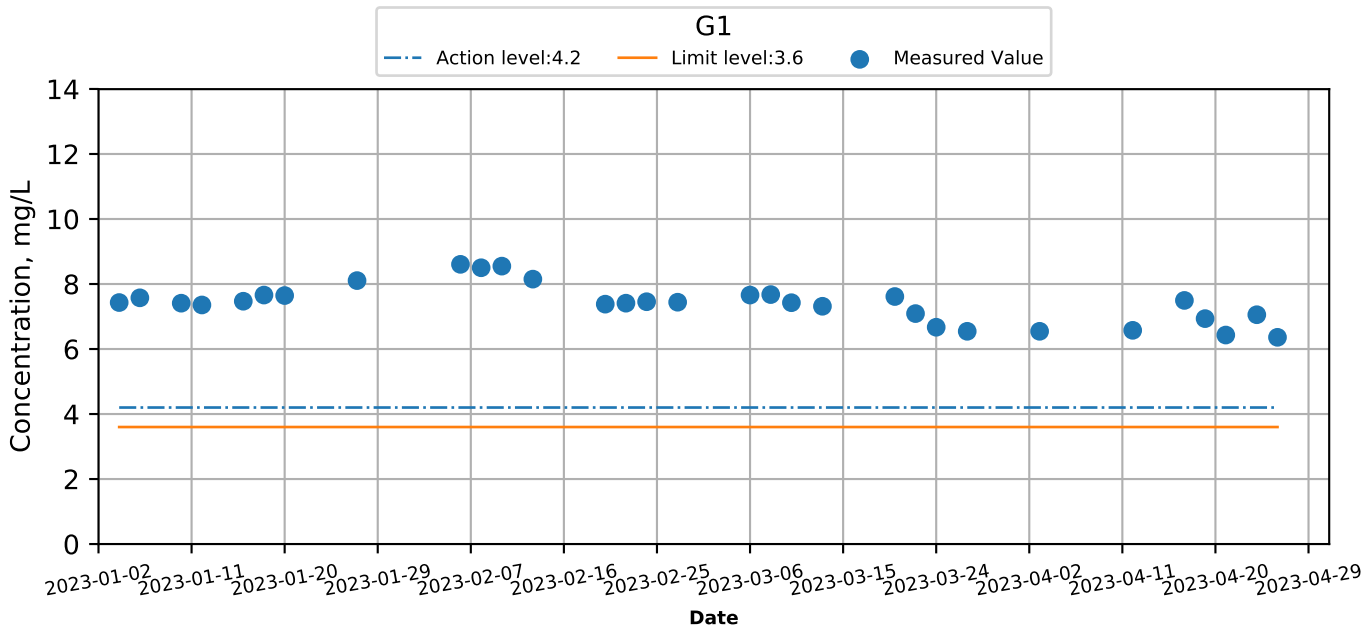


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb

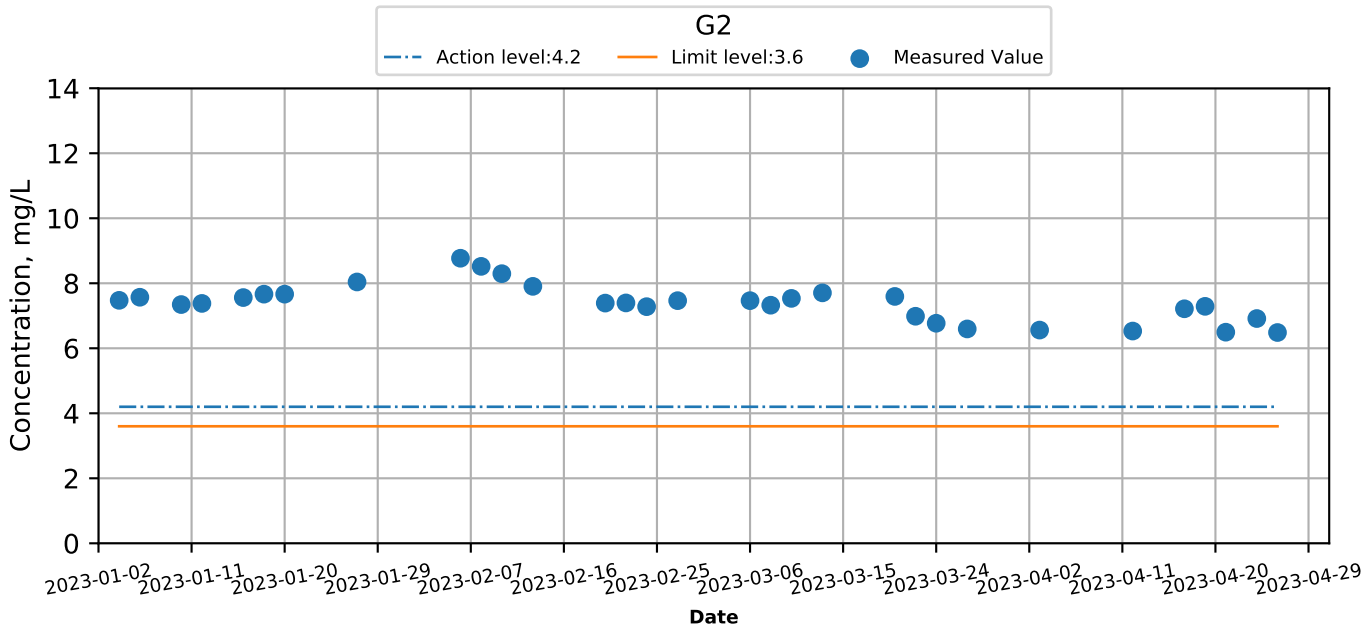


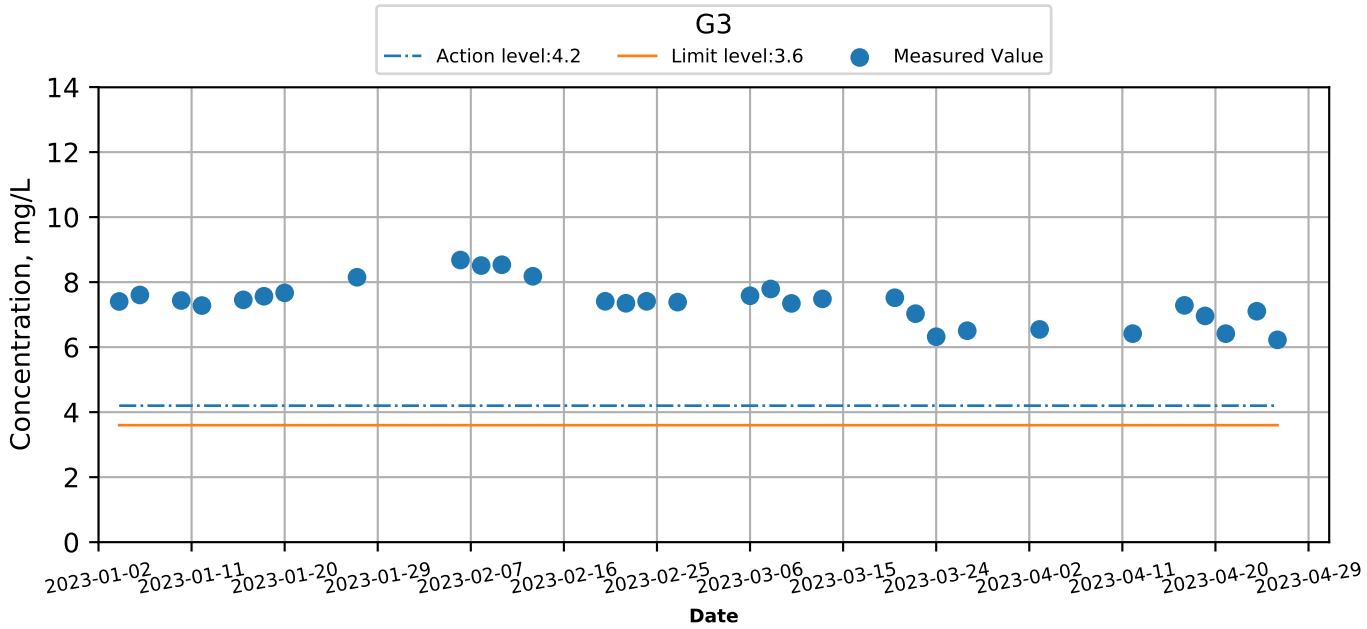


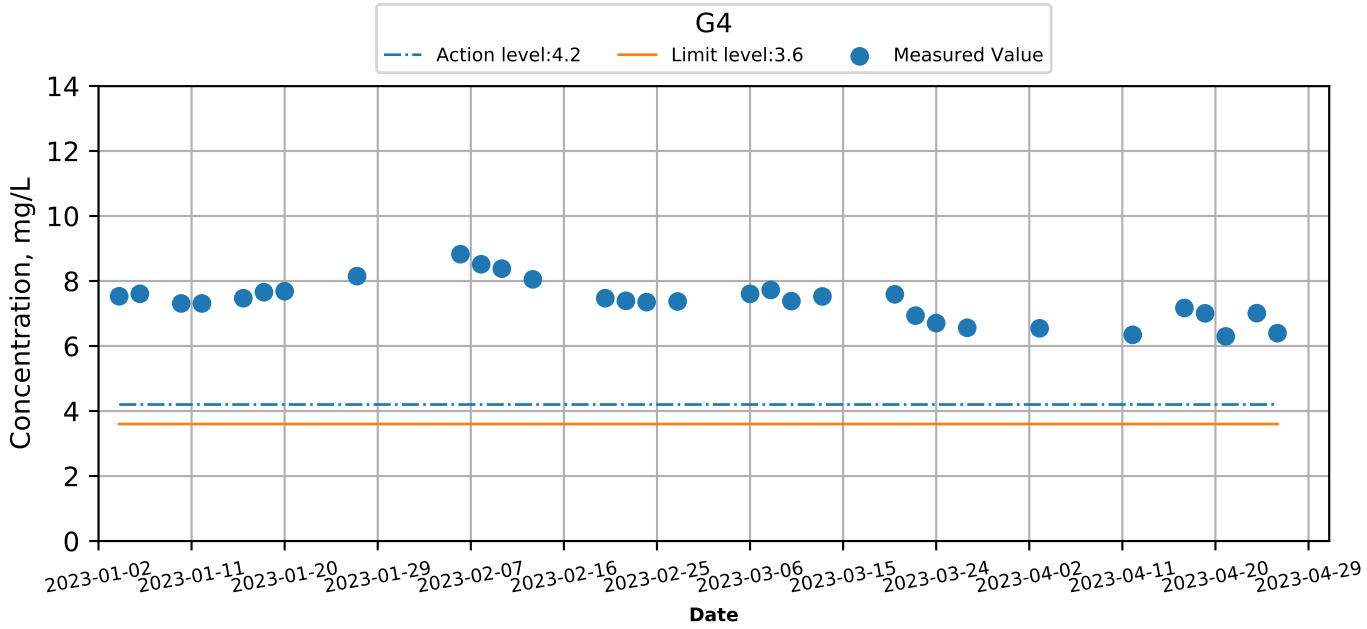


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb

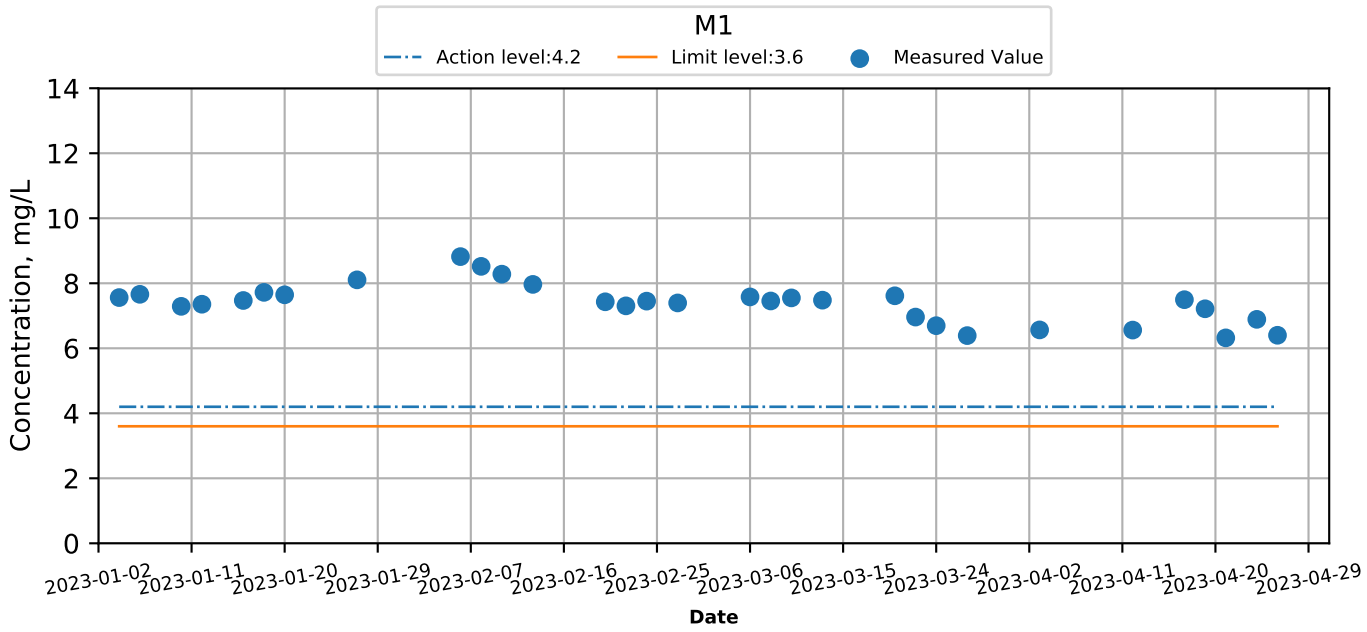


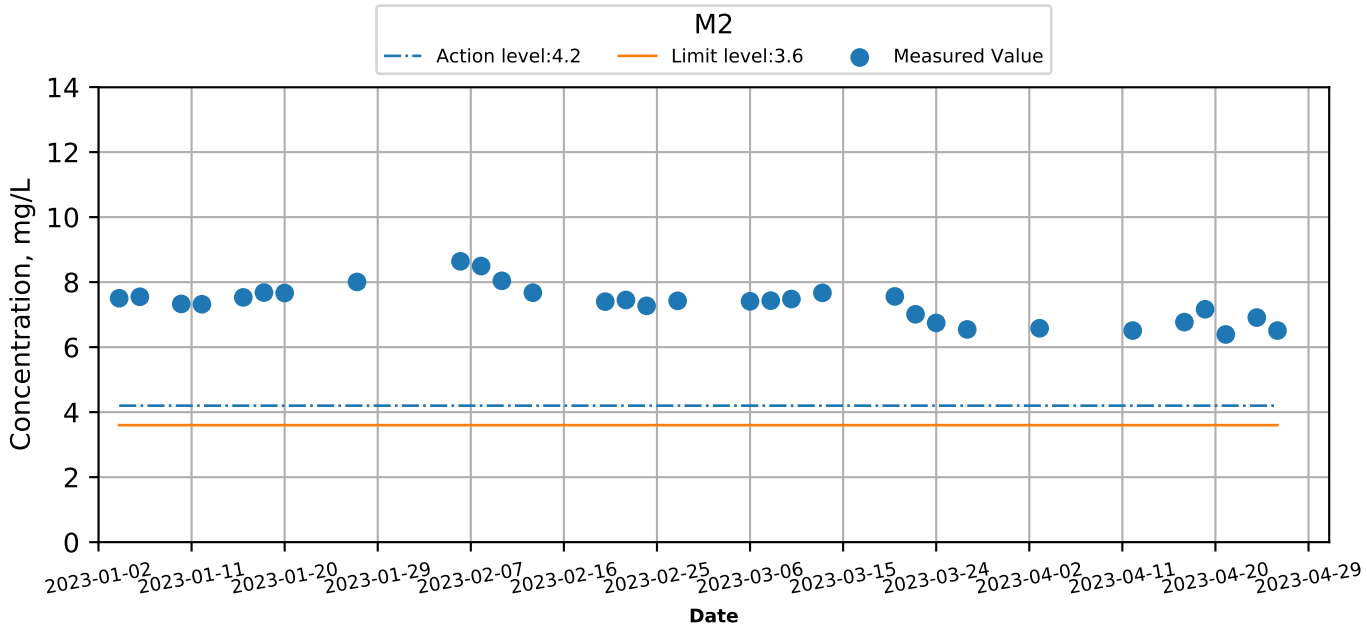


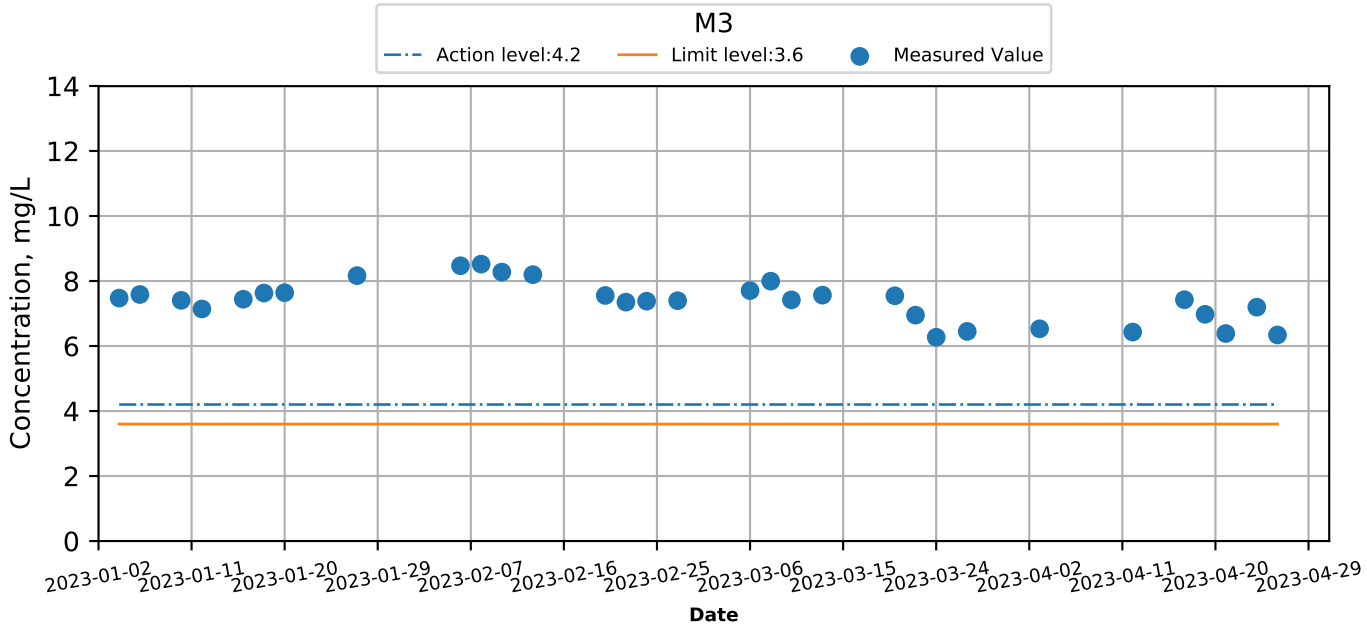


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb

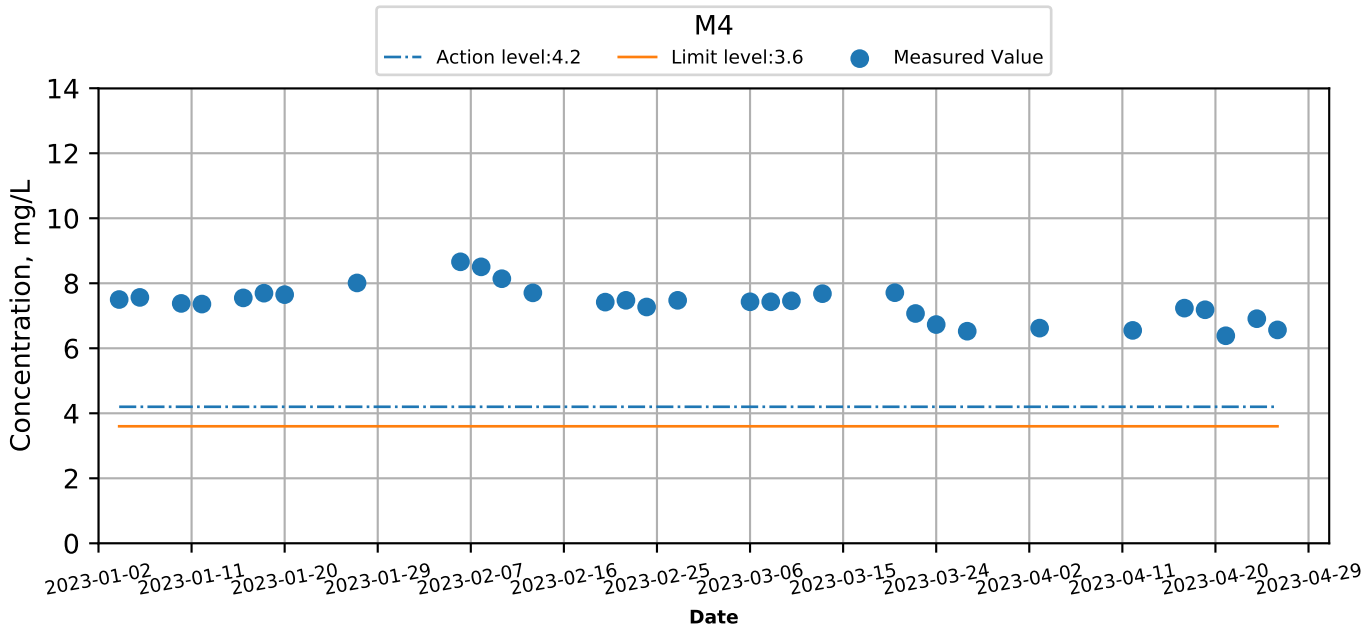


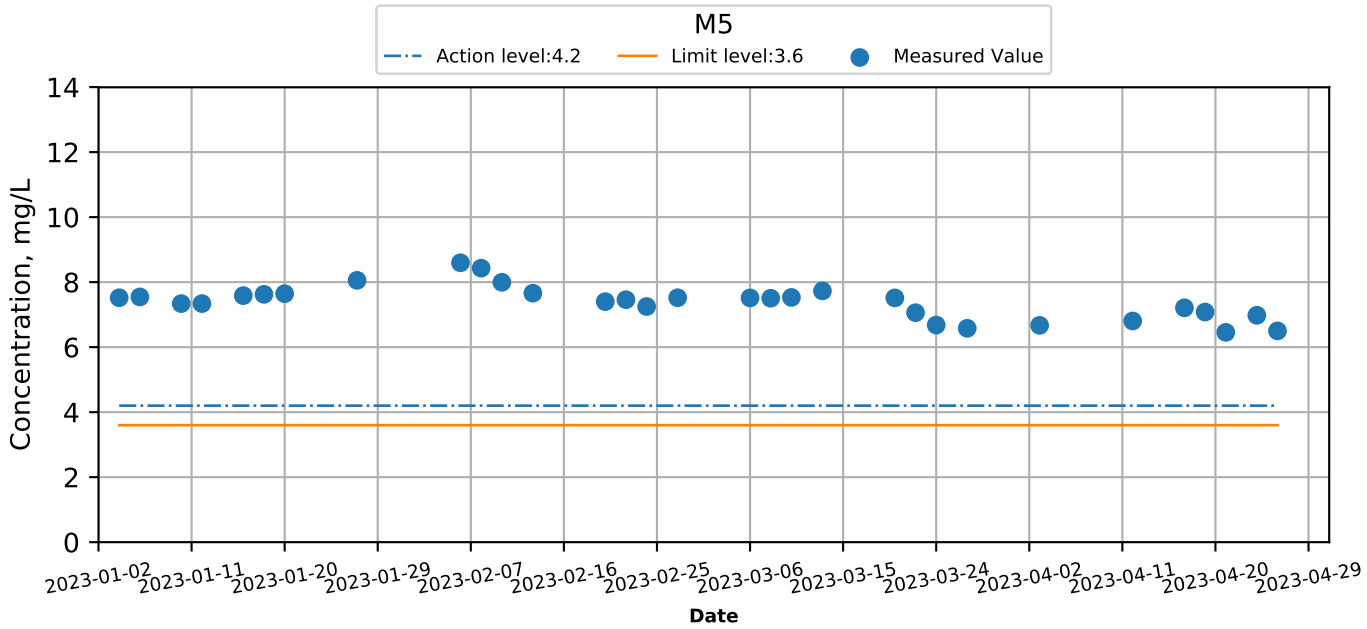




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

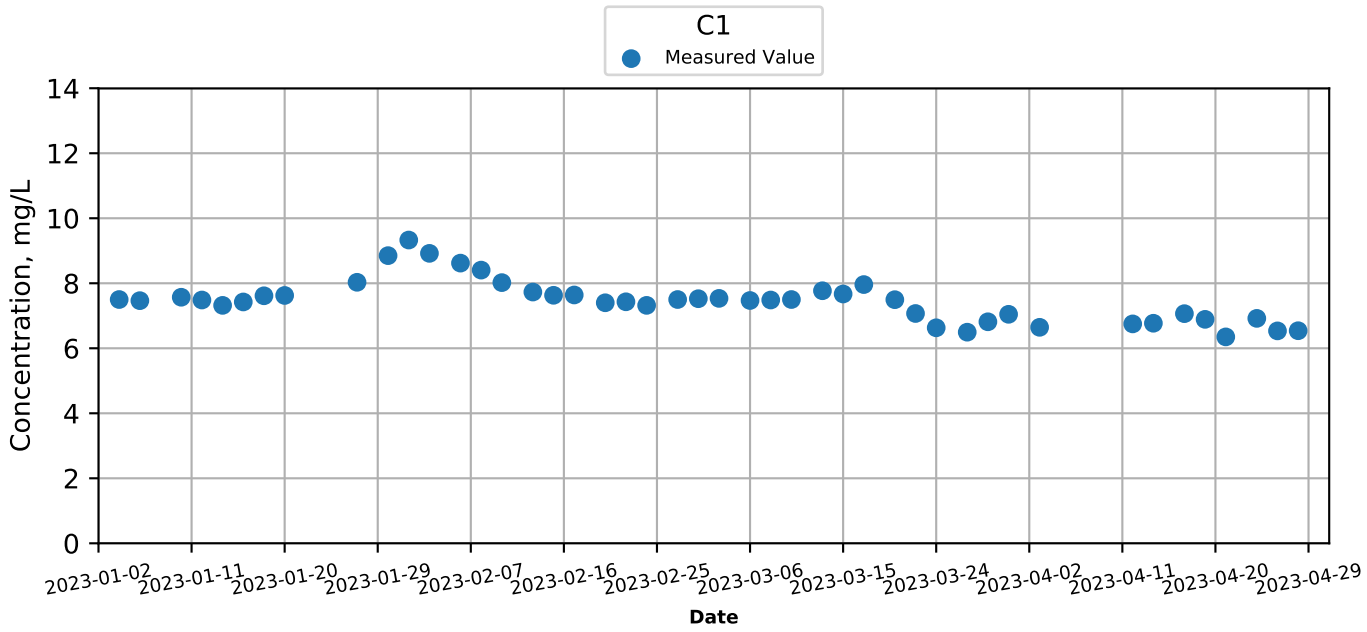
Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb

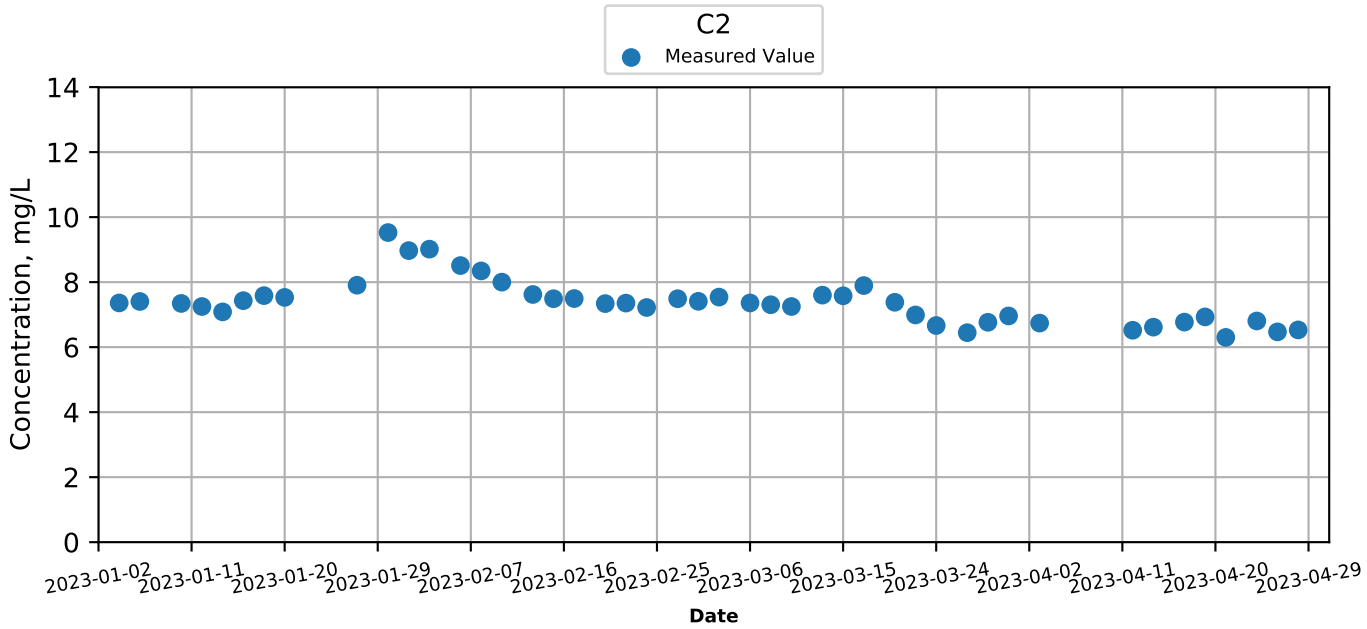


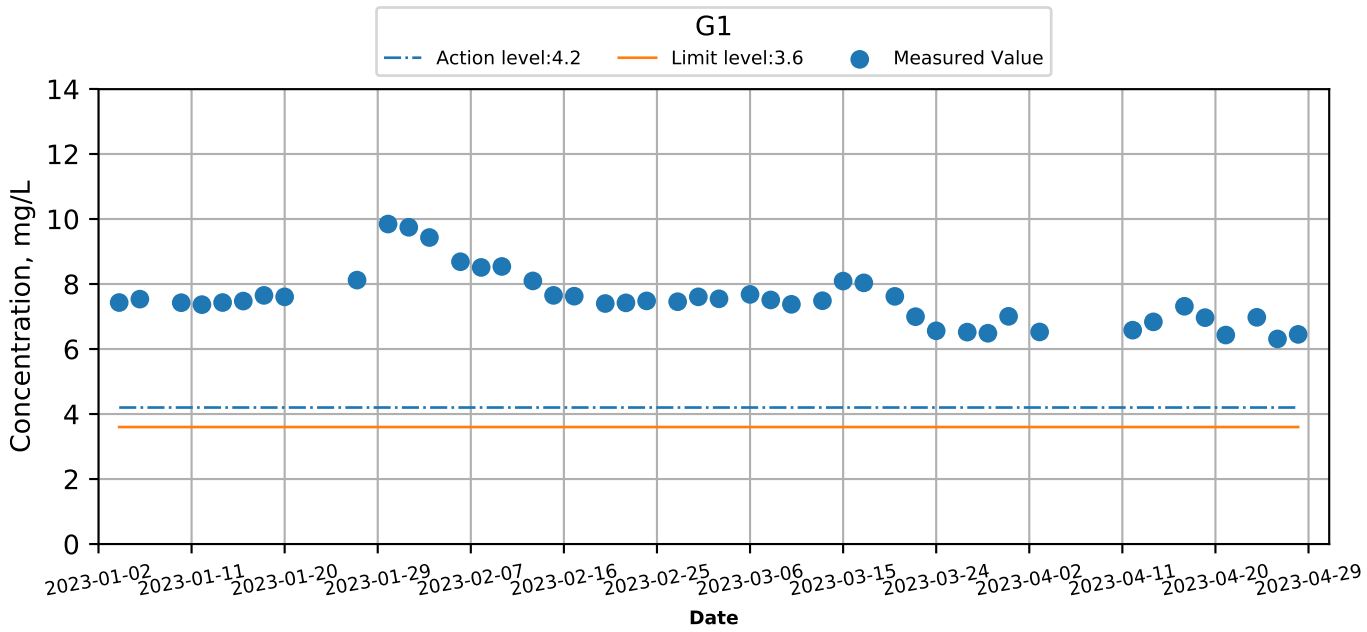


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood

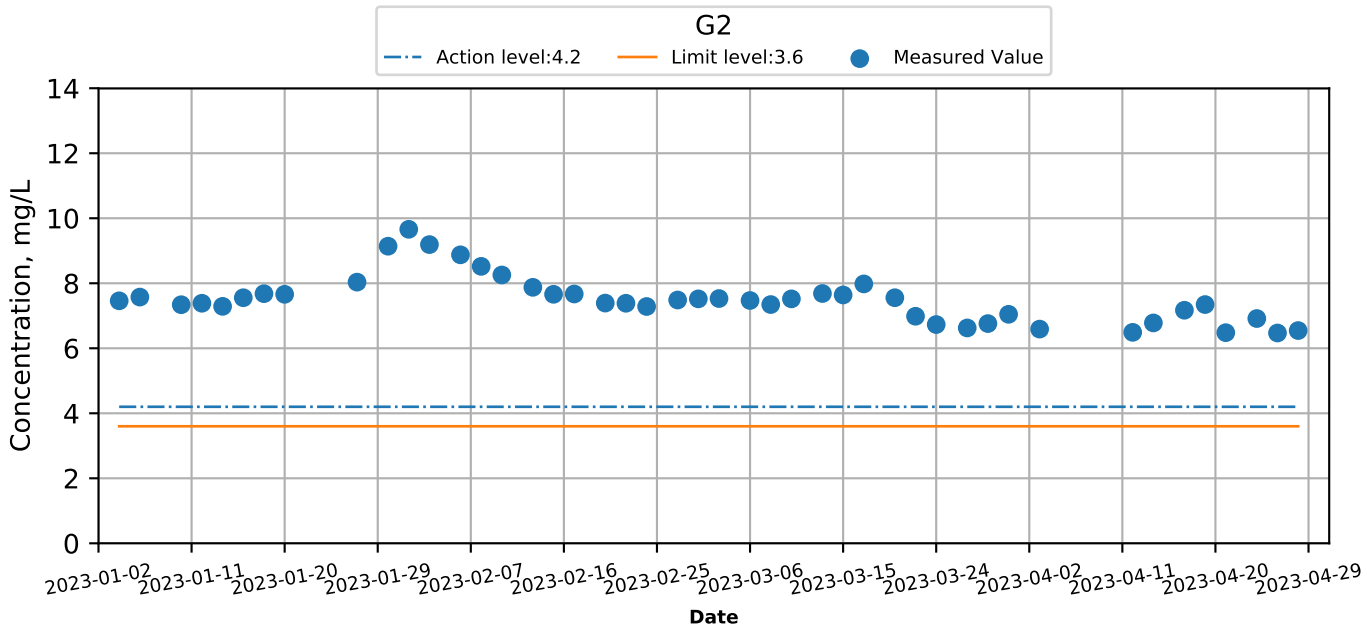


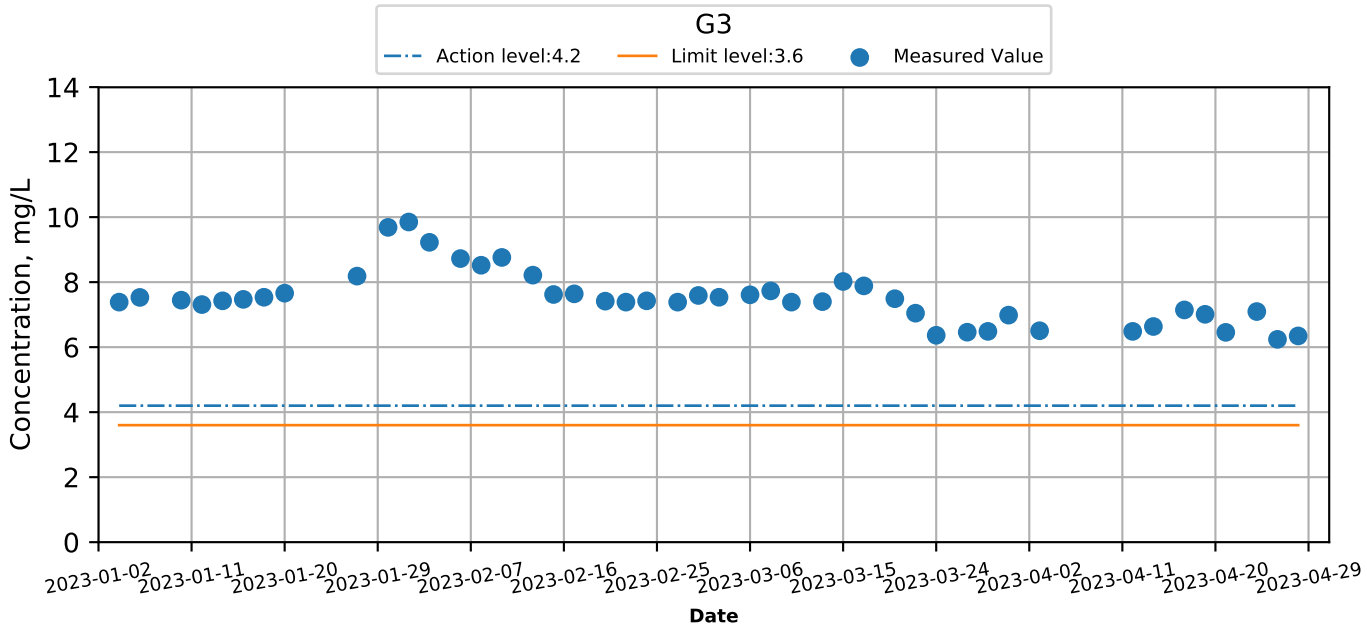


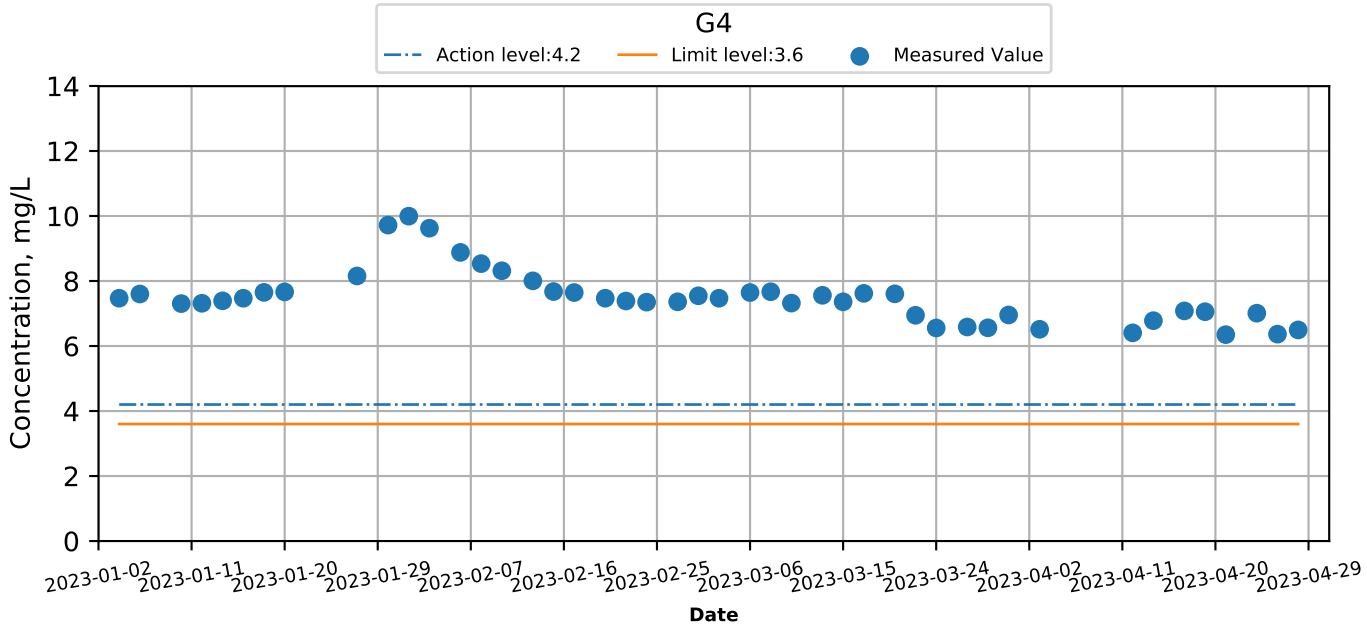


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood

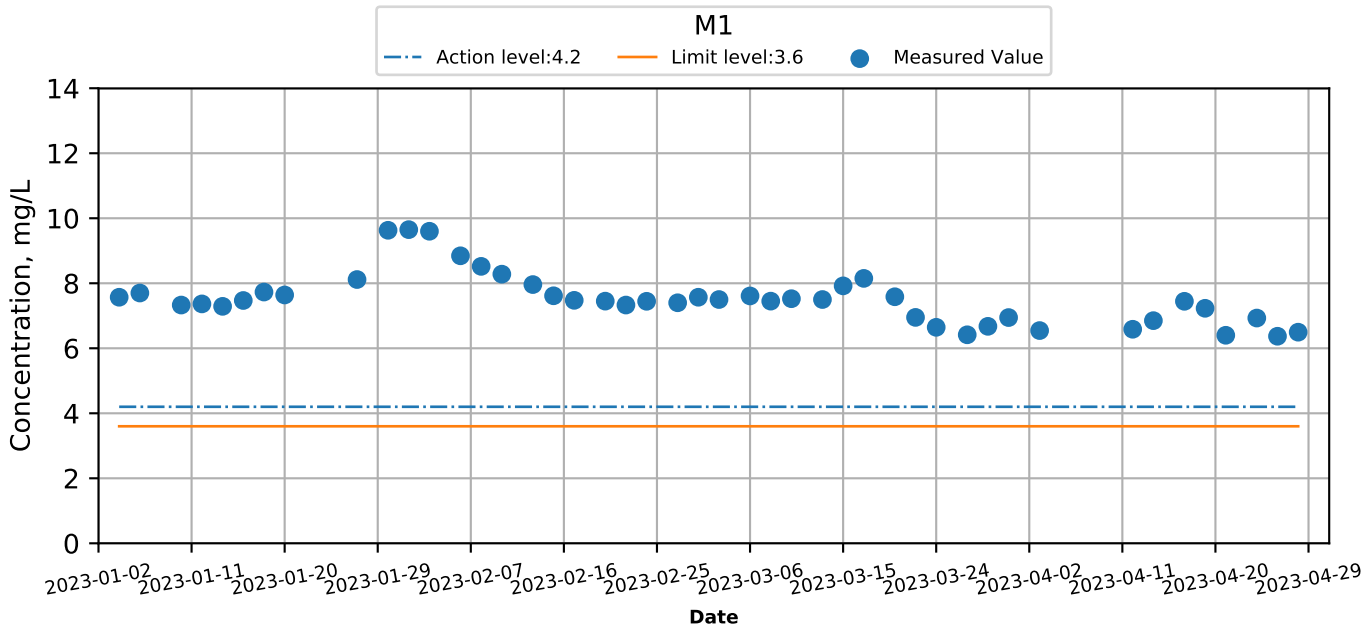


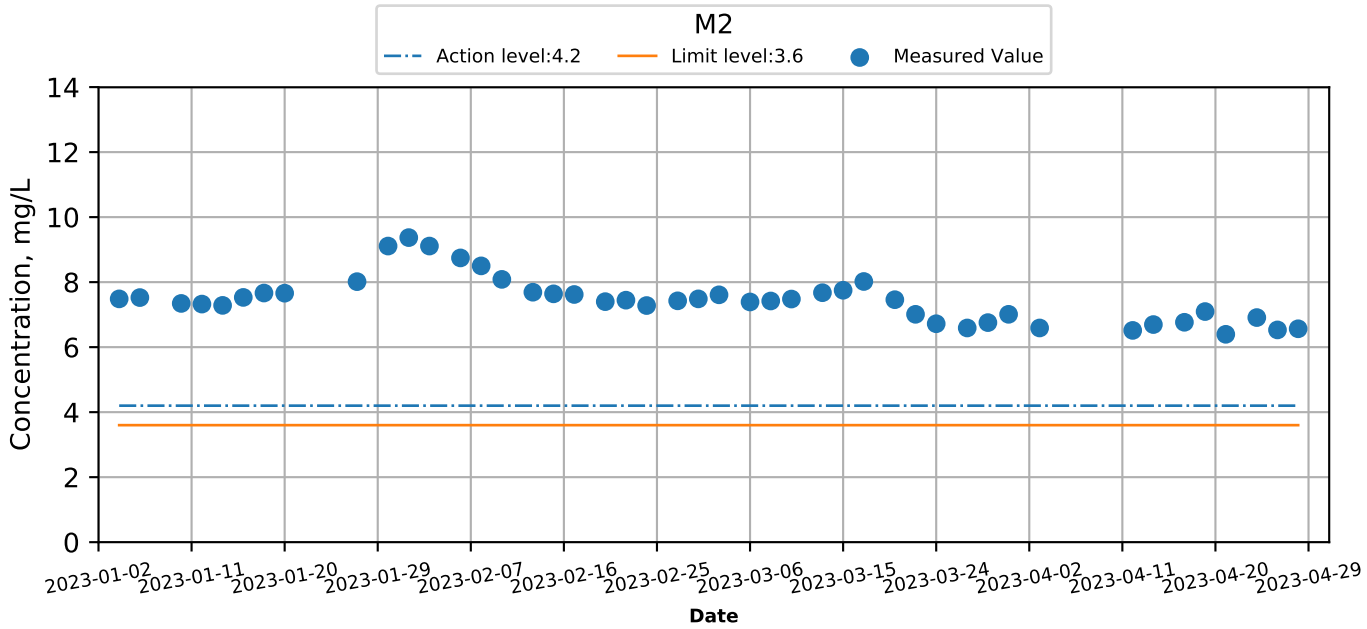


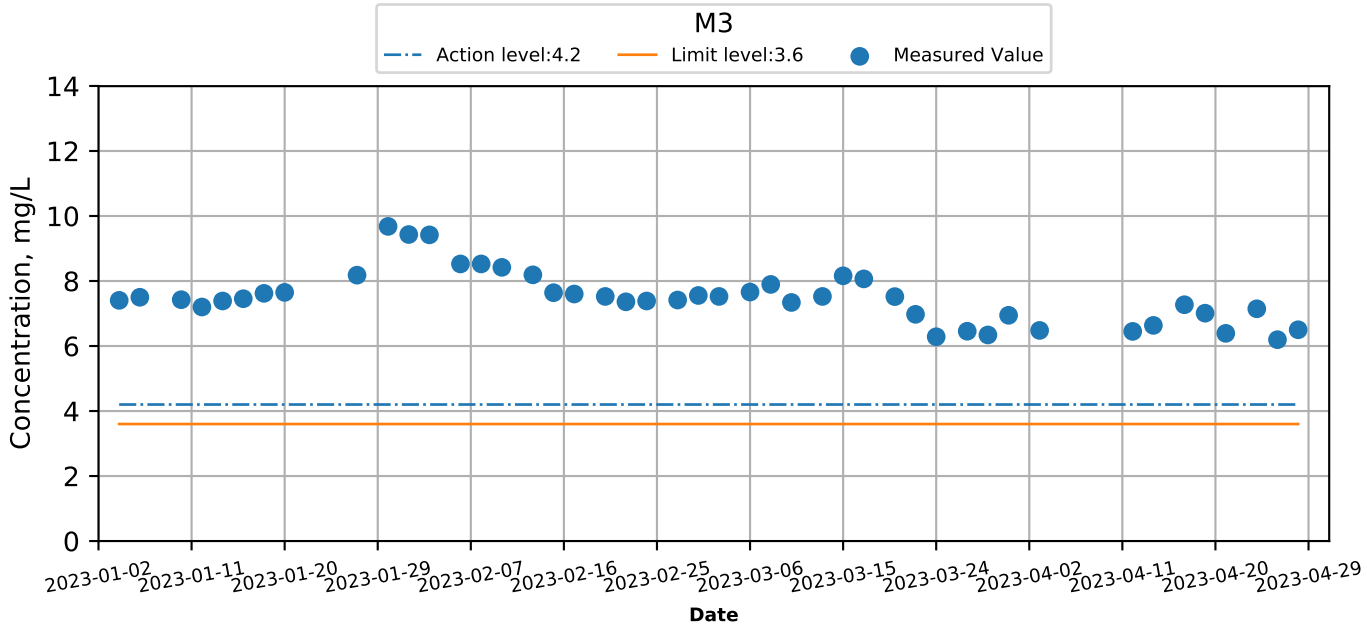


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood

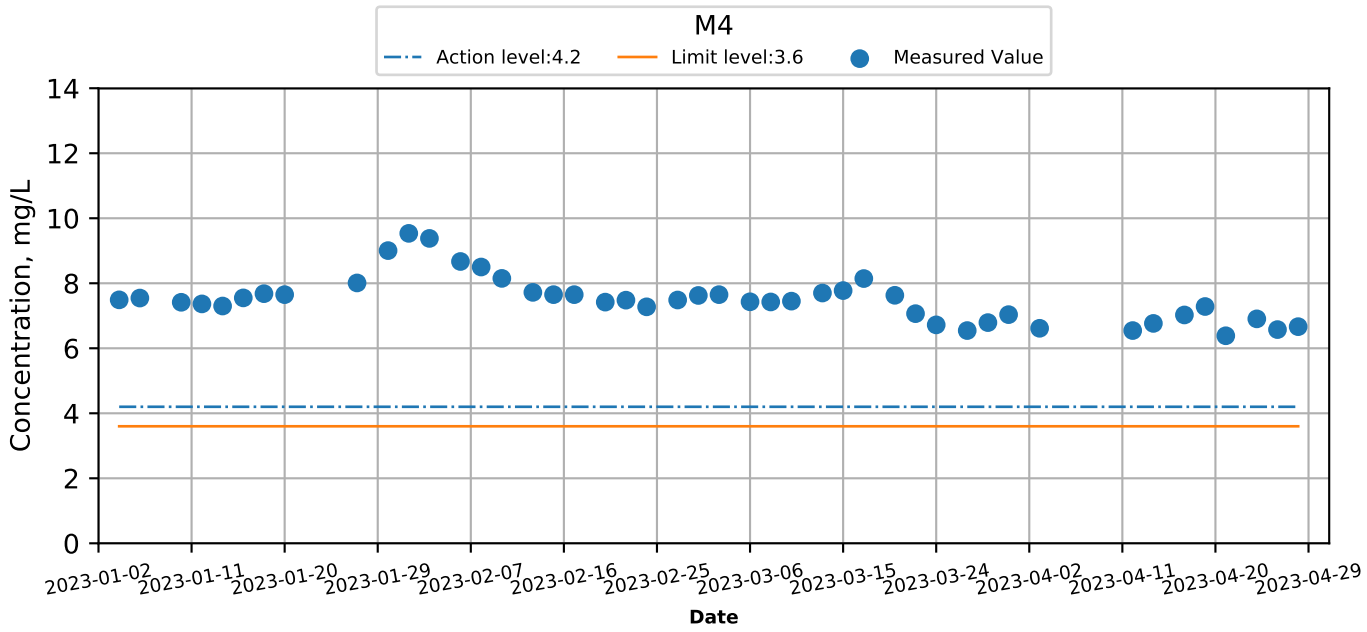


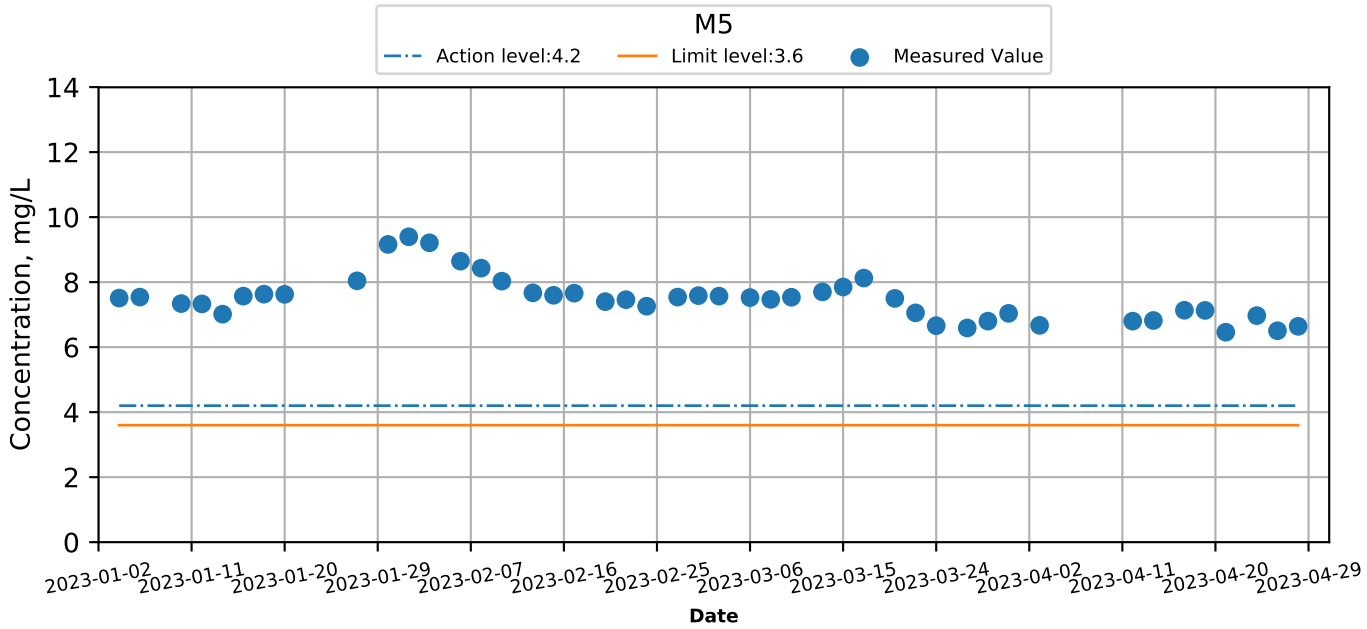




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

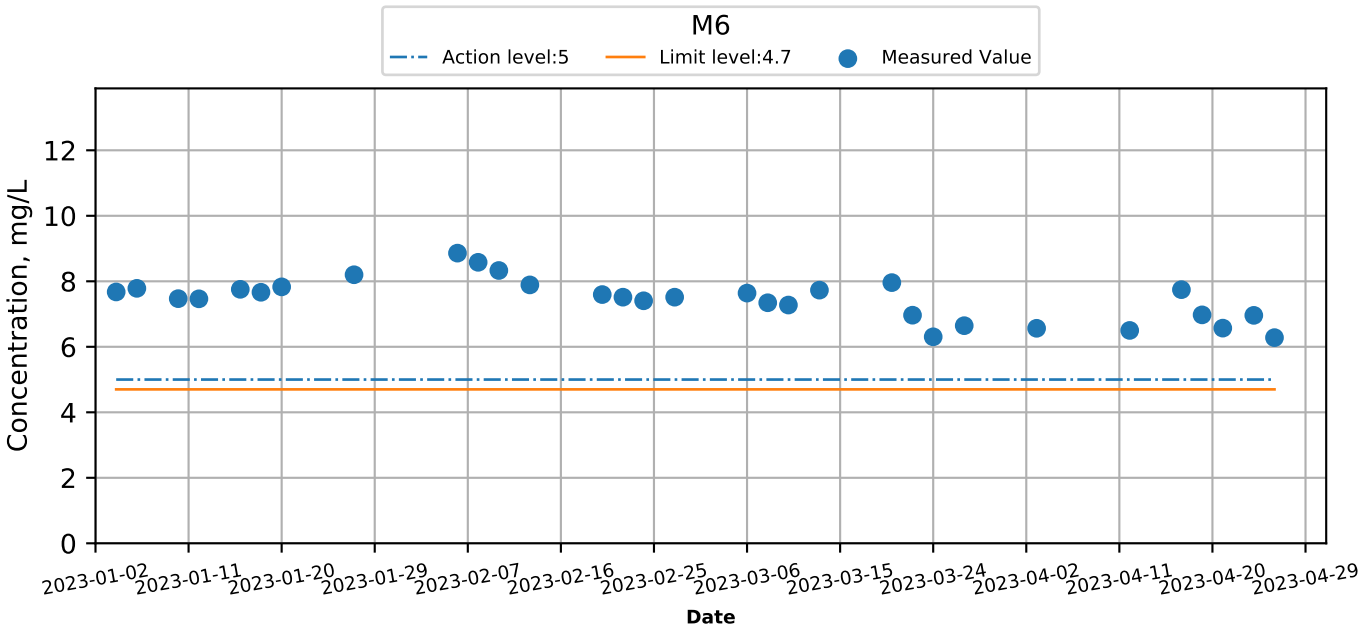
Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood





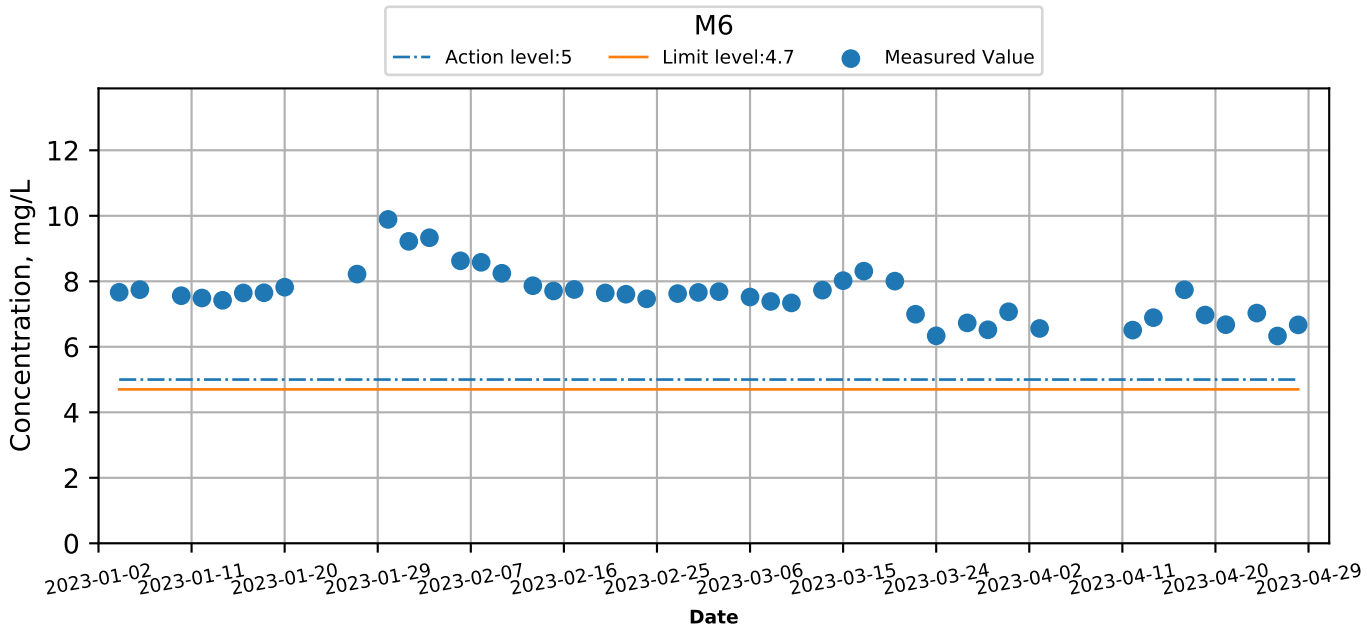
Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Dissolved Oxygen (Intake level) at Monitoring Stations during Mid-Ebb



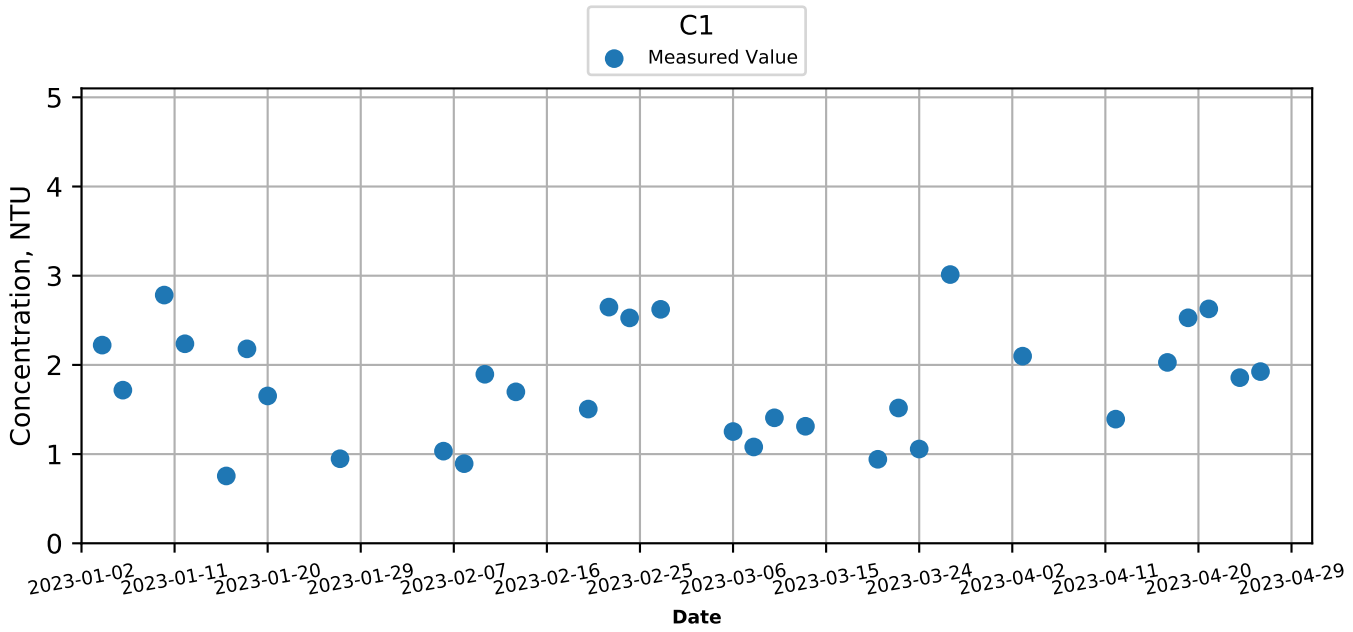
Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

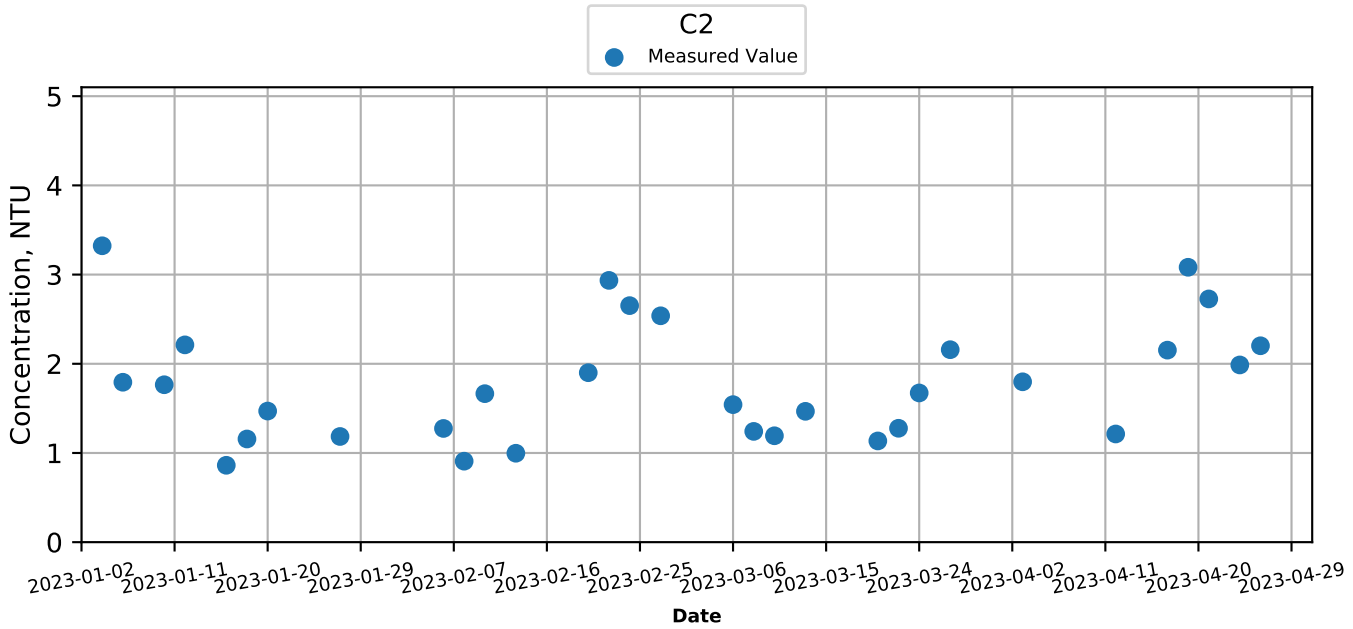
Dissolved Oxygen (Intake level) at Monitoring Stations during Mid-Flood

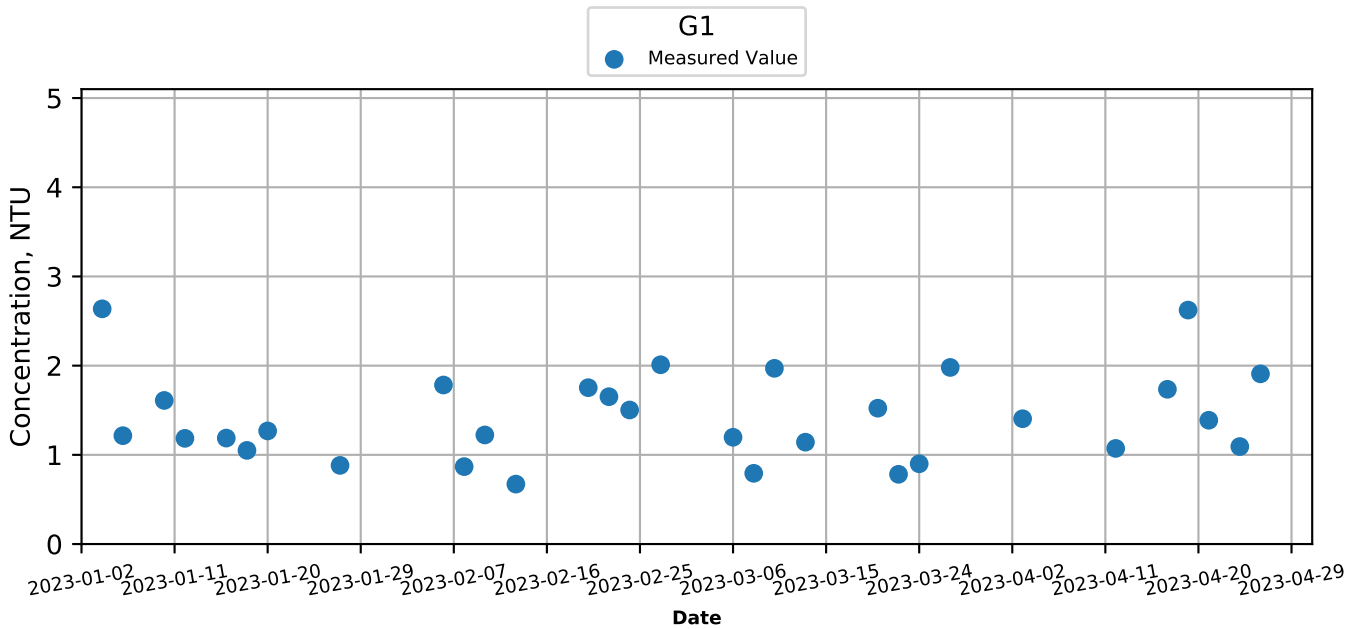


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb

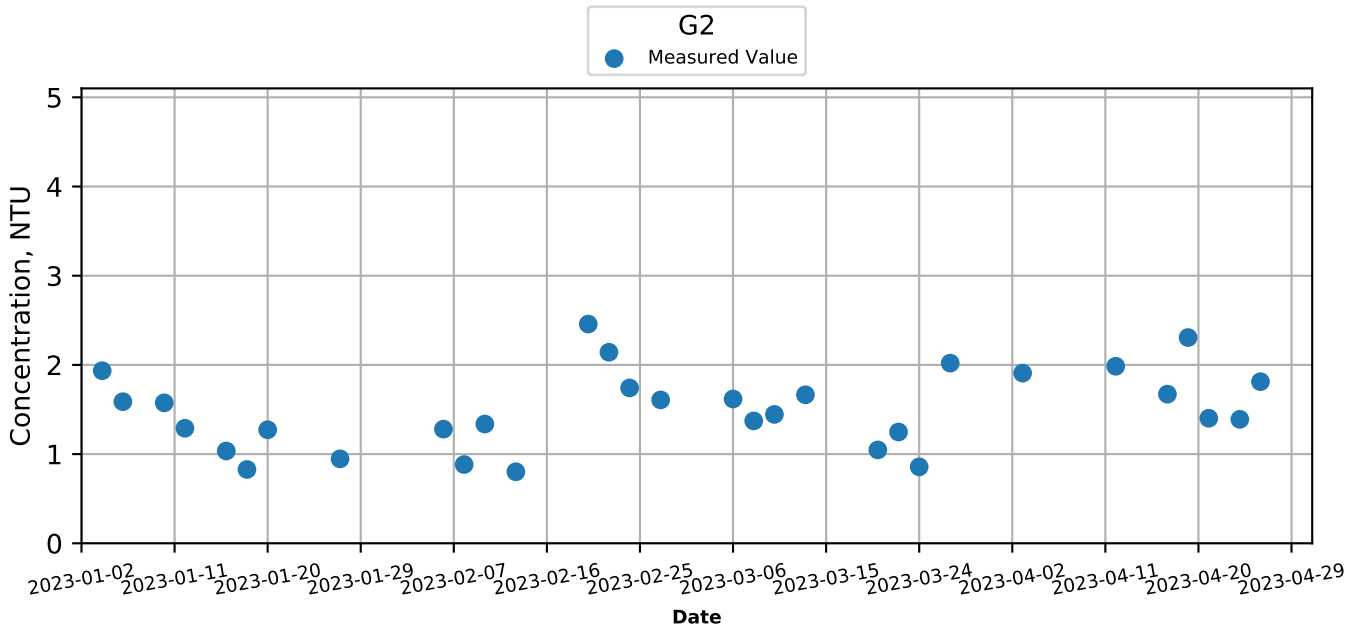


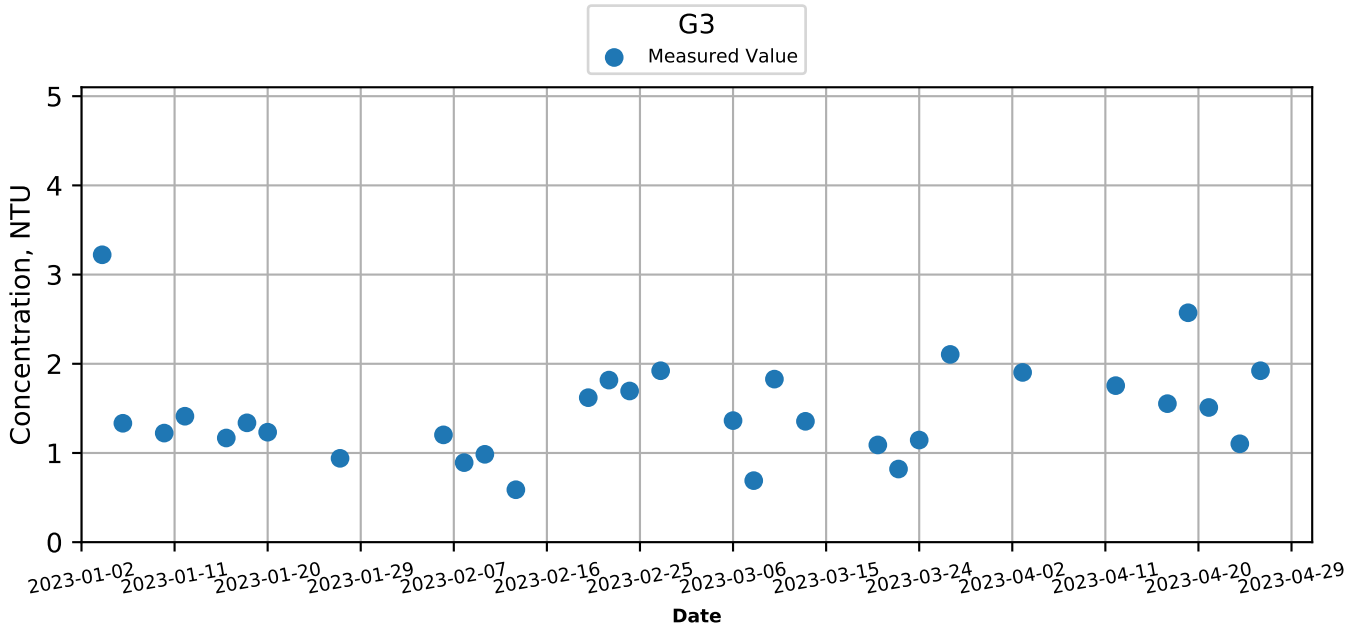


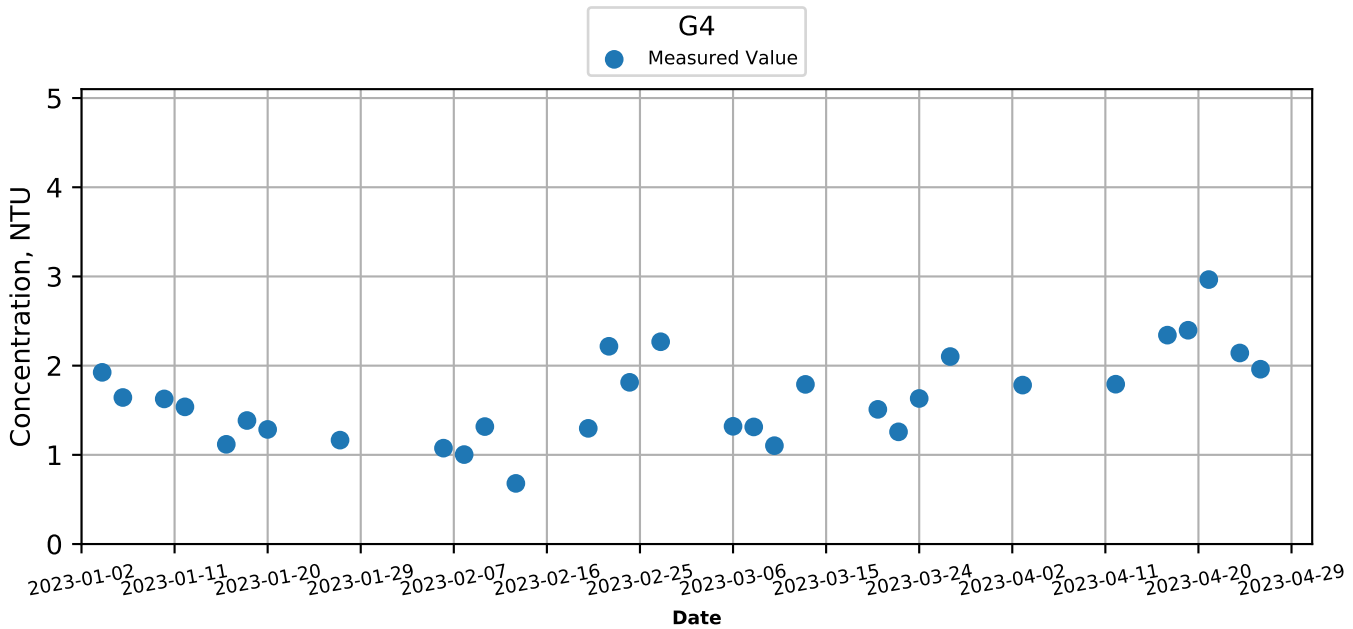


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb

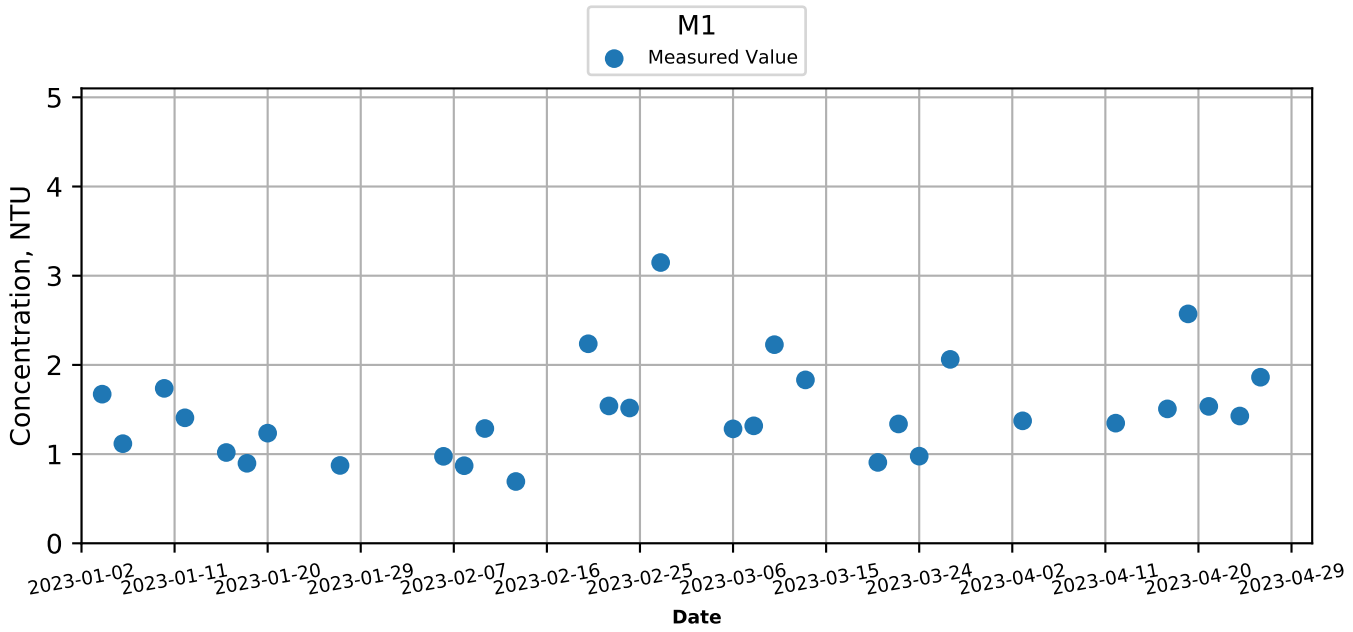


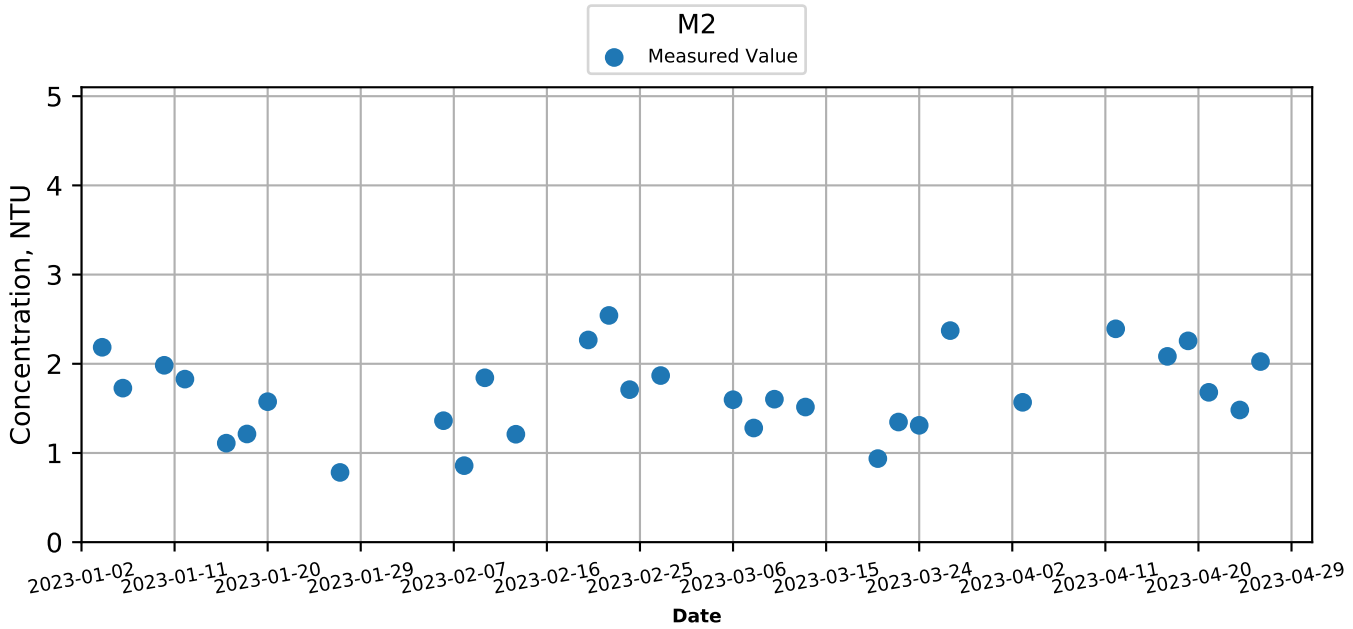


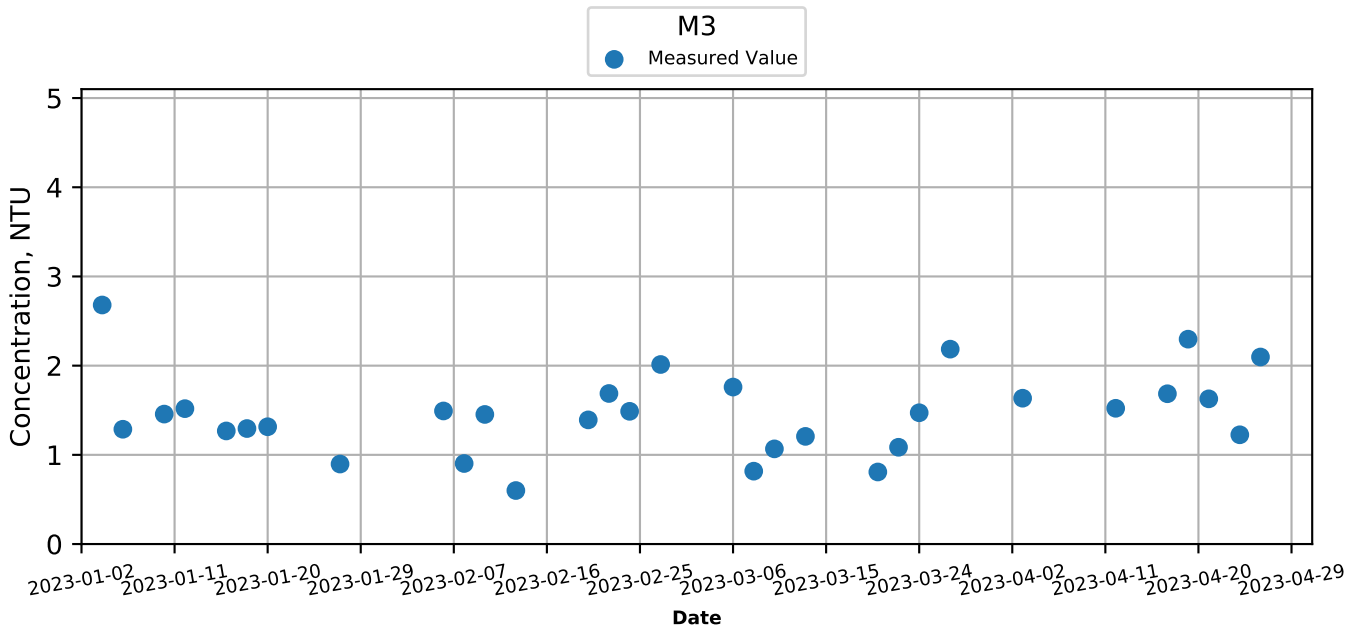


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb

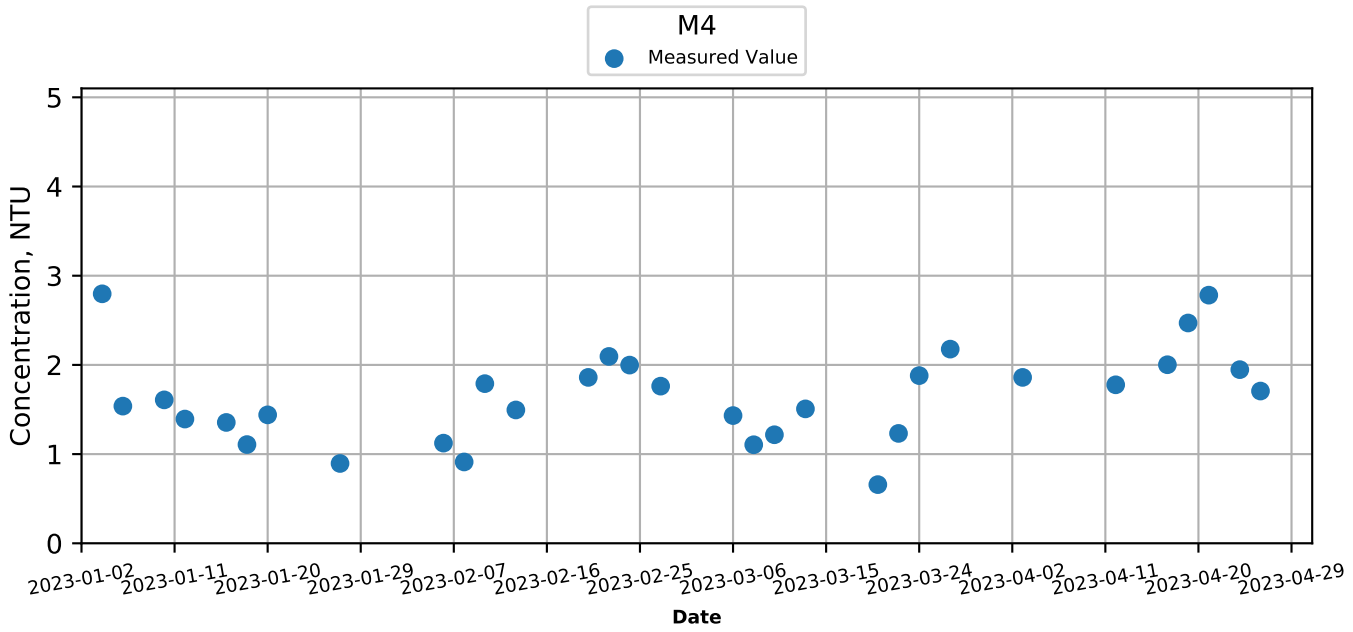


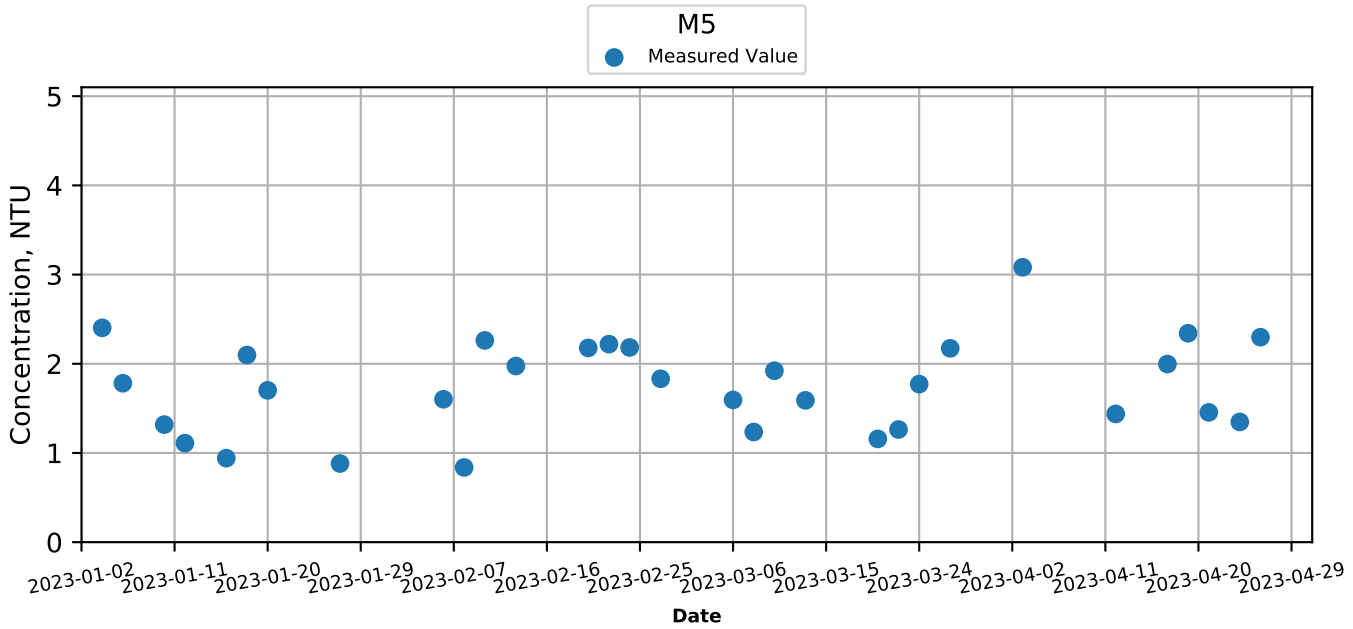




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

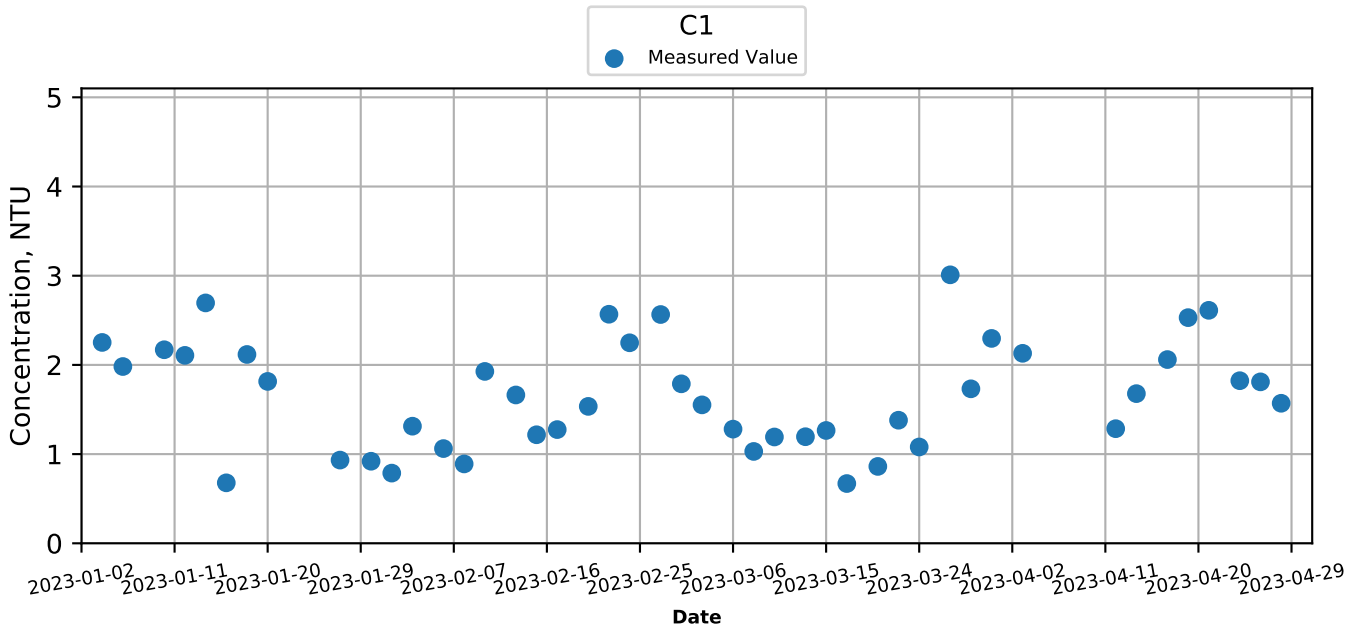
Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb

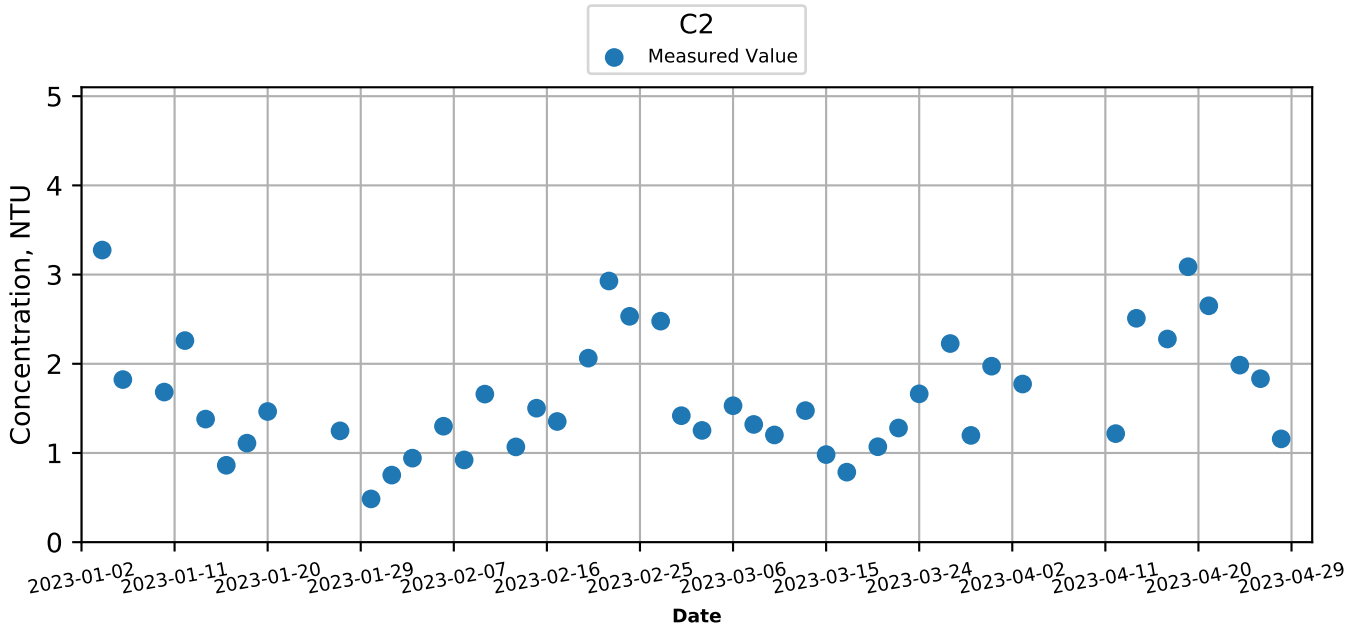


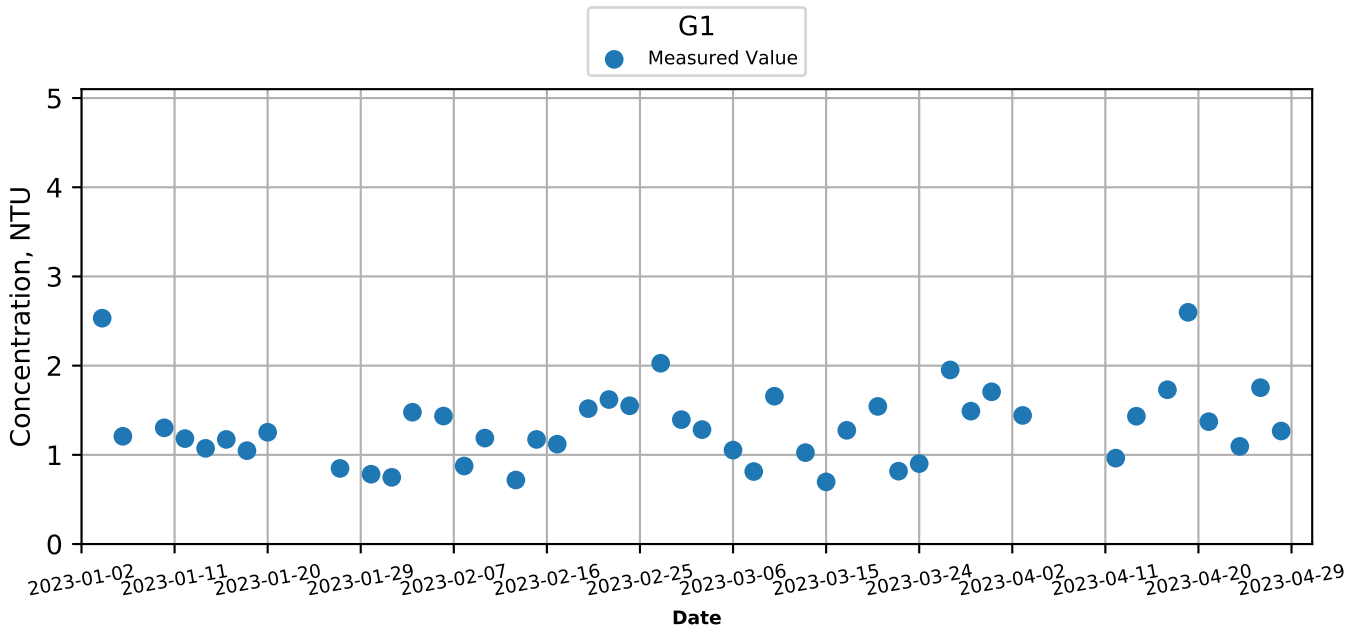


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood

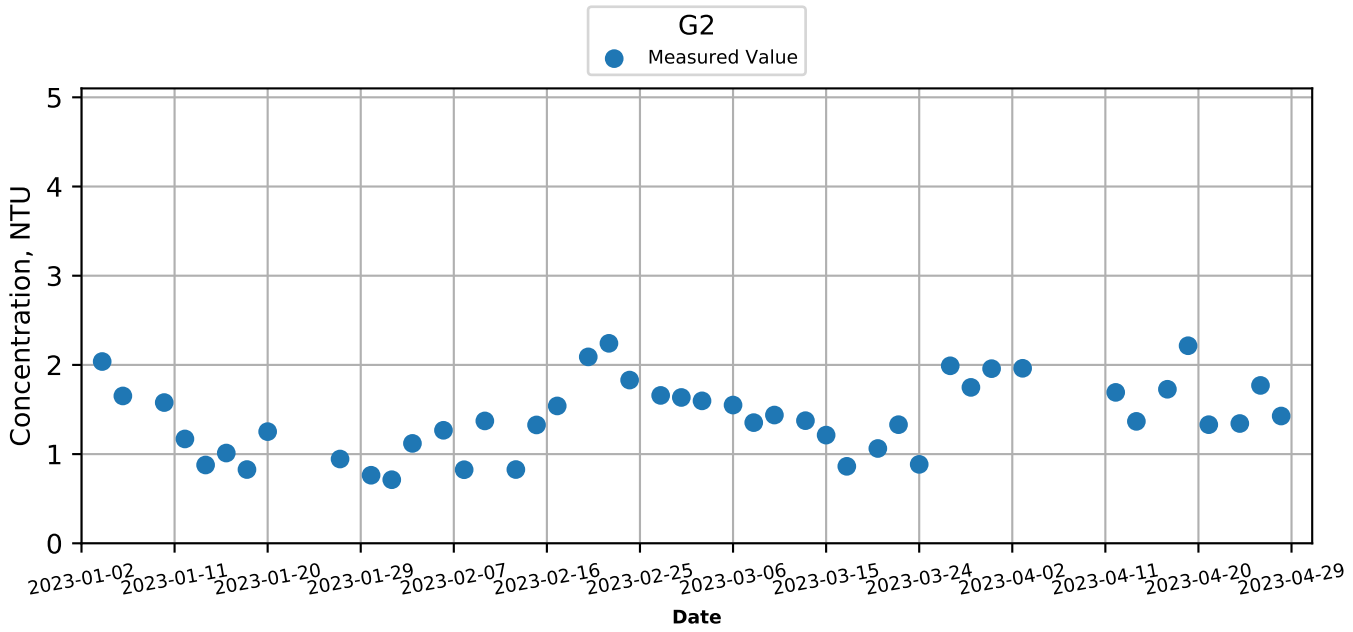


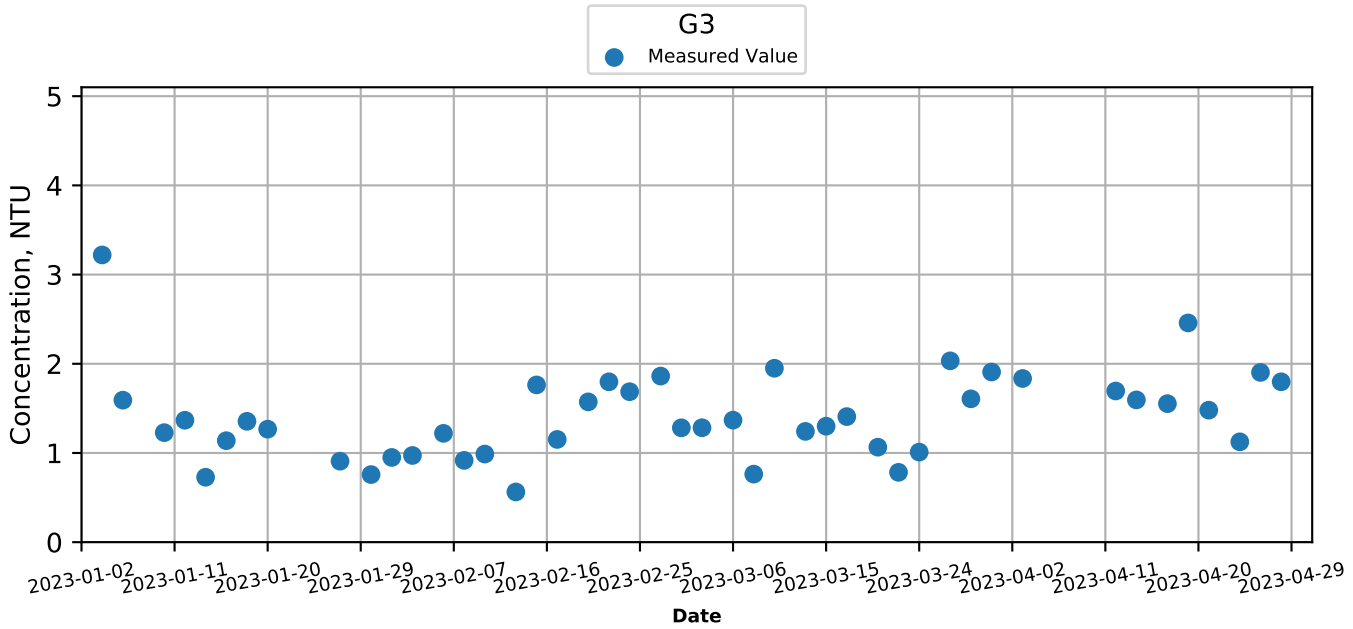


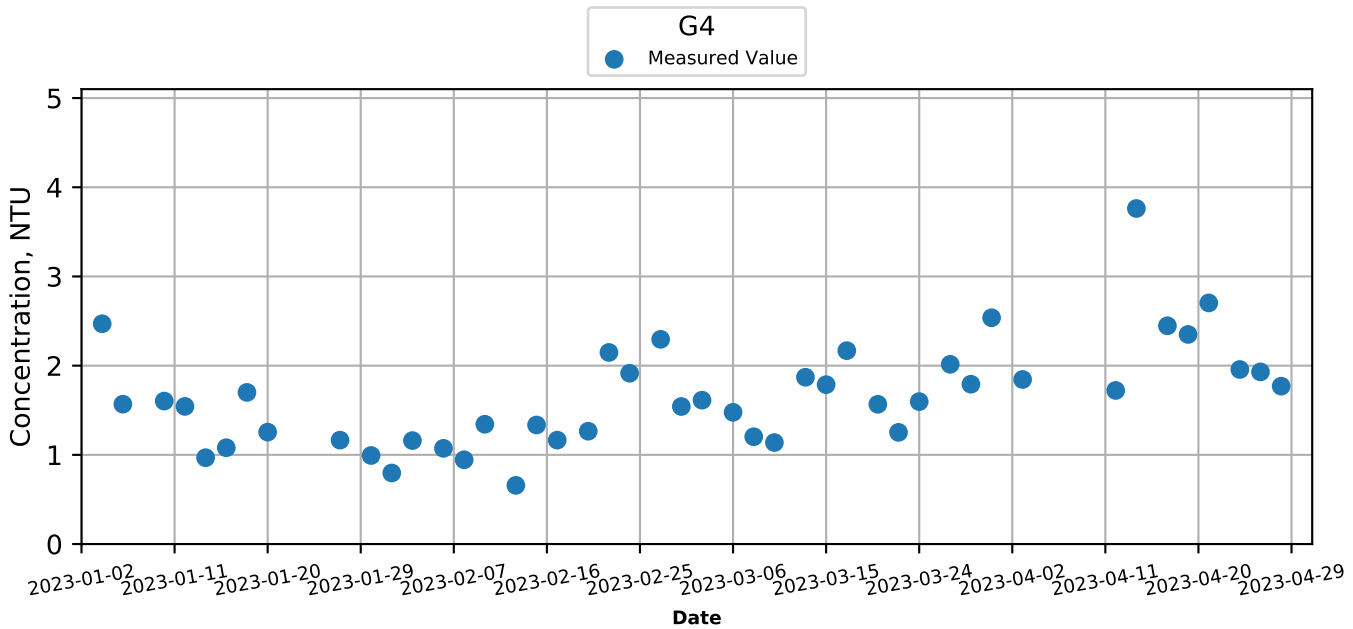


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood

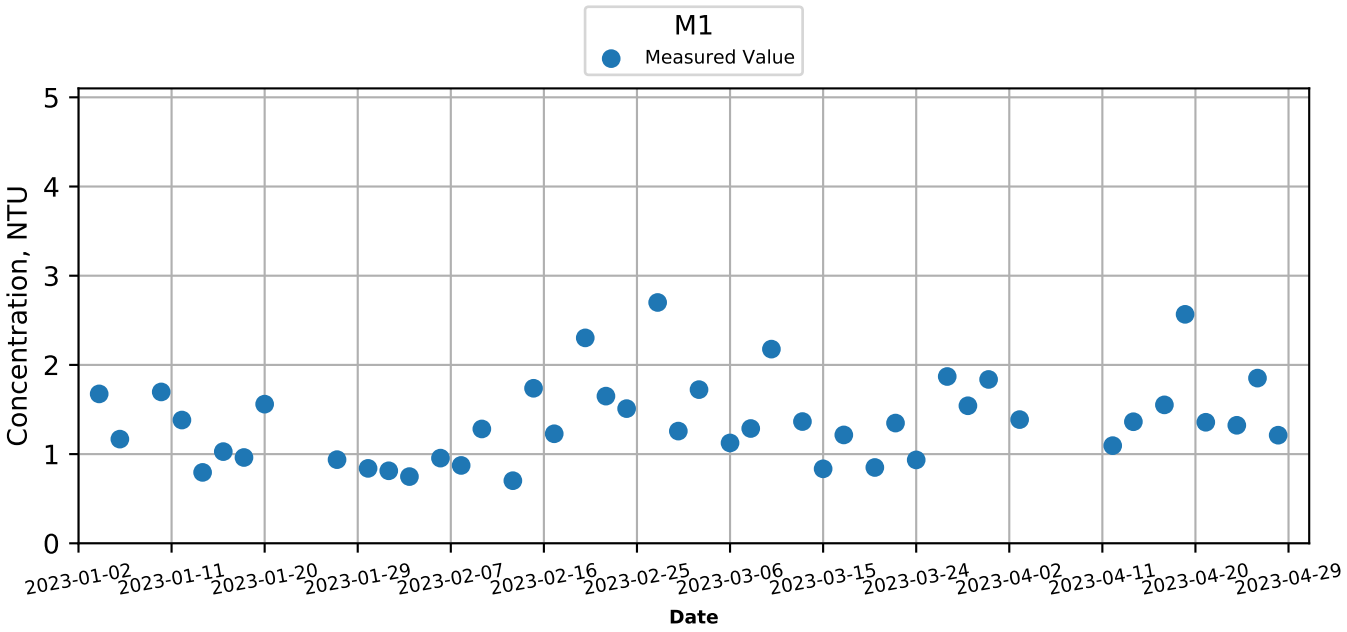


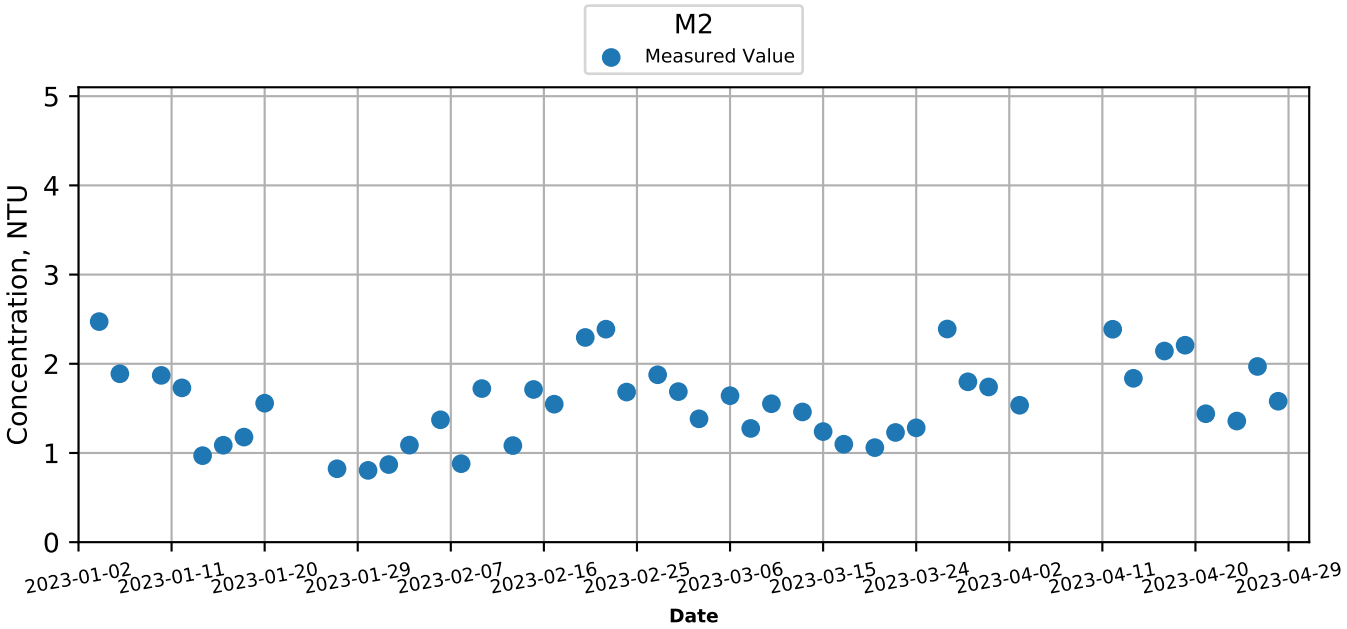


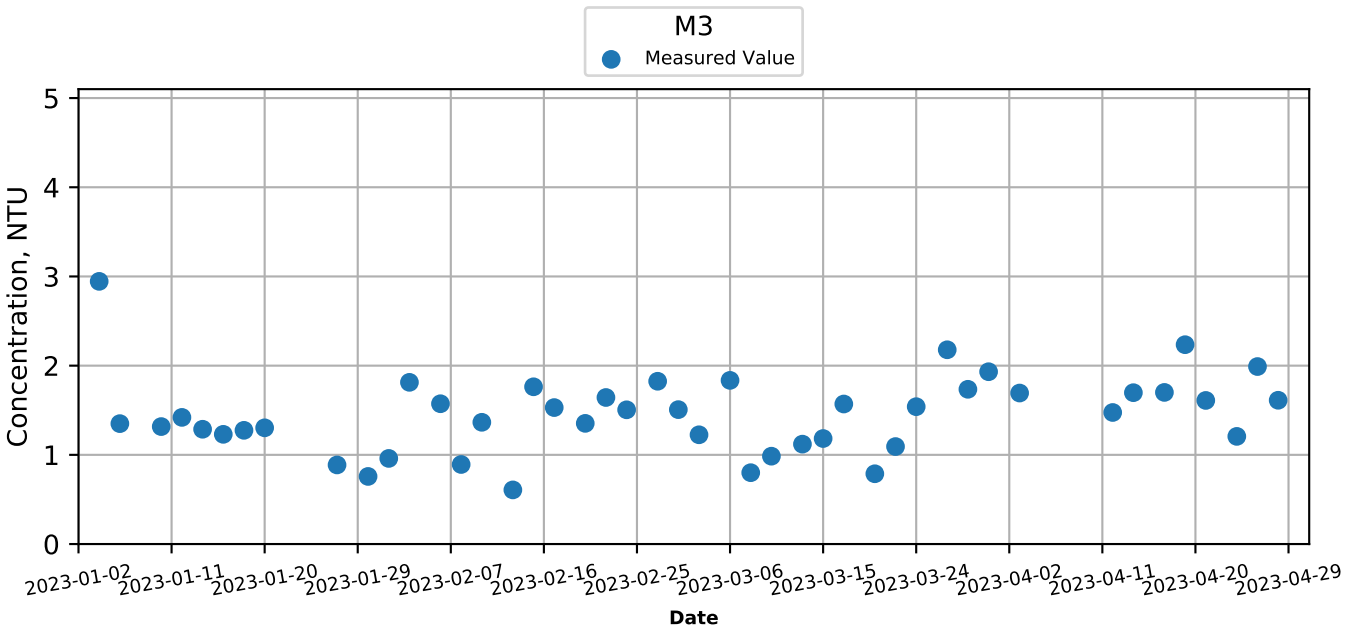


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood

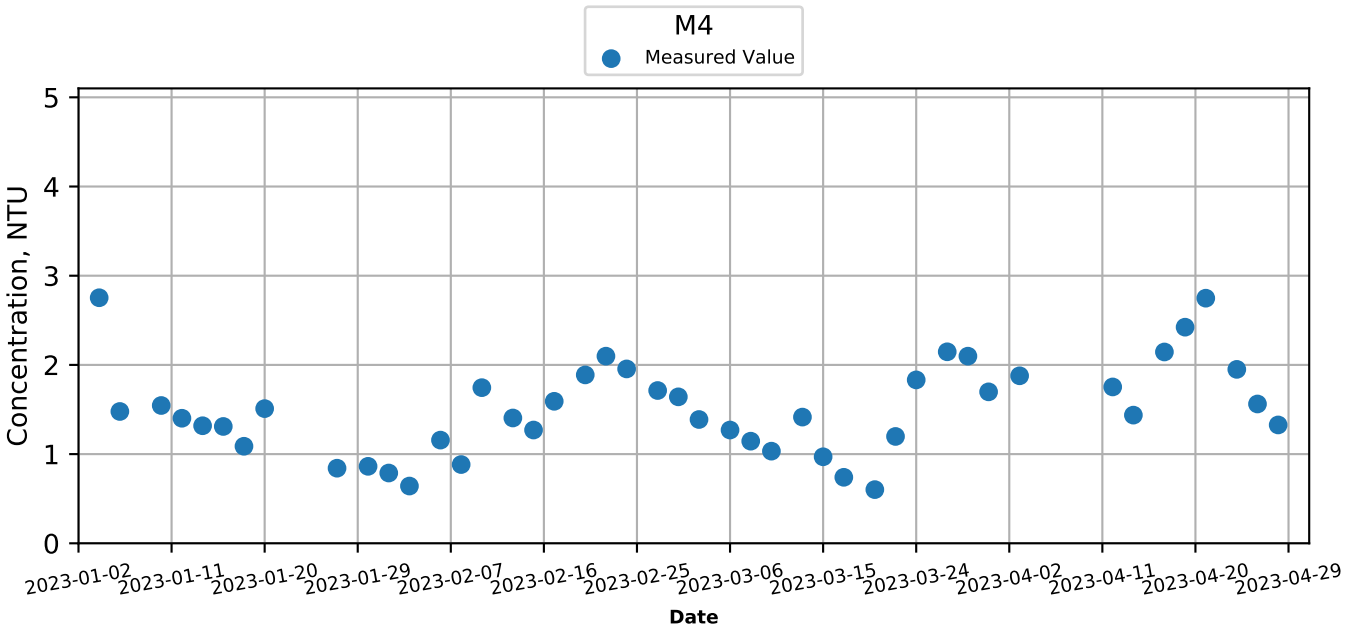


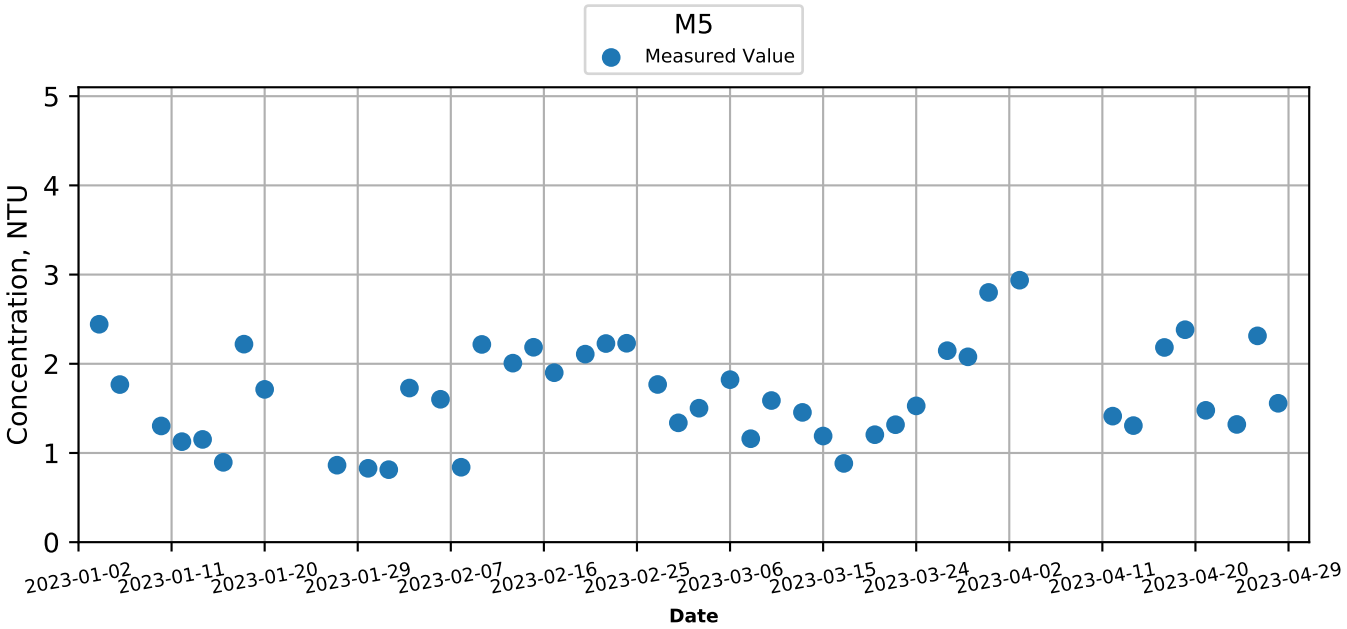




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

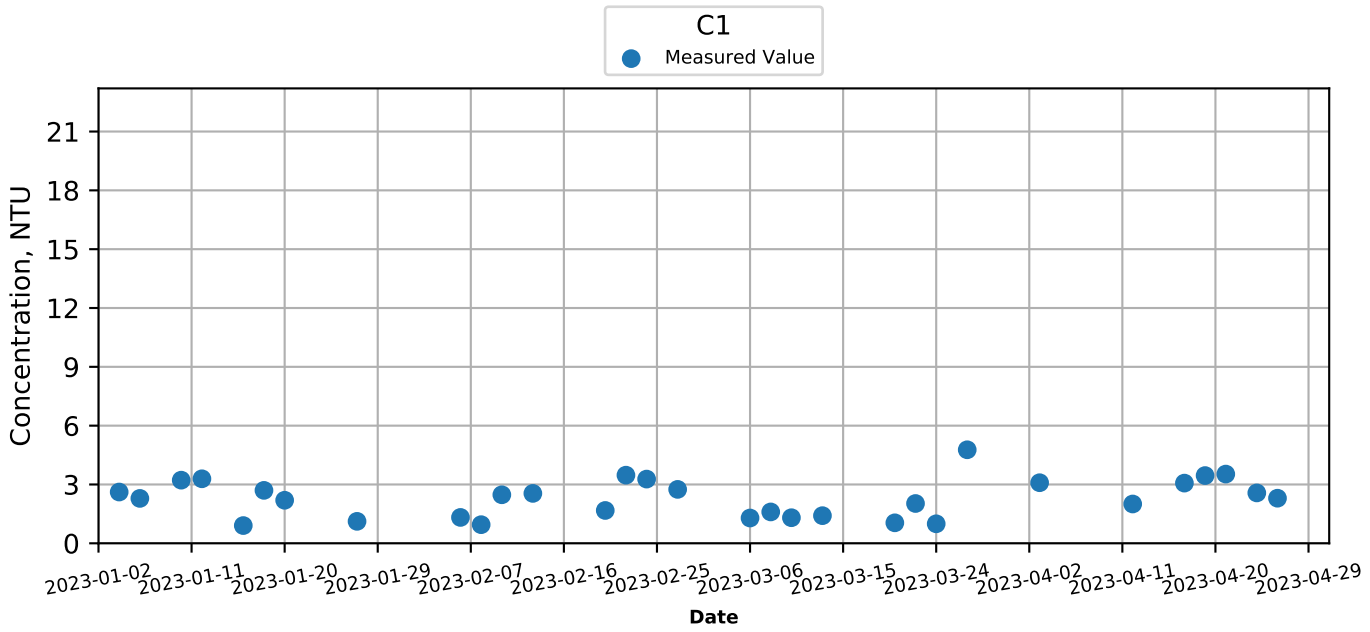
Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood

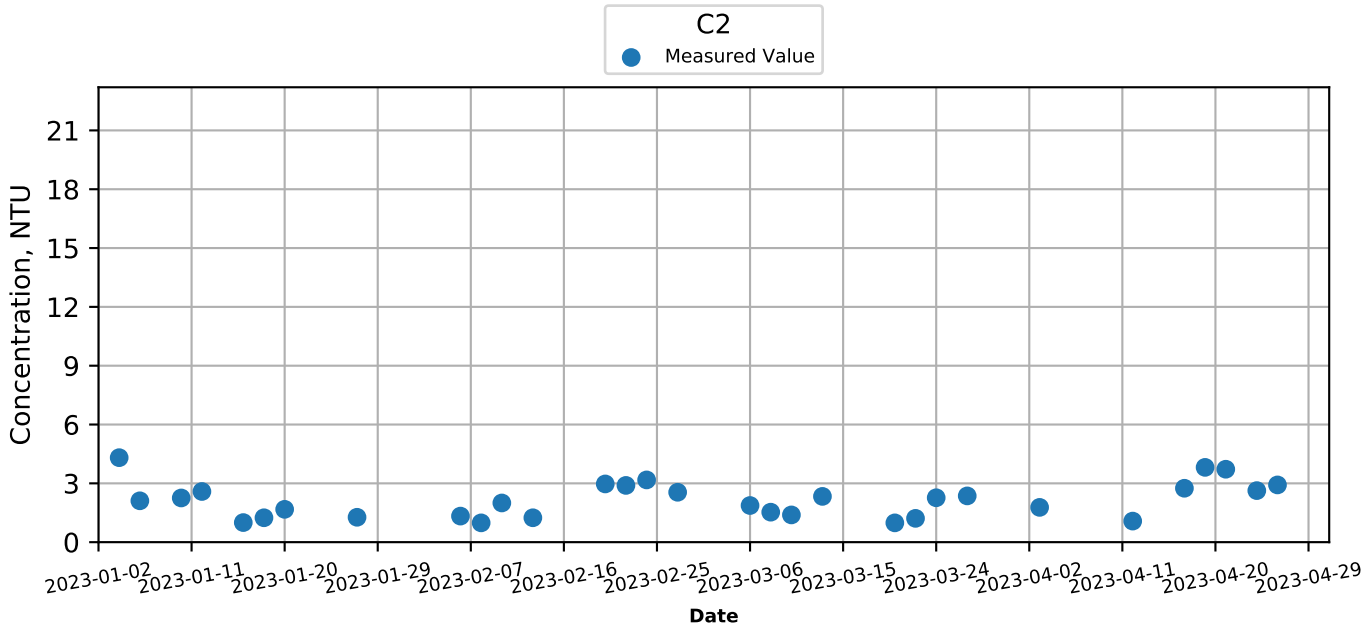


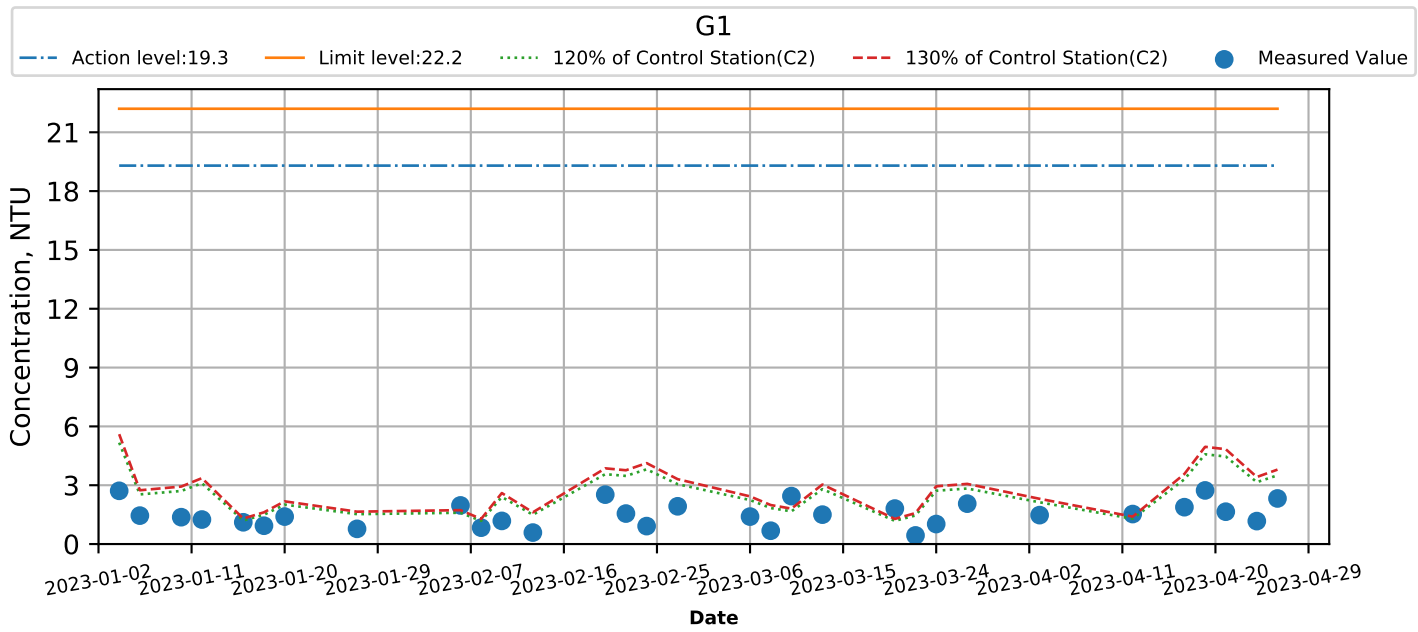


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Bottom) at Monitoring Stations during Mid-Ebb

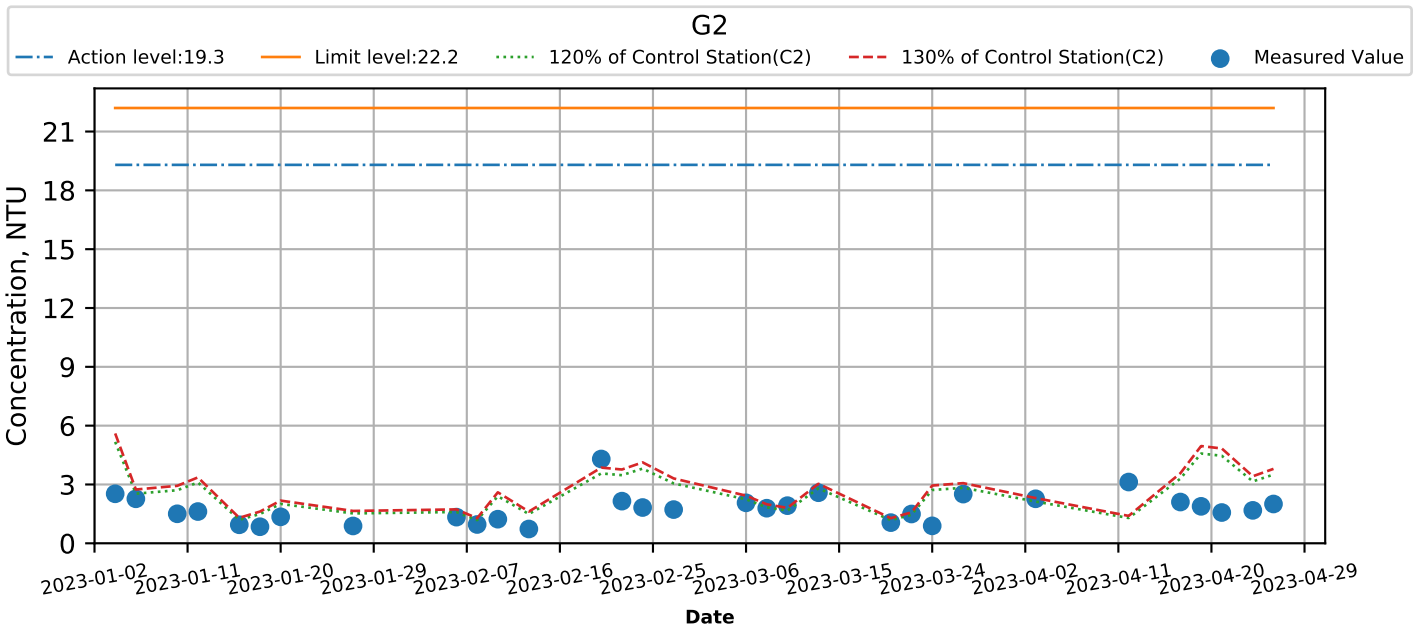


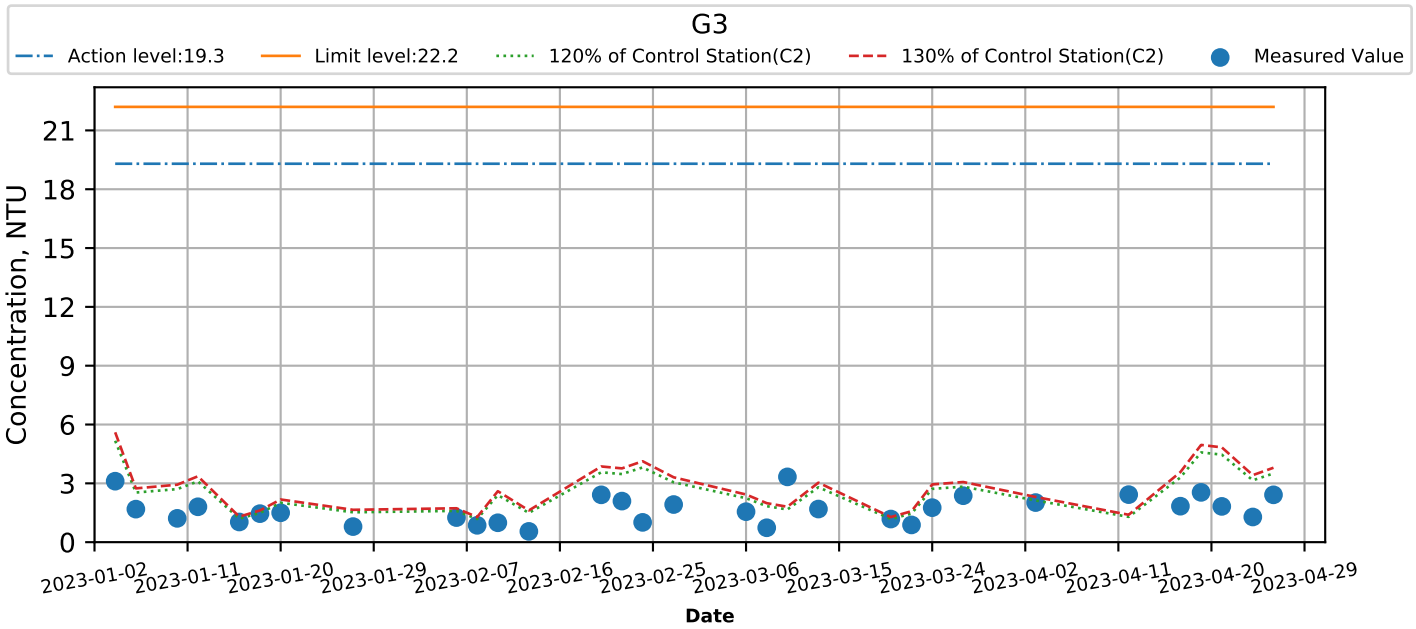


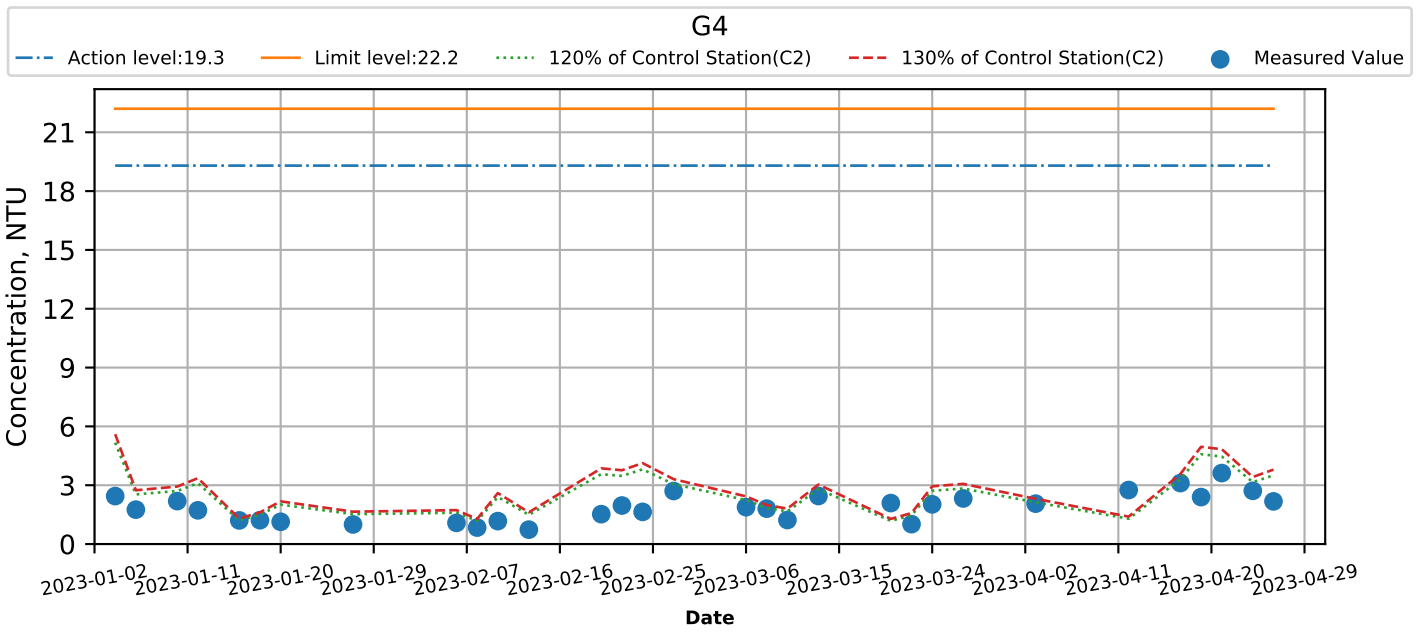


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Bottom) at Monitoring Stations during Mid-Ebb

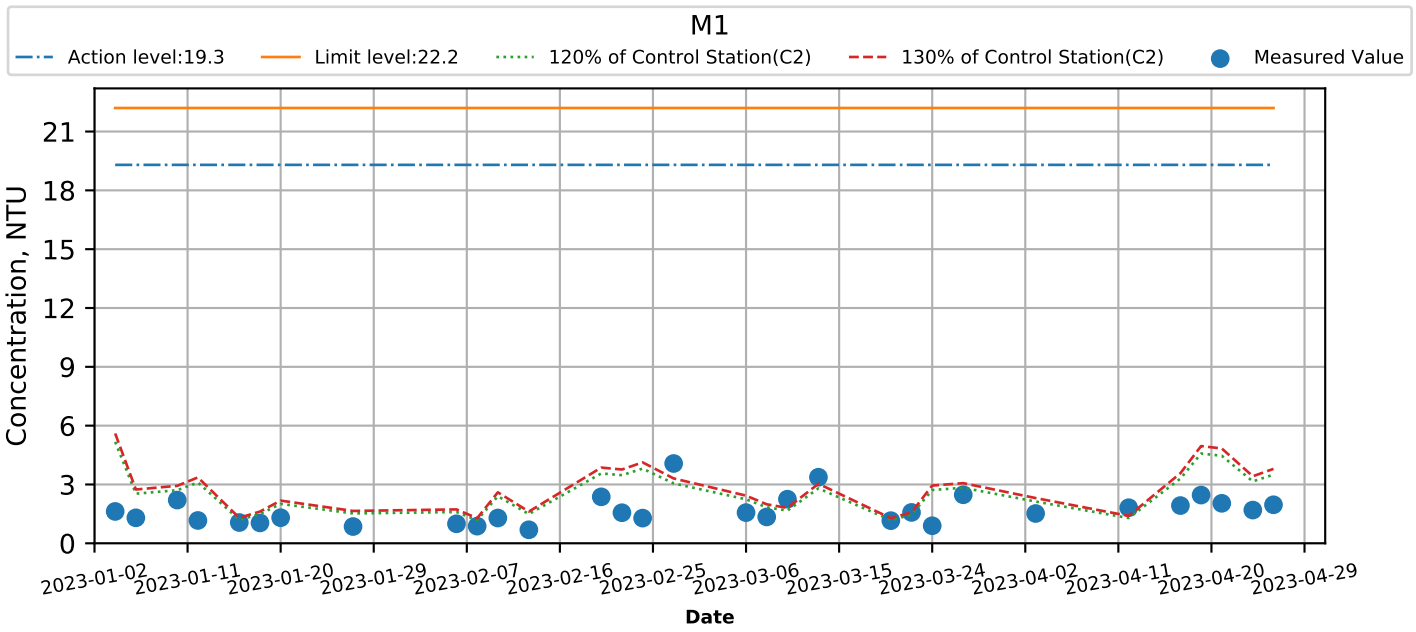


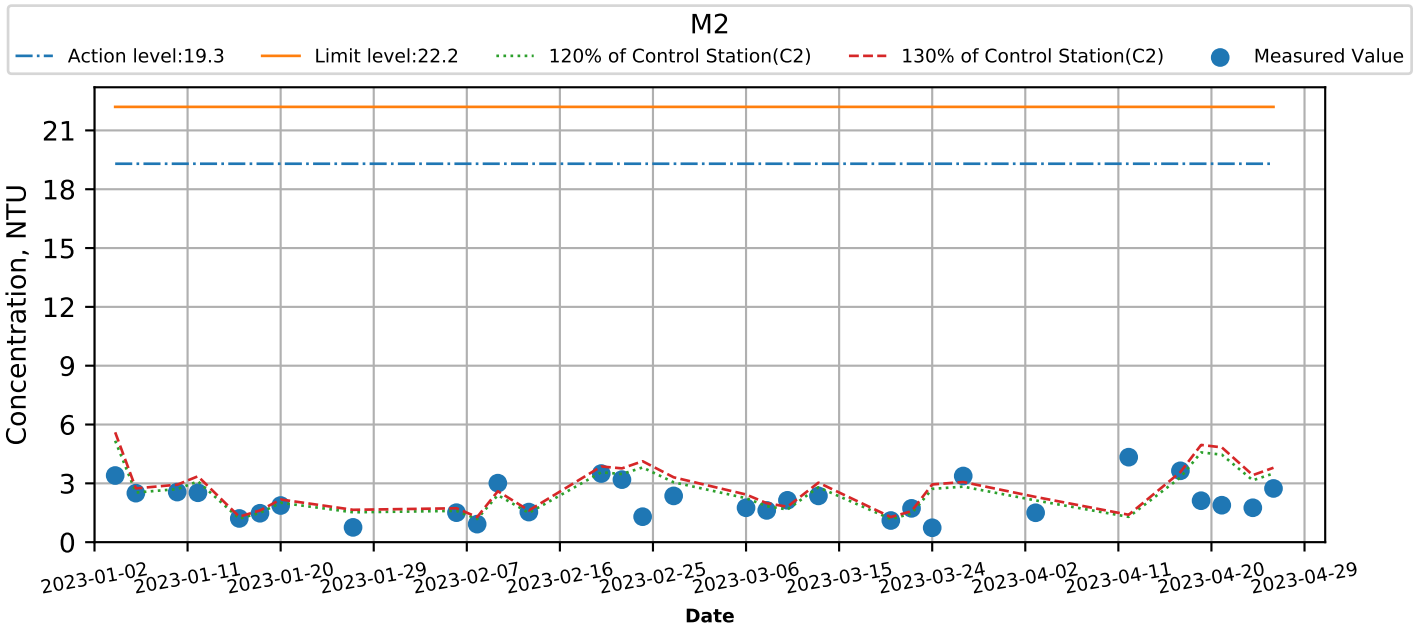


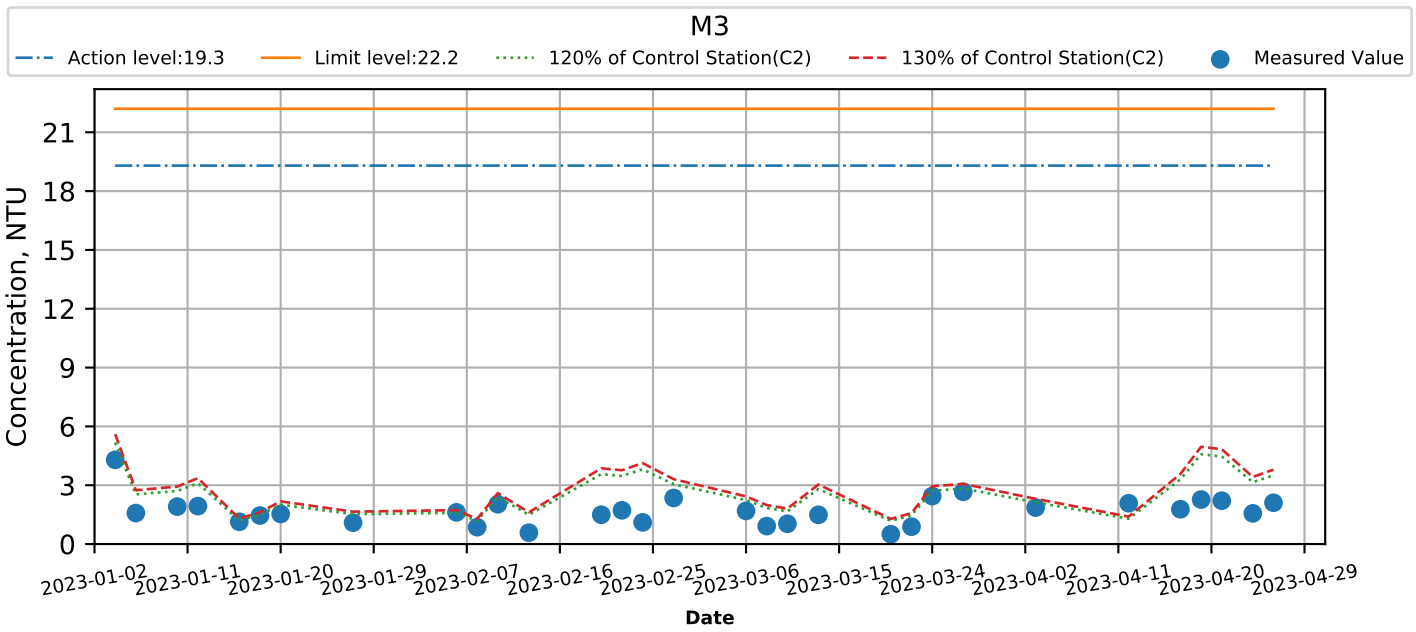


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Bottom) at Monitoring Stations during Mid-Ebb

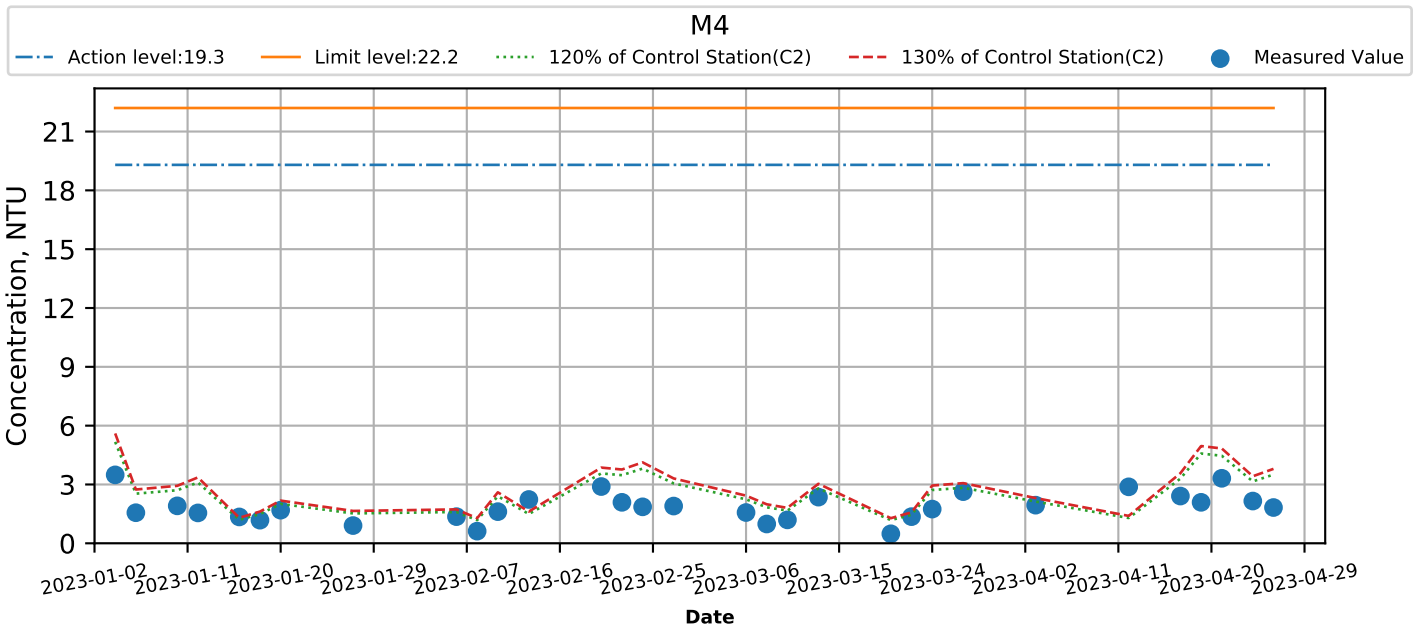


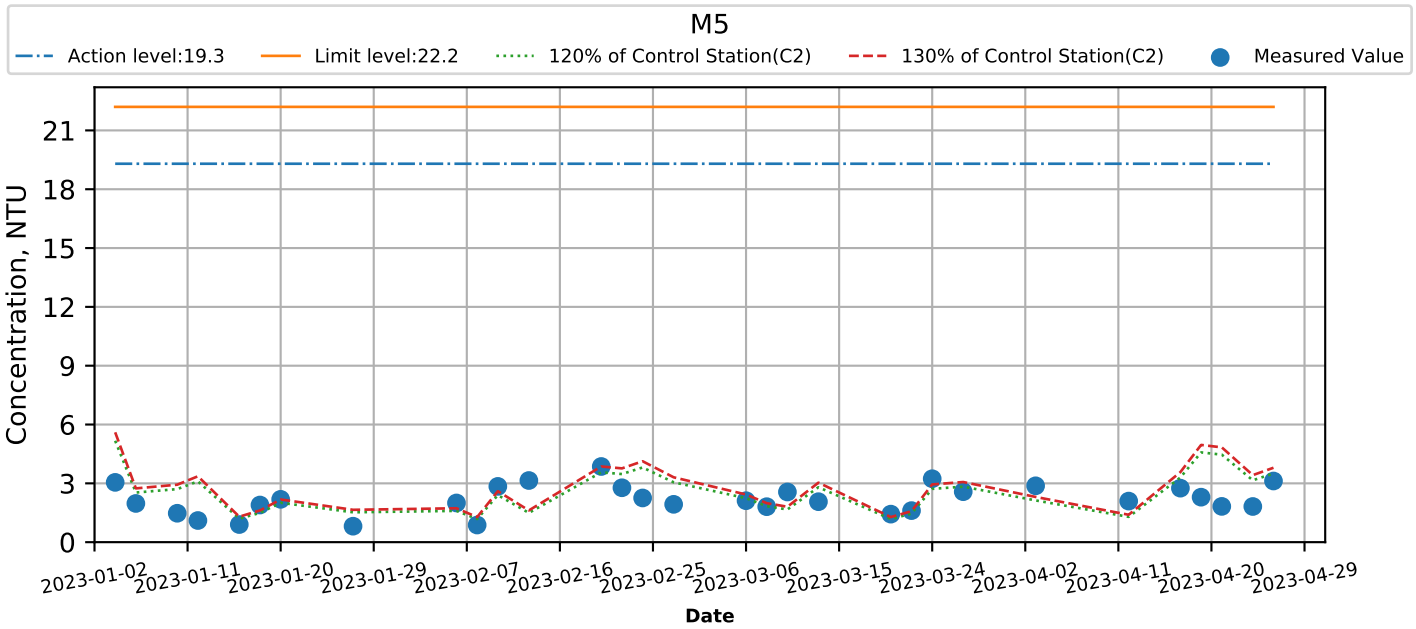




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

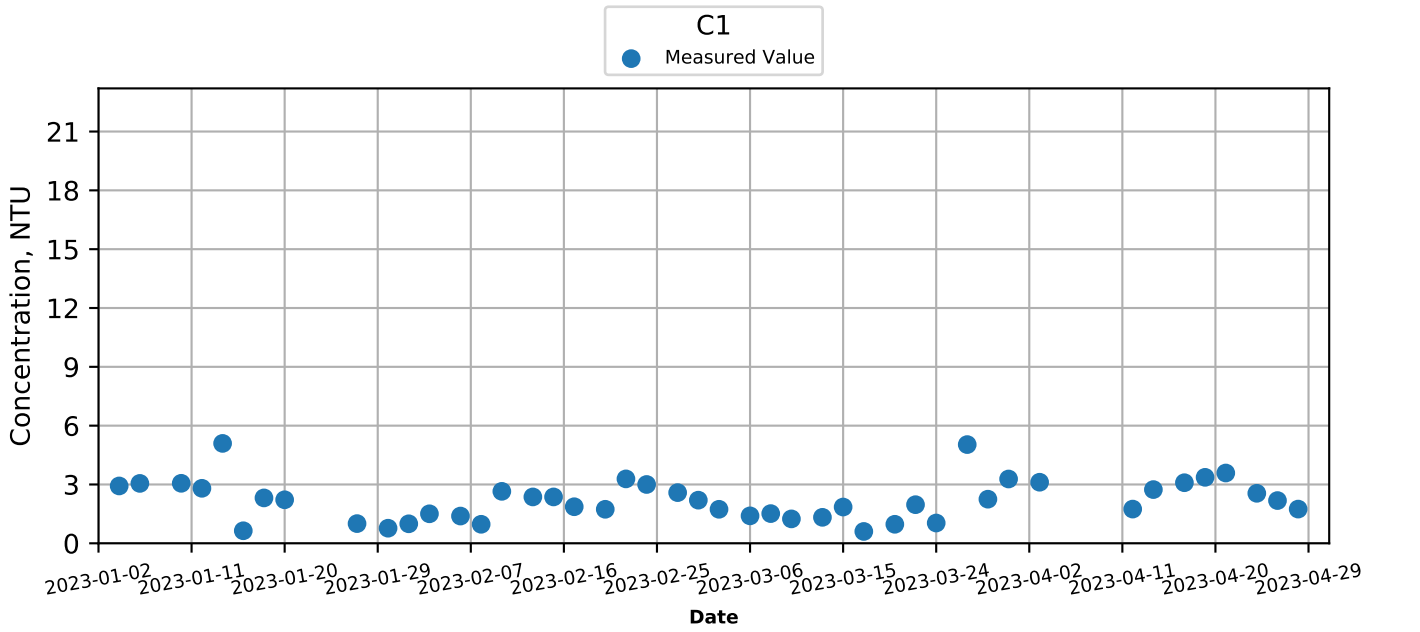
Turbidity (Bottom) at Monitoring Stations during Mid-Ebb

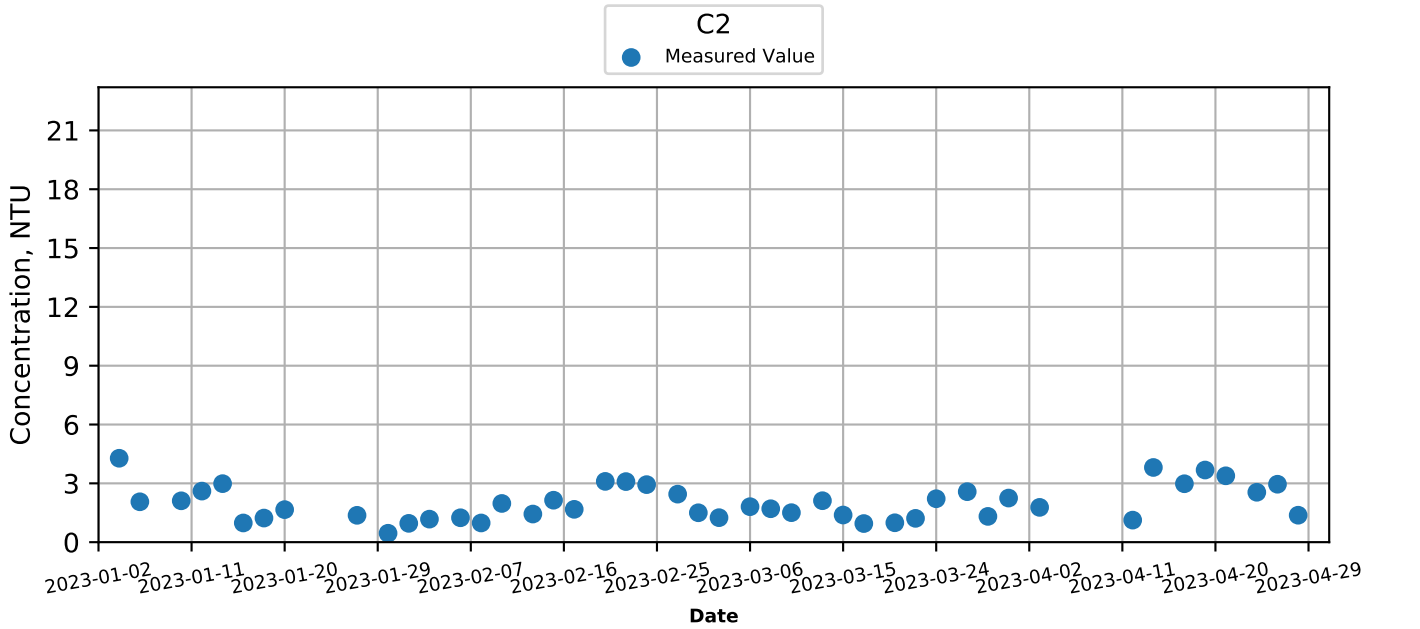


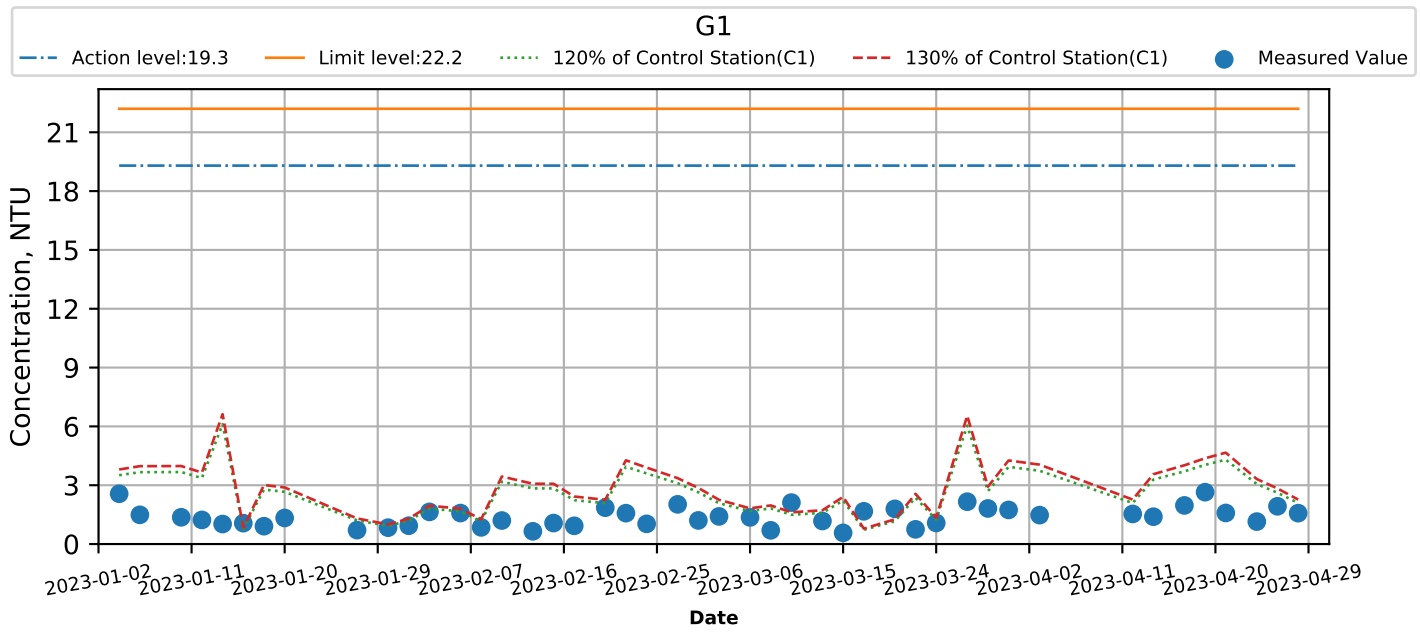


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Bottom) at Monitoring Stations during Mid-Flood

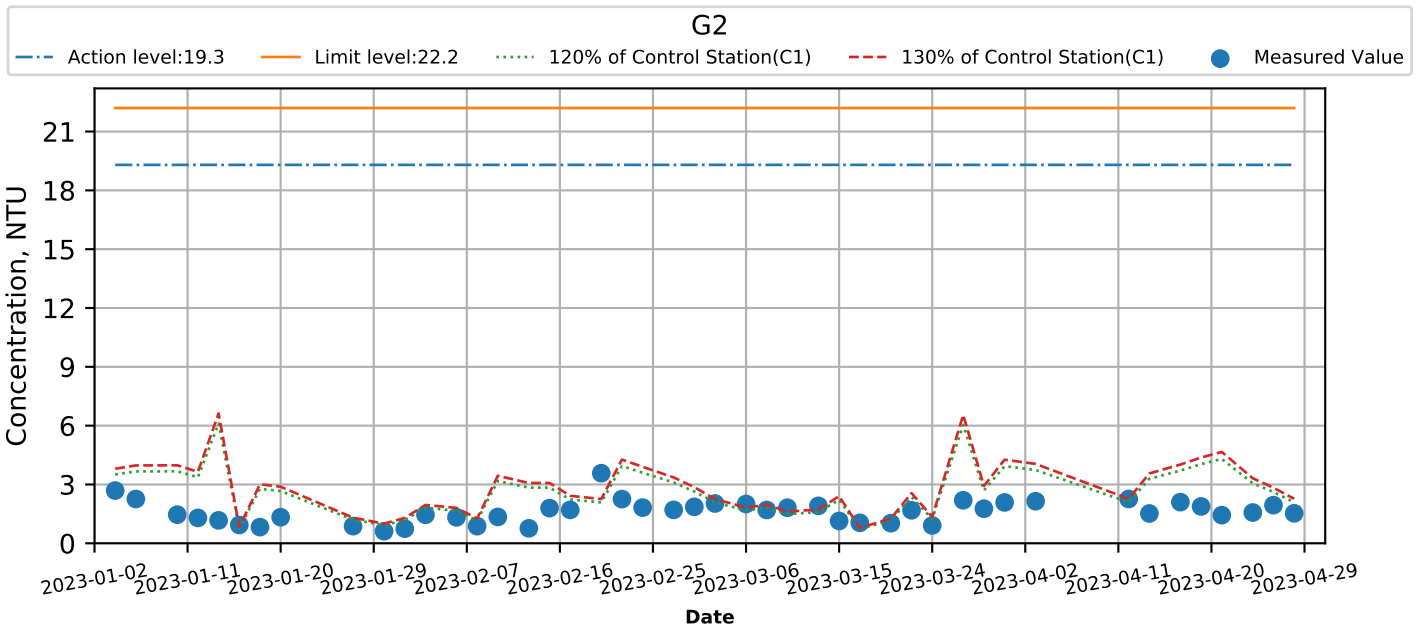


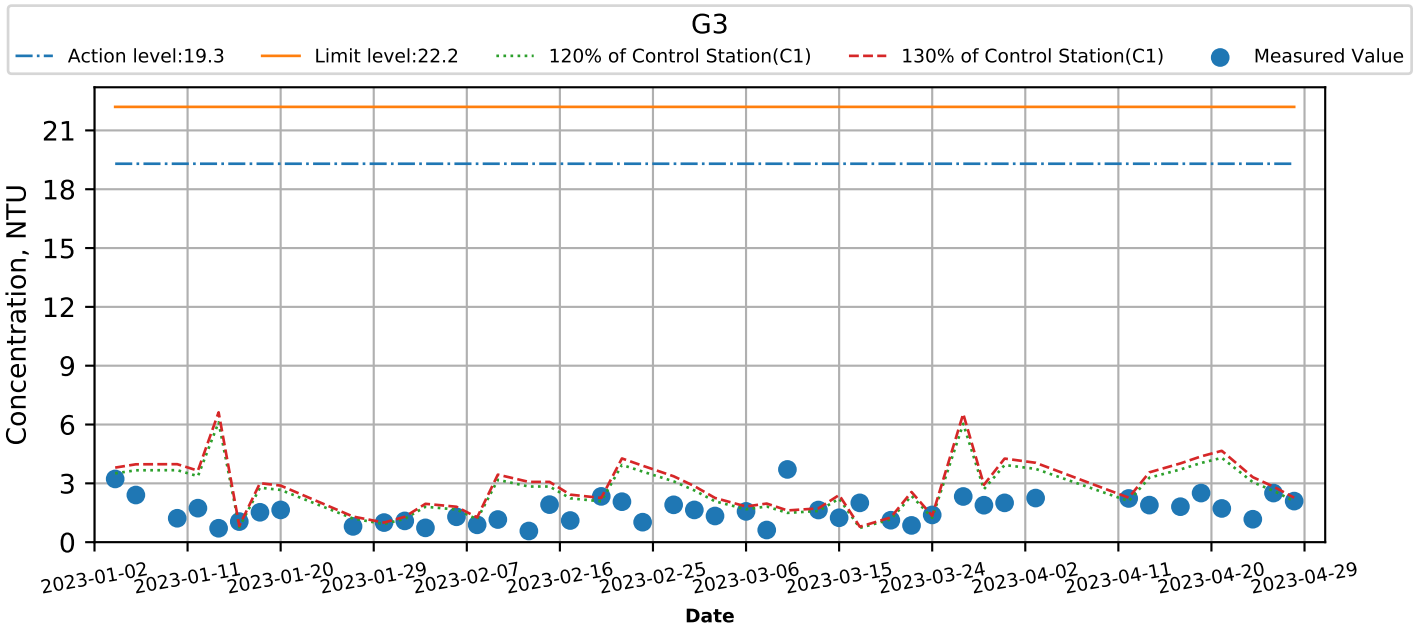


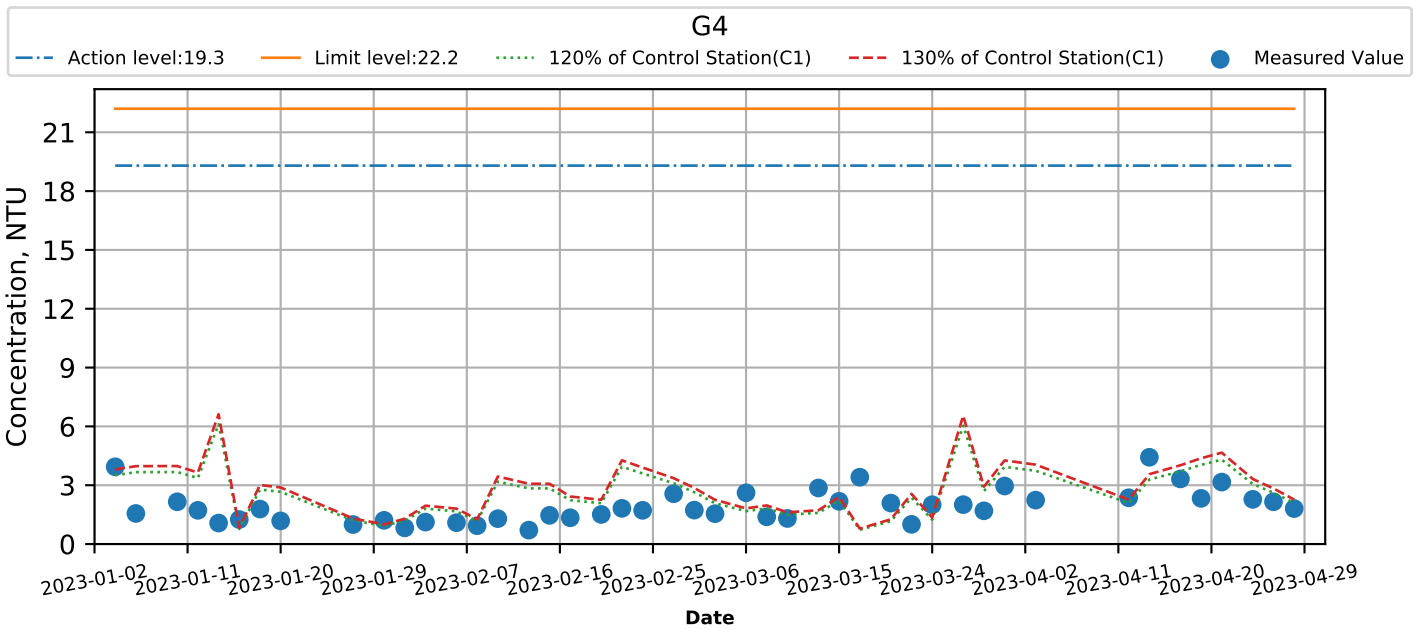


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Bottom) at Monitoring Stations during Mid-Flood

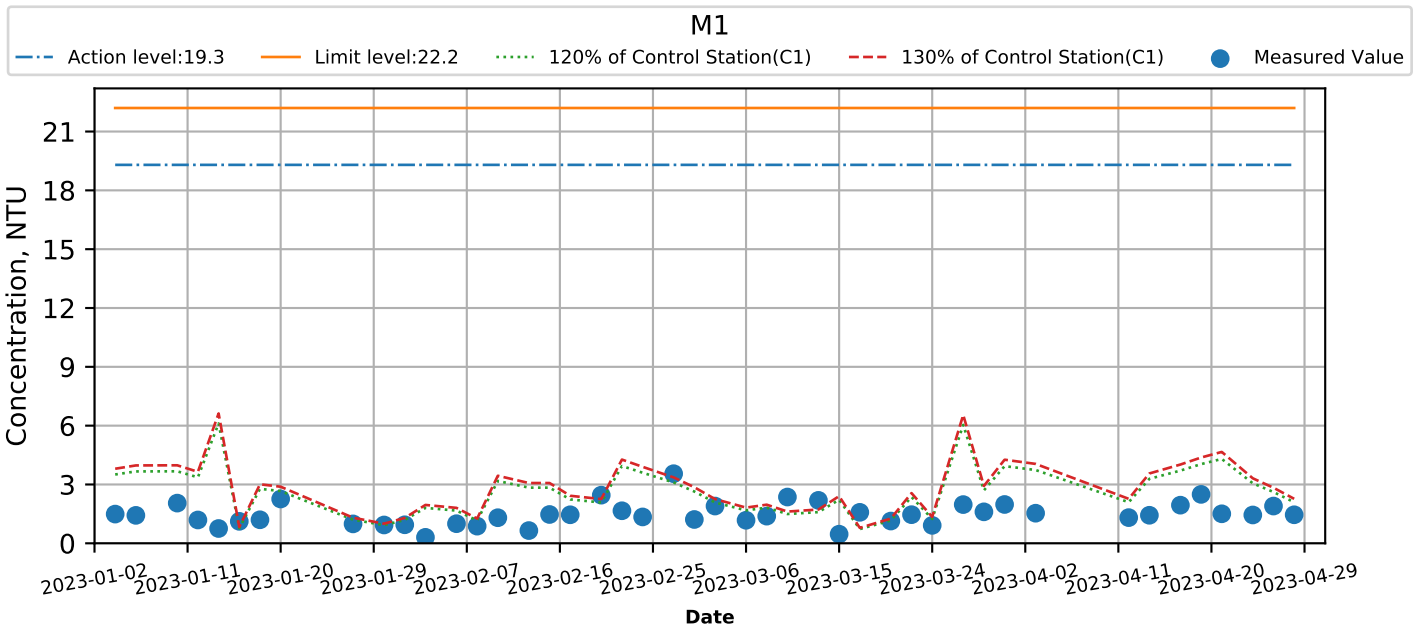


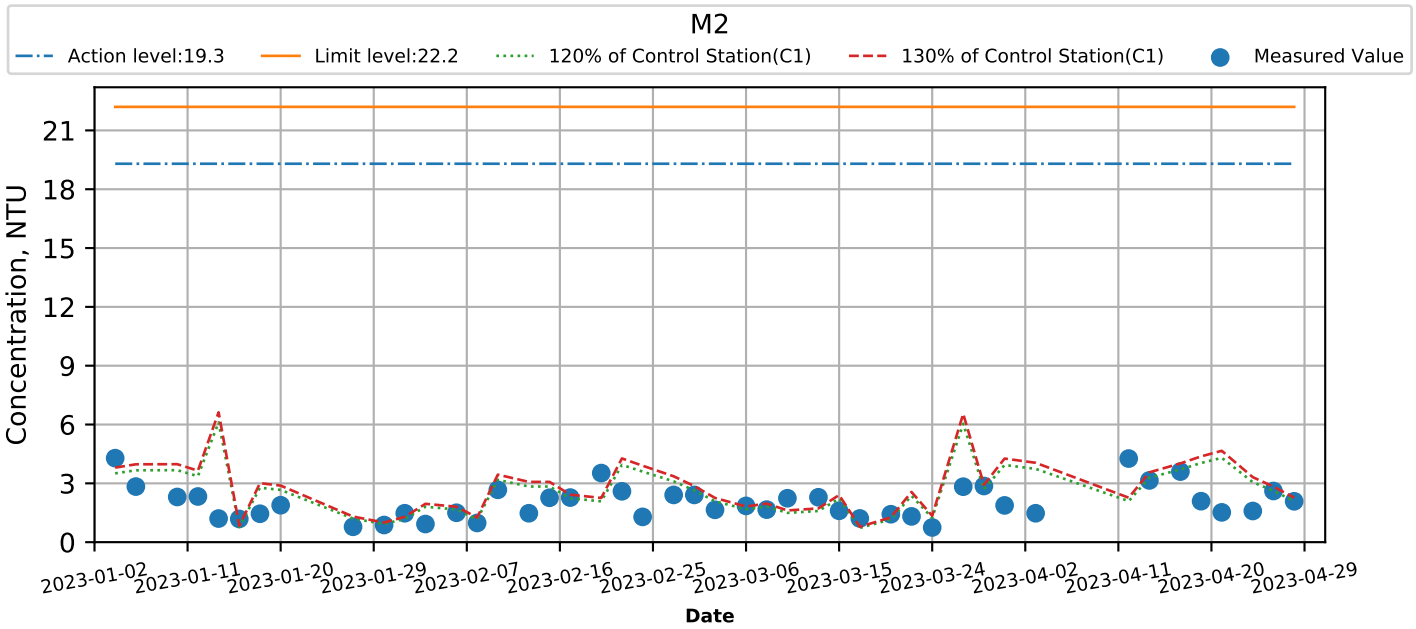


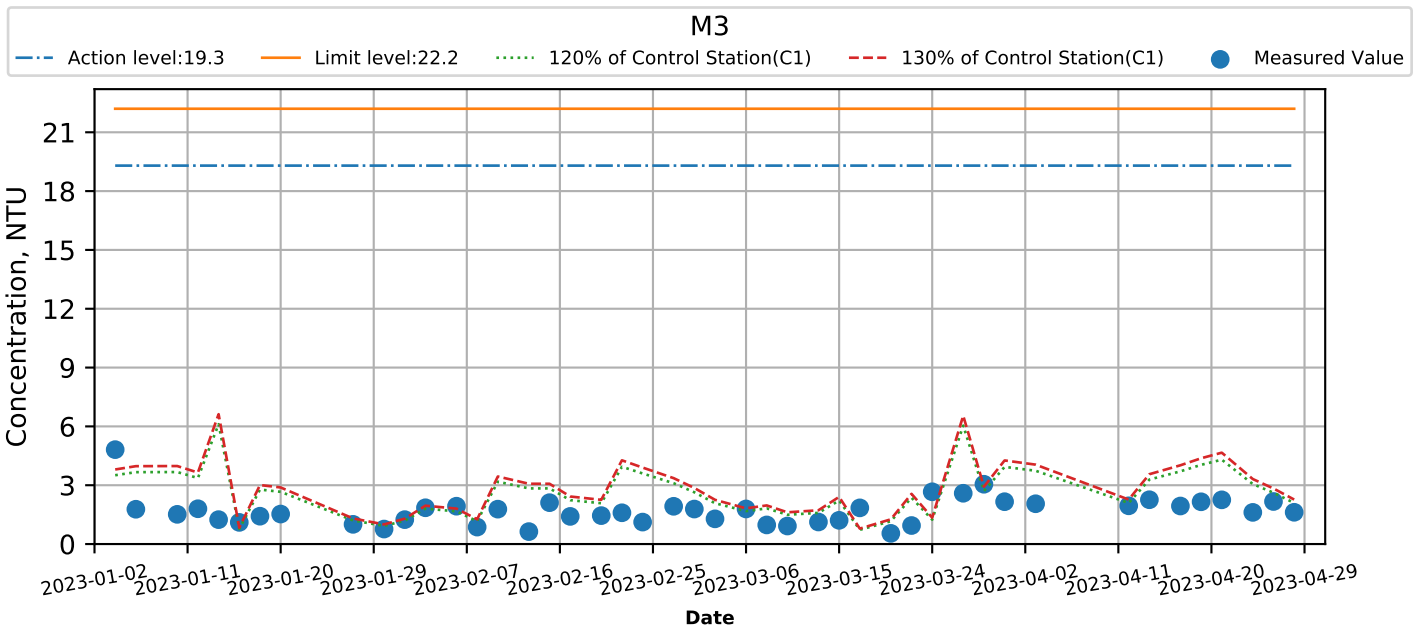


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Bottom) at Monitoring Stations during Mid-Flood

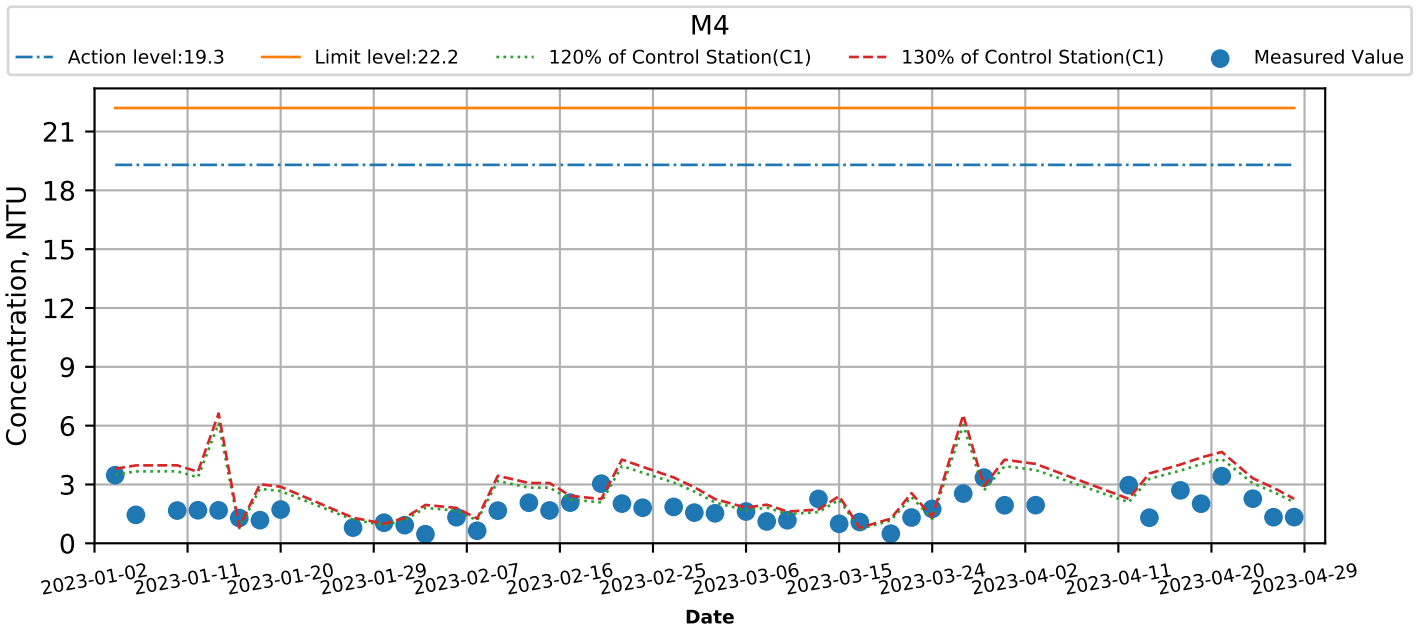


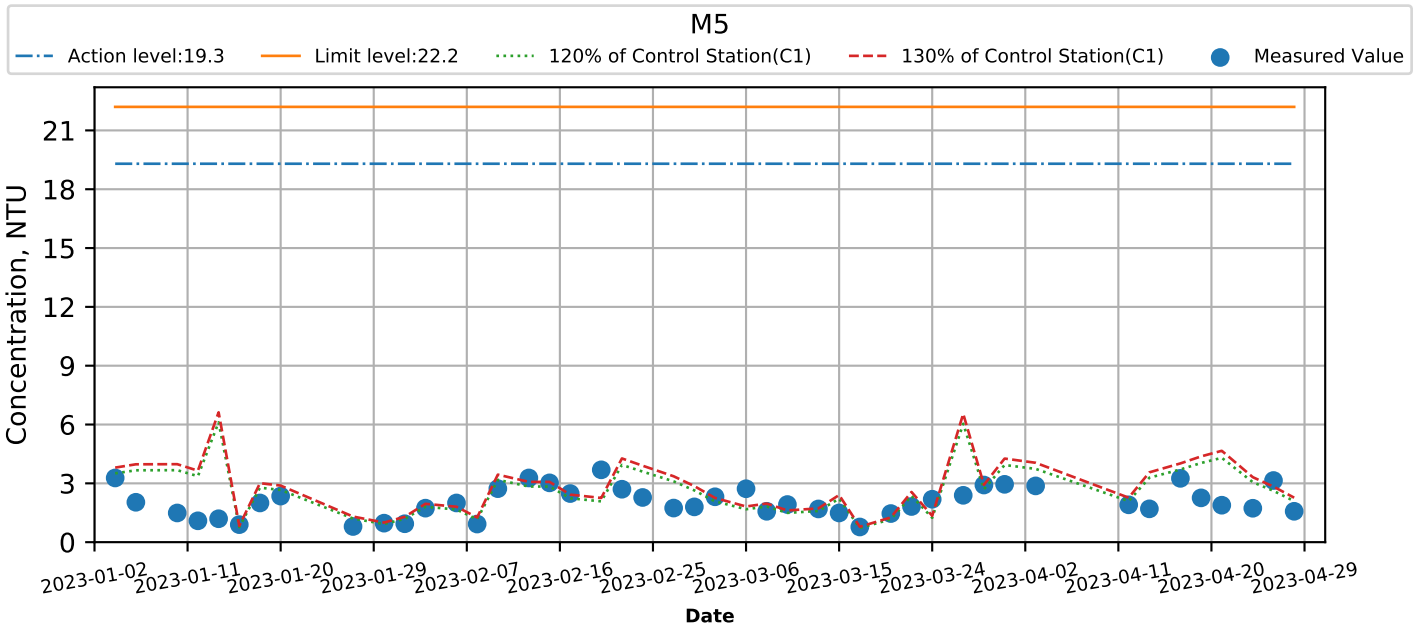




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

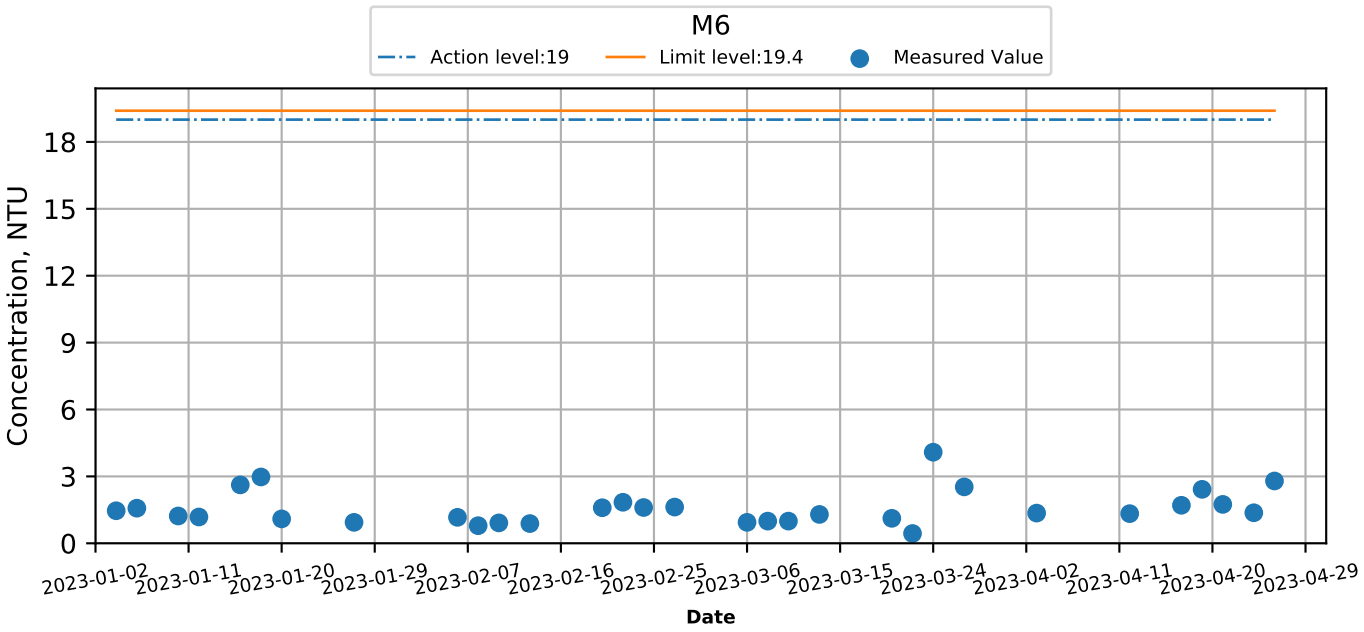
Turbidity (Bottom) at Monitoring Stations during Mid-Flood





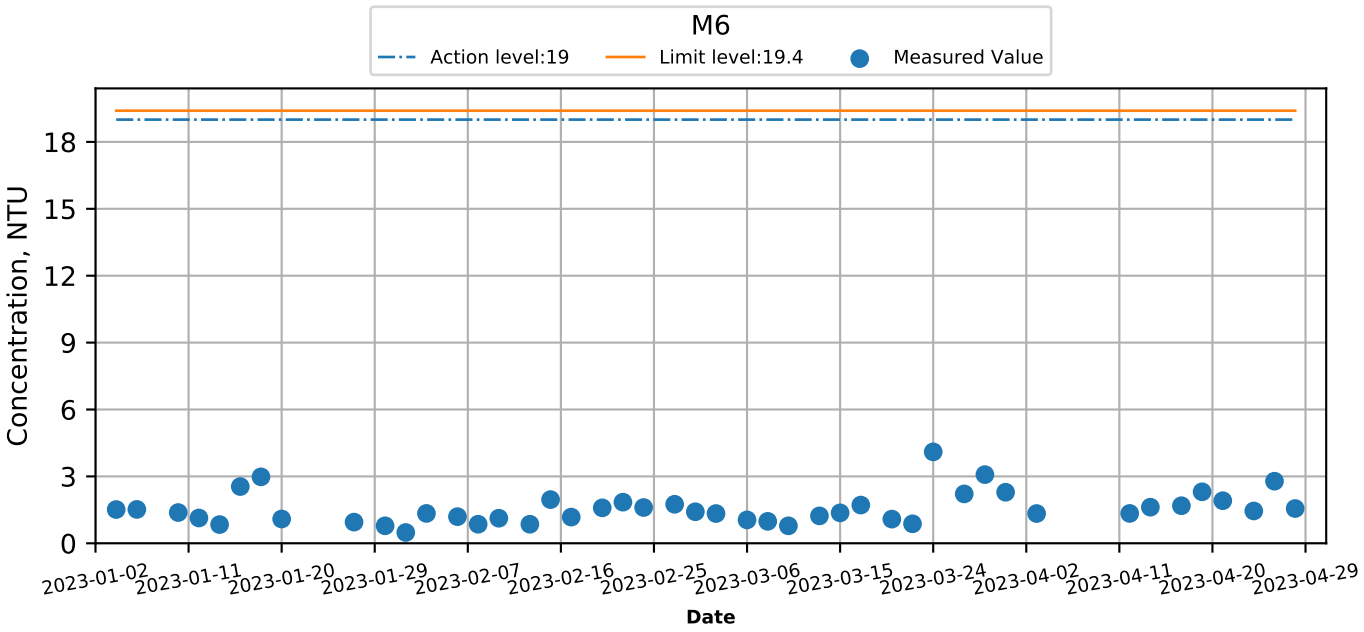
Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Turbidity (Intake level) at Monitoring Stations during Mid-Ebb



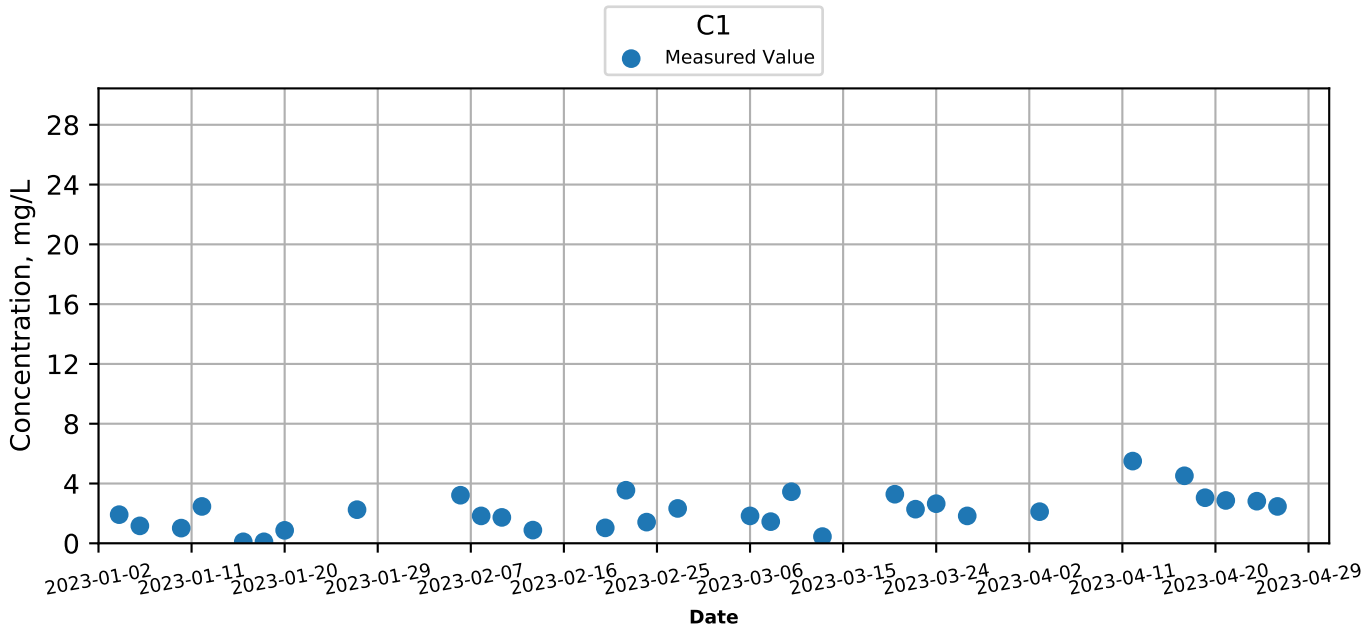
Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

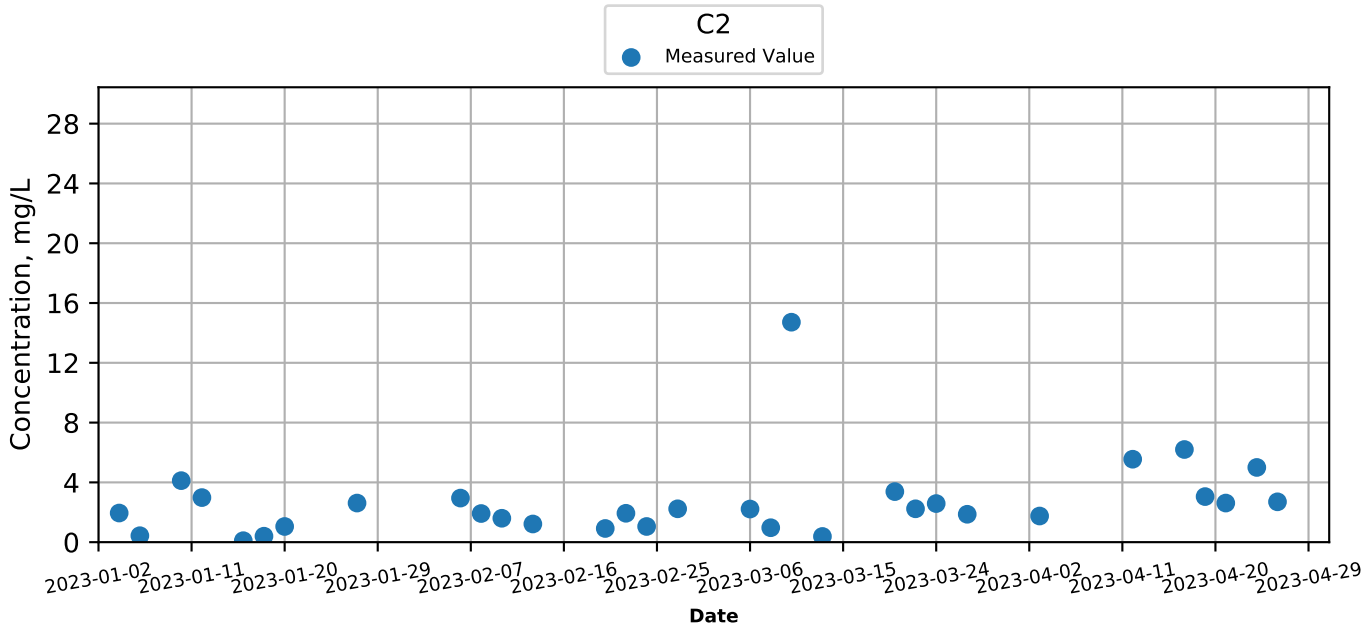
Turbidity (Intake level) at Monitoring Stations during Mid-Flood

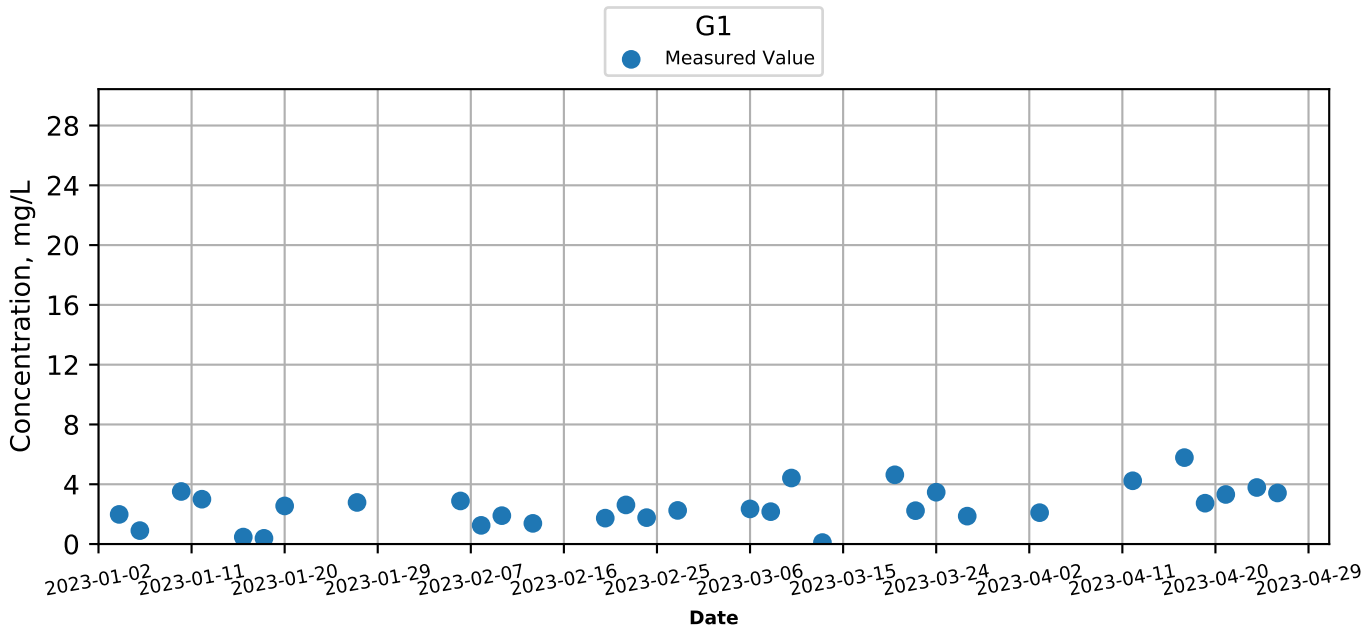


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb

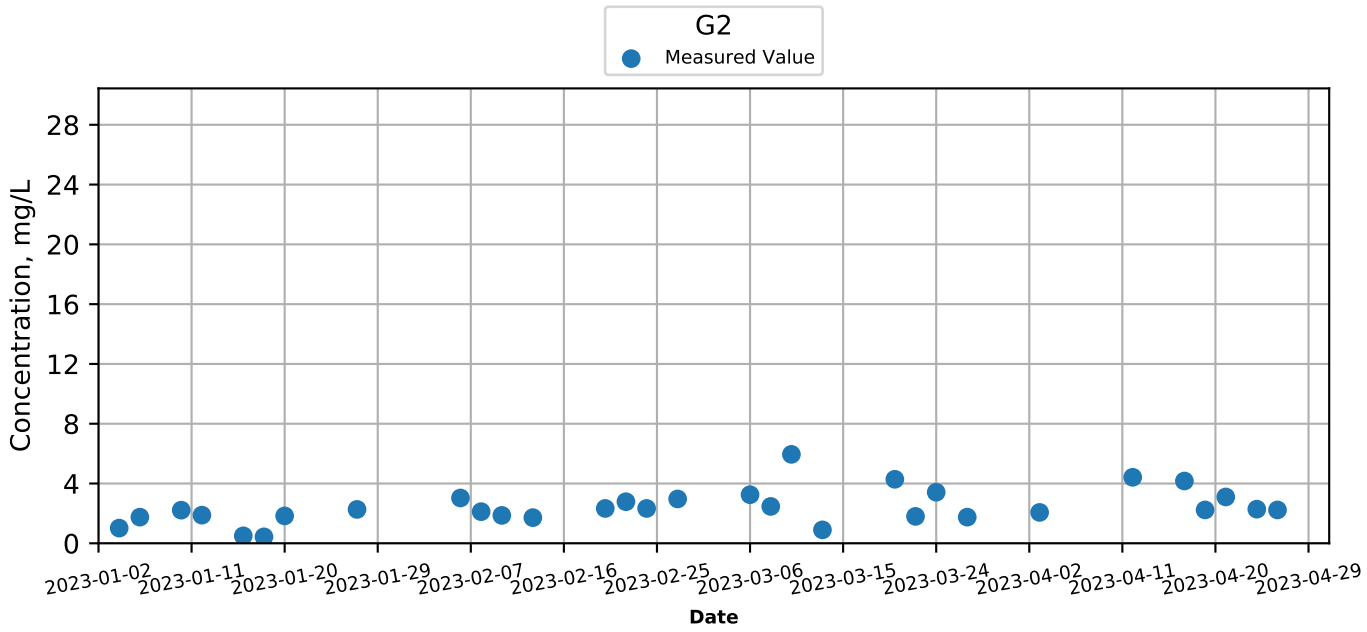


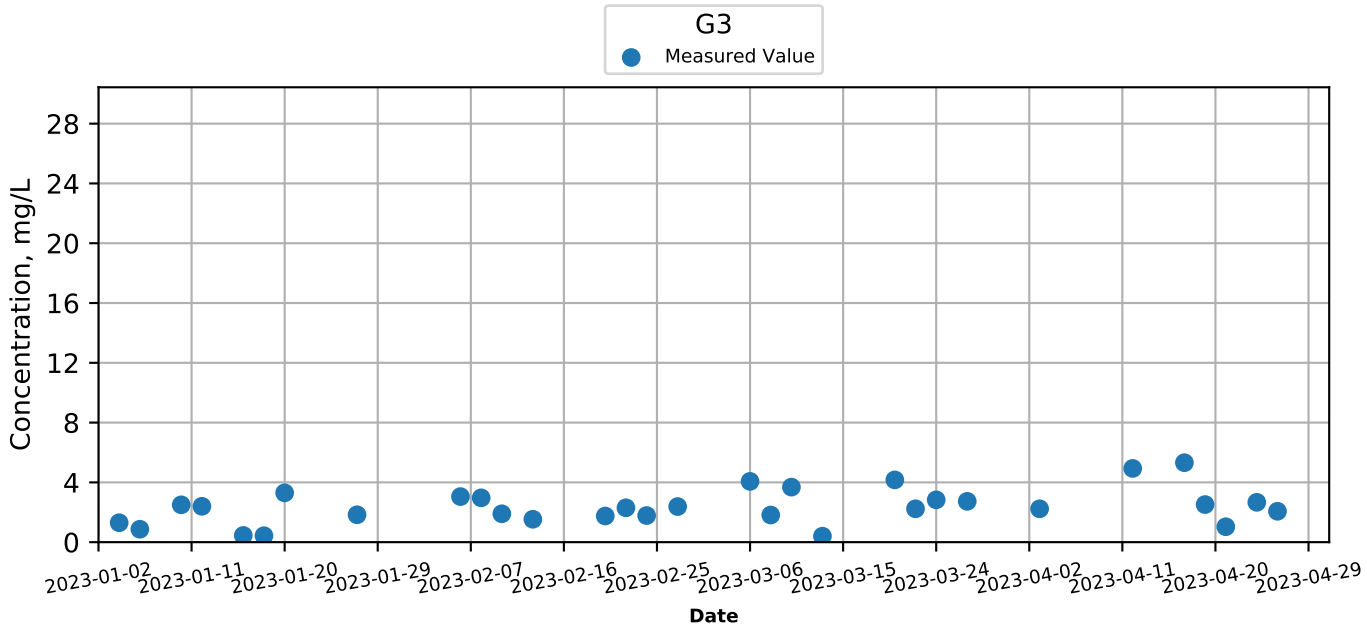


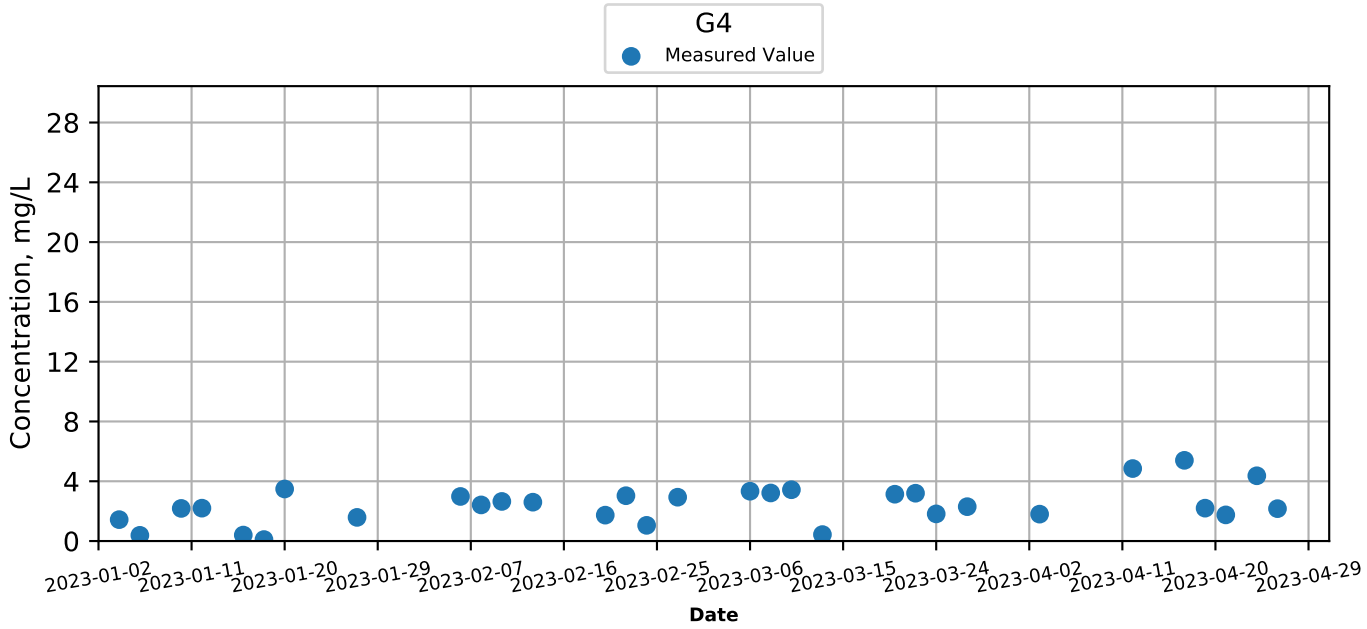


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb

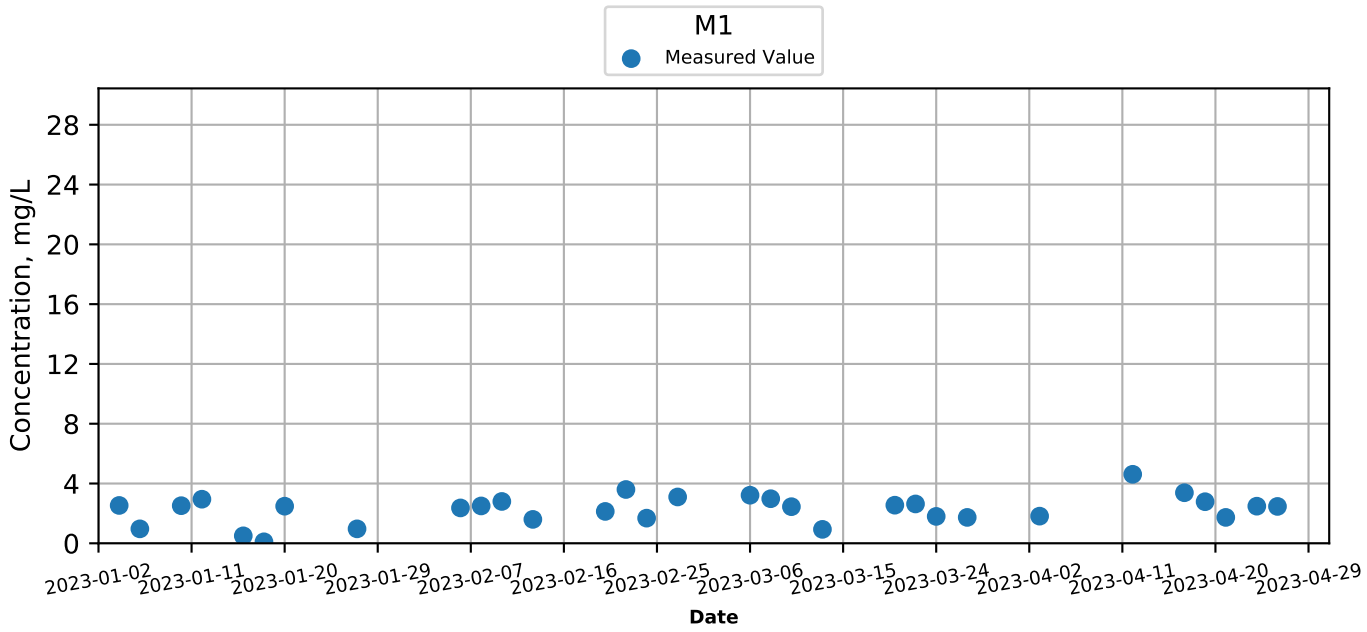


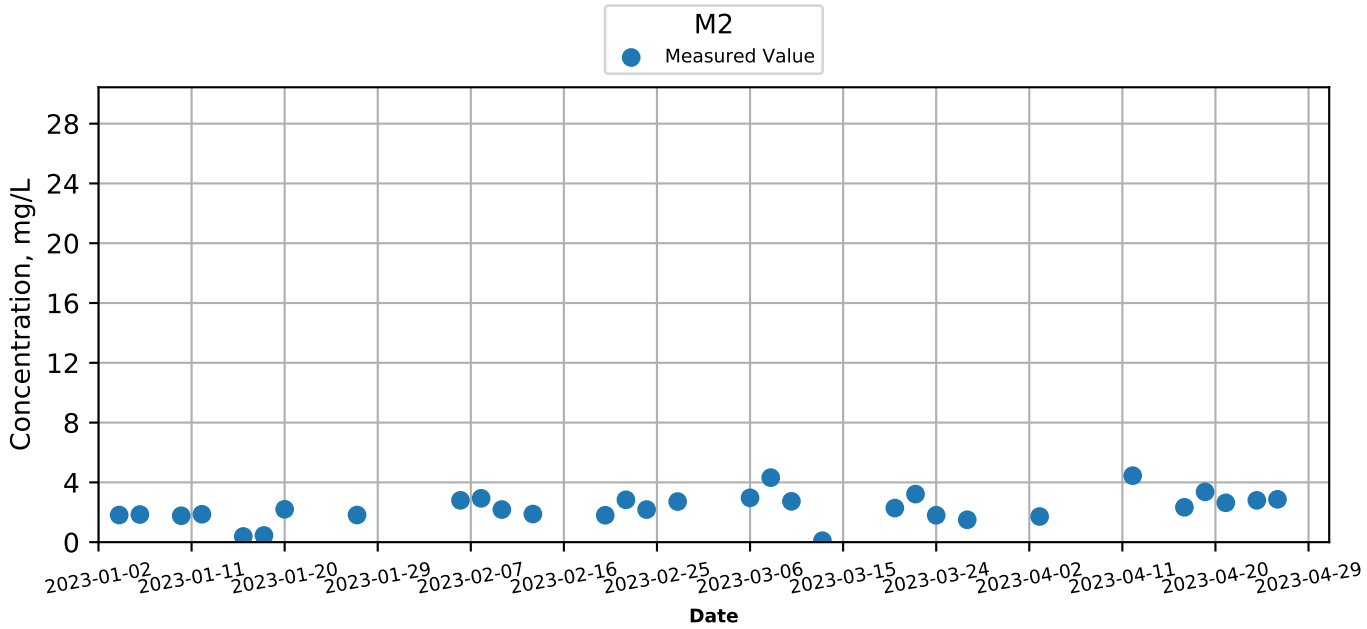


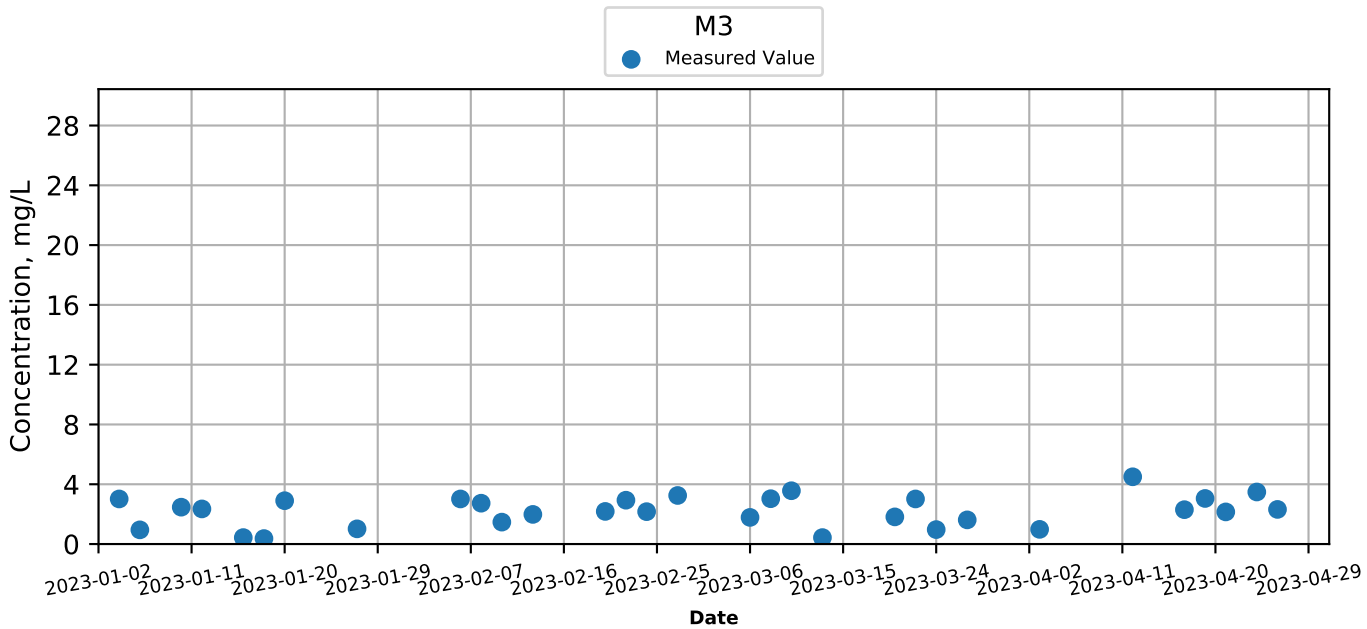


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb

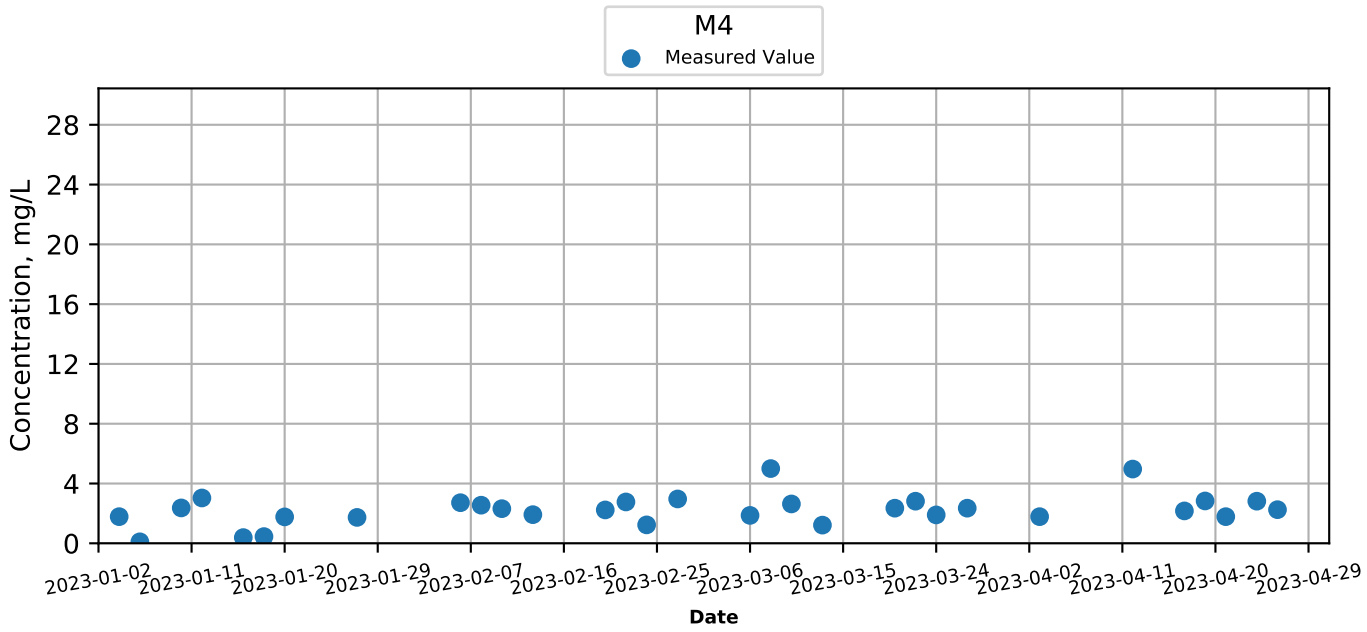


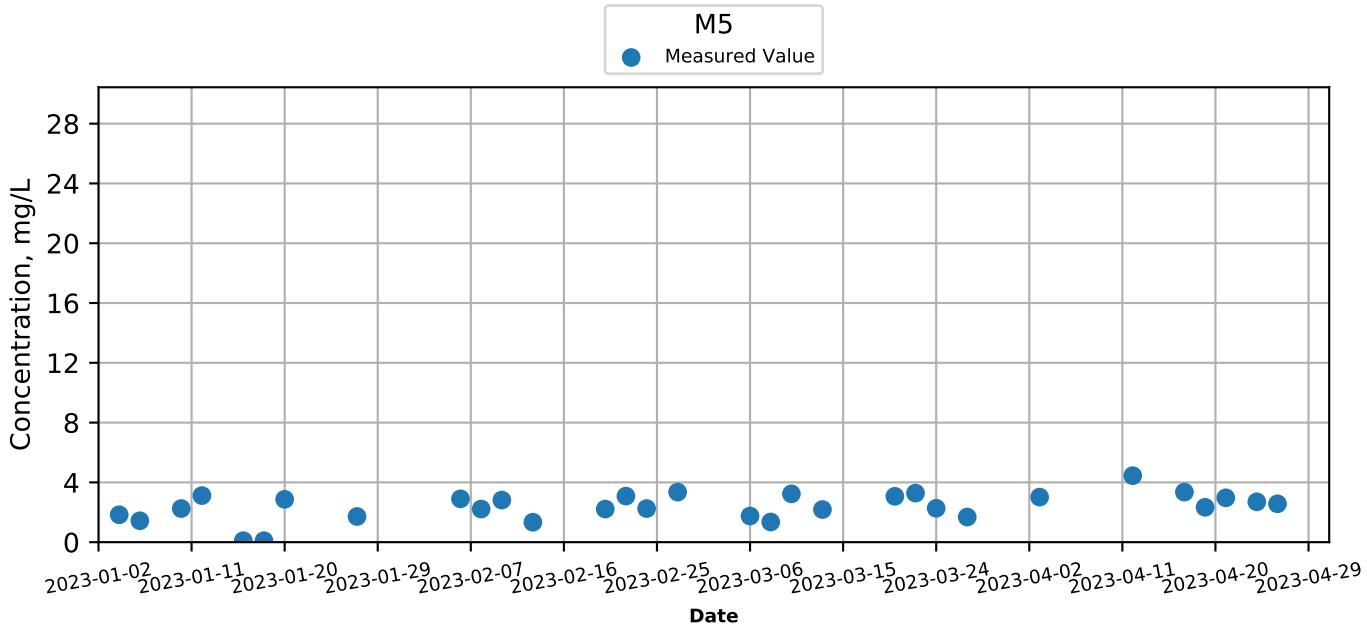




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

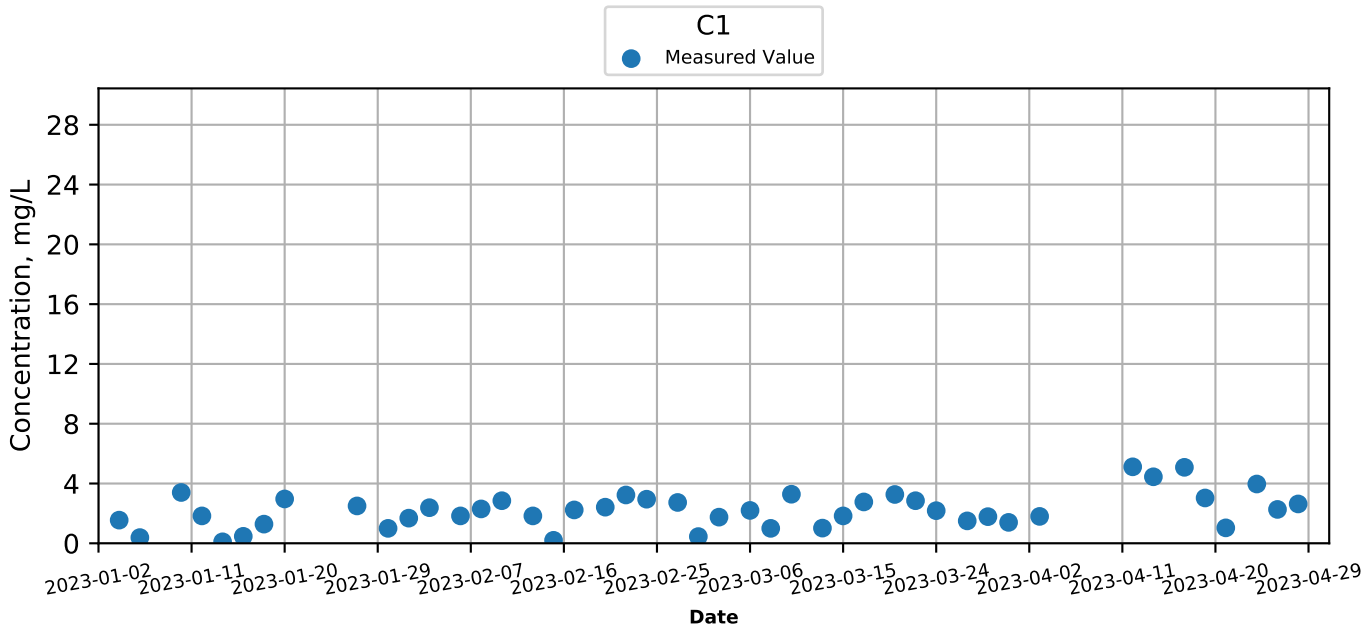
Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb

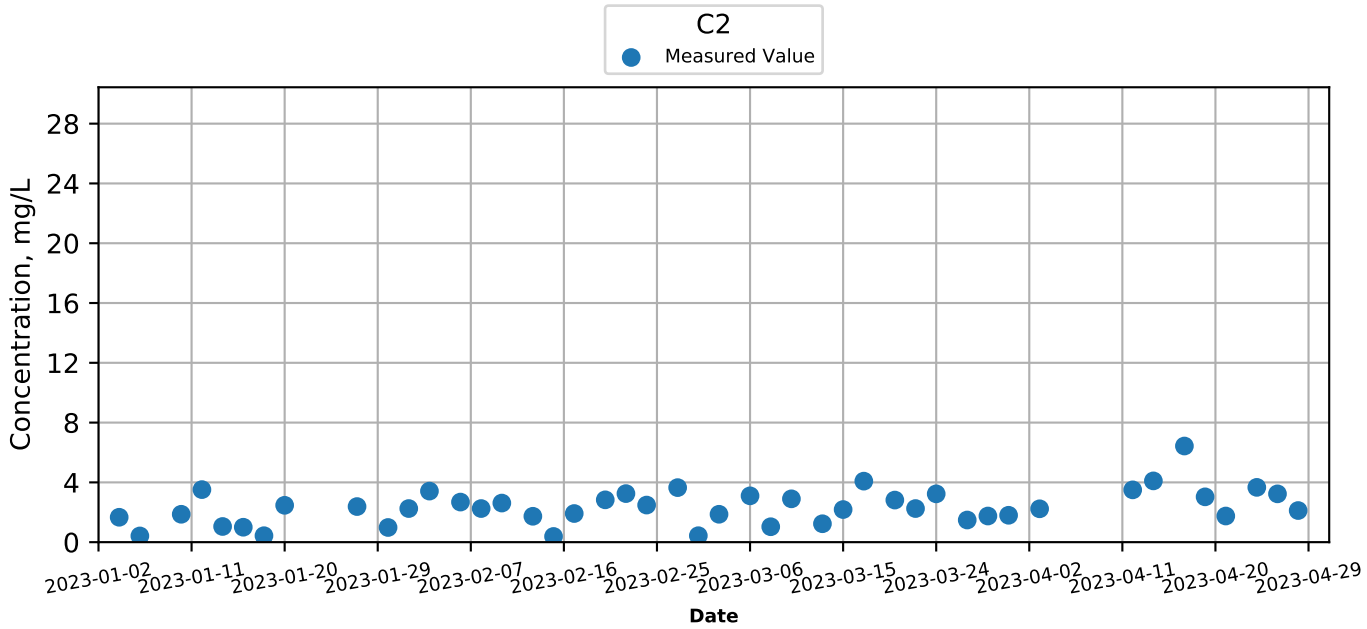


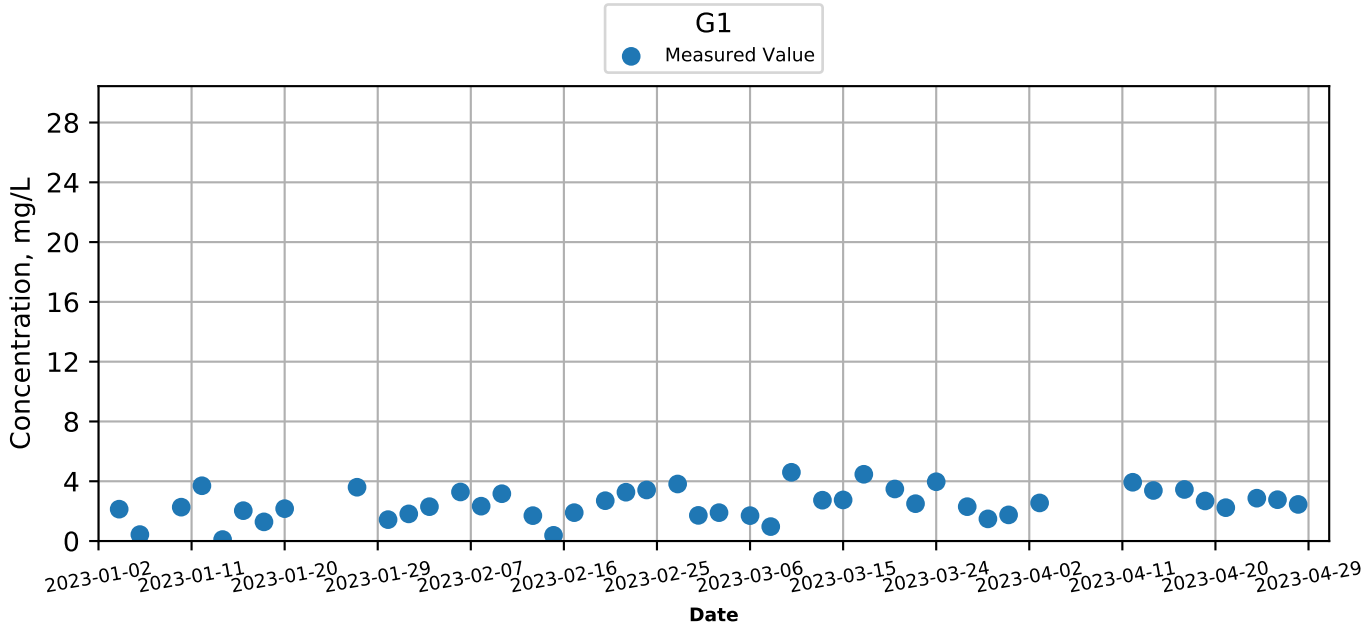


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood

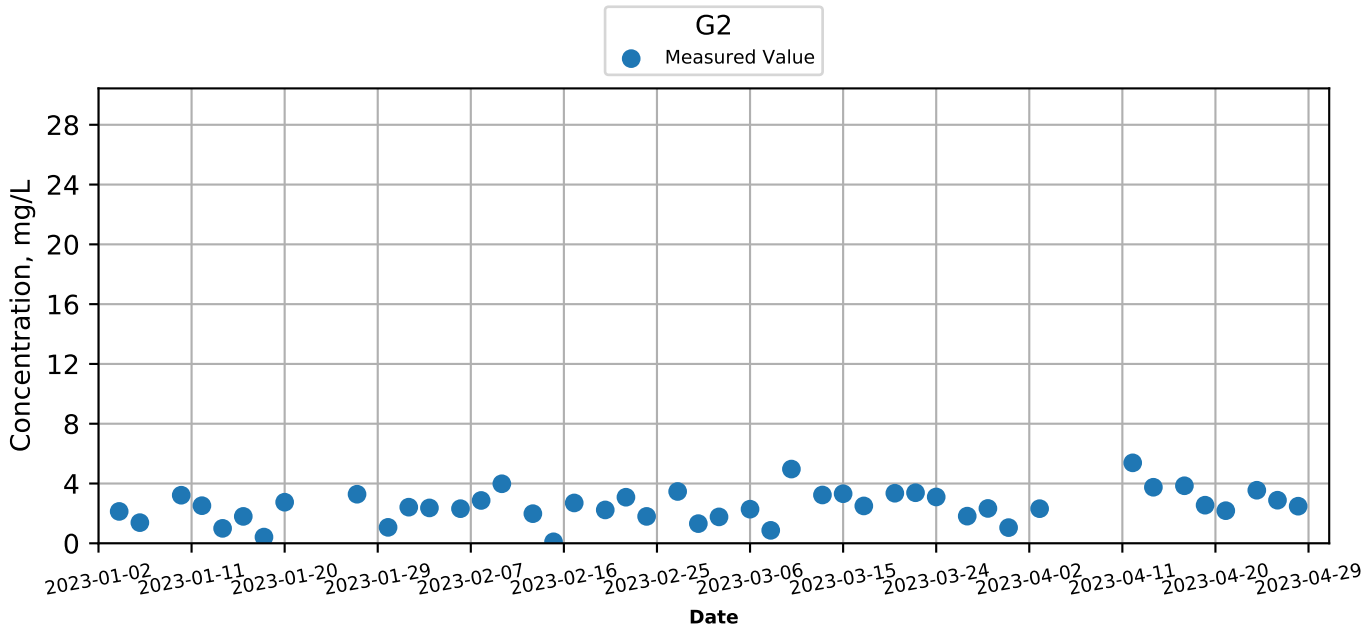


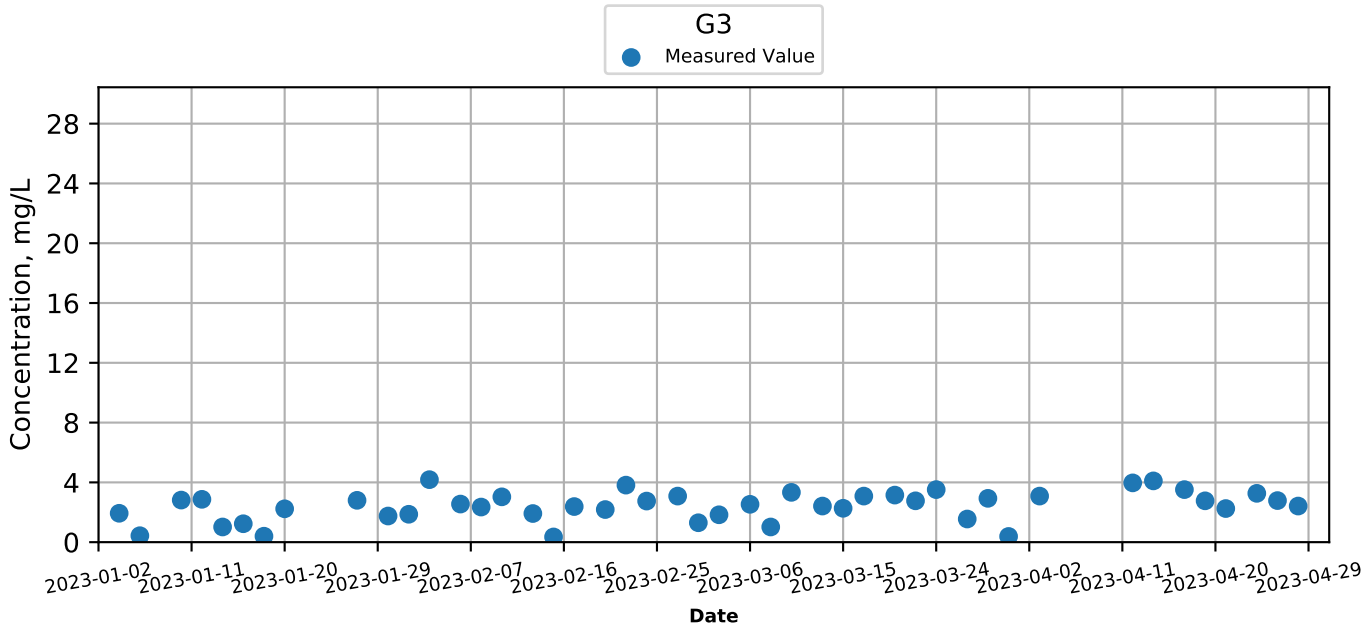


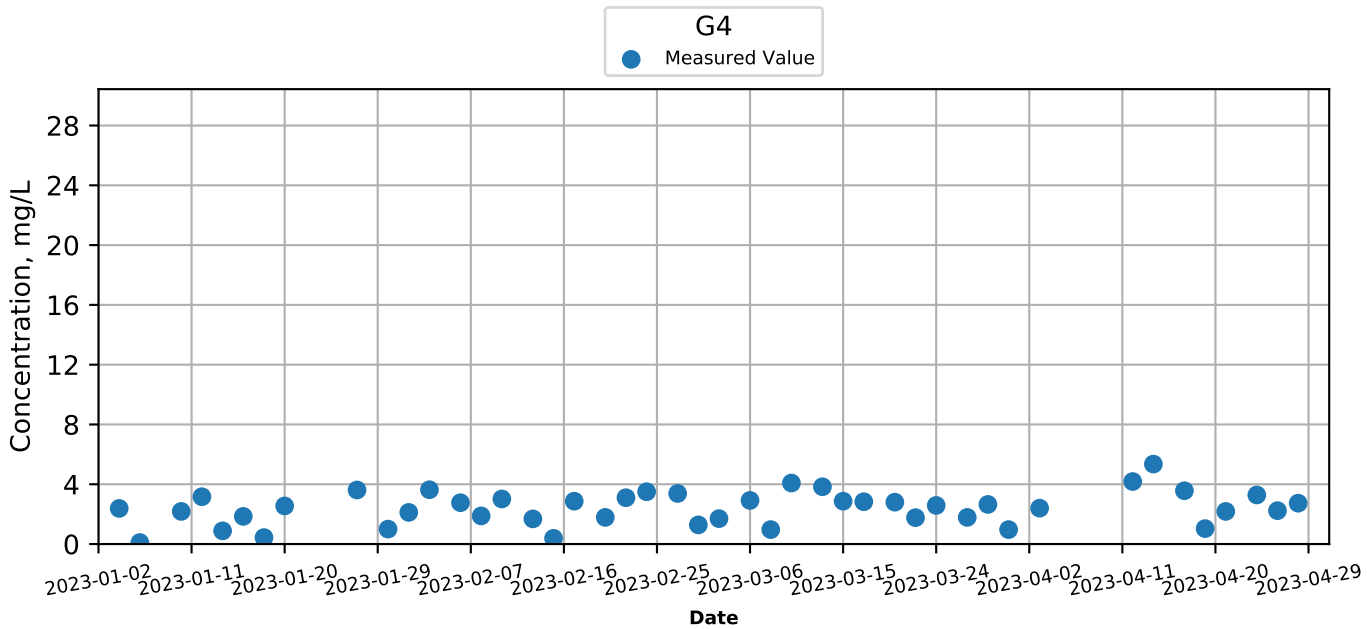


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood

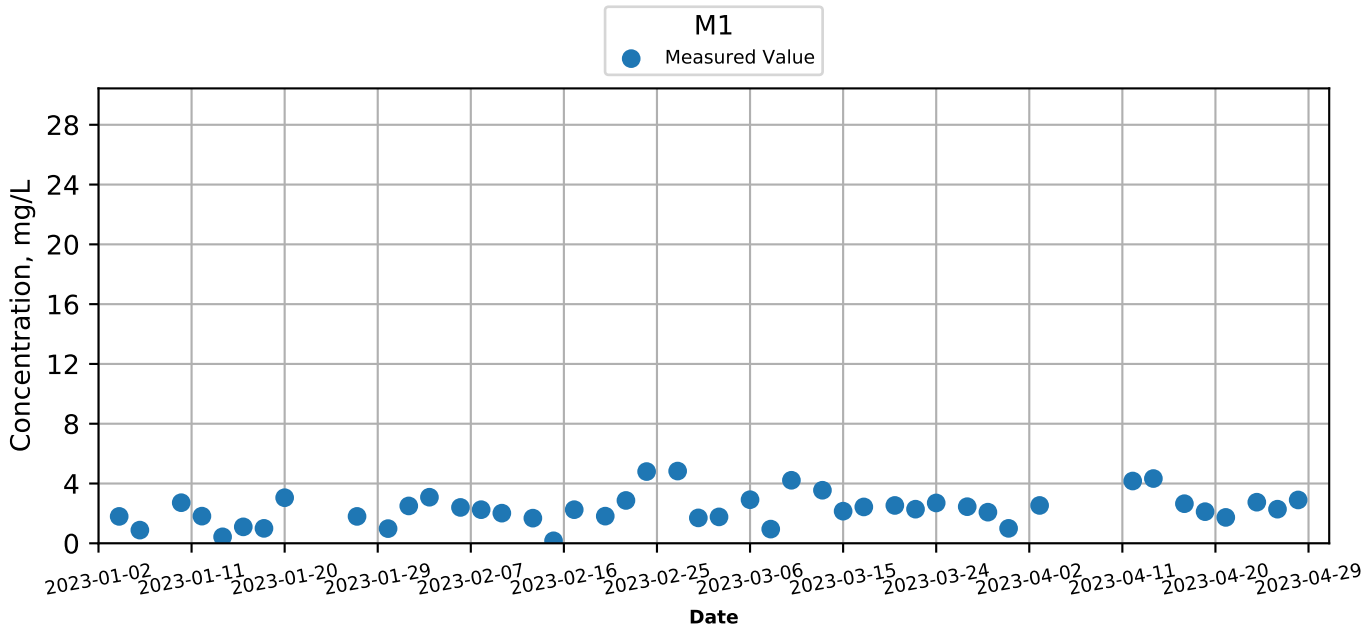


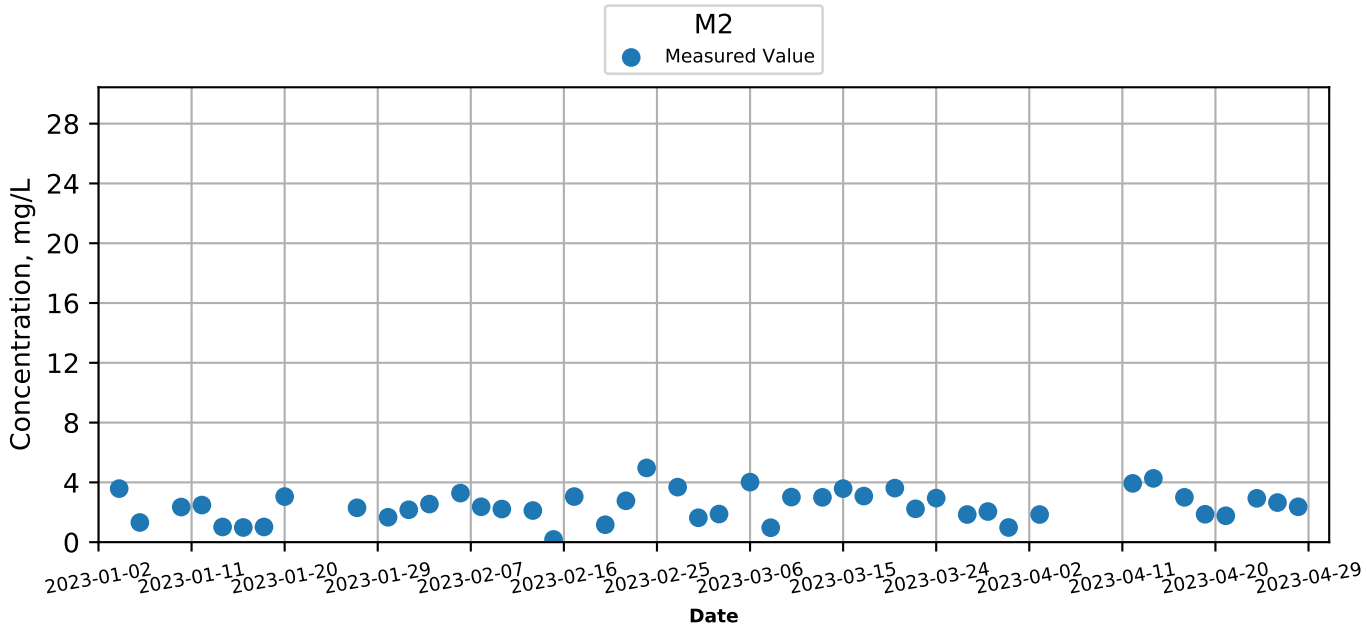


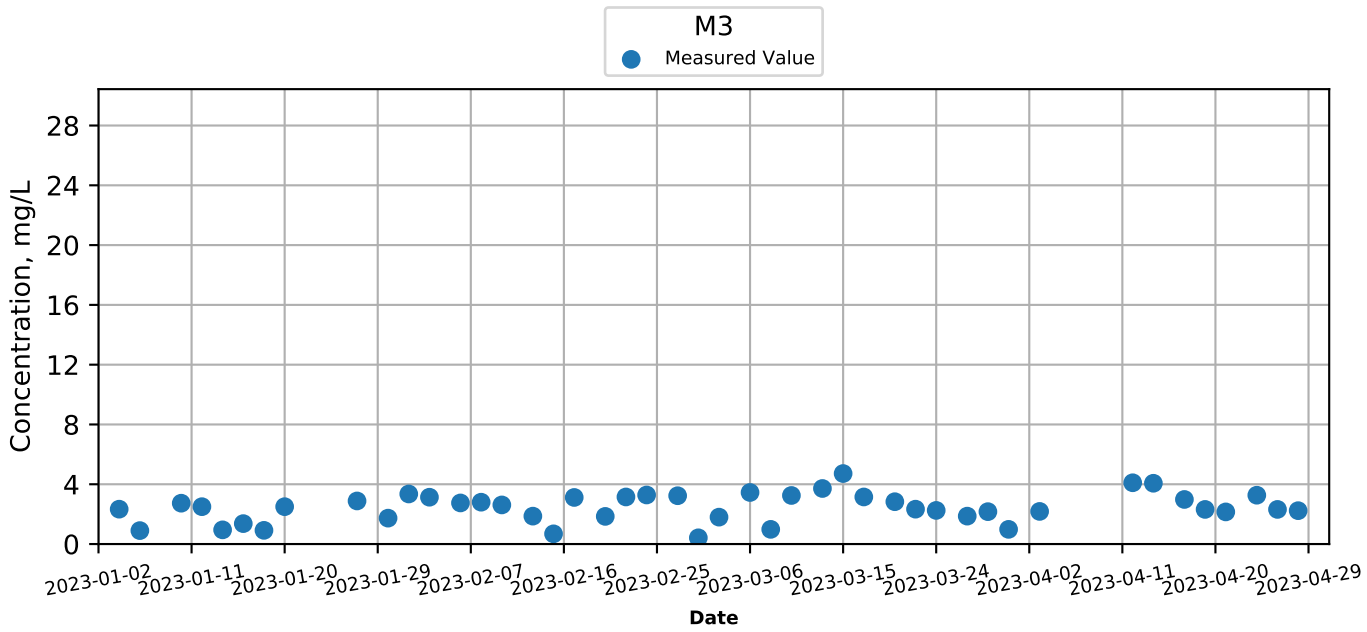


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood

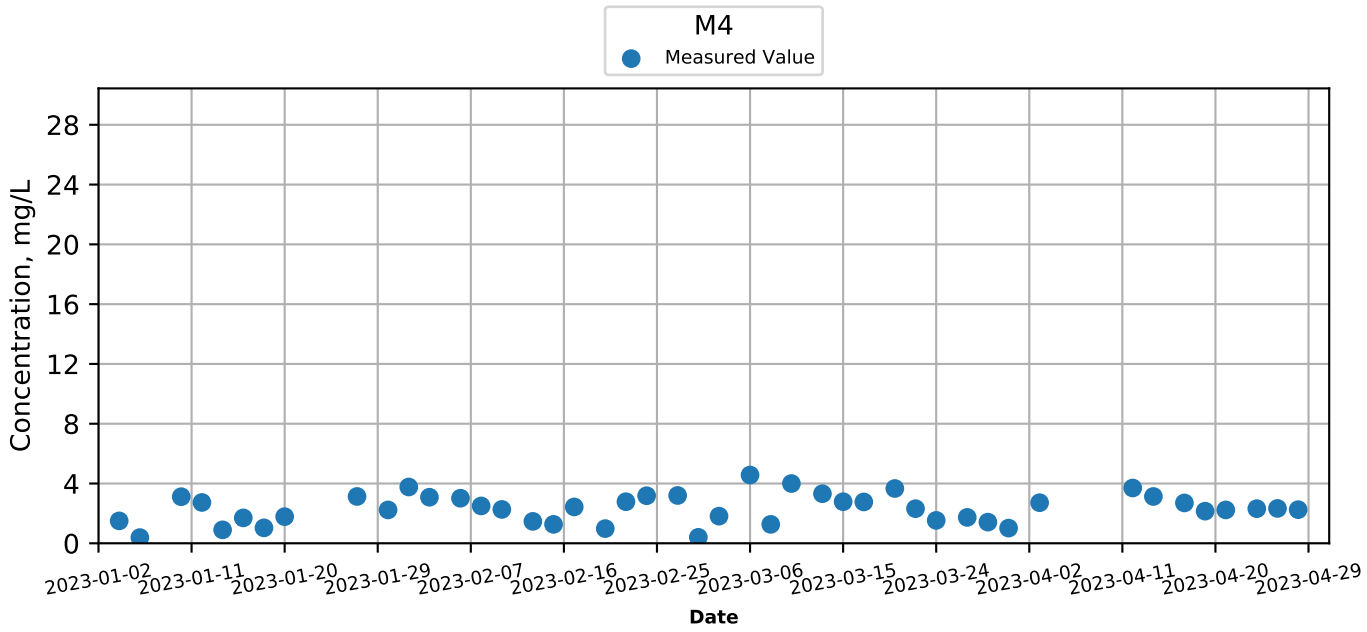


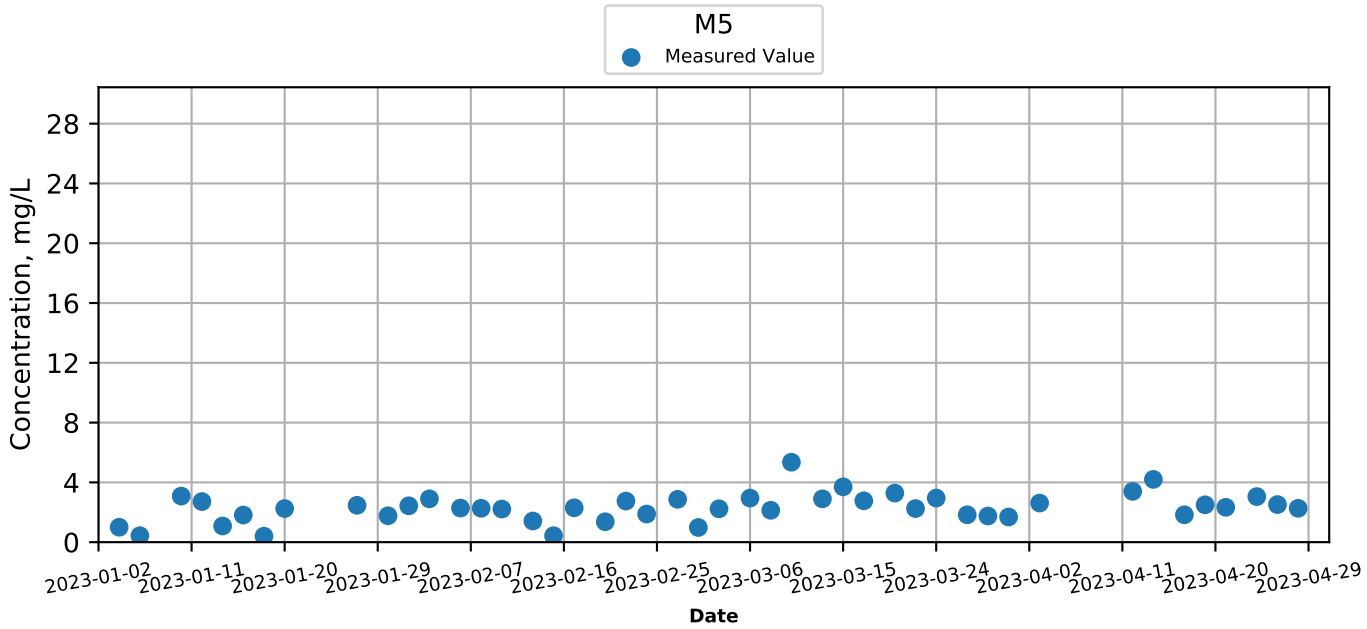




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

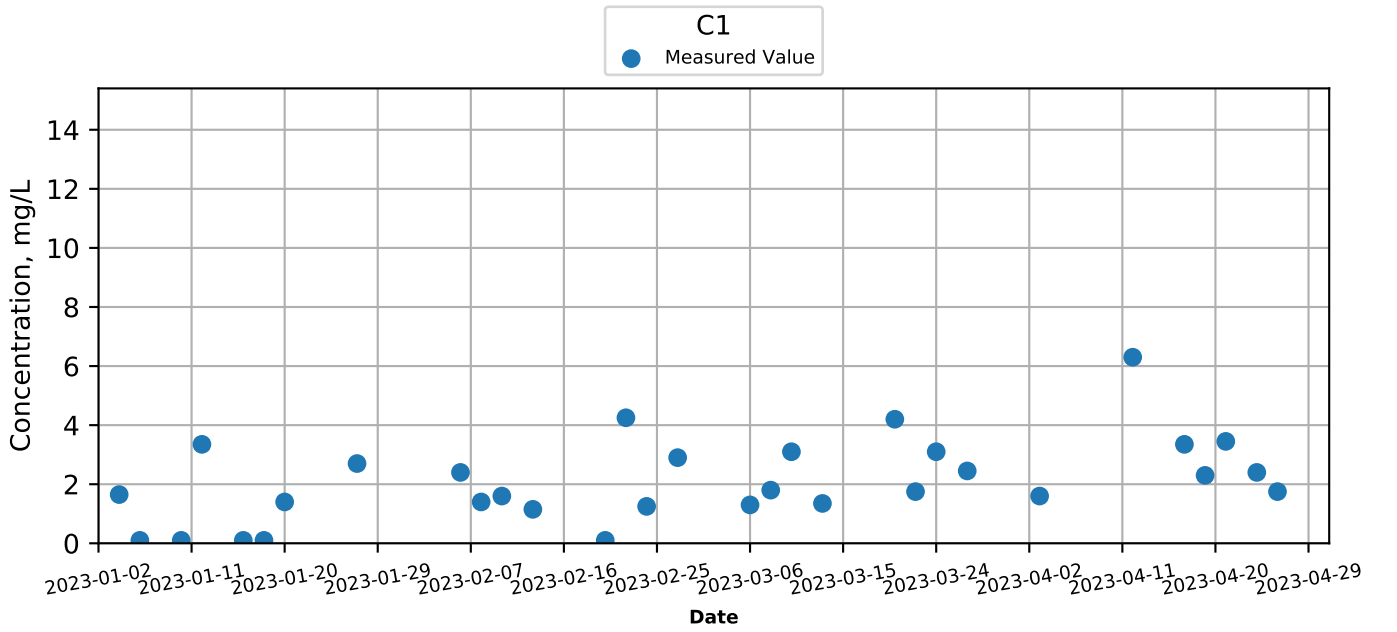
Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood

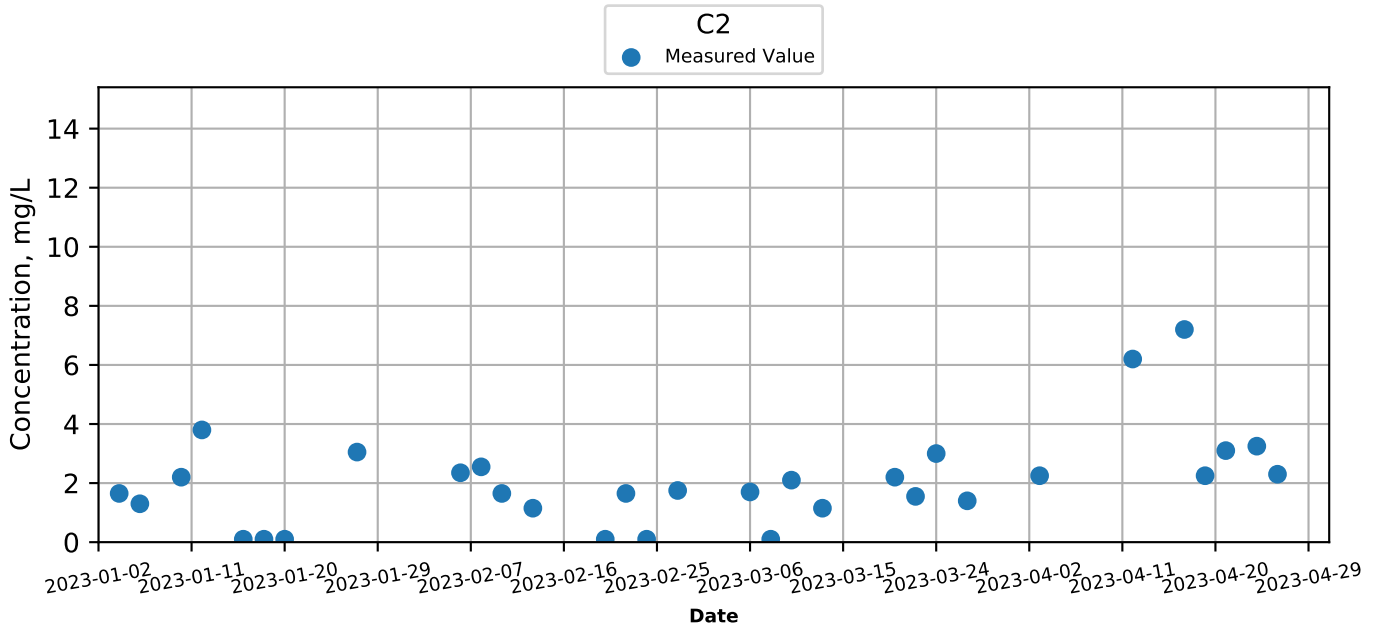


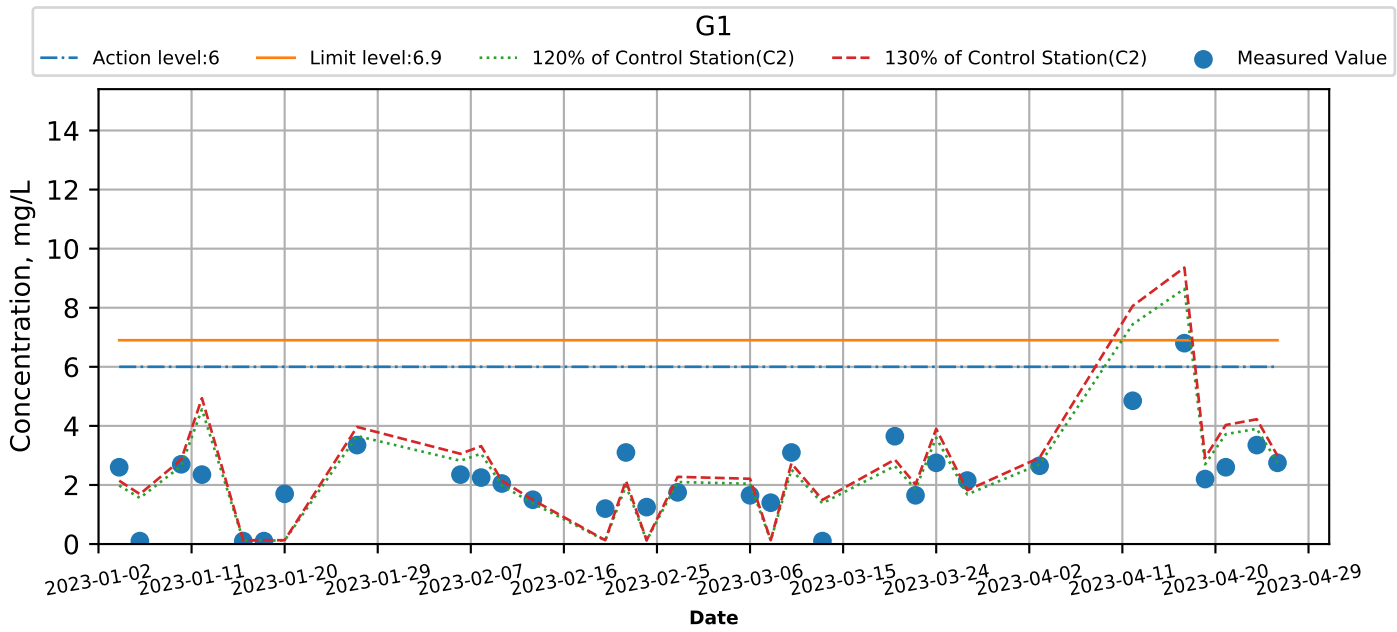


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb

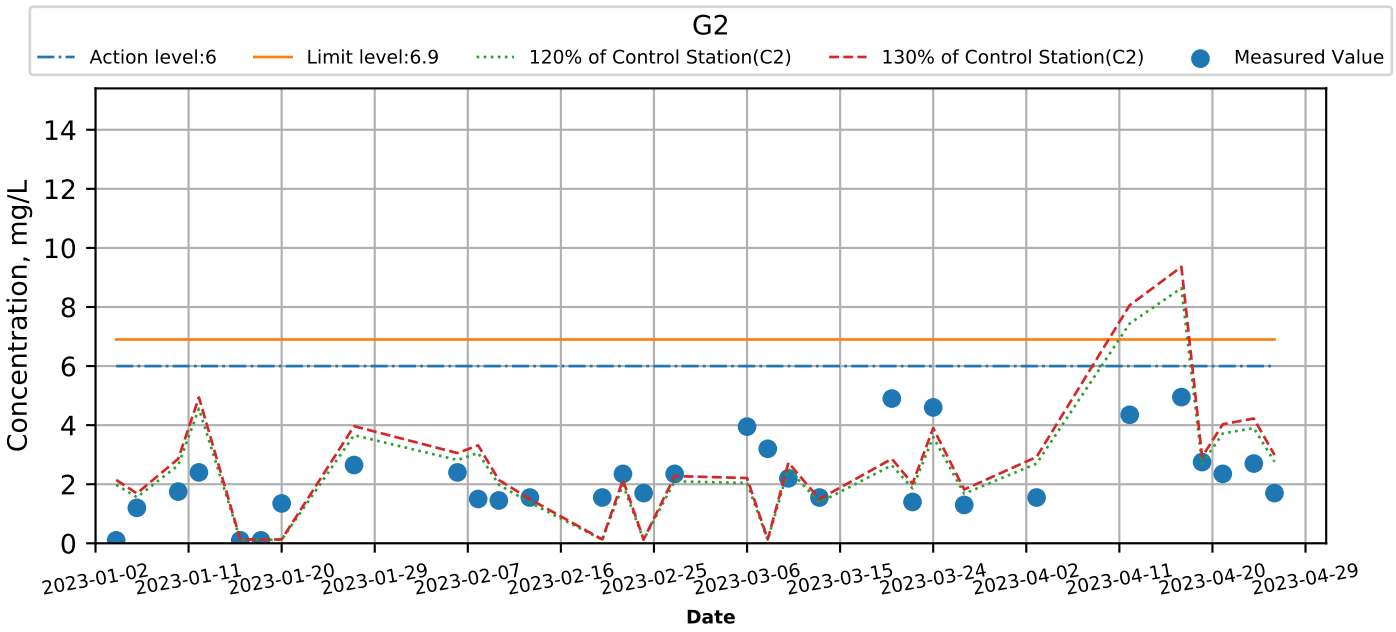


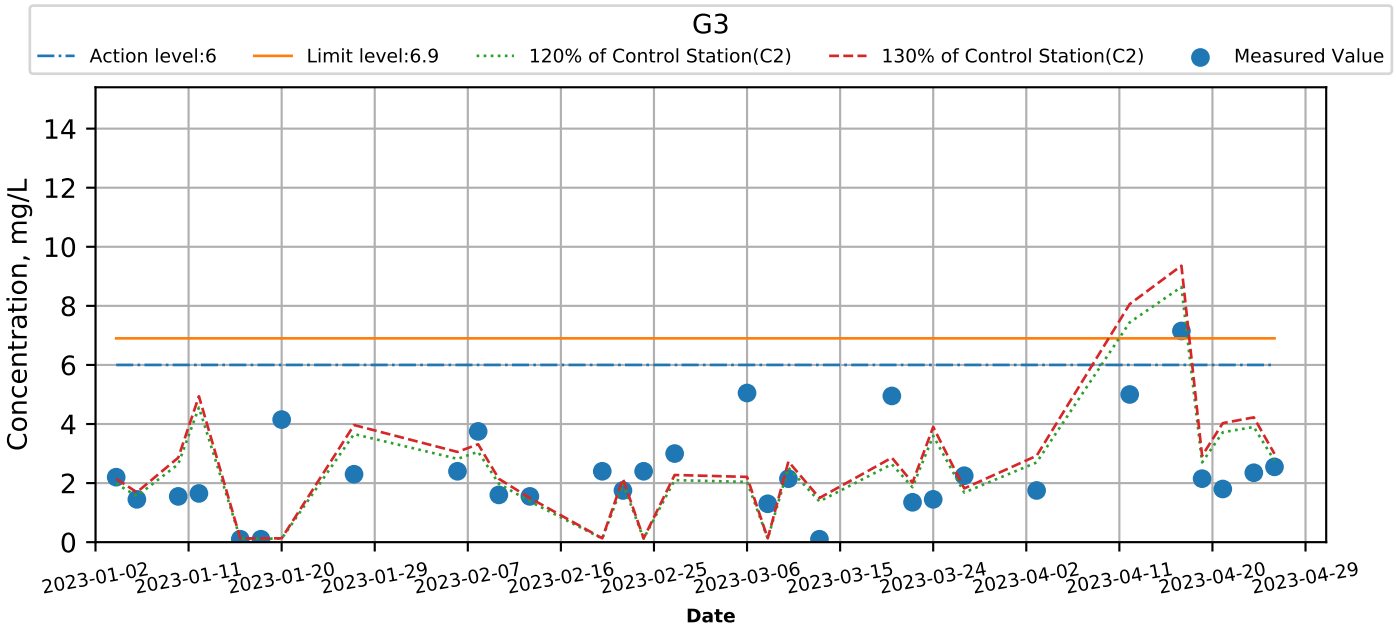


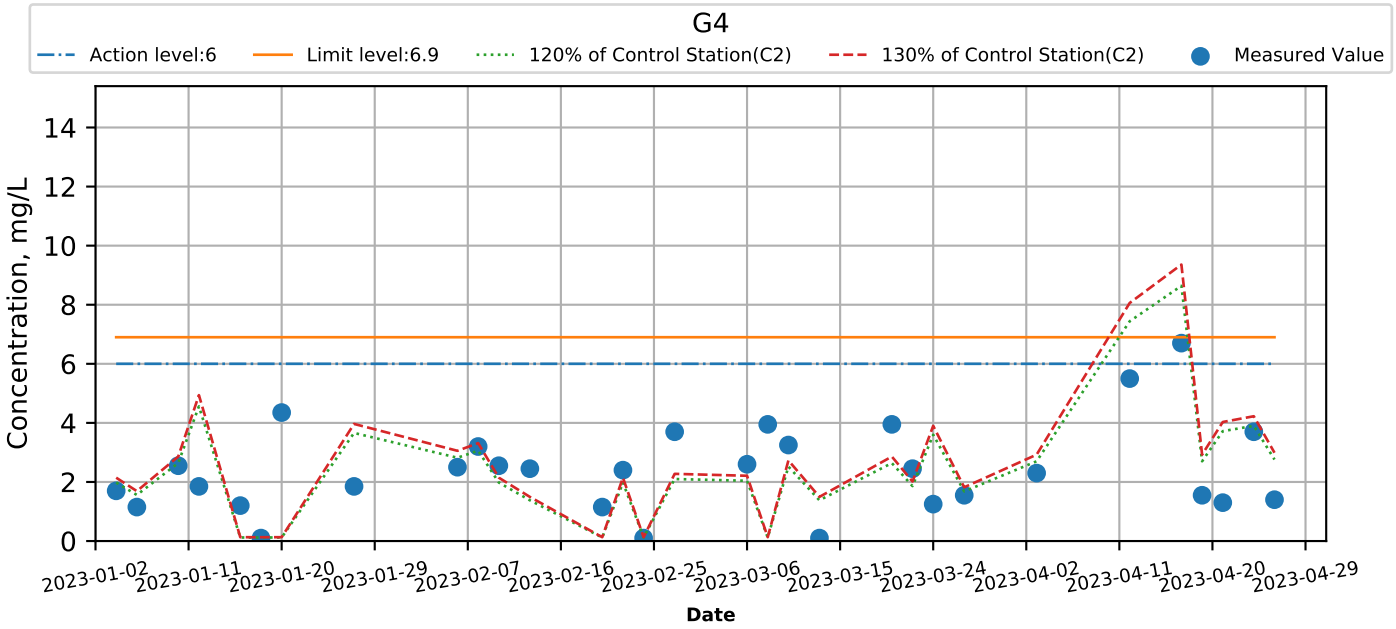


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb

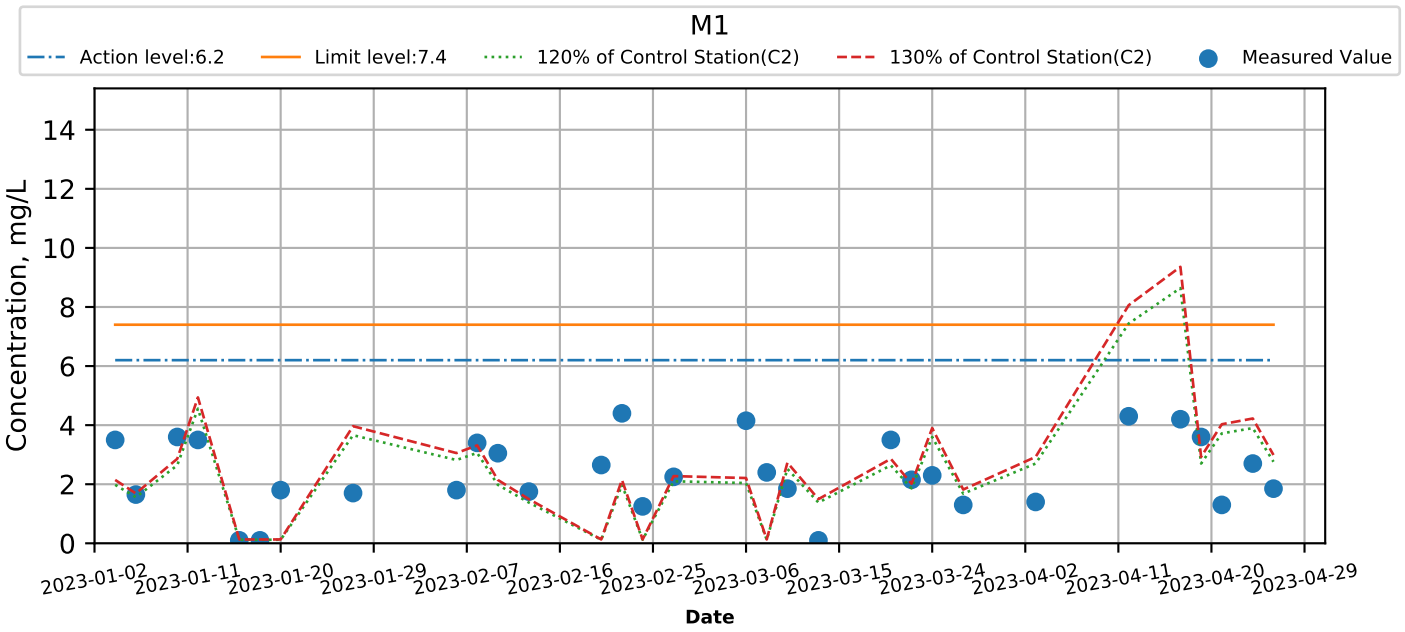


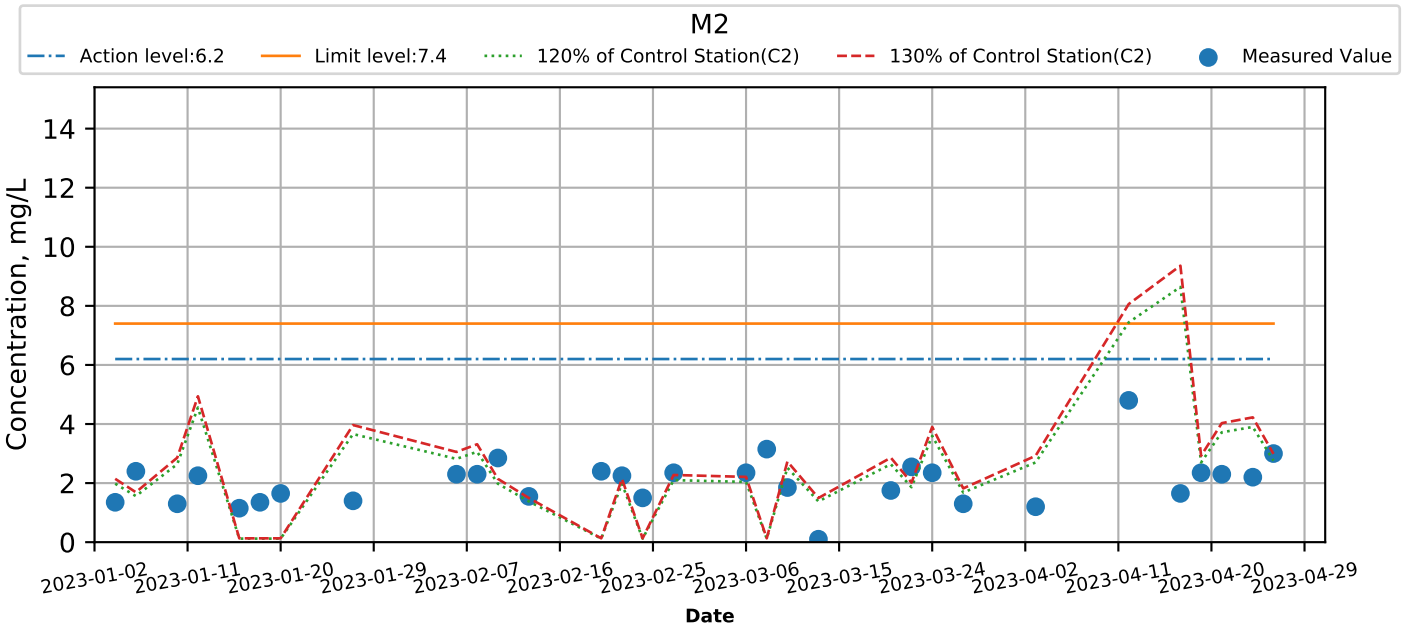


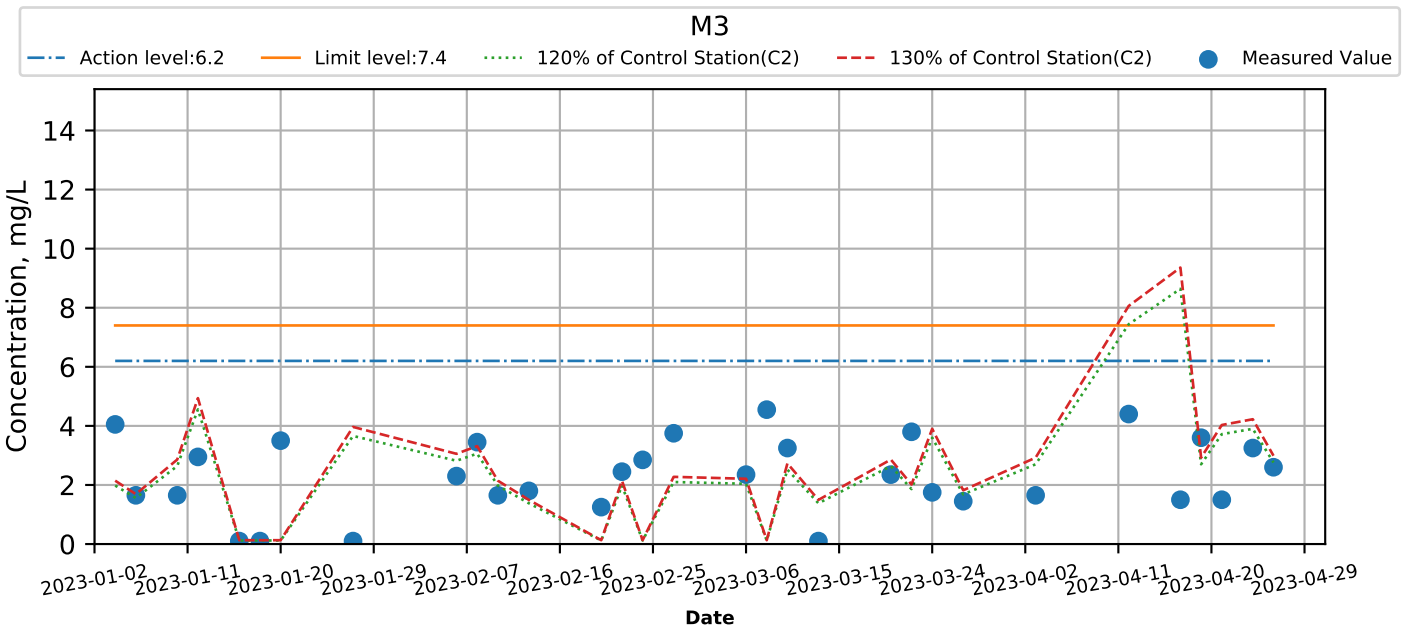


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb

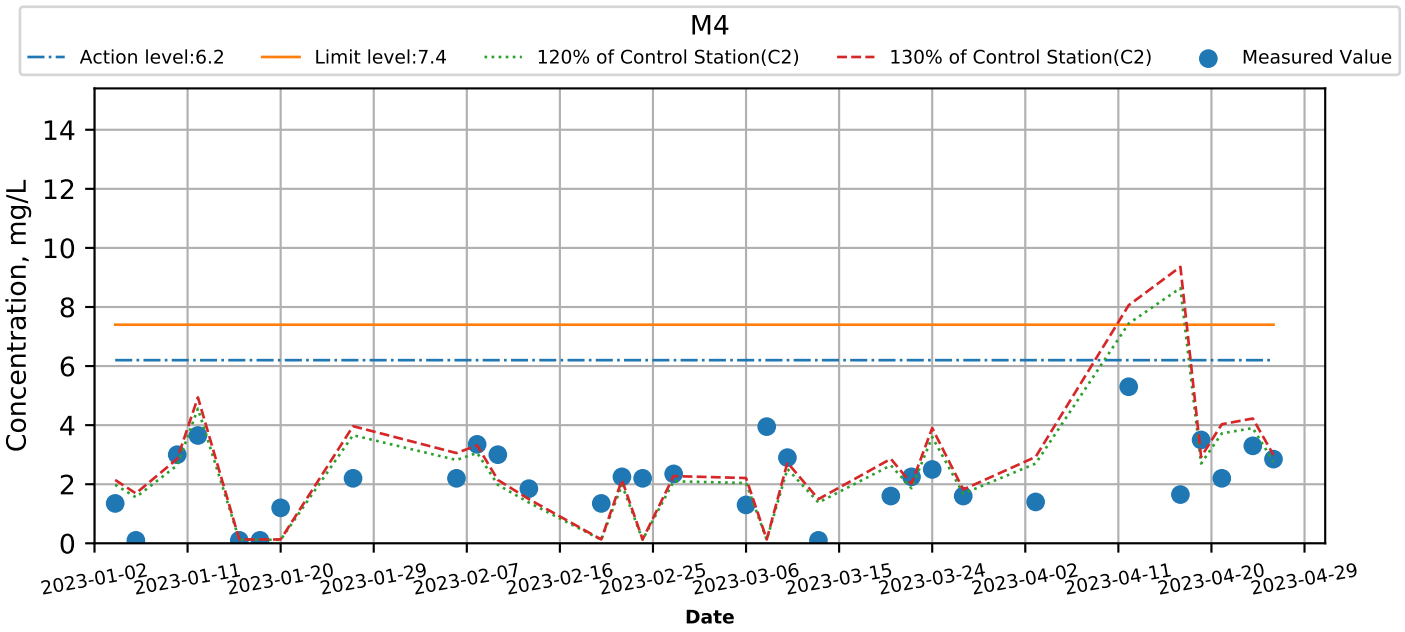


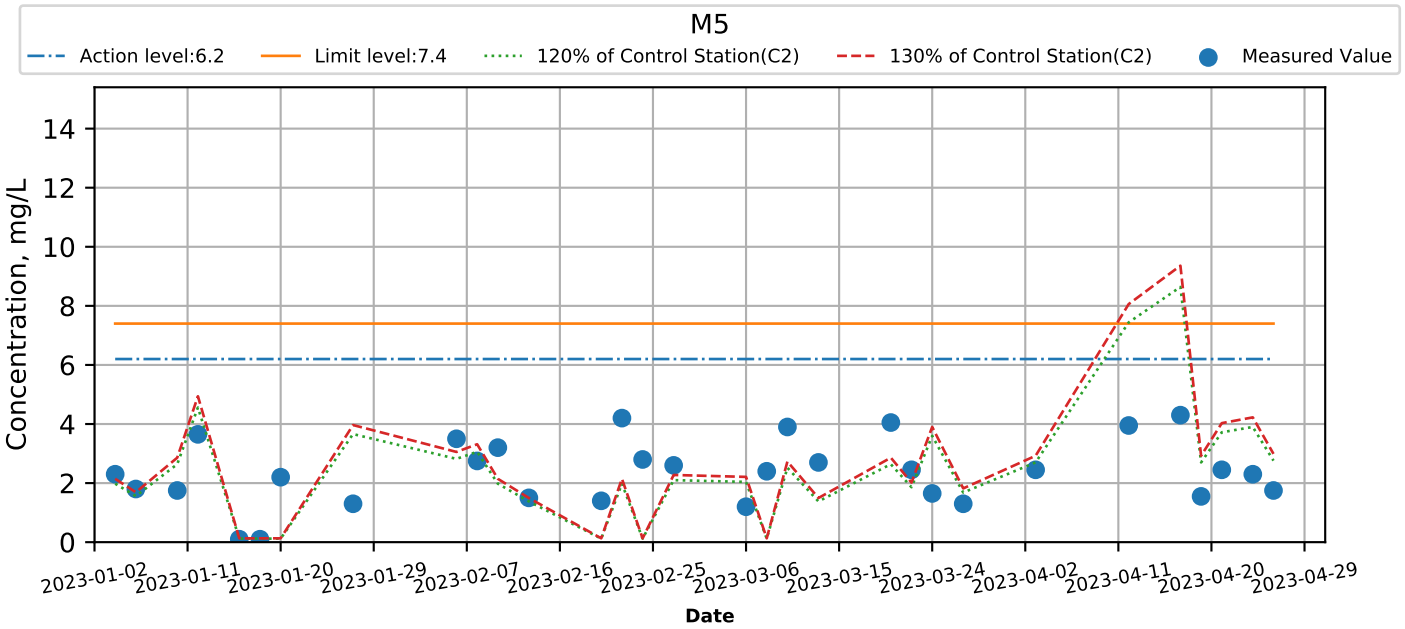




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

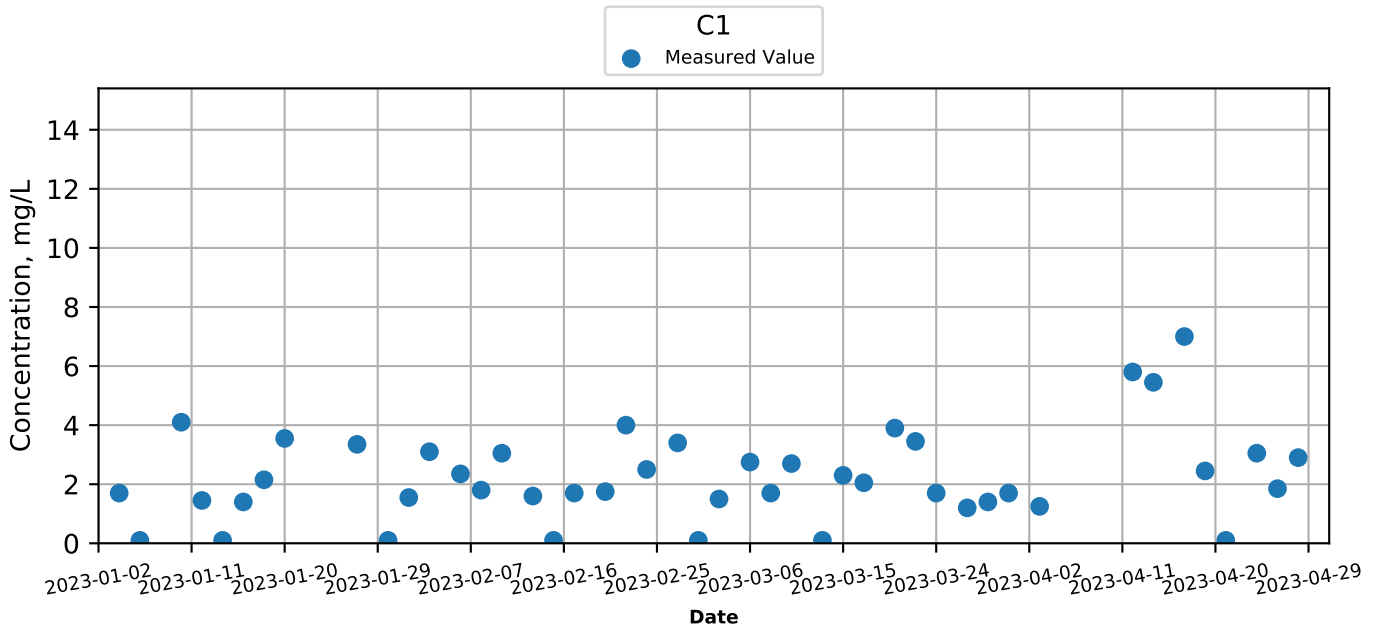
Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb

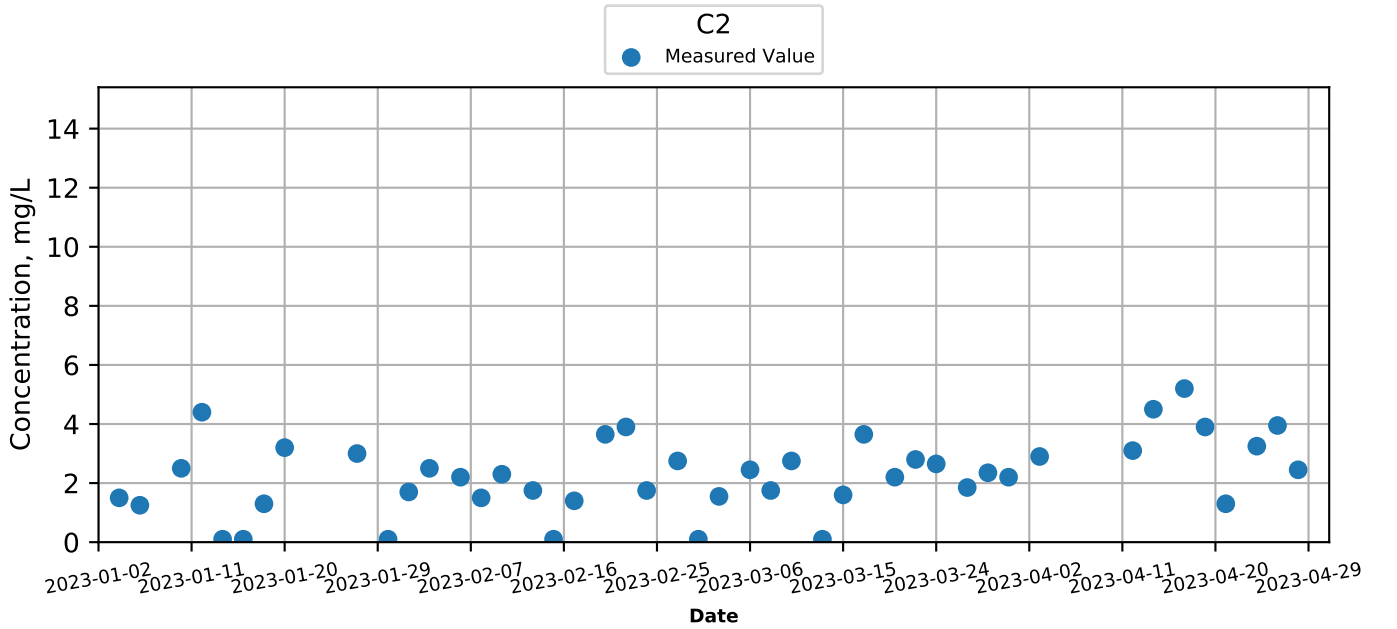


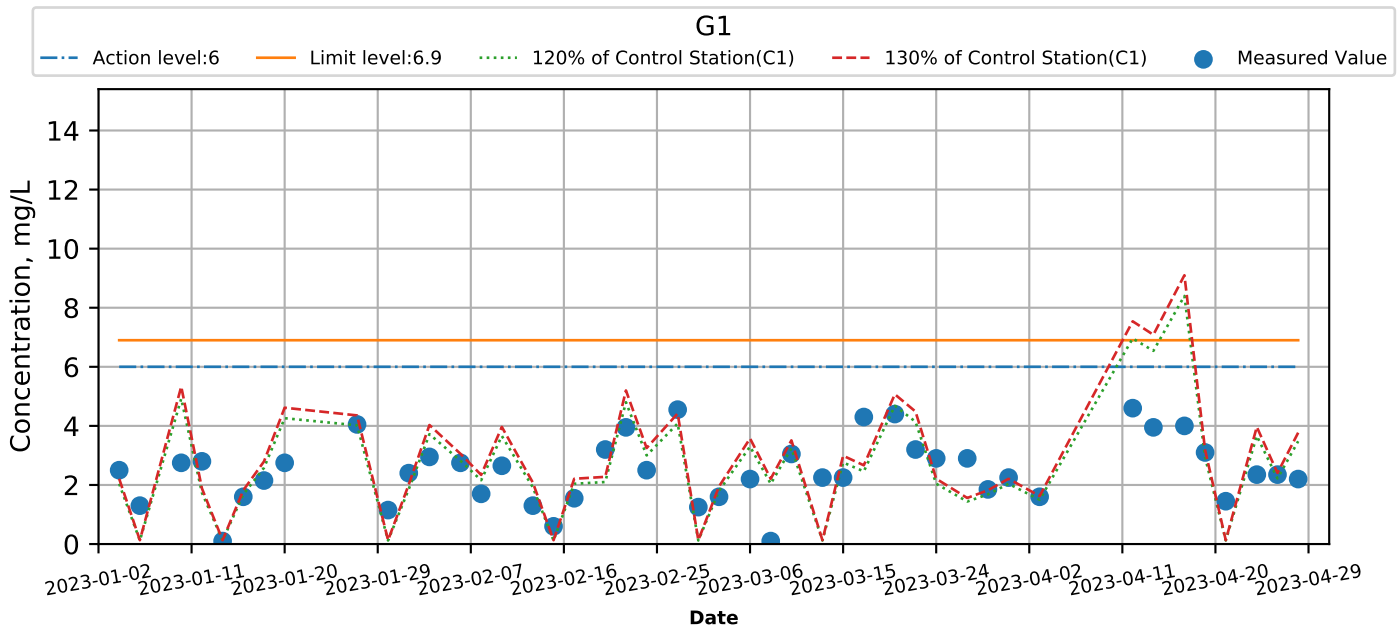


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Surface) at Monitoring Stations during Mid-Flood

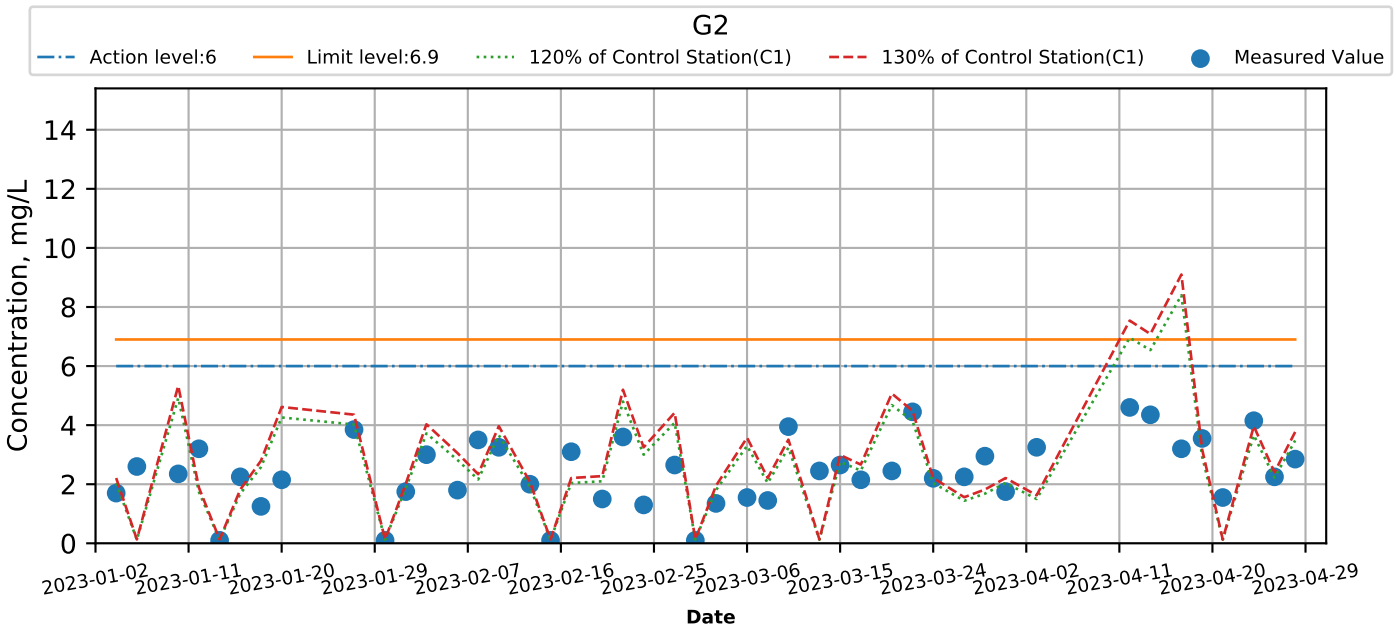


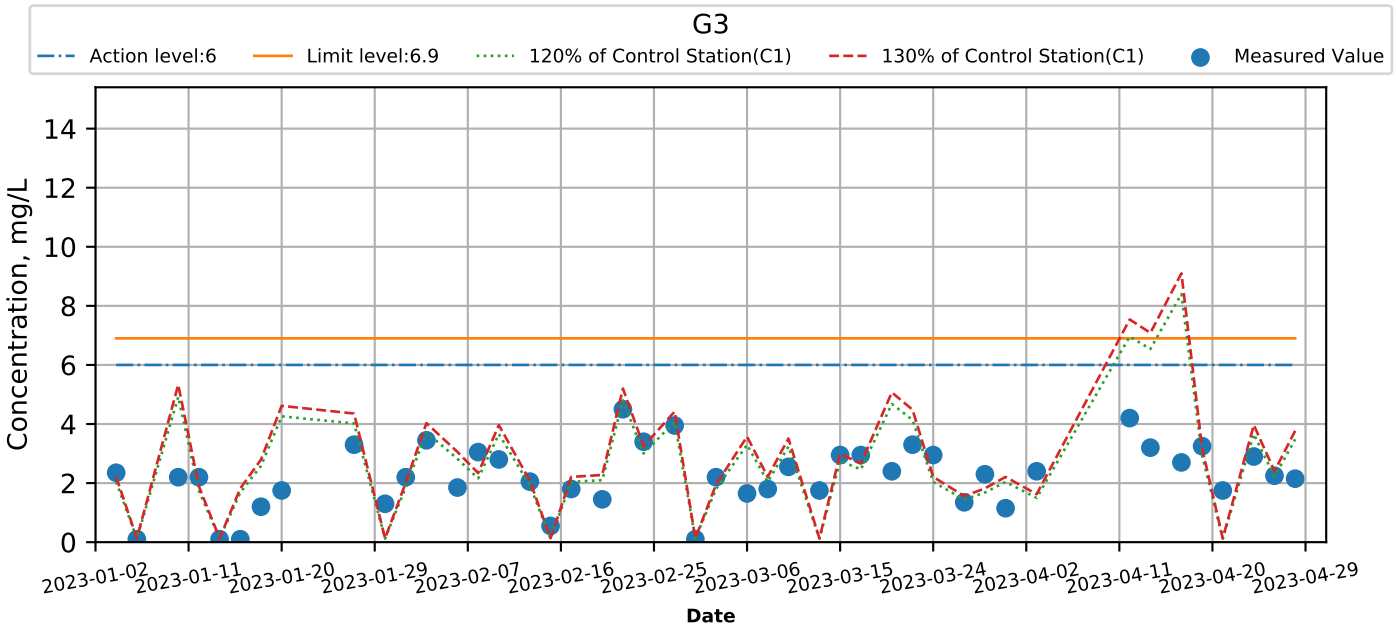


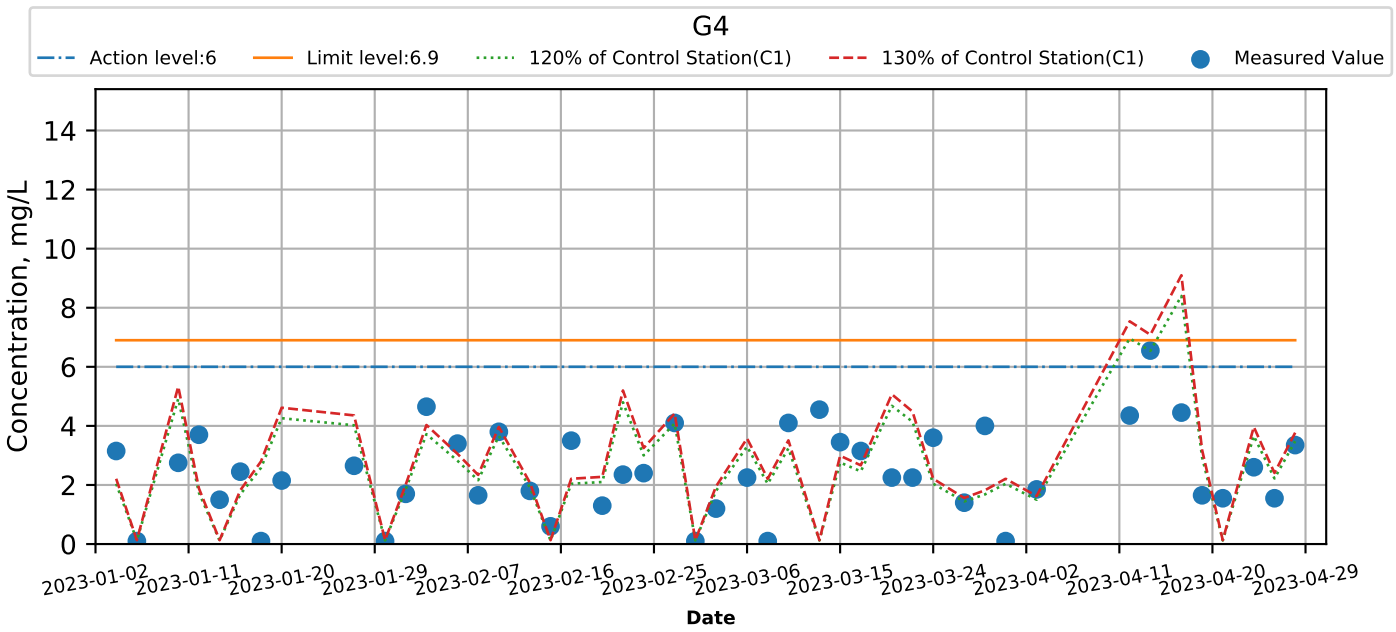


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Surface) at Monitoring Stations during Mid-Flood

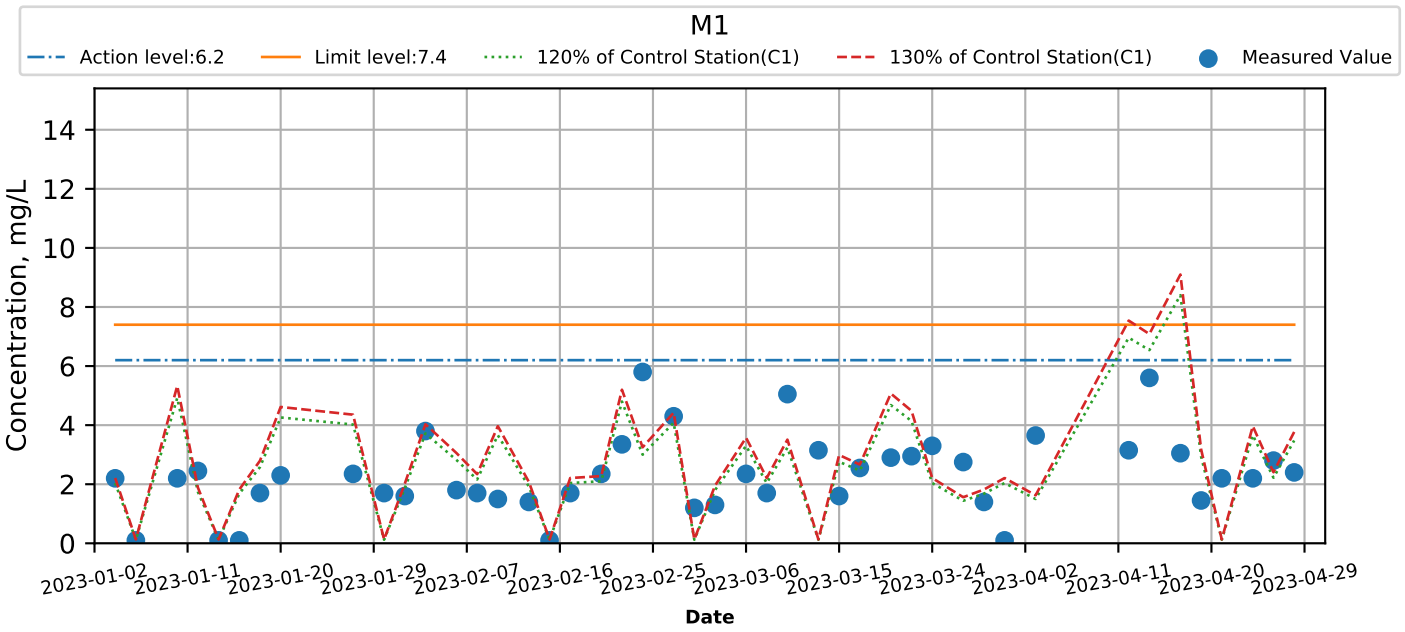


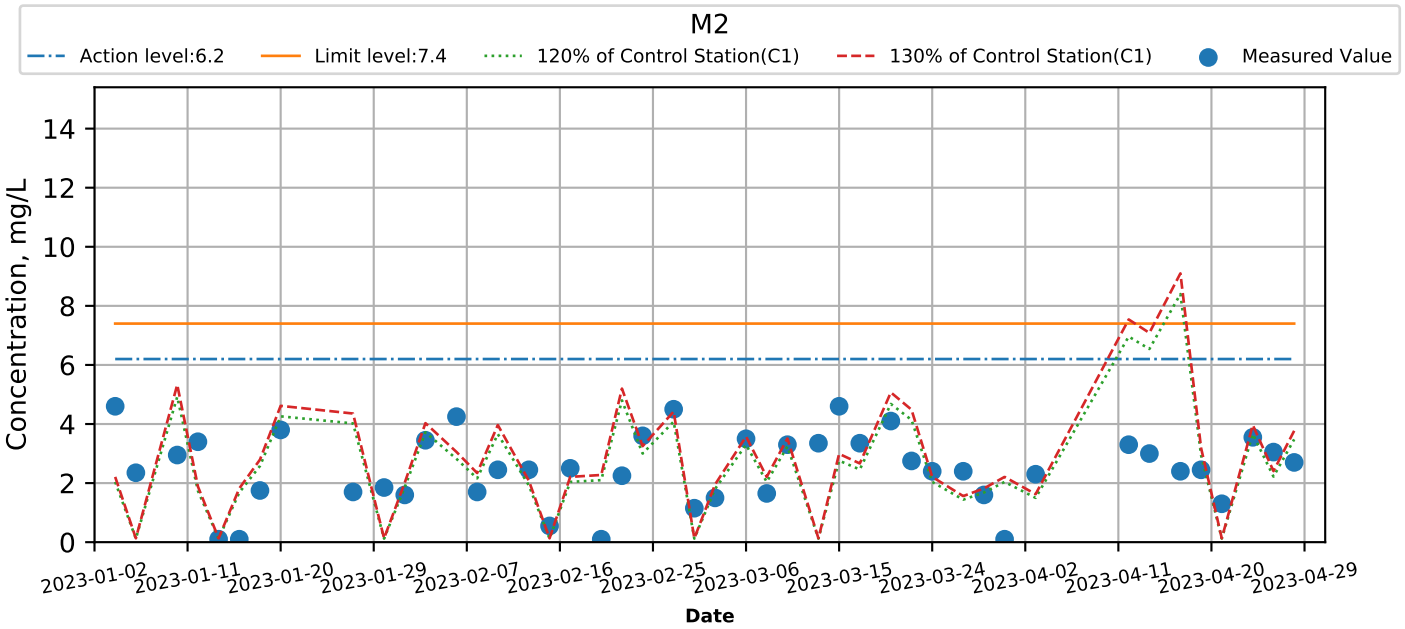


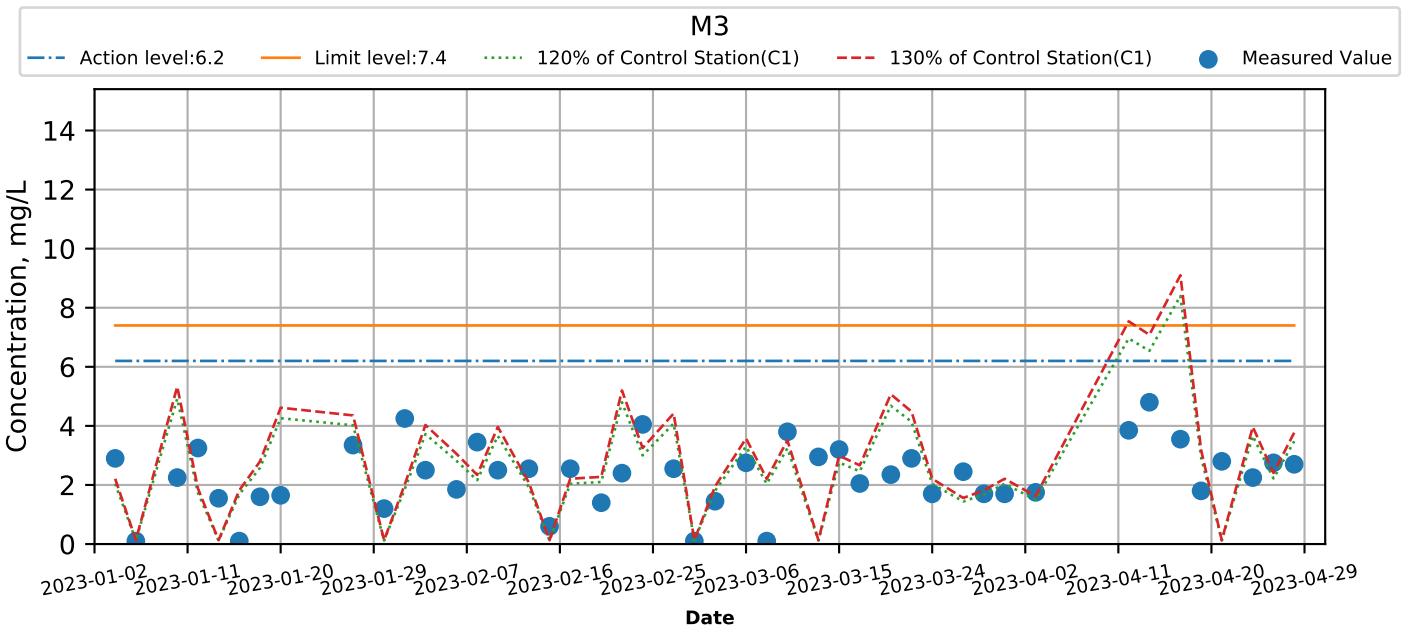


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Surface) at Monitoring Stations during Mid-Flood

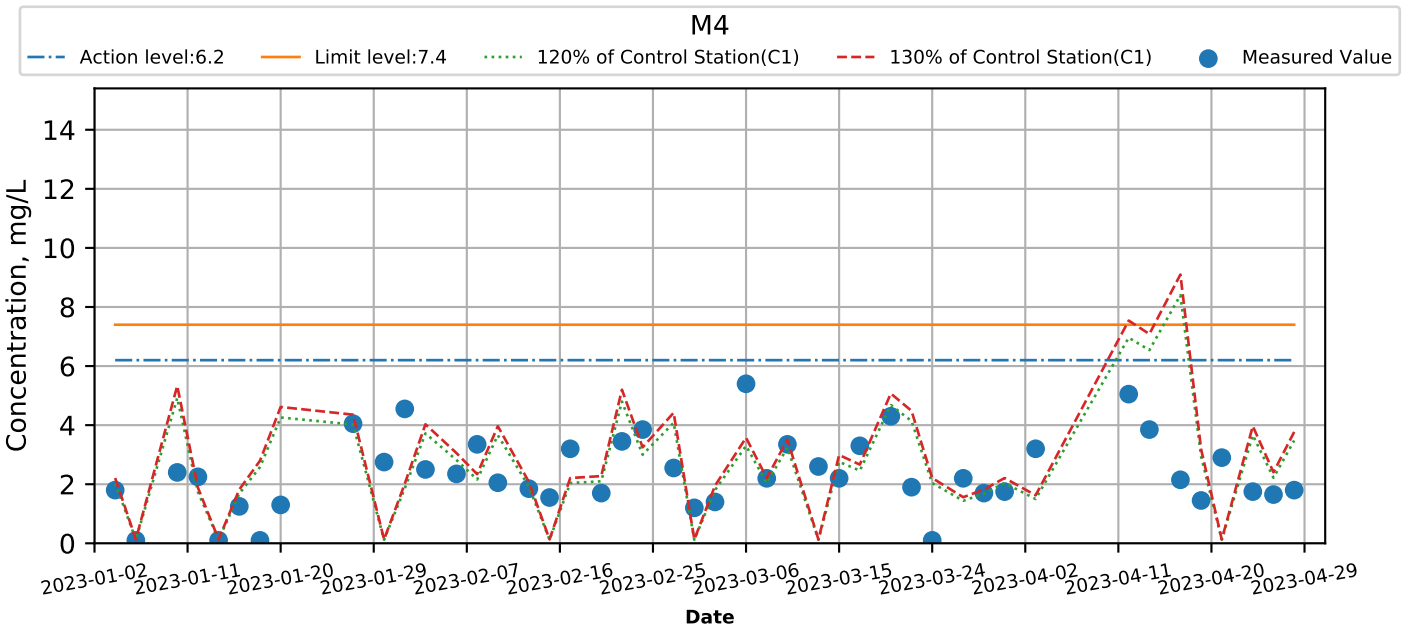


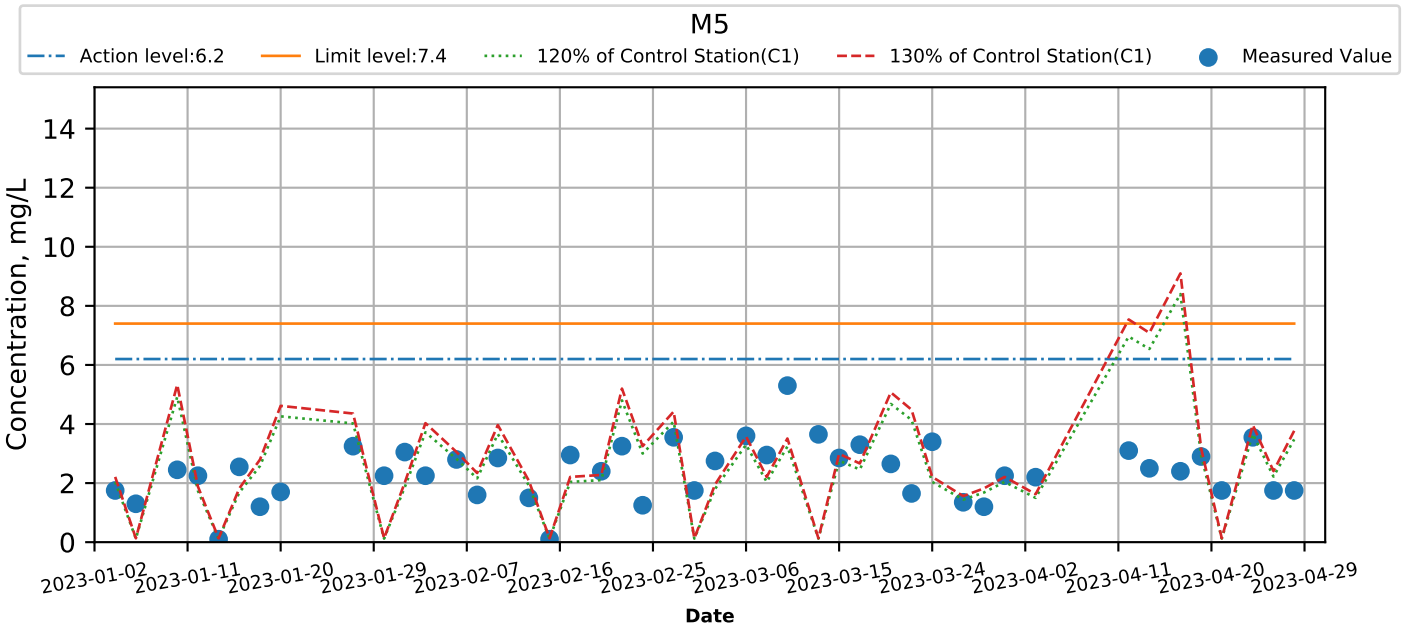




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

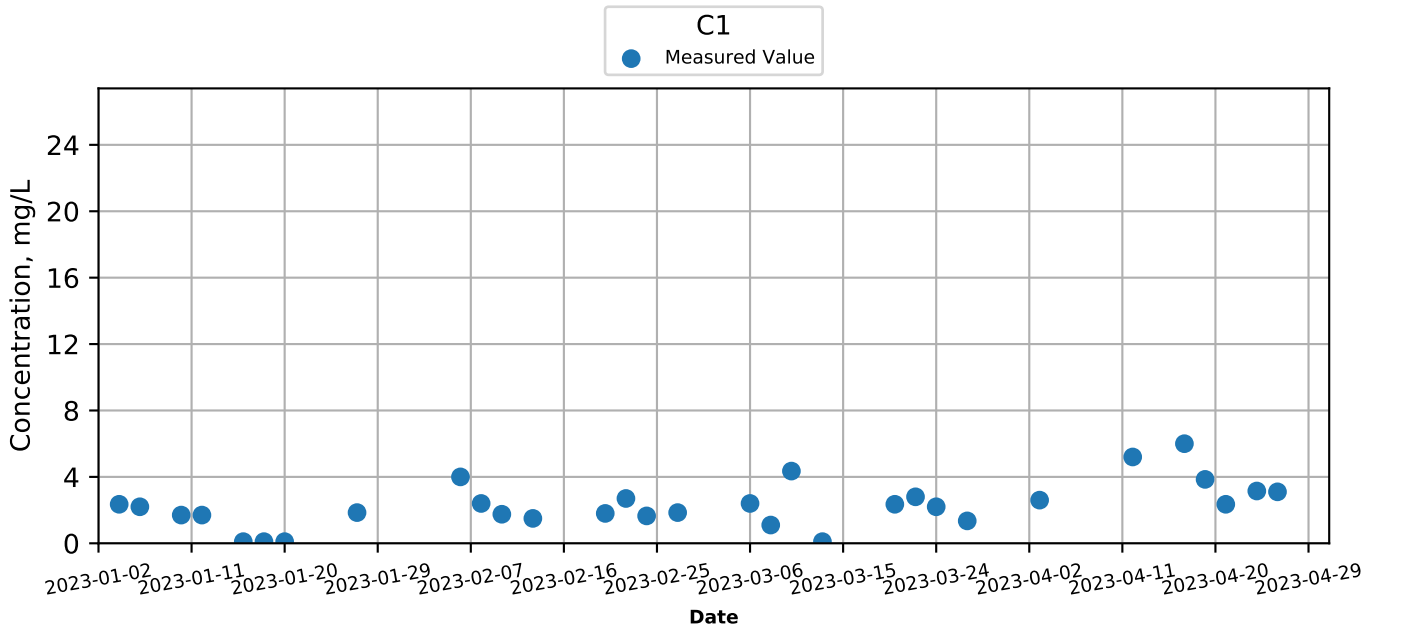
Suspended Solids (Surface) at Monitoring Stations during Mid-Flood

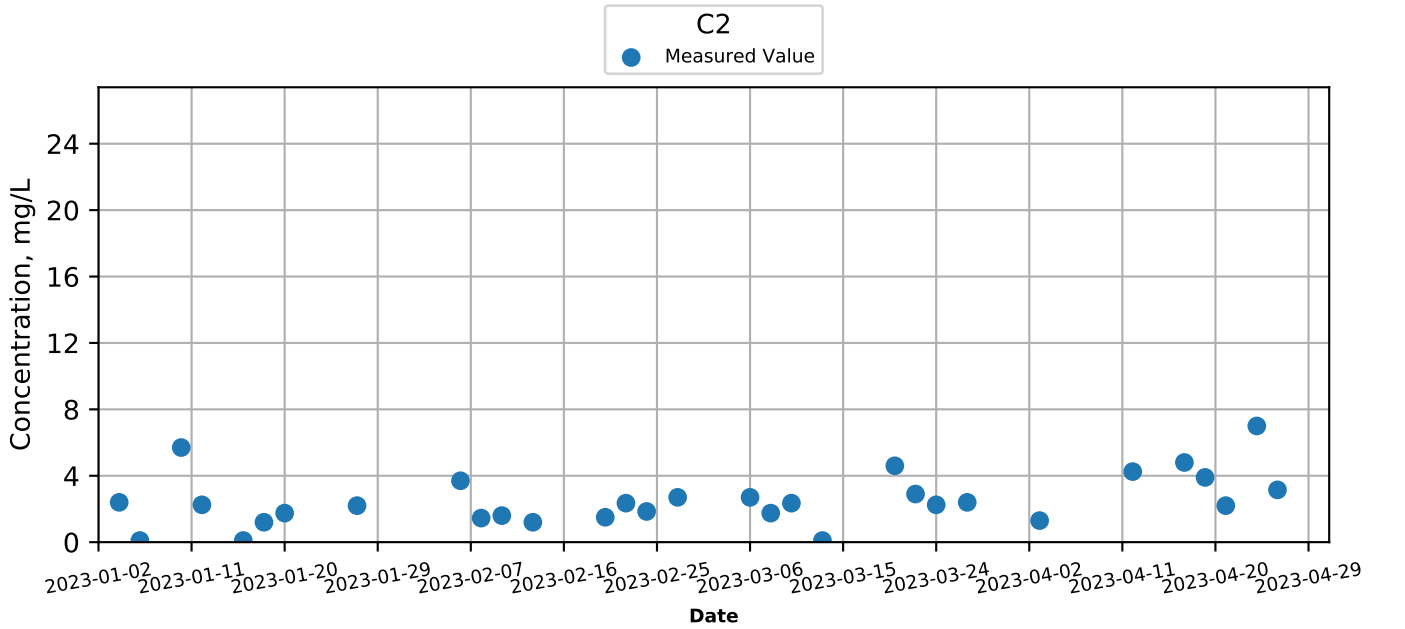


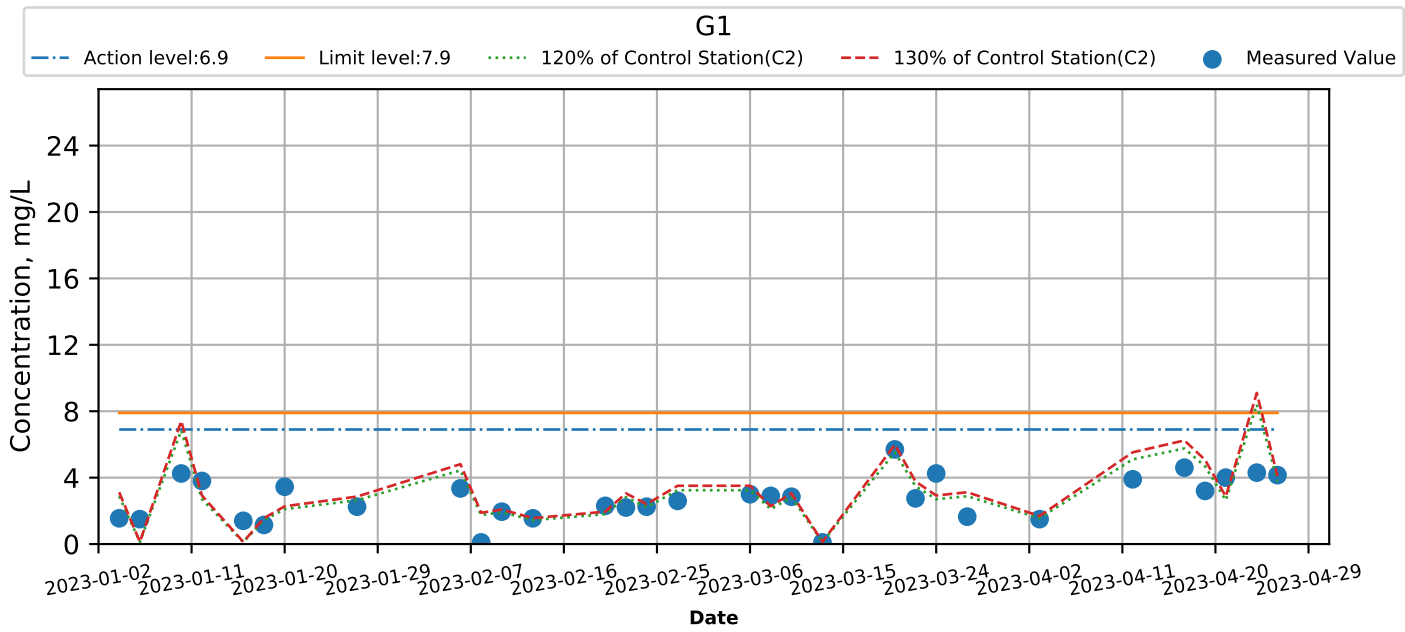


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb

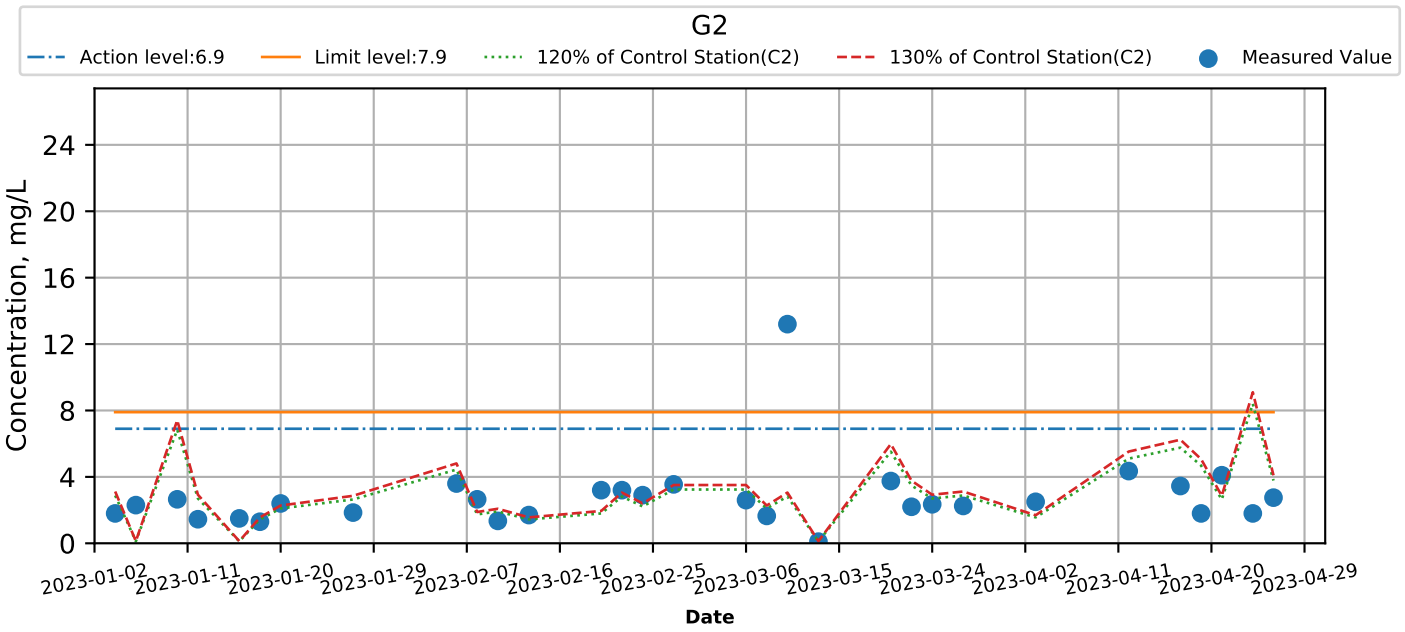


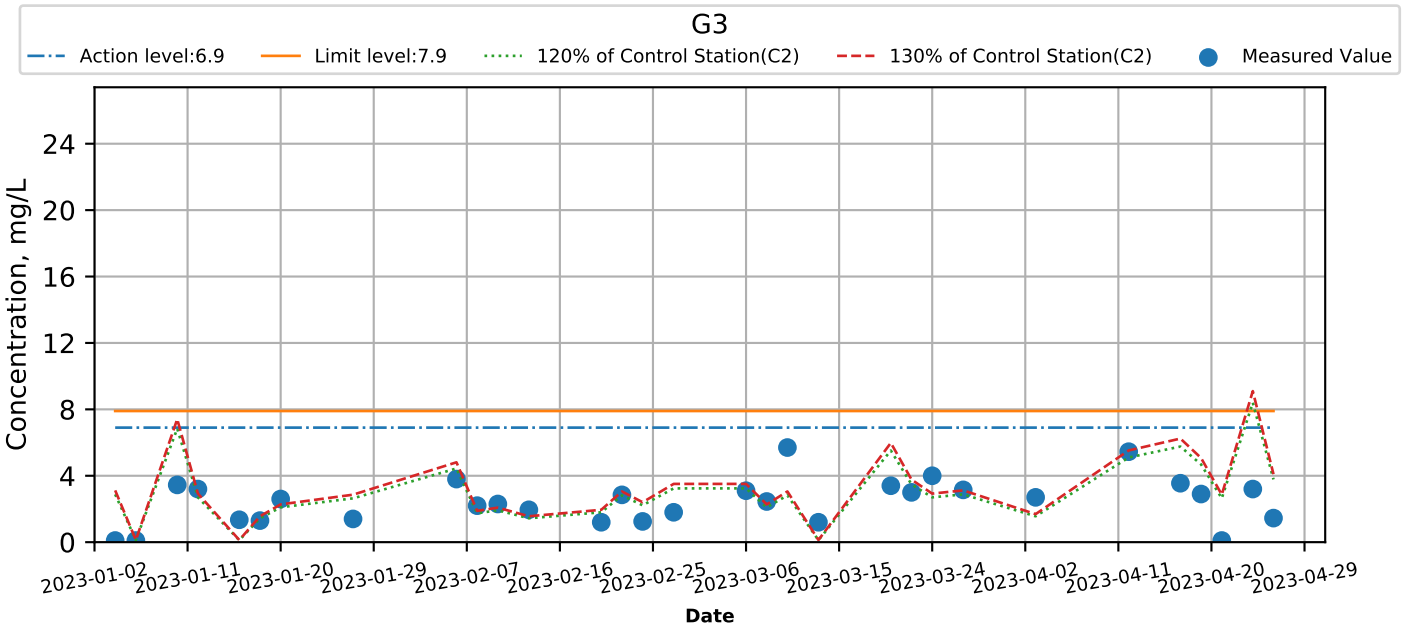


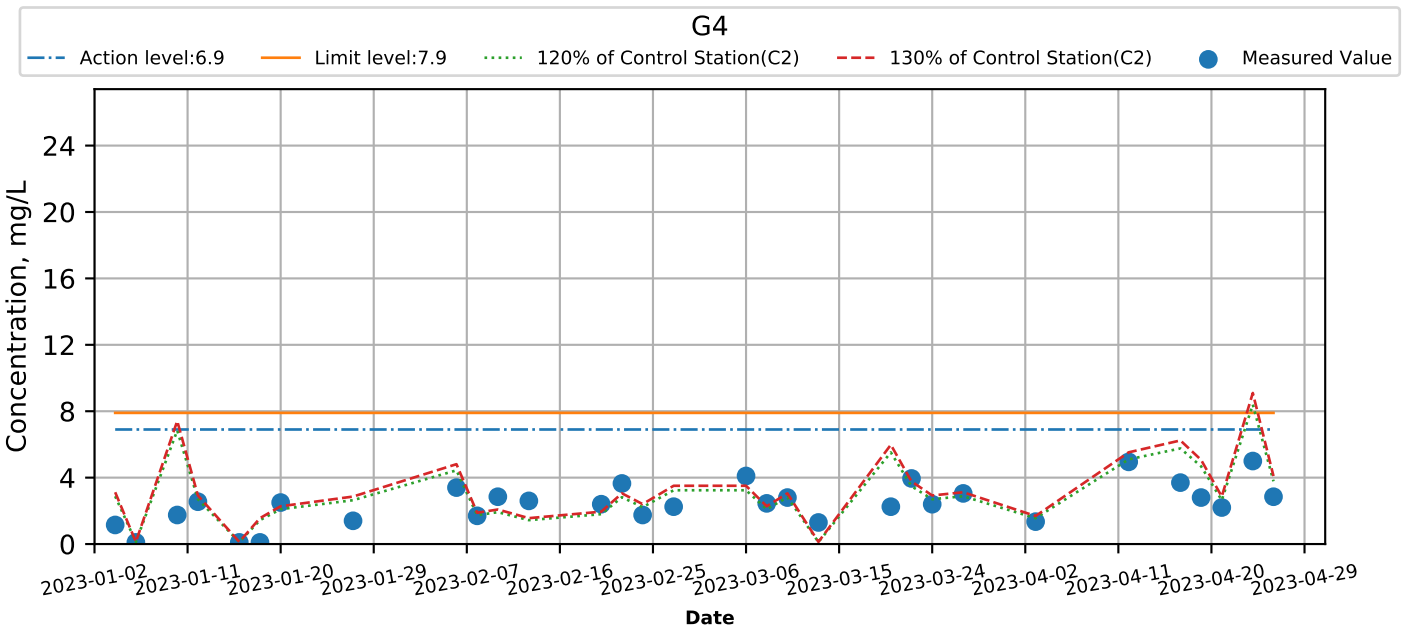


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb

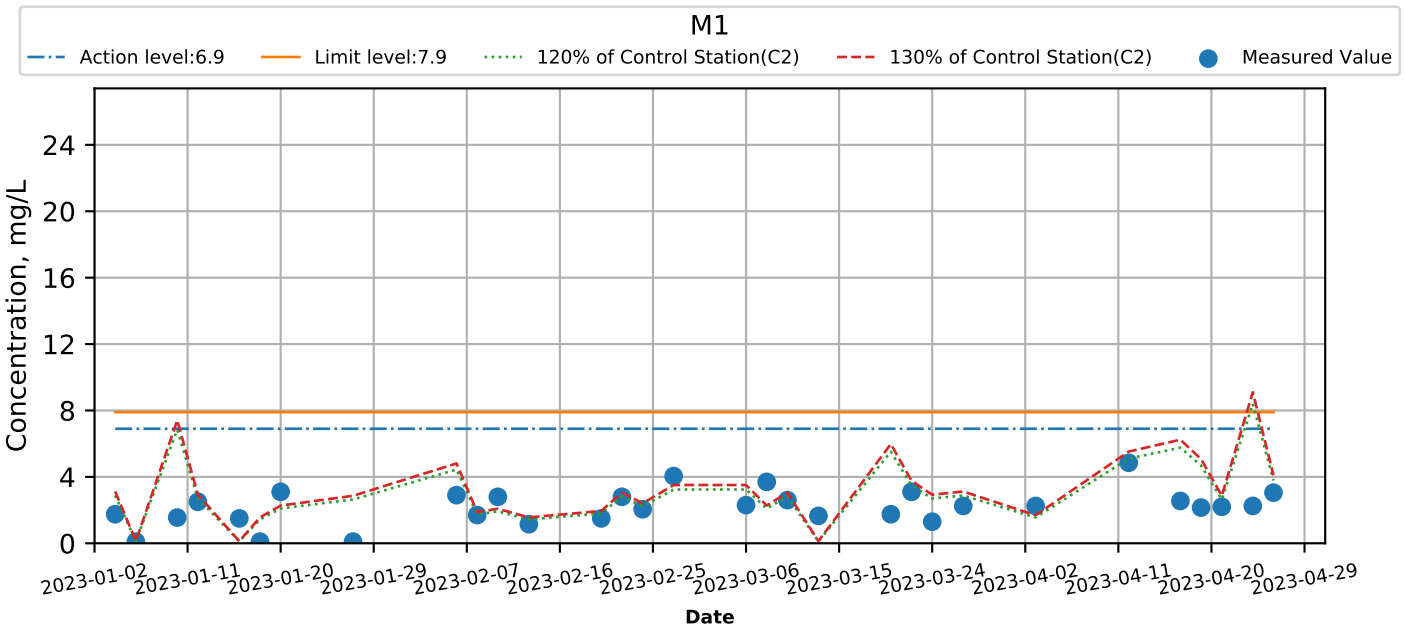


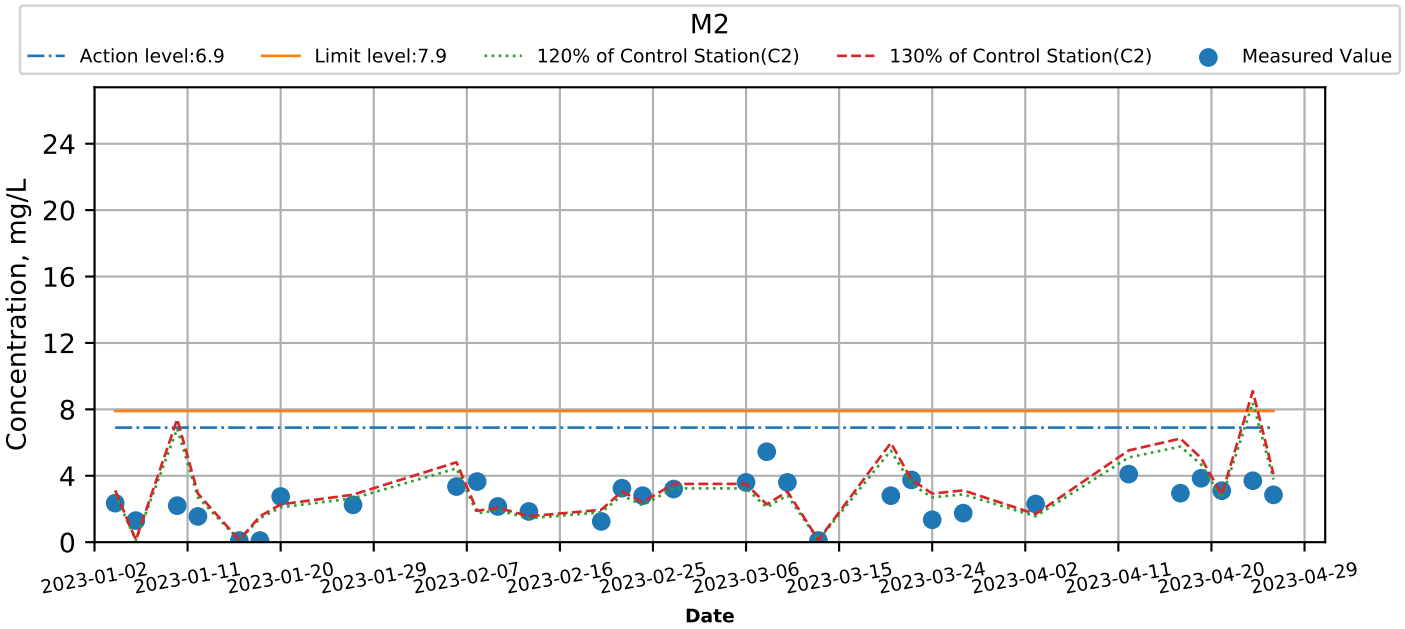


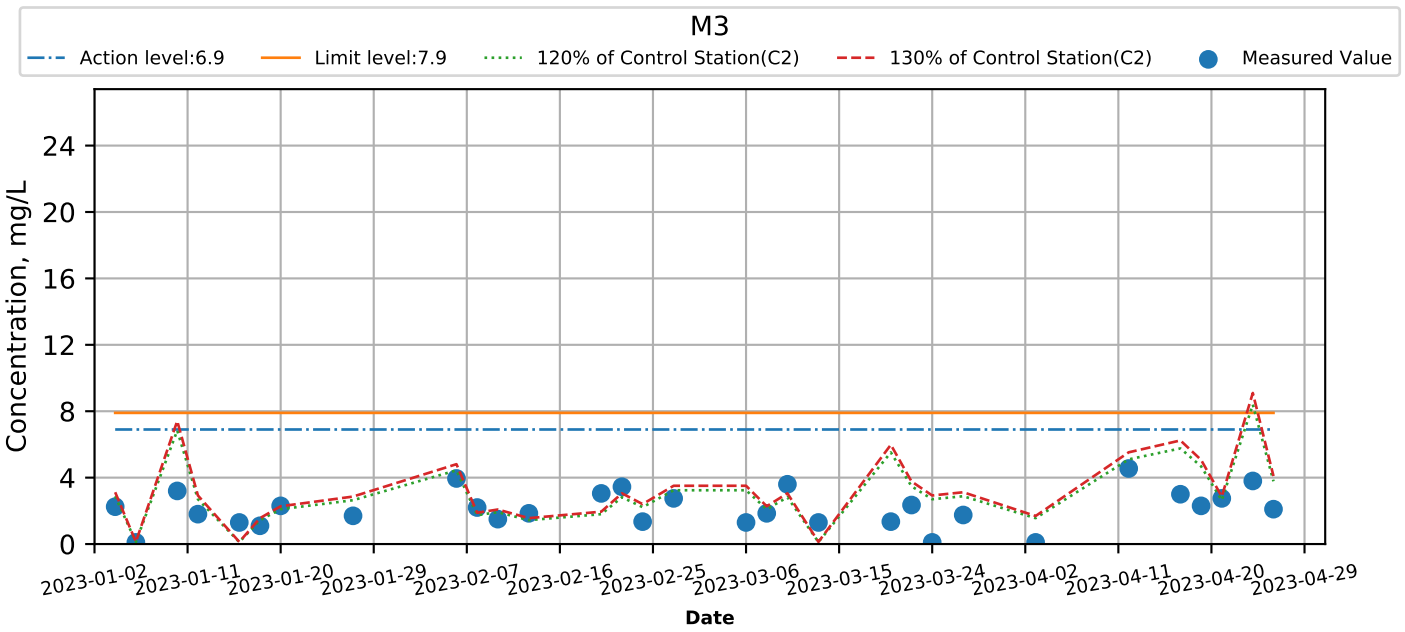


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb

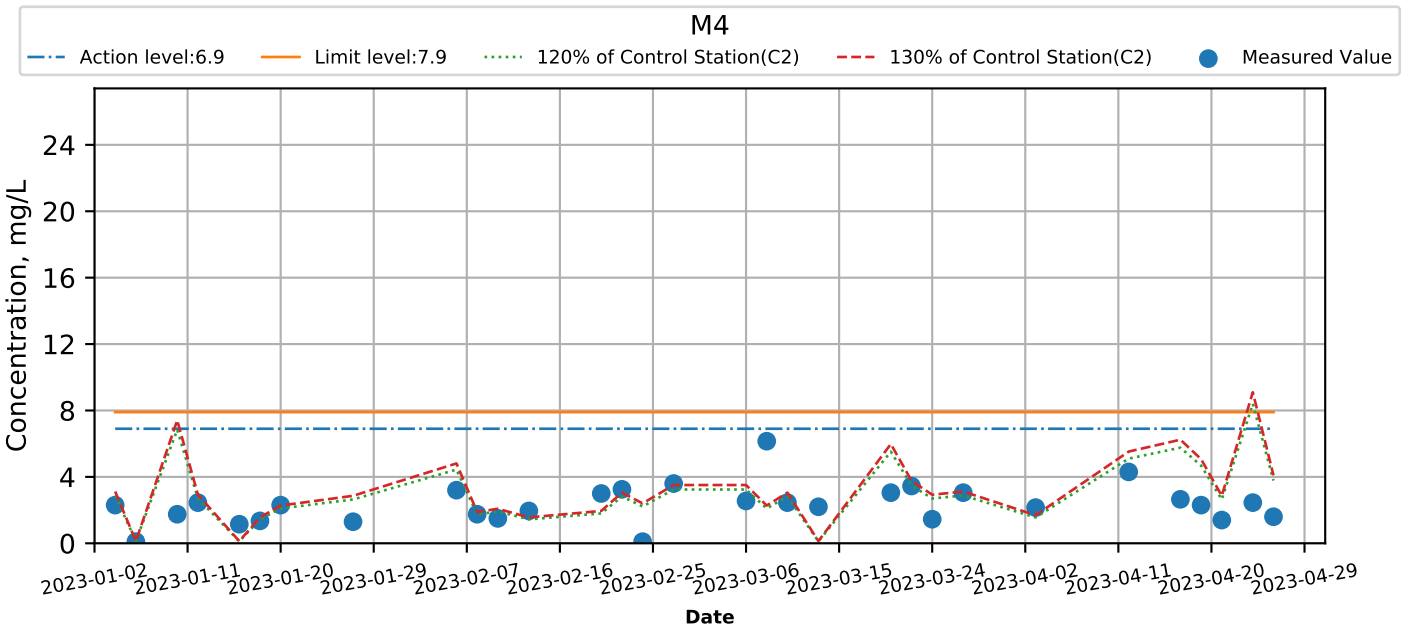


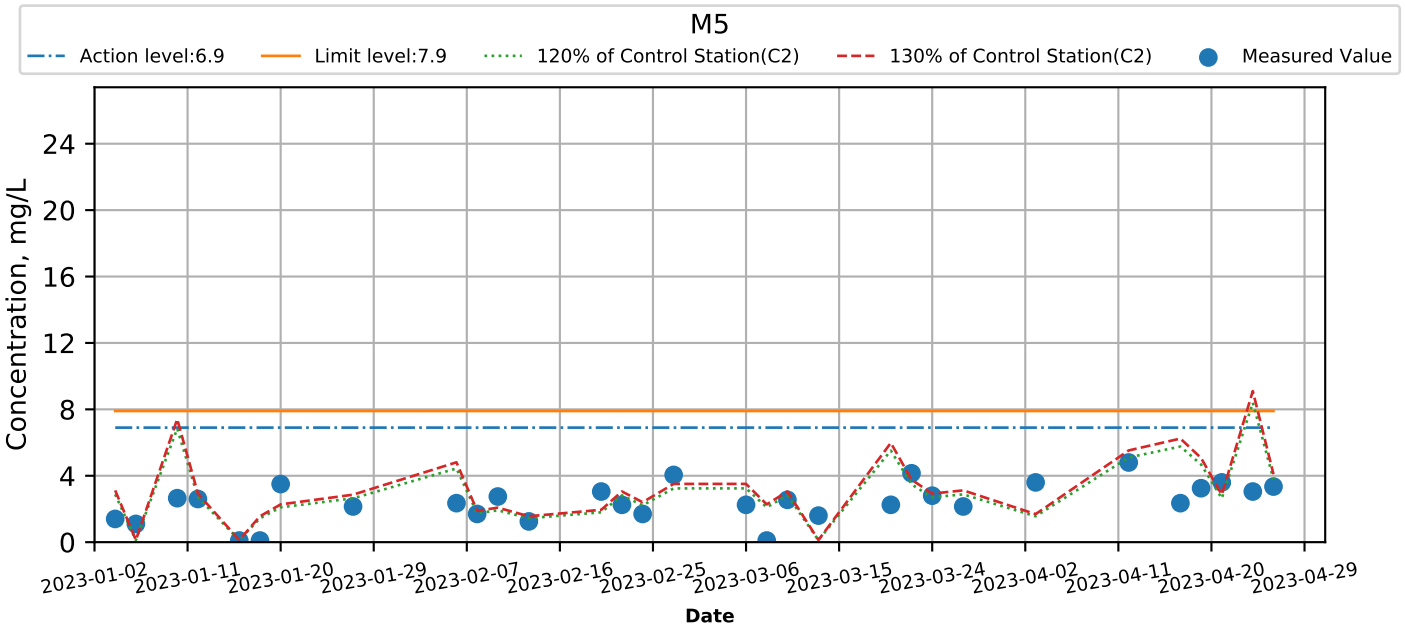




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

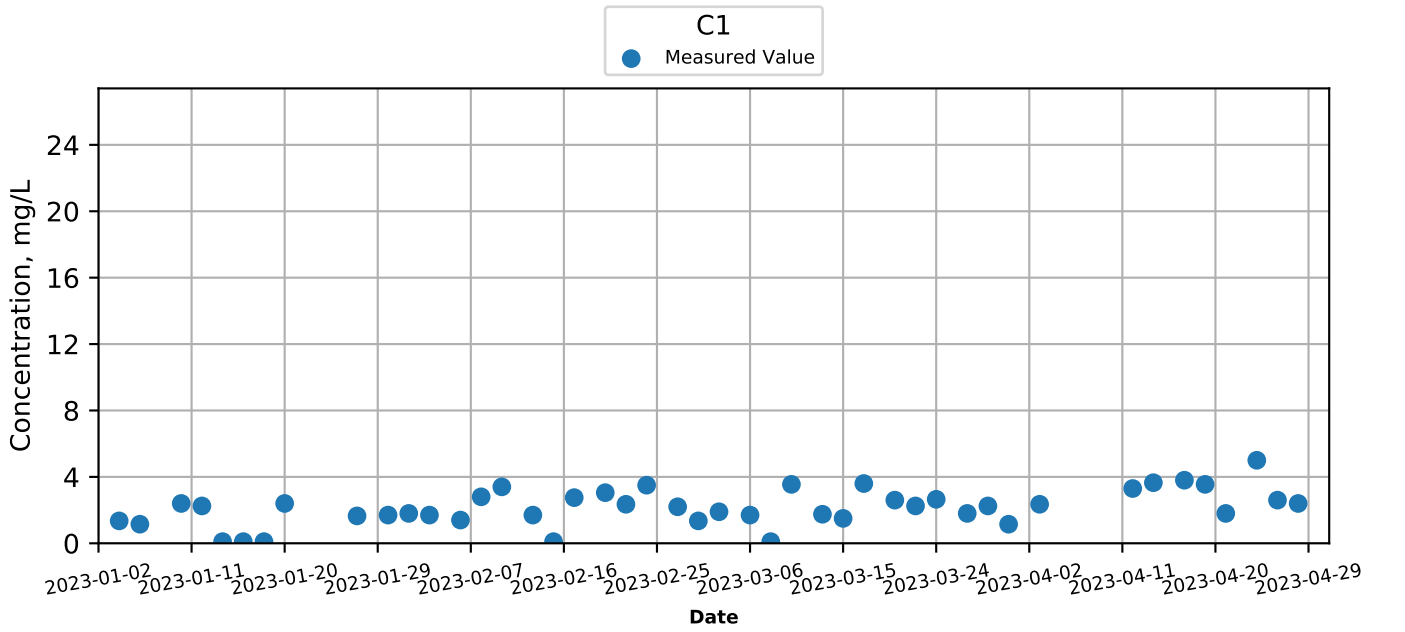
Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb

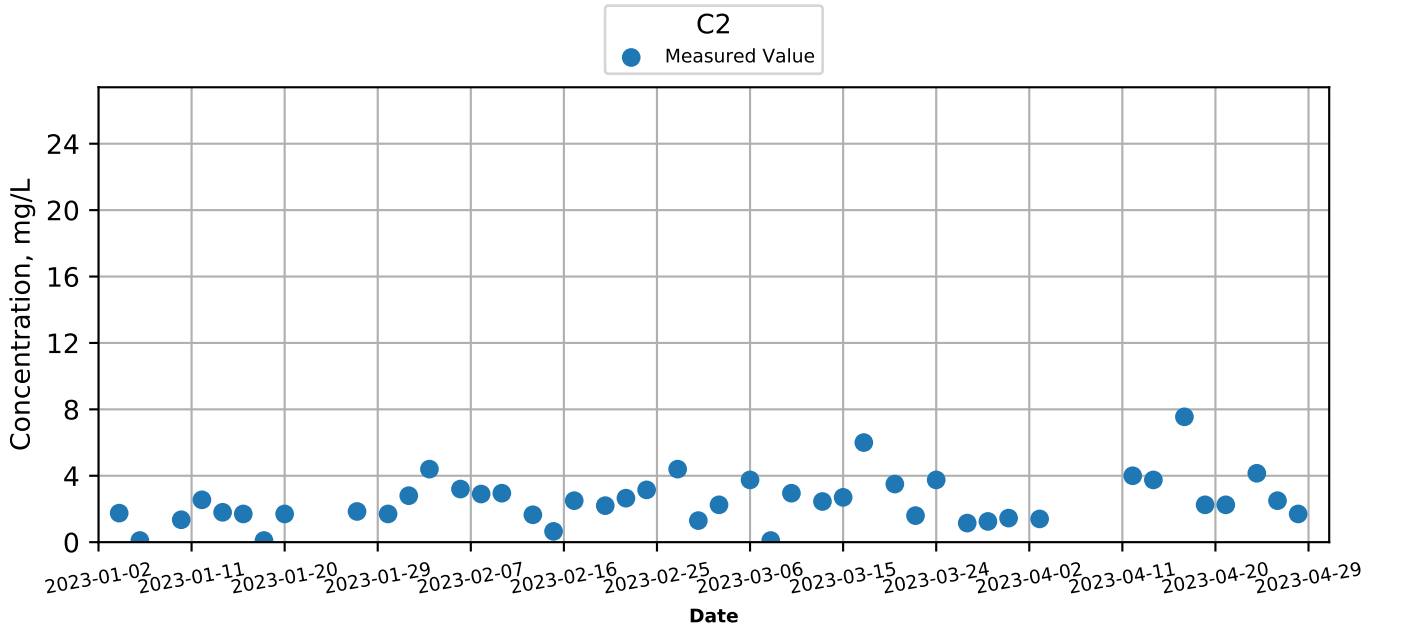


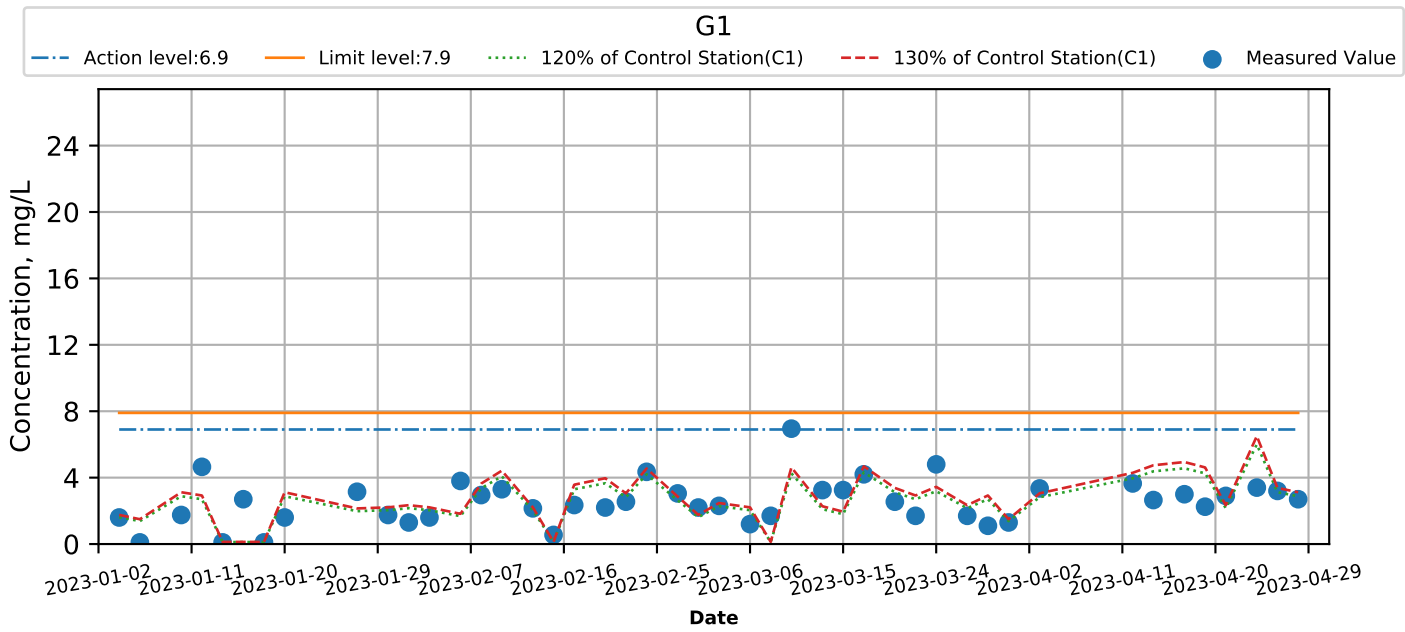


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood

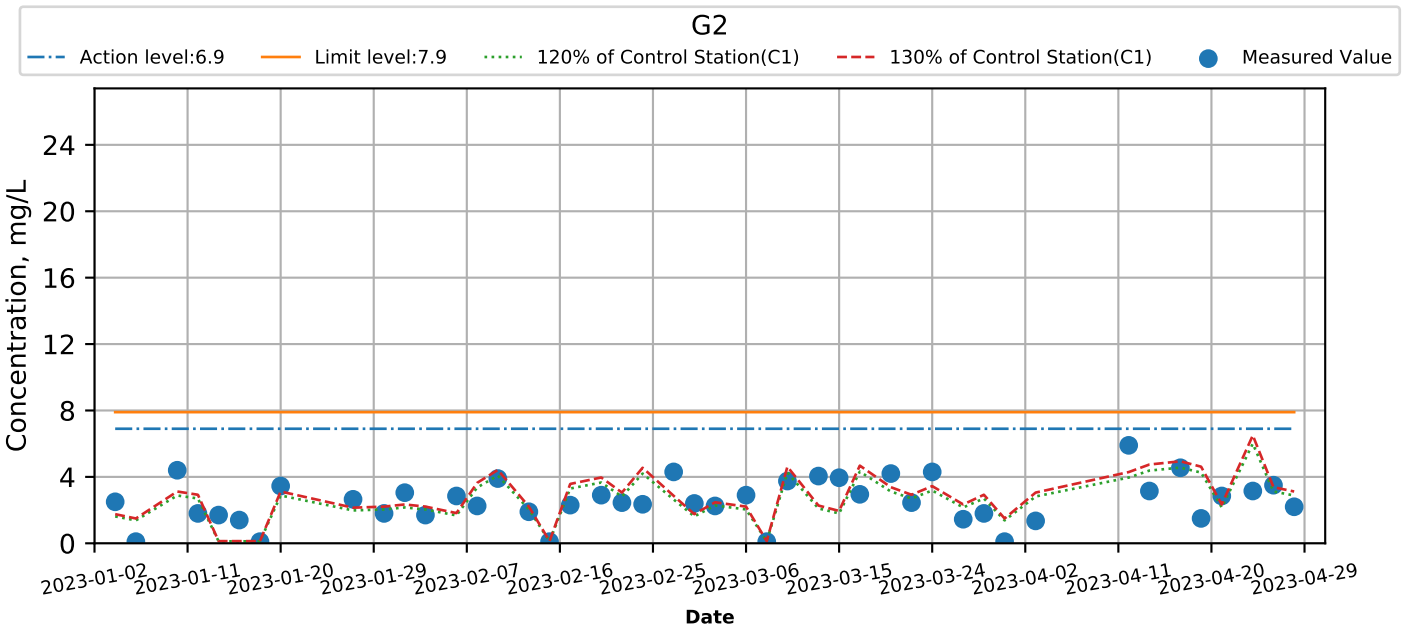


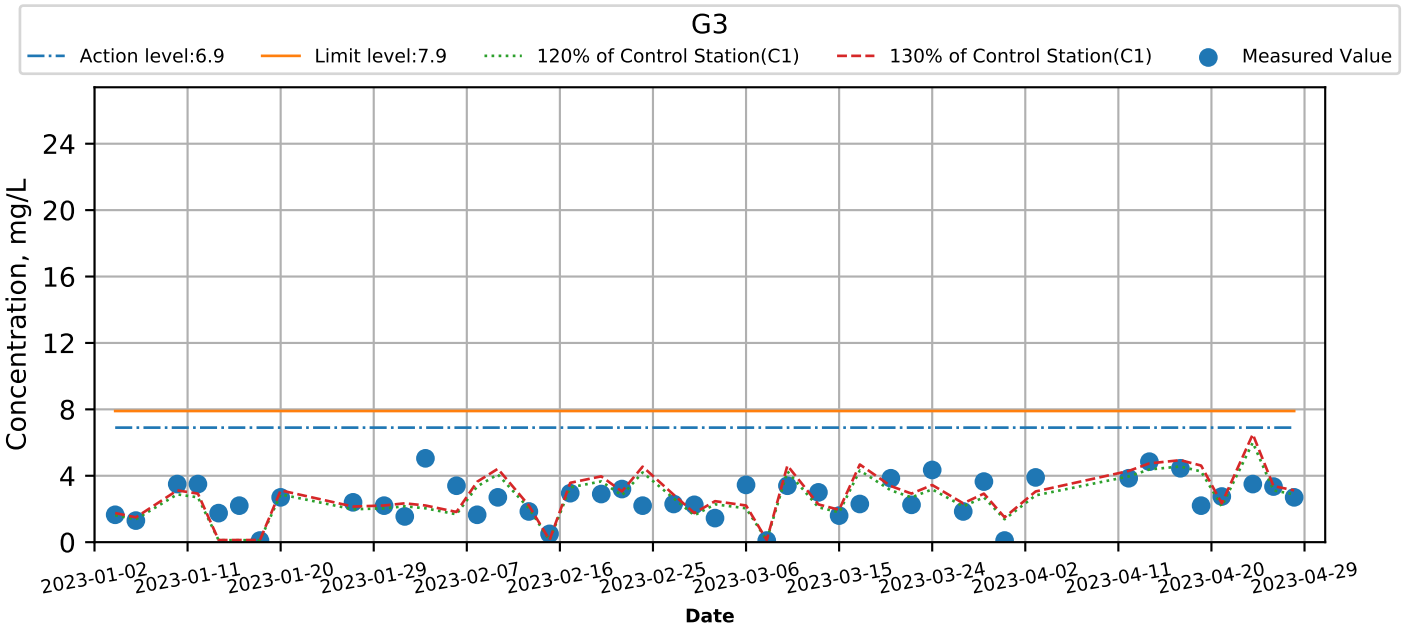


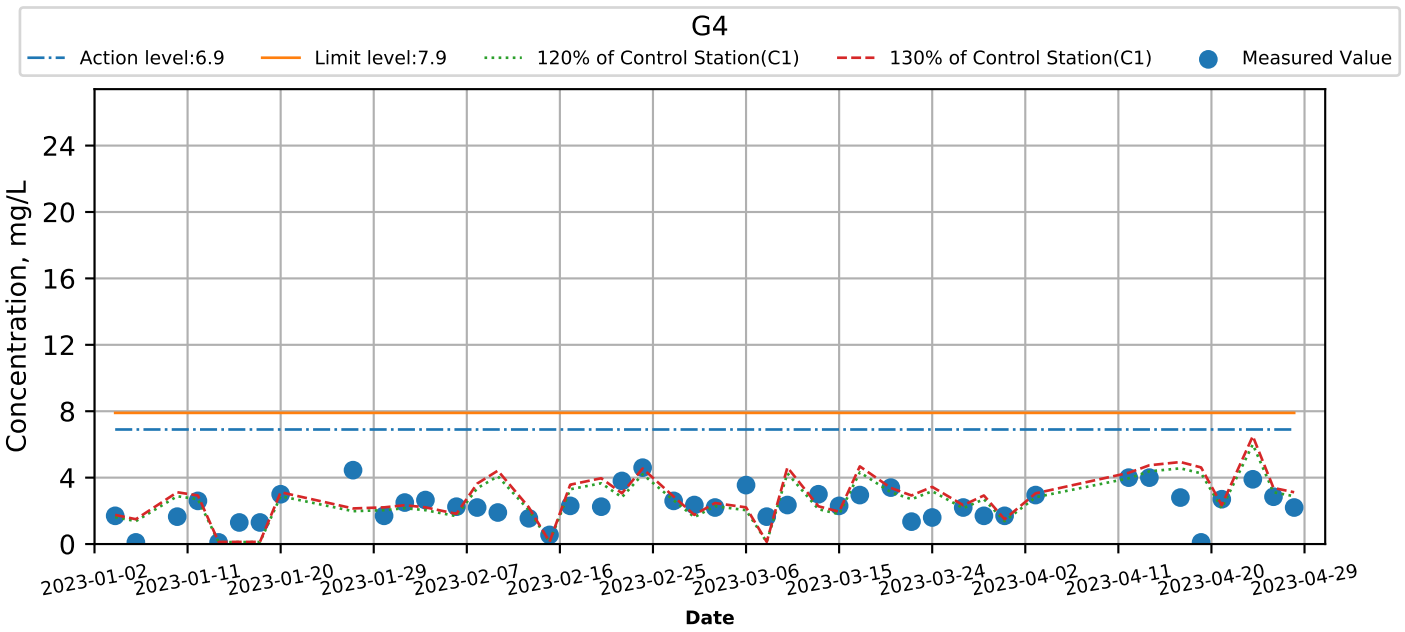


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood

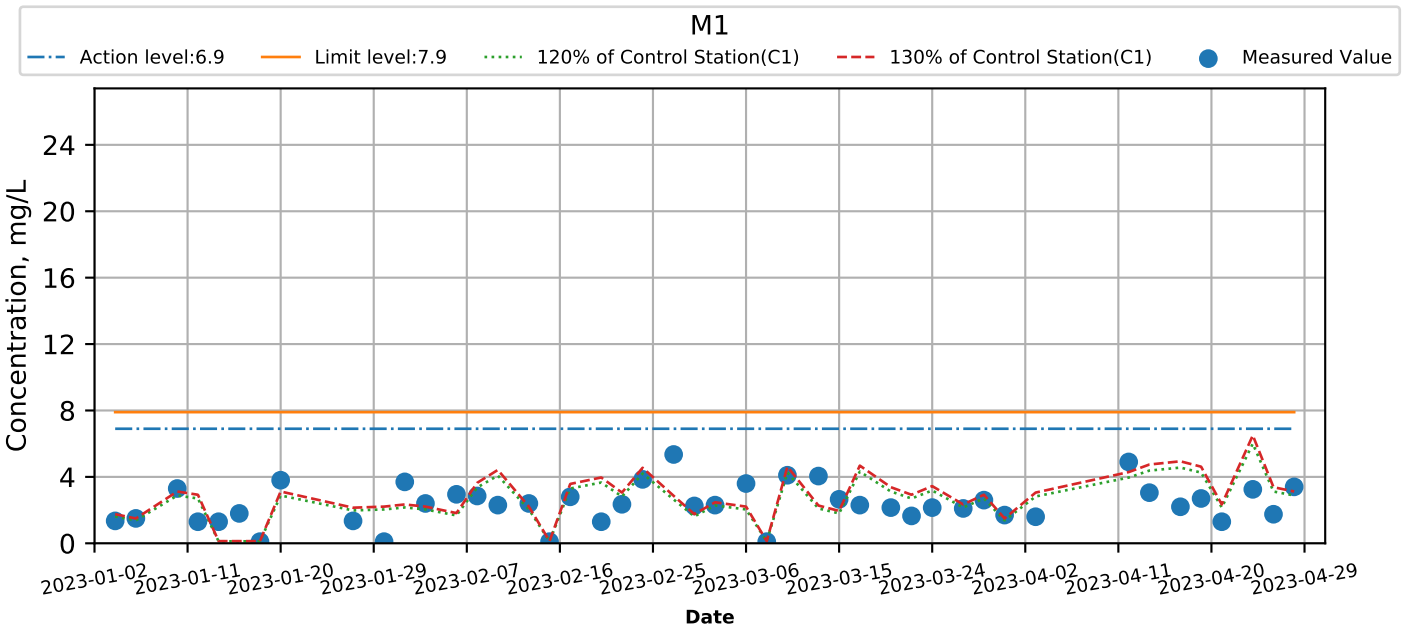


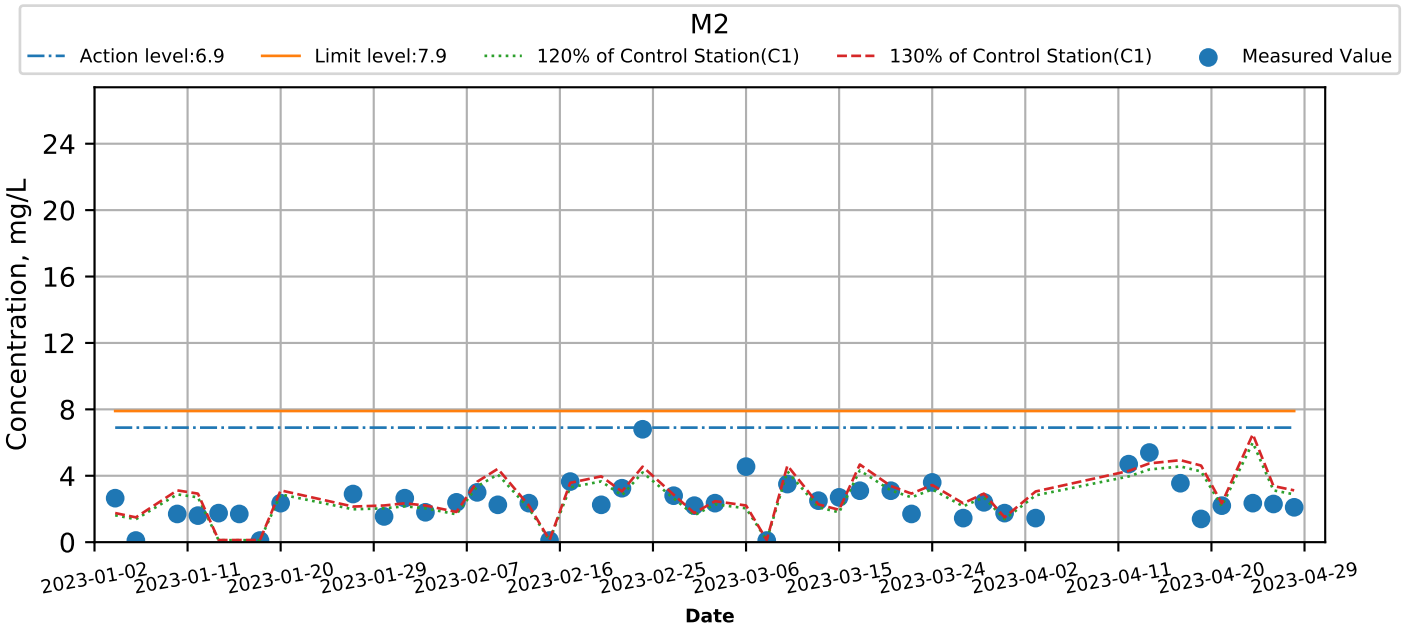


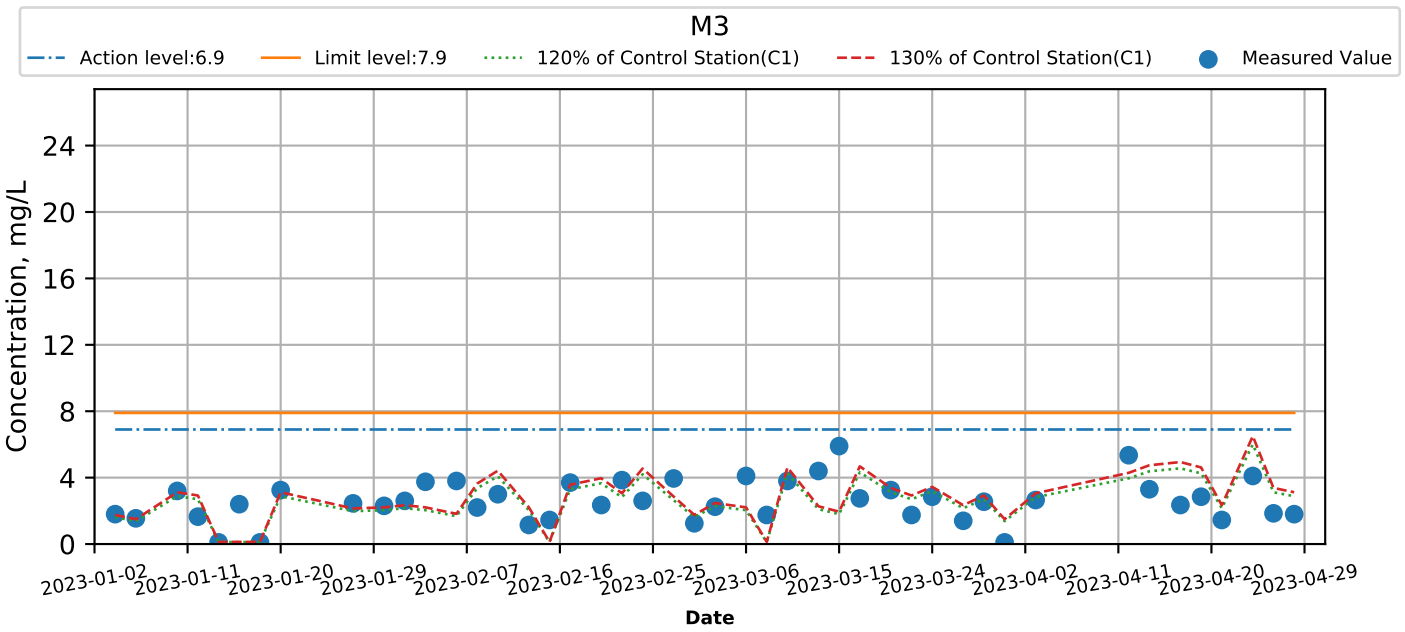


Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood

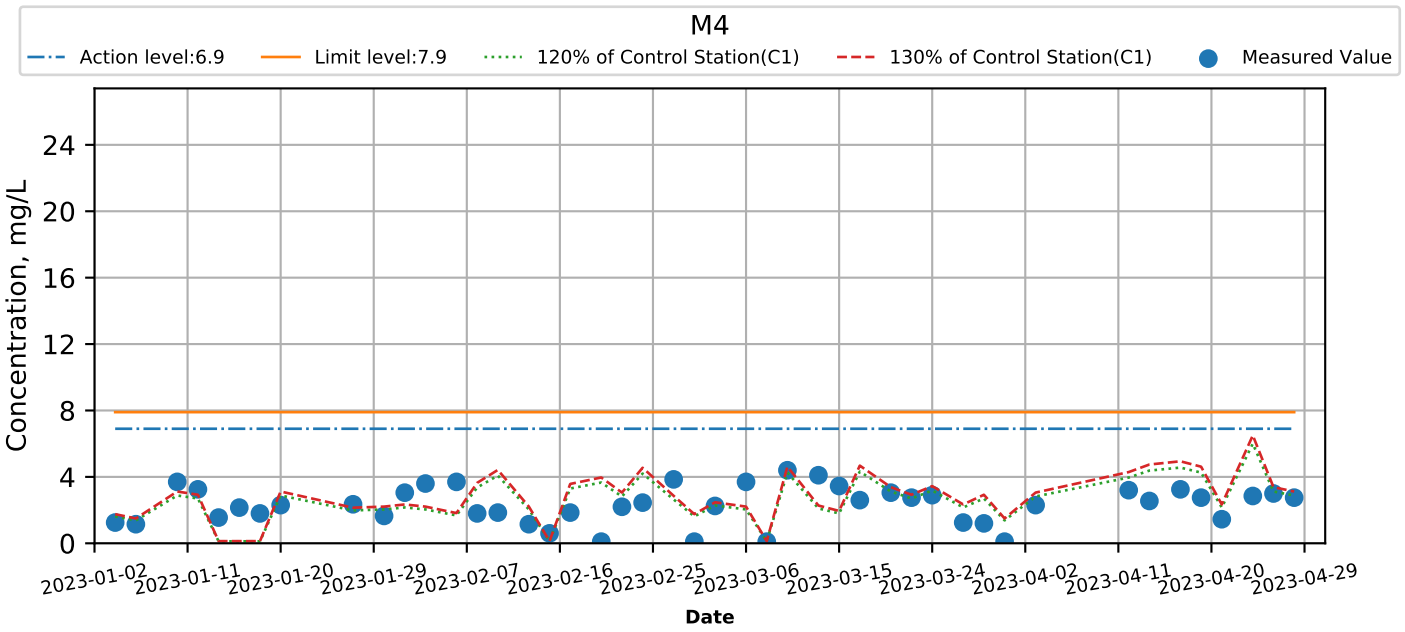


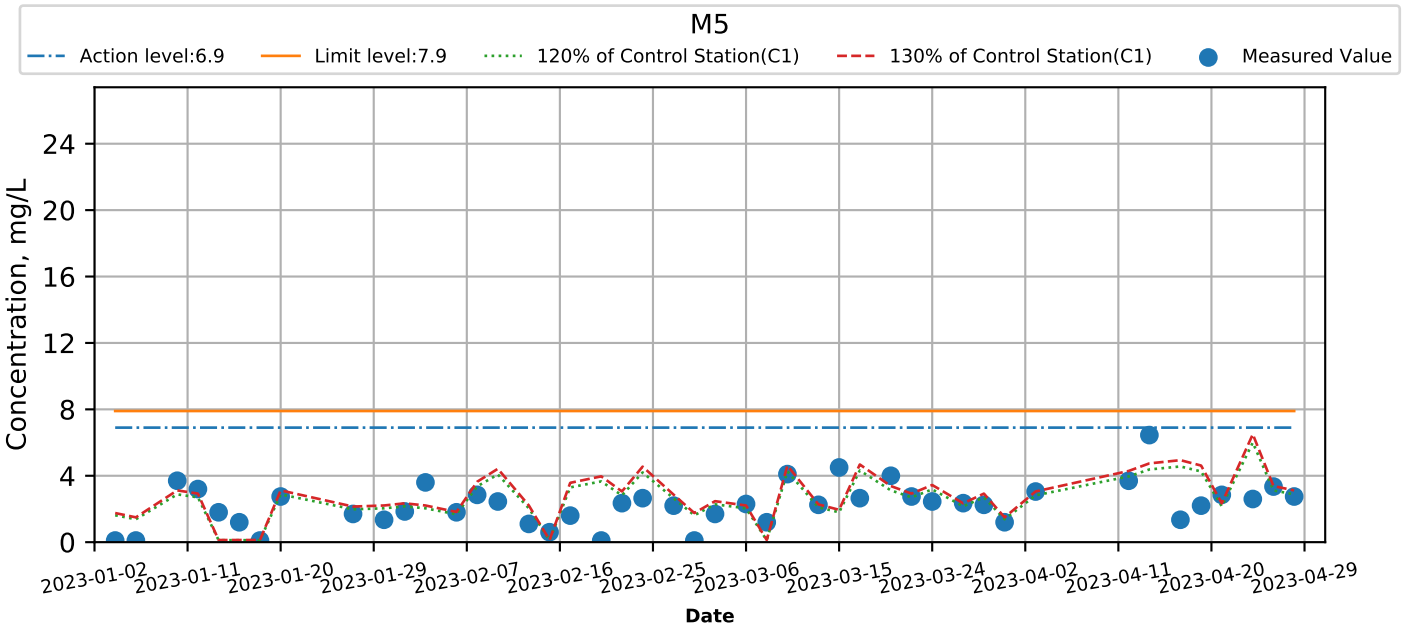




Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

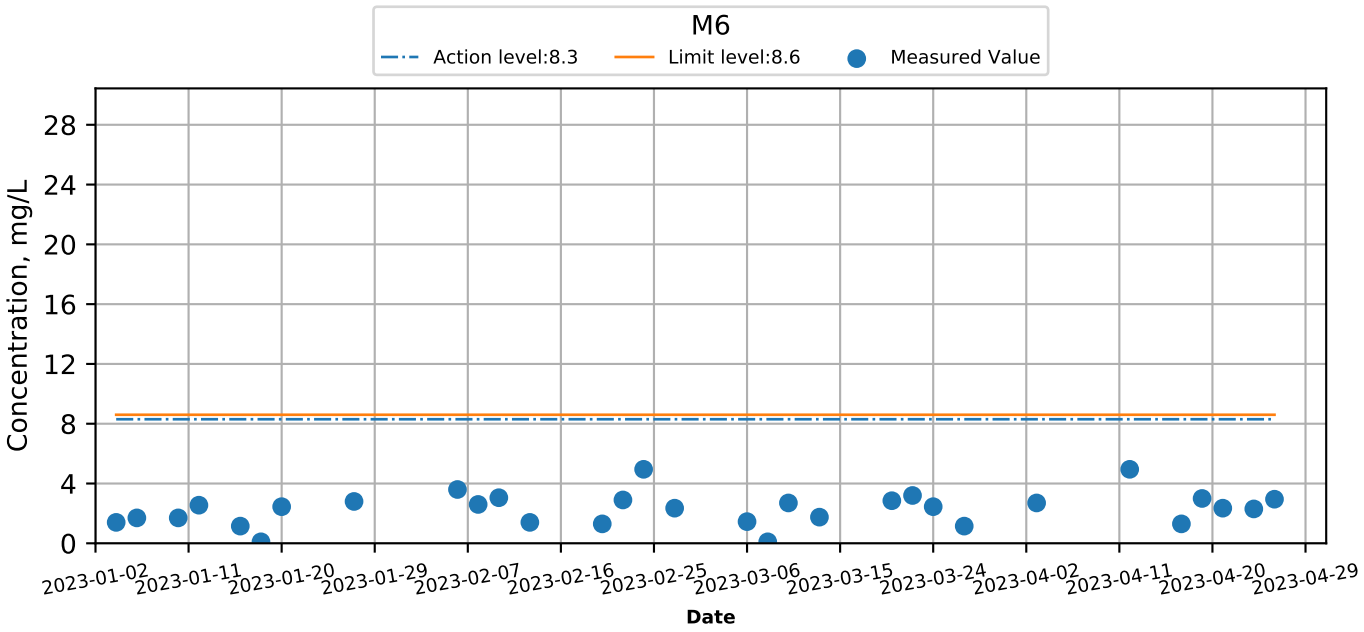
Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood





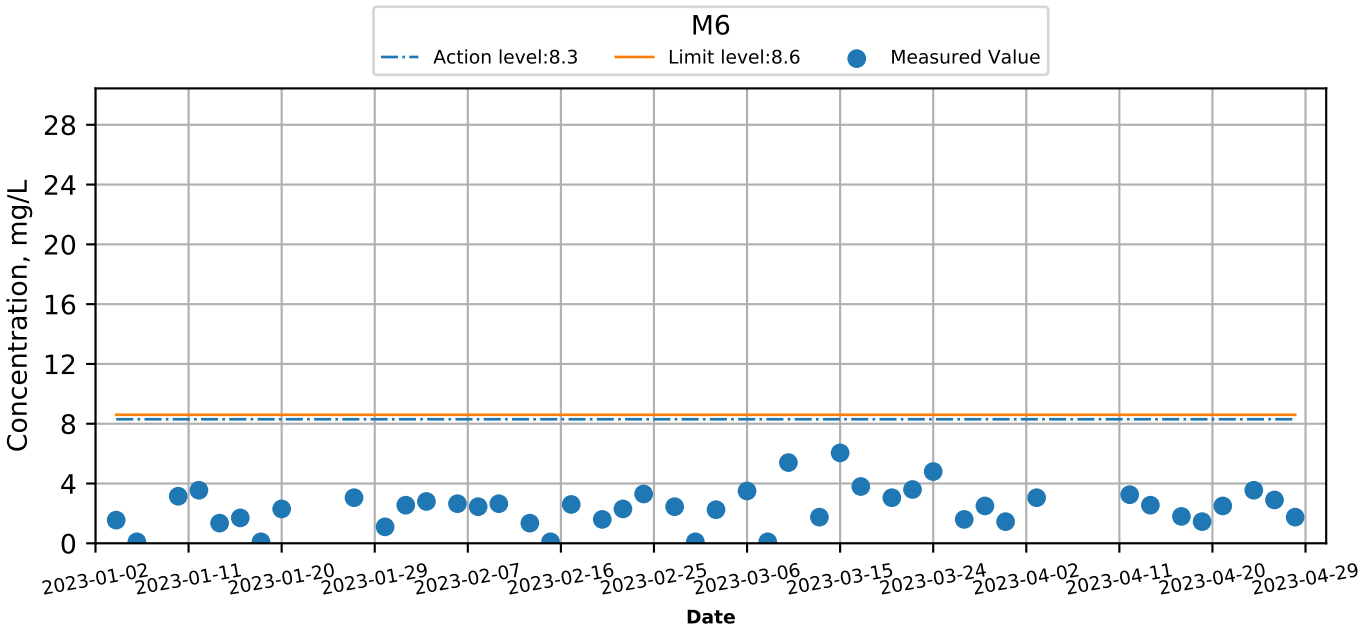
Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Intake level) at Monitoring Stations during Mid-Ebb



Graphical Presentation of Water Quality Monitoring Results (Jan-2023 to Apr-2023)

Suspended Solids (Intake level) at Monitoring Stations during Mid-Flood



APPENDIX J
QUALITY CONTROL REPORTS FOR LABORATORY ANALYSIS

ALS Environmental

QUALITY ASSURANCE & QUALITY CONTROL

ALS Hong Kong is staffed with qualified chemists who conduct analytical testing using well documented procedures based on the universally recognised methodologies of USEPA, APHA, ASTM.

All laboratory procedures are regulated by comprehensive QA / QC programmes established to monitor and control every aspect of the operation. A minimum of 10% of all samples analysed by ALS Technichem are part of the Quality Assurance protocol.

The laboratory is HOKLAS accredited (Reg. No. 066) for a large range of chemical and biological tests covering environmental and food analyses.

Our QA/QC procedures are designed to ensure reliable analytical results to our clients.

1. INSTRUMENT CALIBRATION

All equipment and instruments meet the requirements and specifications of the documented test procedures.

1.1 Daily Performance Checks

The performance checks are carried out once in every 24 hour operating period for most capital instruments, such as:

- Liquid Chromatography – Mass Spectrometry/Mass Spectrometry
- Gas Chromatography – Mass Selective Detector
- Gas Chromatography – Flame Ionization Detector
- Gas Chromatography – Electron Capture Detector
- Inductively Coupled Plasma – Mass Spectrometer
- Inductively Coupled Plasma – Atomic Emission Spectrometer
- Flow Injection Mercury Analyzer
- Automatic Discret Analyzer
- Flow Injection Analyzer
- Electronic Balance

Should the instrument fail the daily check repeatedly then the appropriate maintenance is undertaken to rectify the problem prior to sample analysis.

1.2 Calibration

A minimum 5 point calibration covering the working range of the samples to be analysed is run with each group of samples. Laboratory Blanks are run at a frequency of 1 in every 20 samples or 1 between each analytical lot of samples, which ever is the more frequent.

A mid-range calibration standard is analysed regularly during the operating period to ensure consistency.

1.3 Calibration Check

A calibration standard is analysed regularly during the operating period to ensure consistency.

2. QUALITY CONTROL (QC) SAMPLES

QC samples comprise those which monitor and control the laboratory performance namely Laboratory Control Sample (LCS), Duplicate Control Sample (DCS), Method Blanks and those which are used for data assessment and the evaluation of matrix effects by using Surrogates, Matrix Spike (MS), Matrix Spike Duplicate (MSD) and Sample Duplicates.

Field contamination is monitored by the analysis of Trip Blanks (VOCs) and Equipment Rinsate Samples.

The organics laboratory processes field samples in QC lots of 20 according to the analysis required. These 20 samples may consist of a number of sample batches independently submitted to the laboratory.

The inorganics laboratory lots samples in groups of 20 to 50 depending on the analyte to be determined. Quality control samples such as Laboratory Blanks and Quality Control Sample, and/or Certified Reference Materials (CRM) are run at a frequency of 1 in 20 per 'lot' of samples. Sample Duplicates and Matrix Spikes are run at a frequency of 1 in 20 or 1 per batch, whichever is more frequent.

2.1 Laboratory Control Sample (LCS) & Duplicate Control Sample (DCS) - (Organics only)

(a) Accuracy - the closeness of agreement between an observed value and a reference value.

The observed value is the average of the LCS and the DCS values. The reference value is the spike value. The accuracy is expressed as the % Recovery and is calculated as follows:

% Recovery = (Observed Value/Spiked Value) x 100

(b) Precision - the agreement among a set of replicate results.

Precision is expressed as the Relative Percent Difference (RPD) between the LCS and DCS detected levels, against the average of these levels.

The RPD is calculated as follows:

RPD = [(Results 1 - Result 2) / Average] x 100

QUALITY ASSURANCE & QUALITY CONTROL

The accuracy and precision data are evaluated against laboratory established control limits. (If laboratory control limits have not been established for a particular method, control limits as specified in USEPA SW 846 may be utilised).

QC results falling outside the control limits are automatically flagged.

The acceptance criterion used is that 80 percent of the precision and accuracy values must fall within the control limits. If this criterion is not met, corrective action must be taken. This may include repeat sample analysis.

2.2 Laboratory / Reagent Blank

For the laboratory blank to be acceptable, the concentration in the blank of any analyte of concern should not be higher than ½ of reporting limit (LOR) for that analyte.

Blank correction may be performed if the blank result is found to be greater than LOR and it is attributed to the analytical method and/or reagents involved.

2.3 Surrogates (Organics Only)

Surrogate results are reported as percent recovery. Since surrogate spike recoveries indicate the presence of sample specific interferences, USEPA documented recovery limits are used as a guidance only.

The surrogate standards are used for semivolatile and volatile analyses. The semivolatile analysis includes SVOC, pesticide and PCB tests. The volatile analysis includes VOC and BTEX.

2.4 Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

MS and MSD results are used for data assessment and evaluation of method precision and bias in a given matrix.

2.5 Sample Duplicate

The duplicate results are used for evaluation of laboratory precision in a given matrix.

The RPD values of the duplicates are used as the rejection or acceptance criteria.

Generally, water samples are repeated if the RPD is greater than 20 percent and there is sufficient sample for reanalysis.

The RPD for soils should be within 25 percent, however, this may be dependent upon sample homogeneity.

ALS Environmental

QUALITY ASSURANCE & QUALITY CONTROL

TABLE 1: QC TERMS, DEFINITIONS, PURPOSE FOR MONITORING & FREQUENCY

QC TERM	DEFINITION	TO MONITOR	FREQUENCY
Work Order	A set of samples received from a customer for analysis.	-	-
QC Lot	A set of 20 samples analysed under the same analytical conditions. A QC Lot may consist of samples from a number of work orders.	-	-
Analytical Lot	A group of samples prepared at the same time for a given analyte.	-	-
Control Limits	Upper and lower limits based on statistical analysis of laboratory historical performance data.	Laboratory precision and bias.	-
Laboratory Quality Control Samples			
Method Blank *(BLK)*	An analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation.	Contamination introduced in the laboratory.	1 per QC lot of 20 samples
Sample Duplicate *(DUP)*	An intra-laboratory split sample randomly selected from the sample batch.	Method precision in a given sample matrix.	1 per QC lot of 20 samples
Matrix Spike *(MS)*	A split sample spiked with the target analytes prior to sample preparation and analysis.	Method bias in a given sample matrix.	1 per QC lot of 20 samples
Matrix Spike Duplicate *(MSD)*	An split sample spiked as per the MS.	*Ditto*	*ditto*
Laboratory Control Sample *(LCS)*	A known, interference free matrix spiked with target analytes.	Laboratory preparation technique.	1 per QC lot of 20 samples
Duplicate Control Sample *(DCS)*	As per the SCS.	Preparation technique reproducibility (precision).	*Ditto*
Certified Reference Material (CRM)	A certified reference material containing target analytes with known concentrations and associated uncertainities and	Monitoring overall performance of each step during analysis, including sample preparation. For Inorganic analysis.	1 per QC Lot, per analytical method.
Surrogate Spike *(organic testing only)*	Compounds similar in composition and behaviour to the target analytes but not commonly found in samples.	Matrix interference on a per sample basis.	Surrogates are added to all samples for selected organic analyses.
Filed Quality Control Samples			
Equipment Rinsate	A sample of reagent water used by client in field to rinse the sampling equipment between the decontamination and sampling steps	Equipment decontamination.	as directed by client.
Trip Blank *(usually VOC testing)*	A sample of analyte free media is taken from the laboratory to the sampling site and returned to the laboratory unopened.	Contamination from shipping and field handling. Most applicable to volatile analysis.	as directed by client.

QUALITY ASSURANCE & QUALITY CONTROL

TABLE 2: LABORATORY QUALITY CONTROL SCHEDULES

ORGANICS –

QUALITY CONTROL ITEM	QCS2	QCS3	QCS4
Laboratory Blank	√	√	√
Batch Duplicate	√	√	√
Matrix Spike (MS)	•	√	√
Single Control Sample (SCS)	√	√	√
Duplicate Control Sample (DCS)	•	•	√
Surrogate *(organics only)*	√	√	√
Matrix Spike Duplicate (MSD)	•	•	√

INORGANICS -

QUALITY CONTROL ITEM	QCS2	QCS3	QCS4
Laboratory Blank	√	√	√
Batch Duplicate	√	√	√
Matrix Spike (MS)	√	√	√
Single Control Sample (SCS)	√	√	√
Duplicate Control Sample (DCS)	•	•	√
Matrix Spike Duplicate (MSD)	•	•	√

√ Analysis performed in the schedule.

• Analysis not performed in the schedule.

APPENDIX K
SUMMARY OF EXCEEDANCE

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction

Appendix K – Summary of Exceedance

Reporting Period: April 2023

(A) Exceedance Report for Air Quality

One (1) limit level exceedance for air quality monitoring of 24-hr TSP was recorded in the reporting month.

One (1) action level exceedance for air quality monitoring of 24-hr TSP was recorded in the reporting month.

No exceedance for air quality monitoring of 1-hr TSP was recorded in the reporting month.

(B) Exceedance Report for Construction Noise

Action Level for Construction Noise

No action level exceedances were recorded due to the documented complaints received in this reporting month.

Limit Level for Construction Noise

No limit level exceedance for daytime construction noise monitoring was recorded in the reporting month.

No exceedance for evening-time construction noise monitoring was recorded in the reporting month.

No exceedance for nighttime construction noise monitoring was recorded in the reporting month, none of them is considered to be project-related.

(C) Exceedance Report for Water Quality

Six (6) Action Level and thirty – three (33) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.

No action and limit level exceedance were recorded for post-reclamation marine water quality monitoring.

Refer to the attached notifications and investigation report for details.
Since October 2019, groundwater monitoring had been suspended.

(D) Exceedance Report for Ecology

(NIL in the reporting month)

(E) Exceedance Report for Cultural Heritage

(NIL in the reporting month)

(F) Exceedance Report for Landfill Gas

(NIL in the reporting month)

Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel
- Notification of Exceedances

NOE No. 230411_Air (AM4(B))

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Air Quality (24hr-TSP)

Station	Location	Time	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate Weight (g)	Particulate Concentration (µg/m3)	Action Level: (µg/m3)	Limit Level: (µg/m3)	Level exceeded
AM4(B)	Flat 103 Cha Kwo Ling Village	0900 (11 Apr 2023) – 0900 (12 Apr 2023)	3.3488	3.7337	0.3849	**222.0**	**210**	**260**	Action

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)

Air quality measured at AM4(B) exceeded the air quality action level for 24-hour TSP monitoring.

(b) Cause of exceedance(s) / Remarks

- According to our field observation, similar to the case on 23 Mar 2023, numerous of dump trucks, lorry, buses and minibuses were observed along Cha Kwo Ling Road. The busy transportation cause raised dust and spread to the surrounding.
- After the completion of TKO-LTT, the traffic flow along Cha Kwo Ling Road increases. For instance, dump trucks filled with C&D materials from other sites utilized Cha Kwo Ling Road and TKO-LTT to reach the fill bank at TKO area 137.
- No major construction activity was observed along Cha Kwo Ling Road during the environmental monitoring.

Part B – Conclusion: As the observed heavy vehicles did not belong to NE/2015/01 and the construction works along Cha Kwo Ling Road only include backfilling and block paving on footpath. Mitigation measures such as covering the stockpiles have been implemented therefore the exceedance is considered as **non-project related**.

Part C – Recommendation: The Contractor shall continue good site practices such as sprinkle the site frequently and cover any dusty stockpile even no PME(s) is involved to minimize the potential air quality impact.

ETL Signature: _____ Date: 17 April 2023

Supplementary Information

Photo 1 – Road condition along Cha Kwo Ling Road next to station AM4(B) (Taken on 12 Apr 2023)

Photo 2 – Road condition along Cha Kwo Ling Road next to station AM4(B) (Taken on 12 Apr 2023)

Photo 3 – Road condition along Cha Kwo Ling Road next to station AM4(B) (Taken on 12 Apr 2023)

Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel
- Notification of Exceedances

NOE No. 230414_Air (AM4(B))

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Air Quality (24hr-TSP)

Station	Location	Time	Filter Weight (g) Initial	Filter Weight (g) Final	Particulate Weight (g)	Particulate Concentration (µg/m3)	Action Level: (µg/m3)	Limit Level: (µg/m3)	Level exceeded
AM4(B)	Flat 103 Cha Kwo Ling Village	0900 (14 Apr 2023) – 0900 (15 Apr 2023)	3.3222	3.8378	0.5156	**298.1**	**210**	**260**	Limit

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)

Air quality measured at AM4(B) exceeded the air quality limit level for 24-hour TSP monitoring.

(b) Cause of exceedance(s) / Remarks

- According to our field observation, similar to the case on 11 Apr 2023, numerous of dump trucks, lorry, buses and minibuses were observed along Cha Kwo Ling Road. The busy transportation cause raised dust and spread to the surrounding.
- After the completion of TKO-LTT, the traffic flow along Cha Kwo Ling Road increases. For instance, dump trucks filled with C&D materials from other sites utilized Cha Kwo Ling Road and TKO-LTT to reach the fill bank at TKO area 137.
- No major construction activity was observed along Cha Kwo Ling Road during the environmental monitoring.

Part B – Conclusion: As the observed heavy vehicles did not belong to NE/2015/01 and the construction works along Cha Kwo Ling Road only include block paving on footpath. Mitigation measures such as covering the stockpiles have been implemented therefore the exceedance is considered as **non-project related**.

Part C – Recommendation: The Contractor shall continue good site practices such as sprinkle the site frequently and cover any dusty stockpile even no PME(s) is involved to minimize the potential air quality impact.

ETL Signature: _____ Date: 21 April 2023

Supplementary Information

Photo 1 – Road condition along Cha Kwo Ling Road next to station AM4(B) (Taken on 15 Apr 2023)

Photo 2 – Road condition along Cha Kwo Ling Road next to station AM4(B) (Taken on 15 Apr 2023)

Photo 3 – Road condition along Cha Kwo Ling Road next to station AM4(B) (Taken on 15 Apr 2023)

Date of Water Quality Monitoring: **03 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	bottom	1.3	G2	11:25	6.9	7.9	1.6	1.7	**2.5**
Mid-Ebb	C2	bottom	1.3	G3	11:36	6.9	7.9	1.6	1.7	**2.7**
Mid-Ebb	C2	bottom	1.3	M1	11:30	6.9	7.9	1.6	1.7	**2.3**
Mid-Ebb	C2	bottom	1.3	M2	11:21	6.9	7.9	1.6	1.7	**2.3**
Mid-Ebb	C2	bottom	1.3	M4	11:17	6.9	7.9	1.6	1.7	**2.2**
Mid-Ebb	C2	bottom	1.3	M5	11:50	6.9	7.9	1.6	1.7	**3.6**
Mid-Flood	C1	surface	1.3	G1	16:43	6.0	6.9	1.5	1.6	**1.6**
Mid-Flood	C1	surface	1.3	G2	16:35	6.0	6.9	1.5	1.6	**3.3**
Mid-Flood	C1	surface	1.3	G3	16:46	6.0	6.9	1.5	1.6	**2.4**
Mid-Flood	C1	surface	1.3	G4	16:53	6.0	6.9	1.5	1.6	**1.9**
Mid-Flood	C1	surface	1.3	M1	16:40	6.2	7.4	1.5	1.6	**3.7**
Mid-Flood	C1	surface	1.3	M2	16:30	6.2	7.4	1.5	1.6	**2.3**
Mid-Flood	C1	surface	1.3	M3	16:49	6.2	7.4	1.5	1.6	**1.8**
Mid-Flood	C1	surface	1.3	M4	16:26	6.2	7.4	1.5	1.6	**3.2**
Mid-Flood	C1	surface	1.3	M5	17:00	6.2	7.4	1.5	1.6	**2.2**
Mid-Flood	C1	bottom	2.4	G1	16:43	6.9	7.9	2.8	3.1	**3.4**
Mid-Flood	C1	bottom	2.4	G3	16:46	6.9	7.9	2.8	3.1	**3.9**
Mid-Flood	C1	bottom	2.4	G4	16:53	6.9	7.9	2.8	3.1	**3.0**
Mid-Flood	C1	bottom	2.4	M5	17:00	6.9	7.9	2.8	3.1	**3.1**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)

Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **03 April 2023**

Part A – Exceedance Summary Tables

Table II: **Parameter(s) – ~~Dissolved Oxygen (DO) /~~ Turbidity (TURB) /~~ Suspended Solids (SS)~~**

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	1.8	G2	11:25	2.1	2.3	**2.3**
Bottom	19.3	22.2	Mid-Ebb	C2	1.8	M5	11:50	2.1	2.3	**2.9**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **12 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	bottom	4.3	G3	16:38	6.9	7.9	5.1	5.5	**5.5**
Mid-Flood	C1	bottom	3.3	G2	9:05	6.9	7.9	4.0	4.3	**5.9**
Mid-Flood	C1	bottom	3.3	M1	9:09	6.9	7.9	4.0	4.3	**4.9**
Mid-Flood	C1	bottom	3.3	M2	9:02	6.9	7.9	4.0	4.3	**4.7**
Mid-Flood	C1	bottom	3.3	M3	9:18	6.9	7.9	4.0	4.3	**5.4**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **12 April 2023**

Part A – Exceedance Summary Tables

Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	G1	16:35	1.3	1.4	**1.5**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	G2	16:29	1.3	1.4	**3.1**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	G3	16:38	1.3	1.4	**2.4**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	G4	16:44	1.3	1.4	**2.8**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M1	16:33	1.3	1.4	**1.8**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M2	16:26	1.3	1.4	**4.3**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M3	16:41	1.3	1.4	**2.1**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M4	16:22	1.3	1.4	**2.9**
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M5	16:51	1.3	1.4	**2.1**
Bottom	19.3	22.2	Mid-flood	C1	1.7	G2	9:05	2.1	2.3	**2.3**
Bottom	19.3	22.2	Mid-flood	C1	1.7	G3	9:14	2.1	2.3	**2.2**
Bottom	19.3	22.2	Mid-flood	C1	1.7	G4	9:20	2.1	2.3	**2.4**
Bottom	19.3	22.2	Mid-flood	C1	1.7	M2	9:02	2.1	2.3	**4.3**
Bottom	19.3	22.2	Mid-flood	C1	1.7	M4	8:57	2.1	2.3	**3.0**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **14 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	5.5	G4	11:39	6.0	6.9	6.5	7.1	***6.6***
Mid-Flood	C1	bottom	3.7	G3	11:34	6.9	7.9	4.4	4.7	**4.9**
Mid-Flood	C1	bottom	3.7	M2	11:21	6.9	7.9	4.4	4.7	**5.4**
Mid-Flood	C1	bottom	3.7	M5	11:46	6.9	7.9	4.4	4.7	**6.5**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **14 April 2023**

Part A – Exceedance Summary Tables

Table II: **Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~**

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-flood	C1	2.7	G4	11:39	3.3	3.6	**4.4**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **17 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	7.2	G1	11:26	6.0	6.9	8.6	9.4	***6.8***
Mid-Ebb	C2	surface	7.2	G3	11:31	6.0	6.9	8.6	9.4	***7.2***
Mid-Ebb	C2	surface	7.2	G4	11:38	6.0	6.9	8.6	9.4	***6.7***

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **17 April 2023**

Part A – Exceedance Summary Tables

Table II: **Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~**

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	2.8	M2	11:09	3.3	3.6	**3.6**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **19 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	2.3	G2	12:14	6.0	6.9	2.7	2.9	**2.8**
Mid-Ebb	C2	surface	2.3	M1	12:18	6.2	7.4	2.7	2.9	**3.6**
Mid-Ebb	C2	surface	2.3	M3	12:30	6.2	7.4	2.7	2.9	**3.6**
Mid-Ebb	C2	surface	2.3	M4	12:06	6.2	7.4	2.7	2.9	**3.5**
Mid-Flood	C1	surface	2.5	G1	16:26	6.0	6.9	2.9	3.2	**3.1**
Mid-Flood	C1	surface	2.5	G2	16:18	6.0	6.9	2.9	3.2	**3.6**
Mid-Flood	C1	surface	2.5	G3	16:30	6.0	6.9	2.9	3.2	**3.3**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **21 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	bottom	2.2	G1	13:37	6.9	7.9	2.6	2.9	**4.0**
Mid-Ebb	C2	bottom	2.2	G2	13:30	6.9	7.9	2.6	2.9	**4.1**
Mid-Ebb	C2	bottom	2.2	M2	13:26	6.9	7.9	2.6	2.9	**3.1**
Mid-Ebb	C2	bottom	2.2	M3	13:44	6.9	7.9	2.6	2.9	**2.8**
Mid-Ebb	C2	bottom	2.2	M5	13:54	6.9	7.9	2.6	2.9	**3.6**
Mid-Flood	C1	bottom	1.8	G1	8:23	6.9	7.9	2.2	2.3	**2.9**
Mid-Flood	C1	bottom	1.8	G2	8:15	6.9	7.9	2.2	2.3	**2.9**
Mid-Flood	C1	bottom	1.8	G3	8:26	6.9	7.9	2.2	2.3	**2.8**
Mid-Flood	C1	bottom	1.8	G4	8:32	6.9	7.9	2.2	2.3	**2.7**
Mid-Flood	C1	bottom	1.8	M5	8:39	6.9	7.9	2.2	2.3	**2.9**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **24 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	3.1	G2	8:29	6.0	6.9	3.7	4.0	**4.2**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **26 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB)~~ / Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	2.3	M2	16:24	6.2	7.4	2.8	3.0	**3.0**
Mid-Ebb	C2	surface	2.3	M4	16:18	6.2	7.4	2.8	3.0	**2.9**
Mid-Ebb	C2	bottom	3.2	G1	16:37	6.9	7.9	3.8	4.1	***4.2***
Mid-Flood	C1	surface	1.9	G1	11:03	6.0	6.9	2.2	2.4	**2.4**
Mid-Flood	C1	surface	1.9	G2	10:55	6.0	6.9	2.2	2.4	**2.3**
Mid-Flood	C1	surface	1.9	G3	11:06	6.0	6.9	2.2	2.4	**2.3**
Mid-Flood	C1	surface	1.9	M1	11:00	6.2	7.4	2.2	2.4	***2.8***
Mid-Flood	C1	surface	1.9	M2	10:49	6.2	7.4	2.2	2.4	***3.1***
Mid-Flood	C1	surface	1.9	M3	11:08	6.2	7.4	2.2	2.4	***2.8***
Mid-Flood	C1	bottom	2.6	G1	11:03	6.9	7.9	3.1	3.4	**3.2**
Mid-Flood	C1	bottom	2.6	G2	10:55	6.9	7.9	3.1	3.4	***3.5***
Mid-Flood	C1	bottom	2.6	G3	11:06	6.9	7.9	3.1	3.4	**3.4**
Mid-Flood	C1	bottom	2.6	M5	11:19	6.9	7.9	3.1	3.4	**3.4**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **26 April 2023**

Part A – Exceedance Summary Tables

Table II: **Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~**

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-flood	C1	2.2	M5	11:19	2.6	2.8	**3.1**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Date of Water Quality Monitoring: **28 April 2023**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	2.4	M1	11:55	6.9	7.9	2.9	3.1	**3.4**

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)
Bold with underline means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic)***

Contract No. CE 59/2015 (EP)

Environmental Team for Tseung Kwan O – Lam Tin Tunnel Design and Construction

- Investigation Report of Environmental Quality Limit Exceedances

Part A Details of Investigation

For the reporting month, exceedances for suspended solids and turbidity have been recorded continuously at various monitoring stations. During the site inspection, the water outside the site boundary seemed to be clear and clean (Photos 1 & 2).

During regular water quality monitoring, the sea appears to be clear in general (Photo 3 & 4). No obvious muddy water was observed during the monitoring.

Sediment tanks were free from silt and sediments and the drainage system remained well-maintained. No sand plumes were observed during the site inspection.

No direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project. Therefore, no additional marine water quality monitoring is required.

Part B Photo Record

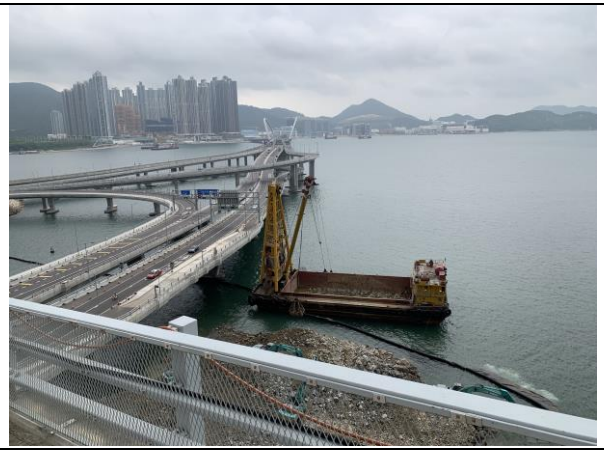
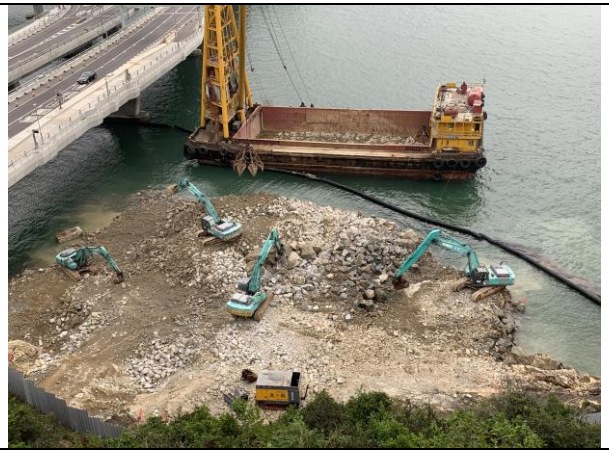
	

Photo 1 (Recorded on 19 April 2023)	Photo 2 (Recorded on 19 April 2023)

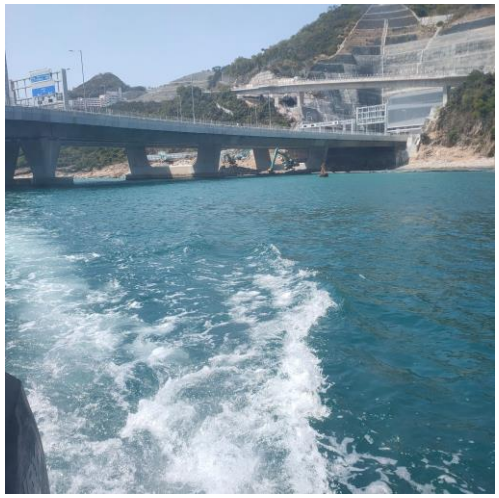
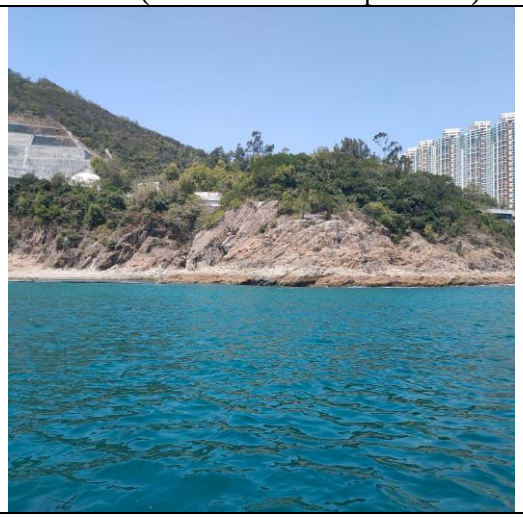

	

Photo 3 (Recorded on 17 April 2023)	Photo 4 (Recorded on 17 April 2023)

Part C – Recommendations

Since it is anticipated to have downpours in the coming months, the Contractors are reminded to carry out precautionary measures such as clearing drainage system to ensure the adequate capacity of drainage and ensuring proper embankment had been placed around the site to prevent accidental discharge of muddy water.

Dive inspection shall be conducted regularly to ensure the condition of the silt curtain. Good site practices such as the provision of perimeter cut-off drain to direct off-site water, regular removal of silt and sediment from sediment tanks, and covering open stockpiles shall be conducted as far as possible. Chemicals shall be placed away from the seafront area to prevent accidental leakage.

Reviewed by: (Environmental Team Leader:(Dr. HF Chan) Date: 05th May 2023

APPENDIX L
SITE AUDIT SUMMARY

Appendix L - Site Audit Summary

Contract No. — NE2015/01
Tseung Kwan O - Lam Tin Tunnel — Main Tunnel and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
NRMM label was missing on a crane.	29-Mar-23	✓	4-Apr-23: The NRMM was placed on the crane.
NRMM was missing on a generator.	12-Apr-23	✓	19-Apr-23: NRMM label was placed on the generator.
A large pile of dusty material was observed without proper coverage.	12-Apr-23	✓	19-Apr-23: Stockpile was covered with tatpaulin sheeting.
A pile of cement bags and a pile of sand were observed, the Contractor is reminded to provide proper cover.	26-Apr-23	#	Follow up action will be reported in next reporting month
Waste/Chemical Management			
Fuel drums without drip tray was observed.	29-Mar-23	✓	4-Apr-23: The fuel drums have been removed.
Oil leakage/oil stains was observed, contractor should apply oil kits to remove the stains to prevent surface runoff.	04-Apr-23	✓	12-Apr-23: Oil stains have been removed.
Unlabelled chemical containers were observed without drip tray.	04-Apr-23	✓	12-Apr-23: The containers have been stored inside the drip tray.
Oil stain was observed on ground, the Contractor should apply oil kit to remove it and reminded to avoid oil leakage from PMEs.	19-Apr-23	✓	26-Apr-23: Oil stain has been removed by workers.
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix L - Site Audit Summary

Contract No. — NE2015/02
Tseung Kwan O - Lam Tin Tunnel — Road P2 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
A part of site boundary was observed without noise enclosures or noise barriers to minimize potential noise nuisance.	20-Apr-23	✓	27-Apr-23: Noise barriers have been placed on the site boundary.
Landscape and Visual			
--	--	--	--
Air Quality			
NRMM was missing on a breaker and an excavator.	30-Mar-23	✓	'4-Apr-23: NRMM was placed on the PMEs.
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix L - Site Audit Summary

Contract No. — NE2017/02
Tseung Kwan O - Lam Tin Tunnel — Road P2/D4 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix L - Site Audit Summary

Contract No. — NE2017/06
Tseung Kwan O - Lam Tin Tunnel — Traffic Control and Surveillance System (TCSS) and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix L - Site Audit Summary

Contract No. — NE2017/01
Tseung Kwan O - Lam Tin Tunnel — Tseung Kwan O Interchange and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix L - Site Audit Summary

Contract No. — NE2017/07
Tseung Kwan O - Lam Tin Tunnel — Cross Bay Link Main Bridge and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

APPENDIX M
EVENT AND ACTION PLANS

Event and Action Plan for Air Quality (Dust)

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action level being exceeded by one sampling	1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER;	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 on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	8. If exceedance stops, cease additional monitoring.			
Limit level being exceeded by one sampling	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor ,IEC, ER, 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 and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Limit level being exceeded by two or more consecutive sampling	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily;	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals;

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	3. Supervise the implementation of remedial measures.	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.	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 Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify IEC 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; 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;	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	ACTION			
	ET	IEC	ER	CONTRACTOR
	7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.			

Event and Action Plan for Marine Water Quality

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action level being exceeded by one sampling day at water sensitive receiver(s)	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate; • If exceedance is found to be caused by the reclamation activities, repeat *in-situ* measurement to confirm findings; • Inform IEC and contractor; • Check monitoring data, all plant, equipment and Contractor's working methods; • If exceedance occurs at WSD salt water intake, inform WSD; • Discuss mitigation measures with IEC and Contractor; • Repeat measurement on next day of exceedance.	• Discuss with ET and Contractor on the mitigation measures; • Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly; • Assess the effectiveness of the implemented mitigation measures.	• Discuss with IEC on the proposed mitigation measures; • Make agreement on the mitigation proposal.	• Inform the ER and confirm notification of the non-compliance in writing; • Rectify unacceptable practice; • Check all plant and equipment; • Amend working methods if appropriate; • Discuss with ET and IEC and propose mitigation measures to IEC and ER; • Implement the agree mitigation measures.
Action level being exceeded by two or more consecutive	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;	• Discuss with ET and Contractor on the mitigation measures;	• Discuss with IEC on the proposed mitigation measures; • Make agreement on the mitigation proposal;	• Inform the Engineer and confirm notification of the non-compliance in writing; • Rectify unacceptable practice;

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
sampling days at water sensitive receiver(s)	• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings; • Inform IEC and contractor; • Check monitoring data, all plant, equipment and Contractor's working methods; • Discuss mitigation measures with IEC and Contractor; • Ensure mitigation measures are implemented; • Prepare to increase the monitoring frequency to daily; • If exceedance occurs at WSD salt water intake, inform WSD; • Repeat measurement on next day of exceedance.	• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly; • Assess the effectiveness of the implemented mitigation measures.	• Assess the effectiveness of the implemented mitigation measures.	• Check all plant and equipment and consider changes of working methods; • Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; • Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day at water sensitive receiver(s)	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;	• Discuss with ET and Contractor on the mitigation measures; • Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;	• Discuss with IEC, ET and Contractor on the proposed mitigation measures; • Request Contractor to critically review the working methods;	• Inform the ER and confirm notification of the non-compliance in writing; • Rectify unacceptable practice;

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
	• If exceedance is found to be caused by the reclamation activities, repeat *in-situ* measurement to confirm findings; • Inform IEC, contractor, AFCD and EPD • Check monitoring data, all plant, equipment and Contractor's working methods; • Discuss mitigation measures with IEC, ER and Contractor; • Ensure mitigation measures are implemented; • Increase the monitoring frequency to daily until no exceedance of Limit level; • If exceedance occurs at WSD salt water intake, inform WSD.	• Assess the effectiveness of the implemented mitigation measures.	• Make agreement on the mitigation measures to be implemented; • Assess the effectiveness of the implemented mitigation measures.	• Check all plant and equipment and consider changes of working methods; • Discuss with ET, IEC and ER and submit proposal of mitigation measures to IEC and ER within 3 working days of notification; • Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days at	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;	• Discuss with ET and Contractor on the mitigation measures; • Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;	• Discuss with IC(E), ET and Contractor on the proposed mitigation measures; • Request Contractor to critically review the working methods;	• Inform the ER and confirm notification of the non-compliance in writing; • Rectify unacceptable practice;

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
water sensitive receiver(s)	• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings; • Inform IC(E), AFCD, contractor and EPD; • Check monitoring data, all plant, equipment and Contractor's working methods; • Discuss mitigation measures with IC(E), ER and Contractor; • Ensure mitigation measures are implemented; • Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days; • If exceedance occurs at WSD salt water intake, inform WSD.	• Assess the effectiveness of the implemented mitigation measures.	• Make agreement on the mitigation measures to be implemented; • Assess the effectiveness of the implemented mitigation measures; • Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.	• Check all plant and equipment and consider changes of working methods; • Discuss with ET, IC(E) and ER and submit proposal of mitigation measures to IC(E) and ER within 3 working days of notification; • Implement the agreed mitigation measures; • As directed by the Engineer, to slow down or to stop all or part of the construction activities.

Limit Levels and Action Plan for Landfill Gas

Parameter	Limit Level	Action
Oxygen	<19%	• Ventilate to restore oxygen to >19%
	<18%	• Stop works • Evacuate personnel/prohibit entry • Increase ventilation to restore oxygen to >19%
Methane	>10% LEL (i.e. > 0.5% by volume)	• Prohibit hot works • Ventilate to restore methane to <10% LEL
	>20% LEL (i.e. > 1% by volume)	• Stop works • Evacuate personnel / prohibit entry • Increase ventilation to restore methane to <10% LEL
Carbon Dioxide	>0.5%	• Ventilate to restore carbon dioxide to < 0.5%
	>1.5%	• Stop works • Evacuate personnel / prohibit entry • Increase ventilation to restore carbon dioxide to < 0.5%

Event and Action Plan for Coral Post-Translocation Monitoring

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level Exceedance	1. Check monitoring data; 2. Inform the IEC, ER and Contractor of the findings; 3. Increase the monitoring to at least once a month to confirm findings; 4. Propose mitigation measures for consideration	1.Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional Monitoring and any other measures submitted by the Contractor and advise the ER accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER; 3. Implement the agreed measures.
Limit Level Exceedance	Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, suspend construction works until an effective solution is identified.	1.Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional Monitoring and any other measures submitted by the Contractor and advise the ER accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER; 3. Implement the agreed measures.

Mitigation Measures for Vibration Monitoring

Level	Contingency Action
Alert Level	● The Engineer shall be informed immediately. ● The Contractor shall submit an investigation report to describe works being undertaken. To review the instrument responses and to study the cause of undue response. ● The Contractor shall review and increase the instrumentation monitoring and reporting frequency, if applicable. ● The Contractor shall submit a detailed plan of action describing the measures to be taken should the concerned instrument reach the action level to the Engineer for approval.
Alarm Level	● The Engineer shall be informed immediately. ● The active construction works may require to be suspended subject to the Engineer's review of monitoring data. ● The Contractor shall immediately implement the measures as defined in the detailed plan of action to prevent further ground movement and groundwater drawdown etc. ● The Contractor shall prepare a detailed investigation report to study the cause of the exceedance ● The Contractor shall propose a contingency plan for the Engineer's approval in the event that alarm value is reached or exceeded ● The Contractor shall develop an emergency plan for the Engineer's approval in the event the applied contingency measures cannot control the situation. ● The Contractor shall meet the Engineer to discuss the instrument response and review the effectiveness of the implemented measures. ● The Contractor shall carry out design review of the works

Action Level	● Consideration shall be given to suspend all active construction works and the Engineer shall be informed immediately ● The Contractor shall immediately implement the measures defined in the contingency plan ● The Contractor shall implement the measures defined in the emergency plan in the event that the applied contingency measures are found inadequate ● The Contractor shall provide a complete report to examine the construction method and review the response of the instruments with full history of the monitoring data and construction activities and necessary design update ● To resume the suspended activities, the Contractor shall demonstrate to the Engineer's satisfaction that it is safe to do so with approval from the Engineer.

APPENDIX N
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

App N1 - IMPLEMENTATION SCHEDULE AND RECOMMANDED MITIGATION MEASURES

Table I - Recommended Mitigation Measures stipulated in EM&A Manual for the Project

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
Air Quality						
S3.8.1	Watering eight times a day on active works areas, exposed areas and paved haul roads	To minimize the dust impact	Contractor	All Active Work Sites	Construction phase	APCO
S3.8.1	Enclosing the unloading process at barging point by a 3-sided screen with top tipping hall / mixing area in Work Area A, provision of water spraying and flexible dust curtains	To minimize the dust impact	Contractor	Barging Points	Construction phase	APCO
S3.8.7	Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.	To minimize the dust impact	Contractor	All Construction Work Sites	Construction phase	APCO and Air Pollution Control (Construction Dust) Regulation
S3.8.7	• Use of frequent watering for particularly dusty construction areas and areas close to ASRs..					
S3.8.7	• Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.					
S3.8.7	• Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.					
S3.8.7	• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.					
S3.8.7	• Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.					
S3.8.7	• Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.					
S3.8.7	• Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit.					
S3.8.7	• Imposition of speed controls for vehicles on site haul roads.					
S3.8.7	• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs					
S3.8.7	• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.					
S3.8.7	• Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.					
/	Emission from Vehicles and Plants • All vehicles shall be shut down in intermittent use. • Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke. • All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	APCO

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
/	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	APCO
Noise Impact (Construction Phase)						
S4.8	• Use of quiet PME. Use of movable noise barriers for Excavator, Lorry, Dump Truck, Mobile Crane, Compactor, Concrete Mixer Truck, Concrete Lorry Mixer, Breaker, Mobile Crusher, Backhoe, Vibratory Poker, Saw, Asphalt Paver, Vibratory Roller, Vibrolance, Hydraulic Vibratory Lance and Piling (Vibration Hammer). Use of full enclosure for Air Compressor, Compressor, Bar Bender, Generator, Drilling Rig, Chisel, Large Diameter Bore Piling, Grout Mixer & Pump and Concrete Pump.	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TM, NCO
Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, SilentUp and etc.) or Full Enclosure for PME according to the approved Noise Mitigation Plan	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TM, NCO
S4.9	**Good Site Practice**	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TM, NCO
S4.9	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program					
S4.9	• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.					
S4.9	• Mobile plant, if any, should be sited as far away from NSRs as possible.					
S4.9	• Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.					
S4.9	• Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.					
S4.9	• Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.					
S4.9	Scheduling of Construction Works during School Examination Period	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work site near school	Construction phase	EIAO-TM, NCO
Water Quality Impact (Construction Phase)						
S5.6.24	The dry density of filling material for the TKO-LT Tunnel reclamation should be 1,900kg/m^3, with fine content of 25% or less	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO
S5.8.1	Non-dredged method by constructing steel cellular caisson structure with stone column shall be adopted for construction of seawall foundation. During the stone column installation (also including the installation of steel cellular caisson), silt curtain shall be employed around the active stone column installation points.	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO
S5.8.2	Formation of seawall enclosing the reclamation for Road P2 (notwithstanding an opening of about 50m for marine access) shall be completed prior to the filling activities. The seawall opening of about 50m wide for marine access shall be selected at a location as indicatively shown in Appendix 5.10. No more than 3 filling barge trips per day shall be made with a maximum daily rate of 3,000m^3 (i.e. 1,000 m^3 per trip) for the filling operation at the reclamation area for Road P2. All filling works shall be carried out behind the seawall with the use of single silt curtain at the marine access.	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
Silt Curtain Deployment Plan	• Silt curtains should be deployed properly to surround the works area.	Control potential impacts from marine woroks	Contractor	NE/2015/01	Construction stage	EIAO
Silt Curtain Deployment Plan	• Maintenance of silt curtain should be provided.					
Silt Curtain Deployment Plan	• Sufficient stock of silt curtain should be provided on site.					
S5.8.3	Other good site practices should be undertaken during filling operations include:	Control potential impacts from filling activities and marine-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, Waste Disposal Ordinance (WDO)
S5.8.3	• all marine works should adopt the environmental friendly construction methods as far as practically possible including the use of cofferdams to cover the construction area to separate the construction works from the sea;					
S5.8.3	• floating single silt curtain shall be employed for all marine works;					
S5.8.3	• all vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;					
S5.8.3	• all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;					
S5.8.3	• excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved;					
S5.8.3	• adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;					
S5.8.3	• loading of barges and hoppers should be controlled to prevent splashing of filling material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation;					
S5.8.3	• any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;					
S5.8.3	• construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; and					
S5.8.3	• before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation, design and operation of the silt curtain.					
S5.8.4	Site specific mitigation plan for reclamation areas using public fill materials should be submitted for EPD agreement before commencement of construction phase with due consideration of good site practices.	Control potential impacts from filling activities and marine based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
ERR S5.6.1	To minimize water quality impact arising from the dredging and filling works for Reclamation for Road P2, the following mitigation measures shall be implemented: - Before carrying out any dredging and underwater filling works, a temporary barrier shall first be constructed to a height above the high water mark to completely enclose the works site (without any opening at the barrier wall) - The temporary barrier fully enclosing the dredging and underwater filling works site shall not be removed before completion of all dredging and underwater filling works. - Water quality sampling and testing shall be carried out to demonstrate that the water quality inside the enclosed barrier is comparable to the ambient or baseline levels prior to the removal of the fully enclosed barrier. - Silt curtains shall be deployed for the installation and removal of the temporary barrier and at the double water gates marine access opening during its operation.	Control potential impacts from dredging and filling works for Reclamation for Road P2	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
ERR S5.6.1						
ERR S5.6.1						
ERR S5.6.1						
ERR S5.6.1						
S5.8.5	It is important that appropriate measures are implemented to control runoff and drainage and prevent high loading of SS from entering the marine environment. Proper site management is essential to minimise surface water runoff, soil erosion and sewage effluents.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.6	Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, TM-DSS
S5.8.7	Construction site runoff and drainage should be prevented or minimised in accordance with the guidelines stipulated in the EPD's Practice Note for Professional Persons, Construction Site Drainage (ProPECC PN 1/94). Good housekeeping and stormwater best management practices, as detailed in below, should be implemented to ensure that all construction runoff complies with WPCO standards and no unacceptable impact on the WSRs arises due to construction of the TKO-LT Tunnel. All discharges from the construction site should be controlled to comply with the standards for effluents discharged into the corresponding WCZ under the TM-DSS.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, TM-DSS
S5.8.8	Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include: • use of sediment traps; and • adequate maintenance of drainage systems to prevent flooding and overflow.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.8						
S5.8.8						
S5.8.9	Construction site should be provided with adequately designed perimeter channel and pretreatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles 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.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
S5.8.10	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.11	Sedimentation tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m^3 capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.12	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.13	Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.14	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50m^3 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.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.15	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. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.16	Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.17	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.18	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 located wheel washing bay should be provided at every site exit, and washwater 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 wheelwash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
S5.8.19	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.20	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There shall be no direct discharge of effluent from the site into the sea.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.21	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located 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 the coastal waters.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.23	Minimum distances of 100m shall be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes during construction and operational phases	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, TMDSS
S5.8.24	Under normal circumstances, groundwater pumped out of wells, etc. for the lowering of ground water level in basement or foundation construction, and groundwater seepage pumped out of tunnels or caverns under construction should be discharged into storm drains after the removal of silt in silt removal facilities.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.25 - S5.8.27 & Table 5.18	Grouting would be adopted as measure to reduce the groundwater inflow into the tunnel. During the tunnel excavation, the inflow rate of groundwater into the tunnel will be measured during the excavation. The groundwater levels above the tunnel will also be monitored by piezometers. If the inflow rate exceeds the pre-determined groundwater control criteria or the groundwater drawdown exceeds the required limit, pre-excavation grouting will be required to reduce the groundwater inflow. No significant change of groundwater levels would therefore be expected. Any chemicals/ foaming agents which would be entrained to the groundwater should be biodegradable and non-toxic throughout the tunnel construction. Potential groundwater quality impact would be minimal as the used material is non-toxic and biodegradable. No adverse groundwater quality would therefore be expected. Prescriptive measures in the form of an Action Plan with pre-emptive and re-active to preserve the groundwater levels at all times during the tunnel construction are set out in Table 5.18.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, Buildings Ordinance
S5.8.28	Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be recirculated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phas	ProPECC PN 1/94, EIAOTM, WPCO

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S5.8.29 - S5.8.31	Wastewater generated from the washing down of mixing trucks and drum mixers and similar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum. To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an online standby pump of adequate capacity and with automatic alternating devices. Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal and pH adjustment facilities (to within the pH range of 6 to 10). Disposal of wastewater into storm drains will require more elaborate treatment.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.32	All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.33	Bentonite slurries used in diaphragm wall and borepile construction should be reconditioned and reused wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.34	If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.35	Water used in water testing to check leakage of structures and pipes should be reused for other purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.36	Sterilization is commonly accomplished by chlorination. Specific advice from EPD should be sought during the design stage of the works with regard to the disposal of the sterilizing water. The sterilizing water should be reused wherever practicable.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.37	Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.38	Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.39	Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater should be tinkered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.40	Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, should be discharged into foul sewer via grease traps capable of providing at least 20 minutes retention during peak flow.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.41	Drainage serving an open oil filling point should be connected to storm drains via a petrol interceptor with peak storm bypass.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO

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S5.8.42	Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should as far as possible be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor. Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.43	Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO
S5.8.44	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO
S5.8.45	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO
S5.8.46 S5.8.46 S5.8.46 S5.8.46	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes" published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: • suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; • chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and • storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO
S5.8.47	Collection and removal of floating refuse should be performed at regular intervals on a daily basis. The contractor should be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.	Control potential impacts from floating refuse and debris	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO,

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
Ecological Impact						
S6.8.4	**Measures to Minimize Disturbance** • Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible. • Hoarding or fencing should be erected around the works area boundaries during the construction phase. The hoarding would screen adjacent habitats from construction phase activities, reduce noise disturbance to these habitats and also to restrict access to habitats adjacent to works areas by site workers; • Regular spraying of haul roads to minimize impacts of dust deposition on adjacent vegetation and habitats during the construction activities	Minimize noise, human and traffic disturbance to terrestrial habitat and wildlife; and reduce dust generation	Design Team / Contractor	Land-based works are	Construction Phase	N/A
S6.8.4						
S6.8.4						
S6.8.4						
S6.8.5	**Standard Good Site Practice** • Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats. • Construction activities should be restricted to works areas that should be clearly demarcated. The works areas should be reinstated after completion of the works. • Waste skips should be provided to collect general refuse and construction wastes. The wastes should be properly disposed off-site in a timely manner. • General drainage arrangements should include sediment and oil traps to collect and control construction site run-off. • Open burning on works sites is illegal, and should be strictly prohibited. • Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.	Reduce disturbance to surrounding habitats	Contractor	Land-based works are	Construction Phase	N/A
S6.8.5						
S6.8.5						
S6.8.5						
S6.8.5						
S6.8.5						
S6.8.6	**Measure to Minimize Groundwater Inflow** • The drained tunnel construction method with groundwater inflow control measures would generally be adopted. • During the tunnel excavation, pre-excavation grouting could be adopted to reduce the groundwater inflow and ensure that the tunnel would meet the long term water tightness requirements.	Minimize groundwater inflow	Contractor	Tunnel	Construction Phase	N/A
S6.8.6						
S6.8.6						

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S6.8.8	**Measure to Minimize Impact on Corals**	Minimize loss of coral	Design team, contractor, project operator	Within reclamation areas and pier footprint	Prior construction	N/A
S6.8.8	Coral translocation					
S6.8.8	• It is recommended to translocate the affected coral colonies, except the locally common *Oulastrea crispata* , within the reclamation area and bridge footprint to the other suitable locations as far as practicable.					
S6.8.8	• The coral translocation should be conducted during the winter months (November-March) in order to avoid disturbance during their spawning period (i.e. July to October).					
S6.8.8	• A detailed coral translocation plan with a description on the methodology for pretranslocation coral survey, translocation methodology, identification/proposal of coral recipient site, monitoring methodology for posttranslocation should be prepared during the detailed design stage.					
S6.8.8	• The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and AFCD) before commencement of the coral translocation. All the translocation exercises should be conducted by experienced marine ecologist(s) who is/are approved by AFCD prior to commencement of coral translocation.					
S6.8.8	Post translocation Monitoring					
S6.8.8	• A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the translocated coral communities					
S6.8.8	• Information gathered during each posttranslocation monitoring survey should include observations on the presence, survival, health condition and growth of the translocated coral colonies. These parameters should then be compared with the baseline results collected from the pre-translocation survey.					
S6.8.9 S6.8.10	**Measure to Control Water Quality Impact** • Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area. • Diverting of the site runoff to silt trap facilities before discharging into storm drain; • Proper waste and dumping management; and • Standard good-site practice for land-based construction.	Control water quality impact, especially on suspended solid level; minimize the contamination of wastewater discharge, accidental chemical spillage and construction site runoff to the receiving water bodies	Design Team, contractor	Marine and landbased works area	Construction phase	WQO
S6.8.11	**Compensation for Vegetation Loss** • Felling of mature trees should be compensated by planting of standard or heavy standard trees within or in vicinity of the affected area as far as practicable. Such compensatory planting for trees should be provided with at least a 1:1 ratio. In addition, vegetation at the temporarily affected area should be reinstated with species similar to the existing condition.	Compensate for the vegetation loss	Design Team, contractor	Land-based works area	Construction phase	N/A

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Fisheries Impact						
S7.7.3	**Measure to Control Water Quality Impact** • Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine work area	Construction phase	WQO
Waste Management (Construction Phase)						
S8.6.3	**Good Site Practices and Waste Reduction Measures** • Nomination of an approved person, such as a site manager, to be responsible for 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, proper waste management and chemical handling procedures; • Provision of sufficient waste disposal points and regular collection of waste; • Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	To reduce waste management impacts	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354) Land (Miscellaneous Provisions) Ordinance (Cap. 28)
S8.6.4	***Good Site Practices and Waste Reduction Measures (con't)*** • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce; • Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and • Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.	To achieve waste reduction	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354) Land (Miscellaneous Provisions) Ordinance (Cap. 28)
S8.6.5	**Good Site Practices and Waste Reduction Measures (con't)** The Contractor shall prepare and implement a WMP as part of the EMP in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor.	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.6	**Good Site Practices and Waste Reduction Measures (con't)** • C&D materials would be reused in the project and other local concurrent projects as far as possible.	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
S8.6.7	**Storage, Collection and Transportation of Waste**	To minimize potential adverse environmental impacts arising from waste storage	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.7	Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:					
S8.6.7	• Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;					
S8.6.7	• Maintain and clean storage areas routinely;					
S8.6.7	• Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and					
S8.6.7	• Different locations should be designated to stockpile each material to enhance reuse.					
S8.6.8/ Waste Management Plan	**Storage, Collection and Transportation of Waste (con't)**	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.8/ Waste Management Plan	• Remove waste in timely manner;					
S8.6.8/ Waste Management Plan	• Waste collectors should only collect wastes prescribed by their permits;					
S8.6.8/ Waste Management Plan	• Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;					
S8.6.8/ Waste Management Plan	• Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);					
S8.6.8/ Waste Management Plan	• Waste should be disposed of at licensed waste disposal facilities/ alternative disposal ground approved by RE and DEP; and					
S8.6.8/ Waste Management Plan	• Maintain records of quantities of waste generated, recycled and disposed.					
S8.6.9/ Waste Management Plan	**Storage, Collection and Transportation of Waste (con't)** • Implementation of trip ticket system with reference to DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials, to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) should be proposed.	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010
S8.6.11 - S8.6.13/ Waste Management Plan	**Sorting of C&D Materials**	To minimize potential adverse environmental	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010
S8.6.11 - S8.6.13/ Waste Management Plan	• Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.					
S8.6.11 - S8.6.13/ Waste Management Plan	• Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials.					ETWB TCW No. 33/2002
S8.6.11 - S8.6.13/ Waste Management Plan	• The C&D materials should at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled in the reclamation as far as practicable before delivery to PFRFs. While opportunities for reusing the non-inert portion should be investigated before disposal of at designated landfills					ETWB TCW No. 19/2005

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S8.6.17 – S8.6.20	**Sediments (con't)**	To determine the best handling and treatment of sediment	Contractor	All works areas with sediments concern	Construction Phase	ETWB TCW No. 19/2005
S8.6.17 – S8.6.20	• Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during boring, excavation, transportation and disposal of sediments or cement stabilization of sediment.					
S8.6.17 – S8.6.20	• A treatment area should be confined for carrying out the cement stabilization mixing and temporary stockpile. The area should be designed to prevent leachate from entering the ground. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO).					
S8.6.17 – S8.6.20	• In order to minimise the potential odour / dust emissions during boring, excavation and transportation of the sediment, the excavated sediments should be kept wet during excavation/boring and should be properly covered when placed on barges/trucks. Loading of the excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.					
S8.6.17 – S8.6.20	• In order to minimise the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.					
	Sediments (con't)	To ensure handling of sediments are in accordance to statutory requirements	Contractor	All works areas with sediments concern	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance
S8.6.24 - S8.6.28/ Waste Management Plan	• The excavated sediments is expected to be loaded onto the barge and transported to the designated disposal sites allocated by the MFC. The excaveted sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002.					
S8.6.24 - S8.6.28/ Waste Management Plan	• Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and surrounding water bodies. The stockpiling areas should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO).					
S8.6.24 - S8.6.28/ Waste Management Plan	• In order to minimise the potential odour / dust emissions during boring and transportation of the sediment, the excavated sediments should be kept wet during excavation/boring and should be properly covered when placed on barges. Loading of the excavated sediment to the barge should be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water.					
S8.6.24 - S8.6.28/ Waste Management Plan	• The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.					

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
S8.6.24 - S8.6.28/ Waste Management Plan	• In order to minimise the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.	To ensure handling of sediments are in accordance to statutory requirements	Contractor	All works areas with sediments concern	Construction Phase	ETWB TC(W) No. 34/2002 & Dumping at Sea Ordinance
S8.6.24 - S8.6.28/ Waste Management Plan	• Another possible arrangement for Type 3 disposal is by geosynthetic containment. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal.					
	Chemical Wastes.					
S8.6.26/ Waste Management Plan	• If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	To ensure proper management of chemical waste	Contractor	All works sites	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes Waste Disposal (Chemical Waste) (General) Regulation
S8.6.27/ Waste Management Plan	**General Refuse** • General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	To ensure proper management of general refuse	Contractor	All works sites	Construction Phase	Public Health and Municipal Services Ordinance (Cap. 132)
Impact on Cultural Heritage (Construction Phase)						
S9.6.4	**Dust and visual impacts** • Temporarily fenced off buffer zone with allowance for public access (minimum 1 m) should be provided; • The open yard in front of the temple should be kept as usual for annual Tin Hau festival; • Monitoring of vibration impacts should be conducted when the construction works are less than 100m from the temple.	To prevent dust and visual impacts	Contractors	Work areas	Construction Phase	EIAO; GCHIA; AMO

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S9.6.4	**Indirect vibration impact** • Vibration level is suggest to be controlled within a peak particle velocity (ppv) limit of 5mm/s measured inside the historical buildings; • Monitoring of vibration should be carried out during construction phase. • Tilting and settlement monitoring should will be applied on the Cha Kwo Ling Tin Hau Temple as well. • A proposal with details for the mitigation measures and monitoring of impacts on built heritage shall be submitted to AMO for comments before commencement of work.	To prevent indirect vibration impact	Contractors	Work areas	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.
Built Heritage Mitigation Plan	• Established Alert, Alarm and Action Level for the monitoring parameters. • To increase the instrumentation monitoring and reporting frequency. • To propose detailed action plan or contingency plan for the Engineer's approval when AAA Level is reached or exceeded.	To prevent vibration impacts	NE/2015/01	Tin Hau Temple	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.
Landscape and Visual Impact (Construction Phase)						
Table 10.8.1/ Landscape Mitigation Plan	CM1 - Construction area and contractor's temporary works areas to be minimised to avoid impacts on adjacent landscape.	Avoid impact on adjacent landscape areas	CEDD (via Contractor)	General	Construction planning and during construction period	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM2 - Reduction of construction period to practical minimum.	Minimise duration of impact	CEDD (via Contractor)	N/A	Construction planning	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM3 - Topsoil, where the soil material meets acceptable criteria and where practical, to be stripped and stored for re-use in the construction of the soft landscape works. The Contract Specification shall include storage and reuse of topsoil as appropriate.	To allow re-use of topsoil	CEDD (via Contractor)	General	Site clearance	As per the Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM4 - Existing trees at boundary of site and retained trees within site boundary to be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification, under which the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. (Tree protection measures will be detailed at Tree Removal Application stage).	To minimize tree loss	CEDD (via Contractor)	As per approved Tree Removal Application(s)	Site clearance and throughout construction period	ETWB TC 3/2006 and as per tree protection measures in Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM5 - Trees unavoidably affected by the works shall be transplanted where practicable. Where possible, trees should be transplanted direct to permanent locations rather than temporary holding nurseries. A detailed tree transplanting specification shall be provided in the Contract Specification and sufficient time for preparation shall be allowed in the construction programme.	To maximize preservation of existing trees	CEDD (via Contractor)	As per approved Tree Removal Application(s)	Site clearance	ETWB TC 3/2006 and as per tree protection measures in Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM6 - Advance screen planting of fast growing tree and shrub species to noise barriers and hoardings. Trees shall be capable of reaching a height >10m within 10 years.	To maximize screening of the works	CEDD (via Contractor)	At Lam Tin Interchange and edge of Road P2 landscape deck, TKO	Beginning of construction period	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM7 - Hydroseeding or sheeting of soil stockpiles with visually unobtrusive material	To reduce visual intrusion	CEDD (via Contractor)	General	Throughout construction period	As per Particular Specification
Table 10.8.1/ Landscape Mitigation Plan	CM8 - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	To reduce visual intrusion	CEDD (via Contractor)	General	Throughout construction period	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM9 - Screening of works areas with hoardings with appropriate colours compatible with the surrounding area	Reduction of visual intrusion	CEDD (via Contractor)	Project site Boundary	Excretion of site hoarding	N/A

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
Table 10.8.1/ Landscape Mitigation Plan	CM10 - Avoidance of excessive height and bulk of site buildings and structure	Reduction of visual intrusion and integration with environment	CEDD (via Contractor)	Built structures	Design and construction stage	N/A
Table 10.8.1/ Landscape Mitigation Plan	CM11 - Limitation of run-off into freshwater streams, ponds and sea areas	Avoidance of contamination of water courses and water bodie	CEDD (via Contractor)	TKO reclamation, TKO tunnel portal, Cha Kwo Ling roadworks	Throughout construction period	N/A
Table 10.8.1	CM12 - Minimise area of reclamation and design the edges sensitively to tie in with adjacent coastline characte	Minimise loss of Junk Bay and integration with existing coastlin	CEDD (via Contractor)	Temporary reclamation for barging points at TKO and Lam Tin and permanent reclamation for TKO Interchange slip roads and Road P2	Construction planning and reclamation stages	N/A
Landfill Gas Hazard (Design and Construction Phase)						
S11.5.9	A Safety Officer, trained in the use of gas detection equipment and landfill gas-related hazards, should be present on site throughout the groundworks phase. The Safety Officer should be provided with an intrinsically safe portable instrument, which is appropriately calibrated and able to measure the following gases in the ranges indicated below: Methane 0-100% LEL and 0100% v/v Carbon dioxide 0-100% Oxygen 0-21%	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note
S11.5.10 S11.5.25	**Safety Measures**	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
S11.5.10 S11.5.25	• For staff who work in, or have responsibility for "at risk" area, such as all excavation workers, supervisors and engineers working within the Consultation Zone, should receive appropriate training on working in areas susceptible to landfill gas, fire and explosion hazards.					
S11.5.10 S11.5.25	• An excavation procedure or code of practice to minimize landfill gas related risk should be devised and carried out.					
S11.5.10 S11.5.25	• No worker should be allowed to work alone at any time in or near to any excavation. At least one other worker should be available to assist with a rescue if needed.					
S11.5.10 S11.5.25	• Smoking, naked flames and all other sources of ignition should be prohibited within 15m of any excavation or ground-level confined space. "No smoking" and "No naked flame" notices should be posted prominently on the construction site and, if necessary, special areas should be designed for smoking.					
S11.5.10 S11.5.25	• Welding, flame-cutting or other hot works should be confined to open areas at least 15m from any trench or excavation.					
S11.5.10 S11.5.25	• Welding, flame-cutting or other hot works may only be carried out in trenches or confined spaces when controlled by a "permit to work" procedure, properly authorized by the Safety Officer (or, in the case of small developments, other appropriately qualified person).	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
S11.5.10 S11.5.25	• The permit to work procedure should set down clearly the requirements for continuous monitoring for methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure should also require the presence of an appropriately qualified person, in attendance outside the 'confined area', who should be responsible for reviewing the gas measurements as they are made, and who should have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise should be permitted to carry out hot works in confined areas.	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
S11.5.10 S11.5.25	• Where there are any temporary site offices, or any other buildings located within the Sai Tso Wan Landfill Consultation Zone which have enclosed spaces with the capacity to accumulate landfill gas, then they should either be located in an area which has been proven to be free of landfill gas (by survey using portable gas detectors); or be raised clear of the ground by a minimum of 500mm. This aims to create a clear void under the structure which is ventilated by natural air movement such that emission of gas from the ground are mixed and diluted by air.					
S11.5.10 S11.5.25	• Any electrical equipment, such as motors and extension cords, should be intrinsically safe. During piping assembly or conduiting construction, all valves/seals should be closed immediately after installation. As construction progresses, all valves/seals should be closed to prevent the migration of gases through the pipeline/conduit. All piping /conduiting should be capped at the end of each working day.					
S11.5.10 S11.5.25	• During construction, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.					
S11.5.10 S11.5.25	• Fire drills should be organized at not less than six monthly intervals.					
S11.5.10 S11.5.25	• The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.					
S11.5.10 S11.5.25	• All personnel who work on the site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of excavations. Safety notices (in Chinese and English) should be posted at prominent position around the site warning danger of the potential hazards.					
S11.5.10 S11.5.25	• Service runs within the Consultation Zone should be designated as "special routes"; utilities companies should be informed of this and precautionary measures should be implemented. Precautionary measures should include ensuring that staff members are aware of the potential hazards of working in confined spaces such as manholes and service chambers, and that appropriate monitoring procedures are in place to prevent hazards due to asphyxiating atmospheres in confined spaces. Detailed guidance on entry into confined spaces is given in Code of Practice on Safety and Health at Work in Confined Spaces (Labour Department, Hong Kong).					
S11.5.10 S11.5.25	• Periodically during ground-works construction within the 250m Consultation Zone, the works area should be monitored for methane, carbon dioxide and oxygen using appropriately calibrated portable gas detection equipment. The monitoring frequency and areas to be monitored should be set down prior to commencement of ground-works either by the Safety Officer or an approved and appropriately qualified person.	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note Labour Department's Code of Practice for Safety and Health at Work in Confined Space
	Monitoring					

EIA Ref. / EP Submission	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?	What requirements or standards for the measures to achieve?
S11.5.26 - S11.5.31	● Routine monitoring should be carried out in all excavations, manholes, chambers, relocation of monitoring wells and any other confined spaces that may have been created. All measurements in excavations should be made with the extended monitoring tube located not more than 10 mm from the exposed ground surface. Monitoring should be performed properly to make sure that the area is free of landfill gas before any man enters into the area. ● For excavations **deeper than 1m**, measurements should be carried out: • at the ground surface before excavation commences;- • immediately before any worker enters the excavation; • at the beginning of each working day for the entire period the excavation remains open; and • periodically throughout the working day whilst workers are in the excavation. ● For excavations **between 300mm and 1m deep**, measurements should be carried out: • directly after the excavation has been completed; and • periodically whilst the excavation remains open. ● For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person. ● Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or other appropriately qualified person. ● The exact frequency of monitoring should be determined prior to the commencement of works, but should be at least once per day, and be carried out by a suitably qualified or qualified person before starting the work of the day. Measurements shall be recorded and kept as a record of safe working conditions with copies of the site diary and submitted to the Engineer for approval. The Contractor may elect to carry out monitoring via an automated monitoring system.	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note
S11.5.32	The hazards from landfill gas during the construction stage within the Sai Tso Wan Landfill Consultation Zone should be minimized by suitable precautionary measures recommended in Chapter 8 of the Landfill Gas Hazard Assessment Guidance Note.	construction stage within the Sai Tso Wan Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note

Table II - Observation / Reminder / Non-compliance made during Site Audit

Key:
✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
· Non-compliance but improved by the contractor

EIA Ref	Recommended Mitigation Measures	Contract No.	Work Sites	Details of Reminder/Observation	Recorded Date	Status
Water Quality Impact						
--	--	--	--	--	--	--
Ecological Impact						
--	--	--	--	--	--	--
Construction Noise Impact						
Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, SilentUp and etc.) or Full Enclosure for PME according to the approved Noise Mitigation Plan	NE2015/02	Portion IV	A part of site boundary was observed without noise enclosures or noise barriers to minimize potential noise nuisance.	20-Apr-23	✓
Landscape and Visual Impact						
--	--	--	--	--	--	--
Air Quality Impact						
--	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	NE2015/01	Portion III	NRMM label was missing on a crane.	29-Mar-23	✓
--	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	NE2015/02	Portion IV	NRMM was missing on a breaker and an excavator.	30-Mar-23	✓
--	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	NE2015/01	Portion III	NRMM was missing on a generator.	12-Apr-23	✓
S3.8.7	· Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.	NE2015/01	Portion III	A large pile of dusty material was observed without proper coverage.	12-Apr-23	✓
S3.8.7	· Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.	NE2015/01	Portion II	A pile of cement bags and a pile of sand were observed, the Contractor is reminded to provide proper cover.	26-Apr-23	#

EIA Ref	Recommended Mitigation Measures	Contract No.	Work Sites	Details of Reminder/Observation	Recorded Date	Status
Fisheries Impaxt						
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Waste Management						
S8.6.8/ Waste Management Plan	· Remove waste in timely manner;	NE2015/01	Portion III	Fuel drums without drip tray was observed.	29-Mar-23	✓
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located 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 the coastal waters.	NE2015/01	Portion II	Oil leakage/oil stains was observed, contractor should apply oil kits to remove the stains to prevent surface runoff.	04-Apr-23	✓
S5.8.17	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	NE2015/01	Portion III	Unlabelled chemical containers were observed without drip tray.	04-Apr-23	✓
S5.8.17	Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	NE2015/01	Portion II	Oil stain was observed on ground, the Contractor should apply oil kit to remove it and reminded to avoid oil leakage from PMEs.	19-Apr-23	✓
Landfill Gas Hazards						
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APPENDIX O
SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Table O1 - Cumulative Complaint Log for Tseung Kwan O - Lam Tin Tunnel

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
639	3-May-23	16-Apr & 1-May-23 / Costal areas outside Tiu Keng Leng	Anonymous	Noise	Construction Noise Nuisance on public holiday at Tseung Kwan O (Apr & May 2023)	Y	The complaint case for 16 Apr 2023 is considered as non project-related as there were no construction activities conducted during the time of complaint. The details shall be referred to CIR-N189.	Draft CIR submitted
638	29-Mar-23	26-Mar-23 / Non-specific	Residents of Yau Lai Estate	Noise	Construction Noise Nuisance during public holiday at Yau Tong (Mar 2023)	Y	The complaint is considered as project-related as there were construction activities conducted during the time of complaint. The details shall be referred to CIR-N188.	Draft CIR submitted
637	27-Mar-23	26-Mar-23 / near the entrance of TKO-LTT	Residents of Yau Lai Estate	Noise	Construction Noise Nuisance during public holiday at Yau Tong (Mar 2023)	Y	The complaint is considered as project-related as there were construction activities conducted during the time of complaint. The details shall be referred to CIR-N188.	Draft CIR submitted
636	16-Mar-23	16-Mar-23 / Non-specific	Residents of Yau Lai Estate	Noise	Construction Noise Nuisance during nighttime at Yau Tong (Mar 2023)	Y	The complaint is considered as non project-related as there were no construction activities conducted during the time of complaint. The details shall be referred to CIR-N187.	Closed
635	14-Dec-22	8-Dec-22 / along Yau Tong Road	Anonymous	Air	Dust Nuisance near Yau Tong Road	N	The complaint is considered as non project-related as there were no construction activities conducted during the time of complaint. The details shall be referred to CIR-A24.	Closed
634	14-Dec-22	9-Dec-22 / near Ocean Shores	Anonymous	Noise	Construction Noise Nuisance during nighttime at Tseung Kwan O (Dec 2022)	Y	The complaint is considered non-project-related as no construction works was undergoing during the time of complaint. The details shall be referred to CIR-N186.	Closed
633	12-Dec-22	11-Dec-22 / S100 of NE/2015/02	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Dec 2022)	Y	The investigation is undergoing as the requested information still not provided by ER yet. The details shall be referred to CIR-N185.	Investigation undergoing
632	12-Dec-22	9-Dec-22 / Portion IX of NE/2015/02	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Dec 2022)	Y	The complaint is considered as project-related as there were general site works conducted without PME(s) during the time of complaint. The details shall be referred to CIR-N185.	Draft CIR submitted
631	9-Dec-22	9-Dec-22 / Non-specific	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Dec 2022)	Y	The complaint is considered non-project-related as no construction works was undergoing during the time of complaint. The details shall be referred to CIR-N184.	Closed
630	9-Dec-22	4-Dec-22 / Portion IV & VII of NE/2015/02	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Dec 2022)	Y	The complaint is considered as project-related as there were various construction activities conducted during the time of complaint. The details shall be referred to CIR-N184.	Closed
629	6-Dec-22	4-Dec-22 / Non-specific	Residents of Yau Tong	Noise	Construction Noise Nuisance during nighttime at Yau Tong (Dec 2022)	Y	The complaint is considered non-project-related as no construction works was undergoing during the time of complaint. The details shall be referred to CIR-N183.	Closed
628	18-Nov-22	16-Nov-22 / Non-specific	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Nov 2022)	Y	The complaint is considered non-project-related as no construction works was undergoing during the time of complaint. The details shall be referred to CIR-N182.	Draft CIR submitted
627	18-Nov-22	13-Nov-22 / Non-specific	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Nov 2022)	Y	The complaint is considered as project-related as construction works had been carried out on Sunday. The Contractor had followed the instruction of the approve CNP. The details shall be referred to CIR-N182.	Draft CIR submitted
626	4-Nov-22	29-Oct-22 / Portion IV	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Oct 2022)	Y	The complaint is temporary considered as project-related as there were various PME(s) operating during the time of complaint but further information still not provided by ER yet. The details shall be referred to CIR-N181.	Draft CIR submitted
625	7-Sep-22	7-Sep-22 / Portion IVC	Residents of Yau Lai Estate	Noise	Construction Noise Nuisance during restricted hours at Yau Tong (Sep 2022)	Y	The complaint is considered as project-related as construction works had been carried out at the public holidays. The Contractor had followed the instruction of the approve CNP. The details shall be referred to CIR-N180.	Closed
624	5-Sep-22	4-Sep-2022 / Portion VIII & IX of NE/2015/02	Anonymous	Noise	Construction Noise Nuisance during restricted hours at Tseung Kwan O (Sep 2022)	Y	The complaint is considered as project-related as there were various construction activities conducted during the time of complaint. The details shall be referred to CIR-N179.	Closed
623	18-Aug-22	17-Aug-22 / Non-specific	Anonymous	Noise	Construction Noise Nuisance during daytime	Y	The complaint is considered as project-related as there were various construction activities conducted during the time of complaint. The details shall be referred to CIR-N178.	Closed
622	26-Aug-22	18-Aug-22 / Non-specific	Anonymous	Noise	Construction Noise Nuisance at early monoring	Y	See Complaint #621	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
621	17-Aug-22	14-Aug-22 / Non-specific	Anonymous	Noise	Construction Noise Nuisance on Sunday	Y	The complaint is considered non-project-related as no construction works was undergoing during the time of complaint. The details shall be referred to CIR-N177.	Closed
620	11-Aug-22	9-Aug-22 / Lam Tin Ambulance Depot	Anonymous	Air	Dust Nuisance near Lam Tin Ambulance Depot	N	The complaint is considered as project-related as there were various construction activities conducted during the time of complaint. The details shall be referred to CIR-A23.	Draft CIR submitted
619	01-Aug-22	1-Aug-22 / Portion IX	Resident of Ocean Shores	Noise	Construction Noise Nuisance from an Excavator in the Morning (Aug 22)	Y	The complaint is considered as project-related as there is excavator working on-site during the time of the complaint. The details shall be referred to CIR-N176.	Closed
618	21-Jul-22	21-Jul-22 / Junk Bay	Non-specific	Water	Suspected water pollution at Junk Bay (July 2022)	N	The complaint is considered non-project-related as the phenomenon is due to the algae blooming in Hong Kong waters during summer monsoon season.	Closed
617	13-Jul-22	10-Jul-22 / Non-specific	Resident of Yau Lai Estate	Noise	Construction Noise Nuisance during Nighttime (July 2022)	Y	The complaint is considered non-project-related as no construction works was undergoing uring the time of complaint. The details shall be referred to CIR-N175.	Closed
616	12-Jul-22	12-Jul-22 / Portion IX	Resident of Ocean Shores	Noise	Construction Noise from a Yellow Excavator	Y	The complaint is considered as project-related. The Contractor had conducted maintanance on the excavator after receiving the complaint. The detials shall be referred to CIR-N173.	Closed
615	07-Jul-22	9-June-22 / Junk Bay	Anonymous	Water	Suspected Muddy Water Discharge near Ocean Shores (Jun 2022)	N	The complaint is considered as non-project related. There was no direct evidence showing the muddy water was produced and discharged by contracts under the Project. The details shall be referred to the CIR-W20.	Closed
614	13-May-22	12-May-2022 / Portion III & IVC	Resident of Yau Lai Estate	Noise	Construction noise during restricted hours near Yau Lai Estate	Y	The complaint is believed to be project-related as construction works had been carried out at the public holidays. The Contractor had followed the instruction of the approve CNP. The details shall be referred to CIR-N174.	Closed
613	10-Jun-22	9-Jun-22 / Portion IX	Resident of Ocean Shores	Noise	Construction Noise from a Yellow Excavator	Y	See Complaint #612	Closed
612	8-Jun-22	4-Jun-22 / Portion IX	Resident of Ocean Shores	Noise	Construction Noise from a Yellow Excavator	Y	The complaints are believed to be project-related as there is a yellow excavator working on-site during the time of the complaint. The details shall be referred to CIR-N173.	Closed
611	30-May-22	9-May-2022 / Portion IX	Anonymous	Noise	Construction Noise during Holiday (C2)	Y	The contracts located near Tseung Kwan O Bay Area were investigated. Construction works had been conducted for NE2015/02. However, the Contractor of NE2015/02 held a valid CNP and no non-compliance was recorded. No conclusion has been made as not all information had been collected. The details shall be referred to CIR-N172.	Closed
610	23-May-22	30-Apr-2022 / Non-specific	Anonymous	Noise	Construction Noise Nuisance at Night time April 2022 (C1)	Y	The complaint is considered non-project-related as no construction is undergoing during the time of the complaint. The details shall be referred to CIR-N171.	Closed
609	23-May-22	Apr & May-22 / Non-specific	Resident of Yau Lai Estate	Air & Noise	Deteriation of Indoor Air Quality and Noise Nuisance	Y	The complaint is believed to be project-related as construction works had been conducted during the time of the complaint. No non-compliance was recorded for this particular event. However, 1 Limit level exceedance of daytime construction noise was recorded at AM1 on 10 May 2022, while no limit level exceedance of dust nuisance was recorded between April 2022 and May 2022. The details shall be referred to CIR-C41.	Closed
608	12-May-22	2-May-22 / Portion I of NE2017/07	Anonymous	Noise	Construction Noise during Holiday (CBL-C1)	Y	The complaint is considered project-related as construction is udergoing during the time of the complaint. However, the contractor held a valid CNP and no non-compliance was recorded for this particular event. The details shall be referred to CIR-N171.	Closed
607	11-May-22	2-May-22 / Cha Kwo Ling Road	Anonymous	Noise	Construction Noise Nuisance at May 2022 (C1)	Y	See Complaint #597	Closed
606	5-May-22	29-Apr-22 / C3	Anonymous	Noise	Construction Noise Nuisance in Apr 2022 (C3)	N	The complaint is considerd as project-related. The braking works had completed at the concerned location. The details can be referred to CIR-N170	Closed
605	4-May-22	4-May-22 / Portion III	Anonymous	Noise	Construction Noise Nuisance at May 2022 (C1)	Y	See Complaint #597	Closed
604	3-May-22	2-May-22 / Portion III	Resident of Yau Lai Estate	Noise	Construction Noise Nuisance at May 2022 (C1)	Y	See Complaint #597	Closed
603	29-Apr-22	29-Apr-22 / Portion III	Resident of Yau Lai Estate	Air & Noise	Deteriation of Indoor Air Quality and Noise Nuisance	Y	See Complaint #597	Closed
602	30-Apr-22	17-Mar-22 & 15-Apr-22 / Junk Bay	Anonymous	Noise	Construction noise at night-time during a holiday	Y	The complaint is considered non-project-related as no works invovling barge were conducted during the time of the complaint. The details shall be referred to CIR-N168.	Closed
601	25-Apr-22	24-Apr-22 / Portion IX	Anonymous	Noise	Construction noise nuisance during Easter holiday	Y	See Complaint #600	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
600	25-Apr-22	16-Apr-22 / Portion IX	Anonymous	Noise	Construction noise nuisance during Easter holiday	Y	The complaint is considered project-related as construction was undergoing during the time of complaint. The Contractor held a valid CNP and no non-complaince was found. The details can be referred to CIR-N167.	Closed
599	26-Apr-22	25-Apr-22 / Portion III and IVC	Resident of Yau Lai Estate	Noise	Construction Noise Nuisance on Weekaday during daytime (Lam Tin side)	Y	See Complaint #597	Closed
598	19-Apr-22	10-Apr-22 / Marine Works Area	Anonymous	Noise	Construction Noise Nuisance from Marine Works Area	Y	The complaint is considered project-related as construction was undergoing during the time of complaint. The Contractor held a valid CNP and no non-complaince was found. The details can be referred to CIR-N166.	Closed
597	11-Apr-22	11-Apr-22 / Portion III and IVC	Resident of Yau Lai Estate	Noise	Construction Noise Nuisance on Weekaday during daytime (Lam Tin side)	Y	The complaint is considered as project-related. Various construction activities were conducted during the time of complaint. The details shall be referred to CIR-N169.	Closed
596	11-Apr-22	11-Apr-22 / Portion VIII and IX	Resident of Ocean Shores	Noise	Construction Noise Nuisance on Weekday morning (TKO side)	Y	The complaint is considered project-related as construction was undergoing during the time of complaint. The Contractor held a valid CNP and no non-complaince was found. The details can be referred to CIR-N164.	Closed
595A	22-Mar-22	20-Mar-22 / Non-specific	Resident of Yau Lai Estate	Noise	Construction noise during restricted hours near Yau Lai Estate	Y	See Complaint #597	Closed
595	14-Mar-22	27-Feb-22 / Marine Works Area	Anonymous	Noise	Construction noise nuisance on Sunday morning (Tseung Kwan O side)	Y	See Complaint #594	Closed
594	14-Mar-22	13-Mar-22 / Marine Works Area	Anonymous	Noise	Construction noise nuisance on Sunday morning (Tseung Kwan O side)	Y	The investigation result showed that the complaint should be considered as project-related in terms of construction noise. The details shall be referred to CIR-N163.	Closed
593	14-Mar-22	14-Mar-22 / Marine Works Area	Anonymous	Water	Suspecteed water pollution at Tseung Kwan O Bay	N	The complaint is considered non-project-related. The so-called "pollutant" was in fact natural occuring algal bloom. The details shall be referred to CIR-W19.	Closed
592	1-Mar-22	19-Feb-22 / Marine Works Area	Anonymous	Noise	Construction noise at night-time during a weekday	Y	See Complaint #590.	Closed
591	28-Feb-22	26-Feb-22 / Portion VII or IX	Resident of Ocean Shores	Noise	Noise nuisance by excavator during daytime	Y	No clear judgement has been made as it is difficult to identify which excavator the complainant is referring to. The details shall be referred to CIR-N162.	Closed
590	22-Feb-22	17-Feb-22 / Marine Works Area	Anonymous	Noise	Construction noise at night-time during a weekday	Y	The investigation results show that no construction works was carried out during the time period of complaint. The complaint is considered as non-project-related. The details shall be referred to CIR-N160.	Closed
589	14-Feb-22	11-Feb-22 / Portion III	Resident of Yau Lai Estate	Noise	Construction noise nuisance at normal hours (Yau Tong side, Feb 2021)	Y	The complaint is considered to be project-related as PME was operated during the time of complaint and no other nearby know noise source. The details shall be referred to CIR-N161.	Closed
588	31-Jan-22	30-Jan-22 / Along Tong Yin Street between the Capri and the Ocean Shores	Anonymous	Noise	Construction Noise at morning during holiday (Tseung Kwan O side)	Y	See Complaint #587	Closed
587	28-Jan-22	23-Jan-22 / Portion III	Anonymous	Noise	Construction Noise at morning during holiday (Tseung Kwan O side)	Y	The investigation results reveals the complaint is project-related. However, no PME was used on Sunday morning. The Contractor is reminded to follow valid CNP and the details can be referred to CIR-N159	Closed
586	6-Jan-22	6-Jan-2021 / Non-specific	Anonymous	Noise	Construction noise nuisance at normal hours (Yau Tong side, Jan 2021)	Y	See Complanint #577	Closed
585	2-Jan-22	2-Jan-2021 / Non-specific	Resident of Yau Lai Estate	Noise	Construction Noise at morning during holiday (Yau Tong side)	Y	See Complaint #584	Closed
584	30-Dec-21	30-Dec-21 / Portion III of NE2015/01	Resident of Yau Lai Estate	Noise	Construction Noise at morning during holiday (Yau Tong side)	Y	The complaint is considered as project-related. The monitoring result has been reviewed and no exceedance was recorded. The details shall be referred to CIR-N158.	Closed
583	28-Dec-21	18-Dec-21 / Portion I of NE2017/07	Anonymous	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	The complaint is considered as project-related. The barges were used for installing pair segment between 1900 and 2000. Afterwards, only the lights were turned on forsafeguarding throughout the rest of the night. The details shall be referred to CIR-N157	Closed

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582	22-Dec-21	22-Dec-21 / Portion IVC	Resident of Yau Lai Estate	Noise	Construction noise nuisance at normal hours (Yau Tong side, Dec 2021)	Y	See Complanint #577	Closed
581	22-Dec-21	15-Dec-21 / Portion IX of NE2015/02	Anonymous	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	See Complaint #578	Closed
580	17-Dec-21	15-Dec-21 / non-specific (Yau Tong side)	Anonymous	Noise	Construction noise nuisance at normal hours (Yau Tong side, Dec 2021)	Y	See Complanint #577	Closed
579	17-Dec-21	17-Dec-21 / Portion IX of NE2015/02	Resident of Ocean Shores	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	The complaint is considred as project-related. Various construction activities were conducted during the time of complaint. Acoustic box was used for the breaker. No non-compliance was found. The details shall be referred to CIR-N157.	Closed
578	16-Dec-21	15-Dec-21 / Marine Works Area	Resident of Ocean Shores	Noise	Construction noise nuisance near Ocean Shores (Dec 2021)	Y	The complaint is considred as project-related. Amour rocking unloading was conducted during the time of complaint. No non-compliance was found. The details shall be referred to CIR-N157.	Closed
577	10-Dec-21	10-Dec-21 / Cha Kwo Ling Road	Resident of Yau Lai Estate	Noise	Construction noise nuisance at normal hours (Yau Tong side, Dec 2021)	Y	The complaint is considered as project-related. Construction works such as formwork erection, backfilling and concreting were undergoing during the time of complaint. The details shall be referred to CIR-N156.	Closed
576	16-Nov-21	15-Nov-21 / Portion IX of C2	Resident of Ocean Shores	Noise	High frequency noise nuisance during evening-time	N	It is believed that the complianant confused high- and low-frequency in the original complaint. See complaint #574 for more details.	Closed
575	17-Nov-21	Sep-21 / Cha Kwo Ling Road	Anonymous	Noise	Noise nuisance during Restricted Hours (September 2021)	Y	The complaint is considered as project-related as construction was undergoing at the time of complaint. The Contractor held a valid CNP and no non-compliance was found. Other potential noise source also exists and details shall be referred to CIR-N155	Closed
574	9-Nov-21	8-Nov-21 / Portion IX of C2	Resident of Ocean Shores	Noise	Low frequency noise nuisance during evening-time	N	The complaint is considered as non-project related as other potential low-frequency noise source exists. The details shall be referred to CIR-N154.	Closed
573C	16-Nov-21	7-Nov-2021 / Works Area of C1 (Cha Kwo Ling Road)	Resident living near Cha Kwo Ling Road	Noise	Noise nuisance between late October to early Novemer 2021	Y	See Complaint #573A	Closed
573B	5-Nov-21	31-Oct-21 / Works Area of C1 (Cha Kwo Ling Road)	Resident living near Cha Kwo Ling Road	Noise	Noise nuisance between late October to early Novemer 2021	Y	See Complaint #573A	Closed
573A	5-Nov-21	17-Oct-21 / Works Area of C1 (Cha Kwo Ling Road)	Resident living near Cha Kwo Ling Road	Noise	Noise nuisance between late October to early Novemer 2021	Y	The complaint is considered project-related as construction was undergoing during the time of complaint. The Contractor held a valid CNP and no non-complaince was found. The details can be referred to CIR-N153.	Closed
572	5-Nov-21	4-Nov-21 / Non-specific	Resident of Ocean Shores	Noise	Noise nuisance near Ocean Shores	N	See Complaint #571	Closed
571	26-Oct-21	25-Oct-21 / Non-specific	Resident of Ocean Shores	Noise	Noise nuisance near Ocean Shores	N	Preliminary results from noise monitoring showed no limit level of exceedance and no non-compliance regarding construction schedule was found. The details shall be referred to CIR-N152.	Closed
570	18-Oct-21	18-Oct-21 / Non-specific	Anonymous	Noise	Noise nuisance on holiday during daytime	Y	No clear judgement was made as other potential noise source existed. Nonetheless, the Contractor held a valid CNP and no non-compliance was found. The details shall be referred to CIR-N151.	Closed
569	8-Oct-21	8-Oct-21 / Tsueng Kwan O Bay	DSD	Water	Deteriation of Marine Water Quality in Tsueng Kwan O Bay under Adverse Weather	N	The complaint is considered as non-project related as the general condition of the sea is muddy during the date of incident. The details can be referred to CIR-W18.	Closed
568A	7-Oct-21	3-Oct-21 / Portion III	Resident of Yau Lai Estate	Air & Noise	Resident of Yau Lai Estate	Y	The complaint is considered as project-related. Monitoring data for air quality and construction noise has been reviewed. No limit level exceedance is recorded for construction noise and no action and limit level is record for air quality in the time of the complaint.	Closed
568	4-Oct-21	29-Sep-21 / Marine Works Area	Pedestrian	Odour / Water	Odour Nuisance near Tsueng Kwan O Bay (Sep 2021)	N	The complaint is considered as non-project-related. Measures such as adopting low-sulphur content diseil as far as possible is recommended. The details can be referred to CIR-O9.	Closed
567	29-Sep-21	14-Sep-2021 / Marine Works Area (C6)	Anonymous	Noise	Construction Works during Restricted Hours (Sep 2021)	Y	The complaint is considered as project-related and no non-complaince was recorded. The monitoring result of evening noise at Tsueng Kwan O throughout September 2021 was reviewed and no limit level exceedance was found. The details shall be referred to CIR-N150.	Closed

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566	17-Sep-21	16-Sep-21 / Portion IVC (C1)	Resident of Yau Lai Estate	Noise	Construction Noise nuisance from Portion IVC of NE/2015/01	Y	See Complaint #563	Closed
565	10-Sep-21	9-Sep-21 / Portion III	EPD	Air	Air pollution from construction dust	N	See complaint #564	Closed
564	10-Sep-21	6-Sep-21 / Portion I	Anonymous	Air	Air pollution from construction dust	N	Exceedance of 24hr TSP were recorded and evidence of air-quality-related environmental deficiencies were identified during site inspections. The complaint is considered project-related and details shall be referred to CIR-A22.	Closed
563	2-Sep-21	2-Sep-21 / Portion III	Resident living in Cha Kwo Ling	Noise	Construction noise during evening time (Sep 2021)	Y	The complaint is considered as project-related. Monitoring results indicate the construction noise are close to the limit level. The details shall be referred to CIR-N149.	Closed
562	19-Aug-21	15-Aug-21 / Lei Yu Mun Road	Anonymous	Noise	Construction noise nuisance near Lei Yu Mun Road on Sunday	Y	The complaint is considere as project-related as the construction works were carried out during the time of complaint. No monitoring was conducted on Public Holiday. The details shall be referred to CIR-N148.	Closed
561	6-Aug-21	6-Aug-2021 / Non-specific	Resident living in Tiu Keng Ling	Noise	Construction Noise Nuisance on Weekday during Daytime (Aug 2021)	Y	The complaint was considered as project-related. No non-compliance and limit level of daytime construction noise was recorded during late July 2021 and early August 2021. The details of complaint shall be referred to CIR-N147.	Closed
560	31-Jul-21	31-Jul-2021 / Portion VIII	Resident from Ocean Shores	Noise	Construction Noise Nuisance on Saturnday near Ocean Shores (Jul 2021)	Y	The complaint is considered as project-related. Results of construction noise is reviewed and no limit level exceedance was recorded. No non-compliance was found. The details shall be referred to CIR-N146.	Closed
559	3-Aug-21	Jan 2021 - Jun 2021 / Marine Works Area	Resident from Ocean Shores	Noise	Noise Nuisance near Ocean Shores (Jan - Jun 2021)	Y	The complaint included a long-period of time and the current noise mitigation measures were reviewed. No limit level of construction noise was recorded throughout Jan 21 - Jun 21, Despite the complaint is considered as project-related, no non-compliance was recorded. The details shall be referred to the CIR-N145.	Closed
558	11-Jul-21	11-Jul-2021 / Marine Works Area	Anonymous	Working Hours	Operation of Marine Construction Works during Restricted Hours (Jul - 2021)	N	The barge shown in the photo provided by the Complainant was not belong to the Project. The compliant was non-valid and thus the complaint is considered as non-project-related. The details shall be referreed to CIR-O8.	Closed
557A	14-Jul-21	14-Jul-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Jul)	Y	The complaint is considered as project-related. Construction works were undergoing at the time of complaint and PMEs were operating. No non-compliance was recorded.	Closed
557	20-Jul-21	19-Jul-2021 / Eastern Harbour Crossing	Resident from Bik Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Jul)	Y	The complaint is considered as project-related. Construction works were undergoing at the time of complaint and PMEs were operating. No non-compliance was recorded. The details shall be referred to CIR-N144.	Closed
556	27-Jun-21	27-Jun-2021 / Marine Works Area	Anonymous	Working Hours	Operation of Marine Construction Works during Restricted Hours	Y	Tug boat and crane barge were used for relocating barge and airlifting materials. The Contractors held valid and approved CNP. No non-compliance was recorded. The details shall referred to CIR-N143.	Closed
555	29-Jun-21	29-Jun-21 / Marine Works Area	Anonymous	Water	Suspected Muddy Water at the Marine Works Area	N	No ddirect evidewnce point towards C2 was the source of muddy water. The details of complaint shall be referred to CIR-W17.	Closed
554	29-Jun-21	25-Jun-21 / Marine Works Area	Anonymous	Light / Working Hours	Construction works during restricted hours and light nuisance	N	No construction was undergoing during the time of complaint. The light shown in photo was used as safeguarding purpose. Details shall be referred to CIR-O7.	Closed
553	27-May-21	26-May-21 / C3	Anonymous	Air	Air quality impact nuisance nearby Po Yap Road (C3 - Apr & May 2021)	N	See Complaint #551	Closed
552	18-May-21	17-May-21 / C1	Anonymous	Noise	Noise Nusiance from Construction Works (C1 - May)	Y	The complaint is considered as project-related. Construction activities were undergoing during the time of complaint and deficiencies of noise mitigation measures can be observed. The details shall be referred to CIR-N142.	Closed
551	21-May-21	23-Apr-21 / C3	Resident from Ocean Shores	Air	Air quality impact nuisance nearby Po Yap Road (C3 - Apr & May 2021)	N	The contractor had applied mitigation measures such as regular watering and covering stockpile of dusty materials. The complaint is considered as project-related and details shall be referred to CIR-A21	Closed
550	21-May-21	4-May-21 / C2 & C3	Resident from Ocean Shores	Noise	Noise nuisance at early morning (C2&C3 May 2021)	N	The complaint is considered as non-project-related as both contractor and RE confirmed that no construction was carried out on or before 8 a.m. on the date of incident. The details shall be referred to CIR-N139	Closed
549	26-Apr-21	21-Apr-21 / C1	Mr. Chan from Hong Nga Court	Noise	Noise nuisance at morning (C1-Late Apr)	Y	See Compliant #547	Closed
548	26-Apr-21	23-Apr-21 / C1	Mrs. Ho from Lung pak House	Noise	Noise nuisance at morning (C1-Late Apr)	Y	See Compliant #547	Closed

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547	26-Apr-21	25-Apr-21 / C1	Mr. Lau from Yung Lai House	Noise	Noise nuisance at morning (C1-Late Apr)	Y	The complaint is considered as project-related. Construction works were undergoing at the time of complaint and PMEs were operating. No non-compliance was recorded. The details shall be referred to CIR-N141.	Closed
546	19-Apr-21	4&11-Mar-21 / Marine Works Area	Anonymous	Noise	Noise nuisance on holiday mornings (C6 - Apr)	Y	The complaint is considered as project-related and rebar fixing and framework erection was undergoing. No PME was operating during the time of complaint. A valid CNP is held by the Contractor and no non-compliance was identified. The details shall be referred to CIR-N140.	Closed
545	19-Apr-21	22-Mar-21 / Portion IX	Mr. Lai (Sai Kung District Council Member)	Noise	Noise nuisance on holiday mornings (C2 - Mar)	N	See Complaint #538	Closed
544	19-Apr-21	11-Mar-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nusiance from Construction Works (C1 - Mar)	Y	See Complaint #521	Closed
543	19-Apr-21	3-Apr-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nusiance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
542	19-Apr-21	3-Apr-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nusiance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
541	19-Apr-21	7-Apr-21 / Portion III	Resident of Ping Tin Estate	Noise	Noise Nusiance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
540	19-Apr-21	14-Apr-21 / Portion III	Mr. Wang (Kwun Tong District Council Member)	Noise	Noise Nusiance from Construction Works (C1 - Apr)	Y	See Complaint #534	Closed
539	16-Apr-21	22-Mar-21 / Portion IX	Residentof Ocean Shores	Noise	Suspected Construction Works during evening-time (C2 - Mar)	N	See Complaint #534	Closed
538	16-Apr-21	Non-specific / Works area near Ocean Shores	Residentof Ocean Shores	Noise	Noise nuisance on holiday mornings (C2 - Mar)	N	No works was conducted during the time of complaint. The complaint is considered as non-project-related.Details shall be referred to CIR-N138.	Closed
537	15-Apr-21	14/4/2021 / Works area near Park Central	Resident of Park Central	Noise	Noise Nusiance due to Breaking Works (C3- Apr)	Y	Breaking works was conduced during the time of complaint. No limit level for noise monitoring was triggered. The complaint is considerd as project-related. Details shall be referred to CIR-N137.	Closed
536	14-Apr-21	7/4/2021 / Portion IX	Resident of Ocean Shores	Noise	Suspected low-frequency noise nuisance at Portion IX (Apr 2021)	N	The complaint is considered as non-project-related as no PME was turned on during the time of complaint. Details shall be referred to CIR-N136.	Closed
535	14-Apr-21	7/4/2021 / C1	Resident of Lam Tin Districct	Noise	Noise nuisance during nighttime (C1 - Apr 2021)	Y	See Complaint #534	Closed
534	8-Apr-21	3/4/2021 / C1	Resident of Yau Lai Estate	Noise	Noise nuisance during nighttime (C1 - Apr 2021)	Y	The complaint is considered as project-related as there was construction works conducted at Kwun Tong Bypass. The details shall be referred to CIR-N135.	Closed
533	26-Mar-21	15-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
533A	2-Mar-21	2-Mar-2021 / Portion IVC or III	Anonymous	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
532	16-Mar-21	10-Mar-2021 / Zone C	Mr. Lui (Sai Kong District Council Member)	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	See Complaint #529	Closed
531	10-Mar-21	10-Mar-2021 / Zone C	Resident of Park Central	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	See Complaint #529	Closed
530	10-Mar-21	10-Mar-2021 / Zone C	Resident of Park Central	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	See Complaint #529	Closed
529	10-Mar-21	10-Mar-2021 / Zone C	Resident of Park Central	Noise	Noise nuisance during daytime (C3 - Mar 2021)	Y	The complaint is considered as project-related and no non-compliance was found. The noise origin was believed to be the breaking works conducting at Po Yap Road. The concerned breaking works was completed on 13 Mar 2021. The details shall be referred to CIR-N134.	Closed
528	10-Mar-21	10-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive Noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
527	10-Mar-21	10-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive Noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed

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526	10-Mar-21	10-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
525	9-Mar-21	5-Mar-2021 / Portion IX	Anonymous	Noise	Noise nuisance during daytime (C2 - Mar 2021)	Y	See Complaint #522	Closed
524	9-Mar-21	9-Mar-2021 / Portion IVC or III	Mr. Wong from District Councilers	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
523	9-Mar-21	9-Mar-2021 / Portion IVC or III	Resident of Yau Lai Estate	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
523A	5-Mar-21	5-Mar-2021 / Portion III or IVC	Anonymous	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	See Complaint #521	Closed
522	4-Mar-21	3-Mar-2021 / Portion IX	Resident of Ocean Shore	Noise	Noise nuisance during daytime (C2 - Mar 2021)	Y	The complaint case was considered as project-related. The Contractor is reminded to close the gap of noise barrier and repair damaged noise barriers. The details shall be referred to CIR-N132.	Closed
521	4-Mar-21	3-Mar-2021 / Portion IVC or III	Resident of Yau Lei Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	The complaint is considered as project-related. No limit level of construction noise was recorede during March 2021 and the details shall be referred to CIR-N133.	Closed
521A	1-Mar-21	2-Mar-2021 / Portion IVC or III	Resident of Ping Tin Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
520	1-Mar-21	1-Mar-2021 / Portion IVC or III	Resident of Yau Lei Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #518	Closed
520A	1-Mar-21	Non-specific	Resident of Yau Lei Estate	Noise	Noise nuisance during daytime (C1 - Mar 2021)	Y	See Complaint #521	Closed
519	24-Feb-21	21-Feb-2021 / Non-specific	Resident of Ocean Shores	Noise	Noise nuisance on morning (Feb 2021)	N	No PME was operating on-site at the time of compliant and the complaint is considered as non-project-related. The details shall be referred to CIR-N131	Closed
518	19-Feb-21	12-13 & 18 Feb 2021 / Non-specific	Resident of Yau Lei Estate & Hong Pak Court	Noise	Percussive noise nuisance at morning (C1)	Y	Incestigation result shows that the percussive noise nuisance was generated from Portion IVC. The construction work started after 0700 and no limit level of daytime noise exceedance was recorded. The details shall be referred to CIR-N130	Closed
518A	1-Mar-20	27 Feb 2021 / Non-specific	Non-specific	Noise	Percussive noise nuisance at morning (C1)	Y	See complaint #518	Closed
518B	1-Mar-20	25 feb 2021 / Non-specific	Resident of Hong Pak Court	Noise	Percussive noise nuisance at morning (C1)	Y	See complaint #518	
517	8-Feb-21	8/2/2021 / Non-specific	Resident of Ocean Shores	Noise	Noise Nuisance from Excavator	Y	No clear judgement was made as the complainant's information is too vague and it is hard to pinpoint the excavator mentioned in the complaint was in fact the one located at the project site. The details shall be referred to CIR-N129.	Closed
516	26-Jan-21	21-Feb-2021 / Non-specific	Resident of Ocean Shores	Noise / Operating Hours	Continous Noise Nuisance during Nighttime (Jan 2021)	N	No PME was operating on-site on the date of complaint. The details shall be referred to CIR-N128	Closed
515	23-Jan-21	12-13 & 18 Feb 2021 / Non-specific	Resident of Yau Lei Estate & Hong Pak Court	Noise		N	See complaint #504	Closed
514	22-Jan-21	8/2/2021 / Non-specific	Resident of Ocean Shores	Noise		Y	See complaint #511	Closed
513	22-Jan-21	15-Jan-2021 / Zone D	Resident of Ocean Shores	Air	Air quality impact due to open stockpile	N	See Complaint #508	Closed
512	22-Jan-21	20-Jan-2021 / Zone D				N		
511	20-Jan-21	6/1/2021 & 15/1/2021 / Portion IX of C2	Resident of Ocean Shores	Noise	Continous Noise Nuisance during Nighttime (Jan 2021)	Y	The complaint is considered as project-related as barge was operating in during time of complaint. The details shall be referred to CIR-N128	Closed
510	19-Jan-21	Non-specific / Portion IX of C2	Resident of Ocean Shores	Noise		N	See complaint #505	Closed
509	15-Jan-21	15/1/2021 / Portion IX of C2	Resident of Ocean Shores	Noise		N	See complaint #505	Closed
508	13-Jan-21	5/1/2020 / Storage Area of C3	Resident of Ocean Shores	Air	Air quality impact due to open stockpile	N	The Complaint was found project-related. The dust origin was from the stockpile at Zone A of C3. The Contractor had sprayed water regularly to suppress the dust emission and improvement had been observed over Jan 2021. Details shall be referred to CIR-A20.	Closed

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507	13-Jan-21	5/1/2020 / Storage Area of C3	Resident of Ocean Shores	Air	Air quality impact due to open stockpile	N	The Complaint was found project-related. The dust origin was from the stockpile at Zone A of C3. The Contractor had sprayed water regularly to suppress the dust emission and improvement had been observed over Jan 2021. Details shall be referred to CIR-A20.	Closed
506	7-Jan-21	6-Jan-2020 / Portion IX	Resident of Ocean Shores	Noise	Continous Noise Nuisance during Nighttime (Jan 2021)	Y	See Complaint #500	Closed
505	4-Jan-21	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		N	No clear judgement was made. Other than the construction site, other source for low-frequncy noise was also identified. Details shall be referred to CIR-N128	Closed
504	4-Jan-21	1-Jan-2020/C1	Resident of Yau Lai Est.	Noise	Suspected noise nuisance from work site	N	The complaint was considered non-project-related as there was no PME working on site. The details shall be referred to CIR-N127.	Closed
503	30-Dec-20	21-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise	Noise nuisance at nighttime on a weekday	Y	See complaint #500	Closed
502	28-Dec-20	22&23-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y		Closed
501B	23-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y		Closed
501A	23-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		N	No direct evidence show that the Contractor operated barges at the time of complaint. Therefore the complaint was considered as non-project-related. The details shall be referred to CIR-N126.	Closed
501	23-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y	The Contractor operated PME(s) at evening-/night- time without an approved valid CNP. The complaint is considered as project-related.The details shall be referred to CIR-N126.	Closed
500	22-Dec-20	22-Dec-2020 / Portion IX	Resident of Ocean Shores	Noise		Y		Closed
499	21-Dec-20	20/12/2020 / marine works area	Resident of Ocean Shores	Operating hours / Noise	Horning noise nuisance on Sunday	N	The complaint is considered as non-project-related as no barge was working under the TKOLTT project at the time of complaint. The details shall be referred to CIR-O6.	Closed
498	18-Dec-20	17-Dec-2020 / Marine Works Area	Resident of Ocean Shores	Noise	Low frequency noise & occasional piling noise nuisance during night-time	Y	The complaint is considered as project-related as the noise nuisance was coming from water pumps that working 24/7. Details shall be referring to CIR-N125.	Closed
497	9-Dec-20	Days on/before 9/12/2020 / Portion IVC	Resident of Yau Lai Estate	Air & Noise	Dust & Noise Nuisance near Lam Tin Interchange (December)	Y	See Complaint #494	Closed
496	3-Dec-20	Days before 3-Dec-20 / Lam Tin Tunnel	Resident of Hong Pak Court	Noise	Dust & Noise Nuisance near Lam Tin Interchange (December)	Y	See Complaint #494	Closed
495	16-Dec-20	12-Dec-2020 / Po Yap Road	Resident of Park Central	Noise	Night time machenical noise nuisance	Y	The complaint is considered as project-related as the noise nuisance was coming from water pumps that working 24/7. Details shall be referring to N124.	Closed
494	5-Dec-20	Early Dec 2020 / Portion III	Resident of Lung Pak House / Staff from Elderly Hoouse nearby	Noise	Noise Nuisance near Lam Tin Interchange (December)	Y	The complaint is considered as project-related and no non-compliance in CNMP had been recorded. The contractor is reminded to ensure the effectiveness of noise mitigation measures by various measures including repairing damaged noise barrier. The details shall be referred to CIR-C40.	Closed
493	8-Dec-20	25-Nov-2020 & 2-Dec-2020 / Works area nearby Park Central	Resident of Park Central	Noise	Percussive noise nuisance from at early morning	N	The complaint is considered as non-project-related. No operating PME(s) under TKO-LTT project at the time of complaint was known to emit percussive noise at the time of complaint. The details shall be referred to CIR-N123.	Closed
492	18-Nov-20	18-Nov-2020 / Portion VIII (C2)	Resident of Ocean Shores	Noise	Construction Noise nuisance at Morning	Y	Prelimary result reveals that pre-boring and breaking works had been conducted at the time of complaint. The details shall be referred to CIR-N122.	Closed
491	18-Nov-20	16-Nov-2020 / C1	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Restricted Hour)	Y	See Complaint #490.	Closed
490	13 & 16 Nov 20	5-12 & 14-Nov-2020 / C1	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Restricted Hour)	Y	The complaint is considered as project-related. The origin of noise nuisance was believed to be construction works at Tunnel S1 and S2. No non-compliance was found and the details shall be referred to CIR-N121	Closed
489	13-Nov-20	13-Nov-2020 / C1	Resident of Yau Lai Estate	Air & Noise	Dust and Noise Nuisance in Portion IVC	Y	The complaint was found project-related. The contractor had adpoted various noise mitigation measures suc as rock splitting method and erection of semi-enclosure to further reduce the noise impact to its surrounding. The details shall be referred to CIR-C39.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
488	13-Nov-20	10-Nov-2020 / C2	Resident of Ocean Shores	Air	Dust emission from construction works	N	The complaint was found project-related. The Contractor is recommended to spray water more requently to suppress the dust nuisance. The details shall be referred to CIR-A19.	Closed
487	11-Nov-20	5-Nov-2020 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to November)	Y	See Compliant #468	Closed
486	11-Nov-20	6-Nov-2020 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to November)	Y	See Compliant #468	Closed
485	7-Nov-20	7-Nov-20	Resident of Park Central	Noise	Precussive noise nearby Park Central	Y	The complaint is considered non-project-related as no PME that know to emit percussive noise was operating during the time of complaint. The details shall be referred to CIR-N120.	Closed
484	7-Nov-20	7-Nov-20 / Portion IV	Resident of Ocean Shores	Noise	Noise Nuisance from Excavation Works	Y	See complaint #481	Closed
483	6-Nov-20	6-Nov-20	Resident of Ocean Shores	Noise	Low-frequency noise at night (Oct&Nov 2020)	N	The low-frequency noise was found coming from the water pumps that works 24/7 and other source may also contribute to the noise nuisace. The Contractor had followed the approved CNP. The complaint is considered project-related and shall be referred to CIR-N119	Closed
482	30-Oct-20	29-Oct-2020 / C2	Non-specific	Air	Dust emission from construction works	N	Despite the contractor had sprinkle water regularly, the haul road was found dry during site audit session. The Contractor is reminded to sprinkle water more frequently and cover stockpiles of dusty material to reduce dust emission. The details shall be referred to CIR-A19	Closed
481	3-Nov-20	2-Nov-2020 /Portion IV	Resident of Ocean Shores	Noise	Noise Nuisance from Excavation Works	Y	The complaint is considered project-related as no other possible noise origin is know to emit such kind of noise at the surrounding. The Contractor had been reminded to applied lubricants and tighten the screws to reduce noise level. The details shall be referred to CIR-N118	Closed
480	3-Nov-20	3-Nov-2020 / Portion IVC	Resident of Yau Lai Est	Noise	Noise Nuisance near Lam Tin Interchange (Late September to November)	Y	See Complaint #469	Closed
479	3-Nov-20	2-Nov-2020 / Portion IVC	Resident of Yau Lai Est	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Complaint #469	Closed
478	3-Nov-20	30-Oct-2020 / Portion IVC	Mr. Wong from District Councilers	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Complaint #469	Closed
477	30-Oct-20	15-Oct-2020 / Portion IVC	Non-specific	Air	Air & Noise Nuisance near Lam Tin Interchange (October)	N	See Complaint #469	Closed
476	29-Oct-20	29-Oct-2020 / Portion IVC	Resident of Yau Lai Est	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Compliant #468	Closed
475	28-Oct-20	Not specific / Lam Tin interchange	Non-specified (near Yau Lai Estate)	Noise	Air & Noise Nuisance near Lam Tin Interchange (October)	Y	See Complaint #469	Closed
474	23-Oct-20	23-Oct-20 / Portion IX	Resident from Ocean Shores	Noise	Low-frequency noise at night (Oct-Nov 2020)	N	The low-frequency noise was found coming from the water pumps that works 24/7 and other source may also contribute to the noise nuisace. The Contractor had followed the approved CNP. The complaint is considered project-related and shall be referred to CIR-N119	Closed
473	21-Oct-20	19-Oct-20 / Portion IX	Resident from Ocean Shores	Noise	Noise Nuisance near Portion IX	Y	See complaint #459	Closed
472	20-Oct-20	20-Oct-20 / Portion IV	Resident from Ocean Shores	Noise	Noise Nuisance from Excavation Works	Y	Preliminary results show the noise source was from the backhoe at Portion IV. The Contractor had applied mitigation measures such as adding lubricant to mounting parts to alleviate the problem. The details shall be referred to CIR-N118	Closed
471	6-Oct-20	6-Oct-20 / Portion IX	Resident from Ocean Shores	Noise	Noise nuisance at morning (Oct 2020)	Y	See complaint #459	Closed

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470	10-Oct-20	3-10 Oct 20 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See Compliant #468	Closed
469	10-Oct-20	9-10 Oct 20 / Lam Tin Interchange	DC Member (Mr. Wang)	Noise	Air & Noise Nuisance near Lam Tin Interchange (October)	Y	The complaint is considered as project-related and no non-compliance in CNMP had been recorded. The contractor had adopted mitigation measures such as deploying noise absorbing materials among construction site and spraying water near dust generating activities. The details shall be referred to CIR-C38.	Closed
468	5-Oct-20	Mondays - Saturdays / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	See complaint #468A	Closed
468A	5-Oct-20	Mondays - Saturdays / Portion IVC	Resident of Yau Lai Estate	Noise	Noise Nuisance near Lam Tin Interchange (Late September to Early November)	Y	The complaint was considered project-related. Mitigation measures such as deploying noise barrier and attempts on blocking direct line of sight from NSR was observed. The details shall be referred to CIR-N117.	Closed
467	23-Sep-20	19-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Daytime noise nuisance (mid-September)	Y	See complaint #459	Closed
466	22-Sep-20	20-Sep-2020 / Portion IX		Noise / Working Hours	Noise nuisance on Sunday	Y	Investigation result shows none of the contract under TKOLTT conducted works on Sunday. The details shall be referred to CIR-O5	Closed
465	20-Sep-20	20-Sep-.2020 / Portion IX				Y		Closed
464	17-Sep-20	August 2020 / Portion IX	Resident of Ocean Shores	Noise	Continuous Noise Nuisance over Aug 2020	Y	The investigation shows no non-compliance and action level for noise is triggered. The details shall be referred to CIR-N113	Closed
463	15-Sep-20	15-Sep-2020 / Non-specific	Anonymous	Noise	Percussive noise nuisance at early morning	Y	See complaint #462.	Closed
462	8-Sep-20	10-Sep-2020 / Potion IX	Anonymous	Noise	Suspected muddy water discharge	N	The complaint is considered non-project-related. The investigation pointed out the Contractor had maintain wastewater treatment facilities properly and no action or limit level of surface SS was triggerred after the incident. The muddy water was coming from DSD desilting compound. Details shall be referred to CIR-W16	Closed
461	5-Sep-20	5-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Squeaky noise on a Saturnday Morning	Y	The squeaky noise believed was coming from operating barges at C6. No non compliance was found. Details shall be referred to CIR-N115	Closed
460	8-Sep-20	8-Sep-2020 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise nuisance near East Habour Cross Tunnel	Y	See complaint #456	Closed
459	4-Sep-20	1-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Noise nuisance at morning (Early Sep 2020)	Y	The complainant had repeatedly complaint about the continuous noise nuisace from September to October 2020. The complaint is considered as project-related. The result of noise monitoring had been reviewed and no limit level of exceedance was found. The details of complaint shall be referred to CIR-N114.	Closed
458	28-Aug-20	Early August 20 / Lam Tin Tunnel	Resident from Yau Lai Estate	Noise	Long-term noise nuisance since early August	Y	See complaint #456	Closed
457	27-Aug-20	24&25-Aug-20 / Portion IX	Rersident from Ocean Shores	Noise	Noise nuisance at morning (Late August 2020)	Y	See complaint #456	Closed
456	18-Aug-20	18-Aug-20 / Portion IVC	Resident from Yau Lai Estate	Noise	Noise nuisance near East Habour Cross Tunnel	Y	Investigation showed the nuisance was generated by breaking works. The contractor had promised to complete the semi-enclosure by October 2020. The details shall be referred to CIR-N112	Closed
455	18-Aug-20	Dates on/before 1-Aug-20 / Lam Tin Tunnel	Resident from Yau Lai Estate	Noise	Noise nuisance from tunnel works	Y	Breaking had been conducted during the time of complaint. The details shall be referred to CIR-N111	Closed
454	11-Aug-20	2-Aug-20 / Sea outside Ocean Shores	Resident from Ocean Shores	Operation Hours	Working on restricted hours and public holiday	N	The working barge was believed to be working under the Cross Bay Link project. None of the barges working on the time of complaint belongs to TKOLTT project. Despite works had been conducted, no PME was turned on during the time of complaint. The details shall be referred to CIR-O4.	Closed
453	3-Aug-20	3-Aug-20 / Western Marine Works Area	Resident from Ocean Shores	Water	Suspected muddy water and worn out silt curtain	N	The suspected muddy water was due to the strong tidal movement under typhoon influence. The silt curtain was not deployed properly when the typhoon was landed. Details shall be referred to CIR-W15	Closed
452	1-Aug-20	31-Jul-20 / Marine Works Area	Resident from Ocean Shores	Noise	Squeaky noise during nighttime	Y	The noise was originated from the wires that used for tightening the barge. The Contractor had not fasten the wire completely as strong wave and wind actionmay tear up the wire and made the barge stranded. The details shall be referred to CIR-N110.	Closed

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451	28-Jul-20	28-Jul-20 / Portion IX	Resident from Ocean Shores	Noise	Breaking noise on the morning	Y	Breaking had been conducted during the time of complaint. The details shall be referred to CIR-N109	Closed
450	23-Jul-20 24-Jul-20	23&24-Jul-20 / Works area nearby Ocean Shores	Residents from Ocean Shores	Noise	Noise nuisance on weekdays	Y	The noise nuisance was originated from high-noise level works such as breaking and drilling. The details shall be referred to CIR-N108	Closed
449	16-Jul-20	12-Jul-20 / Lam Tin Tunnel	Resident of Hong Pak Court	Noise	Noise Nuisance Suspected from Tunnel (C1)	Y	Breaking work was conducted near the underground of Hong Pak Court. No non-conformance of CNP was identified, contractor is reminded to strictly follow the conditions of CNP and the time period of CNP. The details shall be referred to CIR-N110.	Closed
448	4-Jul-20	4-Jul-20 noon / Marine works area nearby Ocean Shores	Resident of Ocean Shores	Air	Dark Smoke Emission from Barge	N	The dark smoke was originated from the barge. It is common that dark smoke will be released when the barge's engine was starting. The details shall be referred to CIR-A18.	Closed
447C	10-Jul-20	28-Jun-2020 / TKO South open sea	Anonymous	Water	Suspected oil leakage at the TKO south open sea	N	See complaint #447A.	Closed
447B	10-Jul-20	29-Jun-2020 / TKO south open sea & flyover towards TKO Chinese Permanent Cemetery		Water / Noise	Suspected muddy water spillage and noise nuisance due to speeding	N	See complaint #447A.	Closed
447A	10-Jul-20	24-Jun-2020 / Non-specific		Noise	Long-term noise nuisance and insufficient noise mitigation measures	Y	The suspected oil leakage was believed to be an algae bloom over the whole bay area. The noise nuisance from speeding was considered not project related. The details shall be referred to CIR-C37	Closed
446	12-Jun-20	31-May-2020 / Area nearby Yau Lai Est	Resident of Yau Lai Estate	Noise	Noise nuisance at Morning nearby East Habour Crossing	Y	See complaint #442.	Closed
445	11-Jun-20	11-Jun-20 / Park Central	Resident of Park Central	Air	Pungent smell suspected coming from the work sites	N	See complaint #443B.	Closed
444	6-Jun-20	6-Jun-20 / Portion IX	Residents of Ocean Shores	Water	Flooding within work site and suspected muddy water spillage after downpour	N	The flooding is a normal phenonmenon as the site boundary have been embarked. The suspected muddy water is wide-spread among the open sea at TKO south and no exceedance of SS were recordede after the incident. The complaint is considered non-project-related and details shall be referred to CIR-W14.	Closed
443B	6-May-20	Non-specific	Anonymous	Air/Noise	Odour nuisance nearby TKO MTR Station	N	The preliminary result showed no direct relationship between the nuisance and the construction works. The details shall be referred to CIR-A17.	Closed
443A					Noise nuisance at Night and Air Quality Impact from Works	Y	The complaint is considered non-project-related. There is no direct evidence showing the project site is the origin of the nuisance. The details shall be refered to CIR-C36	Closed
442	22-May-20	22-May-20 / LT Tunnel	Resident from Hong Pak Court	Noise	Noise nuisance from Tunnel Works	Y	The noise is believed to be breakin inside the tunnel. The CNP was compiled with and contractor is reminded to review breaking schedule to less sensitive hour. The details shall refer to CIR-N105.	Closed
441	8&9-Apr-20	9-Apr-20 / TKO surcharge area	Residents of Ocean Shores	Air/Noise	Noise Nuisance on early morning and Air Quality Works from Excavation Works	Y	The work schedule of C2 had been reviewed. The"beeping" noise is originated from C2 due to safety issue (for mobilization of materials with crane). The noise nuisance is believed to be coming from the vibration hammer. The Contractor had water the exposed area regular to reduce dust impact to the surrounding. The details shall be referred to CIR-C35	Closed
440	13&17-May-20	13-May-2020/Surcharge Area of TKO	Residents of Ocean Shores	Noise	Noise generation in early mornings of early May	Y	The work schedule of C2. C3 & C6 had been reviewed. The noise source is believed to be generated from C2 due to sheet-piling. The details shall be referred to CIR-N104.	Closed
439	7-Apr-20 & 24-Apr-20	April 2020 / Works area near Park Central (non-specific)	Residents of Park Central	Odour	Continuous diesel fuel odour nuisance near Park Central	N	No direct evidence proved that the odour source was originated from the work sites of TKOLTT. The details shall be referred to CIR-A16.	Closed
438	18-Apr-20	18-Apr-20 / Marine Works Area at TKO	Residents of Ocean Shores	Noise/ Light	Blasting, High Frequency Noise and Light in Tseung Kwan O	Y	The complaint was valid in regard of noise. Blasting had been carried out during the midnight and the Contractor is reminded to strictl follow requirements of CNP. The light source was originated from the construction vessels due to safety reason and guard watching. Details shall be referred to CIR-C34.	Closed
437	27-Mar-20	27-Mar-2020 / Surcharge Area (C2)	Resident of Ocean Shores	Noise	Low Frequency Noise during Midnight	Y	The noise source was the malfunctioned dewatering pumps. The details shall be referred to CIR-N103	Closed

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436	26-Mar-20	26-Mar-20/ Portion IVC	District Council Member (Mr. Wong)	Noise	Noise nuisance, vibration and spectedly insufficient mitigation measures in Lam Tin	Y	See complaint #431	Closed
435	23-Mar-20	23-Mar-20/ Lam Tin Tunnel	Resident of Cha Kwo Ling Village	Noise	Groundborne Noise from Blasting in the Evening	Y	Blasting was conducted at the time of complaint. The vibration monitoring conducted near Tin Hau Temple was considered the vibration level was acceptable. The details shall be referred to CIR-N102.	Closed
434	23-Mar-20	20-Mar-20/ Lam Tin	District Council Member (Mr. Wong)	Noise	Noise nuisance from Construction Works during Holiday	Y	See compliant #427.	Closed
433	20-Mar-20	20-Mar-20/ Lam Tin	Resident of Hong Pak Court	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y	See complaint #431	Closed
432	18-Mar-20	18-Mar-20 / Portion IVC	Resident of Yau Lai Estate	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y	See complaint #431	Closed
431	14-Mar-20	14-Mar-20 / Portion IVC	Residents of Yau Lai Estate	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y	The time period and PMEs of major works conducted during daytime of the complaints, no non-compliance in CNMP and during site audits has been recorded. The Contractor is recommended to provide alternative noise mitigation measures such as acoustic box for noisy PMEs and regularly repair materials of the noise mitigation measures. Details shall be referred to CIR-N101.	Closed
430	17-Mar-20	17-Mar-20 / Surcharge Area / C2	Anonymous	Water	Muddy Water at the Surcharge Area	N	The "muddy water" was created by the tug boat's screw propeller. The Contractor claimed the propeller stirred up seedbed sediment and generated "muddy water". The details shall be referred to CIR-W13.	Closed
429	10-Mar-20	10-Mar-20 / Site Nearby Park Central	Resident of Park Central	Noise	Noise nuisance in early morning (Mar 2020)	Y	No construction works had been conducted at the time of complaint for C3 and the major works area in C2 was at least 300m away from the complainant. It is believed that the major noise source was coming from ASD's work site. The details shall be referred to CIR-N100	Closed
428	4-Mar-20	Not Specified / Tseung Kwan O	Mr. Lui, Sai Kung District Council	Odour / Noise	Odour and low frequency noise nuisance from construction site	Y	Only minor works had been conducted at the time of complaint. No direct evidence showed that the odour source was originated from C3. The suspected nuisance source is believed to be ASD's works area. The details shall be referred to CIR-C33	Closed
427	1-Mar-20	1-Mar-20 / Portion IVC	Resident of Yung Kai House	Noise	Noise nuisance from Construction Works during Holiday	Y	No construction works were conducted at the concerned locations and no direct evidence showing the complaint is project-related. The details shall be referred to CIR-N99	Closed
426	19-Feb-20	11-Feb-20 / Works area outside TKL Sports Centre	Anonymous	Noise	Noise nuisance from breaking works	Y	Refer to complaint #423 and #424.	Closed
425	18-Feb-20	29-Jan-2020 / Marine works Area	Mr. Chan from Ocean Shore		Noise nuisance from barge in morning	Y	No works had been conducted in the time period of complaint. The noise is believed to be non-project-related. The details shall be referred to CIR-N95.	Closed
424	11-Feb-20	8 and 11-Feb-2020 / Site near TKL Station	Resident of Park Central		Noise nuisance from breaking works	Y	The complaint was valid and the contractor had been operating only 1 breaker at a time. The contractor is suggested to further increase the mitigation measures to reduce impact to the surrounding neighborhood. The details shall be referred to CIR-N97	Closed
423	3-Feb-20	03-Feb-2020 / Site Near TKL Station				Y		
422	3-Feb-20	2-Feb-20 / Lam Tin Interchange	Resident of Cheuk Lai House, Yau Lai Estate		Noise nuisance suspected to be related to works involving metal hammering on Site near EHC	Y	No construction activities were conducted at the concerned locations during the period of complaint. The Contractor is reminded to keep conducting good site practice and strictly follows the requirements of approved CNP. The details shall be referred to CIR-N98	Closed
421	21-Jan-20	21-Jan-20 / Portion IX	Ocean Shores Residents		Noise nuisance due to Blasting at midnight	Y	Blasting was conducted around 1:30am due to the vicinity of the Railway protection zone of MTR. The Contractor is reminded to keep the blast door closed during blasting to minimize noise impacts and re-schedule blasting to less sensitive hours as far as practicable. The details shall be referred to CIR-N96.	Closed
420	7-Jan-20	7-Jan-20 / Portion IX	Ocean Shores Residents		Irritating loud noise nuisance from Portion IX (C2)	Y	See complaint #417	Closed

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419	7-Jan-20	Sundays before 7-Jan-20 / Tunnel Works	Resident of Hong Pak Court	Noise	Noise nuisance from Tunnel Works	Y	See Complaint #416.	Closed
418	7-Jan-20	5-6-Jan-20 / C1 Marine Works Area	Ocean Shores Residents		High-frequency noise during night-time	Y	The high frequency noise was believe to be noise emitted from the marine works area of C1. The details shall be referred to CIR-N94.	Closed
417	3-Jan-20	2-Jan-20 / Portion IX	Former District Member (Mr. Chan)		Annoying noise emission and inefficient noise mitigation measures	Y	The noise source is believed to come from a breaker and mitigation was insufficient. The Contractor was requested to strictly follow the Noise Mitigation Plan. The details shall be referred to CIR-N93.	Closed
416	29-Dec-19	29-Dec-19 / Non-specific	Resident of Hong Pak Court	Noise	Groundborne Noise from Works area	Y	Project-related with valid CNP. Contractor is reminded to reduce noise emission and prevent breaking and noisy activities during restricted hours. The details shall be referred to CIR-N92.	Closed
415	27-Dec-19	25-Dec-19 / Lam Tin Interchange (Portion IVC)	Resident of Yau Estate	Noise	Noise nuisance from Portion IVC	Y	Non project-related due to maintenance works of East Cross-harbor Tunnel. The details shall be referred to CIR-N91.	Closed
414	24-Dec-19	22-Dec-19 / Lam Tin Interchange (Portion IVC)	Resident of Yau Estate	Noise	Piling noise nuisance near Lam Tin Interchange	Y	Project-related with valid CNP. Contractor is reminded to reduce noise emission and prevent breaking and noisy activities during restricted hours. The details shall be referred to CIR-N91.	Closed
413	24-Dec-19	24-Dec-19 / Portion IX of Contract 2	Resident of Capri & Ocean Shores	Noise	Loud and continuous noise emission from Portion IX	Y	No breaking activity was conducted by the C3. It was believed that C2 was the major noise source and the mitigation measures were insufficient. The details shall be referred to CIR-C32.	Closed
412	19-Dec-19	14-Dec-19 / marine works area	Resident of Ocean Shores	Noise	Noise nuisance from the marine works area	Y	The major construction work was driven by pin piles. The noise emitted due to the construction activities is considered to be reduced to an acceptable level as no NSR falls under the ambit of 300m study area of the work site. Details should be referred to CIR-N90.	Closed
411	2-Dec-19	30-Nov-19 / Construction Sites Outside TKL Sports Center	Resident of Park Central	Air / Noise	Non-effective noise mitigation measures and related dust and noise nuisance	Y	The construction noise created by breaking works are considered non-project related due to the large separation distance between noise source and the Complainant's Location. Major dust emission from the works area next to C3 was recorded. The Contractor is reminded to provide regular watering to dusty works. Details should be referred to CIR-C31.	Closed
410	28-Nov-19	25-Nov-19 / Portion 4C	Anonymous	Noise	Noise nuisance from Lam Tin Works Area and operation hours	Y	Refer to Complaint #408	Closed
409	27-Nov-19	20&27-Nov-19 / Construction Sites near Po Yap Road & Chui Ling Road	Resident of Park Central	Air / Noise	Dust emission due to excavation works and noise nuisance from Piling works	Y	Although noise barrier had been erected and around the breakers, the direct line of sight to the NSRs at Park Central could not be totally blocked. The Contractor is recommended to provide cantilevered noise barrier with noise absorbing materials to minimise noise impact as far as practicable. Details should be referred to CIR-C31.	Closed
408	25-Nov-19	Non-specific (Nov-19) / Portion 4C	Resident of Yau Lai Estate	Noise	Serious Noise Nuisance from Lam Tin Works Area	Y	Despite the Contractor had applied different noise mitigation measures (e.g. semi enclosure and noise barrier). Environmental deficiency was observed during site audit session. The Contractor is recommended to apply alternative noise mitigation measures to improve the situation. The details shall be refer to CIR-N89.	Closed
407	12-Nov-19	Non-specific (Nov-19) / LT Construction Site	Non-specified(Complainant has previously made complaints on LTI)	Operation Hours	Inquiries on operating hours & Noise Nuisance	N	The time of complaint falls under day-time. According to the Contractor and RE, the general starting time of construction works are 08:15 on normal week days. The Contractor had avoid conduct noisy works on morning to minimize noise impacts for the nearby residents. The details shall be refer to CIR-O3	Closed
406	5-Nov-19	5-Nov-19 / Tunnel near TKO	District Council Member (Mr. Chan)	Noise	Noise nuisance from Blasting activities during night-time	Y	No blasting was carried out on that night. The construction activities were conducted inside the tunnel with the blast door closed. The CNP that the Contractor held remained valid during the time of complaint. The details shall be refer to CIR-N88	Closed
405	29-Oct-19	17-Oct-2019 / Marine Works area near Ocean Shore	District Council Member (Mr. Chan)	Noise	Daytime times noise nuisance	Y	The complaint details does not tally up with the information provided with the Contractor and RE. Referring to the Contractor, there was construction works was starting at 09:00. Noise mitigation measures, such as acoustic mats, were applied to minimize noise impact. The details shall be refer to CIR-N87	Closed
404	15-Oct-19	12-Oct-19 / Marine Works area near Ocean Shore	Residents of Ocean Shores	Noise / Working Hours	Noise nuisance due to operation of barge on Saturday early morning	Y	The time of complaint falls within daytime and the major works conducted are dredging and reclamation. The contractor did not require any extra mitigation measures. The contractor had applied sound-proofing mat on the engine floor of the barges and is recommended to strictly follow the requirements of noise mitigation plan. The details shall be refer to CIR-N86	Closed

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403	15-Oct-19	Oct-19 (Not Specified) / C2 Construction Site	Residents of Ocean Shores	Noise / Working Hours	Operation of marine construction works during late hours	Y	The major construction works is trimming works for the rock mount during the time period of complaint. Mitigation measures provided by the Contractor included provision of noise insulating mats to the engine floor of the barges and shorten the work hours by ending construction works on or before 21:00 since early Oct 2019. Details shall be referred to CIR-N85.	Closed
402	10-Oct-19	09-Oct-2019/ Site near TKO CPC	Residents of Ocean Shores	Noise	Noise nuisance of construction works at marine work area during early morning	Y	No construction activity at both the Cavern near the BCMCP Bridge and Platform 1B, including the barge, in particular during the complaint period between 2am and 3am on 9 Oct 2019. Since no works had conducted during the time of complaint, no mitigation measures are required. The details shall be referred to CIR-N84.	Closed
401	5-Oct-19	05-Oct-2019 / C2 Portion IX	District Council Member (Mr. Chan)	Noise	High noise level from works area during daytime	Y	The time period of complaint falls under day-time and therefore the Contractor is required to carry out mitigation measures according to the latest CNMP only. The construction activities had been reviewed and no non-compliance was identified. No Limit Level of Exceedance at daytime was recorded during October 2019. For mitigation measures, the Contractor had set up sound-proofing mats and SlientUp to reduce noise impact. The details shall be refer to CIR-N83.	Closed
400	16-Sep-19	10-Sep-19 / TKO Marine Works Area	District Council Member (Mr. Chan)	Water	Muddy water discharge and deficiency in water quality mitigation measures	N	With accordance to the Contractor and RE, the silt curtains were deployed regarding to SCDP ver. 8 since 10-Sep-19, site inspection on 12-Sep-19 also showed the silt curtains were deployed properly. Despite there are chances of accidental muddy water discharge due to the removal of cofferdam on 13-Sep-19, local silt curtain had been place in order to minimize the unavoidable impact by related loading and unloading of fill materials. No muddy water had been observed outside the silt curtain area. Nevertheless, the Contractor is recommend to expand the coverage of the local silt curtain in order to well-confine the muddy water released from the grab. On top of that, the Contractor shall always follow the SCDP to ensure the minimization of impacts. Details should be referred to CIR-C30.	Closed
399	16-Sep-19	16-Sep-19 (Not Specified) / LT Interchange Potion III	Resident of Bik Lai House, Yau Lai Estate	Noise	Noise emission from the tunnel entrance (Potion III)	Y	No construction works was carried out during the time of complaint. Details should be referred to CIR-N82.	Closed
398	16-Sep-19	13-Sep-19 / Works Area of LT-TKO Tunnel outside Tiu King Leng MTR Station	Anonymous	Air / Water	Dark smoke emission and muddy water discharge from the marine work vessels near shore	N	No dark smoke emission was observed during the site inspection conducted in the week of the complaint. The Contractor has applied an air filtering tank to clean the exhaust from the barge before emission. Details should be referred to CIR-C30.	Closed
397	6-Sep-19	30 Aug-19 / Works area near Ocean Shores	Resident of Ocean Shores	Noise / Working hours	Noise emitted from Barge during Evening times	Y	The unloading works had been reviewed and no limit level of exceedance were recorded during August to early September. Since the period of complaint falls under evening times, no mitigation measures were required by the CNP. Details should be referred to CIR-N81.	Closed
396	6-Sep-19	30 Aug-19 / Works area near Ocean Shores	Resident	Noise	Noise nuisance from LT-TKO Tunnel	Y	The major works conducted were shortcreting, mucking out, maintaining, drilling and unloading. No limit level of exceedance in the restricted hours (19:00-23:00) between late August and early September were recorded. The Contractor is recommended to keep following noise mitigation plan to minimize noise nuisance. Details should be referred to CIR-N80.	Closed
395	6-Sep-19	31 Aug-19 / Works area near Ocean Shores	District Council Member (Mr. Chan)	Noise	Noise Nuisance during evening and night times	Y		Closed
394	6-Sep-19	Not specified (Sep-19) / Works area near Ocean Shores	Anonymous	Noise / Operating Hours	Noise nuisance during Evening & occasionally in Night time	Y		Closed
393	30-Aug-19	30 Aug-19 / Marine works Area	District Council Member (Mr. Chan)	Water	Alleged muddy water discharge	N	High rainfall was recorded during period of complaint, therefore muddy water discharge at outfall from upstream and some surface runoff within the site is expected. However, no major silt curtain deficiency was observed during on-site observation and no leakage of muddy water from the marine works area was observed. Details should be referred to CIR-W12.	Closed
392	29-Aug-19	20-27 Aug-19/ Portion 4C	Resident of Bik Lai House, Yau Lai Estate	Noise	Noise nuisance from the operation of heavy machineries and missing of noise mitigation measures at Portion 4C	Y	A noise insulating cover was erected before the period of complaint, however, due to restricted site condition in the relocated breaking works area, the erection of the cover could not be carried out. Nevertheless, movable noise barriers and local semi-enclosure was adopted for breaking works. Details should be referred to CIR-N79.	Closed

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391	26-Aug-19	10-Jul-19 / Construction site near Ocean shore	District Council Member (Mr. Chan)	Noise	Operation of construction works during late hours	Y	1 derrick barge was operated during the period of complaint with valid CNP. Regular maintenance and checking should be conducted for all operating barges. Details should be referred to CIR-N78.	Closed
390	26-Aug-19	31-Jul-19 / Construction site near Ocean shore	District Council Member (Mr. Chan)	Noise	Intermittent noise emitted from collision during night-time	Y	The noise source is suspected to be the collision between cofferdam and its broken part as the cofferdam was found damaged next morning. No construction was conducted at night time of 31 July. The contractor is recommended to maintain and check cofferdam regularly. Details should be referred to CIR-N77.	Closed
389	29-Jul-19	17 to 24-Jul-19 / Marine Construction Site near O King Road	Resident of Ocean Shore	Noise	Noise nuisance from the barge operating in reclamation works area near O King Road during evening times.	Y	1 derrick barge was operated during the period of complaint with valid CNP. Regular maintenance should be provided for all operating barges. Details shall refer to CIR-N76.	Closed
388	12-Jul-19	8-Jul-19 / Construction Site near Ocean Shores	District Council Member (Mr. Chan)	Noise	Noise nuisance and inadequate noise barrier at the construction site near Ocean shore	Y	Although Contractor has adopted a noise mitigation measure of drill rigs at Portion IV near Ocean Shore such as noise barrier with sound insulating fabric, the existing noise barrier in Portion IX and some in Portion IV are not adequate in screening the direct line of sight to Ocean Shore. Details should be referred to CIR-N75.	Closed
387	12-Jul-19	8 to 12-Jul-19 / Portion 4C of C1 Construction Site	Resident of Bik Lai House	Noise	Breaking noise emitted from the operation of 2 PMEs at Portion 4C during weekday daytime.	Y	Two breakers were operated intermittently at the Portion 4C of C1 construction site during the period of complaint between 07:00 to 19:00. As observed during the site inspection/noise monitoring, movable noise barrier could not completely screen off the direct line-of-sight from PMEs to Yau Lai Estate. Contractor has adopted mitigation measure to minimize the noise impact from breakers including using a noise barrier with noise insulating fabric, adopted a less noisy hydraulic spiting method for breaking works and has been developing a semi-enclosure noise barrier to replace the existing movable noise barrier. Details should be referred to CIR-N74.	Closed
386	10-Jul-19	9 to 10-Jul-19 / Not Specific	District Council Member (Mr. Chan)	Noise	Noise nuisance and disturbance from the TKOLT tunnel construction site involves intermittent noise emitted from collision during night-time.	Y	No construction works was carried out during the time of complaint. Details should be referred to CIR-N73.	Closed
385	4-Jul-19	Late Jun-19 to 4-Jul-19 / Reclamation Area	Resident of Ocean Shore	Noise	The reclamation works continued into the evening during weekdays and works were also operated on Sunday.	Y	See Complaint no 384.	Closed
384	3-Jul-19	3-Jul-19 / Near Ocean Shore	District Council	Noise	The construction site was constantly emitting metallic percussion noise in the early morning.	Y	The concerned metallic percussion noise source was suspected from the collision between the detached sheet pile and the adjacent sheet pile of the broken cofferdam. The detached sheet pile was fixed by re-sealing it to the adjacent sheet pile. Details should be referred to CIR-N72.	Closed
383	29-Jun-19	Jun-19 / Lam Tin Interchange	Resident of Yau Lai Estate, Yung Lai House	Noise	Noise nuisance from construction works during weekday daytime and evening times. Noise barriers was found missing in certain parts of the construction areas.	Y	Some noise mitigation measures were observed during the site inspection including idle equipment were turned off and noise barrier has been erected close to noisy PMEs in the right direction facing Yau Lai Estate. However, the above mitigation measures were not applied to whole construction site such as noise barriers were not placed close enough to the noisy PMEs due to the uneven surface and other inconvenience. Details should be referred to CIR-N71.	Closed
382 (N08/RE/00011019-19)	17-Jun-19	6-Jun-19 / Cofferdam area	District Council	Air	Dark smoke nuisance from the tug boat inside the cofferdam area.	N	During site audit, no violation of the Air Pollution Control (Smoke) Regulation from the construction site was observed by the ET. Air filter has been replaced on derrick barge to reduce the dark smoke emission upon the receipt of the complaint. The Contractor is recommended to replace the air filters regularly. Details should be referred to CIR-A15.	Closed
381 (N08/RE/00015098-19)	11-Jun-19	1-Jun-19 / Near confferdam	District Council	Water	Muddy water discharge from construction site near the cofferdam area on 4 June 19	N	High volume of upstream muddy water was collected due high rainfall according to reports and observation. As a result, the muddy water from upstream was discharged into the Junk Bay via various outfalls in Junk Bay, as observed during the rainstorm events. No sand plume within the cofferdam area and no muddy water discharge at the designated discharge point within the Site was identified during the site inspection and water quality monitoring. Details should be referred to CIR-W11.	Closed

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380	11-Jun-19	6-Jun-19 / Near Tong Yin Street	Resident of Ocean Shore	Air	Odour nuisance from construction site near Tong Yin Street	N	No oil leakage from mobile crane was observed during the site inspection in June 2019. According to the testing reports, all ULSD fuel applied in the PMEs during the construction period contains sulphur content lower than 0.005% by weight, which complied with the Air Pollution Control (Fuel Restriction) Regulations. Details should be referred to CIR-A14.	Closed
379	11-Jun-19	4-Jun-19 / Near cofferdam area	General Public	Water	Discharge of mud water into Junk Bay from TKOLT construction site	N	See Complaint no 381.	Closed
378	11-Jun-19	13-Apr-19 / Near cofferdam area	General Public	Air	Dark smoke nuisance from construction site involves derrick barge operation near cofferdam area (daytime)	N	No violation of the Air Pollution Control (Smoke) Regulation was recorded from the construction site was observed. The contractor was recommended to install carbon filter at smoke exhaust of the barge as a more effective mitigation measures. Details should be referred to CIR-C27.	Closed
377	11-Jun-19	2-Jun-19 / Lam Tin Interchange	General Public	Noise	Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Y	Only drilling works inside the tunnel was conducted during daytime under valid CNP. Groundborne noise is considered as the major factor contributing to the noise nuisance, the Contractor are recommended to re-schedule the drilling works inside the tunnel to less sensitive hours. Details should be referred to CIR-N70.	Closed
376	11-Jun-19	9-Jun-19 / Near Yau Lai Estate	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance near Yau Lai Estate involves vehicle movement (roller) during morning to 15:00 in holiday.	Y	No works involving roller was involved. Only drilling works inside the tunnel and ddismantling of crusher shelter was conducted during Sunday daytime under valid CNP. Groundborne noise is considered as the major factor contributing to the noise nuisance, the Contractor are recommended to re-schedule the drilling works inside the tunnel to less sensitive hours. Details should be referred to CIR-N70.	Closed
375	11-Jun-19	9-Jun-19 / Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Y	See Complaint no. 376.	Closed
374	4-Jun-19	3-Jun-19 / Near Ping Tin Estate	Resident of Ping Sin House in Ping Tin Estate	Noise	Vibration from the construction of Lam Tin Interchange in evening time at around 20:00	Y	Groundborne noise is considered as the major factor contributing to the noise nuisance. The reverse circulation drilling works may have emitted groundborne noise, however, only 1 unit was used in Portion II. Therefore, blasting is considered as the major cause for the vibration. Details should be referred to CIR-N69.	Closed
373	4-Jun-19	2-Jun-19 / Near ocean Shore	Resident of Ocean Shore	Noise	Complaint about the noise nuisance from the construction site near Ocean Shore and the construction site operation in day time holiday.	Y	No construction activity was conducted at the time of complaint as confirmed by Engineer. Therefore, the noise nuisance was not due to the construction site. Details should be referred to CIR-N68.	Closed
372	4-Jun-19	1-Jun-19 / Near ocean Shore	Resident of Ocean Shore	Others	Complaint about the construction site operation in the early morning on Saturday.	N	See Complaint no. 373.	Closed
371	30-May-19	30-May-19 / Near Ocean Shore	Resident of Ocean Shore	Noise	Noise nuisance from construction site near Ocean Shore during night time.	Y	See Complaint no. 373.	Closed
370 (N08/RE/000150 98-19)	29-May-19	19 & 26-May-19 / Near Ocean Shore	Resident of Ocean Shore	Noise	Noise nuisance about dredging mud and loudspeaker in the construction site near Ocean Shore during daytime holiday.	Y	Noise barriers/ Noise absorptive materials have been used to mitigate the noise generated from the construction works. Only walkie-talkies were used for communication in the construction site. Details should be referred to CIR-N67.	Closed
369	13-May-19	Not specific / Lam Tin interchange	Resident of Yau Lai Estate	Noise	Noise nuisance from the blasting work inside tunnel which involves explosion noise impact during midnight	Y	Contractor has adopted a mitigation measure for reduce the blasting noise impact from the tunnel such as blasting doors and did not conduct blasting works during mid-night blasting since mid-May 2019. Details should be referred to CIR-N66.	Closed
368	19-May-19	19-May-19 / Near cofferdam area	General Public	Noise	Noise nuisance from barge with in cofferdam area in daytime holiday	Y	See Investigation / Mitigation Action for complaint no. 361.	Closed

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367	5-May-19	5-May-19 / Lam Tin Tunnel - TKO entrance	Resident near Lam Tin Tunnel - TKO entrance	Noise & Air	Noise and air nuisance from construction near Lam Tin Tunnel - TKO entrance	Y	The major works during the period of complaint is scaling by breaker on day time holiday (Sunday). The works is compiled with CNP and no air quality action and noise limit level exceedance during the monitoring. Regarding the existing air quality mitigation measures, the water spray for the breaker was insufficient and the dust emission during unloading of dusty materials was observed. As the review of exiting noise mitigation measure, a broken noise SilentMat was found on the hammer of breaker. According to the above observation, Contractor has adopted serval improvement such as conduct a sufficient water spray during breaking and unloading materials, replaced the noise SilentMat of the breaker and placed the noise barrier between PME and NSRs. Details should be referred to CIR-C29.	Closed
366	4-May-19	4-May-19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime.	Y	Regarding the observation during site inspection, the hammer of the breaker was surrounded by a broken noise absorption material and a noise barrier of a driller was placed in the incorrect direction of NSRs. Contractor has improved the above mitigation measures including replaced the noise absorption materials and relocated the noise barrier to facing the NSRs. Details should be referred to CIR-N65.	Closed
365	1-May-19	1-May-19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime.	Y	See investigation / mitigation actions for Complaint No.366	Closed
364	1-May-19	1-May-19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime	Y	See investigation / mitigation actions for Complaint No.366	Closed
363	30-Apr-19	6th – 22th April -19 / Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Noise nuisance from construction of Lam Tin Interchange in daytime and evening time	Y	See investigation / mitigation actions for Complaint No.366	Closed
362 (N08/RE/00013396-19)	8-May-19	7-May-2019 / Junk Bay	District Council	Noise	Noise nuisance from marine works in the Junk Bay in the night-time (06:45)	Y	No marine works in the Junk Bay was conducted as confirmed by RE. No CCTV footage was recorded during the time of complaint. It was suggested that Contractor should conduct 24 hours CCTV monitoring. Details should be referred to CIR-N64.	Closed
361	7-May-19	28 Apr 2019 / Cofferdam Area	General Public	Noise	Noise nuisance from construction site at cofferdam area in holiday	Y	The reclamation works involves barges during the time of complaints has been compiled with the CNP. As review of existing mitigation measure, the sound proofing canvases for the barges were hanged up. Details should be referred to CIR-N63.	Closed
360	2-May-19	27-04-2019/ Construction in Tong Tin Street	General Public	Noise	The complaint about the noise nuisance from cofferdam area during daytime and evening-time.	Y	The light source was found from the lighting of derrick barge within the cofferdam area and the noise source was found from the barge during filling works. Contractor has adopted The sound proofing canvases for the derrick barge was hanged up but no light mitigation measure. Details should be referred to CIR-C28.	Closed
359	30-Apr-19	30-04-2019/ Near Ocean Shore	Resident of Ocean Shore	Noise	The complaint about the noise nuisance involve percussion noise near Ocean Shore during daytime.	Y	See compliant #355.	Closed
358	30-Apr-19	27-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance during evening time.	Y	See compliant #355.	Closed
357	23-Apr-19	20-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance near cofferdam area during daytime.	Y	See compliant #355.	Closed
356	23-Apr-19	19-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance near cofferdam area during holiday.	Y	See compliant #355.	Closed
355	17-Apr-19	17-04-2019/ Near cofferdam area	General Public	Noise & light	The complaint about the noise nuisance and light pollution near cofferdam area during evening-time.	Y	The light source was found from the lighting of derrick barge within the cofferdam area and the noise source was found from the barge during filling works. Contractor has adopted The sound proofing canvases for the derrick barge was hanged up but no light mitigation measure. Details should be referred to CIR-C28.	Closed
		20 Apr 2019 / Cofferdam Area						

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354	30-Apr-19	19 Apr 2019 / Cofferdam Area 15 Apr 2019 / Cofferdam Area 07 Apr 2019 / Cofferdam Area 31 Mar 2019 / Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Others	The construction site near O King Road is operated in holiday during day-time and weekday during night-time.	N	The marine reclamation works at the Portion IX in C2 construction site was the major construction activity during the period of complaints. The concerned reclamation works is compiled with the relevant CNP. Details should be referred to CIR-O2.	Closed
353	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Air	According to the complainant, large amount of smoke and exhaust was seen emitting from barges working within the cofferdam	N	See Investigation / Mitigation Action for complaint no. 329.	Closed
352	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore	Noise	The complainant complained about the noise nuisance from the cofferdam area in Tiu Keng Leng during day-time.	Y	The major works during the time of complaints was a crawler crane unloading H piles to the Portion V of C2 construction site. Noise barriers were erected between the crane and NSRs to reduce noise impact. Details should be referred to CIR-N62.	Closed
351	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore	Noise	The complainant complained the noise nuisance from the cofferdam area in Tiu Keng Leng during day-time.	Y		
350	8-Apr-19	07 Apr 2019 / Cofferdam Area in TKO	-	Air & Others	The complainant complained the dark smoke generation and the construction works from the cofferdam area in Tiu Keng Leng during holiday.	N	See Investigation / Mitigation Action for complaint no. 329.	Closed
349	7-Apr-19	07-04-2019/Cofferdam Area	Resident of Ocean Shore	Air	Dark smoke generation from the cofferdam area in Tiu Keng Leng during day-time.	N		Closed
348	2-Apr-19	02 Apr 2019 / LTT-TKO	-	Others	The complainant complained the LTT construction site was working during holiday.	N		Closed
347	1-Apr-19	01 Apr 2019 / Cofferdam Area	Resident of Ocean Shore	Noise	Percussive noise from the cofferdam area in Tiu Keng Leng during day-time.	Y		Closed
346	31-Mar-19	31st March 2019 / Construction of Road P2	District Council	Others	Complaint about the construction site operation of Road P2 in day time holiday	N	A tug boat and a derrick barge were operated for the marine reclamation work within the cofferdam area during the time of complaint. As the review of relevant CNP, no violation was observed. Details should be referred to CIR-O1.	Closed
345	26-Mar-19	26th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the noise nuisance in day time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
344	28-Mar-19	26th March 2019 / Construction of Road P2	District Council	Noise	Complaint letter received regarding noise nuisance and dark smoke generation from the marine barges	Y	See Investigation / Mitigation Action for complaint no. 378.	Closed
343	25-Mar-19	25th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the noise nuisance sound like a breaking works in day time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed

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342	25-Mar-19	24th March 2019 / Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance from the construction of Lam Tin Interchange in day time hoilday (Sunday). The noise monitoring was conducted in Hong Nga Court by staff after the complaint and the noise level is result in acceptable level, but the complainant replied that the noise monitoring is meaningless and the noise nuisance is not acceptable for her.	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
341	24-Mar-19	24th March 2019 / Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complaint about the noise nuisance from Lam Tin Tunnel construction works in day time.	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
340	24-Mar-19	24th March 2019 / Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance from the construction site day time holiday (Sunday).	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
339	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the construction noise nuisance involving percussive noise in early morning (07:00)	Y	See Investigation / Mitigation Action for complaint no. 330.	Closed
338	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Ocean Shore	Noise	Construction noise	Y	See Investigation / Mitigation Action for complaint no. 323.	Closed
337	20-Mar-19	19th March 2019 / Construction of Road D4 and Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Complaint about the noise nuisance from the construction vehicle near Park Central in night time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
336	20-Mar-19	20th March 2019 / Construction of Road P2	Resident of Park Central	Noise & Pest	Complaint about the noise and pest nuisance from the construction site near Park Central in evening time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
335	19-Mar-19	19th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Construction noise nuisance from reclamation works near the TKO-LTT reclamation site during the evening time (19:00-23:00).	Y	See Complaint #323.	Closed
334	19-Mar-19	19th March 2019 / Construction of Road P2	District Council	Noise	Construction noise nuisance from the TKO-LTT reclamation site during evening time (after 19:00).	Y	See Complaint #323.	Closed
333	19-Mar-19	18th - 19th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Construction noise nuisance from construction noise in evening time (around 20:30).	Y	See Complaint #323.	Closed
332	18-Mar-19	18th March 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance during day time, evening time and night time.	Y	The construction activities in the complaint dates are complied with CNP. No noise limited level exceedance was recorded. During the site inspection, no noise barriers were erected between noisy PMEs and NSRs at LTI. Regarding the observation in the inspection, Contractor has adopted an improvement such as placed the noise barriers between the PMEs and NSPs to reduce noise nuisance. Details should be referred to CIR-N61	Closed
331	18-Mar-19	18th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance in night time and the past few days. (Before 07:00)	Y		Closed

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330	17-Mar-19	17th March 2019 / Construction of Lam Tin Interchange	General Public	Noise	Complaint about the noise nuisance from in night time holiday.	Y	noise barriers between the PMEs and NSRs to reduce noise nuisance. Details should be referred to CIR-N61.	Closed
329	15-Mar-19	15th March 2019 / Construction of Road D4	Resident of Park Central	Noise & Air	Complaint about the noise from the construction works and the odour nuisance involves engine oil from construction machine	Y	The construction activities in the complaint dates are compiled with the CNMP. No noise and air quality limit level exceedance were recorded. Contractor had implemented the mitigation measures for the noise and odour nuisances including acoustic mat was erected between the PME and NSR, ultra-low sulphur diesel was applied as fuel oil in PME and general refuses were disposed properly. Details should be referred to CIR-C26.	Closed
328	14-Mar-19	9th March 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Complaint about the noise nuisance involve drilling work in the day time (08:00).	Y	A formation works was conducted in 7 am to 7pm on 9 Mar 2019. No noise limit level exceedance was recorded in the nearest noise monitoring result. However, there was no any adoption of mitigation measure to minimize the noise nuisance from the site. As response the received complaint, the contractor should place the noise barrier between the PMEs and NSR. Details should be referred to CIR-N58.	Closed
327	13-Mar-19	13th March 2019 / Construction of Lam Tin Interchange	Resident of Bik Lai House	Noise	Noise nuisance suspected from the construction works involving chiseling during evening time (22:07).	Y	A handing processed rock at Lam Tin Interchange was conducted on the complaint date in 7 pm to 11 pm involving dump truck and excavator which construction activities was compiled with the CNP. No noise limit level exceedance was record in the evening time monitoring. However, the noise barrier was not placed in the direction of the Yau Lai Estate during breaking works, the contractor had implemented a mitigation measure such as placed the noise barrier to reduce noise level from the breaker but the noise barrier was far from the concerned breaker. Details should be referred to CIR-N59.	Closed
326	13-Mar-19	13th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Noise nuisance suspected from marine works near Ocean Shores in the day time (16:30)	Y	See Investigation / Mitigation Action for complaint no. 322.	Closed
325	9-Mar-19	9th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involve machine and percussive noise in night time (02:00 -03:00).	Y	Only drilling works were conducted inside the tunnel in early morning under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N56.	Closed
324	7-Mar-19	7th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance involving chiseling noise from the construction site near Hong Pak Court during day time and evening time in the past few months.	Y	Only drilling works were conducted inside the tunnel in early morning and daytime under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N56.	Closed
323 (EPD-N08/RE/00006523-19)	4-Mar-19	4th March 2019/ Cofferdam Area	Resident of Ocean Shore	Noise	Construction noise (Evening time)	Y	Only 1 derrick barge and a tug boat was used in the evening time under valid CNP. No Limit Level Exceedances were recorded at Station CM6(A) during evening time. Acoustic mat should be used to screen the engine of the barge to reduce the noise nuisance from the reclamation works. Lubricants should be applied to the barge to reduce the noise emission during barge movement.	Closed
322	13-Mar-19	1st March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Noise nuisance suspected from a yellow excavator near Ocean Shores in day time (15:44).	Y	No noise limit level exceedance was recorded and the number of operating PMEs complied with the CNMP. The sound proofing canvases were not always adopted as a mitigation measure to screen the noise emitted from the engine of the barge. Contractor should adopt the aforementioned mitigation measures as far as practicable. The contractor was also be recommended to enhance the mitigation measure including frequently checking the noise barriers/sound proofing canvases, frequent checking and repair the gaps or broken acoustic sheets and continue to strictly follow the requirements in the approved CNMP.	Closed
321	28-Feb-19	28th February 2019 / Construction of Lam Tin Interchange	Management Section of Yau Lai Estate	Noise	Construction noise (Night time)	Y	Only drilling works were conducted inside the tunnel in early morning under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N55.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
320	22-Feb-19	22nd February 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance involving percussive noise in early morning (Day time). Complainant said the construction should be operated after 08:00.	Y	See Investigation / Mitigation Action for complaint no. 313.	Closed
319	21-Feb-19	21st February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involving percussive noise in night time	Y	See Investigation / Mitigation Action for complaint no. 313.	Closed
318	21-Feb-19	21st February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involving percussive noise from the construction in night time	Y	See Investigation / Mitigation Action for complaint no. 313.	Closed
317	25-Feb-19	23th February 2019 / Construction of Road P2	Resident in O King Road	Air	Complained about the odour nuisance of petroleum smell	N	See Investigation/ Mitigation Action on Complaint no.294. Details should be referred to CIR-A12.	Closed
316	18-Feb-19	18th February 2019 / Construction of Road P2	Resident in O King Road	Air	Complaint about the dark smoke and odour nuisances	N	See Investigation/ Mitigation Action on Complaint no.294. Details should be referred to CIR-A12.	Closed
315	17-Feb-19	15th February 2019 / Construction of Lam Tin Interchange, Road P2 and Tseung Kwan O Interchange	General Public	Noise	Complained about construction noise (Daytime)	Y	The metal wire used for anchoring the barge inside the cofferdam area are the source for the noise nuisance. Ropes were used to replace metal wire to reduce noise nuisance from metal collision while mooring boats. Details should be referred to CIR-N54.	Closed
314	17-Feb-19	16th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air	Dust nuisance suspected from the construction works and absence of water spraying near Lam Tin Interchange in daytime.	N	No Air Quality action level or limit level exceedance during the monitoring conducted by ETL. Contractor had implemented mitigation measure to reduce and prevent dust emission including conducted water sprays and covered the cement bags. Details should be referred to CIR-A13.	Closed
313	17-Feb-19	17th February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Construction noise nuisance from the drilling and breaking works at Branch Tunnel in the morning (Day time)	Y	Breaking and drilling works were conducted during the time of complaint. The breakers were often seen wrapped with acoustic mat, however, they are easily damaged during the breaking works. Noise barrier are more effective in reducing the noise nuisance than the acoustic mat, but the erection of noise barrier are not often adopted properly to screen the noise from the NSR due to the additional works involved and the landform on site. Groundborne noise could also be a factor contributing to noise nuisance. Details should be referred to CIR-N53.	Closed
312	16-Feb-19	16th February 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the explosion noise (Daytime)	Y	No exceedances were recorded and recommendation were made to further enhance the mitigation measures, such as regularly and reviewing the noise control activities that are being carried out on site regularly to ensure compliance with statutory requirement, provide training for the workers to prevent unnecessary noise disturbance and frequently check and maintain the absorptive lining adhered on blasting doors on a regular basis.	Closed
311	15-Feb-19	15th February 2019 / Construction of Lam Tin Interchange	Public	Noise	Complained about the explosion noise (Daytime)	Y	See Investigation / Mitigation Action for complaint no. 312.	Closed
310	14-Feb-19	14th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Construction noise nuisance about the rock handling work at LTI (Daytime)	Y	Dump truck and excavator was used to transfer crushed rocks from the crusher with valid CNP. Additional noise barrier was added at the site boundary near Shun Lai house, Yau Lai Estate to reduce the direct-line of sight from the NSRs to the site. Details should be referred to the CIR-N51.	Closed
309	13-Feb-19	13th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Construction noise nuisance about the rock handling work at LTI (evening time)	Y		Closed
308	13-Feb-19	1th - 13th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Management Section of Kwong Tin Estate	Noise	Complaint about construction noise (Night time)	Y	See Investigation/ Mitigation Action on Complaint no.302. Details should be referred to CIR-N48.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
307	13-Feb-19	13th February 2019 / Construction at Tsueng Kwan O (C1)	Resident of Ocean Shore	Noise	The complaint about the noise nuisance in day time	Y	Noise nuisance was originated from the beeping noise emitted during vehicle reversing of the loader. The total length of beeping noise should be less than 5 mins. The reverse alarm system is a necessary safety measure that cannot be revoked. Details should be referred to CIR-N50.	Closed
306	13-Feb-19	13th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise in night time	Y	See Investigation/ Mitigation Action on Complaint no.302. Details should be referred to CIR-N48.	Closed
305	12-Feb-19	12th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise in night time.	Y	See Investigation/ Mitigation Action on Complaint no.302. Details should be referred to CIR-N48.	Closed
304	8-Feb-19	8th February 2019 / Construction of Road P2 and Associated Works	Resident of Ocean Shore	Noise	Noise nuisance suspected from marine works near Ocean Shores in the day time	Y	There were two construction activities in the site including dredging and trimming in day time on 8 Feb 2019. Details should be referred to CIR-N49.	Closed
303	2-Feb-19	27th January - 2nd February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Ping Tin Estate	Noise	Noise nuisance suspected from the construction works involving chiseling noise during day time, evening time and night time.	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; □ To continue to strictly follow the requirements in the approved CNMP; □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
302	2-Feb-19	27th January - 2nd February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Pak Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise during day time	Y		Closed
301	31 Jan 2019	27th - 31th January 2019 / Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Noise nuisance suspected from the	Y	See Investigation/ Mitigation Action on Complaint no.290. Details should be referred to CIR-N45.	Closed
300	30 Jan 2019	30th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Beeping Noise nuisance suspected from the construction works involving mobile crane	Y	See investigation / Mitigation Action for complaint no. 296. Details should be referred to CIR-N47.	Closed
299	30 Jan 2019	27th - 29th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Beeping Noise nuisance suspected from the construction works involving mobile crane and also suspected from elevation platform	Y	See investigation / Mitigation Action for complaint no. 296. Details should be referred to CIR-N47.	Closed
298	30 Jan 2019	Not specific / Near Po Shun Road	Resident of Park Central	Noise & Air Quality	The dust generation and noise nuisance from the construction site near Po Shun Road	Y	There were several construction activities in the site including the removal of steel mould & scaffolding of bridge deck, erection of scaffolding for staircase and construction of Pour 1 of main deck (GL4-5) during time of complaint. Details should be referred to CIR-C25.	Closed
297	30 Jan 2019	27th - 30th January 2019 / Construction works at TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction involving chiselling works	Y	See Investigation/ Mitigation Action on Complaint no.290. Details should be referred to CIR-N45.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
296	29 Jan 2019	27th - 29th January 2019 / Construction Site of Footbridge near Tiu Keng Leng Sport Centre.	Resident of Park Central	Noise	Beeping Noise nuisance suspected from the mobile crane at the Footbridge near Park Central Block 6	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: □ To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise disturbance; □ Frequent checking and repair the operating PME; □ The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; □ To continue to strictly follow the requirements in the approved CNMP; □ To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
295	29 Jan 2019	29th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complaint about the noise nuisance from the steel cable wire for anchoring between barge and pier	Y	There was a salvage works for the sunken barge (CS306) in a whole day on 27 Jan, 12 am to 3 pm on 28 Jan and 11:40 am on 29 Jan 2019. Details should be referred to CIR-N46.	Closed
294	29 Jan 2019	29th January 2019 / Construction of Road P2	Resident in O King Road	Air Quality	Complaint about the dark smoke and odour nuisances from barge.	Y	The sulphur content percentage of the adopted diesel fuel was lower than 0.05% which is compiled with the Hong Kong Air Pollution Control (Marine Light Diesel) Regulation, therefore the odour problem should be minimised. Smoke filtering tanks were adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell. The situation has improved after the filter has been replaced. Details should be referred to CIR-A12.	Closed
293 (EPD-K15/RE/00003291-19)	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	Cha Kwo Ling Tsuen	Noise & Air Quality	Complained about construction noise & dust (Day & Night time)	Y	See investigation / Mitigation Action for complaint no. 270. Details should be referred to CIR-C29.	Closed
292	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from breaking work.	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: □ To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise disturbance; □ Frequent checking and repair the operating PME; □ The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; □ To continue to strictly follow the requirements in the approved CNMP; □ To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
291	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from breaking work.	Y		Closed
290	29 Jan 2019	29th January 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the construction noise from Tunnel Works	Y		Closed
289 (EPD-N08/RE/00000859-19)	24 Jan 2019	Early December 2018 -24-Jan-2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from Tunnel Works	Y	See Investigation/ Mitigation Action on Complaint no.288. Details should be referred to CIR-N44.	Closed
288	18 Jan 2019	18th January 2019 (Non-specific)/ Construction of Road P2	Public	Noise	Complained about the construction noise from Tunnel Works	Y	No major construction works at the concerned night time. There was only salvage operation carried out in 11 pm to 12 pm on 17 Jan 2019. No violation of CNP nor Noise Control Ordinance is found in this regard. Details should be referred to CIR-N44.	Closed
287	17 Jan 2019	17th January 2019 / Construction of Lam Tin Interchange	Resident of Yung Lai House	Noise	Complained about the construction noise from Kam Tin Interchange.	Y	Project-related. The following recommendations are made to further enhance the mitigation measures: □ To regularly check and review the noise control activities that are being carried out on site to ensure compliance with statutory requirement. □ Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. □ To provide training for the workers to prevent unnecessary noise disturbance. □ To provide cantilever barrier to screen the construction noise from the NSRs	Closed
286	17 Jan 2019	17th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near the Park Central in day time	N	See Investigation/ Mitigation Action on Complaint no. 285. The concerned air compressor has been removed on 16th Jan 2019. Details should be referred to CIR-N41.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
285	17 Jan 2019	17th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan with generator near Tiu Keng Leng Sport Centre and Park Central.	N	The concerned air compressor was removed from the construction site since 16 January 2019 afternoon, but the high frequency noise nuisance complaints were received on 17 January 2019. According to the CM8(A) noise monitoring record by environmental team, the other noise source from construction site are beeping noise of the reverse alarm system of the plant. Therefore, the high frequency noise nuisance is considered project related after 16 January 2019. Details should be referred to CIR-N41.	Closed
284	16 Jan 2019	16th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air compressor near Tiu Keng Leng Sport Centre and Park Central.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
283	15 Jan 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air compressor near Tiu Keng Leng Sport Centre and Park Central.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
282	15 Jan 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air compressor near Tiu Keng Leng Sport Centre and Park Central.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
281	15 Jan 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near Chui Ling Road roundabout and Tiu Keng Leng Sport Centre in day time.	N	See Investigation/ Mitigation Action on Complaint no. 272. Additional noise barrier was erected around the said air compressor. Details should be referred to CIR-N41.	Closed
280	14 Jan 2019	14th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near Chui Ling Road roundabout and Tiu Keng Leng Sport Centre in day time.	N	See Investigation/ Mitigation Action on Complaint no. 272. Details should be referred to CIR-N41.	Closed
279	14 Jan 2019	14th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site near Tiu Keng Leng Sport Centre in day time Saturday and Holiday (Sunday).	N	See Investigation/ Mitigation Action on Complaint no. 272. Details should be referred to CIR-N41.	Closed
278	12 Jan 2019	12th January 2019 / Construction of Road D4	Resident of Park Central	Noise	High frequency machine noise nuisance involving air compressor from the construction site between Tiu Keng Leng Sport Centre and Park Central in day time	Y	See Investigation/ Mitigation Action on Complaint no. 272. Details should be referred to CIR-N41.	Closed
277	12 Jan 2019	12th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the noise from breaking activities.	N	See investigation/ Mitigation Action on Complaint no. 264. Details should be referred to N39.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
276	11 - 12 January 2019	11th - 12th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier □ To continue to strictly follow the requirements in the relevant CNP. □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP. Details can be referred to CIR-N40.	Closed
275	11 Jan 2019	11th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from a crane near footbridge between Tiu Keng Leng Sport Centre and Park Central	Y	See Investigation/ Mitigation Action on Complaint no. 272.	Closed
274 (EPD-N08/RE/00001234-19)	11 Jan 2019	11th January 2019 / Construction of Road D4	Public	Noise	Complaint about the high frequency machine noise nuisance from the construction site of footbridge between Tiu Keng Leng Sport Centre and park Central.	Y	No high-frequency noise was detected near the complaint location, however, the noise similar to description was detected within the renovation works inside Park Central. Details should be referred to complaint no. 272 and CIR-N41.	Closed
273	10 Jan 2019	10th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier □ To continue to strictly follow the requirements in the relevant CNP. □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
272	8 Jan 2019	8th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the high frequency machine noise nuisance from the construction site near Park Central in day time.	Y	High frequency noise emitted from an air compressor was suspected. Noise barrier was seen erected. Noise barrier using material with higher absorption coefficient such as mineral wool is recommended. Details should be referred to CIR-N41.	Closed
271	8 Jan 2019	8th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier □ To continue to strictly follow the requirements in the relevant CNP. □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
270 (EPD-K15/RE/00000691-19)	7 Jan 2019	7th January 2019 / Construction of Lam Tin Interchange	Cha Kwo Ling Tsuen	Noise & Air Quality	Complained about construction noise & dust (Day & Night-time)	Y	Regular noise monitoring results for day time and night time show full compliance of the noise criteria. Air quality monitoring result in all stations show that no adverse air quality impact has been brought about to the nearby sensitive receivers during the time of complain. During Site audit, damaged acoustic material on the breaker was observed. Watering was provided at during rock breaking to avoid dust generation. The Contractor was reminded to deploy noise barrier to screen the line-of-sight from sensitive receiver.	Closed
269	7 Jan 2019	7th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the night time construction noise near Park Central.	Y	No noticeable high frequency noise was detected from the air compressor and noise barrier was seen erected in the line-of-sight from the NSR to the Air compressor. Refer to CIR-41 for details.	Closed
268	7 Jan 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the construction noise at Lam Tin Interchange.	Y	No exceedances were record at the nearest monitoring station. The following recommendation were made to further enhance the mitigation measure: Frequent checking and repair the gaps or broken acoustic sheets; Replace any broken Silent Mat for wrapping the breaker head; To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver; To continue to strictly follow the requirements in the relevant CNP; To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
267	7 Jan 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	Refer to Investigation/ Mitigation Action on Complaint no. 264. Details should be referred to N39.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
266	7 Jan 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	No exceedances were recorded at the nearest monitoring station, however, the approved location for noise monitoring was located at the podium of Ocean Shores. Due to inaccessibility to private unit, it is not possible to perform monitoring at higher floor. ET will keep approaching Ocean Shore Management Office for impact noise monitoring at higher floor. The recommendations for Contractor is as follows: · only well-maintained plant on-site and plant should be serviced regularly during the construction program; · Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers; Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.	Closed
265	7 Jan 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	No exceedances were record at the nearest monitoring station. The following recommendation were made to further enhance the mitigation measure: Frequent checking and repair the gaps or broken acoustic sheets; Replace any broken Silent Mat for wrapping the breaker head; To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver; To continue to strictly follow the requirements in the relevant CNP; To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
264	2nd January 2019	2nd January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	No noise limit level exceedance was recorded at the noise monitoring stations near ocean shores. The contractor has applied lubricants to the joint of the excavators to dampen the noise emitted from the PMEs. The contractor is recommended to use noise barriers to screen the PMEs from the NSRs as per the Noise mitigation plan.	Closed
263 (EPD-)	1st January 2019	31st December 2018 / Coastal near TKO cemetery	General Public	Water	Complained concerning oil leakage/ on the sea surface near the sunken barge at C2 site.	N	Oil leakage happened due to the derrick lighter was submerged to the sea within the cofferdam. As the oil leakage was found outside the cofferdam during site inspection, there was a gap in the cofferdam. The oil leakage was cleaned up and the floating oil absorber has been used to surround the cofferdam by Contractor. The Contractor are reminded to1) regular check if the site vessels and cofferdam are in good-condition; 2) To regular monitor the operation of any activities in the cofferdam area; 3) To implement the proposed site vessels safety and the emergency responses including clearance measures. Details of the investigation should be referred to CIR-W10.	Closed
262	30 Dec 2018	26th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
261	26 Dec 2018	26th December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
260	26 Dec 2018	26th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
259	26 Dec 2018	26th December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
258	18 Dec 2018	18th December 2018/ Construction of Lam Tin Interchange	Engineering Section of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The complaint is considered project related.	Closed
258								
258							Mitigation measures:	
258							Cable wire for anchoring between barge and pier has been replaced by rope between 27 Dec and 2 Jan to reduce noise impact. In addition, other good site practices recommended in the "Implementation Schedule of Proposed Mitigation Measures" of EM&A Manual and the approved CNMP of this Contract had been implemented by the Contractor, including the following:	
258							Ÿ Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;	
258							Ÿ Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers;	
258							Ÿ Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.	
257	18 Dec 2018	18th December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The Contractor has replaced the cable wire for anchoring between barge and pier with ropes between 27 Dec and 2 Jan to reduce noise impact.	Closed
256	17 Dec 2018	15th December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking and piling activities	N	No exceedance was recorded in the noise monitoring result. The number of PME operated in LTI was consistent with the proposed Construction Noise mitigation Plan (CNMP)	Closed
							The following recommendations were made for the Contractor to enhance the mitigation measures:	
							Ÿ To frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance;	
							Ÿ Noise barriers should be designed and erected around the noise sources to block the direct line-of-sight from the NSR as per the CNMP;	
							To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.	
254	16 Dec 2018	16th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	Ÿ The night-time works were only conducted inside the tunnels with valid CNP. The noise nuisances are not considered as air-borne in nature, but ground-borne noise. 2.17 In order to confirm the possible ground-borne nature of the noise nuisances for complaints summarized in this report, CEDD has engaged the environmental team to conduct ad hoc ground-borne noise monitoring with the coordination of the Engineer. The findings will be provided in a separate report for the ad hoc monitoring.	Closed
253	15 Dec 2018	15th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	Refer to the investigation for complaint no. 254	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
252	30 Nov 2018	30th November 2018/ Construction of Road D4	Resident of Park Central	Noise & Air	Complained about the construction noise and dust resuspension in Road D4.	Y	The number of PMEs operated on site and on-time percentage from 19 to 30 November complied with the CNMP, thus, no violation was identified. Based on the noise and air monitoring results in November 2018, no Limit Level Exceedance was recorded. **Mitigation Measures** Ÿ A more effective acoustic barrier was erected between the drill rig and Park Central. Ÿ Frequent water spraying along the Po Yap Road for eight times a day, Stockpile are covered with impervious material to avoid dust resuspension	Closed
251	28 Nov 2018	27th November 2018/ Construction of TKO portal	Public	Noise	Complained about the construction noise from the marine works.	Y	The complaint lodged on 25th November 2018 is considered as non-project related, as no works was conducted on that day. The complaint on 27th November 2018 is considered project related. The contractor is reminded to 1) frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance; 2) Ensure no further use of PA system for marine works.	Closed
251								
251								
250	26 Nov 2018	26th November 2018/ Public sea in TKO	Resident of Ocean Shore	Noise	Complained about the noise nuisance from the operation of derrick barge on Sunday.	Y	Refer to the investigation for complaint no. 251	Closed
249	25 Nov 2018	20th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from the Excavators in LTI on Sunday morning.	Y	Refer to the investigation for complaint no. 251	Closed
248	20 Nov 2018	20th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance during transfer of material in evening time at LTI	Y	Regular noise monitoring results for restricted and non-restricted hours show full compliance of the noise criteria (night-time noise exceedance is considered non-project related). The contractor is reminded to adopt cantilever noise barriers at Lam Tin Interchange to screen noise effectively by screening the line-of-sight from sensitive receivers	Closed
247	20 Nov 2018	19th November 2018/ Lam Tin Interchange	Public	Noise	Complained about the noise nuisance from rock dropping during evening time	Y	Refer to the investigation for complaint no. 248	Closed
246	19 Nov 2018	19th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from dump truck in evening time	Y	Refer to the investigation for complaint no. 248	Closed
245	8 Nov 2018	8th November 2018/ Lam Tin Interchange	Public	Noise	Complained about construction noise during night time from LTI	Y	Refer to the investigation for complaint no. 248	Closed
243	8 Nov 2018	8th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the construction noise during evening time from LTI.	Y	Refer to the investigation for complaint no. 248	Closed
242	7 Nov 2018	7th November 2018/ Lam Tin Interchange	Public	Noise	Complained about the construction noise and dust nuisance.	Y	Refer to the investigation for complaint no. 248	Closed
241	6 Nov 2018	6th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed
240	6 Nov 2018	6th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed

Appendix O - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions

Table O2 - Summary of Cumulative Complaint Log for Tseung Kwan O - Lam Tin Tunnel

Reporting Month/Year	Number of Complaints in Reporting Month	Number of Summons in Reporting Month	Number of Prosecutions in Reporting Month
2016	11	0	0
2017	99	1	0
2018	150	0	1
2019	156	0	0
2020	88	0	0
2021	87	0	0
Jan-22	4	0	0
Feb-22	5	0	0
Mar-22	4	0	0
Apr-22	11	0	0
May-22	7	0	0
Jun-22	3	0	0
Jul-22	3	0	0
Aug-22	5	0	0
Sep-22	2	0	0
Oct-22	1	0	0
Nov-22	2	0	0
Dec-22	7	0	0
Jan-23	0	0	0
Feb-23	0	0	0
Mar-23	3	0	0
Apr-23	1	0	0
Total	**649**	**1**	**1**

Table O3 - Cumulative Log for Notifications of Summons

Contract No.	Log Ref.	Date/Location	Subject	Status	Total no. Received in this Reporting Month	Total no. Received since project commencement
NE/2015/01	--	--	--	--	--	--
NE/2015/02	KTS24138/2017	25 June 2017/ Marine construction site at Junk Bay	Contrary to: Sections 6 (1) (b) and 6 (5), Noise Control Ordinance, Cap.400	The Summon was issued on 22 Dec 2017 First hearing on 29/3/2018	1	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--
NE/2017/06	--	--	--	--	--	--
NE/2017/07	--	--	--	--	--	--

Table O4 - Cumulative Log for Successful Prosecutions

Contract No.	Log Ref.	Date/Location	Subject	Status	Total no. Received in this reporting month	Total no. Received since project commencement
NE/2015/01	--	--	--	--	--	--
NE/2015/02	KTS24138/2017	25 June 2017/ Marine construction site at Junk Bay	Contrary to: Sections 6 (1) (b) and 6 (5), Noise Control Ordinance, Cap.400	Successful prosecution to the subcontractor on 27 June 2018	1	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--
NE/2017/06	--	--	--	--	--	--
NE/2017/07	--	--	--	--	--	--

APPENDIX P
WASTE GENERATION IN THE REPORTING MONTH

Name of Department: Civil Engineering Development Department

Contract No.: NE/2015/01

LEIGHTON 禮頓·中建聯營 Leighton - China State Joint Venture

Monthly Summary Waste Flow Table for April 2023

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
January	11.454	7.566	0.000	0.000	11.454	0.000	0.000	0.000	0.000	0.000	0.264
February	6.984	4.190	0.000	0.000	6.984	0.000	0.000	0.000	0.000	0.000	0.294
March	1461.682	6.025	0.000	1451.64	10.042	0.000	0.000	0.000	0.000	0.000	0.321
April	6.290	4.766	0.000	4.766	1.524	0.000	0.000	0.000	0.000	0.000	0.197
May	0.000										
June	0.000										
Sub-total	1486.410	22.548	0.000	1456.406	30.004	0.000	0.000	0.000	0.000	0.000	1.076
July	0.000										
August	0.000										
September	0.000										
October	0.000										
November	0.000										
December	0.000										
Total	1486.410	22.548	0.000	1456.406	30.004	0.000	0.000	0.000	0.000	0.000	1.076

Total inert C&D waste generated = c+d+e

Total inert C&D waste recycled = c+d

% of recycled inert C&D waste = Total C&D waste recycled / Total C&D waste generated

Notes: (1) The performance target are given in PS Clause 6(14)

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site

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

(4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m3. (PS Clause 1.105(4) refers)

(5) All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.

(6) Conversion factors for reporting purpose:

in-situ: rock = 2.5 tonnes/m^3; soil = 2.0 tonnes/m^3

(7) excavated: rock = 2.0 tonnes/m^3; soil = 1.8 tonnes/m^3; broken concrete and bitumen = 2.4 tonnes/m^3, soil and rock = 1.9 tonnes/m^3

(8) C&D Waste = 0.9 tonnes/m^3; bentonite slurry = 2.8 tonnes/m^3

Diesel density: 0.8kg/l

Numbers are rounded off to the nearest three decimal places

The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"

Monthly Summary Waste Flow Table for 2023 Year

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, e.g. general refuse
	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m^3]
Jan	0.70303	0.00000	0.00000	0.00000	0.05637	0.64666	3.90000	0.00000	0.00000	0.00000	0.09250
Feb	1.17340	0.00000	0.00000	0.00000	0.34522	0.82818	22.85000	0.00000	0.00000	0.00000	0.07278
Mar	0.65082	0.00000	0.00000	0.00000	0.65082	0.00000	36.38000	0.00000	0.00000	0.00000	0.11868
Apr	2.08163	0.00000	0.00000	0.00000	0.47140	1.61023	0.00000	0.00000	0.00000	0.00000	0.08940
May	0.00000										
June	0.00000										
SUB-TOTAL	4.60887	0.00000	0.00000	0.00000	1.52380	3.08507	63.13000	0.00000	0.00000	0.00000	0.37336
Jul	0.00000										
Aug	0.00000										
Sep	0.00000										
Oct	0.00000										
Nov	0.00000										
Dec	0.00000										
TOTAL	4.60887	0.00000	0.00000	0.00000	1.52380	3.08507	63.13000	0.00000	0.00000	0.00000	0.37336

Note: Conversion to 1000m^3 for general refuse is weight in 1000kg multiply by 0.002

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

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

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

Monthly Summary of Waste Flow Table for 2023

Name of Person completing the Record: Steve Wong

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete *(see Note 1)*	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics *(see Note 2)*	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m^3)
Jan	0.0588	0	0	0	0.056	0	0	0	0	0.0028
Feb	0.0813	0	0	0	0.0813	0	0	0	0	0.00155
Mar	0.0000	0	0	0	0.0000	0	0	0	0	0.00103
Apr	0.0000	0	0	0	0.0000	0	0	0	0	0.00245
May	0.0000	0	0	0	0.0000	0	0	0	0	0
Jun	0.0000	0	0	0	0.0000	0	0	0	0	0
Sub-total	0.1401	0	0	0	0.1373	0	0	0	0	0.0078
Jul	0.0000	0	0	0	0.0000	0	0	0	0	0
Aug	0.0000	0	0	0	0.0000	0	0	0	0	0
Sep	0.0000	0	0	0	0.0000	0	0	0	0	0
Oct	0.0000	0	0	0	0.0000	0	0	0	0	0
Nov	0.0000	0	0	0	0.0000	0	0	0	0	0
Dec	0.0000	0	0	0	0.0000	0	0	0	0	0
Total	0.1401	0	0	0	0.1373	0	0	0	0	0.0078

Notes:

(1) Broken concrete for recycling into aggregates.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(3) Use the conversion factor: 1 full load of 24t / 30t dumping truck being equivalent to 6.5m3 / 8.125 m3 by volume.

GTECH Services (Hong Kong) Limited

Name of Department: Civil Engineering & Development Department

Contract No.: NE/2017/06

Monthly Summary Waste Flow Table For 2023

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. General Refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0.006
Feb	0	0	0	0	0	0	0	0	0	0	0.006
Mar	0	0	0	0	0	0	0	0	0	0	0.006
Apr	0	0	0	0	0	0	0	0	0	0	0
May											
Jun											
Sub-total	0	0	0	0	0	0	0	0	0	0	0.018
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	0	0	0	0	0.018

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.

(3) Each dump truck carries 6m^3 of general refuse when full-load.

(4) The commencement date of the Contract is 9 November 2018. The current reporting period is from 1 April 2023 to 30 April 2023.

Tseung Kwan O - Lam Tin Tunnel - Tseung Kwan O Interchange and Associated Works
(NE/2017/01)

俊和－上隧－中冶聯營
CW - STEC - CMGC JV

Monthly Summary Waste Flow Table for 2023

Name of Department: Civil Engineering and Development Department

Contract No.: NE/2017/01

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	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	18.1700	0.0000	0.0000	0.0000	0.0139
Feb	0.1052	0.0000	0.0000	0.0000	0.1052	0.0000	0.0000	0.0000	0.0000	0.6000	0.0000
Mar	0.06536	0.0000	0.0000	0.0000	0.06536	0.0000	0.0000	0.0000	0.0000	0.0000	0.0044
Apr											
May											
Jun											
Sub-total	0.17056	0.0000	0.0000	0.0000	0.17056	0.0000	18.1700	0.0000	0.0000	0.6000	0.0183
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.17056	0.0000	0.0000	0.0000	0.17056	0.0000	18.1700	0.0000	0.0000	0.6000	0.0183

Notes:

1. Assume the density of soil fill is 2 ton/m^3.
2. Assume the density of rock and broken concrete is 2.5 ton/m^3.
3. Assume the density of mixed rock and soil is 1.9 ton/m^3.
4. Assume the density of slurry and bentonite is 2.8 ton/m^3.
5. The slurry and bentonite are disposed at Tseung Kwan O Area 137 Fill Bank.
6. Assume the density of C&D waste is 0.9 ton/m^3.
7. The non-inert C&D wastes are disposed at NENT.

Monthly Summary Waste Flow Table for 2023 (year)

Name of Person completing the record: Sedo Sze (EO)

Project : Cross Bay Link, TKO, Main Bridge and Associated Works

Contract No.: NE/2017/07

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	0.018	0.000	0.000	0.000	0.018	0.000	0.000	0.160	0.000	0.000	0.148
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.210	0.000	0.000	0.052
Mar	0.006	0.000	0.000	0.000	0.006	0.000	0.000	0.215	0.000	0.000	0.243
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.192	0.000	0.000	0.063
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	0.024	0.000	0.000	0.000	0.024	0.000	0.000	0.777	0.000	0.000	0.505
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.024	0.000	0.000	0.000	0.024	0.000	0.000	0.777	0.000	0.000	0.505

Note:

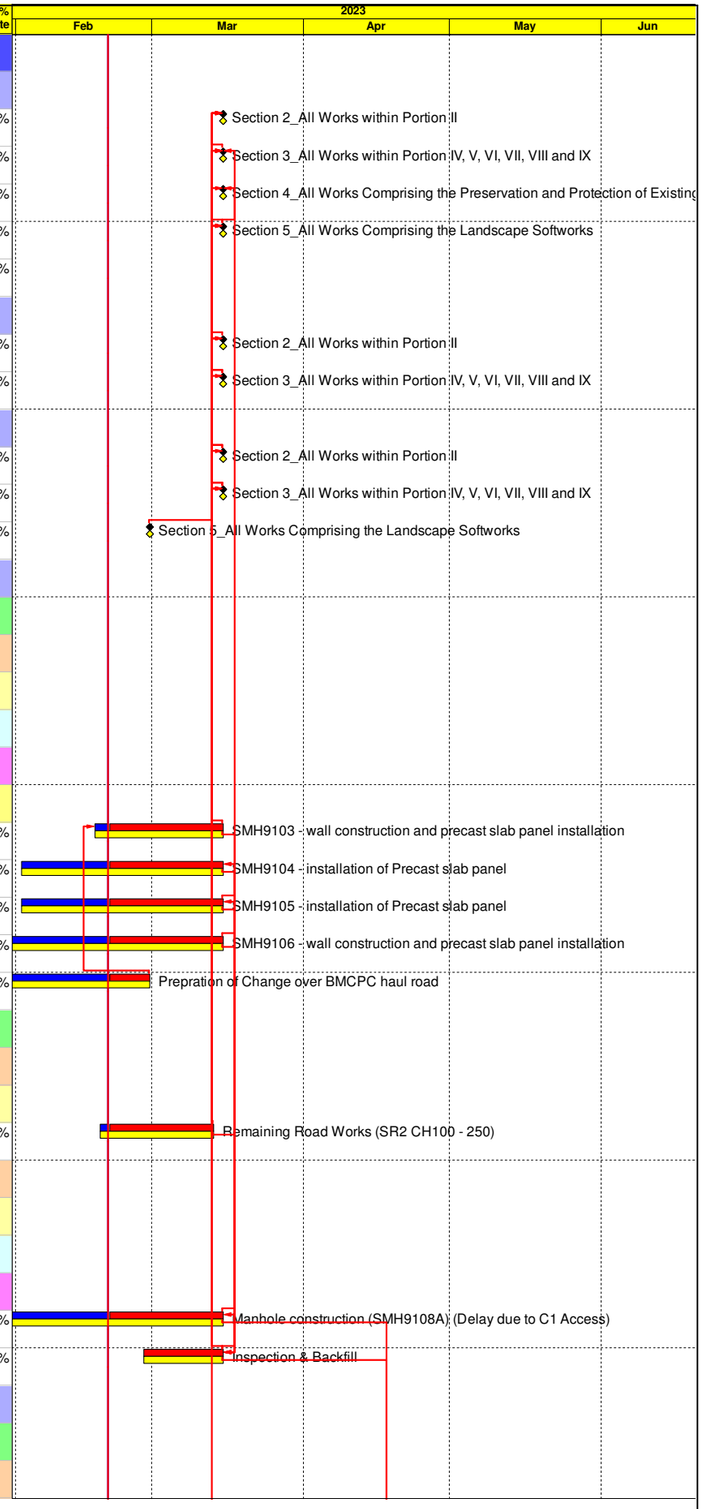
1. For non-inert portion of C&D material, assume the density of 1 m^3 general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m^3 per each full-filled dump truck.
3. All values are round off to the third decimal places.

APPENDIX Q
TENTATIVE CONSTRUCTION PROGRAMME

High Level 3 Months Look Ahead Programme

Activities	Mar-23	Apr-23	May-23
Lam Tin Interchange			
Site Formation - Area 1G1 & 1G2 &5			
Site Formation - Area 2			
Site Formation - Slope Stabilisation			
Bridge Noise Barrier / Noise Enclosure			
Road S02_2a2a Noise Enclosure			
Road S02_2a2b Noise Enclosure			
EHC4 Construction (Type 20)			
Semi Enclosure Structures			
Type 1E RC Structures			
Type 1D RC Structures			
CKLR Underground Utilities			
Landscape Deck			
LTI Drainage			
LTI Road Pavement			
Lei Yue Mun Road Junction Modification Works			
Stage 1 Commissioning Outstanding Works			
TKO Interchange			
TKO - Miscellaneous works			
TKO - Slope Stabilisation Works			

Activity ID	Activity Name	Calendar	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete
NE/2015/02 Tseung Kwan O - Lam Tin Tunnel-Road P2 and Associated Works (Mar to M			363.0	322.0	03-Jan-23 A	29-Feb-24	-199.0	
Target Key Date and Section Completion of the Works (Revised Contract Key Date)		P2-Cal.A	351.0	351.0	15-Mar-23	29-Feb-24	-604.0	
A10520	Section 2_All Works within Portion II	P2-Cal.A	0.0	0.0		15-Mar-23*	-571.0	0%
A10540	Section 3_All Works within Portion IV, V, VI, VII, VIII and IX	P2-Cal.A	0.0	0.0		15-Mar-23	-571.0	0%
A10560	Section 4_All Works Comprising the Preservation and Protection of Existing Trees	P2-Cal.A	0.0	0.0		15-Mar-23*	-618.0	0%
A10580	Section 5_All Works Comprising the Landscape Softworks	P2-Cal.A	0.0	0.0		15-Mar-23	-618.0	0%
A10600	Section 6_All Works Comprising the Estabilishment Works	P2-Cal.A	0.0	0.0		29-Feb-24*	-604.0	0%
Possible Key Date and Section Completion of the Works (Landscape Deck - Proposed		P2-Cal.A	0.0	0.0	15-Mar-23	15-Mar-23	-571.0	
A10930	Section 2_All Works within Portion II	P2-Cal.A	0.0	0.0		15-Mar-23	-571.0	0%
A10940	Section 3_All Works within Portion IV, V, VI, VII, VIII and IX	P2-Cal.A	0.0	0.0		15-Mar-23	-571.0	0%
Target Key Date and Section Completion of the Works (Possible Contract Key Date)		P2-Cal.A	15.0	15.0	28-Feb-23	15-Mar-23	-571.0	
A10820	Section 2_All Works within Portion II	P2-Cal.A	0.0	0.0		15-Mar-23	-571.0	0%
A10830	Section 3_All Works within Portion IV, V, VI, VII, VIII and IX	P2-Cal.A	0.0	0.0		15-Mar-23	-571.0	0%
A10850	Section 5_All Works Comprising the Landscape Softworks	P2-Cal.A	0.0	0.0		28-Feb-23	-603.0	0%
Section 3 of the Works All Works within Portion IV, V, VI, VII,VIII, and IX		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	
New Reclaimed Section		P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	
Land Works		P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	
Road P2 Underpass (CH105-CH318)		P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	
Underpass		P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	
Underpass P2 CH 105 - 318		P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	
Remaining Works - SMH9103 to 9 Related		P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	
LC28820	SMH9103 - wall construction and precast slab panel installation	P2-Cal.C	23.0	21.0	17-Feb-23 A	15-Mar-23	-467.0	8.7%
LC28830	SMH9104 - installation of Precast slab panel	P2-Cal.C	36.0	21.0	02-Feb-23 A	15-Mar-23	-467.0	41.67%
LC28840	SMH9105 - installation of Precast slab panel	P2-Cal.C	36.0	21.0	02-Feb-23 A	15-Mar-23	-467.0	41.67%
LC28850	SMH9106 - wall construction and precast slab panel installation	P2-Cal.C	51.0	21.0	16-Jan-23 A	15-Mar-23	-467.0	58.82%
LC28900	Prepration of Change over BMCPC haul road	P2-Cal.C	30.0	8.0	25-Jan-23 A	28-Feb-23	-496.0	73.33%
Existing Land Section		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	
SR2		P2-Cal.C	20.0	19.0	18-Feb-23 A	13-Mar-23	-467.0	
Road and Drainage & Utilities Works (P2 CH318 - 650 & SR2 CH100 - 310)		P2-Cal.C	20.0	19.0	18-Feb-23 A	13-Mar-23	-467.0	
LC17590R	Remaining Road Works (SR2 CH100 - 250)	P2-Cal.C	20.0	19.0	18-Feb-23 A	13-Mar-23	-467.0	5%
Portion IV & VII		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	
Construction of DN2100 stormwater at Portion IV & VII		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	
Drainage works, after FSD		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	
SMH9108-SMH9108A		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	
LC90623	Manhole construction (SMH9108A) (Delay due to C1 Access)	P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-467.0	66.13%
LC90626	Inspection & Backfill	P2-Cal.C	15.0	15.0	27-Feb-23	15-Mar-23	-467.0	0%
Section 5 of the Works - Landscaping Works		P2-Cal.C	164.0	123.0	03-Jan-23 A	12-Jul-23	0.0	
Landscape Hardwork		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-480.0	
Chain Link Fence next to Plant Rooms		P2-Cal.C	44.0	21.0	24-Jan-23 A	15-Mar-23	-480.0	



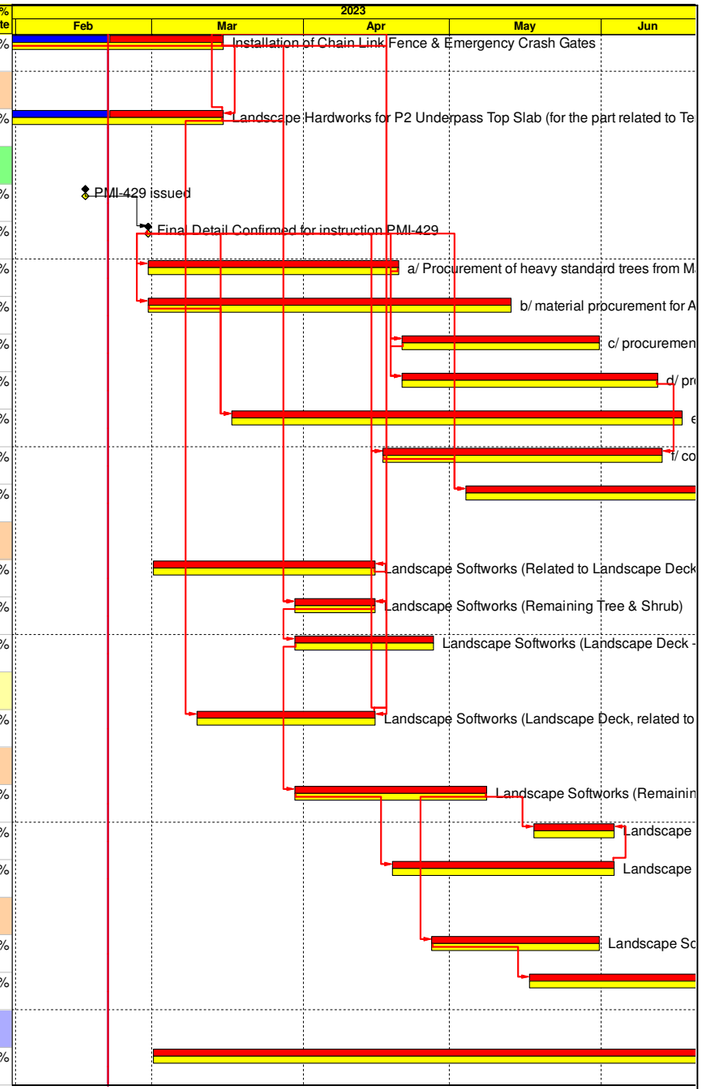
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Last Month Milestone
Last Month Baseline

NE/2015/02 Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works

3 Monthly Rolling Programme Update
(Data Date : 20 Feb 2023)

Date	Revision	Checked	Approved
20-Feb-23	MPU		

Activity ID	Activity Name	Calendar	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete
LC25790	Installation of Chain Link Fence & Emergency Crash Gates	P2-Cal.C	44.0	21.0	24-Jan-23 A	15-Mar-23	-480.0	52.27%
Landscape Hardwork Summary		P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-508.0	
LC90790	Landscape Hardworks for P2 Underpass Top Slab (for the part related to Temporary Artificial Lawn)	P2-Cal.C	62.0	21.0	03-Jan-23 A	15-Mar-23	-508.0	66.13%
Landscape Softwork		P2-Cal.C	127.0	116.0	15-Feb-23 A	12-Jul-23	0.0	
LC25601	PMI-429 issued	P2-Cal.C	0.0	0.0	15-Feb-23 A			100%
LC25602	Final Detail Confirmed for instruction PMI-429	P2-Cal.C	0.0	0.0	28-Feb-23*		0.0	0%
LC25610	a/ Procurement of heavy standard trees from Mainland	P2-Cal.C	45.0	45.0	28-Feb-23	20-Apr-23	0.0	0%
LC25620	b/ material procurement for Arbot and Proprietary Bench SSK0804	P2-Cal.C	65.0	65.0	28-Feb-23	13-May-23	0.0	0%
LC25630	c/ procurement for Gate 01,02 SSK0805, SSK0806	P2-Cal.C	35.0	35.0	21-Apr-23	31-May-23	0.0	0%
LC25760	d/ procurement for Fence Wall 01 SSK0807	P2-Cal.C	45.0	45.0	21-Apr-23	12-Jun-23	0.0	0%
LC25870	e/ procurement for Proprietary bottle filling fountain SSK0791	P2-Cal.C	80.0	80.0	17-Mar-23	17-Jun-23	0.0	0%
LC25890	f/ construction of warehouse SSK0788, SSK0789	P2-Cal.C	50.0	50.0	17-Apr-23	13-Jun-23	0.0	0%
LC25900	g/ kerb, planter wall, footpath	P2-Cal.C	60.0	60.0	04-May-23	12-Jul-23	0.0	0%
Landscape Softwork (Stage 1)		P2-Cal.C	50.0	50.0	01-Mar-23	27-Apr-23	0.0	
LC25421	Landscape Softworks (Related to Landscape Deck - Chain Link Fence)	P2-Cal.C	40.0	40.0	01-Mar-23	15-Apr-23	0.0	0%
LC25650	Landscape Softworks (Remaining Tree & Shrub)	P2-Cal.C	15.0	15.0	30-Mar-23	15-Apr-23	0.0	0%
LC25670	Landscape Softworks (Landscape Deck - Remaining Shrub Planting)	P2-Cal.C	25.0	25.0	30-Mar-23	27-Apr-23	0.0	0%
Arrangement of Landscaped Deck		P2-Cal.C	32.0	32.0	10-Mar-23	15-Apr-23	0.0	
LC90780	Landscape Softworks (Landscape Deck, related to Temporary Artificial Lawn)	P2-Cal.C	32.0	32.0	10-Mar-23	15-Apr-23	0.0	0%
Landscape Softwork (Stage 2)		P2-Cal.C	57.0	57.0	30-Mar-23	03-Jun-23	0.0	
LC90810	Landscape Softworks (Remaining Area)	P2-Cal.C	34.0	34.0	30-Mar-23	08-May-23	0.0	0%
LC90920	Landscape Softworks (Remaining Tree & Shrub)	P2-Cal.C	15.0	15.0	18-May-23	03-Jun-23	0.0	0%
LC90940	Landscape Softworks (Related to Landscape Deck - Chain Link Fence)	P2-Cal.C	40.0	40.0	19-Apr-23	03-Jun-23	0.0	0%
Landscape Softwork (Stage 3)		P2-Cal.C	57.0	57.0	27-Apr-23	01-Jul-23	1.0	
LC90950	Landscape Softworks (Remaining Area)	P2-Cal.C	30.0	30.0	27-Apr-23	31-May-23	1.0	0%
LC90980	Landscape Softworks (Related to Landscape Deck - Chain Link Fence)	P2-Cal.C	40.0	40.0	17-May-23	01-Jul-23	1.0	0%
Section 6 of the Works - Establishment Works		P2-Cal.A	366.0	366.0	01-Mar-23	29-Feb-24	-604.0	
LC25540	Establishment Works	P2-Cal.A	366.0	366.0	01-Mar-23	29-Feb-24	-604.0	0%



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Last Month Milestone
Last Month Baseline

NE/2015/02 Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works

3 Monthly Rolling Programme Update
(Data Date : 20 Feb 2023)

Date	Revision	Checked	Approved
20-Feb-23	MPU		

NE2017/02

High Level 3 Months Look Ahead Programme			
Activities	May -23	June -23	July-23
Trial pit			
Underground utilities detection			
Temporary traffic arrangement Setup			
Road construction			
Asphalt Paving			
Pier, Staircase and lift shaft construction			
Bridge Construction			

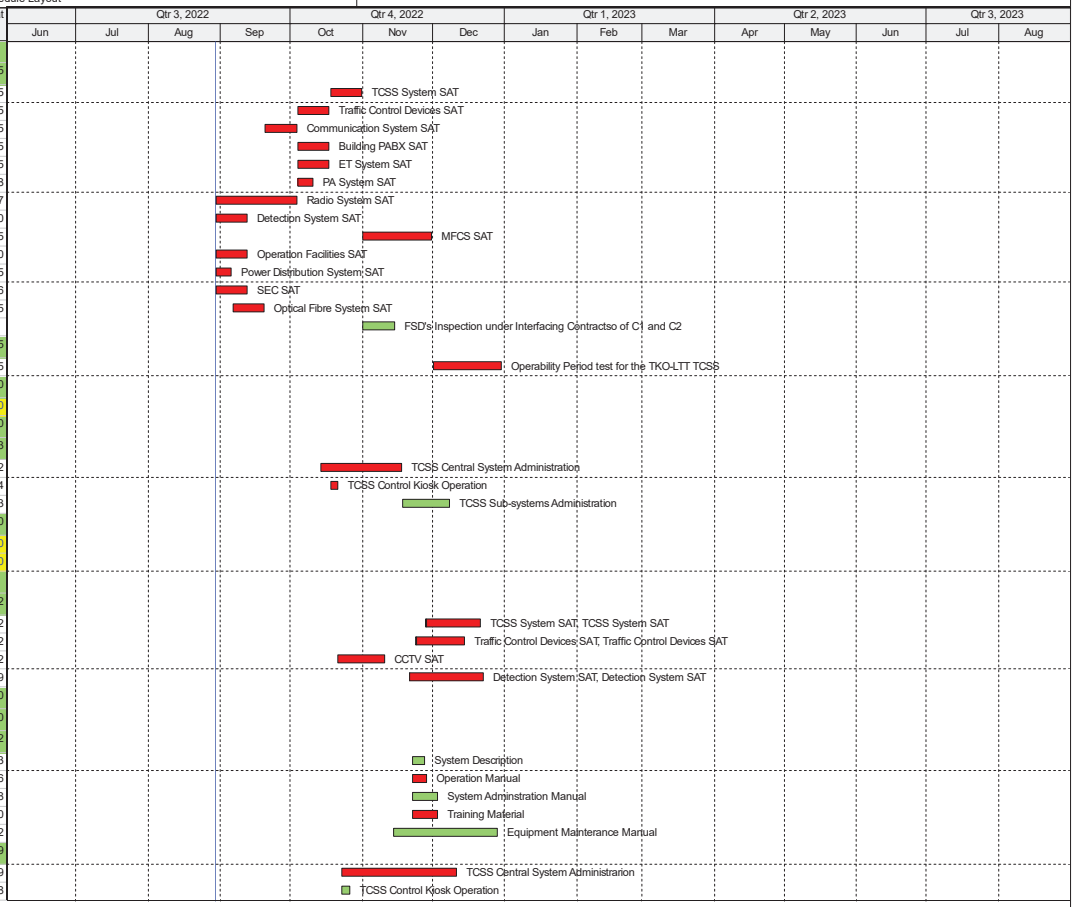
Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float
NE/2017/06-2	NE/2017/06 TKO-LTT TCSS_3MRP	80	106	0%	01-Oct-22 A	30-Dec-22	317
NE/2017/06-2.CW	Contract Award / Commencement of Works	0	0	0%			0
NE/2017/06-2.AD	Access Date	3	0	0%	03-Oct-22 A	06-Oct-22 A	
NE/2017/06-2.KD	Key Date and Stages / Sections of the Achievement	30	30	0%	30-Nov-22	30-Dec-22	-58
NE/2017/06-2.KD.000	General	30	30	0%	30-Nov-22	30-Dec-22	-58
NE/2017/06-2.KD.000.03	Key Date and Stages / Sections of the Achievement	30	30	0%	30-Nov-22	30-Dec-22	-58
DWP8190	KD10 - Section 1A	0	0	0%		30-Nov-22*	-405
DWP8200	KD11 - Section 2A	0	0	0%		11-Dec-22*	-39
DWP8210	KD12 - Section 1B	0	0	0%		30-Dec-22*	-405
NE/2017/06-2.MD	Cost Centre Milestone Dates	76	76	0%	03-Oct-22	30-Dec-22	317
NE/2017/06-2.MD.1	General	76	76	0%	03-Oct-22	30-Dec-22	317
NE/2017/06-2.MD.1.1	CC B - Central System - TKOLTT	60	60	0%	31-Oct-22	30-Dec-22	-405
DWP8870	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		31-Oct-22	-375
DWP8880	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.2	CC B1 - Central System - CBL	0	0	0%	04-Dec-22	04-Dec-22	-32
DWP8930	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		04-Dec-22	-32
NE/2017/06-2.MD.1.3	CC C - Traffic Control Devices - TKOLTT	74	74	0%	17-Oct-22	30-Dec-22	-405
DWP8990	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		17-Oct-22	-361
DWP9000	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.4	CC C1 - Traffic Control Devices - CBL	0	0	0%	10-Nov-22	10-Nov-22	-8
DWP9050	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		10-Nov-22	-8
NE/2017/06-2.MD.1.5	CC D - Communication System - TKOLTT	88	88	0%	03-Oct-22	30-Dec-22	-405
DWP9170	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		03-Oct-22	-347
DWP9180	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.6	CC D1 - Communication System - CBL	0	0	0%	20-Oct-22	20-Oct-22	13
DWP9110	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		20-Oct-22	13
NE/2017/06-2.MD.1.7	CC E - CCTV System - TKOLTT	81	81	0%	10-Oct-22	30-Dec-22	-405
DWP9230	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		10-Oct-22	-354
DWP9240	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.8	CC E1 - CCTV System - CBL	0	0	0%	10-Nov-22	10-Nov-22	-8
DWP9290	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		10-Nov-22	-8
NE/2017/06-2.MD.1.9	CC F - Building PABX System - TKOLTT	74	74	0%	17-Oct-22	30-Dec-22	-405
DWP9350	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		17-Oct-22	-361
DWP9360	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.11	CC G - ET System - TKOLTT	74	74	0%	17-Oct-22	30-Dec-22	-405
DWP9470	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		17-Oct-22	-361
DWP9480	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.10	CC H - PA System - TKOLTT	81	81	0%	10-Oct-22	30-Dec-22	-405
DWP9410	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		10-Oct-22	-354
DWP9420	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.12	CC I - Radio System - TKOLTT	88	88	0%	03-Oct-22	30-Dec-22	-405
DWP9530	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		03-Oct-22	-347
DWP9540	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.13	CC J - Detection System - TKOLTT	0	0	0%	30-Dec-22	30-Dec-22	-405
DWP9600	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.15	CC J1 - Detection System - CBL	0	0	0%	21-Nov-22	21-Nov-22	-19
DWP9710	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		21-Nov-22	-19
NE/2017/06-2.MD.1.14	CC K - Manual Fallback System - TKOLTT	30	30	0%	30-Nov-22	30-Dec-22	-405
DWP9650	Acceptance of Site Acceptance Test of all equipment for Works	0	0	0%		30-Nov-22	-405
DWP9660	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.16	CC L - Operation Facilities - TKOLTT	0	0	0%	30-Dec-22	30-Dec-22	-405
DWP9780	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.17	CC M - Power Distribution System - TKOLTT	0	0	0%	30-Dec-22	30-Dec-22	-405
DWP9840	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.18	CC M1 - Power Distribution System - CBL	0	0	0%			0
NE/2017/06-2.MD.1.19	CC N - Speed Enforcement System - TKOLTT	0	0	0%	30-Dec-22	30-Dec-22	-405
DWP9960	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.20	CC N1 - Speed Enforcement System - CBL	0	0	0%	05-Oct-22	05-Oct-22	28
DWP10436	Submit and approval of Expert Report	0	0	0%		05-Oct-22	28
DWP10438	Complete Reliability Test	0	0	0%		05-Oct-22	28
NE/2017/06-2.MD.1.21	CC O - Government Optical Fibre System - TKOLTT	0	0	0%	30-Dec-22	30-Dec-22	-405
DWP10080	Issue of certificate of competion of Section 1B of the Works	0	0	0%		30-Dec-22	-405
NE/2017/06-2.MD.1.22	CC O1 - Government Optical Fibre System - CBL	0	0	0%			0
NE/2017/06-2.MD.1.23	CC P - Training and Documentation - TKOLTT	48	48	0%	13-Oct-22	30-Nov-22	400
DWP10230	Completion of Operation Training	0	0	0%		17-Nov-22	-392
DWP10250	Acceptance of all test reports	0	0	0%		30-Nov-22	-375
DWP10450	Acceptance of Operation and Maintenance Manuals	0	0	0%		13-Oct-22	448
NE/2017/06-2.MD.1.24	CC P1 - Training and Documentation - CBL	26	26	0%	03-Dec-22	28-Dec-22	372
DWP10160	Acceptance of all Training Manuals	0	0	0%		03-Dec-22	-30
DWP10170	Completion of Operation Training	0	0	0%		11-Dec-22	-39
DWP10190	Acceptance of all test reports	0	0	0%		04-Dec-22	-2
DWP10460	Acceptance of Operation and Maintenance Manuals	0	0	0%		28-Dec-22	372
NE/2017/06-2.MD.1.25	CC Q - Comprehensive Maintenance Services and DLP - TKOLTT	0	0	0%			0
NE/2017/06-2.MD.1.26	CC Q1 - Comprehensive Maintenance Services and DLP - CBL	0	0	0%			0
NE/2017/06-2.1	Preliminary	0	0	0%			0
NE/2017/06-2.DS	Design Stage	77	0	0%	06-Oct-22 A	30-Nov-22 A	
NE/2017/06-2.EMT	Equipment Manufacturing and FAT Stage for TKO-LTT TCSS	0	0	0%			0

Qtr 3, 2022: Jun | Jul | Aug | Sep
Qtr 4, 2022: Oct | Nov | Dec
Qtr 1, 2023: Jan | Feb | Mar
Qtr 2, 2023: Apr | May | Jun
Qtr 3, 2023: Jul | Aug

Actual Level of Effort | Remaining Work
Actual Work | Critical Remaining Work

TASK filter: 3M.

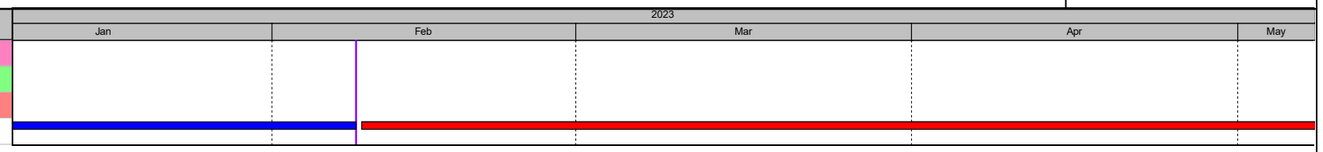
Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float
NE/2017/06-2.CST	**Construction Stage for TKO-LTT TCSS**	51	0	0%	01-Oct-22 A	18-Dec-22 A	
NE/2017/06-2.SATT	**SAT for TKO-LTT TCSS**	55	93	0%	01-Nov-22 A	30-Nov-22	-405
DWP6280	TCSS System SAT	14	14	0%	28-Nov-22 A	31-Oct-22	-405
DWP6290	Traffic Control Devices SAT	14	14	0%	24-Nov-22 A	17-Oct-22	-405
DWP6300	Communication System SAT	14	14	0%	21-Nov-22 A	03-Oct-22	-405
DWP6320	Building PABX SAT	14	14	0%	24-Nov-22 A	17-Oct-22	-405
DWP6330	ET System SAT	14	14	0%	24-Nov-22 A	17-Oct-22	-405
DWP6340	PA System SAT	7	7	0%	24-Nov-22 A	10-Oct-22	-398
DWP6350	Radio System SAT	35	35	0%	21-Nov-22 A	03-Oct-22	-347
DWP6360	Detection System SAT	14	14	0%	21-Nov-22 A	12-Sep-22	-370
DWP6380	MFCS SAT	30	30	0%	21-Nov-22 A	30-Nov-22	-405
DWP6390	Operation Facilities SAT	14	14	0%	21-Nov-22 A	12-Sep-22	-370
DWP6400	Power Distribution System SAT	7	7	0%	21-Nov-22 A	05-Sep-22	-405
DWP6410	SEC SAT	14	14	0%	21-Nov-22 A	12-Sep-22	-326
DWP6420	Optical Fibre System SAT	14	14	0%	28-Nov-22 A	19-Sep-22	-405
DWP6425	FSD's Inspection under Interfacing Contractso of C1 and C2	14	14	0%	01-Nov-22	14-Nov-22	
NE/2017/06-2.OPTT	**Operability Period Test for the TKO-LTT TCSS**	30	30	0%	01-Dec-22	30-Dec-22	-405
DWP6440	Operability Period test for the TKO-LTT TCSS	30	30	0%	01-Dec-22	30-Dec-22	-405
NE/2017/06-2.DLPT	**DLP for the TKO-LTT TCSS**	0	0	0%			0
NE/2017/06-2.DLPT.1	**General**	0	0	0%			0
NE/2017/06-2.DOC1	**Documentation Submission for TKO-LTT TCSS**	0	0	0%			0
NE/2017/06-2.TRT	**Training for TKO-LTT TCSS**	55	55	0%	14-Oct-22	08-Dec-22	393
DWP6490	TCSS Central System Administration	35	35	0%	14-Oct-22	17-Nov-22	-392
DWP6500	TCSS Control Kiosk Operation	3	3	0%	18-Oct-22	21-Oct-22	-364
DWP6530	TCSS Sub-systems Administration	20	20	0%	18-Nov-22	08-Dec-22	393
NE/2017/06-2.EMC	**Equipment Manufacturing and Delivery for CBL TCSS**	0	0	0%			0
NE/2017/06-2.EMC.1	**Sub-systems Equipment Manufacturing And Delivery**	0	0	0%			0
NE/2017/06-2.EMC.2	**Assembly of Equipment in Control Cabinet**	0	0	0%			0
NE/2017/06-2.CSC1	**Construction Stage for CBL TCSS**	51	0	0%	01-Oct-22 A	29-Nov-22 A	
NE/2017/06-2.SATC	**SAT for CBL TCSS**	63	63	0%	21-Oct-22 A	22-Dec-22	-32
DWP7340	TCSS System SAT	24	24	0%	28-Nov-22 A	21-Dec-22	-32
DWP7350	Traffic Control Devices SAT	21	21	0%	24-Nov-22 A	14-Dec-22	-32
DWP7370	CCTV SAT	21	21	0%	21-Oct-22	10-Nov-22	-32
DWP7380	Detection System SAT	32	32	0%	21-Nov-22 A	22-Dec-22	-19
NE/2017/06-2.OPTC	**Operability Period Test For the CBL TCSS**	0	0	0%			0
NE/2017/06-2.DLPC	**DLP for the CBL TCSS**	0	0	0%			0
NE/2017/06-2.DOC	**Documentation Submission for CBL TCSS**	45	45	0%	14-Nov-22	28-Dec-22	372
DWP7470	System Description	6	6	0%	22-Nov-22	27-Nov-22	403
DWP7480	Operation Manual	7	7	0%	22-Nov-22	28-Nov-22	-26
DWP7490	System Adminstration Manual	11	11	0%	22-Nov-22	03-Dec-22	398
DWP7500	Training Material	11	11	0%	22-Nov-22	03-Dec-22	-30
DWP7510	Equipment Mainterance Manual	45	45	0%	14-Nov-22	28-Dec-22	372
NE/2017/06-2.TRC	**Training for CBL TCSS**	50	50	0%	23-Oct-22	11-Dec-22	-39
DWP7550	TCSS Central System Administrarion	50	50	0%	23-Oct-22	11-Dec-22	-39
DWP7560	TCSS Control Kiosk Operation	3	3	0%	23-Oct-22	26-Oct-22	8



NE/2017/01 Tseung Kwan O - Lam Tin Tunnel- Tseung Kwan O Interchange and Associated Works

4-months Rolling programme

Activity ID	Activity Name	Original Duration	Start	Finish
Tseung Kwan O Interchange and Associated Works 202212-env				
Construction Work				
Outstandarding Works				
CON-16100	Demolish site accommodation & reinstatement works	144	28-Dec-22 A	21-May-23

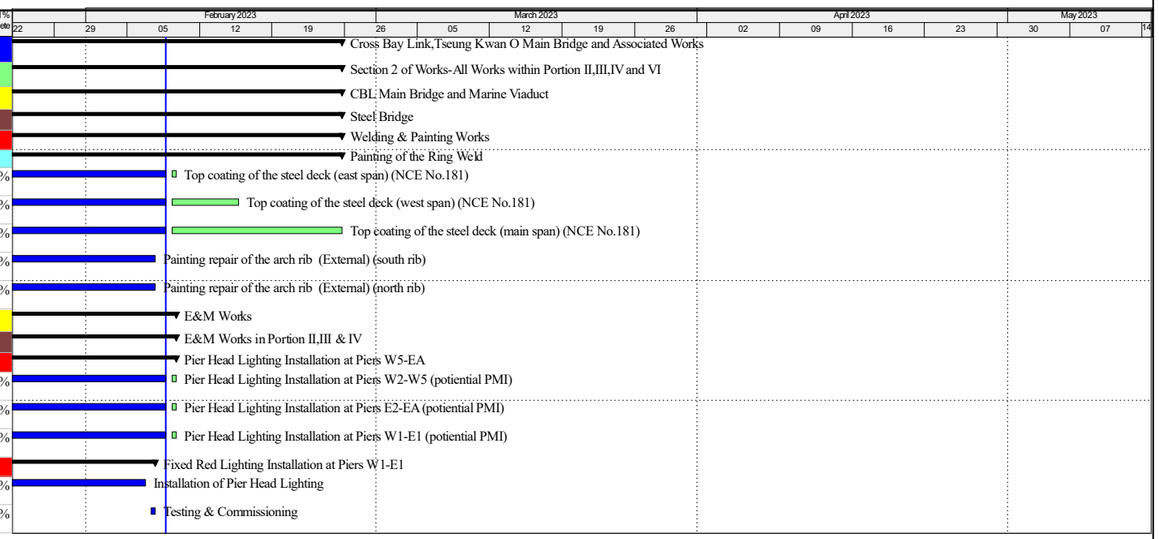


Works Critical Works Actual

Data Date :08-Feb-23
Sheet 1 of 1

Contract No. NE/2017/07 Cross Bay Link, Tseng Kwan O - Main Bridge and Associated Works

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Physical % Complete
Cross Bay Link,Tseung Kwan O Main Bridge and Associated Works		369	17	08-Jan-22 08:00 A	25-Feb-23 18:00	
Section 2 of Works-All Works within Portion II,III,IV and VI		369	17	08-Jan-22 08:00 A	25-Feb-23 18:00	
CBL Main Bridge and Marine Viaduct		214	15	08-Jan-22 08:00 A	25-Feb-23 18:00	
Steel Bridge		214	15	08-Jan-22 08:00 A	25-Feb-23 18:00	
Welding & Painting Works		214	15	08-Jan-22 08:00 A	25-Feb-23 18:00	
Painting of the Ring Weld		214	15	08-Jan-22 08:00 A	25-Feb-23 18:00	
S2-SB2072	Top coating of the steel deck (east span) (NCE No.181)	75	1	08-Jan-22 08:00 A	09-Feb-23 18:00	90%
S2-SB2076	Top coating of the steel deck (west span) (NCE No.181)	75	6	08-Jan-22 08:00 A	15-Feb-23 18:00	90%
S2-SB2080	Top coating of the steel deck (main span) (NCE No.181)	98	15	08-Jan-22 08:00 A	25-Feb-23 18:00	80%
S2-SB2105	Painting repair of the arch rib (External) (south rib)	25	0	06-Sep-22 08:00 A	07-Feb-23 18:00 A	100%
S2-SB2300	Painting repair of the arch rib (External) (north rib)	20	0	02-Aug-22 08:00 A	07-Feb-23 18:00 A	100%
E&M Works		156	1	03-Oct-22 08:00 A	09-Feb-23 18:00	
E&M Works in Portion II,III & IV		156	1	03-Oct-22 08:00 A	09-Feb-23 18:00	
Pier Head Lighting Installation at Piers W5-EA		30	1	03-Oct-22 08:00 A	09-Feb-23 18:00	
S2-EM3040	Pier Head Lighting Installation at Piers W2-W5 (potential PMI)	30	1	03-Oct-22 08:00 A	09-Feb-23 18:00	0%
S2-EM3060	Pier Head Lighting Installation at Piers E2-EA (potential PMI)	30	1	03-Oct-22 08:00 A	09-Feb-23 18:00	0%
S2-EM3080	Pier Head Lighting Installation at Piers W1-E1 (potential PMI)	30	1	03-Oct-22 08:00 A	09-Feb-23 18:00	0%
Fixed Red Lighting Installation at Piers W1-E1		156	0	03-Oct-22 08:00 A	07-Feb-23 18:00 A	
S2-EM3100	Installation of Pier Head Lighting	30	0	03-Oct-22 08:00 A	06-Feb-23 18:00 A	100%
S2-EM3120	Testing & Commissioning	1	0	07-Feb-23 08:00 A	07-Feb-23 18:00 A	100%



Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

Three Month Rolling Programme (Apr 2023 - Jul 2023)

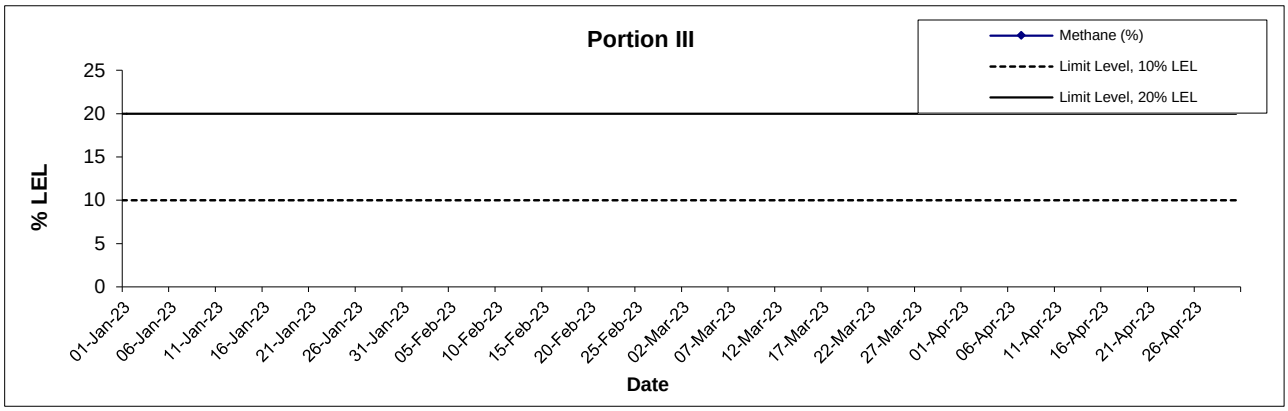
Date	Revision	Checked	Approved
	3MRP (Apr 23 - Jul 23)		

APPENDIX R
RECORD OF LANDFILL GAS MONITORING BY CONTRACTOR

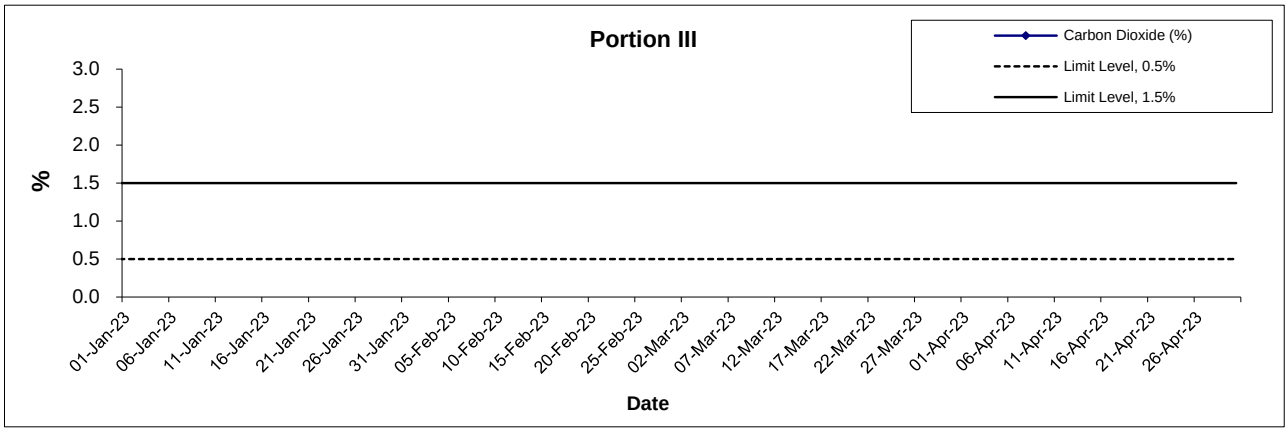
APPENDIX R - RECORD OF LANDFILL GAS MONITORING BY THE CONTRACTOR

Location	Date of Measurement	Sampling time	Weather Condition	Temperature (°C)	Methane (%)	Carbon dioxide (%)	Oxygen (%)
Portion III	1-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	2-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	3-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	4-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	5-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	6-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	7-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	8-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	9-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	10-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	11-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	12-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	13-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	14-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	15-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	16-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	17-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	18-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	19-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	20-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	21-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	22-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	23-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	24-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	25-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	26-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	27-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	28-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	29-Apr-23	N/A	N/A	N/A	No Excavation Works		
Portion III	30-Apr-23	N/A	N/A	N/A	No Excavation Works		

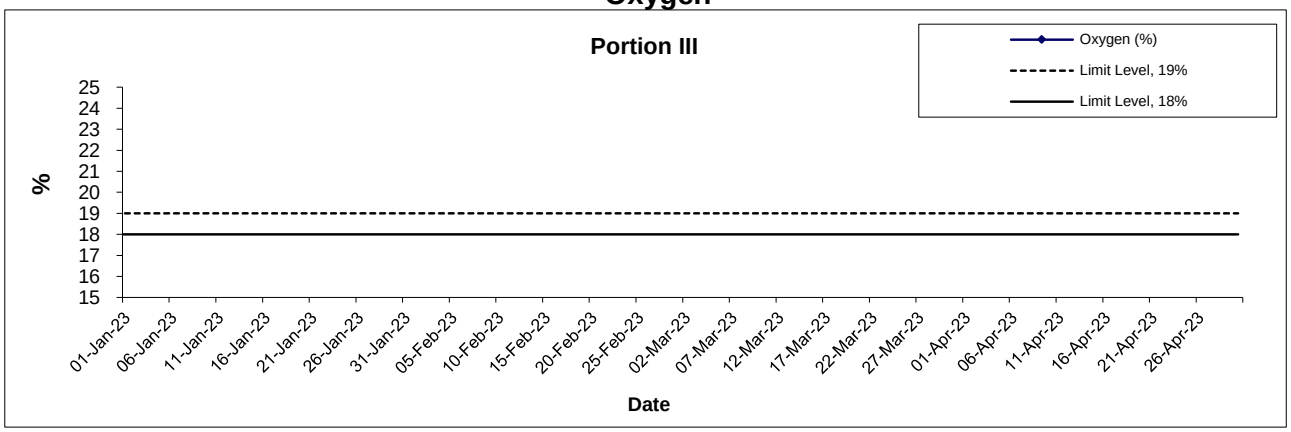
Methane



Carbon Dioxide



Oxygen



*No landfill gas monitoring was conducted by the Contractor from Dec 2022 as no excavation works at Portion III.

Monitoring Result

The commencement date of monthly landfill gas monitoring was 29th December 2022. For this reporting month, the landfill gas monitoring was conducted on 25th April 2023. The measurement results are presented in **Table.4**. The accumulative tendency of the monitoring result is provided in **Appendix D**.

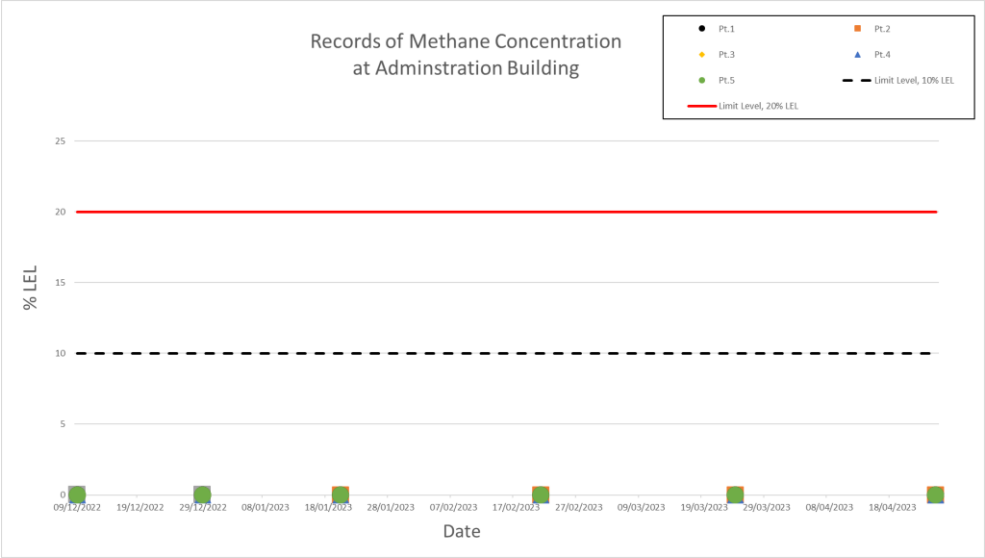
Table.4. Measurement Result on 25th Apr 2023

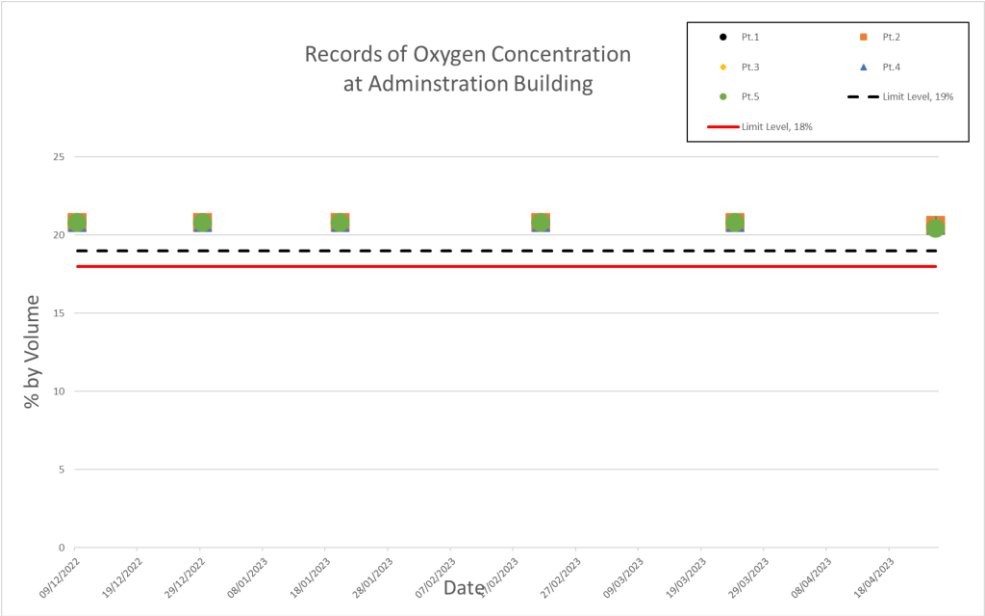
ID	Methane (% LEL)	Oxygen (%)	Carbon dioxide (%)	Compliance (Y/N)
1	0	20.6	0.10	Y
2	0	20.6	0.10	Y
3	0	20.6	0.10	Y
4	0	20.6	0.10	Y
5	0	20.4	0.10	Y
6	0	20.3	0.10	Y
7	0	20.3	0.10	Y
8	0	20.4	0.10	Y
9	0	20.4	0.10	Y
10	0	20.4	0.10	Y

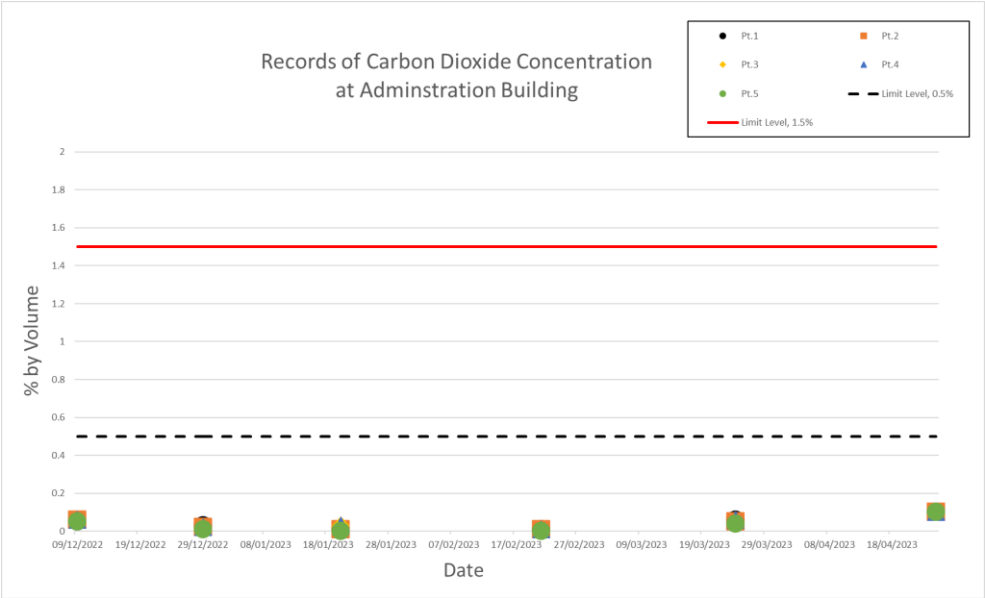
Conclusion

The landfill gas measurement was conducted on 25th April 2023. No exceedance of limit level was observed in the Administration Building, Sewage Pumping Station, Stormwater Pumping Station, West Ventilation Building and the tunnel area at Lam Tin. The overall condition was in compliance during the reporting month.

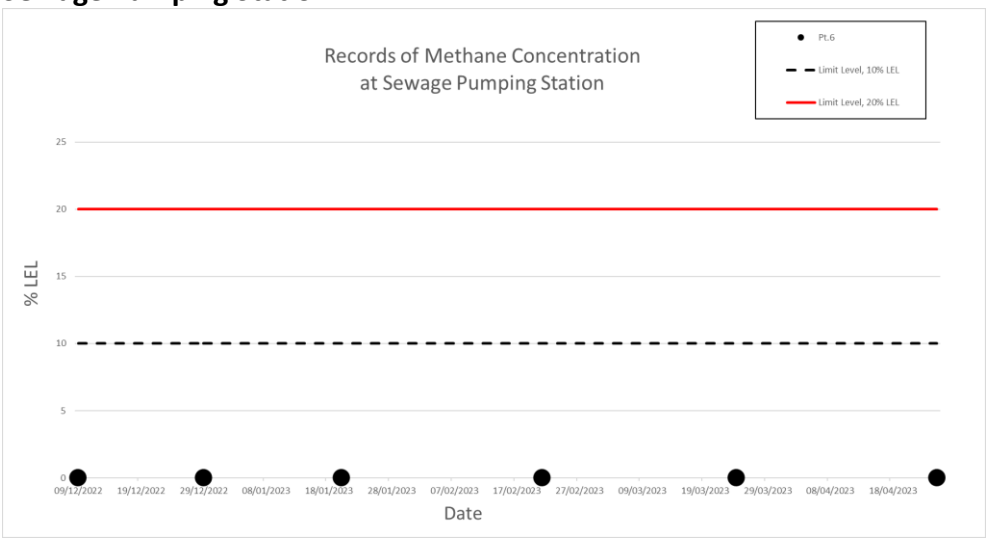
i. Administration Building

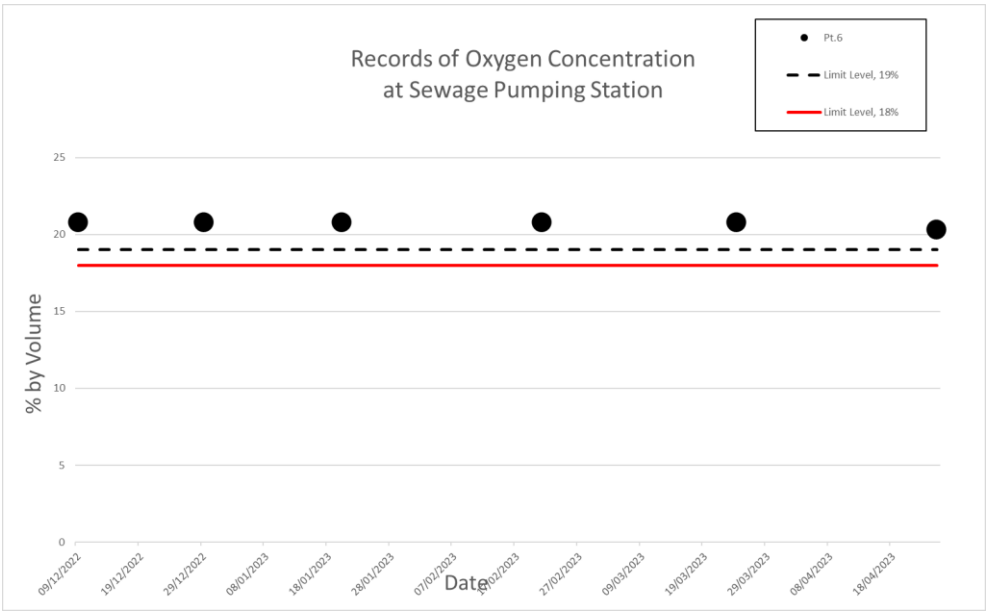


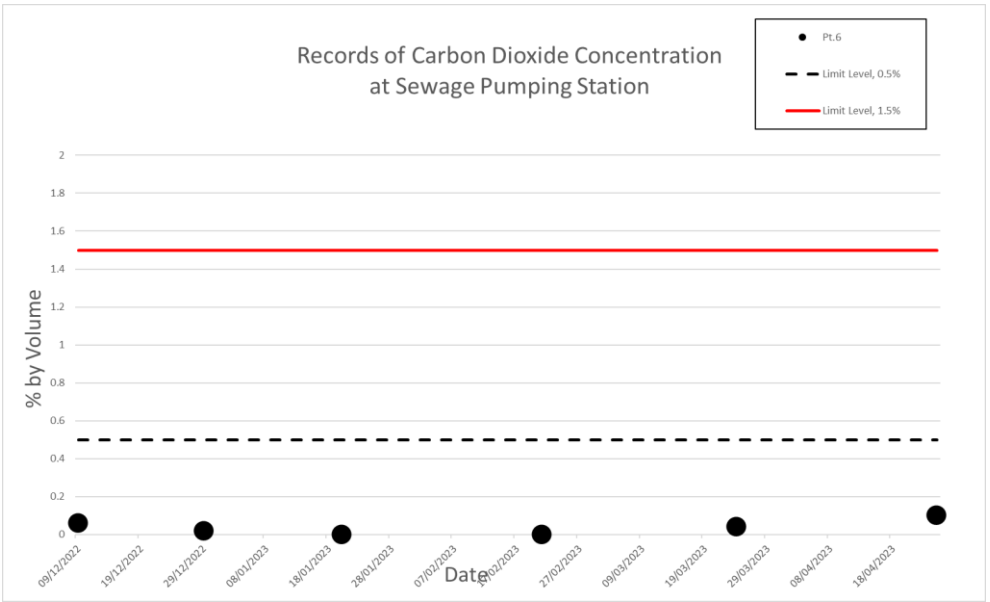




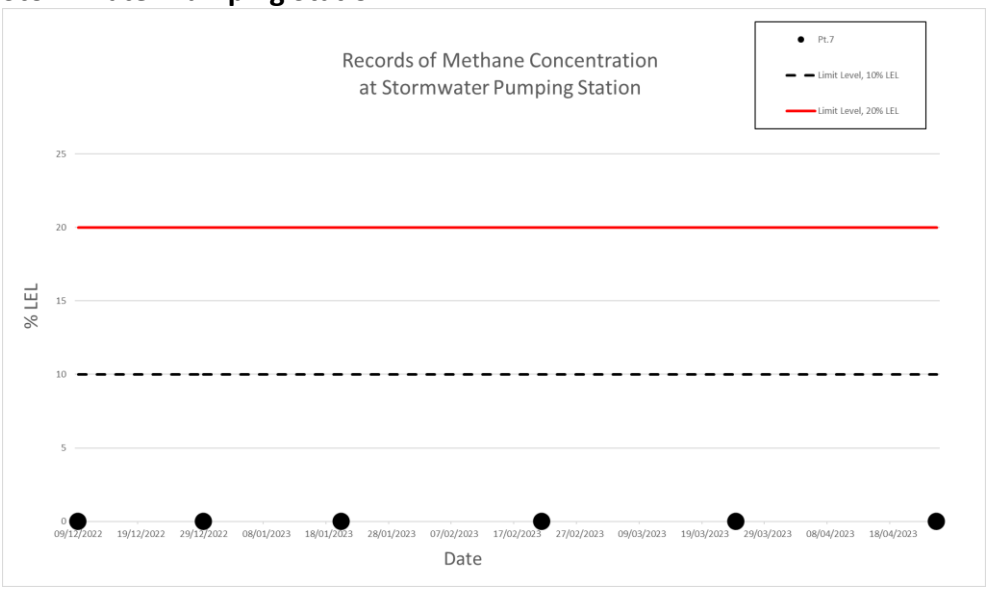
ii. Sewage Pumping Station

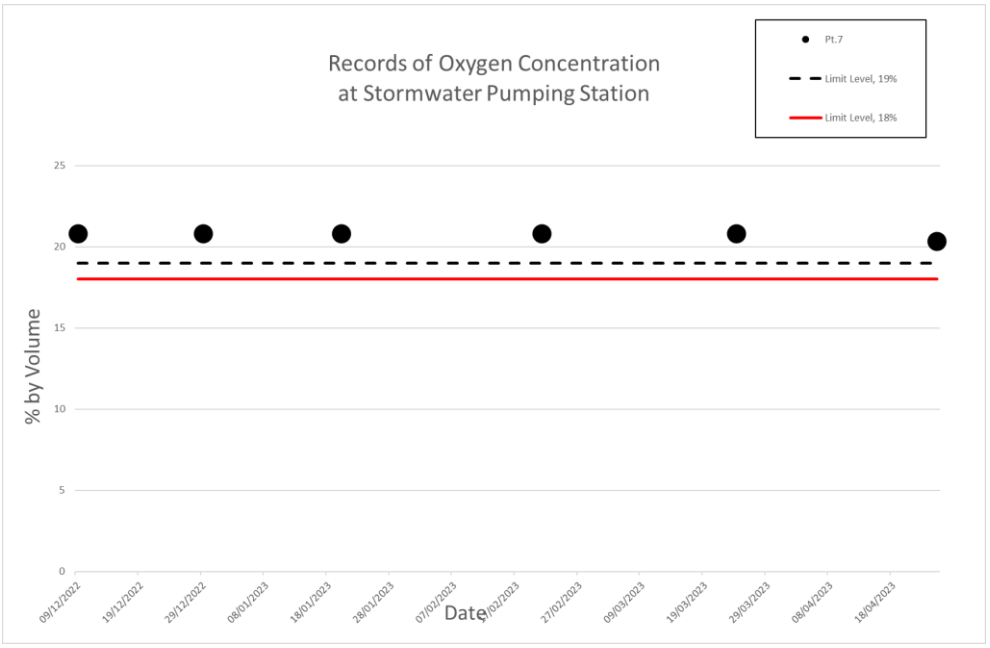


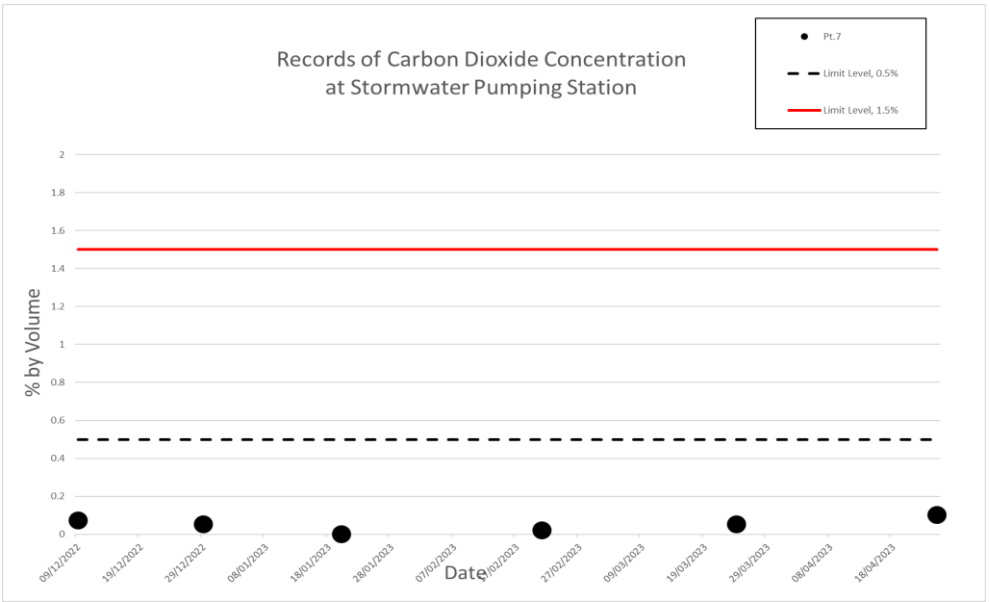




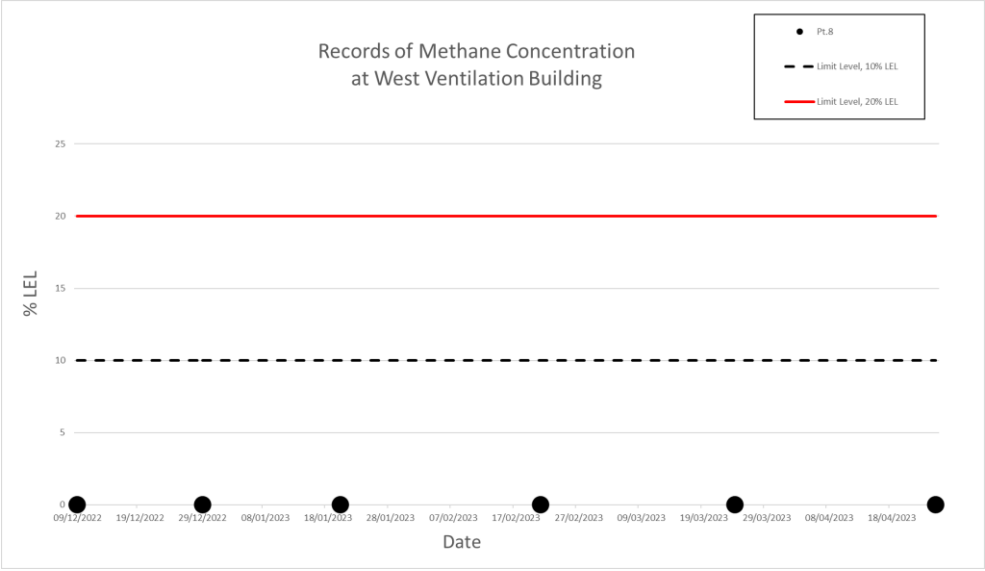
iii. Stormwater Pumping Station

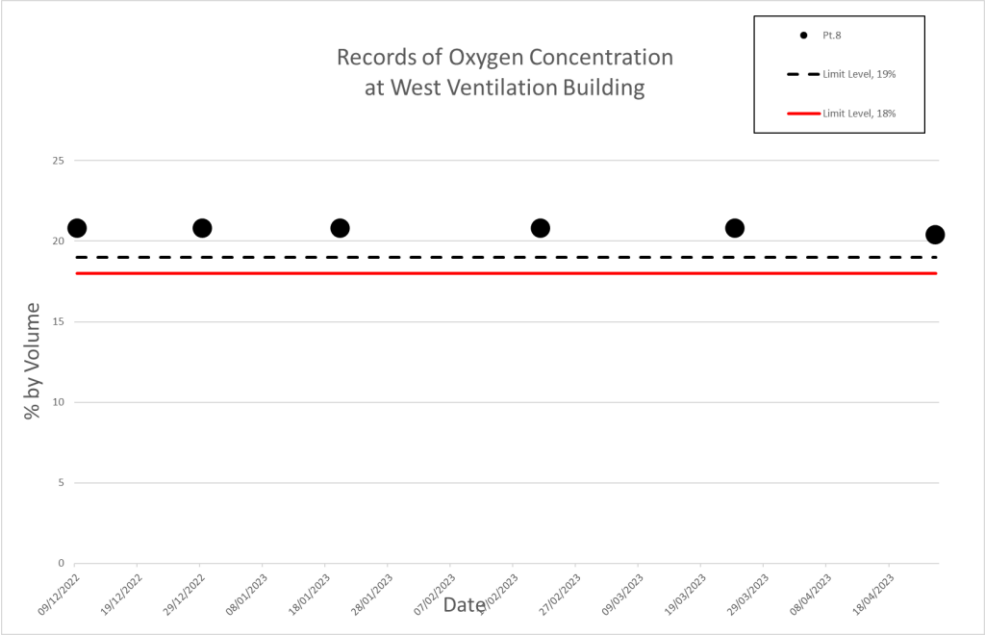


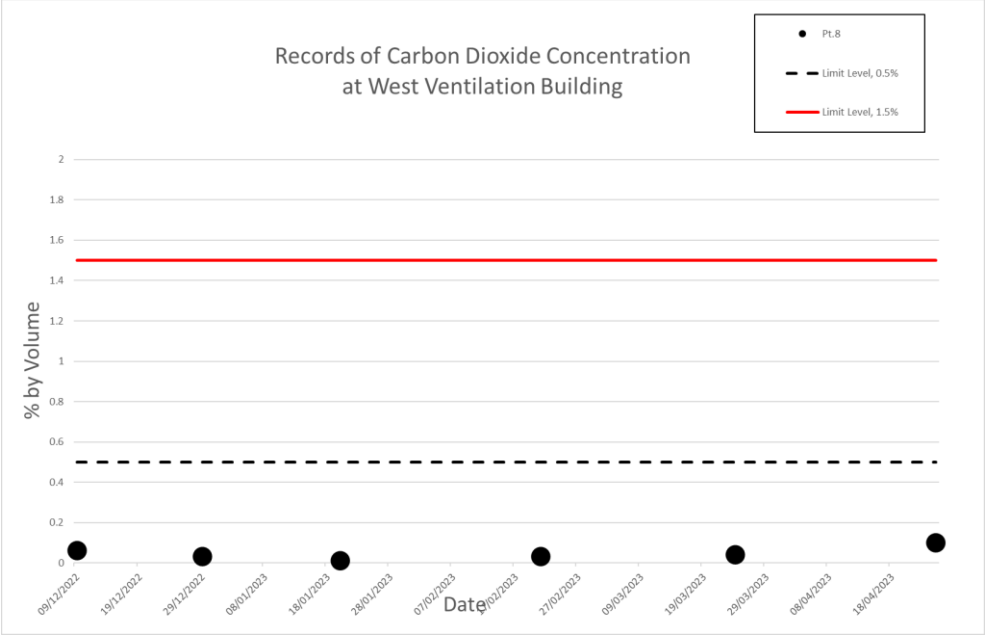




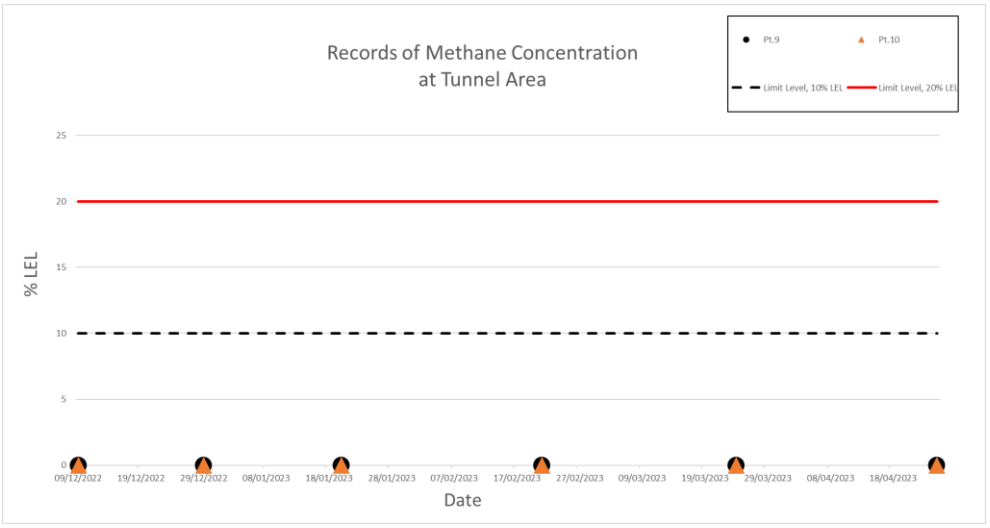
iv. West Ventilation Building

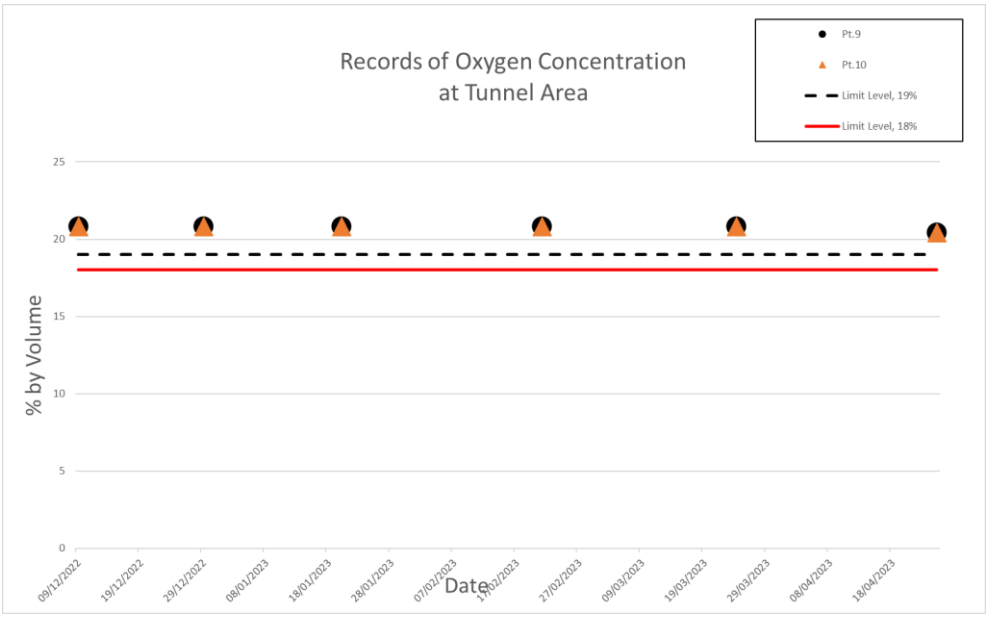


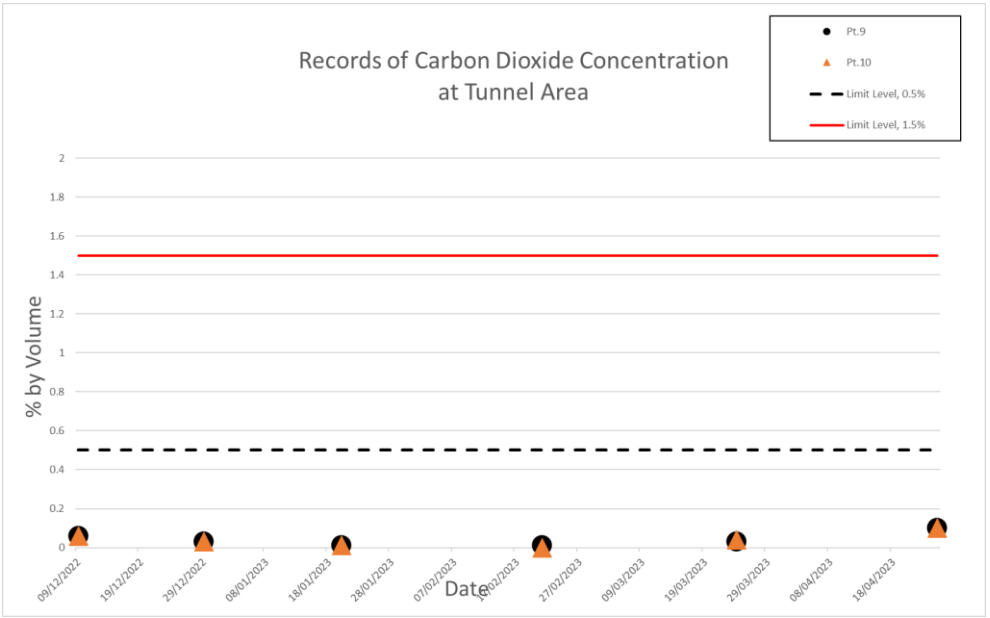




v. Tunnel Area at Lam Tin







APPENDIX S
POST GROUND WATER LEVEL MONITORING

Standpipe / Piezometer	TKO-LBH403(P)	TKO-LBH434(P)
Instrument ref. no. on layout plan (Code) A - Instruments under Contract Requirement B - Instruments required by other government departments or authorities such as BD, MTRC etc. C - Instruments instructed by the Engineer (VO, Instruction of Provisional Items etc.) D - Additional instruments proposed by the Contractor for their own reference	28 (A)	38 (A)
Type of Instrument	Piezometer	Piezometer 1
Existing GL (mPD)	50.96	100.02
Pipe Tip Level (mPD)	-15.54	80.52
Response Test Date	25-Nov-16	21-Jun-18
Pre-Tender Lowest Record (mPD)	15.93	95.44
Baseline Before Work	-15.58	97.58
Value adopted for Baseline (mPD) (#1)	-15.58	95.44
Rockhead level (mPD)	47.26	98.52

Date	**Water Level (mPD)**	**Water Level (mPD)**
23-Dec-22	--	89.47
28-Dec-22	-14.69	--
19-Jan-23	--	Obstructed
28-Jan-23	-14.65	--
18-Feb-23	-14.62	88.91
17-Mar-23	-15.38	--
23-Mar-23	--	85.26
14-Apr-23	-14.93	87.5

APPENDIX T
CULTURAL HERITAGE MONITORING RESULTS

Appendix T – Cultural Heritage Monitoring Results

Date	Tilting				Settlement (mm)			Vibration (mm/s)		
	THT-TM-01A	THT-TM-02A	THT-TM-03A	THT-TM-04A	THT-BSP-1A	THT-BSP-2	THT-BSP-3	Measurement Direction		
								Tran	Vertical	Longitudinal
1-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
3-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
4-Apr-23	1 : 22958	Obstructed	-1 : 64285	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
6-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	0.142	0.181	0.158
11-Apr-23	1 : 13235	Obstructed	-1 : 34615	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
12-Apr-23	---	---	---	Obstructed by work from stakeholder	+0	+1	Stop Monitoring	---	---	---
13-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
14-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	0.205	0.386	0.229
15-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---

Appendix T – Cultural Heritage Monitoring Results

Date	Tilting				Settlement (mm)			Vibration (mm/s)		
	THT-TM-01A	THT-TM-02A	THT-TM-03A	THT-TM-04A	THT-BSP-1A	THT-BSP-2	THT-BSP-3	Measurement Direction		
								Tran	Vertical	Longitudinal
17-Apr-23	---	---	---	Obstructed by work from stakeholder	+0	+0	Stop Monitoring	---	---	---
18-Apr-23	1 : 8181	Obstructed	-1 : 14516	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
19-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
20-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
21-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	0.118	0.126	0.126
22-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
24-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
25-Apr-23	1 : 16071	Obstructed	-1 : 7377	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
26-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---

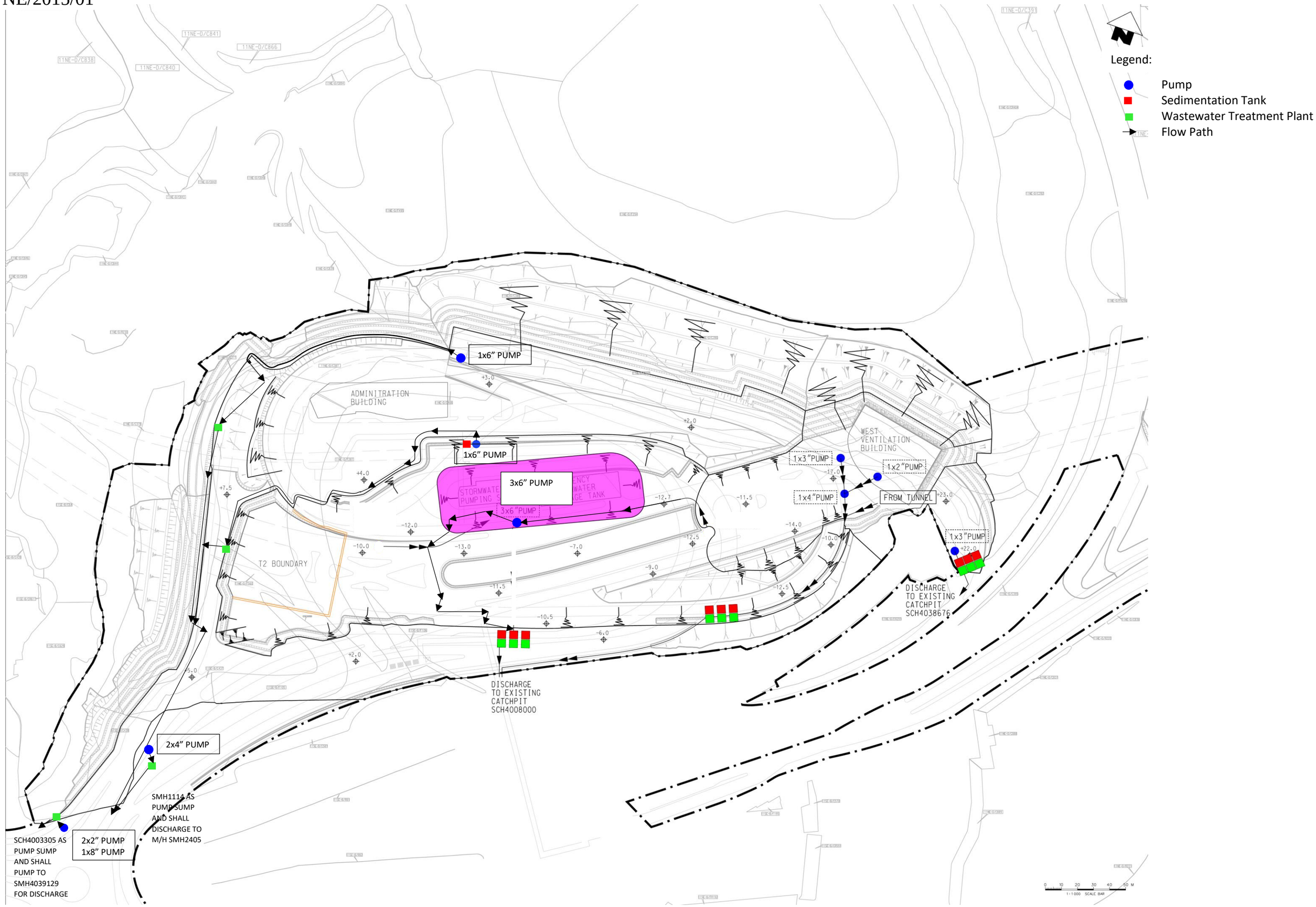
Appendix T – Cultural Heritage Monitoring Results

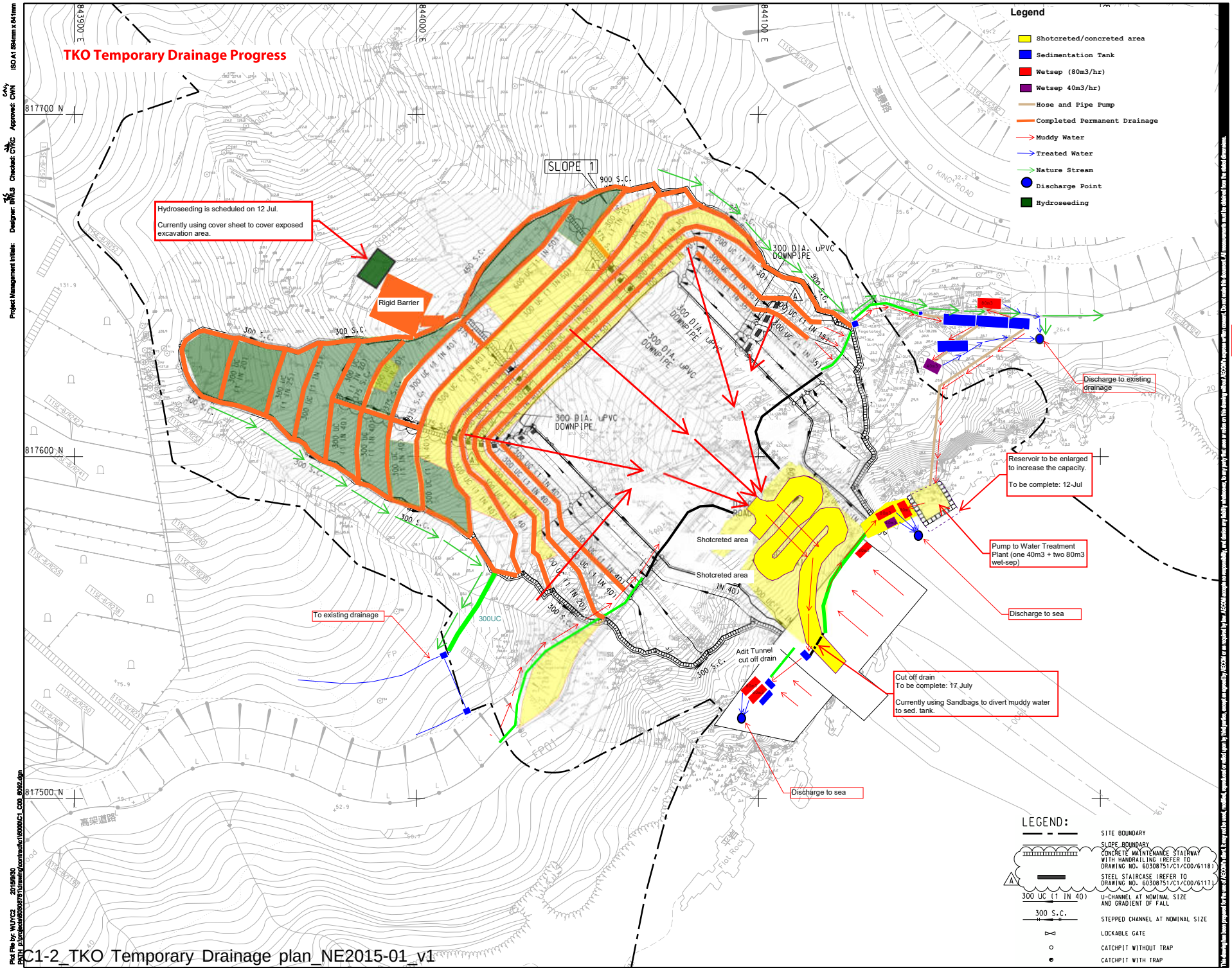
Date	Tilting				Settlement (mm)			Vibration (mm/s)		
								Measurement Direction		
	THT-TM-01A	THT-TM-02A	THT-TM-03A	THT-TM-04A	THT-BSP-1A	THT-BSP-2	THT-BSP-3	Tran	Vertical	Longitudinal
27-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
28-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
29-Apr-23	---	---	---	Obstructed by work from stakeholder	---	---	Stop Monitoring	---	---	---
Alert Level	1:2000				6			4.5		
Alarm Level	1:1500				8			4.8		
Action Level	1:1000				10			5		

Note:
Bold means Alert Level exceedance
Bold Italic means Alarm Level exceedance
Bold Italic with underline means Action Level exceedance

APPENDIX V
SURFACE RUNOFF MANAGEMENT PLAN

Contract No.
NE/2015/01





AECOM

PROJECT
TSEUNG KWAN O - LAM TIN TUNNEL

CONTRACT TITLE
TSEUNG KWAN O - LAM TIN TUNNEL MAIN TUNNEL AND ASSOCIATED WORKS

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

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

FOR CONSTRUCTION

ISSUE/REVISION

B	JUL. 16	WORKING DRAWING	ALC
A	OCT.15	TENDER ADDENDUM NO.1	CYKC
-	AUG.15	TENDER DRAWING	CYKC
DR.	DATE	DESCRIPTION	CHK.

STATUS
WORKING DRAWING

SCALE
A1 1:500

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60308751

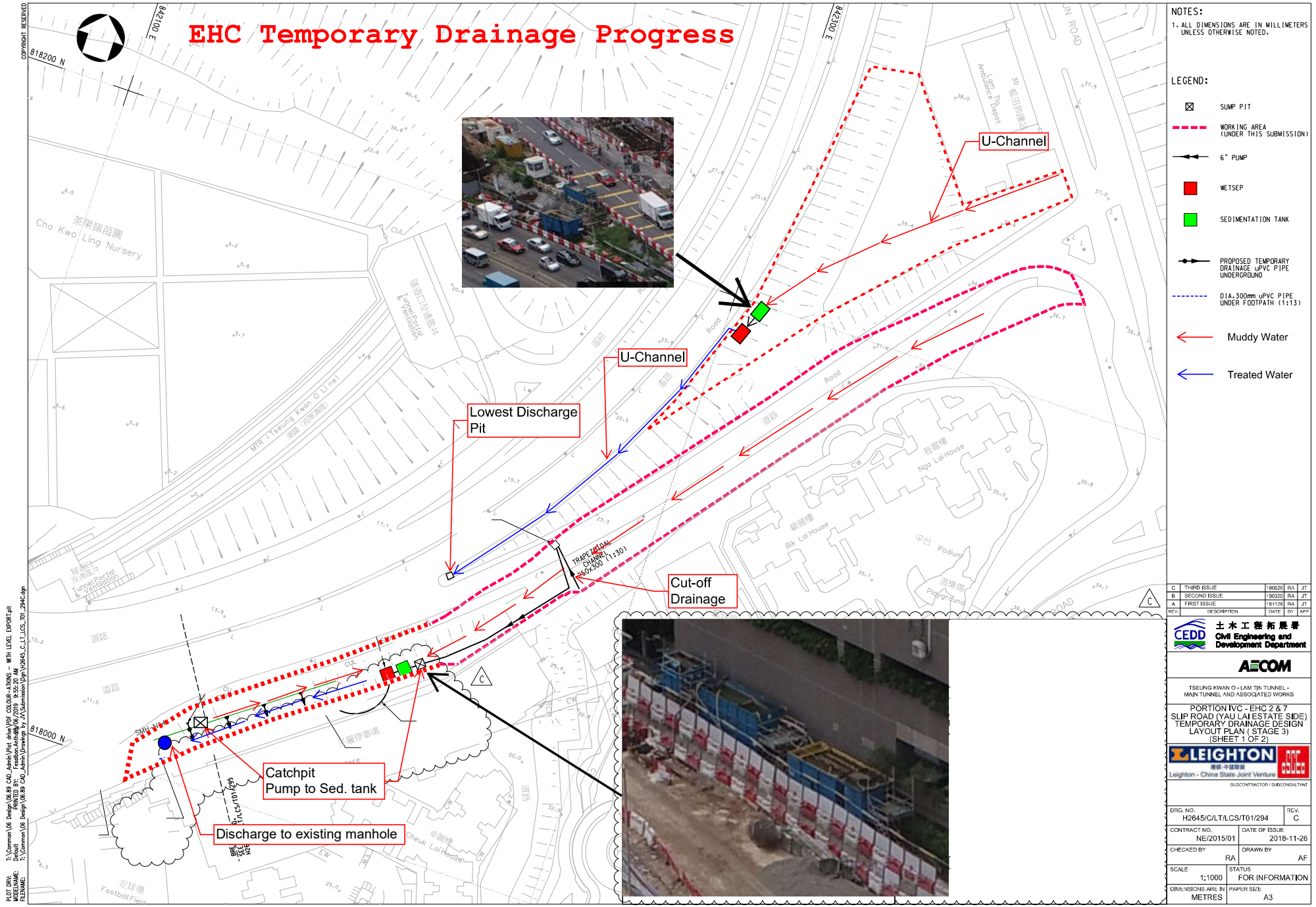
CONTRACT NO.
NE/2015/01

SHEET TITLE
TSEUNG KWAN O PORTAL
SITE FORMATION
DRAINAGE LAYOUT PLAN

SHEET NUMBER
60308751/C1/C00/6092B

Designer: BWLS Checked: CYKC Approved: CWN
Project Management Initials:
ISO A1 594mm x 841mm
Plot File by: WUYC2 2016/9/30
PATH: p:\projects\60308751\drawing\contract\c1\60000\C1_C00_6092.dgn


Maintenance Schedule
Wetsep ,Sed tanks and drainage will be clean once or twice per week.
(Depends on the weather condition)
Sed tanks
Site Clearance & provide cover to exposed excavation area
Contract Number NE/2015/01
Wetsep
Effluent
Extension of Sed tanks


EHC Temporary Drainage Progress
U-Channel
U-Channel
Lowest Discharge Pit
Cut-off Drainage
Catchpit
Pump to Sed. tank
Discharge to existing manhole
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
LEGEND:
SUMP PIT
WORKING AREA (UNDER THIS SUBMISSION)
6" PUMP
WETSEP
SEDIMENTATION TANK
PROPOSED TEMPORARY DRAINAGE uPVC PIPE UNDERGROUND
DIA.300mm uPVC PIPE UNDER FOOTPATH (1:13)
Muddy Water
Treated Water
TSEUNG KWAN O - LAM TIN TUNNEL - MAIN TUNNEL AND ASSOCIATED WORKS
PORTION IVC - EHC 2 & 7
SLIP ROAD (YAU LAI ESTATE SIDE)
TEMPORARY DRAINAGE DESIGN
LAYOUT PLAN (STAGE 3)
(SHEET 1 OF 2)
DRG. NO. H2645/C/LT/LCS/T01/294
REV. C
CONTRACT NO. NE/2015/01
DATE OF ISSUE 2018-11-26
CHECKED BY RA
DRAWN BY AF
SCALE 1:1000
STATUS FOR INFORMATION
DIMENSIONS ARE IN METRES
PAPER SIZE A3

CRBC-Build King Joint Venture

Our Ref.:JV/TKO-P2/NE201502/19.00.00.00/017621/L
Your Ref.: TLT/(NE/2015/02)/C30/650/(0205)

29 March 2021

* N E - 0 0 0 1 7 5 7 0 *

AECOM Asia Company Limited
8/F, Tower 2, Grand Central Plaza
138 Shatin Rural Committee Road
Shatin, Hong Kong

By Hand

Attn.: Mr C. W. Lam, Dominic (CRE)

Dear Sir,

Contract No.: NE/2015/02
Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works
Submission of Layout Plan for Site Surface Run-off Control

We would like to submit herewith a Layout Plan for Site Surface Run-off Control so as to illustrate our site preparedness for the coming typhoon and wet season as per PS Clause 25.08.

Yours faithfully,
For and on behalf of
CRBC-Build King Joint Venture

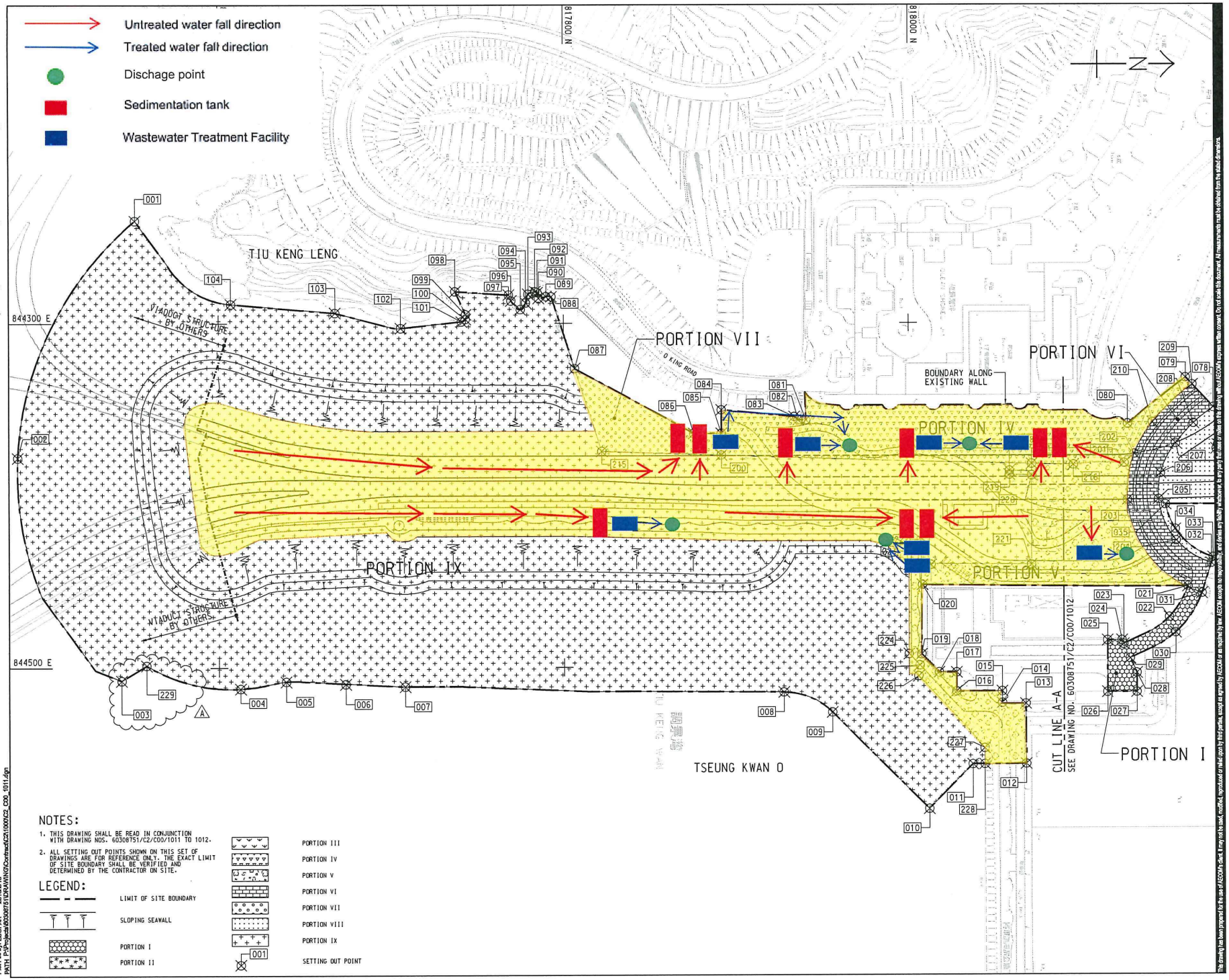
YU Man Kit, Andy
Site Agent

Encl.

c.c.:
The Project Manager for the contract, (CE/E1, CEDD) – Attn.: Mr. Sunny SP LO Fax: 2739 0076
The Project Manager's Delegate, AECOM (HO) - Attn: Mr. Ivan Tsang Fax: 3922 9797

AY/GN/WW/RP/KC

香港北角渣華道 191 號嘉華國際中心 23 A 字樓 07 - 11 室
Units 07-11, 23A/F., K. Wah Centre, 191 Java Road, North Point, Hong Kong
Tel: 852-2283 1688 Fax: 852-2283 1689



Project Management Initials: Designer: ATH Checked: RPCM Approved: GWN

ISO A1 594mm x 841mm

Plot File by: LUOFA 2016/2/18
PATH: P:\Projects\60308751\DRAWINGS\Contract\C2\1000\C2_C00_1011.dgn

AECOM

PROJECT
TSEUNG KWAN O - LAM TIN TUNNEL

CONTRACT TITLE
TSEUNG KWAN O - LAM TIN TUNNEL ROAD P2 AND ASSOCIATED WORKS

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

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

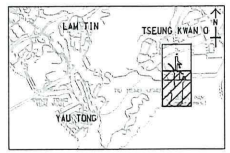
I/R	DATE	DESCRIPTION	CHK
B	SEP. 16	WORKING DRAWING	RPCM
A	FEB.16	TENDER ADDENDUM NO. 1	RPCM
-	JAN.16	TENDER DRAWING	RPCM

STATUS
WORKING DRAWING

SCALE
A1 1 : 1000

DIMENSION UNIT
METRES

KEY PLAN A1 1 : 50000



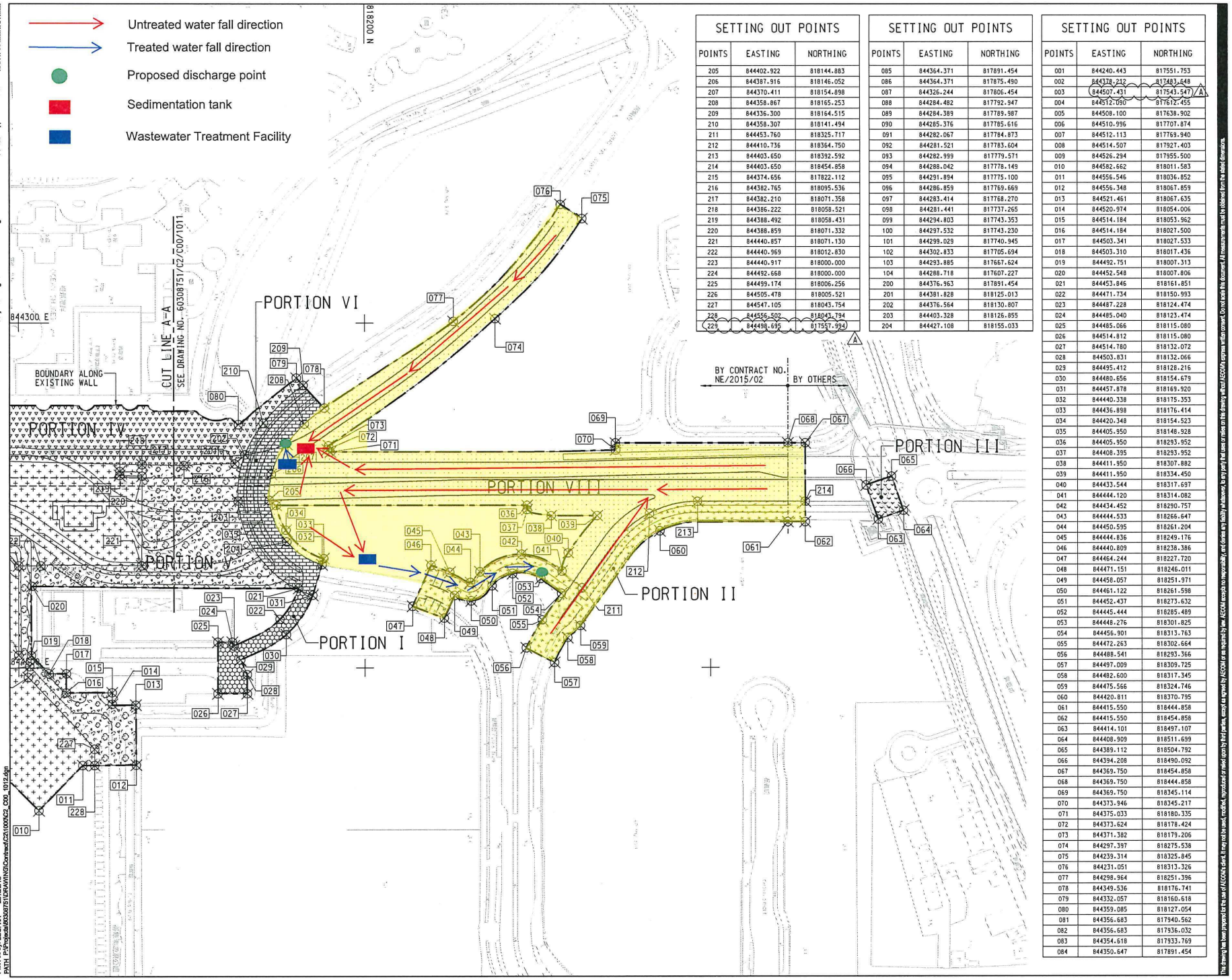
PROJECT NO.
60308751

CONTRACT NO.
NE/2015/02

SHEET TITLE
PORTION OF SITE

SHEET 1 OF 2

SHEET NUMBER
60308751/C2/C00/1011B



SETTING OUT POINTS

POINTS	EASTING	NORTHING
205	844402.922	818144.883
206	844387.916	818146.052
207	844370.411	818154.898
208	844358.867	818165.253
209	844336.300	818164.515
210	844358.307	818141.494
211	844453.760	818325.717
212	844410.736	818364.750
213	844403.650	818392.592
214	844403.650	818454.858
215	844374.656	817822.112
216	844382.765	818095.536
217	844382.210	818071.358
218	844386.222	818058.521
219	844388.492	818058.431
220	844388.859	818071.332
221	844440.857	818071.130
222	844440.969	818012.830
223	844440.917	818000.000
224	844492.668	818000.000
225	844499.174	818006.256
226	844505.478	818005.521
227	844547.105	818043.754
228	844556.502	818041.794
229	844498.695	817557.994

SETTING OUT POINTS

POINTS	EASTING	NORTHING
085	844364.371	817891.454
086	844364.371	817875.490
087	844326.244	817806.454
088	844284.482	817792.947
089	844284.389	817789.987
090	844285.376	817785.616
091	844282.067	817784.873
092	844281.521	817783.604
093	844282.999	817779.571
094	844288.042	817778.149
095	844291.894	817775.100
096	844286.859	817769.669
097	844283.414	817768.270
098	844281.441	817737.265
099	844294.803	817743.353
100	844297.532	817743.230
101	844299.029	817740.945
102	844302.833	817705.694
103	844293.885	817667.624
104	844288.718	817607.227
200	844376.963	817891.454
201	844381.828	818125.013
202	844376.564	818130.807
203	844403.328	818126.855
204	844427.108	818155.033

SETTING OUT POINTS

POINTS	EASTING	NORTHING
001	844240.443	817551.753
002	844378.212	817483.648
003	844507.431	817543.547
004	844512.090	817612.455
005	844508.100	817638.902
006	844510.996	817707.874
007	844512.113	817769.940
008	844514.507	817927.403
009	844526.294	817955.500
010	844582.662	818011.583
011	844556.546	818036.852
012	844556.348	818067.859
013	844521.461	818067.635
014	844520.974	818054.006
015	844514.184	818053.962
016	844514.184	818027.500
017	844503.341	818027.533
018	844503.310	818017.436
019	844492.751	818007.313
020	844452.548	818007.806
021	844453.846	818161.851
022	844471.734	818150.993
023	844487.228	818124.474
024	844485.040	818123.474
025	844485.066	818115.080
026	844514.812	818115.080
027	844514.780	818132.072
028	844503.831	818132.066
029	844495.412	818128.216
030	844480.656	818154.679
031	844457.878	818169.920
032	844440.338	818175.353
033	844436.898	818176.414
034	844420.348	818154.523
035	844405.950	818148.928
036	844405.950	818293.952
037	844408.395	818293.952
038	844411.950	818307.882
039	844411.950	818334.450
040	844433.544	818317.697
041	844444.120	818314.082
042	844434.452	818290.757
043	844444.533	818266.647
044	844450.595	818261.204
045	844444.836	818249.176
046	844440.809	818238.386
047	844464.244	818227.720
048	844471.151	818246.011
049	844458.057	818251.971
050	844461.122	818261.598
051	844452.437	818273.632
052	844445.444	818285.489
053	844448.276	818301.825
054	844456.901	818313.763
055	844472.263	818302.664
056	844488.541	818293.366
057	844497.009	818309.725
058	844482.600	818317.345
059	844475.566	818324.746
060	844420.811	818370.795
061	844415.550	818444.858
062	844415.550	818454.858
063	844414.101	818497.107
064	844408.909	818511.699
065	844389.112	818504.792
066	844394.208	818490.092
067	844369.750	818454.858
068	844369.750	818444.858
069	844369.750	818345.114
070	844373.946	818345.217
071	844375.033	818180.335
072	844373.624	818178.424
073	844371.382	818179.206
074	844297.397	818275.538
075	844239.314	818325.845
076	844231.051	818313.326
077	844298.964	818251.396
078	844349.536	818176.741
079	844332.057	818160.618
080	844359.085	818127.054
081	844356.683	817940.562
082	844356.683	817936.032
083	844354.618	817933.769
084	844350.647	817891.454

AECOM

PROJECT
TSEUNG KWAN O - LAM TIN TUNNEL

CONTRACT TITLE
TSEUNG KWAN O - LAM TIN TUNNEL ROAD P2 AND ASSOCIATED WORKS

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

CONSULTANT
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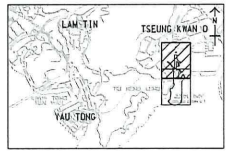
ISSUE/REVISION

VR	DATE	DESCRIPTION	CHK.
B	SEP. 16	WORKING DRAWING	RPCM
A	FEB.16	TENDER ADDENDUM NO. 1	RPCM
-	JAN.16	TENDER DRAWING	RPCM

STATUS
WORKING DRAWING

SCALE A1 1 : 1000
DIMENSION UNIT METRES

KEY PLAN A1 1 : 60000



PROJECT NO. 60308751
CONTRACT NO. NE/2015/02

SHEET TITLE
PORTION OF SITE

SHEET 2 OF 2

SHEET NUMBER
60308751/C2/C00/1012B

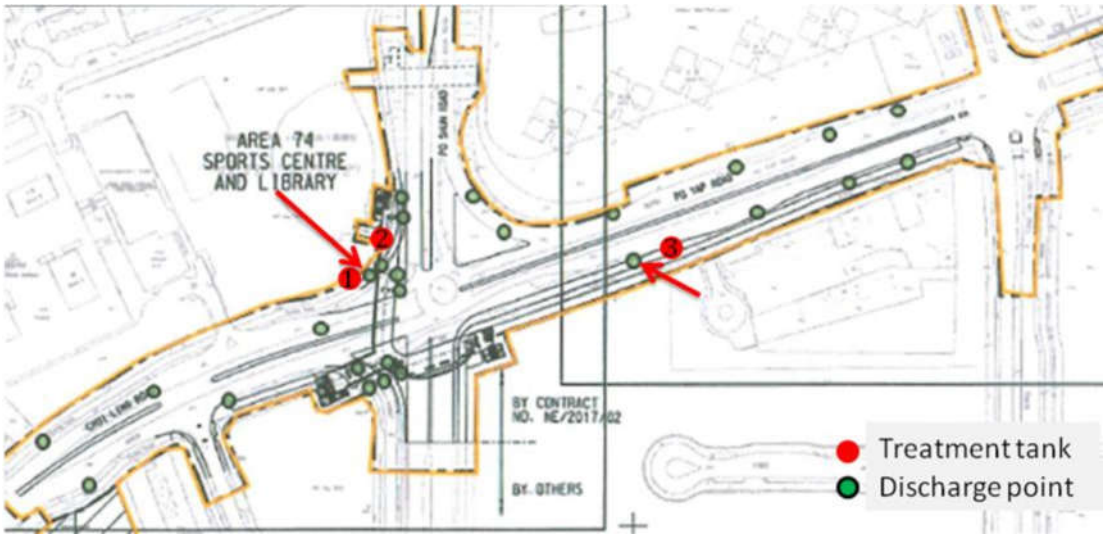
ISO A1 594mm x 841mm
Approved: CWN
Checked: RPCM
Designer: ATKH
Project Management Initials:
Plot File by: LUOFXA 2018/2/18
PATH: P:\Projects\60308751\DRAWING\Contract\C2\1000\C2_C00_1012.dgn

Contract No.: NE/2017/02

Contract Title: Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works

Flooding Mitigation Plan

Treatment facility
   

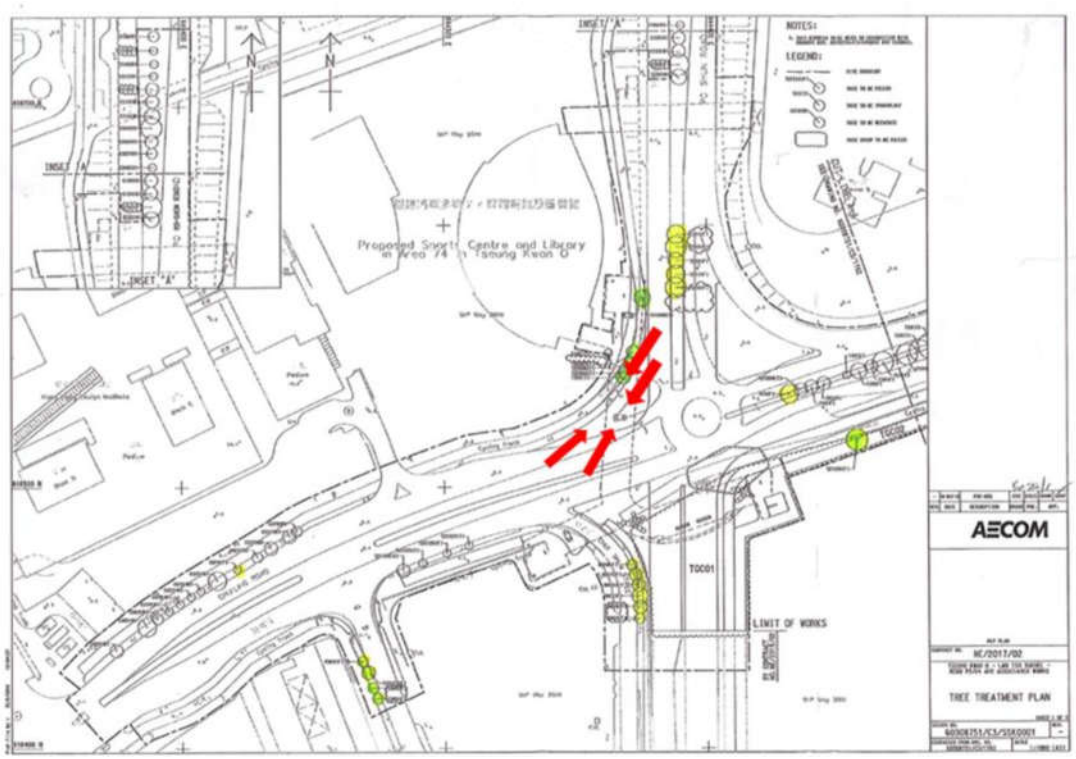


Three treatment facilities are provided on-site.

Bunding

Bunding is provided to prevent the surface runoff.

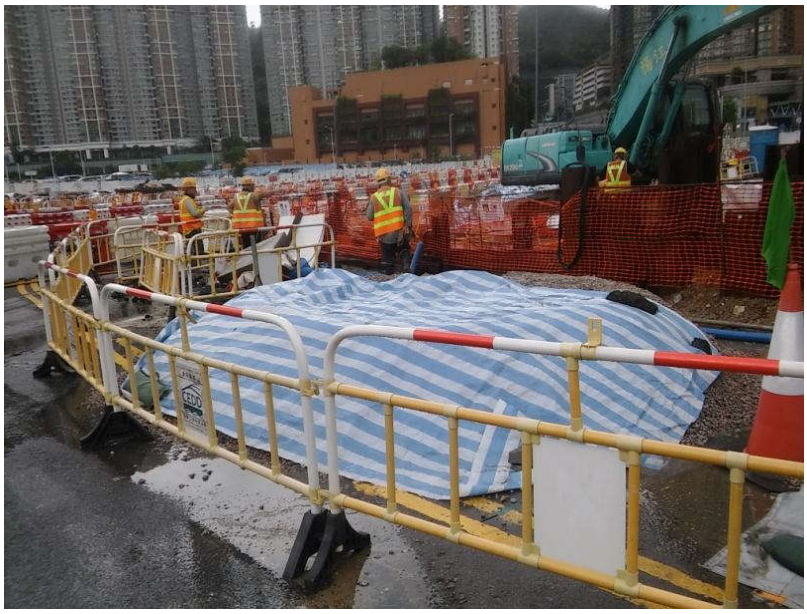
Surface runoff collection



Height difference between the road and site area to form a natural flow. Sump pit was provided for wastewater collection.

Gully Protection
 
Gully were protected and covered by geotextile.

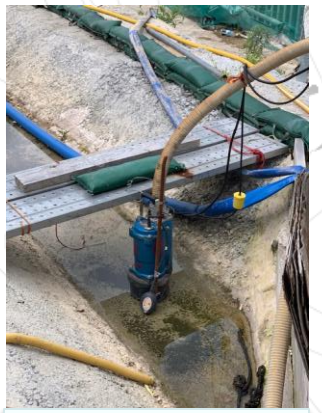
Stockpile Cover



Stockpile Should be proper cover with tarpaulin.

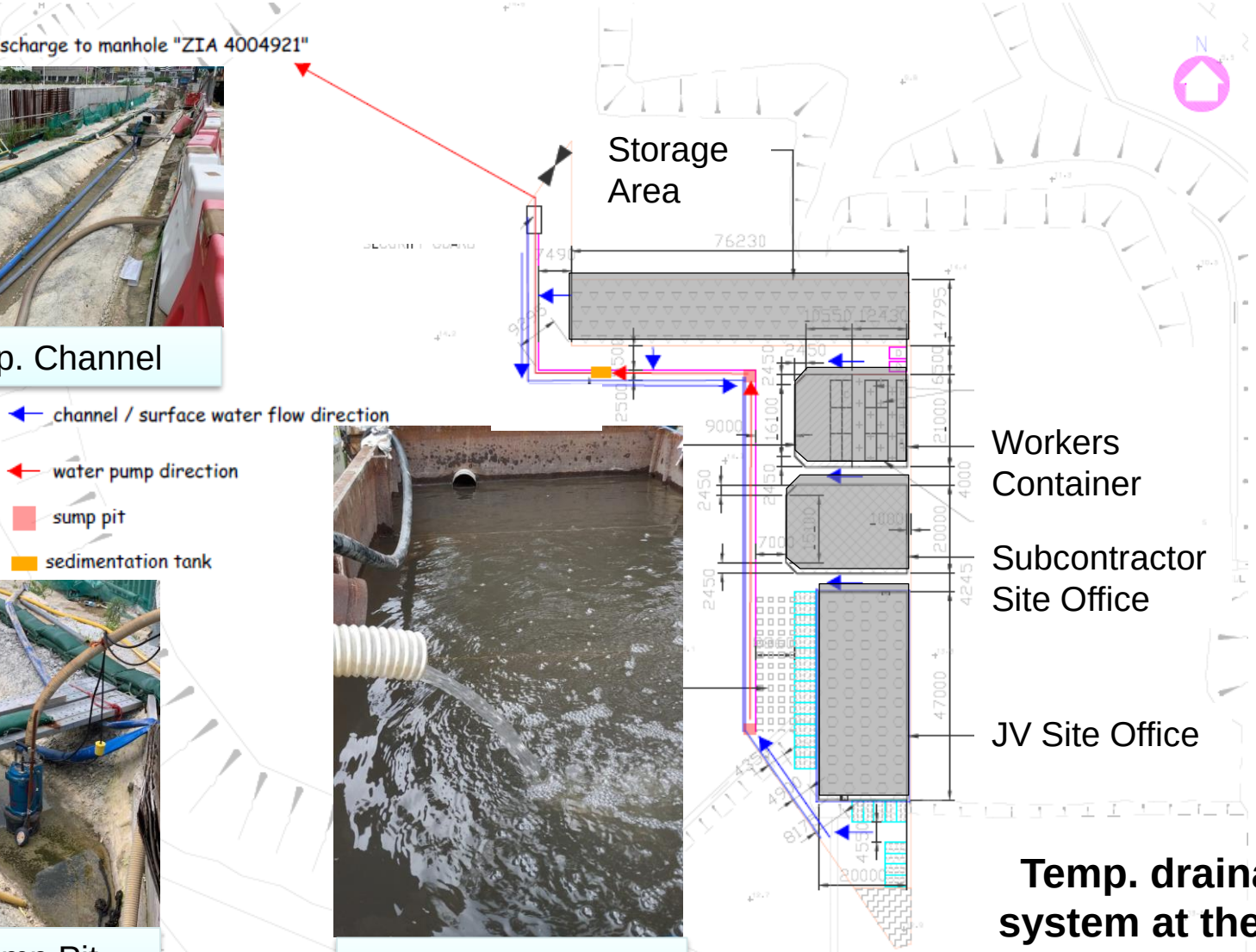
Site Surface Runoff Measures

Temp. Channel



Sump Pit

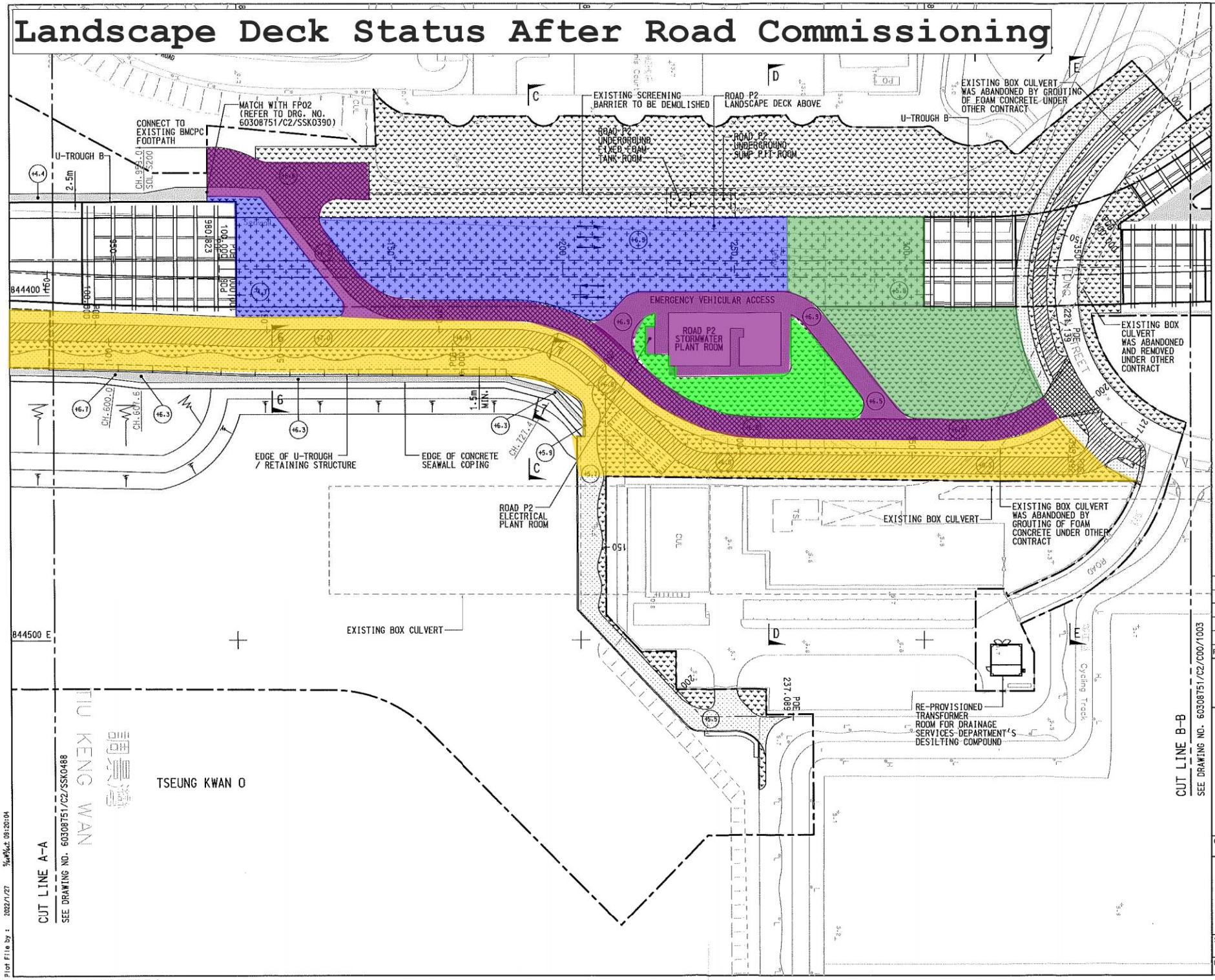
Sedimentation Tank



Temp. drainage system at the site office area

APPENDIX X
IMPLEMENTATION OF MITIGATION MEASURES IN OPERATION PHASE

Landscape Deck Status After Road Commissioning



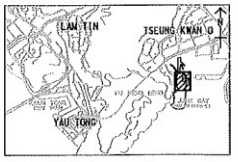
NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60308751/C2/SSK0488.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60308751/C2/C00/SSK488 & SSK0510.

- Landscape Deck Upgrading Works
- Material Storage Area with Artificial Lawn
- Material Storage Area
- Hard Landscaping Works
- All Soft and Hard Landscape Completed

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
D	06-JAN-22	RFI 00518	KMC1	CHWT	JCPL	FWYL
C	29-MAR-21	--	KMC1	MKTC	JCPL	FWYL
B	11-NOV-20	PWI 239	DKSS	JCWL	JCPL	FWYL
A	09-JAN-20	PWI 197	DKSS	--	YYL	SHWY
--	08-AUG-19	RFI 00226	DKSS	FKCS	YYL	SHWY

AECOM



KEY PLAN

CONTRACT NO. NE/2015/02

TSEUNG KWAN O – LAM TIN TUNNEL – ROAD P2 AND ASSOCIATED WORKS

GENERAL ARRANGEMENT

SHEET 2 OF 3

SKETCH NO. 60308751/C2/SSK0517 REV. D

EXTRACTED FROM DRG. NO. 60308751/C2/C00/1002 SCALE 1:1000 (A3)

Plot File by : 2022/1/27 %m%d%t 09:20:04

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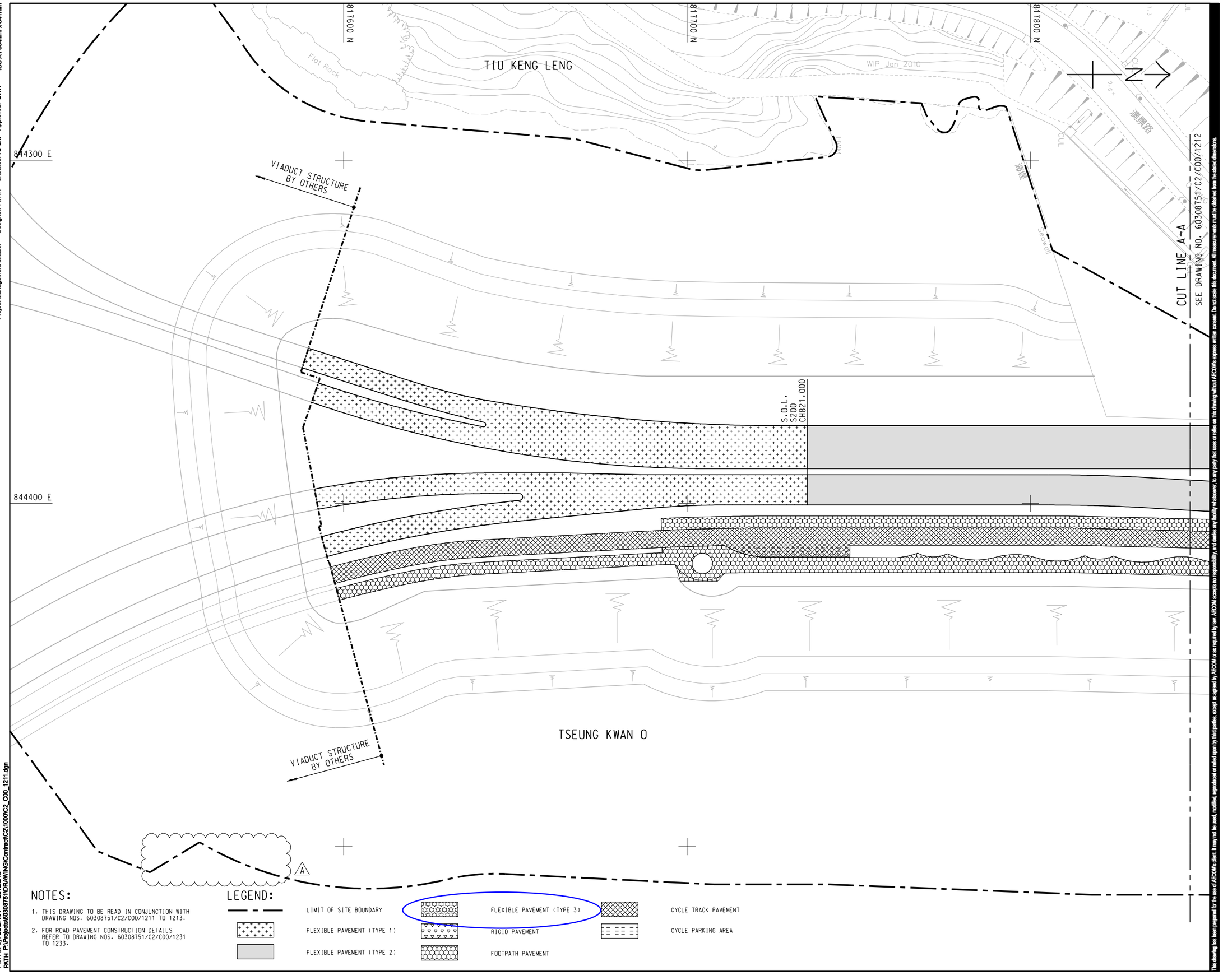
Project Management Initials: Designer: ATHH Checked: RPCM Approved: CWN ISO A1 594mm x 841mm



NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60308751/C2/C00/1211 TO 1213.
2. FOR ROAD PAVEMENT CONSTRUCTION DETAILS REFER TO DRAWING NOS. 60308751/C2/C00/1231 TO 1233.

LEGEND:

- LIMIT OF SITE BOUNDARY
- FLEXIBLE PAVEMENT (TYPE 1)
- FLEXIBLE PAVEMENT (TYPE 2)
- FLEXIBLE PAVEMENT (TYPE 3)
- RIGID PAVEMENT
- FOOTPATH PAVEMENT
- CYCLE TRACK PAVEMENT
- CYCLE PARKING AREA

Plot File by: LUOFXA 2016/2/18
PATH P:\Projects\60308751\DRAWING\Contract\C2\1000\C2_C00_1211.dgn

AECOM

PROJECT 項目

TSEUNG KWAN O - LAM TIN TUNNEL

CONTRACT TITLE

TSEUNG KWAN O - LAM TIN TUNNEL ROAD P2 AND ASSOCIATED WORKS

CLIENT 業主

CEDD 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
B	SEP. 16	WORKING DRAWING	RPCM
A	FEB.16	TENDER ADDENDUM NO. 1	RPCM
-	JAN.16	TENDER DRAWING	RPCM

STATUS 階段

WORKING DRAWING

SCALE 比例

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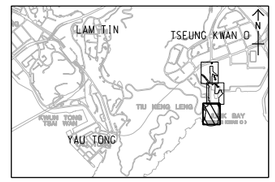
DIMENSION UNIT 尺寸單位

METRES

KEY PLAN 索引圖 A1 1 : 50000



PROJECT NO. 項目編號

60308751

CONTRACT NO. 合約編號

NE/2015/02

SHEET TITLE 圖紙名稱

ROAD PAVEMENT LAYOUT

SHEET 1 OF 3

SHEET NUMBER 圖紙編號

60308751/C2/C00/1211B

818200 N
818300 N
818400 N
844300 E
844500 E
Road
Cycling Track
Chui Ling Road Substation
CHUI LING ROAD
CHUI SHA STREET
CUL
S.O.L. SR2 CH250.000
S.O.L. P2 CH500.000
S.O.L. P2 CH572.000
S.O.L. P2 CH598.000
BY CONTRACT NO. NE/2015/02
BY OTHERS
CUT LINE B-B
SEE DRAWING NO. 60308751/C2/C00/1212
MATCH WITH EXISTING
N

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60308751/C2/C00/1211.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60308751/C2/C00/1211 TO 1213.

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
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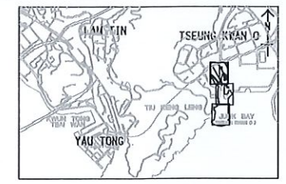
-	09-MAR-20	-	DKSS	-	JPCL SHNY

AECOM



KEY PLAN

CONTRACT NO. NE/2015/02

TSEUNG KWAN O - LAM TIN TUNNEL - ROAD P2 AND ASSOCIATED WORKS

ROAD PAVEMENT LAYOUT

SKETCH NO. 60308751/C2/SSK0608 REV. A

EXTRACTED FROM DRG. NO. 60308751/C2/C00/1213 SCALE 1:500 (A1)

Plot File by : 15/4/2021 3:57:50 PM

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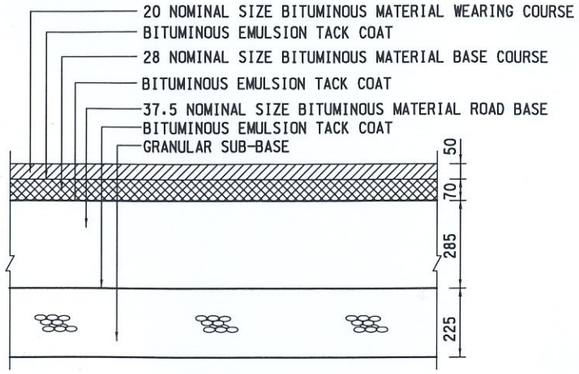
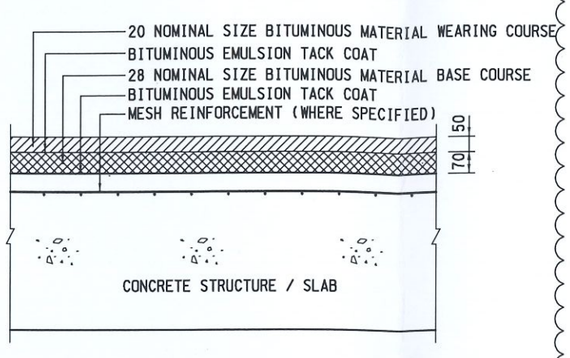
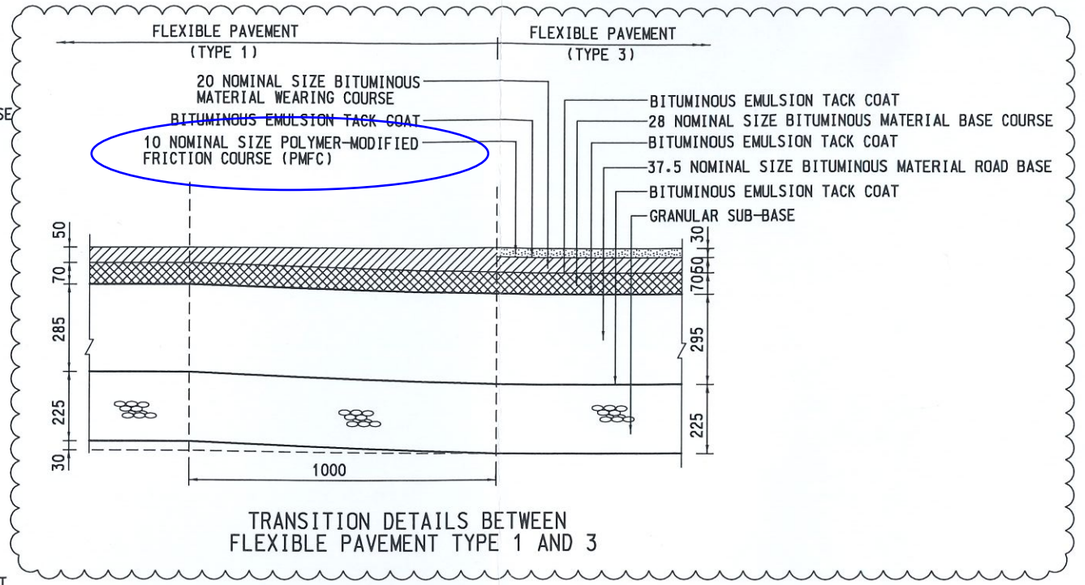


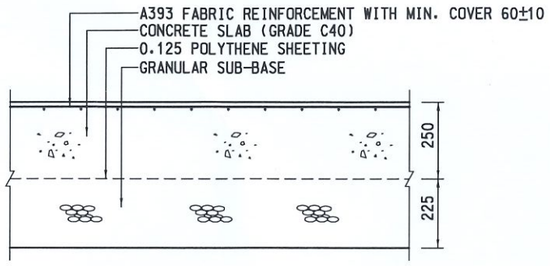
TYPICAL DETAILS FOR FLEXIBLE PAVEMENT (TYPE 1)



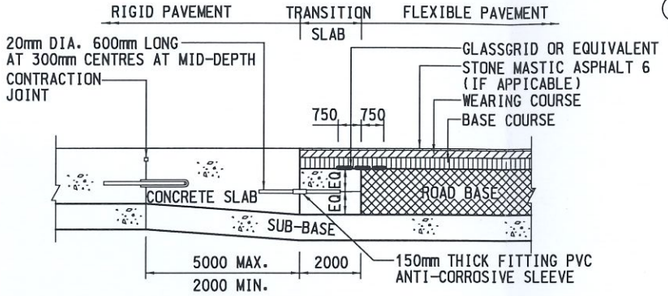
TYPICAL DETAILS FOR FLEXIBLE PAVEMENT (TYPE 2)



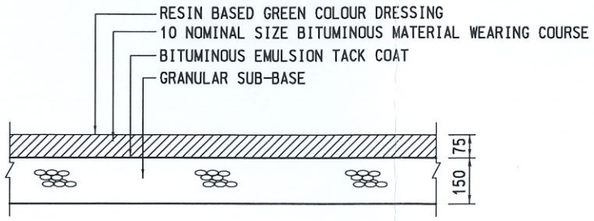
TRANSITION DETAILS BETWEEN
FLEXIBLE PAVEMENT TYPE 1 AND 3



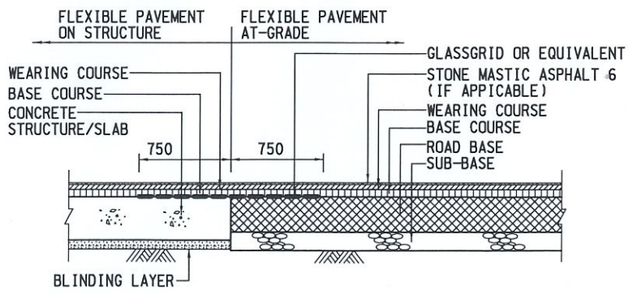
TYPICAL DETAILS FOR RIGID PAVEMENT



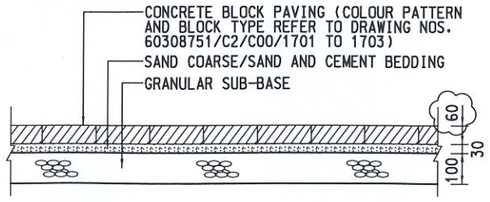
TRANSITION DETAILS BETWEEN RIGID PAVEMENT
AND FLEXIBLE PAVEMENT
N.T.S.



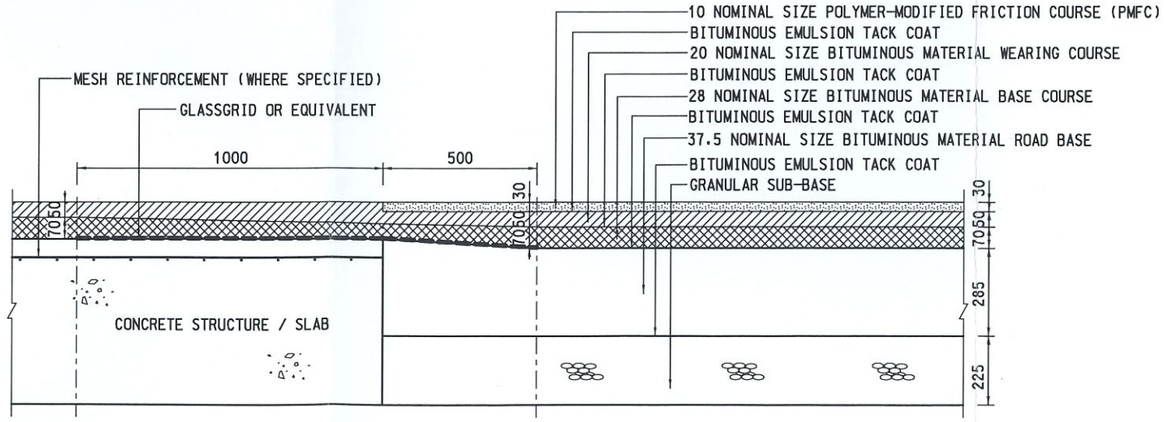
TYPICAL DETAILS FOR CYCLE TRACK PAVEMENT



TRANSITION DETAILS BETWEEN FLEXIBLE PAVEMENT
ON STRUCTURE AND FLEXIBLE PAVEMENT AT-GRADE
N.T.S.



TYPICAL DETAILS FOR FOOTPATH PAVEMENT



TRANSITION DETAILS BETWEEN TYPE 2 AND
TYPE 3 FLEXIBLE PAVEMENT

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60308751/C2/C00/1231 TO 1233.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE LATEST REVISION OF HIGHWAYS DEPARTMENT STANDARD DRAWINGS INCLUDING BUT NOT LIMITED TO DRAWING NOS. H1101 TO H1134.
3. FOR MESH REINFORCEMENT DETAILS REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NO. H1102.
4. WHERE A CAPPING LAYER IS REQUIRED, IT SHALL BE CONSTRUCTED TO GIVE A MINIMUM CBR VALUE OF 15%.
5. AT JOINTS, THE FIRST SLAB SHALL BE CAST BEFORE THE SECOND SLAB.
6. RESIN BASED COLOUR DRESSING APPROVED BY THE SUPERVISOR IN ACCORDANCE WITH PS SECTION 11 SHALL BE APPLIED ON CYCLE TRACK.
7. THE CONTRACTOR MAY SUBMIT ALTERNATIVE SUPPORT DETAILS FOR DOWEL AND TIE BARS FOR THE SUPERVISOR'S ACCEPTANCE.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
C	05-MAR-20	-	DKSS	JCWL	JPCL SHMY
B	21-JAN-20	-	DKSS	JCWL	JPCL SHMY
A	27-DEC-19	-	DKSS	-	JPCL SHMY
-	10-OCT-17	-	DKSS	JJL	YYL SHMY

AECOM

KEY PLAN

CONTRACT NO. NE/2015/02

TSEUNG KWAN O - LAM TIN TUNNEL - ROAD P2 AND ASSOCIATED WORKS

ROAD WORKS DETAILS

SKETCH NO. 60308751/C2/SSK0256 REV. C

EXTRACTED FROM DRG. NO. 60308751/C2/C00/1231 SCALE 1:20 (A3)

Plot File by : 06-Mar-20 5:08:21 PM

J:\C2\Site Sketch\SSK0256\SSK0256C.dgn

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NO. 60308751/C3/DF0275.
2. FOR ROAD PAVEMENT CONSTRUCTION DETAILS REFER TO DRAWING NOS. 60308751/C3/1211 TO 1213.
3. THE LOW NOISE ROAD SURFACE (LNRS) MATERIAL POLYMER MODIFIED FRICTION COURSE (PMFC) IS NOT APPLIED AT BUS STOP AREA IN ACCORDANCE WITH THE GUIDANCE NOTE ON LOW NOISE ROAD SURFACE [HYD PUBLICATION NO. RD/GN/011C] SECTION 3.2.3.

LEGEND:

- CYCLE TRACK PAVEMENT
- FOOTPATH PAVEMENT
- FLEXIBLE PAVEMENT (TYPE 1)
- FLEXIBLE PAVEMENT (TYPE 3)
- RIGID PAVEMENT
- CONCRETE SURFACING

844200 E
844300 E
844400 E
818600 N
818500 N

N

WIP May 2014

擬建將軍澳第７４區體育館及圖書館
Sports Centre and Library in Area 74 in Tseung Kwan O

AREA 74 SPORTS CENTRE AND LIBRARY

PARK CENTRAL

PO SHUN ROAD

CUT LINE A-A
SEE DRAWING NO. 60308751/C3/DF0275

SOUTHERN FOOTBRIDGE
(NOT SHOWN FOR CLARITY)

CHUI LING ROAD

LIN TIN STREET

LIMIT OF WORKS
BY CONTRACT NO.NE/2015/02

AREA 67

CIC CLUSTER

香港專業教育學院（李惠利）
Hong Kong Institute of Vocational Education (Lee Wai Lee)

香港設計學院
Hong Kong Design Institute

B座 Block B
C座 Block C
D座 Block D
平台 Podium
Ramp
Cycling Track
CUL
EW
VS

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
–	02-FEB-23	–	–	–	–

AECOM

KEY PLAN

CONTRACT NO. NE/2017/02

TSEUNG KWAN O – LAM TIN TUNNEL – ROAD P2/D4 AND ASSOCIATED WORKS

ROAD PAVEMENT LAYOUT

SHEET 1 OF 2

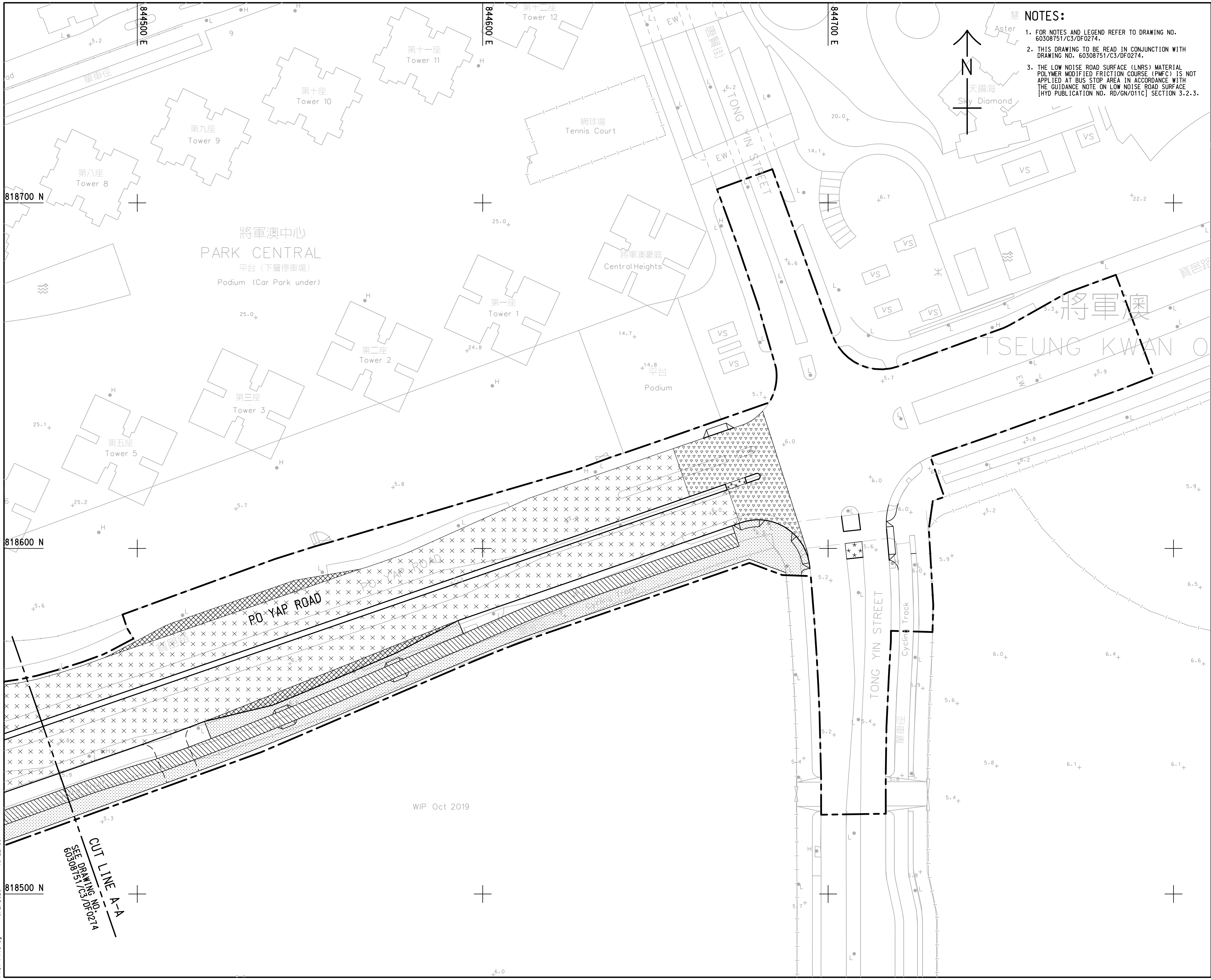
SKETCH NO.	REV.
60308751/C3/DF0274	–
EXTRACTED FROM DRG. NO. 60308751/C3/1201	SCALE 1:1000(A3)

Plot File by : 3/2/2023 13:21:10

J:\C3\Site Sketch Draft\DF0274 - 0275\C3DF0274.dgn

NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60308751/C3/DF0274.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NO. 60308751/C3/DF0274.
3. THE LOW NOISE ROAD SURFACE (LNRS) MATERIAL POLYMER MODIFIED FRICTION COURSE (PMFC) IS NOT APPLIED AT BUS STOP AREA IN ACCORDANCE WITH THE GUIDANCE NOTE ON LOW NOISE ROAD SURFACE [HYD PUBLICATION NO. RD/GN/011C] SECTION 3.2.3.



REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
-	02-FEB-23	-	-	-	-

AECOM

KEY PLAN

CONTRACT NO. NE/2017/02

TSEUNG KWAN O - LAM TIN TUNNEL - ROAD P2/D4 AND ASSOCIATED WORKS

ROAD PAVEMENT LAYOUT

SHEET 2 OF 2

SKETCH NO. 60308751/C3/DF0275

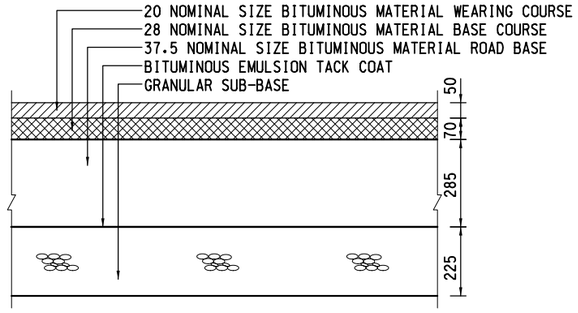
REV. -

EXTRACTED FROM DRG. NO. 60308751/C3/1202

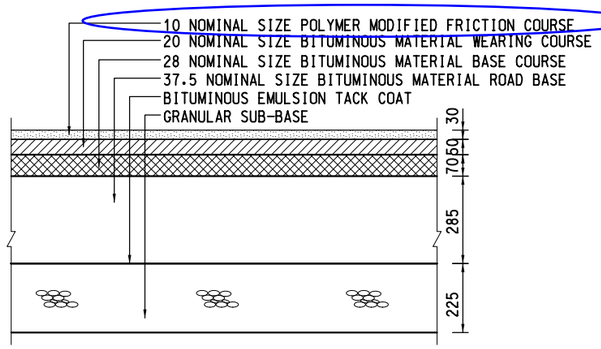
SCALE 1:1000 (A3)

Plot File by : 3/2/2023 13:22:09

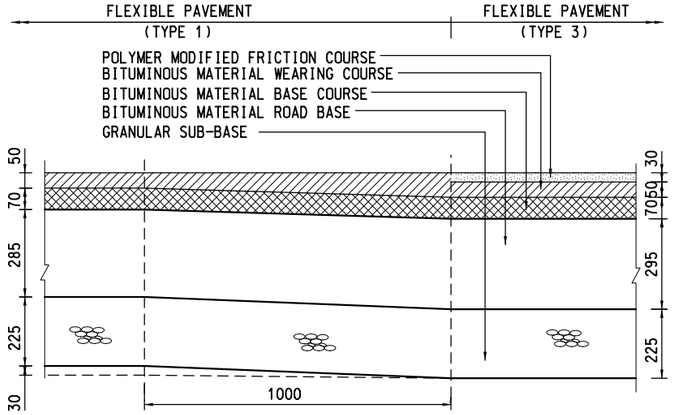
J:*C3*Site Sketch Draft*DF0274 - 0275*C3DF0275.dgn



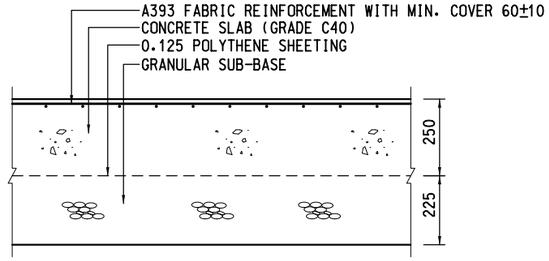
TYPICAL DETAILS FOR FLEXIBLE PAVEMENT (TYPE 1)



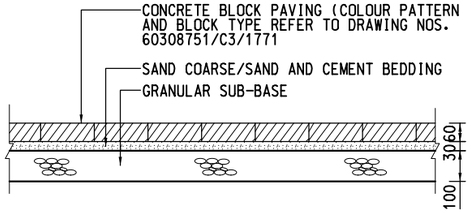
TYPICAL DETAILS FOR FLEXIBLE PAVEMENT (TYPE 3)



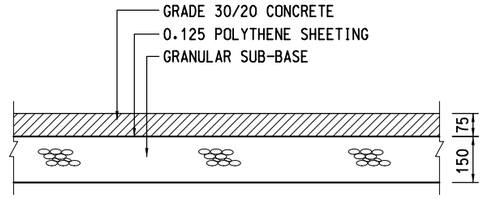
TRANSITION DETAILS BETWEEN
FLEXIBLE PAVEMENT TYPE 1 AND 3



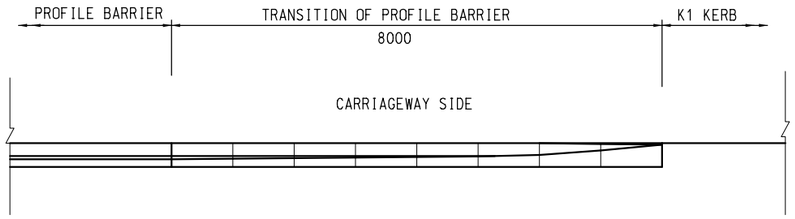
TYPICAL DETAILS FOR RIGID PAVEMENT



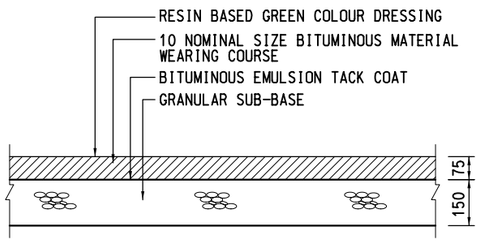
TYPICAL DETAILS FOR FOOTPATH PAVEMENT



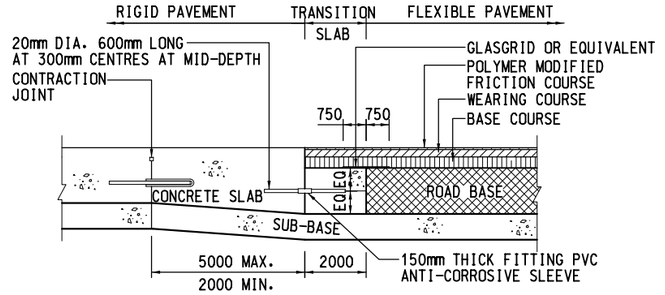
TYPICAL DETAILS FOR CONCRETE SURFACING



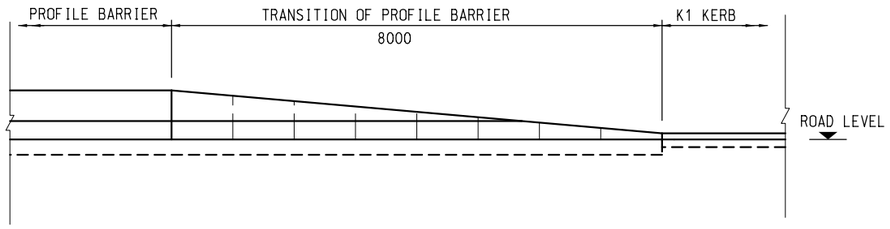
PLAN OF CONCRETE PROFILE BARRIER TERMINATION
SCALE 1 : 100



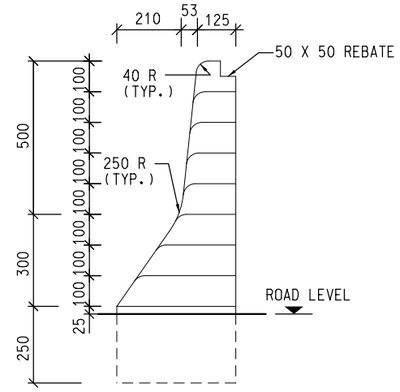
TYPICAL DETAILS FOR CYCLE TRACK PAVEMENT



TRANSITION DETAILS BETWEEN RIGID PAVEMENT
AND FLEXIBLE PAVEMENT
N.T.S.



ELEVATION OF CONCRETE PROFILE BARRIER TERMINATION
SCALE 1 : 100



PROFILE BARRIER TERMINATION SECTION
SCALE 1 : 200

NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60308751/C3/1212 AND 1213.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE LATEST REVISION OF HIGHWAYS DEPARTMENT STANDARD DRAWINGS INCLUDING BUT NOT LIMITED TO DRAWING NOS. H1101 TO H1134 AND RD/GN/011C IN GUIDANCE NOTES ON LOW NOISE ROAD SURFACING.
3. FOR MESH REINFORCEMENT DETAILS REFER TO HIGHWAYS DEPARTMENT STANDARD DRAWING NO. H1102.
4. WHERE A CAPPING LAYER IS REQUIRED, IT SHALL BE CONSTRUCTED TO GIVE A MINIMUM CBR VALUE OF 15%.
5. AT JOINTS, THE FIRST SLAB SHALL BE CAST BEFORE THE SECOND SLAB.
6. RESIN BASED COLOUR DRESSING APPROVED BY THE SUPERVISOR IN ACCORDANCE WITH PS SECTION 11 SHALL BE APPLIED ON CYCLE TRACK.
7. THE CONTRACTOR MAY SUBMIT ALTERNATIVE SUPPORT DETAILS FOR DOWEL AND TIE BARS FOR THE SUPERVISOR'S ACCEPTANCE.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
9. STEP JOINT SHOULD BE PROVIDED AT THE TRANSITION WITH EXISTING FLEXIBLE PAVEMENT ACCORDING TO HYD STANDARD DRAWING NO. H1101 AT THE LATEST VERSION.
10. DETAIL OF CONCRETE PROFILE BARRIER REFER HyD STANDARD DRAWING NO. H2101 TO H2105.

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
-	02-FEB-23	-	-	-	-

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KEY PLAN

CONTRACT NO.
NE/2017/02

TSEUNG KWAN O – LAM TIN TUNNEL –
ROAD P2/D4 AND ASSOCIATED WORKS

ROAD WORKS DETAILS

SHEET 1 OF 3

SKETCH NO.
60308751/C3/DF0276

REV.
–

EXTRACTED FROM DRG. NO.
60308751/C3/1211

SCALE
AS SHOWN (A3)

Plot File by : 2/2/2023 16:28:45

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