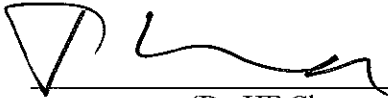


# Civil Engineering and Development Department

**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 2021  
(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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Your reference:

Our reference: HKCEDD08/50/107333

Date: 26 May 2021

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 2021 (version 1.1)

We refer to emails of 25 and 26 May 2021 from Cinotech Consultants Limited attaching the Monthly Environmental Monitoring and Audit Report for April 2021 (version 1.1).

We have no further 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 Edric Lau on 2618 2831.

Yours faithfully  
ANEWR CONSULTING LIMITED

James Choi  
Independent Environmental Checker

CPSJ/LCCR/LTKE/lsmt

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## EXECUTIVE SUMMARY

### Introduction

1. This is the 54<sup>th</sup> 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 March 2021.
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/2015/03 – Tseung Kwan O – Lam Tin Tunnel – Northern Footbridge;
  - 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.
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	0	0	0	0	N/A
Noise	12	2	10	0	Refer to Appendix K & O
Marine Water Quality	37	138	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A <sup>1</sup>	0	N/A <sup>1</sup>	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. No Action/Limit Level exceedance for 24-hour TSP monitoring was recorded.

#### *Construction Noise Monitoring*

7. Ten (10) Action Level exceedances were recorded due to documented project-related complaints received in this reporting month. The Summary of Documented Complaints in Reporting Month is tabulated in **Table III**.
8. No project-related Limit Level exceedance for construction noise monitoring were recorded in the reporting month.

#### *Water Quality Monitoring*

9. Groundwater quality monitoring had been suspended since October 2019 upon the agreement by EPD. Further details should be founded at **Section 5.1**.
10. All marine water quality monitoring was conducted as scheduled in the reporting month. There were thirty-seven (37) Action Level and one-hundred-and-thirty-eight (138) 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.



11. 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.

*Ecological Monitoring*

12. Post-translocation 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*

13. 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*

14. 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*

15. Monitoring of landfill gases commenced in December 2016 and were carried out by the Contractor at excavation location, Portion III. No Limit Level exceedance was recorded.

*Environmental Site Inspection*

16. 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 NE/2015/01 and NE/2017/07 on 14 April 2021 & NE/2015/02, NE/2017/01, NE/2017/02 and NE/2017/06 on 15 April 2021 respectively. Details of the audit findings and implementation status are presented in **Section 10**.

*Waste Management*

17. 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 is presented in **Section 11** and **Appendix P**.

## Key Information in the Reporting Month

18. 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 2021	12	Noise	Details refer to App O	Draft CIRs submitted / On-going
March 2021	18*	Noise	Details refer to App O	Draft CIRs submitted / On-going
February 2021	3	Noise	Details refer to App O	Closed/ Draft CIRs submitted/ On-going
January 2021	13	Noise / Air	Details refer to App O	On-going /Closed
December 2020	13	Noise / Operating hours	Details refer to App O	Draft CIRs submitted / Closed
November 2020	14	Air / Noise	Details refer to App O	Closed
Notifications of any summons & prosecutions received	0	---	N/A	N/A

\*4 new complaints in March 2021 was received by Environmental Team in April 2021

19. 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
<b>Tseung Kwan O Side</b>			
536	Suspected low-frequency noise nuisance at Portion IX (Apr 2021)	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.	NIL
537	Noise Nuisance due to Breaking Works (C3- Apr)	Breaking works was conducted during the time of complaint. No limit level for noise monitoring was triggered. The complaint is considered as project-related. Details shall be referred to CIR-N137.	NIL as breaking works ended on late-April.
538, 539, 545	Noise nuisance on holiday mornings (C2 - Mar)	No works was conducted during the time of complaint. The complaint is considered as non-project-related. Details shall be referred to CIR-N138.	NIL
546	Noise nuisance on holiday mornings (C6 - Apr)	Investigation undergoing	
<b>Lam Tin Side</b>			
534, 535, 540, 541, 542, 543, 544, 547, 548, 549	Noise nuisance during nighttime (C1 - Apr 2021)	Investigation undergoing	

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

20. 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 2021)	
NE/2015/01	Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) EHC2 U-Trough 2) Site Formation – Area 1G1, Area 1G2, Area 2 & Area 5 3) Site Formation – Slope stabilization & Retaining Wall

Contract No.	Project Title	Site Activities (April 2021)	
			4) Administration Building, West Ventilation Building & Bridge Construction 5) Stormwater Tank Construction 6) S01_2, EHC1&4 Construction 7) CKLR Underground Utilities 8) Landscape Deck
		Main Tunnel	9) S02_2 Excavation 10) Main Tunnel Lining Works
		TKO Interchange	11) Bridge Construction 12) East Ventilation Building
NE/2015/02	Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Site formation works, road and drainage for Road P2 CH500-CH650 and SR1 2) Sloping seawall construction 3) Excavation at CH821 – CH105 Cofferdam 4) Excavation at CH105 – CH318 Cofferdam 5) Installation of ELS at CH105 – CH821 Cofferdam 6) Installation of ELS at cofferdam CH105 – CH318 7) Installation of de-watering system at CH821 – CH105 Cofferdam 8) Construction of U-trough at CH821 – CH105 9) Construction of Underpass at CH105 – CH318 10) Re-construction of watermains DN150/DN200 at Tong Yin Street 11) Structure works for underpass CH105 – CH318 12) Reinstatement of Tong Yin Street 13) Reinstatement of Chiu Shin Street 14) Water works PE315 and DN300 15) Removal of temporary cofferdam 16) Installation of socketed H-pile at CT01 CH117 – CH336 17) Construction of seawall coping 18) Road & drainage works at SR1 footpath / cycle track 19) Excavation of 3rd layer of ELS at CH105 – CH318 cofferdam 20) Construction of storm water drain system for SHH 9101 – 9103 21) Drainage works at U-trough CH318 – CH363.50 22) H-Pile Remedial Works at CH105 – CH318 Cofferdam 23) Construction of Site Hull Road adjacent to SR2 CH110 – CH170	
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) Construction of Pier 2) Construction of Pier Head Works 3) Construction of Pile Cap 4) Segment Erection Works 5) Installation of Parapet Skin	
NE/2017/02	Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	1) Inspection pit excavation and utility diversion works 2) Construction of drainage and watermain 3) Asphalt Paving 4) Pier, Staircase and Lift Shaft Construction 5) Road Works	
NE/2017/06	Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance	1) System Integration Test 2) Installation works at Admin Building 3) Goods arrival & storage on site	

Contract No.	Project Title	Site Activities (April 2021)
	System(TCSS) and Associated Works	
NE/2017/07	Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	<ol style="list-style-type: none"> <li>1) Predrilling Work at Portion I had completed with 26 out of 35 numbers</li> <li>2) Precast Shell Installation</li> <li>3) 1<sup>st</sup> Stage Concrete for pile caps</li> <li>4) Precast Pier Installation</li> <li>5) 2<sup>nd</sup> Stage Concrete for pile caps</li> <li>6) Precast Box Girder Installation</li> <li>7) E&amp;M Work and External Work at Portion V</li> <li>8) Fabrication of deck segment panels steel</li> <li>9) Round deck segment assembly</li> <li>10) Fabrication of arch rib panels steel</li> <li>11) Round arch rib segment assembly</li> <li>12) Load-out and Transportation of Steel Main Bridge</li> <li>13) Load-out, Transportation and Floating-in of Steel Bridge</li> </ol>

**Future Key Issues**

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

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

<b>Contract No. and Project Title</b>	<b>Site Activities (May 2021)</b>		<b>Key Environmental Issues *</b>
NE/2015/01 - Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) EHC2 U-Trough 2) Site Formation – Area 1G1, Area 1G2, Area 2 & Area 5 3) Site Formation – Slope stabilization & Retaining Wall 4) Administration Building, West Ventilation Building & Bridge Construction 5) Stormwater Tank Construction 6) S01_2, EHC1&4 Construction 7) CKLR Underground Utilities 8) Landscape Deck	(A) / (B) / (C) / (D) / (E) / (G)
	Main Tunnel	9) S02_2 Excavation 10) Main Tunnel Lining Works	(B)
	TKO Interchange	11) Bridge Construction 12) East Ventilation Building	(A) / (C) / (D) / (E) / (F) / (I)
NE/2015/02 - Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Construction of pillar box and ducting system at Portion IV adjacent to Ocean Shores EVA 2) Site formation at Road P2 CH500-CH650 and SR1 3) Road and drainage works at Road P2 CH500 – 650, slip road SR1 footpath and cycle track, slip road SR2 CH250 – CH350 4) ELS at underpass P2 CH105 – CH318 5) 4th of excavation at CH105 – CH318 cofferdam 6) Excavation/ELS at CH821 – CH105 Cofferdam 7) Installation of socketed H-pile at CT01 CH117 – CH336 8) Reinstatement of Tong Yin Street 9) Installation of de-watering system at CH821 – CH105 10) Excavation & ELS installation works at CH821 – CH105 11) Construction of U-tough at CH821 – CH105 12) Drainage works at U-trough CH318 – CH363.50 13) Pre-bore/ELS works for U-trough CH363.50 – CH411/U-trough SR2 CH110-CH170 14) Construction of profile barrier at U-trough CH318 – CH363.50 15) Construction of sloping seawall 16) Removal of temporary cofferdam 17) Construction of seawall coping 18) Drainage works at SR1 footpath / cycle truck 19) Installation of ELS at cofferdam CH105 – CH318 20) Backfilling works for reinstatement of Tong Yin Street 21) Construction of U-trough at CH821 – CH 105 Cofferdam 22) Excavation and re-compaction at S100 CH280 – S200 CH755 and S300 CH405 – CH326 23) Waterworks – DN300/PE315 24) RC Structure works for U-trough A-B 25) RC Structure works for U-trough C		(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

<b>Contract No. and Project Title</b>	<b>Site Activities (May 2021)</b>	<b>Key Environmental Issues *</b>
NE/2017/01 – Tseung Kwan O Interchange and Associated Works	<ol style="list-style-type: none"> <li>1) Construction of Pier</li> <li>2) Construction of Pier Head works</li> <li>3) Segment erection works</li> <li>4) Construction of Bridge Decks</li> <li>5) Installation of Parapet Skin</li> </ol>	(A) / (B) / (E) / (F) / (G)
NE/2017/02 – Tseung Kwan O - Lam Tin Tunnel - Road P2/D4 and Associated Works	<ol style="list-style-type: none"> <li>1) Inspection pit excavation and utility diversion works</li> <li>2) Construction of drainage and watermain</li> <li>3) Asphalt Paving</li> <li>4) Pier, Staircase and Lift Shaft Construction</li> <li>5) Road Works</li> </ol>	(A) / (B) / (E) / (F) / (G)
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	<ol style="list-style-type: none"> <li>1) System Integration Test</li> <li>2) Goods arrival &amp; storage on site</li> <li>3) Installation in Admin Building</li> <li>4) Installation in Tunnel Building</li> </ol>	(E)
NE/2017/07 - Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	<ol style="list-style-type: none"> <li>1) Fabrication work for precast pier</li> <li>2) Preparation for Rolling out for Precast Box Girder</li> <li>3) Jointing deck segments</li> <li>4) Dismantle of temporary support towers and loading out steel main bridge to barge</li> <li>5) Preparation of temporary support tower</li> <li>6) Fabrication of Precast Segment and Precast Shell</li> <li>7) Pre-drilling</li> <li>8) Bored piling</li> </ol>	(A) / (B) / (D) / (E) / (F) / (G) / (H) / (I)

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 54<sup>th</sup> Monthly EM&A report summarizing the EM&A works for the Project in April 2021.

### **Purpose of the Report**

- 1.2 This is the 54<sup>th</sup> Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period in April 2021.

### **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

### Project Organizations

- 2.5 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)

2.6 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. KY Chan	3922 9000	2759 1698
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

2.7 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 2021)	
NE/2015/01	Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) NE/2015/01
		Main Tunnel	2) S02_2 Excavation 3) Main Tunnel Lining Works
		TKO Interchange	4) Bridge Construction 5) East Ventilation Building
NE/2015/02	Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Site formation works, road and drainage for Road P2 CH500-CH650 and SR1 2) Sloping seawall construction 3) Excavation at CH821 – CH105 Cofferdam 4) Excavation at CH105 – CH318 Cofferdam 5) Installation of ELS at CH105 – CH821 Cofferdam 6) Installation of ELS at cofferdam CH105 – CH318 7) Installation of de-watering system at CH821 – CH105 Cofferdam 8) Construction of U-trough at CH821 – CH105 9) Construction of Underpass at CH105 – CH318 10) Re-construction of watermain DN150/DN200 at Tong Yin Street 11) Structure works for underpass CH105 – CH318 12) Reinstatement of Tong Yin Street 13) Reinstatement of Chiu Shin Street 14) Water works PE315 and DN300 15) Removal of temporary cofferdam 16) Installation of socketed H-pile at CT01 CH117 – CH336 17) Construction of seawall coping 18) Road & drainage works at SR1 footpath / cycle track 19) Excavation of 3rd layer of ELS at CH105 – CH318 cofferdam 20) Construction of storm water drain system for SHH 9101 – 9103 21) Drainage works at U-trough CH318 – CH363.50 22) H-Pile Remedial Works at CH105 – CH318 Cofferdam 23) Construction of Site Hull Road adjacent to SR2 CH110 – CH170	
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.	

Contract No.	Project Title	Site Activities (April 2021)
NE/2017/01	Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	<ol style="list-style-type: none"> <li>1) Construction of Pier</li> <li>2) Construction of Pier Head Works</li> <li>3) Construction of Pile Cap</li> <li>4) Segment Erection Works</li> <li>5) Installation of Parapet Skin</li> </ol>
NE/2017/02	Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	<ol style="list-style-type: none"> <li>1) Inspection pit excavation and utility diversion works</li> <li>2) Construction of drainage and watermain</li> <li>3) Asphalt Paving</li> <li>4) Pier, Staircase and Lift Shaft Construction</li> <li>5) Road Works</li> </ol>
NE/2017/06	Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	<ol style="list-style-type: none"> <li>1) System Integration Test</li> <li>2) Installation works at Admin Building</li> <li>3) Goods arrival &amp; storage on site</li> </ol>
NE/2017/07	Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	<ol style="list-style-type: none"> <li>1) Predrilling Work at Portion I had completed with 26 out of 35 numbers</li> <li>2) Precast Shell Installation</li> <li>3) 1<sup>st</sup> Stage Concrete for pile caps</li> <li>4) Precast Pier Installation</li> <li>5) 2<sup>nd</sup> Stage Concrete for pile caps</li> <li>6) Precast Box Girder Installation</li> <li>7) E&amp;M Work and External Work at Portion V</li> <li>8) Fabrication of deck segment panels steel</li> <li>9) Round deck segment assembly</li> <li>10) Fabrication of arch rib panels steel</li> <li>11) Round arch rib segment assembly</li> <li>12) Load-out and Transportation of Steel Main Bridge</li> <li>13) Load-out, Transportation and Floating-in of Steel Bridge</li> </ol>

2.8 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 <b>Table 2.2</b>	Noise, dust impact, water quality and waste generation	<ul style="list-style-type: none"> <li>• Sufficient watering of the works site with active dust emitting activities</li> <li>• Properly cover the stockpiles</li> <li>• On-site waste sorting and implementation of trip ticket system</li> <li>• Appropriate desilting/sedimentation devices provided on site for treatment before discharge</li> <li>• Use of quiet plant and well-maintained construction plant</li> <li>• Provide movable noise barrier</li> </ul>

#### Status of Environmental Licences, Notification and Permits

2.9 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	
<b>Environmental Permit (EP)</b>				
N/A	EP-458/2013/C	20/1/2017	N/A	Valid
<b>Notification pursuant to Air Pollution Control (Construction Dust) Regulation</b>				
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
<b>Billing Account for Construction Waste Disposal</b>				
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
<b>Registration of Chemical Waste Producer</b>				
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
<b>Effluent Discharge License under Water Pollution Control Ordinance</b>				
NE/2015/01	WT00025806-2016	18/07/2018	30/11/2021	Valid
	WT00026212-2016	16/05/2017	30/11/2021	Valid
	WT00027354-2017	22/03/2017	31/03/2022	Valid
	WT00027405-2017	22/03/2017	31/03/2022	Valid
	WT00028495-2017	11/08/2017	31/08/2022	Valid
NE/2015/02	WT00026386-2016	15/12/2016	31/12/2021	Valid
	WT00027226-2017	23/02/2017	28/02/2022	Valid
	WT00030654-2018	16/04/2018	30/04/2023	Valid
NE/2015/03	WT00027295-2017	20/03/2017	31/03/2022	Valid
NE/2017/01	WT00030711-2018	11/04/2018	30/04/2023	Valid



Contract No.	Permit / License No.	Valid Period		Status
		From	To	
	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
<b>Construction Noise Permit (CNP)</b>				
NE/2015/01	GW-RE0767-20	23/09/2020	21/03/2021	Valid
	GW-RE0959-20	21/11/2020	20/02/2021	Valid
	GW-RE1070-20	22/12/2020	21/06/2021	Valid
	GW-RE1094-20	01/01/2021	05/04/2021	Valid until 5 Apr 21
	GW-RE0199-21	22/03/2021	21/09/2021	Valid
	GW-RE0229-21	05/04/2021	04/07/2021	Valid
	GW-RE0253-21	02/04/2021	06/04/2021	Valid
	GW-RE0269-21	28/03/2021	25/04/2021	Valid until 25 Apr 21
NE/2015/02	GW-RE0503-20	12/06/2020	04/12/2020	Valid
	GW-RE1080-20	14/12/2020	06/05/2021	Valid
NE/2017/01	GW-RE0250-21	24/03/2021	23/06/2021	Valid
	GW-RE0391-21	01/05/2021	01/11/2021	Valid upon 1 May 21
NE/2017/02	GW-RE0896-20	03/11/2020	02/05/2021	Valid
NE/2017/07	GW-RE0331-21	09/04/2021	31/05/2021	Valid
<b>Marine Dumping Permit</b>				
NE/2017/01	EP/MD/21-011	N/A	N/A	N/A
NE/2015/01	CEDD01062	N/A	10/11/2020	Valid
<b>Specified Process (SP) License</b>				
NE/2015/01	L-11-053	09/03/2018	08/03/2021	Valid until 08 Mar 2021

### Summary of EM&A Requirements

- 2.10 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.
- 2.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 10** of this report.
- 2.12 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 April 2021.

### 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 <sup>(1)</sup>	Sitting-out Area at Cha Kwo Ling Village	Ground Level
AM4(A) <sup>(2) (*)</sup>	Cha Kwo Ling Public Cargo Working Area Administrative Office	Rooftop (3/F)
AM5(A) <sup>(*)</sup>	Tseung Kwan O DSD Desilting Compound	Ground Level
AM6(A) <sup>(*)</sup>	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(24-hr 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) (24-hr TSP only), AM5(A) and AM6(A) respectively.

#### 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
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Calibrator	TISCH Model: TE-5025A	1
1-hour TSP Dust Meter	Sibata Model No.: LD-3B / LD-5R	5
	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(A), 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 0.5 $\mu$ m and 5 $\mu$ m channels will show the cumulative counts of particles larger than 0.5 $\mu$ m and 5 $\mu$ m 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 meter 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<sup>3</sup>/min. and 1.4 m<sup>3</sup>/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 was 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 both 1-hour TSP and 24-hour TSP monitoring respectively.
- 3.22 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**.
- 3.23 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.
- 3.24 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(A) - Cha Kwo Ling Public Cargo Working Area Administrative Office	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



## 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 9 designated monitoring stations (CM1, CM2, CM3, CM4, CM5, CM6(A), CM7(A), CM8(A), CM9(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
CM9(A) <sup>1</sup>	Rooftop of Capri Tower 10	Rooftop (12/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.

<sup>1</sup> Ad-hoc noise monitoring at station CM9(A) was commenced in September 2019.

- 4.3 Since the population intake of Capri had commenced during the construction of the TKOLTT, the noise monitoring work in daytime period was conducted at CM9(A) – Rooftop of Capri Tower 10 on normal weekdays. The background Noise Level was recorded during the Lunch Hour of Construction Site (i.e. 12:00-13:00) and to be used as the referencing value for compliance checking for Noise Action and Limit Level.

### Monitoring Equipment

- 4.4 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	0
	BSWA308 SLM	3
Calibrator	SV30A	1
	Brüel & Kjær 4231	1
	ST-120	2

4.5 **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 <sub>10</sub> (30 min) dB(A) L <sub>90</sub> (30 min) dB(A) L <sub>eq</sub> (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
CM9(A)				Façade
CM1	L <sub>10</sub> (5 min) dB(A)	1900 – 0700 hrs on normal weekdays		Façade
CM2	L <sub>90</sub> (5 min) dB(A)			Façade
CM3				Façade
CM6(A)	L <sub>eq</sub> (5 min) dB(A)	1900 – 2300 hrs on normal weekdays		Free Field

### Monitoring Methodology and QA/QC Procedure

4.6 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

- 4.7 The microphone head of the sound level meter and calibrator was cleaned with a soft cloth at quarterly intervals.
- 4.8 The sound level meter and calibrator was checked and calibrated at yearly intervals.
- 4.9 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**

- 4.10 Ten (10) Action Level exceedances were recorded due to the documented complaints received in this reporting month. No project-related Limit level exceedances for evening/night-time construction noise monitoring were recorded and no Limit Level exceedance for day time was recorded in the reporting month.
- 4.11 Noise monitoring results and graphical presentations are shown in **Appendix G**.
- 4.12 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**

<b>Monitoring Stations</b>	<b>Locations</b>	<b>Major Noise Source</b>
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
CM9(A)	Rooftop of Capri Tower 10	Construction Noise from Portion V/Area A of NE/2015/02 site area

- 4.13 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	
CM9(A)	N/A <sup>(1)</sup>	

(\*) Noise Limit Level is 65 dB(A) during school examination periods.  
(1) The background Noise Level was recorded during the Lunch Hour of Construction Site (i.e. 12:00-13:00) and to be used as the referencing value for compliance checking for Noise Action and Limit Level.

**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 <sup>1</sup>

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		

### **Current Tunnel Blasting Arrangement**

- 4.14 The drill and blast method was evaluated as the most appropriate method and the general practice of this method was introduced during the EIA report assessment. The paragraphs 2.9.9 and 2.9.33 of the EIA Report mention that there might be one blast or multiple blasts and the maximum number of blast location per day would be determined by the Contractor to suite his method of working.
- 4.15 Notwithstanding the information provided by the Engineer at paragraphs 4.6.4 and 6.6.12 of the EIA Report, to minimize blast nuisance to the public and to respond to the community concerns, the tunnel blast should be arranged, where possible, avoiding the blast to be carried out during night time and shortening the blast duration by arranging various work fronts to be blasted at different time slots. Hence, it has become more desirable to split one tunnel blasting operation, which may consist of several blasting work fronts along the tunnels, into a total of two to three tunnel blasts per day. The tunnel blasts, which locate outside the MTR Protection Zone (RPZ) possessing insignificant risk to the MTR's structures would be carried out during day time and before 22:00. For the tunnel blasts within and in close vicinity to RPZ, Contractor's blasting assessment report revealed that those blasts have to be carried out after train service and, generally, at around 01:40.

## 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.

## Monitoring Locations

### Marine Water Quality

- 5.6 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. The locations are also summarized in **Table 5.2** and shown on **Figure 5**.

**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

### Monitoring Equipment

- 5.7 For in-situ monitoring, a multi-parameter meter (Aquaread AP-2000-D) 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<sub>5</sub>, TOC, Total Nitrogen, Ammonia-N and Total Phosphate.

#### Dissolved Oxygen (DO) and Temperature Measuring Equipment

- 5.8 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.
- 5.9 It has a membrane electrode with automatic temperature compensation complete with a cable.
- 5.10 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.
- 5.11 Salinity compensation was built-in in the DO equipment.

Turbidity

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

pH

- 5.13 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

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

Water Sampler

- 5.15 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

- 5.16 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

- 5.17 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.
- 5.18 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.
- 5.19 Before each round of monitoring, a zero check in distilled water was performed with the turbidity probe of Aquaread AP-2000-D. The probe was then be calibrated with a solution of known NTU.
- 5.20 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.
- 5.21 **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**

5.22 **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
<b>Marine Water Quality</b>			
M1 M2 M3 M4 M5 M6 C1 C2 G1 G2 G3 G4	<i>In-situ:</i> Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity  <i>Laboratory Testing:</i> Suspended Solids (SS)	<u>M1-M5, C1-C2, G1-G4</u> <ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above sea bed.</li> <li>If the water depth is less than 3m, mid-depth sampling only.</li> <li>If the water depth is less than 6m, omit mid-depth sampling.</li> </ul> <u>M6</u> <ul style="list-style-type: none"> <li>at the vertical level where the water abstraction point of the intake is located(i.e. approximately mid-depth level)</li> </ul>	3 days per week / 2 per monitoring day (1 for mid-ebb and 1 for mid-flood)

## Monitoring Methodology

### Marine Water Quality

- 5.23 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.
- 5.24 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

- 5.25 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 <sup>(1)</sup>	0.5 mg/L
BOD <sub>5</sub> (mg O <sub>2</sub> /L)	APHA 19ed 5210B	2 mg O <sub>2</sub> /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 <sub>3</sub> -N/L)	In-house method SOP057 (FIA)	0.05 mg NH <sub>3</sub> -N/L	--
Total Phosphorus (mg-P/L) <sup>(2)</sup>	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.

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## QA/QC Requirements

### Decontamination Procedures

- 5.26 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

- 5.27 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.
- 5.28 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

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

### Marine Water Quality Monitoring

- 5.30 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.

Calculated Action and Limit Levels for Marine Water Quality is presented in **Appendix I**. There were thirty-seven (37) Action Level and one-hundred-and-thirty-eight (138) Limit Level exceedances recorded in Monitoring Stations (M) during marine water quality monitoring.

- 5.31 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 2021 showed that the range of SS levels recorded in April 2021 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**.
- 5.32 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.

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Groundwater Level Monitoring (Piezometer Monitoring)

- 5.33 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.
- 5.34 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.

Mitigation Measures Adopted by Contractors for Surface runoff Prevention

- 5.35 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

- 5.36 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.
- 5.37 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.
- 5.38 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

- 5.39 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.

- 5.40 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).
- 5.41 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.
- 5.42 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

- 5.43 Existing manholes are covered with sandbags and geotextiles to avoid surface run-off from entering the channels.
- 5.44 Stockpiles are covered with tarpaulin to avoid surface run-off.
- 5.45 Concrete blocks and sandbags are placed along the periphery of the site boundary to avoid surface run-off.
- 5.46 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

- 5.47 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.
- 5.48 Sandbags were placed at the periphery of the site along the hoarding to prevent surface runoff from escaping the site.
- 5.49 Exposed slopes are covered with tarpaulin to prevent surface run-off.
- 5.50 The surface run-off shall be pumped into the sedimentation tank where they are treated before entering the designated discharge points.

NE2017/01

- 5.51 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: Minimate Plus 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	MiniMate Plus / MicroMate manufactured by InstanTel Model No.: 716A0403 / 721A2501	33

## 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 <sup>(1)</sup>	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. 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.

### Monitoring Parameters and Frequency

- 9.3 Monitoring parameters for Landfill gas monitoring include Methane, Carbon dioxide and Oxygen.
- 9.4 According to the implementation schedule and recommended mitigation measures of the EM&A Manual, measurements of the following frequencies should be carried out:

#### Excavations deeper than 1m

- 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.

#### Excavations between 300mm and 1m deep

- 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

### Monitoring Locations

- 9.5 Monitoring of oxygen, methane and carbon dioxide was performed for excavations at 1m depth or more within the Consultation Zone. 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.
- |                                  |               |
|----------------------------------|---------------|
| ➤ Excavation Locations           | : Portion III |
| ➤ Manholes and Chambers          | : N/A         |
| ➤ Relocation of monitoring wells | : N/A         |
| ➤ Any other Confined Spaces      | : N/A         |

### Monitoring Equipment noise mitigation

- 9.6 **Table 9.1** summarizes the equipment employed by the Contractor for the landfill gas monitoring.

**Table 9.1 Landfill Gas Monitoring Equipment**

<b>Equipment</b>	<b>Model and Make</b>	<b>Quantity</b>
Portable gas detector	ALTAIR 5X Multigas Detector (Serial No. 137333)	1

**Results and Observations**

- 9.7 In the reporting month, landfill gas monitoring was carried out by the Contractor at the aforesaid locations on 130 occasions. No Limit Level exceedance for 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**.

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## 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: 7, 14, 21, 28
  - Contract No. NE/2015/02: 1, 8, 15, 22, 29
  - Contract No. NE/2017/01: 1, 8, 15, 22, 29
  - Contract No. NE/2017/02: 1, 8, 15, 22, 29
  - Contract No. NE/2017/06: 1, 8, 15, 22, 29
  - Contract No. NE/2017/07: 7, 14, 21, 28
- 10.3 Monthly joint site inspection with the representative of IEC was conducted for NE/2015/01 and NE/2017/07 on 14 April 2021; while NE/2015/02, NE/2017/01, NE/2017/02 and NE/2017/06 were conducted on 15 April 2021.
- 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 Ten (10) Action Level exceedances of noise were recorded due to the documented complaints received in the reporting month. No Limit Level exceedances of construction noise monitoring were recorded in the reporting month.
- 12.2 Thirty-seven (37) Action Level and one-hundred-and-thirty-eight (138) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.
- 12.3 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

- 12.4 Twelve (12) environmental complaints were received in the reporting month. The Cumulative Complaint Log is presented in **Appendix O**. The investigation status and result is also reported in **Appendix O**.

### Summary of Environmental Summon and Successful Prosecution

- 12.5 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**

<b>Contract No. and Project Title</b>	<b>Site Activities (May 2021)</b>		<b>Key Environmental Issues *</b>
NE/2015/01 - Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works	Lam Tin Interchange	1) EHC2 U-Trough 2) Site Formation – Area 1G1, Area 1G2, Area 2 & Area 5 3) Site Formation – Slope stabilization & Retaining Wall 4) Administration Building, West Ventilation Building & Bridge Construction 5) Stormwater Tank Construction 6) S01_2, EHC1&4 Construction 7) CKLR Underground Utilities 8) Landscape Deck	(A) / (C) / (D) / (E) / (F) / (I)
	Main Tunnel	9) S02_2 Excavation 10) Main Tunnel Lining Works	(B)
	TKO Interchange	11) Bridge Construction 12) East Ventilation Building	(A) / (C) / (D) / (E) / (F) / (I)
NE/2015/02 - Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	1) Construction of pillar box and ducting system at Portion IV adjacent to Ocean Shores EVA 2) Site formation at Road P2 CH500-CH650 and SR1 3) Road and drainage works at Road P2 CH500 – 650, slip road SR1 footpath and cycle track, slip road SR2 CH250 – CH350 4) ELS at underpass P2 CH105 – CH318 5) 4th of excavation at CH105 – CH318 cofferdam 6) Excavation/ELS at CH821 – CH105 Cofferdam 7) Installation of socketed H-pile at CT01 CH117 – CH336 8) Reinstatement of Tong Yin Street 9) Installation of de-watering system at CH821 – CH105 10) Excavation & ELS installation works at CH821 – CH105 11) Construction of U-tough at CH821 – CH105 12) Drainage works at U-trough CH318 – CH363.50 13) Pre-bore/ELS works for U-trough CH363.50 – CH411/U-trough SR2 CH110-CH170 14) Construction of profile barrier at U-trough CH318 – CH363.50 15) Construction of sloping seawall 16) Removal of temporary cofferdam 17) Construction of seawall coping 18) Drainage works at SR1 footpath / cycle truck 19) Installation of ELS at cofferdam CH105 – CH318 20) Backfilling works for reinstatement of Tong Yin Street 21) Construction of U-trough at CH821 – CH 105 Cofferdam 22) Excavation and re-compaction at S100 CH280 – S200 CH755 and S300 CH405 – CH326 23) Waterworks – DN300/PE315 24) RC Structure works for U-trough A-B		(A) / (B) / (C) / (D) / (E) / (G) / (I)

<b>Contract No. and Project Title</b>	<b>Site Activities (May 2021)</b>	<b>Key Environmental Issues *</b>
	25) RC Structure works for U-trough C 26) Construction of Site Hull Road adjacent to SR2 CH110 – CH170	
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) Construction of Pier 2) Construction of Pier Head works 3) Segment erection works 4) Construction of Bridge Decks 5) Installation of Parapet Skin	(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) Construction of drainage and watermain 3) Asphalt Paving 4) Pier, Staircase and Lift Shaft Construction 5) Road Works	(A) / (B) / (E) / (F) / (G)
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	1) System Integration Test 2) Goods arrival & storage on site 3) Installation works at Admin Building 4) Installation works at Tunnel	(E)
NE/2017/07 - Cross Bay Link, Tseung Kwan O – Main Bridge and Associated Works	1) Fabrication work for precast pier 2) Preparation for Rolling out for Precast Box Girder 3) Jointing deck segments 4) Dismantle of temporary support towers and loading out steel main bridge to barge 5) Preparation of temporary support tower 6) Fabrication of Precast Segment and Precast Shell 7) Pre-drilling 8) Bored piling	(A) / (B) / (D) / (E) / (F) / (G) / (H) / (I)

**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.

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## 14. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 14.1 This is the 54<sup>th</sup> Environmental Monitoring and Audit (EM&A) Report which presents the EM&A works undertaken during the period in April 2021 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 No Action/Limit Level exceedance for 24-hour TSP monitoring was recorded.

#### Construction Noise Monitoring

- 14.4 Ten (10) Action Level exceedances were recorded due to the documented complaints received in this reporting month.
- 14.5 No Limit Level exceedances was recorded for daytime construction noise in the reporting month. No limit level exceedances were recorded for evening/night-time.

#### Water Quality Monitoring

- 14.6 Groundwater quality monitoring had been suspended since October 2019. Details shall be referred to **Section 5.1**.
- 14.7 Thirty-seven (37) Action Level and one-hundred-and-thirty-eight (138) Limit Level exceedances were recorded in Monitoring Stations (M) during marine water quality monitoring.
- 14.8 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.

#### Ecological Monitoring

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

#### Monitoring on Cultural Heritage

- 14.10 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

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

#### Landfill Gas Monitoring

14.12 Monitoring of landfill gases in the reporting month was carried out by the Contractor at excavation location, Portion III. No Limit Level exceedance was recorded.

#### Environmental Site Inspection

14.13 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

14.14 Twelve (12) environmental complaints, no successful prosecution and notification of summon were received during the reporting period.

#### **Recommendations**

14.15 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.

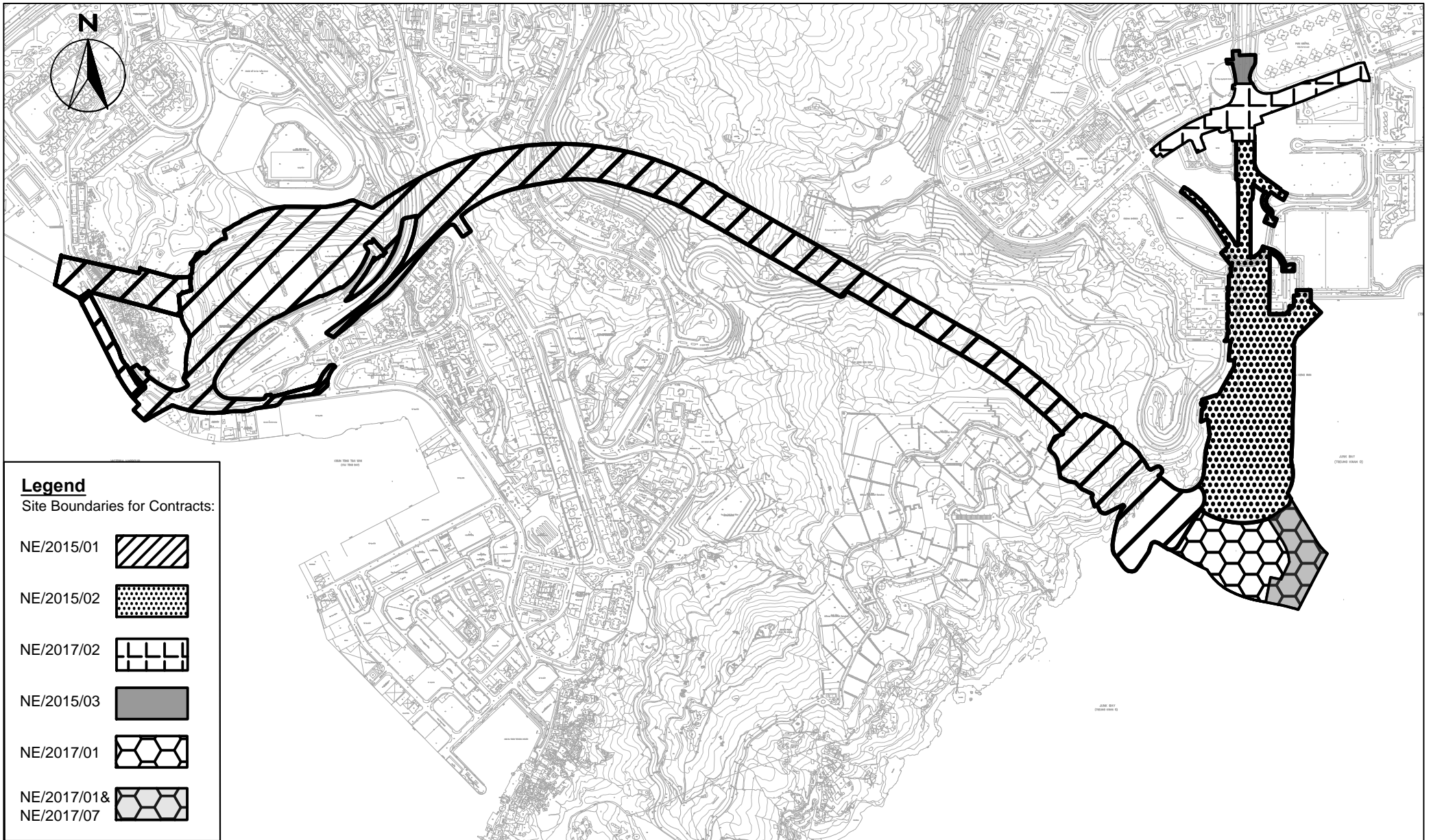
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## FIGURES



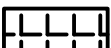

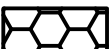

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**Legend**

Site Boundaries for Contracts:

- NE/2015/01 
- NE/2015/02 
- NE/2017/02 
- NE/2015/03 
- NE/2017/01 
- NE/2017/01 & NE/2017/07 

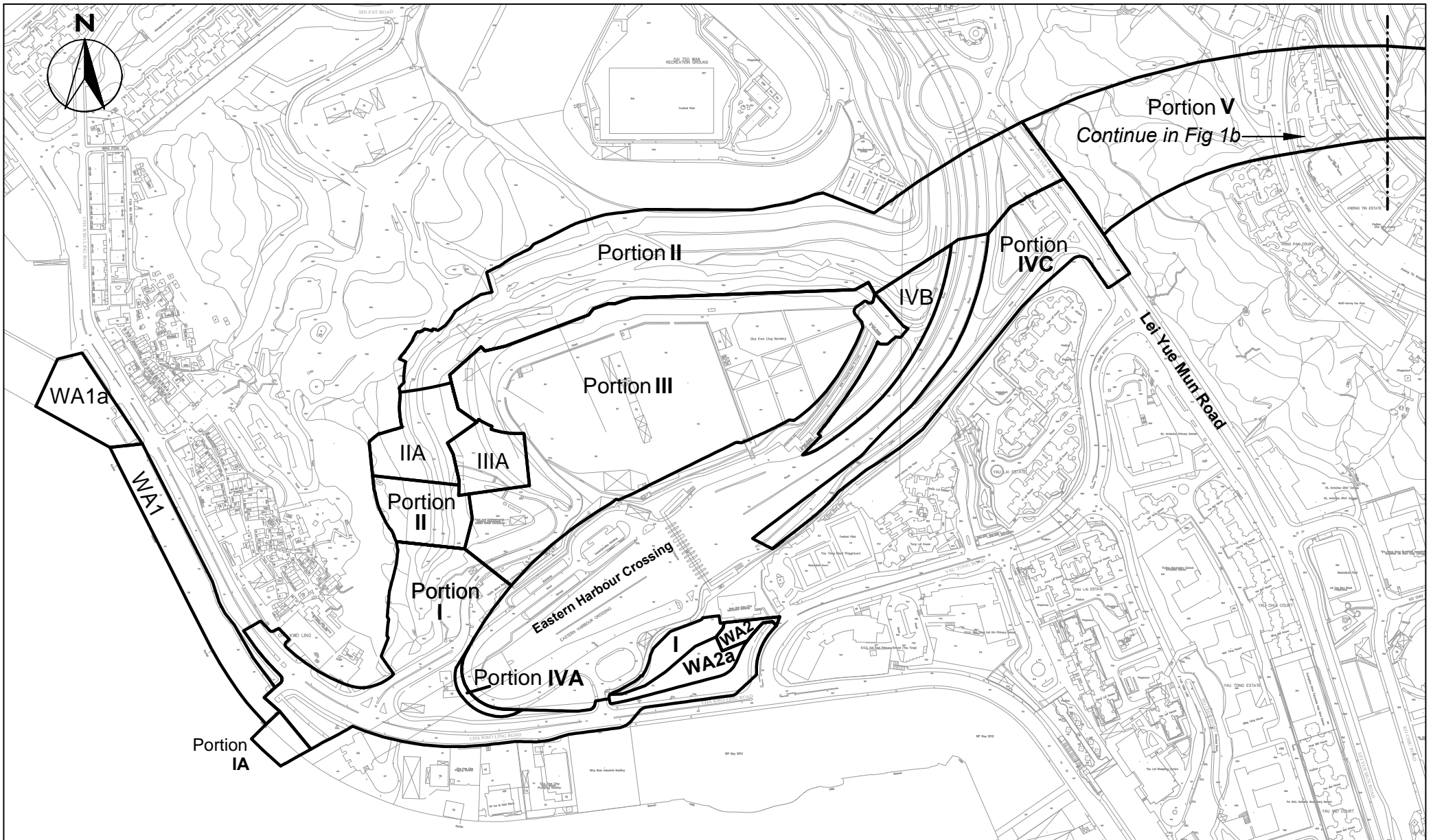


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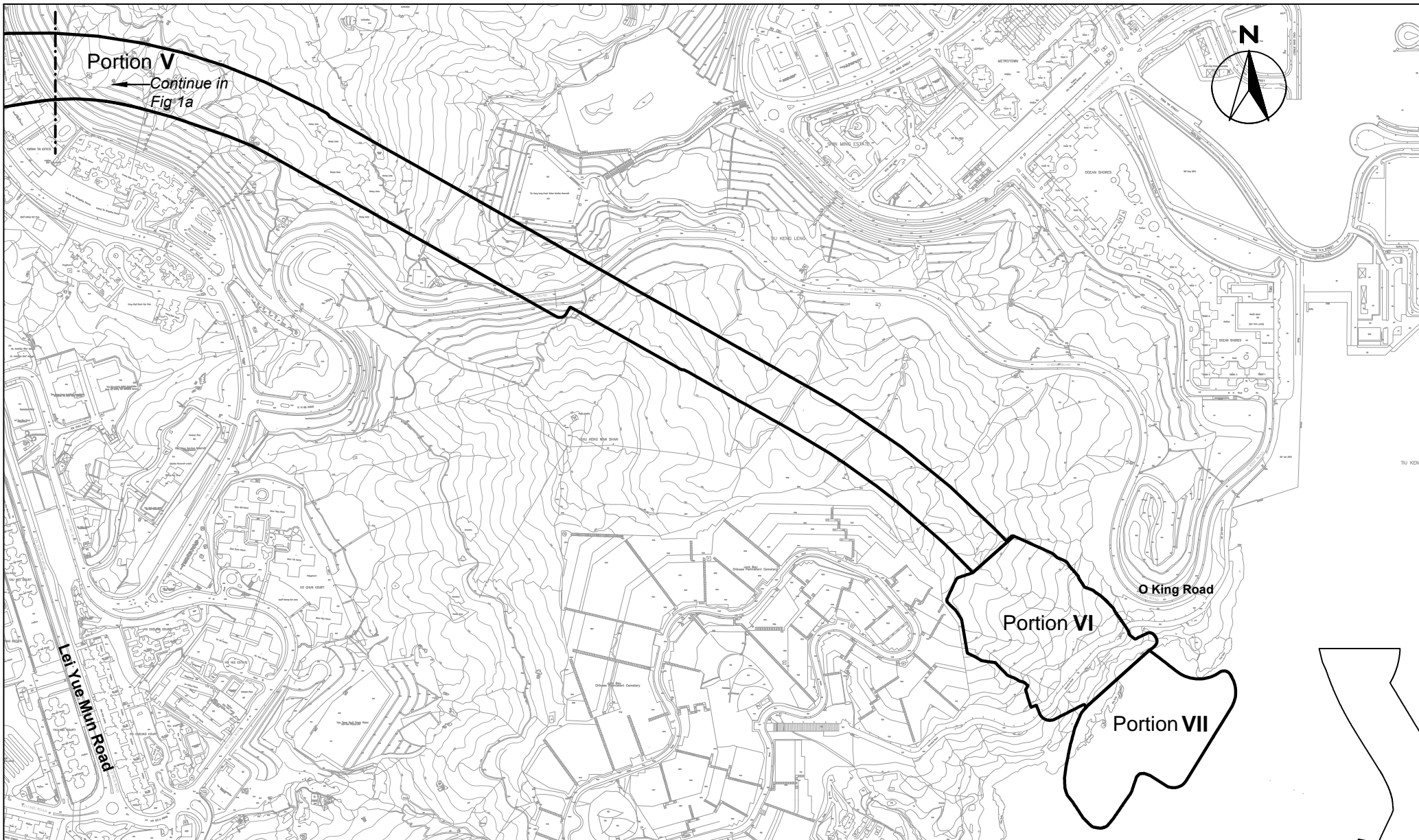
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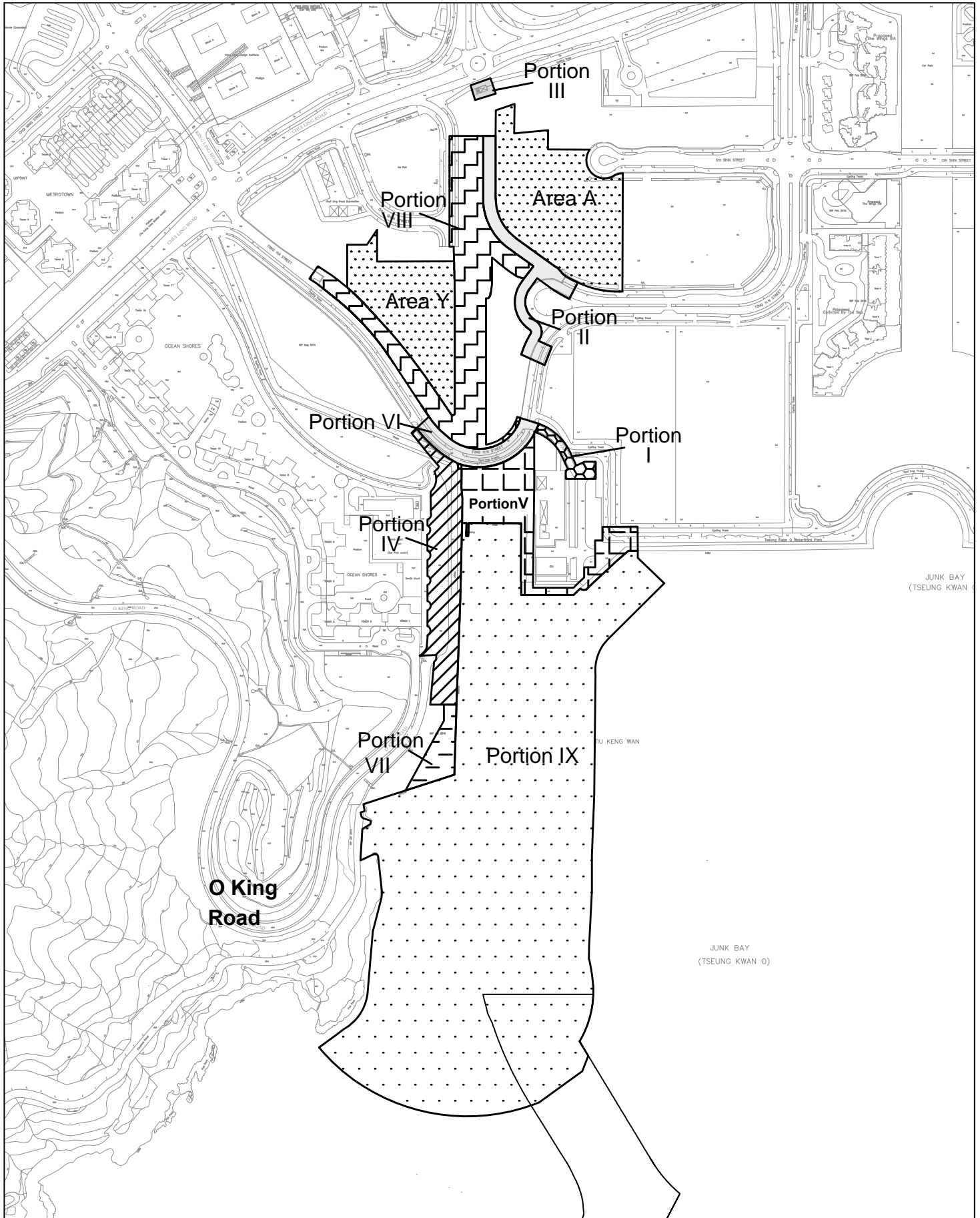



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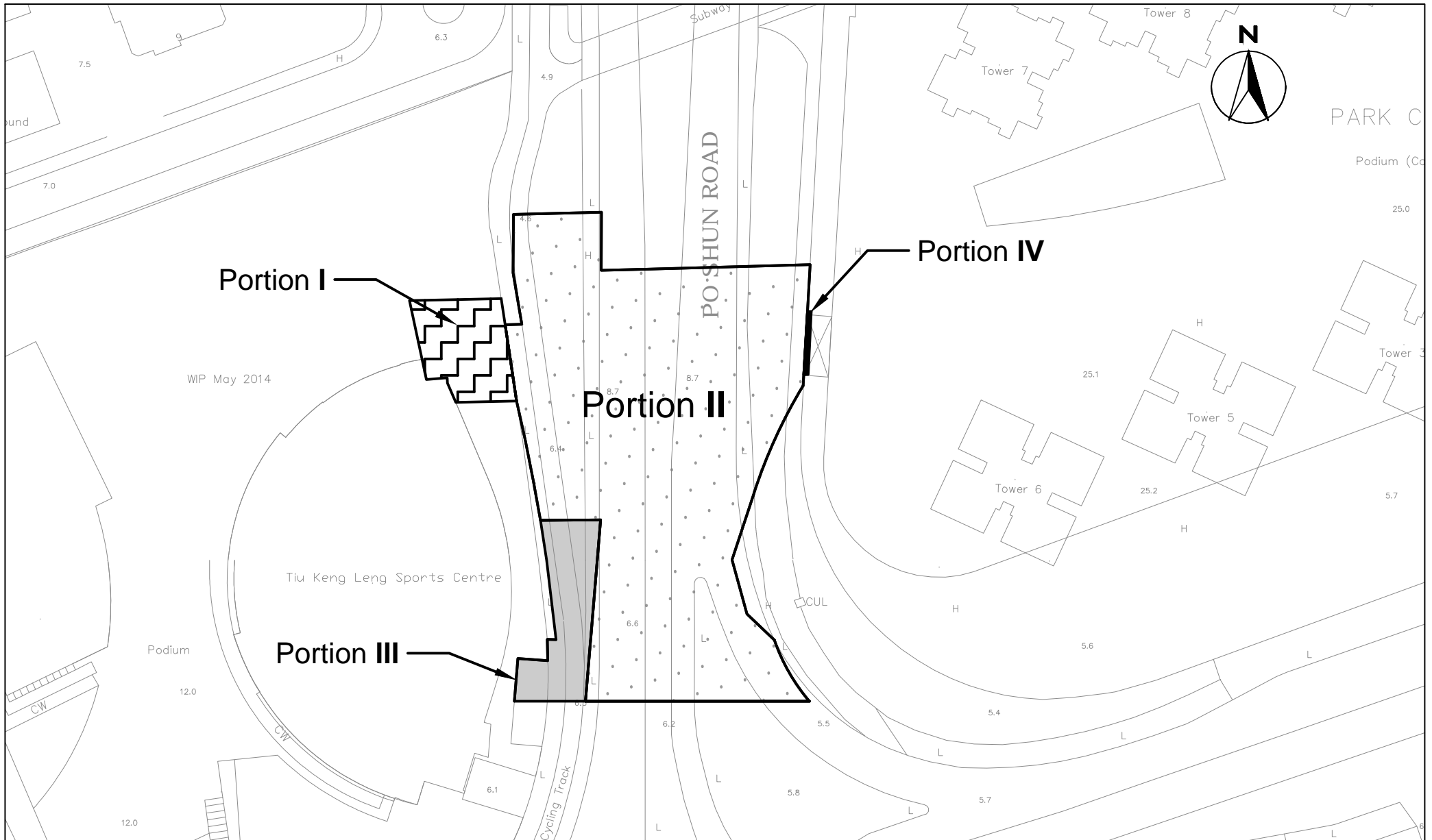
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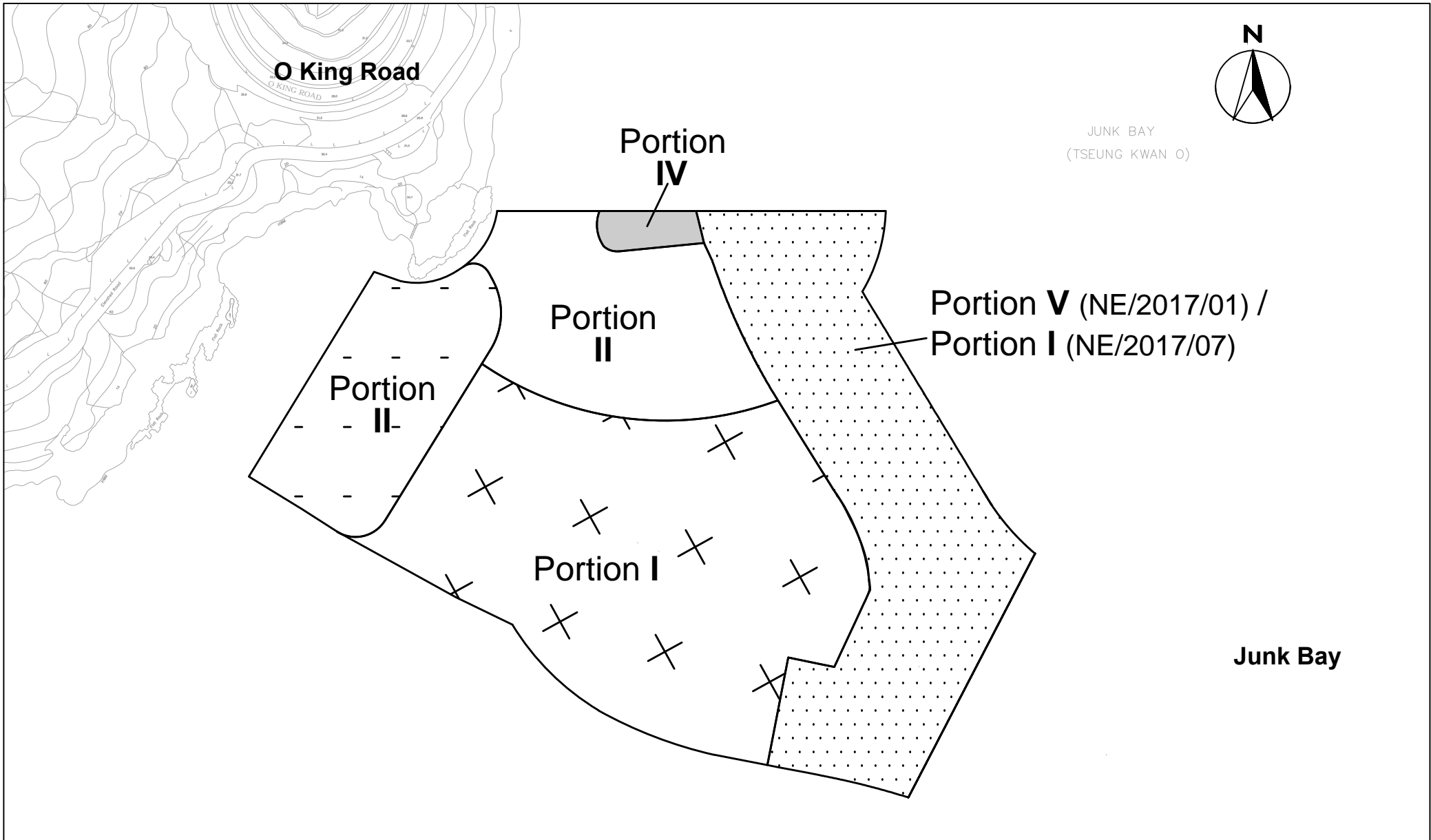


 <b>Cinotech Consultants Limited</b>	Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel– Design and Construction <b>Site Portions under Works Contract No. NE/2015/02</b>	SCALE 1:5000@A4 CHECK CC JOB No. MA16034	DATE 15 April 2021 DRAWN KC FIGURE NO. 1C	REV -	

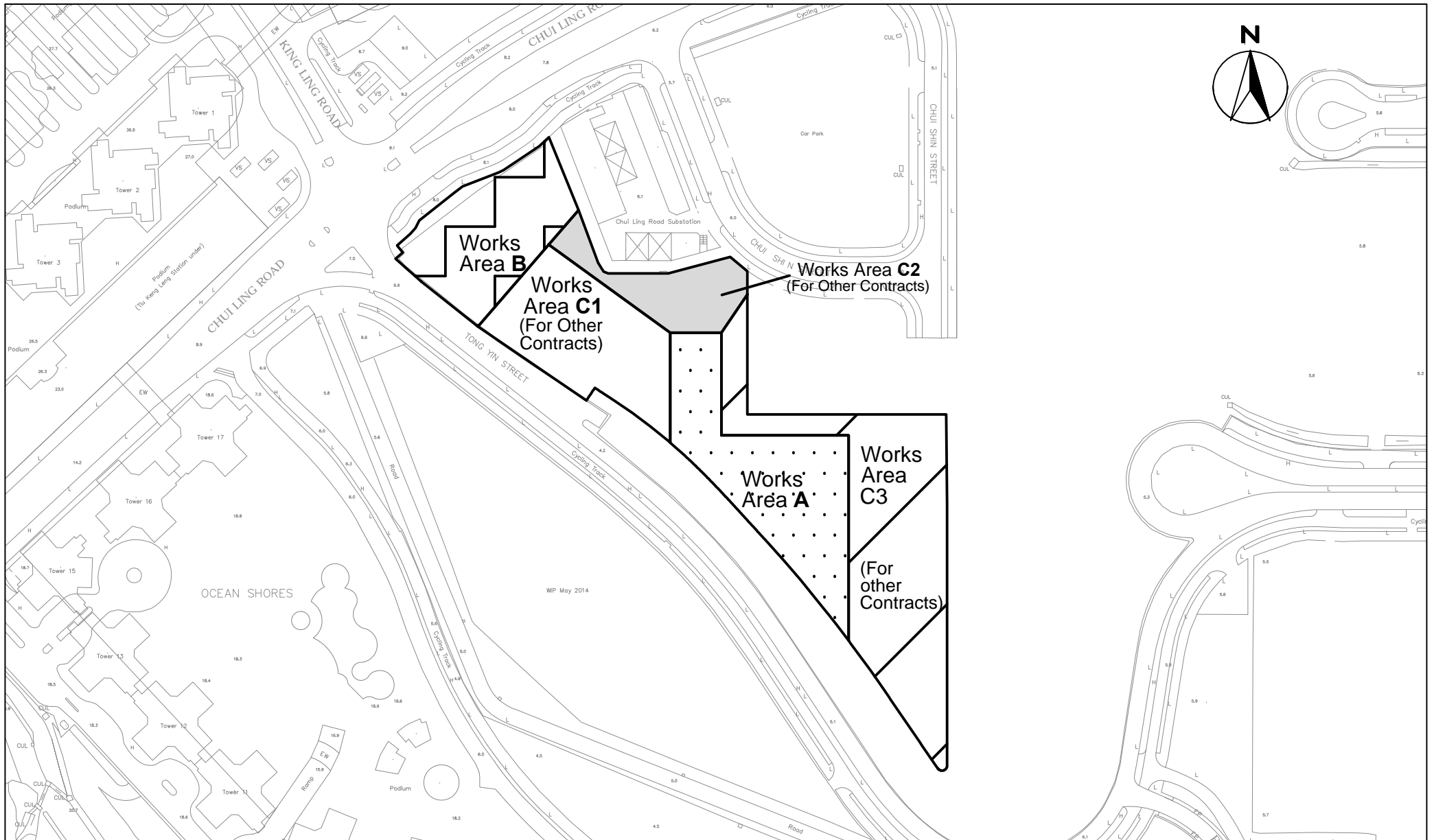




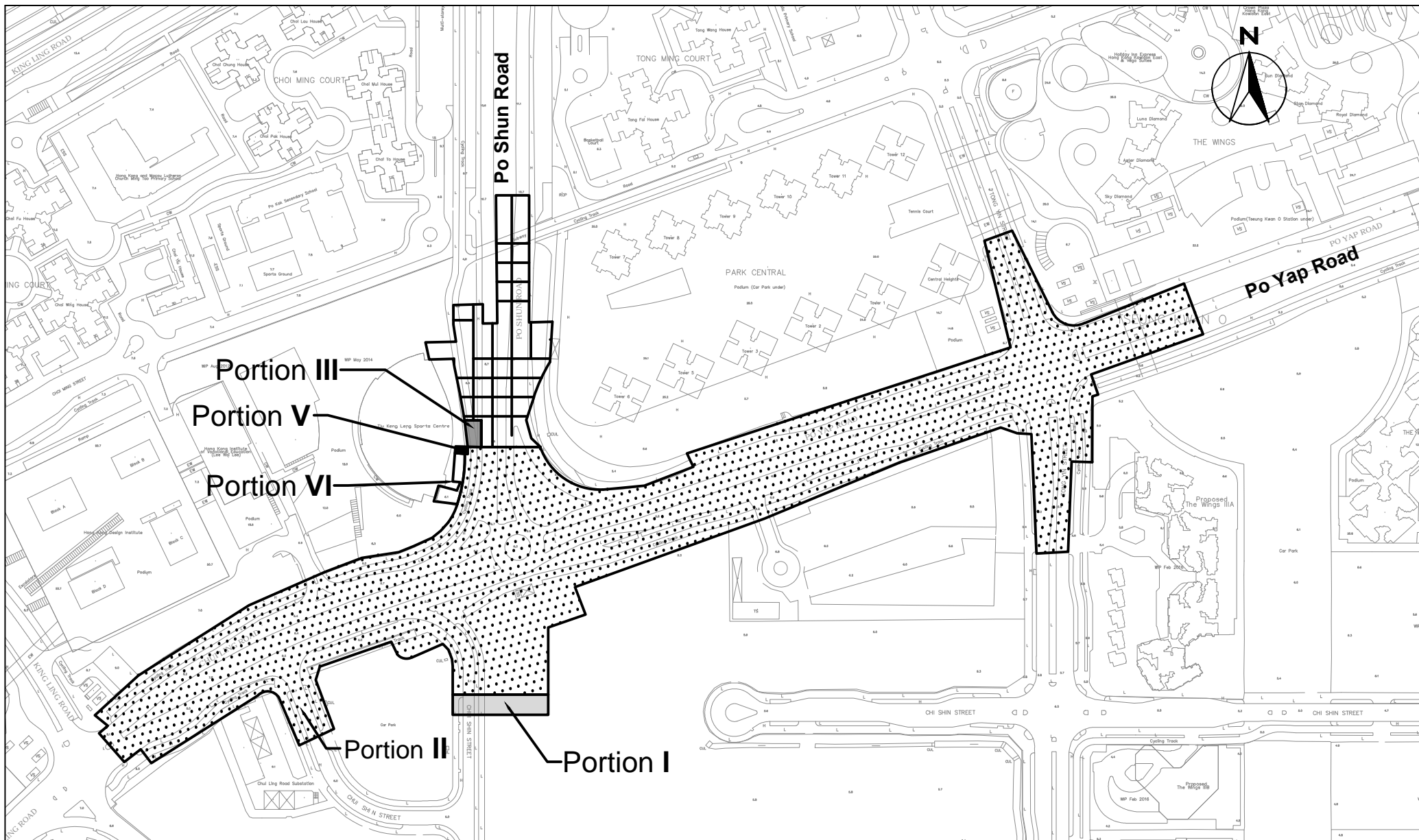
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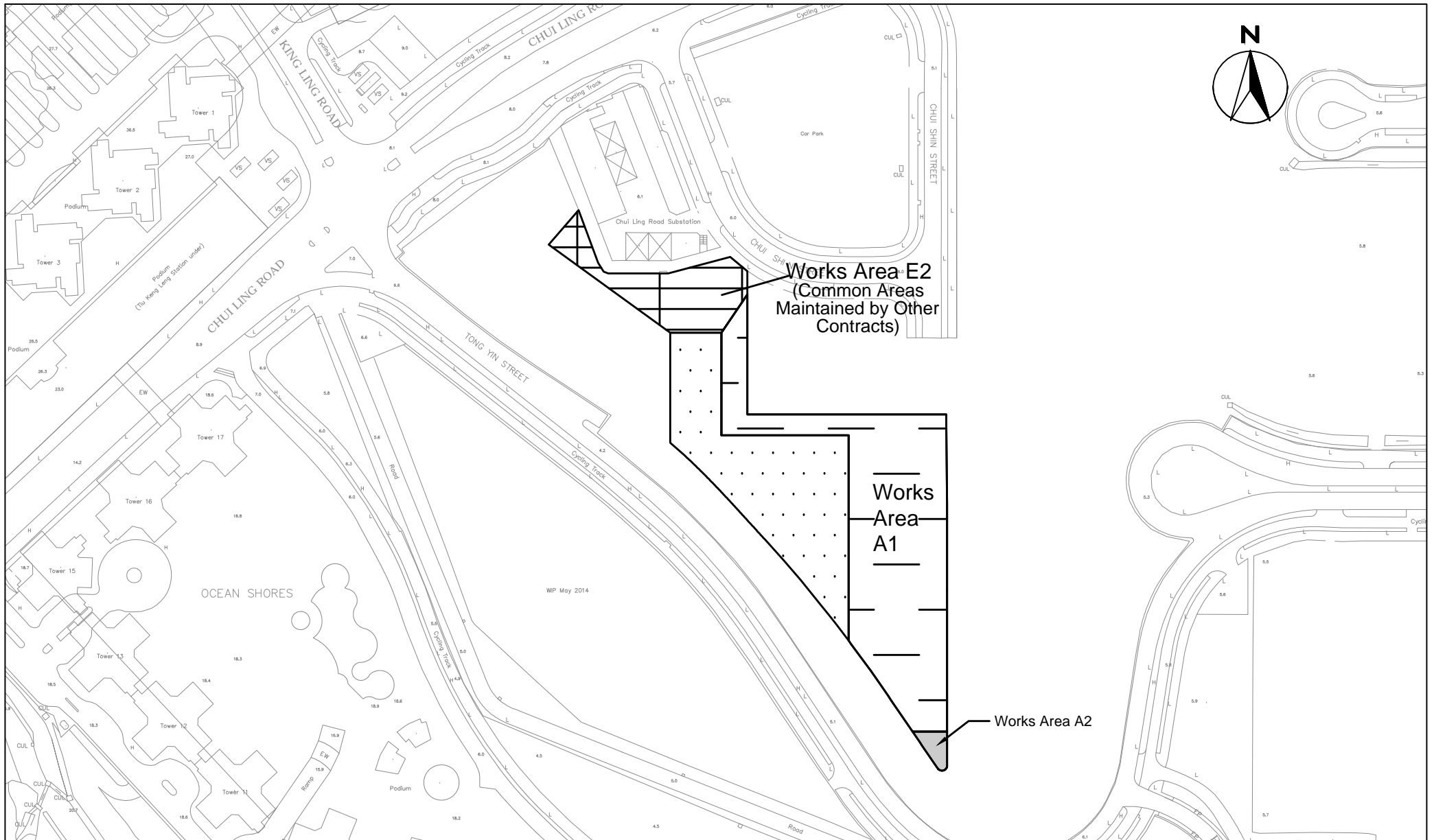
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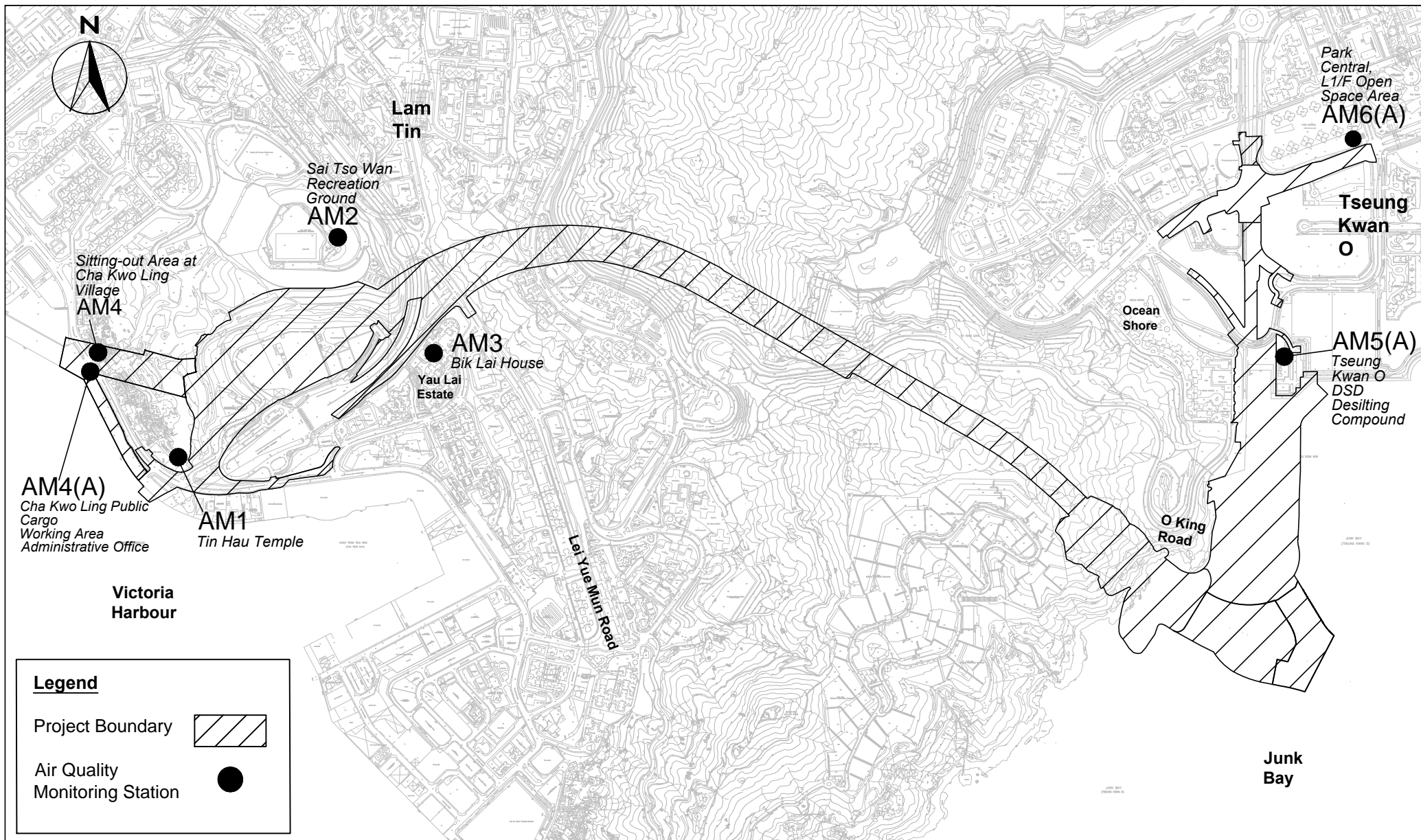


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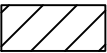



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**Legend**

Project Boundary 

Air Quality Monitoring Station 

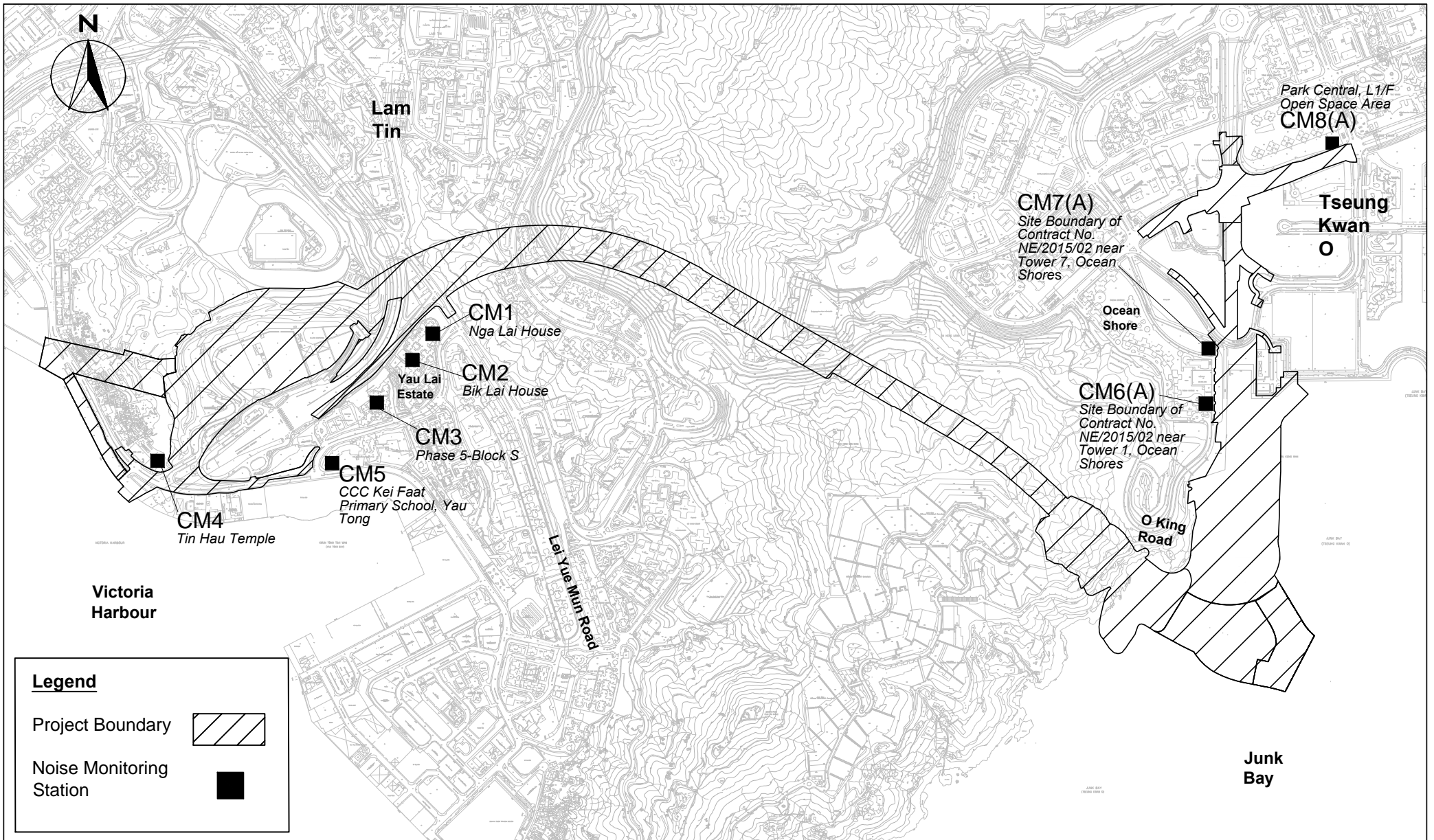


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**Air Quality Monitoring Station**

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**APPENDIX A  
ACTION AND LIMIT LEVELS**

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## APPENDIX A – Action and Limit Levels

### Air Quality

#### *1-hr TSP*

Monitoring Stations	Location	Action Level, µg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
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/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM1	Tin Hau Temple	173	260
AM2	Sai Tso Wan Recreation Ground	192	
AM3	Yau Lai Estate Bik Lai House	167	
AM4(A)	Cha Kwo Ling Public Cargo Working Area Administrative Office	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) <sup>(1)</sup>
1900-2300 on all days and 0700-2300 on general holidays (including Sundays)		60/65/70 dB(A) <sup>(2)(3)</sup>
2300-0700 on all days		45/50/55 dB(A) <sup>(2)(3)</sup>

<sup>1</sup> 70 dB(A) for schools and 65 dB(A) for schools during examination period.

<sup>2</sup> Acceptable Noise Levels for Area Sensitivity Rating of A/B/C

<sup>3</sup> 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*

<b>Parameters</b>	<b>Action</b>	<b>Limit</b>
DO in mg L <sup>-1</sup>	7.6	7.6
pH	6.0 – 8.9	6.0 – 9.0
BOD <sub>5</sub> in mg L <sup>-1</sup>	2.0	2.0
TOC in mg L <sup>-1</sup>	Stream 1 and Stream 2: 9	Stream 1 and Stream 2: 9
	Stream 3: 6	Stream 3: 6
Total Nitrogen in mg L <sup>-1</sup>	2.0	2.1
Ammonia-N in mg L <sup>-1</sup>	0.15	0.20
Total Phosphate in mg L <sup>-1</sup>	0.05	0.05
SS in mg L <sup>-1</sup>	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<sub>5</sub>), 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*

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

*Marine Water Quality*

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

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	<u>4.8 mg/L</u> <sup>(4)</sup>	<u>4 mg/L</u> <sup>(3)</sup>
	Bottom	<u>2.4 mg/L</u> <sup>(4)</sup>	<u>2 mg/L</u> <sup>(3)</sup>

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
<b>Mortality</b>	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

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**APPENDIX B  
COPIES OF CALIBRATION  
CERTIFICATES**

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# 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 1-Apr-21  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 1-Jun-21  
 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

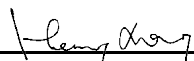
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	52.0	108.0
2	48.0	103.0
3	41.0	96.0
<b>Average</b>	<b>47.0</b>	<b>102.3</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>1.0806</u> Intercept, bw = <u>51.5430</u> Correlation coefficient* = <u>0.9982</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	102.3	
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	47.0	
Measureing time, (min)	60.0	
Set Correlation Factor , SCF		
SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ]	<u>2.2</u>	

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:   
 Wong Shing Kwai

Approved by:   
 Henry Leung

# 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 1-Apr-21  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 1-Jun-21  
 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

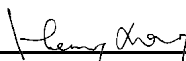
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	54.0	108.0
2	49.0	103.0
3	43.0	96.0
<b>Average</b>	<b>48.7</b>	<b>102.3</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>1.0934</u> Intercept, bw = <u>49.1209</u> Correlation coefficient* = <u>0.9991</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	102.3	
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	48.7	
Measureing time, (min)	60.0	
Set Correlation Factor , SCF		
SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ]	<u>2.1</u>	

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:   
 Wong Shing Kwai

Approved by:   
 Henry Leung

# 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 1-Apr-21  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 1-Jun-21  
 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

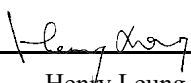
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	51.0	108.0
2	46.0	103.0
3	42.0	96.0
<b>Average</b>	<b>46.3</b>	<b>102.3</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>1.3197</u> Intercept, bw = <u>41.1885</u> Correlation coefficient* = <u>0.9872</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )		102.3
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )		46.3
Measureing time, (min)		60.0
Set Correlation Factor , SCF <b>SCF = [ K=High Volume Sampler / Dust Meter, (<math>\mu\text{g}/\text{m}^3</math>) ]</b> <u>2.2</u>		

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:   
 · Wong Shing Kwai

Approved by:   
 Henry Leung



# 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 1-Apr-21  
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 1-Jun-21  
 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

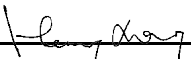
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	60.0	108.0
2	52.0	103.0
3	41.0	96.0
<b>Average</b>	<b>51.0</b>	<b>102.3</b>
<b>By Linear Regression of Y on X</b> Slope , mw = <u>0.6319</u> Intercept, bw = <u>70.1081</u> Correlation coefficient* = <u>1.0000</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	102.3	
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	51.0	
Measureing time, (min)	60.0	
Set Correlation Factor , SCF <b>SCF = [ K=High Volume Sampler / Dust Meter, (<math>\mu\text{g}/\text{m}^3</math>) ]</b> <u>2.0</u>		

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:   
 Wong Shing Kwai

Approved by:   
 Henry Leung

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/05/0029

Project No. AM1 - Tin Hau Temple  
 Date: 10-Apr-21 Next Due Date: 10-Jun-21 Operator: SK  
 Equipment No.: A-01-05 Model No.: GS2310 Serial No. 10599

Ambient Condition			
Temperature, Ta (K)	<u>292.8</u>	Pressure, Pa (mmHg)	<u>764.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05846</u>	Intercept, bc	<u>-0.00313</u>
Last Calibration Date:	<u>11-Jan-21</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>11-Jan-22</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.0</u>	3.65	62.47	<u>8.9</u>	3.02
2	<u>9.4</u>	3.10	53.13	<u>6.4</u>	2.56
3	<u>7.5</u>	2.77	47.47	<u>4.8</u>	2.22
4	<u>4.8</u>	2.22	37.98	<u>3.1</u>	1.78
5	<u>2.5</u>	1.60	27.43	<u>1.9</u>	1.40

### By Linear Regression of Y on X

Slope, mw = 0.0469 Intercept, bw = 0.0516  
 Correlation coefficient\* = 0.9965

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.18

Remarks: \_\_\_\_\_

Conducted by: SK Wong Signature: [Signature] Date: 10 April 2021

Checked by: Henry Leung Signature: [Signature] Date: 10 April 2021

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/08/0029

Project No. AM2 - Sai Tso Wan Recreation Ground  
 Date: 10-Apr-21 Next Due Date: 10-Jun-21 Operator: SK  
 Equipment No.: A-01-08 Model No.: GS2310 Serial No. 1287

Ambient Condition			
Temperature, Ta (K)	<u>292.8</u>	Pressure, Pa (mmHg)	<u>764.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05846</u>	Intercept, bc	<u>-0.00313</u>
Last Calibration Date:	<u>11-Jan-21</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>11-Jan-22</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.1</u>	3.66	62.71	<u>8.8</u>	3.00
2	<u>9.9</u>	3.18	54.53	<u>6.2</u>	2.52
3	<u>7.8</u>	2.83	48.40	<u>4.8</u>	2.22
4	<u>4.9</u>	2.24	38.38	<u>3.2</u>	1.81
5	<u>2.9</u>	1.72	29.54	<u>1.9</u>	1.40

### By Linear Regression of Y on X

Slope, mw = 0.0474 Intercept, bw = -0.0248  
 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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.96

Remarks: \_\_\_\_\_

Conducted by: SK Wong Signature: \_\_\_\_\_ Date: 10 April 2021

Checked by: Henry Leung Signature: \_\_\_\_\_ Date: 10 April 2021

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/03/0029

Project No. AM3 - Yau Lai Estate, Bik Lai House  
 Date: 10-Apr-21 Next Due Date: 10-Jun-21 Operator: SK  
 Equipment No.: A-01-03 Model No.: GS2310 Serial No. 10379

Ambient Condition			
Temperature, Ta (K)	<u>292.8</u>	Pressure, Pa (mmHg)	<u>764.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05846</u>	Intercept, bc	<u>-0.00313</u>
Last Calibration Date:	<u>11-Jan-21</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>11-Jan-22</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.0</u>	3.65	62.47	<u>8.7</u>	2.99
2	<u>9.6</u>	3.14	53.69	<u>6.5</u>	2.58
3	<u>7.8</u>	2.83	48.40	<u>5.3</u>	2.33
4	<u>5.2</u>	2.31	39.53	<u>3.5</u>	1.89
5	<u>2.6</u>	1.63	27.97	<u>2.0</u>	1.42

**By Linear Regression of Y on X**

Slope, mw = 0.0456 Intercept, bw = 0.1244  
 Correlation coefficient\* = 0.9993

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.25

Remarks: \_\_\_\_\_

Conducted by: SK Wong Signature: [Signature] Date: 10 April 2021  
 Checked by: Henry Leung Signature: [Signature] Date: 10 April 2021

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/54/0029

Project No. AM4(A) - Cha Kwo Ling Public Cargo Working Area Administrative Office  
 Date: 10-Apr-21 Next Due Date: 10-Jun-21 Operator: SK  
 Equipment No.: A-01-54 Model No.: TE-5170 Serial No. 1536

Ambient Condition			
Temperature, Ta (K)	<u>292.8</u>	Pressure, Pa (mmHg)	<u>764.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05846</u>	Intercept, bc	<u>-0.00313</u>
Last Calibration Date:	<u>11-Jan-21</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>11-Jan-22</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.2</u>	3.68	62.95	<u>8.9</u>	3.02
2	<u>9.9</u>	3.18	54.53	<u>6.4</u>	2.56
3	<u>7.5</u>	2.77	47.47	<u>5.0</u>	2.26
4	<u>5.3</u>	2.33	39.91	<u>3.3</u>	1.84
5	<u>3.0</u>	1.75	30.04	<u>1.9</u>	1.40

**By Linear Regression of Y on X**

Slope, mw = 0.0493 Intercept, bw = -0.1022  
 Correlation coefficient\* = 0.9992

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

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

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

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

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.98

Remarks: \_\_\_\_\_

Conducted by: SK Wong Signature: [Signature] Date: 10 April 2021  
 Checked by: Henry Leung Signature: [Signature] Date: 10 April 2021

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA16034/37/0029

Project No. AM5(A) - Tseung Kwan O DSD Desilting Compound  
 Date: 10-Apr-21 Next Due Date: 10-Jun-21 Operator: SK  
 Equipment No.: A-01-37 Model No.: GS2310 Serial No. 1704

Ambient Condition			
Temperature, Ta (K)	<u>292.8</u>	Pressure, Pa (mmHg)	<u>764.9</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05846</u>	Intercept, bc	<u>-0.00313</u>
Last Calibration Date:	<u>11-Jan-21</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>11-Jan-22</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.1</u>	3.66	62.71	<u>8.9</u>	3.02
2	<u>9.9</u>	3.18	54.53	<u>6.4</u>	2.56
3	<u>8.2</u>	2.90	49.63	<u>5.4</u>	2.35
4	<u>5.4</u>	2.35	40.28	<u>3.3</u>	1.84
5	<u>3.0</u>	1.75	30.04	<u>2.0</u>	1.43

**By Linear Regression of Y on X**

Slope, mw = 0.0488 Intercept, bw = -0.0762  
 Correlation coefficient\* = 0.9980

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.00

Remarks: \_\_\_\_\_

Conducted by: SK Wong Signature: \_\_\_\_\_ Date: 10 April 2021

Checked by: Henry Leung Signature: \_\_\_\_\_ Date: 10 April 2021

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

File No. MA16034/07/0028

Project No. AM6 - Park Central  
 Date: 5-Mar-21 Next Due Date: 5-May-21 Operator: SK  
 Equipment No.: A-01-07 Model No.: GS2310 Serial No. 10592

Ambient Condition			
Temperature, Ta (K)	<u>292.9</u>	Pressure, Pa (mmHg)	<u>764.7</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05846</u>	Intercept, bc	<u>-0.00313</u>
Last Calibration Date:	<u>11-Jan-21</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>11-Jan-22</u>				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.0</u>	3.65	62.46	<u>8.2</u>	2.90
2	<u>8.9</u>	3.02	51.69	<u>5.9</u>	2.46
3	<u>7.5</u>	2.77	47.45	<u>4.6</u>	2.17
4	<u>4.6</u>	2.17	37.17	<u>3.1</u>	1.78
5	<u>3.1</u>	1.78	30.53	<u>2.1</u>	1.47

### By Linear Regression of Y on X

Slope, mw = 0.0448 Intercept, bw = 0.0981  
 Correlation coefficient\* = 0.9980

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.01

Remarks: \_\_\_\_\_  
 \_\_\_\_\_

Conducted by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Checked by: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_



Equipment no.: N-13-01

**Calibration Certificate****0025247**

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : ST-120 sound calibrator Serial No. /Ref. No. : 181001608 Object 2 : Serial No. /Ref. No. :
Customer Code : SVEC09005	Manufacturer : Soundtek
Date of calibration: 05/11/2020 Date of the recommended re-calibration: 05/11/2021	Certificate No.: 0025247 Handle by: E0002

**Measuring results**

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

**Measuring equipment**

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

**Ambient conditions**

Temperature (20...26)°C Humidity (20...60)%RH

**Measuring procedure**

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source

**Uncertainty**

+/- 0.2dB for probability not less than 95%.

**Conformity**

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Quality Manager





Equipment no. : N-13-02

**Calibration Certificate****0025249**

<b>Customer :</b> Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	<b>Object 1 :</b> ST-120 sound calibrator <b>Serial No. /Ref. No. :</b> 181001636 <b>Object 2 :</b> <b>Serial No. /Ref. No. :</b>
<b>Customer Code :</b> SVEC09005	<b>Manufacturer :</b> Soundtek
<b>Date of calibration:</b> 05/11/2020 <b>Date of the recommended re-calibration:</b> 05/11/2021	<b>Certificate No.:</b> 0025249 <b>Handle by:</b> E0002

**Measuring results**

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

**Measuring equipment**

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

**Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

**Measuring procedure**

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

**Uncertainty**

+/- 0.2dB for probability not less than 95%.

**Conformity**

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

**Measured value(s)** **within** **the allowable deviation.**

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Quality Manager



# Calibration Certificate

0025917

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : B&K4231 sound calibrator Serial No. /Ref. No. : 2326353 / N-02-01 Object 2 : Serial No. /Ref. No. :
Customer Code : SVEC09005	Manufacturer : Bruel & Kjaer
Date of calibration: 22/01/2021 Date of the recommended re-calibration: 22/01/2022	Certificate No.: 0025917 Handle by: E0002

## Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	94.0dB	0.0dB	+/- 0.2dB	1
114.0dB	114.1dB	+0.1dB	+/- 0.2dB	1

## Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

## Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

## Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

## Uncertainty

+/- 0.2 dB for probability not less than 95%.

## Conformity


- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

  
\_\_\_\_\_  
Calibration Technician

Approved by

  
\_\_\_\_\_  
Quality Manager



## Calibration Certificate

0025914

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : SVAN957 SLM Serial No. /Ref. No. : 23851 / N-08-12 Object 2 : Microphone Serial No. /Ref. No. : 43676
Customer Code : SVEC09005	Manufacturer : Svantek
Date of calibration: 22/01/2021 Date of the recommended re-calibration: 22/01/2022	Certificate No.: 0025914 Handle by: E0002

### Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.6dB	-0.4dB	+/- 1.5dB	1
114.0dB	113.5dB	-0.5dB	+/- 1.5dB	1

### Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

### Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

### Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

### Uncertainty

+/- 0.2dB for probability not less than 95%.

### Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Approved by

Quality Manager



Equipment no.: N-12-01

**Calibration Certificate**

0024993

<b>Customer :</b> Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	<b>Object 1 :</b> BSWA 308 SLM <b>Serial No. /Ref. No. :</b> 570183 / 550233 <b>Object 2 :</b> <b>Serial No. /Ref. No. :</b>
<b>Customer Code :</b> SVEC09005	<b>Manufacturer :</b> BSWAtech
<b>Date of calibration:</b> 07/10/2020 <b>Date of the recommended re-calibration:</b> 07/10/2021	<b>Certificate No.:</b> 0024993 <b>Handle by:</b> E0002

**Measuring results**

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.4dB	-0.6dB	+/- 1.5dB	1
114.0dB	113.2dB	-0.8dB	+/- 1.5dB	1

**Measuring equipment**

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

**Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

**Measuring procedure**

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

**Uncertainty**

+/- 0.2dB for probability not less than 95%.

**Conformity**

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Mr. K.S. Ng

Quality Manager



Equipment no.: N-12-02

## Calibration Certificate

0024995

<b>Customer :</b> Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong  Customer Code : SVEC09005	<b>Object 1 :</b> BSWA 308 SLM <b>Serial No. /Ref. No. :</b> 570187 / 550841 <b>Object 2 :</b> <b>Serial No. /Ref. No. :</b>  <b>Manufacturer :</b> BSWAtech
<b>Date of calibration:</b> 07/10/2020 <b>Date of the recommended re-calibration:</b> 07/10/2021	<b>Certificate No.:</b> 0024995 <b>Handle by:</b> E0002

### Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.1dB	-0.9dB	+/- 1.5dB	1
114.0dB	113.1dB	-0.9dB	+/- 1.5dB	1

### Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

### Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

### Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

### Uncertainty

+/- 0.2dB for probability not less than 95%.

### Conformity

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Quality Manager

Mr. K.S. Ng



Equipment no.: N-12-03

**Calibration Certificate****0024996**

Customer : Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Hong Kong	Object 1 : BSWA 308 SLM Serial No. /Ref. No. : 570188 / 550850 Object 2 : Serial No. /Ref. No. :
Customer Code : SVEC09005	Manufacturer : BSWAtech
Date of calibration: 07/10/2020 Date of the recommended re-calibration: 07/10/2021	Certificate No.: 0024996 Handle by: E0002

**Measuring results**

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	92.9dB	-1.1dB	+/- 1.5dB	1
114.0dB	112.8dB	-1.2dB	+/- 1.5dB	1

**Measuring equipment**

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

**Ambient conditions**

Temperature (20...26)°C

Humidity (20...60)%RH

**Measuring procedure**

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

**Uncertainty**

+/- 0.2dB for probability not less than 95%.

**Conformity**

- 1.The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3.The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5.The calibrations certificate may not be reproduced.

Measured value(s) **within** the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Quality Manager

Mr. K.S. Ng





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

Test Report No.:	00092
Date of Issue:	2021-02-26
Date Received:	2021-02-17
Date Tested:	2021-02-17 to 2021-02-25
Date Completed:	2021-02-26

**ATTN:**            **Mr. Henry Leung**

<b>Certificate of Calibration</b>
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**Item for calibration**

YSI EXO1 Multi-parameter Sonde	Equipment No.: SW-08-166
Manufacturer:	YSI Incorporated, a Xylem brand
Description:	Serial No.
- EXO Optical DO Sensor, Ti	17K101625
- EXO conductivity/Temperature Sensor, Ti	17H103448
- EXO Turbidity Sensor, Ti	17K100333
- EXO pH Sensor Assembly, Guarded, Ti	17B100260

**Test conditions:**

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

**Test Specifications:**

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

**Method reference:**

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

\*\*\*\*\*



## Test Report

### Results:

#### Conductivity performance checking

Expected Reading (mS/cm)	Instrument Readings (mS/cm)	Acceptance Criteria	Comment
1332	1298	1265-1399	Pass
6075	6089	5771-6379	Pass
12150	12188	11543-12758	Pass

#### Temperature performance checking

Expected Reading (oC)	Instrument Readings (oC)	Acceptance Criteria	Comment
10.7	10.306	$\pm 2.0$	Pass
25.0	24.953	$\pm 2.0$	Pass
36.6	36.231	$\pm 2.0$	Pass

#### pH performance checking

Expected Reading (pH unit)	Instrument Readings (pH unit)	Acceptance Criteria	Comment
4.0	4.11	$4.0 \pm 0.2$	Pass
7.0	7.10	$7.0 \pm 0.2$	Pass
10.0	10.02	$10.0 \pm 0.2$	Pass

#### D.O. performance checking

Expected Reading	Instrument Readings (mg/L)	Acceptance Criteria	Comment
0.00	0.15	--	--
7.97	7.88	$\pm 0.20$	Pass

#### Turbidity performance checking

Expected Reading(NTU)	Instrument Readings (NTU)	Acceptance Criteria	Comment
0	0.07	--	--
10	10.76	9.0-11.0	Pass
50	51.34	45.0-55.0	Pass
124	121.17	111.6-136.4	Pass

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

-----**End of Report**-----

PREPARED AND CHECKED BY:

For and On Behalf of **High Precision Chemical Testing Limited**

Laboratory Director





<b>RECALIBRATION DUE DATE:</b>
<b>January 11, 2022</b>

# Certificate of Calibration

Calibration Certification Information			
Cal. Date: January 11, 2021	Rootsmeter S/N: 438320	Ta: 297	°K
Operator: Jim Tisch		Pa: 750.1	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>3864</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4470	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9140	8.0	5.00
4	7	8	1	0.8670	8.8	5.50
5	9	10	1	0.7140	12.9	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)	$\sqrt{\Delta H \left( \frac{Ta}{Pa} \right)}$ (y-axis)
0.9860	0.6814	1.4073	0.9957	0.6881	0.8899
0.9818	0.9616	1.9902	0.9915	0.9711	1.2585
0.9797	1.0719	2.2251	0.9893	1.0824	1.4071
0.9786	1.1288	2.3337	0.9883	1.1399	1.4757
0.9732	1.3630	2.8146	0.9828	1.3765	1.7798
<b>QSTD</b>	m=	<b>2.06566</b>	<b>QA</b>	m=	<b>1.29348</b>
	b=	<b>0.00315</b>		b=	<b>0.00199</b>
	r=	<b>0.99996</b>		r=	<b>0.99996</b>

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

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

## Certificate of Calibration - Wind Monitoring Station

Description: Ng Wah Catholic Secondary School - Weather Stations  
 Manufacturer: Davis Instruments  
 Model No.: Davis 6152, Vantage Pro2  
 Serial No.: BC180522050  
 Equipment No.: SA-03-03  
 Date of Calibration: 9-Apr-21  
 Next Due Date: 9-Oct-21

### 1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V1)	$D = V1 - V2$
0.0	0.0	0.0
1.6	1.5	0.1
2.0	2.0	0.0
3.0	3.1	-0.1

### 2. Performance check of Wind Direction

Wind Direction (°)		Difference D (°)
Wind Direction Reading (V1)	Marine Compass Value (V1)	$D = W1 - W2$
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: \_\_\_\_\_ Approved by: \_\_\_\_\_  
 Wong Shing Kwai Henry Leung



### CALIBRATION CERTIFICATE

**Calibration Item:** Minimate Plus Unit (Calibration with Geophone BG14852)  
**Model No.:** 716A0403  
**Serial No.:** BE15890  
**Calibration Date:** 22 March 2021  
**Next Calibration Date:** 22 March 2022  
**Method Used:** In-house Method B3-001  
**In-house Testing Procedure No.:** B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_



( Au Yeung Hang Chuen, Isaac)

Date: 22 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with  
 main unit BE15890)  
 Part Number: 714A9701  
 Serial No.: BG14852  
 Calibration Date: 22 March 2021  
 Next Calibration Date: 22 March 2022  
 Method Used: In-house Method B3-001  
 In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 22 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Linear Microphone (Calibration with main unit  
 BE15890)  
 Model No.: 714A9801  
 Serial No.: BH11455  
 Calibration Date: 22 March 2021  
 Next Calibration Date: 22 March 2022  
 Method Used: In-house Method MM-002  
 In-house Testing Procedure No.: MM-002

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
Blastmate III	714A0801	BA15521
Linear Microphone	714A9801	BH11561
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 22 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Minimate Plus Unit (Calibration with Geophone BG16955)  
 Model No.: 716A0403  
 Serial No.: BE16223  
 Calibration Date: 22 March 2021  
 Next Calibration Date: 22 March 2022  
 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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac)

Date: 22 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with  
 main unit BE16223)  
 Part Number: 714A9701  
 Serial No.: BG16955  
 Calibration Date: 22 March 2021  
 Next Calibration Date: 22 March 2022  
 Method Used: In-house Method B3-001  
 In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 22 March 2021



### CALIBRATION CERTIFICATE

Calibration Item: Linear Microphone (Calibration with main unit BE16223)  
 Model No.: 714A9801  
 Serial No.: BH11458  
 Calibration Date: 22 March 2021  
 Next Calibration Date: 22 March 2022  
 Method Used: In-house Method MM-002  
 In-house Testing Procedure No.: MM-002

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
Blastmate III	714A0801	BA15521
Linear Microphone	714A9801	BH11561
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: \_\_\_\_\_



( Au Yeung Hang Chuen, Isaac )

Date: 22 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Minimate Plus Unit (Calibration with Geophone  
BG15353)  
Model No.: 716A0403  
Serial No.: BE15891  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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.

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Authorized by: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac)

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit BE15891)  
Part Number: 714A9701  
Serial No.: BG15353  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Minimate Plus Unit (Calibration with Geophone BG15180)  
 Model No.: 716A0403  
 Serial No.: BE15894  
 Calibration Date: 1 March 2021  
 Next Calibration Date: 1 March 2022  
 Method Used: In-house Method B3-001  
 In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

  
 ( Au Yeung Hang Chuen, Isaac)

Date: 1 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with  
 main unit BE15894)  
 Part Number: 714A9701  
 Serial No.: BG15180  
 Calibration Date: 1 March 2021  
 Next Calibration Date: 1 March 2022  
 Method Used: In-house Method B3-001  
 In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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.

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Authorized by: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 1 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Linear Microphone (Calibration with main unit BE15894)  
 Model No.: 714A9801  
 Serial No.: BH10228  
 Calibration Date: 1 March 2021  
 Next Calibration Date: 1 March 2022  
 Method Used: In-house Method MM-002  
 In-house Testing Procedure No.: MM-002

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
Blastmate III	714A0801	BA15521
Linear Microphone	714A9801	BH11561
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: \_\_\_\_\_

  
 ( Au Yeung Hang Chuen, Isaac )

Date: 1 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Minimate Plus Unit (Calibration with Geophone  
BG20673)  
Model No.: 716A0403  
Serial No.: BE13849  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac)

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit BE13849)  
Part Number: 714A9701  
Serial No.: BG20673  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Linear Microphone (Calibration with main unit BE13849)  
Model No.: 714A9801  
Serial No.: BH13154  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method MM-002  
In-house Testing Procedure No.: MM-002

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
Blastmate III	714A0801	BA15521
Linear Microphone	714A9801	BH11561
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Minimate Plus Unit (Calibration with Geophone  
 BG16512)  
 Model No.: 716A0403  
 Serial No.: BE13853  
 Calibration Date: 1 March 2021  
 Next Calibration Date: 1 March 2022  
 Method Used: In-house Method B3-001  
 In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

  
 ( Au Yeung Hang Chuen, Isaac)

Date: 1 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with  
 main unit BE13853)  
 Part Number: 714A9701  
 Serial No.: BG16512  
 Calibration Date: 1 March 2021  
 Next Calibration Date: 1 March 2022  
 Method Used: In-house Method B3-001  
 In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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.

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Authorized by: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 1 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Minimate Plus Unit (Calibration with Geophone BG17240)  
Model No.: 716A0403  
Serial No.: BE20015  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac)

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit BE20015)  
Part Number: 714A9701  
Serial No.: BG17240  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
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.

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Authorized by: \_\_\_\_\_

( Au Yeung Hang Chuen, Isaac )

Date: 11 March 2021



## CALIBRATION CERTIFICATE

Calibration Item: Linear Microphone (Calibration with main unit BE20015)  
Model No.: 714A9801  
Serial No.: BH12658  
Calibration Date: 11 March 2021  
Next Calibration Date: 11 March 2022  
Method Used: In-house Method MM-002  
In-house Testing Procedure No.: MM-002

<u>Test References</u>	<u>Model</u>	<u>Serial No.</u>
Blastmate III	714A0801	BA15521
Linear Microphone	714A9801	BH11561
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: \_\_\_\_\_

  
( Au Yeung Hang Chuen, Isaac )

Date: 11 March 2021



SET 30

### CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit UM13701)

Part Number: 721A2901

Serial No.: UM13701

Calibration Date: 20 April 2020

Next Calibration Date: 20 April 2021

Method Used: In-house Method MM-001

In-house Testing Procedure No.: MM-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
GLOBAL SPECIALISTS 3MHz*	2030	256812
Stanford Spectrum Analyzer	SR760	41550
Aglient Multimeter*	34410A	MY47011119
HP Distortion Meter*	339A	810699
Bruel & Kjaer Accelerometer*	4370	30323
Bruel & Kjaer Charge Amplifier*	2647	2518810
Bruel & Kjaer Conditional Amplifier*	269	2152173
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: \_\_\_\_\_



(Wong, Keefe Solomon)

Date: 20 April 2020



## CALIBRATION CERTIFICATE

Calibration Item: Micromate Unit (Calibration with Geophone  
 UM13701)  
 Model No.: 721A2501  
 Serial No.: UM13701  
 Calibration Date: 20 April 2020  
 Next Calibration Date: 20 April 2021  
 Method Used: In-house Method MM-001  
 In-house Testing Procedure No.: MM-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
GLOBAL SPECIALISTS 3MHz*	2030	256812
Stanford Spectrum Analyzer	SR760	41550
Aglient Multimeter*	34410A	MY47011119
HP Distortion Meter*	339A	810699
Bruel & Kjaer Accelerometer*	4370	30323
Bruel & Kjaer Charge Amplifier*	2647	2518810
Bruel & Kjaer Conditional Amplifier*	269	2152173
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: \_\_\_\_\_



(Wong, Keefe Solomon)

Date: 20 April 2020

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**APPENDIX C**  
**WEATHER INFORMATION**

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**Apr 2021**

Table II: Wind Speed and Directions

Apr 2021				
Table I				
Day	Mean Pressure (hPa)	Air Temperature	Mean Relative Humidity (%)	Total Rainfall (mm)
		Mean (°C)		
1	1015.0	19.7	91.0	0.2
2	1017.0	19.9	86.0	0.4
3	1017.2	20.4	88.0	0.6
4	1018.0	20.8	89.0	1.1
5	1019.0	18.2	88.0	4.6
6	1016.8	17.1	92.0	21.5
7	1015.5	19.1	86.0	Trace
8	1016.5	20.6	71.0	-
9	1017.5	21.6	69.0	-
10	1018.1	21.7	73.0	-
11	1015.0	22.5	88.0	20.5
12	1017.3	20.8	59.0	0.4
13	1019.2	20.2	44.0	-
14	1017.5	21.1	65.0	-
15	1015.4	22.2	66.0	-
16	1014.5	23.3	77.0	-
17	1014.8	24.1	79.0	-
18	1013.9	24.4	81.0	Trace
19	1012.6	25.9	80.0	-
20	1012.5	26.4	81.0	-
21	1012.4	26.7	82.0	-
22	1014.9	22.1	94.0	25.8
23	1017.2	20.6	89.0	1.3
24	1019.0	19.4	84.0	0.6
25	1018.1	20.5	83.0	0.1
26	1017.0	23.1	75.0	0.7
27	1017.1	24.4	65.0	-
28	1017.5	24.3	64.0	-
29	1017.0	24.2	72.0	-
30	1015.3	25.3	74.0	-

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
1 Apr 2021	00:26:47	0.1	SW
1 Apr 2021	01:26:47	0.1	ENE
1 Apr 2021	02:26:47	0.1	SSW
1 Apr 2021	03:26:47	0.1	S
1 Apr 2021	04:26:47	0.1	SW
1 Apr 2021	05:26:47	0.1	SSW
1 Apr 2021	06:26:47	0.1	S
1 Apr 2021	07:26:47	0.1	SW
1 Apr 2021	08:26:47	0.5	W
1 Apr 2021	09:26:47	2.3	SSW
1 Apr 2021	10:26:47	3.4	SW
1 Apr 2021	11:26:47	0.2	SW
1 Apr 2021	12:26:47	0.5	SSE
1 Apr 2021	13:26:47	0.6	SW
1 Apr 2021	14:26:47	0.7	NW
1 Apr 2021	15:26:47	2.6	SW
1 Apr 2021	16:26:47	1.6	SSW
1 Apr 2021	17:26:47	0.7	WSW
1 Apr 2021	18:26:47	0.2	SSW
1 Apr 2021	19:26:47	0.1	SSW
1 Apr 2021	20:26:47	0.2	SSW
1 Apr 2021	21:26:47	0.1	WSW
1 Apr 2021	22:26:47	0.1	SW
1 Apr 2021	23:26:47	0.1	E
2 Apr 2021	00:26:47	0.1	ENE
2 Apr 2021	01:26:47	0.1	ENE
2 Apr 2021	02:26:47	0.1	E
2 Apr 2021	03:26:47	0.1	E
2 Apr 2021	04:26:47	0.1	E
2 Apr 2021	05:26:47	0.1	NNW
2 Apr 2021	06:26:47	0.1	E
2 Apr 2021	07:26:47	0.1	ENE
2 Apr 2021	08:26:47	0.1	SE
2 Apr 2021	09:26:47	0.1	WSW
2 Apr 2021	10:26:47	0.6	WSW
2 Apr 2021	11:26:47	0.8	ESE
2 Apr 2021	12:26:47	1.5	W
2 Apr 2021	13:26:47	0.6	W
2 Apr 2021	14:26:47	2.7	WSW
2 Apr 2021	15:26:47	1.1	W
2 Apr 2021	16:26:47	0.3	WSW
2 Apr 2021	17:26:47	0.6	SSW
2 Apr 2021	18:26:47	0.4	WSW
2 Apr 2021	19:26:47	0.1	SW
2 Apr 2021	20:26:47	0.1	SSW

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
2 Apr 2021	21:26:47	0.1	SW
2 Apr 2021	22:26:47	0.1	SSW
2 Apr 2021	23:26:47	0.1	E
3 Apr 2021	00:26:47	0.1	NNE
3 Apr 2021	01:26:47	0.1	WNW
3 Apr 2021	02:26:47	0.1	W
3 Apr 2021	03:26:47	0.1	SW
3 Apr 2021	04:26:47	0.1	WSW
3 Apr 2021	05:26:47	0.1	NNE
3 Apr 2021	06:26:47	0.1	W
3 Apr 2021	07:26:47	0.1	NE
3 Apr 2021	08:26:47	0.1	SW
3 Apr 2021	09:26:47	0.1	SW
3 Apr 2021	10:26:47	0.1	WSW
3 Apr 2021	11:26:47	0.1	WNW
3 Apr 2021	12:26:47	1.1	SSW
3 Apr 2021	13:26:47	1.2	W
3 Apr 2021	14:26:47	2.2	WNW
3 Apr 2021	15:26:47	2.2	SW
3 Apr 2021	16:26:47	3.6	W
3 Apr 2021	17:26:47	0.2	WNW
3 Apr 2021	18:26:47	0.1	WNW
3 Apr 2021	19:26:47	0.1	W
3 Apr 2021	20:26:47	0.1	W
3 Apr 2021	21:26:47	0.1	SW
3 Apr 2021	22:26:47	0.1	SSW
3 Apr 2021	23:26:47	0.1	SSW
4 Apr 2021	00:26:47	0.1	SW
4 Apr 2021	01:26:47	0.1	SW
4 Apr 2021	02:26:47	0.1	SW
4 Apr 2021	03:26:47	0.1	SW
4 Apr 2021	04:26:47	0.1	SW
4 Apr 2021	05:26:47	0.1	SW
4 Apr 2021	06:26:47	0.1	WNW
4 Apr 2021	07:26:47	0.1	NE
4 Apr 2021	08:26:47	0.2	E
4 Apr 2021	09:26:47	0.2	NE
4 Apr 2021	10:26:47	0.2	NNE
4 Apr 2021	11:26:47	0.1	E
4 Apr 2021	12:26:47	0.1	NE
4 Apr 2021	13:26:47	0.1	E
4 Apr 2021	14:26:47	0.1	ESE
4 Apr 2021	15:26:47	0.1	ENE
4 Apr 2021	16:26:47	0.1	E
4 Apr 2021	17:26:47	0.1	E

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
4 Apr 2021	18:26:47	0.1	ESE
4 Apr 2021	19:26:47	0.2	E
4 Apr 2021	20:26:47	0.1	ESE
4 Apr 2021	21:26:47	0.1	ENE
4 Apr 2021	22:26:47	0.1	WNW
4 Apr 2021	23:26:47	0.1	ENE
5 Apr 2021	00:26:47	0.1	ESE
5 Apr 2021	01:26:47	0.1	E
5 Apr 2021	02:26:47	0.1	ENE
5 Apr 2021	03:26:47	0.1	NE
5 Apr 2021	04:26:47	0.1	NE
5 Apr 2021	05:26:47	0.2	E
5 Apr 2021	06:26:47	0.1	E
5 Apr 2021	07:26:47	0.2	E
5 Apr 2021	08:26:47	0.2	E
5 Apr 2021	09:26:47	0.2	SE
5 Apr 2021	10:26:47	0.2	ESE
5 Apr 2021	11:26:47	0.2	E
5 Apr 2021	12:26:47	0.2	E
5 Apr 2021	13:26:47	0.5	SE
5 Apr 2021	14:26:47	0.2	ENE
5 Apr 2021	15:26:47	0.1	E
5 Apr 2021	16:26:47	0.2	E
5 Apr 2021	17:26:47	0.1	SE
5 Apr 2021	18:26:47	0.1	ENE
5 Apr 2021	19:26:47	0.1	ENE
5 Apr 2021	20:26:47	0.1	E
5 Apr 2021	21:26:47	0.1	ESE
5 Apr 2021	22:26:47	0.1	NE
5 Apr 2021	23:26:47	0.1	E
6 Apr 2021	00:26:47	0.1	ENE
6 Apr 2021	01:26:47	0.1	NE
6 Apr 2021	02:26:47	0.1	SSE
6 Apr 2021	03:26:47	0.1	ENE
6 Apr 2021	04:26:47	0.1	E
6 Apr 2021	05:26:47	0.1	E
6 Apr 2021	06:26:47	0.1	ENE
6 Apr 2021	07:26:47	0.1	ESE
6 Apr 2021	08:26:47	0.1	ESE
6 Apr 2021	09:26:47	0.1	ESE
6 Apr 2021	10:26:47	0.1	SSE
6 Apr 2021	11:26:47	0.1	ENE
6 Apr 2021	12:26:47	0.1	ENE
6 Apr 2021	13:26:47	0.1	SE
6 Apr 2021	14:26:47	0.1	SSW

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
6 Apr 2021	15:26:47	0.1	NNE
6 Apr 2021	16:26:47	0.1	NE
6 Apr 2021	17:26:47	0.1	SE
6 Apr 2021	18:26:47	0.1	E
6 Apr 2021	19:26:47	0.1	E
6 Apr 2021	20:26:47	0.1	SE
6 Apr 2021	21:26:47	0.1	ESE
6 Apr 2021	22:26:47	0.2	E
6 Apr 2021	23:26:47	0.4	E
7 Apr 2021	00:26:47	0.2	ESE
7 Apr 2021	01:26:47	0.1	ENE
7 Apr 2021	02:26:47	0.1	S
7 Apr 2021	03:26:47	0.1	SE
7 Apr 2021	04:26:47	0.1	NE
7 Apr 2021	05:26:47	0.9	ENE
7 Apr 2021	06:26:47	0.1	SE
7 Apr 2021	07:26:47	0.6	E
7 Apr 2021	08:26:47	0.8	E
7 Apr 2021	09:26:47	0.1	ESE
7 Apr 2021	10:26:47	0.1	S
7 Apr 2021	11:26:47	0.1	SSE
7 Apr 2021	12:26:47	0.7	ESE
7 Apr 2021	13:26:47	0.1	S
7 Apr 2021	14:26:47	0.4	E
7 Apr 2021	15:26:47	1.0	ESE
7 Apr 2021	16:26:47	0.1	E
7 Apr 2021	17:26:47	0.1	E
7 Apr 2021	18:26:47	0.8	ESE
7 Apr 2021	19:26:47	0.1	ENE
7 Apr 2021	20:26:47	0.2	E
7 Apr 2021	21:26:47	0.1	S
7 Apr 2021	22:26:47	0.1	SE
7 Apr 2021	23:26:47	0.1	E
8 Apr 2021	00:26:47	0.1	E
8 Apr 2021	01:26:47	0.2	ESE
8 Apr 2021	02:26:47	0.1	E
8 Apr 2021	03:26:47	0.1	ESE
8 Apr 2021	04:26:47	0.1	NE
8 Apr 2021	05:26:47	0.1	ESE
8 Apr 2021	06:26:47	0.1	ENE
8 Apr 2021	07:26:47	0.1	ENE
8 Apr 2021	08:26:47	0.1	ENE
8 Apr 2021	09:26:47	0.1	SE
8 Apr 2021	10:26:47	0.1	E
8 Apr 2021	11:26:47	0.1	E

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
8 Apr 2021	12:26:47	0.1	SSE
8 Apr 2021	13:26:47	0.4	E
8 Apr 2021	14:26:47	0.1	ENE
8 Apr 2021	15:26:47	0.1	E
8 Apr 2021	16:26:47	0.2	ESE
8 Apr 2021	17:26:47	0.1	E
8 Apr 2021	18:26:47	0.4	NE
8 Apr 2021	19:26:47	0.1	ESE
8 Apr 2021	20:26:47	0.3	NE
8 Apr 2021	21:26:47	0.2	NE
8 Apr 2021	22:26:47	0.2	NE
8 Apr 2021	23:26:47	0.2	ENE
9 Apr 2021	00:26:47	0.1	W
9 Apr 2021	01:26:47	0.1	ENE
9 Apr 2021	02:26:47	0.4	ENE
9 Apr 2021	03:26:47	0.1	NE
9 Apr 2021	04:26:47	0.2	ENE
9 Apr 2021	05:26:47	0.2	ENE
9 Apr 2021	06:26:47	0.2	ENE
9 Apr 2021	07:26:47	0.2	N
9 Apr 2021	08:26:47	0.2	ENE
9 Apr 2021	09:26:47	0.3	ENE
9 Apr 2021	10:26:47	0.4	E
9 Apr 2021	11:26:47	1.0	E
9 Apr 2021	12:26:47	0.4	E
9 Apr 2021	13:26:47	0.4	NE
9 Apr 2021	14:26:47	0.3	E
9 Apr 2021	15:26:47	0.3	E
9 Apr 2021	16:26:47	0.3	ESE
9 Apr 2021	17:26:47	0.2	ESE
9 Apr 2021	18:26:47	0.2	ENE
9 Apr 2021	19:26:47	0.1	ENE
9 Apr 2021	20:26:47	0.1	E
9 Apr 2021	21:26:47	0.1	ESE
9 Apr 2021	22:26:47	0.1	E
9 Apr 2021	23:26:47	0.1	E
10 Apr 2021	00:26:47	0.1	ENE
10 Apr 2021	01:26:47	0.1	E
10 Apr 2021	02:26:47	0.1	ENE
10 Apr 2021	03:26:47	0.1	ESE
10 Apr 2021	04:26:47	0.1	SE
10 Apr 2021	05:26:47	0.2	SE
10 Apr 2021	06:26:47	0.1	E
10 Apr 2021	07:26:47	0.3	ESE
10 Apr 2021	08:26:47	0.1	NE

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
10 Apr 2021	09:26:47	0.1	SE
10 Apr 2021	10:26:47	0.4	SSE
10 Apr 2021	11:26:47	0.1	SSE
10 Apr 2021	12:26:47	0.2	S
10 Apr 2021	13:26:47	0.1	SSE
10 Apr 2021	14:26:47	0.6	SSE
10 Apr 2021	15:26:47	0.9	SSE
10 Apr 2021	16:26:47	0.3	SE
10 Apr 2021	17:26:47	0.1	ENE
10 Apr 2021	18:26:47	0.5	S
10 Apr 2021	19:26:47	0.1	ESE
10 Apr 2021	20:26:47	0.1	E
10 Apr 2021	21:26:47	0.8	SE
10 Apr 2021	22:26:47	0.1	ESE
10 Apr 2021	23:26:47	0.2	SE
11 Apr 2021	00:26:47	0.1	ENE
11 Apr 2021	01:26:47	0.1	SSE
11 Apr 2021	02:26:47	0.1	ENE
11 Apr 2021	03:26:47	0.1	E
11 Apr 2021	04:26:47	0.2	ENE
11 Apr 2021	05:26:47	0.1	ESE
11 Apr 2021	06:26:47	0.1	WSW
11 Apr 2021	07:26:47	0.1	NE
11 Apr 2021	08:26:47	0.1	ESE
11 Apr 2021	09:26:47	0.1	E
11 Apr 2021	10:26:47	2.9	E
11 Apr 2021	11:26:47	0.1	ESE
11 Apr 2021	12:26:47	0.1	E
11 Apr 2021	13:26:47	0.2	ESE
11 Apr 2021	14:26:47	0.1	ENE
11 Apr 2021	15:26:47	0.1	ENE
11 Apr 2021	16:26:47	0.1	E
11 Apr 2021	17:26:47	0.2	ENE
11 Apr 2021	18:26:47	0.1	NE
11 Apr 2021	19:26:47	0.1	ENE
11 Apr 2021	20:26:47	0.1	E
11 Apr 2021	21:26:47	0.1	ESE
11 Apr 2021	22:26:47	0.1	E
11 Apr 2021	23:26:47	0.1	ENE
12 Apr 2021	00:26:47	0.1	NE
12 Apr 2021	01:26:47	0.1	E
12 Apr 2021	02:26:47	0.1	NNE
12 Apr 2021	03:26:47	0.1	ENE
12 Apr 2021	04:26:47	0.1	ESE
12 Apr 2021	05:26:47	0.1	NNE

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
12 Apr 2021	06:26:47	0.1	NNW
12 Apr 2021	07:26:47	0.1	E
12 Apr 2021	08:26:47	0.4	ENE
12 Apr 2021	09:26:47	0.1	SE
12 Apr 2021	10:26:47	0.1	SE
12 Apr 2021	11:26:47	0.2	ESE
12 Apr 2021	12:26:47	0.5	SE
12 Apr 2021	13:26:47	0.1	E
12 Apr 2021	14:26:47	0.2	SSE
12 Apr 2021	15:26:47	0.1	SSW
12 Apr 2021	16:26:47	0.1	SSE
12 Apr 2021	17:26:47	0.2	ENE
12 Apr 2021	18:26:47	0.1	SE
12 Apr 2021	19:26:47	0.1	E
12 Apr 2021	20:26:47	0.1	E
12 Apr 2021	21:26:47	0.1	E
12 Apr 2021	22:26:47	0.1	SE
12 Apr 2021	23:26:47	0.1	E
13 Apr 2021	00:26:47	0.1	NNE
13 Apr 2021	01:26:47	0.1	SW
13 Apr 2021	02:26:47	0.1	W
13 Apr 2021	03:26:47	0.1	W
13 Apr 2021	04:26:47	0.1	ENE
13 Apr 2021	05:26:47	0.1	W
13 Apr 2021	06:26:47	0.1	S
13 Apr 2021	07:26:47	0.1	SW
13 Apr 2021	08:26:47	0.1	ESE
13 Apr 2021	09:26:47	0.1	WSW
13 Apr 2021	10:26:47	0.1	SSE
13 Apr 2021	11:26:47	0.9	WSW
13 Apr 2021	12:26:47	0.2	WNW
13 Apr 2021	13:26:47	0.2	W
13 Apr 2021	14:26:47	0.2	NW
13 Apr 2021	15:26:47	3.7	W
13 Apr 2021	16:26:47	0.4	WNW
13 Apr 2021	17:26:47	0.4	WSW
13 Apr 2021	18:26:47	0.1	SW
13 Apr 2021	19:26:47	0.1	WSW
13 Apr 2021	20:26:47	0.1	ENE
13 Apr 2021	21:26:47	0.1	ESE
13 Apr 2021	22:26:47	0.1	WNW
13 Apr 2021	23:26:47	0.1	WSW
14 Apr 2021	00:26:47	0.1	SW
14 Apr 2021	01:26:47	0.1	#N/A
14 Apr 2021	02:26:47	0.1	E



## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
14 Apr 2021	03:26:47	0.1	SW
14 Apr 2021	04:26:47	0.1	ENE
14 Apr 2021	05:26:47	0.1	ENE
14 Apr 2021	06:26:47	0.1	E
14 Apr 2021	07:26:47	0.1	E
14 Apr 2021	08:26:47	0.2	ENE
14 Apr 2021	09:26:47	0.1	SE
14 Apr 2021	10:26:47	0.1	SW
14 Apr 2021	11:26:47	0.5	E
14 Apr 2021	12:26:47	0.1	ESE
14 Apr 2021	13:26:47	0.5	ESE
14 Apr 2021	14:26:47	0.1	S
14 Apr 2021	15:26:47	0.1	NW
14 Apr 2021	16:26:47	0.2	#N/A
14 Apr 2021	17:26:47	0.1	E
14 Apr 2021	18:26:47	0.1	E
14 Apr 2021	19:26:47	0.2	E
14 Apr 2021	20:26:47	0.1	E
14 Apr 2021	21:26:47	0.1	N
14 Apr 2021	22:26:47	0.1	E
14 Apr 2021	23:26:47	0.2	ENE
15 Apr 2021	00:26:47	1.0	ESE
15 Apr 2021	01:26:47	0.1	SSE
15 Apr 2021	02:26:47	0.1	ENE
15 Apr 2021	03:26:47	0.1	ESE
15 Apr 2021	04:26:47	0.6	ESE
15 Apr 2021	05:26:47	0.1	NE
15 Apr 2021	06:26:47	0.1	ENE
15 Apr 2021	07:26:47	0.2	ENE
15 Apr 2021	08:26:47	0.1	E
15 Apr 2021	09:26:47	0.1	E
15 Apr 2021	10:26:47	0.2	E
15 Apr 2021	11:26:47	0.2	ENE
15 Apr 2021	12:26:47	0.7	ESE
15 Apr 2021	13:26:47	0.1	SSE
15 Apr 2021	14:26:47	0.1	ESE
15 Apr 2021	15:26:47	0.4	E
15 Apr 2021	16:26:47	0.1	E
15 Apr 2021	17:26:47	0.1	E
15 Apr 2021	18:26:47	0.1	E
15 Apr 2021	19:26:47	0.1	SE
15 Apr 2021	20:26:47	0.1	E
15 Apr 2021	21:26:47	0.1	SE
15 Apr 2021	22:26:47	0.1	ESE
15 Apr 2021	23:26:47	0.1	ESE

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
16 Apr 2021	00:26:47	0.1	E
16 Apr 2021	01:26:47	0.1	E
16 Apr 2021	02:26:47	0.1	ENE
16 Apr 2021	03:26:47	0.3	ENE
16 Apr 2021	04:26:47	0.1	E
16 Apr 2021	05:26:47	0.1	E
16 Apr 2021	06:26:47	0.1	ENE
16 Apr 2021	07:26:47	0.1	E
16 Apr 2021	08:26:47	0.1	E
16 Apr 2021	09:26:47	0.1	ESE
16 Apr 2021	10:26:47	0.1	ESE
16 Apr 2021	11:26:47	0.1	ESE
16 Apr 2021	12:26:47	0.1	E
16 Apr 2021	13:26:47	0.4	SE
16 Apr 2021	14:26:47	0.2	SSE
16 Apr 2021	15:26:47	0.1	ENE
16 Apr 2021	16:26:47	0.1	E
16 Apr 2021	17:26:47	0.3	SSW
16 Apr 2021	18:26:47	0.1	E
16 Apr 2021	19:26:47	0.1	E
16 Apr 2021	20:26:47	0.1	SE
16 Apr 2021	21:26:47	0.1	ENE
16 Apr 2021	22:26:47	0.1	ENE
16 Apr 2021	23:26:47	0.1	ENE
17 Apr 2021	00:26:47	0.1	SE
17 Apr 2021	01:26:47	0.1	E
17 Apr 2021	02:26:47	0.1	ESE
17 Apr 2021	03:26:47	0.1	E
17 Apr 2021	04:26:47	0.1	NE
17 Apr 2021	05:26:47	0.1	E
17 Apr 2021	06:26:47	0.1	E
17 Apr 2021	07:26:47	0.1	SSE
17 Apr 2021	08:26:47	0.1	E
17 Apr 2021	09:26:47	0.1	ENE
17 Apr 2021	10:26:47	0.1	ESE
17 Apr 2021	11:26:47	0.1	SE
17 Apr 2021	12:26:47	0.1	SSE
17 Apr 2021	13:26:47	0.1	S
17 Apr 2021	14:26:47	0.1	E
17 Apr 2021	15:26:47	0.1	SE
17 Apr 2021	16:26:47	0.1	ENE
17 Apr 2021	17:26:47	0.1	ENE
17 Apr 2021	18:26:47	0.1	E
17 Apr 2021	19:26:47	0.1	ENE
17 Apr 2021	20:26:47	0.1	E

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
17 Apr 2021	21:26:47	0.1	SSE
17 Apr 2021	22:26:47	0.1	ENE
17 Apr 2021	23:26:47	0.1	E
18 Apr 2021	00:26:47	0.1	ESE
18 Apr 2021	01:26:47	0.1	E
18 Apr 2021	02:26:47	0.1	E
18 Apr 2021	03:26:47	0.1	WSW
18 Apr 2021	04:26:47	0.1	ESE
18 Apr 2021	05:26:47	0.1	E
18 Apr 2021	06:26:47	0.1	E
18 Apr 2021	07:26:47	0.1	NE
18 Apr 2021	08:26:47	0.2	ENE
18 Apr 2021	09:26:47	0.5	SSE
18 Apr 2021	10:26:47	0.6	SSE
18 Apr 2021	11:26:47	0.4	ESE
18 Apr 2021	12:26:47	0.5	SSE
18 Apr 2021	13:26:47	0.1	E
18 Apr 2021	14:26:47	0.1	NNW
18 Apr 2021	15:26:47	0.4	NNE
18 Apr 2021	16:26:47	0.1	NNE
18 Apr 2021	17:26:47	0.1	ESE
18 Apr 2021	18:26:47	0.1	ESE
18 Apr 2021	19:26:47	0.1	ENE
18 Apr 2021	20:26:47	0.1	SE
18 Apr 2021	21:26:47	0.1	E
18 Apr 2021	22:26:47	0.5	E
18 Apr 2021	23:26:47	0.4	E
19 Apr 2021	00:26:47	0.1	SE
19 Apr 2021	01:26:47	0.3	SE
19 Apr 2021	02:26:47	0.1	NE
19 Apr 2021	03:26:47	0.5	ENE
19 Apr 2021	04:26:47	0.1	ESE
19 Apr 2021	05:26:47	1.2	ESE
19 Apr 2021	06:26:47	0.3	ESE
19 Apr 2021	07:26:47	0.1	E
19 Apr 2021	08:26:47	0.1	SE
19 Apr 2021	09:26:47	0.9	ESE
19 Apr 2021	10:26:47	0.6	NE
19 Apr 2021	11:26:47	0.1	E
19 Apr 2021	12:26:47	0.1	SSE
19 Apr 2021	13:26:47	0.1	E
19 Apr 2021	14:26:47	0.4	ENE
19 Apr 2021	15:26:47	0.1	E
19 Apr 2021	16:26:47	0.1	E
19 Apr 2021	17:26:47	0.1	SE

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
19 Apr 2021	18:26:47	0.1	NW
19 Apr 2021	19:26:47	0.1	ESE
19 Apr 2021	20:26:47	0.7	E
19 Apr 2021	21:26:47	0.1	ENE
19 Apr 2021	22:26:47	0.9	ESE
19 Apr 2021	23:26:47	0.1	ESE
20 Apr 2021	00:26:47	0.1	SSW
20 Apr 2021	01:26:47	0.1	E
20 Apr 2021	02:26:47	0.1	ENE
20 Apr 2021	03:26:47	1.1	ENE
20 Apr 2021	04:26:47	0.1	E
20 Apr 2021	05:26:47	0.1	E
20 Apr 2021	06:26:47	0.1	E
20 Apr 2021	07:26:47	0.2	SE
20 Apr 2021	08:26:47	0.1	E
20 Apr 2021	09:26:47	0.1	ESE
20 Apr 2021	10:26:47	3.1	E
20 Apr 2021	11:26:47	0.4	ESE
20 Apr 2021	12:26:47	0.2	ESE
20 Apr 2021	13:26:47	0.2	ENE
20 Apr 2021	14:26:47	0.5	E
20 Apr 2021	15:26:47	0.1	ESE
20 Apr 2021	16:26:47	0.1	SE
20 Apr 2021	17:26:47	0.1	SSE
20 Apr 2021	18:26:47	0.1	S
20 Apr 2021	19:26:47	0.1	ESE
20 Apr 2021	20:26:47	0.1	ENE
20 Apr 2021	21:26:47	0.1	NNW
20 Apr 2021	22:26:47	0.5	E
20 Apr 2021	23:26:47	0.1	E
21 Apr 2021	00:26:47	0.1	NE
21 Apr 2021	01:26:47	0.3	ENE
21 Apr 2021	02:26:47	0.1	ESE
21 Apr 2021	03:26:47	0.1	ENE
21 Apr 2021	04:26:47	0.1	ESE
21 Apr 2021	05:26:47	0.1	ESE
21 Apr 2021	06:26:47	0.1	ENE
21 Apr 2021	07:26:47	0.1	E
21 Apr 2021	08:26:47	0.1	S
21 Apr 2021	09:26:47	0.4	E
21 Apr 2021	10:26:47	0.3	SSE
21 Apr 2021	11:26:47	0.9	S
21 Apr 2021	12:26:47	0.4	SE
21 Apr 2021	13:26:47	0.2	S
21 Apr 2021	14:26:47	0.1	S

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
21 Apr 2021	15:26:47	0.1	SSE
21 Apr 2021	16:26:47	0.2	SE
21 Apr 2021	17:26:47	0.9	S
21 Apr 2021	18:26:47	0.5	E
21 Apr 2021	19:26:47	0.1	ESE
21 Apr 2021	20:26:47	0.1	E
21 Apr 2021	21:26:47	0.1	E
21 Apr 2021	22:26:47	0.1	E
21 Apr 2021	23:26:47	0.1	E
22 Apr 2021	00:26:47	0.1	ESE
22 Apr 2021	01:26:47	0.1	ESE
22 Apr 2021	02:26:47	0.1	E
22 Apr 2021	03:26:47	0.1	ENE
22 Apr 2021	04:26:47	0.1	E
22 Apr 2021	05:26:47	0.1	E
22 Apr 2021	06:26:47	0.2	E
22 Apr 2021	07:26:47	0.6	SE
22 Apr 2021	08:26:47	0.1	E
22 Apr 2021	09:26:47	0.1	S
22 Apr 2021	10:26:47	0.1	ESE
22 Apr 2021	11:26:47	0.1	SSW
22 Apr 2021	12:26:47	0.7	W
22 Apr 2021	13:26:47	1.9	SW
22 Apr 2021	14:26:47	3.1	WNW
22 Apr 2021	15:26:47	2.7	W
22 Apr 2021	16:26:47	0.3	SSW
22 Apr 2021	17:26:47	1.5	WNW
22 Apr 2021	18:26:47	0.4	W
22 Apr 2021	19:26:47	0.2	WSW
22 Apr 2021	20:26:47	0.1	SW
22 Apr 2021	21:26:47	0.1	W
22 Apr 2021	22:26:47	0.1	SSW
22 Apr 2021	23:26:47	0.1	W
23 Apr 2021	00:26:47	0.1	WSW
23 Apr 2021	01:26:47	0.1	SW
23 Apr 2021	02:26:47	0.1	SW
23 Apr 2021	03:26:47	0.1	SW
23 Apr 2021	04:26:47	0.1	WSW
23 Apr 2021	05:26:47	0.1	WSW
23 Apr 2021	06:26:47	0.1	WSW
23 Apr 2021	07:26:47	0.1	WSW
23 Apr 2021	08:26:47	0.1	WNW
23 Apr 2021	09:26:47	0.2	SW
23 Apr 2021	10:26:47	0.1	SW
23 Apr 2021	11:26:47	0.2	N

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
23 Apr 2021	12:26:47	2.7	W
23 Apr 2021	13:26:47	1.5	SW
23 Apr 2021	14:26:47	0.3	SW
23 Apr 2021	15:26:47	0.1	WSW
23 Apr 2021	16:26:47	0.1	NW
23 Apr 2021	17:26:47	0.1	WNW
23 Apr 2021	18:26:47	0.1	ESE
23 Apr 2021	19:26:47	0.1	E
23 Apr 2021	20:26:47	0.1	E
23 Apr 2021	21:26:47	0.1	E
23 Apr 2021	22:26:47	0.1	ENE
23 Apr 2021	23:26:47	0.1	SSE
24 Apr 2021	00:26:47	0.6	E
24 Apr 2021	01:26:47	0.1	SE
24 Apr 2021	02:26:47	0.1	SSE
24 Apr 2021	03:26:47	0.1	E
24 Apr 2021	04:26:47	0.1	ENE
24 Apr 2021	05:26:47	0.1	E
24 Apr 2021	06:26:47	0.1	ENE
24 Apr 2021	07:26:47	0.2	E
24 Apr 2021	08:26:47	0.1	ENE
24 Apr 2021	09:26:47	0.2	NE
24 Apr 2021	10:26:47	2.2	SE
24 Apr 2021	11:26:47	0.2	SE
24 Apr 2021	12:26:47	0.5	SE
24 Apr 2021	13:26:47	0.1	ESE
24 Apr 2021	14:26:47	0.2	ENE
24 Apr 2021	15:26:47	0.1	#N/A
24 Apr 2021	16:26:47	0.7	E
24 Apr 2021	17:26:47	0.7	ESE
24 Apr 2021	18:26:47	0.1	SSE
24 Apr 2021	19:26:47	0.6	E
24 Apr 2021	20:26:47	0.1	ENE
24 Apr 2021	21:26:47	0.1	ENE
24 Apr 2021	22:26:47	0.1	E
24 Apr 2021	23:26:47	0.1	E
25 Apr 2021	00:26:47	0.1	ENE
25 Apr 2021	01:26:47	0.1	E
25 Apr 2021	02:26:47	0.1	E
25 Apr 2021	03:26:47	0.1	E
25 Apr 2021	04:26:47	0.1	NE
25 Apr 2021	05:26:47	0.1	ENE
25 Apr 2021	06:26:47	0.1	E
25 Apr 2021	07:26:47	0.1	ENE
25 Apr 2021	08:26:47	0.1	ESE

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
25 Apr 2021	09:26:47	0.2	E
25 Apr 2021	10:26:47	0.3	S
25 Apr 2021	11:26:47	0.1	ESE
25 Apr 2021	12:26:47	0.1	ENE
25 Apr 2021	13:26:47	0.1	SE
25 Apr 2021	14:26:47	0.1	S
25 Apr 2021	15:26:47	0.1	ESE
25 Apr 2021	16:26:47	0.1	SW
25 Apr 2021	17:26:47	0.9	ESE
25 Apr 2021	18:26:47	1.2	ESE
25 Apr 2021	19:26:47	0.3	E
25 Apr 2021	20:26:47	0.1	ESE
25 Apr 2021	21:26:47	0.1	NNE
25 Apr 2021	22:26:47	0.1	SE
25 Apr 2021	23:26:47	0.1	NE
26 Apr 2021	00:26:47	0.1	ESE
26 Apr 2021	01:26:47	0.1	E
26 Apr 2021	02:26:47	0.2	ENE
26 Apr 2021	03:26:47	0.2	ENE
26 Apr 2021	04:26:47	0.2	NE
26 Apr 2021	05:26:47	0.9	ESE
26 Apr 2021	06:26:47	0.1	ENE
26 Apr 2021	07:26:47	0.1	E
26 Apr 2021	08:26:47	1.0	ENE
26 Apr 2021	09:26:47	0.1	NE
26 Apr 2021	10:26:47	0.1	N
26 Apr 2021	11:26:47	0.2	SE
26 Apr 2021	12:26:47	0.1	S
26 Apr 2021	13:26:47	0.4	SE
26 Apr 2021	14:26:47	2.2	ESE
26 Apr 2021	15:26:47	0.1	S
26 Apr 2021	16:26:47	0.2	ESE
26 Apr 2021	17:26:47	0.1	ENE
26 Apr 2021	18:26:47	0.1	ENE
26 Apr 2021	19:26:47	0.1	WNW
26 Apr 2021	20:26:47	0.1	ESE
26 Apr 2021	21:26:47	0.1	ESE
26 Apr 2021	22:26:47	0.1	SE
26 Apr 2021	23:26:47	0.1	ESE
27 Apr 2021	00:26:47	0.1	ESE
27 Apr 2021	01:26:47	0.2	E
27 Apr 2021	02:26:47	0.1	E
27 Apr 2021	03:26:47	0.2	E
27 Apr 2021	04:26:47	0.2	E
27 Apr 2021	05:26:47	0.2	E

## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
27 Apr 2021	06:26:47	0.3	E
27 Apr 2021	07:26:47	0.3	ENE
27 Apr 2021	08:26:47	0.5	ENE
27 Apr 2021	09:26:47	0.5	NE
27 Apr 2021	10:26:47	0.4	E
27 Apr 2021	11:26:47	0.4	ENE
27 Apr 2021	12:26:47	0.6	ENE
27 Apr 2021	13:26:47	0.5	ESE
27 Apr 2021	14:26:47	0.6	ESE
27 Apr 2021	15:26:47	0.5	ESE
27 Apr 2021	16:26:47	0.4	NE
27 Apr 2021	17:26:47	0.4	ESE
27 Apr 2021	18:26:47	0.3	E
27 Apr 2021	19:26:47	0.2	E
27 Apr 2021	20:26:47	0.2	NE
27 Apr 2021	21:26:47	0.2	SE
27 Apr 2021	22:26:47	0.2	SSE
27 Apr 2021	23:26:47	0.2	ENE
28 Apr 2021	00:26:47	0.1	E
28 Apr 2021	01:26:47	0.2	ENE
28 Apr 2021	02:26:47	0.1	ENE
28 Apr 2021	03:26:47	0.1	ESE
28 Apr 2021	04:26:47	0.1	NNE
28 Apr 2021	05:26:47	0.1	E
28 Apr 2021	06:26:47	0.1	E
28 Apr 2021	07:26:47	0.1	E
28 Apr 2021	08:26:47	0.1	ESE
28 Apr 2021	09:26:47	0.1	SSE
28 Apr 2021	10:26:47	0.3	E
28 Apr 2021	11:26:47	0.1	SSW
28 Apr 2021	12:26:47	0.6	SE
28 Apr 2021	13:26:47	0.1	S
28 Apr 2021	14:26:47	0.1	SSE
28 Apr 2021	15:26:47	0.1	SE
28 Apr 2021	16:26:47	0.1	E
28 Apr 2021	17:26:47	0.2	WSW
28 Apr 2021	18:26:47	0.3	#N/A
28 Apr 2021	19:26:47	0.4	SW
28 Apr 2021	20:26:47	0.4	SW
28 Apr 2021	21:26:47	0.5	NW
28 Apr 2021	22:26:47	0.4	N
28 Apr 2021	23:26:47	0.4	NNE
29 Apr 2021	00:26:47	0.7	NNE
29 Apr 2021	01:26:47	0.5	ESE
29 Apr 2021	02:26:47	0.5	ENE



## Appendix C - Weather Conditions during Monitoring Period

Apr 2021			
Table II: Wind Speed and Directions			
Date	Time	Wind Speed m-s	Direction
29 Apr 2021	03:26:47	0.4	NE
29 Apr 2021	04:26:47	0.4	#N/A
29 Apr 2021	05:26:47	0.3	NE
29 Apr 2021	06:26:47	0.4	NE
29 Apr 2021	07:26:47	0.3	NE
29 Apr 2021	08:26:47	0.4	NNE
29 Apr 2021	09:26:47	0.3	NE
29 Apr 2021	10:26:47	0.3	ENE
29 Apr 2021	11:26:47	0.3	NNE
29 Apr 2021	12:26:47	0.9	NE
29 Apr 2021	13:26:47	0.3	#N/A
29 Apr 2021	14:26:47	0.3	NNW
29 Apr 2021	15:26:47	0.5	WNW
29 Apr 2021	16:26:47	0.9	W
29 Apr 2021	17:26:47	0.7	SSW
29 Apr 2021	18:26:47	0.1	SW
29 Apr 2021	19:26:47	0.1	WSW
29 Apr 2021	20:26:47	0.1	ENE
29 Apr 2021	21:26:47	0.2	ESE
29 Apr 2021	22:26:47	0.1	SE
29 Apr 2021	23:26:47	0.1	ENE
30 Apr 2021	00:26:47	0.1	E
30 Apr 2021	01:26:47	0.1	ESE
30 Apr 2021	02:26:47	0.1	ENE
30 Apr 2021	03:26:47	0.1	E
30 Apr 2021	04:26:47	0.1	W
30 Apr 2021	05:26:47	0.1	SSW
30 Apr 2021	06:26:47	0.1	S
30 Apr 2021	07:26:47	0.1	W
30 Apr 2021	08:26:47	0.1	WSW
30 Apr 2021	09:26:47	0.1	ESE
30 Apr 2021	10:26:47	0.1	ESE
30 Apr 2021	11:26:47	0.1	WNW
30 Apr 2021	12:26:47	1.0	WNW
30 Apr 2021	13:26:47	0.1	W
30 Apr 2021	14:26:47	1.6	WSW
30 Apr 2021	15:26:47	1.9	W
30 Apr 2021	16:26:47	1.3	WSW
30 Apr 2021	17:26:47	0.6	W
30 Apr 2021	18:26:47	0.1	SSW
30 Apr 2021	19:26:47	0.1	SW
30 Apr 2021	20:26:47	0.1	WNW
30 Apr 2021	21:26:47	0.1	SSW
30 Apr 2021	22:26:47	0.1	NNW
30 Apr 2021	23:26:47	0.1	WSW

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**APPENDIX D  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**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 2021)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Apr 1 hr TSP X3 [AM5(A), AM6(A)] [AM1, AM2, AM3, AM4] Noise [Daytime (07:00-19:00)] [CM6(A), CM7(A), CM8(A)] [CM1, CM2, CM3, CM4, CM5] Noise [Evening time (19:00-23:00)] [CM1, CM2, CM3, CM6(A)] Noise [Night-time (23:00-07:00)] [CM1, CM2, CM3]	2-Apr	3-Apr
4-Apr	5-Apr	6-Apr	7-Apr 1 hr TSP X3 [AM5(A), AM6(A)] [AM1, AM2, AM3, AM4] Noise [Daytime (07:00-19:00)] [CM6(A), CM7(A), CM8(A)] [CM1, CM2, CM3, CM4, CM5] Noise [Evening time (19:00-23:00)] [CM6(A)] 24hr TSP	8-Apr	9-Apr Noise [Evening time (19:00-23:00)] [CM1, CM2, CM3] Noise [Night-time (23:00-07:00)] [CM1, CM2, CM3]	10-Apr
11-Apr	12-Apr	13-Apr 1 hr TSP X3 [AM5(A), AM6(A)] [AM1, AM2, AM3, AM4] Noise [Daytime (07:00-19:00)] [CM6(A), CM7(A), CM8(A)] [CM1, CM2, CM3, CM4, CM5] Noise [Evening time (19:00-23:00)] [CM6(A)] 24hr TSP	14-Apr	15-Apr	16-Apr Noise [Evening time (19:00-23:00)] [CM1, CM2, CM3] Noise [Night-time (23:00-07:00)] [CM1, CM2, CM3]	17-Apr
18-Apr	19-Apr 24hr TSP	20-Apr	21-Apr	22-Apr	23-Apr 1 hr TSP X3 [AM5(A), AM6(A)] [AM1, AM2, AM3, AM4] Noise [Evening time (19:00-23:00)] [CM1, CM2, CM3] Noise [Night-time (23:00-07:00)] [CM1, CM2, CM3]	24-Apr 24hr TSP
25-Apr	26-Apr	27-Apr	28-Apr	29-Apr 1 hr TSP X3 [AM5(A), AM6(A)] [AM1, AM2, AM3, AM4] Noise [Daytime (07:00-19:00)] [CM6(A), CM7(A), CM8(A)] [CM1, CM2, CM3, CM4, CM5] Noise [Evening time (19:00-23:00)] [CM6(A)] 24hr TSP	30-Apr 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<sup>(1)</sup> - Sitting-out Area at Cha Kwo Ling Village  
AM4(A)<sup>(2)</sup> - Cha Kwo Ling Public Cargo Working Area Administrative Office  
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 (April 2021)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Apr	2-Apr	3-Apr
				Mid-Ebb 14:54 Mid-Flood 08:31		
4-Apr	5-Apr	6-Apr	7-Apr	8-Apr	9-Apr	10-Apr
			Mid-Ebb 09:57 Mid-Flood 14:47		Mid-Ebb 11:19 Mid-Flood 16:46	
11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr	17-Apr
	Mid-Ebb 12:46 Mid-Flood 18:52		Mid-Ebb 13:45 Mid-Flood 07:23		Mid-Ebb 14:16 Mid-Flood 07:30	
18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr
	Mid-Ebb 16:40 Mid-Flood N/A		Mid-Ebb N/A Mid-Flood 8:00		Mid-Ebb 09:59 Mid-Flood 15:01	
25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	
	Mid-Ebb 11:45 Mid-Flood 18:02		Mid-Ebb 13:07 Mid-Flood 19:47		Mid-Ebb 14:39 Mid-Flood 07:56	

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

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**APPENDIX E  
1-HOUR TSP MONITORING RESULTS  
AND GRAPHICAL PRESENTATIONS**

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## APPENDIX E - 1-HOUR TSP MONITORING RESULTS

<b>Location AM1 - Tin Hau Temple</b>			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
1-Apr-21	13:00	Fine	136.0
1-Apr-21	14:00	Fine	140.0
1-Apr-21	15:00	Fine	144.0
7-Apr-21	13:00	Sunny	72.0
7-Apr-21	14:00	Sunny	64.0
7-Apr-21	15:00	Sunny	70.0
13-Apr-21	13:00	Sunny	86.0
13-Apr-21	14:00	Sunny	94.0
13-Apr-21	15:00	Sunny	90.0
19-Apr-21	14:00	Fine	62.0
19-Apr-21	15:00	Fine	66.0
19-Apr-21	16:00	Fine	70.0
23-Apr-21	13:00	Sunny	46.0
23-Apr-21	14:00	Sunny	44.0
23-Apr-21	15:00	Sunny	40.0
29-Apr-21	13:00	Sunny	52.0
29-Apr-21	14:00	Sunny	48.0
29-Apr-21	15:00	Sunny	46.0
Average			76.1
Maximum			144.0
Minimum			40.0

<b>Location AM2 - Sai Tso Wan Recreation Ground</b>			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
1-Apr-21	9:00	Sunny	28.6
1-Apr-21	10:00	Sunny	28.6
1-Apr-21	11:00	Sunny	24.2
7-Apr-21	16:00	Sunny	46.2
7-Apr-21	17:00	Sunny	48.4
7-Apr-21	18:00	Sunny	50.6
13-Apr-21	9:00	Sunny	48.4
13-Apr-21	10:00	Sunny	55.0
13-Apr-21	11:00	Sunny	41.8
19-Apr-21	16:00	Cloudy	52.5
19-Apr-21	17:00	Cloudy	52.5
19-Apr-21	18:00	Cloudy	54.6
23-Apr-21	9:00	Sunny	99.0
23-Apr-21	10:00	Sunny	92.4
23-Apr-21	11:00	Sunny	107.8
29-Apr-21	9:00	Sunny	55.0
29-Apr-21	10:00	Sunny	48.4
29-Apr-21	11:00	Sunny	46.2
Average			54.5
Maximum			107.8
Minimum			24.2

## APPENDIX E - 1-HOUR TSP MONITORING RESULTS

<b>Location AM3 - Yau Lai Estate Bik Lai House</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
1-Apr-21	9:00	Fine	144.0
1-Apr-21	10:00	Fine	150.0
1-Apr-21	11:00	Fine	146.0
7-Apr-21	9:00	Sunny	112.0
7-Apr-21	10:00	Sunny	116.0
7-Apr-21	11:00	Sunny	118.0
13-Apr-21	10:00	Sunny	172.0
13-Apr-21	11:00	Sunny	178.0
13-Apr-21	12:00	Sunny	168.0
19-Apr-21	10:00	Fine	150.0
19-Apr-21	11:00	Fine	146.0
19-Apr-21	12:00	Fine	154.0
23-Apr-21	9:00	Sunny	104.0
23-Apr-21	10:00	Sunny	110.0
23-Apr-21	11:00	Sunny	114.0
29-Apr-21	9:00	Sunny	84.0
29-Apr-21	10:00	Sunny	86.0
29-Apr-21	11:00	Sunny	88.0
Average			130.0
Maximum			178.0
Minimum			84.0

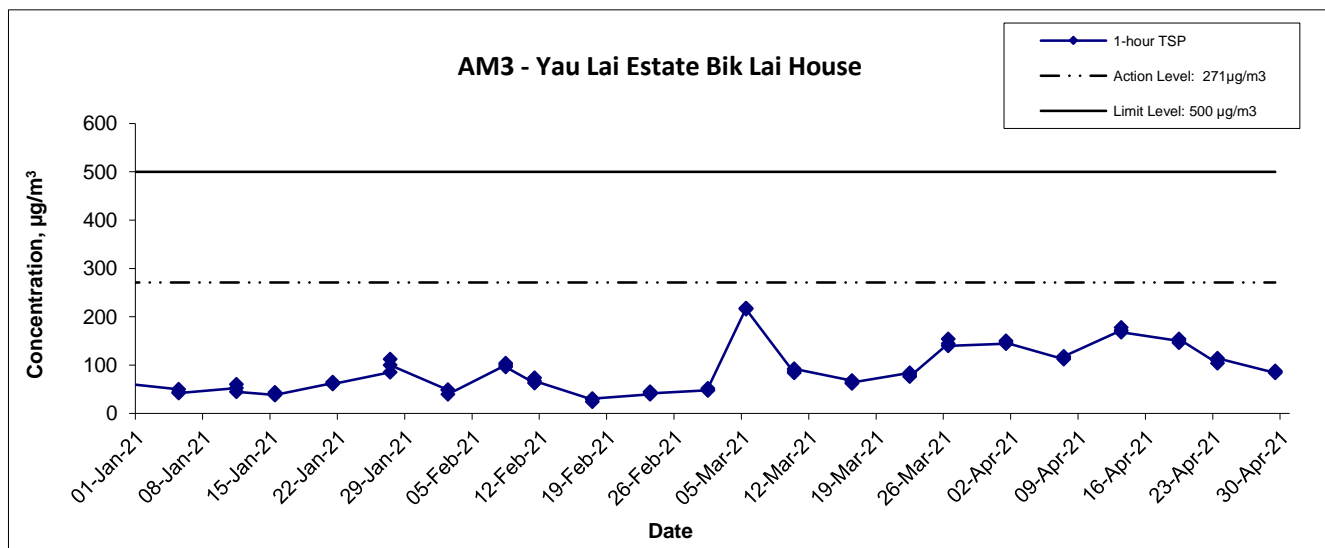
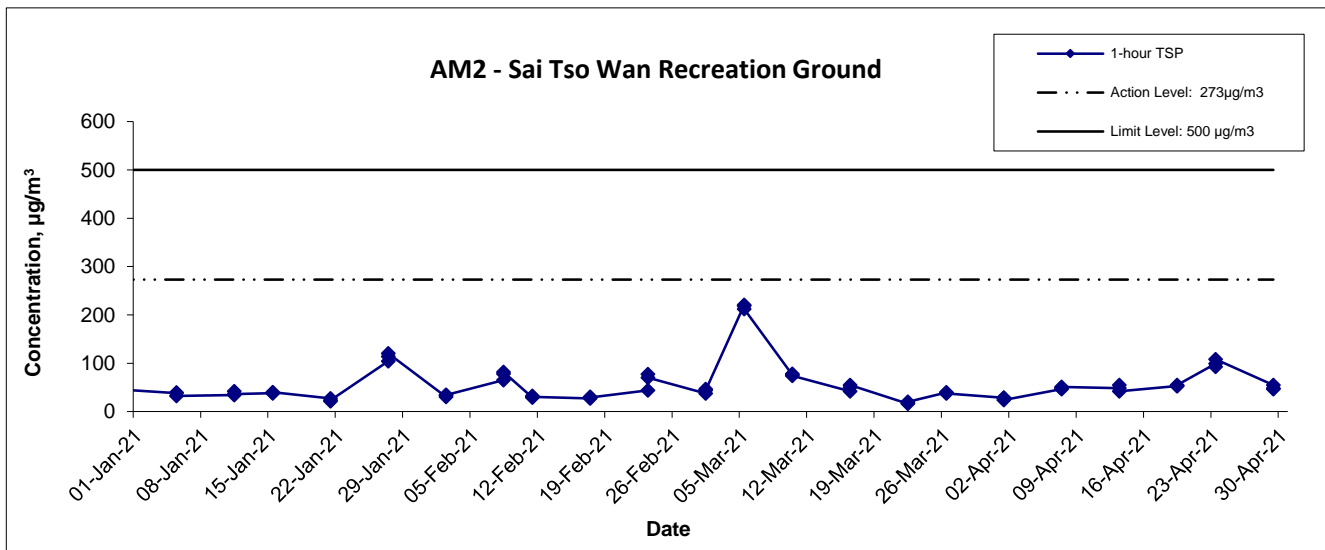
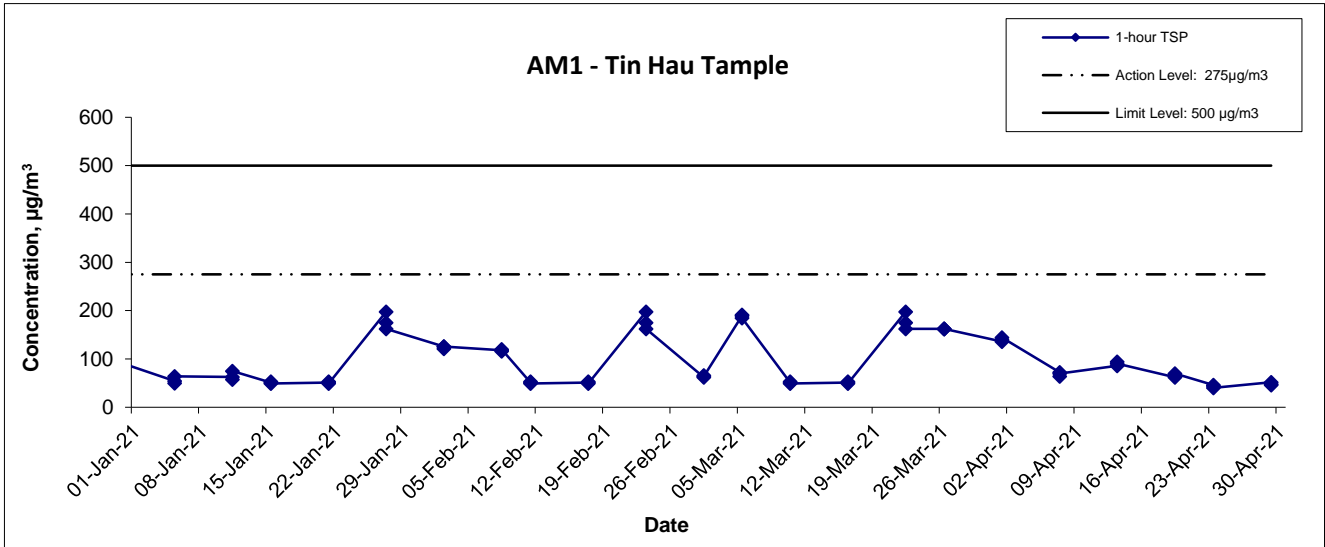
<b>Location AM4 - Sitting-out Area at Cha Kwo Ling Village</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
1-Apr-21	3:00	Fine	118.0
1-Apr-21	4:00	Fine	116.0
1-Apr-21	5:00	Fine	118.0
7-Apr-21	16:00	Sunny	34.0
7-Apr-21	17:00	Sunny	40.0
7-Apr-21	18:00	Sunny	36.0
13-Apr-21	15:00	Sunny	80.0
13-Apr-21	16:00	Sunny	84.0
13-Apr-21	17:00	Sunny	88.0
19-Apr-21	16:00	Fine	58.0
19-Apr-21	17:00	Fine	60.0
19-Apr-21	18:00	Fine	62.0
23-Apr-21	15:00	Sunny	60.0
23-Apr-21	16:00	Sunny	54.0
23-Apr-21	17:00	Sunny	56.0
29-Apr-21	16:00	Fine	42.0
29-Apr-21	17:00	Fine	46.0
29-Apr-21	18:00	Fine	44.0
Average			70.9
Maximum			118.0
Minimum			34.0

## APPENDIX E - 1-HOUR TSP MONITORING RESULTS

<b>Location AM5(A) - Tseung Kwan O DSD Desilting Compound</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
1-Apr-21	16:00	Sunny	26.4
1-Apr-21	17:00	Sunny	24.2
1-Apr-21	18:00	Sunny	30.8
7-Apr-21	13:00	Sunny	88.0
7-Apr-21	14:00	Sunny	83.6
7-Apr-21	15:00	Sunny	77.0
13-Apr-21	13:00	Sunny	57.2
13-Apr-21	14:00	Sunny	52.8
13-Apr-21	15:00	Sunny	61.6
19-Apr-21	13:00	Sunny	55.0
19-Apr-21	14:00	Sunny	46.2
19-Apr-21	15:00	Sunny	41.8
23-Apr-21	16:00	Sunny	92.4
23-Apr-21	17:00	Sunny	85.8
23-Apr-21	18:00	Sunny	83.6
29-Apr-21	13:00	Sunny	70.4
29-Apr-21	14:00	Sunny	61.6
29-Apr-21	15:00	Sunny	63.8
		Average	61.2
		Maximum	92.4
		Minimum	24.2

<b>Location AM6(A) - Park Central, L1/F Open Space Area</b>			
Date	Time	Weather	<i>Particulate Concentration ( <math>\mu\text{g}/\text{m}^3</math> )</i>
1-Apr-21	13:00	Sunny	28.6
1-Apr-21	14:00	Sunny	30.8
1-Apr-21	15:00	Sunny	30.8
7-Apr-21	9:00	Sunny	72.6
7-Apr-21	10:00	Sunny	68.2
7-Apr-21	11:00	Sunny	63.8
13-Apr-21	16:00	Sunny	57.2
13-Apr-21	17:00	Sunny	52.8
13-Apr-21	18:00	Sunny	46.2
19-Apr-21	9:00	Sunny	61.6
19-Apr-21	10:00	Sunny	52.8
19-Apr-21	11:00	Sunny	57.2
23-Apr-21	13:00	Sunny	99.0
23-Apr-21	14:00	Sunny	110.0
23-Apr-21	15:00	Sunny	118.8
29-Apr-21	16:00	Sunny	57.2
29-Apr-21	17:00	Sunny	61.6
29-Apr-21	18:00	Sunny	52.8
		Average	62.3
		Maximum	118.8
		Minimum	28.6

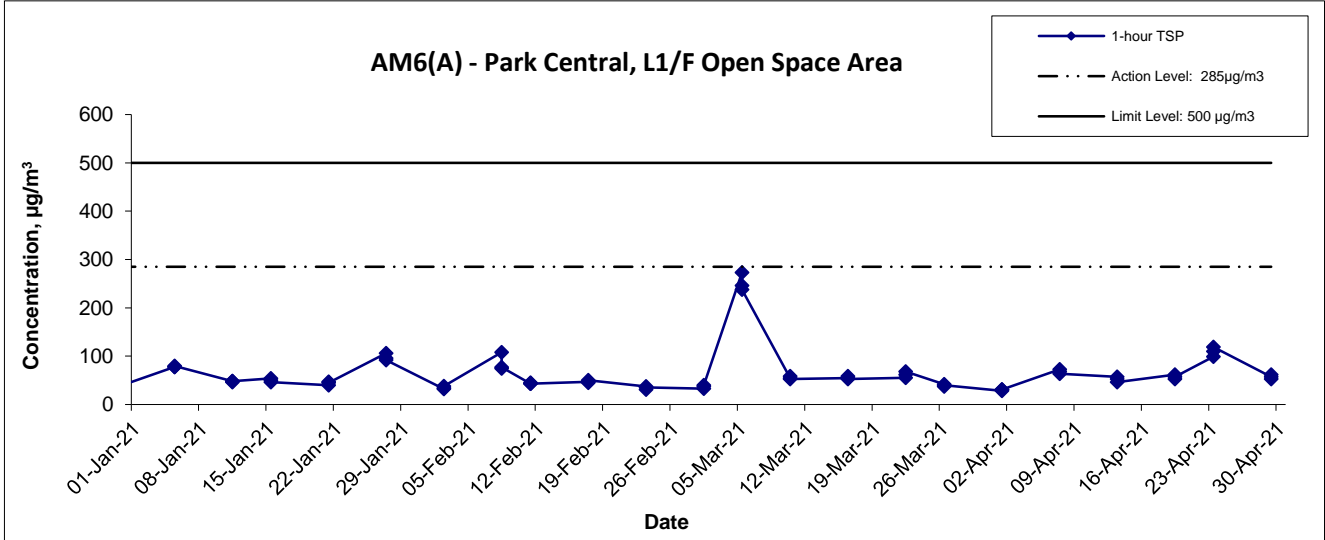
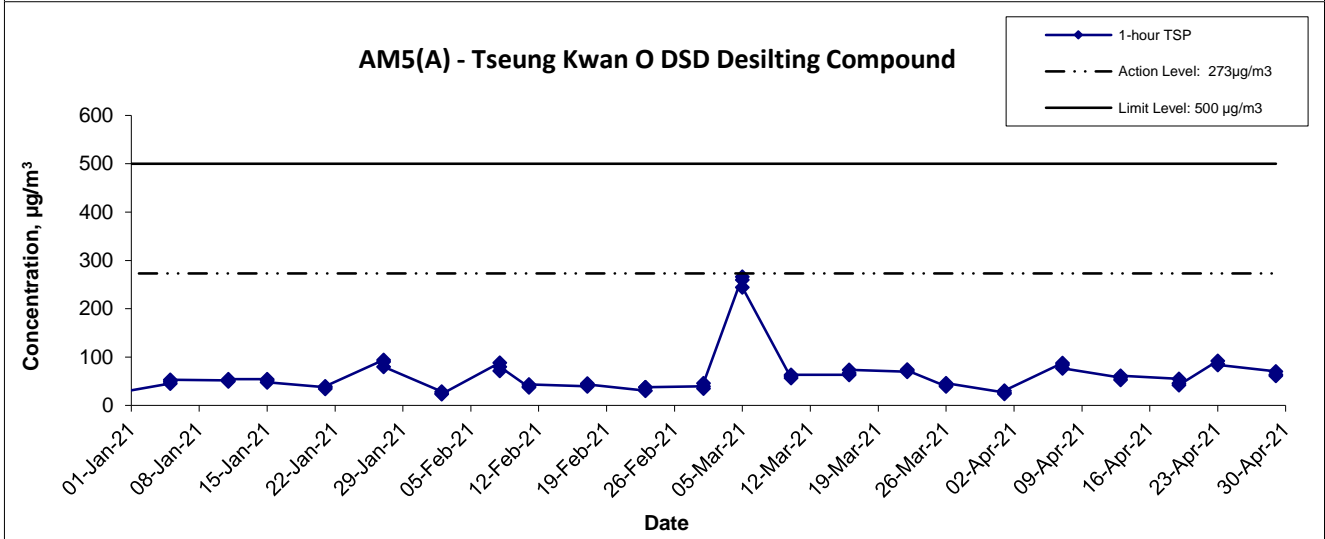
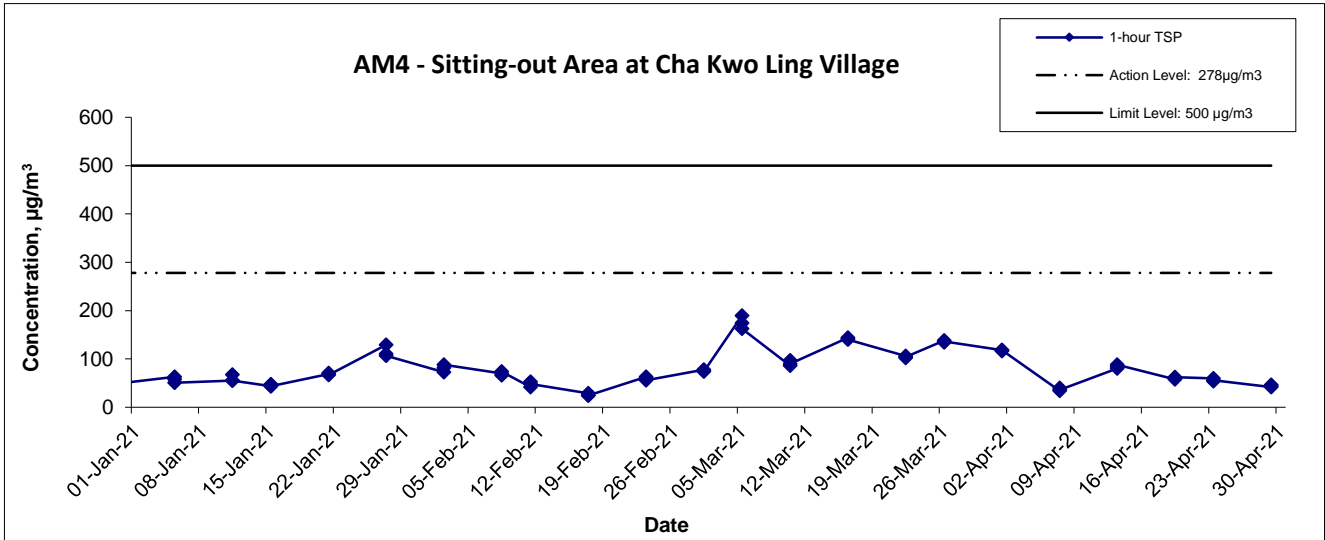
### 1-hr TSP Concentration Levels




Monitoring at Lam Tin side was suspended during 9th Dec 2020 - 23rd Dec 2020 due to COVID-19 outbreak

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	Project No. MA16034	
	Date Apr 2021	Appendix E	

### 1-hr TSP Concentration Levels



Monitoring at Lam Tin side was suspended during 9th Dec 2020 - 23rd Dec 2020 due to COVID-19 outbreak

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	Project No. MA16034	
	Date Apr 2021	Appendix E	



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

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## 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 <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1-Apr-21	Sunny	2.7730	2.8003	0.0273	8185.7	8209.7	24.0	1.21	1.21	1.21	1746.8	15.6
7-Apr-21	Sunny	2.7765	2.9020	0.1255	8209.7	8233.7	24.0	1.21	1.21	1.21	1746.7	71.9
12-Apr-21	Sunny	2.7559	2.9256	0.1697	8233.7	8257.7	24.0	1.21	1.22	1.22	1749.9	97.0
17-Apr-21	Sunny	2.7709	2.9473	0.1764	8257.7	8281.7	24.0	1.20	1.20	1.20	1731.7	101.9
22-Apr-21	Sunny	2.7515	2.9563	0.2048	8281.7	8305.7	24.0	1.21	1.21	1.21	1740.0	117.7
27-Apr-21	Cloudy	2.7476	2.9112	0.1636	8305.7	8329.7	24.0	1.21	1.20	1.20	1734.8	94.3
											Min	15.6
											Max	117.7
											Average	83.1

### Location AM2 - Sai Tso Wan Recreation Ground

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1-Apr-21	Sunny	2.7663	2.8080	0.0417	29203.0	29227.0	24.0	1.21	1.21	1.21	1744.7	23.9
7-Apr-21	Sunny	2.7630	2.8226	0.0596	29227.0	29251.0	24.0	1.21	1.21	1.21	1744.5	34.2
12-Apr-21	Sunny	2.7526	2.8240	0.0714	28963.0	28987.0	24.0	1.21	1.22	1.21	1747.6	40.9
17-Apr-21	Sunny	2.7867	2.8758	0.0891	28987.0	29011.0	24.0	1.20	1.20	1.20	1730.6	51.5
22-Apr-21	Sunny	2.7453	2.8500	0.1047	29011.0	29035.0	24.0	1.21	1.21	1.21	1738.3	60.2
27-Apr-21	Cloudy	2.7549	2.8187	0.0638	29035.0	29059.0	24.0	1.20	1.20	1.20	1733.5	36.8
											Min	36.8
											Max	60.2
											Average	47.3

N/A: The HVS was broken-down during the first two week of February 2021.

### Location AM3 - Yau Lai Estate, Bik Lai House

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1-Apr-21	Sunny	2.7747	2.9336	0.1589	3656.8	3680.8	24.0	1.21	1.21	1.21	1743.5	91.1
7-Apr-21	Sunny	2.756	2.8730	0.1170	3680.8	3704.8	24.0	1.21	1.21	1.21	1743.3	67.1
12-Apr-21	Sunny	2.7691	2.8871	0.1180	3704.8	3728.8	24.0	1.21	1.22	1.21	1746.6	67.6
17-Apr-21	Sunny	2.7621	2.9551	0.1930	3728.8	3752.8	24.0	1.20	1.20	1.20	1728.3	111.7
22-Apr-21	Sunny	2.7673	2.9326	0.1653	3752.8	3776.8	24.0	1.21	1.21	1.21	1736.6	95.2
27-Apr-21	Cloudy	2.7485	2.8641	0.1156	3776.8	3800.8	24.0	1.20	1.20	1.20	1731.4	66.8
											Min	66.8
											Max	111.7
											Average	83.2

## Appendix F - 24-hour TSP Monitoring Results

### Location AM4(A) - Cha Kwo Ling Public Cargo Working Area Administrative Office

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1-Apr-21	Sunny	2.7475	2.8235	0.0760	13993.74	14017.7	24.0	1.21	1.21	1.21	1746.8	43.5
7-Apr-21	Sunny	2.6961	2.7923	0.0962	14017.74	14041.7	24.0	1.21	1.21	1.21	1746.6	55.1
12-Apr-21	Sunny	2.7677	2.8913	0.1236	14041.74	14065.7	24.0	1.21	1.22	1.21	1749.6	70.6
17-Apr-21	Sunny	2.7658	2.922	0.1562	14065.74	14089.7	24.0	1.20	1.20	1.20	1733.1	90.1
22-Apr-21	Sunny	2.7588	2.9038	0.1450	14089.74	14113.7	24.0	1.21	1.21	1.21	1740.6	83.3
27-Apr-21	Cloudy	2.7515	2.8569	0.1054	14113.74	14137.7	24.0	1.21	1.21	1.21	1735.9	60.7
											Min	43.5
											Max	90.1
											Average	67.2

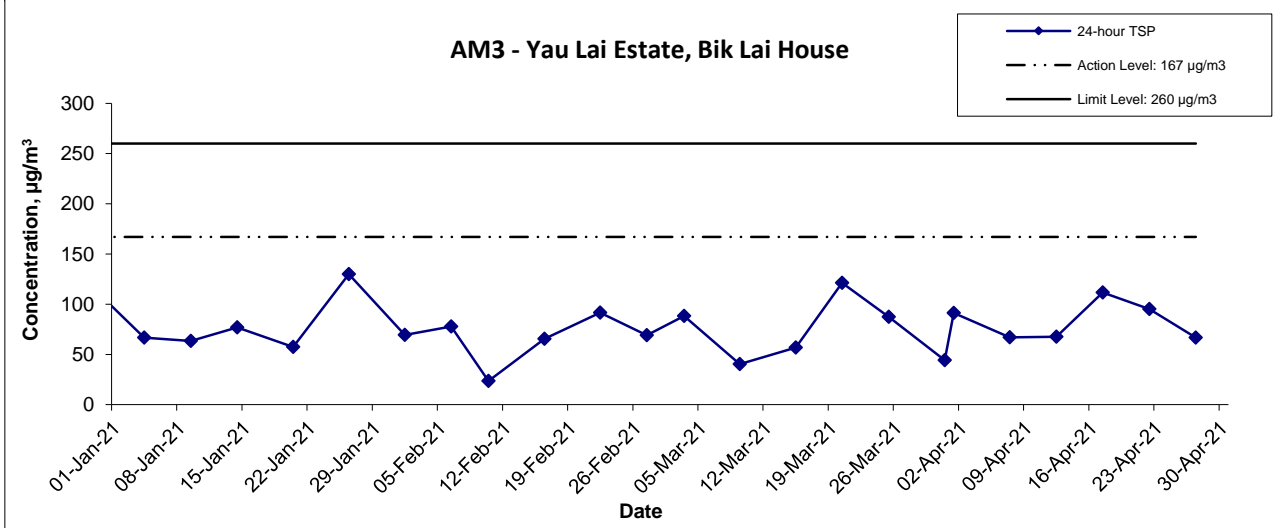
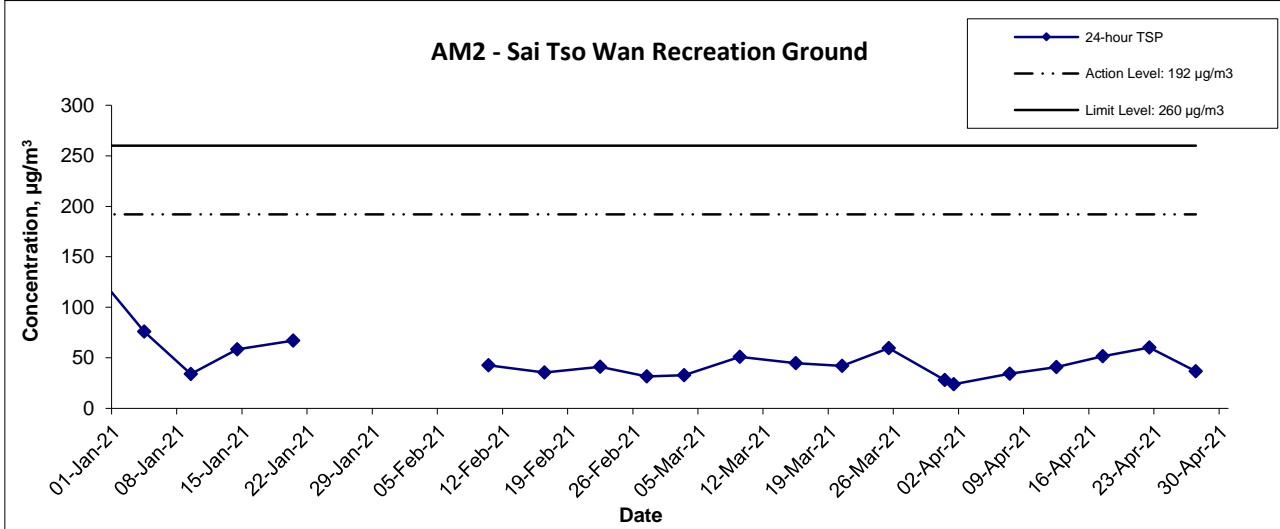
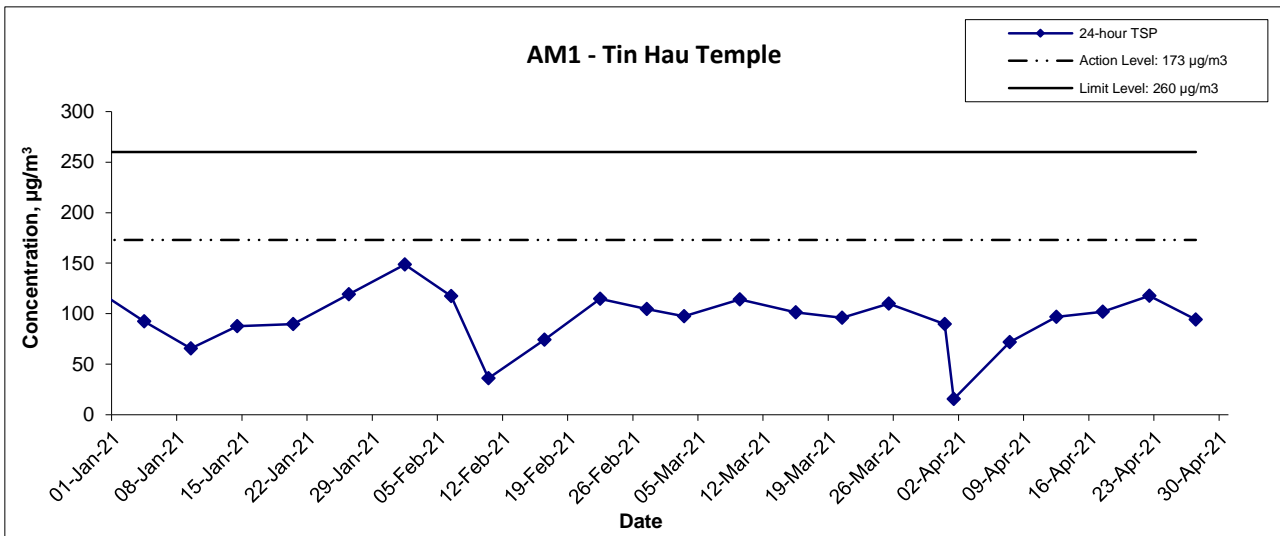
### Location AM5(A) - Tseung Kwan O DSD Desilting Compound

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1-Apr-21	Sunny	2.7611	2.8317	0.0706	30954.6	30978.6	24.0	1.21	1.21	1.21	1746.8	40.4
7-Apr-21	Sunny	2.7577	2.8415	0.0838	30978.6	31002.6	24.0	1.21	1.21	1.21	1746.6	48.0
12-Apr-21	Sunny	2.6903	2.7499	0.0596	31002.6	31026.6	24.0	1.20	1.21	1.21	1736.8	34.3
17-Apr-21	Sunny	2.7726	2.8750	0.1024	31026.6	31050.6	24.0	1.20	1.20	1.20	1732.6	59.1
22-Apr-21	Sunny	2.7700	2.9241	0.1541	31050.6	31074.6	24.0	1.21	1.21	1.21	1740.4	88.5
27-Apr-21	Cloudy	2.7523	2.8440	0.0917	31074.6	31098.6	24.0	1.20	1.20	1.20	1722.8	53.2
											Min	34.3
											Max	88.5
											Average	53.9

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

Start Date	Weather	Filter Weight (g)		Particulate	Elapse Time		Sampling	Flow Rate (m <sup>3</sup> /min.)		Av. flow	Total vol.	Conc.
	Condition	Initial	Final	Weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1-Apr-21	Sunny	2.7611	2.7885	0.0274	2844.8	2868.8	24.0	1.21	1.21	1.21	1745.0	15.7
7-Apr-21	Sunny	2.7653	2.808	0.0427	2868.8	2892.8	24.0	1.22	1.22	1.22	1751.9	24.4
12-Apr-21	Sunny	2.7553	2.8155	0.0602	2892.8	2916.8	24.0	1.22	1.22	1.22	1751.9	34.4
17-Apr-21	Sunny	2.7775	2.8216	0.0441	2916.8	2940.8	24.0	1.22	1.22	1.22	1755.2	25.1
22-Apr-21	Sunny	2.7759	2.8526	0.0767	2940.8	2964.8	24.0	1.21	1.21	1.21	1736.7	44.2
27-Apr-21	Cloudy	2.7553	2.8087	0.0534	2964.8	2988.8	24.0	1.21	1.21	1.21	1745.1	30.6
											Min	15.7
											Max	44.2
											Average	29.1

### 24-hr TSP Concentration Levels

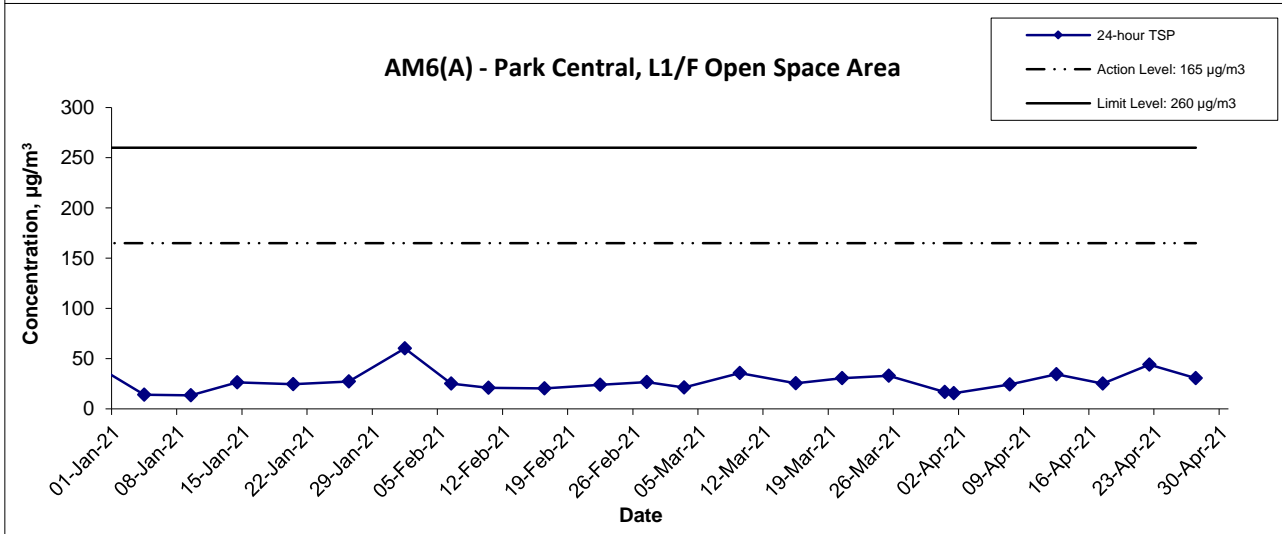
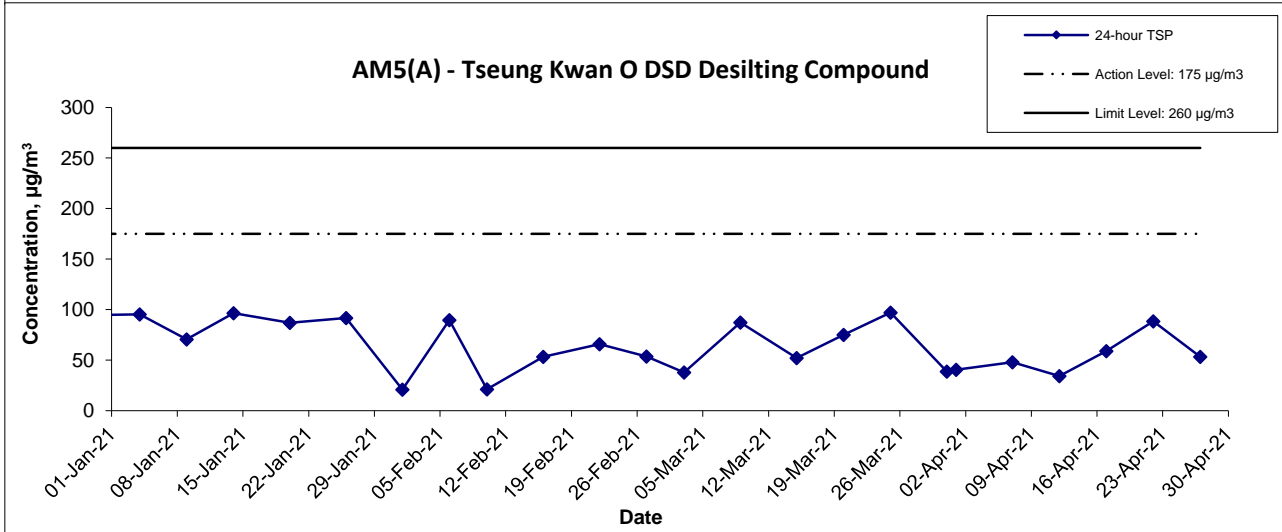
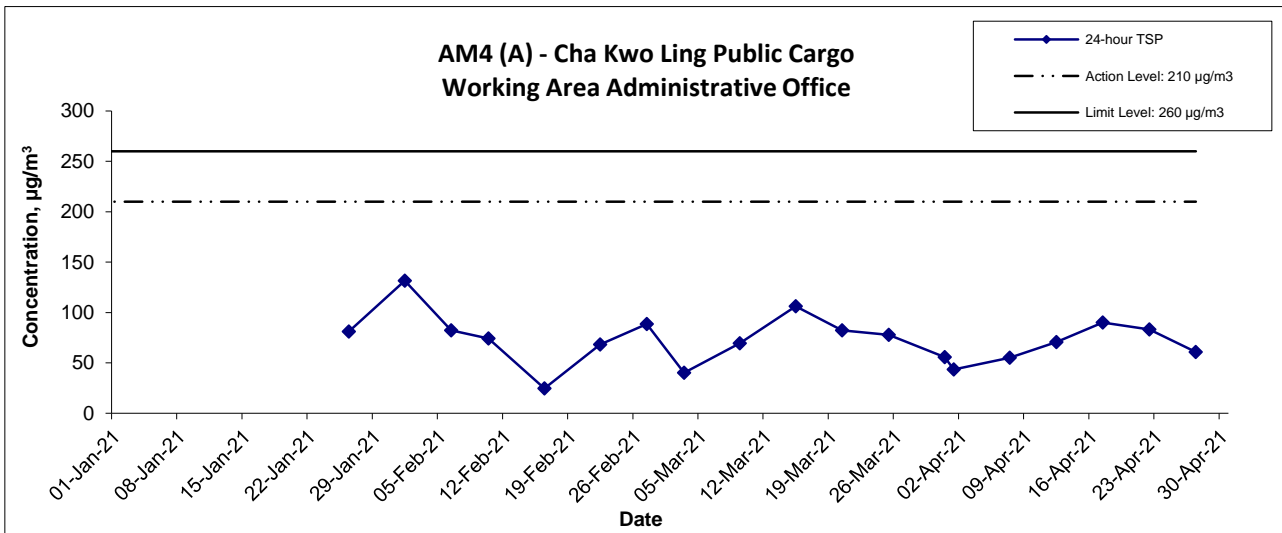


Monitoring at Lam Tin side was suspended during 9th Dec 2020 - 23rd Dec 2020 due to COVID-19 outbreak


The HVS at AM2 was broken-down during the first two week of February 2021.

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	Project No.	MA16034	
	Date	Apr-21	Appendix	F	

### 24-hr TSP Concentration Levels



Monitoring at Lam Tin side was suspended during 9th Dec 2020 - 23rd Dec 2020 due to COVID-19 outbreak

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	Project	
	Date	Appendix	
	N.T.S	No. MA16034	
	Apr-21	F	



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

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## 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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	9:30	Fine	70.8	74.6	67.5	65.5	69
07-Apr-21	10:00	Sunny	72.3	73.6	69.4	65.5	71
13-Apr-21	10:00	Sunny	73.3	74.4	70.7	65.5	73
19-Apr-21	10:00	Fine	73.7	75.5	71.2	65.5	73
29-Apr-21	9:30	Sunny	73.6	75.0	69.3	65.5	73

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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	9:00	Fine	73.5	75.1	70.6	63.6	73
07-Apr-21	10:30	Sunny	73.3	75.8	70.5	63.6	73
13-Apr-21	10:30	Sunny	74.3	76.6	69.9	63.6	74
19-Apr-21	10:30	Fine	72.8	74.8	70.5	63.6	72
29-Apr-21	9:00	Sunny	72.7	74.8	68.8	63.6	72

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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	10:15	Fine	72.3	75.5	68.7	65.6	71
07-Apr-21	11:00	Sunny	72.8	75.7	68.5	65.6	72
13-Apr-21	11:00	Sunny	73.6	75.2	71.1	65.6	73
19-Apr-21	11:00	Fine	73.6	75.0	71.9	65.6	73
29-Apr-21	10:15	Sunny	73.3	75.2	69.4	65.6	72

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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	2:00	Fine	64.5	67.6	57.3	62.0	61
07-Apr-21	14:00	Sunny	62.3	65.2	55.7	62.0	51
13-Apr-21	14:00	Sunny	68.0	70.7	64.4	62.0	67
19-Apr-21	2:00	Fine	65.7	69.0	61.9	62.0	63
29-Apr-21	13:00	Sunny	66.9	68.4	62.2	62.0	65

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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	11:30	Fine	67.8	70.6	63.3	68.2	68 Measured ≤ Baseline
07-Apr-21	13:00	Sunny	70.7	73.4	65.4	68.2	67
13-Apr-21	13:00	Sunny	67.7	71.2	61.3	68.2	68 Measured ≤ Baseline
19-Apr-21	13:00	Fine	66.5	69.3	61.6	68.2	67 Measured ≤ Baseline
29-Apr-21	11:30	Sunny	67.8	69.7	63.1	68.2	68 Measured ≤ Baseline

## Appendix G - Noise Monitoring Results

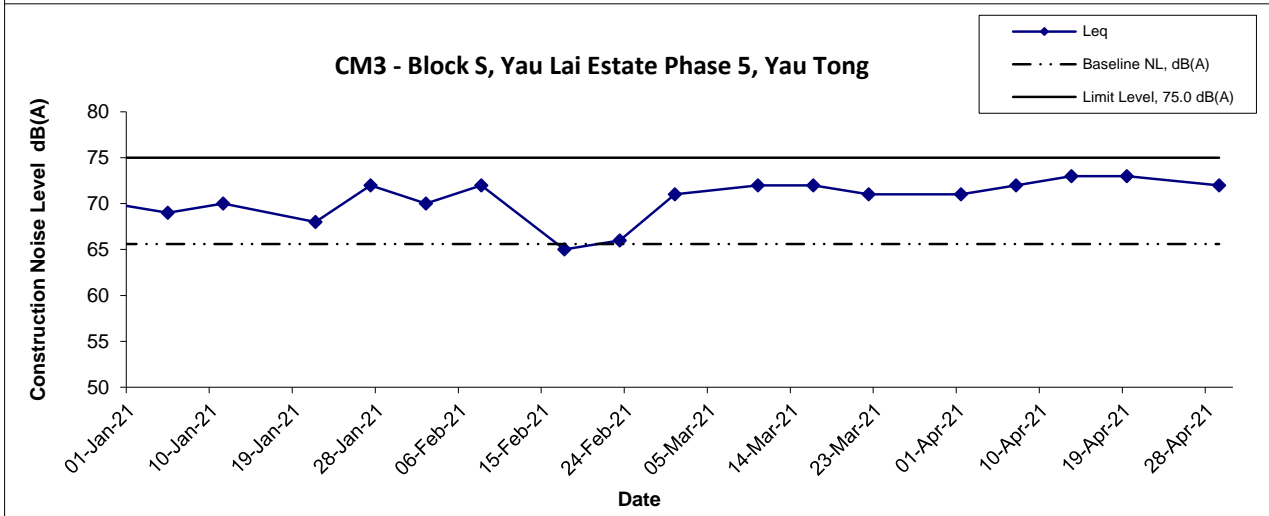
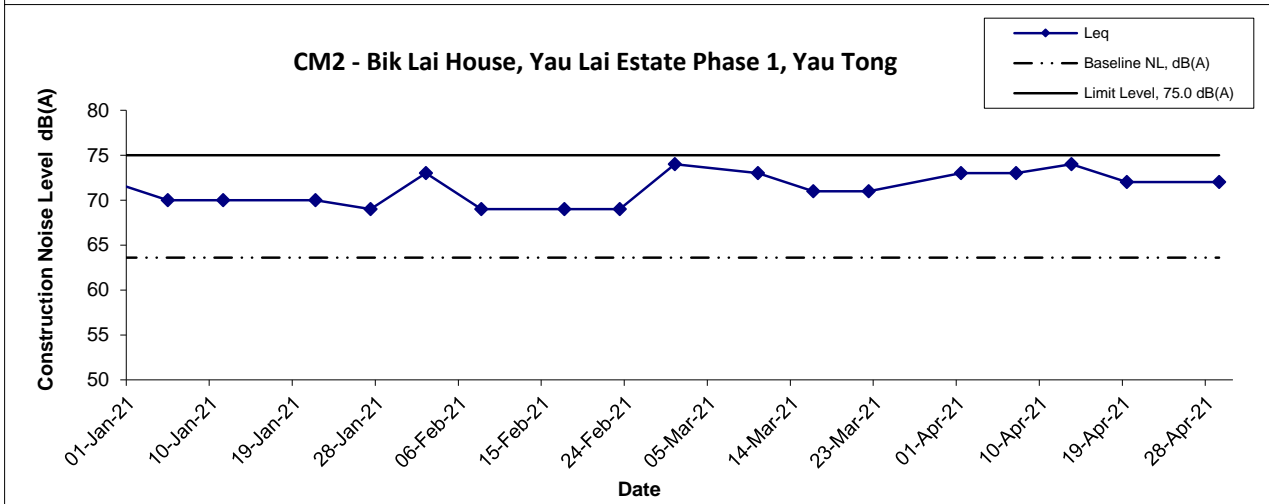
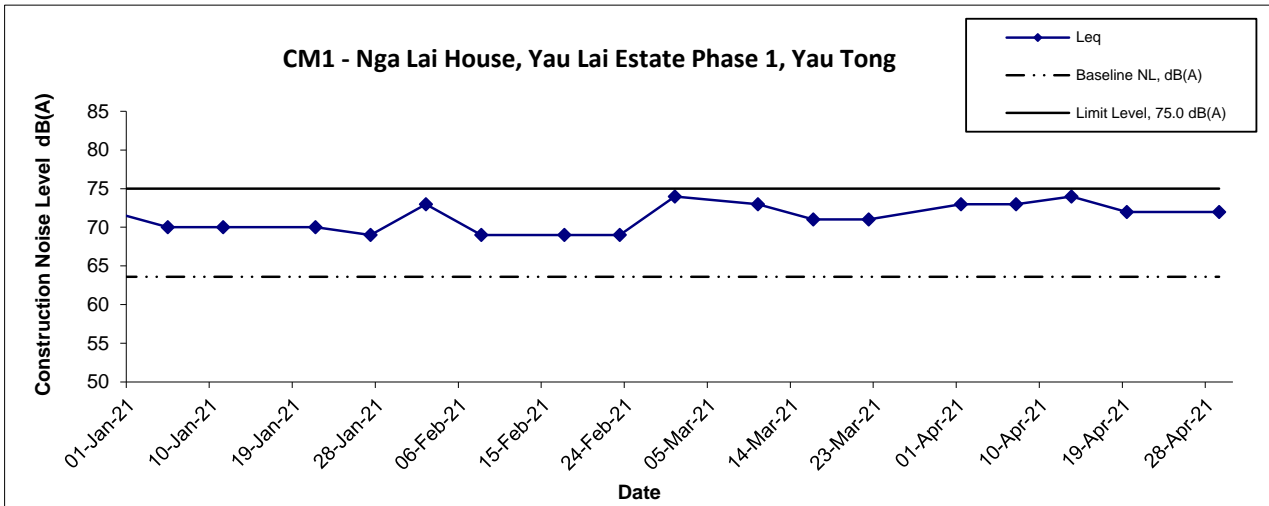
(0700-1900 hrs on Normal Weekdays)

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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	16:15	Sunny	64.1	66.5	57.7	61.9	60
07-Apr-21	9:00	Sunny	64.5	67.6	61.1	61.9	61
13-Apr-21	10:00	Sunny	68.6	71.4	65.5	61.9	68
19-Apr-21	11:00	Fine	64.3	66.7	57.8	61.9	61
29-Apr-21	9:00	Sunny	68.8	71.5	65.6	61.9	68

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 <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	15:30	Sunny	63.1	66.0	56.6	58.3	61
07-Apr-21	11:00	Sunny	65.0	67.1	63.6	58.3	64
13-Apr-21	11:00	Sunny	64.8	66.3	56.8	58.3	64
19-Apr-21	10:00	Fine	63.6	66.3	56.9	58.3	62
29-Apr-21	10:00	Sunny	67.7	69.9	59.9	58.3	67

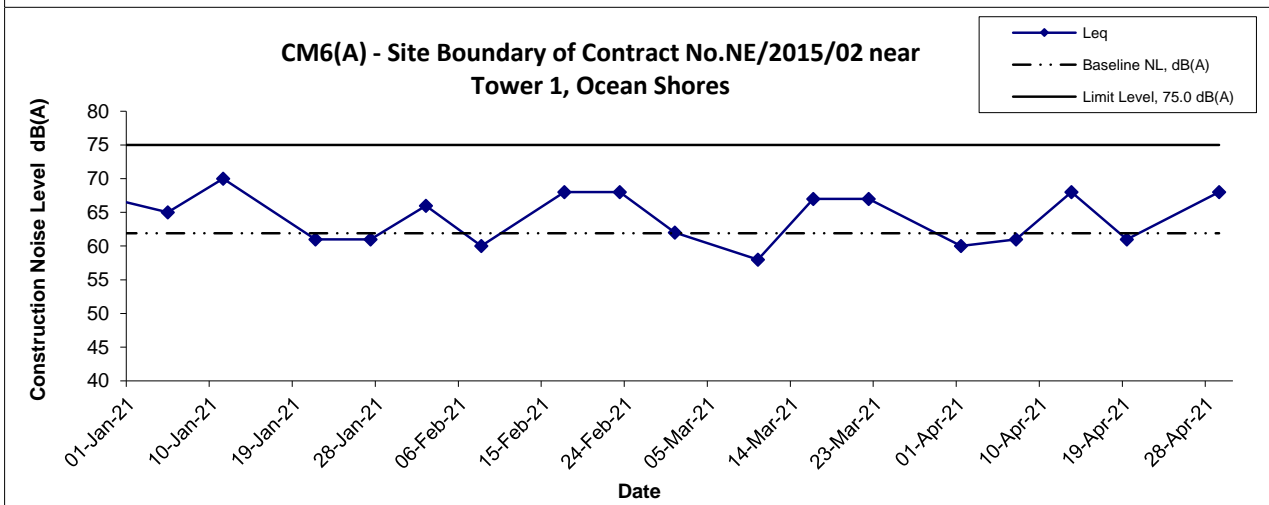
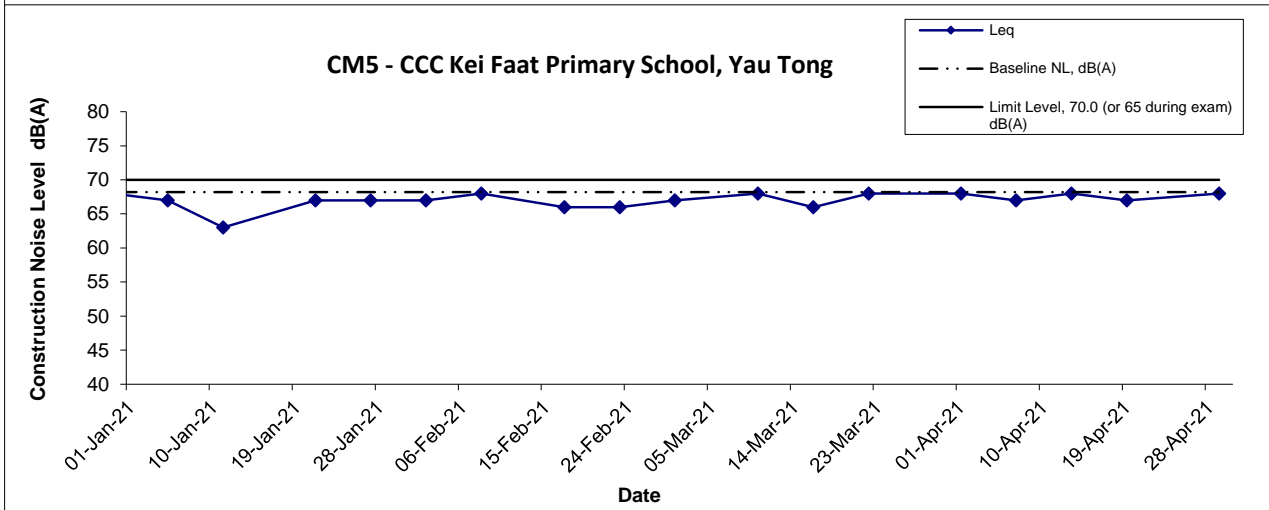
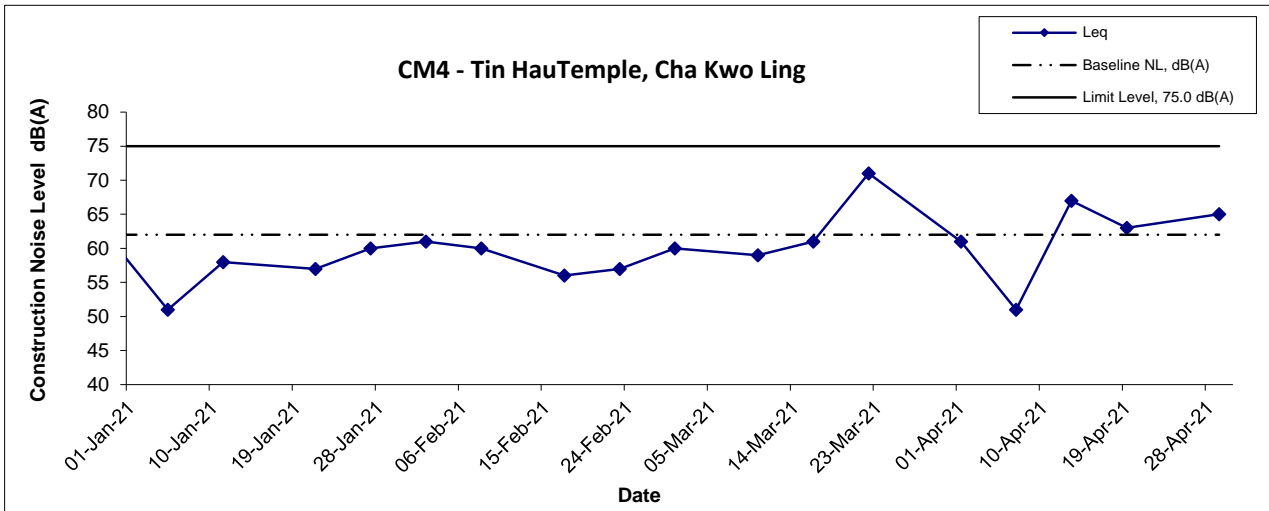
Location CM8(A) - Park Central, L1/F Open Space Area							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
01-Apr-21	13:30	Sunny	63.6	65.0	61.2	69.1	64 Measured ≤ Baseline
07-Apr-21	13:00	Sunny	62.8	64.4	59.2	69.1	63 Measured ≤ Baseline
13-Apr-21	14:00	Sunny	65.8	68.6	62.3	69.1	66 Measured ≤ Baseline
19-Apr-21	9:00	Fine	63.9	65.3	61.6	69.1	64 Measured ≤ Baseline
29-Apr-21	11:00	Sunny	65.7	68.9	62.4	69.1	66 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	Project No. MA16034	
	Date Apr 21	Appendix G	

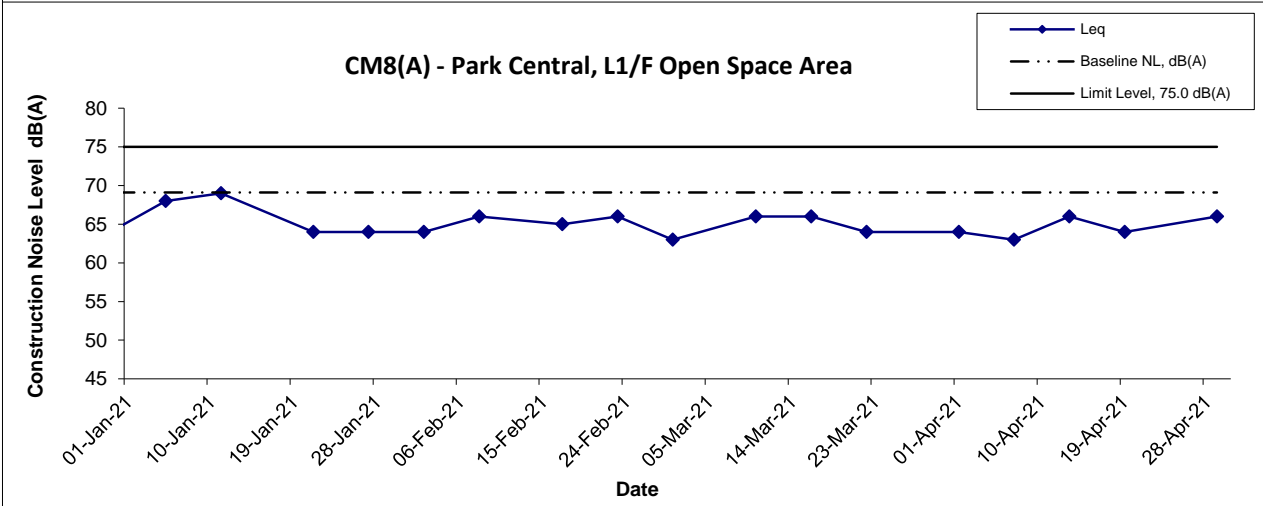
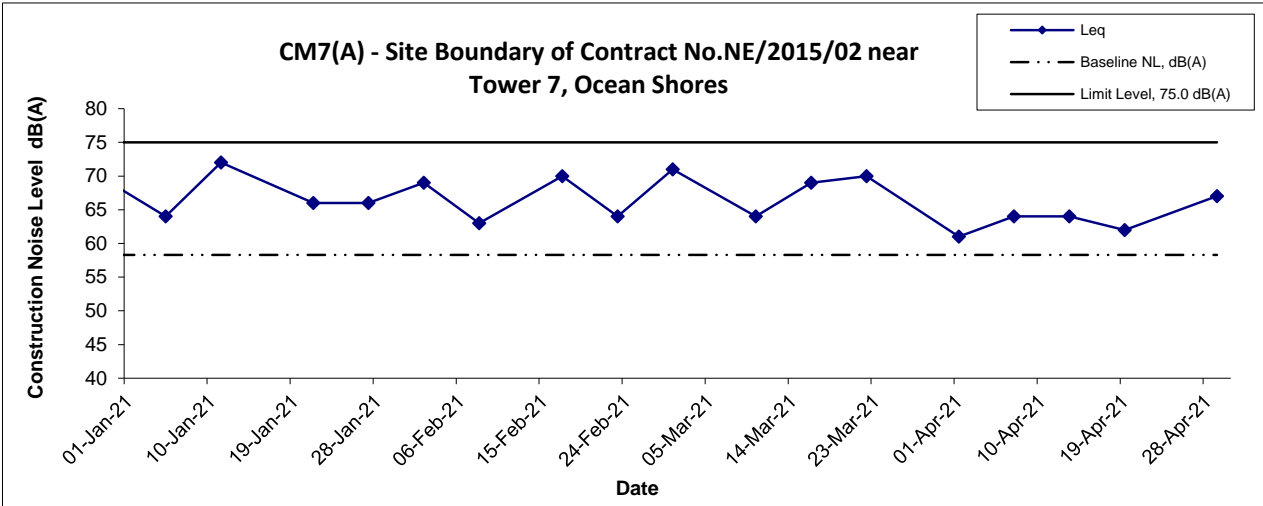
## Noise Levels



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	Project	CINOTECH
	N.T.S	No. MA16034	
	Date	Appendix	
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## 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	Project No. MA16034	
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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)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
1-Apr-21	21:00	Fine	61.9	64.5	58.2	61.8	64.4	62 Measured ≤ Baseline				
	21:05		61.8	64.4	58.1							
	21:10		61.7	64.6	58.0							
9-Apr-21	21:30	Fine	63.4	65.1	61.9	63.4			64.4	63 Measured ≤ Baseline		
	21:35		63.3	65.2	61.4							
	21:40		63.4	64.5	62.4							
16-Apr-21	21:27	Fine	63.8	61.6	59.7	63.2					64.4	63 Measured ≤ Baseline
	21:32		62.8	61.6	59.4							
	21:37		62.8	62.0	59.6							
30-Apr-21	20:00	Fine	62.4	64.6	61.2	62.4	64.4	62 Measured ≤ Baseline				
	20:05		62.6	64.7	61.3							
	20:10		62.1	64.5	61.1							

Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
1-Apr-21	21:30	Fine	61.9	64.8	58.3	61.6	62.2	62 Measured ≤ Baseline				
	21:35		61.6	64.6	58.1							
	21:40		61.2	64.3	57.7							
9-Apr-21	22:00	Fine	62.8	64.5	61.3	62.4			62.2	49		
	22:05		62.4	64.3	60.6							
	22:10		62.0	63.5	59.6							
16-Apr-21	22:12	Fine	65.1	65.3	62.7	65.0					62.2	62
	22:17		64.9	65.9	62.5							
	22:22		65.0	66.1	62.6							
30-Apr-21	9:00	Fine	63.1	65.3	61.4	63.2	62.2	56				
	9:05		63.2	65.4	61.5							
	9:10		63.3	65.6	61.5							

Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
1-Apr-21	22:30	Fine	60.9	63.6	57.7	60.8	64.7	61 Measured ≤ Baseline				
	22:35		60.8	63.5	57.5							
	22:40		60.7	63.5	57.6							
9-Apr-21	19:00	Fine	59.1	61.3	55.6	59.1			64.7	59 Measured ≤ Baseline		
	19:05		58.9	60.8	55.4							
	19:10		59.3	61.5	55.8							
16-Apr-21	19:00	Fine	59.3	61.9	55.6	59.1					64.7	59 Measured ≤ Baseline
	19:05		58.9	61.6	55.3							
	19:10		59.1	61.8	55.4							
30-Apr-21	22:30	Fine	62.1	64.1	60.9	61.9	64.7	62 Measured ≤ Baseline				
	22:35		61.9	64.0	60.7							
	22:40		61.8	63.9	60.6							

Location CM6(A) - Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores												
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>				
1-Apr-21	19:00	Sunny	59.9	60.9	54.6	59.4	60.2	59 Measured ≤ Baseline				
	19:05		58.6	61.0	55.3							
	19:10		59.6	62.1	55.6							
9-Apr-21	19:15	Fine	62.5	64.7	61.8	62.8			60.2	59		
	19:20		62.8	65.2	62.0							
	19:25		63.0	65.3	62.7							
16-Apr-21	19:00	Fine	63.3	63.8	61.0	63.6					60.2	61
	19:05		63.9	64.0	61.0							
	19:10		63.5	63.9	60.9							
29-Apr-21	19:45	Fine	61.7	64.6	58.9	61.7	60.2	56				
	19:50		61.6	64.5	58.7							
	19:55		61.9	64.7	59.1							

**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)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>	
1-Apr-21	23:00	Fine	58.7	63.5	56.1	58.6	61.9	59 Measured ≤ Baseline	
	23:05		58.5	63.3	56.0				
	23:10		58.6	63.4	56.1				
9-Apr-21	23:00	Fine	61.2	63.1	59.4	61.3	62.8	61 Measured ≤ Baseline	
	23:05		61.5	63.8	59.0				
	23:10		61.3	63.6	58.8				
16-Apr-21	23:38	Fine	62.8	62.9	59.8	63.7	62.8	<u>56</u>	
	23:43		64.2	63.0	59.3				
	23:48		64.0	62.7	59.2				
30-Apr-21	23:00	Fine	61.1	63.1	59.2	61.1	63.7	61 Measured ≤ Baseline	
	23:05		61.3	63.2	59.3				
	23:10		61.0	63.1	59.2				

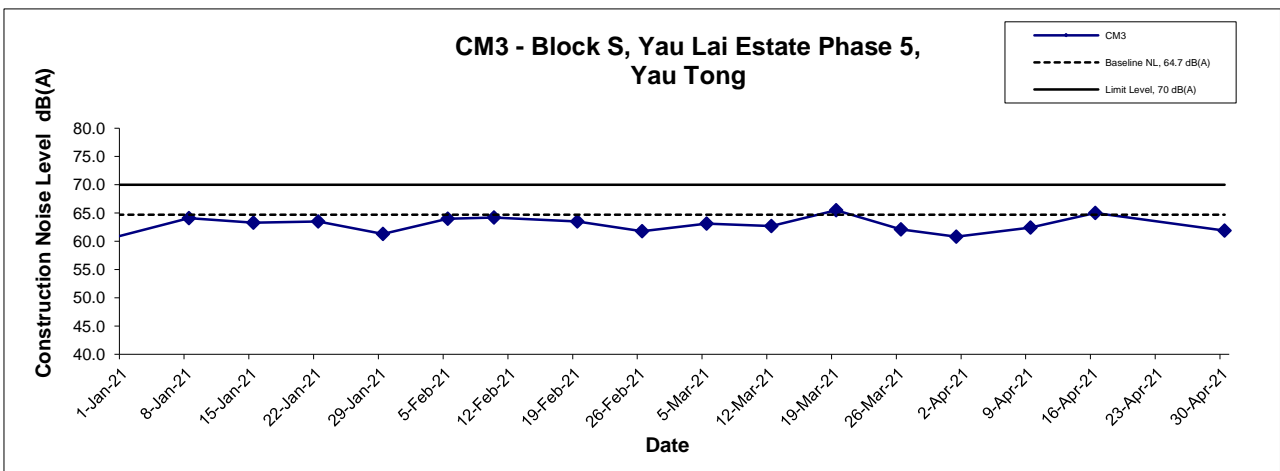
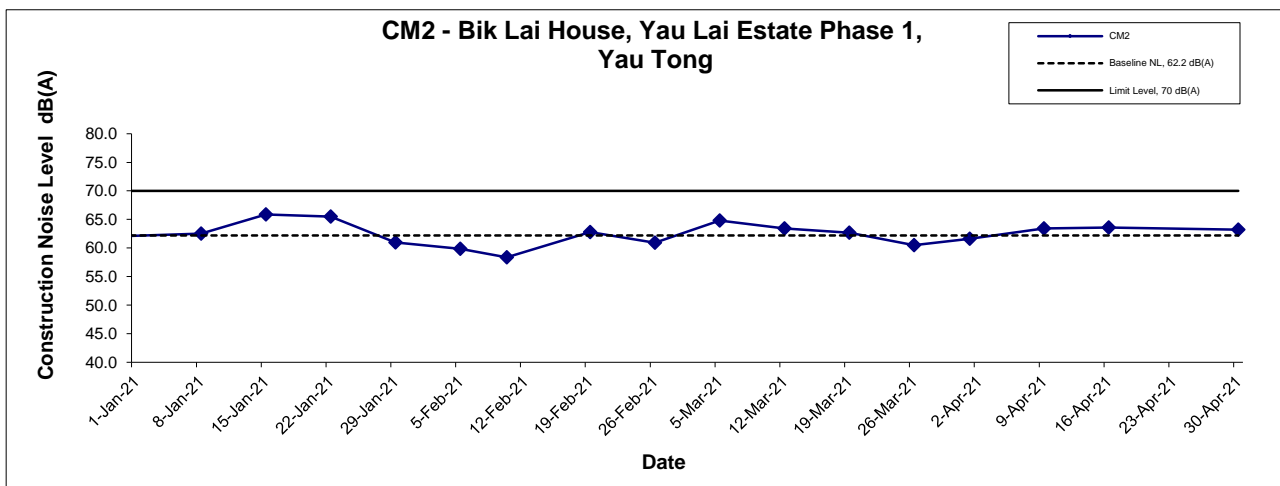
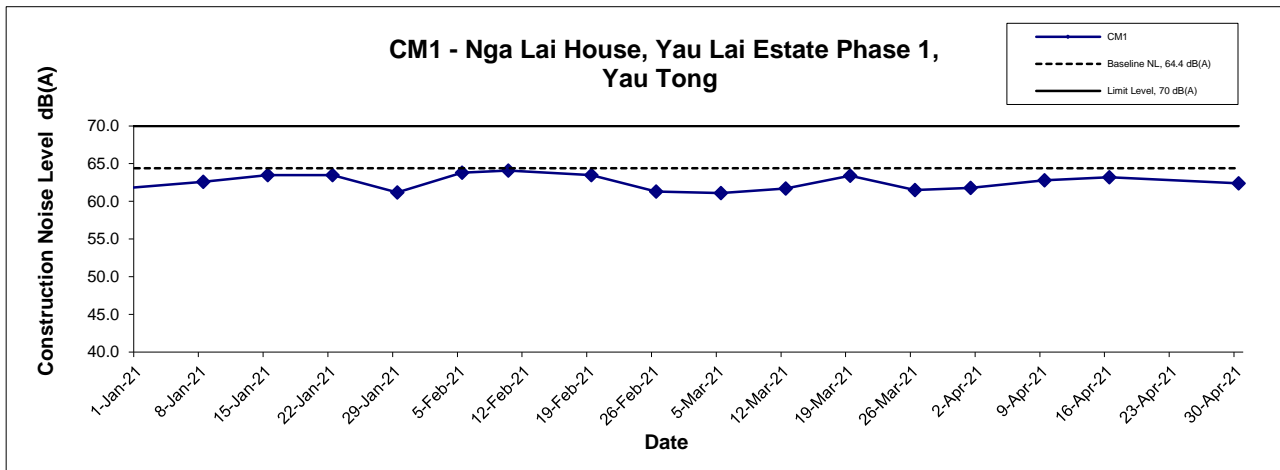
Location CM2 - Bik Lai House, Yau Lai Estate Phase 1, Yau Tong									
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>	
1-Apr-21	23:25	Fine	58.3	61.8	55.9	58.3	60.8	58 Measured ≤ Baseline	
	23:30		58.2	61.6	55.8				
	23:35		58.4	61.9	55.9				
9-Apr-21	23:00	Cloudy	59.2	62.4	56.6	59.1	61.6	59 Measured ≤ Baseline	
	23:05		59.4	62.7	56.9				
	23:10		58.7	61.6	55.4				
16-Apr-21	0:16	Fine	65.4	64.1	58.8	65.0	61.6	<u>62</u>	
	0:21		64.6	64.0	59.2				
	0:26		65.1	64.3	59.4				
30-Apr-21	23:25	Fine	59.4	62.1	56.7	59.2	61.6	59 Measured ≤ Baseline	
	23:30		59.2	61.9	56.5				
	23:35		59.1	61.8	56.6				

Location CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong									
Date	Time	Weather	dB (A) (5-min)				Average L <sub>eq</sub>	Baseline Level	Construction Noise Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>		L <sub>eq</sub>	
1-Apr-21	23:40	Fine	57.5	60.9	55.3	57.5	64.0	58 Measured ≤ Baseline	
	23:45		57.4	60.8	55.2				
	23:50		57.6	61.0	55.4				
9-Apr-21	23:00	Cloudy	58.9	62.1	57.3	59.2	64.0	59 Measured ≤ Baseline	
	23:05		58.5	62.2	56.4				
	23:10		60.1	62.3	57.7				
16-Apr-21	1:04	Fine	59.5	61.3	57.6	59.2	64.0	59 Measured ≤ Baseline	
	1:09		59.2	60.5	56.8				
	1:14		59.0	60.3	56.4				
30-Apr-21	23:45	Fine	58.7	61.8	56.4	58.5	62.9	59 Measured ≤ Baseline	
	23:50		58.6	61.7	56.4				
	23:55		58.3	61.5	56.2				

Remark:

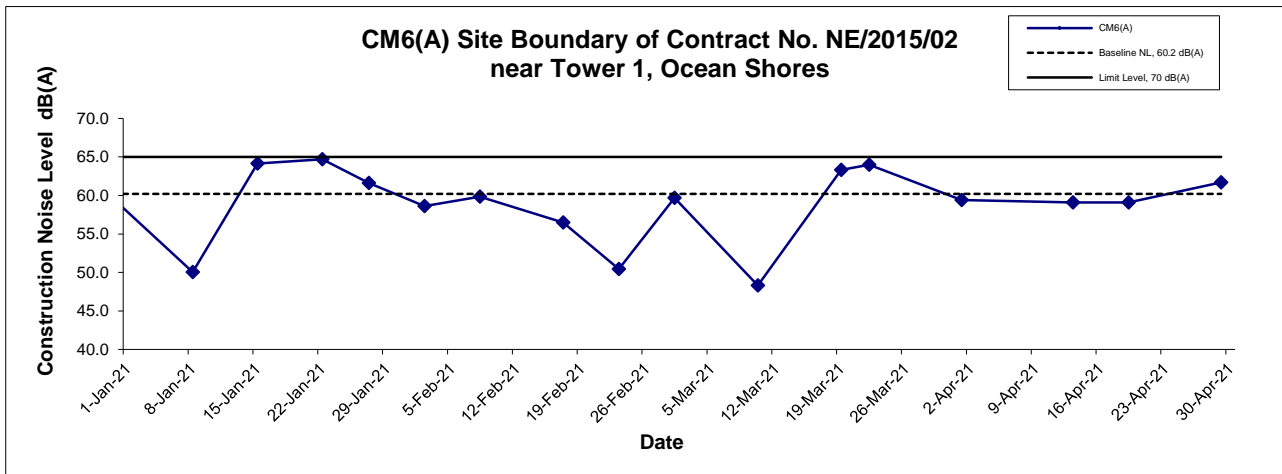
"Measured ≤ Baseline" means that the averaged measured Leq is smaller than the baseline Leq, and therefore the measured levels are not valid exceedances.

## 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	0	Project No. MA16034	CINOTECH
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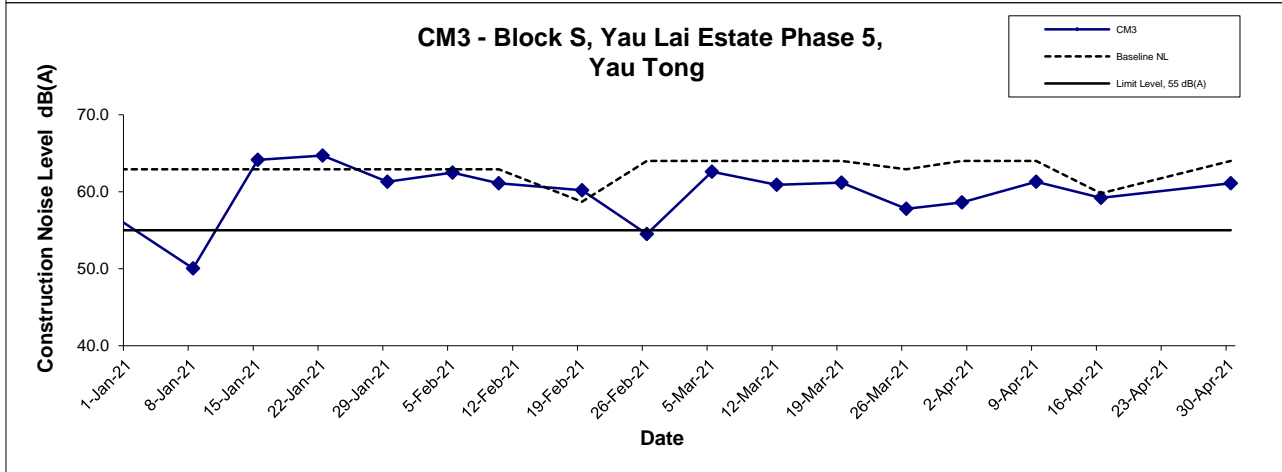
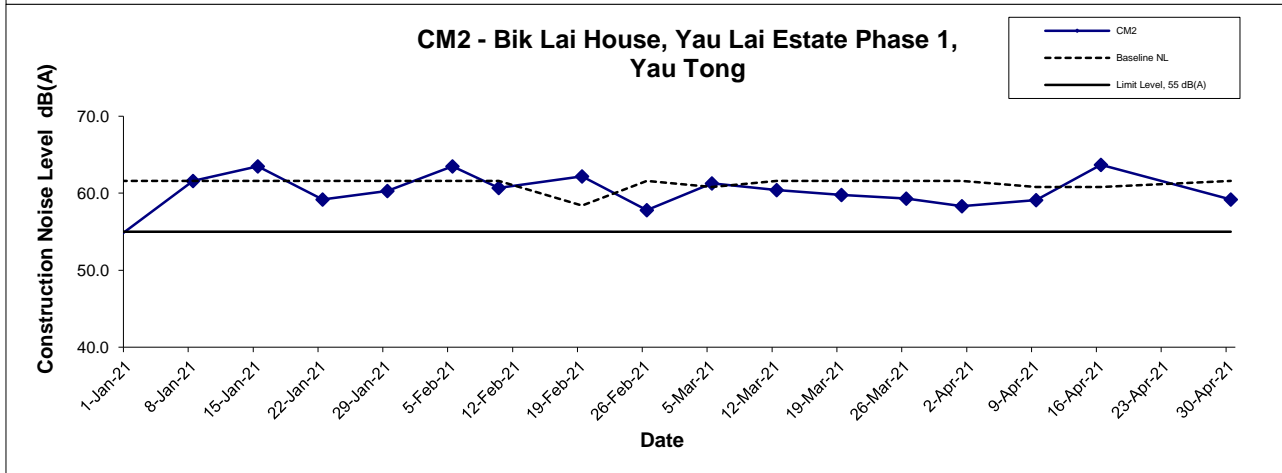
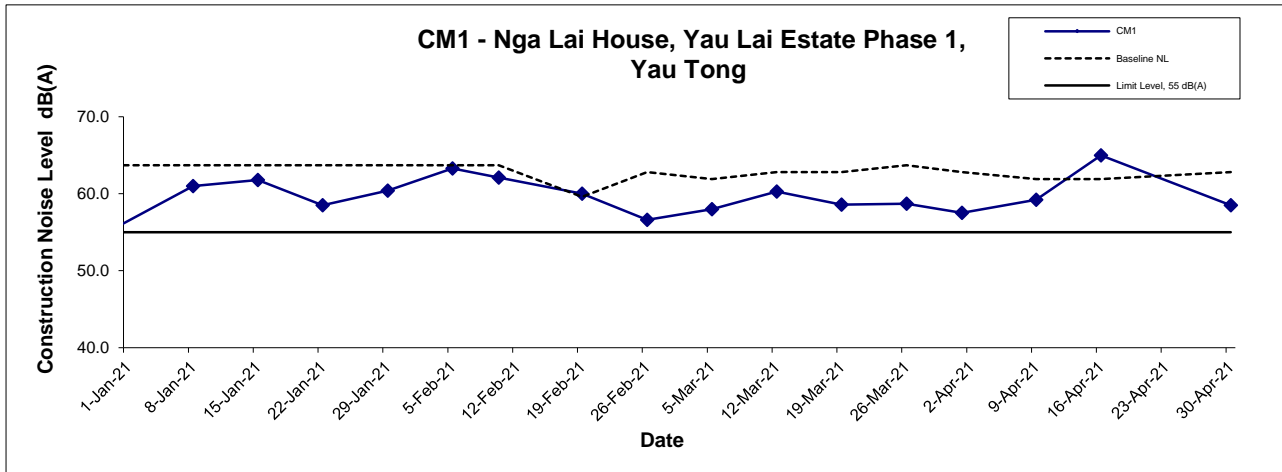
**Noise Levels**  
**(Restricted Hours - 19:00 - 23:00 on normal weekdays)**



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	<b>CINOTECH</b>
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## 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-21	Appendix G	

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**APPENDIX I  
MARINE WATER QUALITY  
MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

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Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Water Quality Monitoring Results on 01 April 2021

(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
C1	Sunny	Calm	9:41	Surface	1.0	21.1	8.1	8.1	34.5	34.5	97.4	97.4	7.1	7.1	7.1	0.8	0.9	0.8	4.4	4.1	3.4
					21.0	8.1	34.5	97.4	7.1	0.9	3.8										
				9.0	21.1	8.2	8.2	34.8	34.8	97.1	97.1	7.1	0.7	3.4							
C2	Sunny	Calm	7:49	Surface	1.1	21.2	7.8	7.8	34.5	34.5	94.7	94.7	6.9	6.9	6.9	0.9	0.9	0.9	3.9	4.1	3.5
					20.9	7.8	34.6	94.6	6.9	0.9	4.2										
				16.5	20.9	7.9	7.9	34.6	34.6	94.9	94.9	6.9	0.9	3.1							
G1	Sunny	Calm	8:43	Surface	1.0	21.3	8.2	8.2	34.4	34.4	99.2	99.3	7.2	7.2	7.2	0.9	0.9	1.3	4.2	4.6	3.7
					20.9	8.2	34.4	99.3	7.2	0.9	4.9										
				4.1	20.9	8.2	8.2	34.4	34.4	98.5	98.6	7.2	1.2	3.0							
G2	Sunny	Calm	8:22	Surface	1.1	21.3	8.2	8.1	34.4	34.4	97.4	97.4	7.1	7.1	7.1	1.0	1.0	1.2	3.5	3.5	4.4
					20.9	8.1	34.4	97.3	7.1	1.0	3.4										
				5.1	20.9	8.1	8.1	34.5	34.5	96.4	96.4	7.0	1.1	4.4							
G3	Sunny	Calm	8:54	Surface	1.0	21.4	8.2	8.2	34.4	34.4	97.1	97.2	7.1	7.1	7.1	0.6	0.7	0.8	4.0	3.6	3.4
					20.9	8.2	34.5	97.2	7.1	0.7	3.2										
				4.1	20.9	8.2	8.2	34.4	34.4	98.2	98.3	7.2	0.8	3.6							
G4	Sunny	Calm	9:13	Surface	1.1	21.4	8.1	8.1	34.4	34.4	98.9	99.0	7.2	7.2	7.2	0.8	0.8	1.4	4.0	4.3	3.4
					21.0	8.1	34.4	99.1	7.2	0.8	4.6										
				4.0	21.0	8.1	8.1	34.4	34.4	98.5	98.6	7.2	0.9	3.3							
M1	Sunny	Calm	8:31	Surface	1.1	21.4	8.1	8.1	34.3	34.3	96.0	96.0	7.0	7.0	7.0	0.9	0.9	1.0	2.6	2.9	3.4
					21.1	8.1	34.4	96.0	7.0	0.8	3.2										
				3.1	20.9	8.1	8.1	34.3	34.4	96.0	96.0	7.0	1.0	3.4							
M2	Sunny	Calm	8:13	Surface	1.0	21.2	8.1	8.1	34.4	34.4	97.3	97.4	7.1	7.1	7.1	1.3	1.3	1.2	3.0	2.8	4.3
					20.9	8.1	34.5	97.4	7.1	1.3	2.6										
				5.5	20.8	8.1	8.1	34.5	34.5	97.0	97.1	7.1	1.2	4.5							
M3	Sunny	Calm	9:03	Surface	1.0	21.2	8.2	8.1	34.4	34.4	97.9	97.9	7.1	7.1	7.1	0.3	0.3	0.6	4.4	4.3	3.5
					21.0	8.1	34.3	97.9	7.1	0.4	4.2										
				4.0	20.9	8.2	8.2	34.4	34.4	97.5	97.5	7.1	0.5	3.0							
M4	Sunny	Calm	8:03	Surface	1.0	21.0	8.3	8.3	34.5	34.4	94.6	94.6	6.9	6.9	6.9	0.6	0.7	0.9	2.7	2.4	2.5
					21.0	8.3	34.4	94.6	6.9	0.8	2.0										
				5.0	20.9	8.3	8.3	34.5	34.5	94.4	94.4	6.9	0.9	1.8							
M5	Sunny	Calm	9:30	Surface	1.1	21.0	8.2	8.2	34.6	34.6	96.0	96.1	7.0	7.0	7.0	2.0	2.0	2.5	2.0	2.4	2.6
					21.0	8.2	34.7	96.1	7.0	2.1	2.7										
				6.1	21.1	8.2	8.2	34.6	34.7	95.3	95.4	7.0	2.9	2.8							
M6	Sunny	Calm	9:24	Surface	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	3.8	
					2.2	21.1	8.1	8.1	34.4	34.4	96.7	96.8	7.1	0.9	4.2						
				-	-	-	-	-	-	-	-	-	-	-	-	-		-	-		

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 1 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 1.2 NTU</u>	<u>C2: 1.3 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 4.9 mg/L</u>	<u>C2: 5.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 4.9 mg/L</u>	<u>C2: 5.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 3.8 mg/L</u>	<u>C2: 4.1 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 01 April 2021

(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	Calm	16:11	Surface	1.1	21.1	21.1	8.1	8.1	34.5	34.4	94.0	93.9	6.8	6.8	6.9	0.8	0.8	0.8	2.6	2.5	3.0			
					21.0	21.1	8.1	8.1	34.4	34.4	93.8	93.9	6.8	6.8	0.8		0.8	2.3		2.5					
				Middle	9.0	20.9	20.9	8.2	8.2	34.7	34.7	96.4	96.3	7.0	7.0		7.0	7.0		0.8	0.7		0.8	2.8	2.9
					20.9	20.9	8.2	8.2	34.7	34.7	96.1	96.3	7.0	7.0	0.7		0.7	0.8		0.7	0.8		2.8	2.9	
				Bottom	19.0	20.9	20.9	8.2	8.2	34.9	34.9	97.4	97.4	7.1	7.1		7.1	7.1		0.8	0.8		0.8	4.2	3.8
					20.9	20.9	8.2	8.2	34.9	34.9	97.3	97.4	7.1	7.1	7.1		7.1	0.9		0.8	0.8		3.3	3.8	
C2	Sunny	Calm	14:29	Surface	1.1	20.9	20.9	7.8	7.9	34.4	34.5	94.1	94.0	6.9	6.9	6.8	0.6	0.7	0.8	3.3	3.6	3.3			
					20.9	20.9	8.0	7.9	34.5	34.5	93.9	94.0	6.9	6.9	0.8		0.7	3.9		3.6					
				Middle	16.0	20.9	20.9	7.9	7.9	34.5	34.5	93.7	93.4	6.9	6.8		6.9	6.8		0.7	0.8		0.8	3.2	3.3
					20.8	20.8	8.0	7.9	34.5	34.5	93.1	93.4	6.8	6.8	6.8		6.8	0.8		0.8	0.8		3.0	2.9	
				Bottom	31.1	20.8	20.8	7.9	8.0	34.6	34.6	93.8	93.5	6.9	6.8		6.8	6.8		0.8	0.8		0.8	2.8	2.9
					20.8	20.8	8.0	8.0	34.5	34.6	93.1	93.5	6.8	6.8	6.8		6.8	0.8		0.8	0.8		2.8	2.9	
G1	Sunny	Calm	15:08	Surface	1.0	21.0	20.9	8.2	8.1	34.4	34.4	95.1	94.6	6.9	6.9	6.9	0.7	0.7	1.2	3.8	4.2	3.0			
					20.9	20.9	8.1	8.1	34.4	34.4	94.1	94.6	6.9	6.9	6.9		6.9	0.8		0.7	4.6		4.2		
				Middle	4.1	20.9	20.8	8.2	8.1	34.4	34.4	94.4	94.0	6.9	6.9		6.9	6.9		1.0	1.0		1.0	2.8	2.6
					20.8	20.8	8.1	8.1	34.4	34.4	93.6	94.0	6.8	6.9	6.9		6.9	1.0		1.0	1.0		2.3	2.6	
				Bottom	7.0	20.8	20.8	8.1	8.1	34.4	34.4	92.7	92.0	6.8	6.7		6.7	6.7		2.0	1.9		1.9	2.2	2.4
					20.7	20.8	8.1	8.1	34.5	34.4	91.2	92.0	6.7	6.7	6.7		6.7	1.8		1.9	1.9		2.5	2.4	
G2	Sunny	Calm	14:49	Surface	1.1	20.9	20.9	8.1	8.1	34.4	34.4	94.4	94.5	6.9	6.9	6.9	0.8	0.9	1.2	3.6	3.2	2.8			
					20.9	20.9	8.1	8.1	34.4	34.4	94.6	94.5	6.9	6.9	6.9		6.9	1.1		0.9	2.8		3.2		
				Middle	5.1	20.9	20.9	8.1	8.1	34.4	34.4	93.8	94.0	6.9	6.9		6.9	6.9		1.0	1.1		1.1	2.4	2.8
					20.9	20.9	8.1	8.1	34.4	34.4	94.1	94.0	6.9	6.9	6.9		6.9	1.2		1.1	1.1		3.2	2.8	
				Bottom	9.1	20.8	20.8	8.1	8.1	34.5	34.5	93.2	93.3	6.8	6.8		6.8	6.8		1.5	1.5		1.5	2.1	2.4
					20.8	20.8	8.1	8.1	34.5	34.5	93.4	93.3	6.8	6.8	6.8		6.8	1.4		1.5	1.5		2.7	2.4	
G3	Sunny	Calm	15:15	Surface	1.0	20.9	20.9	8.2	8.1	34.3	34.3	94.9	95.0	6.9	6.9	6.9	0.5	0.5	0.6	1.5	1.8	2.5			
					20.9	20.9	8.1	8.1	34.4	34.3	95.0	95.0	6.9	6.9	6.9		6.9	0.6		0.5	2.0		1.8		
				Middle	4.0	20.8	20.9	8.2	8.1	34.4	34.4	94.1	94.6	6.9	6.9		6.9	6.9		0.7	0.6		0.6	2.5	2.7
					20.9	20.9	8.1	8.1	34.4	34.4	95.1	94.6	7.0	6.9	6.9		6.9	0.5		0.6	0.6		2.9	2.7	
				Bottom	7.1	20.7	20.7	8.1	8.1	34.5	34.4	92.3	93.6	6.8	6.9		6.9	6.9		0.8	0.8		0.8	3.4	3.1
					20.8	20.7	8.1	8.1	34.4	34.4	94.9	93.6	6.9	6.9	6.9		6.9	0.8		0.8	0.8		2.7	3.1	
G4	Sunny	Calm	15:28	Surface	1.1	21.0	21.0	8.1	8.1	34.4	34.4	94.9	94.8	6.9	6.9	6.9	0.7	0.7	1.4	2.9	2.9	2.4			
					21.0	21.0	8.1	8.1	34.4	34.4	94.7	94.8	6.9	6.9	6.9		6.9	0.7		0.7	2.9		2.9		
				Middle	4.0	21.0	21.0	8.2	8.1	34.4	34.4	94.6	94.5	6.9	6.9		6.9	6.9		0.8	0.8		0.8	2.4	2.5
					20.9	21.0	8.1	8.1	34.4	34.4	94.4	94.5	6.9	6.9	6.9		6.9	0.8		0.8	0.8		2.6	2.5	
				Bottom	7.0	20.8	20.9	8.1	8.1	34.5	34.5	93.3	93.6	6.8	6.8		6.8	6.8		2.6	2.7		2.7	1.8	1.7
					20.9	20.9	8.1	8.1	34.4	34.5	93.8	93.6	6.9	6.8	6.8		6.8	2.7		2.7	2.7		1.5	1.7	
M1	Sunny	Calm	14:56	Surface	1.0	21.0	21.0	8.1	8.1	34.3	34.3	94.2	94.2	6.9	6.9	6.9	0.7	0.8	0.9	1.8	1.9	2.3			
					21.1	21.0	8.1	8.1	34.2	34.3	94.2	94.2	6.9	6.9	6.9		6.9	0.8		0.8	2.0		1.9		
				Middle	3.9	20.8	20.9	8.1	8.1	34.4	34.3	93.7	93.9	6.9	6.9		6.9	6.9		0.8	0.8		0.8	2.5	2.3
					21.0	20.9	8.1	8.1	34.3	34.3	94.1	93.9	6.9	6.9	6.9		6.9	0.9		0.8	0.8		2.0	2.3	
				Bottom	6.0	20.8	20.8	8.1	8.1	34.5	34.4	91.6	92.6	6.7	6.8		6.8	6.8		1.0	1.0		1.0	2.3	2.7
					20.8	20.8	8.1	8.1	34.4	34.4	93.5	92.6	6.8	6.8	6.8		6.8	1.0		1.0	1.0		3.0	2.7	
M2	Sunny	Calm	14:41	Surface	1.1	20.9	20.9	8.1	8.1	34.4	34.4	94.0	93.9	6.9	6.9	6.8	1.3	1.3	1.2	1.5	1.8	2.3			
					20.9	20.9	8.1	8.1	34.4	34.4	93.8	93.9	6.9	6.9	6.9		6.9	1.3		1.3	2.1		1.8		
				Middle	6.0	20.8	20.8	8.1	8.1	34.5	34.5	93.2	93.1	6.8	6.8		6.8	6.8		1.3	1.2		1.2	2.4	2.2
					20.8	20.8	8.1	8.1	34.5	34.5	92.9	93.1	6.8	6.8	6.8		6.8	1.1		1.2	1.2		1.9	2.2	
				Bottom	11.1	20.8	20.8	8.1	8.1	34.5	34.5	92.8	92.6	6.8	6.8		6.8	6.8		1.1	1.0		1.0	3.0	2.8
					20.8	20.8	8.1	8.1	34.5	34.5	92.4	92.6	6.8	6.8	6.8		6.8	1.0		1.0	1.0		2.6	2.8	
M3	Sunny	Calm	15:22	Surface	1.0	21.0	21.0	8.2	8.2	34.3	34.3	95.7	95.8	7.0	7.0	7.0	0.4	0.4	0.7	3.0	2.9	3.1			
					21.0	21.0	8.1	8.2	34.3	34.3	95.8	95.8	7.0	7.0	7.0		7.0	0.4		0.4	2.8		2.9		
				Middle	4.1	20.9	20.9	8.2	8.2	34.4	34.4	96.2	96.3	7.0	7.0		7.0	7.0		0.5	0.5		0.5	3.2	2.8
					20.9	20.9	8.1	8.2	34.4	34.4	96.4	96.3	7.0	7.0	7.0		7.0	0.5		0.5	0.5		2.3	2.8	
				Bottom	7.0	20.6	20.7	8.1	8.1	34.5	34.5	89.3	90.4	6.6	6.6		6.6	6.6		1.1	1.0		1.0	3.8	3.6
					20.7	20.7	8.1	8.1	34.5	34.5	91.4	90.4	6.7	6.6	6.6		6.6	1.0		1.0	1.0		3.4	3.6	
M4	Sunny	Calm	14:35	Surface	1.0	21.0	21.0	8.1	8.1	34.4	34.4	95.4	95.3	7.0	6.9	6.9	0.6	0.5	0.8	3.2	3.7	3.0			
					21.0	21.0	8.1	8.1	34.4	34.4	95.1	95.3	6.9	6.9	6.9		6.9	0.5		0.5	4.2		3.7		
				Middle	5.0	20.9	20.8	8.1	8.1	34.4	34.4	94.0	93.7	6.9	6.8		6.8	6.8		0.8	0.8		0.8	2.6	2.9
					20.8	20.8	8.1	8.1	34.4	34.4	93.3	93.7	6.8	6.8	6.8		6.8	0.9		0.8	0.8		3.1	2.9	
				Bottom	9.0	20.8	20.8	8.1	8.1	34.5	34.5	93.3	93.1	6.8	6.8		6.8	6.8		1.0	0.9		0.9	2.0	2.4
					20.8	20.8	8.1	8.1	34.5	34.5	92.9	93.1	6.8	6.8	6.8		6.8	0.9		0.9	0.9		2.8	2.4	
M5	Sunny	Calm	15:59	Surface	1.1	21.0	20.9	8.2	8.1	34.5	34.5	93.8	94.0	6.8	6.9	6.9	1.9	1.9	2.6	2.5	2.9	2.7			
					20.9	20.9	8.1	8.1	34.5	34.5	94.2	94.0	6.9	6.9	6.9		6.9	1.9		1.9	3.3		2.9		
				Middle	6.6	20.9	20.9	8.2	8.2	34.7	34.7	94.8	95.0	6.9	6.9		6.9	6.9		3.2	3.1		3.1	2.4	2.7
					20.9	20.9	8.2	8.2	34.7	34.7	95.1	95.0	6.9	6.9	6.9		6.9	2.9		3.1	3.1		3.0	2.7	
				Bottom	12.1	20.9	20.9	8.2	8.2	34.8	34.8	96.1	96.1	7.0	7.0		7.0	7.0		2.8	2.8		2.8	2.8	2.6
					20.9	20.9																			



**Action and Limit Levels for Marine Water Quality on 1 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 1.0 NTU</u>	<u>CI: 1.1 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 2.9 mg/L</u>	<u>CI: 3.2 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 2.9 mg/L</u>	<u>CI: 3.2 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 4.5 mg/L</u>	<u>CI: 4.9 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 07 April 2021

(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	10:22	Surface	1.0	23.1	23.0	8.3	8.3	34.5	34.5	97.0	97.4	6.8	6.8	6.9	0.8	0.8	1.1	3.0	3.0	2.2		
					23.0	8.4	8.4	34.5	34.5	97.8	6.9	0.8	2.9											
				Middle	9.0	22.6	22.6	8.4	8.4	35.1	35.1	97.2	97.4	6.9	6.9		6.9	0.7		0.7	2.1		2.2	
					22.6	8.4	8.4	35.1	35.1	97.6	6.9	0.7	2.2											
				Bottom	16.9	22.2	22.2	8.4	8.4	35.6	35.6	95.3	95.3	6.8	6.8		6.8	1.8		1.8	1.3		1.6	
					22.2	8.4	8.4	35.6	35.6	95.3	6.8	1.7	1.9											
C2	Sunny	Moderate	9:18	Surface	1.0	23.1	23.1	8.2	8.3	34.4	34.4	93.9	94.8	6.6	6.7	6.6	0.6	0.7	1.6	1.2	1.3	2.2		
					23.1	8.3	8.3	34.5	34.5	95.6	6.7	0.7	1.3											
				Middle	16.0	22.7	22.7	8.3	8.3	34.8	34.8	93.5	93.7	6.6	6.6		6.6	0.7		0.7	2.1		2.3	
					22.7	8.3	8.3	34.8	34.8	93.8	6.6	0.7	2.5											
				Bottom	31.1	22.3	22.3	8.3	8.3	35.4	35.4	94.2	94.2	6.7	6.7		6.7	3.5		3.4	3.2		3.1	
					22.3	8.3	8.3	35.4	35.4	94.2	6.7	3.4	2.9											
G1	Sunny	Moderate	9:52	Surface	1.1	23.5	23.4	8.3	8.3	34.3	34.3	97.9	98.0	6.8	6.8	6.8	0.4	0.4	0.5	1.3	1.5	1.8		
					23.3	8.3	8.3	34.4	34.4	98.0	6.9	0.4	1.6											
				Middle	4.0	23.1	23.1	8.3	8.3	34.6	34.6	97.0	97.2	6.8	6.8		6.8	0.5		0.5	1.9		1.8	
					23.1	8.3	8.3	34.6	34.6	97.4	6.8	0.5	1.7											
				Bottom	7.0	22.9	22.9	8.3	8.3	34.8	34.7	95.6	95.9	6.7	6.7		6.7	0.6		0.7	2.1		2.1	
					22.9	8.3	8.3	34.7	34.7	96.1	6.8	0.7	2.0											
G2	Sunny	Moderate	9:40	Surface	1.0	23.1	23.0	8.3	8.3	34.6	34.6	97.4	97.2	6.8	6.8	6.8	0.7	0.8	0.9	2.0	2.0	1.6		
					23.0	8.3	8.3	34.6	34.6	96.9	6.8	0.8	1.9											
				Middle	5.0	22.6	22.6	8.3	8.3	35.1	35.0	95.2	95.4	6.7	6.7		6.7	0.7		0.7	1.6		1.6	
					22.7	8.3	8.3	34.9	35.0	95.6	6.7	0.8	1.6											
				Bottom	9.0	22.3	22.3	8.4	8.4	35.3	35.3	95.3	95.4	6.7	6.8		6.8	1.2		1.1	1.3		1.2	
					22.4	8.4	8.4	35.3	35.3	95.5	6.8	1.1	1.1											
G3	Sunny	Moderate	9:56	Surface	1.0	23.3	23.3	8.3	8.3	34.4	34.4	97.7	97.8	6.8	6.8	6.8	0.8	0.9	0.9	2.0	2.1	1.9		
					23.3	8.3	8.3	34.4	34.4	97.9	6.9	0.9	2.1											
				Middle	4.0	23.2	23.2	8.3	8.3	34.7	34.6	97.7	97.8	6.8	6.8		6.8	1.0		1.0	2.1		2.1	
					23.3	8.3	8.3	34.5	34.6	97.8	6.8	0.9	2.0											
				Bottom	7.0	23.0	23.0	8.3	8.3	34.7	34.7	96.5	96.6	6.8	6.8		6.8	0.9		0.9	1.3		1.5	
					23.0	8.3	8.3	34.7	34.7	96.6	6.8	0.9	1.7											
G4	Sunny	Moderate	10:04	Surface	1.0	23.3	23.2	8.3	8.3	34.4	34.4	97.1	97.0	6.8	6.8	6.8	0.3	0.3	0.4	1.2	1.3	1.8		
					23.2	8.3	8.3	34.4	34.4	96.9	6.8	0.3	1.3											
				Middle	4.0	23.1	23.1	8.3	8.3	34.7	34.6	96.5	96.5	6.8	6.8		6.8	0.4		0.4	1.6		1.5	
					23.1	8.3	8.3	34.6	34.6	96.4	6.8	0.4	1.4											
				Bottom	7.0	23.0	23.0	8.3	8.3	34.7	34.7	96.2	96.4	6.8	6.8		6.8	0.5		0.5	2.6		2.5	
					23.0	8.3	8.3	34.7	34.7	96.5	6.8	0.5	2.4											
M1	Sunny	Moderate	9:47	Surface	1.0	23.2	23.2	8.3	8.3	34.6	34.6	97.2	96.9	6.8	6.8	6.8	0.8	0.8	0.8	2.7	2.8	2.4		
					23.2	8.3	8.3	34.6	34.6	96.5	6.8	0.8	2.9											
				Middle	3.0	23.2	23.2	8.3	8.3	34.7	34.7	96.6	96.4	6.8	6.7		6.7	0.7		0.7	2.5		2.4	
					23.2	8.3	8.3	34.7	34.7	96.2	6.7	0.7	2.3											
				Bottom	5.0	23.2	23.2	8.3	8.3	34.7	34.7	95.8	95.6	6.7	6.7		6.7	0.9		1.0	2.1		2.0	
					23.1	8.3	8.3	34.8	34.7	95.3	6.7	1.1	1.8											
M2	Sunny	Moderate	9:35	Surface	1.1	23.1	23.1	8.3	8.3	34.6	34.6	98.1	97.8	6.9	6.9	6.8	0.7	0.8	1.2	1.5	1.3	2.1		
					23.1	8.3	8.3	34.7	34.6	97.4	6.8	0.8	1.1											
				Middle	6.0	22.4	22.5	8.4	8.4	35.2	35.2	95.1	95.1	6.7	6.7		6.8	0.9		0.9	1.8		1.8	
					22.5	8.4	8.4	35.2	35.2	95.1	6.7	1.0	1.8											
				Bottom	11.0	22.2	22.2	8.4	8.4	35.5	35.5	95.3	95.2	6.8	6.8		6.8	1.8		1.8	3.4		3.2	
					22.2	8.4	8.4	35.5	35.5	95.1	6.7	1.8	3.0											
M3	Sunny	Moderate	10:00	Surface	1.0	23.3	23.3	8.3	8.3	34.4	34.4	98.0	98.0	6.9	6.9	6.8	0.8	0.8	1.0	1.2	1.4	2.1		
					23.3	8.3	8.3	34.4	34.4	97.9	6.9	0.9	1.6											
				Middle	4.0	23.2	23.2	8.3	8.3	34.6	34.6	97.6	97.4	6.8	6.8		6.8	1.0		1.0	2.1		2.2	
					23.2	8.3	8.3	34.7	34.6	97.1	6.8	1.0	2.2											
				Bottom	7.0	23.1	23.1	8.3	8.3	34.9	34.9	95.7	95.7	6.7	6.7		6.7	1.1		1.0	2.5		2.7	
					23.0	8.3	8.3	34.9	34.9	95.7	6.7	1.0	2.8											
M4	Sunny	Moderate	9:28	Surface	1.0	22.9	23.0	8.3	8.3	34.8	34.7	96.3	97.0	6.8	6.8	6.8	0.8	0.8	1.0	1.3	1.4	2.0		
					23.0	8.3	8.3	34.7	34.7	97.6	6.9	0.8	1.5											
				Middle	5.0	22.3	22.5	8.3	8.3	35.4	35.1	95.2	95.8	6.8	6.8		6.8	1.2		1.1	2.0		2.0	
					22.8	8.3	8.3	34.9	35.1	96.3	6.8	1.0	2.0											
				Bottom	9.0	22.5	22.4	8.3	8.3	35.2	35.3	95.4	95.2	6.7	6.7		6.7	1.1		1.2	2.6		2.7	
					22.3	8.4	8.4	35.4	35.3	95.0	6.7	1.2	2.8											
M5	Sunny	Moderate	10:16	Surface	1.0	23.2	23.2	8.3	8.3	34.4	34.4	97.2	97.3	6.8	6.8	6.8	0.2	0.3	0.6	1.3	1.3	1.6		
					23.2	8.3	8.3	34.4	34.4	97.3	6.8	0.3	1.2											
				Middle	6.1	23.0	23.1	8.3	8.3	34.7	34.7	97.3	97.4	6.8	6.8		6.8	0.2		0.3	1.5		1.4	
					23.1	8.3	8.3	34.7	34.7	97.5	6.8	0.3	1.3											
				Bottom	11.0	22.2	22.3	8.4	8.4	35.5	35.4	95.2	95.5	6.8	6.8		6.8	1.4		1.4	1.8		2.0	
					22.4	8.4	8.4	35.3	35.4	95.8	6.8	1.3	2.2											
M6	Sunny	Moderate	10:10	Surface	-	-	-	-	-	-	-	-	-	-	6.8	-	-	0.5	-	-	2.7			
					23.1	23.0	8.3	8.3	34.6	34.6	97.2	97.2	6.8	6.8		6.8	0.6		0.5	2.5		2.7		
				Middle	2.0	23.0	8.3	8.3	34.6	34.6	97.2	97.2	6.8	6.8		6.8	0.5		-	2.9		-		
					23.0	8.3	8.3	34.6	34.6	97.2	6.8	-	-											
				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 7 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 4.1 NTU</u>	<u>C2: 4.5 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 1.5 mg/L</u>	<u>C2: 1.6 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 1.5 mg/L</u>	<u>C2: 1.6 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 3.7 mg/L</u>	<u>C2: 4.0 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 07 April 2021

(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	15:35	Surface	1.1	23.6	23.6	8.3	8.3	34.0	34.0	101.0	101.0	7.1	7.1	6.9	0.6	0.6	0.9	3.0	2.9	2.5		
						23.6		8.3		34.0		101.0		7.1			0.6			2.8				
				Middle	9.0	22.6	22.6	8.3	8.3	35.1	35.1	95.7	95.7	6.8	6.8	6.7	1.1	1.1	6.7	1.1	1.1		0.9	2.6
						22.6		8.3		35.1		95.7		6.8			1.1			2.5				
				Bottom	17.1	22.4	22.4	8.3	8.3	35.3	35.3	95.3	95.4	6.7	6.7	6.7	1.2	1.2	6.7	1.2	1.2		0.9	1.9
						22.4		8.3		35.3		95.4		6.7			1.1			1.6				
C2	Sunny	Moderate	15:53	Surface	1.0	23.8	23.8	8.4	8.3	33.7	33.7	100.8	100.9	7.0	7.0	7.0	1.0	1.0	1.7	1.3	1.2	1.7		
						23.8		8.3		33.7		101.0		7.0			1.0			1.0				
				Middle	16.0	23.8	23.8	8.3	8.3	33.7	33.7	100.9	101.0	7.0	7.0	7.0	1.0	1.0	7.0	1.0	1.0		1.7	1.7
						23.8		8.3		33.7		101.0		7.0			1.0			1.7				
				Bottom	31.1	23.8	23.8	8.3	8.3	33.7	33.7	100.8	100.9	7.0	7.0	7.0	3.1	3.0	7.0	3.0	3.0		0.8	2.1
						23.8		8.3		33.7		100.9		7.0			3.0			2.5				
G1	Sunny	Moderate	15:11	Surface	1.1	23.7	23.7	8.3	8.3	34.6	34.6	107.7	107.7	7.5	7.5	7.4	0.5	0.5	0.8	2.8	3.0	2.5		
						23.7		8.3		34.6		107.7		7.5			0.5			3.1				
				Middle	4.0	23.0	23.0	8.3	8.3	34.9	34.9	103.3	103.3	7.2	7.2	7.4	0.8	0.8	7.4	0.8	0.8		0.8	2.3
						23.0		8.3		34.9		103.3		7.3			0.8			2.8				
				Bottom	7.0	22.8	22.7	8.3	8.3	35.1	35.2	102.1	101.3	7.2	7.1	7.1	1.2	1.2	7.1	1.2	1.2		0.8	2.1
						22.5		8.3		35.3		100.5		7.1			1.3			1.8				
G2	Sunny	Moderate	15:03	Surface	1.0	23.7	23.7	8.3	8.3	34.6	34.6	107.3	107.4	7.5	7.5	7.4	0.6	0.6	0.6	1.6	1.7	2.5		
						23.7		8.3		34.6		107.4		7.5			0.6			1.8				
				Middle	5.0	23.2	23.1	8.3	8.3	34.8	34.8	105.5	105.2	7.4	7.4	7.4	0.6	0.6	7.4	0.6	0.6		0.6	1.9
						23.0		8.3		34.8		104.9		7.4			0.6			2.4				
				Bottom	9.0	22.5	22.4	8.3	8.3	35.3	35.3	100.3	100.3	7.1	7.1	7.1	0.7	0.7	7.1	0.7	0.7		0.6	3.5
						22.4		8.3		35.3		100.2		7.1			0.7			3.9				
G3	Sunny	Moderate	15:13	Surface	1.1	23.7	23.6	8.3	8.3	34.6	34.6	105.8	105.8	7.3	7.3	7.3	0.7	0.7	1.0	1.3	1.4	1.8		
						23.6		8.3		34.7		105.8		7.4			0.7			1.5				
				Middle	4.1	23.2	23.1	8.3	8.3	34.9	34.9	103.5	102.7	7.2	7.2	7.3	1.0	1.1	7.3	1.0	1.1		1.0	1.9
						23.0		8.3		34.9		101.9		7.1			1.1			1.8				
				Bottom	7.1	22.6	22.5	8.3	8.3	35.2	35.2	99.5	99.3	7.0	7.0	7.0	1.3	1.4	7.0	1.3	1.4		1.0	2.1
						22.5		8.3		35.3		99.0		7.0			1.4			2.1				
G4	Sunny	Moderate	15:20	Surface	1.0	23.7	23.7	8.3	8.3	34.6	34.6	106.6	106.7	7.4	7.4	7.3	0.5	0.5	0.7	3.7	3.9	3.2		
						23.7		8.3		34.6		106.7		7.4			0.5			4.1				
				Middle	4.1	23.4	23.1	8.3	8.3	34.7	34.9	102.5	102.3	7.2	7.2	7.3	0.7	0.8	7.3	0.7	0.8		0.7	3.4
						22.8		8.3		35.0		102.1		7.2			0.8			3.3				
				Bottom	7.0	22.7	22.6	8.3	8.3	35.1	35.1	101.8	101.8	7.2	7.2	7.2	0.7	0.7	7.2	0.7	0.7		0.7	2.2
						22.6		8.3		35.2		101.7		7.2			0.7			2.4				
M1	Sunny	Moderate	15:08	Surface	1.0	23.6	23.6	8.3	8.3	34.8	34.8	102.7	102.7	7.1	7.1	7.2	2.3	2.3	2.1	1.8	1.9	1.8		
						23.6		8.3		34.8		102.7		7.1			2.3			1.9				
				Middle	3.0	23.5	23.5	8.3	8.3	34.8	34.8	102.9	102.9	7.2	7.2	7.2	2.1	2.1	7.2	2.1	2.1		2.1	1.7
						23.5		8.3		34.8		102.9		7.2			2.1			1.8				
				Bottom	5.0	23.4	23.4	8.3	8.3	34.8	34.8	102.4	102.2	7.1	7.1	7.1	2.0	1.9	7.1	1.9	1.9		2.1	1.6
						23.4		8.3		34.8		102.0		7.1			1.9			1.7				
M2	Sunny	Moderate	15:00	Surface	1.1	23.4	23.4	8.3	8.3	34.8	34.8	104.2	104.3	7.3	7.3	7.2	0.6	0.6	0.9	3.4	3.5	3.0		
						23.4		8.3		34.8		104.3		7.3			0.6			3.5				
				Middle	6.0	22.6	22.6	8.3	8.3	35.2	35.2	100.5	100.3	7.1	7.1	7.2	0.9	1.0	7.2	0.9	1.0		0.9	3.1
						22.5		8.3		35.2		100.0		7.1			1.0			3.0				
				Bottom	11.1	22.4	22.3	8.3	8.3	35.4	35.4	98.6	98.4	7.0	7.0	7.0	1.2	1.3	7.0	1.2	1.3		0.9	2.2
						22.3		8.3		35.4		98.1		6.9			1.3			2.8				
M3	Sunny	Moderate	15:16	Surface	1.1	23.7	23.7	8.3	8.3	34.3	34.3	96.9	97.5	6.7	6.8	6.9	0.6	0.6	1.2	1.7	1.7	2.3		
						23.8		8.3		34.3		98.0		6.8			0.6			1.7				
				Middle	4.0	22.8	22.8	8.3	8.3	35.1	35.1	98.3	98.6	6.9	6.9	6.9	0.6	1.3	6.9	0.6	1.3		1.2	1.8
						22.8		8.3		35.1		98.9		7.0			1.3			2.0				
				Bottom	7.0	22.5	22.5	8.3	8.3	35.2	35.3	98.2	98.1	6.9	6.9	6.9	1.7	1.8	6.9	1.7	1.8		1.2	3.2
						22.4		8.3		35.3		97.9		6.9			1.8			3.1				
M4	Sunny	Moderate	14:56	Surface	1.0	23.3	23.3	8.4	8.4	34.9	34.9	103.0	103.1	7.2	7.2	7.2	0.2	0.2	0.5	1.9	1.7	2.0		
						23.3		8.4		34.9		103.1		7.2			0.2			1.4				
				Middle	5.1	23.0	23.0	8.3	8.3	35.0	35.0	102.4	102.4	7.2	7.2	7.2	0.6	0.6	7.2	0.6	0.6		0.5	2.0
						23.0		8.3		35.0		102.4		7.2			0.6			2.1				
				Bottom	9.0	22.6	22.6	8.3	8.3	35.2	35.2	100.1	100.1	7.1	7.1	7.1	0.7	0.7	7.1	0.7	0.7		0.5	2.3
						22.6		8.3		35.2		100.1		7.1			0.7			2.2				
M5	Sunny	Moderate	15:30	Surface	1.0	23.2	23.2	8.3	8.3	34.7	34.7	99.6	99.6	7.0	7.0	7.0	0.6	0.6	0.8	1.6	1.5	2.1		
						23.2		8.3		34.7		99.6		7.0			0.6			1.4				
				Middle	6.1	23.1	23.1	8.3	8.3	34.7	34.7	99.7	99.8	7.0	7.0	7.0	0.8	0.8	7.0	0.8	0.8		0.8	1.8
						23.1		8.3		34.7		99.8		7.0			0.8			2.2				
				Bottom	11.1	23.1	23.1	8.3	8.3	34.7	34.7	99.9	99.9	7.0	7.0	7.0	0.9	0.8	7.0	0.9	0.8		0.8	2.8
						23.1		8.3		34.7		99.9		7.0			0.8			2.8				
M6	Sunny	Moderate	15:23	Surface	-	-	-	-	-	-	-	-	-	-	7.2	-	-	0.8	-	-	2.8			
						-		-		-			-			-			-			-		
				Middle	2.1	23.5	23.5	8.3	8.3	34.7	34.7	103.7	103.8	7.2	7.2	7.2	8.0	8.0	7.2	8.0		8.0	0.8	2.6
						23.5		8.3		34.7		103.8		7.2			8.0			3.0				
				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 7 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 1.4 NTU</u>	<u>CI: 1.5 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 3.5 mg/L</u>	<u>CI: 3.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 3.5 mg/L</u>	<u>CI: 3.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>	
	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	
	<u>CI: 2.3 mg/L</u>	<u>CI: 2.5 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 09 April 2021

(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	12:29	Surface	1.0	23.3	23.3	8.5	8.5	34.8	34.8	102.3	102.3	7.1	7.1	7.1	1.1	1.1	1.1	1.4	1.4	2.1
					23.3	23.3	8.5	8.5	34.8	34.8	102.3	102.3	7.1	7.1	1.0		1.0	1.3		1.3		
				Middle	8.6	23.3	23.3	8.6	8.6	34.8	34.8	102.0	102.0	7.1	7.1		7.1	7.1		1.0	1.0	
23.3	23.3	23.3	8.6		8.6	34.8	34.8	102.0	102.0	7.1	7.1	7.1	7.1	1.0	1.0	2.2	2.3					
Bottom	16.1	23.3	23.3	8.7	8.7	34.8	34.8	101.4	101.4	7.1	7.1	7.1	7.1	1.0	1.1	2.8	2.7					
	23.3	23.3	23.3	8.7	8.7	34.8	34.8	101.4	101.4	7.1	7.1	7.1	7.1	1.1	1.1	2.5	2.7					
C2	Cloudy	Moderate	10:58	Surface	1.0	23.3	23.3	8.4	8.4	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.1	1.1	2.3	2.2	2.7
					23.3	23.3	23.3	8.4	8.4	34.8	34.8	102.2	102.2	7.1	7.1		1.1	1.1		2.1	2.2	
				Middle	16.1	23.3	23.3	8.4	8.4	34.8	34.8	101.9	101.9	7.1	7.1		7.1	7.1		1.1	1.1	
23.3	23.3	23.3	8.4		8.4	34.8	34.8	101.9	101.9	7.1	7.1	7.1	7.1	1.1	1.1	2.1	2.4					
Bottom	31.1	23.3	23.3	8.4	8.4	34.8	34.8	101.6	101.6	7.1	7.1	7.1	7.1	1.0	1.0	4.0	3.6					
	23.3	23.3	23.3	8.4	8.4	34.8	34.8	101.5	101.6	7.1	7.1	7.1	7.1	1.0	1.0	3.2	3.6					
G1	Cloudy	Moderate	11:37	Surface	1.1	23.3	23.3	8.3	8.3	34.6	34.6	102.0	102.0	7.1	7.1	7.1	1.3	1.3	1.6	1.5	2.1	2.3
					23.3	23.3	23.3	8.3	8.3	34.7	34.7	101.9	101.9	7.1	7.1		1.3	1.3		1.9	2.1	
				Middle	3.8	23.3	23.3	8.3	8.3	34.7	34.7	101.2	101.3	7.1	7.1		7.1	7.1		1.5	1.4	
23.3	23.3	23.3	8.3		8.3	34.7	34.7	101.3	101.3	7.1	7.1	7.1	7.1	1.4	1.4	2.1	2.3					
Bottom	6.5	23.3	23.3	8.3	8.3	34.8	34.8	100.3	100.2	7.0	7.0	7.0	7.0	1.9	1.9	3.1	2.6					
	23.3	23.3	23.3	8.3	8.3	34.8	34.8	100.1	100.2	7.0	7.0	7.0	7.0	2.0	1.9	2.1	2.6					
G2	Cloudy	Moderate	11:17	Surface	1.0	23.3	23.3	8.5	8.5	34.8	34.8	102.5	102.5	7.2	7.2	7.1	0.9	0.9	0.9	2.8	2.5	2.1
					23.3	23.3	23.3	8.5	8.5	34.8	34.8	102.5	102.5	7.2	7.2		0.9	0.9		2.1	2.5	
				Middle	5.0	23.3	23.3	8.5	8.5	34.8	34.8	102.1	102.1	7.1	7.1		7.1	7.1		1.0	1.0	
23.3	23.3	23.3	8.5		8.5	34.8	34.8	102.1	102.1	7.1	7.1	7.1	7.1	1.0	1.0	2.1	1.9					
Bottom	9.0	23.3	23.3	8.5	8.5	34.8	34.8	101.9	101.9	7.1	7.1	7.1	7.1	0.9	0.9	2.1	2.0					
	23.3	23.3	23.3	8.5	8.5	34.8	34.8	101.9	101.9	7.1	7.1	7.1	7.1	0.9	0.9	1.9	2.0					
G3	Cloudy	Moderate	11:45	Surface	1.1	23.2	23.2	8.6	8.6	34.6	34.6	101.2	101.2	7.1	7.1	7.1	1.5	1.4	1.8	2.0	1.9	2.6
					23.2	23.2	23.2	8.6	8.6	34.6	34.6	101.2	101.2	7.1	7.1		1.4	1.4		1.8	1.9	
				Middle	3.8	23.3	23.3	8.4	8.4	34.6	34.6	100.4	100.4	7.0	7.0		7.0	7.0		1.8	1.8	
23.3	23.3	23.3	8.4		8.4	34.6	34.6	100.4	100.4	7.0	7.0	7.0	7.0	1.8	1.8	2.5	2.5					
Bottom	6.5	23.3	23.3	8.4	8.4	34.8	34.8	99.4	99.2	6.9	6.9	6.9	6.9	2.2	2.1	3.1	3.3					
	23.3	23.3	23.3	8.4	8.4	34.8	34.8	98.9	99.2	6.9	6.9	6.9	6.9	2.1	2.1	3.5	3.3					
G4	Cloudy	Moderate	12:00	Surface	1.1	23.3	23.3	8.2	8.1	34.8	34.8	104.5	104.5	7.3	7.3	7.3	1.0	1.0	1.3	2.1	2.5	2.3
					23.3	23.3	23.3	8.1	8.1	34.8	34.8	104.4	104.5	7.3	7.3		1.0	1.0		2.8	2.5	
				Middle	3.8	23.3	23.3	8.0	8.0	34.8	34.8	103.8	103.9	7.3	7.3		7.3	7.3		1.1	1.1	
23.3	23.3	23.3	8.0		8.0	34.8	34.8	103.9	103.9	7.3	7.3	7.3	7.3	1.1	1.1	2.3	2.5					
Bottom	6.6	23.3	23.3	8.0	8.0	34.8	34.8	102.9	102.7	7.2	7.2	7.2	7.2	1.6	1.7	1.6	1.8					
	23.3	23.3	23.3	8.0	8.0	34.8	34.8	102.5	102.7	7.2	7.2	7.2	7.2	1.8	1.7	2.0	1.8					
M1	Cloudy	Moderate	11:24	Surface	1.1	23.2	23.2	8.3	8.3	34.7	34.7	102.9	102.7	7.2	7.2	7.1	2.0	1.8	1.4	2.4	2.2	2.0
					23.2	23.2	23.2	8.3	8.3	34.7	34.7	102.5	102.7	7.2	7.2		1.6	1.8		2.0	2.2	
				Middle	3.1	23.3	23.3	8.0	8.0	34.7	34.7	99.6	99.7	7.0	7.0		7.0	7.0		1.3	1.3	
23.3	23.3	23.3	8.0		8.0	34.7	34.7	99.7	99.7	7.0	7.0	7.0	7.0	1.3	1.3	1.7	1.9					
Bottom	5.0	23.3	23.3	7.9	7.9	34.7	34.7	99.8	100.0	7.0	7.0	7.0	7.0	1.2	1.2	1.9	1.9					
	23.3	23.3	23.3	7.9	7.9	34.7	34.7	100.1	100.0	7.0	7.0	7.0	7.0	1.2	1.2	1.8	1.9					
M2	Cloudy	Moderate	11:12	Surface	1.1	23.3	23.3	8.5	8.5	34.8	34.8	102.5	102.5	7.2	7.2	7.1	1.0	1.0	1.0	1.8	1.9	2.5
					23.3	23.3	23.3	8.5	8.5	34.8	34.8	102.5	102.5	7.2	7.2		1.0	1.0		1.9	1.9	
				Middle	5.3	23.3	23.3	8.5	8.5	34.8	34.8	102.1	102.1	7.1	7.1		7.1	7.1		0.9	0.9	
23.3	23.3	23.3	8.5		8.5	34.8	34.8	102.1	102.1	7.1	7.1	7.1	7.1	1.0	0.9	2.4	2.5					
Bottom	9.5	23.3	23.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1	7.1	7.1	1.0	1.0	3.0	3.2					
	23.3	23.3	23.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1	7.1	7.1	1.0	1.0	3.4	3.2					
M3	Cloudy	Moderate	11:54	Surface	1.0	23.2	23.2	8.5	8.5	34.5	34.5	101.0	101.1	7.1	7.1	7.1	0.9	0.9	1.5	1.5	1.4	2.0
					23.2	23.2	23.2	8.5	8.5	34.5	34.5	101.1	101.1	7.1	7.1		0.9	0.9		1.2	1.4	
				Middle	3.7	23.3	23.3	8.6	8.6	34.6	34.6	100.6	100.8	7.0	7.1		7.1	7.1		1.5	1.4	
23.3	23.3	23.3	8.6		8.6	34.6	34.6	100.9	100.8	7.1	7.1	7.1	7.1	1.4	1.4	2.0	2.2					
Bottom	6.5	23.3	23.4	8.6	8.6	34.8	34.8	98.0	97.8	6.8	6.8	6.8	6.8	2.1	2.1	2.0	2.4					
	23.4	23.4	23.4	8.6	8.6	34.8	34.8	97.5	97.8	6.8	6.8	6.8	6.8	2.1	2.1	2.8	2.4					
M4	Cloudy	Moderate	11:04	Surface	1.1	23.3	23.3	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.1	1.1	2.7	2.4	1.8
					23.3	23.3	23.3	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1		1.1	1.1		2.1	2.4	
				Middle	5.0	23.3	23.3	8.5	8.5	34.8	34.8	101.9	101.9	7.1	7.1		7.1	7.1		1.2	1.2	
23.3	23.3	23.3	8.5		8.5	34.8	34.8	101.9	101.9	7.1	7.1	7.1	7.1	1.2	1.2	1.8	1.5					
Bottom	9.0	23.3	23.3	8.5	8.5	34.8	34.8	101.5	101.5	7.1	7.1	7.1	7.1	1.2	1.2	1.3	1.5					
	23.3	23.3	23.3	8.5	8.5	34.8	34.8	101.5	101.5	7.1	7.1	7.1	7.1	1.2	1.2	1.6	1.5					
M5	Cloudy	Moderate	12:19	Surface	1.1	23.3	23.3	7.5	7.5	34.8	34.8	102.7	102.7	7.2	7.2	7.1	1.1	1.1	1.0	1.8	2.0	1.7
					23.3	23.3	23.3	7.6	7.5	34.8	34.8	102.7	102.7	7.2	7.2		1.1	1.1		2.2	2.0	
				Middle	5.5	23.3	23.3	8.1	8.1	34.8	34.8	102.0	102.0	7.1	7.1		7.1	7.1		1.0	1.0	
23.3	23.3	23.3	8.0		8.1	34.8	34.8	102.0	102.0	7.1	7.1	7.1	7.1	1.0	1.0	2.0	1.6					
Bottom	10.0	23.3	23.3	8.2	8.2	34.8	34.8	101.6	101.6	7.1	7.1	7.1	7.1	1.0	1.0	1.7	1.4					
	23.3	23.3	23.3	8.2	8.2	34.8	34.8	101.6	101.6	7.1	7.1	7.1	7.1	1.0	1.0							

**Action and Limit Levels for Marine Water Quality on 9 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 1.2 NTU</u>	<u>C2: 1.3 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 2.6 mg/L</u>	<u>C2: 2.9 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 2.6 mg/L</u>	<u>C2: 2.9 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 4.3 mg/L</u>	<u>C2: 4.7 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 09 April 2021

(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	17:00	Surface	1.0	21.1	21.1	8.1	8.1	34.8	34.8	102.3	102.3	7.1	7.1	7.1	1.1	1.1	7.1	2.4	2.3	2.6		
					21.0	21.1	8.1	8.1	34.8	34.8	102.3	102.3	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	2.1		2.3	
				Middle	9.0	20.9	21.4	8.2	8.2	34.8	34.8	102.0	102.0	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1		2.8	2.8
					21.9	21.4	8.2	8.2	34.8	34.8	102.0	102.0	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	2.7		2.8	
				Bottom	17.1	20.9	20.9	8.3	8.3	34.8	34.8	101.5	101.5	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1		2.4	2.8
					20.9	20.9	8.3	8.3	34.8	34.8	101.4	101.5	7.1	7.1	7.1	1.0	1.1	7.1	1.1	1.1	3.1		2.8	
C2	Cloudy	Moderate	15:20	Surface	1.1	21.7	21.3	8.4	8.4	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.0	1.0	7.1	2.2	2.4	2.6		
					20.9	21.3	8.4	8.4	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.0	7.1	1.1	1.0	2.5		2.4	
				Middle	16.6	20.9	20.9	8.4	8.4	34.8	34.8	101.9	101.9	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1		2.1	2.6
					20.9	20.9	8.4	8.4	34.8	34.8	101.9	101.9	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	3.0		2.6	
				Bottom	32.1	20.9	20.9	8.4	8.4	34.8	34.8	101.5	101.5	7.1	7.1	7.1	1.0	1.0	7.1	1.0	1.0		2.4	2.8
					20.9	20.9	8.4	8.4	34.8	34.8	101.5	101.5	7.1	7.1	7.1	1.0	1.0	7.1	1.0	1.0	3.2		2.8	
G1	Cloudy	Moderate	15:56	Surface	1.1	21.1	21.0	8.3	8.3	34.6	34.6	102.0	102.0	7.1	7.1	7.1	1.3	1.3	7.1	<0.1	<0.1	1.4		
					20.9	21.0	8.3	8.3	34.6	34.6	102.0	102.0	7.1	7.1	7.1	1.3	1.3	7.1	1.3	1.3	<0.1		<0.1	
				Middle	4.0	20.9	20.9	8.3	8.3	34.8	34.7	101.2	101.2	7.1	7.1	7.1	1.5	1.5	7.1	1.5	1.5		1.8	1.9
					20.9	20.9	8.3	8.3	34.7	34.7	101.2	101.2	7.1	7.1	7.1	1.5	1.5	7.1	1.5	1.5	2.0		1.9	
				Bottom	7.1	20.8	20.8	8.3	8.3	34.8	34.8	100.7	100.6	7.0	7.0	7.0	1.8	1.8	7.0	1.8	1.8		2.6	2.3
					20.8	20.8	8.3	8.3	34.8	34.8	100.5	100.6	7.0	7.0	7.0	1.9	1.8	7.0	1.8	1.8	2.0		2.3	
G2	Cloudy	Moderate	15:38	Surface	1.0	21.0	21.0	8.5	8.5	34.8	34.8	102.4	102.4	7.1	7.1	7.1	1.0	1.0	7.1	1.8	2.1	2.3		
					20.9	21.0	8.5	8.5	34.8	34.8	102.4	102.4	7.1	7.1	7.1	0.9	1.0	7.1	0.9	1.0	2.3		2.1	
				Middle	5.1	20.9	20.9	8.5	8.5	34.8	34.8	102.1	102.1	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9		2.0	2.2
					20.9	20.9	8.5	8.5	34.8	34.8	102.1	102.1	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	2.3		2.2	
				Bottom	9.0	20.8	20.8	8.5	8.5	34.8	34.8	101.9	101.9	7.1	7.1	7.1	1.0	0.9	7.1	1.0	0.9		2.4	2.6
					20.9	20.8	8.5	8.5	34.8	34.8	101.9	101.9	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	2.8		2.6	
G3	Cloudy	Moderate	16:04	Surface	1.1	21.5	21.2	8.6	8.5	34.6	34.6	101.2	101.2	7.1	7.1	7.1	1.3	1.3	7.1	2.5	2.5	2.2		
					20.9	21.2	8.5	8.5	34.6	34.6	101.2	101.2	7.1	7.1	7.1	1.3	1.3	7.1	1.3	1.3	2.5		2.5	
				Middle	4.1	20.9	20.9	8.4	8.4	34.6	34.6	100.5	100.6	7.0	7.0	7.0	1.8	1.8	7.0	1.8	1.8		2.4	2.2
					20.9	20.9	8.4	8.4	34.6	34.6	100.6	100.6	7.0	7.0	7.0	1.8	1.8	7.0	1.8	1.8	2.0		2.2	
				Bottom	7.1	20.7	20.8	8.4	8.4	34.8	34.8	98.3	98.0	6.9	6.8	6.8	2.0	2.0	6.8	2.0	2.0		1.9	2.0
					20.8	20.8	8.4	8.4	34.9	34.8	97.7	98.0	6.8	6.8	6.8	2.0	2.0	6.8	2.0	2.0	2.1		2.0	
G4	Cloudy	Moderate	16:16	Surface	1.0	21.4	21.2	8.1	8.1	34.8	34.8	104.4	104.4	7.3	7.3	7.3	1.0	0.9	7.3	2.0	2.1	2.3		
					21.0	21.2	8.1	8.1	34.8	34.8	104.4	104.4	7.3	7.3	7.3	0.9	0.9	7.3	0.9	0.9	2.1		2.1	
				Middle	4.1	21.0	21.0	8.0	8.0	34.8	34.8	103.9	103.9	7.3	7.3	7.3	1.1	1.1	7.3	1.1	1.1		2.4	2.3
					20.9	21.0	8.0	8.0	34.8	34.8	103.9	103.9	7.3	7.3	7.3	1.1	1.1	7.3	1.1	1.1	2.1		2.3	
				Bottom	7.0	20.9	20.9	8.0	8.0	34.8	34.8	102.1	102.0	7.1	7.1	7.1	1.9	1.9	7.1	1.9	1.9		2.2	2.5
					20.9	20.9	8.0	8.0	34.8	34.8	101.8	102.0	7.1	7.1	7.1	2.0	1.9	7.1	2.0	1.9	2.7		2.5	
M1	Cloudy	Moderate	15:44	Surface	1.0	21.3	21.2	8.3	8.2	34.7	34.7	102.3	102.0	7.2	7.1	7.1	1.4	1.4	7.1	2.1	1.9	2.2		
					21.1	21.2	8.2	8.2	34.7	34.7	101.7	102.0	7.1	7.1	7.1	1.4	1.4	7.1	1.4	1.4	1.7		1.9	
				Middle	3.1	20.9	20.9	8.0	8.0	34.7	34.7	99.8	99.9	7.0	7.0	7.0	1.3	1.3	7.0	1.3	1.3		2.4	2.0
					21.0	20.9	8.0	8.0	34.7	34.7	100.0	99.9	7.0	7.0	7.0	1.3	1.3	7.0	1.3	1.3	1.6		2.0	
				Bottom	5.1	20.8	20.8	7.9	7.9	34.8	34.8	100.4	100.6	7.0	7.0	7.0	1.2	1.2	7.0	1.2	1.2		2.6	2.7
					20.8	20.8	7.9	7.9	34.8	34.8	100.7	100.6	7.0	7.0	7.0	1.2	1.2	7.0	1.2	1.2	2.7		2.7	
M2	Cloudy	Moderate	15:33	Surface	1.1	21.0	21.0	8.5	8.5	34.8	34.8	102.5	102.6	7.2	7.2	7.2	1.0	1.0	7.2	1.5	1.6	2.0		
					20.9	21.0	8.5	8.5	34.8	34.8	102.6	102.6	7.2	7.2	7.2	1.1	1.0	7.2	1.1	1.0	1.6		1.6	
				Middle	5.5	20.8	20.8	8.5	8.5	34.8	34.8	102.1	102.2	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9		2.5	2.2
					20.8	20.8	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	1.8		2.2	
				Bottom	10.0	20.8	20.8	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9		2.6	2.3
					20.8	20.8	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1	7.1	1.0	0.9	7.1	1.0	0.9	2.0		2.3	
M3	Cloudy	Moderate	16:10	Surface	1.0	21.5	21.2	8.5	8.5	34.5	34.5	100.8	100.9	7.1	7.1	7.1	0.9	0.9	7.1	2.1	2.3	2.1		
					21.0	21.2	8.5	8.5	34.5	34.5	100.9	100.9	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	2.5		2.3	
				Middle	4.1	20.9	20.9	8.6	8.6	34.7	34.7	100.0	100.2	7.0	7.0	7.0	1.9	1.8	7.0	1.9	1.8		2.3	2.5
					20.9	20.9	8.6	8.6	34.7	34.7	100.3	100.2	7.0	7.0	7.0	1.7	1.8	7.0	1.7	1.8	2.6		2.5	
				Bottom	7.1	20.7	20.7	8.6	8.6	34.8	34.8	98.8	98.6	6.9	6.9	6.9	2.3	2.3	6.9	2.3	2.3		1.1	1.5
					20.8	20.7	8.6	8.6	34.8	34.8	98.4	98.6	6.9	6.9	6.9	2.3	2.3	6.9	2.3	2.3	1.8		1.5	
M4	Cloudy	Moderate	15:26	Surface	1.1	21.8	21.4	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.1	7.1	1.5	1.9	2.1		
					21.0	21.4	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	2.3		1.9	
				Middle	5.0	20.9	20.9	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1	7.1	1.2	1.2	7.1	1.2	1.2		2.3	2.1
					20.9	20.9	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1	7.1	1.2	1.2	7.1	1.2	1.2	1.9		2.1	
				Bottom	9.0	20.8	20.8	8.5	8.5	34.8	34.8	101.6	101.6	7.1	7.1	7.1	1.2	1.1	7.1	1.2	1.1		2.6	2.4
					20.9	20.8	8.5	8.5	34.8	34.8	101.6	101.6	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	2.1		2.4	
M5	Cloudy	Moderate	16:49	Surface	1.1	21.0	21.0	7.6	7.6	34.8	34.8	102.6	102.6	7.2	7.2	7.2	1.2	1.1	7.2	2.1	2.2	2.2		
					21.0	21.0	7.6	7.6	34.8	34.8	102.6	102.6	7											

**Action and Limit Levels for Marine Water Quality on 9 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 1.3 NTU</u>	<u>CI: 1.4 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 2.7 mg/L</u>	<u>CI: 2.9 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 2.7 mg/L</u>	<u>CI: 2.9 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 3.3 mg/L</u>	<u>CI: 3.6 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 2021

(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	Calm	13:03	Surface	1.0	22.9	22.9	8.4	8.4	34.6	34.6	99.8	99.8	7.0	7.0	7.0	1.9	1.9	2.0	2.8	3.0	2.4	
					22.9	23.0	8.4	8.4	34.6	34.7	99.8	99.5	7.0	7.0	1.9		1.9	2.5					
				Middle	9.0	23.0	23.0	8.4	8.4	34.7	34.7	99.4	99.5	7.0	7.0		7.0	1.9		1.9	1.9		2.2
					23.0	22.7	22.6	8.4	8.4	34.7	35.2	99.5	94.5	7.0	6.7		6.7	2.1		2.2	2.4		
				Bottom	17.1	22.6	22.6	8.4	8.4	34.7	35.4	99.5	94.4	7.0	6.7		6.7	2.2		2.2	1.6		2.0
					22.6	23.0	23.0	8.2	8.2	34.5	34.5	99.2	99.2	7.0	7.0		7.0	1.2		1.2	3.3		
C2	Sunny	Calm	12:07	Surface	1.1	23.0	23.0	8.2	8.2	34.5	34.5	99.2	99.2	7.0	7.0	7.0	1.2	1.2	1.1	2.2	2.8	2.6	
					23.0	23.0	8.2	8.2	34.5	34.5	99.0	99.0	7.0	7.0	7.0		1.0	1.0		2.9			
				Middle	16.0	23.0	23.0	8.2	8.2	34.5	34.5	99.0	99.0	7.0	7.0		7.0	1.0		1.0	2.3		
					23.0	23.0	8.2	8.2	34.5	34.5	98.8	98.8	7.0	6.9	6.9		1.1	1.1		2.1			
				Bottom	31.1	23.0	23.0	8.2	8.2	34.5	34.5	98.8	98.8	7.0	6.9		6.9	1.1		1.1	2.7		2.4
					23.0	23.0	8.3	8.3	34.6	34.6	99.5	99.4	7.0	7.0	7.0		1.2	1.2		2.9			
G1	Sunny	Calm	12:37	Surface	1.0	23.0	23.0	8.3	8.3	34.6	34.6	99.3	99.4	7.0	7.0	7.0	1.2	1.2	1.2	2.0	2.5	3.1	
					23.0	22.9	22.9	8.3	8.3	34.6	34.8	99.1	98.4	7.0	6.9		6.9	1.2		1.2	2.4		
				Middle	4.0	22.9	22.9	8.3	8.3	34.7	34.8	98.7	98.4	6.9	6.9		6.9	1.2		1.2	3.4		
					22.9	22.8	22.7	8.4	8.4	34.7	35.0	98.7	96.3	6.9	6.8		6.8	1.2		1.2	3.6		
				Bottom	7.1	22.8	22.7	8.4	8.4	34.7	35.2	98.7	95.8	6.9	6.8		6.8	1.2		1.2	4.4		
					22.8	23.0	23.0	8.3	8.3	34.5	34.5	99.1	99.1	7.0	7.0		7.0	1.0		1.0	2.1		
G2	Sunny	Calm	12:24	Surface	1.1	23.0	23.0	8.3	8.3	34.5	34.5	99.1	99.1	7.0	7.0	6.9	1.0	1.0	1.1	1.6	1.9	2.3	
					23.0	22.7	22.8	8.3	8.3	34.5	34.9	99.1	97.9	7.0	6.9		6.9	1.0		1.0	2.1		
				Middle	5.0	22.8	22.8	8.3	8.3	34.9	34.9	98.3	97.9	6.9	6.9		6.9	1.0		1.0	2.4		
					22.8	22.5	22.5	8.4	8.4	35.5	35.5	95.2	94.9	6.7	6.7		6.7	1.3		1.2	2.5		
				Bottom	9.3	22.5	22.5	8.4	8.4	35.5	35.5	94.6	94.9	6.7	6.7		6.7	1.2		1.2	3.2		
					22.5	23.0	23.0	8.4	8.4	34.6	34.6	99.0	99.1	7.0	7.0		7.0	1.1		1.1	3.1		
G3	Sunny	Calm	12:38	Surface	1.1	23.0	23.0	8.4	8.4	34.6	34.6	99.1	99.1	7.0	7.0	6.9	1.1	1.1	1.2	3.3	3.2	2.9	
					23.0	22.9	22.9	8.4	8.4	34.6	34.8	98.1	97.9	7.0	6.9		6.9	1.1		1.1	3.4		
				Middle	4.1	22.9	22.9	8.4	8.4	34.8	34.8	98.1	97.9	6.9	6.9		6.9	1.1		1.1	2.2		
					22.9	22.6	22.6	8.4	8.4	34.8	35.2	97.6	95.3	6.9	6.7		6.7	1.1		1.1	3.1		
				Bottom	7.0	22.6	22.6	8.4	8.4	35.2	35.3	95.3	95.1	6.7	6.7		6.7	1.3		1.3	2.0		
					22.6	23.0	23.0	8.4	8.4	34.7	34.7	99.3	98.6	7.0	6.9		6.9	1.1		1.2	1.7		
G4	Sunny	Calm	12:46	Surface	1.0	23.0	23.0	8.4	8.4	34.7	34.7	99.3	98.6	7.0	6.9	6.9	1.1	1.2	1.2	1.5	1.6	1.9	
					23.0	22.9	22.8	8.4	8.4	34.7	34.8	97.8	98.6	6.9	6.9		6.9	1.2		1.2	1.5		
				Middle	4.1	22.9	22.8	8.4	8.4	34.8	34.9	98.1	97.2	6.9	6.8		6.8	1.3		1.2	2.1		
					22.8	22.7	22.7	8.4	8.4	35.0	35.0	96.2	96.2	6.8	6.8		6.8	1.2		1.2	1.8		
				Bottom	7.0	22.7	22.7	8.4	8.4	35.0	35.1	95.1	95.3	6.7	6.7		6.7	1.2		1.2	2.1		
					22.7	23.0	23.0	8.3	8.3	34.6	34.6	99.0	99.1	7.0	7.0		7.0	1.1		1.1	2.1		
M1	Sunny	Calm	12:30	Surface	1.1	23.0	23.0	8.3	8.3	34.6	34.7	96.5	95.6	6.8	6.7	6.7	1.5	1.5	1.5	2.3	2.6	2.9	
					23.0	23.0	8.3	8.3	34.7	34.7	94.7	95.2	6.7	6.7	6.7		1.5	1.5		2.9			
				Middle	3.0	23.0	23.0	8.3	8.3	34.7	34.7	95.6	95.2	6.7	6.7		6.7	1.4		1.5	2.2		
					23.0	22.7	22.8	8.3	8.3	34.7	35.1	94.7	94.4	6.7	6.7		6.7	1.5		1.5	2.7		
				Bottom	5.0	22.9	22.8	8.3	8.3	34.8	35.0	94.4	94.4	6.6	6.6		6.6	1.3		1.4	3.8		
					22.8	23.0	23.0	8.3	8.3	34.8	34.8	94.3	94.4	6.6	6.6		6.6	1.3		1.4	3.2		
M2	Sunny	Calm	12:20	Surface	1.0	23.0	23.0	8.3	8.3	34.5	34.5	99.4	99.4	7.0	7.0	6.9	0.7	0.6	1.0	3.2	3.0	2.4	
					23.0	22.6	22.7	8.3	8.3	34.5	35.4	99.4	95.9	7.0	6.8		6.8	0.6		1.0	2.8		
				Middle	5.6	22.8	22.7	8.3	8.3	35.0	35.2	97.9	96.9	6.9	6.8		6.8	1.1		1.0	2.6		
					22.8	22.5	22.5	8.4	8.4	35.0	35.5	97.9	94.9	6.9	6.7		6.7	1.0		1.0	2.0		
				Bottom	10.0	22.5	22.5	8.4	8.4	35.5	35.5	94.9	94.6	6.7	6.7		6.7	1.3		1.4	1.8		
					22.5	23.0	23.0	8.4	8.4	34.5	34.5	94.3	94.6	6.7	6.7		6.7	1.4		1.4	2.1		
M3	Sunny	Calm	12:41	Surface	1.0	23.0	23.0	8.4	8.4	34.5	34.5	98.5	98.7	6.9	6.9	6.9	1.2	1.1	1.1	3.2	2.5	2.7	
					23.0	22.9	22.9	8.4	8.4	34.5	34.8	98.8	97.9	6.9	6.9		6.9	1.1		1.1	2.4		
				Middle	4.2	22.9	22.9	8.4	8.4	34.8	34.8	97.6	97.9	6.9	6.9		6.9	1.1		1.1	3.0		
					23.0	22.8	22.7	8.4	8.4	34.7	35.0	98.2	96.3	6.9	6.8		6.8	1.1		1.1	2.2		
				Bottom	7.1	22.8	22.7	8.4	8.4	35.0	35.1	96.6	96.3	6.8	6.8		6.8	1.1		1.1	3.4		
					22.7	23.0	23.0	8.3	8.3	34.5	34.5	96.0	94.6	6.8	6.8		6.8	1.1		1.1	2.8		
M4	Sunny	Calm	12:18	Surface	1.1	23.0	23.0	8.3	8.3	34.5	34.5	99.8	99.6	7.0	7.0	6.9	1.1	1.1	1.1	3.2	3.5	3.5	
					23.0	22.6	22.7	8.3	8.3	34.5	35.0	99.3	97.4	7.0	6.9		6.9	1.1		1.1	3.7		
				Middle	5.0	22.8	22.7	8.3	8.3	35.0	35.1	96.9	97.4	6.8	6.9		6.9	1.1		1.1	3.8		
					22.8	22.5	22.5	8.3	8.3	35.0	35.5	97.8	94.7	6.9	6.7		6.7	1.1		1.1	3.1		
				Bottom	9.0	22.5	22.5	8.3	8.3	35.5	35.5	94.6	94.7	6.7	6.7		6.7	1.2		1.2	3.9		
					22.5	23.0	23.0	8.4	8.4	34.7	34.7	94.7	94.7	6.7	6.7		6.7	1.1		1.1	3.2		
M5	Sunny	Calm	12:48	Surface	1.2	23.0	23.0	8.4	8.4	34.7	34.7	98.0	98.1	6.9	6.9	6.9	1.1	1.1	1.8	1.8	1.9	2.0	
					23.0	22.8	22.9	8.4	8.4	34.7	35.0	98.1	97.1	6.9	6.8		6.8	1.1		1.1	1.9		
				Middle	6.0	22.9	22.9	8.4	8.4	34.9	34.9	96.7	97.1	6.8	6.8		6.8	1.4		1.4	2.2		
					22.9	22.7	22.7	8.4	8.4	34.9	35.1	97.4	94.2	6.9	6.6		6.6	1.3		1.4	1.8		
				Bottom	11.1	22.7	22.7	8.4	8.4	35.1	35.2	94.4	94.2	6.7	6.6		6.6	2.9		2.9	2.0		
					22.6	23.0	23.0	8.4	8.4	35.2	35.2	94.0	94.2	6.6	6.6		6.6	3.0		2.9	2.4		
M6	Sunny	Calm	12:47	Surface	-	-	-	-	-	-	-	-	-	-	6.8	-	-	0.8	-	-	1.7		
					22.9	22.9	8.4	8.4	34.8	34.8	96.8	97.0	6.8	6.8		6.8	0.8		0.8	1.8			
				Middle	2.1	22.9	22.9	8.4	8.4	34.8	34.8	97.1	97.0	6.8		6.8	6.8		0.8	0.8		1.6	
					22.9	-	-	-	-	-	-	-	-	-		-	-		-	-		-	
				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 12 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 1.3 NTU</u>	<u>C2: 1.5 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.3 mg/L</u>	<u>C2: 3.6 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.3 mg/L</u>	<u>C2: 3.6 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
<u>C2: 2.9 mg/L</u>		<u>C2: 3.1 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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.



**Action and Limit Levels for Marine Water Quality on 12 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 2.0 NTU</u>	<u>CI: 2.2 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 4.4 mg/L</u>	<u>CI: 4.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 4.4 mg/L</u>	<u>CI: 4.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 3.3 mg/L</u>	<u>CI: 3.6 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 2021

(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	Calm	14:20	Surface	9.1	20.9	21.1	8.5	8.5	34.7	34.7	95.2	95.3	6.6	6.6	6.6	1.9	1.8	-164.9	<0.1	2.8	-164.9
					21.2	20.9	8.5	8.5	34.7	34.7	95.3	6.6	6.6	1.8	2.0	2.2	2.8					
				Middle	17.1	21.0	20.9	8.5	8.5	34.7	34.7	94.9	94.9	6.6	6.6	6.6	2.1	2.0	2.2	2.5		
C2	Cloudy	Calm	12:40	Surface	16.6	20.9	20.9	8.3	8.3	34.7	34.7	95.3	95.3	6.6	6.6	6.6	1.9	1.9	1.9	2.9	2.6	2.4
					20.9	20.9	8.3	8.3	34.7	34.7	95.3	6.6	6.6	1.9	2.0	2.2	2.6					
				Middle	32.1	20.9	20.9	8.3	8.3	34.7	34.7	94.7	94.7	6.6	6.6	6.6	2.0	2.0	2.0	2.3		
G1	Cloudy	Calm	13:18	Surface	4.1	20.9	20.9	7.8	7.8	34.7	34.7	101.7	101.9	7.0	7.0	7.0	0.8	0.8	0.8	2.2	2.2	2.5
					20.9	20.8	7.8	7.9	34.7	34.7	102.0	7.0	7.0	0.8	1.1	2.1	2.2					
				Middle	7.1	20.7	20.8	7.9	7.9	34.8	34.8	100.0	100.1	6.9	6.9	6.9	1.0	1.1	1.0	2.4	2.3	
G2	Cloudy	Calm	13:01	Surface	5.0	20.9	20.9	8.1	8.1	34.7	34.7	100.1	100.3	6.9	6.9	6.9	0.9	0.9	6.9	3.2	3.5	2.7
					20.9	20.8	8.1	8.1	34.7	34.7	100.4	7.0	7.0	0.9	1.2	3.7	2.5					
				Middle	9.0	20.9	20.9	8.1	8.1	34.8	34.8	99.0	99.0	6.9	6.9	6.9	1.2	1.2	1.2	2.6	2.6	
G3	Cloudy	Calm	13:24	Surface	4.1	20.9	20.9	7.9	7.9	34.7	34.7	103.5	103.6	7.1	7.1	6.9	0.8	0.8	6.9	2.1	2.0	2.4
					20.9	20.7	20.8	7.9	8.0	34.7	34.7	103.6	7.2	7.1	0.8	2.7	1.8	2.7				
				Middle	7.0	20.8	20.8	8.0	8.0	34.8	34.8	95.6	95.5	6.6	6.6	6.6	2.6	2.7	2.6	2.7		
G4	Cloudy	Calm	13:36	Surface	4.1	20.9	21.0	7.8	7.8	34.7	34.7	105.9	105.7	7.3	7.3	7.3	0.6	0.6	7.3	3.1	2.7	2.4
					21.2	21.0	7.9	7.9	34.6	34.6	105.5	7.3	7.0	0.6	2.3	2.0	2.7					
				Middle	7.1	20.9	20.9	8.0	8.0	34.9	34.9	99.5	99.5	6.9	6.9	6.9	3.2	3.2	3.2	2.7	2.4	
M1	Cloudy	Calm	13:06	Surface	3.0	20.9	20.9	7.9	7.9	34.6	34.6	101.1	101.1	7.0	7.0	7.0	0.9	0.9	7.0	2.7	2.4	2.1
					21.0	20.8	7.9	7.9	34.6	34.7	101.1	7.0	7.0	0.9	1.0	2.1	2.4					
				Middle	5.1	20.8	20.8	7.9	7.9	34.7	34.7	100.7	100.7	7.0	7.0	7.0	1.0	1.0	1.0	2.0	2.2	
M2	Cloudy	Calm	12:53	Surface	5.5	20.8	20.8	8.0	8.0	34.7	34.7	101.4	101.6	7.1	7.1	7.1	0.9	0.9	7.1	1.4	1.6	2.3
					21.4	20.8	8.0	8.1	34.6	34.8	101.5	7.0	7.0	0.9	1.1	2.0	2.2					
				Middle	10.0	20.8	20.8	8.1	8.1	34.8	34.8	99.1	99.1	6.9	6.9	6.9	1.1	1.1	1.1	2.0	2.1	
M3	Cloudy	Calm	13:30	Surface	4.1	20.9	20.9	7.9	7.9	34.7	34.7	102.8	102.9	7.1	7.1	6.9	0.8	0.8	6.9	1.7	2.0	2.4
					20.9	20.7	20.7	7.9	8.0	34.7	34.8	100.4	7.0	7.1	0.8	2.2	3.2	2.4				
				Middle	7.1	20.8	20.7	8.0	8.0	34.8	34.8	95.6	95.5	6.6	6.6	6.6	2.1	2.3	2.1	2.3		
M4	Cloudy	Calm	12:48	Surface	5.0	20.9	20.9	8.2	8.2	34.7	34.7	105.9	103.4	7.3	7.1	7.1	0.7	0.9	7.1	2.4	2.2	2.5
					20.9	20.8	8.2	8.2	34.7	34.8	100.8	7.0	7.0	0.9	1.2	2.4	2.2					
				Middle	9.0	20.9	20.8	8.2	8.2	34.8	34.8	96.4	96.4	6.7	6.7	6.7	1.9	1.9	1.9	2.6	2.5	
M5	Cloudy	Calm	14:10	Surface	6.1	20.9	21.4	8.8	8.8	34.7	34.6	101.8	99.2	7.1	6.9	6.9	1.6	1.2	6.9	2.6	2.2	2.6
					21.9	20.9	8.8	8.7	34.6	34.7	101.8	7.1	6.9	1.6	1.7	2.6	2.2					
				Middle	11.0	20.9	20.9	8.7	8.7	34.7	34.7	95.1	95.1	6.6	6.6	6.6	1.9	1.9	1.9	2.6	2.8	
M6	Cloudy	Calm	13:50	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	
					21.0	21.0	8.8	8.3	34.7	34.6	96.2	7.0	6.8	1.7	1.4	2.3	2.3					
				Middle	1.6	21.0	21.0	8.8	8.3	34.6	34.6	96.0	96.1	6.7	6.7	6.7	1.8	-	1.8	2.2		2.8

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 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 2.0 NTU</u>	<u>C2: 2.2 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.1 mg/L</u>	<u>C2: 3.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.1 mg/L</u>	<u>C2: 3.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
<u>C2: 2.8 mg/L</u>		<u>C2: 3.1 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 2021

(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	Calm	10:33	Surface	1.0	23.8	23.8	8.6	8.6	34.6	34.6	96.0	96.0	6.7	6.7	6.6	1.9	1.9	1.9	1.9	1.8	2.0		
					23.8	23.8	8.6	8.6	34.6	34.6	96.0	96.0	6.7	6.7	6.6	1.9	1.9	1.9	1.8					
				Middle	8.5	23.8	23.8	8.5	8.5	34.7	34.7	95.3	95.3	6.6	6.6	6.6	6.6	6.6	1.9	1.9	1.9		1.9	1.9
					23.8	23.8	23.8	8.5	8.5	34.7	34.7	95.3	95.3	6.6	6.6	6.6	6.6	6.6	1.9	1.9	1.9		1.9	
				Bottom	16.0	23.8	23.8	8.5	8.5	34.7	34.7	94.9	94.9	6.6	6.6	6.6	6.6	6.6	2.0	2.0	2.0		2.0	2.3
					23.8	23.8	23.8	8.5	8.5	34.7	34.7	94.9	94.9	6.6	6.6	6.6	6.6	6.6	2.1	2.0	2.0		2.6	
C2	Cloudy	Calm	9:01	Surface	1.1	23.8	23.8	8.4	8.4	34.6	34.6	96.0	96.0	6.6	6.6	6.6	1.7	1.8	1.9	2.0	2.3	1.9		
					23.8	23.8	8.4	8.4	34.6	34.6	96.0	96.0	6.6	6.6	6.6	1.8	1.8	1.9	2.0	2.3				
				Middle	16.0	23.8	23.8	8.3	8.3	34.7	34.7	95.2	95.2	6.6	6.6	6.6	6.6	6.6	2.0	2.0	2.0		2.0	2.1
					23.8	23.8	23.8	8.3	8.3	34.7	34.7	95.2	95.2	6.6	6.6	6.6	6.6	6.6	1.9	1.9	1.9		1.9	
				Bottom	31.1	23.8	23.8	8.3	8.3	34.7	34.7	94.7	94.7	6.6	6.6	6.6	6.6	6.6	2.0	2.0	2.0		2.0	1.4
					23.8	23.8	23.8	8.3	8.3	34.7	34.7	94.7	94.7	6.6	6.6	6.6	6.6	6.6	2.0	2.0	2.0		1.1	
G1	Cloudy	Calm	9:38	Surface	1.0	24.1	24.1	7.9	7.9	34.6	34.6	103.7	103.7	7.2	7.1	7.1	0.7	0.7	0.7	0.7	2.4	1.9		
					24.1	24.1	7.9	7.9	34.6	34.6	103.7	103.7	7.1	7.1	7.1	0.7	0.7	0.7	0.7	0.7				
				Middle	3.8	24.0	24.0	7.8	7.8	34.6	34.6	102.2	102.4	7.1	7.1	7.1	7.1	7.1	0.8	0.7	0.7		1.5	
					24.1	24.0	24.0	7.8	7.8	34.6	34.6	102.6	102.4	7.1	7.1	7.1	7.1	7.1	0.7	0.7	0.7		1.4	
				Bottom	6.6	23.8	23.8	7.9	7.9	34.8	34.8	100.1	100.1	6.9	6.9	6.9	6.9	6.9	1.0	1.0	1.0		1.0	1.7
					23.8	23.8	23.8	7.9	7.9	34.8	34.8	100.0	100.1	6.9	6.9	6.9	6.9	6.9	1.0	1.0	1.0		1.0	
G2	Cloudy	Calm	9:20	Surface	1.0	23.9	23.9	8.0	8.0	34.7	34.7	101.6	101.7	7.0	7.0	7.0	0.9	0.9	0.9	0.9	1.5	1.7		
					23.9	23.9	8.0	8.0	34.7	34.7	101.7	101.7	7.0	7.0	7.0	0.9	0.9	0.9	0.9	0.9				
				Middle	5.0	23.8	23.8	8.1	8.1	34.7	34.7	100.8	101.0	7.0	7.0	7.0	7.0	7.0	0.9	0.9	0.9		0.9	1.7
					23.8	23.8	23.8	8.1	8.1	34.7	34.7	101.1	101.0	7.0	7.0	7.0	7.0	7.0	0.9	0.9	0.9		0.9	
				Bottom	9.0	23.7	23.7	8.1	8.1	34.8	34.8	99.1	99.1	6.9	6.9	6.9	6.9	6.9	1.2	1.2	1.2		1.2	2.0
					23.7	23.7	23.7	8.1	8.1	34.8	34.8	99.1	99.1	6.9	6.9	6.9	6.9	6.9	1.2	1.2	1.2		1.2	
G3	Cloudy	Calm	9:46	Surface	1.0	24.3	24.3	7.9	7.9	34.6	34.6	106.5	106.4	7.3	7.3	7.2	0.7	0.7	0.7	0.7	2.3	1.9		
					24.3	24.3	7.9	7.9	34.6	34.6	106.3	106.4	7.3	7.3	7.2	0.7	0.7	0.7	0.7					
				Middle	3.8	24.0	24.0	7.9	7.9	34.7	34.7	103.5	103.5	7.1	7.1	7.1	7.1	7.1	0.8	0.8	0.8		0.8	1.9
					24.0	24.0	24.0	7.9	7.9	34.7	34.7	103.5	103.5	7.1	7.1	7.1	7.1	7.1	0.8	0.8	0.8		0.8	
				Bottom	6.6	23.8	23.8	8.0	8.0	34.8	34.8	96.2	96.1	6.7	6.7	6.7	6.7	6.7	2.0	2.2	2.2		2.0	1.7
					23.7	23.8	23.8	8.0	8.0	34.8	34.8	95.9	96.1	6.6	6.7	6.7	6.7	6.7	2.3	2.2	2.2		2.0	
G4	Cloudy	Calm	10:00	Surface	1.1	24.0	24.0	7.8	7.8	34.6	34.6	100.8	100.8	7.0	7.0	6.9	1.2	1.2	1.2	1.2	1.8	2.0		
					24.0	24.0	7.8	7.8	34.6	34.6	100.8	100.8	7.0	7.0	6.9	1.2	1.2	1.2	1.2	1.2				
				Middle	3.8	23.8	23.8	7.9	7.8	34.7	34.7	100.2	100.2	6.9	6.9	6.9	6.9	6.9	1.3	1.4	1.4		1.4	2.1
					23.8	23.8	23.8	7.8	7.8	34.7	34.7	100.2	100.2	6.9	6.9	6.9	6.9	6.9	1.4	1.4	1.4		1.4	
				Bottom	6.5	23.7	23.6	8.0	8.0	34.9	34.9	99.5	99.5	6.9	6.9	6.9	6.9	6.9	3.2	3.2	3.2		3.2	2.1
					23.6	23.6	23.6	8.0	8.0	34.9	34.9	99.5	99.5	6.9	6.9	6.9	6.9	6.9	3.2	3.2	3.2		3.2	
M1	Cloudy	Calm	9:28	Surface	1.0	24.0	24.0	8.0	8.0	34.6	34.6	101.8	101.7	7.0	7.0	7.0	0.9	0.9	0.9	0.9	2.5	2.3		
					24.0	24.0	8.0	8.0	34.6	34.6	101.6	101.7	7.0	7.0	7.0	0.9	0.9	0.9	0.9	0.9				
				Middle	3.1	24.0	24.0	7.9	7.9	34.6	34.6	101.1	101.1	7.0	7.0	7.0	7.0	7.0	0.9	0.9	0.9		0.9	2.5
					24.0	24.0	24.0	7.9	7.9	34.6	34.6	101.1	101.1	7.0	7.0	7.0	7.0	7.0	0.9	0.9	0.9		0.9	
				Bottom	5.1	24.0	24.0	7.9	7.9	34.6	34.6	100.8	100.8	7.0	7.0	7.0	7.0	7.0	0.9	0.9	0.9		0.9	1.9
					24.0	24.0	24.0	7.9	7.9	34.7	34.7	100.7	100.8	7.0	7.0	7.0	7.0	7.0	1.0	1.0	1.0		1.0	
M2	Cloudy	Calm	9:14	Surface	1.0	23.9	23.9	8.1	8.1	34.7	34.7	101.9	101.9	7.1	7.1	7.0	0.8	0.8	0.8	0.8	1.8	2.3		
					23.9	23.9	8.1	8.1	34.7	34.7	101.9	101.9	7.1	7.1	7.0	0.8	0.8	0.8	0.8	0.8				
				Middle	5.2	23.8	23.8	8.0	8.0	34.7	34.7	99.6	99.7	6.9	6.9	6.9	6.9	6.9	1.0	1.0	1.0		1.0	2.3
					23.8	23.8	23.8	8.0	8.0	34.7	34.7	99.8	99.7	6.9	6.9	6.9	6.9	6.9	1.0	1.0	1.0		1.0	
				Bottom	9.5	23.7	23.7	8.1	8.1	34.8	34.8	98.9	99.0	6.9	6.9	6.9	6.9	6.9	1.2	1.2	1.2		1.2	3.0
					23.7	23.7	23.7	8.1	8.1	34.8	34.8	99.0	99.0	6.9	6.9	6.9	6.9	6.9	1.1	1.2	1.2		1.2	
M3	Cloudy	Calm	9:54	Surface	1.1	24.3	24.3	7.9	7.9	34.6	34.6	106.2	106.3	7.3	7.3	7.2	0.7	0.7	0.7	0.7	2.7	2.3		
					24.3	24.3	7.9	7.9	34.6	34.6	106.4	106.3	7.3	7.3	7.2	0.7	0.7	0.7	0.7	0.7				
				Middle	3.7	24.0	24.0	7.9	7.9	34.7	34.7	103.6	104.0	7.2	7.2	7.2	7.2	7.2	0.7	0.7	0.7		0.7	2.4
					24.0	24.0	24.0	7.9	7.9	34.7	34.7	104.3	104.0	7.2	7.2	7.2	7.2	7.2	0.7	0.7	0.7		0.7	
				Bottom	6.6	23.7	23.7	8.0	8.0	34.8	34.8	95.0	94.9	6.6	6.6	6.6	6.6	6.6	2.8	2.8	2.8		2.8	1.8
					23.7	23.7	23.7	8.0	8.0	34.8	34.8	94.7	94.9	6.6	6.6	6.6	6.6	6.6	2.9	2.8	2.8		2.8	
M4	Cloudy	Calm	9:08	Surface	1.0	23.8	23.8	8.2	8.2	34.7	34.7	96.4	96.4	6.7	6.7	6.7	1.6	1.6	1.6	1.6	3.1	2.5		
					23.8	23.8	8.2	8.2	34.7	34.7	96.4	96.4	6.7	6.7	6.7	1.6	1.6	1.6	1.6	1.6				
				Middle	5.1	23.8	23.8	8.2	8.2	34.7	34.7	96.1	96.1	6.7	6.7	6.7	6.7	6.7	1.7	1.7	1.7		1.7	2.3
					23.8	23.8	23.8	8.2	8.2	34.7	34.7	96.1	96.1	6.7	6.7	6.7	6.7	6.7	1.7	1.7	1.7		1.7	
				Bottom	9.1	23.7	23.7	8.2	8.2	34.8	34.8	96.5	96.6	6.7	6.7	6.7	6.7	6.7	1.9	1.9	1.9		1.9	2.1
					23.7	23.7	23.7	8.2	8.2	34.8	34.8	96.6	96.6	6.7	6.7	6.7	6.7	6.7	1.9	1.9	1.9		1.9	
M5	Cloudy	Calm	10:21	Surface	1.0	23.8	23.8	8.8	8.8	34.6	34.6	96.4	96.4	6.7	6.7	6.6	1.7	1.7	1.7	1.7	2.1	2.9		
					23.8	23.8	8.8	8.8	34.6	34.6	96.3	96.4	6.7	6.7	6.6	1.7	1.7	1.7	1.7	1.7				
				Middle	5.5	23.8	23.8	8.8	8.8	34.7	34.7	95.5	95.5	6.6	6.6	6.6	6.6	6.6	1.9	1.9	1.9		1.9	3

**Action and Limit Levels for Marine Water Quality on 14 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 2.5 NTU</u>	<u>CI: 2.7 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 2.1 mg/L</u>	<u>CI: 2.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 2.1 mg/L</u>	<u>CI: 2.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
<u>CI: 2.8 mg/L</u>		<u>CI: 3.0 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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.



**Action and Limit Levels for Marine Water Quality on 16 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 2.9 NTU</u>	<u>C2: 3.1 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.6 mg/L</u>	<u>C2: 3.9 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.6 mg/L</u>	<u>C2: 3.9 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 2.0 mg/L</u>	<u>C2: 2.1 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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.



**Action and Limit Levels for Marine Water Quality on 16 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 2.8 NTU</u>	<u>CI: 3.1 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 4.5 mg/L</u>	<u>CI: 4.9 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 4.5 mg/L</u>	<u>CI: 4.9 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 3.1 mg/L</u>	<u>CI: 3.3 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 2021

(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	17:00	Surface	1.1	23.9	23.9	8.3	8.3	33.6	33.7	92.9	92.8	6.5	6.5	6.4	1.3	1.3	1.7	3.0	3.0	3.3
					23.8	23.5	8.4	8.4	34.0	34.0	91.8	6.4	6.4	1.3	1.4		2.9	3.5				
				9.0	23.5	8.4	8.4	34.0	34.0	91.8	6.4	6.4	1.4	1.4	3.0		3.0					
C2	Sunny	Moderate	15:28	Surface	1.0	23.7	23.7	8.4	8.4	33.9	33.9	93.4	93.4	6.5	6.5	6.5	1.3	1.3	2.1	2.1	2.7	3.2
					23.7	23.1	8.4	8.4	33.9	34.9	93.3	6.5	6.4	1.3	2.3		3.2	2.6				
				16.0	23.1	8.4	8.4	35.0	34.9	91.6	6.4	6.4	2.3	2.3	3.4		3.0					
G1	Sunny	Moderate	16:05	Surface	1.0	23.7	23.8	8.3	8.3	33.8	33.8	93.3	93.2	6.5	6.5	6.4	1.5	1.4	2.0	3.2	3.0	3.1
					23.8	23.7	8.3	8.4	33.8	33.8	93.0	6.5	6.3	1.4	1.6		2.7	2.6				
				4.1	23.7	8.4	8.4	33.8	33.8	90.6	6.3	6.3	1.6	1.6	3.3		3.0					
G2	Sunny	Moderate	15:48	Surface	1.0	23.8	23.8	8.4	8.4	33.8	33.8	92.1	92.1	6.4	6.4	6.4	1.3	1.3	2.0	4.6	4.8	4.1
					23.8	23.3	8.4	8.4	34.4	34.5	91.1	6.4	6.4	1.3	1.9		5.0	3.9				
				5.0	23.2	8.4	8.4	34.5	34.5	91.3	6.4	6.4	1.9	1.9	4.0		4.0					
G3	Sunny	Moderate	16:15	Surface	1.1	23.8	23.8	8.3	8.3	33.7	33.7	91.0	90.9	6.3	6.3	6.3	1.3	1.3	1.9	3.6	3.4	3.1
					23.8	23.5	8.3	8.4	33.7	34.0	90.8	6.3	6.3	1.3	1.5		3.2	3.5				
				4.0	23.5	8.4	8.4	34.0	34.0	90.2	6.3	6.3	1.5	1.5	2.6		3.1					
M1	Sunny	Moderate	15:56	Surface	1.1	23.8	23.8	8.4	8.4	33.9	33.9	91.4	91.3	6.4	6.4	6.3	1.7	1.7	2.1	3.5	3.3	2.9
					23.7	23.2	8.4	8.4	33.9	34.5	91.1	6.3	6.3	1.7	2.0		3.0	3.2				
				3.0	23.2	8.4	8.4	34.5	34.5	89.9	6.3	6.3	2.0	2.0	3.0		3.1					
M2	Sunny	Moderate	15:41	Surface	1.0	23.5	23.5	8.4	8.4	34.3	34.3	93.9	93.7	6.6	6.5	6.5	1.4	1.4	1.7	2.5	2.6	2.8
					23.5	23.3	8.4	8.4	34.3	34.4	93.5	6.5	6.5	1.5	1.4		2.6	2.7				
				6.0	23.3	8.4	8.4	34.4	34.4	92.6	6.5	6.5	1.3	1.4	2.9		2.8					
M3	Sunny	Moderate	16:25	Surface	1.1	23.7	23.7	8.3	8.3	33.9	33.9	89.3	89.4	6.2	6.2	6.2	1.3	1.4	2.2	3.2	3.3	3.6
					23.7	23.4	8.3	8.3	33.9	34.2	89.4	6.2	6.1	1.4	2.4		3.3	3.6				
				4.1	23.4	8.3	8.3	34.2	34.2	87.6	6.1	6.1	2.4	2.4	4.0		3.8					
M4	Sunny	Moderate	15:35	Surface	1.1	23.5	23.5	8.7	8.6	34.2	34.2	93.7	93.3	6.5	6.5	6.5	1.2	1.3	1.5	3.0	3.1	3.5
					23.5	23.4	8.6	8.6	34.2	34.3	92.8	6.5	6.5	1.3	1.4		3.2	3.6				
				5.1	23.4	8.5	8.6	34.3	34.3	92.3	6.5	6.5	1.5	1.4	3.8		3.6					
M5	Sunny	Moderate	16:51	Surface	1.1	23.8	23.8	8.4	8.4	33.7	33.7	92.4	92.4	6.4	6.4	6.4	1.3	1.3	1.9	2.2	2.6	3.5
					23.8	23.4	8.4	8.4	33.7	34.2	92.4	6.4	6.4	1.3	1.8		4.0	3.8				
				6.0	23.4	8.4	8.4	34.2	34.2	91.1	6.4	6.4	1.8	1.8	4.1		3.8					
M6	Sunny	Moderate	16:42	Surface	-	-	-	-	-	-	-	-	-	-	6.2	-	-	2.7	-	-	3.9	
					23.5	23.4	8.3	8.3	34.1	34.1	88.9	6.2	6.2	2.7		2.7	3.4		3.9			
				2.0	23.4	8.3	8.3	34.1	34.1	88.9	6.2	6.2	2.8	2.7		4.3	3.9					

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 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 3.4 NTU</u>	<u>C2: 3.7 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.2 mg/L</u>	<u>C2: 3.4 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.2 mg/L</u>	<u>C2: 3.4 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 4.7 mg/L</u>	<u>C2: 5.1 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 2021

(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	8:57	Surface	1.1	22.9	22.9	8.4	8.4	33.2	33.2	91.4	91.3	6.4	6.4	6.3	1.4	1.4	2.9	2.7	2.6	2.5	
					22.9	8.4	8.4	33.2	91.2	6.4	1.4	2.4											
				Middle	9.1	22.2	22.2	8.4	8.4	34.5	34.5	90.5	90.6	6.3	6.3	6.3	3.5	3.5	2.9	2.4	2.7		
					22.2	8.4	8.4	34.5	90.6	6.3	3.5	2.4											
				Bottom	17.0	22.2	22.2	8.4	8.4	34.5	34.5	90.6	90.6	6.3	6.3	6.3	3.7	3.7	2.6	2.4	2.2		
					22.2	8.4	8.4	34.5	90.6	6.3	3.7	2.2											
C2	Sunny	Moderate	7:46	Surface	1.1	23.0	23.0	8.3	8.3	32.9	32.9	89.9	89.6	6.3	6.2	6.2	2.3	2.2	2.8	2.5	2.8	2.4	
					23.0	8.3	8.3	32.9	89.3	6.2	2.2	2.5											
				Middle	16.0	22.3	22.3	8.4	8.4	34.2	34.2	88.5	88.6	6.2	6.2	6.2	3.0	3.0	2.8	2.4	2.0		
					22.3	8.4	8.4	34.2	88.7	6.2	3.0	2.0											
				Bottom	31.0	22.2	22.2	8.4	8.4	34.4	34.4	90.1	90.2	6.3	6.3	6.3	3.0	3.1	1.8	1.9	2.0		
					22.2	8.4	8.4	34.4	90.2	6.3	3.1	2.0											
G1	Sunny	Moderate	8:09	Surface	1.0	23.0	23.0	8.4	8.4	33.9	33.9	94.5	94.5	6.5	6.5	6.5	1.4	1.4	1.8	3.0	3.1	2.7	
					23.0	8.4	8.4	33.9	94.4	6.5	1.4	3.2											
				Middle	4.1	22.6	22.6	8.4	8.4	34.1	34.1	92.3	92.3	6.4	6.4	6.4	1.9	1.9	2.2	2.6	1.9		
					22.6	8.4	8.4	34.1	92.3	6.4	1.9	2.2											
				Bottom	7.1	22.5	22.4	8.4	8.4	34.3	34.3	91.8	91.8	6.4	6.4	6.4	2.1	2.1	2.2	2.4	2.5		
					22.4	8.4	8.4	34.3	91.8	6.4	2.2	2.5											
G2	Sunny	Moderate	7:59	Surface	1.0	23.0	23.0	8.4	8.4	34.1	34.1	95.4	95.4	6.6	6.6	6.6	1.2	1.2	1.3	3.5	3.3	2.9	
					23.0	8.4	8.4	34.1	95.4	6.6	1.1	3.0											
				Middle	5.0	22.5	22.4	8.4	8.4	34.3	34.3	93.9	93.7	6.5	6.5	6.5	1.1	1.1	2.8	3.2	1.1		
					22.3	8.4	8.4	34.4	93.5	6.5	1.1	3.6											
				Bottom	9.0	22.1	22.1	8.4	8.4	34.7	34.7	92.9	92.9	6.5	6.5	6.5	1.6	1.7	2.6	2.4	2.1		
					22.1	8.4	8.4	34.7	92.9	6.5	1.7	2.1											
G3	Sunny	Moderate	8:12	Surface	1.1	23.2	23.2	8.4	8.4	33.9	33.9	94.9	94.9	6.6	6.6	6.5	1.3	1.3	1.8	2.4	2.6	3.3	
					23.2	8.4	8.4	33.9	94.9	6.6	1.3	2.8											
				Middle	4.0	22.5	22.4	8.4	8.4	34.3	34.3	92.0	91.8	6.4	6.4	6.4	1.9	1.9	3.2	3.0	1.9		
					22.4	8.4	8.4	34.4	91.5	6.4	2.0	2.7											
				Bottom	7.0	22.2	22.2	8.5	8.5	34.6	34.6	91.5	91.5	6.4	6.4	6.4	2.2	2.2	3.7	4.2	2.2		
					22.2	8.5	8.5	34.6	91.5	6.4	2.2	4.7											
G4	Sunny	Moderate	8:21	Surface	1.0	23.4	23.4	8.4	8.4	33.8	33.8	96.1	96.1	6.6	6.6	6.5	1.3	1.3	1.2	4.0	3.6	3.1	
					23.4	8.4	8.4	33.8	96.0	6.6	1.3	3.2											
				Middle	4.0	23.1	23.1	8.4	8.4	33.9	33.9	93.7	93.7	6.5	6.5	6.5	0.8	0.8	2.7	3.2	0.8		
					23.1	8.4	8.4	33.9	93.7	6.5	0.8	3.7											
				Bottom	7.0	22.2	22.2	8.5	8.5	34.5	34.5	91.6	91.7	6.4	6.4	6.4	1.4	1.3	2.8	2.4	1.4		
					22.2	8.5	8.5	34.5	91.6	6.4	1.3	2.0											
M1	Sunny	Moderate	8:05	Surface	1.1	22.9	22.9	8.4	8.4	34.0	34.0	93.5	93.4	6.5	6.5	6.4	1.5	1.5	2.0	2.3	2.6	2.1	
					22.9	8.4	8.4	34.0	93.3	6.5	1.5	2.9											
				Middle	3.1	22.8	22.8	8.4	8.4	34.0	34.0	92.7	92.7	6.4	6.4	6.4	1.5	1.5	2.4	2.1	1.5		
					22.8	8.4	8.4	34.1	92.7	6.4	1.5	1.8											
				Bottom	5.1	22.5	22.5	8.4	8.4	34.2	34.2	91.4	91.3	6.4	6.4	6.4	3.0	3.0	1.2	1.6	2.0		
					22.5	8.4	8.4	34.3	91.1	6.4	3.1	2.0											
M2	Sunny	Moderate	7:54	Surface	1.1	22.5	22.5	8.4	8.4	34.3	34.3	94.5	94.5	6.6	6.6	6.5	1.1	1.1	1.8	3.0	3.3	2.6	
					22.5	8.4	8.4	34.3	94.5	6.6	1.1	3.5											
				Middle	6.0	22.1	22.1	8.4	8.4	34.7	34.7	92.8	92.8	6.5	6.5	6.5	1.7	1.7	2.2	2.4	1.7		
					22.1	8.4	8.4	34.7	92.8	6.5	1.7	2.5											
				Bottom	11.0	22.0	22.0	8.4	8.4	34.9	34.9	92.2	92.2	6.5	6.5	6.5	2.6	2.7	1.9	2.2	2.6		
					22.0	8.4	8.4	34.9	92.2	6.5	2.9	2.4											
M3	Sunny	Moderate	8:16	Surface	1.1	23.0	23.0	8.4	8.4	33.6	33.6	93.3	93.4	6.5	6.5	6.4	0.4	0.4	1.2	3.6	3.3	2.9	
					23.0	8.4	8.4	33.6	93.3	6.5	0.5	3.0											
				Middle	4.0	22.4	22.4	8.5	8.5	34.3	34.3	90.0	90.0	6.3	6.3	6.3	1.5	1.5	3.0	2.9	1.5		
					22.4	8.5	8.5	34.3	89.9	6.3	1.6	2.7											
				Bottom	7.1	22.1	22.1	8.5	8.5	34.7	34.7	90.8	90.8	6.4	6.4	6.4	1.6	1.6	2.6	2.5	1.6		
					22.1	8.5	8.5	34.7	90.8	6.4	1.6	2.4											
M4	Sunny	Moderate	7:50	Surface	1.0	22.6	22.6	8.7	8.7	34.1	34.1	92.6	92.5	6.5	6.4	6.4	2.3	2.3	2.3	2.0	2.0	3.2	
					22.6	8.7	8.7	34.1	92.4	6.4	2.3	1.9											
				Middle	5.1	22.4	22.4	8.7	8.7	34.2	34.2	91.1	91.2	6.4	6.4	6.4	2.4	2.4	3.4	3.6	2.4		
					22.4	8.7	8.7	34.2	91.2	6.4	2.4	3.8											
				Bottom	9.1	22.2	22.2	8.5	8.5	34.6	34.6	92.5	92.5	6.5	6.5	6.5	2.3	2.3	3.9	4.1	2.3		
					22.2	8.5	8.5	34.7	92.5	6.5	2.3	4.2											
M5	Sunny	Moderate	8:44	Surface	1.1	22.6	22.6	8.4	8.4	34.2	34.2	94.6	94.6	6.6	6.6	6.5	1.1	1.1	2.0	2.4	2.6	3.0	
					22.6	8.4	8.4	34.2	94.5	6.6	1.1	2.8											
				Middle	6.0	22.4	22.4	8.4	8.4	34.2	34.2	92.2	92.2	6.4	6.4	6.4	1.6	1.7	3.2	3.1	1.6		
					22.4	8.4	8.4	34.2	92.2	6.4	1.8	3.0											
				Bottom	11.1	22.1	22.1	8.4	8.4	34.6	34.6	90.9	90.8	6.4	6.4	6.4	3.2	3.2	3.4	3.2	3.2		
					22.1	8.4	8.4	34.7	90.7	6.4	3.2	3.0											
M6	Sunny	Moderate	8:33	Surface	-	-	-	-	-	-	-	-	-	-	6.6	-	-	1.1	-	-	2.7		
					-	-	-	-	-	-	-	-	-	-	-	-	-						
				Middle	2.1	23.4	23.3	8.4	8.4	33.7	33.7	95.8	95.6	6.6	6.6	6.6	8.0	8.0	2.1	2.7		8.0	
					23.2	8.4	8.4	33.8	95.3	6.6	8.0	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 21 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 4.5 NTU</u>	<u>CI: 4.8 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 3.1 mg/L</u>	<u>CI: 3.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 3.1 mg/L</u>	<u>CI: 3.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
<u>CI: 2.9 mg/L</u>		<u>CI: 3.1 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 23 April 2021

(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	11:29	Surface	1.0	25.3	25.3	8.5	8.5	34.8	34.8	102.3	102.3	7.1	7.1	7.1	1.1	1.1	1.1	4.5	4.4	3.7					
					25.3	25.3	8.5	8.5	34.8	34.8	102.3	102.3	7.1	7.1	1.0		1.1	4.2		4.4							
				Middle	8.6	25.3	25.3	8.6	8.6	34.8	34.8	102.0	102.0	7.1	7.1		7.1	1.0		1.0	1.1		4.2	4.0	3.7		
					25.3	25.3	25.3	8.6	8.6	34.8	34.8	102.0	102.0	7.1	7.1		7.1	1.0		1.0	1.1		3.7	4.0			
				Bottom	16.1	25.3	25.3	8.7	8.7	34.8	34.8	101.4	101.4	7.1	7.1		7.1	1.0		1.1	7.1		1.1	1.1	3.1	2.9	3.7
					25.3	25.3	25.3	8.7	8.7	34.8	34.8	101.4	101.4	7.1	7.1		7.1	1.1		1.1	7.1		1.1	1.1	2.7	2.9	
C2	Sunny	Moderate	9:58	Surface	1.0	25.3	25.3	8.4	8.4	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.1	1.1	2.9	3.0	3.5					
					25.3	25.3	8.4	8.4	34.8	34.8	102.2	102.2	7.1	7.1	7.1		1.1	1.1		1.1	3.0		3.4				
				Middle	16.1	25.3	25.3	8.4	8.4	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.1		1.1	1.1		3.2	3.4	3.5		
					25.3	25.3	25.3	8.4	8.4	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.1		1.1	1.1		3.5	3.4			
				Bottom	31.1	25.3	25.3	8.4	8.4	34.8	34.8	101.6	101.6	7.1	7.1		7.1	1.0		1.0	7.1		1.0	1.0	4.4	4.2	3.5
					25.3	25.3	25.3	8.4	8.4	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.0		1.0	7.1		1.0	1.0	4.0	4.2	
G1	Sunny	Moderate	10:37	Surface	1.1	25.3	25.3	8.3	8.3	34.6	34.6	102.0	102.0	7.1	7.1	7.1	1.3	1.3	1.6	2.2	2.5	3.3					
					25.3	25.3	8.3	8.3	34.6	34.6	101.9	101.9	7.1	7.1	7.1		1.3	1.3		1.6	2.7		2.5				
				Middle	3.8	25.3	25.3	8.3	8.3	34.7	34.7	101.2	101.2	7.1	7.1		7.1	1.5		1.4	1.6		3.2	3.0	3.3		
					25.3	25.3	25.3	8.3	8.3	34.7	34.7	101.3	101.3	7.1	7.1		7.1	1.4		1.4	1.6		2.8	3.0			
				Bottom	6.5	25.3	25.3	8.3	8.3	34.8	34.8	100.3	100.3	7.0	7.0		7.0	1.9		1.9	7.0		1.9	1.9	4.1	4.4	3.3
					25.3	25.3	25.3	8.3	8.3	34.8	34.8	100.1	100.1	7.0	7.0		7.0	2.0		1.9	7.0		1.9	1.9	4.6	4.4	
G2	Sunny	Moderate	10:17	Surface	1.0	25.3	25.3	8.5	8.5	34.8	34.8	102.8	102.8	7.2	7.2	7.1	0.9	0.9	0.9	4.3	4.4	3.9					
					25.3	25.3	8.5	8.5	34.8	34.8	102.8	102.8	7.2	7.2	7.1		0.8	0.9		0.9	4.4		4.4				
				Middle	5.0	25.3	25.3	8.5	8.5	34.8	34.8	102.1	102.1	7.1	7.1		7.1	1.0		1.0	7.1		1.0	1.0	4.1	4.1	3.9
					25.3	25.3	25.3	8.5	8.5	34.8	34.8	102.1	102.1	7.1	7.1		7.1	1.0		1.0	7.1		1.0	1.0	4.0	4.1	
				Bottom	9.0	25.3	25.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1		7.1	0.9		0.9	7.1		0.9	0.9	3.4	3.3	3.9
					25.3	25.3	25.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1		7.1	0.9		0.9	7.1		0.9	0.9	3.2	3.3	
G3	Sunny	Moderate	10:45	Surface	1.1	25.2	25.2	8.6	8.6	34.6	34.6	101.2	101.2	7.1	7.1	7.1	1.5	1.4	1.8	3.2	3.0	2.7					
					25.2	25.2	8.6	8.6	34.6	34.6	101.2	101.2	7.1	7.1	7.1		1.4	1.4		1.8	2.8		3.0				
				Middle	3.8	25.3	25.3	8.4	8.4	34.6	34.6	100.4	100.4	7.0	7.0		7.0	1.8		1.8	7.0		1.8	1.8	2.9	2.7	2.7
					25.3	25.3	25.3	8.4	8.4	34.6	34.6	100.4	100.4	7.0	7.0		7.0	1.8		1.8	7.0		1.8	1.8	2.5	2.7	
				Bottom	6.5	25.3	25.3	8.4	8.4	34.8	34.8	99.4	99.4	6.9	6.9		6.9	2.2		2.1	6.9		2.1	2.1	2.4	2.3	2.7
					25.3	25.3	25.3	8.4	8.4	34.8	34.8	98.9	98.9	6.9	6.9		6.9	2.1		2.1	6.9		2.1	2.1	2.1	2.3	
G4	Sunny	Moderate	11:00	Surface	1.1	25.3	25.3	8.2	8.1	34.8	34.8	104.5	104.5	7.3	7.3	7.3	1.0	1.0	1.3	5.2	5.4	4.5					
					25.3	25.3	8.1	8.1	34.8	34.8	104.4	104.4	7.3	7.3	7.3		1.0	1.0		7.3	1.0		1.0	5.6	5.4		
				Middle	3.8	25.3	25.3	8.0	8.0	34.8	34.8	103.8	103.8	7.3	7.3		7.3	1.1		1.1	7.3		1.1	1.1	4.4	4.5	4.5
					25.3	25.3	25.3	8.0	8.0	34.8	34.8	103.9	103.9	7.3	7.3		7.3	1.1		1.1	7.3		1.1	1.1	4.6	4.5	
				Bottom	6.6	25.3	25.3	8.0	8.0	34.8	34.8	102.9	102.9	7.2	7.2		7.2	1.6		1.7	7.2		1.7	1.7	3.4	3.5	4.5
					25.3	25.3	25.3	8.0	8.0	34.8	34.8	102.5	102.5	7.2	7.2		7.2	1.8		1.7	7.2		1.7	1.7	3.6	3.5	
M1	Sunny	Moderate	10:24	Surface	1.1	25.3	25.3	8.3	8.3	34.7	34.7	102.8	102.7	7.2	7.2	7.1	2.0	1.8	1.4	3.2	3.3	3.5					
					25.3	25.3	8.3	8.3	34.7	34.7	102.5	102.5	7.2	7.2	7.1		1.6	1.8		7.1	1.6		1.8	3.4	3.3		
				Middle	3.1	25.3	25.3	8.0	8.0	34.7	34.7	99.6	99.6	7.0	7.0		7.0	1.3		1.3	7.0		1.3	1.3	3.5	3.6	3.5
					25.3	25.3	25.3	8.0	8.0	34.7	34.7	99.7	99.7	7.0	7.0		7.0	1.3		1.3	7.0		1.3	1.3	3.6	3.6	
				Bottom	5.0	25.3	25.3	7.9	7.9	34.7	34.7	99.8	99.8	7.0	7.0		7.0	1.2		1.2	7.0		1.2	1.2	3.8	3.7	3.5
					25.3	25.3	25.3	7.9	7.9	34.7	34.7	100.1	100.1	7.0	7.0		7.0	1.2		1.2	7.0		1.2	1.2	3.6	3.7	
M2	Sunny	Moderate	10:12	Surface	1.1	25.3	25.3	8.4	8.4	34.8	34.8	102.8	102.8	7.2	7.2	7.1	1.0	1.0	1.0	3.4	3.5	2.9					
					25.3	25.3	8.4	8.4	34.8	34.8	102.7	102.7	7.2	7.2	7.1		1.0	1.0		7.1	1.0		1.0	3.6	3.5		
				Middle	5.3	25.3	25.3	8.4	8.4	34.8	34.8	102.1	102.1	7.1	7.1		7.1	0.9		0.9	7.1		0.9	0.9	2.8	2.7	2.9
					25.3	25.3	25.3	8.4	8.4	34.8	34.8	102.1	102.1	7.1	7.1		7.1	1.0		0.9	7.1		1.0	0.9	2.6	2.7	
				Bottom	9.5	25.3	25.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.0		1.0	7.1		1.0	1.0	2.3	2.4	2.9
					25.3	25.3	25.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.0		1.0	7.1		1.0	1.0	2.4	2.4	
M3	Sunny	Moderate	10:54	Surface	1.0	25.3	25.3	8.5	8.5	34.5	34.5	101.0	101.1	7.1	7.1	7.1	0.9	0.9	1.5	2.8	3.1	2.8					
					25.3	25.3	8.5	8.5	34.5	34.5	101.1	101.1	7.1	7.1	7.1		0.9	0.9		7.1	0.9		0.9	3.3	3.1		
				Middle	3.7	25.3	25.3	8.6	8.6	34.6	34.6	100.6	100.6	7.0	7.0		7.0	1.5		1.4	7.0		1.4	1.4	3.0	2.9	2.8
					25.3	25.3	25.3	8.6	8.6	34.6	34.6	100.9	100.9	7.1	7.1		7.1	1.4		1.4	7.1		1.4	1.4	2.7	2.9	
				Bottom	6.5	25.3	25.4	8.6	8.6	34.8	34.8	98.0	98.0	6.8	6.8		6.8	2.1		2.1	6.8		2.1	2.1	2.3	2.4	2.8
					25.4	25.4	25.4	8.6	8.6	34.8	34.8	97.5	97.5	6.8	6.8		6.8	2.1		2.1	6.8		2.1	2.1	2.5	2.4	
M4	Sunny	Moderate	10:04	Surface	1.1	25.3	25.3	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1	7.1	1.1	1.1	1.1	2.9	2.7	3.3					
					25.3	25.3	8.5	8.5	34.8	34.8	102.2	102.2	7.1	7.1	7.1		1.1	1.1		7.1	1.1		1.1	2.5	2.7		
				Middle	5.0	25.3	25.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.2		1.2	7.1		1.2	1.2	3.3	3.3	3.3
					25.3	25.3	25.3	8.5	8.5	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.2		1.2	7.1		1.2	1.2	3.3	3.3	
				Bottom	9.0	25.3	25.3	8.5	8.4	34.8	34.8	101.7	101.7	7.1	7.1		7.1	1.2		1.2	7.1		1.2	1.2	3.8	3.9	3.3
					25.3	25.3	25.3	8.4	8.4	34.8	34.8	101.8	101.8	7.1	7.1		7.1	1.2		1.2	7.1		1.2	1.2	4.0	3.9	
M5	Sunny	Moderate	11:19																								

**Action and Limit Levels for Marine Water Quality on 23 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 1.2 NTU</u>	<u>C2: 1.3 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.5 mg/L</u>	<u>C2: 3.8 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.5 mg/L</u>	<u>C2: 3.8 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
<u>C2: 5.0 mg/L</u>		<u>C2: 5.5 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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  
23 April 2021

(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	16:00	Surface	1.0	21.1	21.1	8.1	8.1	34.8	34.8	102.3	102.3	7.1	7.1	7.1	1.1	1.1	7.1	3.5	3.2	2.8		
					21.0	21.1	8.1	8.1	34.8	34.8	102.3	102.3	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1				
				Middle	9.0	22.9	22.4	8.2	8.2	34.8	34.8	102.0	102.0	7.1	7.1	7.1	7.1	7.1	1.1	1.1	7.1		2.6	2.7
					21.9	22.4	8.2	8.2	34.8	34.8	102.0	102.0	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	7.1		2.8	
				Bottom	17.1	22.9	22.9	8.3	8.3	34.8	34.8	101.5	101.5	7.1	7.1	7.1	7.1	7.1	1.1	1.1	7.1		2.3	2.4
					22.9	22.9	8.3	8.3	34.8	34.8	101.4	101.5	7.1	7.1	7.1	1.0	1.1	7.1	1.0	1.1	7.1		2.4	
C2	Sunny	Moderate	14:20	Surface	1.1	21.7	22.3	8.4	8.4	34.8	34.8	101.2	101.2	7.1	7.1	7.1	1.0	1.0	7.1	3.4	3.4	3.6		
					22.9	22.3	8.4	8.4	34.8	34.8	101.2	101.2	7.1	7.1	7.1	1.1	1.0	7.1	1.1	1.0				
				Middle	16.6	22.9	22.9	8.4	8.4	34.8	34.8	102.9	102.9	7.1	7.1	7.1	7.1	7.1	1.1	1.1	7.1		3.6	3.6
					22.9	22.9	8.4	8.4	34.8	34.8	102.9	102.9	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	7.1		3.6	
				Bottom	32.1	22.9	22.9	8.4	8.4	34.8	34.8	102.5	102.5	7.1	7.1	7.1	7.1	7.1	1.0	1.0	7.1		4.0	3.8
					22.9	22.9	8.4	8.4	34.8	34.8	102.5	102.5	7.1	7.1	7.1	1.0	1.0	7.1	1.0	1.0	7.1		3.6	
G1	Sunny	Moderate	14:56	Surface	1.1	21.1	22.0	8.3	8.3	34.6	34.6	102.0	102.0	7.1	7.1	7.1	1.3	1.3	7.1	4.9	4.8	3.8		
					22.9	22.0	8.3	8.3	34.6	34.6	102.0	102.0	7.1	7.1	7.1	1.3	1.3	7.1	1.3	1.3				
				Middle	4.0	22.9	22.9	8.3	8.3	34.8	34.7	101.2	101.2	7.1	7.1	7.1	7.1	7.1	1.5	1.5	7.1		3.4	3.5
					22.9	22.9	8.3	8.3	34.7	34.7	101.2	101.2	7.1	7.1	7.1	1.5	1.5	7.1	1.5	1.5	7.1		3.5	
				Bottom	7.1	22.8	22.8	8.3	8.3	34.8	34.8	100.7	100.6	7.0	7.0	7.0	7.0	7.0	1.8	1.8	7.0		3.1	3.1
					22.8	22.8	8.3	8.3	34.8	34.8	100.5	100.6	7.0	7.0	7.0	1.9	1.8	7.0	1.9	1.8	7.0		3.1	
G2	Sunny	Moderate	14:28	Surface	1.0	21.0	22.0	8.5	8.5	34.8	34.8	101.4	101.4	7.1	7.1	7.1	1.0	1.0	7.1	4.1	4.1	4.7		
					22.9	22.0	8.5	8.5	34.8	34.8	101.4	101.4	7.1	7.1	7.1	0.9	1.0	7.1	0.9	1.0				
				Middle	5.1	22.9	22.9	8.5	8.5	34.8	34.8	101.1	101.1	7.1	7.1	7.1	7.1	7.1	0.9	0.9	7.1		4.4	4.6
					22.9	22.9	8.5	8.5	34.8	34.8	101.1	101.1	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	7.1		4.7	
				Bottom	9.0	22.8	22.8	8.5	8.5	34.8	34.8	102.9	102.9	7.1	7.1	7.1	7.1	7.1	1.0	0.9	7.1		5.5	5.6
					22.9	22.8	8.5	8.5	34.8	34.8	102.9	102.9	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	7.1		5.6	
G3	Sunny	Moderate	15:03	Surface	1.1	21.5	22.2	8.6	8.5	34.6	34.6	101.2	101.2	7.1	7.1	7.1	1.3	1.3	7.1	3.2	3.2	3.7		
					22.9	22.2	8.5	8.5	34.6	34.6	101.2	101.2	7.1	7.1	7.1	1.3	1.3	7.1	1.3	1.3				
				Middle	4.1	22.9	22.9	8.4	8.4	34.6	34.6	100.5	100.6	7.0	7.0	7.0	7.0	7.0	1.8	1.8	7.0		3.3	3.4
					22.9	22.9	8.4	8.4	34.6	34.6	100.6	100.6	7.0	7.0	7.0	1.8	1.8	7.0	1.8	1.8	7.0		3.4	
				Bottom	7.1	22.7	22.8	8.4	8.4	34.8	34.8	98.3	98.0	6.9	6.8	6.8	6.8	6.8	2.0	2.0	6.8		4.5	4.5
					22.8	22.8	8.4	8.4	34.9	34.8	97.7	98.0	6.8	6.8	6.8	2.0	2.0	6.8	2.0	2.0	6.8		4.4	
G4	Sunny	Moderate	15:16	Surface	1.0	21.4	22.2	8.1	8.1	34.8	34.8	104.4	104.4	7.3	7.3	7.3	1.0	0.9	7.3	3.5	3.8	3.3		
					23.0	22.2	8.1	8.1	34.8	34.8	104.4	104.4	7.3	7.3	7.3	0.9	0.9	7.3	0.9	0.9				
				Middle	4.1	21.0	22.0	8.0	8.0	34.8	34.8	103.9	103.9	7.3	7.3	7.3	7.3	7.3	1.1	1.1	7.3		3.4	3.3
					22.9	22.0	8.0	8.0	34.8	34.8	103.9	103.9	7.3	7.3	7.3	1.1	1.1	7.3	1.1	1.1	7.3		3.2	
				Bottom	7.0	22.9	22.9	8.0	8.0	34.8	34.8	102.1	102.0	7.1	7.1	7.1	7.1	7.1	1.9	1.9	7.1		2.5	2.8
					22.9	22.9	8.0	8.0	34.8	34.8	102.1	102.0	7.1	7.1	7.1	1.9	1.9	7.1	1.9	1.9	7.1		2.8	
M1	Sunny	Moderate	14:44	Surface	1.0	21.3	21.2	8.3	8.2	34.7	34.7	101.3	101.5	7.2	7.1	7.1	1.4	1.4	7.1	2.9	2.8	3.2		
					21.1	21.2	8.2	8.2	34.7	34.7	101.7	101.5	7.1	7.1	7.1	1.4	1.4	7.1	1.4	1.4				
				Middle	3.1	22.9	21.9	8.0	8.0	34.7	34.7	99.8	99.9	7.0	7.0	7.0	7.0	7.0	1.3	1.3	7.0		3.0	3.2
					21.0	21.9	8.0	8.0	34.7	34.7	100.0	99.9	7.0	7.0	7.0	1.3	1.3	7.0	1.3	1.3	7.0		3.4	
				Bottom	5.1	22.8	22.8	7.9	7.9	34.8	34.8	100.4	100.6	7.0	7.0	7.0	7.0	7.0	1.2	1.2	7.0		3.6	3.5
					22.8	22.8	7.9	7.9	34.8	34.8	100.7	100.6	7.0	7.0	7.0	1.2	1.2	7.0	1.2	1.2	7.0		3.4	
M2	Sunny	Moderate	14:22	Surface	1.1	21.0	22.0	8.5	8.5	34.8	34.8	101.5	101.6	7.2	7.2	7.2	1.0	1.0	7.2	2.9	2.9	3.5		
					22.9	22.0	8.5	8.5	34.8	34.8	101.6	101.6	7.2	7.2	7.2	1.1	1.0	7.2	1.1	1.0				
				Middle	5.5	22.8	22.8	8.5	8.5	34.8	34.8	101.1	101.2	7.1	7.1	7.1	7.1	7.1	0.9	0.9	7.1		3.6	3.4
					22.8	22.8	8.5	8.5	34.8	34.8	101.2	101.2	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9	7.1		3.2	
				Bottom	10.0	22.8	22.8	8.5	8.5	34.8	34.8	102.8	102.8	7.1	7.1	7.1	7.1	7.1	1.0	0.9	7.1		4.3	4.3
					22.8	22.8	8.5	8.5	34.8	34.8	102.8	102.8	7.1	7.1	7.1	1.0	0.9	7.1	1.0	0.9	7.1		4.3	
M3	Sunny	Moderate	15:10	Surface	1.0	21.5	22.2	8.5	8.5	34.5	34.5	100.8	100.9	7.1	7.1	7.1	0.9	0.9	7.1	2.0	2.4	3.1		
					23.0	22.2	8.5	8.5	34.5	34.5	100.9	100.9	7.1	7.1	7.1	0.9	0.9	7.1	0.9	0.9				
				Middle	4.1	22.9	22.9	8.6	8.6	34.7	34.7	100.0	100.2	7.0	7.0	7.0	7.0	7.0	1.9	1.8	7.0		3.0	3.3
					22.9	22.9	8.6	8.6	34.7	34.7	100.3	100.2	7.0	7.0	7.0	1.7	1.8	7.0	1.7	1.8	7.0		3.5	
				Bottom	7.1	22.7	22.7	8.6	8.6	34.8	34.8	98.8	98.6	6.9	6.9	6.9	6.9	6.9	2.3	2.3	6.9		3.8	3.8
					22.8	22.7	8.6	8.6	34.8	34.8	98.4	98.6	6.9	6.9	6.9	2.3	2.3	6.9	2.3	2.3	6.9		3.7	
M4	Sunny	Moderate	14:26	Surface	1.1	21.8	22.4	8.5	8.5	34.8	34.8	101.2	101.2	7.1	7.1	7.1	1.1	1.1	7.1	2.5	2.7	3.2		
					23.0	22.4	8.5	8.5	34.8	34.8	101.2	101.2	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1				
				Middle	5.0	22.9	22.9	8.5	8.5	34.8	34.8	102.8	102.8	7.1	7.1	7.1	7.1	7.1	1.2	1.2	7.1		3.0	3.0
					22.9	22.9	8.5	8.5	34.8	34.8	102.8	102.8	7.1	7.1	7.1	1.2	1.2	7.1	1.2	1.2	7.1		3.0	
				Bottom	9.0	22.8	22.8	8.5	8.5	34.8	34.8	102.6	102.6	7.1	7.1	7.1	7.1	7.1	1.2	1.1	7.1		4.0	4.1
					22.9	22.8	8.5	8.5	34.8	34.8	102.6	102.6	7.1	7.1	7.1	1.1	1.1	7.1	1.1	1.1	7.1		4.1	
M5	Sunny	Moderate	15:39	Surface	1.1	23.0	23.0	7.6	7.6	34.8	34.8	102.6	102.6	7.2	7.2	7.2	1.2	1.1	7.2	3.6	3.6	4.0		
					23.0	23.0	7.6	7.6	34.8	34.8	102.6	102.6	7.2	7.2	7.2	1.1	1.1	7.2	1.1	1.1				
				Middle	6.0	22.9	22.3	8.0	8.0	34.8	34.8	102.0	102.0	7.1	7									

**Action and Limit Levels for Marine Water Quality on 23 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 1.3 NTU</u>	<u>CI: 1.4 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 3.8 mg/L</u>	<u>CI: 4.2 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 3.8 mg/L</u>	<u>CI: 4.2 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 2.8 mg/L</u>	<u>CI: 3.1 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 2021

(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	12:26	Surface	1.0	20.6	20.6	8.2	8.2	34.5	34.5	86.8	87.3	6.4	6.4	6.7	0.7	0.7	0.9	2.0	2.2	2.6
					20.7	20.6	8.3	8.3	34.5	34.5	87.7	6.4	0.7	2.3								
				Middle	9.0	20.6	20.6	8.3	8.3	34.8	34.8	95.7	95.2	7.0	7.0		0.7	0.7		2.4	2.5	
					20.6	20.6	8.3	8.3	34.8	34.8	94.6	6.9	0.7	2.6								
				Bottom	17.0	20.7	20.7	8.3	8.3	35.1	35.1	94.2	94.9	6.9	6.9		1.3	1.3		3.0	3.0	
					20.7	20.6	8.3	8.3	35.0	35.0	95.5	7.0	1.4	3.0								
C2	Cloudy	Moderate	11:21	Surface	1.0	20.6	20.6	8.2	8.2	34.4	34.4	82.9	82.8	6.1	6.1	6.1	0.9	0.9	0.8	2.7	2.5	3.1
					20.6	20.6	8.2	8.2	34.4	34.4	82.9	6.1	0.9	2.3								
				Middle	16.1	20.6	20.6	8.2	8.2	34.4	34.4	82.5	82.7	6.1	6.1		0.7	0.7		3.4	3.3	
					20.6	20.6	8.2	8.2	34.4	34.4	82.5	6.1	0.7	3.1								
				Bottom	31.0	20.7	20.6	8.3	8.2	34.9	34.8	87.2	85.3	6.4	6.3		0.7	0.7		3.4	3.5	
					20.6	20.6	8.2	8.2	34.6	34.8	83.4	6.1	0.7	3.5								
G1	Cloudy	Moderate	11:49	Surface	1.1	20.6	20.6	8.2	8.2	34.5	34.4	91.4	91.3	6.7	6.7	6.7	0.7	0.7	0.7	4.1	3.8	2.9
					20.6	20.6	8.3	8.2	34.4	34.4	91.1	6.7	0.7	3.5								
				Middle	4.0	20.5	20.6	8.2	8.2	34.5	34.6	91.0	90.9	6.7	6.7		0.6	0.7		2.9	2.9	
					20.6	20.6	8.3	8.3	34.6	34.6	90.8	6.7	0.6	2.8								
				Bottom	7.1	20.6	20.6	8.3	8.3	34.6	34.6	90.9	90.7	6.7	6.7		0.8	0.8		2.0	2.2	
					20.6	20.6	8.3	8.3	34.6	34.6	90.4	6.6	0.8	2.3								
G2	Cloudy	Moderate	11:38	Surface	1.0	20.5	20.5	8.2	8.2	34.5	34.5	89.3	88.9	6.6	6.5	6.5	0.6	0.6	0.7	3.1	3.0	2.5
					20.5	20.5	8.2	8.2	34.5	34.5	88.5	6.5	0.6	2.9								
				Middle	5.0	20.6	20.5	8.2	8.2	34.6	34.6	86.7	87.0	6.4	6.4		0.7	0.7		2.4	2.4	
					20.5	20.5	8.2	8.2	34.6	34.6	87.3	6.4	0.7	2.4								
				Bottom	9.0	20.6	20.6	8.2	8.2	34.7	34.7	87.3	87.3	6.4	6.4		0.7	0.7		2.1	2.2	
					20.6	20.6	8.2	8.2	34.7	34.7	87.3	6.4	0.7	2.2								
G3	Cloudy	Moderate	11:57	Surface	1.0	20.6	20.6	8.2	8.2	34.5	34.5	91.7	91.2	6.7	6.7	6.7	0.7	0.7	0.7	2.6	2.8	2.6
					20.6	20.6	8.3	8.2	34.5	34.5	90.7	6.7	0.7	3.0								
				Middle	4.0	20.6	20.6	8.2	8.2	34.5	34.5	90.9	90.8	6.7	6.7		0.6	0.6		2.4	2.5	
					20.6	20.6	8.3	8.2	34.5	34.5	90.6	6.7	0.6	2.6								
				Bottom	7.1	20.6	20.6	8.3	8.3	34.7	34.6	90.5	90.4	6.6	6.6		0.8	0.8		2.4	2.4	
					20.6	20.6	8.3	8.3	34.6	34.6	90.2	6.6	0.8	2.3								
G4	Cloudy	Moderate	12:07	Surface	1.1	20.7	20.7	8.3	8.3	34.5	34.5	92.3	91.8	6.8	6.7	6.7	0.6	0.7	0.7	3.6	3.3	2.7
					20.8	20.6	8.3	8.3	34.5	34.5	91.2	6.7	0.7	3.0								
				Middle	4.1	20.6	20.6	8.3	8.3	34.6	34.6	91.5	91.4	6.7	6.7		0.8	0.8		2.7	2.6	
					20.7	20.6	8.3	8.3	34.6	34.6	91.2	6.7	0.8	2.5								
				Bottom	7.0	20.6	20.6	8.3	8.3	34.7	34.6	89.2	90.0	6.5	6.6		0.7	0.7		2.2	2.3	
					20.6	20.6	8.3	8.3	34.6	34.6	90.7	6.7	0.7	2.3								
M1	Cloudy	Moderate	11:45	Surface	1.0	20.5	20.5	8.2	8.2	34.5	34.5	90.0	88.4	6.6	6.5	6.4	1.6	1.6	1.6	3.7	3.5	2.9
					20.5	20.5	8.2	8.2	34.5	34.5	86.8	6.4	1.6	3.2								
				Middle	3.1	20.5	20.5	8.2	8.2	34.5	34.5	86.4	86.5	6.4	6.4		1.7	1.7		3.0	3.0	
					20.5	20.5	8.2	8.2	34.5	34.5	86.6	6.4	1.6	2.9								
				Bottom	5.0	20.5	20.5	8.2	8.2	34.5	34.5	86.0	86.3	6.3	6.3		1.6	1.6		2.4	2.4	
					20.5	20.5	8.2	8.2	34.5	34.5	86.5	6.4	1.6	2.3								
M2	Cloudy	Moderate	11:33	Surface	1.1	20.5	20.5	8.2	8.2	34.5	34.5	89.9	89.9	6.6	6.6	6.6	0.3	0.4	0.7	5.1	5.1	4.3
					20.5	20.6	8.2	8.2	34.5	34.7	89.8	6.6	0.4	5.1								
				Middle	6.0	20.6	20.6	8.2	8.2	34.8	34.7	88.9	89.0	6.5	6.5		0.8	0.8		4.3	4.2	
					20.6	20.6	8.2	8.2	34.6	34.7	89.0	6.5	0.8	4.0								
				Bottom	11.1	20.6	20.6	8.2	8.2	34.8	34.7	89.1	88.9	6.5	6.5		0.8	0.8		4.0	3.7	
					20.6	20.6	8.2	8.2	34.7	34.7	88.6	6.5	0.8	3.4								
M3	Cloudy	Moderate	12:01	Surface	1.0	20.7	20.7	8.3	8.3	34.5	34.5	91.7	91.6	6.7	6.7	6.7	0.8	0.8	0.8	2.8	2.7	3.7
					20.8	20.6	8.3	8.3	34.4	34.6	91.4	6.7	0.8	2.5								
				Middle	4.1	20.6	20.6	8.3	8.3	34.6	34.6	91.2	91.2	6.7	6.7		0.8	0.8		3.6	3.6	
					20.7	20.6	8.3	8.3	34.5	34.6	91.1	6.7	0.8	3.5								
				Bottom	7.1	20.6	20.6	8.3	8.3	34.6	34.6	91.0	90.9	6.7	6.7		1.0	1.0		5.2	5.0	
					20.6	20.6	8.3	8.3	34.6	34.6	90.8	6.7	1.0	4.7								
M4	Cloudy	Moderate	11:27	Surface	1.1	20.5	20.5	8.1	8.2	34.5	34.5	89.3	89.4	6.6	6.6	6.5	0.5	0.5	0.5	3.0	3.1	3.6
					20.5	20.6	8.2	8.2	34.5	34.5	89.4	6.6	0.5	3.1								
				Middle	5.0	20.6	20.6	8.1	8.2	34.7	34.6	87.5	87.8	6.4	6.4		0.4	0.4		3.3	3.2	
					20.6	20.6	8.2	8.2	34.6	34.6	88.0	6.5	0.4	3.1								
				Bottom	9.1	20.6	20.6	8.2	8.2	34.8	34.7	87.8	87.7	6.4	6.4		0.6	0.6		4.8	4.7	
					20.6	20.6	8.2	8.2	34.7	34.7	87.6	6.4	0.6	4.5								
M5	Cloudy	Moderate	12:19	Surface	1.0	20.6	20.6	8.2	8.2	34.4	34.4	84.1	84.5	6.2	6.2	6.2	0.6	0.7	1.0	5.2	5.1	4.0
					20.6	20.6	8.2	8.2	34.4	34.4	84.9	6.2	0.7	5.0								
				Middle	5.6	20.6	20.6	8.2	8.2	34.5	34.5	84.2	84.1	6.2	6.2		0.8	0.8		3.7	3.7	
					20.6	20.6	8.2	8.2	34.5	34.5	83.9	6.2	0.9	3.7								
				Bottom	10.0	20.7	20.7	8.2	8.3	35.0	35.0	91.0	91.3	6.7	6.7		1.4	1.4		3.4	3.1	
					20.7	20.7	8.3	8.3	35.1	35.0	91.5	6.7	1.5	2.8								
M6	Cloudy	Moderate	12:15	Surface	-	-	-	-	-	-	-	-	-	-	6.5	-	-	1.5	-	-	2.8	
					-	-	-	-	-	-	-	-	-	-								
				Middle	2.1	20.6	20.6	8.2	8.2	34.6	34.6	88.2	88.2	6.5		6.5	1.6		1.5	2.6		2.8
					20.6	20.6	8.2	8.2	34.6	34.6	88.2	6.5	1.5	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 26 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 0.8 NTU</u>	<u>C2: 0.9 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.0 mg/L</u>	<u>C2: 3.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.0 mg/L</u>	<u>C2: 3.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
<u>C2: 4.1 mg/L</u>		<u>C2: 4.5 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 2021

(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	17:30	Surface	1.0	20.6	20.6	8.2	8.2	34.6	34.6	85.9	86.0	6.3	6.3	6.4	0.6	0.6	0.6	1.8	2.0	2.3				
					20.6	8.3	8.2	34.6	34.6	86.1	86.0	6.3	6.3	0.6	0.6		2.1	2.0								
				Middle	9.2	20.6	20.6	8.3	8.3	34.7	34.7	86.6	87.7	6.3	6.4		6.4	0.6		0.6	0.6		2.4	2.3		
					20.6	8.3	8.3	34.7	34.7	88.8	87.7	6.5	6.4	0.6	0.6		0.6	2.2		2.3						
				Bottom	17.6	20.6	20.6	8.3	8.3	34.9	34.8	89.2	89.6	6.5	6.6		6.6	0.7		0.7	6.6		0.7	0.7	2.6	2.8
					20.6	8.3	8.3	34.8	34.8	89.9	89.6	6.6	6.6	6.6	0.6		0.6	6.6		0.6	0.6		2.9	2.8		
C2	Cloudy	Moderate	16:39	Surface	1.1	20.7	20.7	8.1	8.2	34.4	34.5	83.8	84.2	6.1	6.2	6.3	0.7	0.7	0.7	3.3	3.4	2.7				
					20.7	8.2	8.2	34.5	34.5	84.6	84.2	6.2	6.2	6.3	0.7		0.7	6.3		0.7	0.7		3.4	3.4		
				Middle	16.1	20.6	20.6	8.2	8.2	34.8	34.8	86.8	86.8	6.4	6.4		6.4	0.7		0.7	6.4		0.7	0.7	2.5	2.7
					20.6	8.2	8.2	34.8	34.8	86.7	86.8	6.4	6.4	6.4	0.7		0.7	6.4		0.7	0.7		2.8	2.7		
				Bottom	31.1	20.7	20.7	8.2	8.2	35.0	35.0	90.0	89.4	6.6	6.5		6.5	0.6		0.6	6.5		0.6	0.6	2.3	2.2
					20.7	8.2	8.2	34.9	35.0	88.7	89.4	6.5	6.5	6.5	0.6		0.6	6.5		0.6	0.6		2.0	2.2		
G1	Cloudy	Moderate	17:05	Surface	1.0	20.8	20.8	8.3	8.3	34.5	34.5	95.7	95.1	7.0	7.0	6.9	0.4	0.5	0.7	3.4	3.2	2.9				
					20.8	8.3	8.3	34.4	34.5	94.4	95.1	6.9	7.0	6.9	0.5		0.5	6.9		0.5	0.5		3.0	3.2		
				Middle	4.0	20.7	20.7	8.3	8.3	34.6	34.6	93.9	93.9	6.9	6.9		6.9	0.7		0.7	6.9		0.7	0.7	2.8	2.9
					20.7	8.3	8.3	34.6	34.6	93.9	93.9	6.9	6.9	6.9	0.7		0.7	6.9		0.7	0.7		2.9	2.9		
				Bottom	7.1	20.6	20.6	8.3	8.3	34.7	34.7	92.6	92.8	6.8	6.8		6.8	0.8		0.8	6.8		0.8	0.8	2.6	2.5
					20.7	8.3	8.3	34.6	34.7	93.0	92.8	6.8	6.8	6.8	0.8		0.8	6.8		0.8	0.8		2.4	2.5		
G2	Cloudy	Moderate	16:55	Surface	1.0	20.6	20.6	8.3	8.3	34.6	34.6	95.0	94.8	7.0	6.9	6.9	0.5	0.5	0.4	1.9	2.1	2.6				
					20.6	8.3	8.3	34.6	34.6	94.5	94.8	6.9	6.9	6.9	0.5		0.5	6.9		0.5	0.5		2.2	2.1		
				Middle	5.0	20.6	20.6	8.3	8.3	34.6	34.6	94.7	94.6	6.9	6.9		6.9	0.4		0.4	6.9		0.4	0.4	2.3	2.5
					20.7	8.3	8.3	34.6	34.6	94.4	94.6	6.9	6.9	6.9	0.4		0.4	6.9		0.4	0.4		2.6	2.5		
				Bottom	9.0	20.6	20.6	8.3	8.3	34.7	34.7	93.3	93.6	6.8	6.9		6.9	0.4		0.4	6.9		0.4	0.4	3.3	3.2
					20.6	8.3	8.3	34.7	34.7	93.8	93.6	6.9	6.9	6.9	0.4		0.4	6.9		0.4	0.4		3.0	3.2		
G3	Cloudy	Moderate	17:09	Surface	1.0	20.8	20.8	8.3	8.3	34.5	34.5	96.3	95.9	7.0	7.0	7.0	0.5	0.6	0.8	3.4	3.5	3.2				
					20.8	8.3	8.3	34.5	34.5	95.5	95.9	7.0	7.0	7.0	0.6		0.6	7.0		0.6	0.6		3.6	3.5		
				Middle	4.0	20.7	20.7	8.3	8.3	34.6	34.6	94.1	94.3	6.9	6.9		6.9	0.7		0.7	6.9		0.7	0.7	3.1	3.2
					20.7	8.3	8.3	34.6	34.6	94.5	94.3	6.9	6.9	6.9	0.7		0.7	6.9		0.7	0.7		3.3	3.2		
				Bottom	7.0	20.6	20.6	8.3	8.3	34.7	34.7	91.8	91.6	6.7	6.7		6.7	1.0		1.0	6.7		1.0	1.0	2.9	3.0
					20.6	8.3	8.3	34.7	34.7	91.4	91.6	6.7	6.7	6.7	1.1		1.0	6.7		1.1	1.0		3.0	3.0		
G4	Cloudy	Moderate	17:15	Surface	1.1	20.8	20.8	8.3	8.3	34.5	34.5	95.8	95.5	7.0	7.0	6.9	0.7	0.7	0.8	3.4	3.3	3.0				
					20.8	8.3	8.3	34.5	34.5	95.1	95.5	7.0	7.0	6.9	0.7		0.7	6.9		0.7	0.7		3.2	3.3		
				Middle	4.1	20.6	20.6	8.3	8.3	34.6	34.6	94.1	93.9	6.9	6.9		6.9	0.7		0.7	6.9		0.7	0.7	3.2	3.1
					20.6	8.3	8.3	34.6	34.6	93.7	93.9	6.9	6.9	6.9	0.7		0.7	6.9		0.7	0.7		3.0	3.1		
				Bottom	7.0	20.6	20.6	8.3	8.3	34.7	34.7	93.1	93.3	6.8	6.8		6.8	1.0		1.0	6.8		1.0	1.0	2.2	2.5
					20.6	8.3	8.3	34.7	34.7	93.4	93.3	6.9	6.8	6.8	1.0		1.0	6.8		1.0	1.0		2.8	2.5		
M1	Cloudy	Moderate	16:59	Surface	1.0	20.7	20.7	8.3	8.3	34.5	34.5	91.4	91.2	6.7	6.7	6.7	0.8	0.8	0.8	4.4	4.0	3.4				
					20.7	8.3	8.3	34.5	34.5	90.9	91.2	6.7	6.7	6.7	0.8		0.8	6.7		0.8	0.8		3.6	4.0		
				Middle	3.0	20.7	20.7	8.3	8.3	34.6	34.6	90.9	91.0	6.7	6.7		6.7	0.9		0.8	6.7		0.9	0.8	3.1	3.3
					20.7	8.3	8.3	34.6	34.6	91.0	91.0	6.7	6.7	6.7	0.8		0.8	6.7		0.8	0.8		3.4	3.3		
				Bottom	5.0	20.7	20.7	8.3	8.3	34.8	34.8	91.2	91.1	6.7	6.7		6.7	0.7		0.7	6.7		0.7	0.7	2.8	2.9
					20.7	8.3	8.3	34.8	34.8	91.0	91.1	6.7	6.7	6.7	0.6		0.7	6.7		0.6	0.7		3.0	2.9		
M2	Cloudy	Moderate	16:48	Surface	1.1	20.7	20.7	8.2	8.2	34.5	34.5	87.9	88.8	6.5	6.5	6.5	0.4	0.4	0.7	3.8	4.1	3.4				
					20.6	8.2	8.2	34.6	34.5	89.7	88.8	6.6	6.5	6.5	0.4		0.4	6.5		0.4	0.4		4.4	4.1		
				Middle	6.0	20.6	20.6	8.3	8.3	34.7	34.7	89.6	89.6	6.6	6.6		6.6	0.7		0.7	6.6		0.7	0.7	3.5	3.4
					20.6	8.3	8.3	34.7	34.7	89.5	89.6	6.6	6.6	6.6	0.6		0.6	6.6		0.6	0.6		3.2	3.4		
				Bottom	11.0	20.6	20.6	8.3	8.3	34.8	34.8	90.5	90.2	6.6	6.6		6.6	1.0		1.0	6.6		1.0	1.0	3.0	2.8
					20.6	8.3	8.3	34.7	34.8	89.9	90.2	6.6	6.6	6.6	0.9		1.0	6.6		0.9	1.0		2.5	2.8		
M3	Cloudy	Moderate	17:12	Surface	1.0	20.8	20.8	8.3	8.3	34.4	34.5	97.2	94.8	7.1	6.9	6.9	0.4	0.4	0.7	2.2	2.1	3.1				
					20.8	8.3	8.3	34.5	34.5	92.4	94.8	6.8	6.9	6.9	0.5		0.4	6.9		0.5	0.4		1.9	2.1		
				Middle	4.0	20.7	20.7	8.3	8.3	34.6	34.6	93.9	93.3	6.9	6.8		6.8	0.7		0.7	6.8		0.7	0.7	3.1	3.4
					20.6	8.3	8.3	34.6	34.6	92.6	93.3	6.8	6.8	6.8	0.7		0.7	6.8		0.7	0.7		3.6	3.4		
				Bottom	7.1	20.6	20.6	8.3	8.3	34.7	34.7	91.4	91.1	6.7	6.7		6.7	1.1		1.1	6.7		1.1	1.1	4.1	4.0
					20.6	8.3	8.3	34.7	34.7	90.8	91.1	6.7	6.7	6.7	1.1		1.1	6.7		1.1	1.1		3.8	4.0		
M4	Cloudy	Moderate	16:45	Surface	1.1	20.6	20.7	8.2	8.2	34.6	34.5	91.8	89.9	6.7	6.6	6.6	0.4	0.4	0.6	3.1	3.2	3.0				
					20.7	8.2	8.2	34.5	34.5	87.9	89.9	6.4	6.6	6.6	0.4		0.4	6.6		0.4	0.4		3.3	3.2		
				Middle	5.0	20.7	20.7	8.2	8.2	34.7	34.7	89.6	89.6	6.6	6.6		6.6	0.5		0.5	6.6		0.5	0.5	2.9	3.0
					20.7	8.2	8.2	34.7	34.7	89.6	89.6	6.6	6.6	6.6	0.5		0.5	6.6		0.5	0.5		3.1	3.0		
				Bottom	9.0	20.6	20.6	8.2	8.2	34.8	34.8	89.2	88.8	6.5	6.5		6.5	0.8		0.8	6.5		0.8	0.8	2.6	2.8
					20.6	8.3	8.2	34.8	34.8	88.3	88.8	6.5	6.5	6.5	0.9		0.8	6.5		0.9	0.8		2.9	2.8		
M5	Cloudy	Moderate	17:25	Surface	1.1	20.7	20.7	8.3	8.3	34.6	34.6	94.0	93.7	6.9	6.9	6.8	0.4	0.4	0.4	2.2	2.4	2.8				
					20.7	8.3	8.3	34.6	34.6	93.3	93.7	6.8	6.8	6.8	0.4		0.4	6.8		0.4	0.4		2.5	2.4		
				Middle	5.4	20.7	20.7	8.3	8.3	34.6	34.6	93.2	93.3	6.8	6.8		6.8	0.3		0.3	6.8		0.3	0.3	2.8	2.7
					20.7	8.3	8.3	34.6	34.6	93.3	93.3	6.8	6.8	6.8	0.4		0.3	6.8		0.4	0.3		2.6	2.7		

**Action and Limit Levels for Marine Water Quality on 26 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 0.8 NTU</u>	<u>CI: 0.9 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 2.3 mg/L</u>	<u>CI: 2.5 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 2.3 mg/L</u>	<u>CI: 2.5 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 3.3 mg/L</u>	<u>CI: 3.6 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 2021

(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	13:54	Surface	1.1	23.5	23.5	8.3	8.3	33.2	33.2	125.3	125.3	9.5	9.5	9.2	0.3	0.3	0.4	6.5	6.6	5.7		
						23.5		8.3		33.2		125.3		9.5			0.3			6.6				
				Middle	9.0	22.5	22.5	8.3	8.3	33.5	33.5	115.8	115.9	8.9	8.9	8.2	0.4	0.4		0.4	0.4		5.2	5.3
						22.2		8.3		33.5		115.9		8.9			0.4			5.4				
				Bottom	17.1	22.2	22.2	8.3	8.3	33.9	33.9	106.7	106.7	8.2	8.2	8.2	0.5	0.5		0.5	0.5		4.9	5.2
						22.2		8.3		33.9		106.6		8.2			0.5			5.5				
C2	Sunny	Moderate	12:42	Surface	1.0	23.0	23.0	8.2	8.2	33.1	33.1	116.2	116.2	8.9	8.9	8.7	0.7	0.7	0.6	6.2	6.4	5.9		
						23.0		8.2		33.1		116.2		8.9			0.7			6.6				
				Middle	16.1	22.4	22.4	8.2	8.2	33.5	33.5	109.3	109.4	8.4	8.4	8.3	0.6	0.6		0.6	0.6		6.4	6.2
						22.4		8.2		33.5		109.4		8.4			0.6			6.0				
				Bottom	31.0	22.4	22.4	8.3	8.3	33.6	33.6	108.2	108.2	8.3	8.3	8.3	0.6	0.6		0.6	0.6		5.3	5.2
						22.4		8.3		33.6		108.2		8.3			0.6			5.0				
G1	Sunny	Moderate	13:23	Surface	1.1	23.5	23.5	8.3	8.3	33.1	33.1	124.2	124.3	9.4	9.4	9.3	0.4	0.4	0.7	6.3	6.7	6.4		
						23.5		8.3		33.1		124.4		9.4			0.4			7.0				
				Middle	4.1	22.5	22.5	8.3	8.3	33.3	33.3	118.9	118.9	9.2	9.1	8.5	0.7	0.7		0.7	0.7		6.8	6.6
						22.5		8.3		33.3		118.9		9.1			0.7			6.4				
				Bottom	7.0	22.4	22.4	8.3	8.3	33.4	33.4	110.3	110.3	8.5	8.5	8.5	1.1	1.1		1.1	1.1		5.8	6.0
						22.4		8.3		33.4		110.3		8.5			1.1			6.1				
G2	Sunny	Moderate	13:04	Surface	1.1	23.2	23.2	8.3	8.3	33.3	33.3	123.4	123.4	9.4	9.4	9.4	0.4	0.4	0.7	5.0	4.8	5.3		
						23.2		8.3		33.3		123.4		9.4			0.4			4.5				
				Middle	5.0	22.7	22.8	8.3	8.3	33.3	33.3	122.8	122.9	9.4	9.4	8.6	0.5	0.5		0.5	0.5		5.0	5.1
						22.8		8.3		33.3		122.9		9.4			0.5			5.1				
				Bottom	9.1	22.4	22.4	8.3	8.3	33.5	33.5	111.6	111.6	8.6	8.6	8.6	1.3	1.4		1.3	1.4		6.5	6.1
						22.4		8.3		33.5		111.5		8.6			1.4			5.6				
G3	Sunny	Moderate	13:27	Surface	1.1	23.5	23.5	8.3	8.3	33.1	33.1	127.6	127.7	9.7	9.7	9.8	0.3	0.3	0.6	5.2	5.4	5.7		
						23.5		8.3		33.1		127.7		9.7			0.3			5.5				
				Middle	4.1	22.7	22.7	8.4	8.4	33.3	33.3	130.1	130.1	10.0	10.0	8.8	0.6	0.6		0.6	0.6		5.4	5.7
						22.7		8.4		33.3		130.1		10.0			0.6			6.0				
				Bottom	7.0	22.4	22.4	8.3	8.3	33.4	33.4	114.9	114.9	8.9	8.8	8.8	0.9	0.9		0.9	0.9		6.3	6.0
						22.4		8.3		33.4		114.8		8.8			0.9			5.6				
G4	Sunny	Moderate	13:36	Surface	1.0	23.3	23.3	8.3	8.3	33.2	33.2	127.6	127.7	9.7	9.7	9.6	0.3	0.3	0.6	4.8	5.0	5.7		
						23.3		8.3		33.2		127.7		9.7			0.3			5.1				
				Middle	4.0	22.6	22.6	8.3	8.3	33.3	33.3	123.8	123.9	9.5	9.5	9.0	0.4	0.4		0.4	0.4		6.2	6.0
						22.6		8.3		33.3		123.9		9.5			0.4			5.8				
				Bottom	7.1	22.5	22.5	8.3	8.3	33.3	33.3	117.0	117.0	9.0	9.0	9.0	1.3	1.2		1.2	1.2		6.5	6.3
						22.5		8.3		33.3		117.0		9.0			1.2			6.0				
M1	Sunny	Moderate	13:17	Surface	1.1	23.4	23.4	8.3	8.3	33.3	33.3	118.0	118.1	8.9	8.9	9.0	0.6	0.6	1.1	5.8	5.6	6.2		
						23.4		8.3		33.3		118.2		9.0			0.6			5.4				
				Middle	3.1	22.6	22.6	8.3	8.3	33.3	33.3	116.8	116.8	9.0	9.0	8.8	1.1	1.1		1.1	1.1		6.2	6.5
						22.6		8.3		33.3		116.8		9.0			1.1			6.8				
				Bottom	5.1	22.5	22.5	8.3	8.3	33.4	33.4	114.3	114.3	8.8	8.8	8.8	1.6	1.6		1.6	1.6		6.9	6.6
						22.5		8.3		33.4		114.2		8.8			1.6			6.2				
M2	Sunny	Moderate	12:58	Surface	1.1	22.9	22.9	8.3	8.3	33.3	33.3	122.6	122.6	9.4	9.4	9.1	0.4	0.4	0.7	4.2	4.6	5.3		
						22.9		8.3		33.3		122.6		9.4			0.4			5.0				
				Middle	6.0	22.5	22.5	8.3	8.3	33.4	33.4	115.7	115.8	8.9	8.9	8.4	0.5	0.5		0.5	0.5		5.7	5.3
						22.5		8.3		33.4		115.8		8.9			0.5			4.8				
				Bottom	11.0	22.4	22.4	8.3	8.3	33.5	33.5	108.4	108.4	8.4	8.4	8.4	1.0	1.0		1.0	1.0		6.4	6.1
						22.4		8.3		33.5		108.4		8.4			1.1			5.8				
M3	Sunny	Moderate	13:31	Surface	1.1	23.1	23.1	8.3	8.3	33.1	33.1	130.5	130.5	10.0	10.0	9.8	0.4	0.4	0.6	4.9	5.3	6.0		
						23.1		8.3		33.1		130.5		10.0			0.4			5.7				
				Middle	4.0	22.6	22.6	8.3	8.3	33.3	33.3	125.2	125.3	9.6	9.6	8.9	0.4	0.4		0.4	0.4		6.2	6.2
						22.6		8.3		33.3		125.3		9.6			0.4			6.1				
				Bottom	7.0	22.5	22.5	8.3	8.3	33.3	33.3	116.2	116.2	9.0	8.9	8.9	0.9	0.9		0.9	0.9		6.0	6.4
						22.5		8.3		33.3		116.1		8.9			0.9			6.8				
M4	Sunny	Moderate	12:52	Surface	1.0	22.6	22.6	8.3	8.3	33.4	33.4	111.8	111.8	8.6	8.6	8.5	1.1	1.1	0.8	5.2	5.4	6.0		
						22.6		8.3		33.4		111.8		8.6			1.1			5.6				
				Middle	5.0	22.4	22.4	8.3	8.3	33.6	33.6	110.2	110.2	8.5	8.5	8.5	0.6	0.6		0.6	0.6		6.2	6.1
						22.4		8.3		33.6		110.2		8.5			0.6			5.9				
				Bottom	9.0	22.4	22.4	8.3	8.3	33.6	33.6	109.8	109.8	8.5	8.5	8.5	0.6	0.6		0.6	0.6		6.3	6.6
						22.4		8.3		33.6		109.8		8.5			0.6			6.8				
M5	Sunny	Moderate	13:48	Surface	1.1	22.9	22.9	8.3	8.3	33.3	33.3	116.9	117.0	8.9	8.9	8.7	0.9	0.9	1.4	4.4	4.3	4.9		
						22.9		8.3		33.3		117.1		9.0			0.9			4.1				
				Middle	5.5	22.4	22.4	8.3	8.3	33.6	33.6	110.9	110.9	8.5	8.5	8.4	1.7	1.7		1.7	1.7		4.8	5.2
						22.4		8.3		33.6		110.9		8.5			1.7			5.6				
				Bottom	10.0	22.3	22.3	8.3	8.3	33.7	33.7	109.4	109.4	8.4	8.4	8.4	1.7	1.7		1.7	1.7		5.0	5.2
						22.3		8.3		33.7		109.4		8.4			1.7			5.4				
M6	Sunny	Moderate	13:41	Surface	-	-	-	-	-	-	-	-	-	-	9.6	-	-	0.4	-	-	4.9			
						-		-		-		-		-		-			-			-		
				Middle	2.1	22.7	22.7	8.3	8.3	33.2	33.2	125.2	125.3	9.6	9.6	8.5	0.4		0.4	0.4		0.4	4.6	4.9
						22.7		8.3		33.2		125.3		9.6			0.4			5.2				
				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 28 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 0.7 NTU</u>	<u>C2: 0.8 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 7.7 mg/L</u>	<u>C2: 8.3 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 7.7 mg/L</u>	<u>C2: 8.3 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 6.2 mg/L</u>	<u>C2: 6.7 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 2021

(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	19:29	Surface	1.1	23.5	23.5	8.3	8.3	33.2	33.2	124.8	124.9	9.4	9.4	9.2	0.3	0.3	0.4	3.8	3.9	4.8		
					23.5	8.3	8.3	33.2	33.2	124.9	124.9	9.5	9.4	9.2	0.3	0.3	0.4	4.0	3.9	4.8				
				Middle	9.0	22.5	22.5	8.3	8.3	33.5	33.5	115.7	115.8	115.8	8.9	8.9	8.9	8.9	0.4	0.4	0.4	5.2	5.2	4.8
					22.5	8.3	8.3	33.5	33.5	115.8	115.8	8.9	8.9	8.9	0.4	0.4	0.4	5.2	5.2	4.8				
				Bottom	17.1	22.2	22.2	8.3	8.3	33.9	33.9	106.9	106.9	106.9	8.3	8.2	8.2	8.2	0.5	0.5	0.5	5.7	5.4	4.8
					22.2	8.3	8.3	33.9	33.9	106.8	106.9	8.2	8.2	8.2	0.5	0.5	0.5	5.0	5.4	4.8				
C2	Sunny	Moderate	18:17	Surface	1.0	23.0	23.0	8.2	8.2	33.1	33.1	116.2	116.2	8.9	8.9	8.7	0.7	0.7	0.6	5.4	5.8	5.1		
					23.0	8.2	8.2	33.1	33.1	116.2	116.2	8.9	8.9	8.7	0.7	0.7	0.6	6.2	5.8	5.1				
				Middle	16.0	22.4	22.4	8.2	8.2	33.5	33.5	109.4	109.5	109.5	8.4	8.4	8.4	8.4	0.6	0.6	0.6	4.9	4.9	5.1
					22.4	8.2	8.2	33.5	33.5	109.5	109.5	8.4	8.4	8.4	0.6	0.6	0.6	4.9	4.9	5.1				
				Bottom	31.0	22.4	22.4	8.3	8.3	33.6	33.6	108.4	108.4	108.4	8.4	8.4	8.4	8.4	0.6	0.6	0.6	4.8	4.6	5.1
					22.4	8.3	8.3	33.6	33.6	108.3	108.4	8.4	8.4	8.4	0.6	0.6	0.6	4.4	4.6	5.1				
G1	Sunny	Moderate	18:57	Surface	1.0	23.5	23.5	8.3	8.3	33.1	33.1	124.0	124.0	9.4	9.4	9.3	0.3	0.3	0.7	3.8	3.7	4.3		
					23.5	8.3	8.3	33.1	33.1	124.0	124.0	9.4	9.4	9.3	0.3	0.3	0.7	3.5	3.7	4.3				
				Middle	4.0	22.6	22.6	8.3	8.3	33.3	33.3	118.9	118.9	118.9	9.2	9.2	9.2	9.2	0.7	0.7	0.7	4.1	4.4	4.3
					22.5	8.3	8.3	33.3	33.3	118.9	118.9	9.2	9.2	9.2	0.7	0.7	0.7	4.6	4.4	4.3				
				Bottom	7.1	22.4	22.4	8.3	8.3	33.4	33.4	110.2	110.3	110.3	8.5	8.5	8.5	8.5	1.1	1.1	1.1	4.6	4.8	4.3
					22.4	8.3	8.3	33.4	33.4	110.3	110.3	8.5	8.5	8.5	1.1	1.1	1.1	4.9	4.8	4.3				
G2	Sunny	Moderate	18:38	Surface	1.1	23.2	23.2	8.3	8.3	33.3	33.3	123.3	123.4	9.4	9.4	9.4	0.3	0.4	0.7	4.4	4.2	4.6		
					23.2	8.3	8.3	33.3	33.3	123.3	123.4	9.4	9.4	9.4	0.3	0.4	0.7	3.9	4.2	4.6				
				Middle	5.0	22.7	22.7	8.3	8.3	33.3	33.3	122.6	122.7	122.7	9.4	9.4	9.4	9.4	0.5	0.5	0.5	4.0	4.4	4.6
					22.7	8.3	8.3	33.3	33.3	122.7	122.7	9.4	9.4	9.4	0.5	0.5	0.5	4.7	4.4	4.6				
				Bottom	9.1	22.5	22.5	8.3	8.3	33.4	33.4	112.0	111.9	111.9	8.6	8.6	8.6	8.6	1.2	1.2	1.2	5.5	5.4	4.6
					22.5	8.3	8.3	33.4	33.4	111.8	111.9	8.6	8.6	8.6	1.2	1.2	1.2	5.2	5.4	4.6				
G3	Sunny	Moderate	19:01	Surface	1.1	23.5	23.5	8.3	8.3	33.1	33.1	127.8	127.9	9.7	9.7	9.8	0.3	0.3	0.6	3.9	4.3	4.1		
					23.5	8.3	8.3	33.1	33.1	127.9	127.9	9.7	9.7	9.8	0.3	0.3	0.6	4.6	4.3	4.1				
				Middle	4.1	22.7	22.7	8.4	8.4	33.3	33.3	130.1	130.1	130.1	10.0	10.0	10.0	10.0	0.6	0.6	0.6	3.6	4.1	4.1
					22.7	8.4	8.4	33.3	33.3	130.1	130.1	10.0	10.0	10.0	0.6	0.6	0.6	4.5	4.1	4.1				
				Bottom	7.0	22.4	22.4	8.3	8.3	33.4	33.4	114.6	113.6	113.6	8.8	8.8	8.8	8.8	0.9	0.9	0.9	4.2	3.9	4.1
					22.4	8.3	8.3	33.4	33.4	112.6	113.6	8.7	8.8	8.8	0.9	0.9	0.9	3.6	3.9	4.1				
G4	Sunny	Moderate	19:10	Surface	1.0	23.3	23.3	8.3	8.3	33.2	33.2	127.7	127.8	9.7	9.7	9.6	0.3	0.3	0.6	3.2	3.2	4.2		
					23.3	8.3	8.3	33.2	33.2	127.8	127.8	9.7	9.7	9.6	0.3	0.3	0.6	3.2	3.2	4.2				
				Middle	4.0	22.6	22.6	8.3	8.3	33.3	33.3	123.0	124.0	124.0	9.5	9.5	9.5	9.5	0.4	0.4	0.4	4.3	4.6	4.2
					22.6	8.3	8.3	33.3	33.3	124.0	124.0	9.5	9.5	9.5	0.4	0.4	0.4	4.8	4.6	4.2				
				Bottom	7.0	22.5	22.5	8.3	8.3	33.3	33.3	116.9	117.0	117.0	9.0	9.0	9.0	9.0	1.2	1.2	1.2	5.0	4.9	4.2
					22.5	8.3	8.3	33.3	33.3	117.0	117.0	9.0	9.0	9.0	1.2	1.2	1.2	4.7	4.9	4.2				
M1	Sunny	Moderate	18:51	Surface	1.1	23.4	23.4	8.3	8.3	33.3	33.3	118.3	118.4	9.0	9.0	9.0	0.6	0.6	0.6	4.6	4.3	4.8		
					23.4	8.3	8.3	33.3	33.3	118.4	118.4	9.0	9.0	9.0	0.6	0.6	0.6	4.0	4.3	4.8				
				Middle	3.1	22.6	22.6	8.3	8.3	33.3	33.3	116.8	116.8	116.8	9.0	9.0	9.0	9.0	1.1	1.1	1.1	5.2	5.0	4.8
					22.6	8.3	8.3	33.3	33.3	116.7	116.8	9.0	9.0	9.0	1.1	1.1	1.1	4.7	5.0	4.8				
				Bottom	5.1	22.5	22.5	8.3	8.3	33.4	33.4	114.2	114.2	114.2	8.8	8.8	8.8	8.8	1.6	1.6	1.6	5.1	5.3	4.8
					22.5	8.3	8.3	33.4	33.4	114.1	114.2	8.8	8.8	8.8	1.6	1.6	1.6	5.4	5.3	4.8				
M2	Sunny	Moderate	18:32	Surface	1.1	22.9	22.9	8.3	8.3	33.3	33.3	122.7	122.8	9.4	9.4	9.1	0.5	0.5	0.5	6.8	6.7	4.9		
					22.9	8.3	8.3	33.3	33.3	122.8	122.8	9.4	9.4	9.1	0.5	0.5	0.5	6.5	6.7	4.9				
				Middle	6.0	22.5	22.5	8.3	8.3	33.4	33.4	115.9	116.0	116.0	8.9	8.9	8.9	8.9	0.5	0.5	0.5	3.8	4.2	4.9
					22.5	8.3	8.3	33.4	33.4	116.0	116.0	8.9	8.9	8.9	0.5	0.5	0.5	4.5	4.2	4.9				
				Bottom	11.1	22.4	22.4	8.3	8.3	33.5	33.5	108.3	108.3	108.3	8.4	8.4	8.4	8.4	1.1	1.1	1.1	3.8	4.0	4.9
					22.4	8.3	8.3	33.5	33.5	108.3	108.3	8.4	8.4	8.4	1.1	1.1	1.1	4.2	4.0	4.9				
M3	Sunny	Moderate	19:05	Surface	1.0	23.2	23.2	8.4	8.4	33.1	33.1	130.9	130.9	10.0	10.0	9.8	0.4	0.4	0.4	5.6	6.0	5.1		
					23.2	8.4	8.4	33.1	33.1	130.8	130.9	10.0	10.0	9.8	0.4	0.4	0.4	6.4	6.0	5.1				
				Middle	4.0	22.6	22.6	8.3	8.3	33.3	33.3	125.0	125.1	125.1	9.6	9.6	9.6	9.6	0.4	0.4	0.4	5.1	4.8	5.1
					22.6	8.3	8.3	33.3	33.3	125.1	125.1	9.6	9.6	9.6	0.4	0.4	0.4	4.4	4.8	5.1				
				Bottom	7.1	22.5	22.5	8.3	8.3	33.3	33.3	116.4	116.4	116.4	9.0	9.0	9.0	9.0	0.9	0.9	0.9	4.6	4.7	5.1
					22.5	8.3	8.3	33.3	33.3	116.3	116.4	9.0	9.0	9.0	0.9	0.9	0.9	4.7	4.7	5.1				
M4	Sunny	Moderate	18:26	Surface	1.0	22.6	22.6	8.3	8.3	33.4	33.4	111.7	111.7	8.6	8.6	8.5	1.1	1.1	0.6	5.6	5.1	4.5		
					22.6	8.3	8.3	33.4	33.4	111.7	111.7	8.6	8.6	8.5	1.1	1.1	0.6	4.5	5.1	4.5				
				Middle	5.0	22.4	22.4	8.3	8.3	33.6	33.6	110.2	110.3	110.3	8.5	8.5	8.5	8.5	0.6	0.6	0.6	5.1	4.6	4.5
					22.4	8.3	8.3	33.6	33.6	110.3	110.3	8.5	8.5	8.5	0.6	0.6	0.6	4.0	4.6	4.5				
				Bottom	9.0	22.4	22.4	8.3	8.3	33.6	33.6	109.8	109.8	109.8	8.5	8.5	8.5	8.5	0.6	0.6	0.6	3.7	4.0	4.5
					22.4	8.3	8.3	33.6	33.6	109.8	109.8	8.5	8.5	8.5	0.6	0.6	0.6	4.2	4.0	4.5				
M5	Sunny	Moderate	19:22	Surface	1.1	22.9	22.9	8.3	8.3	33.3	33.3	117.2	117.3	9.0	9.0	8.8	0.9	0.9	0.9	4.5	4.8	5.0		
					22.9	8.3	8.3	33.3	33.3	117.3	117.3	9.0	9.0	8.8	0.9	0.9	0.9	5.0	4.8	5.0				
				Middle	5.5	22.4	22.4	8.3	8.3	33.6	33.6	110.9	111.0	111.0	8.6	8.6	8.6	8.6	1.7	1.7	1.7	4.9	4.8	5.0
					22.4	8.3	8.3	33.6	33.6	111.0	111.0	8.6	8.6											

**Action and Limit Levels for Marine Water Quality on 28 April 2021 (Mid-Flood Tide)**

<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 0.6 NTU</u>	<u>CI: 0.7 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 4.7 mg/L</u>	<u>CI: 5.1 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 4.7 mg/L</u>	<u>CI: 5.1 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 6.4 mg/L</u>	<u>CI: 7.0 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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 30 April 2021

(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
C1	Sunny	Calm	14:54	Surface	1.1	21.1	8.9	8.9	33.8	33.8	93.8	93.8	6.5	6.4	6.5	1.8	1.8	1.9	1.9	2.0	2.6
					21.0	21.2	8.9	8.9	33.9	33.9	94.5	94.5	6.5	6.5		1.8	1.6		3.0	2.9	
				9.1	21.5	8.9	8.9	33.9	33.9	94.4	94.5	6.5	6.5	1.6		1.6	2.8		2.9		
C2	Sunny	Calm	13:13	Surface	1.0	21.1	9.2	9.2	33.6	33.6	90.8	90.8	6.3	6.3	6.3	2.4	2.4	3.1	2.8	3.0	3.2
					20.9	20.9	9.0	9.0	33.9	33.9	92.7	92.8	6.4	6.4		2.4	2.5		3.1	3.1	
				16.5	20.9	9.0	9.0	33.9	33.9	92.8	92.8	6.4	6.4	2.5		2.5	3.1		3.1		
G1	Sunny	Calm	13:53	Surface	1.1	21.3	8.9	8.9	33.8	33.8	92.1	92.1	6.4	6.4	6.4	2.1	2.1	2.3	3.4	3.9	3.5
					20.9	20.9	8.9	8.9	33.8	33.8	92.4	92.4	6.4	6.4		2.1	2.4		4.4	3.9	
				4.1	20.8	8.9	8.9	33.8	33.8	92.3	92.4	6.4	6.4	2.4		2.4	4.2		3.9		
G2	Sunny	Calm	13:34	Surface	1.0	21.3	9.0	9.0	33.7	33.7	92.1	92.0	6.4	6.3	6.4	2.4	2.3	2.2	3.4	3.9	3.5
					20.9	20.9	9.0	9.0	33.7	33.7	91.9	92.0	6.3	6.4		2.3	2.4		4.3	3.5	
				5.1	20.9	9.0	9.0	33.8	33.8	92.0	92.1	6.4	6.4	2.4		2.4	3.2		3.5		
G3	Sunny	Calm	13:59	Surface	1.0	21.2	8.9	8.9	33.8	33.8	92.6	92.6	6.4	6.4	6.4	2.1	2.1	2.2	2.7	2.7	3.0
					20.9	20.9	8.9	8.9	33.8	33.8	92.6	92.6	6.4	6.4		2.1	2.3		2.6	2.7	
				4.0	20.8	8.9	8.9	33.8	33.8	92.6	92.6	6.4	6.4	2.4		2.3	2.3		2.7		
G4	Sunny	Calm	14:13	Surface	1.1	21.3	8.9	8.9	33.8	33.8	93.0	93.0	6.4	6.4	6.4	2.0	2.0	1.9	3.8	3.5	4.6
					21.0	21.0	8.9	8.9	33.8	33.8	92.9	92.9	6.4	6.4		2.0	2.1		3.1	4.9	
				4.1	21.0	8.9	8.9	33.8	33.8	92.9	92.9	6.4	6.4	2.1		2.1	4.4		4.9		
M1	Sunny	Calm	13:41	Surface	1.1	21.3	9.0	9.0	33.7	33.7	91.9	91.9	6.3	6.3	6.3	2.3	2.3	2.3	4.2	4.5	3.9
					21.1	20.9	9.0	9.0	33.7	33.7	91.8	91.9	6.3	6.3		2.3	2.4		4.7	4.5	
				3.1	20.9	9.0	9.0	33.8	33.8	91.8	91.9	6.3	6.3	2.4		2.4	4.0		3.8		
M2	Sunny	Calm	13:26	Surface	1.0	21.0	9.0	9.0	33.7	33.7	91.6	91.6	6.3	6.3	6.3	2.2	2.3	2.4	3.9	4.2	3.6
					20.9	20.8	9.0	9.0	33.7	33.7	91.5	91.6	6.3	6.3		2.3	2.5		4.5	3.8	
				5.5	20.9	9.0	9.0	33.7	33.7	91.5	91.6	6.3	6.3	2.5		2.5	4.2		3.8		
M3	Sunny	Calm	14:07	Surface	1.1	21.5	8.9	8.9	33.8	33.8	92.9	92.9	6.4	6.4	6.4	2.2	2.2	2.1	4.6	4.9	4.1
					21.0	20.9	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4		2.2	2.2		5.2	4.9	
				4.1	20.9	8.9	8.9	33.8	33.8	92.7	92.7	6.4	6.4	2.2		2.2	4.2		3.9		
M4	Sunny	Calm	13:19	Surface	1.0	21.3	9.0	9.0	33.7	33.7	91.3	91.3	6.3	6.3	6.3	2.2	2.2	2.3	3.8	4.1	3.4
					21.0	20.9	9.0	9.0	33.7	33.7	91.3	91.4	6.3	6.3		2.2	2.4		4.4	4.1	
				5.1	20.9	9.0	9.0	33.7	33.7	91.4	91.4	6.3	6.3	2.4		2.4	3.6		3.1		
M5	Sunny	Calm	14:44	Surface	1.0	21.0	8.9	8.9	33.9	33.9	93.4	93.4	6.4	6.4	6.5	1.8	1.9	2.0	3.8	4.1	3.2
					20.9	21.1	8.9	8.9	33.9	33.9	94.0	94.0	6.5	6.5		1.9	1.7		4.4	4.1	
				6.1	21.4	8.9	8.9	33.9	33.9	93.9	94.0	6.5	6.5	1.7		1.7	2.5		2.9		
M6	Sunny	Calm	14:26	Surface	-	-	-	-	-	-	-	-	-	-	6.4	-	-	1.9	-	-	4.8
					21.6	21.3	8.9	8.9	33.8	33.8	93.6	93.6	6.4	6.4		2.0	1.9		5.3	4.8	
				2.2	20.9	8.9	8.9	33.8	33.8	93.5	93.6	6.4	6.4	1.9		1.9	4.2		4.8		

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 30 April 2021 (Mid-Ebb Tide)**

<b><u>Parameter (unit)</u></b>	<b><u>Depth</u></b>	<b><u>Action Level</u></b>	<b><u>Limit Level</u></b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>C2: 5.5 NTU</u>	<u>C2: 5.9 NTU</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>19.0 NTU</u>	<u>19.4 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>C2: 3.6 mg/L</u>	<u>C2: 3.9 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>C2: 3.6 mg/L</u>	<u>C2: 3.9 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
		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
	<u>C2: 4.3 mg/L</u>	<u>C2: 4.7 mg/L</u>	
<b><u>Station M6</u></b>			
Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>	

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 30 April 2021

(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	Calm	9:32	Surface	1.1	24.6	24.6	8.9	8.9	33.8	33.8	93.8	93.8	6.4	6.4	6.5	1.8	1.8	1.9	5.0	4.7	4.2	
					24.6	8.9	8.9	33.8	33.8	93.8	93.8	6.4	6.4	6.5	1.8	1.8	4.4						
				Middle	8.6	24.1	24.1	8.9	8.9	33.9	33.9	94.1	94.2	6.5	6.5	6.5	1.6	1.6	4.1	4.4			
					24.1	8.9	8.9	33.9	33.9	94.1	94.2	6.5	6.5	6.5	1.6	1.6	4.6						
				Bottom	16.0	24.1	24.1	9.0	9.0	34.0	34.0	93.6	93.6	6.5	6.5	6.5	2.3	2.3	3.3	3.6			
					24.1	9.0	9.0	34.0	34.0	93.6	93.6	6.5	6.5	6.5	2.3	2.3	3.8						
C2	Sunny	Calm	8:00	Surface	1.1	24.4	24.4	9.2	9.2	33.6	33.6	90.8	90.8	6.3	6.3	6.3	2.5	2.4	2.9	6.1	6.2	5.2	
					24.4	9.2	9.2	33.6	33.6	90.8	90.8	6.3	6.3	6.3	2.4	2.4	6.2						
				Middle	16.1	24.2	24.2	9.0	9.0	33.9	33.9	92.8	92.8	6.4	6.4	6.5	2.4	2.4		5.0	5.4		
					24.2	9.0	9.0	33.9	33.9	92.8	92.8	6.4	6.4	6.5	2.4	2.4	5.7						
				Bottom	31.1	24.0	24.0	9.0	9.0	34.0	34.0	93.3	93.4	6.5	6.5	6.5	3.8	3.9		4.4	4.0		
					24.0	9.0	9.0	34.0	34.0	93.4	93.4	6.5	6.5	6.5	4.1	3.9	3.6						
G1	Sunny	Calm	8:35	Surface	1.1	24.4	24.4	8.9	8.9	33.8	33.8	92.1	92.1	6.4	6.4	6.4	2.1	2.1	2.2	4.6	4.9	3.7	
					24.4	8.9	8.9	33.8	33.8	92.1	92.1	6.4	6.4	6.4	2.1	2.1	5.1						
				Middle	3.8	24.3	24.3	8.9	8.9	33.8	33.8	92.3	92.3	6.4	6.4	6.4	2.4	2.4		3.6	3.4		
					24.3	8.9	8.9	33.8	33.8	92.2	92.3	6.4	6.4	6.4	2.4	2.4	3.2						
				Bottom	6.5	24.3	24.3	9.0	9.0	33.9	33.9	92.9	92.9	6.4	6.4	6.4	2.2	2.2		3.0	2.8		
					24.3	9.0	9.0	33.9	33.9	92.9	92.9	6.4	6.4	6.4	2.2	2.2	2.6						
G2	Sunny	Calm	8:20	Surface	1.1	24.4	24.4	9.0	9.0	33.7	33.7	91.8	91.8	6.3	6.3	6.3	2.3	2.3	2.1	3.9	3.5	3.9	
					24.4	9.0	9.0	33.7	33.7	91.7	91.8	6.3	6.3	6.3	2.3	2.3	3.1						
				Middle	5.1	24.3	24.3	9.0	9.0	33.8	33.8	91.9	91.9	6.4	6.3	6.3	2.4	2.4		3.5	3.7		
					24.3	9.0	9.0	33.8	33.8	91.8	91.9	6.3	6.3	6.3	2.4	2.4	3.9						
				Bottom	9.0	24.1	24.1	9.0	9.0	33.9	33.9	93.3	93.4	6.5	6.5	6.5	1.7	1.7		5.0	4.6		
					24.1	9.0	9.0	33.9	33.9	93.5	93.4	6.5	6.5	6.5	1.7	1.7	4.1						
G3	Sunny	Calm	8:42	Surface	1.0	24.3	24.3	8.9	8.9	33.8	33.8	92.7	92.7	6.4	6.4	6.4	2.2	2.2	2.2	3.8	4.2	3.9	
					24.3	8.9	8.9	33.8	33.8	92.6	92.6	6.4	6.4	6.4	2.2	2.2	4.6						
				Middle	3.8	24.3	24.3	8.9	8.9	33.8	33.8	92.6	92.6	6.4	6.4	6.4	2.3	2.3		4.0	3.7		
					24.3	8.9	8.9	33.8	33.8	92.6	92.6	6.4	6.4	6.4	2.3	2.3	3.4						
				Bottom	6.6	24.3	24.3	8.9	8.9	33.8	33.8	92.7	92.7	6.4	6.4	6.4	2.2	2.2		3.8	3.8		
					24.3	8.9	8.9	33.8	33.8	92.7	92.7	6.4	6.4	6.4	2.2	2.2	3.8						
G4	Sunny	Calm	8:59	Surface	1.1	24.4	24.4	8.9	8.9	33.8	33.8	93.0	93.0	6.4	6.4	6.4	2.0	2.0	2.0	5.6	5.1	4.2	
					24.4	8.9	8.9	33.8	33.8	93.0	93.0	6.4	6.4	6.4	2.0	2.0	4.5						
				Middle	3.7	24.3	24.3	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4	6.4	2.1	2.1		4.2	4.5		
					24.3	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4	6.4	2.1	2.1	4.8						
				Bottom	6.6	24.3	24.3	8.9	8.9	33.9	33.9	93.1	93.2	6.4	6.4	6.4	1.9	1.8		3.5	3.1		
					24.2	8.9	8.9	33.9	33.9	93.3	93.2	6.4	6.4	6.4	1.8	1.8	2.6						
M1	Sunny	Calm	8:25	Surface	1.1	24.4	24.4	9.0	9.0	33.7	33.7	92.0	92.0	6.3	6.3	6.3	2.3	2.3	2.3	3.6	4.0	3.2	
					24.4	9.0	9.0	33.7	33.7	91.9	92.0	6.3	6.3	6.3	2.3	2.3	4.3						
				Middle	3.0	24.3	24.3	9.0	9.0	33.8	33.8	92.1	92.1	6.4	6.4	6.4	2.4	2.4		3.6	3.1		
					24.3	9.0	9.0	33.8	33.8	92.0	92.1	6.4	6.4	6.4	2.4	2.4	2.6						
				Bottom	5.1	24.3	24.3	9.0	9.0	33.8	33.8	92.2	92.2	6.4	6.4	6.4	2.3	2.3		2.6	2.5		
					24.3	9.0	9.0	33.8	33.8	92.2	92.2	6.4	6.4	6.4	2.3	2.3	2.4						
M2	Sunny	Calm	8:12	Surface	1.1	24.4	24.4	9.0	9.0	33.7	33.7	91.7	91.7	6.3	6.3	6.3	2.3	2.3	2.4	5.2	5.4	4.1	
					24.4	9.0	9.0	33.7	33.7	91.7	91.7	6.3	6.3	6.3	2.3	2.3	5.6						
				Middle	5.3	24.3	24.3	9.0	9.0	33.8	33.8	91.7	91.7	6.3	6.3	6.3	2.6	2.5		3.2	3.5		
					24.3	9.0	9.0	33.8	33.8	91.6	91.7	6.3	6.3	6.3	2.5	2.5	3.7						
				Bottom	9.5	24.3	24.2	9.0	9.0	33.8	33.8	92.0	92.1	6.4	6.4	6.4	2.5	2.5		3.2	3.6		
					24.2	9.0	9.0	33.8	33.8	92.2	92.1	6.4	6.4	6.4	2.5	2.5	3.9						
M3	Sunny	Calm	8:51	Surface	1.0	24.4	24.4	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4	6.4	2.1	2.1	2.1	3.7	3.5	4.2	
					24.4	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4	6.4	2.1	2.1	3.2						
				Middle	3.7	24.4	24.4	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4	6.4	2.1	2.1		4.7	4.6		
					24.4	8.9	8.9	33.8	33.8	92.8	92.8	6.4	6.4	6.4	2.1	2.1	4.4						
				Bottom	6.5	24.3	24.3	8.9	8.9	33.9	33.9	92.9	93.0	6.4	6.4	6.4	2.1	2.1		4.9	4.6		
					24.3	8.9	8.9	33.9	33.9	93.0	93.0	6.4	6.4	6.4	2.1	2.1	4.3						
M4	Sunny	Calm	8:06	Surface	1.1	24.4	24.4	9.0	9.0	33.7	33.7	91.3	91.3	6.3	6.3	6.3	2.2	2.3	2.3	3.6	3.7	3.2	
					24.4	9.0	9.0	33.7	33.7	91.3	91.3	6.3	6.3	6.3	2.2	2.3	3.8						
				Middle	5.0	24.4	24.4	9.0	9.0	33.7	33.7	91.4	91.4	6.3	6.3	6.3	2.4	2.4		3.8	3.4		
					24.4	9.0	9.0	33.7	33.7	91.3	91.4	6.3	6.3	6.3	2.4	2.4	3.0						
				Bottom	9.0	24.2	24.2	9.0	9.0	33.9	33.9	92.3	92.3	6.4	6.4	6.4	2.4	2.4		3.0	2.6		
					24.2	9.0	9.0	33.9	33.9	92.3	92.3	6.4	6.4	6.4	2.4	2.4	2.1						
M5	Sunny	Calm	9:20	Surface	1.1	24.5	24.5	8.9	8.9	33.8	33.8	93.4	93.4	6.4	6.4	6.5	1.8	1.9	1.9	3.7	3.5	2.8	
					24.5	8.9	8.9	33.8	33.8	93.4	93.4	6.4	6.4	6.5	1.9	1.9	3.3						
				Middle	5.5	24.2	24.2	8.9	8.9	33.9	33.9	94.2	94.2	6.5	6.5	6.5	1.7	1.7		2.6	2.4		
					24.2	8.9	8.9	33.9	33.9	94.1	94.2	6.5	6.5	6.5	1.7	1.7	2.1						
				Bottom	10.1	24.1	24.1	9.0	9.0	34.0	34.0	94.0	94.0	6.5	6.5	6.5	2.0	2.1		2.8	2.6		
					24.1	9.0	9.0	34.0	34.0	93.9	94.0	6.5	6.5	6.5	2.2	2.1	2.4						
M6	Sunny	Calm	9:08	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	4.0		
					-	-	-	-	-	-	-	-	-	-	-	-	-						
				Middle	2.0	24.5	24.5	8.9	8.9	33.8	33.8	93.4	93.4	6.4	6.4	6.4	8.0		8.0	4.5		4.0	
					24.5	8.9	8.9	33.8	33.8	93.3	93.4	6.4	6.4	6.4	8.0	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 30 April 2021 (Mid-Flood Tide)**

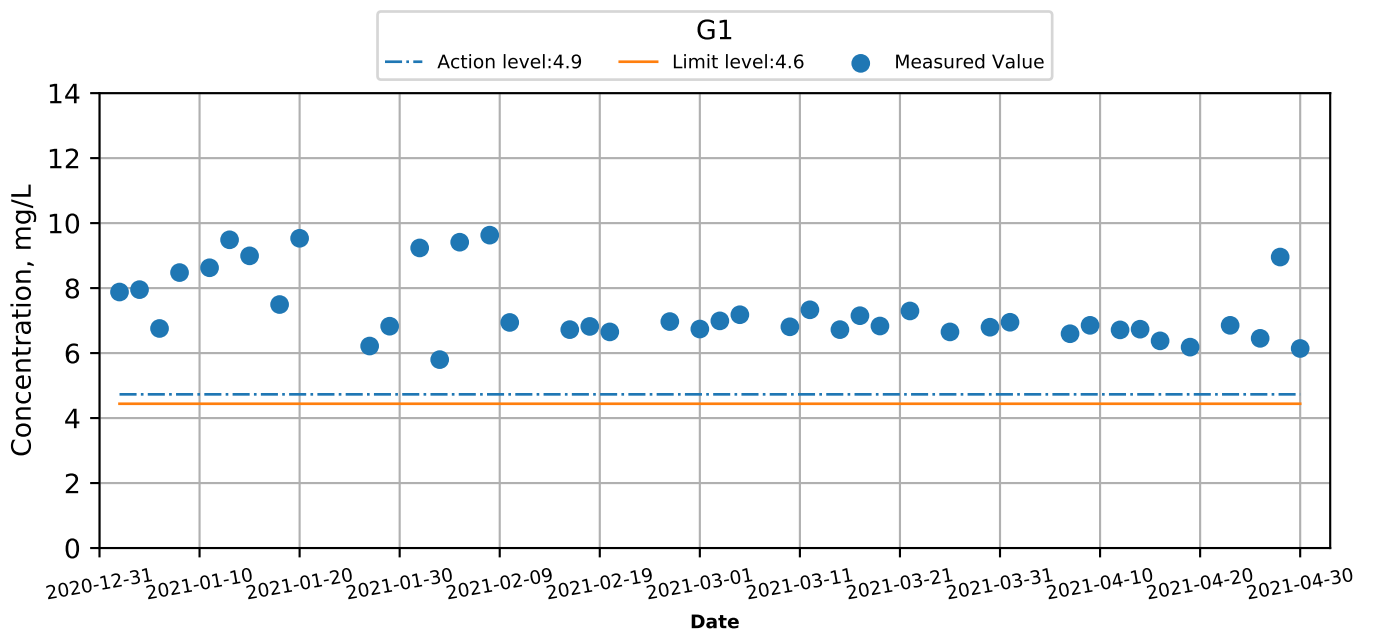
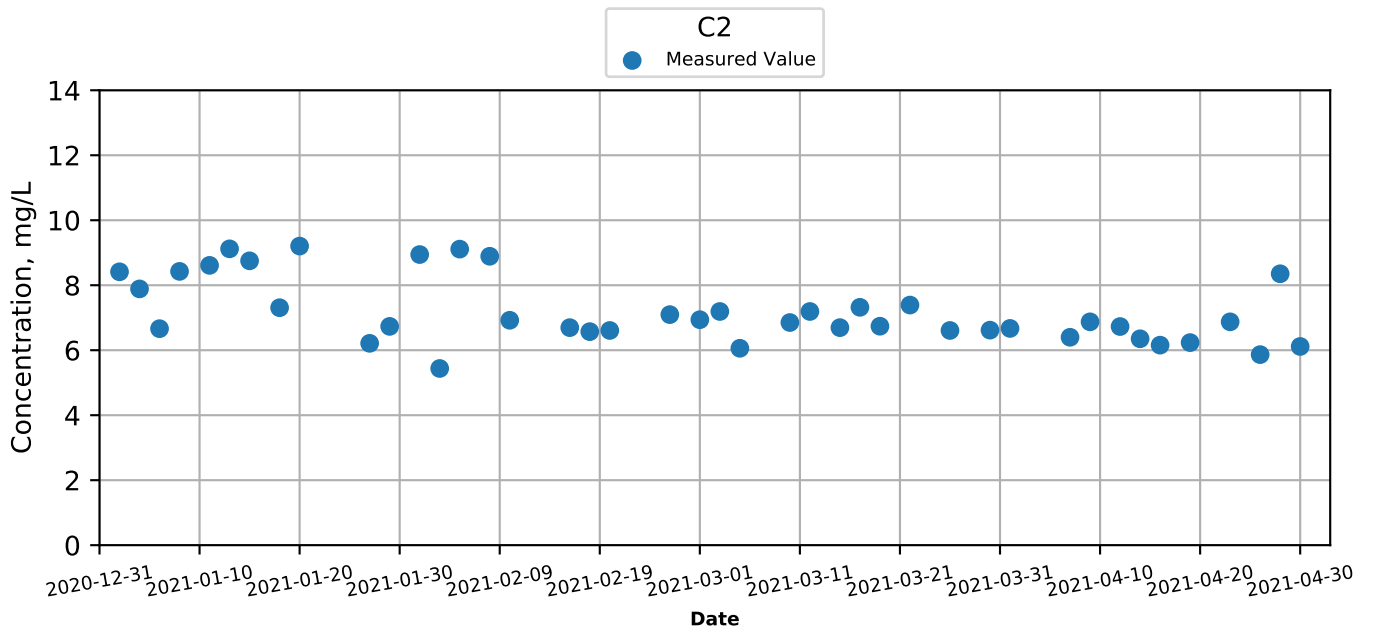
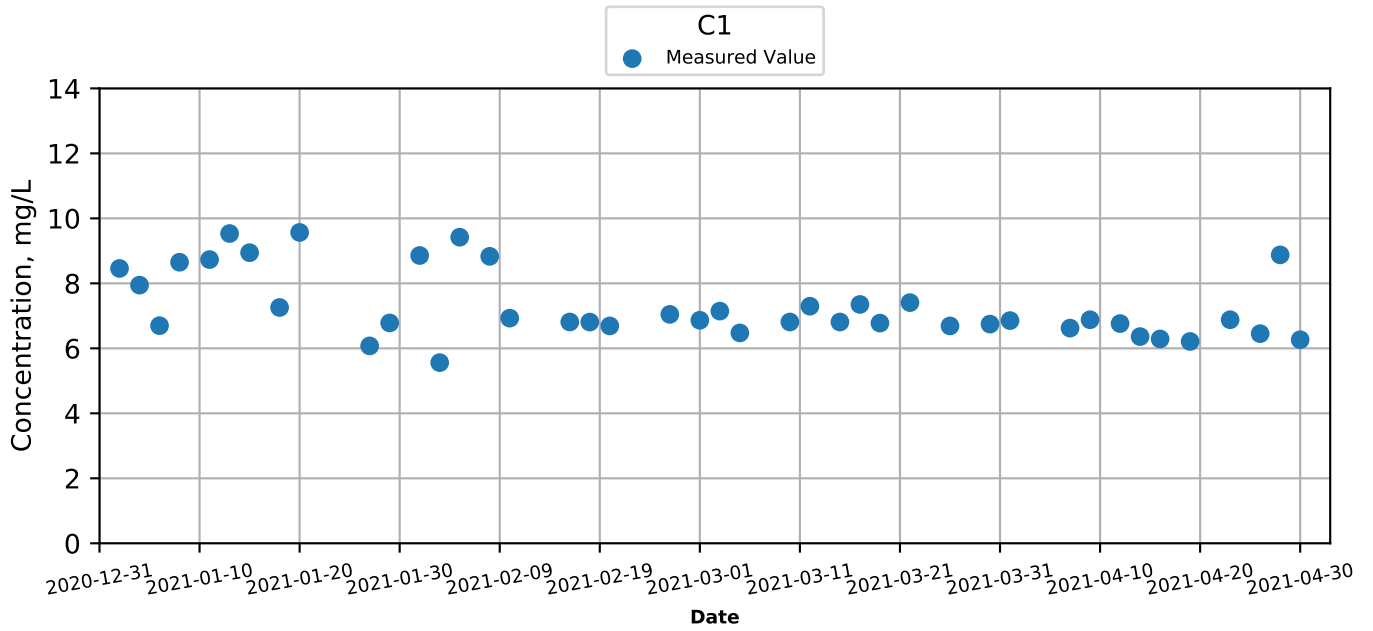
<b>Parameter (unit)</b>	<b>Depth</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Depth Average	<u>4.9 mg/L</u>	<u>4.6 mg/L</u>
	Bottom	<u>4.2 mg/L</u>	<u>3.6 mg/L</u>
	<b><u>Station M6</u></b>		
	Intake Level	<u>5.0 mg/L</u>	<u>4.7 mg/L</u>
Turbidity in NTU (See Note 2 and 4)	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>19.3 NTU</u>	<u>22.2 NTU</u>
		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
		<u>CI: 2.8 NTU</u>	<u>CI: 3.0 NTU</u>
	<b><u>Station M6</u></b>		
		Intake Level	<u>19.0 NTU</u>
SS in mg/L (See Note 2 and 4)	<b><u>Stations G1-G4</u></b>		
	Surface	<u>6.0 mg/L</u>	<u>6.9 mg/L</u>
		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
		<u>CI: 5.6 mg/L</u>	<u>CI: 6.1 mg/L</u>
	<b><u>Stations M1-M5</u></b>		
	Surface	<u>6.2 mg/L</u>	<u>7.4 mg/L</u>
		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
		<u>CI: 5.6 mg/L</u>	<u>CI: 6.1 mg/L</u>
	<b><u>Stations G1-G4, M1-M5</u></b>		
	Bottom	<u>6.9 mg/L</u>	<u>7.9 mg/L</u>
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	
	<u>CI: 4.3 mg/L</u>	<u>CI: 4.6 mg/L</u>	
<b><u>Station M6</u></b>			
	Intake Level	<u>8.3 mg/L</u>	<u>8.6 mg/L</u>

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.

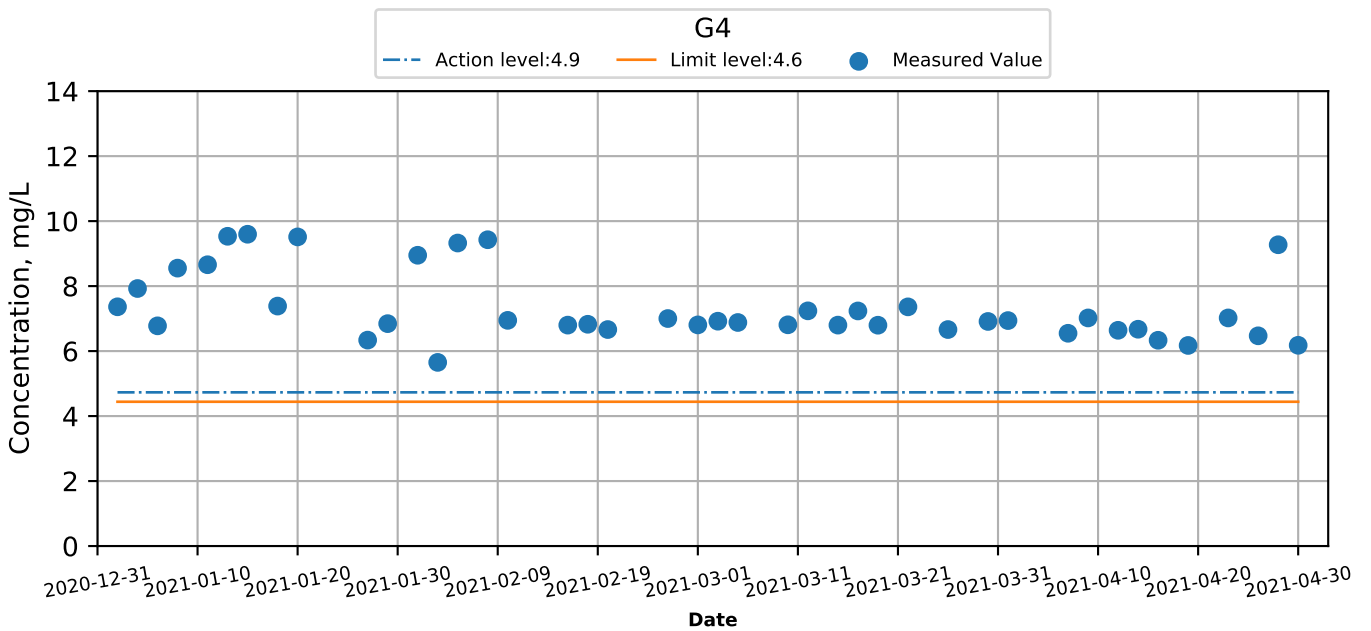
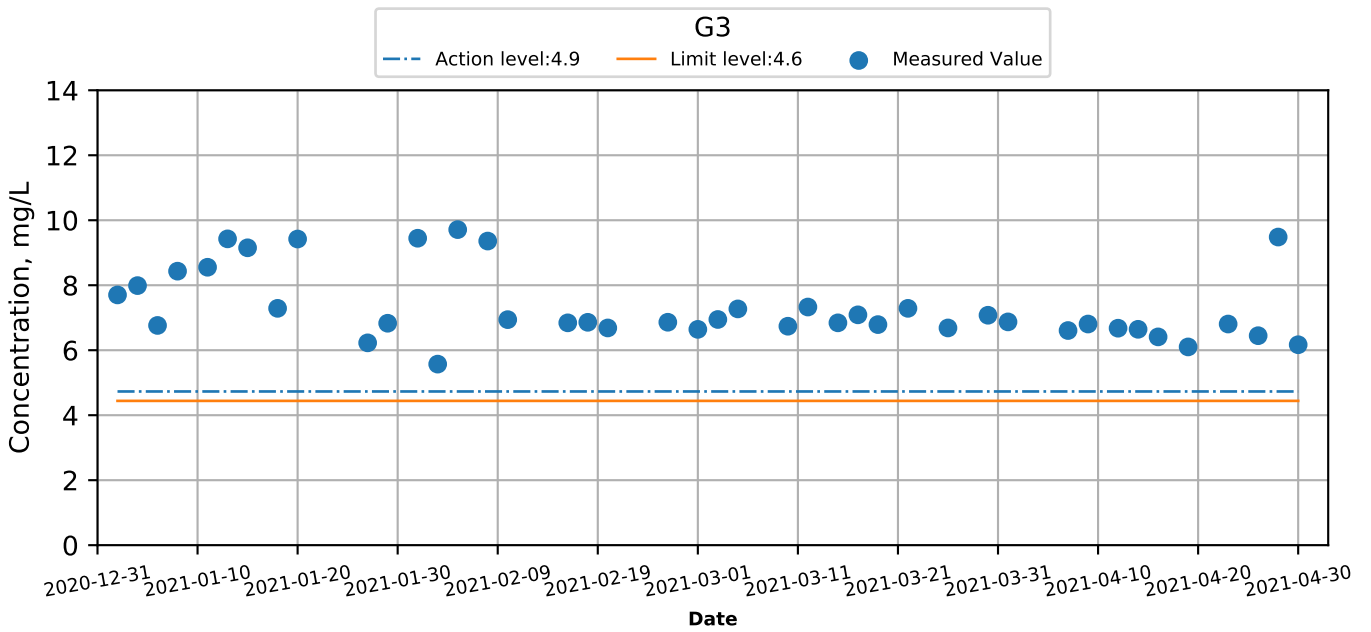
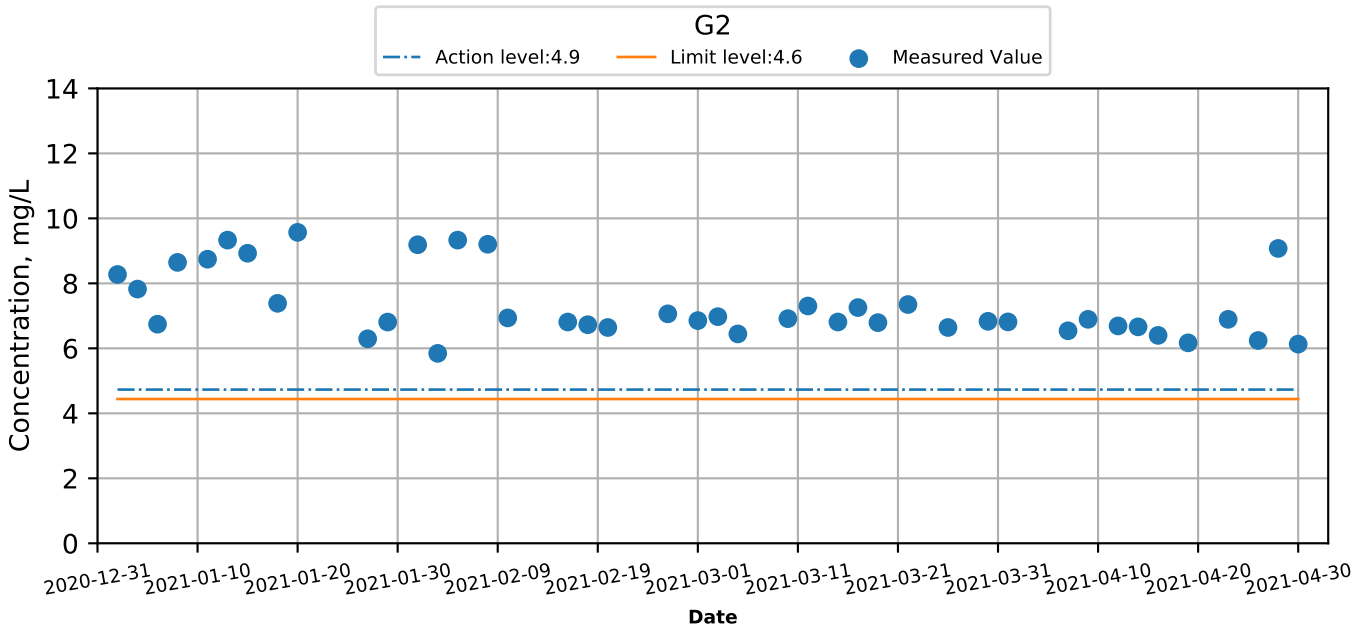
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



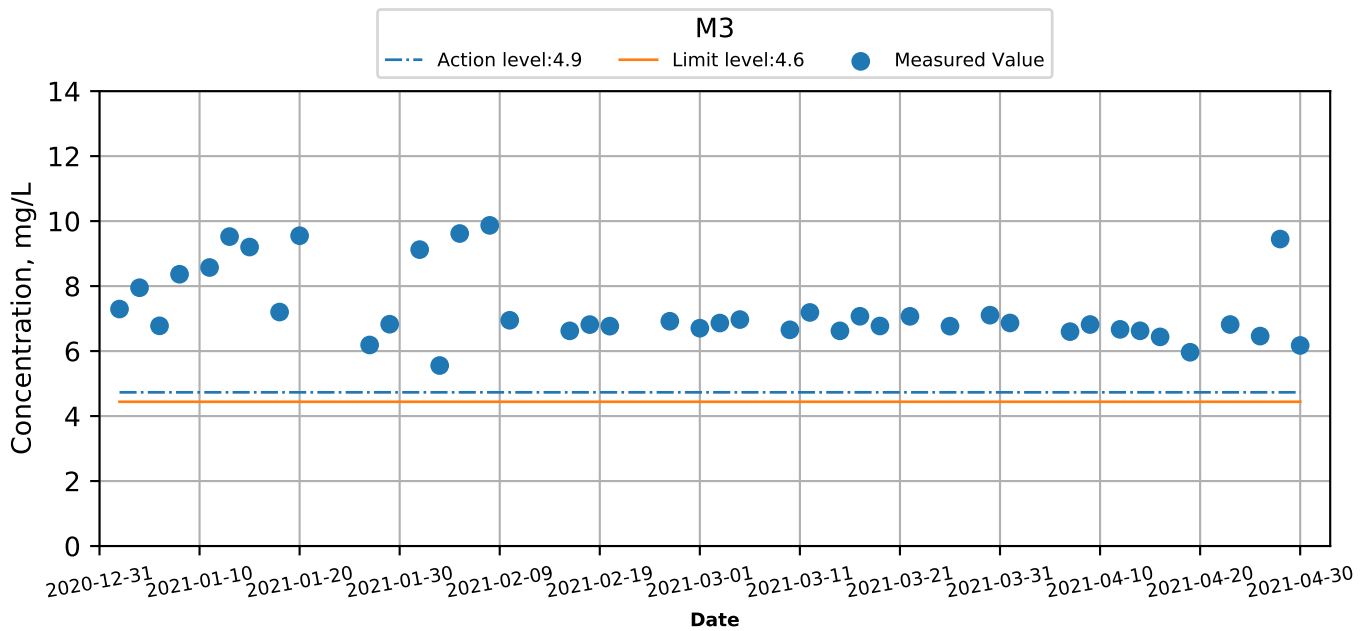
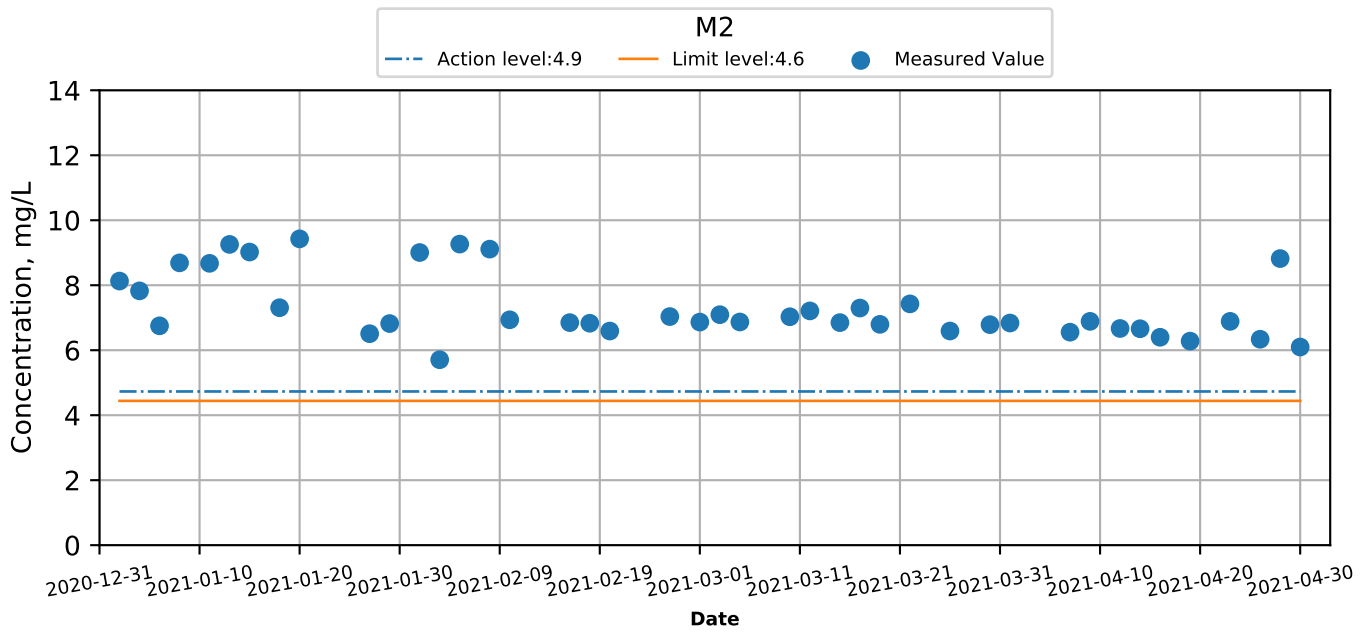
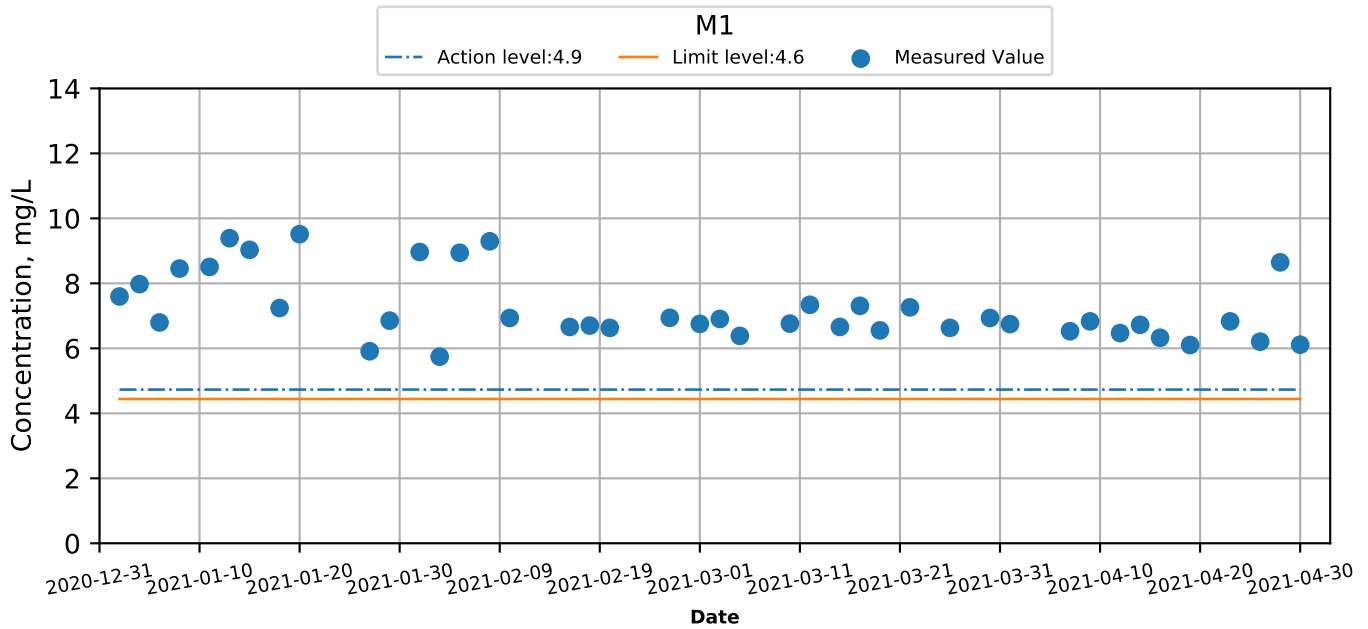
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



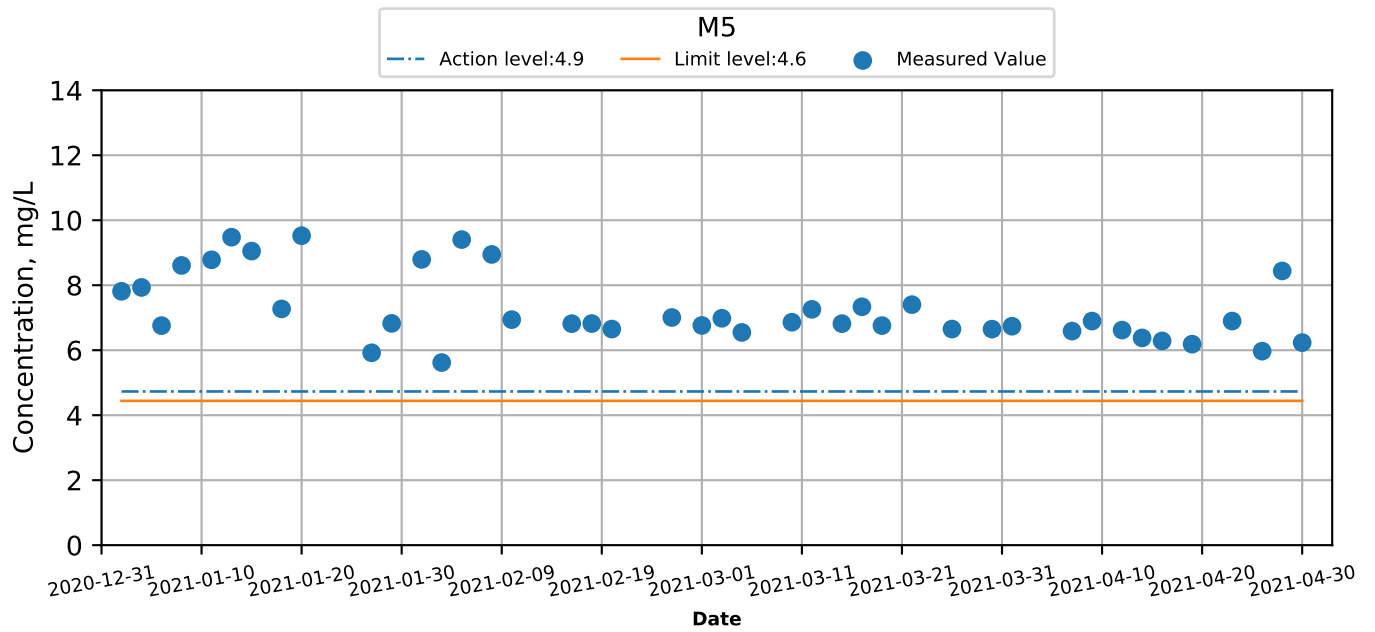
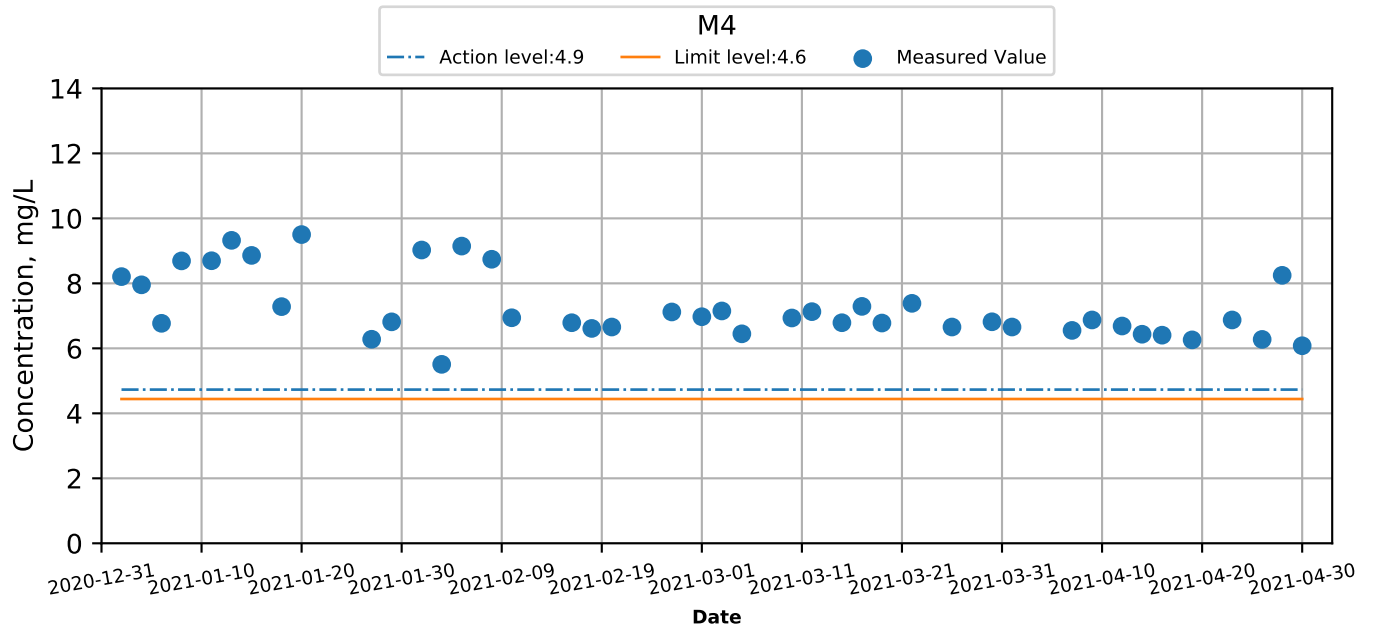
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

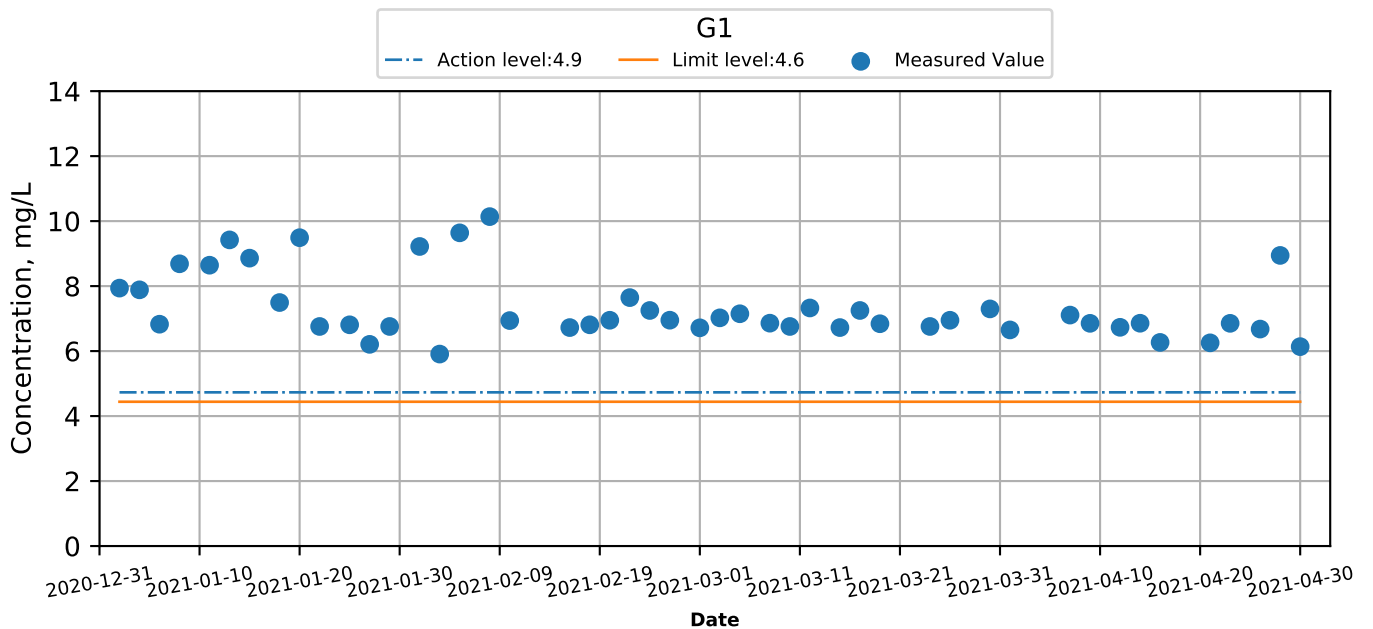
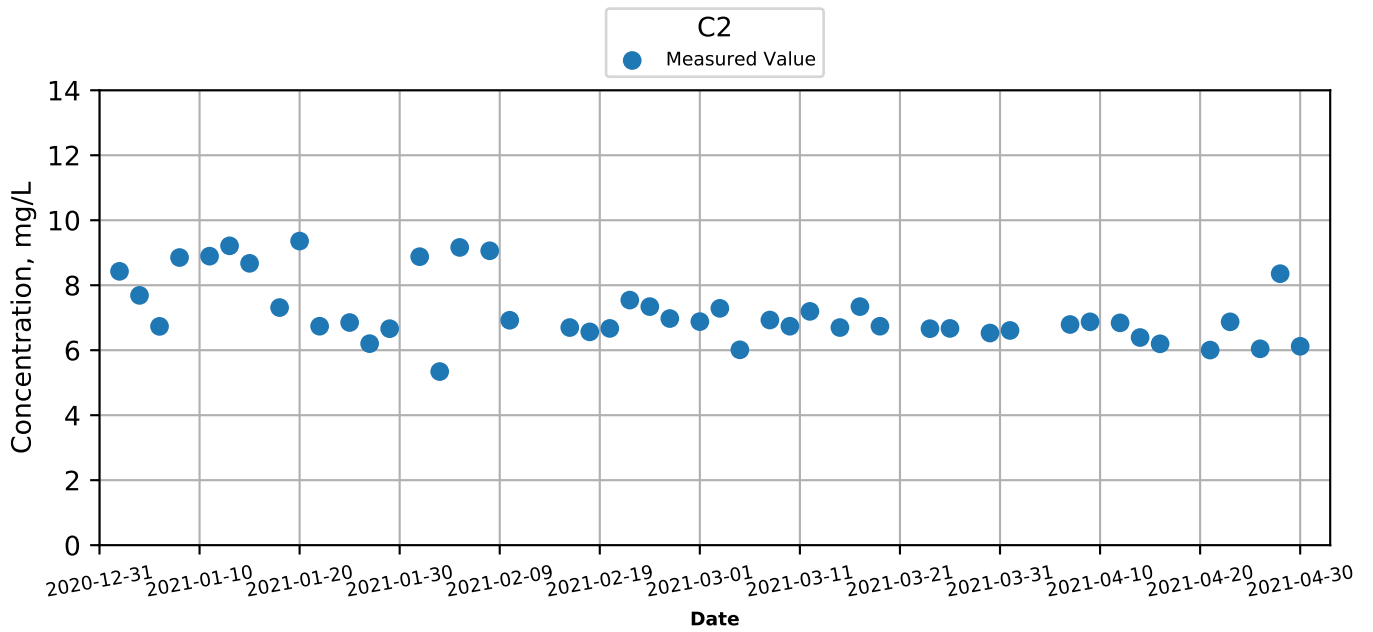
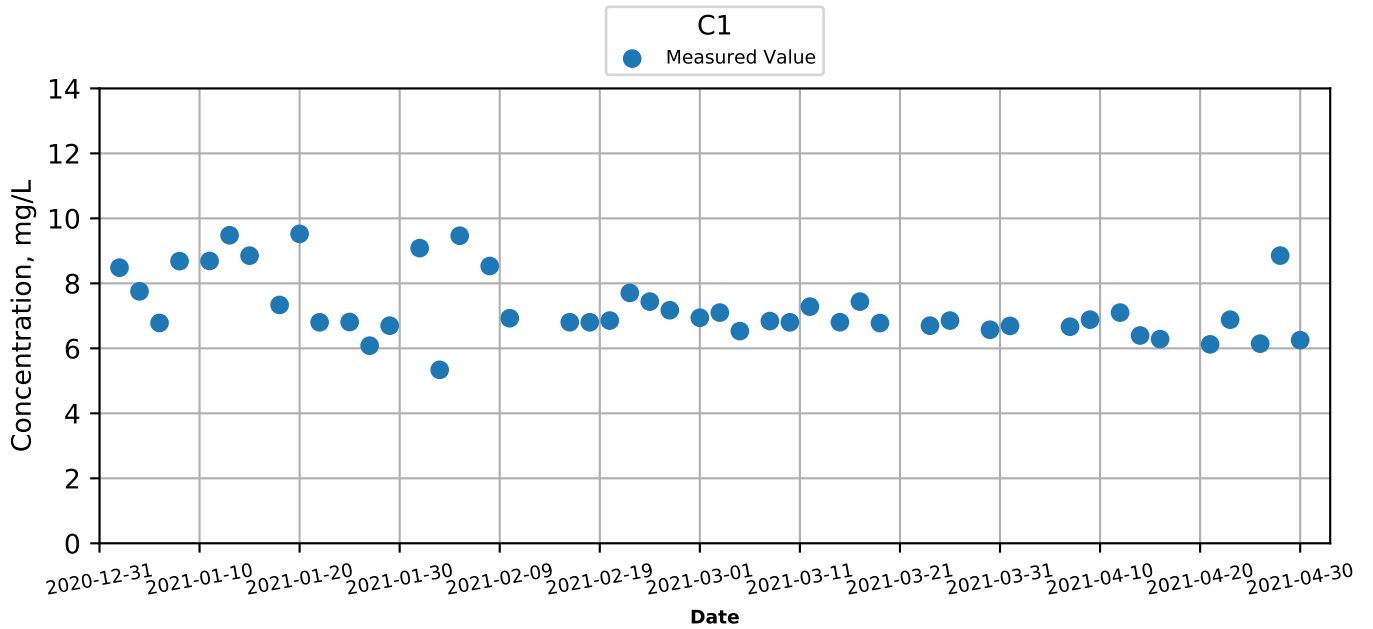
## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Ebb





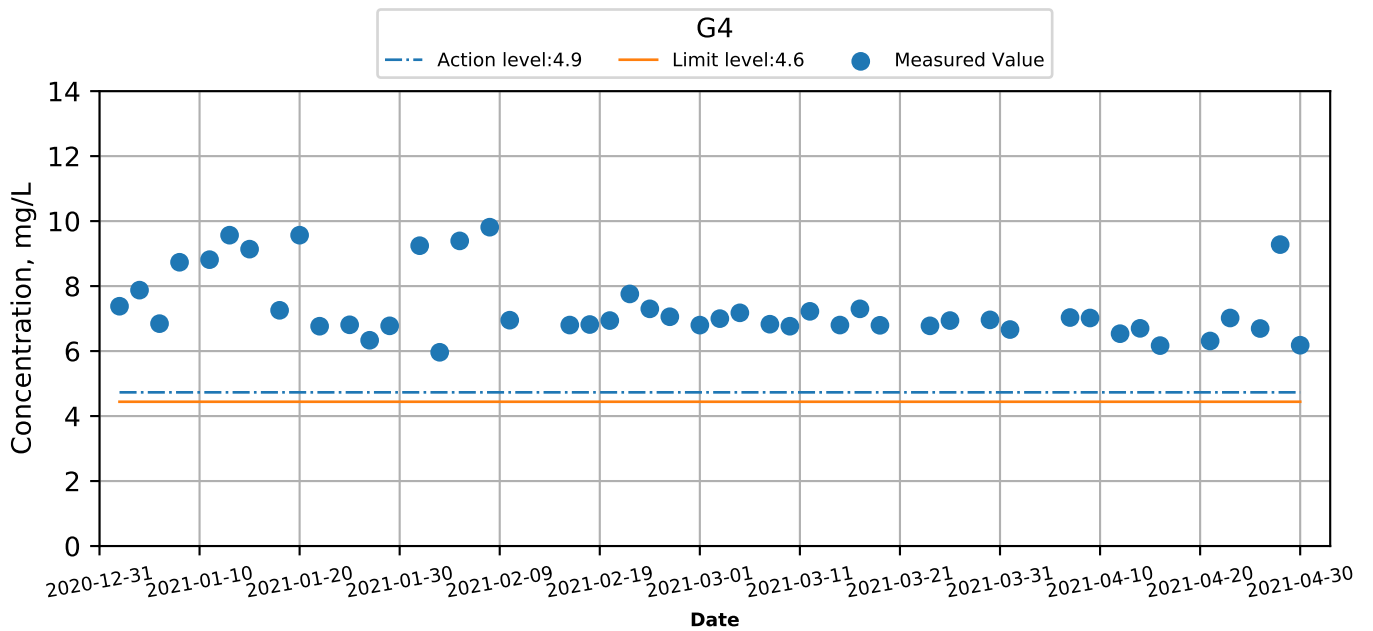
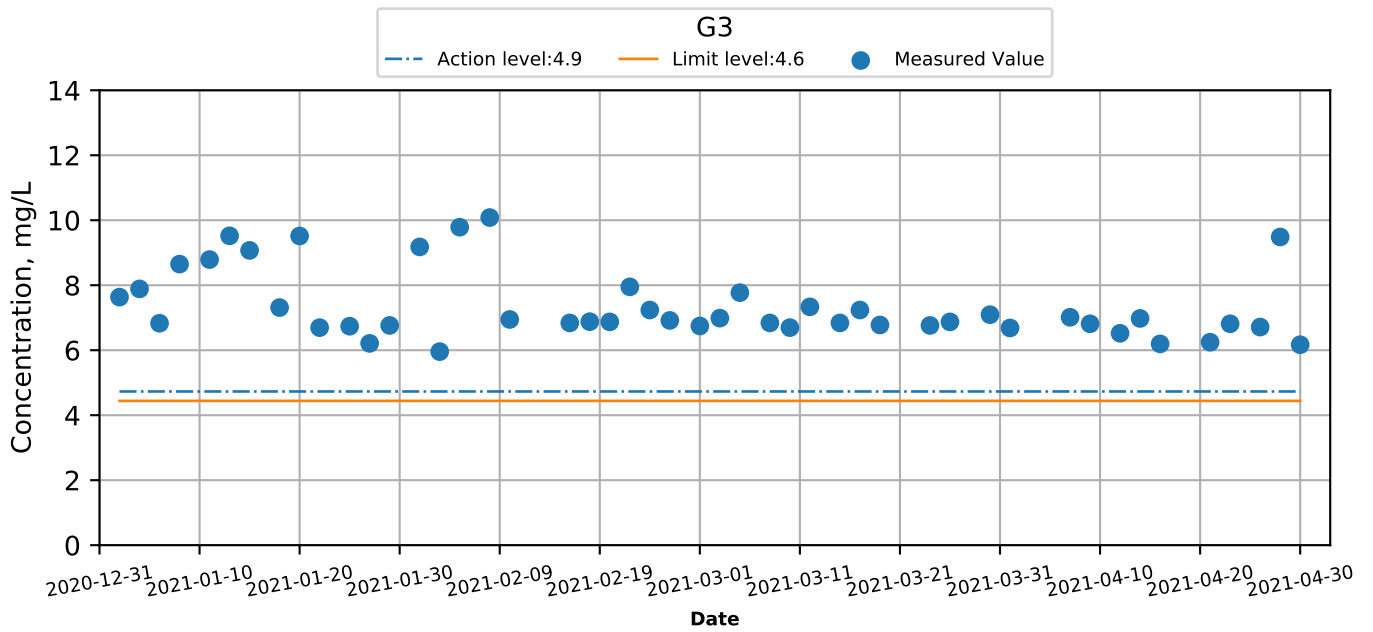
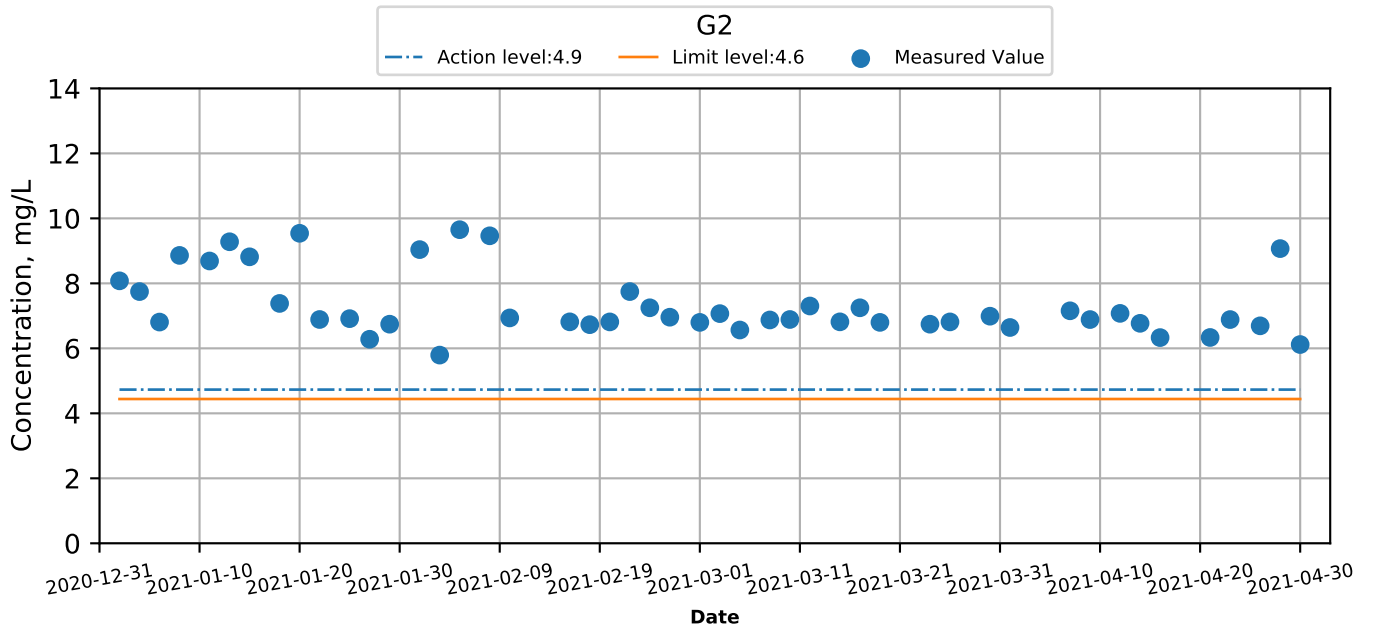
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



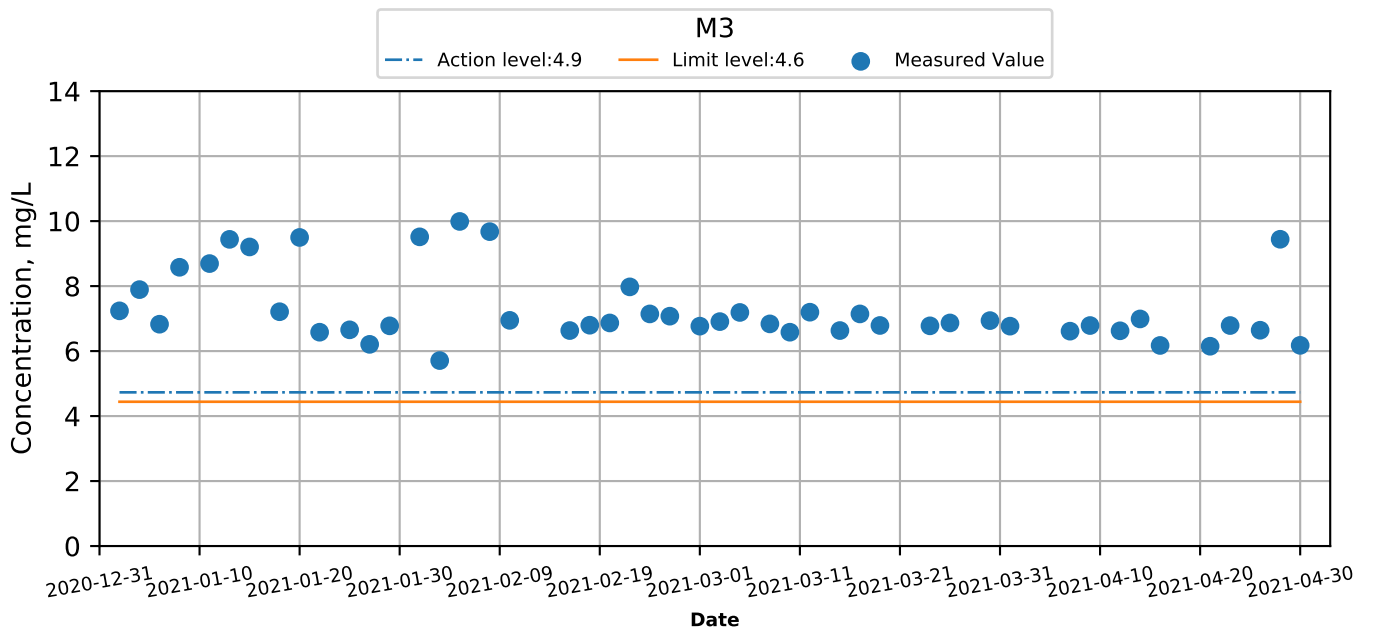
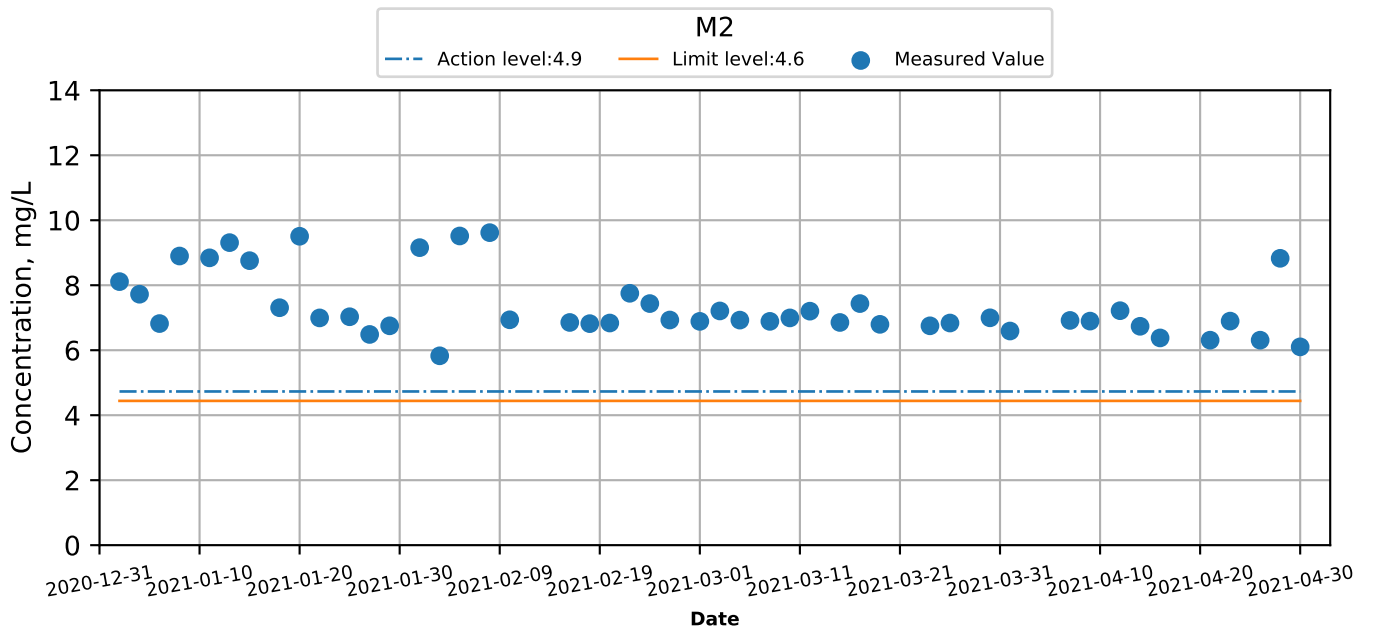
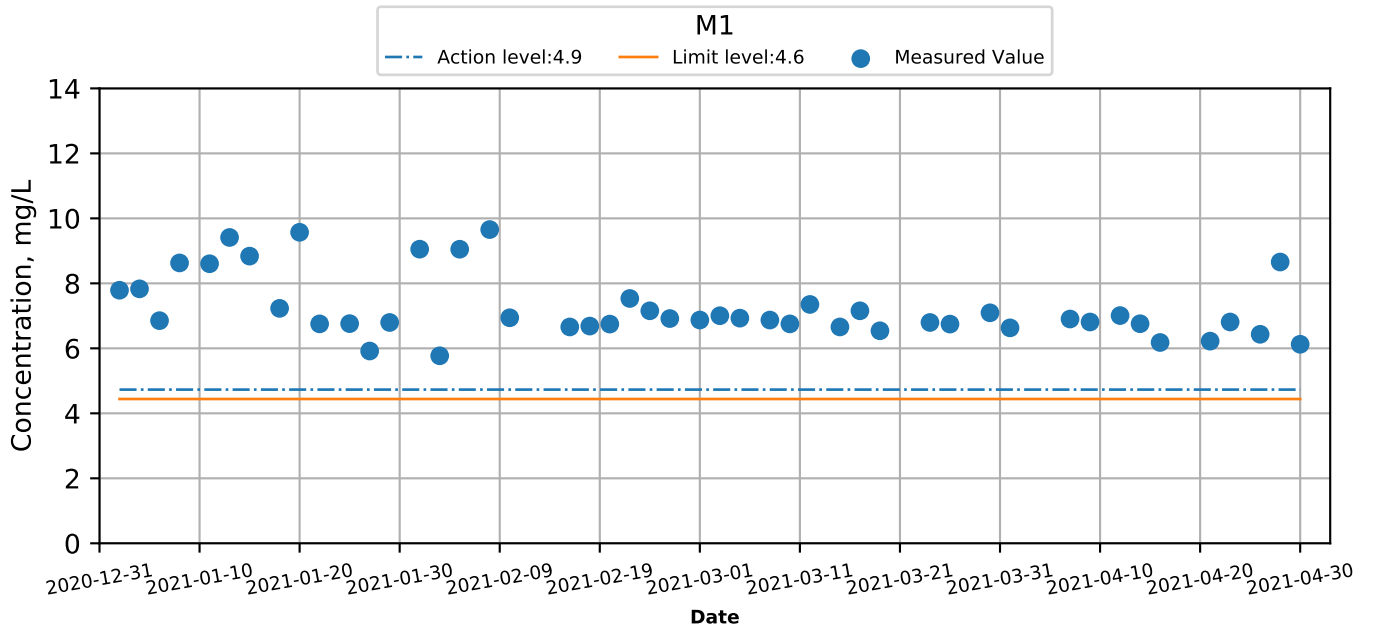
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



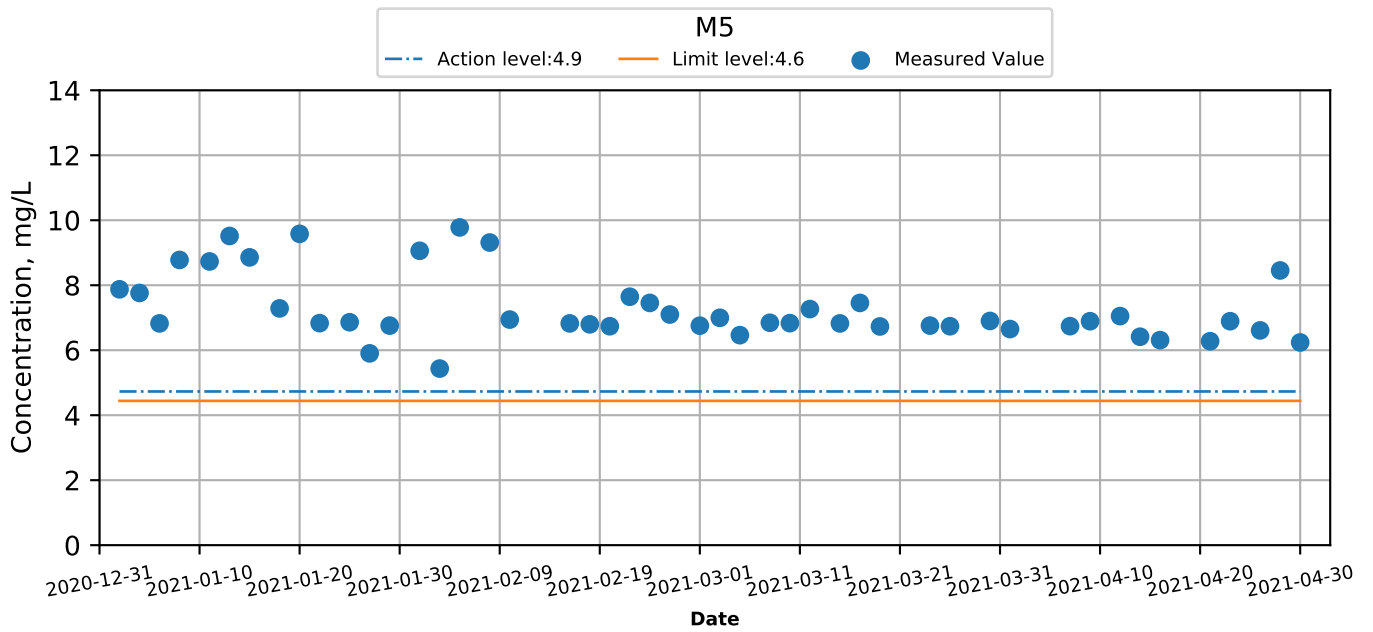
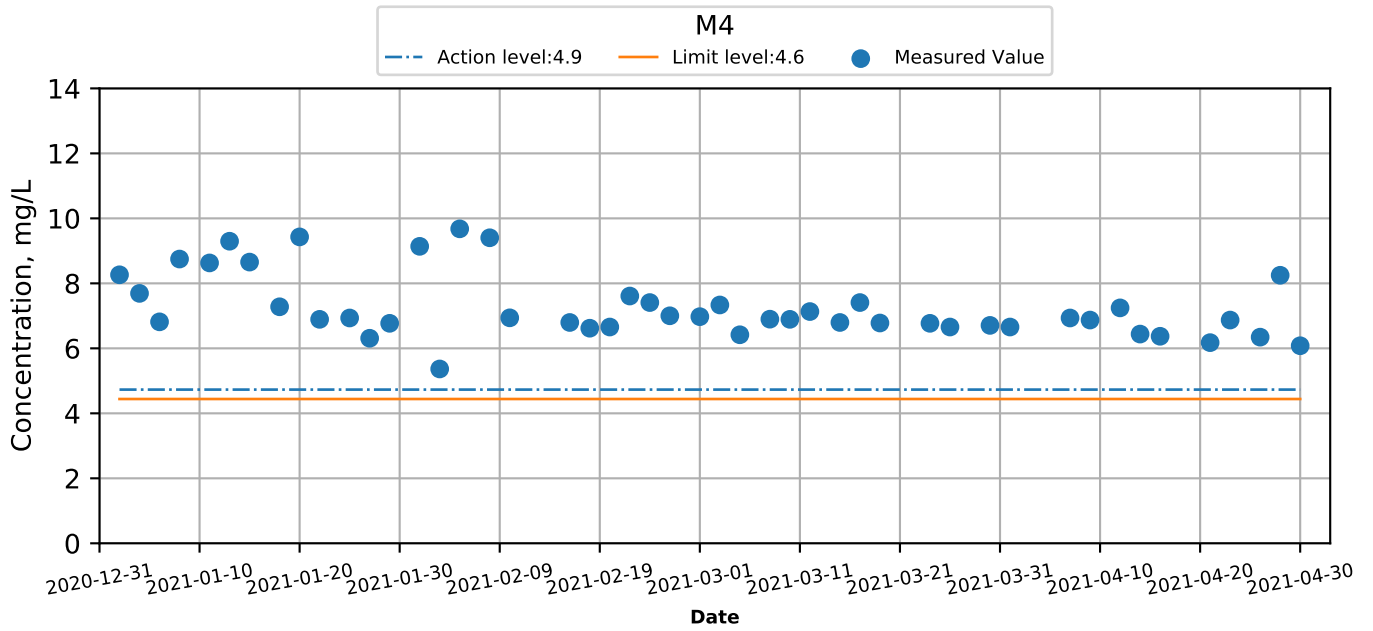
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



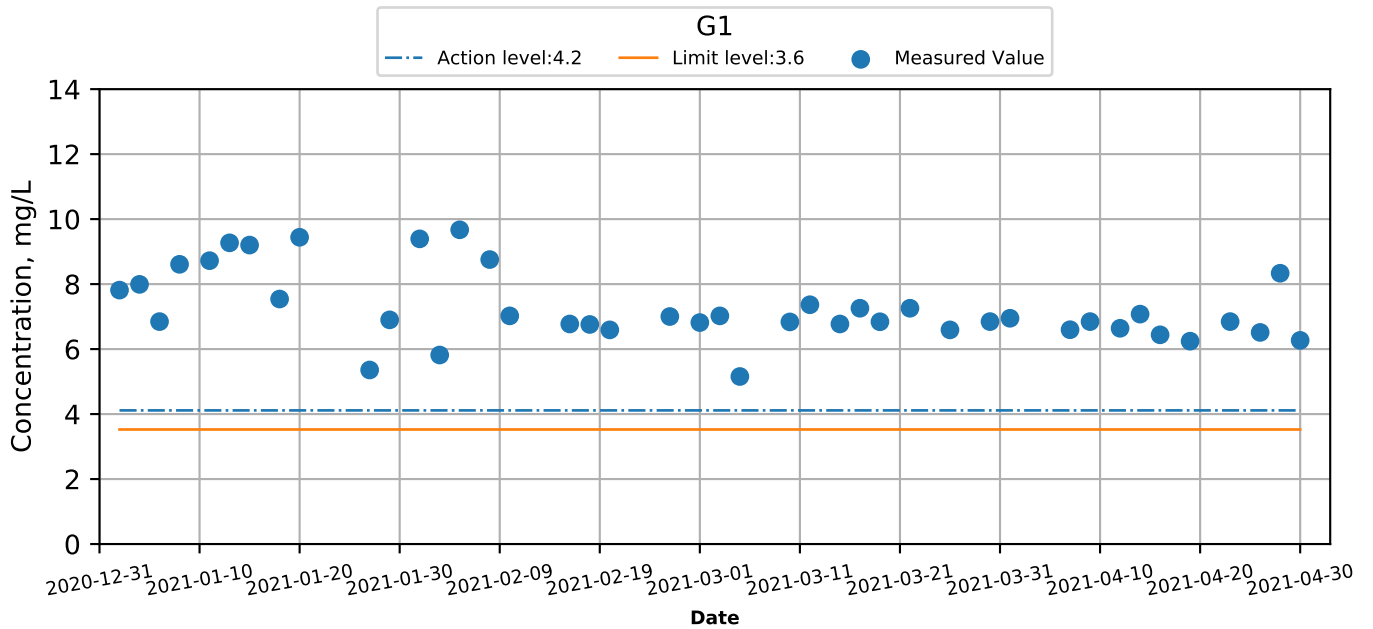
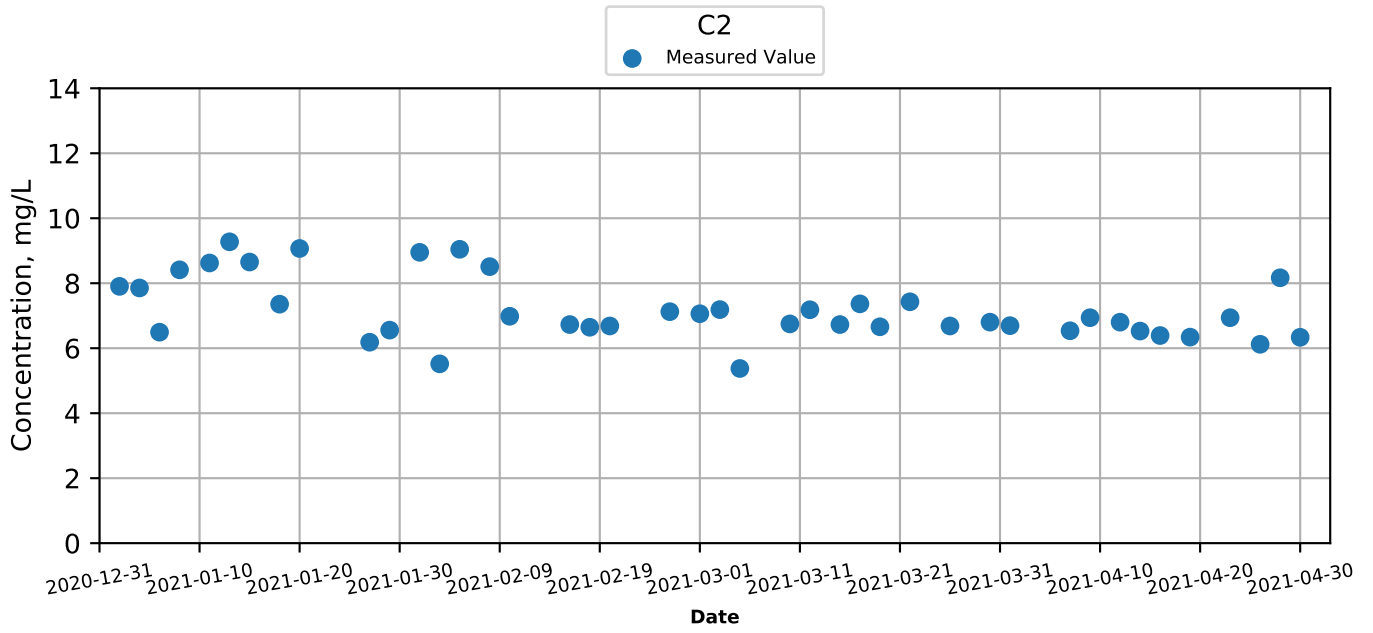
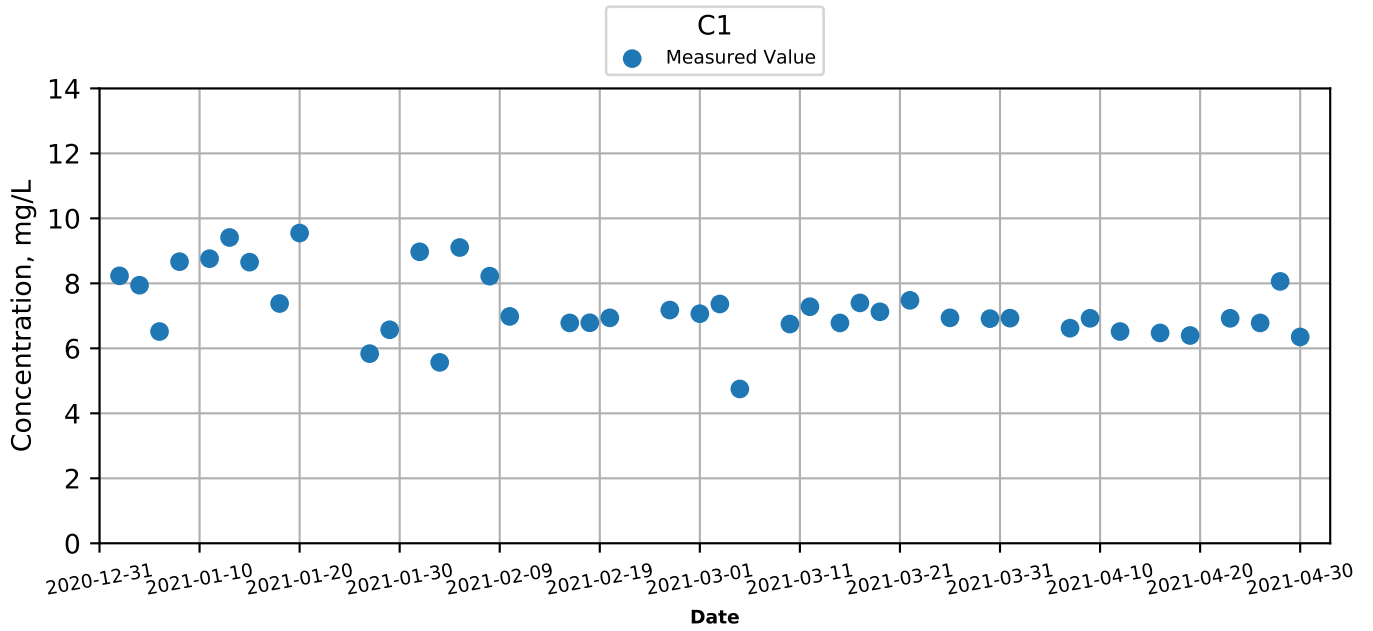
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Depth-Averaged) at Monitoring Stations during Mid-Flood



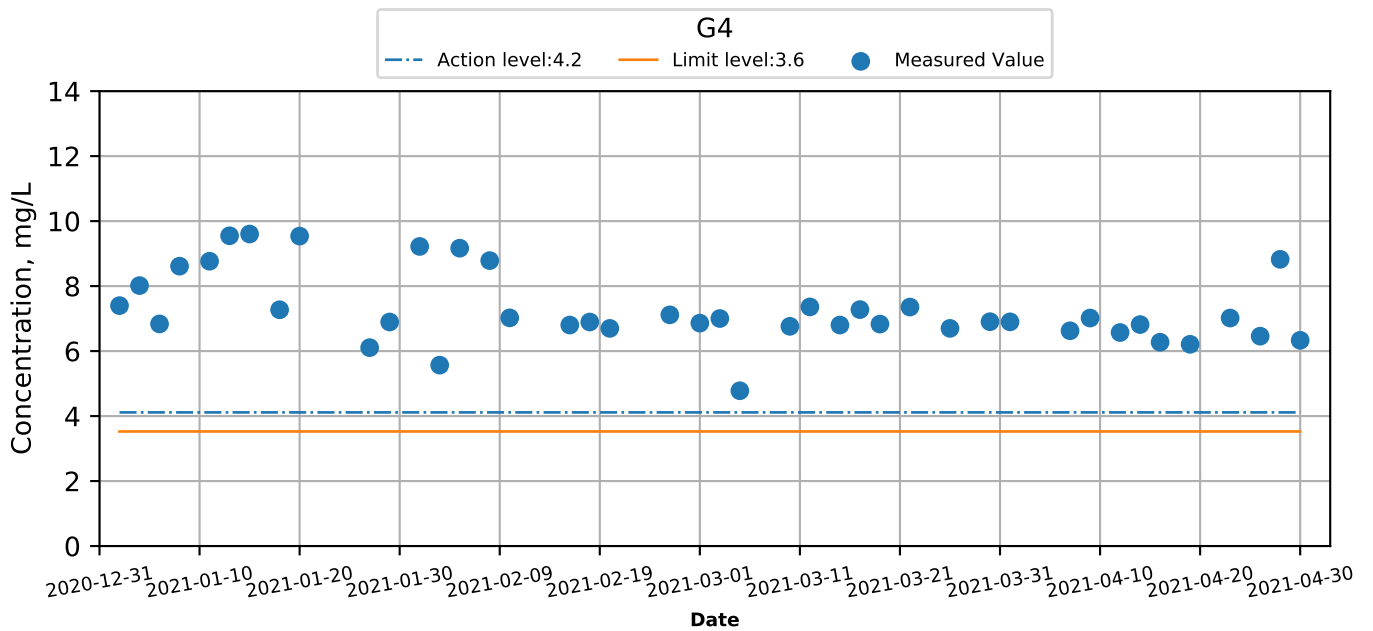
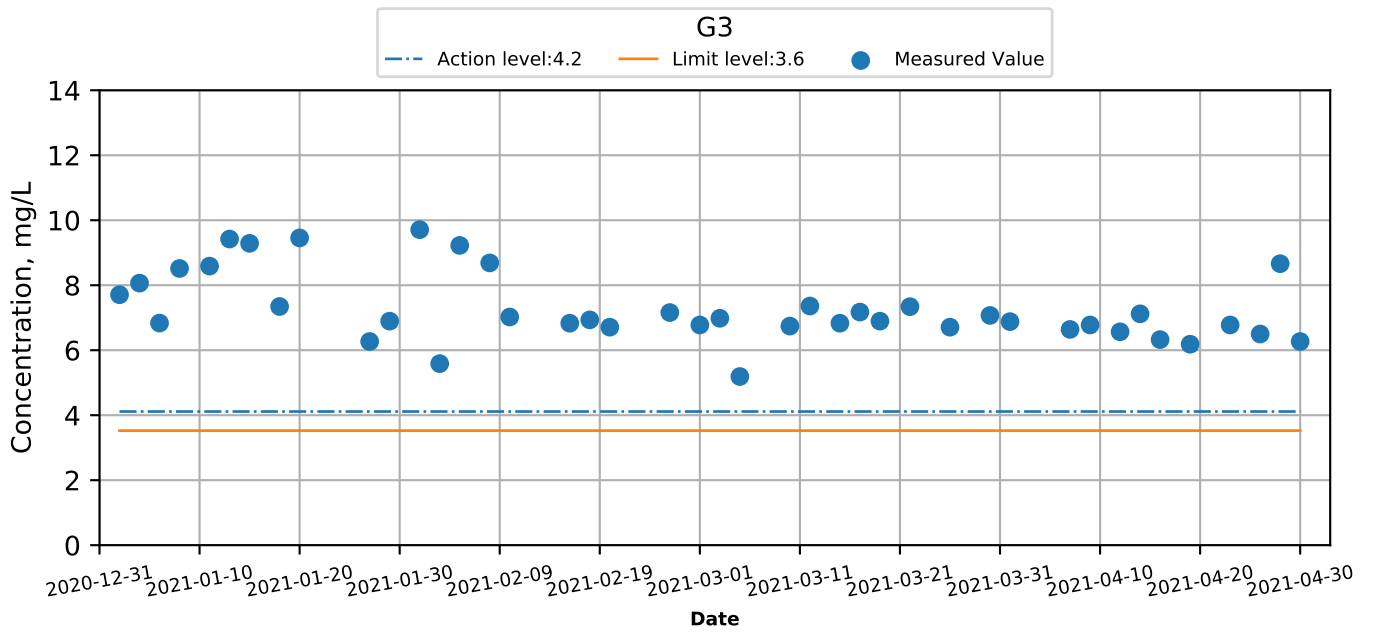
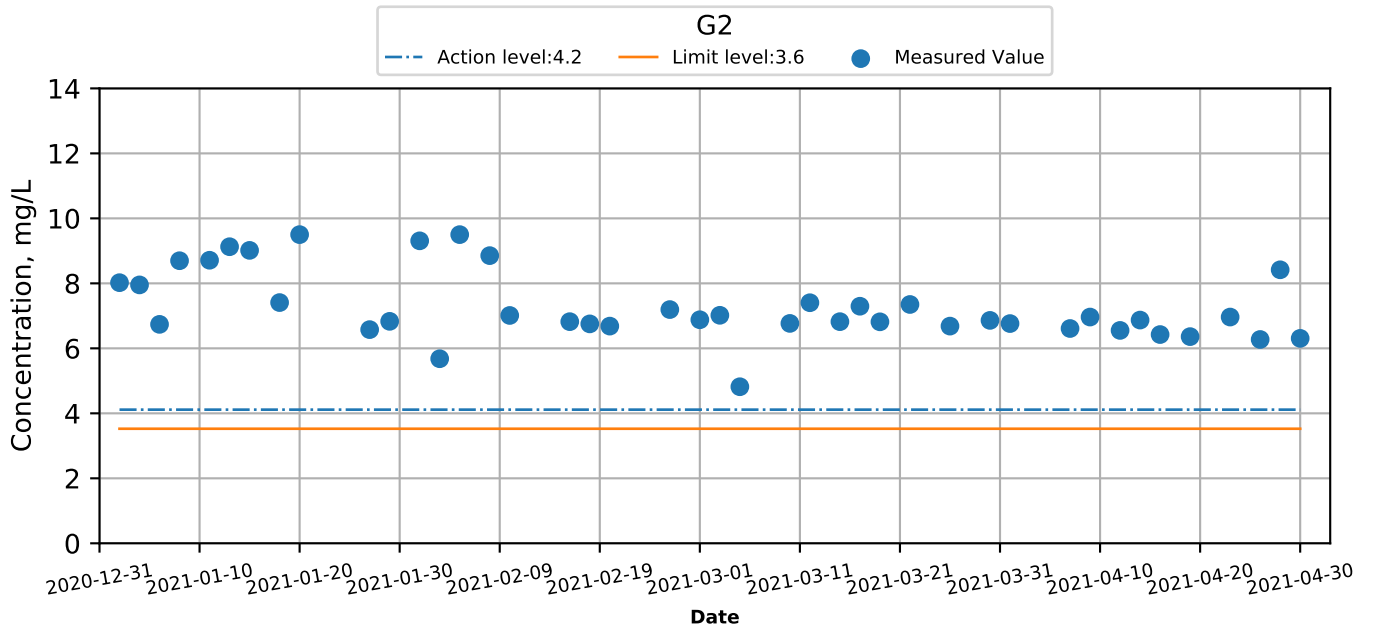
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

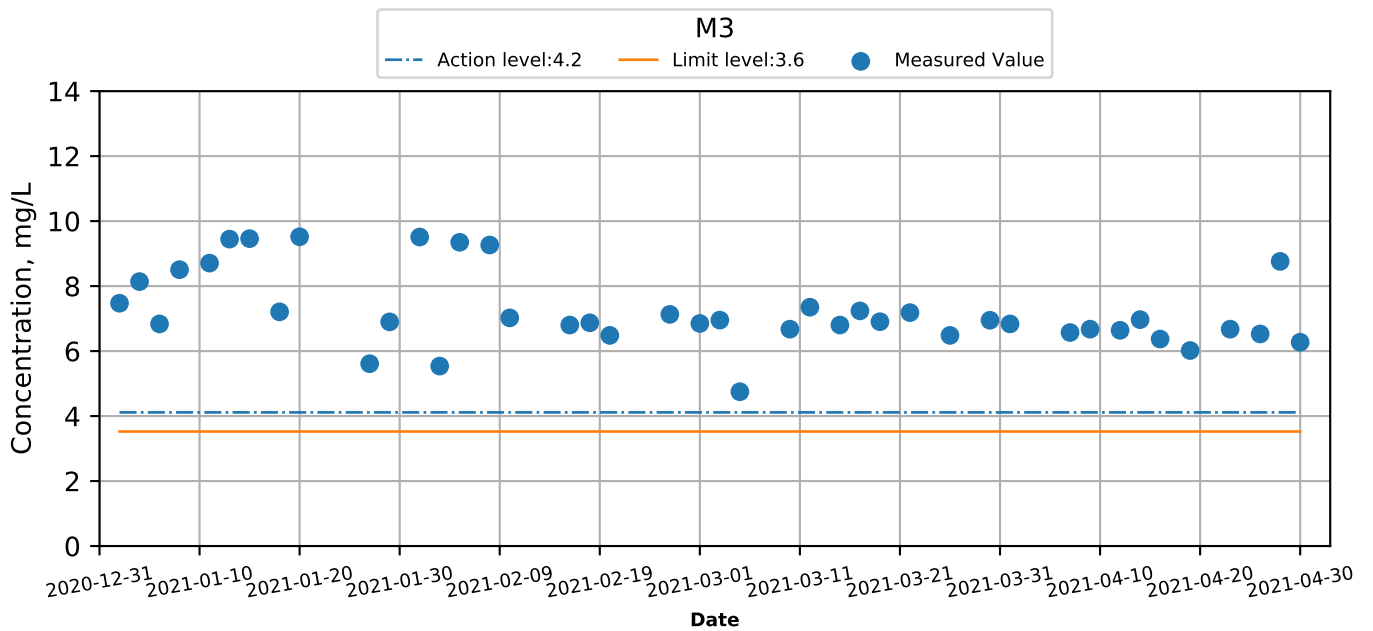
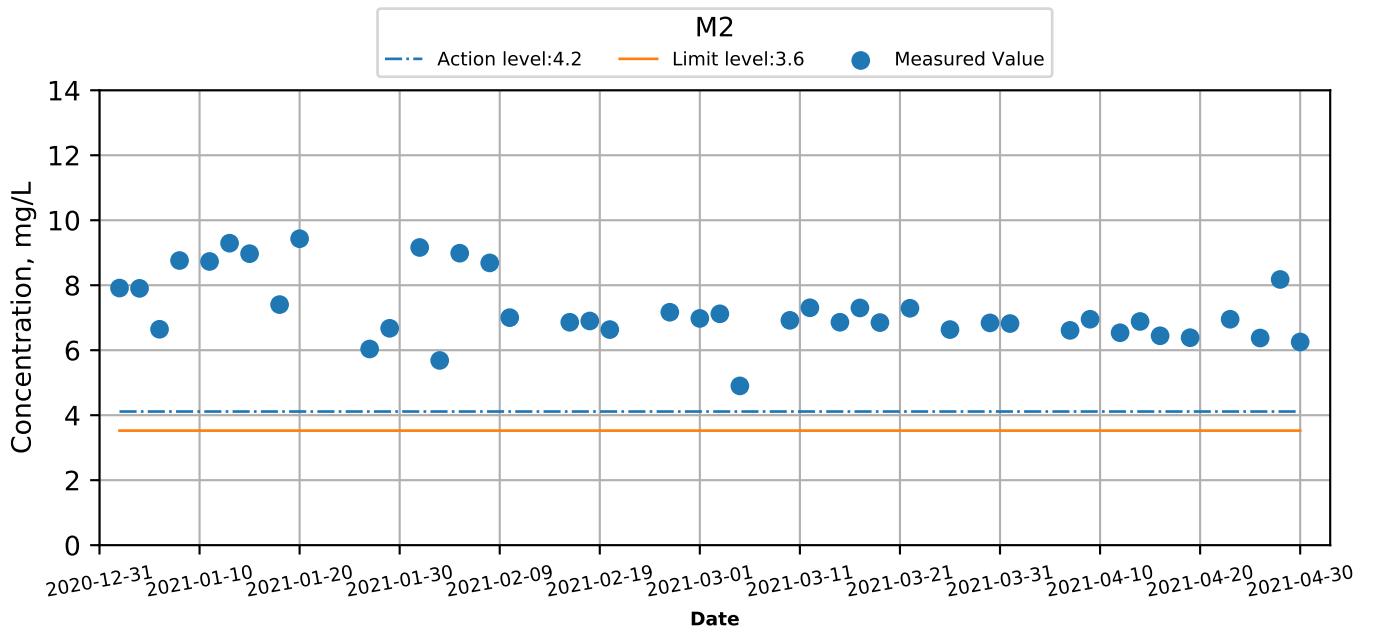
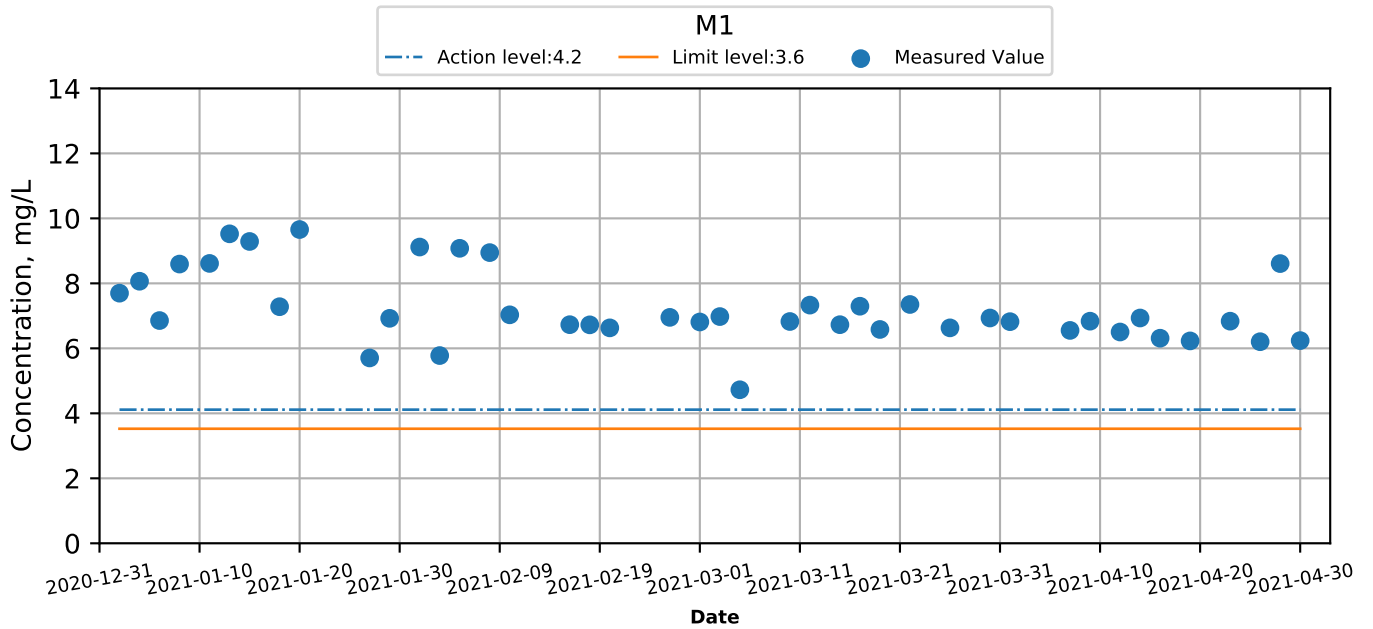
## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb





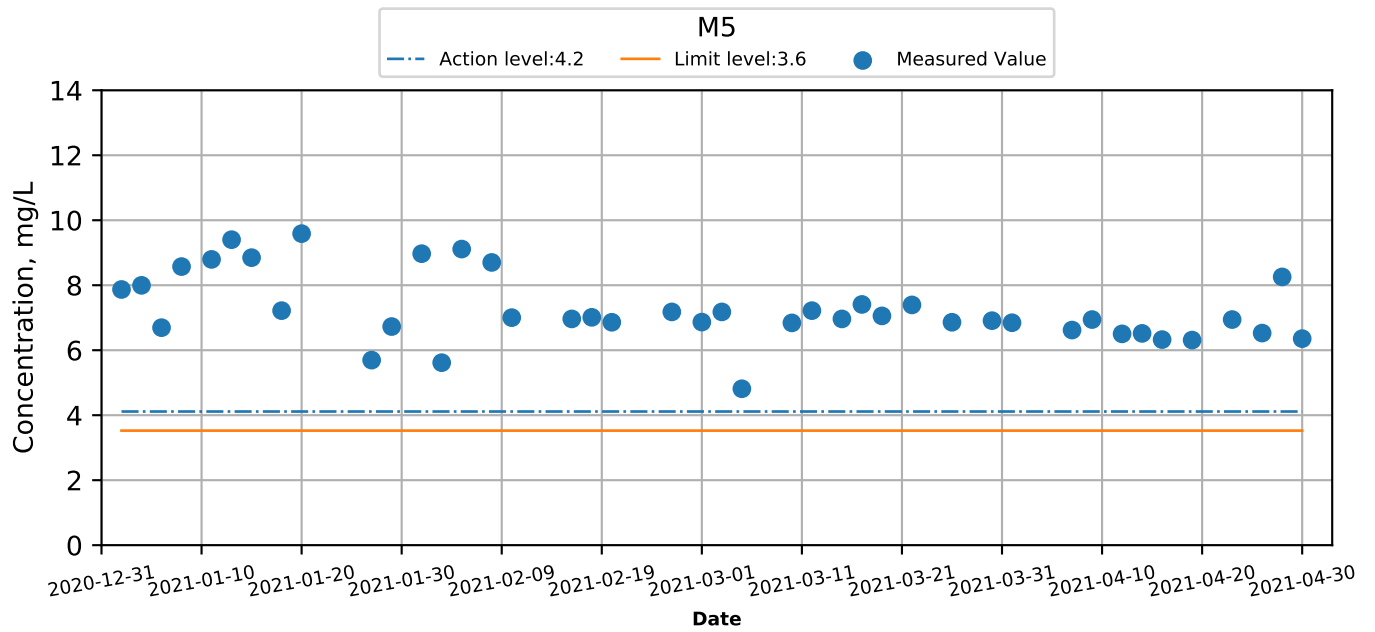
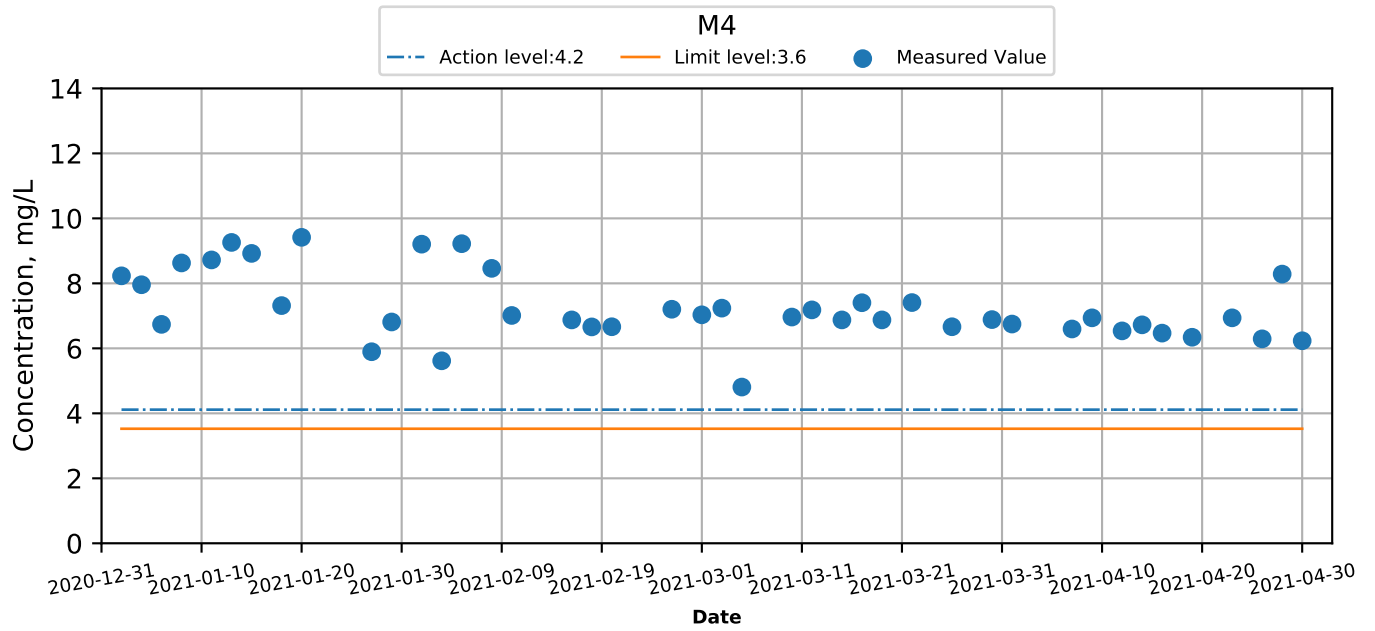
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



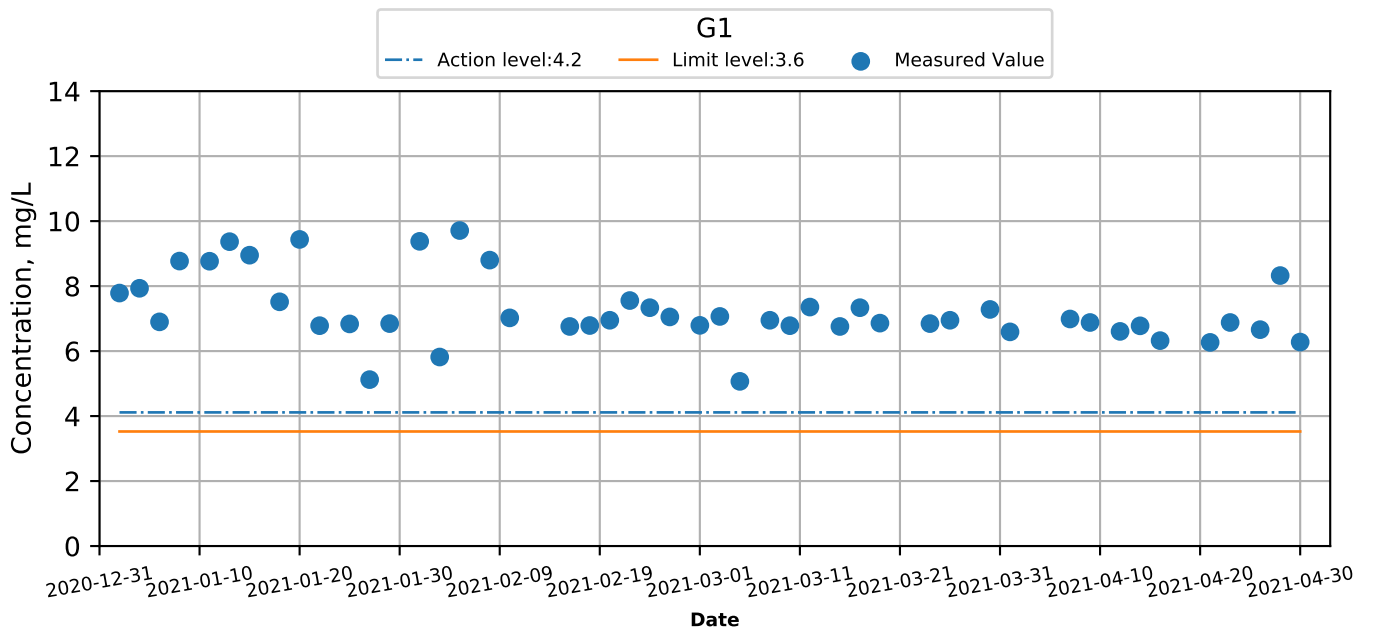
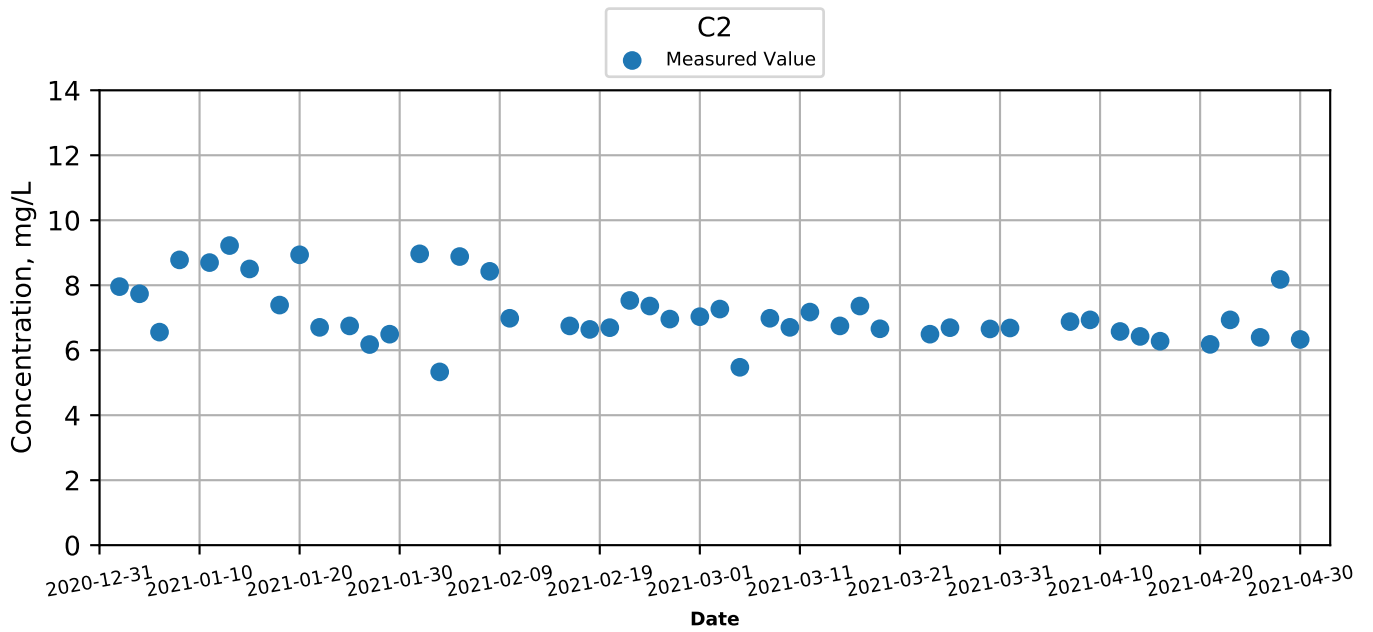
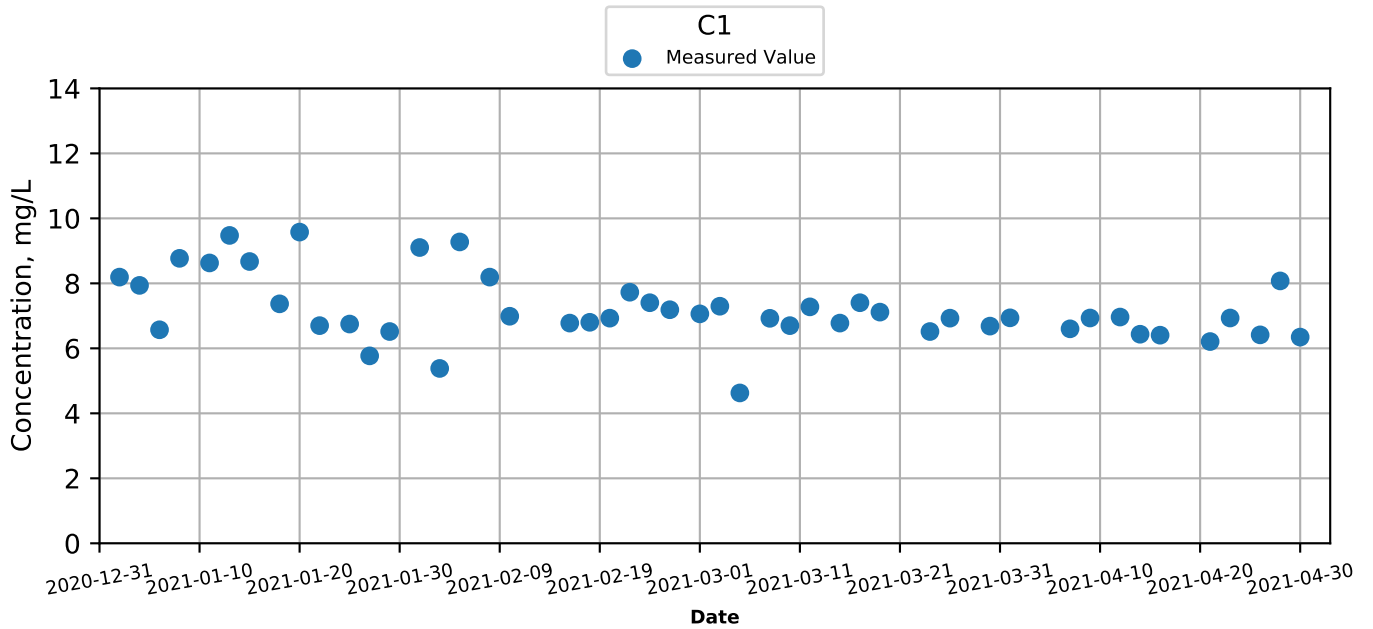
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Ebb



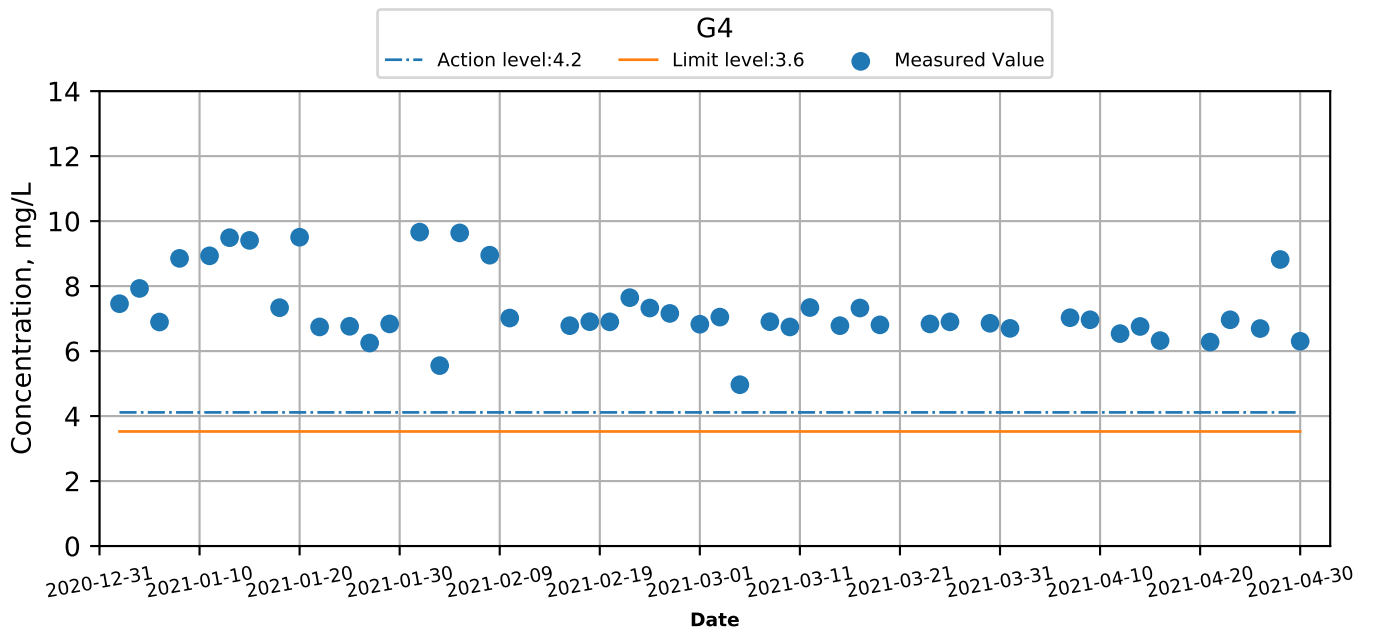
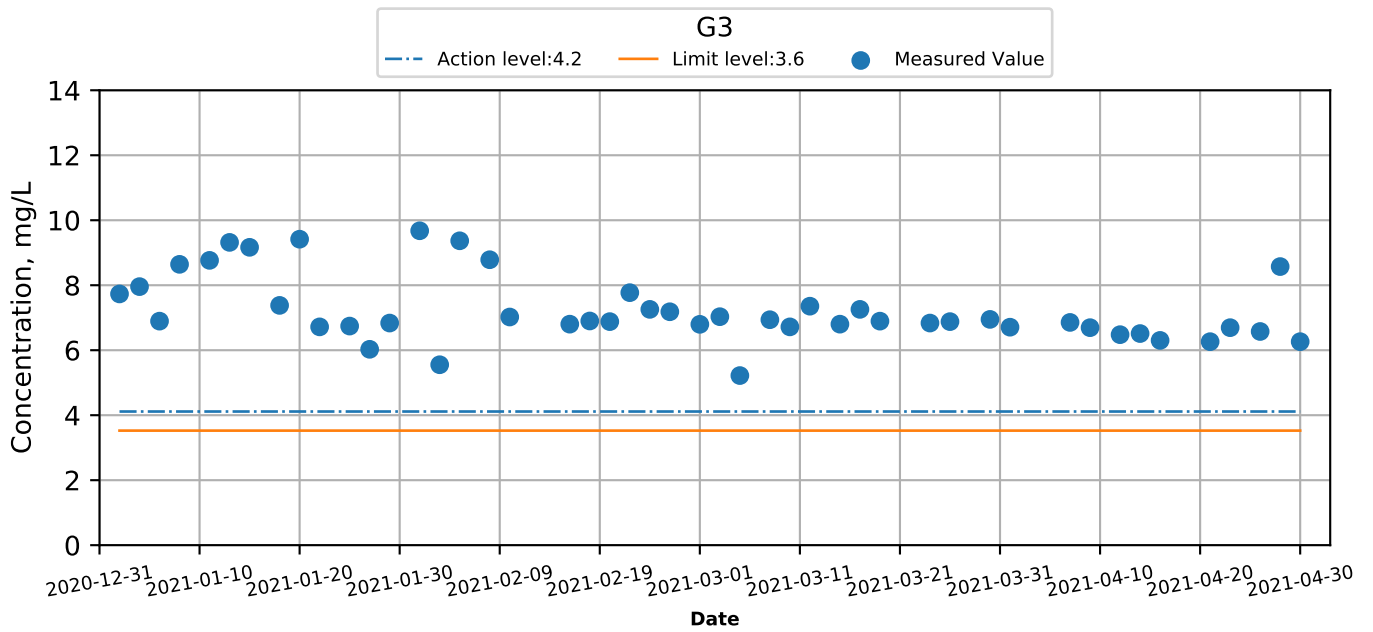
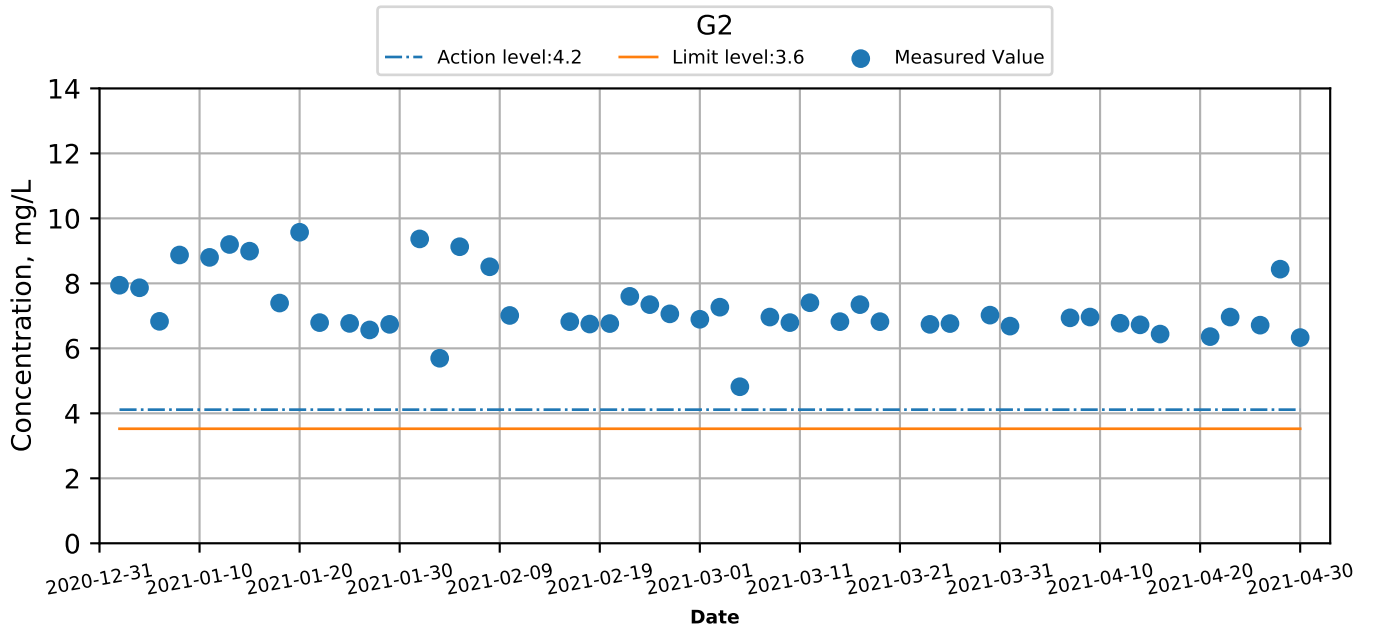
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood



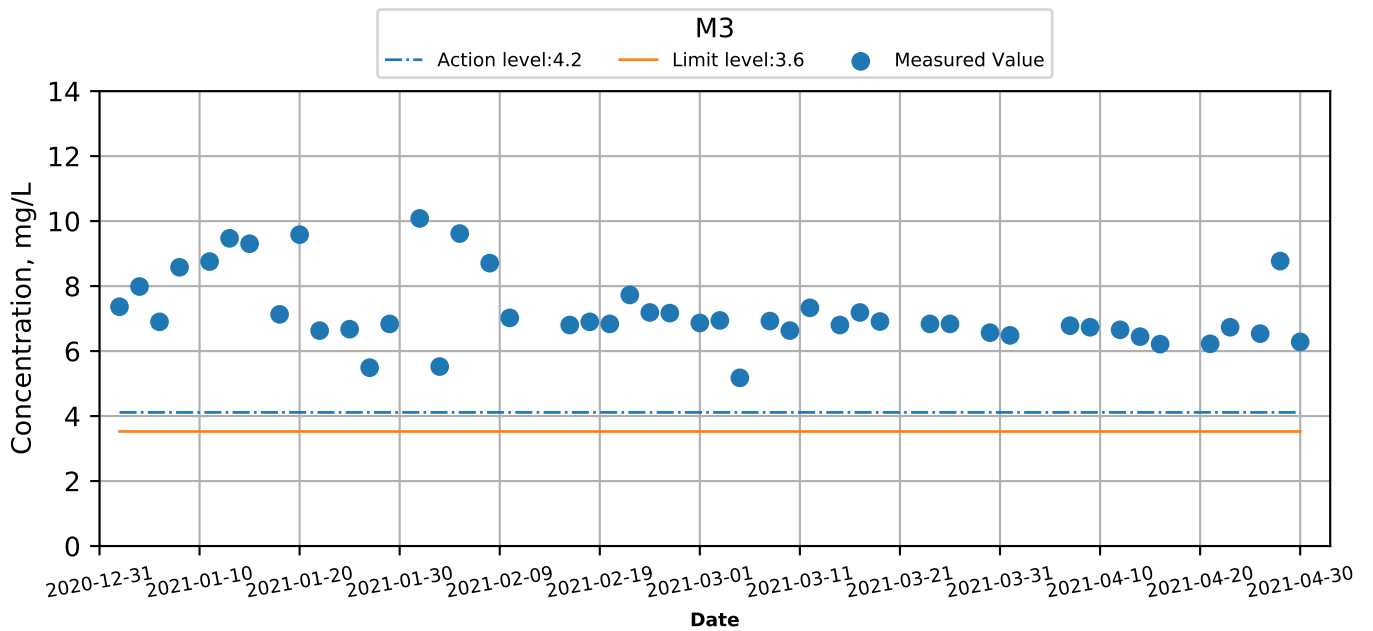
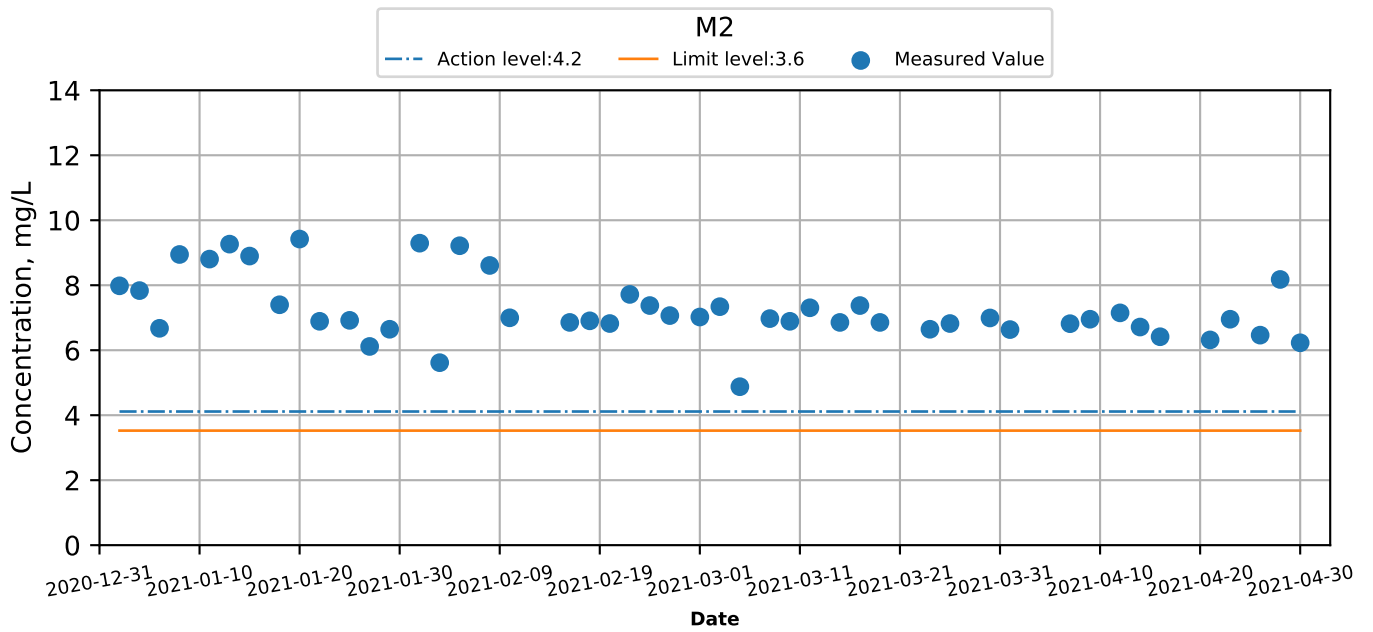
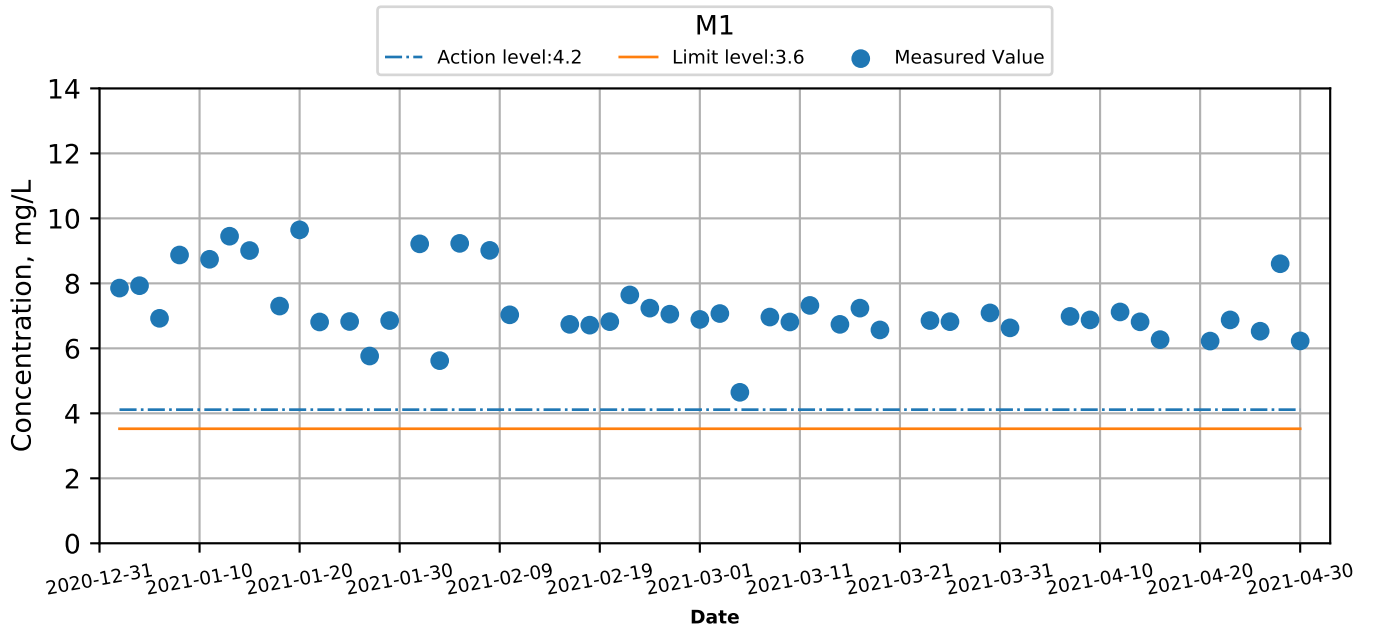
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood



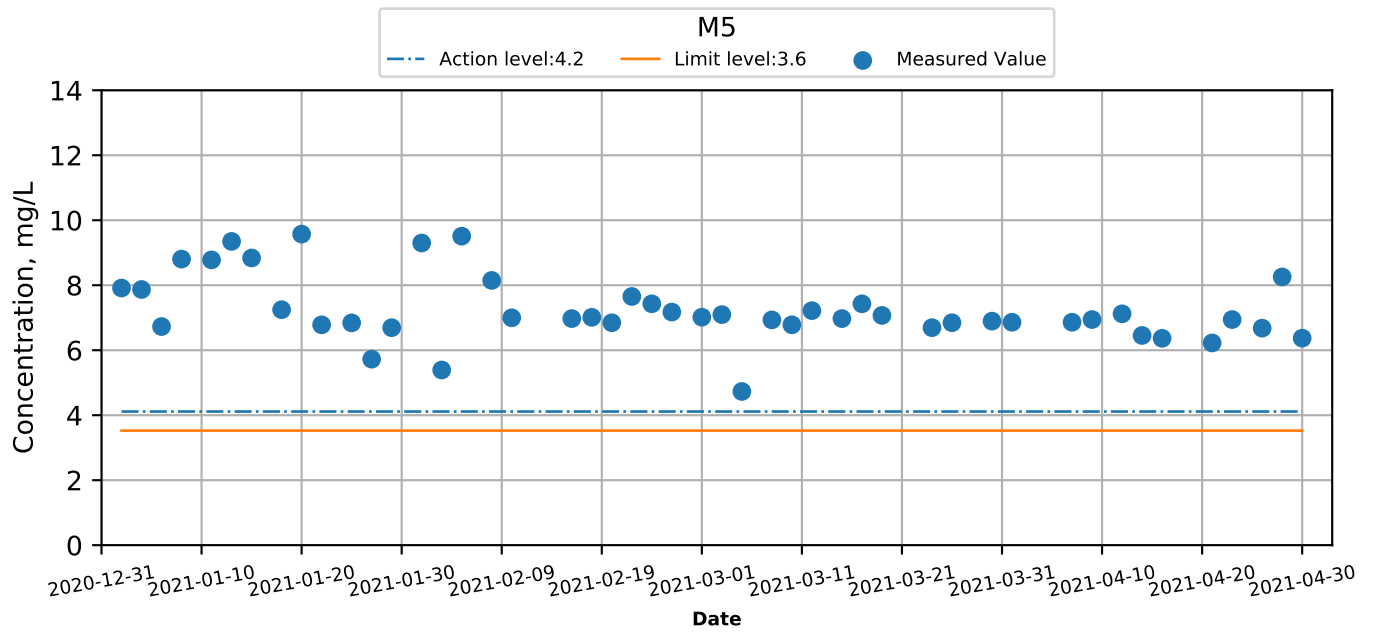
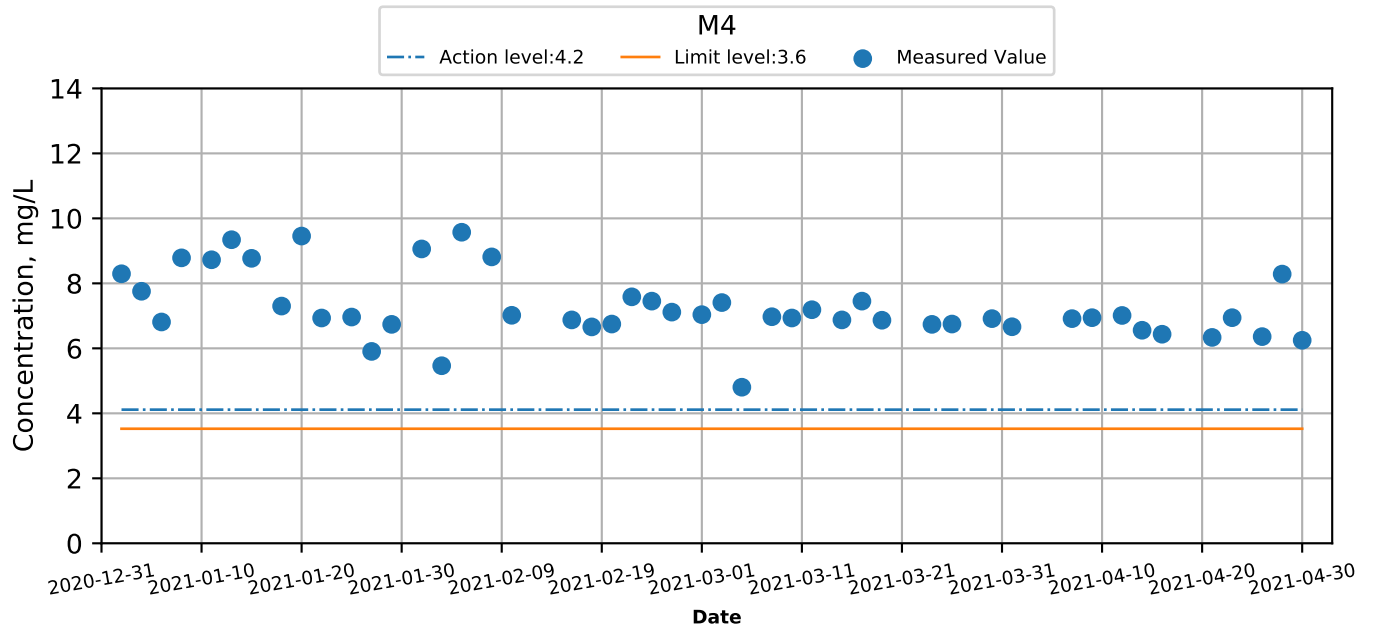
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

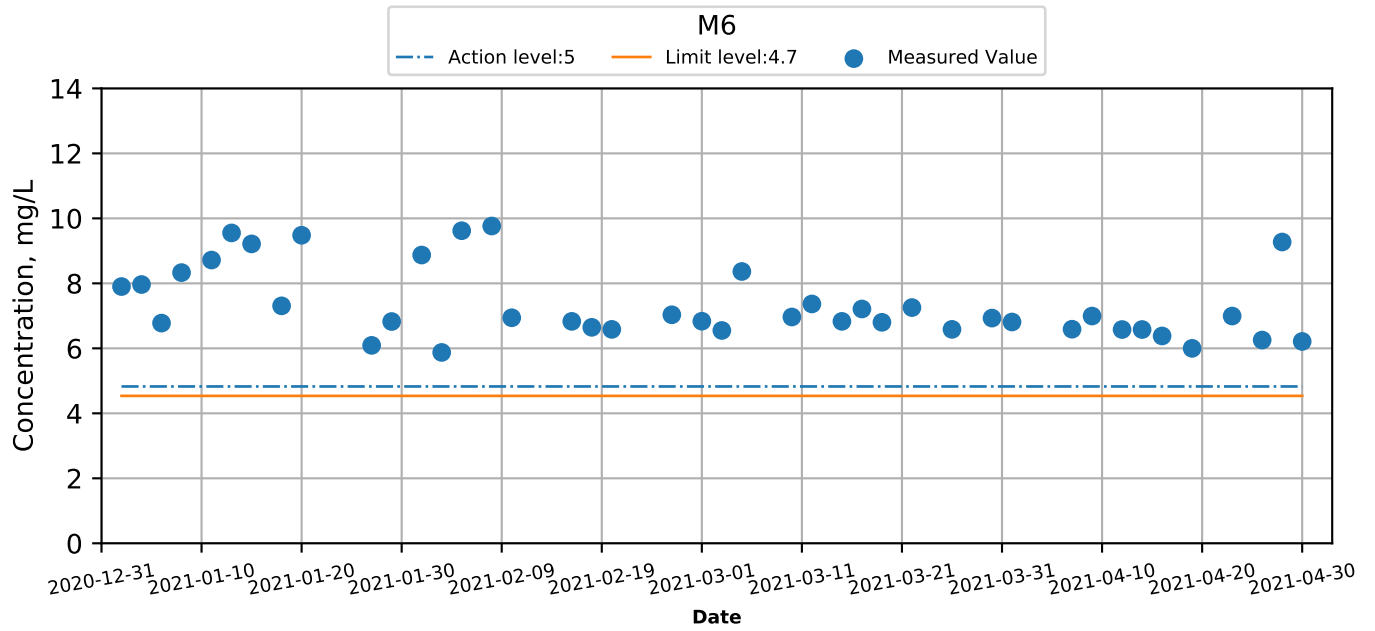
## Dissolved Oxygen (Bottom) at Monitoring Stations during Mid-Flood





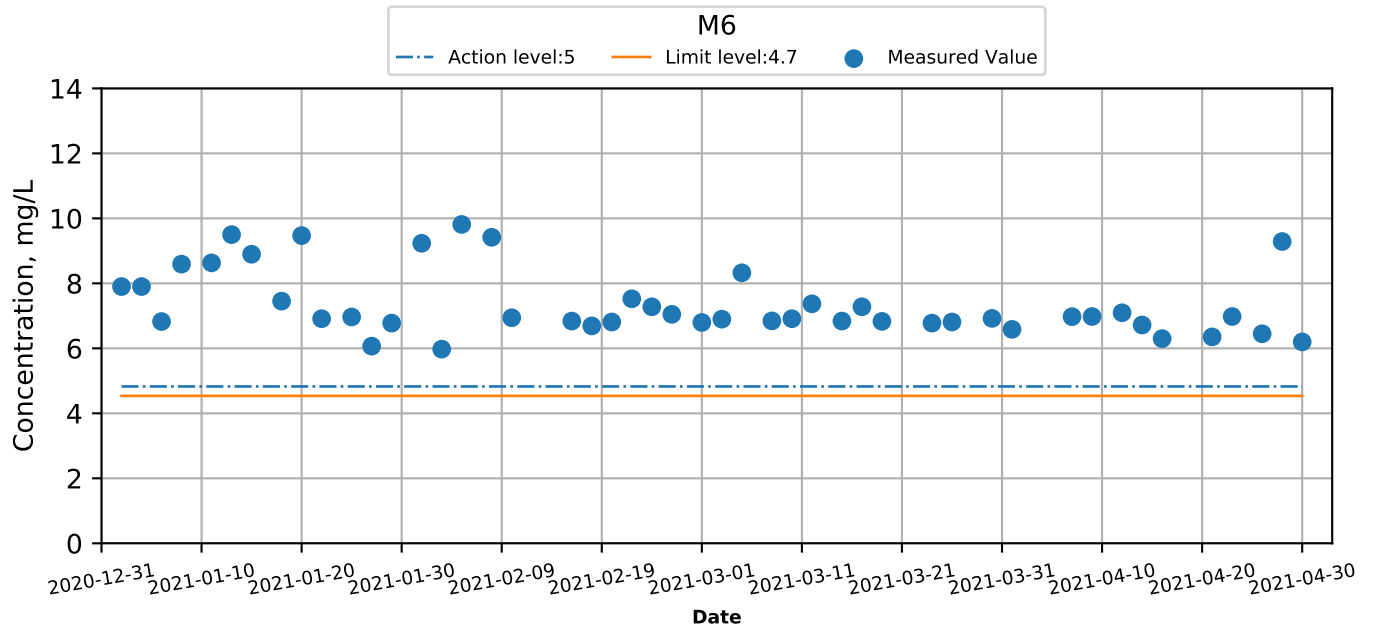
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Intake level) at Monitoring Stations during Mid-Ebb



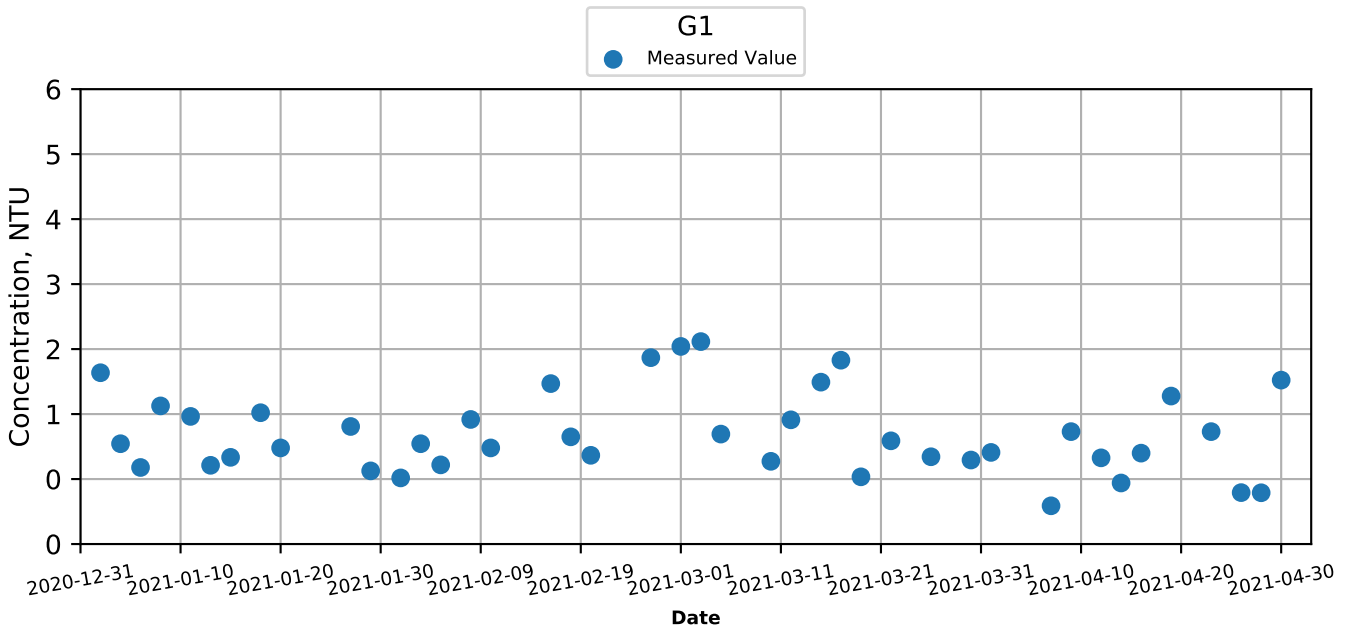
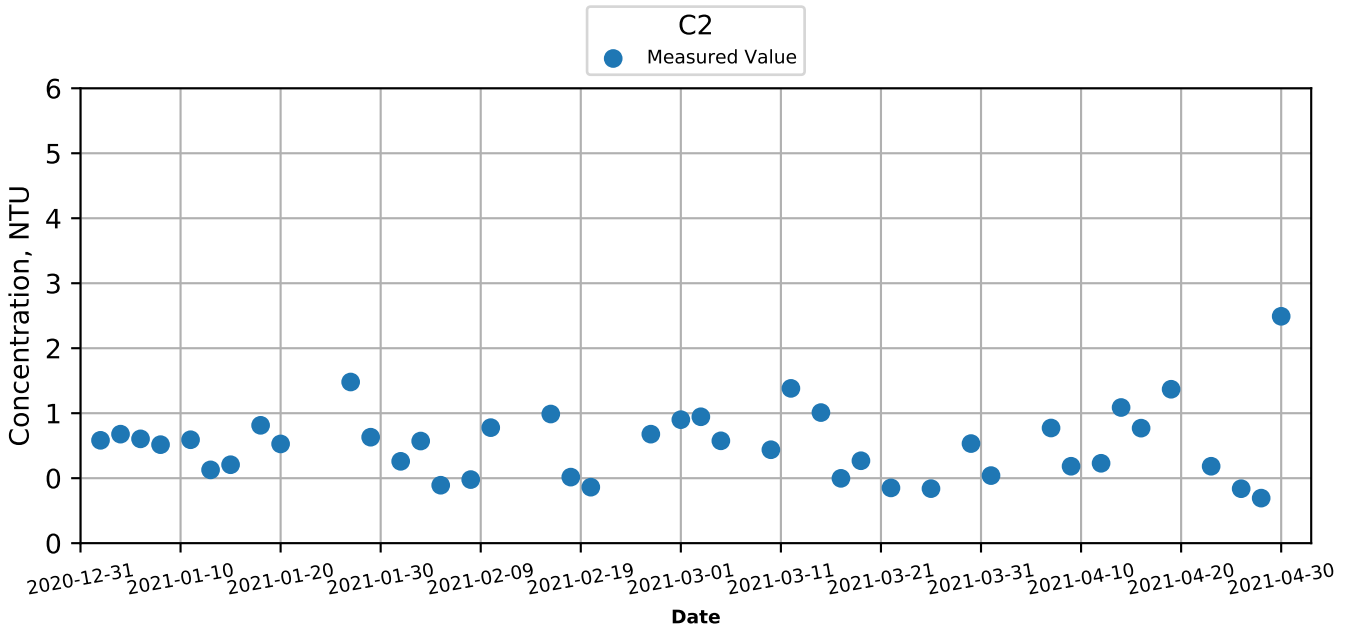
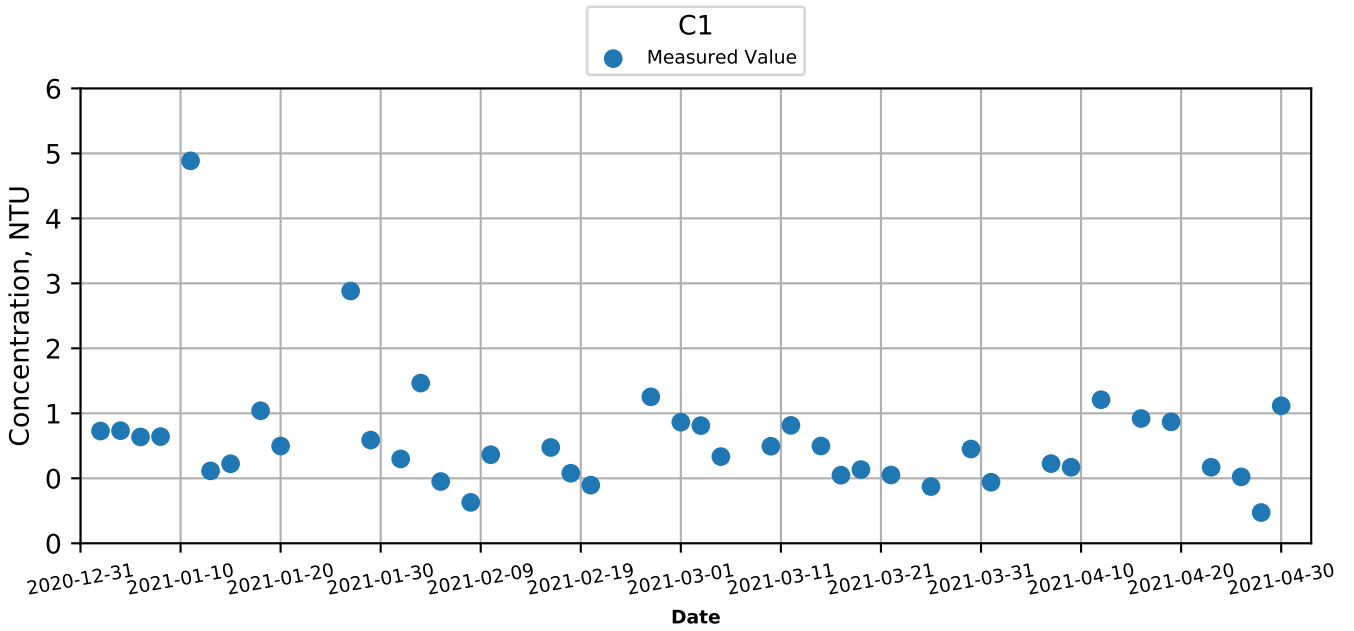
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Dissolved Oxygen (Intake level) at Monitoring Stations during Mid-Flood



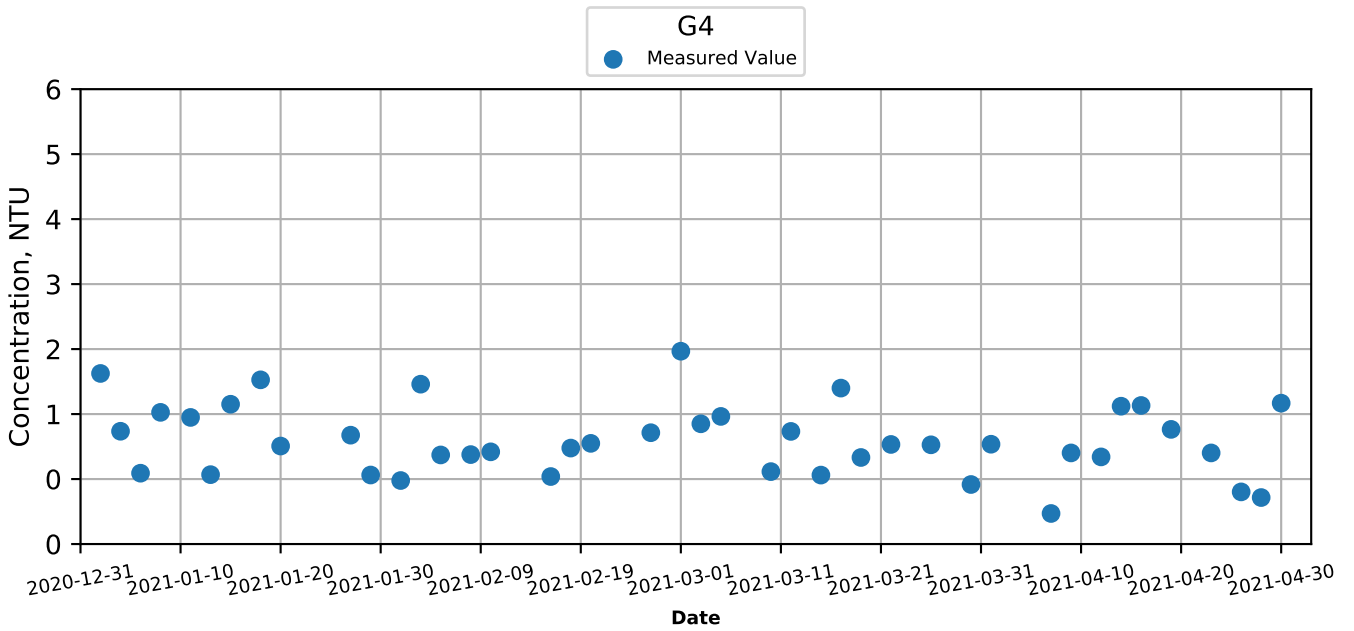
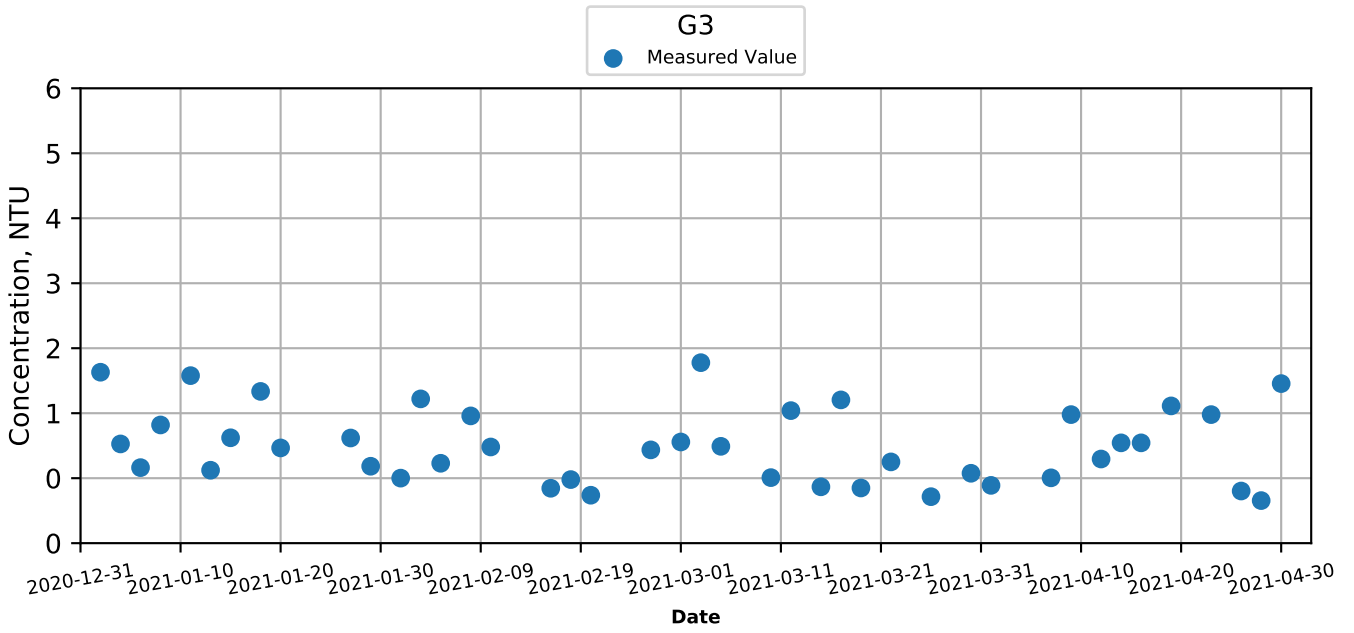
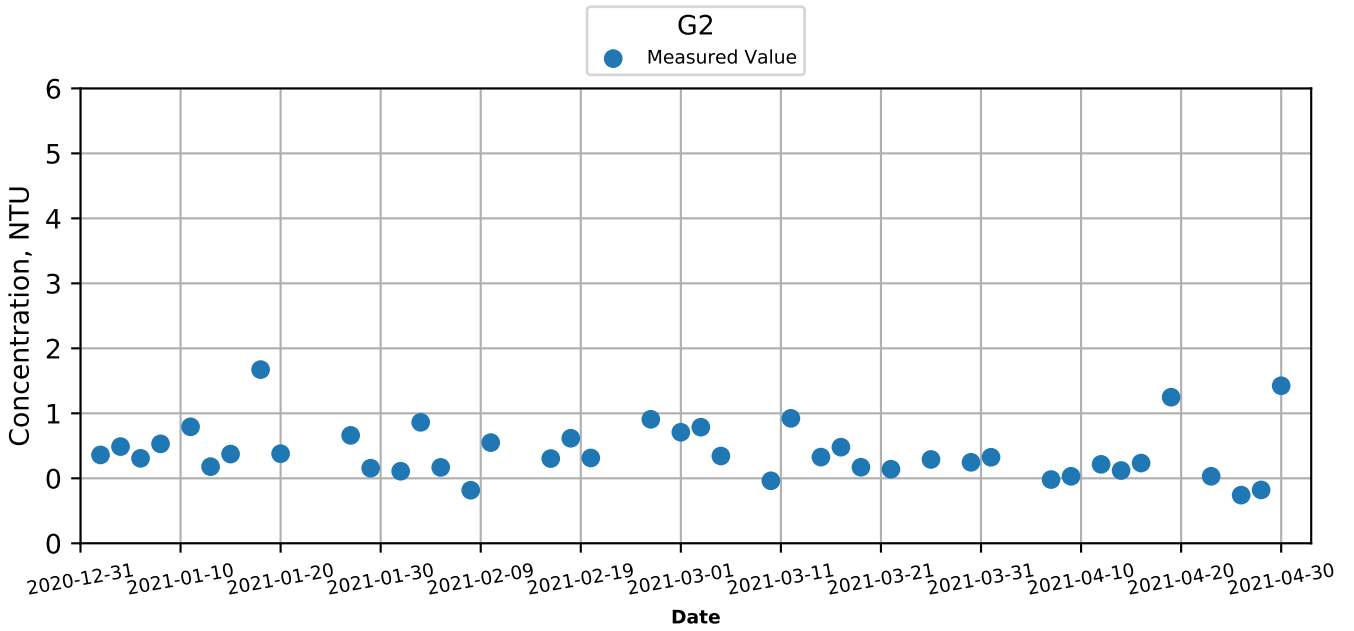
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb



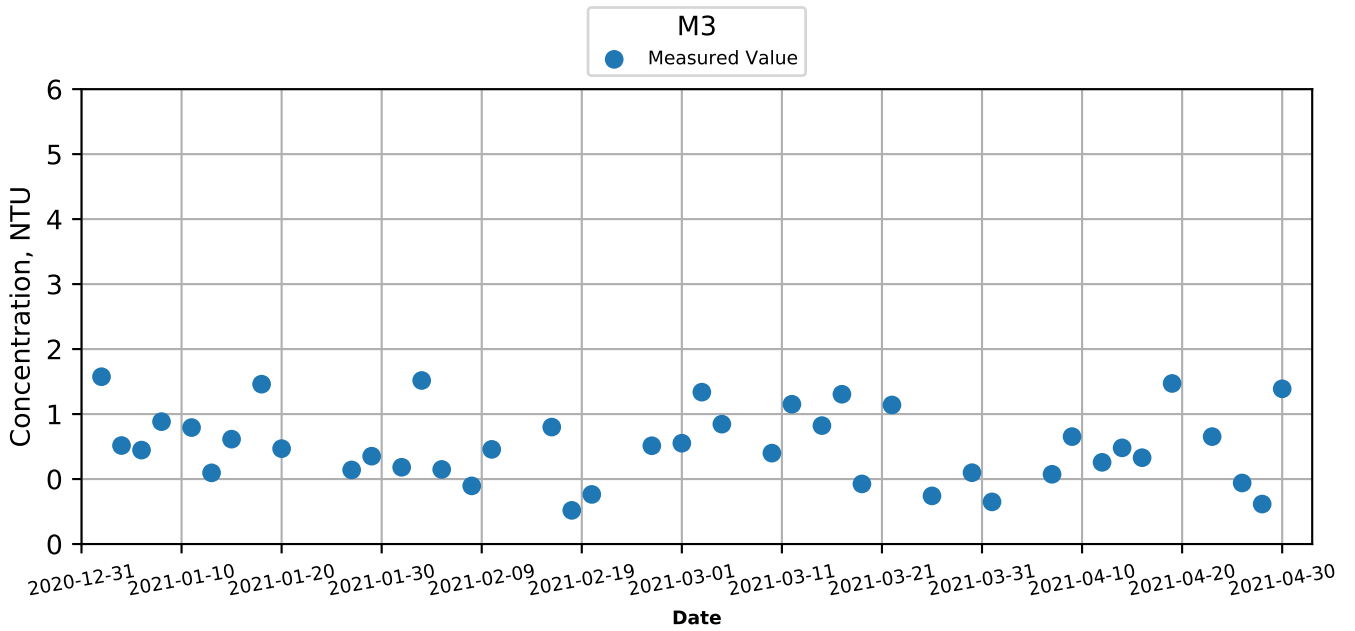
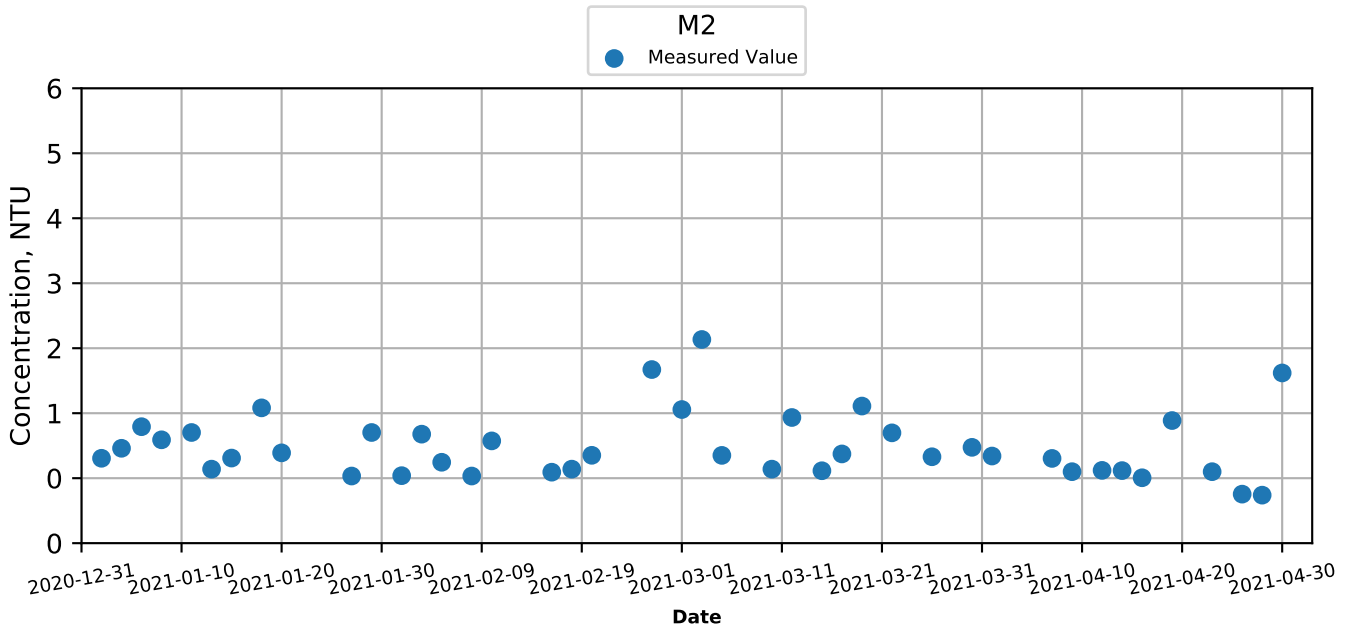
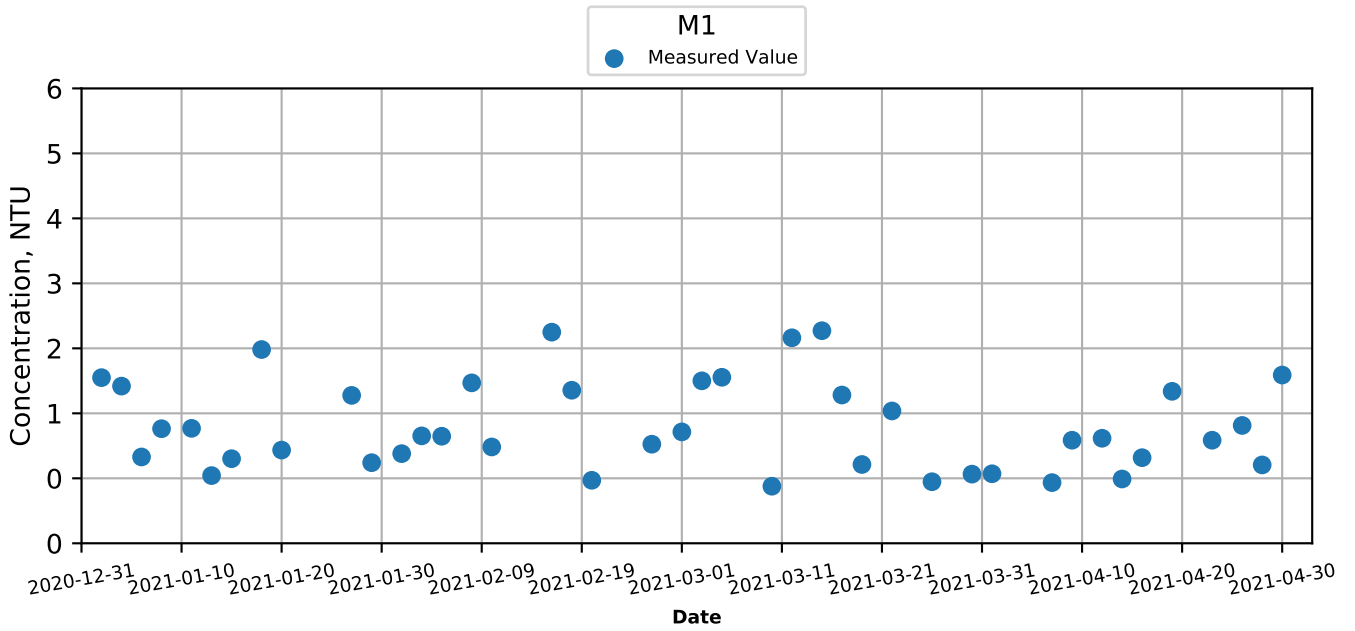
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb



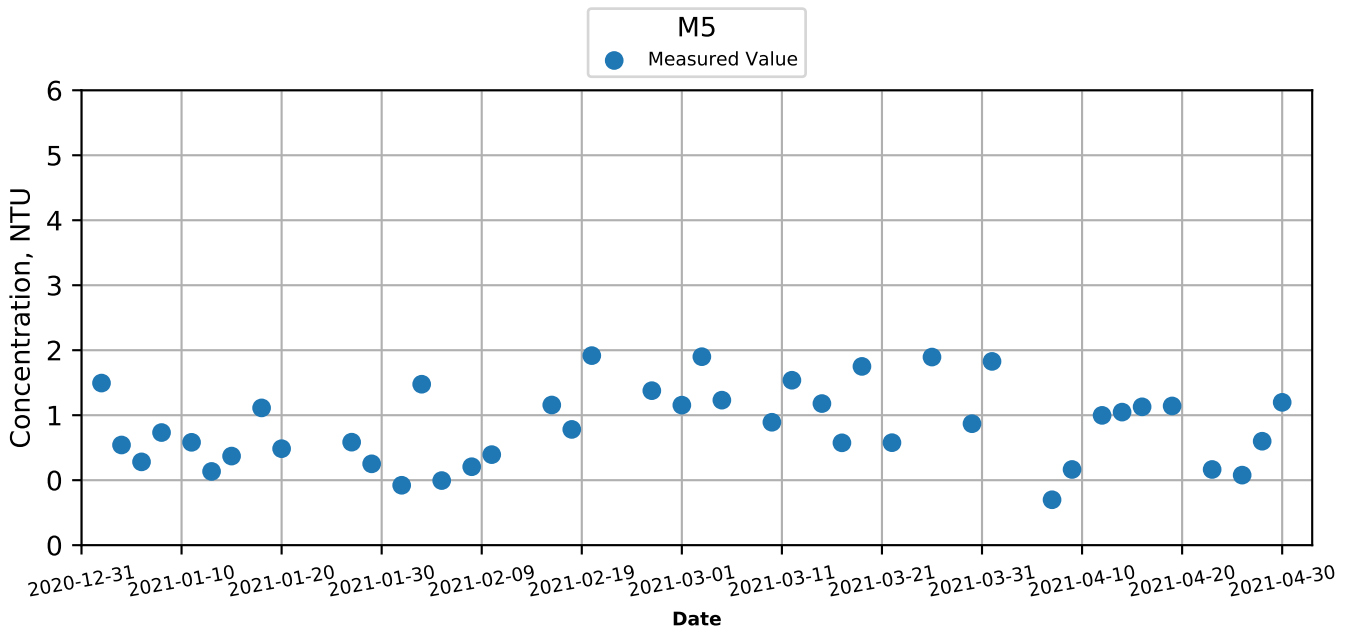
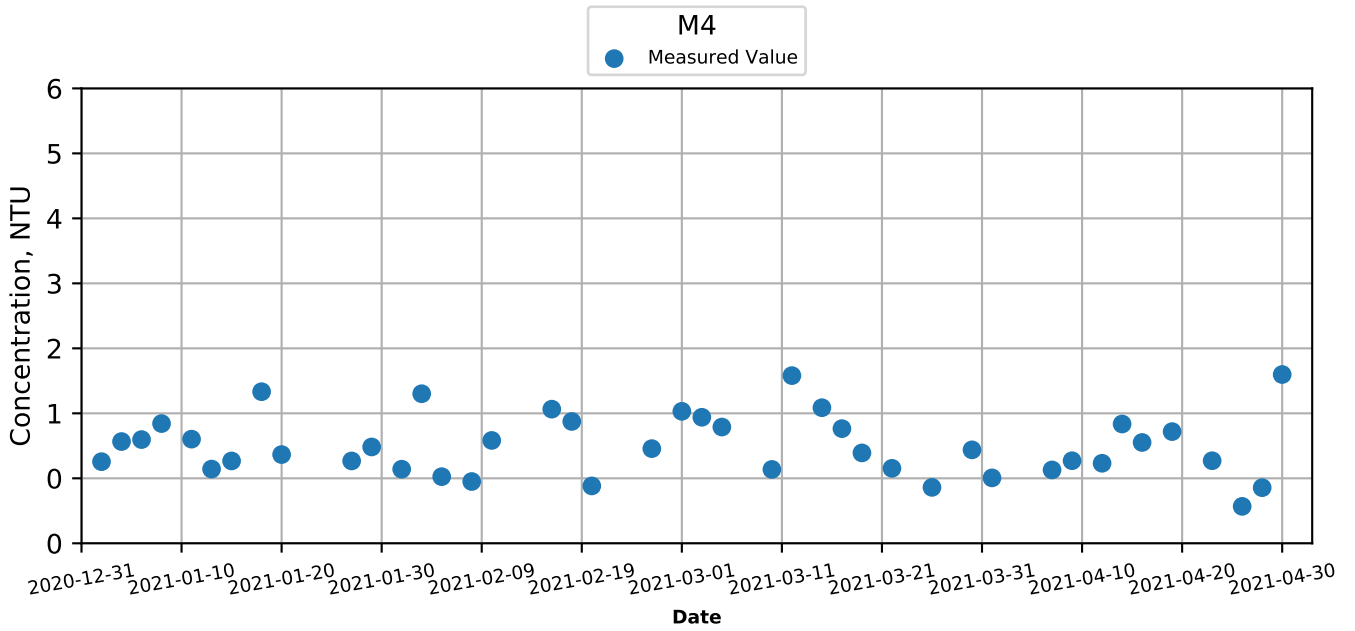
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

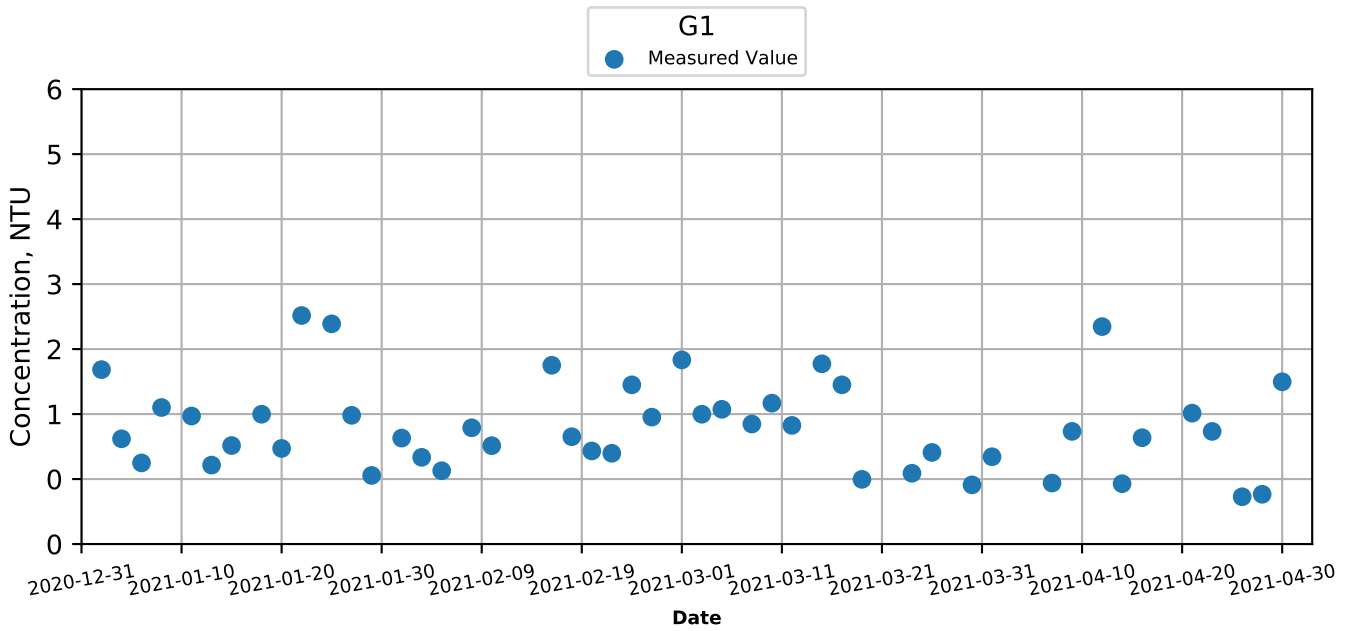
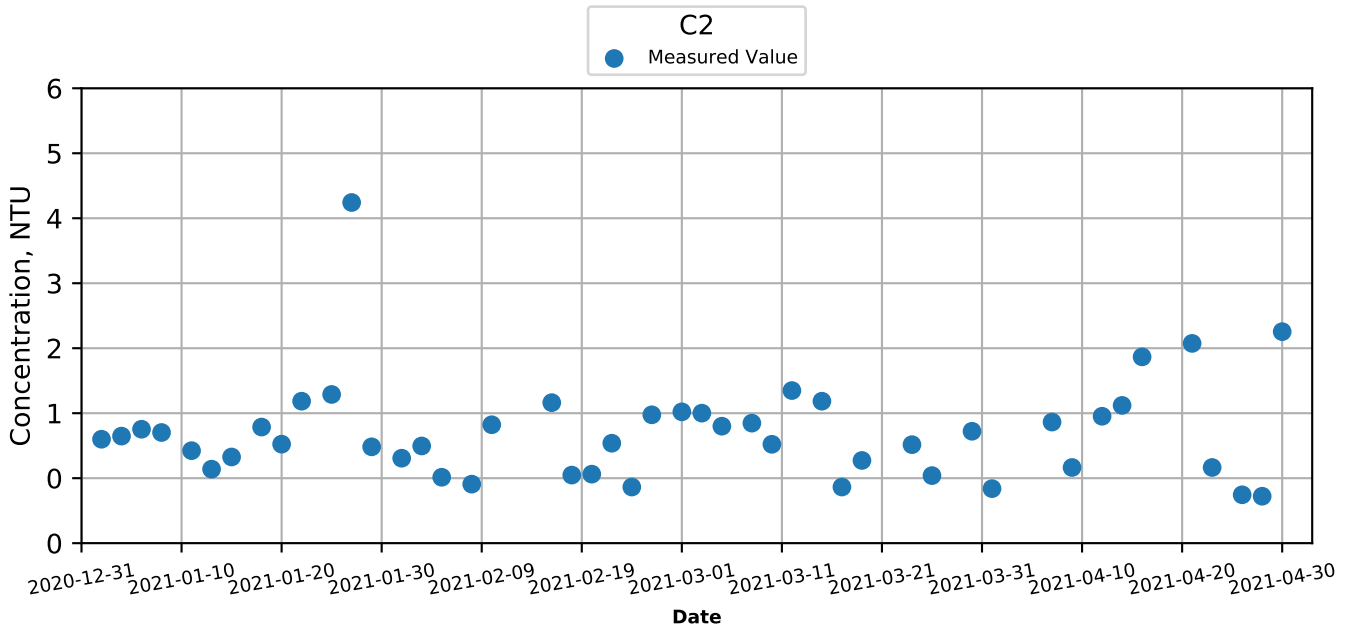
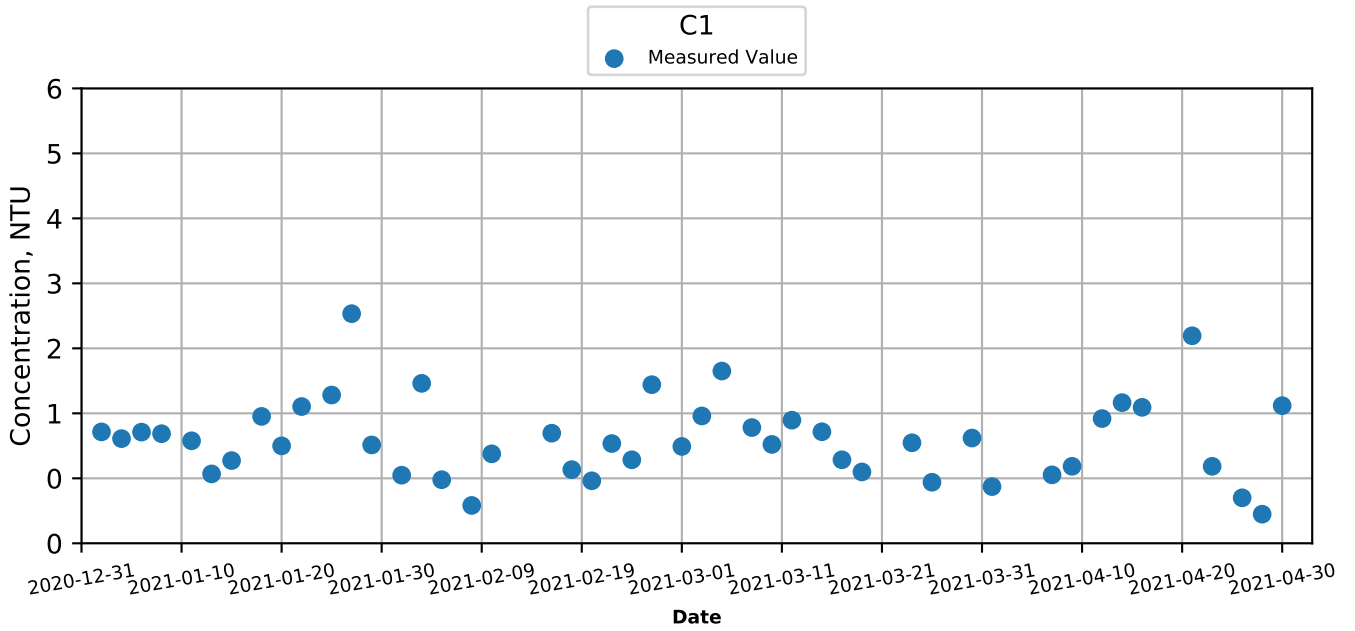
## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Ebb





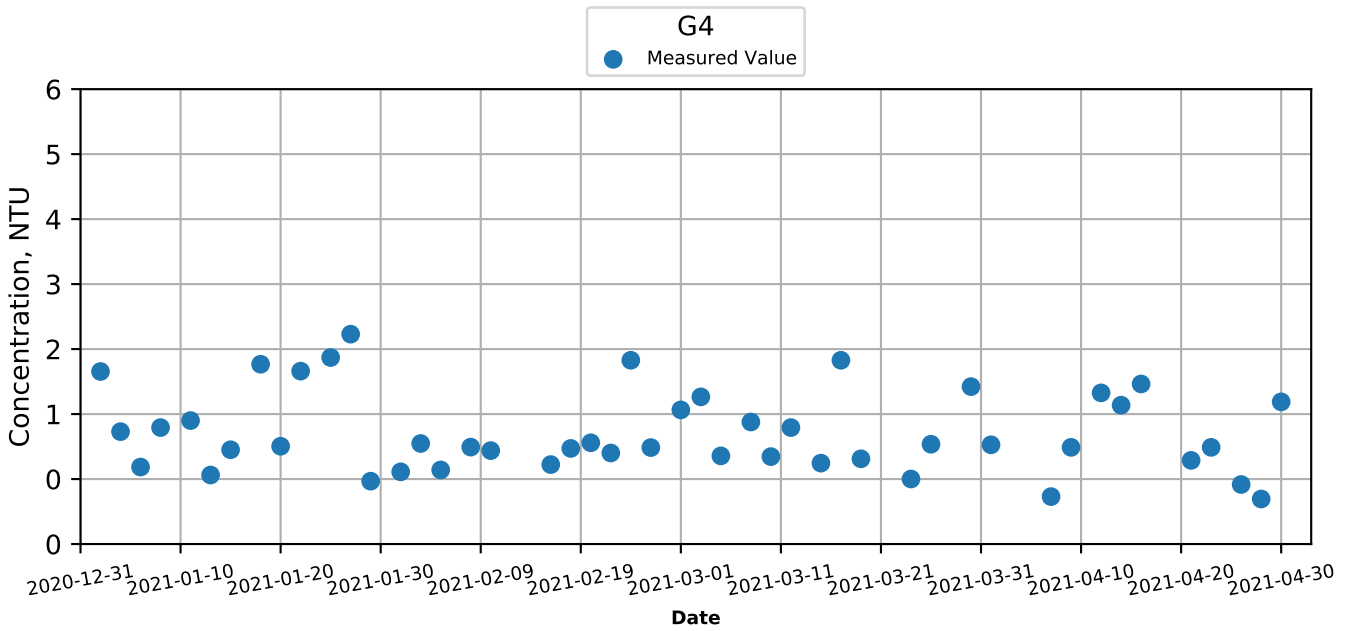
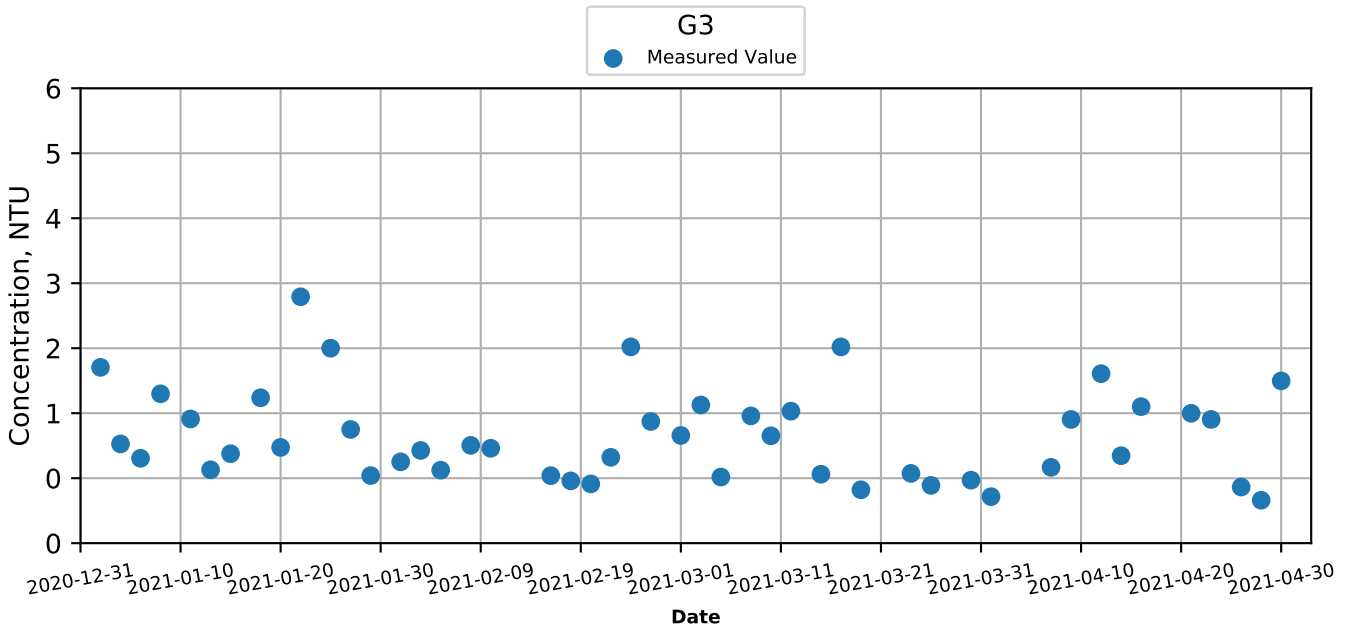
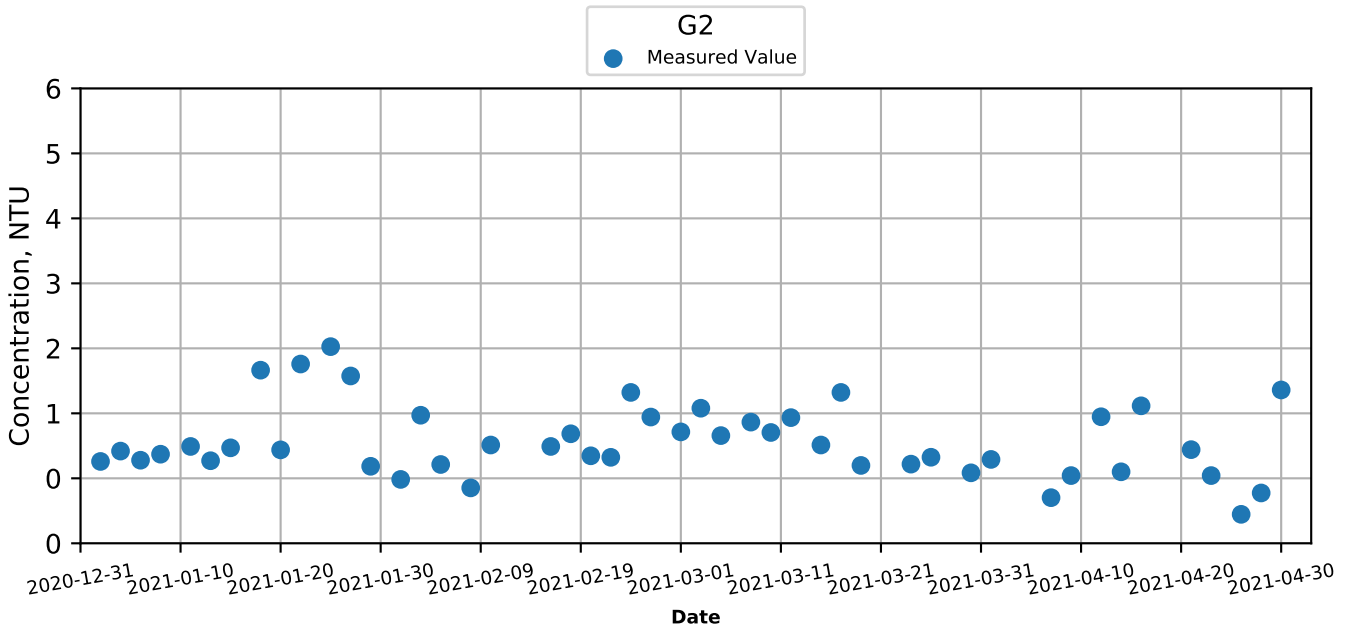
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



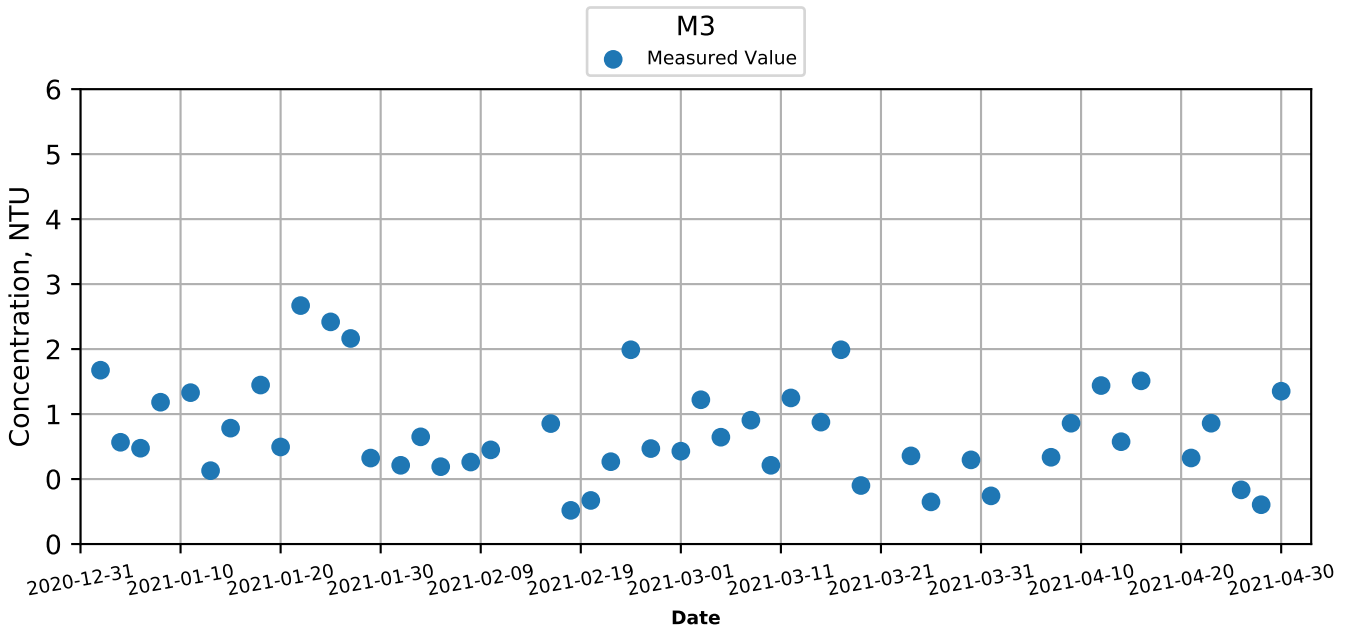
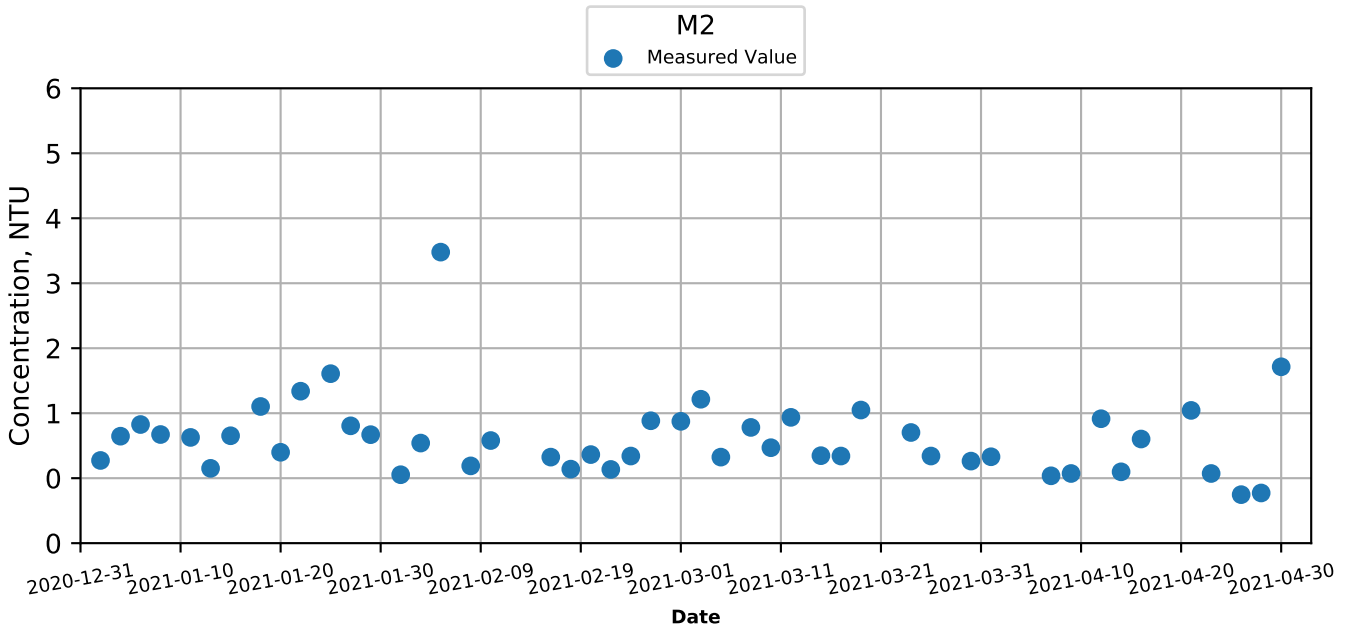
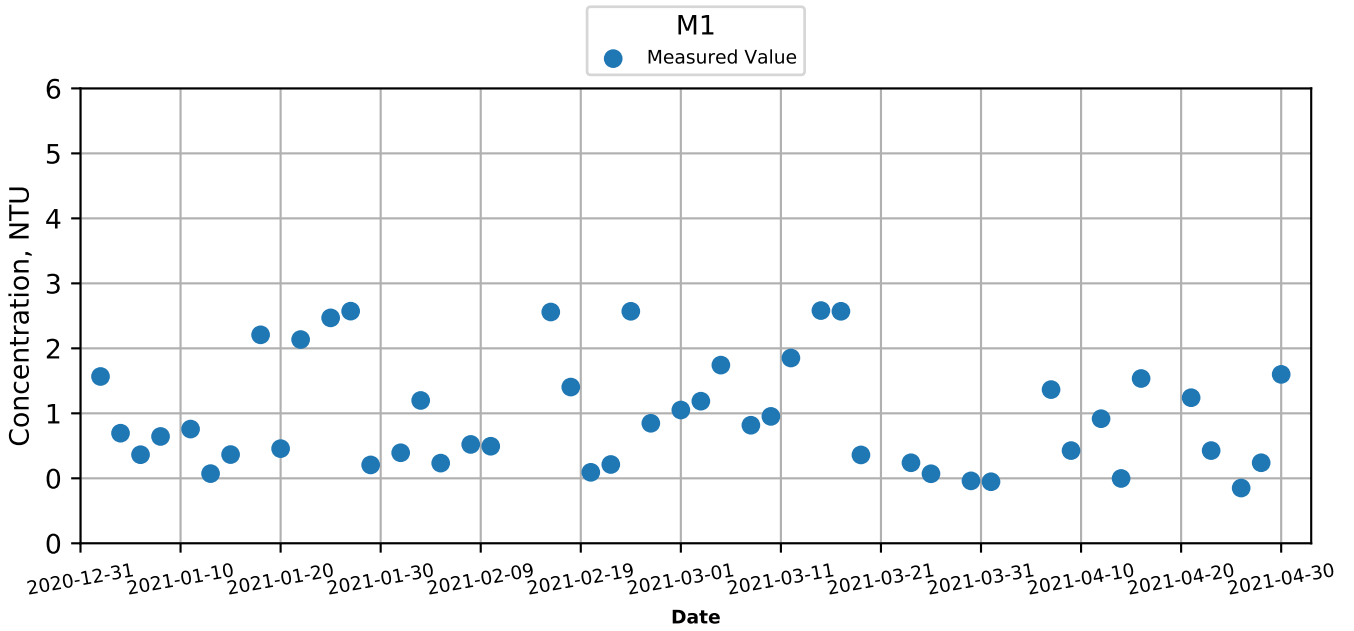
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



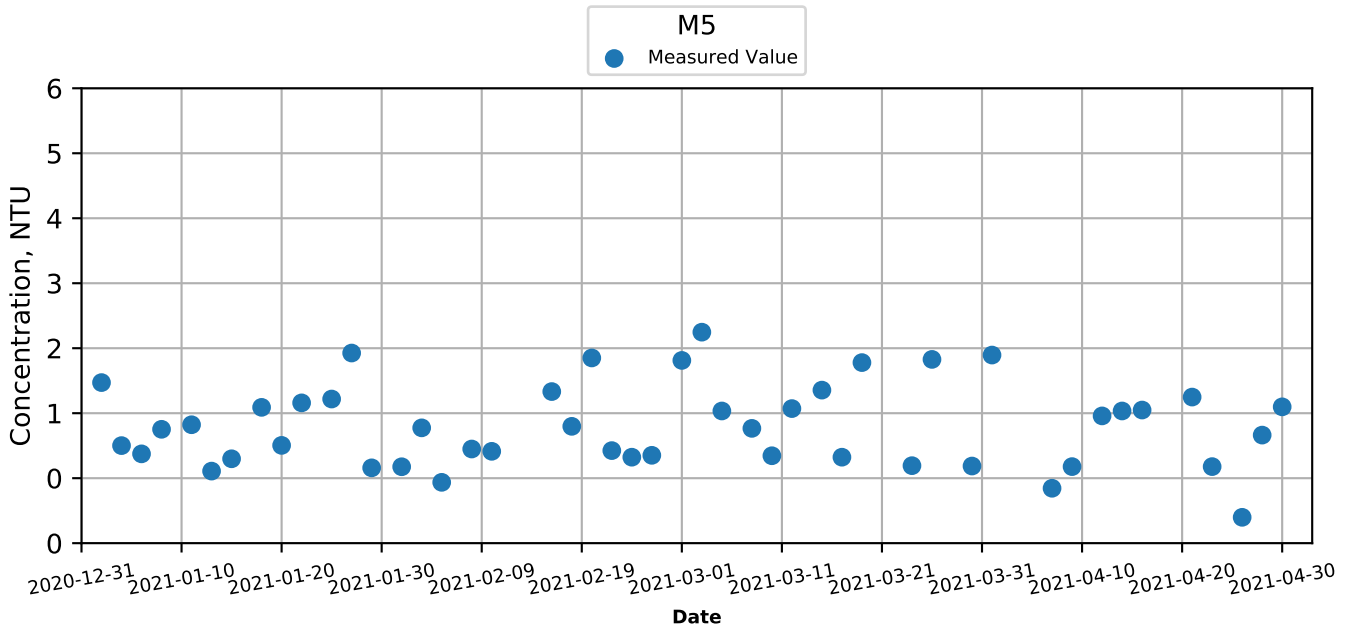
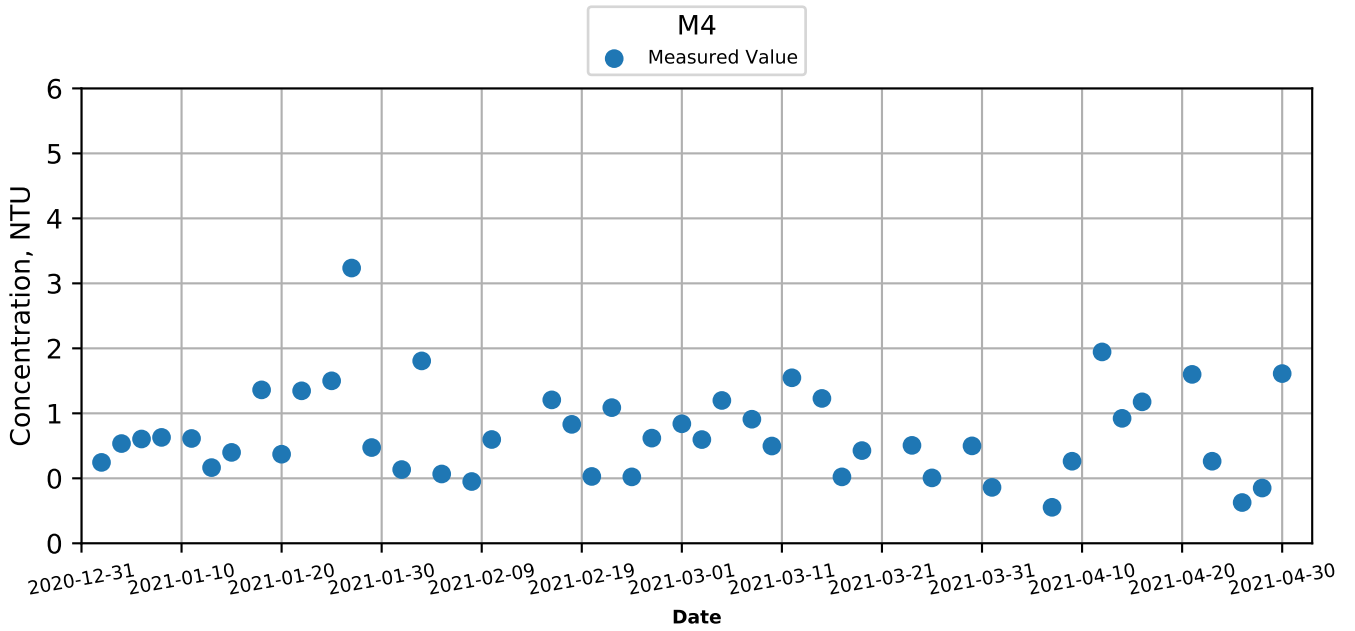
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



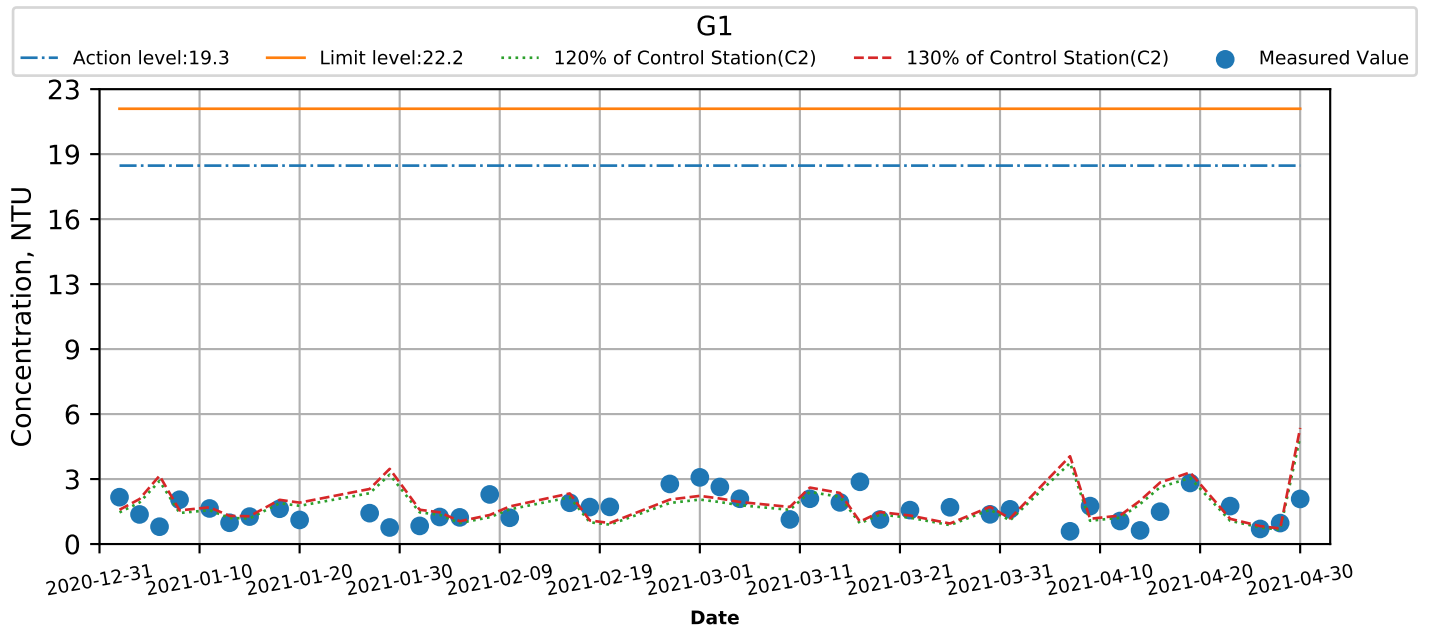
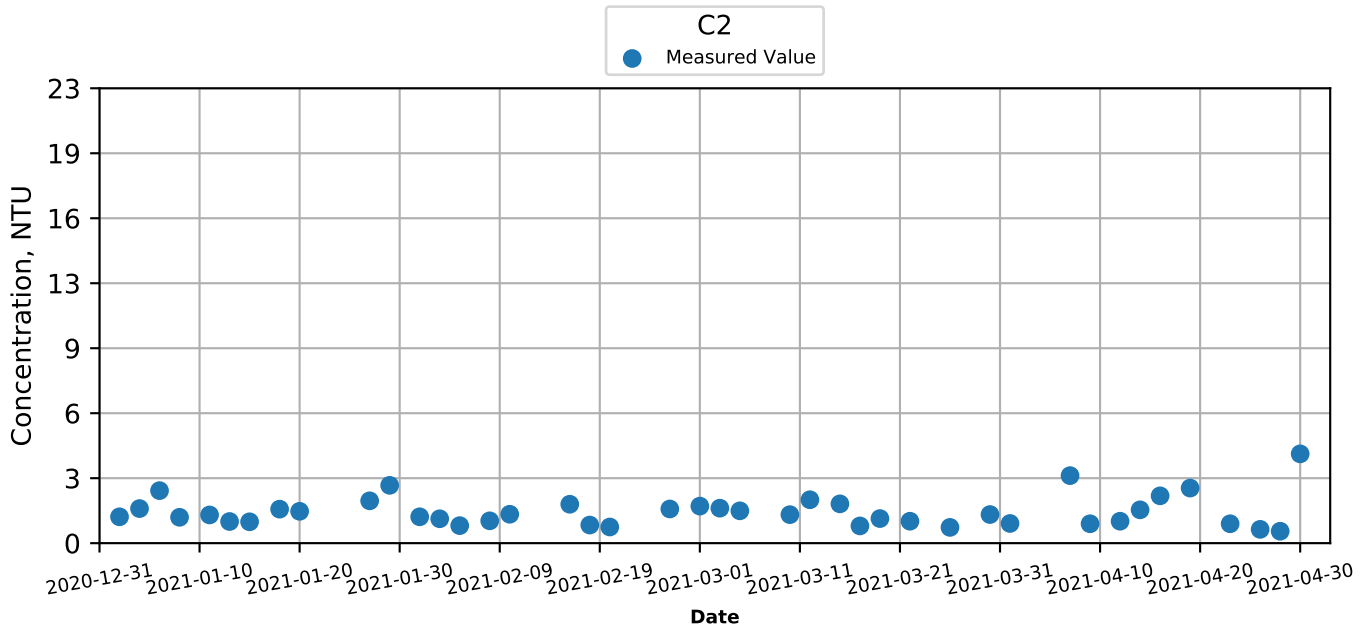
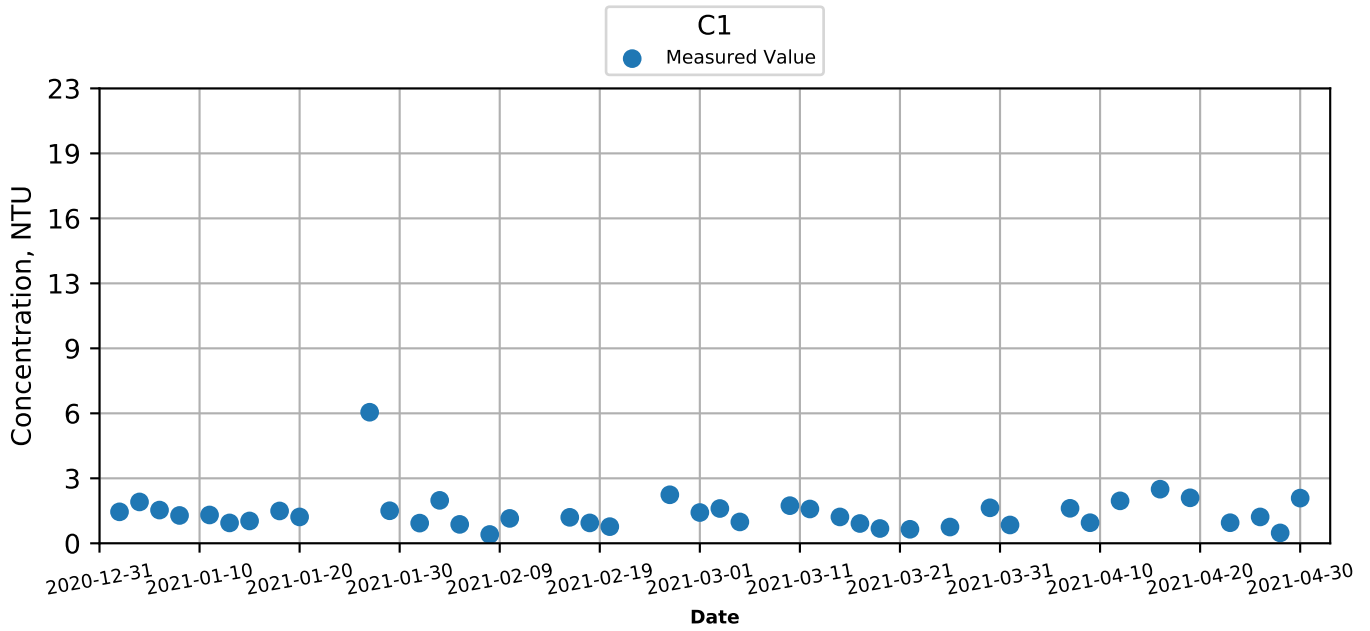
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Depth-Averaged) at Monitoring Stations during Mid-Flood



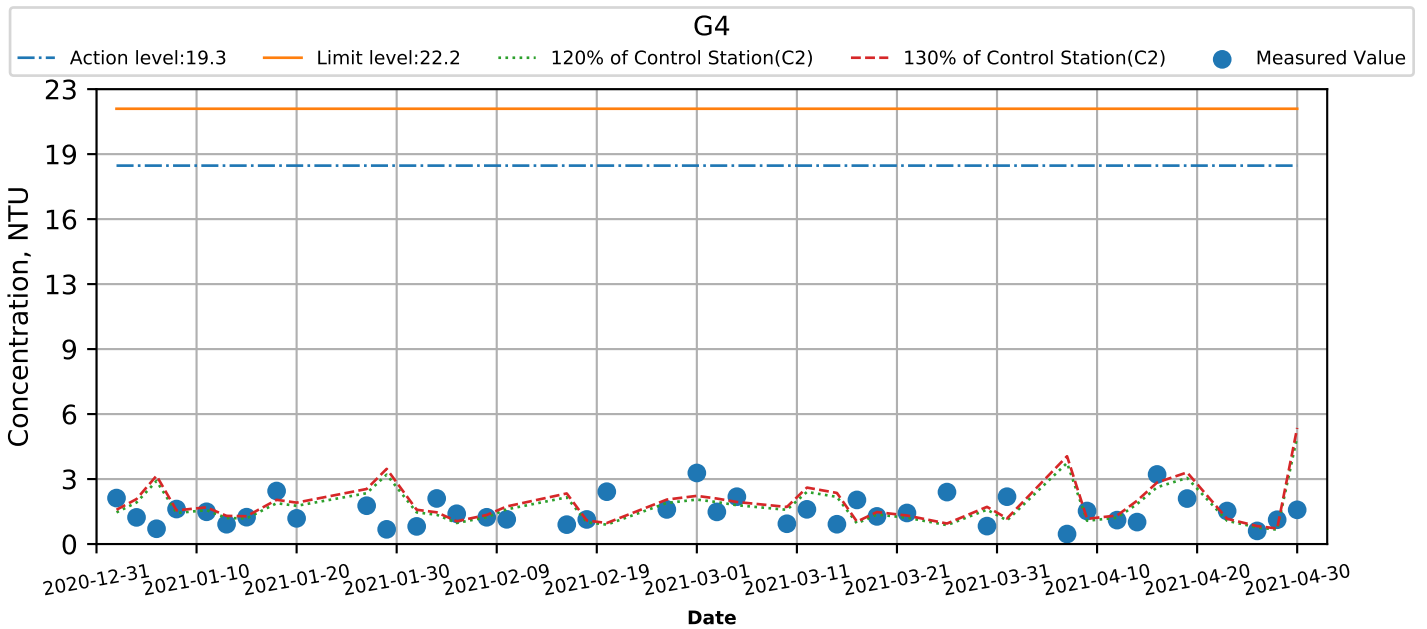
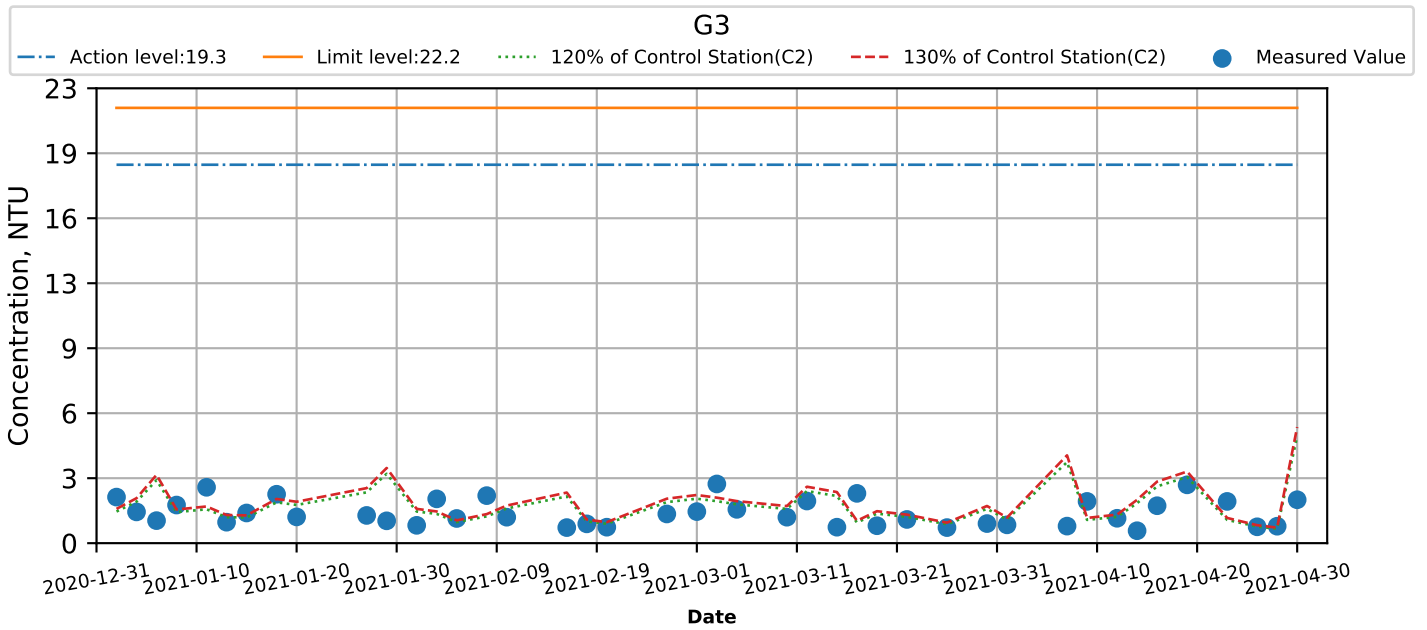
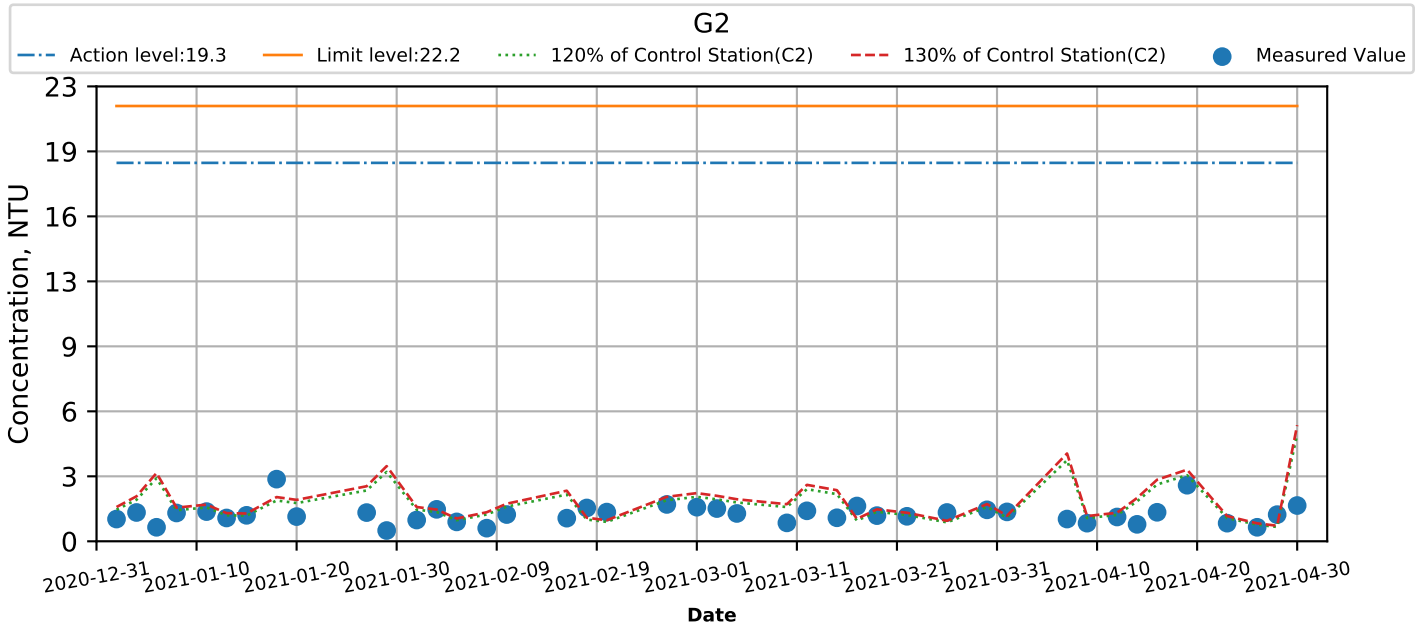
Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

Turbidity (Bottom) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

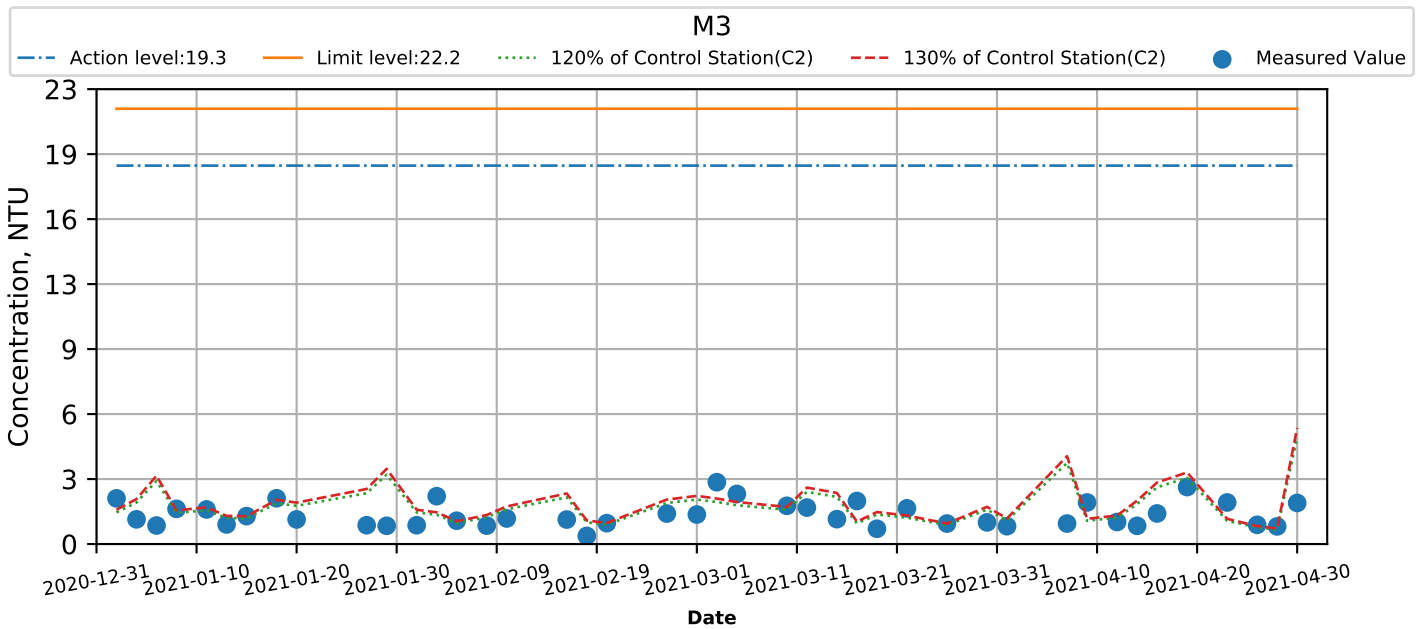
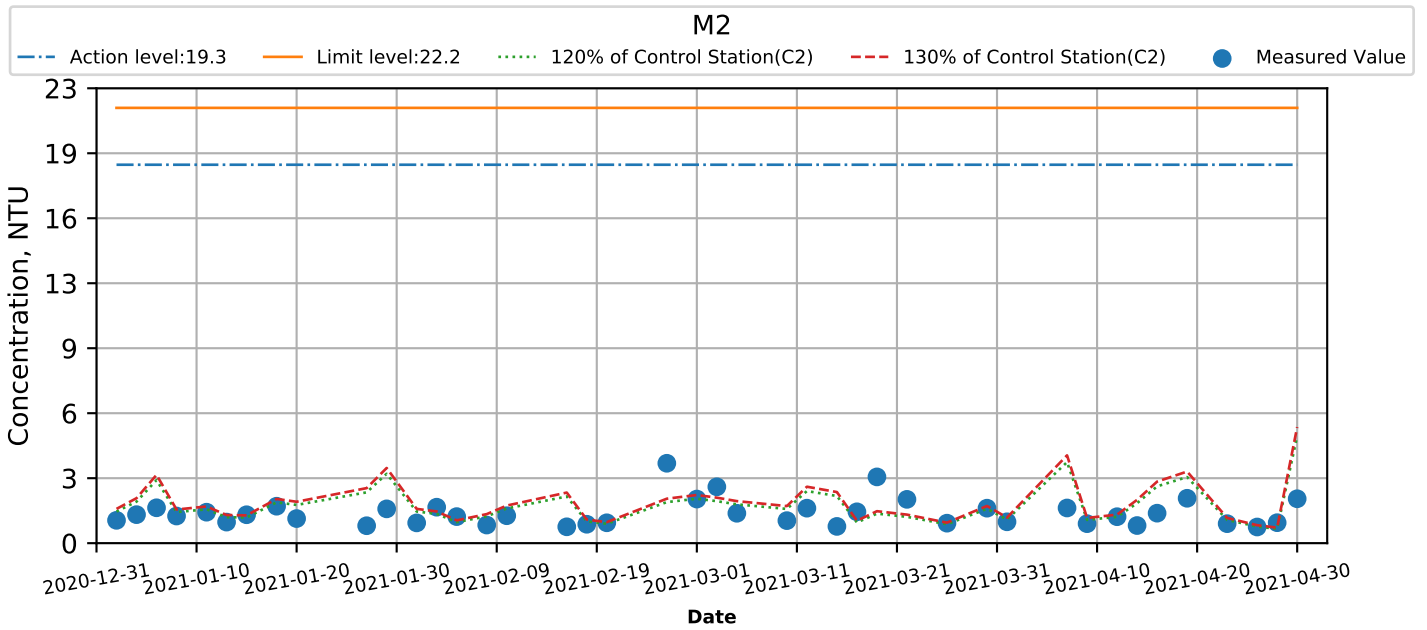
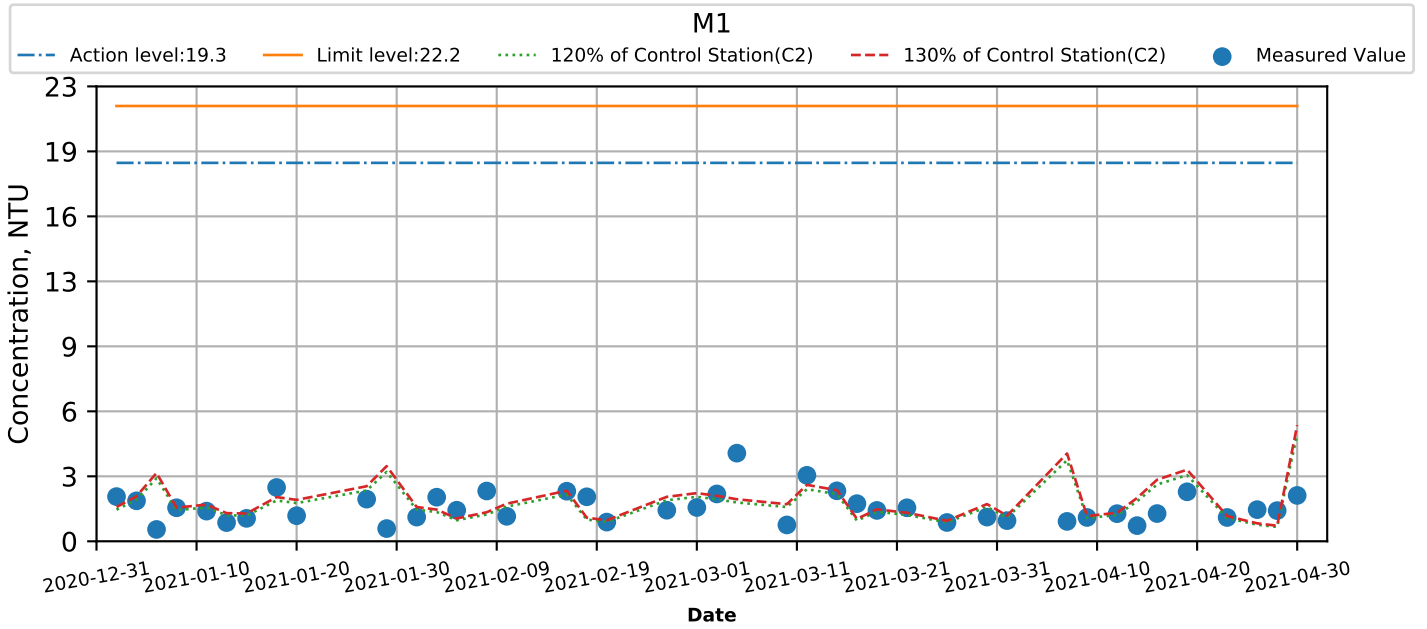
## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb





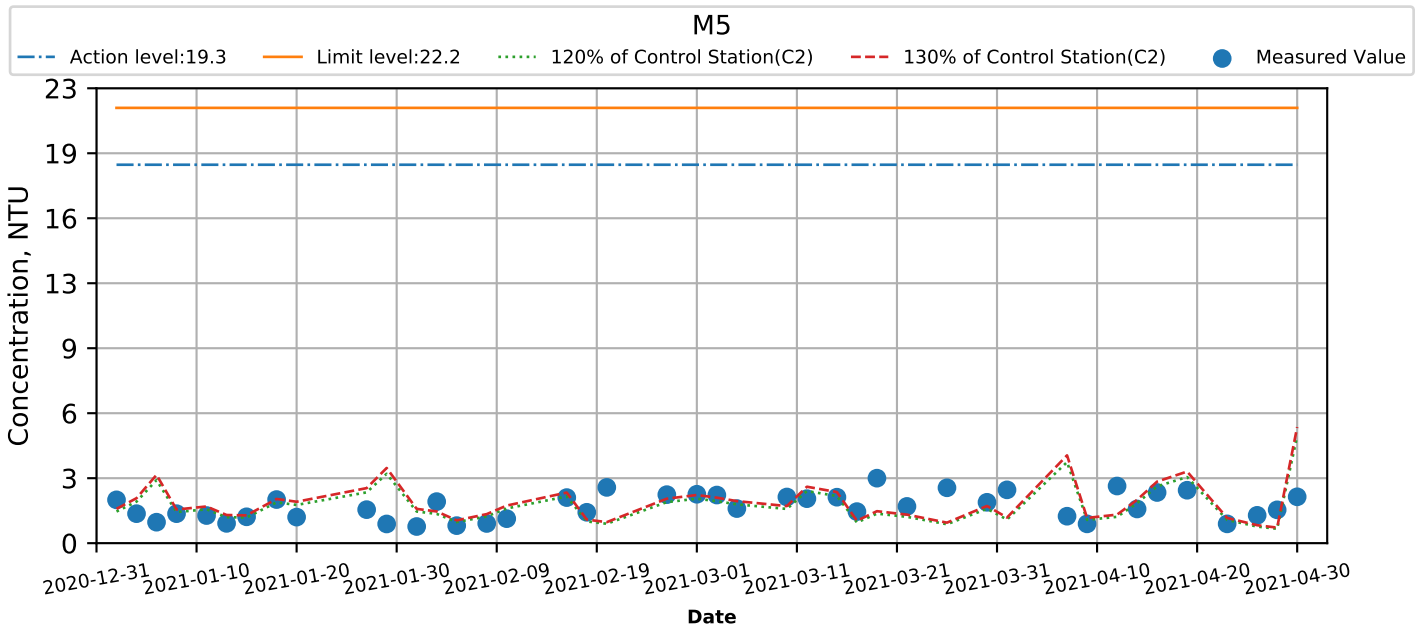
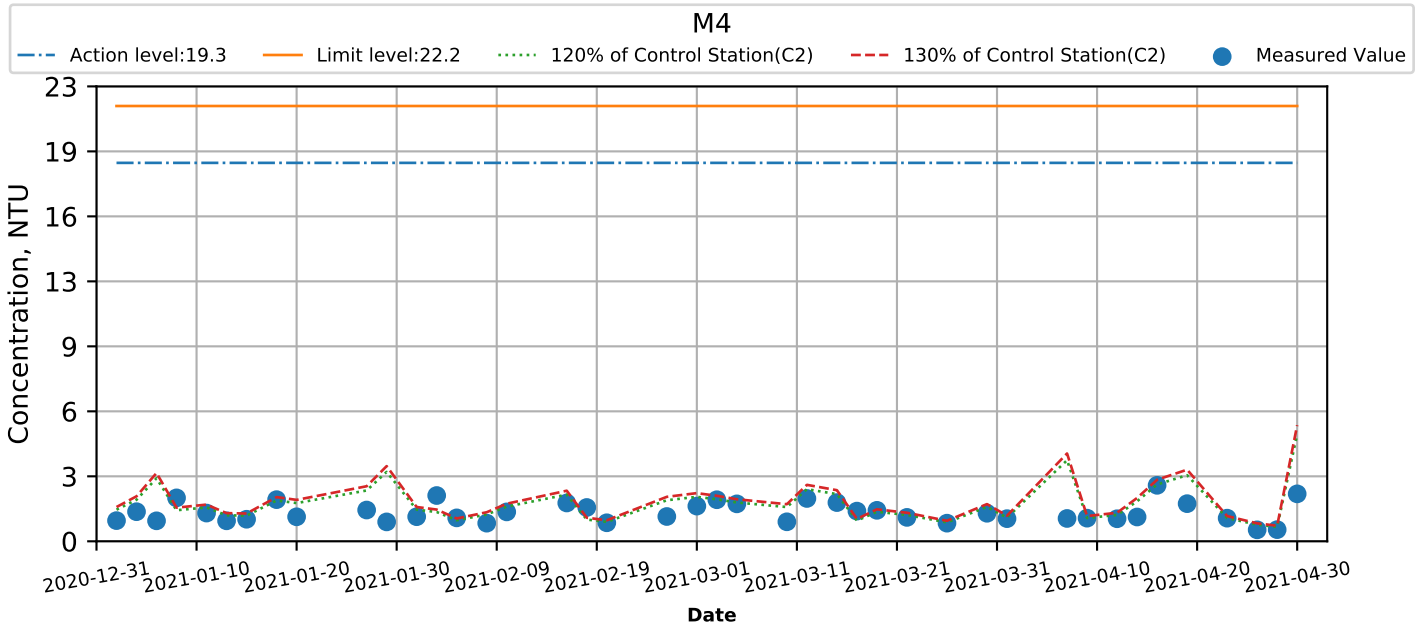
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb



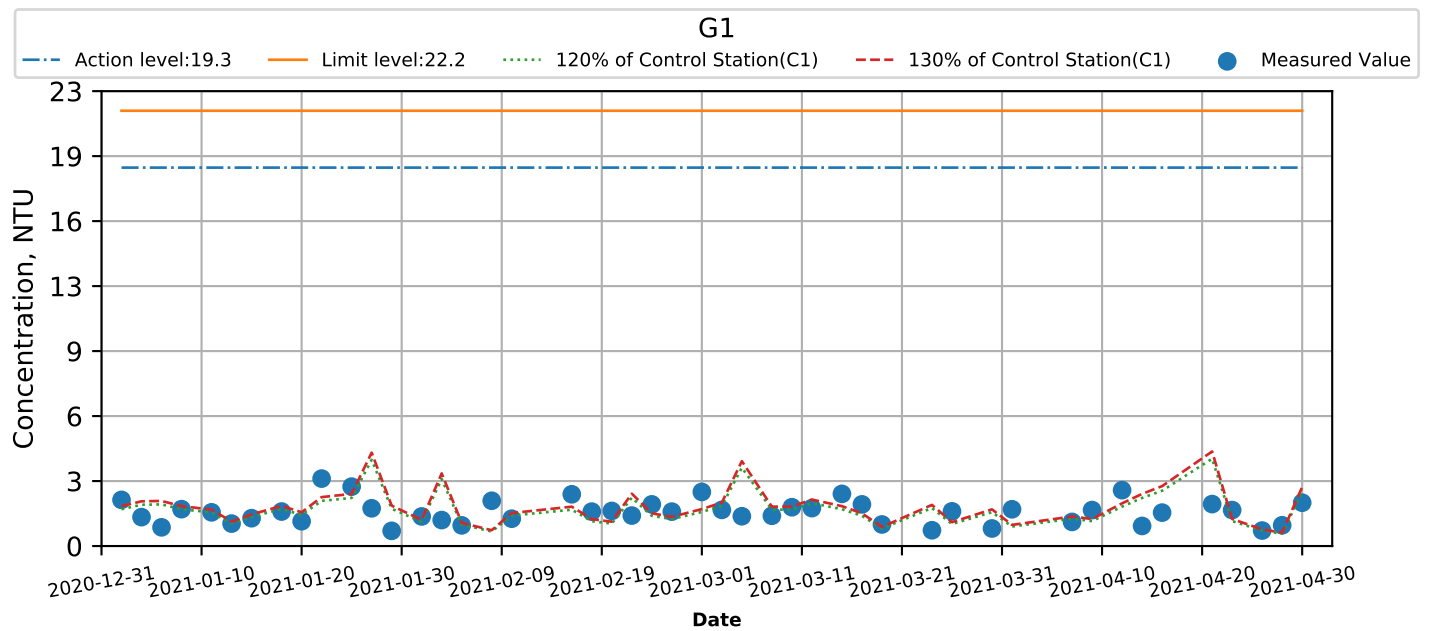
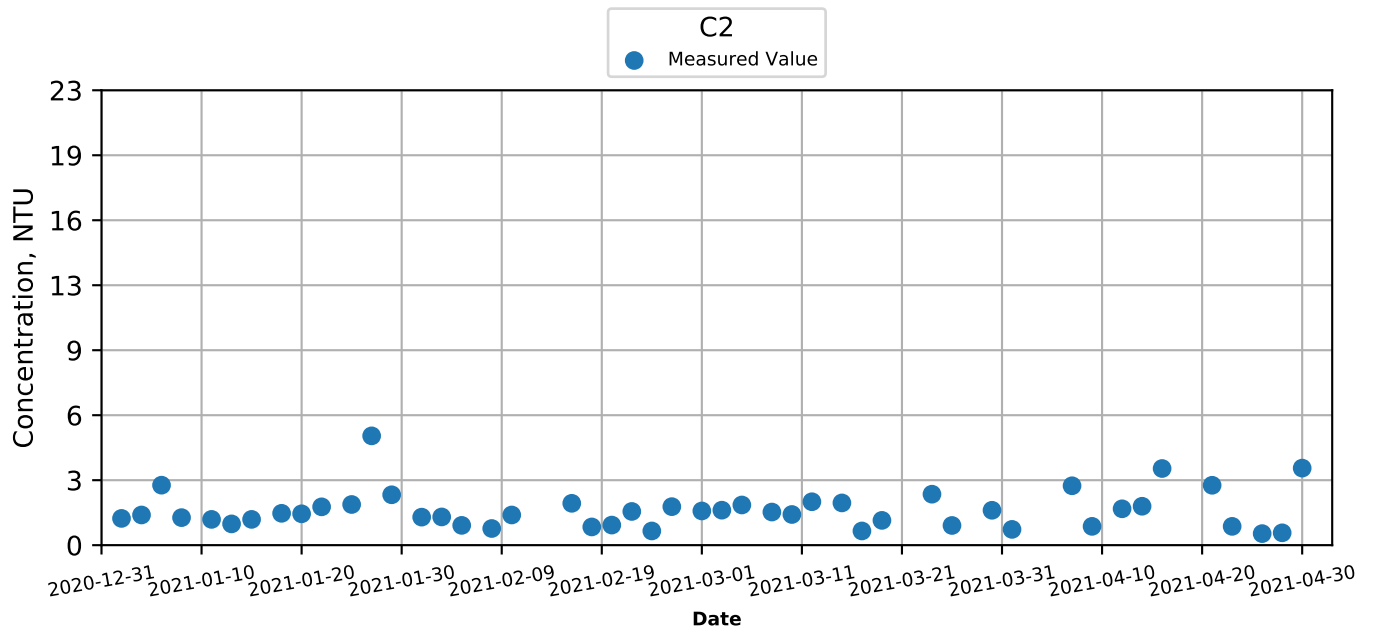
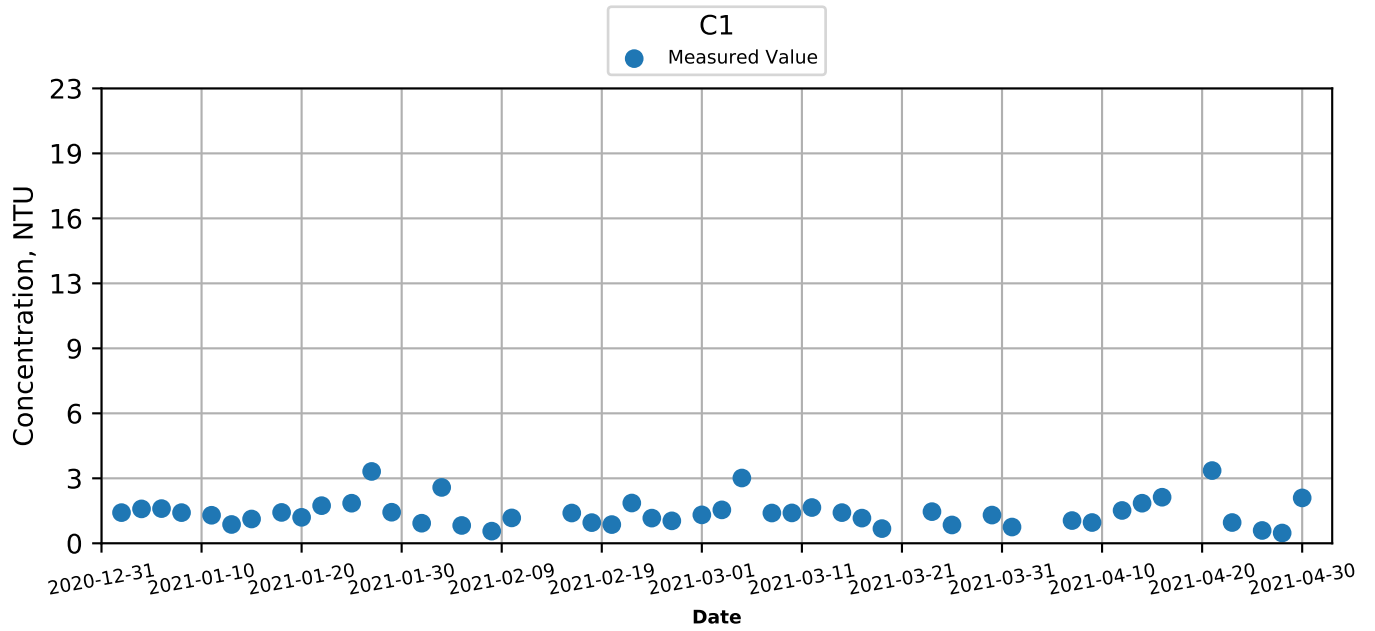
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Bottom) at Monitoring Stations during Mid-Ebb



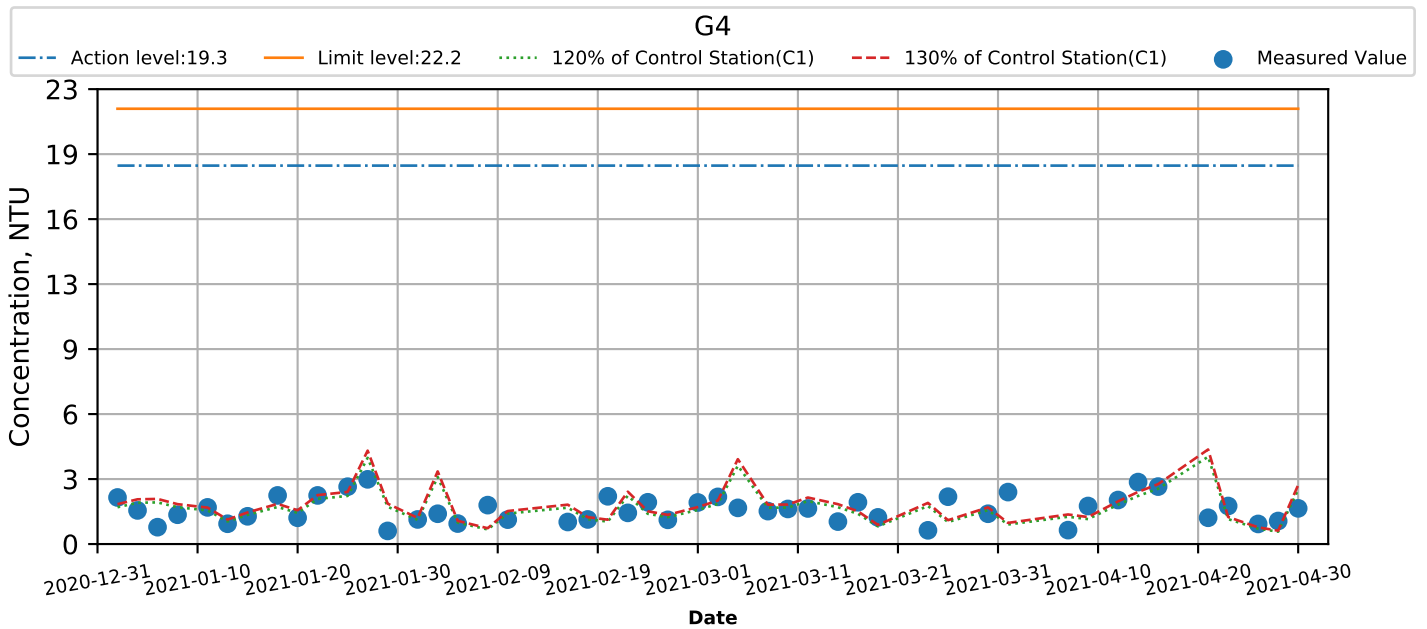
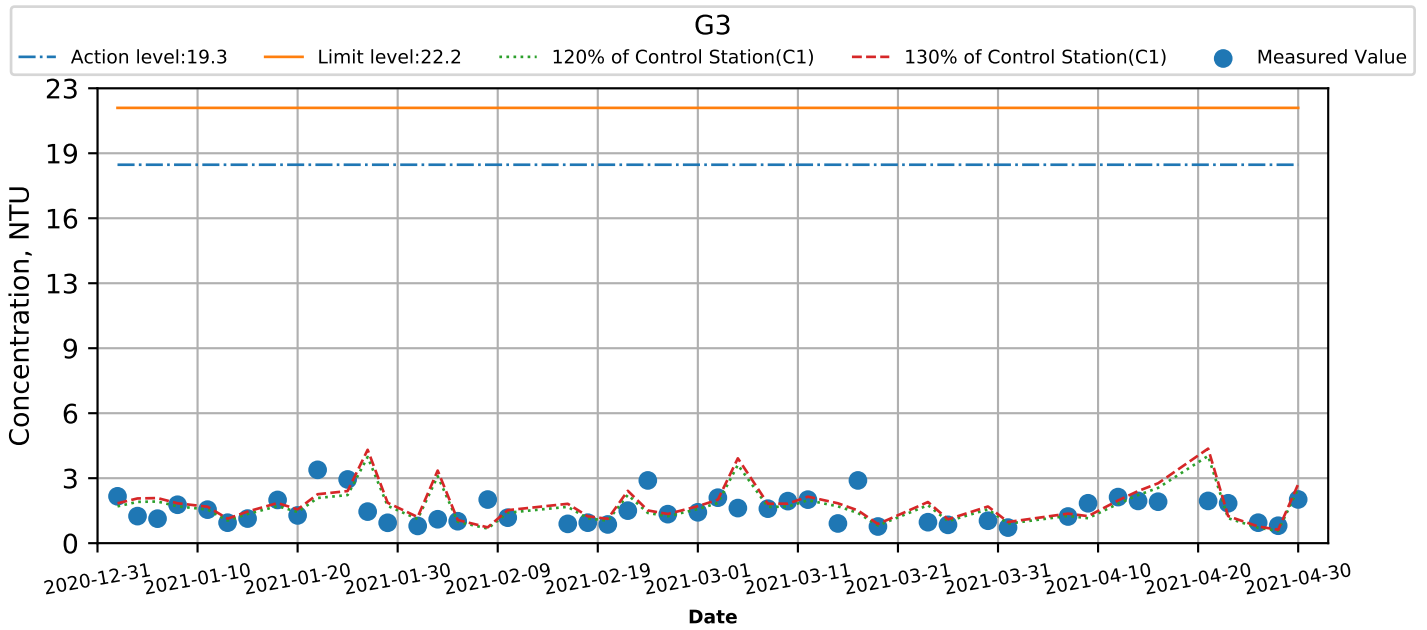
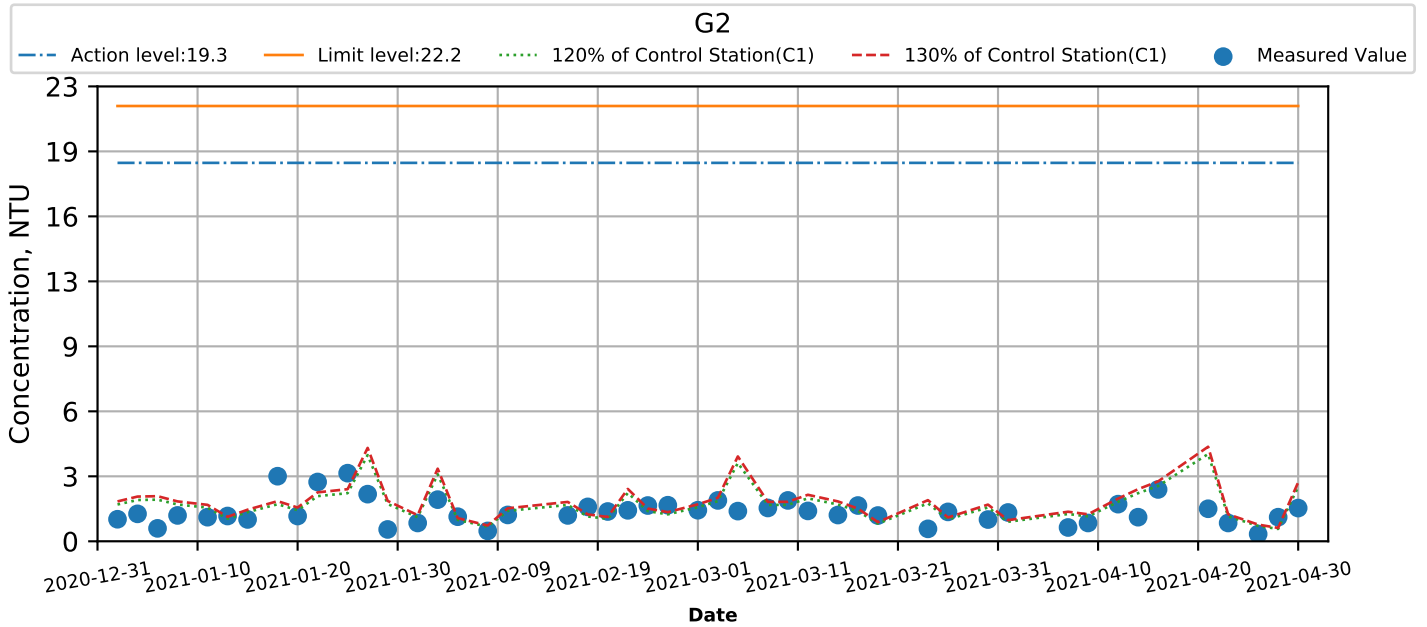
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



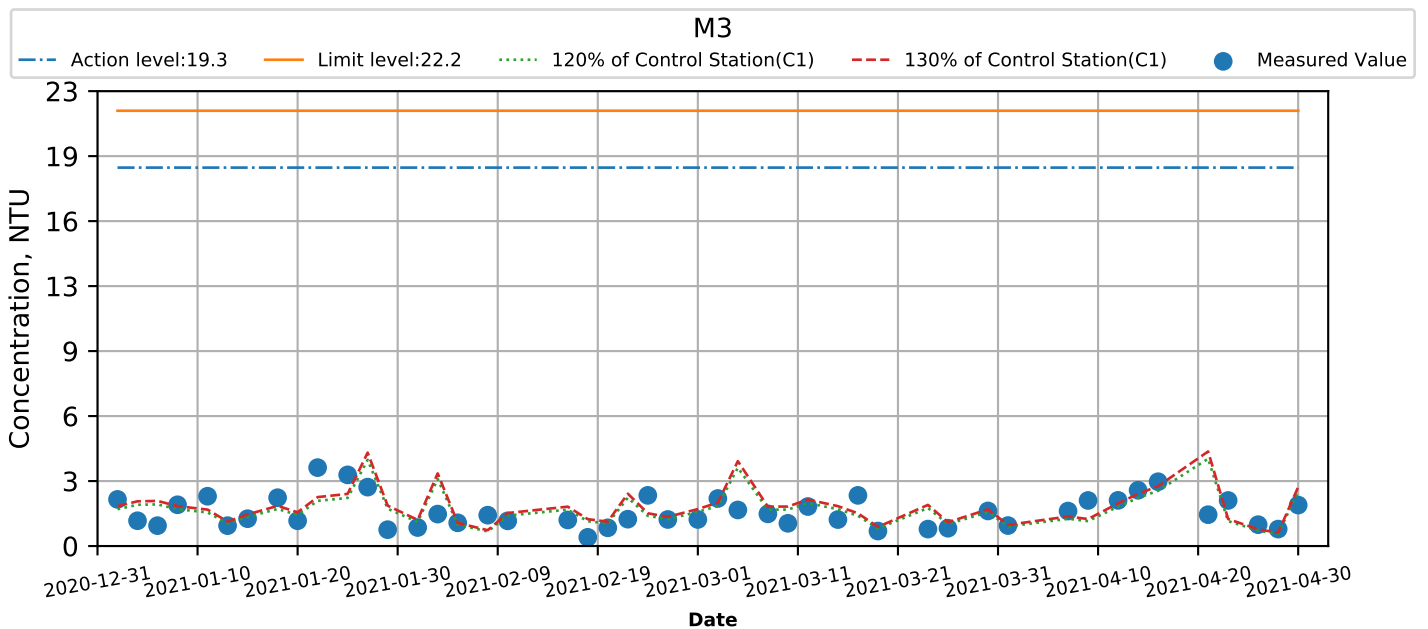
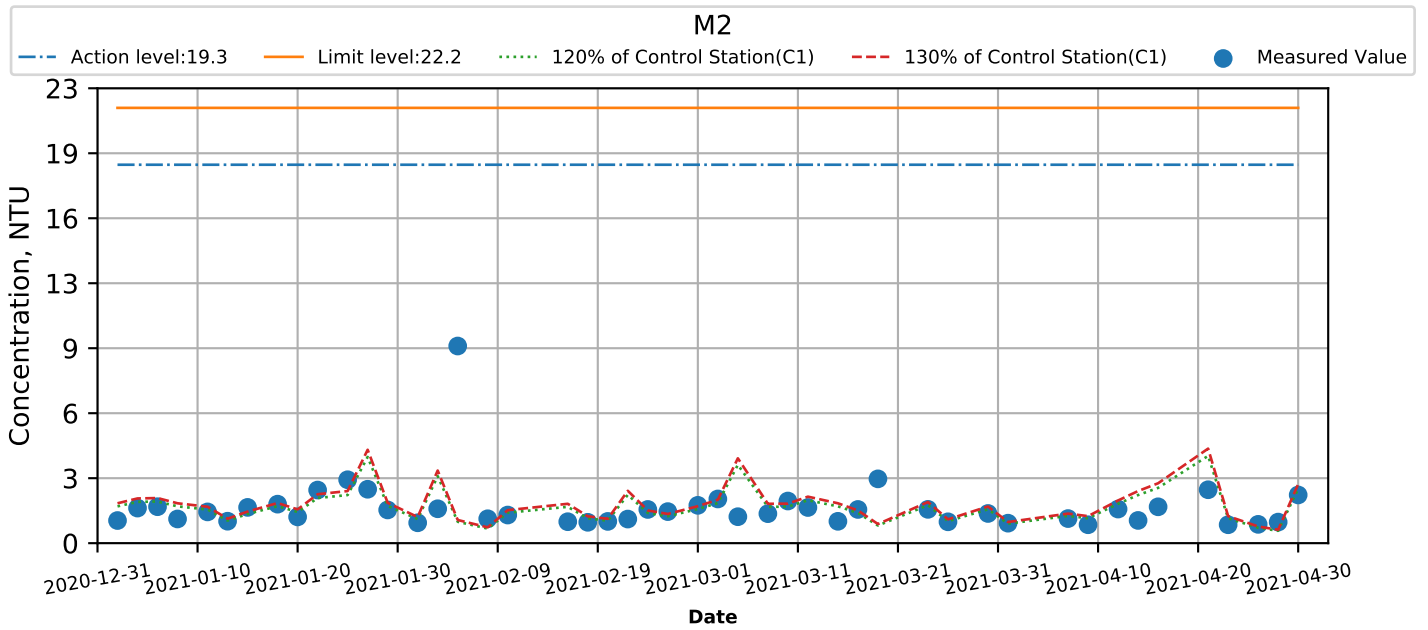
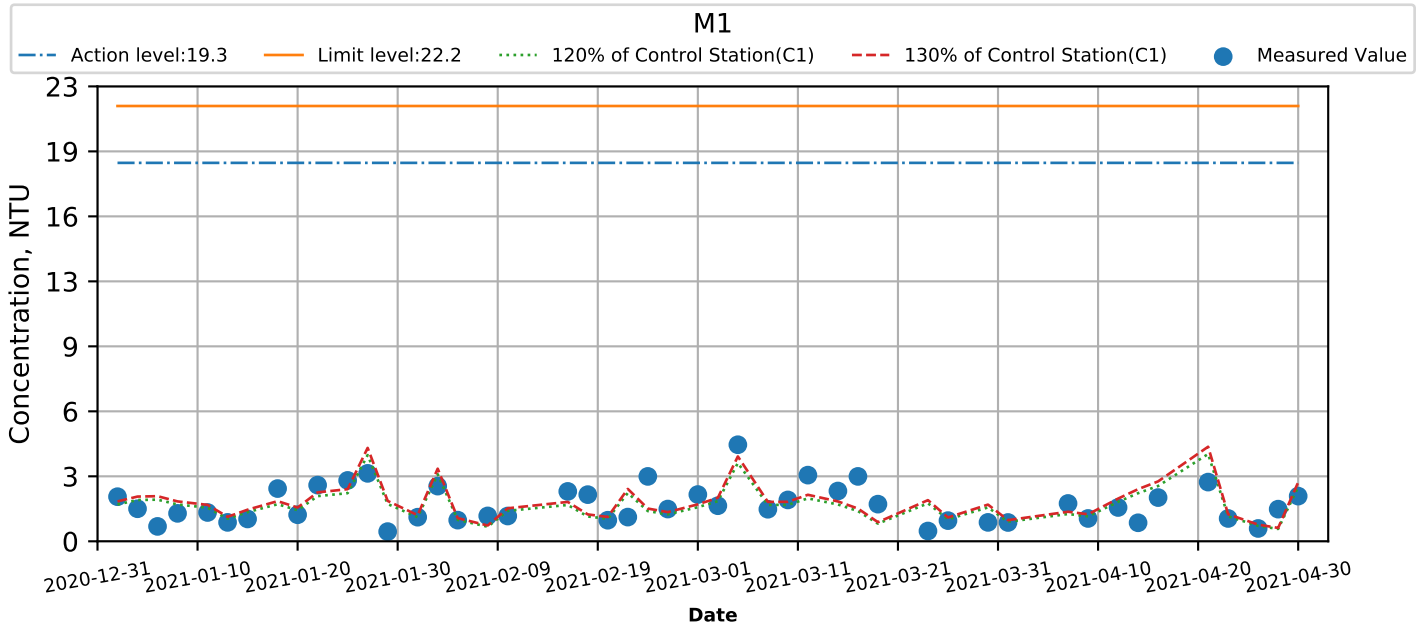
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



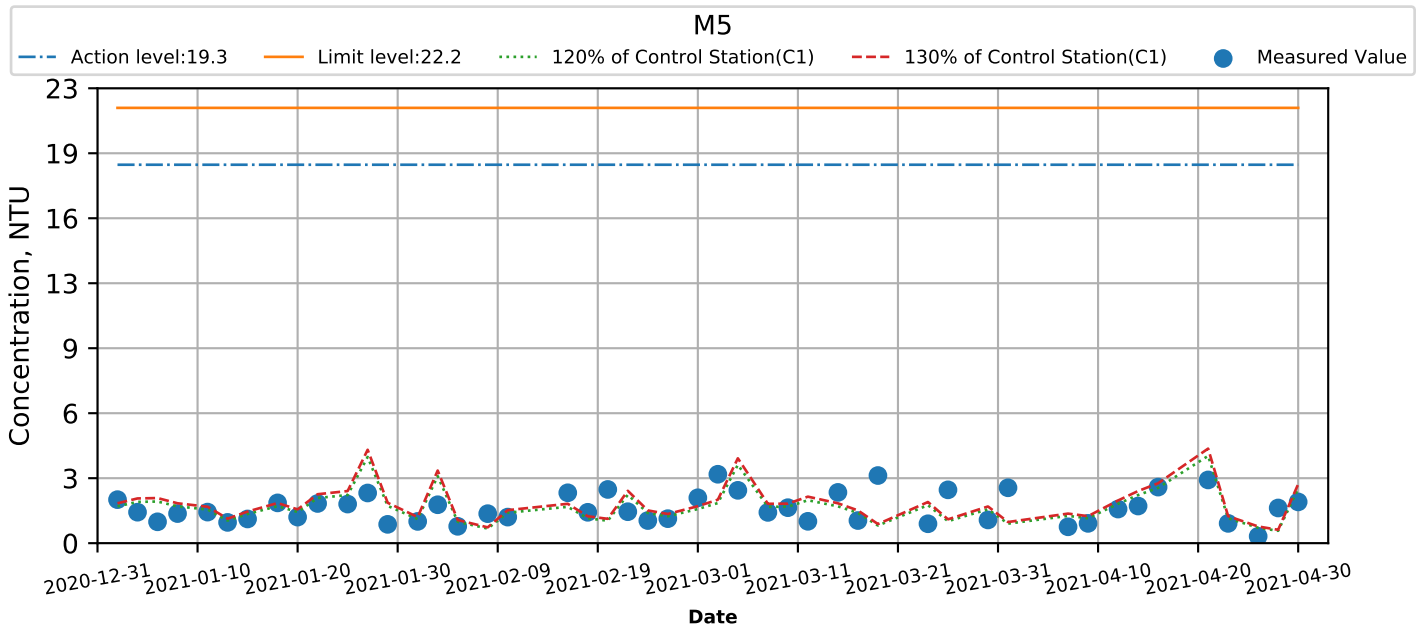
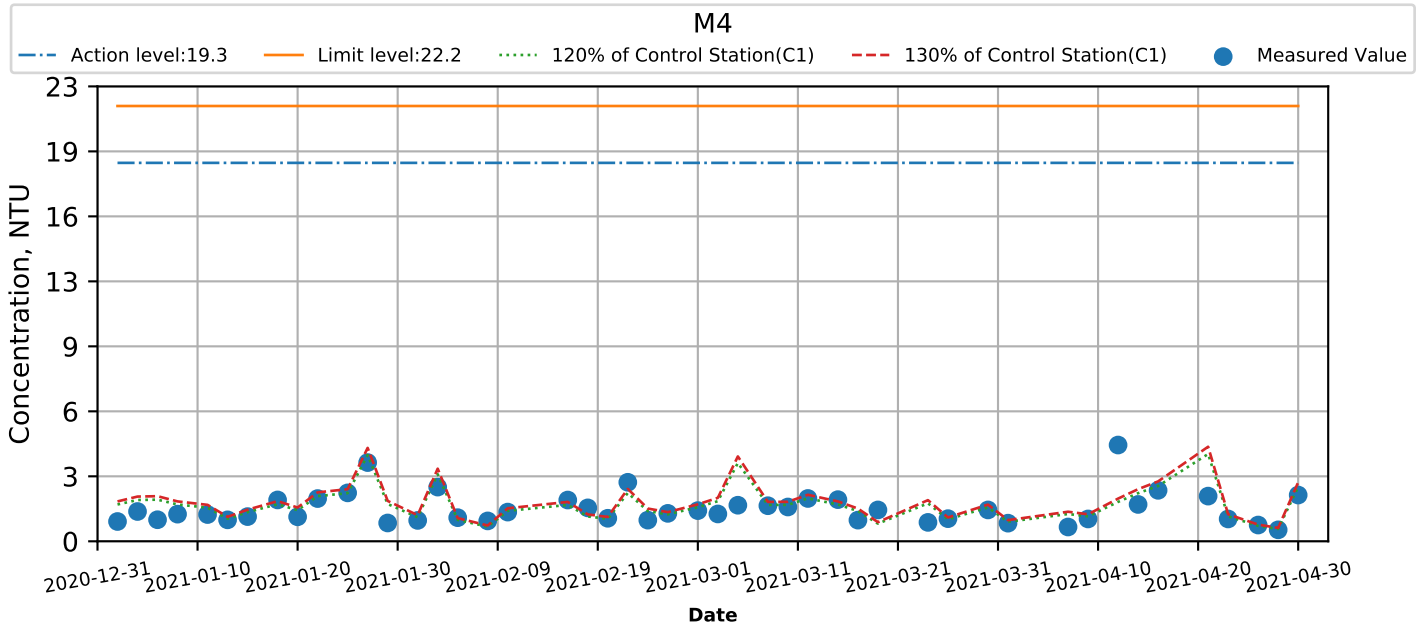
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Bottom) at Monitoring Stations during Mid-Flood



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

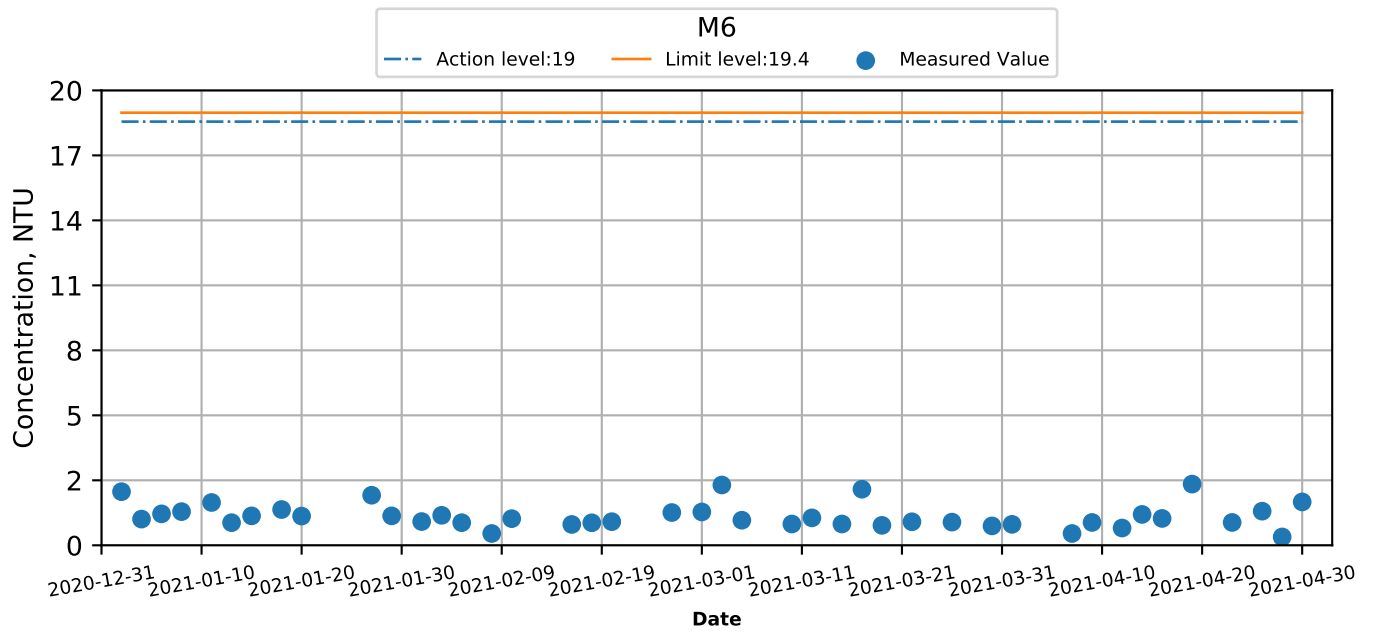
## Turbidity (Bottom) at Monitoring Stations during Mid-Flood





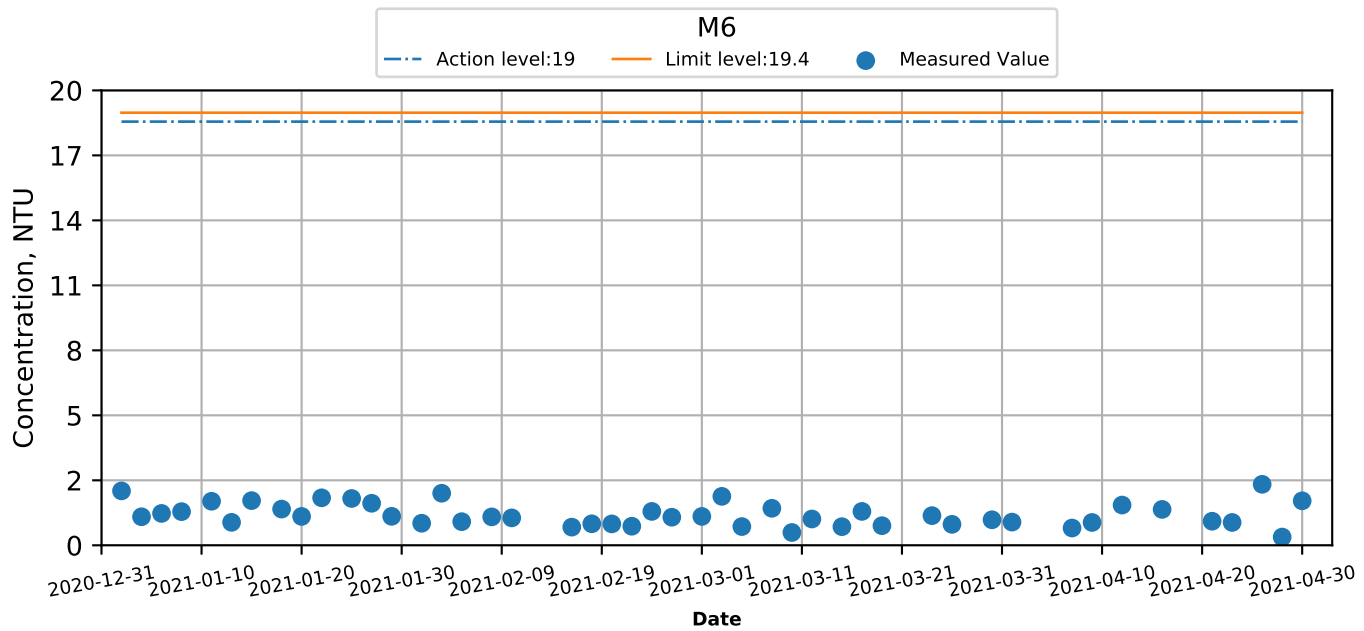
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Intake level) at Monitoring Stations during Mid-Ebb



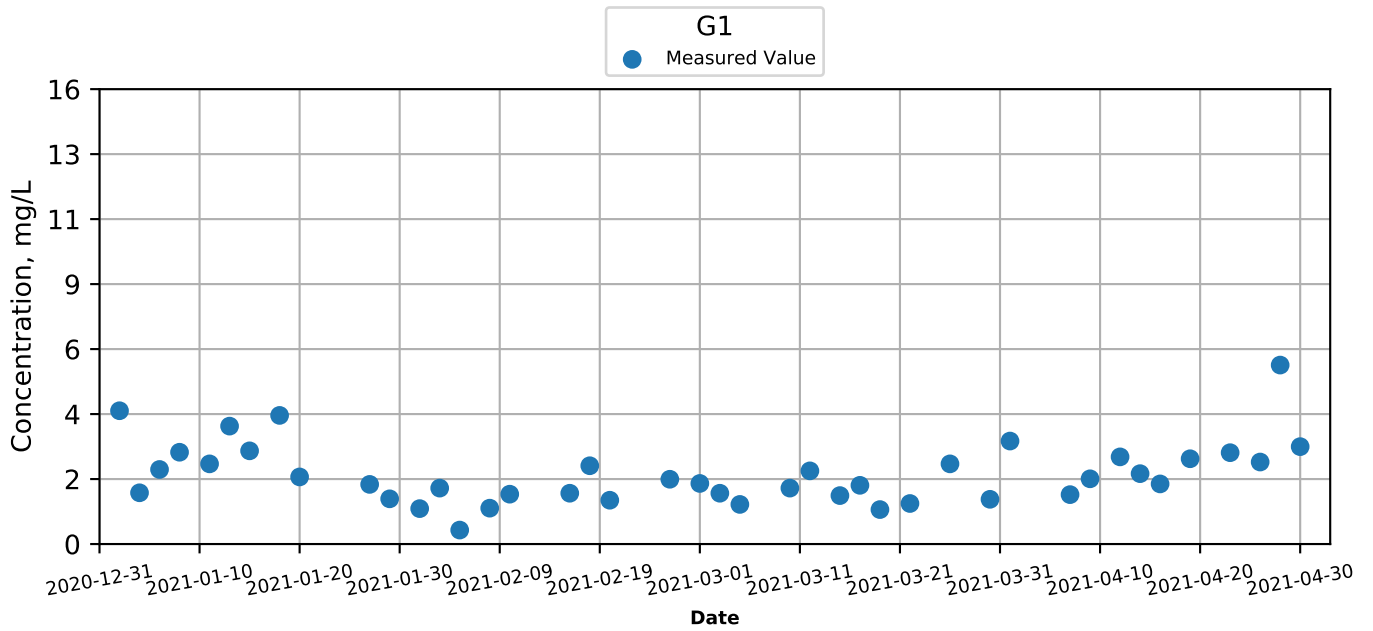
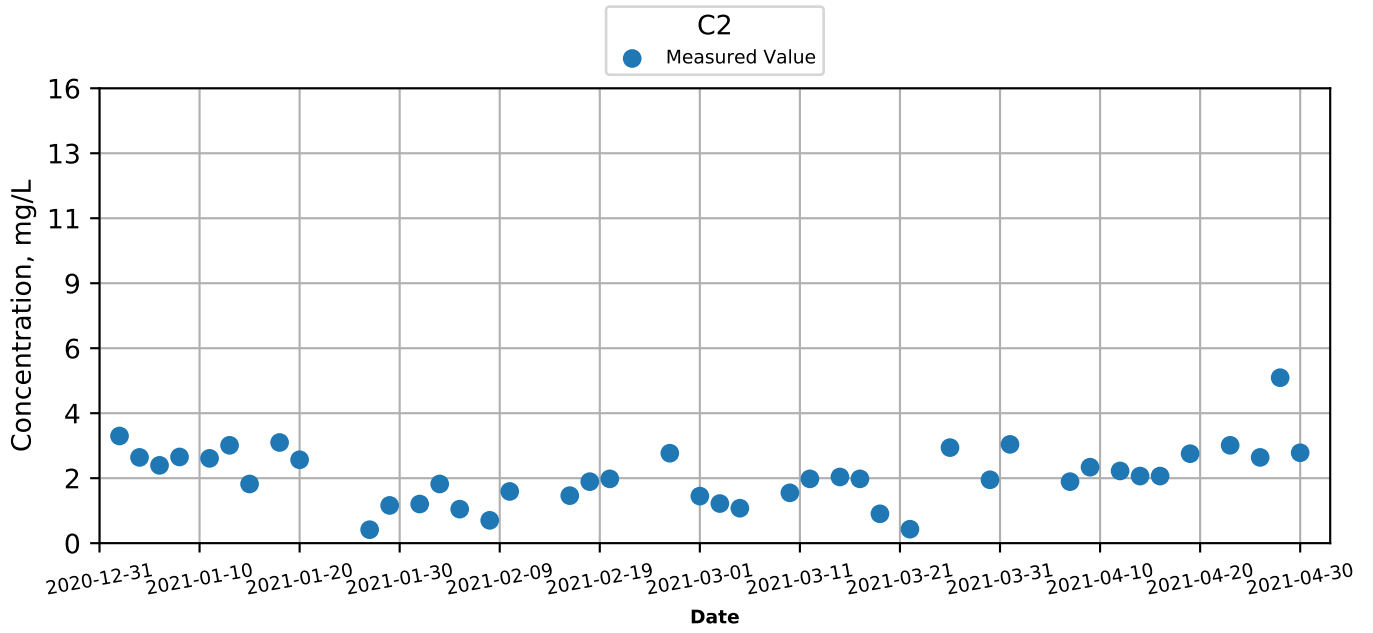
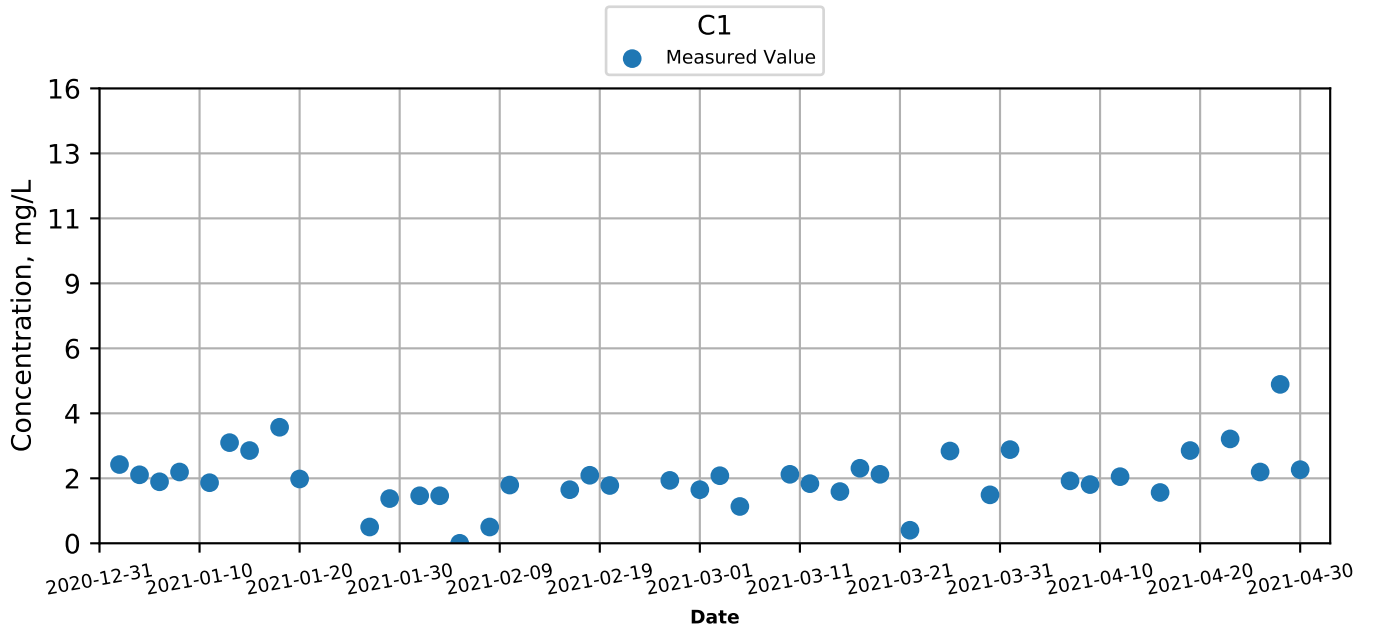
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Turbidity (Intake level) at Monitoring Stations during Mid-Flood



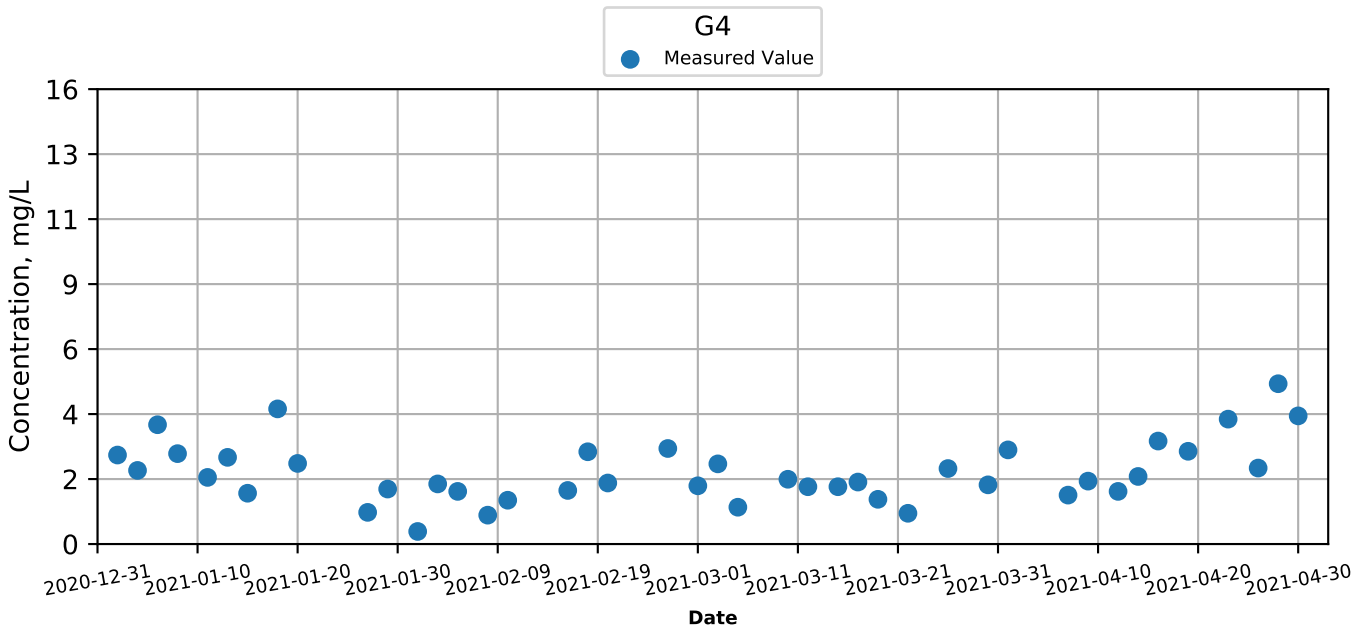
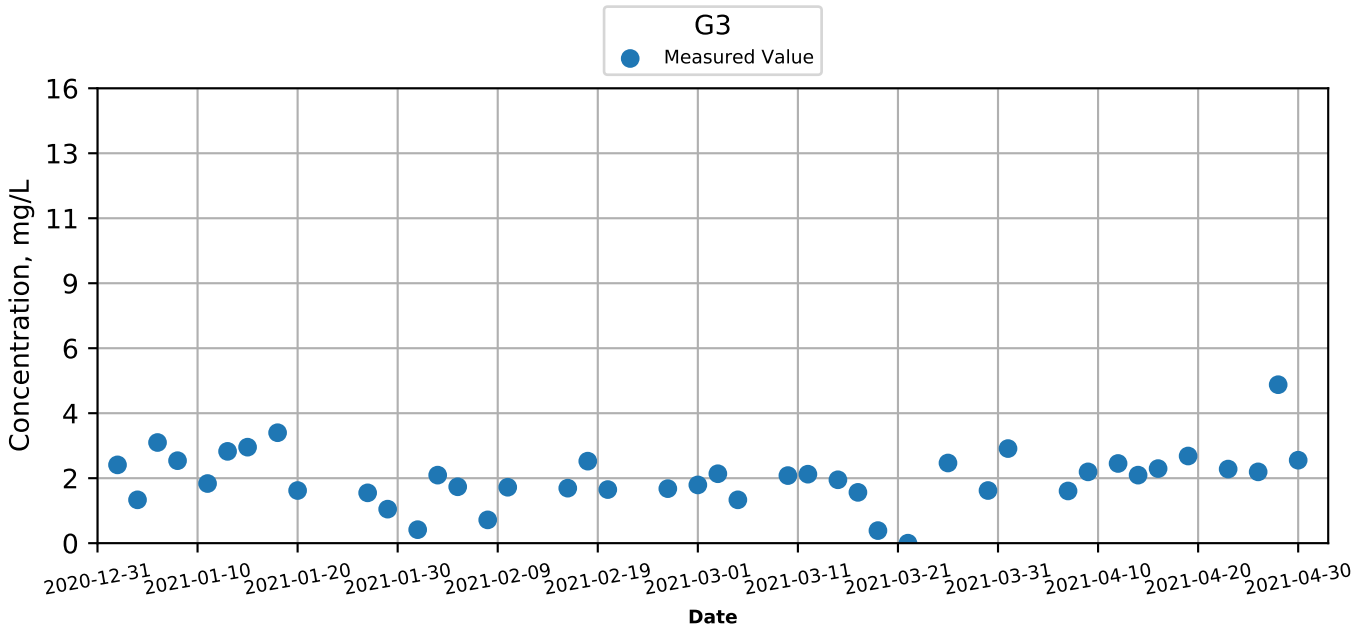
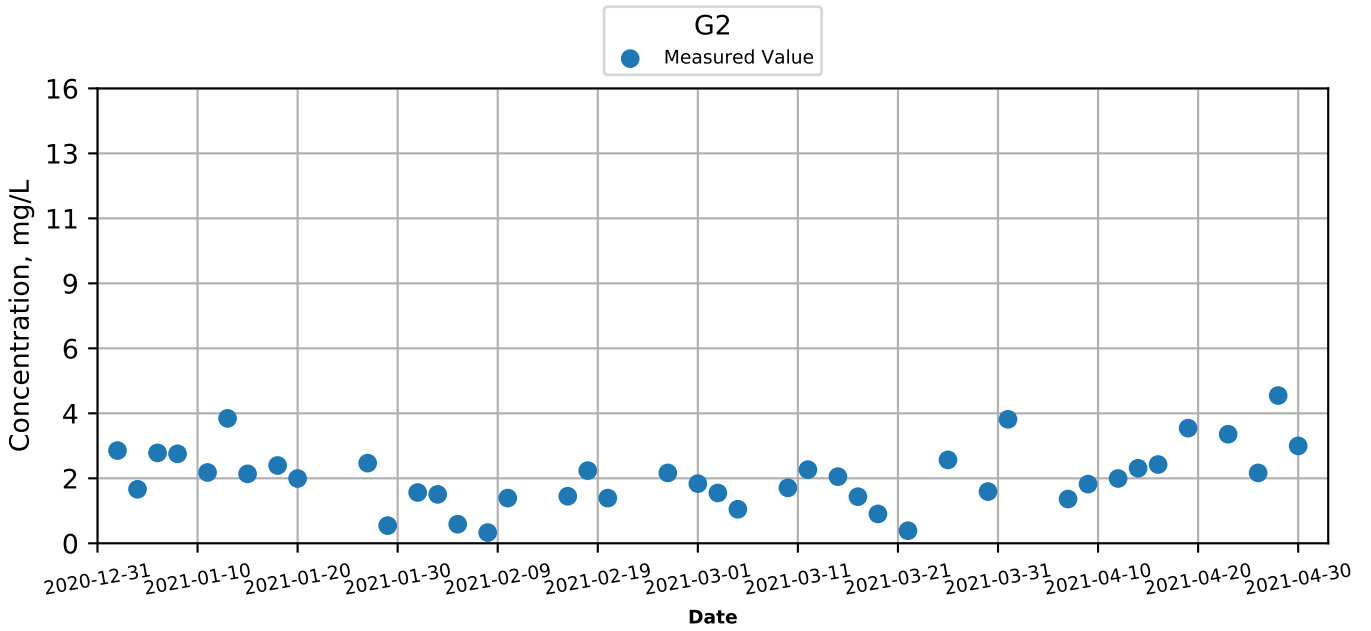
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb



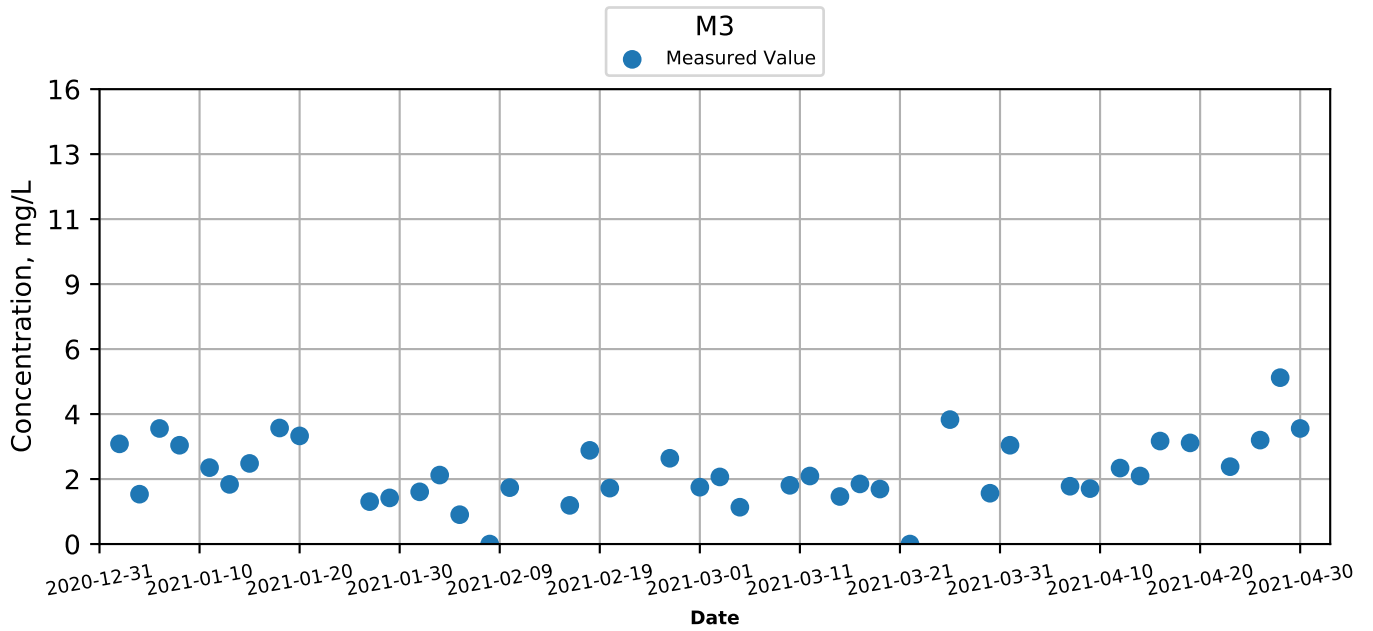
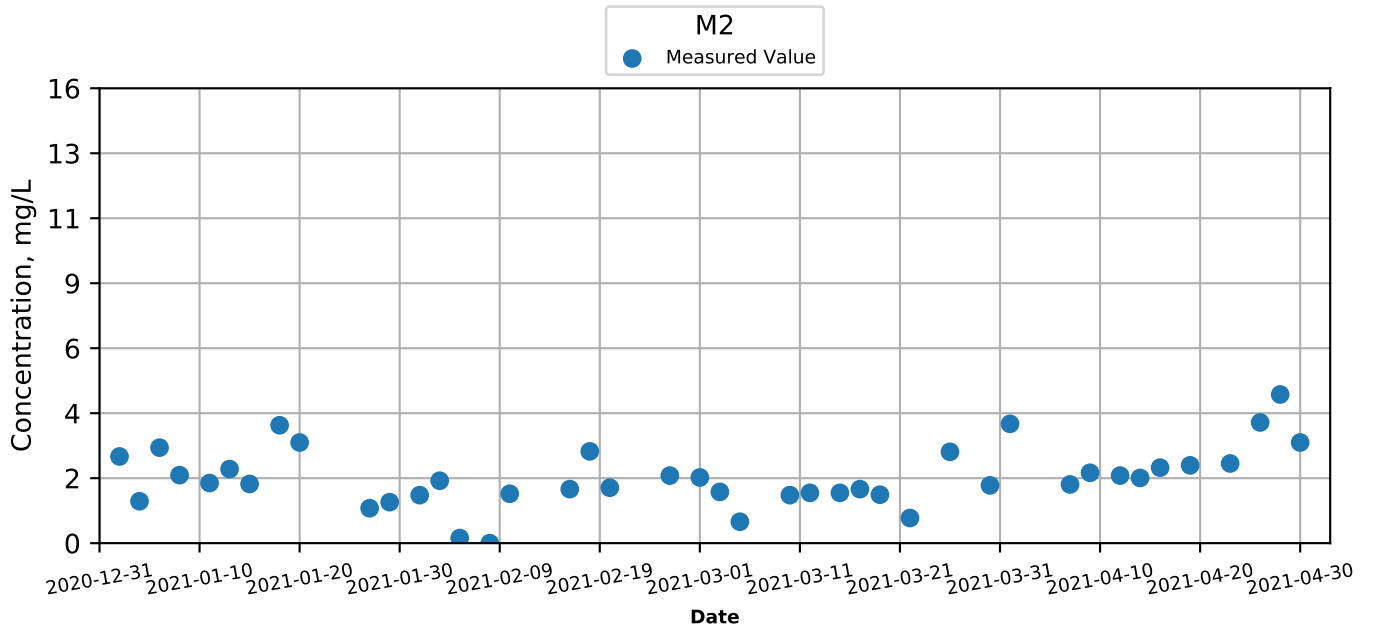
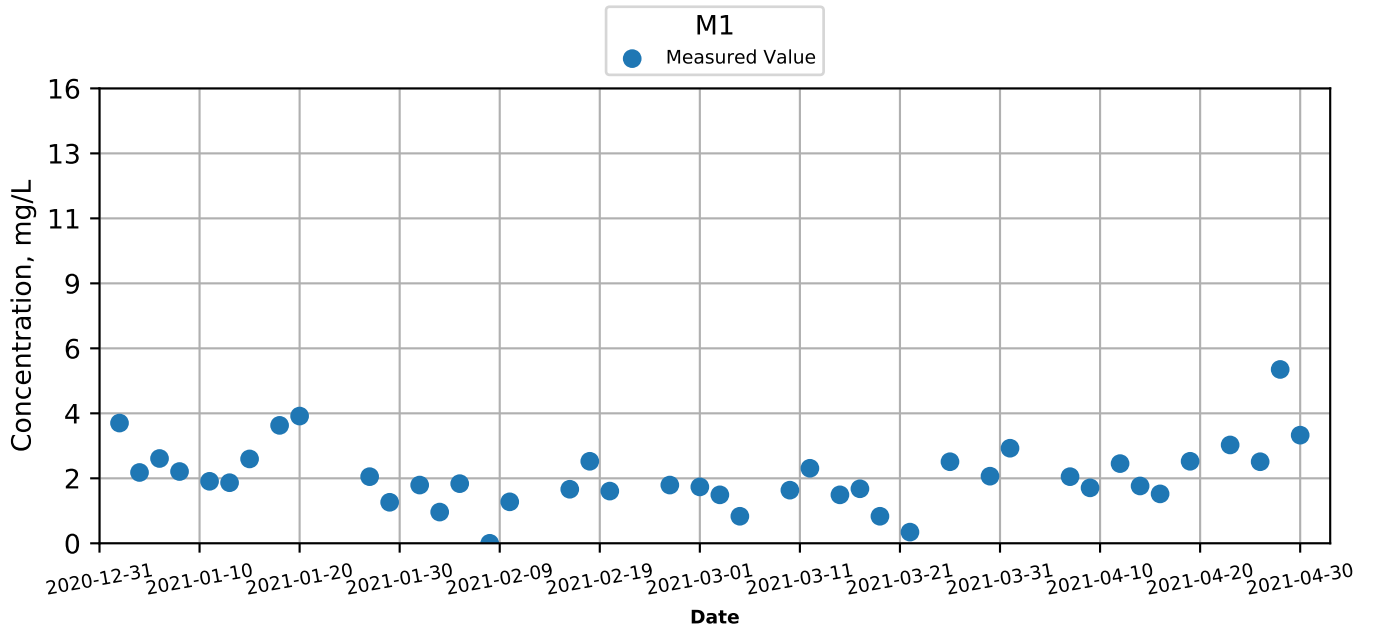
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb



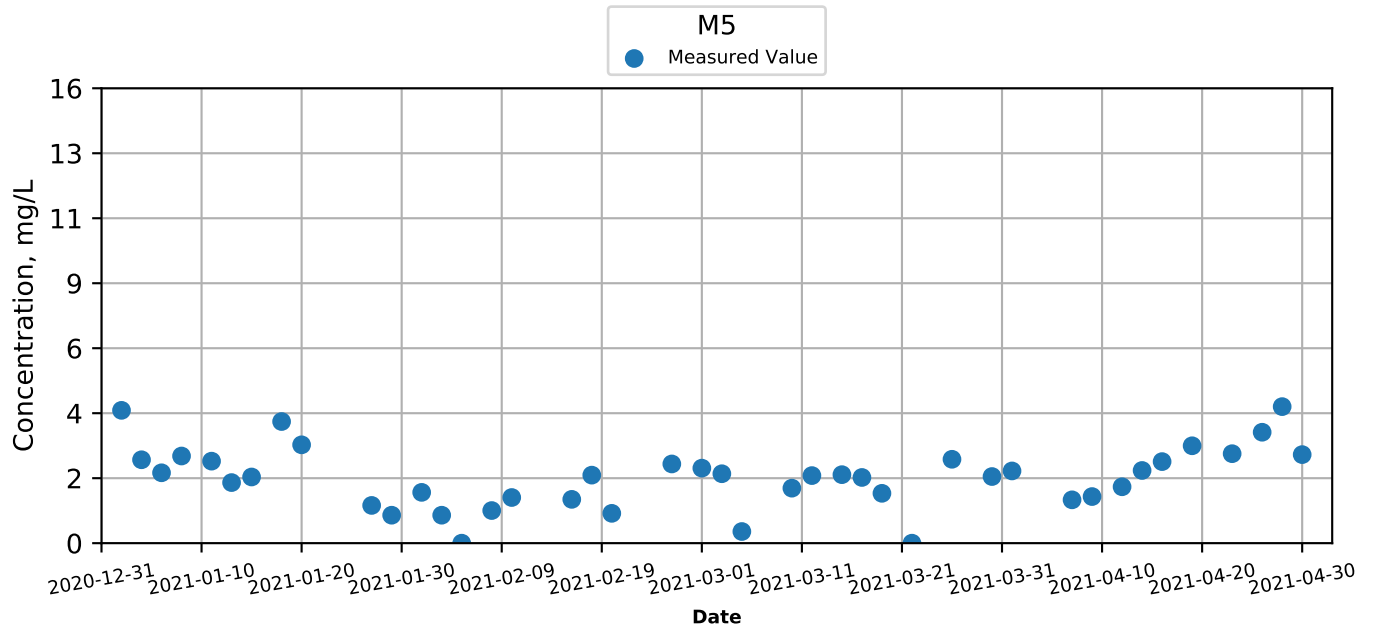
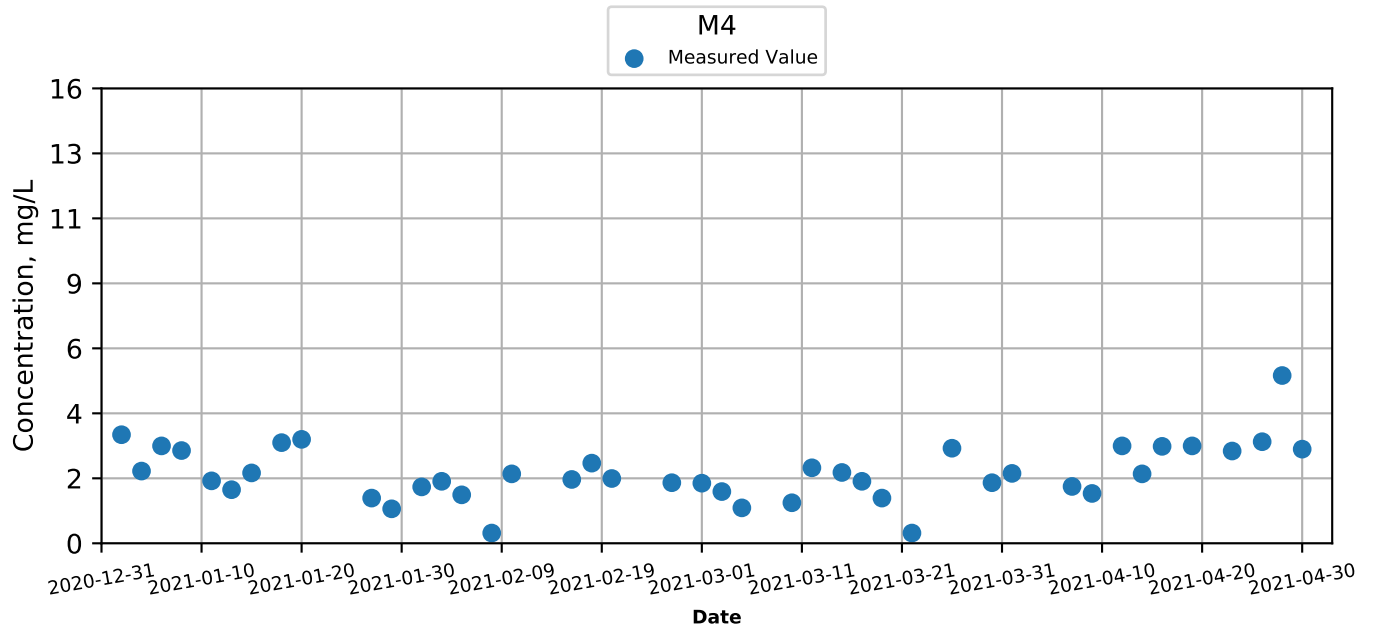
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

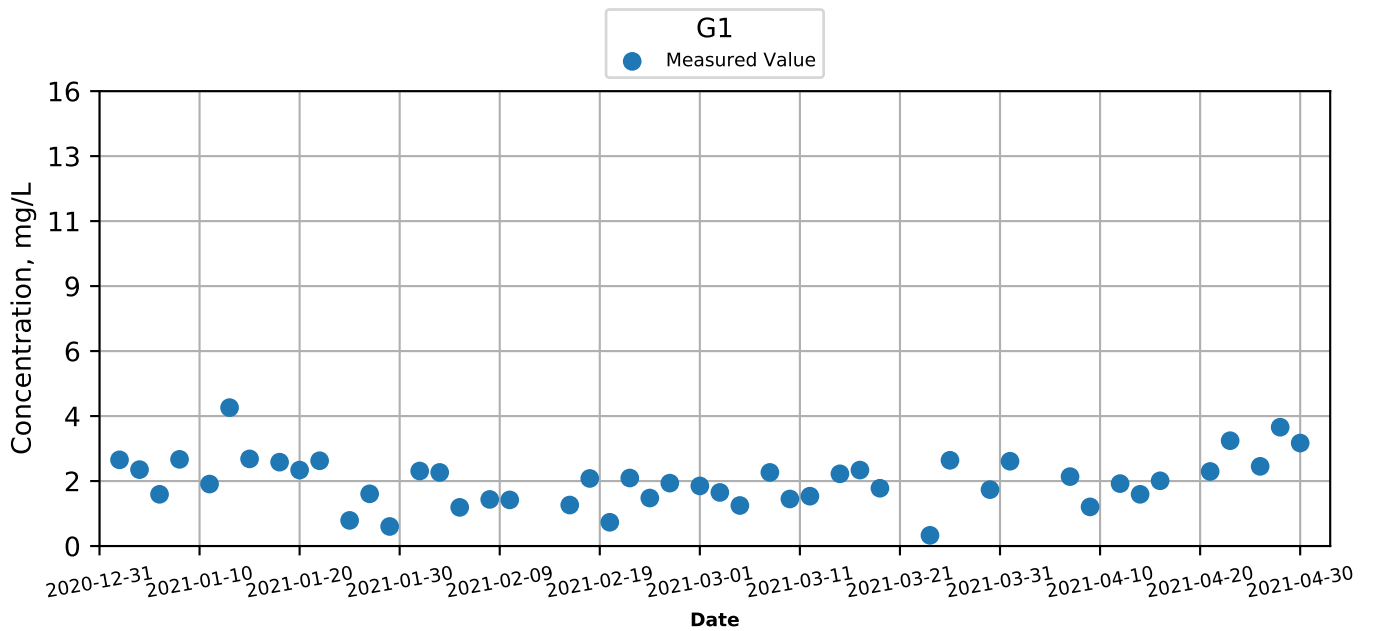
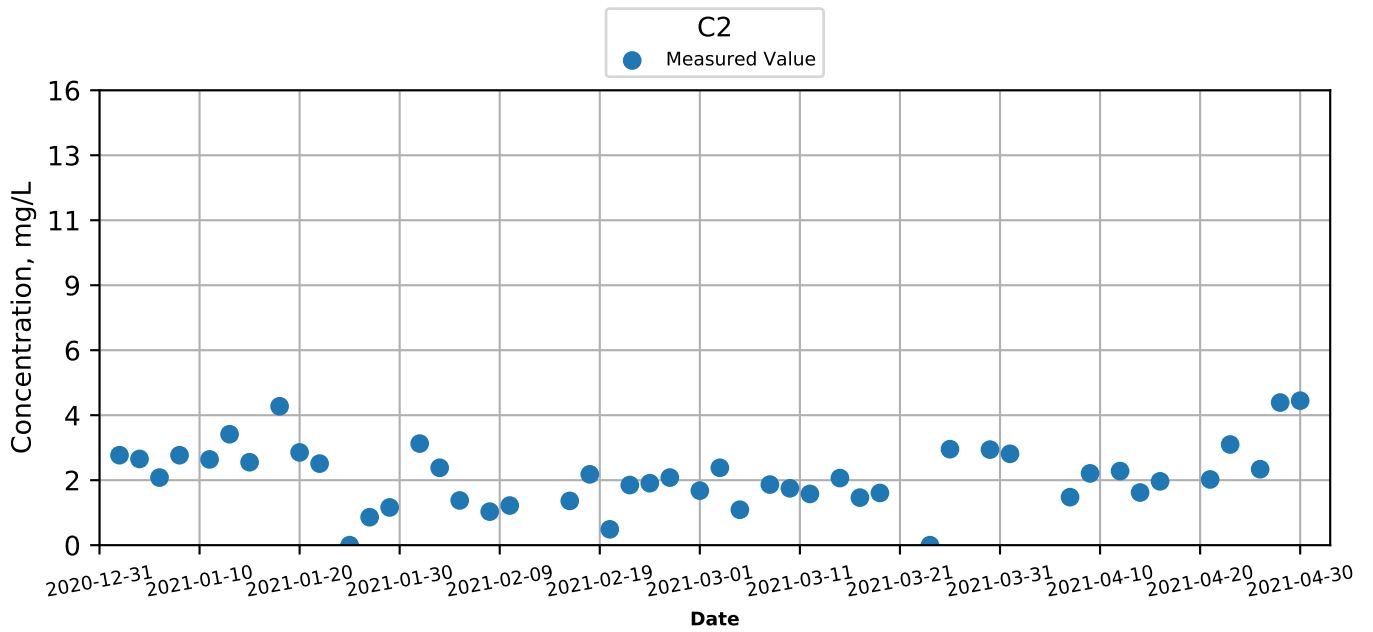
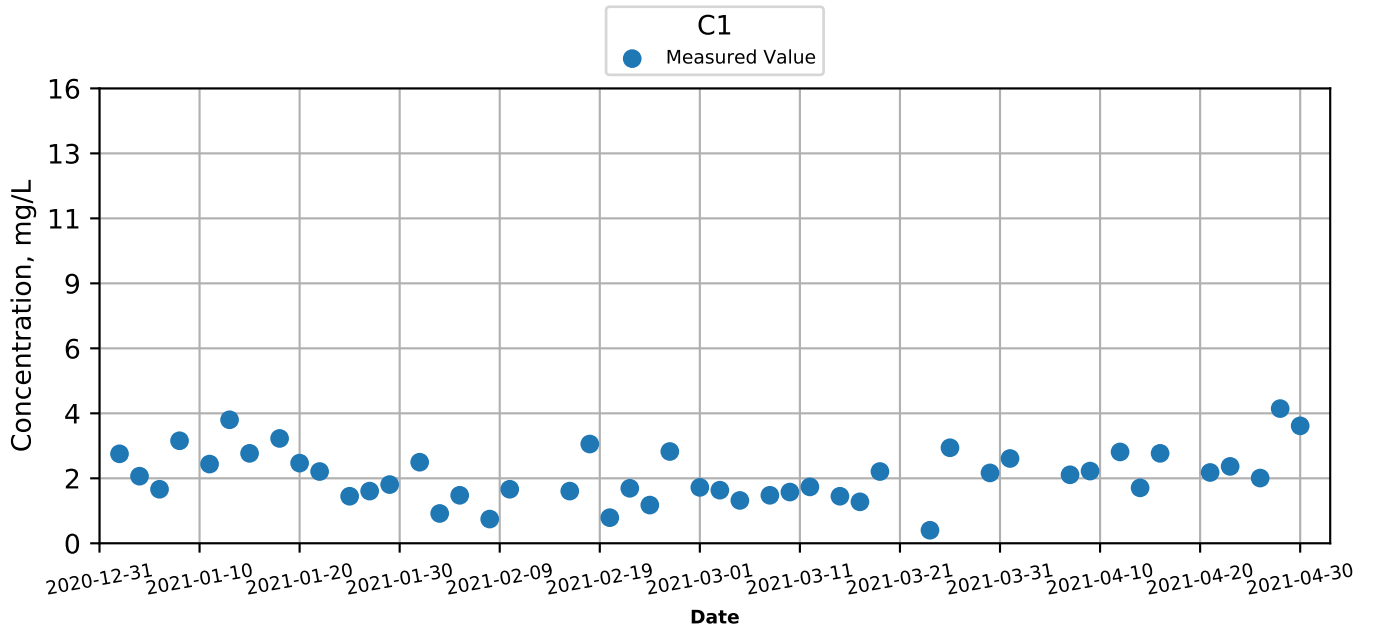
## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Ebb





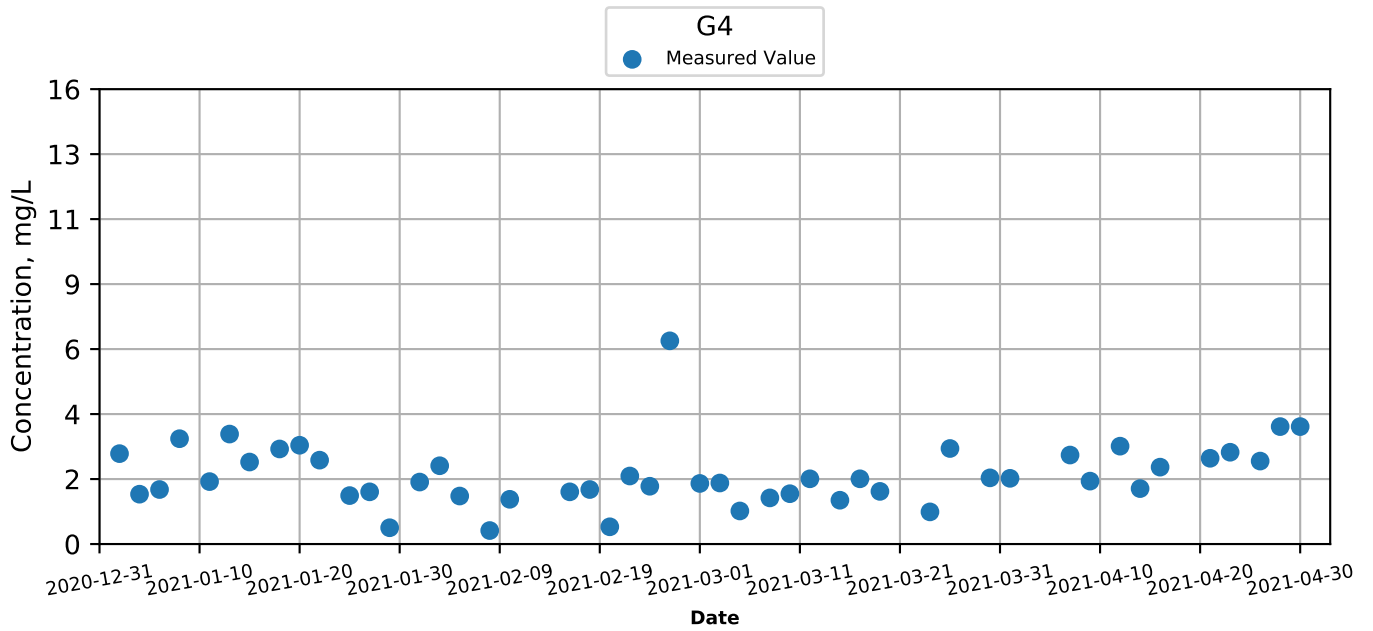
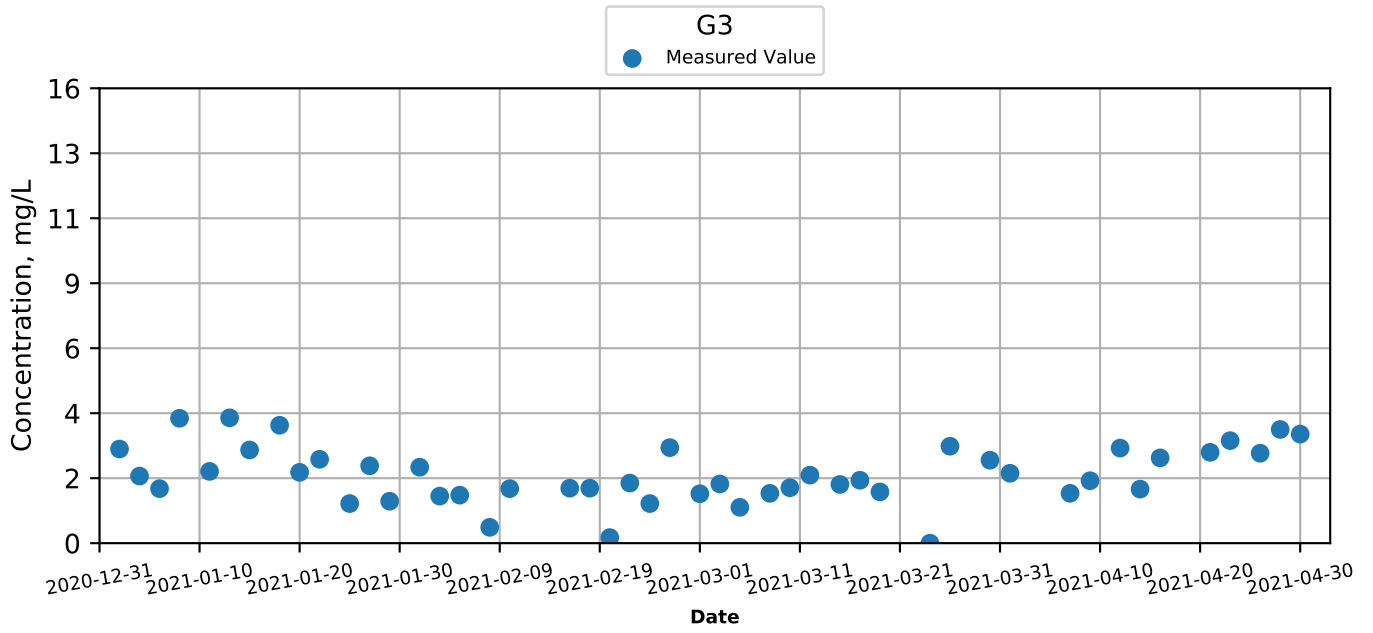
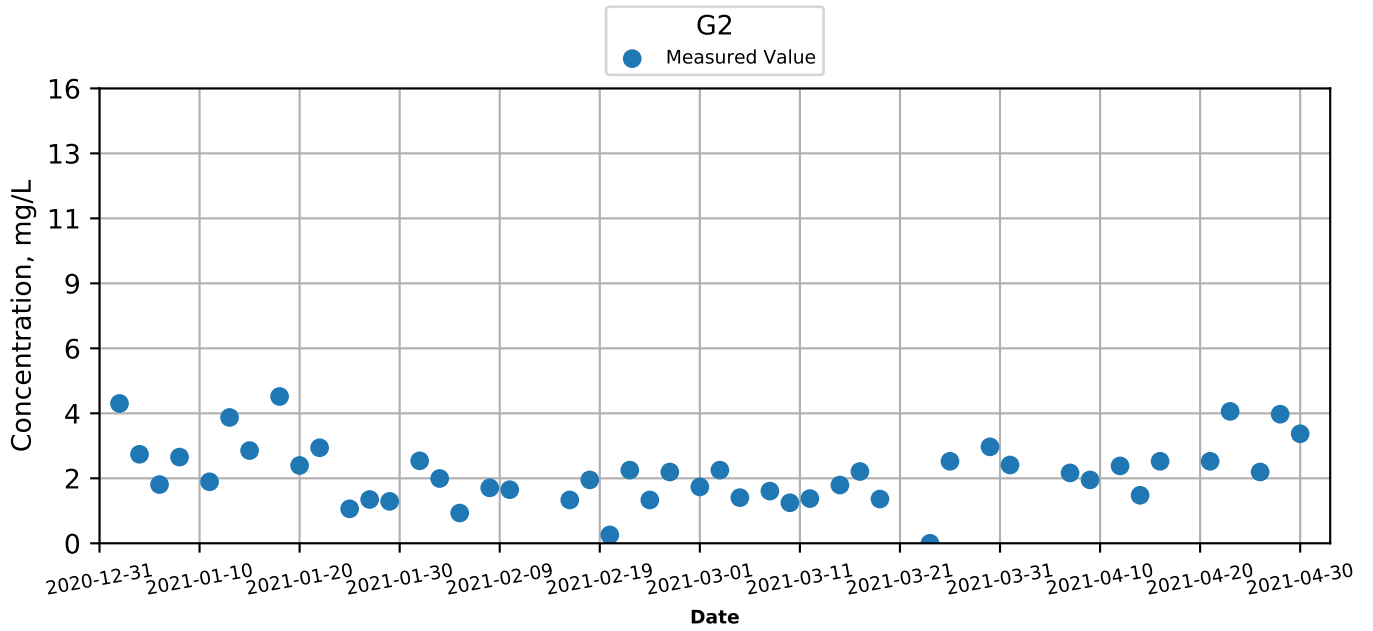
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



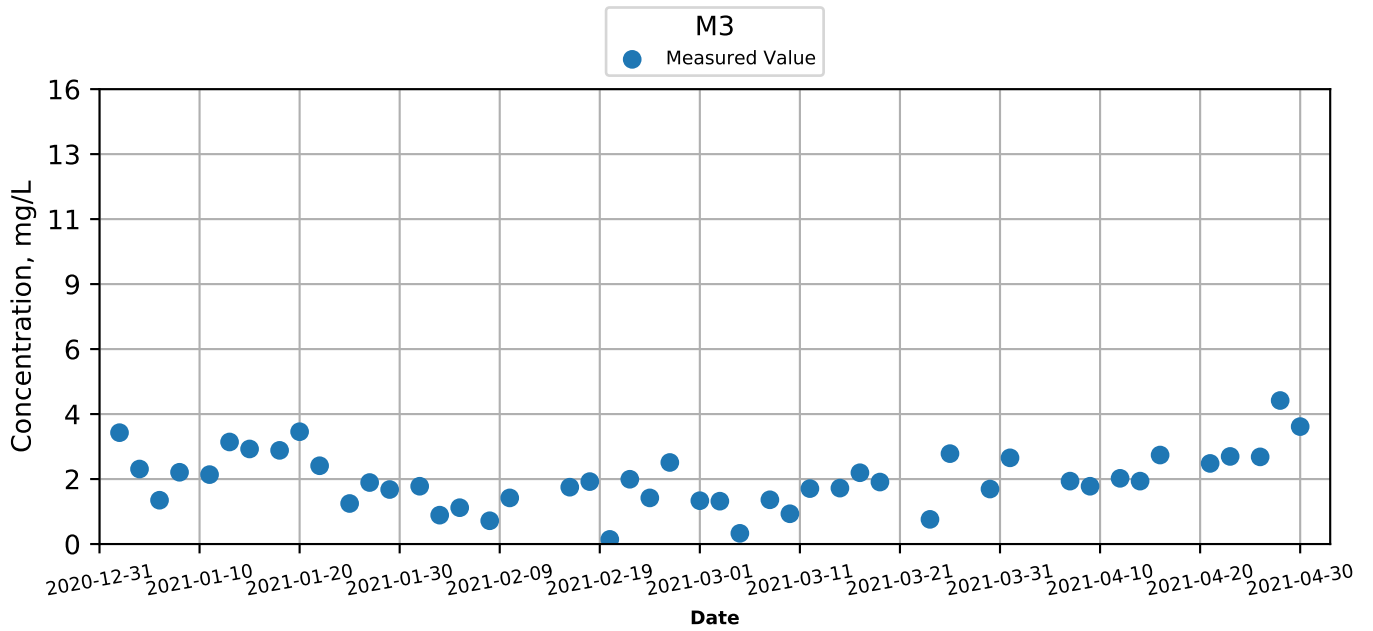
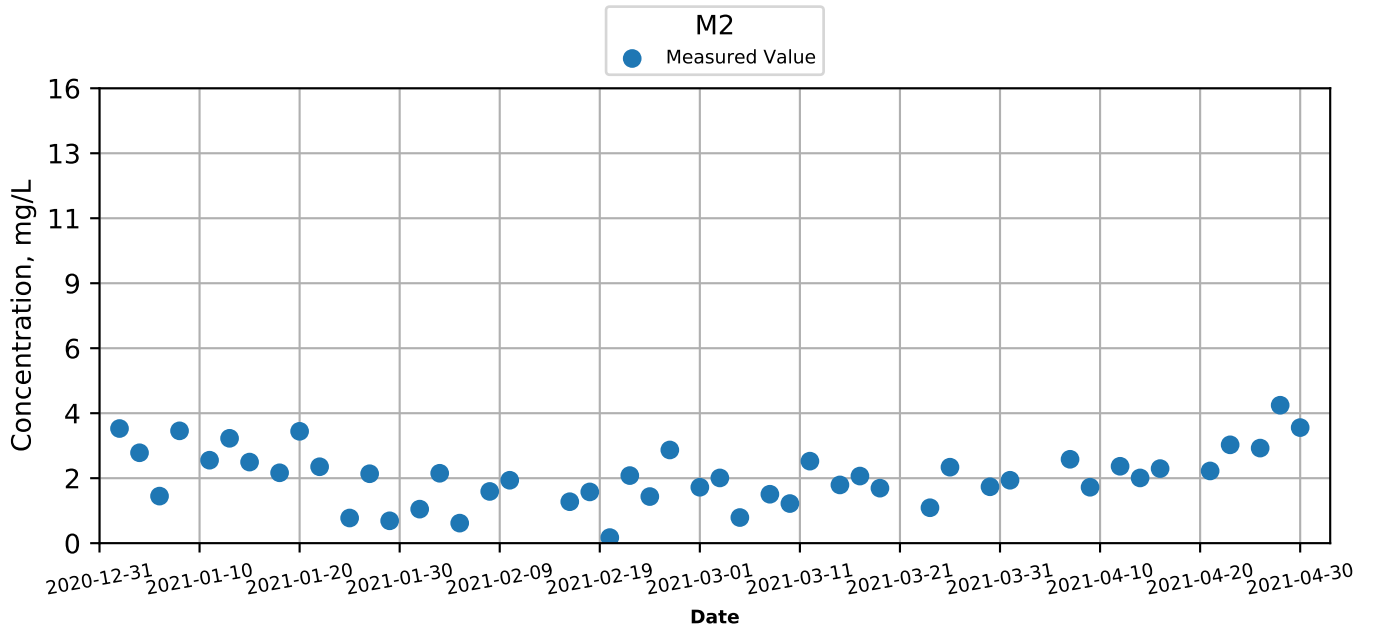
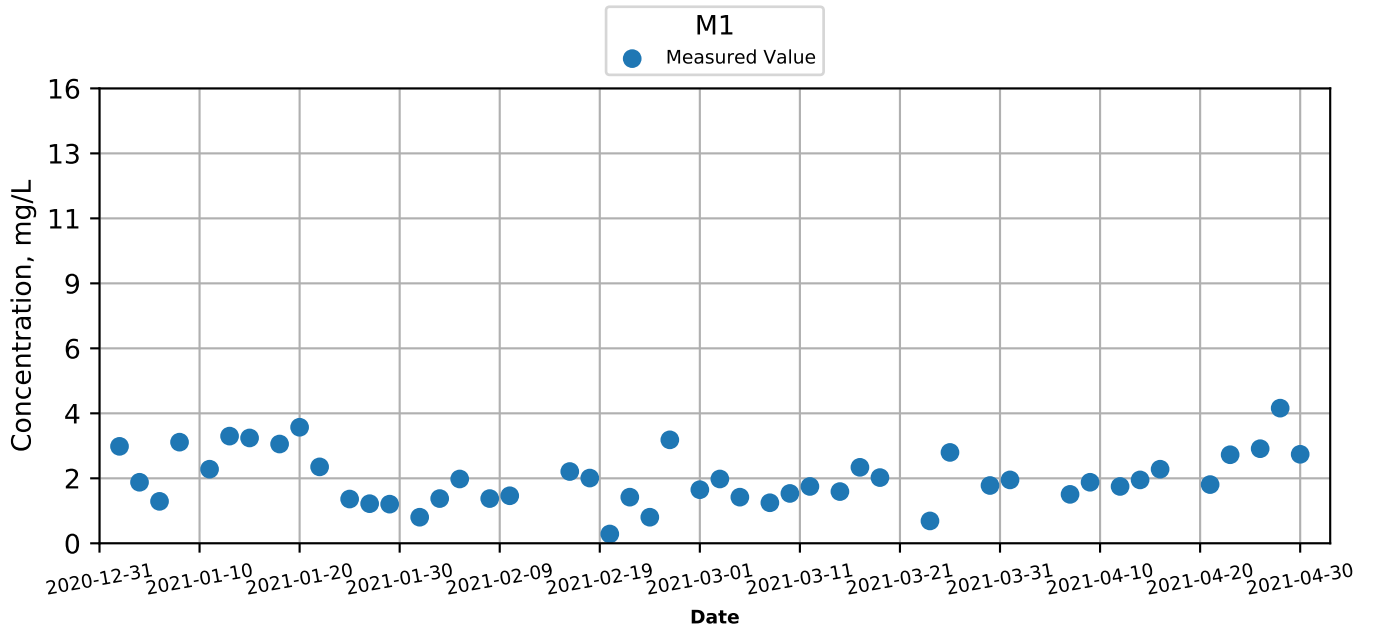
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## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



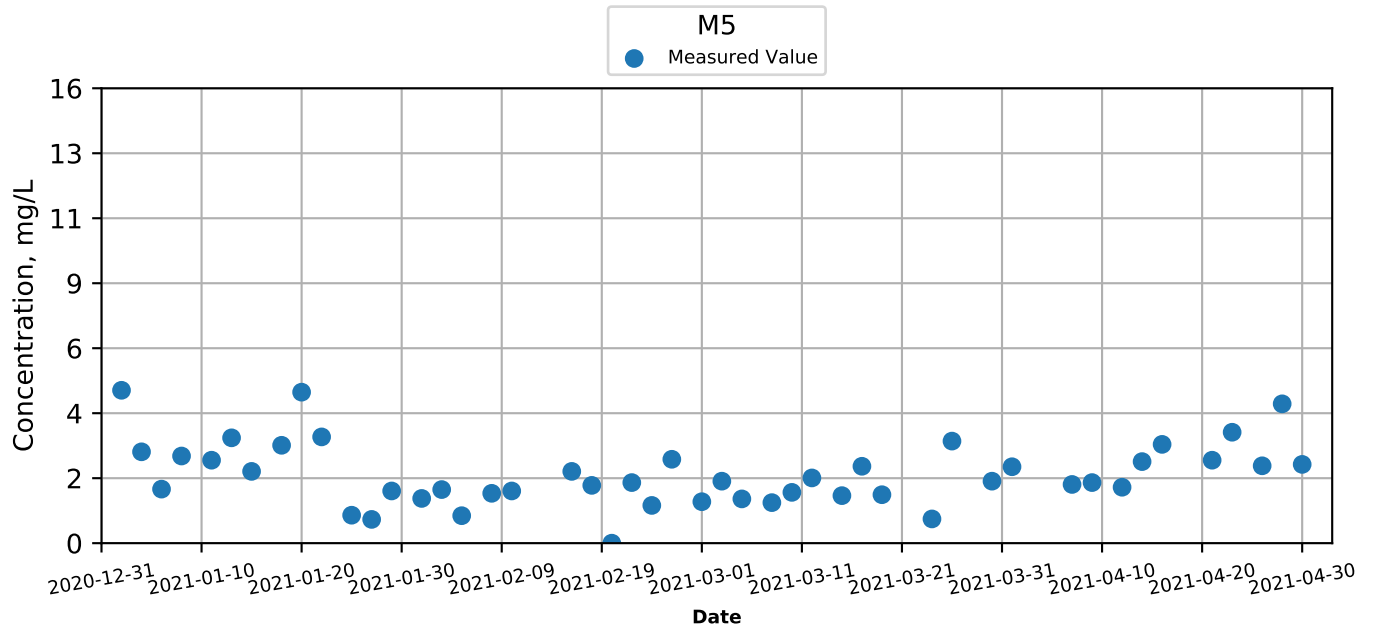
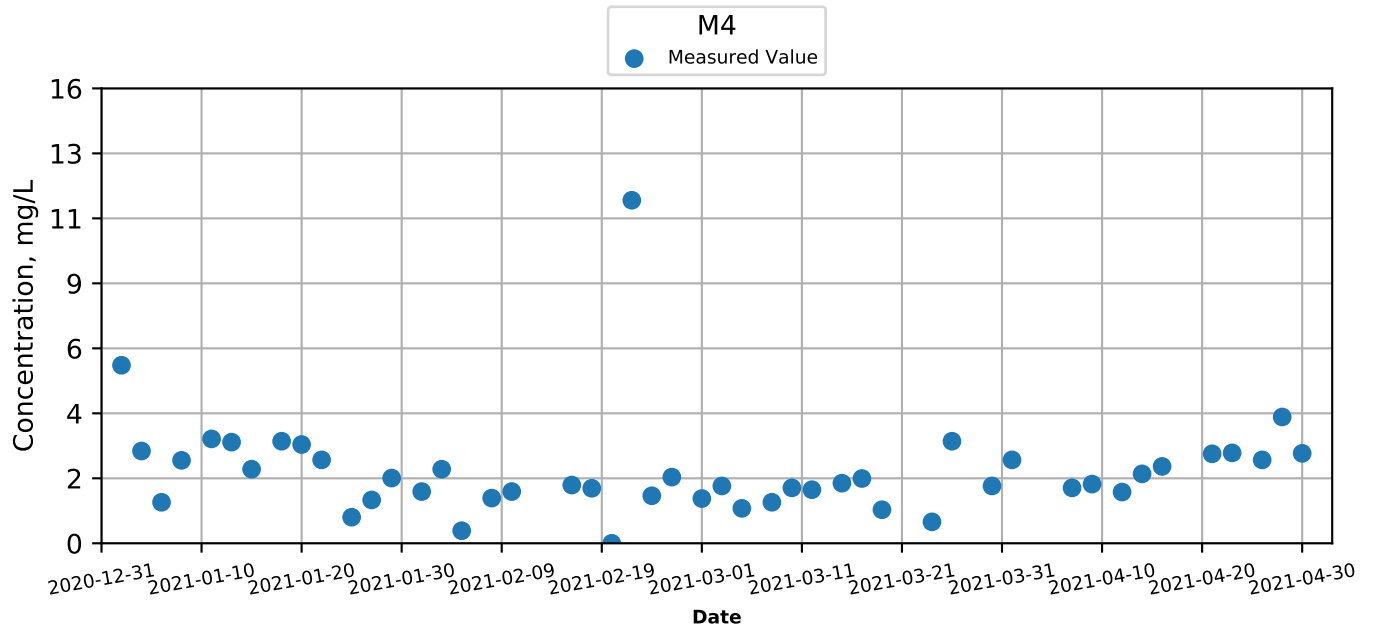
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



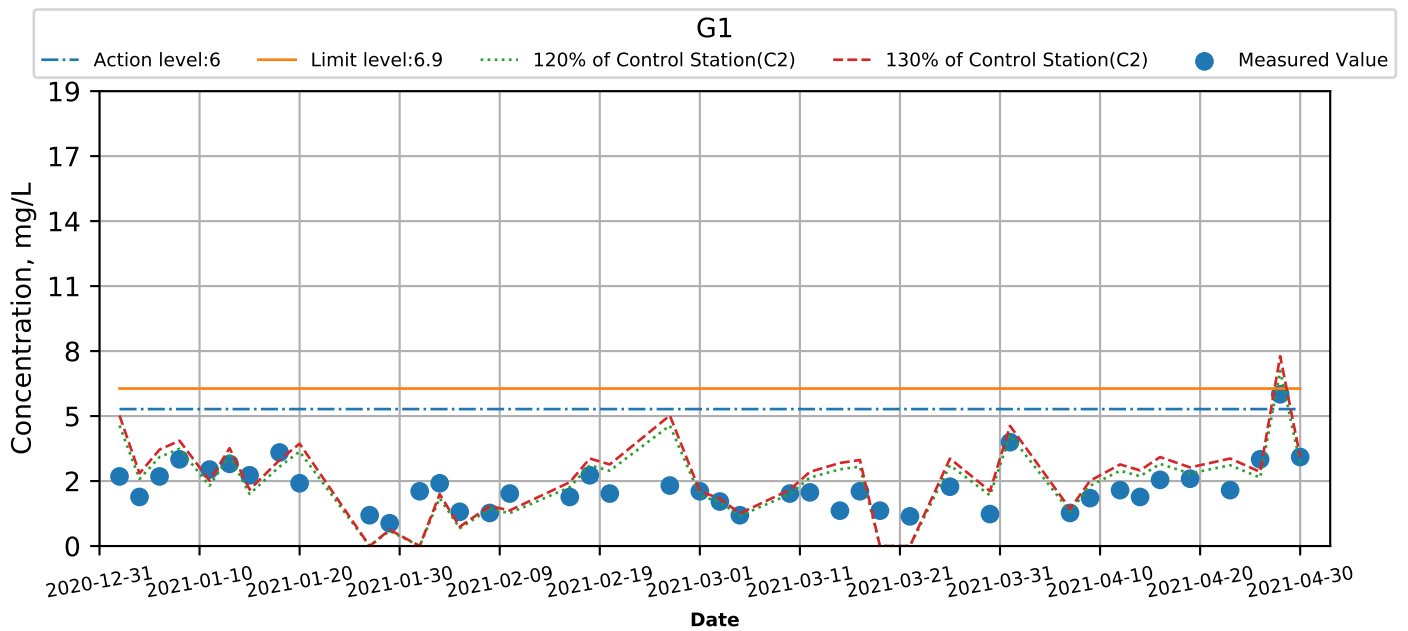
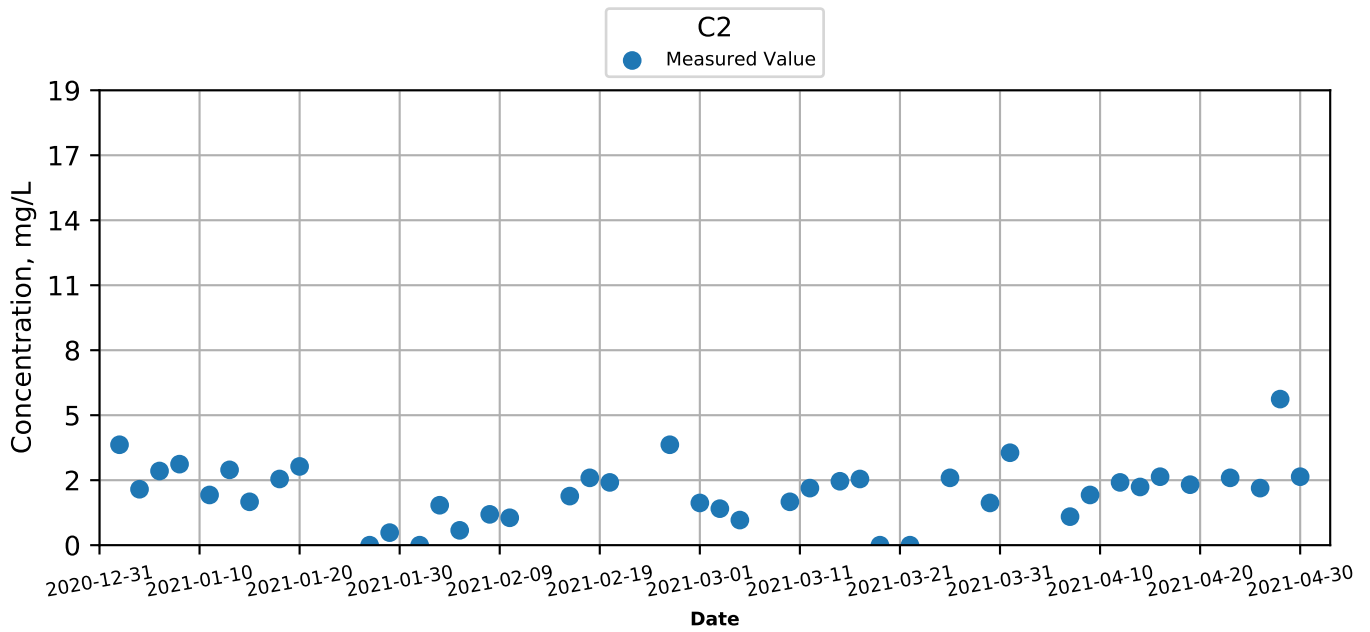
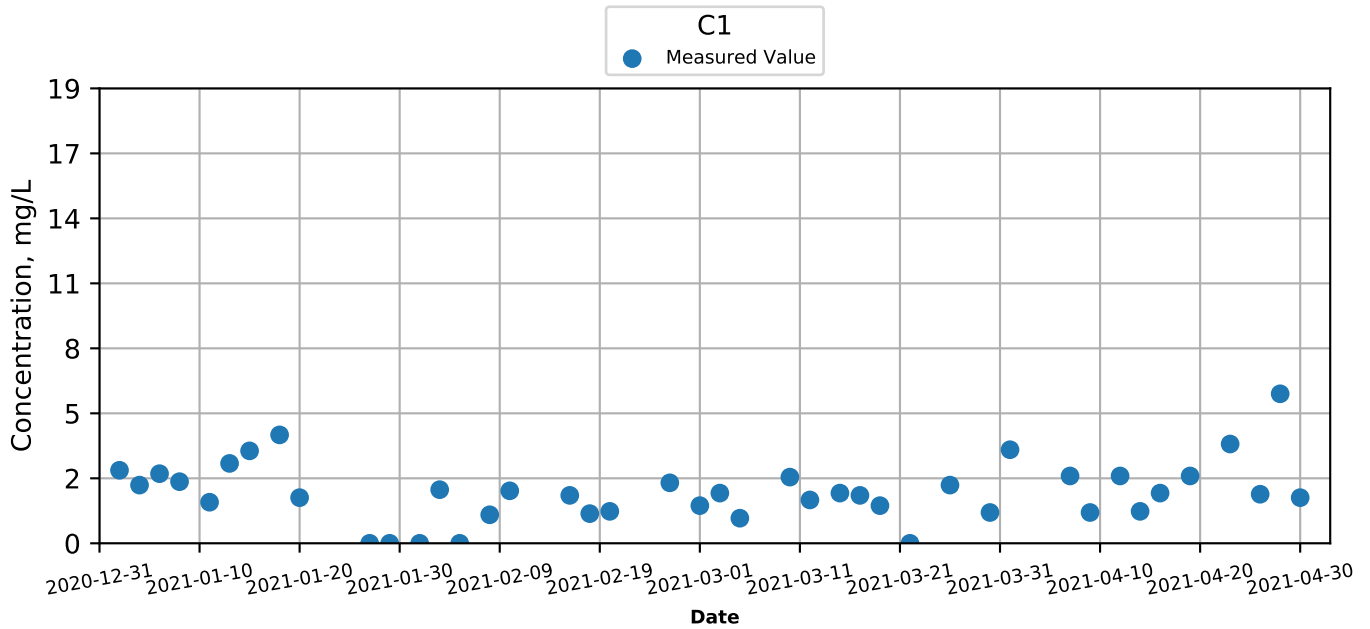
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Depth-Averaged) at Monitoring Stations during Mid-Flood



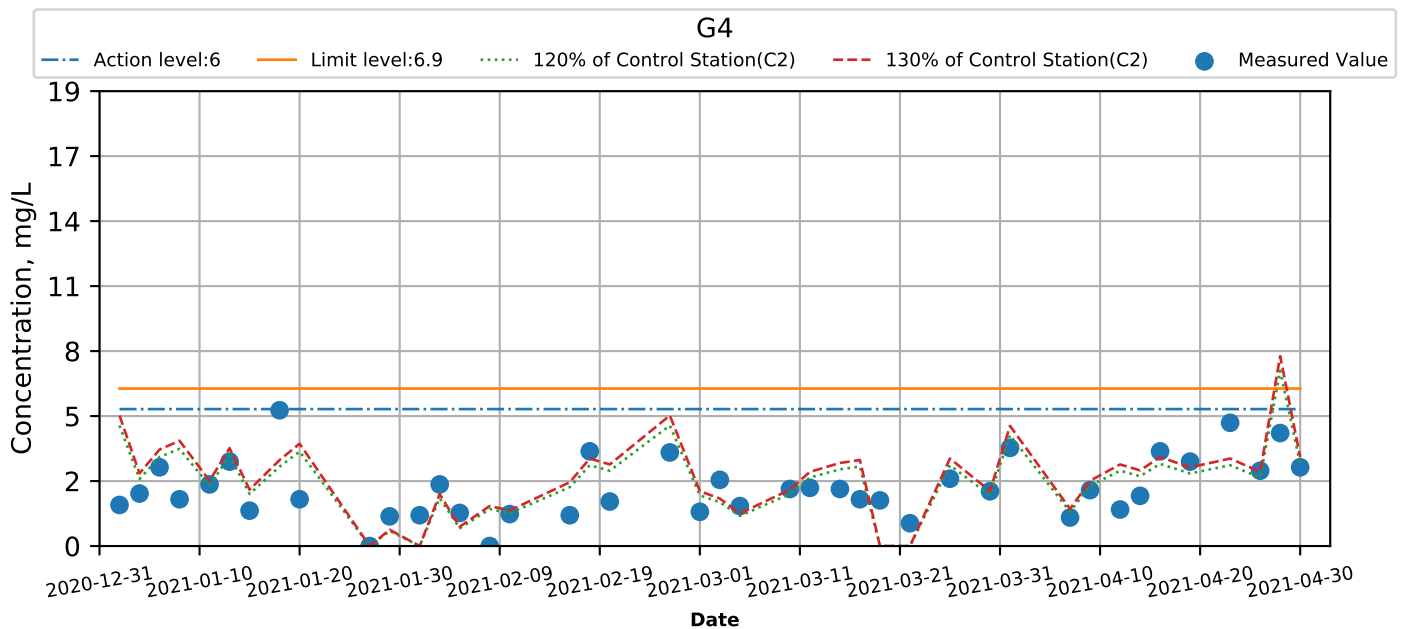
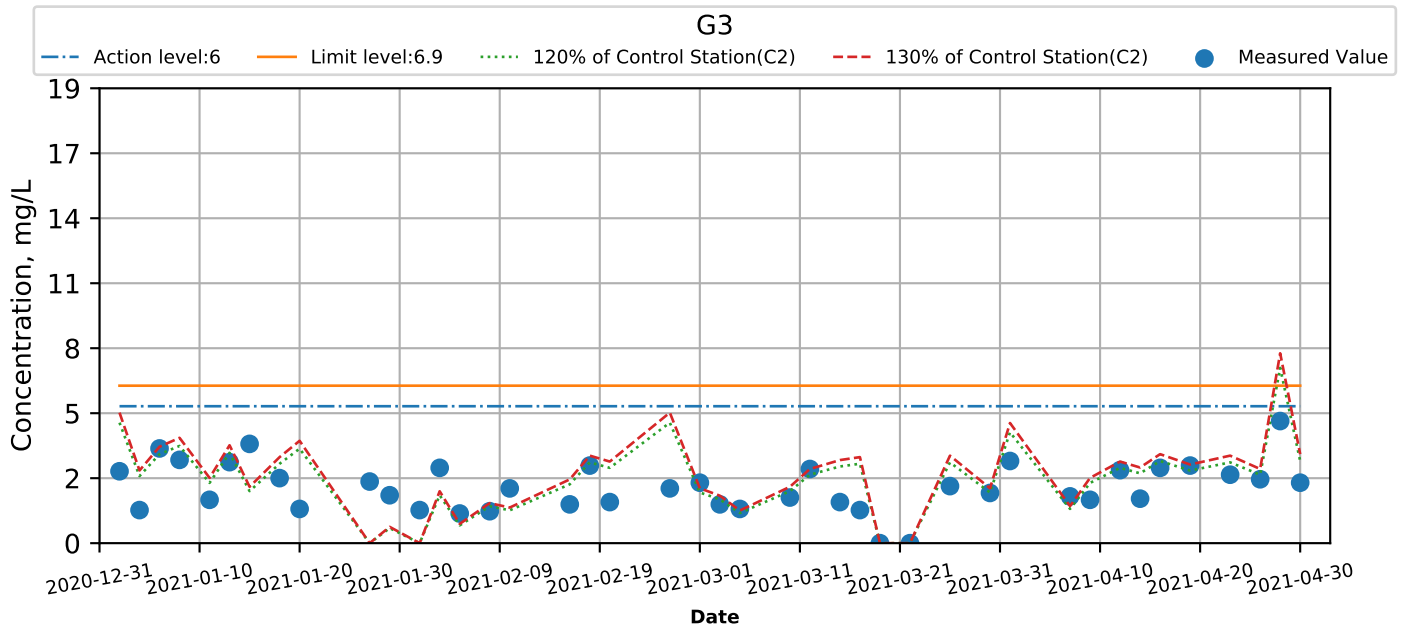
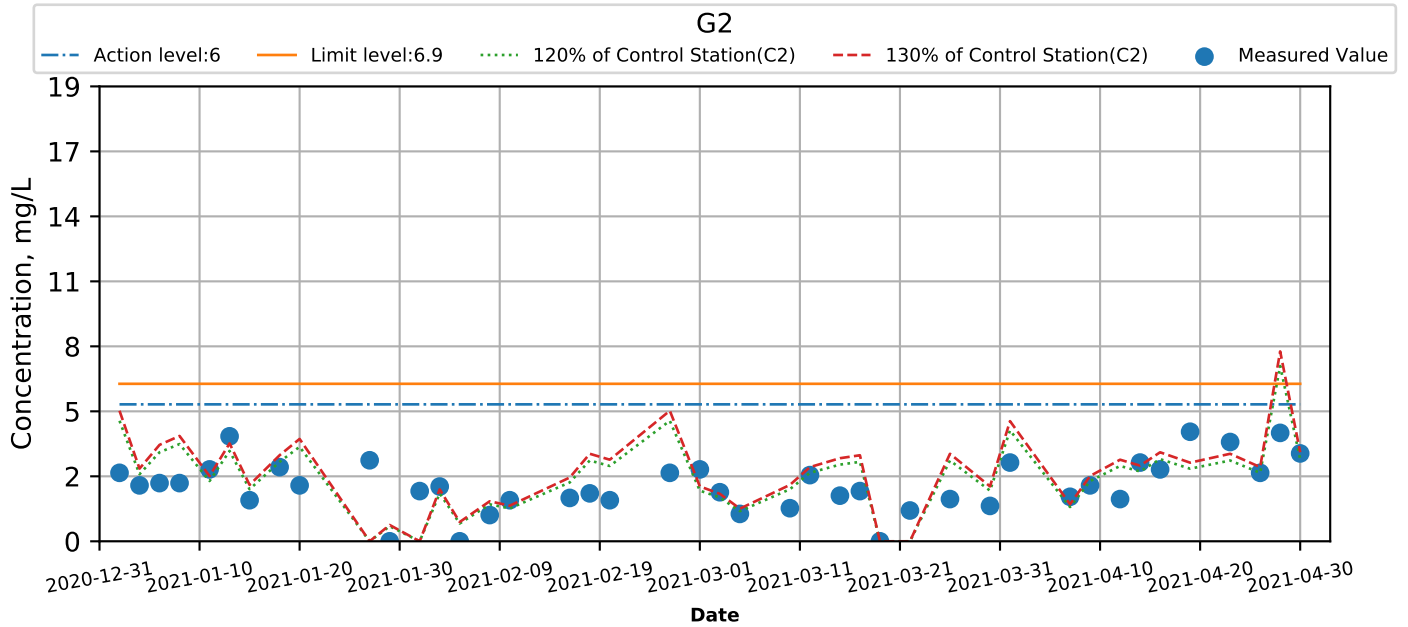
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

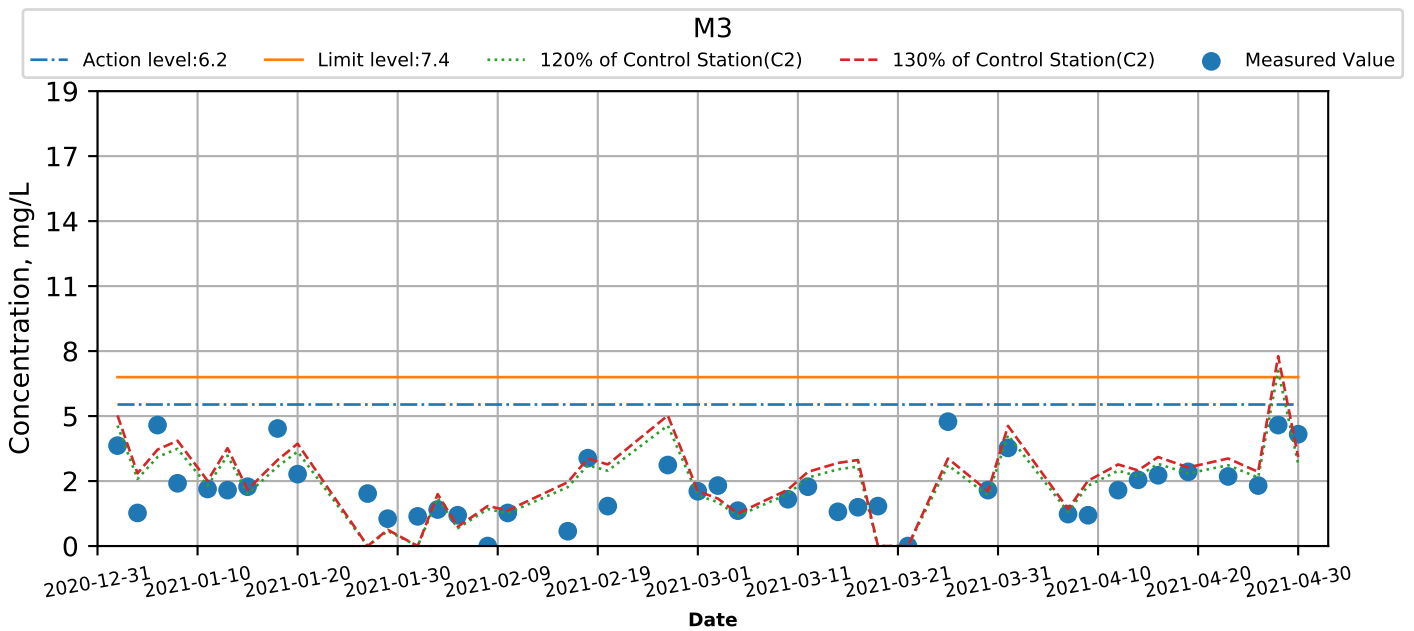
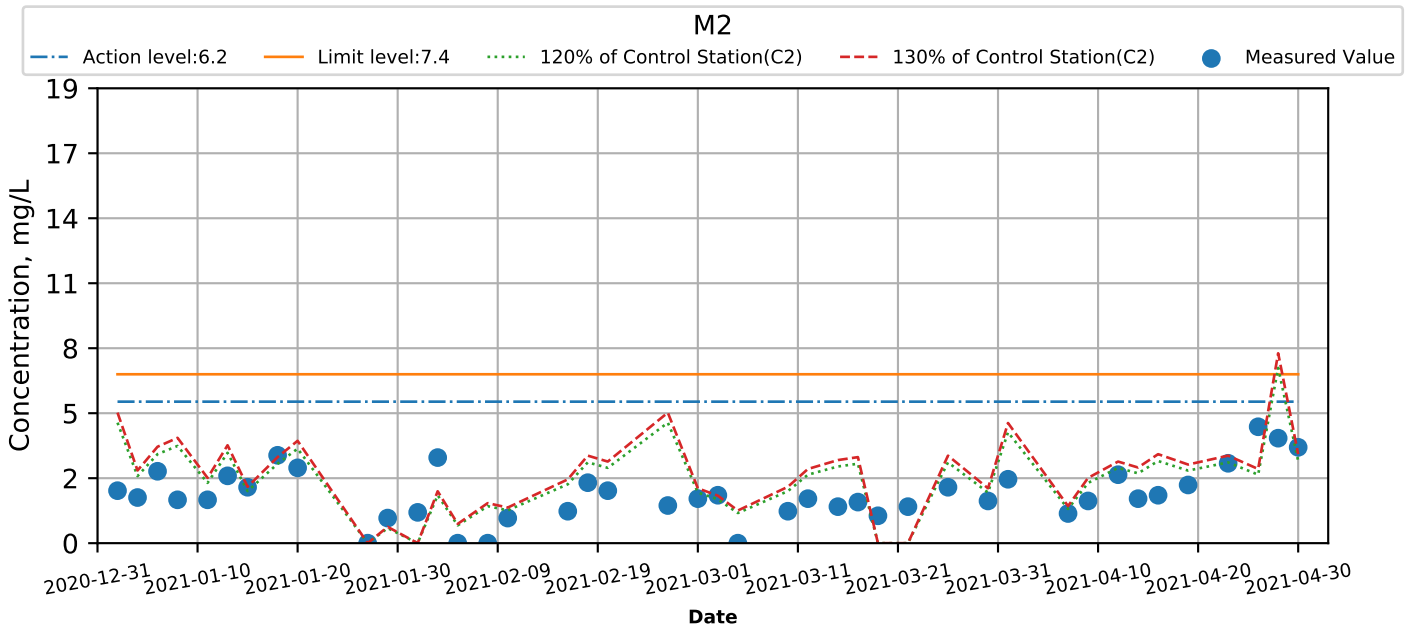
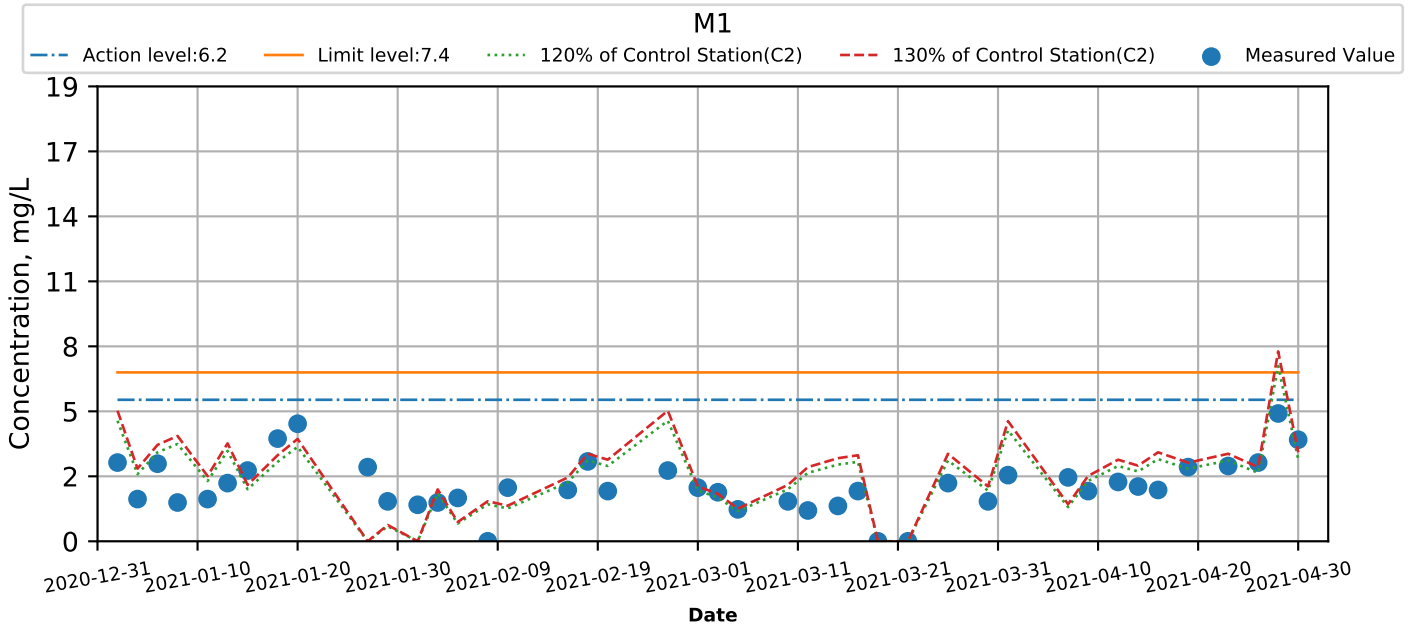
## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb





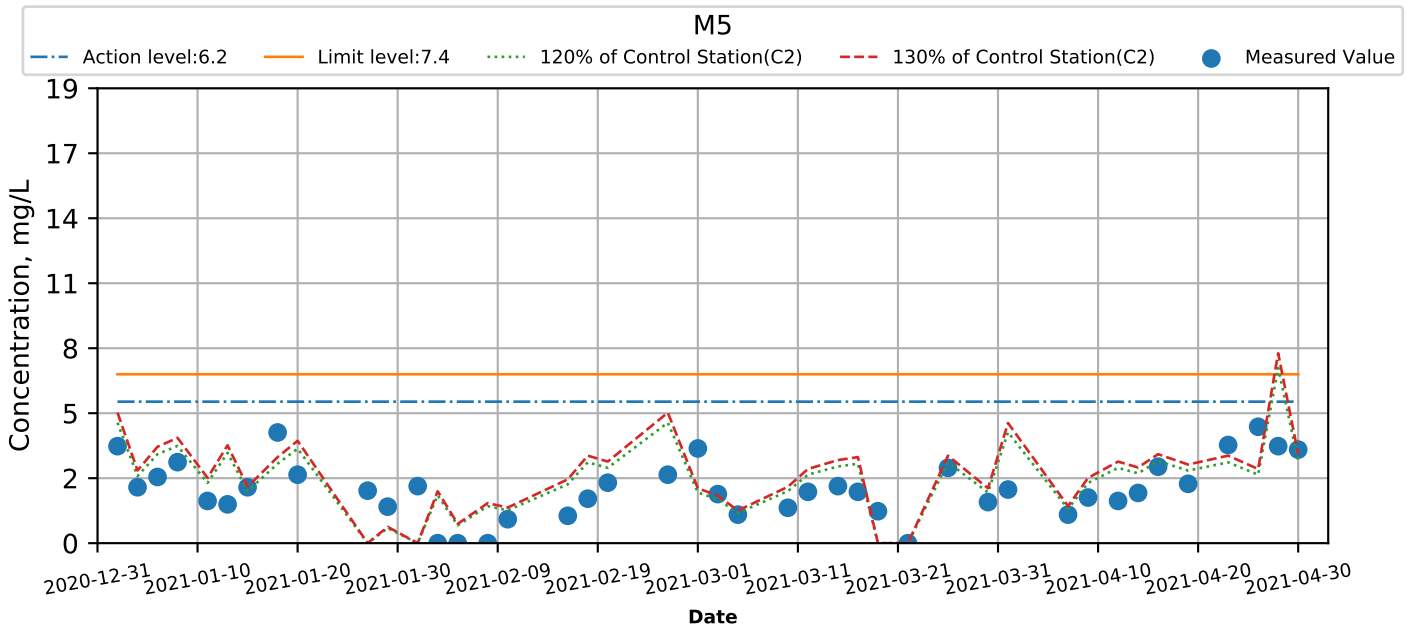
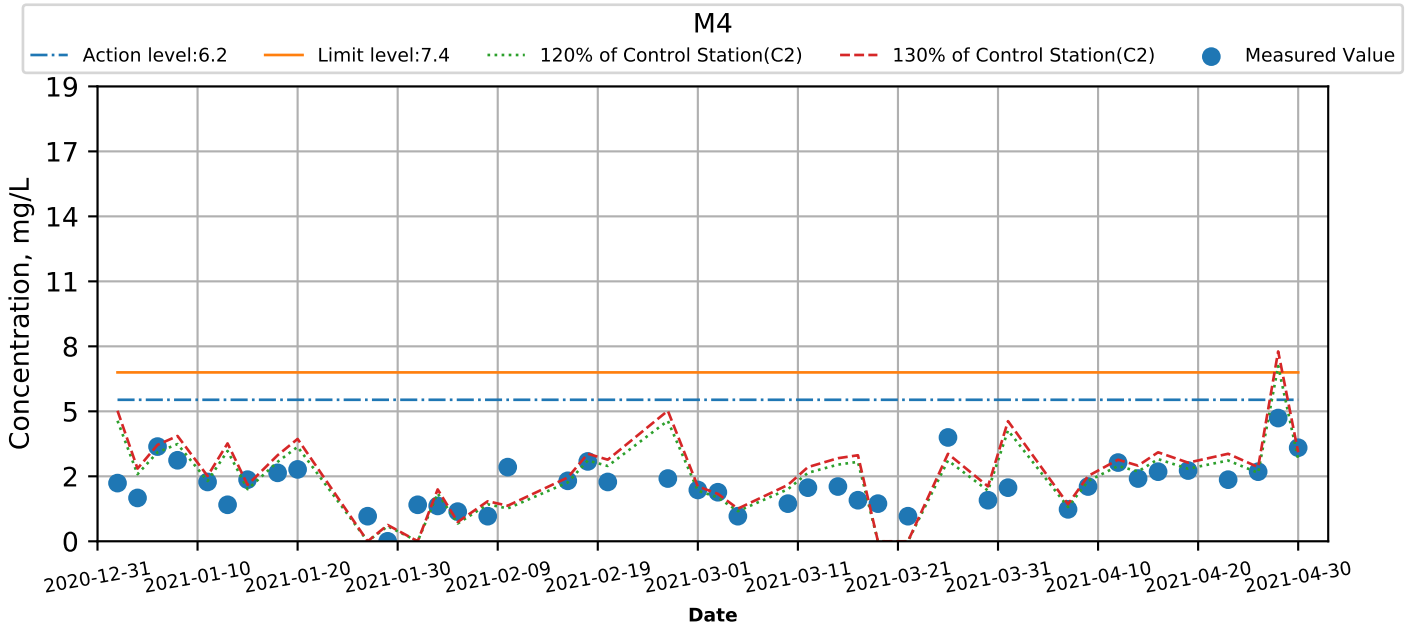
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb



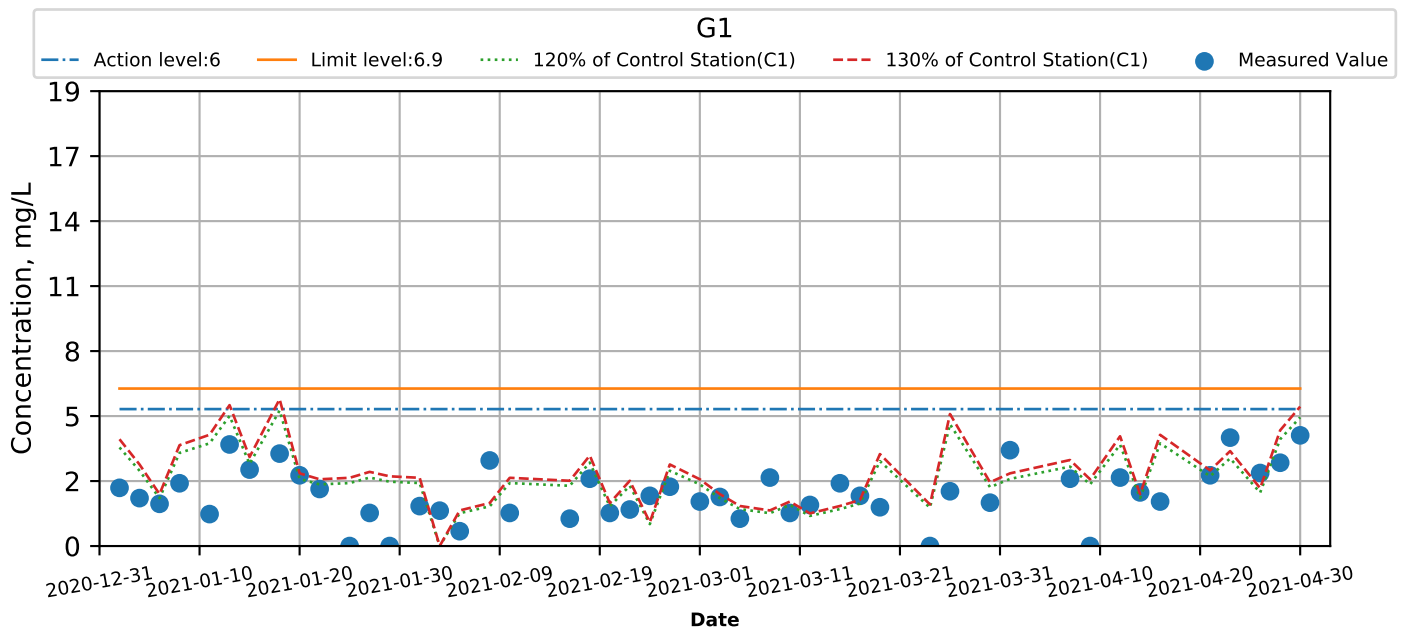
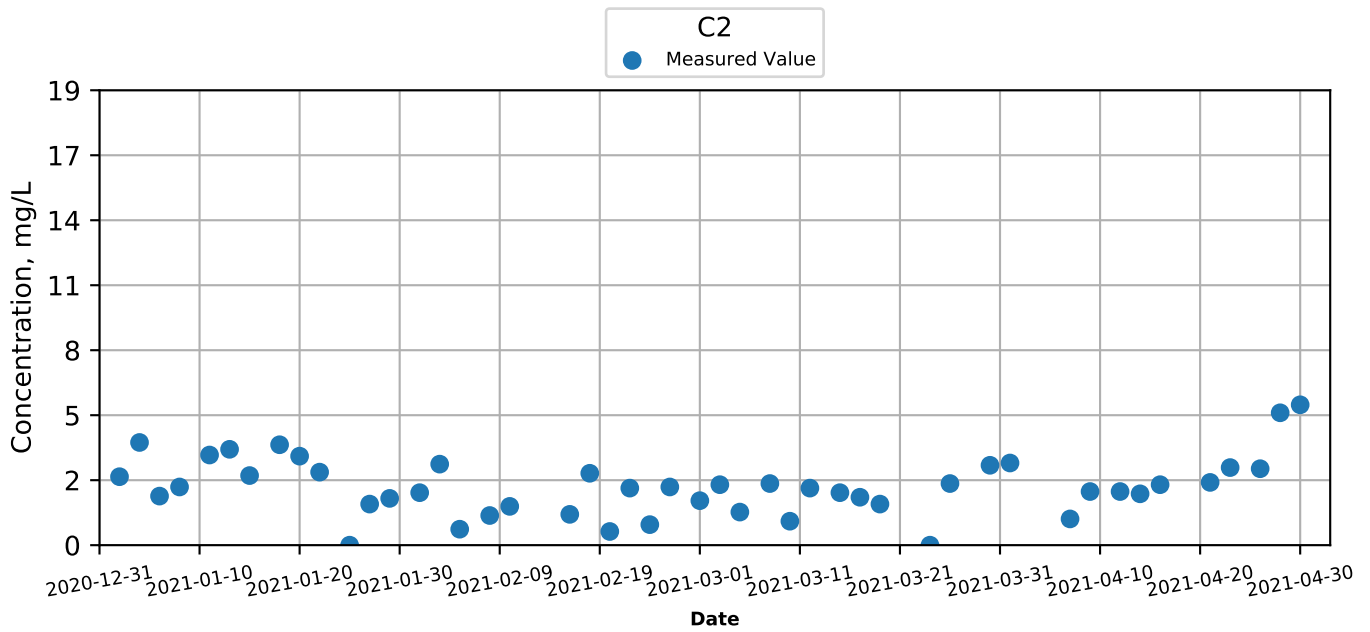
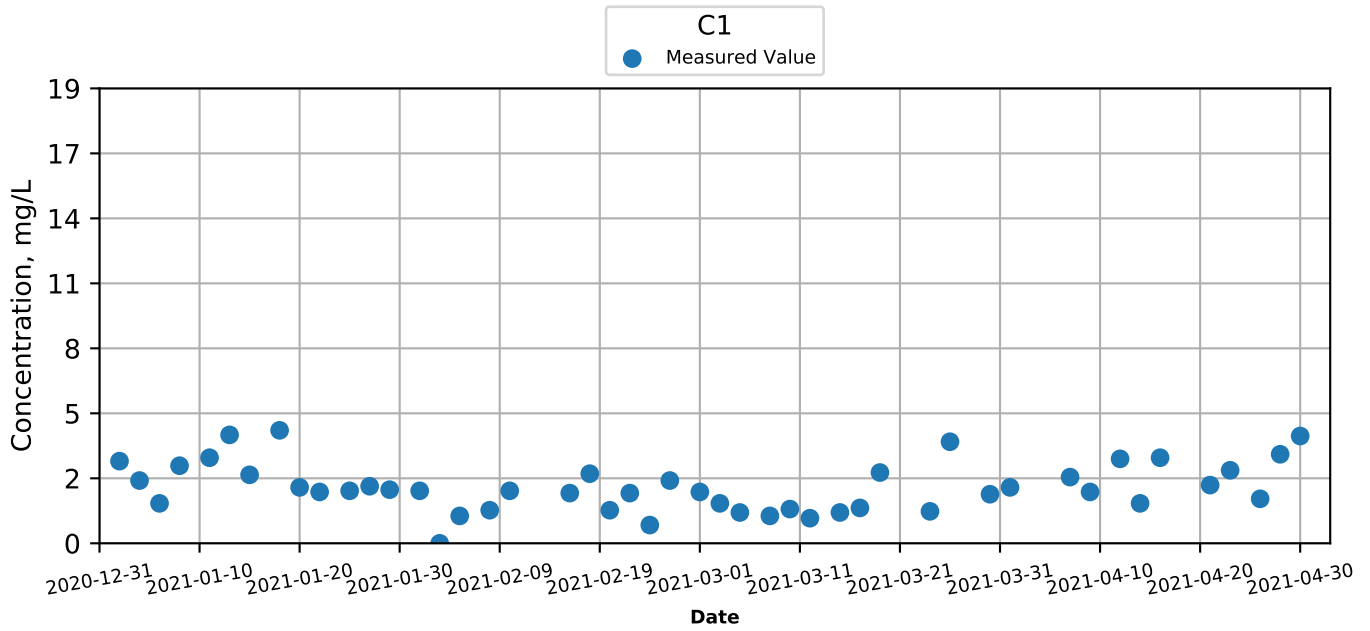
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Ebb



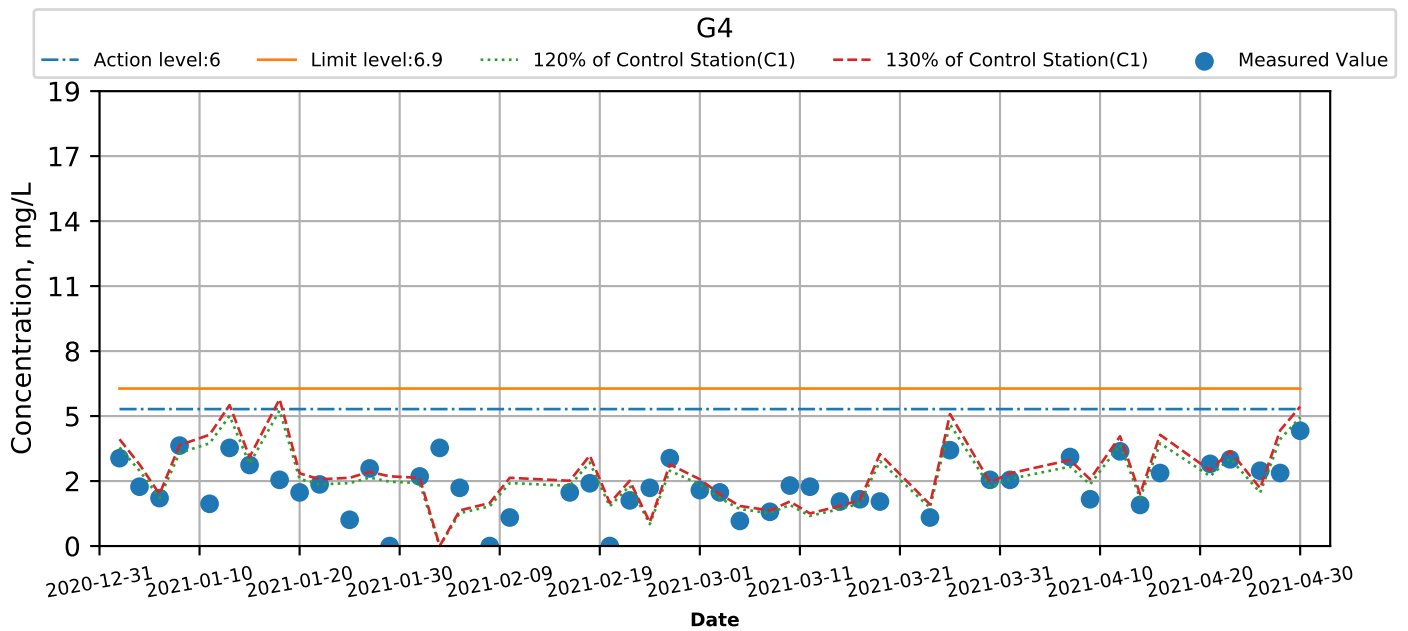
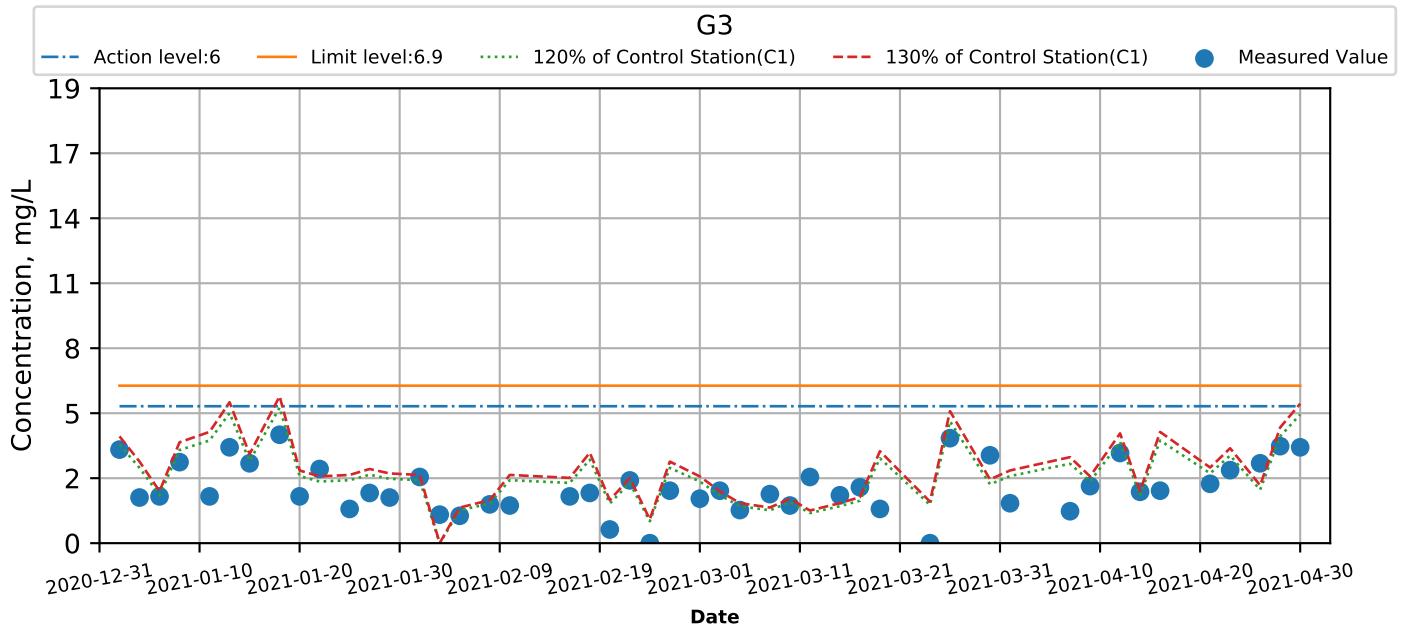
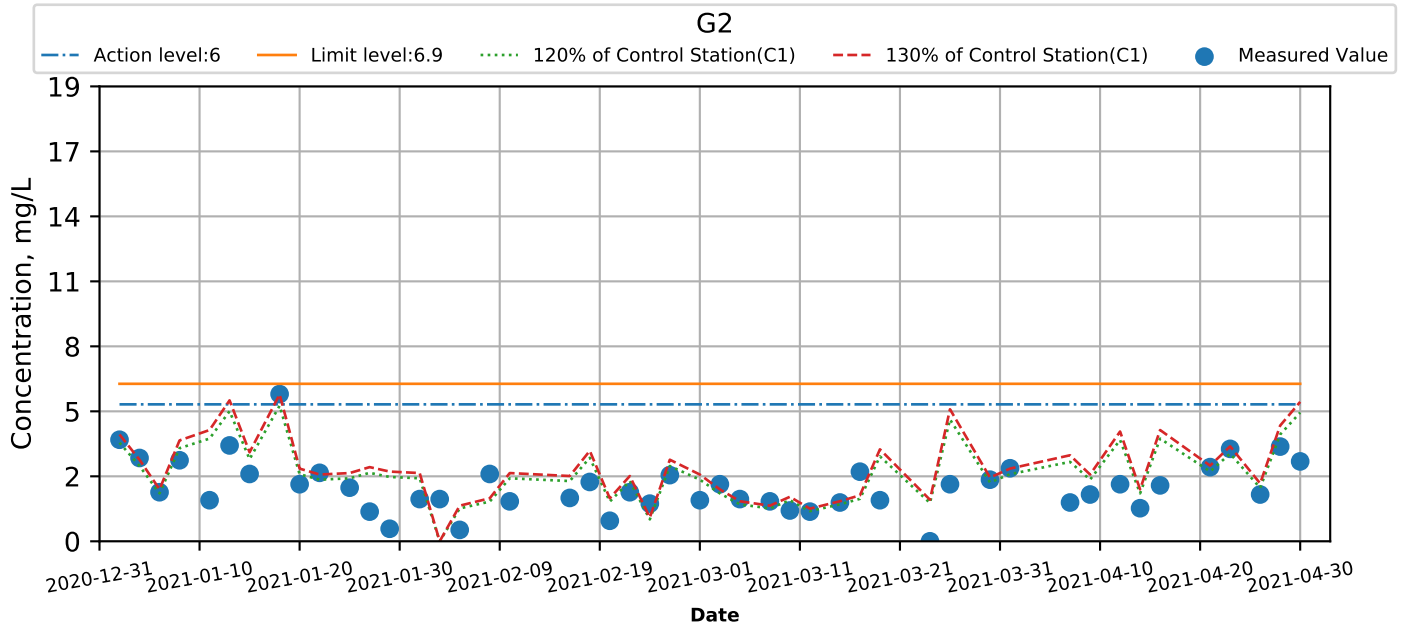
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



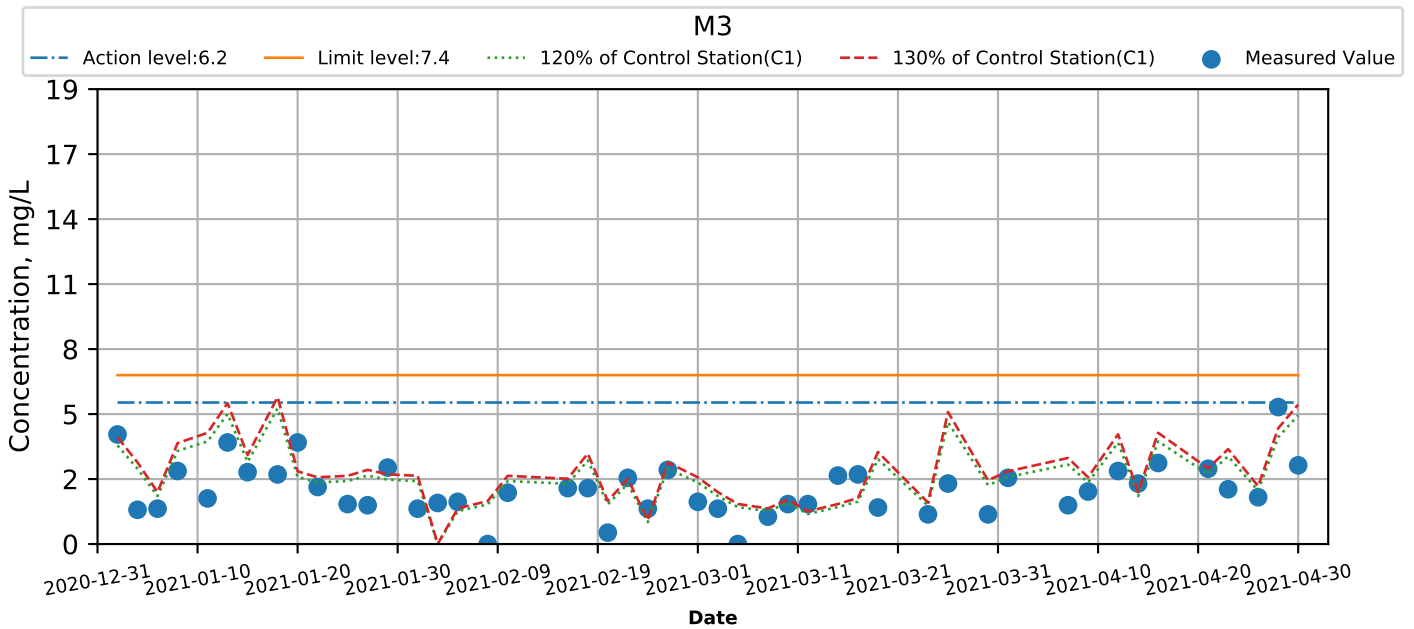
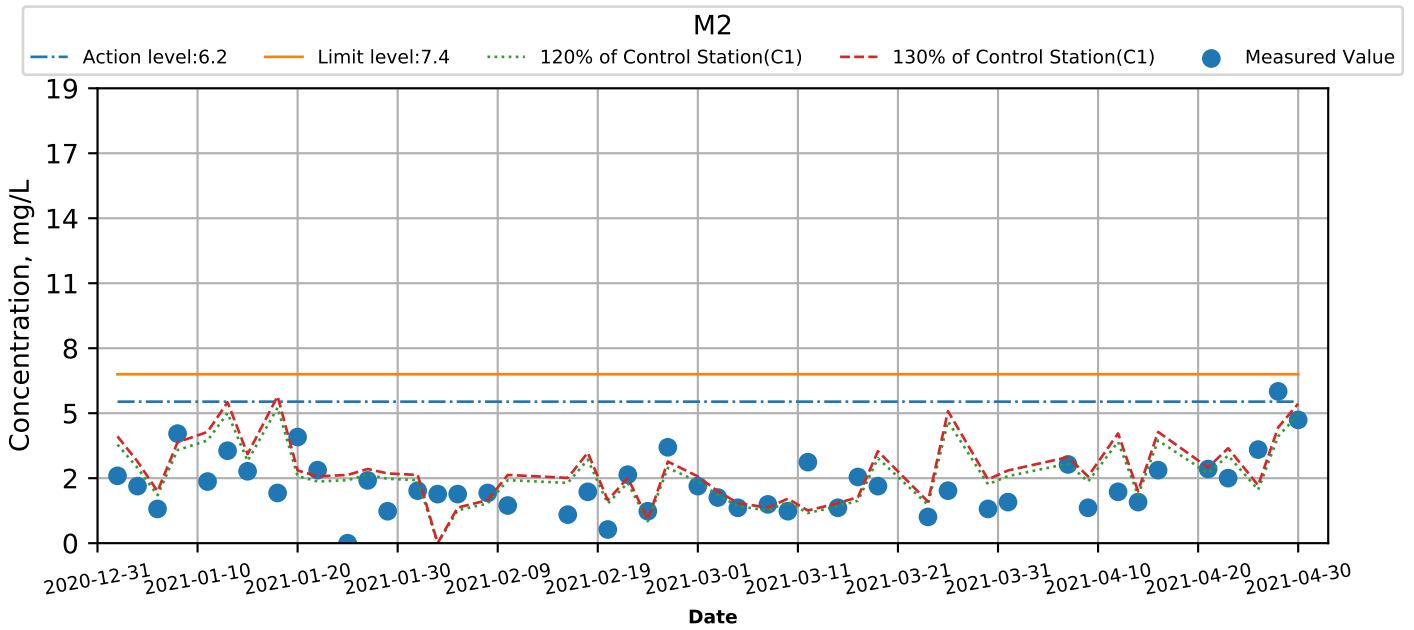
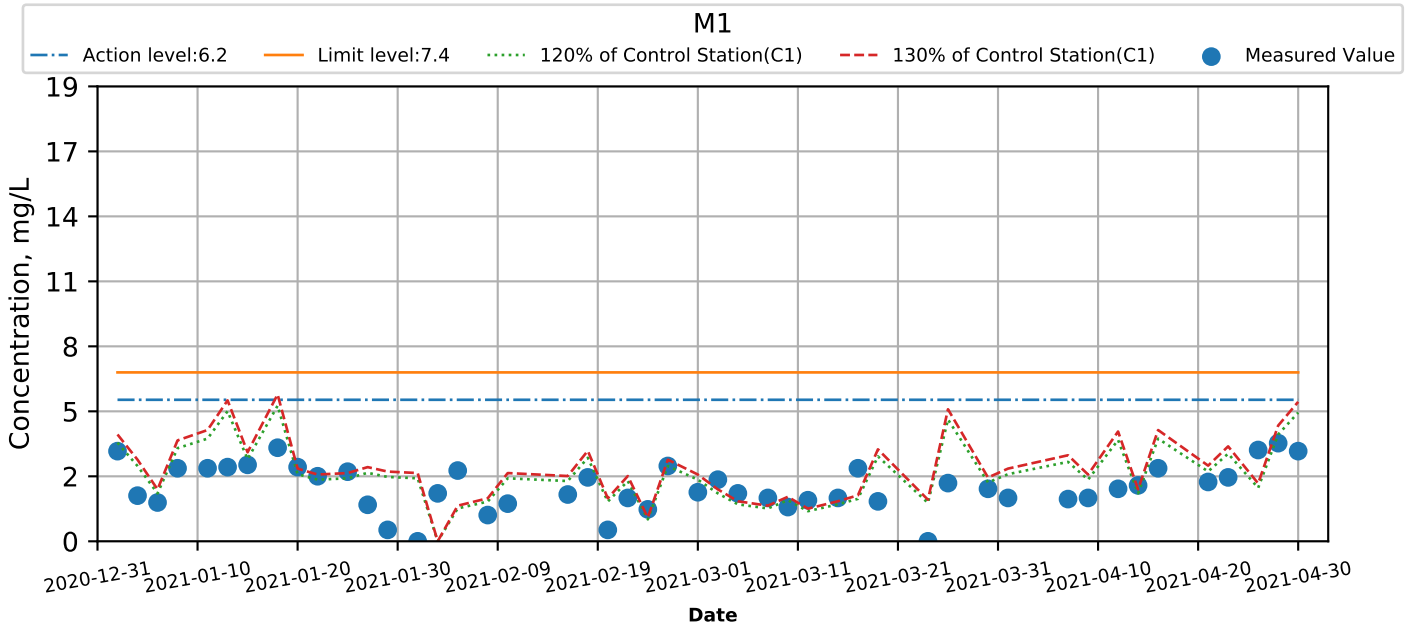
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



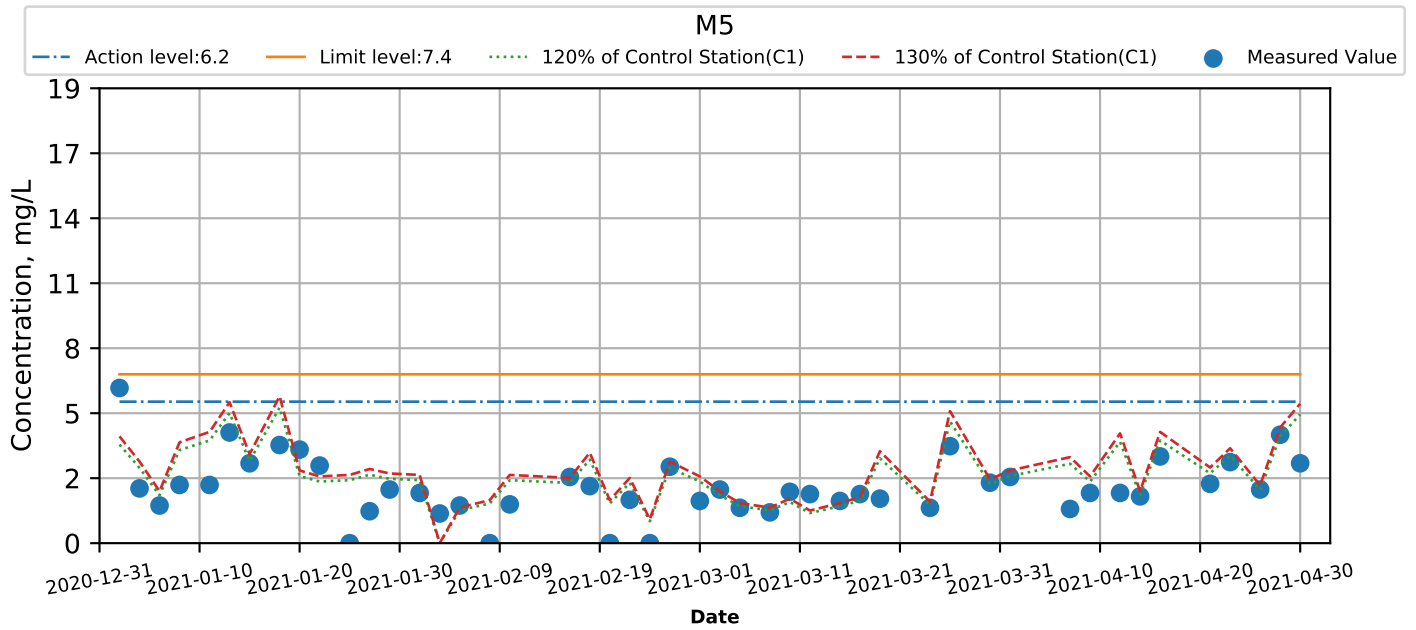
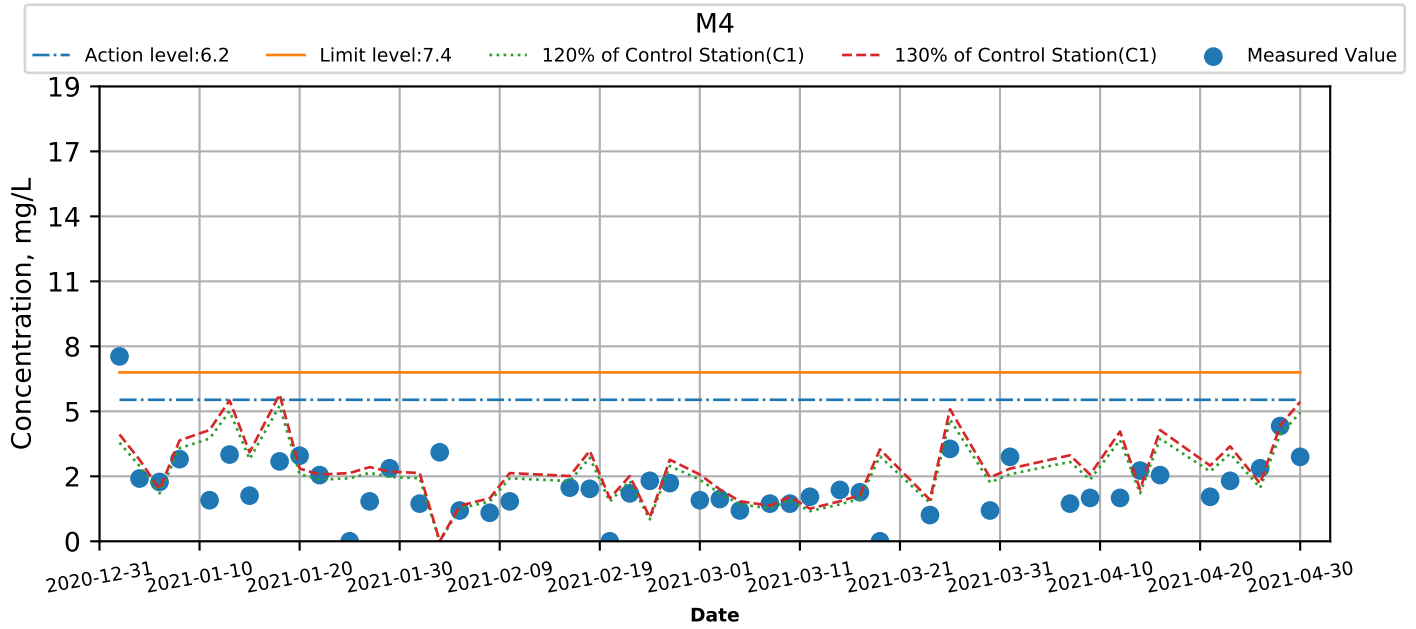
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



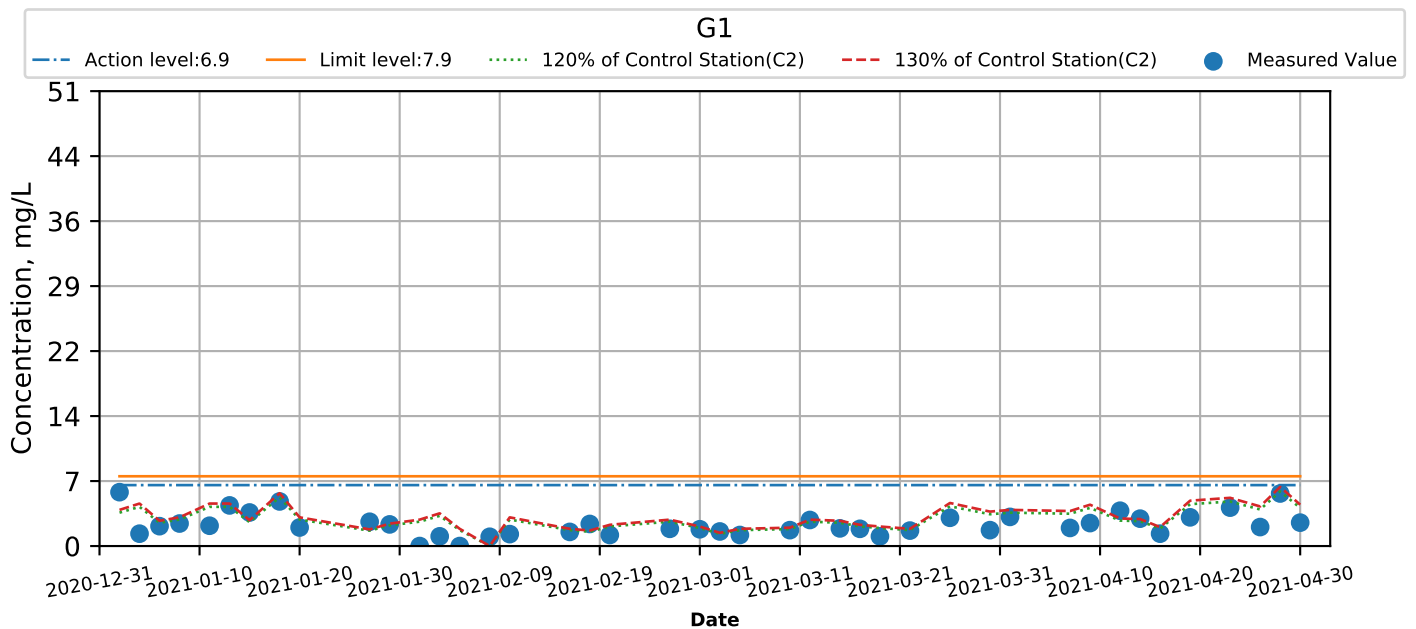
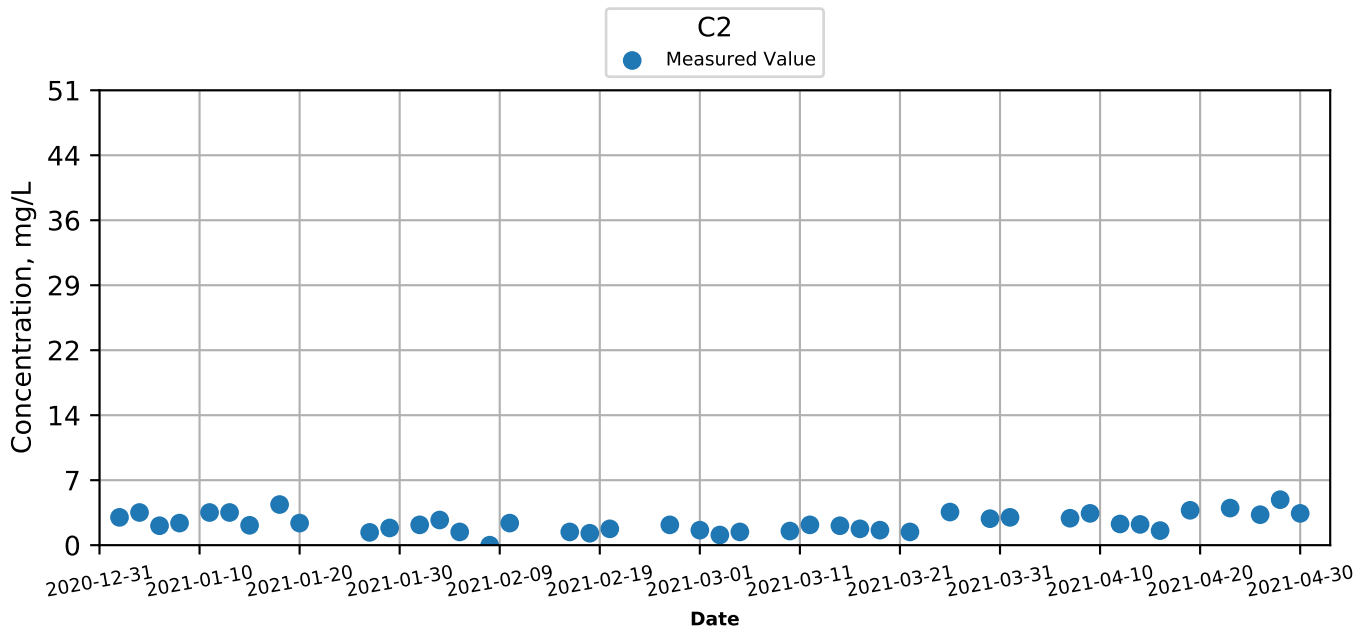
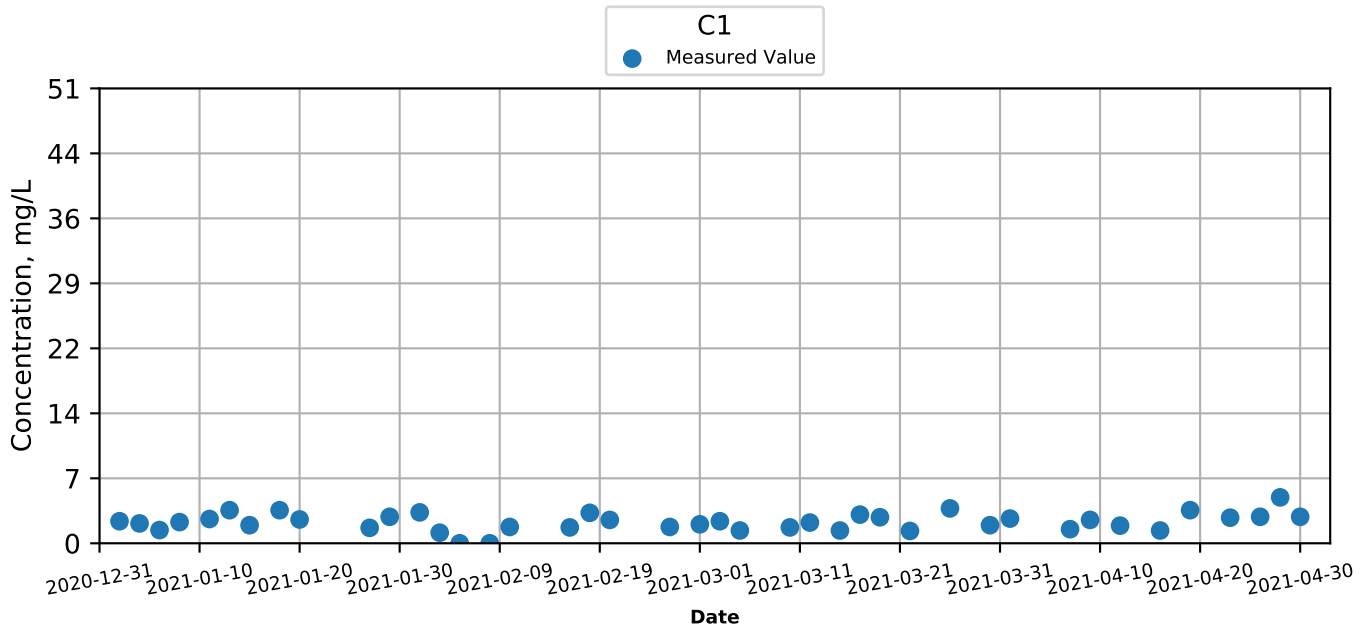
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Surface) at Monitoring Stations during Mid-Flood



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

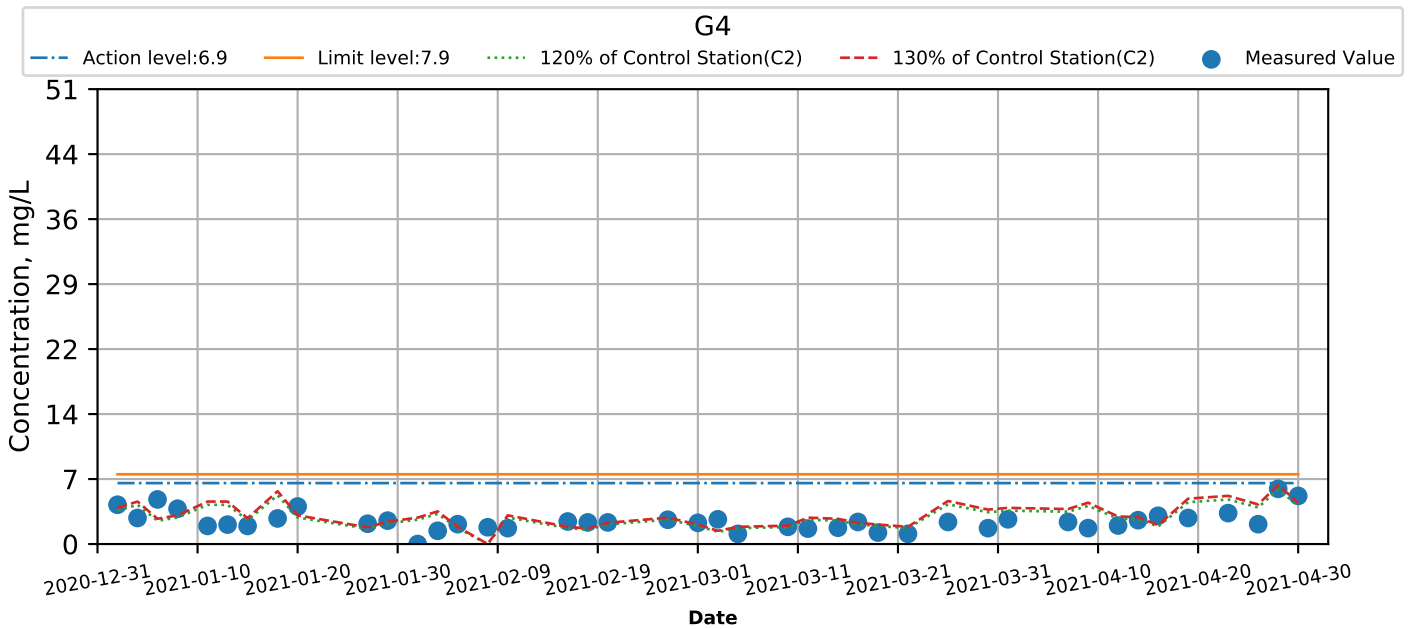
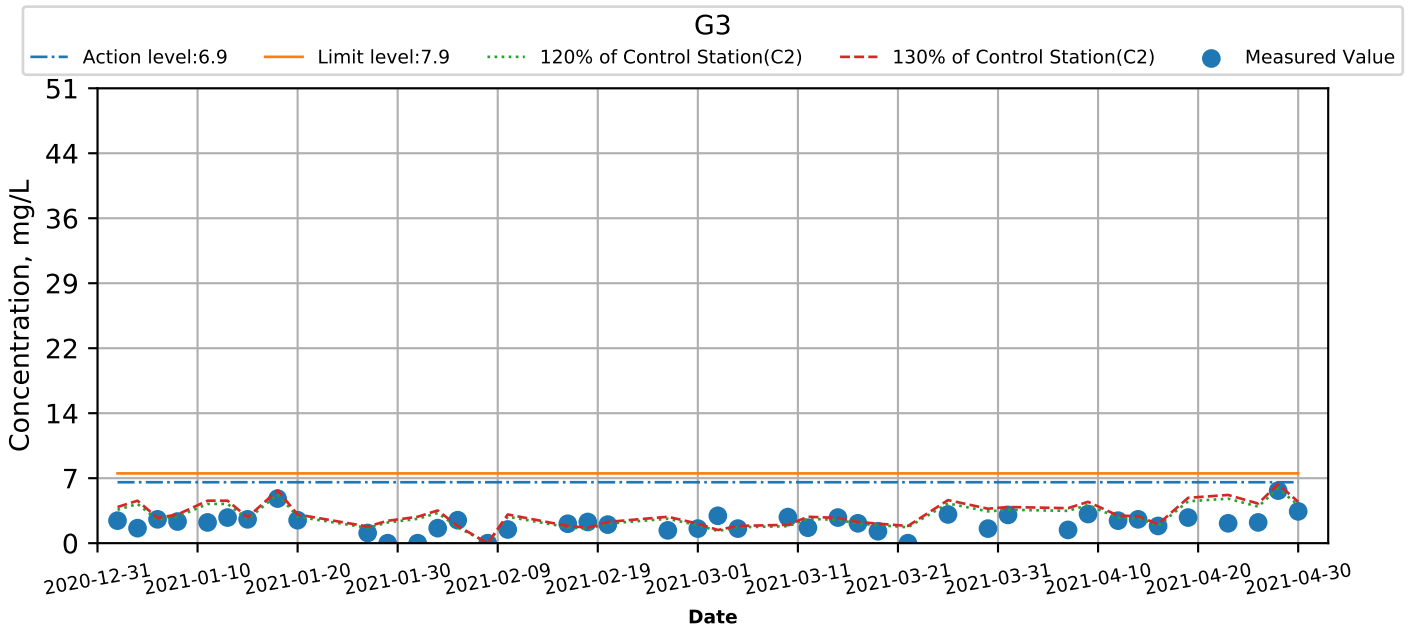
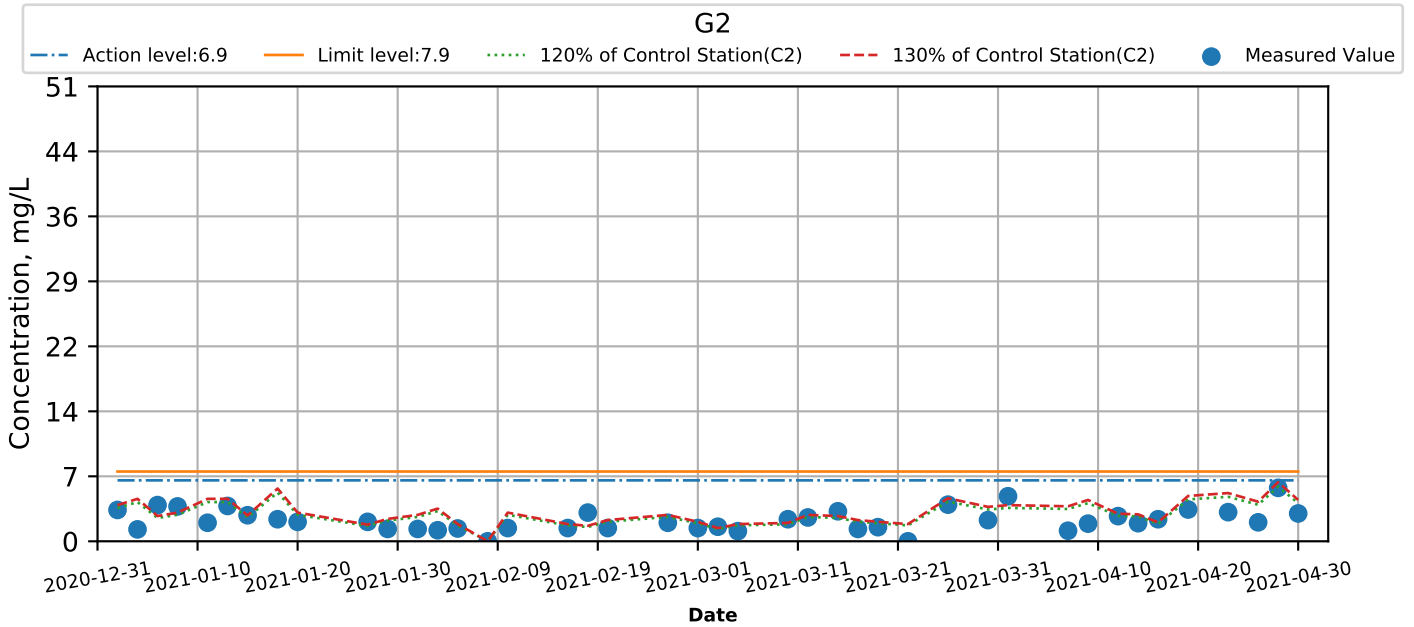
## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb





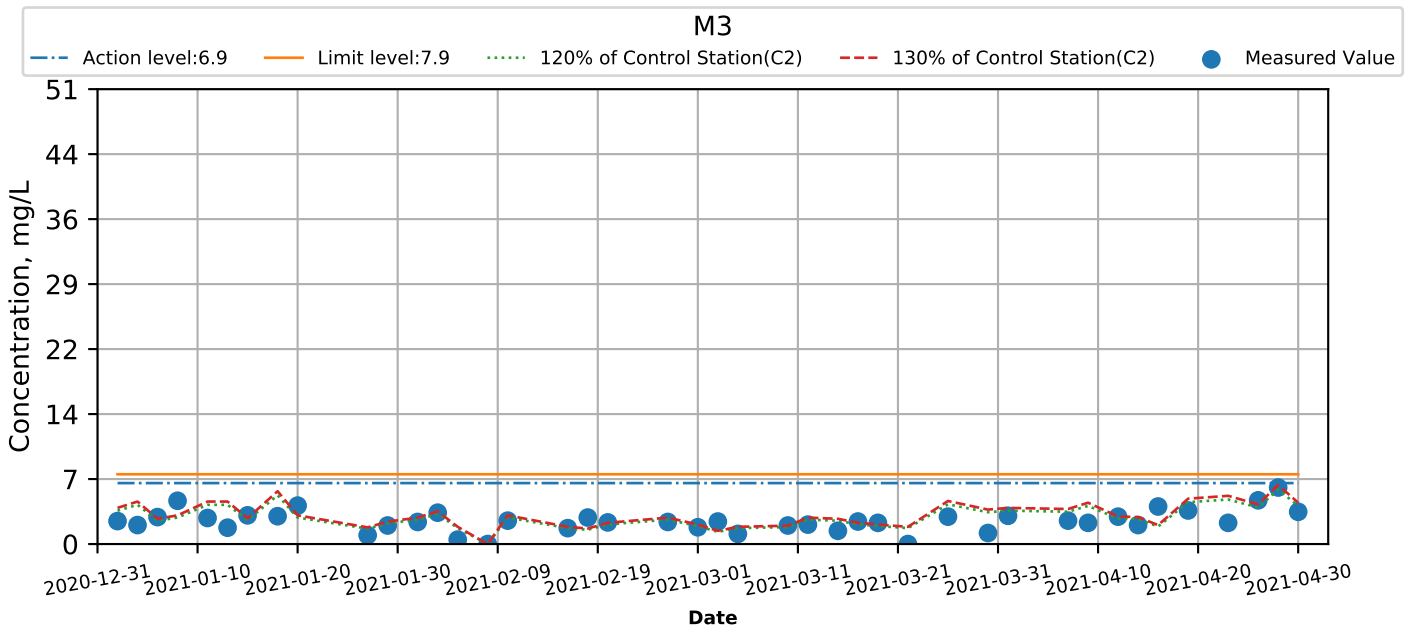
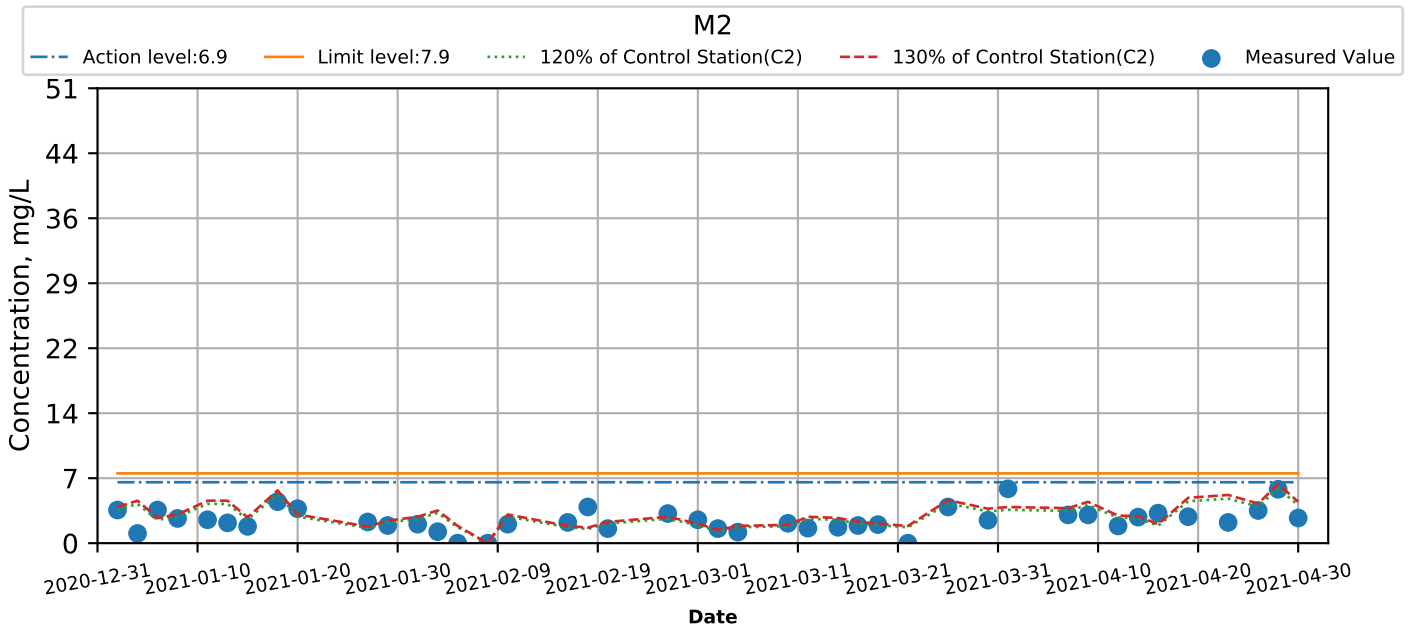
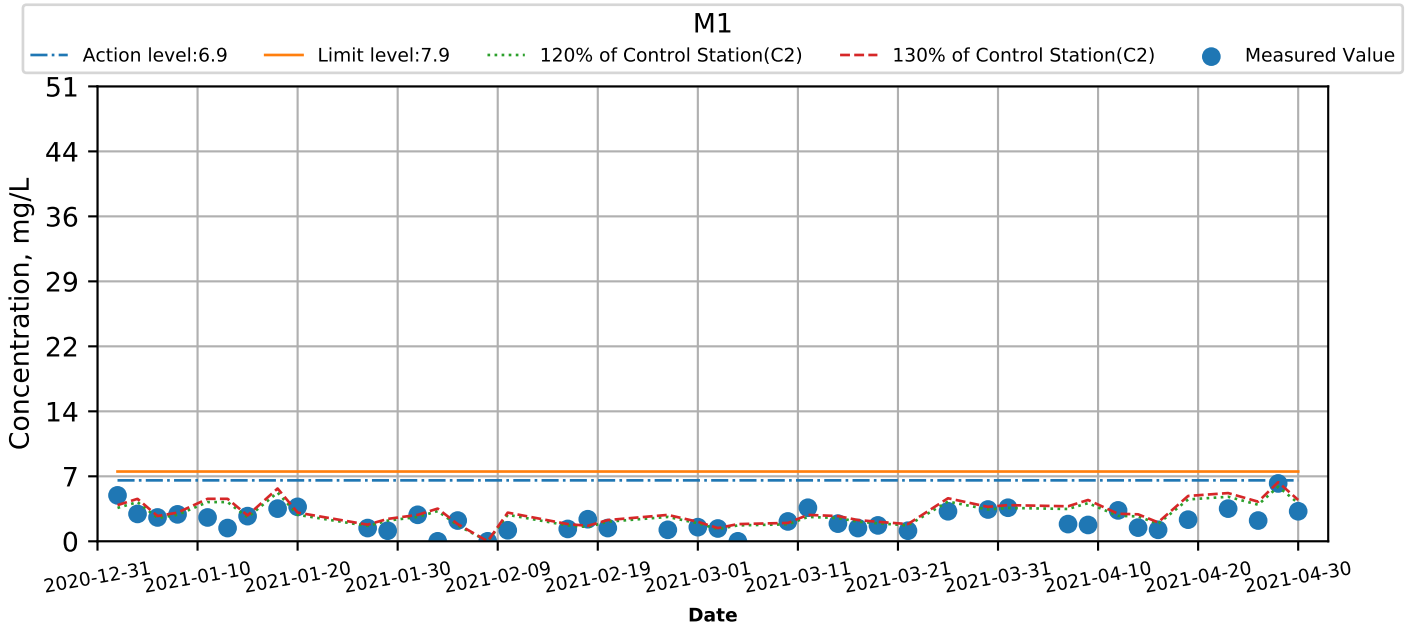
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb



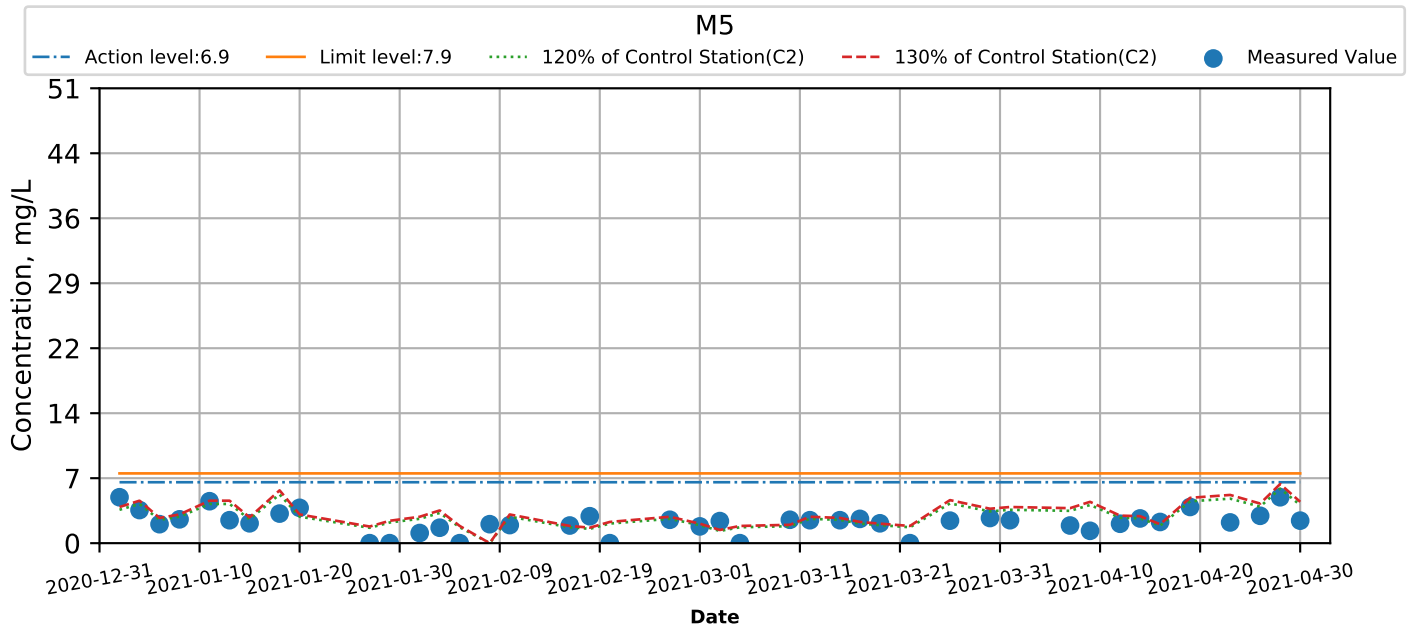
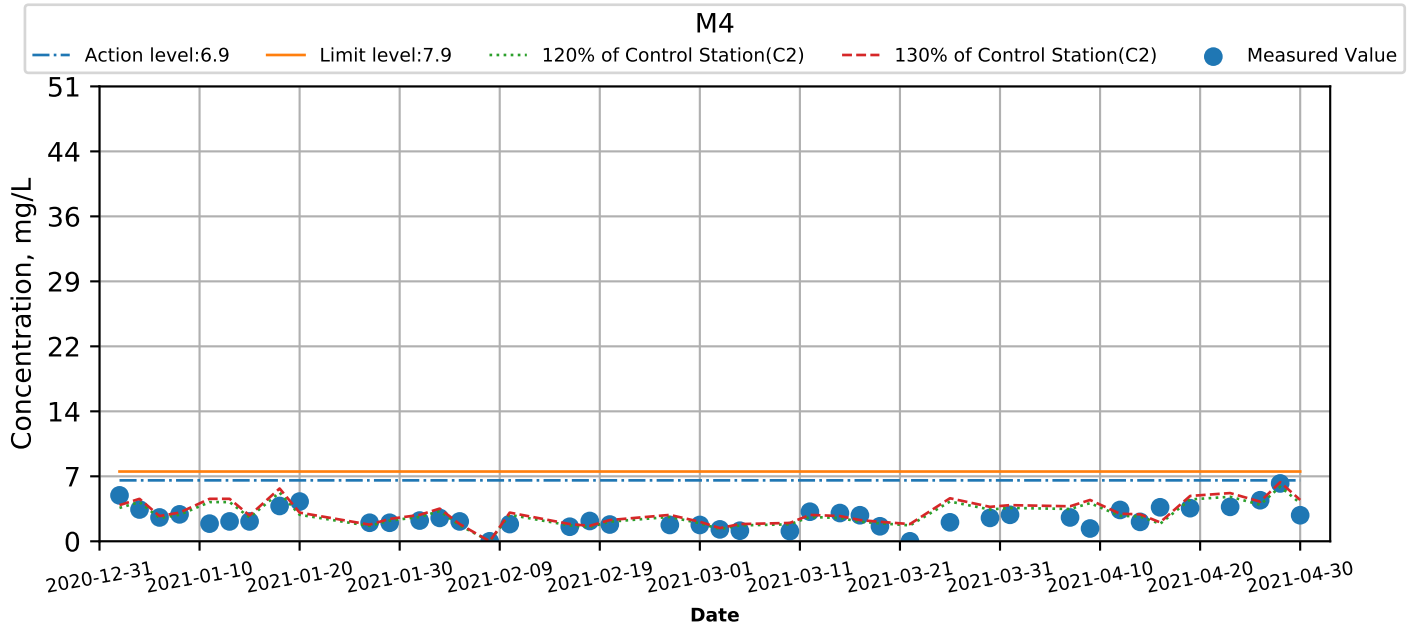
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb



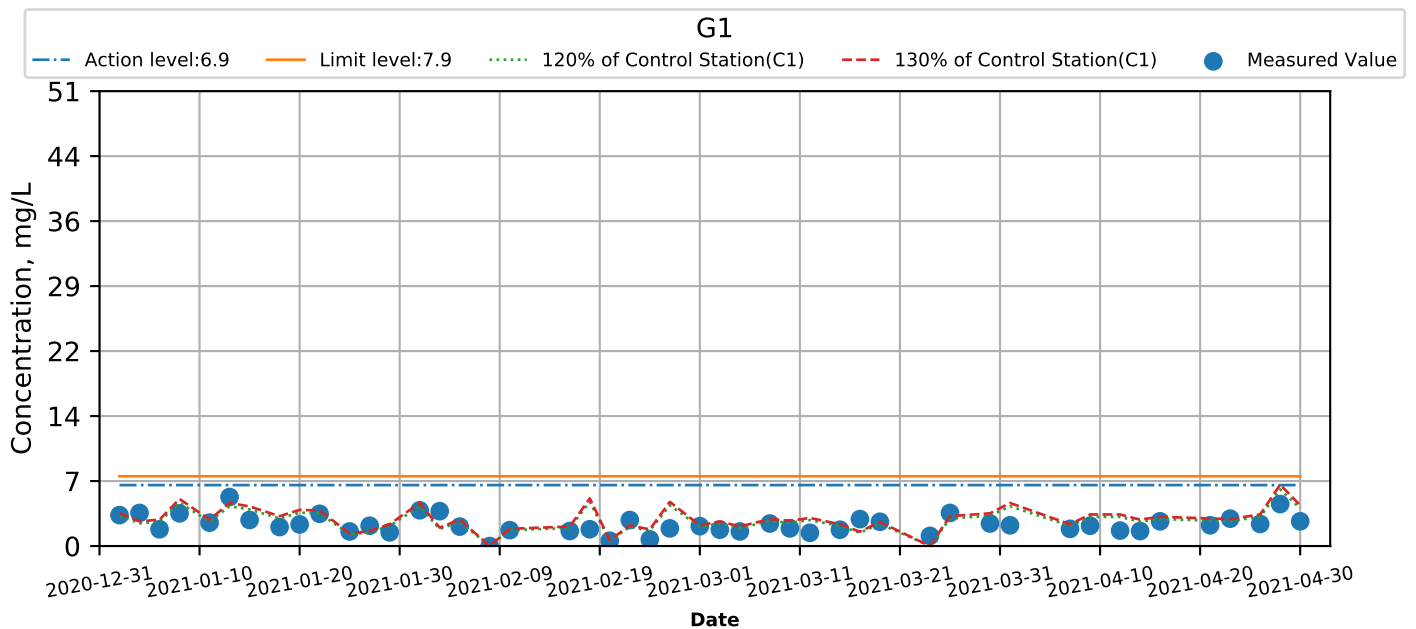
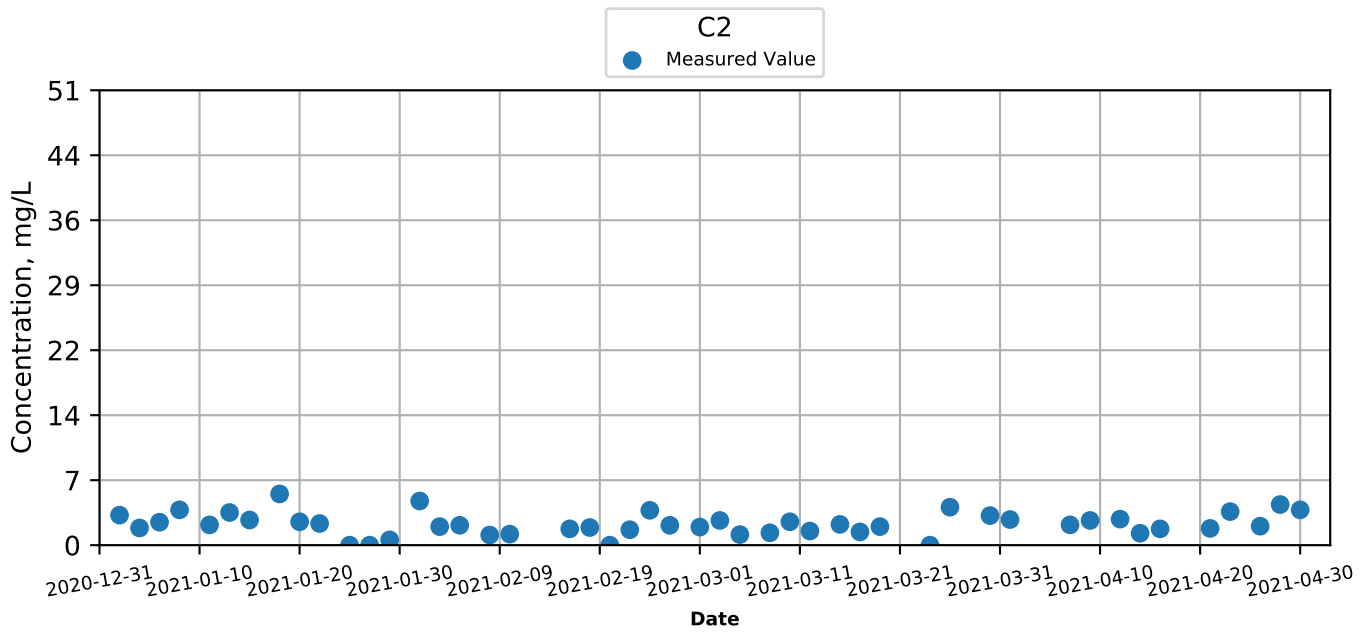
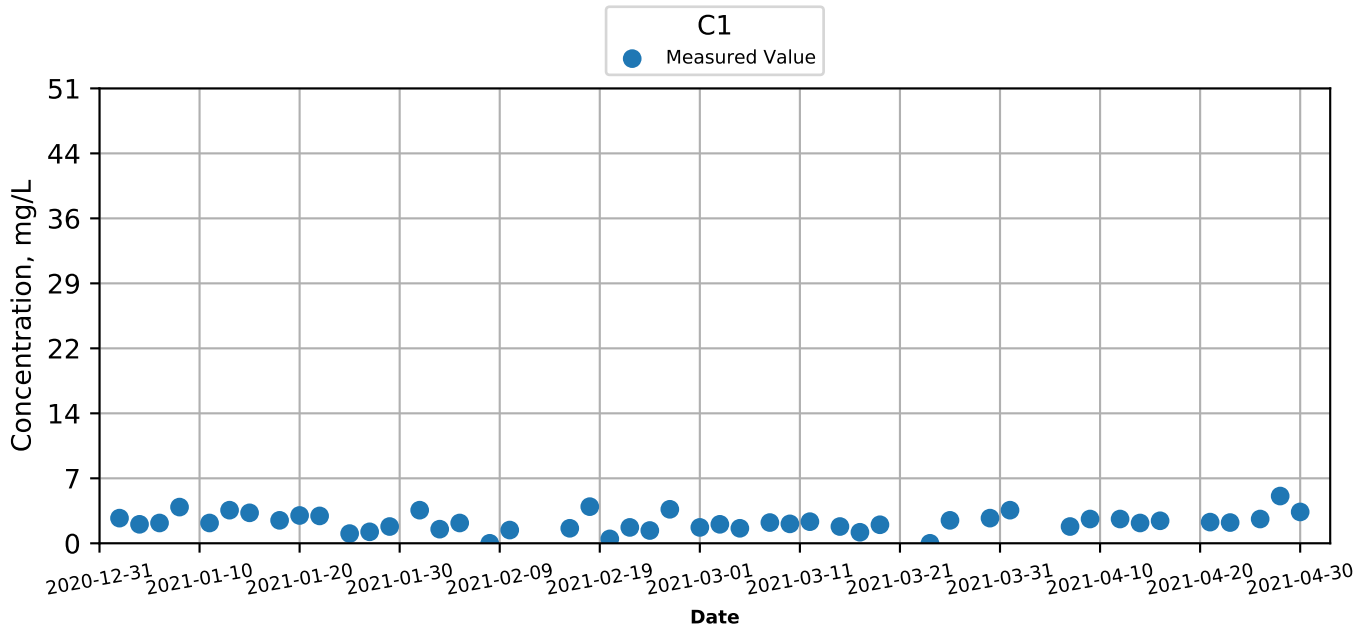
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Ebb



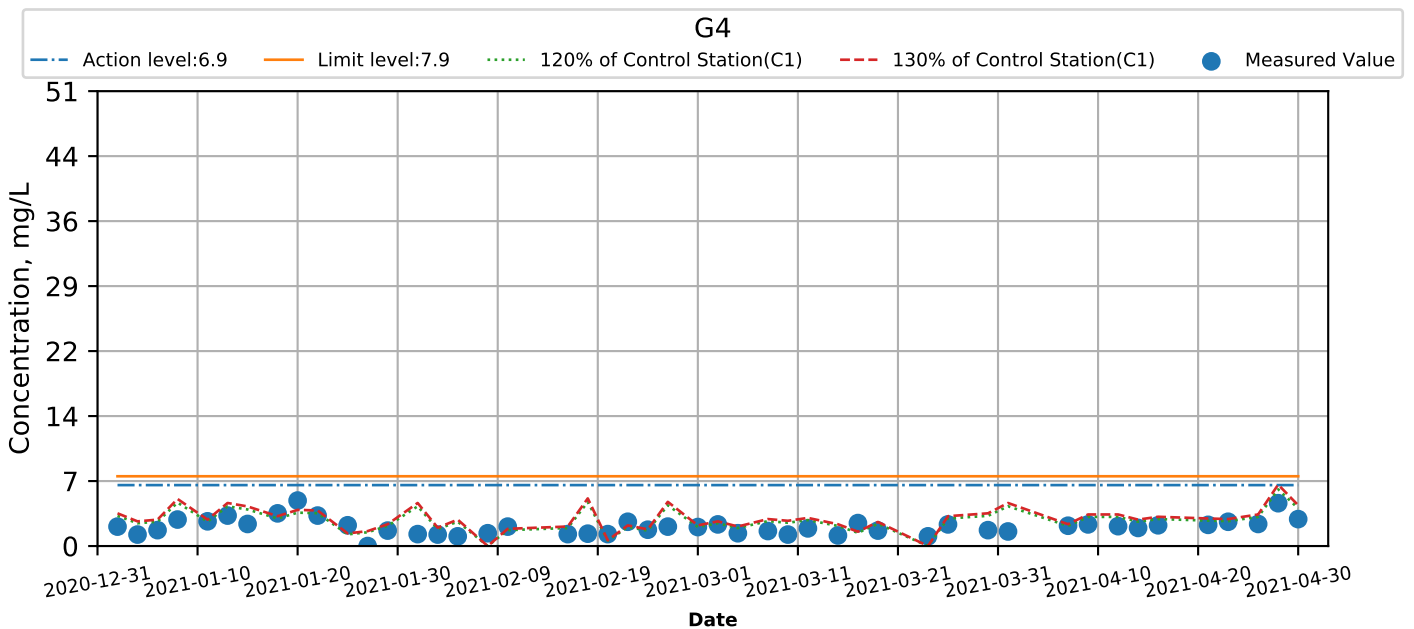
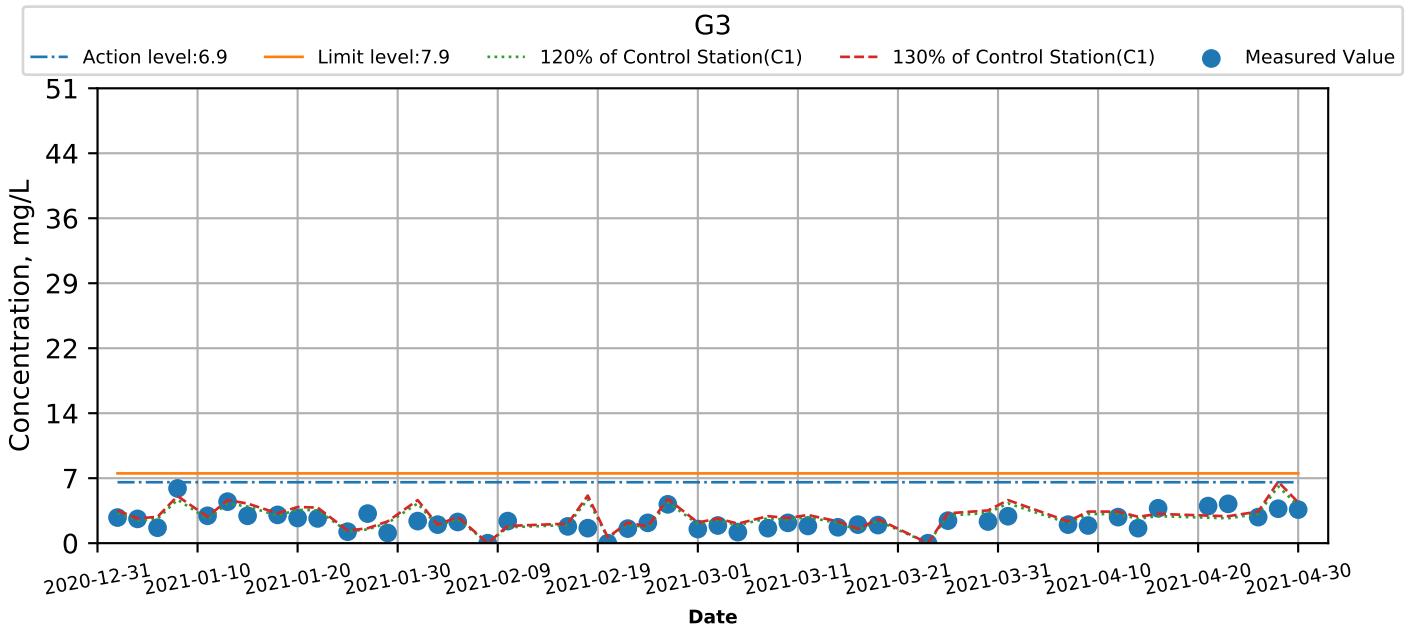
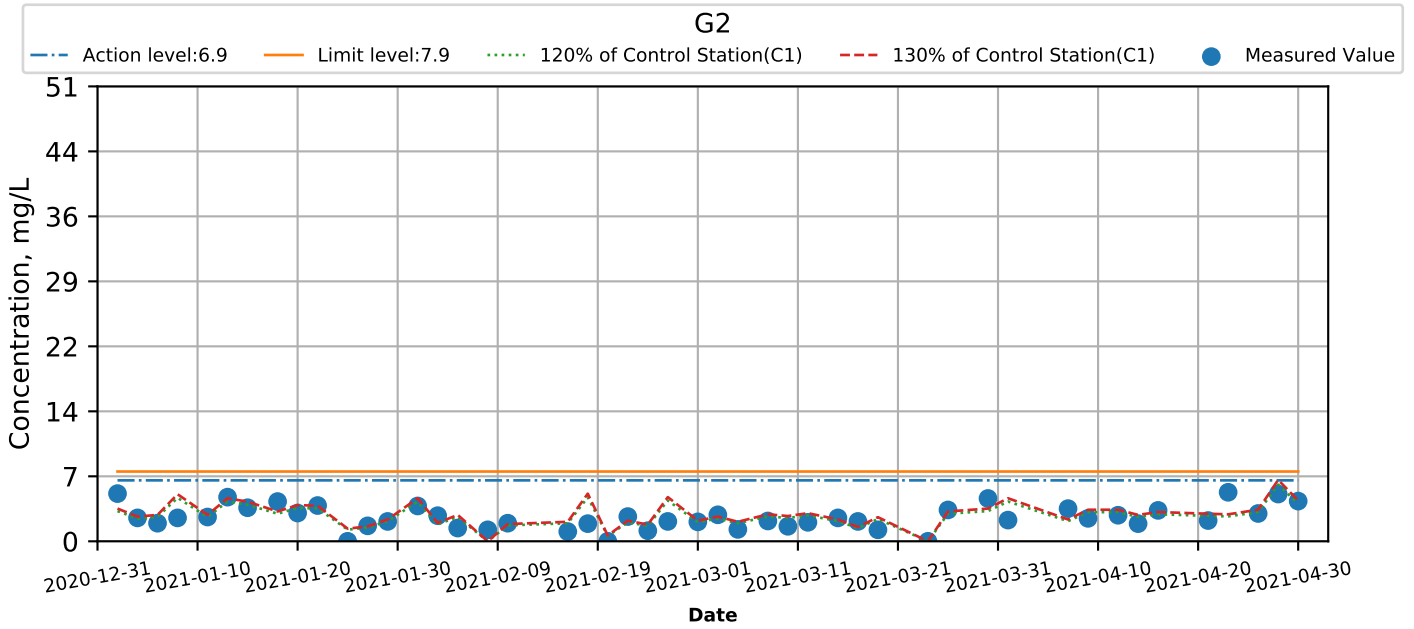
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



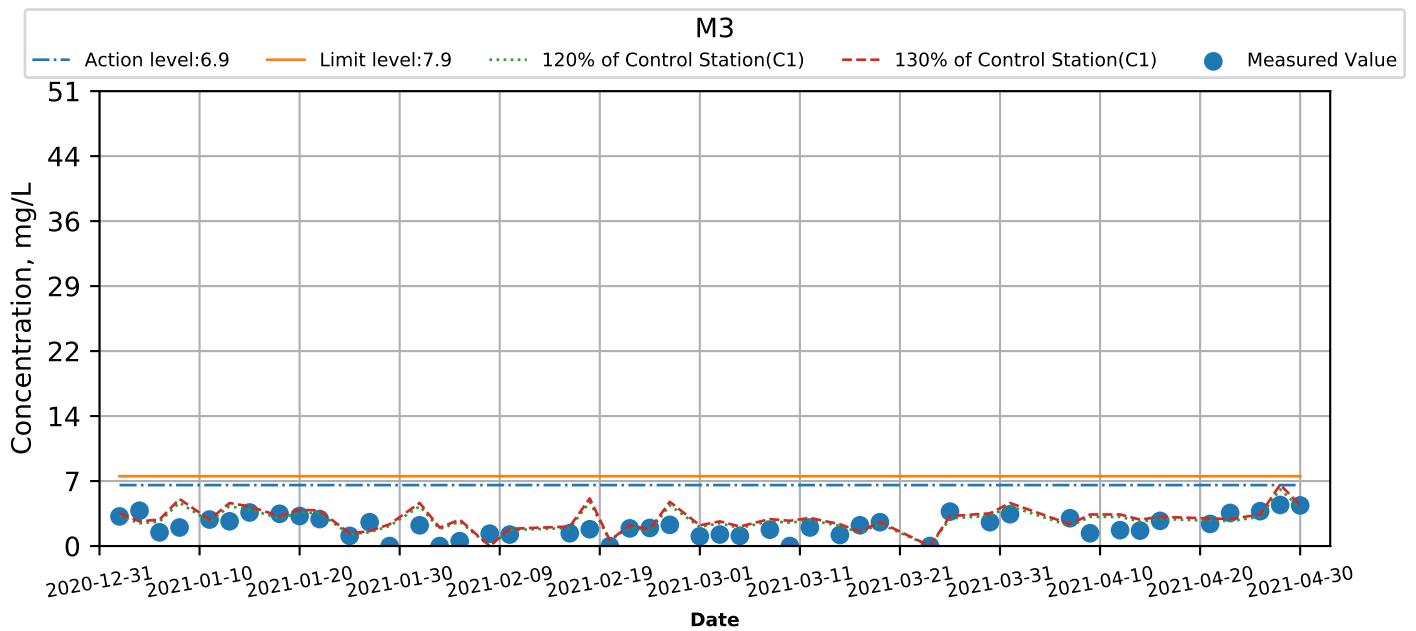
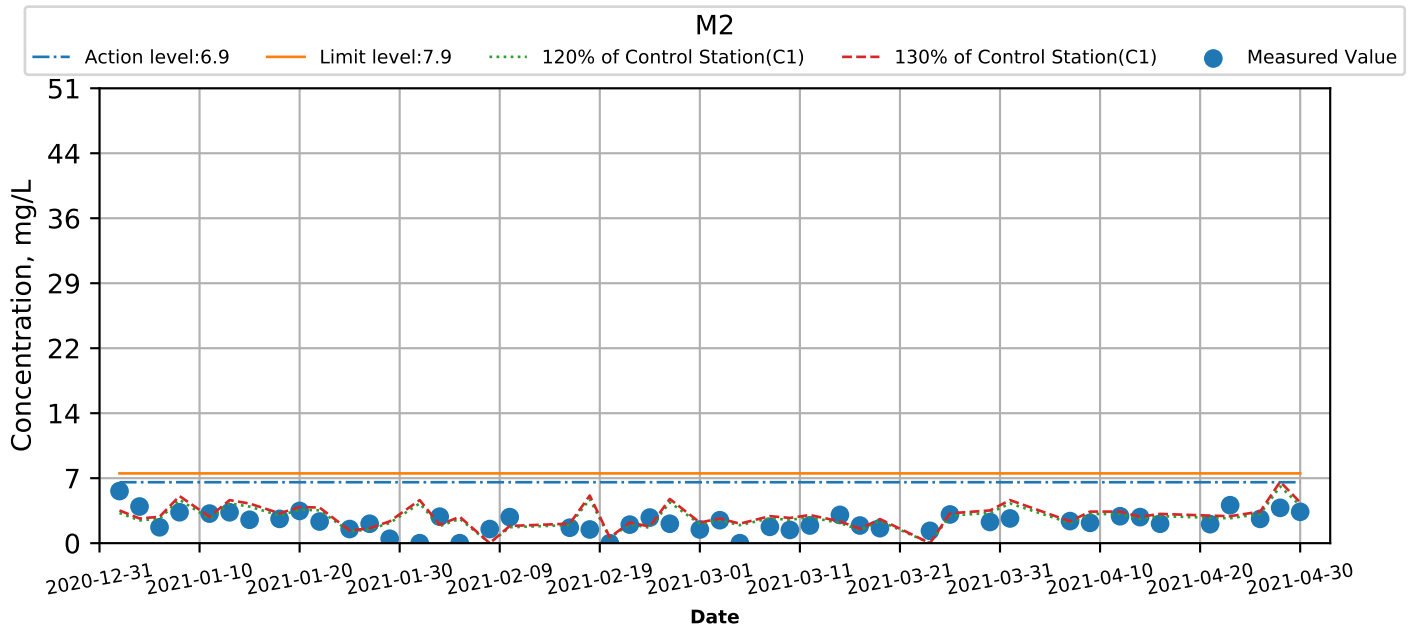
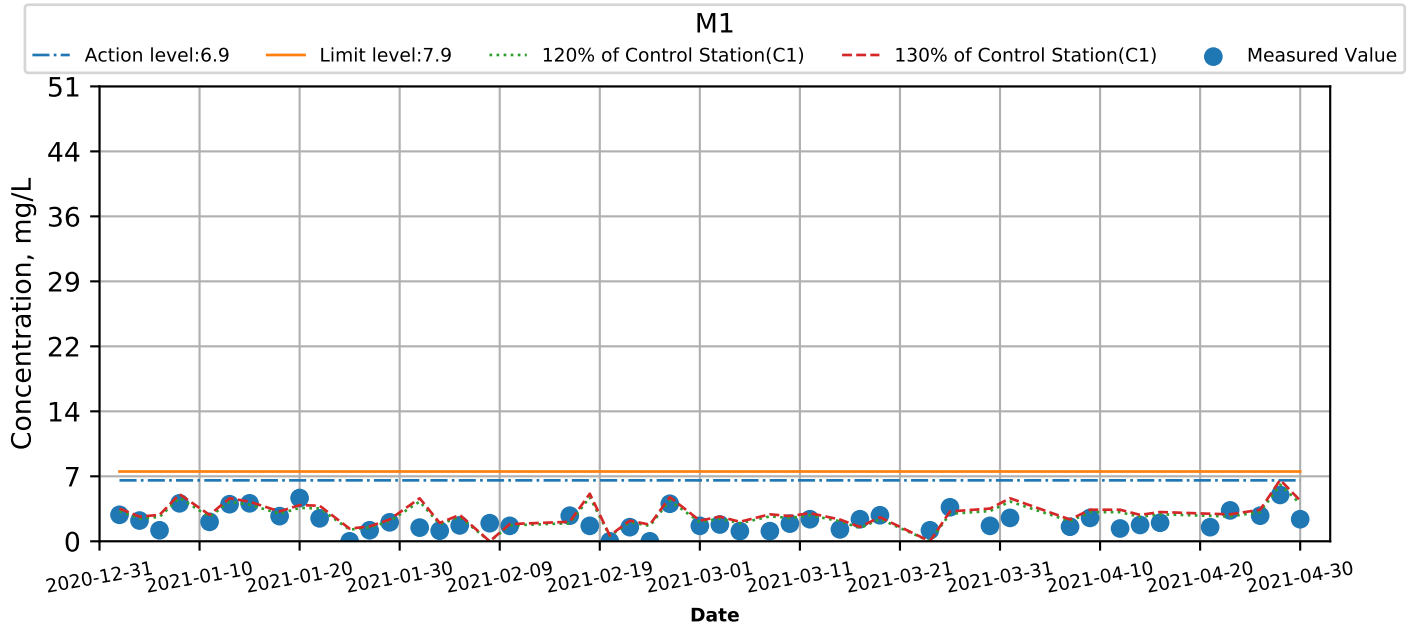
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



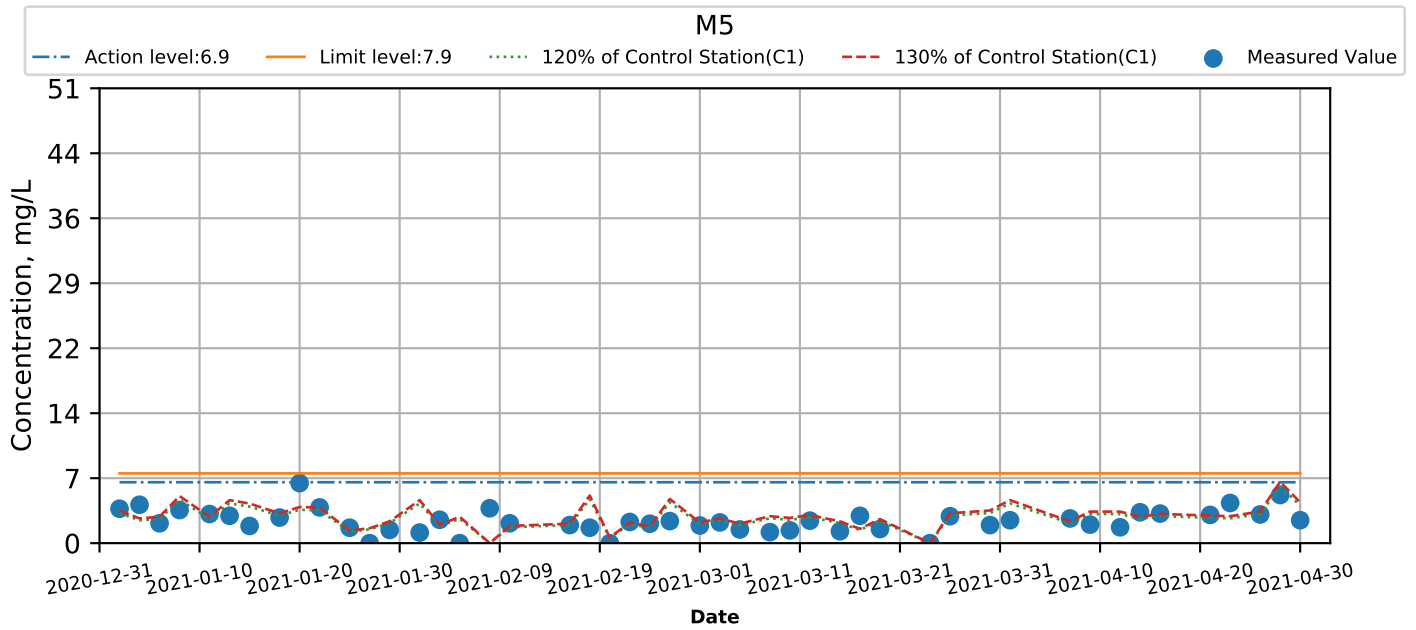
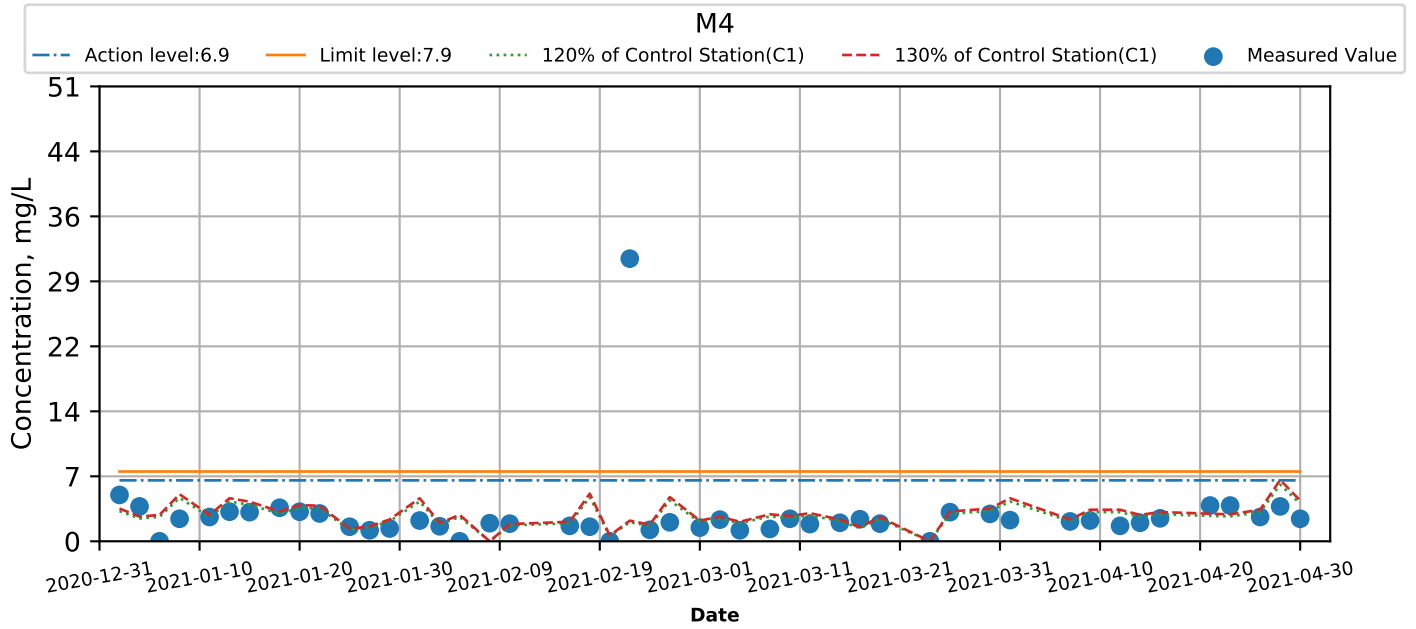
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

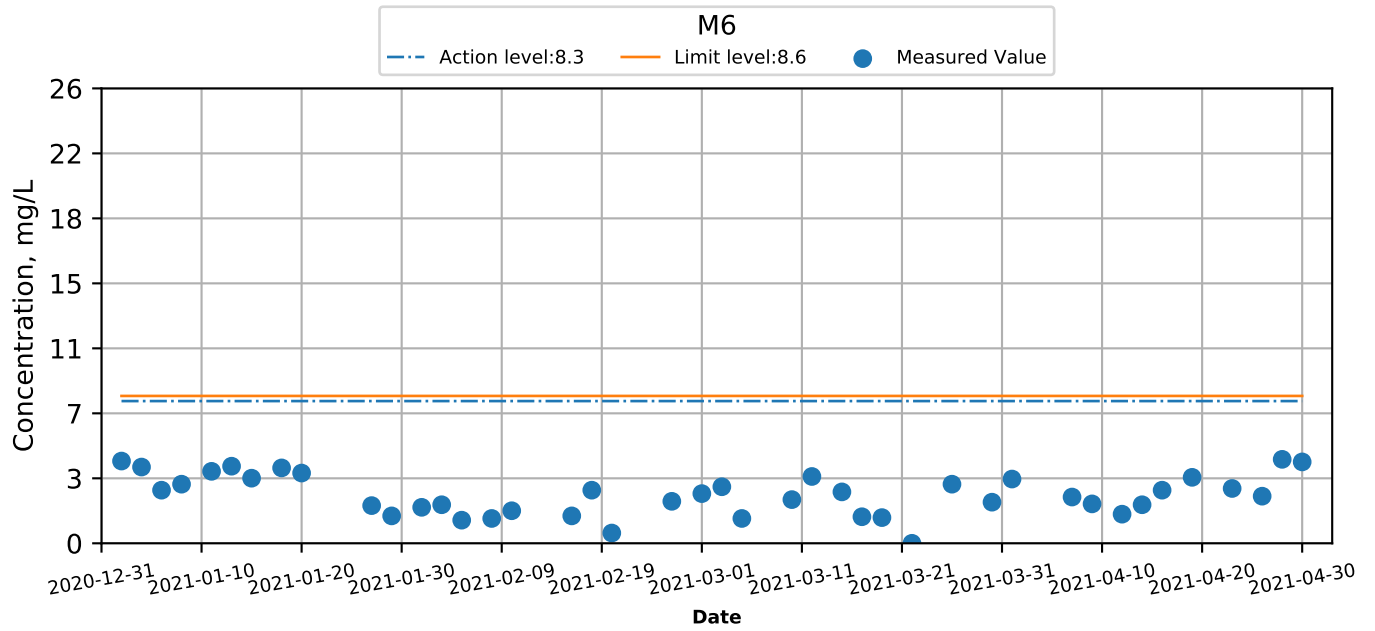
## Suspended Solids (Bottom) at Monitoring Stations during Mid-Flood





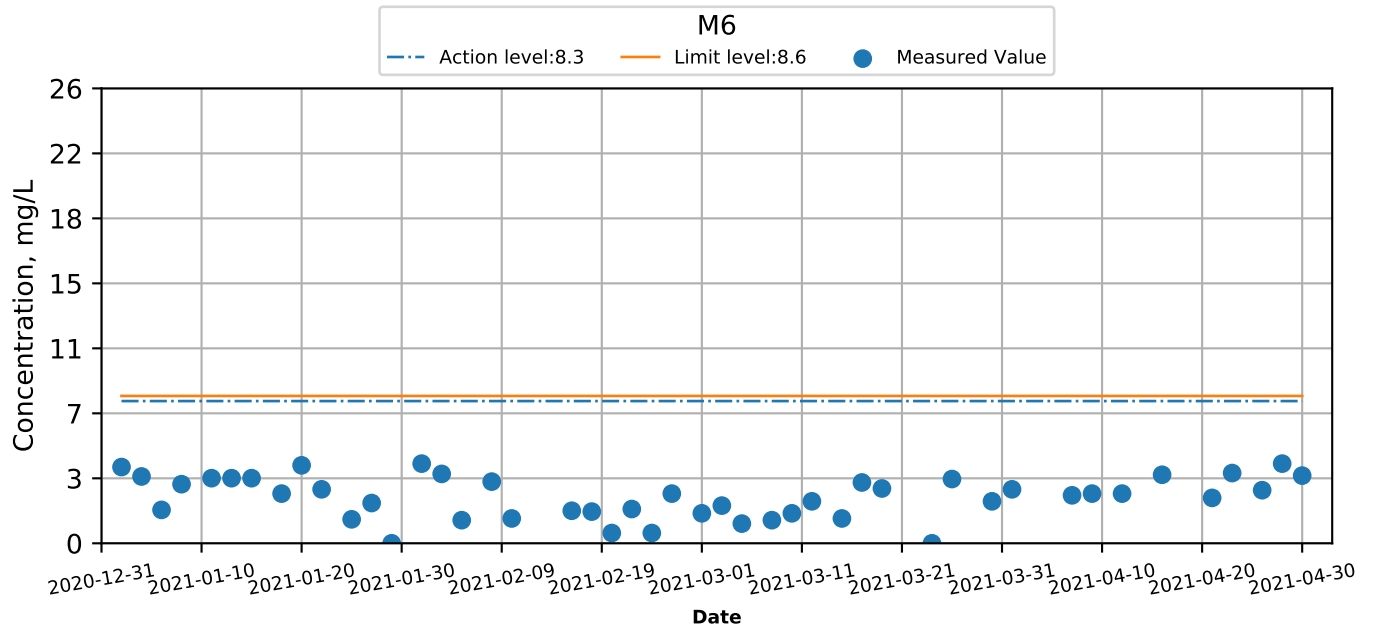
# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Intake level) at Monitoring Stations during Mid-Ebb



# Graphical Presentation of Water Quality Monitoring Results (Jan-2021 to Apr-2021)

## Suspended Solids (Intake level) at Monitoring Stations during Mid-Flood



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**APPENDIX J  
QUALITY CONTROL REPORTS FOR  
LABORATORY ANALYSIS**

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### CERTIFICATE OF ANALYSIS

<i>Client</i>	: CINOTECH CONSULTANTS LIMITED	<i>Laboratory</i>	: ALS Technichem (HK) Pty Ltd	<i>Page</i>	: 1 of 9
<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2111637</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 01-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 14-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:</i>
 Fung Lim Chee, Richard	Managing Director	Inorganics



### **General Comments**

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 01-Apr-2021 to 14-Apr-2021.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2111637 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2112296</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: <b>07-Apr-2021</b>
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: <b>16-Apr-2021</b>
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- <i>Received</i> : <b>136</b>
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- <i>Analysed</i> : <b>136</b>
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:</i>
 Fung Lim Chee, Richard	Managing Director	Inorganics



### **General Comments**

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2112296 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2112298</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 09-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 20-Apr-2021
<i>Project</i>	: TKOLTT/MA16034	<i>Quote number</i>	: HKE/2756/2020	<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008				- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:</i>
 Fung Lim Chee, Richard	Managing Director	Inorganics



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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2112298 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2112330</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 12-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 21-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:</i>
 Fung Lim Chee, Richard	Managing Director	Inorganics



### **General Comments**

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 12-Apr-2021 to 21-Apr-2021.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2112330 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Client</i>	: CINOTECH CONSULTANTS LIMITED	<i>Laboratory</i>	: ALS Technichem (HK) Pty Ltd	<i>Page</i>	: 1 of 9
<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2113043</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 14-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 23-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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 Fung Lim Chee, Richard	Managing Director	Inorganics



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### **Specific Comments for Work Order HK2113043 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2113045</b>
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<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
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<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 27-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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### **Specific Comments for Work Order HK2113045 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2113049</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 21-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 29-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 68
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 68
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2113049 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Client</i>	: CINOTECH CONSULTANTS LIMITED	<i>Laboratory</i>	: ALS Technichem (HK) Pty Ltd	<i>Page</i>	: 1 of 6
<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2114137</b>
<i>Address</i>	: RM 1710, TECHNOLOGY PARK, 18 ON LAI STREET, SHATIN, N.T. HONG KONG HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 19-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 28-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 68
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 68
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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### **Specific Comments for Work Order HK2114137 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2114139</b>
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<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 23-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 04-May-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2114139 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2114144</b>
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<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 26-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 05-May-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 136
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 136
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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### **Specific Comments for Work Order HK2114144 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2114192</b>
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<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 12-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 13-Apr-2021
<i>Project</i>	: TKOLTT/MA16034	<i>Quote number</i>	: HKE/2756/2020	<i>No. of samples</i>	- Received : 1
<i>Order number</i>	: —				- Analysed : 1
<i>C-O-C number</i>	: —				
<i>Site</i>	: PO20008				

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### **Specific Comments for Work Order HK2114192 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2115292</b>
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<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: TKOLTT/MA16034			<i>Date received</i>	: 28-Apr-2021
<i>Order number</i>	: PO20008	<i>Quote number</i>	: HKE/2756/2020	<i>Date of issue</i>	: 07-May-2021
<i>C-O-C number</i>	: —			<i>No. of samples</i>	- Received : 136
<i>Site</i>	:				- Analysed : 136

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2115292 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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<i>Contact</i>	: CCL	<i>Contact</i>	: Richard Fung	<i>Work Order</i>	: <b>HK2116589</b>
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<i>E-mail</i>	: data@cinotech.com.hk	<i>E-mail</i>	: richard.fung@alsglobal.com		
<i>Telephone</i>	: ----	<i>Telephone</i>	: +852 2610 1044	<i>Date received</i>	: 26-Apr-2021
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021	<i>Date of issue</i>	: 28-Apr-2021
<i>Project</i>	: TKOLTT/MA16034			<i>No. of samples</i>	- Received : 6
<i>Order number</i>	: P020008	<i>Quote number</i>	: HKE/2756/2020		- Analysed : 6
<i>C-O-C number</i>	: —				
<i>Site</i>	:				

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 Fung Lim Chee, Richard	Managing Director	Inorganics





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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

### **Specific Comments for Work Order HK2116589 :**

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

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**APPENDIX K  
SUMMARY OF EXCEEDANCE**

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**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 2021**

**(A) Exceedance Report for Air Quality**  
(NIL in the reporting month)

**(B) Exceedance Report for Construction Noise**

**Action Level for Construction Noise**

Ten (10) Action Level exceedances were recorded due to the documented complaints received in this reporting month.

**Limit Level for Construction Noise**

No exceedance for daytime and evening-time construction noise monitoring was recorded in the reporting month.

Two (2) limit level exceedances for nighttime construction noise monitoring was recorded in the reporting month.

**Exceedance recorded during daytime**  
(NIL in the reporting month)

**Exceedance recorded during night-time**  
(NIL in the reporting month)

**(C) Exceedance Report for Water Quality**

Thirty-seven (37) Action Level and one-hundred-and-thirty-eight (138) Limit Level exceedances were recorded in Monitoring Stations (M) during 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)

- **Notification of Exceedance**

Date of Water Quality Monitoring:

**01 April 2021**

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	3.2	G2	8:22	6.9	7.9	3.8	4.1	<b><u>5.1</u></b>
Mid-Ebb	C2	bottom	3.2	M2	8:13	6.9	7.9	3.8	4.1	<b><u>6.2</u></b>
Mid-Flood	C1	surface	2.5	G1	15:08	6.0	6.9	2.9	3.2	<b><u>4.2</u></b>
Mid-Flood	C1	surface	2.5	G2	14:49	6.0	6.9	2.9	3.2	<b>3.2</b>
Mid-Flood	C1	bottom	3.8	G2	8:22	6.9	7.9	4.5	4.9	<b><u>5.1</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**01 April 2021**

**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	1.0	G1	8:43	1.2	1.3	<b><u>1.8</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G2	8:22	1.2	1.3	<b><u>1.5</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G4	9:13	1.2	1.3	<b><u>2.4</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M5	9:30	1.2	1.3	<b><u>2.7</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.8	G1	15:08	1.0	1.1	<b><u>1.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.8	G2	14:49	1.0	1.1	<b><u>1.5</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.8	G4	15:28	1.0	1.1	<b><u>2.7</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.8	M5	15:59	1.0	1.1	<b><u>2.8</u></b>
Intake	N/A	N/A	Mid-flood	C1	0.8	M6	15:42	1.0	1.1	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**07 April 2021**

**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	1.3	G2	9:40	6.0	6.9	1.5	1.6	<b><u>2.0</u></b>
Mid-Ebb	C2	surface	1.3	G3	9:56	6.0	6.9	1.5	1.6	<b><u>2.1</u></b>
Mid-Ebb	C2	surface	1.3	M1	9:47	6.2	7.4	1.5	1.6	<b><u>2.8</u></b>
Mid-Flood	C1	surface	2.9	G4	15:20	6.0	6.9	3.5	3.8	<b><u>3.9</u></b>
Mid-Flood	C1	bottom	1.9	M2	15:00	6.9	7.9	2.3	2.5	<b>2.5</b>
Mid-Flood	C1	bottom	1.9	M3	15:16	6.9	7.9	2.3	2.5	<b><u>3.2</u></b>
Mid-Flood	C1	bottom	1.9	M4	9:28	6.9	7.9	2.3	2.5	<b><u>2.7</u></b>
Mid-Flood	C1	bottom	1.9	M5	15:30	6.9	7.9	2.3	2.5	<b><u>2.8</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** **07 April 2021**

**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	1.2	M1	15:08	1.4	1.5	<b><u>1.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.2	M3	15:16	1.4	1.5	<b><u>1.8</u></b>
Intake	N/A	N/A	Mid-flood	C1	1.2	M6	15:23	1.4	1.5	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic***)



**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**09 April 2021**

**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	1.0	G1	11:37	1.2	1.3	<b><u>1.9</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G3	11:45	1.2	1.3	<b><u>2.1</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G4	12:00	1.2	1.3	<b><u>1.7</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M3	11:54	1.2	1.3	<b><u>2.1</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	G1	15:56	1.3	1.4	<b><u>1.8</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	G3	16:04	1.3	1.4	<b><u>2.0</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	G4	16:16	1.3	1.4	<b><u>1.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	M3	16:10	1.3	1.4	<b><u>2.3</u></b>
Intake	N/A	N/A	Mid-flood	C1	1.1	M6	16:30	1.3	1.4	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 12 April 2021

**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	2.8	M4	12:18	6.2	7.4	3.3	3.6	<b>3.5</b>
Mid-Ebb	C2	bottom	2.4	G1	12:37	6.9	7.9	2.9	3.1	<b><u>4.0</u></b>
Mid-Ebb	C2	bottom	2.4	M1	12:30	6.9	7.9	2.9	3.1	<b><u>3.5</u></b>
Mid-Ebb	C2	bottom	2.4	M3	12:41	6.9	7.9	2.9	3.1	<b>3.1</b>
Mid-Ebb	C2	bottom	2.4	M4	12:18	6.9	7.9	2.9	3.1	<b><u>3.6</u></b>
Mid-Flood	C1	bottom	2.8	M4	12:18	6.9	7.9	3.3	3.6	<b>3.6</b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**12 April 2021**

**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	M1	12:30	1.3	1.5	<b>1.4</b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M2	12:20	1.3	1.5	<b>1.4</b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.1	M5	12:48	1.3	1.5	<b><u>2.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.7	G1	18:02	2.0	2.2	<b><u>2.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.7	G3	18:07	2.0	2.2	<b><u>2.4</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.7	G4	18:15	2.0	2.2	<b>2.2</b>
Bottom	19.3	22.2	Mid-flood	C1	1.7	M3	18:11	2.0	2.2	<b><u>2.3</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.7	M4	17:40	2.0	2.2	<b><u>4.9</u></b>
Intake	N/A	N/A	Mid-flood	C1	1.7	M6	18:20	2.0	2.2	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 14 April 2021

**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	2.6	G2	13:01	6.0	6.9	3.1	3.3	<b><u>3.5</u></b>
Mid-Ebb	C2	bottom	2.4	G1	13:18	6.9	7.9	2.8	3.1	<b>3.1</b>
Mid-Ebb	C2	bottom	2.4	M2	12:53	6.9	7.9	2.8	3.1	<b>3.0</b>
Mid-Flood	C1	surface	1.8	G1	9:38	6.0	6.9	2.1	2.3	<b><u>2.4</u></b>
Mid-Flood	C1	surface	1.8	G3	9:46	6.0	6.9	2.1	2.3	<b>2.3</b>
Mid-Flood	C1	surface	1.8	M1	9:28	6.2	7.4	2.1	2.3	<b><u>2.5</u></b>
Mid-Flood	C1	surface	1.8	M3	9:54	6.2	7.4	2.1	2.3	<b><u>2.7</u></b>
Mid-Flood	C1	surface	1.8	M4	12:48	6.2	7.4	2.1	2.3	<b><u>2.8</u></b>
Mid-Flood	C1	bottom	2.3	M2	9:14	6.9	7.9	2.8	3.0	<b>3.0</b>
Mid-Flood	C1	bottom	2.3	M5	10:21	6.9	7.9	2.8	3.0	<b><u>3.5</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** **14 April 2021**

**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	2.0	G4	10:00	2.5	2.7	<b><u>3.2</u></b>
Bottom	19.3	22.2	Mid-flood	C1	2.0	M3	9:54	2.5	2.7	<b><u>2.8</u></b>
Intake	N/A	N/A	Mid-flood	C1	2.0	M6	10:09	2.5	2.7	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (***Italic***)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (***Italic***)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**16 April 2021**

**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	3.0	G4	14:06	6.0	6.9	3.6	3.9	<b><u>4.2</u></b>
Mid-Ebb	C2	bottom	1.7	G2	13:43	6.9	7.9	2.0	2.1	<b><u>2.5</u></b>
Mid-Ebb	C2	bottom	1.7	G4	14:06	6.9	7.9	2.0	2.1	<b><u>3.2</u></b>
Mid-Ebb	C2	bottom	1.7	M2	13:40	6.9	7.9	2.0	2.1	<b><u>3.4</u></b>
Mid-Ebb	C2	bottom	1.7	M3	14:02	6.9	7.9	2.0	2.1	<b><u>4.3</u></b>
Mid-Ebb	C2	bottom	1.7	M4	13:32	6.9	7.9	2.0	2.1	<b><u>3.9</u></b>
Mid-Ebb	C2	bottom	1.7	M5	14:21	6.9	7.9	2.0	2.1	<b><u>2.4</u></b>
Mid-Flood	C1	bottom	2.6	G3	7:33	6.9	7.9	3.1	3.3	<b><u>4.0</u></b>
Mid-Flood	C1	bottom	2.6	M4	13:32	6.9	7.9	3.1	3.3	<b><u>3.9</u></b>
Mid-Flood	C1	bottom	2.6	M5	7:57	6.9	7.9	3.1	3.3	<b><u>3.4</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 16 April 2021

**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	2.4	G4	14:06	2.9	3.1	<b><u>3.6</u></b>
Bottom	19.3	22.2	Mid-flood	C1	2.4	G4	7:42	2.8	3.1	<b>2.9</b>
Bottom	19.3	22.2	Mid-flood	C1	2.4	M3	7:37	2.8	3.1	<b><u>3.3</u></b>
Bottom	19.3	22.2	Mid-flood	C1	2.4	M5	7:57	2.8	3.1	<b>2.9</b>
Intake	N/A	N/A	Mid-flood	C1	2.4	M6	7:48	2.8	3.1	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**Bold with underline** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)



**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 19 April 2021

**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	2.7	G2	15:48	6.0	6.9	3.2	3.4	<b><u>4.8</u></b>
Mid-Ebb	C2	surface	2.7	G3	16:15	6.0	6.9	3.2	3.4	<b>3.4</b>
Mid-Ebb	C2	surface	2.7	G4	16:33	6.0	6.9	3.2	3.4	<b><u>3.7</u></b>
Mid-Ebb	C2	surface	2.7	M1	15:56	6.2	7.4	3.2	3.4	<b>3.3</b>
Mid-Ebb	C2	surface	2.7	M3	16:25	6.2	7.4	3.2	3.4	<b>3.3</b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 21 April 2021

**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	2.8	G4	8:21	6.0	6.9	3.3	3.6	<b>3.6</b>
Mid-Ebb	C2	bottom	1.9	G1	8:09	6.9	7.9	2.3	2.5	<b>2.4</b>
Mid-Ebb	C2	bottom	1.9	G2	7:59	6.9	7.9	2.3	2.5	<b>2.4</b>
Mid-Ebb	C2	bottom	1.9	G3	8:12	6.9	7.9	2.3	2.5	<b><u>4.2</u></b>
Mid-Ebb	C2	bottom	1.9	G4	8:21	6.9	7.9	2.3	2.5	<b>2.4</b>
Mid-Ebb	C2	bottom	1.9	M3	8:16	6.9	7.9	2.3	2.5	<b>2.5</b>
Mid-Ebb	C2	bottom	1.9	M4	7:50	6.9	7.9	2.3	2.5	<b><u>4.1</u></b>
Mid-Ebb	C2	bottom	1.9	M5	8:44	6.9	7.9	2.3	2.5	<b><u>3.2</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**23 April 2021**

**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	3.0	G2	10:17	6.0	6.9	3.5	3.8	<b><u>4.4</u></b>
Mid-Ebb	C2	surface	3.0	G4	11:00	6.0	6.9	3.5	3.8	<b><u>5.4</u></b>
Mid-Ebb	C2	surface	3.0	M5	11:19	8.0	6.0	3.5	3.8	<b><u>4.3</u></b>
Mid-Flood	C1	surface	3.2	G1	14:56	6.0	6.9	3.8	4.2	<b><u>4.8</u></b>
Mid-Flood	C1	surface	3.2	G2	14:28	6.0	6.9	3.8	4.2	<b><u>4.1</u></b>
Mid-Flood	C1	bottom	2.4	G1	14:56	6.9	7.9	2.8	3.1	<b><u>3.1</u></b>
Mid-Flood	C1	bottom	2.4	G2	10:17	6.9	7.9	2.8	3.1	<b><u>3.3</u></b>
Mid-Flood	C1	bottom	2.4	G3	15:03	6.9	7.9	2.8	3.1	<b><u>4.5</u></b>
Mid-Flood	C1	bottom	2.4	M1	14:44	6.9	7.9	2.8	3.1	<b><u>3.5</u></b>
Mid-Flood	C1	bottom	2.4	M2	14:22	6.9	7.9	2.8	3.1	<b><u>4.3</u></b>
Mid-Flood	C1	bottom	2.4	M3	15:10	6.9	7.9	2.8	3.1	<b><u>3.8</u></b>
Mid-Flood	C1	bottom	2.4	M4	10:04	6.9	7.9	2.8	3.1	<b><u>3.9</u></b>
Mid-Flood	C1	bottom	2.4	M5	15:39	6.9	7.9	2.8	3.1	<b><u>4.6</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 23 April 2021

**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	1.0	G1	10:37	1.2	1.3	<b><u>1.9</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G3	10:45	1.2	1.3	<b><u>2.1</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G4	11:00	1.2	1.3	<b><u>1.7</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M3	10:54	1.2	1.3	<b><u>2.1</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	G1	14:56	1.3	1.4	<b><u>1.8</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	G3	15:03	1.3	1.4	<b><u>2.0</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	G4	15:16	1.3	1.4	<b><u>1.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	1.1	M3	15:10	1.3	1.4	<b><u>2.3</u></b>
Intake	N/A	N/A	Mid-flood	C1	1.1	M6	15:30	1.3	1.4	<b><u>8.0</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

***Bold with underline*** means Limit Level exceedance of Control (**Regular**) & Baseline (*Italic*)

**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**26 April 2021**

**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	2.5	G1	11:49	6.0	6.9	3.0	3.3	<b><u>3.8</u></b>
Mid-Ebb	C2	surface	2.5	G4	12:07	6.0	6.9	3.0	3.3	<b>3.3</b>
Mid-Ebb	C2	surface	2.5	M1	11:45	6.2	7.4	3.0	3.3	<b><u>3.5</u></b>
Mid-Ebb	C2	surface	2.5	M2	11:33	6.2	7.4	3.0	3.3	<b><u>5.1</u></b>
Mid-Ebb	C2	surface	2.5	M4	11:27	6.2	7.4	3.0	3.3	<b>3.1</b>
Mid-Ebb	C2	surface	2.5	M5	12:19	8.0	6.0	3.0	3.3	<b><u>5.1</u></b>
Mid-Ebb	C2	bottom	3.5	M3	12:01	6.9	7.9	4.1	4.5	<b><u>5.0</u></b>
Mid-Ebb	C2	bottom	3.5	M4	11:27	6.9	7.9	4.1	4.5	<b><u>4.7</u></b>
Mid-Flood	C1	surface	2.0	G1	17:05	6.0	6.9	2.3	2.5	<b><u>3.2</u></b>
Mid-Flood	C1	surface	2.0	G3	17:09	6.0	6.9	2.3	2.5	<b><u>3.5</u></b>
Mid-Flood	C1	surface	2.0	G4	17:15	6.0	6.9	2.3	2.5	<b><u>3.3</u></b>
Mid-Flood	C1	surface	2.0	M1	16:59	6.2	7.4	2.3	2.5	<b><u>4.0</u></b>
Mid-Flood	C1	surface	2.0	M2	16:48	6.2	7.4	2.3	2.5	<b><u>4.1</u></b>
Mid-Flood	C1	surface	2.0	M4	11:27	6.2	7.4	2.3	2.5	<b><u>3.1</u></b>
Mid-Flood	C1	surface	2.0	M5	17:25	6.2	7.4	2.3	2.5	<b>2.4</b>
Mid-Flood	C1	bottom	2.8	M3	17:12	6.9	7.9	3.3	3.6	<b><u>4.0</u></b>
Mid-Flood	C1	bottom	2.8	M4	11:27	6.9	7.9	3.3	3.6	<b><u>4.7</u></b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

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**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**26 April 2021**

**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	0.7	M1	11:45	0.8	0.9	<b><u>1.6</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M3	12:01	0.8	0.9	<b><u>1.0</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M5	12:19	0.8	0.9	<b><u>1.4</u></b>
Intake	N/A	N/A	Mid-Ebb	C2	0.7	M6	12:15	0.8	0.9	<b><u>1.5</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.7	G3	17:09	0.8	0.9	<b><u>1.0</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.7	G4	17:15	0.8	0.9	<b><u>1.0</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.7	M2	16:48	0.8	0.9	<b><u>1.0</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.7	M3	17:12	0.8	0.9	<b><u>1.1</u></b>
Intake	N/A	N/A	Mid-flood	C1	0.7	M6	17:20	0.8	0.9	<b><u>8.0</u></b>

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**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 28 April 2021

**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	6.4	G1	13:23	6.0	6.9	7.7	8.3	<b>6.7</b>
Mid-Ebb	C2	bottom	5.2	G4	13:36	6.9	7.9	6.2	6.7	<b>6.3</b>
Mid-Ebb	C2	bottom	5.2	M1	13:17	6.9	7.9	6.2	6.7	<b>6.6</b>
Mid-Ebb	C2	bottom	5.2	M3	13:31	6.9	7.9	6.2	6.7	<b>6.4</b>
Mid-Ebb	C2	bottom	5.2	M4	12:52	6.9	7.9	6.2	6.7	<b>6.6</b>
Mid-Flood	C1	surface	3.9	M2	18:32	6.2	7.4	4.7	5.1	6.7
Mid-Flood	C1	surface	3.9	M3	19:05	6.2	7.4	4.7	5.1	<b><u>6.0</u></b>
Mid-Flood	C1	surface	3.9	M4	12:52	6.2	7.4	4.7	5.1	<b><u>5.4</u></b>
Mid-Flood	C1	surface	3.9	M5	19:22	6.2	7.4	4.7	5.1	<b>4.8</b>
Mid-Flood	C1	bottom	5.4	M4	12:52	6.9	7.9	6.4	7.0	<b>6.6</b>

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**- Notification of Exceedance**

**Date of Water Quality Monitoring:** 28 April 2021

**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	0.6	G1	13:23	0.7	0.8	<b><u>1.1</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	G2	13:04	0.7	0.8	<b><u>1.4</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	G3	13:27	0.7	0.8	<b><u>0.9</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	G4	13:36	0.7	0.8	<b><u>1.2</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	M1	13:17	0.7	0.8	<b><u>1.6</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	M2	12:58	0.7	0.8	<b><u>1.0</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	M3	13:31	0.7	0.8	<b><u>0.9</u></b>
Bottom	19.3	22.2	Mid-Ebb	C2	0.6	M5	13:48	0.7	0.8	<b><u>1.7</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	G1	18:57	0.6	0.7	<b><u>1.1</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	G2	18:38	0.6	0.7	<b><u>1.2</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	G3	19:01	0.6	0.7	<b><u>0.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	G4	19:10	0.6	0.7	<b><u>1.2</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	M1	18:51	0.6	0.7	<b><u>1.6</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	M2	18:32	0.6	0.7	<b><u>1.1</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	M3	19:05	0.6	0.7	<b><u>0.9</u></b>
Bottom	19.3	22.2	Mid-flood	C1	0.5	M5	19:22	0.6	0.7	<b><u>1.8</u></b>
Intake	N/A	N/A	Mid-flood	C1	0.5	M6	19:16	0.6	0.7	<b><u>8.0</u></b>

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**- Notification of Exceedance**

**Date of Water Quality Monitoring:**

**30 April 2021**

**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	3.0	G1	13:53	6.0	6.9	3.6	3.9	<b>3.9</b>
Mid-Ebb	C2	surface	3.0	G2	13:34	6.0	6.9	3.6	3.9	<b>3.9</b>
Mid-Ebb	C2	surface	3.0	M1	13:41	6.2	7.4	3.6	3.9	<b><u>4.5</u></b>
Mid-Ebb	C2	surface	3.0	M2	13:26	6.2	7.4	3.6	3.9	<b><u>4.2</u></b>
Mid-Ebb	C2	surface	3.0	M3	14:07	6.2	7.4	3.6	3.9	<b><u>4.9</u></b>
Mid-Ebb	C2	surface	3.0	M4	13:19	6.2	7.4	3.6	3.9	<b><u>4.1</u></b>
Mid-Ebb	C2	surface	3.0	M5	14:44	8.0	6.0	3.6	3.9	<b><u>4.1</u></b>
Mid-Ebb	C2	bottom	3.6	G4	14:13	6.9	7.9	4.3	4.7	<b><u>5.5</u></b>
Mid-Flood	C1	bottom	3.6	M3	8:51	6.9	7.9	4.3	4.6	<b>4.6</b>

Note: ***Bold*** means Action Level exceedance of Control (**Regular**) & Baseline (*Italic*)

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**- Notification of Exceedance**

**Date of Water Quality Monitoring:** **30 April 2021**

**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)
Intake	N/A	N/A	Mid-flood	C1	2.3	M6	9:08	2.8	3.0	<b><u>8.0</u></b>

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**APPENDIX L**  
**SITE AUDIT SUMMARY**

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## App N1 - IMPLEMENTATION SCHEDULE AND RECOMMENDED 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?
<b>Air Quality</b>						
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	<ul style="list-style-type: none"> <li>Use of frequent watering for particularly dusty construction areas and areas close to ASRs..</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Imposition of speed controls for vehicles on site haul roads.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
/	<p>Emission from Vehicles and Plants</p> <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)</li> </ul>	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
<b>Noise Impact (Construction Phase)</b>						
S4.8	<ul style="list-style-type: none"> <li>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 &amp; Pump and Concrete Pump.</li> </ul>	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	<p><b>Good Site Practice</b></p> <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>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.</li> <li>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.</li> <li>Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TM, NCO
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
<b>Water Quality Impact (Construction Phase)</b>						
S5.6.24	The dry density of filling material for the TKO-LT Tunnel reclamation should be 1,900kg/m <sup>3</sup> , 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 <sup>3</sup> (i.e. 1,000 m <sup>3</sup> 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
Silt Curtain Deployment Plan	<ul style="list-style-type: none"> <li>Silt curtains should be deployed properly to surround the works area.</li> <li>Maintenance of silt curtain should be provided.</li> <li>Sufficient stock of silt curtain should be provided on site.</li> </ul>	Control potential impacts from marine works	Contractor	NE/2015/01	Construction stage	EIAO

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?
S5.8.3	<p>Other good site practices should be undertaken during filling operations include:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• floating single silt curtain shall be employed for all marine works;</li> <li>• 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;</li> <li>• all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>• excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved;</li> <li>• adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;</li> <li>• 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;</li> <li>• any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;</li> <li>• 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</li> <li>• 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.</li> </ul>	Control potential impacts from filling activities and marine-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, Waste Disposal Ordinance (WDO)
S5.8.4	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
ERR S5.6.1	<p>To minimize water quality impact arising from the dredging and filling works for Reclamation for Road P2, the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> <li>- 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)</li> <li>- 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.</li> <li>- 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.</li> <li>- 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.</li> </ul>	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

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?
S5.8.5	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:	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	<ul style="list-style-type: none"> <li>• use of sediment traps; and</li> </ul>					
S5.8.8	<ul style="list-style-type: none"> <li>• adequate maintenance of drainage systems to prevent flooding and overflow.</li> </ul>					
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
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 <sup>3</sup> 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



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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 <sup>3</sup> 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
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

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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
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

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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
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

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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	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: <ul style="list-style-type: none"> <li>suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;</li> <li>chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and</li> <li>storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	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,

### Ecological Impact

S6.8.4	<p><b>Measures to Minimize Disturbance</b></p> <ul style="list-style-type: none"> <li>Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible.</li> <li>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;</li> <li>Regular spraying of haul roads to minimize impacts of dust deposition on adjacent vegetation and habitats during the construction activities</li> </ul>	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
S6.8.5	<p><b>Standard Good Site Practice</b></p> <ul style="list-style-type: none"> <li>Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats.</li> <li>Construction activities should be restricted to works areas that should be clearly demarcated. The works areas should be reinstated after completion of the works.</li> <li>Waste skips should be provided to collect general refuse and construction wastes. The wastes should be properly disposed off-site in a timely manner.</li> <li>General drainage arrangements should include sediment and oil traps to collect and control construction site run-off.</li> <li>Open burning on works sites is illegal, and should be strictly prohibited.</li> <li>Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.</li> </ul>	Reduce disturbance to surrounding habitats	Contractor	Land-based works are	Construction Phase	N/A

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S6.8.6	<p><b>Measure to Minimize Groundwater Inflow</b></p> <ul style="list-style-type: none"> <li>The drained tunnel construction method with groundwater inflow control measures would generally be adopted.</li> <li>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.</li> </ul>	Minimize groundwater inflow	Contractor	Tunnel	Construction Phase	N/A
S6.8.8	<p><b>Measure to Minimize Impact on Corals</b></p> <p><u>Coral translocation</u></p> <ul style="list-style-type: none"> <li>It is recommended to translocate the affected coral colonies, except the locally common <i>Oulastrea crispata</i>, within the reclamation area and bridge footprint to the other suitable locations as far as practicable.</li> <li>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).</li> <li>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.</li> <li>The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and AFCDC) before commencement of the coral translocation. All the translocation exercises should be conducted by experienced marine ecologist(s) who is/are approved by AFCDC prior to commencement of coral translocation.</li> </ul> <p><u>Post translocation Monitoring</u></p> <ul style="list-style-type: none"> <li>A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the translocated coral communities</li> <li>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.</li> </ul>	Minimize loss of coral	Design team, contractor, project operator	Within reclamation areas and pier footprint	Prior construction	N/A
S6.8.9 S6.8.10	<p><b>Measure to Control Water Quality Impact</b></p> <ul style="list-style-type: none"> <li>Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> <li>Diverting of the site runoff to silt trap facilities before discharging into storm drain;</li> <li>Proper waste and dumping management; and</li> <li>Standard good-site practice for land-based construction.</li> </ul>	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	<p><b>Compensation for Vegetation Loss</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>	Compensate for the vegetation loss	Design Team, contractor	Land-based works area	Construction phase	N/A

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<b>Fisheries Impact</b>						
S7.7.3	<b>Measure to Control Water Quality Impact</b> <ul style="list-style-type: none"> <li>Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> </ul>	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine work area	Construction phase	WQO
<b>Waste Management (Construction Phase)</b>						
S8.6.3	<b>Good Site Practices and Waste Reduction Measures</b> <ul style="list-style-type: none"> <li>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;</li> <li>Training of site personnel in site cleanliness, proper waste management and chemical handling procedures;</li> <li>Provision of sufficient waste disposal points and regular collection of waste;</li> <li>Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> </ul>	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	<b>Good Site Practices and Waste Reduction Measures (con't)</b> <ul style="list-style-type: none"> <li>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;</li> <li>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;</li> <li>Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and</li> <li>Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)  Land (Miscellaneous Provisions) Ordinance (Cap. 28)
S8.6.5	<b>Good Site Practices and Waste Reduction Measures (con't)</b>  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	<b>Good Site Practices and Waste Reduction Measures (con't)</b> <ul style="list-style-type: none"> <li>C&amp;D materials would be reused in the project and other local concurrent projects as far as possible.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005

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S8.6.7	<p><b>Storage, Collection and Transportation of Waste</b></p> <p>Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:</p> <ul style="list-style-type: none"> <li>Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;</li> <li>Maintain and clean storage areas routinely;</li> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and</li> <li>Different locations should be designated to stockpile each material to enhance reuse.</li> </ul>	To minimize potential adverse environmental impacts arising from waste storage	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.8/ Waste Management Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>Remove waste in timely manner;</li> <li>Waste collectors should only collect wastes prescribed by their permits;</li> <li>Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;</li> <li>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);</li> <li>Waste should be disposed of at licensed waste disposal facilities/ alternative disposal ground approved by RE and DEP; and</li> <li>Maintain records of quantities of waste generated, recycled and disposed.</li> </ul>	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						
S8.6.8/ Waste Management Plan						
S8.6.8/ Waste Management Plan						
S8.6.9/ Waste Management Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>Implementation of trip ticket system with reference to DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction &amp; 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.</li> </ul>	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	<p><b>Sorting of C&amp;D Materials</b></p> <ul style="list-style-type: none"> <li>Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.</li> <li>Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials.</li> <li>The C&amp;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</li> </ul>	To minimize potential adverse environmental	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010 ETWB TCW No. 33/2002 ETWB TCW No. 19/2005
	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>					

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?
S8.6.17 – S8.6.20	<ul style="list-style-type: none"> <li>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).</li> <li>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.</li> <li>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.</li> </ul>	To determine the best handling and treatment of sediment	Contractor	All works areas with sediments concern	Construction Phase	ETWB TCW No. 19/2005
S8.6.24 - S8.6.28/ Waste Management Plan	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>The excavated sediments is expected to be loaded onto the barge and transported to the designated disposal sites allocated by the MFC. The excavated sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002.</li> <li>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).</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	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



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?
	<ul style="list-style-type: none"> <li>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.</li> </ul>					

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?
S8.6.26/ Waste Management Plan	<p><b>Chemical Wastes.</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>	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	<p><b>General Refuse</b></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</li> </ul>	To ensure proper management of general refuse	Contractor	All works sites	Construction Phase	Public Health and Municipal Services Ordinance (Cap. 132)
<b>Impact on Cultural Heritage (Construction Phase)</b>						
S9.6.4	<p><b>Dust and visual impacts</b></p> <ul style="list-style-type: none"> <li>Temporarily fenced off buffer zone with allowance for public access (minimum 1 m) should be provided;</li> <li>The open yard in front of the temple should be kept as usual for annual Tin Hau festival;</li> <li>Monitoring of vibration impacts should be conducted when the construction works are less than 100m from the temple.</li> </ul>	To prevent dust and visual impacts	Contractors	Work areas	Construction Phase	EIAO; GCHIA; AMO
S9.6.4	<p><b>Indirect vibration impact</b></p> <ul style="list-style-type: none"> <li>Vibration level is suggest to be controlled within a peak particle velocity (ppv) limit of 5mm/s measured inside the historical buildings;</li> <li>Monitoring of vibration should be carried out during construction phase.</li> <li>Tilting and settlement monitoring should will be applied on the Cha Kwo Ling Tin Hau Temple as well.</li> <li>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.</li> </ul>	To prevent indirect vibration impact	Contractors	Work areas	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.
Built Heritage Mitigation Plan	<ul style="list-style-type: none"> <li>Established Alert, Alarm and Action Level for the monitoring parameters.</li> <li>To increase the instrumentation monitoring and reporting frequency.</li> <li>To propose detailed action plan or contingency plan for the Engineer's approval when AAA Level is reached or exceeded.</li> </ul>	To prevent vibration impacts	NE/2015/01	Tin Hau Temple	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.

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?
<b>Landscape and Visual Impact (Construction Phase)</b>						
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
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 bodies	CEDD (via Contractor)	TKO reclamation, TKO tunnel portal, Cha Kwo Ling roadworks	Throughout construction period	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	CM12 - Minimise area of reclamation and design the edges sensitively to tie in with adjacent coastline character	Minimise loss of Junk Bay and integration with existing coastline	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
<b>Landfill Gas Hazard (Design and Construction Phase)</b>						
S11.5.9	<p>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:</p> <p>Methane 0-100% LEL and 0-100% v/v  Carbon dioxide 0-100%  Oxygen 0-21%</p>	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
	<p><b>Safety Measures</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>An excavation procedure or code of practice to minimize landfill gas related risk should be devised and carried out.</li> <li>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.</li> <li>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.</li> <li>Welding, flame-cutting or other hot works should be confined to open areas at least 15m from any trench or excavation.</li> <li>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).</li> <li>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.</li> </ul>					

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	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• During construction, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.</li> <li>• Fire drills should be organized at not less than six monthly intervals.</li> <li>• The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.</li> <li>• 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.</li> <li>• 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).</li> <li>• 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.</li> </ul>	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
	<p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• For excavations <b>deeper than 1m</b>, measurements should be carried out: <ul style="list-style-type: none"> <li>• at the ground surface before excavation commences;-</li> <li>• immediately before any worker enters the excavation;</li> </ul> </li> </ul>					

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	<ul style="list-style-type: none"> <li>• at the beginning of each working day for the entire period the excavation remains open; and</li> <li>• periodically throughout the working day whilst workers are in the excavation.</li> <li>● For excavations <b>between 300mm and 1m deep</b>, measurements should be carried out: <ul style="list-style-type: none"> <li>• directly after the excavation has been completed; and</li> <li>• periodically whilst the excavation remains open.</li> </ul> </li> <li>● For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person.</li> <li>● 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.</li> <li>● 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.</li> </ul>	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.	<p>construction stage within the Sai Tso Wan</p> <p>Protect the workers from landfill gas hazards</p>	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
<b>Water Quality Impact</b>				
S5.8.8	· adequate maintenance of drainage systems to prevent flooding and overflow.	NE2015/01	Slope A	The contractor is reminded to avoid ponding of water.
<b>Ecological Impact</b>				
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<b>Construction Noise Impact</b>				
--	--	--	--	--
<b>Landscape and Visual Impact</b>				
--	--	--	--	--
<b>Air Quality Impact</b>				
/	· Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.	NE2015/01	Portion III	The contractor is reminded to avoid black smoke emission from equipment.
<b>Fisheries Impact</b>				
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<b>Waste Management</b>				
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	Various Portion	The Contractor is reminded to provide a drip tray for chemical
S8.6.8/ Waste Management Plan	· Remove waste in timely manner;	NE2015/02	Portion IX	The Contractor is reminded to remove accumulated waste.
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.	NE2015/02	Portion IX	The Contractor is reminded to clean up oil stain.
<b>Landfill Gas Hazards</b>				
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Recorded Date	Status
28-Apr-21	#
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--	--
14-Apr-21	#
--	--
14-Apr-21 21-Apr-21 28-Apr-21	✓
9-Apr-21	✓
15-Apr-21	✓
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**APPENDIX M**  
**EVENT AND ACTION PLANS**

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### Event and Action Plan for Air Quality (Dust)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of complaint and propose remedial measures;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
Action level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>4. Repeat measurements to confirm findings;</li> <li>5. Increase monitoring frequency to daily;</li> <li>6. Discuss with IEC and Contractor on remedial actions required;</li> <li>7. If exceedance continues, arrange meeting with IEC and ER;</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	8. If exceedance stops, cease additional monitoring.			
Limit level being exceeded by one sampling	<ol style="list-style-type: none"> <li>1. Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>2. Inform Contractor ,IEC, ER, and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>
Limit level being exceeded by two or more consecutive sampling	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>3. Implement the agreed proposals;</li> </ol>

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	<ol style="list-style-type: none"> <li>1. Notify IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the Contractor and formulate remedial measures;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the analysed results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC;</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, EPD and Contractor;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency;</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>

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**

<b>Event</b>	<b>Action</b>			
	<b>ET</b>	<b>IEC</b>	<b>ER</b>	<b>CONTRACTOR</b>
Action level being exceeded by one sampling day at water sensitive receiver(s)	<ul style="list-style-type: none"> <li>Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> <li>If exceedance is found to be caused by the reclamation activities, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>Inform IEC and contractor;</li> <li>Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>Discuss mitigation measures with IEC and Contractor;</li> <li>Repeat measurement on next day of exceedance.</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with ET and Contractor on the mitigation measures;</li> <li>Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with IEC on the proposed mitigation measures;</li> <li>Make agreement on the mitigation proposal.</li> </ul>	<ul style="list-style-type: none"> <li>Inform the ER and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Amend working methods if appropriate;</li> <li>Discuss with ET and IEC and propose mitigation measures to IEC and ER;</li> <li>Implement the agree mitigation measures.</li> </ul>
Action level being exceeded by two or more consecutive	<ul style="list-style-type: none"> <li>Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with ET and Contractor on the mitigation measures;</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with IEC on the proposed mitigation measures;</li> <li>Make agreement on the mitigation proposal;</li> </ul>	<ul style="list-style-type: none"> <li>Inform the Engineer and confirm notification of the non-compliance in writing;</li> <li>Rectify unacceptable practice;</li> </ul>

Event	Action			
	ET	IEC	ER	CONTRACTOR
sampling days at water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings;</li> <li>• Inform IEC and contractor;</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• Discuss mitigation measures with IEC and Contractor;</li> <li>• Ensure mitigation measures are implemented;</li> <li>• Prepare to increase the monitoring frequency to daily;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD;</li> <li>• Repeat measurement on next day of exceedance.</li> </ul>	<ul style="list-style-type: none"> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all plant and equipment and consider changes of working methods;</li> <li>• Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days;</li> <li>• Implement the agreed mitigation measures.</li> </ul>
Limit level being exceeded by one sampling day at water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with ET and Contractor on the mitigation measures;</li> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>• Request Contractor to critically review the working methods;</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the ER and confirm notification of the non-compliance in writing;</li> <li>• Rectify unacceptable practice;</li> </ul>



Event	Action			
	ET	IEC	ER	CONTRACTOR
	<ul style="list-style-type: none"> <li>• If exceedance is found to be caused by the reclamation activities, repeat <i>in-situ</i> measurement to confirm findings;</li> <li>• Inform IEC, contractor, AFCD and EPD</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• Discuss mitigation measures with IEC, ER and Contractor;</li> <li>• Ensure mitigation measures are implemented;</li> <li>• Increase the monitoring frequency to daily until no exceedance of Limit level;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Make agreement on the mitigation measures to be implemented;</li> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all plant and equipment and consider changes of working methods;</li> <li>• Discuss with ET, IEC and ER and submit proposal of mitigation measures to IEC and ER within 3 working days of notification;</li> <li>• Implement the agreed mitigation measures.</li> </ul>
Limit level being exceeded by two or more consecutive sampling days at	<ul style="list-style-type: none"> <li>• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with ET and Contractor on the mitigation measures;</li> <li>• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss with IC(E), ET and Contractor on the proposed mitigation measures;</li> <li>• Request Contractor to critically review the working methods;</li> </ul>	<ul style="list-style-type: none"> <li>• Inform the ER and confirm notification of the non-compliance in writing;</li> <li>• Rectify unacceptable practice;</li> </ul>

Event	Action			
	ET	IEC	ER	CONTRACTOR
water sensitive receiver(s)	<ul style="list-style-type: none"> <li>• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings;</li> <li>• Inform IC(E), AFCD, contractor and EPD;</li> <li>• Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>• Discuss mitigation measures with IC(E), ER and Contractor;</li> <li>• Ensure mitigation measures are implemented;</li> <li>• Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days;</li> <li>• If exceedance occurs at WSD salt water intake, inform WSD.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess the effectiveness of the implemented mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>• Make agreement on the mitigation measures to be implemented;</li> <li>• Assess the effectiveness of the implemented mitigation measures;</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Check all plant and equipment and consider changes of working methods;</li> <li>• Discuss with ET, IC(E) and ER and submit proposal of mitigation measures to IC(E) and ER within 3 working days of notification;</li> <li>• Implement the agreed mitigation measures;</li> <li>• As directed by the Engineer, to slow down or to stop all or part of the construction activities.</li> </ul>

**Limit Levels and Action Plan for Landfill Gas**

Parameter	Limit Level	Action
Oxygen	<19%	<ul style="list-style-type: none"> <li>• Ventilate to restore oxygen to &gt;19%</li> </ul>
	<18%	<ul style="list-style-type: none"> <li>• Stop works</li> <li>• Evacuate personnel/prohibit entry</li> <li>• Increase ventilation to restore oxygen to &gt;19%</li> </ul>
Methane	>10% LEL (i.e. > 0.5% by volume)	<ul style="list-style-type: none"> <li>• Prohibit hot works</li> <li>• Ventilate to restore methane to &lt;10% LEL</li> </ul>
	>20% LEL (i.e. > 1% by volume)	<ul style="list-style-type: none"> <li>• Stop works</li> <li>• Evacuate personnel / prohibit entry</li> <li>• Increase ventilation to restore methane to &lt;10% LEL</li> </ul>
Carbon Dioxide	>0.5%	<ul style="list-style-type: none"> <li>• Ventilate to restore carbon dioxide to &lt; 0.5%</li> </ul>
	>1.5%	<ul style="list-style-type: none"> <li>• Stop works</li> <li>• Evacuate personnel / prohibit entry</li> <li>• Increase ventilation to restore carbon dioxide to &lt; 0.5%</li> </ul>

**Event and Action Plan for Coral Post-Translocation Monitoring**

<b>Event</b>	<b>Action</b>			
	<b>ET Leader</b>	<b>IEC</b>	<b>ER</b>	<b>Contractor</b>
<b>Action Level Exceedance</b>	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.
<b>Limit Level Exceedance</b>	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	<ul style="list-style-type: none"> <li>● The Engineer shall be informed immediately.</li> <li>● 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.</li> <li>● The Contractor shall review and increase the instrumentation monitoring and reporting frequency, if applicable.</li> <li>● 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.</li> </ul>
Alarm Level	<ul style="list-style-type: none"> <li>● The Engineer shall be informed immediately.</li> <li>● The active construction works may require to be suspended subject to the Engineer's review of monitoring data.</li> <li>● The Contractor shall immediately implement the measures as defined in the detailed plan of action to prevent further ground movement and groundwater drawdown etc.</li> <li>● The Contractor shall prepare a detailed investigation report to study the cause of the exceedance</li> <li>● The Contractor shall propose a contingency plan for the Engineer's approval in the event that alarm value is reached or exceeded</li> <li>● The Contractor shall develop an emergency plan for the Engineer's approval in the event the applied contingency measures cannot control the situation.</li> <li>● The Contractor shall meet the Engineer to discuss the instrument response and review the effectiveness of the implemented measures.</li> <li>● The Contractor shall carry out design review of the works</li> </ul>

Action Level	<ul style="list-style-type: none"><li>● Consideration shall be given to suspend all active construction works and the Engineer shall be informed immediately</li><li>● The Contractor shall immediately implement the measures defined in the contingency plan</li><li>● The Contractor shall implement the measures defined in the emergency plan in the event that the applied contingency measures are found inadequate</li><li>● 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</li><li>● 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.</li></ul>
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**APPENDIX N  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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## App N1 - IMPLEMENTATION SCHEDULE AND RECOMMENDED 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?
<b>Air Quality</b>						
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	<ul style="list-style-type: none"> <li>Use of frequent watering for particularly dusty construction areas and areas close to ASRs..</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Imposition of speed controls for vehicles on site haul roads.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
S3.8.7	<ul style="list-style-type: none"> <li>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.</li> </ul>					
/	<p>Emission from Vehicles and Plants</p> <ul style="list-style-type: none"> <li>All vehicles shall be shut down in intermittent use.</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.</li> <li>All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)</li> </ul>	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
<b>Noise Impact (Construction Phase)</b>						
S4.8	<ul style="list-style-type: none"> <li>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 &amp; Pump and Concrete Pump.</li> </ul>	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	<p><b>Good Site Practice</b></p> <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>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.</li> <li>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.</li> <li>Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TM, NCO
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
<b>Water Quality Impact (Construction Phase)</b>						
S5.6.24	The dry density of filling material for the TKO-LT Tunnel reclamation should be 1,900kg/m <sup>3</sup> , 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 <sup>3</sup> (i.e. 1,000 m <sup>3</sup> 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
Silt Curtain Deployment Plan	<ul style="list-style-type: none"> <li>Silt curtains should be deployed properly to surround the works area.</li> <li>Maintenance of silt curtain should be provided.</li> <li>Sufficient stock of silt curtain should be provided on site.</li> </ul>	Control potential impacts from marine works	Contractor	NE/2015/01	Construction stage	EIAO

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?
S5.8.3	<p>Other good site practices should be undertaken during filling operations include:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• floating single silt curtain shall be employed for all marine works;</li> <li>• 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;</li> <li>• all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>• excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved;</li> <li>• adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;</li> <li>• 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;</li> <li>• any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;</li> <li>• 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</li> <li>• 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.</li> </ul>	Control potential impacts from filling activities and marine-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, Waste Disposal Ordinance (WDO)
S5.8.4	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
ERR S5.6.1	<p>To minimize water quality impact arising from the dredging and filling works for Reclamation for Road P2, the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> <li>- 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)</li> <li>- 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.</li> <li>- 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.</li> <li>- 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.</li> </ul>	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

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?
S5.8.5	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:	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	<ul style="list-style-type: none"> <li>• use of sediment traps; and</li> </ul>					
S5.8.8	<ul style="list-style-type: none"> <li>• adequate maintenance of drainage systems to prevent flooding and overflow.</li> </ul>					
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
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 <sup>3</sup> 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

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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 <sup>3</sup> 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
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

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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
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

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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
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

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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	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: <ul style="list-style-type: none"> <li>suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;</li> <li>chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and</li> <li>storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	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,

### Ecological Impact

S6.8.4	<p><b>Measures to Minimize Disturbance</b></p> <ul style="list-style-type: none"> <li>Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible.</li> <li>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;</li> <li>Regular spraying of haul roads to minimize impacts of dust deposition on adjacent vegetation and habitats during the construction activities</li> </ul>	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
S6.8.5	<p><b>Standard Good Site Practice</b></p> <ul style="list-style-type: none"> <li>Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats.</li> <li>Construction activities should be restricted to works areas that should be clearly demarcated. The works areas should be reinstated after completion of the works.</li> <li>Waste skips should be provided to collect general refuse and construction wastes. The wastes should be properly disposed off-site in a timely manner.</li> <li>General drainage arrangements should include sediment and oil traps to collect and control construction site run-off.</li> <li>Open burning on works sites is illegal, and should be strictly prohibited.</li> <li>Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.</li> </ul>	Reduce disturbance to surrounding habitats	Contractor	Land-based works are	Construction Phase	N/A

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S6.8.6	<p><b>Measure to Minimize Groundwater Inflow</b></p> <ul style="list-style-type: none"> <li>The drained tunnel construction method with groundwater inflow control measures would generally be adopted.</li> <li>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.</li> </ul>	Minimize groundwater inflow	Contractor	Tunnel	Construction Phase	N/A
S6.8.8	<p><b>Measure to Minimize Impact on Corals</b></p> <p><u>Coral translocation</u></p> <ul style="list-style-type: none"> <li>It is recommended to translocate the affected coral colonies, except the locally common <i>Oulastrea crispata</i>, within the reclamation area and bridge footprint to the other suitable locations as far as practicable.</li> <li>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).</li> <li>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.</li> <li>The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and AFCDC) before commencement of the coral translocation. All the translocation exercises should be conducted by experienced marine ecologist(s) who is/are approved by AFCDC prior to commencement of coral translocation.</li> </ul> <p><u>Post translocation Monitoring</u></p> <ul style="list-style-type: none"> <li>A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the translocated coral communities</li> <li>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.</li> </ul>	Minimize loss of coral	Design team, contractor, project operator	Within reclamation areas and pier footprint	Prior construction	N/A
S6.8.9 S6.8.10	<p><b>Measure to Control Water Quality Impact</b></p> <ul style="list-style-type: none"> <li>Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> <li>Diverting of the site runoff to silt trap facilities before discharging into storm drain;</li> <li>Proper waste and dumping management; and</li> <li>Standard good-site practice for land-based construction.</li> </ul>	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	<p><b>Compensation for Vegetation Loss</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>	Compensate for the vegetation loss	Design Team, contractor	Land-based works area	Construction phase	N/A



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<b>Fisheries Impact</b>						
S7.7.3	<b>Measure to Control Water Quality Impact</b> <ul style="list-style-type: none"> <li>Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> </ul>	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine work area	Construction phase	WQO
<b>Waste Management (Construction Phase)</b>						
S8.6.3	<b>Good Site Practices and Waste Reduction Measures</b> <ul style="list-style-type: none"> <li>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;</li> <li>Training of site personnel in site cleanliness, proper waste management and chemical handling procedures;</li> <li>Provision of sufficient waste disposal points and regular collection of waste;</li> <li>Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> </ul>	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	<b>Good Site Practices and Waste Reduction Measures (con't)</b> <ul style="list-style-type: none"> <li>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;</li> <li>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;</li> <li>Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and</li> <li>Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)  Land (Miscellaneous Provisions) Ordinance (Cap. 28)
S8.6.5	<b>Good Site Practices and Waste Reduction Measures (con't)</b>  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	<b>Good Site Practices and Waste Reduction Measures (con't)</b> <ul style="list-style-type: none"> <li>C&amp;D materials would be reused in the project and other local concurrent projects as far as possible.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005

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S8.6.7	<p><b>Storage, Collection and Transportation of Waste</b></p> <p>Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:</p> <ul style="list-style-type: none"> <li>Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;</li> <li>Maintain and clean storage areas routinely;</li> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and</li> <li>Different locations should be designated to stockpile each material to enhance reuse.</li> </ul>	To minimize potential adverse environmental impacts arising from waste storage	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005
S8.6.8/ Waste Management Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>Remove waste in timely manner;</li> <li>Waste collectors should only collect wastes prescribed by their permits;</li> <li>Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;</li> <li>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);</li> <li>Waste should be disposed of at licensed waste disposal facilities/ alternative disposal ground approved by RE and DEP; and</li> <li>Maintain records of quantities of waste generated, recycled and disposed.</li> </ul>	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						
S8.6.8/ Waste Management Plan						
S8.6.8/ Waste Management Plan						
S8.6.9/ Waste Management Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>Implementation of trip ticket system with reference to DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction &amp; 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.</li> </ul>	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	<p><b>Sorting of C&amp;D Materials</b></p> <ul style="list-style-type: none"> <li>Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.</li> <li>Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials.</li> <li>The C&amp;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</li> </ul>	To minimize potential adverse environmental	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010 ETWB TCW No. 33/2002 ETWB TCW No. 19/2005
	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>					

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?
S8.6.17 – S8.6.20	<ul style="list-style-type: none"> <li>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).</li> <li>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.</li> <li>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.</li> </ul>	To determine the best handling and treatment of sediment	Contractor	All works areas with sediments concern	Construction Phase	ETWB TCW No. 19/2005
S8.6.24 - S8.6.28/ Waste Management Plan	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>The excavated sediments is expected to be loaded onto the barge and transported to the designated disposal sites allocated by the MFC. The excavated sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002.</li> <li>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).</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	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

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?
	<ul style="list-style-type: none"> <li>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.</li> </ul>					

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?
S8.6.26/ Waste Management Plan	<p><b>Chemical Wastes.</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul>	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	<p><b>General Refuse</b></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</li> </ul>	To ensure proper management of general refuse	Contractor	All works sites	Construction Phase	Public Health and Municipal Services Ordinance (Cap. 132)
<b>Impact on Cultural Heritage (Construction Phase)</b>						
S9.6.4	<p><b>Dust and visual impacts</b></p> <ul style="list-style-type: none"> <li>Temporarily fenced off buffer zone with allowance for public access (minimum 1 m) should be provided;</li> <li>The open yard in front of the temple should be kept as usual for annual Tin Hau festival;</li> <li>Monitoring of vibration impacts should be conducted when the construction works are less than 100m from the temple.</li> </ul>	To prevent dust and visual impacts	Contractors	Work areas	Construction Phase	EIAO; GCHIA; AMO
S9.6.4	<p><b>Indirect vibration impact</b></p> <ul style="list-style-type: none"> <li>Vibration level is suggest to be controlled within a peak particle velocity (ppv) limit of 5mm/s measured inside the historical buildings;</li> <li>Monitoring of vibration should be carried out during construction phase.</li> <li>Tilting and settlement monitoring should will be applied on the Cha Kwo Ling Tin Hau Temple as well.</li> <li>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.</li> </ul>	To prevent indirect vibration impact	Contractors	Work areas	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.
Built Heritage Mitigation Plan	<ul style="list-style-type: none"> <li>Established Alert, Alarm and Action Level for the monitoring parameters.</li> <li>To increase the instrumentation monitoring and reporting frequency.</li> <li>To propose detailed action plan or contingency plan for the Engineer's approval when AAA Level is reached or exceeded.</li> </ul>	To prevent vibration impacts	NE/2015/01	Tin Hau Temple	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.

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?
<b>Landscape and Visual Impact (Construction Phase)</b>						
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
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 bodies	CEDD (via Contractor)	TKO reclamation, TKO tunnel portal, Cha Kwo Ling roadworks	Throughout construction period	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	CM12 - Minimise area of reclamation and design the edges sensitively to tie in with adjacent coastline character	Minimise loss of Junk Bay and integration with existing coastline	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
<b>Landfill Gas Hazard (Design and Construction Phase)</b>						
S11.5.9	<p>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:</p> <p>Methane 0-100% LEL and 0-100% v/v  Carbon dioxide 0-100%  Oxygen 0-21%</p>	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
	<p><b>Safety Measures</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>An excavation procedure or code of practice to minimize landfill gas related risk should be devised and carried out.</li> <li>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.</li> <li>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.</li> <li>Welding, flame-cutting or other hot works should be confined to open areas at least 15m from any trench or excavation.</li> <li>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).</li> <li>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.</li> </ul>					

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	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• During construction, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.</li> <li>• Fire drills should be organized at not less than six monthly intervals.</li> <li>• The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.</li> <li>• 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.</li> <li>• 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).</li> <li>• 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.</li> </ul>	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
	<p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• For excavations <b>deeper than 1m</b>, measurements should be carried out: <ul style="list-style-type: none"> <li>• at the ground surface before excavation commences;-</li> <li>• immediately before any worker enters the excavation;</li> </ul> </li> </ul>					



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	<ul style="list-style-type: none"> <li>• at the beginning of each working day for the entire period the excavation remains open; and</li> <li>• periodically throughout the working day whilst workers are in the excavation.</li> <li>● For excavations <b>between 300mm and 1m deep</b>, measurements should be carried out: <ul style="list-style-type: none"> <li>• directly after the excavation has been completed; and</li> <li>• periodically whilst the excavation remains open.</li> </ul> </li> <li>● For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person.</li> <li>● 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.</li> <li>● 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.</li> </ul>	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.	<p>construction stage within the Sai Tso Wan</p> <p>Protect the workers from landfill gas hazards</p>	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
<b>Water Quality Impact</b>						
S5.8.8	· adequate maintenance of drainage systems to prevent flooding and overflow.	NE2015/01	Slope A	The contractor is reminded to avoid ponding of water.	28-Apr-21	#
<b>Ecological Impact</b>						
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<b>Construction Noise Impact</b>						
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<b>Landscape and Visual Impact</b>						
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<b>Air Quality Impact</b>						
/	· Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.	NE2015/01	Portion III	The contractor is reminded to avoid black smoke emission from equipment.	14-Apr-21	#
<b>Fisheries Impact</b>						
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<b>Waste Management</b>						
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	Various Portion	The Contractor is reminded to provide a drip tray for chemical	14-Apr-21 21-Apr-21 28-Apr-21	✓
S8.6.8/ Waste Management Plan	· Remove waste in timely manner;	NE2015/02	Portion IX	The Contractor is reminded to remove accumulated waste.	9-Apr-21	✓
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.	NE2015/02	Portion IX	The Contractor is reminded to clean up oil stain.	15-Apr-21	✓
<b>Landfill Gas Hazards</b>						
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**APPENDIX O  
SUMMARIES OF ENVIRONMENTAL  
COMPLAINT, WARNING, SUMMON  
AND NOTIFICATION OF SUCCESSFUL  
PROSECUTION**

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**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
549	26-Apr-21	21-Apr-21 / C1	Mr. Chan from Hong Nga Court	Noise	Suspected Construction Works during night-time (C1 - Apr)	Y	Investigation undergoing	On-going
548	26-Apr-21	23-Apr-21 / C1	Mrs. Ho from Lung pak House	Noise	Noise nuisance during evening time (C1-Apr)	Y	Investigation undergoing	On-going
547	26-Apr-21	25-Apr-21 / C1	Mr. Lau from Yung Lai House	Noise	Noise nuisance at morning (C1-Apr)	Y	Investigation undergoing	On-going
546	19-Apr-21	4&11-Mar-21 / Marine Works Area	Anonymous	Noise	Noise nuisance on holiday mornings (C6 - Apr)	Y	Investigation undergoing	On-going
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	Draft CIR submitted
544	19-Apr-21	11-Mar-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Mar)	Y	Investigation undergoing	On-going
543	19-Apr-21	3-Apr-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	Investigation undergoing	On-going
542	19-Apr-21	3-Apr-21 / Portion III	Resident of Yau Lai Estate	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	Investigation undergoing	On-going
541	19-Apr-21	7-Apr-21 / Portion III	Resident of Ping Tin Estate	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	Investigation undergoing	On-going
540	19-Apr-21	14-Apr-21 / Portion III	Mr. Wang (Kwun Tong District Council Member)	Noise	Noise Nuisance from Construction Works (C1 - Apr)	Y	Investigation undergoing	On-going
539	16-Apr-21	22-Mar-21 / Portion IX	Resident of Ocean Shores	Noise	Suspected Construction Works during evening-time (C2 - Mar)	N	See Complaint #538	Draft CIR submitted
538	16-Apr-21	Non-specific / Works area near Ocean Shores	Resident of 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.	Draft CIR submitted
537	15-Apr-21	14/4/2021 / Works area near Park Central	Resident of Park Central	Noise	Noise Nuisance due to Breaking Works (C3- Apr)	Y	Breaking works was conducted during the time of complaint. No limit level for noise monitoring was triggered. The complaint is considered as project-related. Details shall be referred to CIR-N137.	Draft CIR submitted
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.	Draft CIR submitted
535	14-Apr-21	7/4/2021 / C1	Resident of Lam Tin District	Noise	Noise nuisance during nighttime (C1 - Apr 2021)	Y	Investigation undergoing	On-going
534	8-Apr-21	3/4/2021 / C1	Resident of Yau Lai Estate	Noise	Noise nuisance during nighttime (C1 - Apr 2021)	Y	Investigation undergoing	On-going
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	Investigation undergoing	On-going
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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	Investigation undergoing	On-going
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	Investigation undergoing	On-going
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	Investigation undergoing	On-going
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 Councilors	Noise	Percussive noise nuisance at morning (C1 - Mar 2021)	Y	Investigation undergoing	On-going
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	Investigation undergoing	On-going
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	Investigation undergoing	On-going
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	Investigation undergoing	On-going
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 complaint 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	Preliminary 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.	On-going
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	Draft CIR submitted
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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
507			Resident of Ocean Shores	Air		N		
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.	Draft CIR submitted
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	Draft CIR submitted
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	Draft CIR submitted
495	16-Dec-20	12-Dec-2020 / Po Yap Road	Resident of Park Central	Noise	Night time machanical 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 Hoose 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.	Draft CIR submitted
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	Preliminary 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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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.	Draft CIR submitted
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	Draft CIR submitted
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 adopted various noise mitigation measures such 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
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 frequently 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 Complaint #468	Draft CIR submitted
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 Complaint #468	Draft CIR submitted
485	7-Nov-20	7-Nov-20	Resident of Park Central	Noise	Percussive 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 nuisance. 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 known to emit such kind of noise at the surrounding. The Contractor had been reminded to apply 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 Councilors	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 Complaint #468	Draft CIR submitted
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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 nuisance. 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	On-going
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	On-going
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	Draft CIR submitted
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	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.	Draft CIR submitted
467	23-Sep-20	19-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Daytime noise nuisance (mid-September)	Y	See complaint #459	On-going
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	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 triggered after the incident. The muddy water was coming from DSD desilting compound. Details shall be referred to CIR-W16	Closed
462	8-Sep-20	10-Sep-2020 / Portion IX	Anonymous	Noise	Suspected muddy water discharge	N		Closed
461	5-Sep-20	5-Sep-2020 / Portion IX	Resident of Ocean Shores	Noise	Squeaky noise on a Saturday 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 Harbour Cross Tunnel	Y	See complaint #456 - #458	Draft CIR submitted
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 nuisance from September to October 2020. The CIR will be prepared in one-go. Meanwhile, no action level of construction noise was recorded during noise monitoring; no non-compliance was identified during site inspection.	On-going



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
458	28-Aug-20	Early August 20 / Lam Tin Tunnel	Resident from Yau Lai Estate	Noise	Long-term noise nuisance since early August	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	Draft CIR submitted
457	27-Aug-20	24&25-Aug-20 / Portion IX	Resident from Ocean Shores	Noise	Noise nuisance at morning (Late August 2020)	Y		Draft CIR submitted
456	18-Aug-20	18-Aug-20 / Portion IVC	Resident from Yau Lai Estate	Noise	Noise nuisance near East Harbour Cross Tunnel	Y		Draft CIR submitted
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	Draft CIR submitted
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 action may tear up the wire and made the barge stranded. The details shall be referred to CIR-N110.	Closed
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	Draft CIR submitted
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.	Draft CIR submitted
447C	10-Jul-20	28-Jun-2020 / TKO South open sea	Anonymous	Water	Suspected oil leakage at the TKO south open sea	N	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
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		
447A	10-Jul-20	24-Jun-2020 / Non-specific		Noise	Long-term noise nuisance and insufficient noise mitigation measures	Y		

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446	12-Jun-20	31-May-2020 / Area nearby Yau Lai Est	Resident of Yau Lai Estate	Noise	Noise nuisance at Morning nearby East Harbour 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 phenomenon 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 recorded 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 referred 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 broken 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 strictly 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
436	26-Mar-20	26-Mar-20/ Portion IVC	District Council Member (Mr. Wong)	Noise	Noise nuisance, vibration and suspected insufficient mitigation measures in Lam Tin	Y	See complaint #431-433.	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 complaint #427.	Closed

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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	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
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		
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		
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

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421	21-Jan-20	21-Jan-20 / Portion IX	Ocean Shores Residents	Noise	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
419	7-Jan-20	Sundays before 7-Jan-20 / Tunnel Works	Resident of Hong Pak Court		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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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 PME 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/000110 19-19)	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/000150 98-19)	11-Jun-19	1-Jun-19 / Near cofferdam	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
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 dismantling 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



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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

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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
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/000133 96-19)	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

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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		Closed
358	30-Apr-19	27-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance during evening time.	Y		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		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		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		Closed
354	30-Apr-19	20 Apr 2019 / Cofferdam Area 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

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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

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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
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		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		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		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.
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		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 Investigation / Mitigation Action for complaint no. 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		Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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		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
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		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/000065 23-19)	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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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 PME's 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
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		Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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		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		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
307	13-Feb-19	13th February 2019 / Construction at Tsung 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



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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		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: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP; <input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and <input type="checkbox"/> 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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
301	31th January 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	30th January 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	30th January 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	30th January 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	30th January 2019	27 <sup>th</sup> - 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
296	29th January 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: <input type="checkbox"/> To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise disturbance; <input type="checkbox"/> Frequent checking and repair the operating PME; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP; <input type="checkbox"/> To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
295	29th January 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	29th January 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/000032-91-19)	29th January 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	29th January 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: <input type="checkbox"/> To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise	Closed

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291	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from breaking work.	Y	<input type="checkbox"/> To arrange a signman instead of mobile crane reversing signal for minimize the beeping noise disturbance; <input type="checkbox"/> Frequent checking and repair the operating PME; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP; <input type="checkbox"/> To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
290	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the construction noise from Tunnel Works	Y	<input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP; <input type="checkbox"/> To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
289 (EPD-N08/RE/000008 59-19)	24th January 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	18th January 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	17th January 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: <input type="checkbox"/> To regularly check and review the noise control activities that are being carried out on site to ensure compliance with statutory requirement. <input type="checkbox"/> Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. <input type="checkbox"/> To provide training for the workers to prevent unnecessary noise disturbance. <input type="checkbox"/> To provide cantilever barrier to screen the construction noise from the NSRs	Closed
286	17th January 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 16 <sup>th</sup> Jan 2019. Details should be referred to CIR-N41.	Closed

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285	17th January 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	16th January 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	15th January 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	15th January 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	15th January 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	14th January 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	14th January 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

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278	12th January 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	12th January 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
276	11th - 12th 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: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier <input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP. <input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer <input type="checkbox"/> 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	11th January 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/000012 34-19)	11th January 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	10th January 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: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier <input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP. <input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer <input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
272	8th January 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

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271	8th January 2019	8th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	<p>The complaints are considered as project-related.</p> <p>The following recommendations were made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets;</li> <li><input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head;</li> <li><input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP.</li> <li><input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer</li> <li><input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	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/000006 91-19)	7th January 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	7th January 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	7th January 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	7th January 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	7th January 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	<p>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:</p> <ul style="list-style-type: none"> <li>· only well-maintained plant on-site and plant should be serviced regularly during the construction program;</li> <li>· 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;</li> </ul> <p>Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</p>	Closed
265	7th January 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	<p>No exceedances were record at the nearest monitoring station. The following recommendation were made to further enhance the mitigation measure:</p> <ul style="list-style-type: none"> <li>· Frequent checking and repair the gaps or broken acoustic sheets;</li> <li>· Replace any broken Silent Mat for wrapping the breaker head;</li> <li>· To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li>· The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver;</li> <li>· To continue to strictly follow the requirements in the relevant CNP;</li> <li>· To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and</li> <li>· Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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 to 1) 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 <sup>th</sup> December 2018	26 <sup>th</sup> 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 <sup>th</sup> December 2018	26 <sup>th</sup> 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 <sup>th</sup> December 2018	26 <sup>th</sup> 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 <sup>th</sup> December 2018	26 <sup>th</sup> 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
							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.	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
258	18 <sup>th</sup> December 2018	18 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Engineering Section of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	<p><u>Mitigation measures:</u></p> <p>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&amp;A Manual and the approved CNMP of this Contract had been implemented by the Contractor, including the following:</p> <p>ÿ Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</p> <p>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;</p> <p>ÿ Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</p>	Closed
257	18 <sup>th</sup> December 2018	18 <sup>th</sup> 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 <sup>th</sup> December 2018	15 <sup>th</sup> December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking and piling activities	N	<p>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)</p> <p>The following recommendations were made for the Contractor to enhance the mitigation measures:</p> <p>ÿ To frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance;</p> <p>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;</p> <p>To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.</p>	Closed
254	16 <sup>th</sup> December 2018	16 <sup>th</sup> 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 <sup>th</sup> December 2018	15 <sup>th</sup> 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
252	30 <sup>th</sup> November 2018	30 <sup>th</sup> November 2018/ Construction of Road D4	Resident of Park Central	Noise & Air	Complained about the construction noise and dust resuspension in Road D4.	Y	<p>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.</p> <p>Based on the noise and air monitoring results in November 2018, no Limit Level Exceedance was recorded.</p> <p><b>Mitigation Measures</b></p> <p>ÿ A more effective acoustic barrier was erected between the drill rig and Park Central.</p> <p>ÿ Frequent water spraying along the Po Yap Road for eight times a day,</p> <p>Stockpile are covered with impervious material to avoid dust resuspension</p>	Closed
							The complaint lodged on 25 <sup>th</sup> November 2018 is considered as non-project related, as no works was conducted on that day.	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
251	28 <sup>th</sup> November 2018	27 <sup>th</sup> November 2018/ Construction of TKO portal	Public	Noise	Complained about the construction noise from the marine works.	Y	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
250	26 <sup>th</sup> November 2018	26 <sup>th</sup> 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 <sup>th</sup> November 2018	20 <sup>th</sup> 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 <sup>th</sup> November 2018	20 <sup>th</sup> 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 <sup>th</sup> November 2018	19 <sup>th</sup> 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 <sup>th</sup> November 2018	19 <sup>th</sup> 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 <sup>th</sup> November 2018	8 <sup>th</sup> 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 <sup>th</sup> November 2018	8 <sup>th</sup> 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 <sup>th</sup> November 2018	7 <sup>th</sup> 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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
241	6 <sup>th</sup> November 2018	6 <sup>th</sup> 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 <sup>th</sup> November 2018	6 <sup>th</sup> 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	81	0	0
Jan-21	13	0	0
Feb-21	3	0	0
Mar-21	14	0	0
<b>Total</b>	<b>533</b>	<b>1</b>	<b>1</b>

**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	Noise nuisance during nighttime (C1 - Apr 2021)	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	--	--	--	--	--	--

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**APPENDIX P  
WASTE GENERATION IN THE  
REPORTING MONTH**

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Monthly Summary Waste Flow Table for Apr 2021

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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
January	11.091	6.430	0.000	6.430	4.661	0.000	0.000	0.000	0.000	0.000	0.239
February	14.149	4.329	0.000	4.329	9.820	0.000	0.000	0.000	0.000	0.000	0.533
March	9.334	5.356	0.000	5.356	3.978	0.000	0.000	0.000	0.000	0.000	0.901
April	24.397	4.352	0.000	4.352	20.045	0.000	0.000	0.000	0.000	1.680	0.675
May											
June											
Sub-total	58.971	20.467	0.000	20.467	38.504	0.000	0.000	0.000	0.000	1.680	2.348
July											
August											
September											
October											
November											
December											
Total	58.971	20.467	0.000	20.467	38.504	0.000	0.000	0.000	0.000	1.680	2.348

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 50,000m<sup>3</sup>. (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<sup>3</sup>; soil = 2.0 tonnes/m<sup>3</sup>
- (7) excavated: rock = 2.0 tonnes/m<sup>3</sup>; soil = 1.8 tonnes/m<sup>3</sup>; broken concrete and bitumen = 2.4 tonnes/m<sup>3</sup>, soil and rock = 1.9 tonnes/m<sup>3</sup>
- (8) C&D Waste = 0.9 tonnes/m<sup>3</sup>; bentonite slurry = 2.8 tonnes/m<sup>3</sup>  
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 2021 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 <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]
Jan	2.66301	0.00000	0.00000	0.00000	2.66301	0.00000	0.00000	0.00000	0.00000	0.00000	0.11320
Feb	0.89033	0.00000	0.00000	0.00000	0.89033	0.00000	0.00000	0.00000	0.00000	0.00000	0.12088
Mar	0.44910	0.00000	0.00000	0.00000	0.44910	0.00000	0.00000	0.00000	0.00000	0.00000	0.09580
Apr	1.77404	0.00000	0.00000	0.00000	1.77404	0.00000	0.00000	0.00000	0.00000	0.00000	0.11686
May	0.00000										
June	0.00000										
<b>SUB-TOTAL</b>	<b>5.77647</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>5.77647</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.44674</b>
Jul	0.00000										
Aug	0.00000										
Sep	0.00000										
Oct	0.00000										
Nov	0.00000										
Dec	0.00000										
<b>TOTAL</b>	<b>5.77647</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>5.77647</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.00000</b>	<b>0.44674</b>

Note: Conversion to 1000m<sup>3</sup> for general refuse is weight in 1000kg multiply by 0.002  
 Conversion to 1000m<sup>3</sup> 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 2021

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 (in '000m <sup>3</sup> )	Broken Concrete (see Note 1)	Reused in the Contract (in '000m <sup>3</sup> )	Reused in other Projects (in '000m <sup>3</sup> )	Disposed as Public Fill (in '000m <sup>3</sup> )	Metals (in '000 Kg)	Paper/ cardboard packaging (in '000 Kg)	Plastics (see Note 2)	Chemical Waste (in '000 Kg)	Others, e.g. general refuse (in '000m <sup>3</sup> )
		(in '000m <sup>3</sup> )						(in '000 Kg)		
Jan	0.5830	0	0	0	0.5830	0	0	0	0	0.0032
Feb	0.2614	0	0	0	0.2614	0	0	0	0	0.0081
Mar	0.7659	0	0	0	0.7659	0	0	0	0	0.0078
Apr	0.1487	0	0	0	0.1487	0	0	0	0	0.0089
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
<b>Sub-total</b>	<b>1.7590</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.7590</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0280</b>
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
<b>Total</b>	<b>1.7590</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.7590</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0280</b>

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 6.5m<sup>3</sup> / 8.125 m<sup>3</sup> by volume.



**Monthly Summary Waste Flow Table For 2021**

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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0	0	0	0.003
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
Apr	0	0	0	0	0	0	0	0	0	0	0
May											
Jun											
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.009</b>
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.009</b>

- 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<sup>3</sup> of general refuse.
  - (4) The commencement date of the Contract is 9 November 2018. The current reporting period is from 1 April 2021 to 30 April 2021.

Monthly Summary Waste Flow Table for 2021

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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.0174	0.0000	0.0000	0.0000	0.0174	0.0000	9.0500	0.0000	0.0000	0.0000	0.0107
Feb	0.0492	0.0000	0.0000	0.0000	0.0492	0.0000	0.0000	0.0000	0.0000	0.0000	0.0077
Mar	0.0605	0.0000	0.0000	0.0000	0.0605	0.0000	0.0000	0.0000	0.0000	0.0000	0.0123
Apr	0.0077	0.0000	0.0000	0.0000	0.0077	0.0000	0.0000	0.0000	0.0000	0.0000	0.0216
May											
Jun											
<b>Sub-total</b>	0.1348	0.0000	0.0000	0.0000	0.1347	0.0000	9.0500	0.0000	0.0000	0.0000	0.0524
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
<b>Total</b>	0.1348	0.0000	0.0000	0.0000	0.1347	0.0000	9.0500	0.0000	0.0000	0.0000	0.0524

- Notes:
1. Assume the density of soil fill is 2 ton/m<sup>3</sup>.
  2. Assume the density of rock and broken concrete is 2.5 ton/m<sup>3</sup>.
  3. Assume the density of mixed rock and soil is 1.9 ton/m<sup>3</sup>.
  4. Assume the density of slurry and bentonite is 2.8 ton/m<sup>3</sup>.
  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<sup>3</sup>.
  7. The non-inert C&D wastes are disposed at NENT.

## Monthly Summary Waste Flow Table for 2021 (year)

Name of Person completing the record: Calvin So (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 <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m <sup>3</sup> )
Jan	0.132	0.000	0.000	0.000	0.132	0.000	0.000	0.113	0.000	0.000	0.399
Feb	0.108	0.000	0.000	0.000	0.108	0.000	0.000	0.186	0.000	0.000	0.351
Mar	0.060	0.000	0.000	0.000	0.060	0.000	0.000	0.099	0.000	0.000	0.512
Apr	0.018	0.000	0.000	0.000	0.018	0.000	0.000	0.121	0.000	0.000	0.283
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	0.318	0.000	0.000	0.000	0.318	0.000	0.000	0.519	0.000	0.000	1.545
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	0.318	0.000	0.000	0.000	0.318	0.000	0.000	0.519	0.000	0.000	1.545

Note:

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

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**APPENDIX Q  
TENTATIVE CONSTRUCTION  
PROGRAMME**

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## High Level 3 Months Look Ahead Programme

Activities	May-21	Jun-21	Jul-21
<b>Lam Tin Interchange</b>			
EHC2 U-Trough			
Site Formation - Area 1G1 & 1G2 &5			
Site Formation - Area 2			
Site Formation - Slope Stabilisation			
Site Formation - Retaining Wall			
Administration Building			
West Ventilation Building			
Bridge Construction			
Emergency Stormwater storage tank + Stormwater pumping station			
S01_2, EHC1 & 4 Construction			
CKLR Underground Utilities			
Landscape Deck			
LTI Drainage			
<b>Tunnel</b>			
Main Tunnel Lining Works			
S02_2 Excavation & Lining			
<b>TKO Interchange</b>			
Bridge Construction			
East Ventilation Building			

Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	2021					
										Apr	May	Jun	Jul	Aug	
<b>NE/2015/02 Tseung Kwan O - Lam Tin Tunnel-Road P2 and Associated Works (April</b>															
<b>Project Commencement and Completion</b>															
P2-Cal.A	K10020	Project Completion Date	0.0	0.0	20-Apr-21	20-Apr-21	-74.0	0%	0.0						
<b>Revised Contract Key Date and Section Completion of Works under CE57,124,135,</b>															
P2-Cal.A	K10406	Key Date 3_Portion IV, V, .VI, VIII and IX Road P2, Slip Roads and E&M Works	0.0	0.0	20-Apr-21*	20-Apr-21*	-68.5	0%	0.0						
P2-Cal.A	K10418	Section 5_All Works Comprising the Landscape Softworks	0.0	0.0	01-Jun-21*	01-Jun-21*	0.0	0%	0.0						
P2-Cal.A	K10412	Section 2_All Works within Portion II	0.0	0.0	04-Jun-21*	04-Jun-21*	0.0	0%	0.0						
P2-Cal.A	K10408	Key Date 4_Portion IV, V, .VI, VIII and IX Opening Road P2 and CBL	0.0	0.0	04-Jun-21*	04-Jun-21*	0.0	0%	0.0						
P2-Cal.A	K10414	Section 3_All Works within Portion IV, V, VI, VII, VIII and IX	0.0	0.0	04-Jun-21*	04-Jun-21*	0.0	0%	0.0						
P2-Cal.A	K10416	Section 4_All Works Comprising the Preservation and Protection of Existing Trees	0.0	0.0	04-Jun-21*	04-Jun-21*	0.0	0%	0.0						
<b>Possible Contract Key Date &amp; Section Completion of the Works under CE154, 159,</b>															
P2-Cal.A	K10419-13	Key Date 3_Portion IV, V, .VI, VIII and IX Road P2, Slip Roads and E&M Works	0.0	0.0	20-Apr-21*	20-Apr-21*	-32.0	0%	0.0						
P2-Cal.A	K10419-19	Section 5_All Works Comprising the Landscape Softworks	0.0	0.0	06-Jul-21*	06-Jul-21*	0.0	0%	0.0						
P2-Cal.A	K10419-14	Key Date 4_Portion IV, V, .VI, VIII and IX Opening Road P2 and CBL	0.0	0.0	09-Jul-21*	09-Jul-21*	0.0	0%	0.0						
P2-Cal.A	K10419-17	Section 3_All Works within Portion IV, V, VI, VII, VIII and IX	0.0	0.0	09-Jul-21*	09-Jul-21*	0.0	0%	0.0						
P2-Cal.A	K10419-18	Section 4_All Works Comprising the Preservation and Protection of Existing Trees	0.0	0.0	09-Jul-21*	09-Jul-21*	0.0	0%	0.0						
P2-Cal.A	K10419-16	Section 2_All Works within Portion II	0.0	0.0	09-Jul-21*	09-Jul-21*	0.0	0%	0.0						
<b>Area Handover Date</b>															
P2-Cal.A	A10700	Area X (Additional Works Area)	0.0	0.0	29-Jun-21	30-Jun-21	0.0	0%	0.0						
P2-Cal.A	A10680	Area D	0.0	0.0	30-Jun-21*	30-Jun-21*	0.0	0%	0.0						
P2-Cal.A	A10730	Zone 2 of Area Y (Additional Works Area)	0.0	0.0	30-Jun-21*	30-Jun-21*	0.0	0%	0.0						
<b>Compensation Event (CE)</b>															
P2-Cal.C	B13690	CE no. 311: Construction of K1 Kerb and Undersized Corrugated Beam Barrier at the Slope Toe of Slope P	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
P2-Cal.C	B13700	CE no. 312: Revised FS Fixed Foam System for P2 Underpass Structure	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
P2-Cal.C	B13710	CE no. 313: Additional E&M System at Stormwater Plant Room - ELV Works	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
P2-Cal.C	B13720	CE no. 314: Additional Air Conditioning System for Electrical Room	0.0	0.0	20-Apr-21	20-Apr-21	651.0	0%	0.0						
<b>PMI</b>															
P2-Cal.C	B42450	PMI No. 216: TCSS Cable Tray Behind the VE Panel at S200 CH821 to Road P2 CH105	0.0	0.0	20-Apr-21	20-Apr-21	651.0	0%	0.0						
<b>PMN</b>															
P2-Cal.C	B52930	PMN No. 226:Construction of K1 Kerb and Undersized Corrugated Beam Barrier at the Slope Toe of Slope P	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
P2-Cal.C	B52940	PMN No. 227:Revised FS Fixed Foam System for P2 Underpass Structure	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
P2-Cal.C	B52950	PMN No. 228:Additional Air Conditioning System for Electrical Room	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
P2-Cal.C	B52960	PMN No. 229:Additional E&M System at Stormwater Plant Room - ELV Works	0.0	0.0	20-Apr-21 A	20-Apr-21	651.0	100%	0.0						
<b>Preliminaries, Submission, Contractor's Design Submission and Approval</b>															
<b>Contractor's Design Submission and Acceptance</b>															
<b>E&amp;M Design</b>															

- Actual Work
- Remaining Work
- Critical Remaining Work
- Baseline Milestone
- Milestone

NE/2015/02 Tseung Kwan O - Lam Tin Tunnel-Road  
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Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	2021	Apr	May	Jun	Jul	Aug
<b>Detail Design for E&amp;M Works (Tunnel and associated)</b>															
<b>MVAC Detail Design</b>															
			14.0	14.0	10-Apr-21	03-May-21	-311.5		-10.0						
<b>Underpass</b>															
P2-Cal.A	S11640-23	Acceptance of Details Design by Supervisor	14.0	14.0	10-Apr-21	03-May-21	-311.5	0%	-10.0						
<b>FS Detail Design</b>															
<b>Underpass and Plant Room</b>															
P2-Cal.A	S11651-51	Acceptance of Details Design by Supervisor	4.0	4.0	10-Feb-21	30-Apr-21	-236.5	0%	-76.0						
<b>Plumbing and Drainage Detail Design</b>															
<b>Underpass and Plant Room</b>															
P2-Cal.A	S11658-08	Re-submission of Detail Design	154.0	32.0	19-Dec-20	21-May-21	-200.5	14.29%	-119.0						
P2-Cal.A	S11659	Accept detail design by the Supervisor	14.0	14.0	08-May-21	21-May-21	-200.5	0%	0.0						
<b>Electrical Detail Design</b>															
<b>Underpass Lighting</b>															
P2-Cal.A	S11660-80	Acceptance of Detail Design	14.0	14.0	10-Feb-21	17-May-21	-346.5	0%	-83.0						
<b>External Road Lighting</b>															
P2-Cal.A	S11660-79	Acceptance of Detail Design by Supervisor	21.0	21.0	15-Dec-20	10-May-21	-339.5	0%	-126.0						
<b>Plantroom</b>															
P2-Cal.C	S11667-03	Re-submission of Detail Design	106.0	7.0	19-Dec-20	22-Apr-21	-271.5	57.14%	-90.0						
P2-Cal.A	S11668	Accept detail design by the Supervisor	13.0	13.0	23-Apr-21	05-May-21	-334.5	0%	0.0						
<b>Design of Architectural Finishes for Internal Walls of U-Trough Structures</b>															
P2-Cal.A	S11750	Review and Accept Design of Architectural Finishes for Internal Walls of U-Trough Structures (VE and PC Panel) (Rev.B)	37.0	37.0	21-Dec-20	07-May-21	-323.5	51.35%	-101.0						
<b>FS System &amp; Cleansing System</b>															
P2-Cal.A	S11788	Prepare & Submission of Form 542 and plumbing proposal for Project Manager's review ( FS )	93.0	30.0	20-Feb-21	19-May-21	-277.5	0%	-59.0						
P2-Cal.A	S11789	Reviewed by WSD	28.0	28.0	20-May-21	16-Jun-21	-277.5	0%	0.0						
P2-Cal.A	S11790	Formal Submission to Supervisor /Submission of Form WWO46 Part I/II	14.0	14.0	17-Jun-21	30-Jun-21	-277.5	0%	0.0						
P2-Cal.A	S11800	Review and Accept Submission and associated elements	21.0	21.0	01-Jul-21	21-Jul-21	-277.5	0%	0.0						
<b>Major Construction Works Method Statement</b>															
<b>Construction of U-Troughs structure (P2 CH363-411)</b>															
P2-Cal.A	S14136	Accept Method Statement for Construction of U-Troughs Structure (P2 CH363-411)	18.0	18.0	12-Apr-21	07-May-21	-284.5	0%	-5.0						
<b>Procurement of Major Material</b>															
<b>Civil/Structural</b>															
P2-Cal.A	S14999	Offsite Fabrication of Traffic and directional signs	73.0	60.0	02-Mar-21	15-May-21	-47.5	56.67%	-15.0						
P2-Cal.A	S14996	Offsite Fabrication of Steel Works for the Sign Gantry (ADS22)	5.0	5.0	02-Mar-21	15-May-21	-114.5	0%	-75.0						
P2-Cal.C	S14997-01	Offsite Fabrication of Steel Works for the Sign Gantry (FADS22)	50.0	50.0	18-May-21*	17-Jul-21	-82.5	0%	-50.0						
P2-Cal.A	S14997	Offsite Fabrication of Steel Works for the Sign Gantry (DS22)	70.0	70.0	10-May-21*	18-Jul-21	-286.5	0%	110.0						
<b>Architectural</b>															
			270.0	270.0	08-May-21	01-Feb-22	-323.5		0.0						

- Actual Work
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Calendar	Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	Activity % Complete	Variance - B/L	B/L Duration	2021				
											Apr	May	Jun	Jul	Aug
P2-Cal.A	S15142	Trial Panels for V-Panel / Precast Concrete Panel	60.0	60.0	08-May-21	06-Jul-21	-323.5	0%	0.0						
P2-Cal.A	S15142-02	Manufacturing of Precast Concrete Panel	170.0	170.0	19-Jun-21	05-Dec-21	-265.5	0%	0.0						
P2-Cal.A	S15142-01	Manufacturing of VE Panel	210.0	210.0	07-Jul-21	01-Feb-22	-323.5	0%	0.0						
<b>E&amp;M</b>			397.0	180.0	15-Sep-20 A	16-Oct-21	-316.5		-31.0						
P2-Cal.A	S15180	Procurement and Delivery of ELV Equipment (SCADA and ELV)	48.0	48.0	20-Apr-21	06-Jun-21	-185.5	0%	0.0						
P2-Cal.A	S15148	Procurement and Delivery of P/D Equipment	280.0	32.0	15-Sep-20 A	22-Jun-21	-200.5	88.57%	-1.0						
P2-Cal.A	S15146	Procurement and Delivery of FS Equipment	59.0	59.0	01-May-21	28-Jun-21	-236.5	0%	0.0						
P2-Cal.A	S15190	Procurement and Delivery of LED Lighting	115.0	115.0	18-May-21	09-Sep-21	-309.5	0%	0.0						
P2-Cal.A	S15144	Procurement and Delivery of MVAC Plant	131.0	131.0	04-May-21	11-Sep-21	-311.5	0%	0.0						
P2-Cal.A	S15150	Procurement and Delivery of EL Equipment	152.0	152.0	18-May-21	16-Oct-21	-346.5	0%	0.0						
<b>Section 2 of the Works (All Works Within Portion II)</b>			431.0	81.0	13-Feb-20 A	27-Jul-21	-43.5		-16.0						
<b>Roadworks</b>			431.0	81.0	13-Feb-20 A	27-Jul-21	-43.5		-16.0						
<b>SR1 CH0.00 to P2 CH650</b>			211.0	24.0	10-Jun-20 A	18-May-21	13.5		-67.0						
P2-Cal.C	LC12104	Construction of Road Kerb/Sign Post	14.0	10.0	10-Jun-20 A	30-Apr-21	13.5	28.57%	-250.0						
P2-Cal.C	LC12124	Installation of Type II Railing/ Granite Stone Facing	21.0	14.0	02-Dec-20 A	18-May-21	13.5	33.33%	-112.0						
<b>Adjacent to site office (SMH SR05 &amp; SR06)</b>			431.0	81.0	13-Feb-20 A	27-Jul-21	-118.5		-16.0						
P2-Cal.C	LC12134	Review and Approval of ELS	16.0	21.0	13-Feb-20 A	14-May-21	-118.5	0%	-354.0						
P2-Cal.C	LC12164	Construction of ELS for SMH-SR07	36.0	36.0	15-May-21	28-Jun-21	-118.5	0%	0.0						
P2-Cal.C	LC12174	Construction of SMH-SR07and Backfilling	24.0	24.0	29-Jun-21	27-Jul-21	-118.5	0%	0.0						
<b>Section 3 of the Works All Works within Portion IV, V, VI, VII,VIII, and IX</b>			1122.0	319.0	06-Apr-18 A	18-May-22	332.0		-97.0						
<b>Existing Land Section</b>			988.0	319.0	06-Apr-18 A	18-May-22	332.0		-100.0						
<b>Retaining Wall P2-A CH 500- 650</b>			530.0	63.0	20-Sep-19 A	06-Jul-21	588.0		-24.0						
P2-Cal.C	LC12003	Utility Works	30.0	34.0	20-Feb-21 A	31-May-21	-114.5	0%	-50.0						
P2-Cal.C	LC11933	Slope Works (Slope P)	45.0	45.0	20-Sep-19 A	12-Jun-21	606.0	0%	-466.0						
P2-Cal.C	LC12013	Road Works at Tong Yin Street	29.0	29.0	01-Jun-21	06-Jul-21	-114.5	0%	1.0						
<b>P2 Road</b>			117.0	88.0	06-Feb-21 A	04-Aug-21	-50.5		105.0						
<b>P2 CH 318 - 363</b>			81.0	74.0	12-Mar-21 A	19-Jul-21	-128.5		-22.0						
<b>Structure P2 CH 318 - 363 &amp; SR2 CH100-110 (U Trough B)</b>			81.0	74.0	12-Mar-21 A	19-Jul-21	-128.5		-22.0						
<b>Bay 1</b>			81.0	74.0	12-Mar-21 A	19-Jul-21	-128.5		-22.0						
P2-Cal.C	LC13410	Construction of insitu Concrete Profile Barrier (2moulds) (NCE193 & NCE219)	81.0	74.0	12-Mar-21 A	19-Jul-21	-128.5	8.64%	-22.0						
<b>P2 CH 363 - 411</b>			117.0	88.0	06-Feb-21 A	04-Aug-21	-288.5		-35.0						
<b>ELS P2 CH 363 - 411</b>			117.0	88.0	06-Feb-21 A	04-Aug-21	-303.5		-39.0						
P2-Cal.C	LC15020	Installation of Sheet Pile Wall	20.0	16.0	06-Feb-21 A	08-May-21	-310.5	90%	-51.0						
P2-Cal.C	LC15025	Installation of King Post	10.0	16.0	15-Apr-21 A	08-May-21	-310.5	40%	-10.0						
P2-Cal.C	LC15220	Excavation to +2.8mPD (4608m3)	6.0	6.0	10-May-21	15-May-21	-310.5	0%	1.0						
P2-Cal.C	LC15045	Ground Improvement Works	7.0	22.0	31-Mar-21 A	15-May-21	-301.5	70%	-28.0						

- Actual Work
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Date	Revision	Checked	Approved
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Calendar	Activity ID	Activity Name	Original Duration	Remaining Duration	Start Date	Finish Date	Total Float	Activity % Complete	Variance - Act. Duration	2021					
										Apr	May	Jun	Jul	Aug	
P2-Cal.C	LC15200	Installation of Dewatering Well	10.0	10.0	10-May-21	21-May-21	-305.5	0%	-3.0						
P2-Cal.C	LC15280	Installation of 1st Layer Strut/ Waler at +3.8mPD	9.0	9.0	17-May-21	27-May-21	-310.5	0%	1.0						
P2-Cal.C	LC15290	Excavate to +1.0mPD (1296m3)	5.0	5.0	28-May-21	02-Jun-21	-310.5	0%	0.0						
P2-Cal.C	LC15310-01	Excavate to -1.0mPD at Bay 1	5.0	5.0	28-May-21	02-Jun-21	-276.5	0%	-5.0						
P2-Cal.C	LC15320-01	Installation of 2nd layer strut at -0.4mPD at Bay 1	7.0	7.0	03-Jun-21	10-Jun-21	-276.5	0%	-7.0						
P2-Cal.C	LC15300	Installation of 2nd Layer Strut at +2.0mPD for CH363 to CH387	9.0	9.0	03-Jun-21	12-Jun-21	-310.5	0%	1.0						
P2-Cal.C	LC15340-02	Excavate to -4.0mPD at Bay 1 and construct blinding layer	6.0	6.0	11-Jun-21	18-Jun-21	-276.5	0%	-6.0						
P2-Cal.C	LC15310	Excavate to -1.0mPD~-1.9mPD for CH363 to CH387 (1440m3)	5.0	5.0	15-Jun-21	19-Jun-21	-310.5	0%	0.0						
P2-Cal.C	LC15320	Installation of 3rd Layer Strut at +0.0mPD/-0.9mPD	9.0	9.0	21-Jun-21	30-Jun-21	-310.5	0%	1.0						
P2-Cal.C	LC15340-12	Excavation and construction of vertical blinding for sunken slab at Bay 1	12.0	12.0	19-Jun-21	03-Jul-21	-276.5	0%	-12.0						
P2-Cal.C	LC15330	Excavate to -4.8~-3.8mPD (2376m3)	4.0	4.0	02-Jul-21	06-Jul-21	-310.5	0%	1.0						
P2-Cal.C	LC15340	Construction of Blinding Layer	4.0	4.0	07-Jul-21	10-Jul-21	-310.5	0%	2.0						
P2-Cal.C	LC15340-01	Excavation and construction of vertical blinding for sunken slabs	21.0	21.0	12-Jul-21	04-Aug-21	-310.5	0%	0.0						
<b>Structure P2 CH 363 - 411 (U Trough B) (Team 9 &amp; 10)</b>			15.0	15.0	05-Jul-21	21-Jul-21	-276.5		0.0						
P2-Cal.C	LC14110	Construction of Base Slab Bay 1	15.0	15.0	05-Jul-21	21-Jul-21	-276.5	0%	0.0						
<b>P2 CH 411- 500</b>			13.0	13.0	12-Jul-21	26-Jul-21	-192.5		0.0						
<b>Structure P2 CH 411 - 500 (U Trough A)</b>			13.0	13.0	12-Jul-21	26-Jul-21	-192.5		0.0						
<b>Wall Stem</b>			13.0	13.0	12-Jul-21	26-Jul-21	-192.5		0.0						
P2-Cal.C	LC15230	Construction of wall stem Final Pour at Bay 1	13.0	13.0	12-Jul-21	26-Jul-21	-192.5	0%	0.0						
<b>Remaining Works</b>			17.0	17.0	17-May-21	05-Jun-21	-1.5		78.0						
P2-Cal.C	LC20910	Installation of steelwork, directional sign and FVMS of ADS22	12.0	12.0	17-May-21	31-May-21	-90.5	0%	6.0						
P2-Cal.C	LC20905	Construction of direction signs DS25 and DS36 (include footings)	12.0	12.0	17-May-21	31-May-21	3.5	0%	12.0						
P2-Cal.C	LC20950	TCSS installation for FVMS and ADS22 (by C4)	5.0	5.0	01-Jun-21	05-Jun-21	-90.5	0%	0.0						
<b>SR2</b>			983.0	319.0	06-Apr-18 A	18-May-22	-281.5		-232.0						
<b>SR2 CH110 - 170</b>			94.0	83.0	07-Apr-21 A	29-Jul-21	-228.5		4.0						
<b>ELS</b>			78.0	67.0	07-Apr-21 A	10-Jul-21	-247.5		-15.0						
P2-Cal.C	LC16160	Excavate to +3.6mPD (1927m3)	10.0	12.0	12-Apr-21 A	04-May-21	-263.5	50%	-9.0						
P2-Cal.C	LC16140	Installation of Dewatering Well	7.0	22.0	07-Apr-21 A	15-May-21	-263.5	5%	-26.0						
P2-Cal.C	LC16170	Installation of 1st layer struts @ +4.6mPD	10.0	10.0	05-May-21	15-May-21	-263.5	0%	0.0						
P2-Cal.C	LC16200-01	Excavate to -1mPD at Bay 1	5.0	5.0	17-May-21	22-May-21	-220.5	0%	-5.0						
P2-Cal.C	LC16210-01	Installation of 2nd layer Struts @ +0.0 at Bay 1	7.0	7.0	24-May-21	31-May-21	-220.5	0%	-7.0						
P2-Cal.C	LC16180	Excavate to +1.6mPD (2412m3)	5.0	5.0	28-May-21	02-Jun-21	-272.5	0%	0.0						
P2-Cal.C	LC16230-01	Excavate to -4.0mPD and construct blinding layer at Bay 1	6.0	6.0	01-Jun-21	07-Jun-21	-220.5	0%	-6.0						
P2-Cal.C	LC16190	Installation of 2nd layer strut @ +1.6mPD	9.0	9.0	03-Jun-21	12-Jun-21	-272.5	0%	1.0						
P2-Cal.C	LC16200	Excavate to -1.0~-1.9mPD (1286m3)	5.0	5.0	15-Jun-21	19-Jun-21	-272.5	0%	0.0						
P2-Cal.C	LC16210	Installation of 3rd layer Struts @ +0.0~-0.9mPD	9.0	9.0	21-Jun-21	30-Jun-21	-272.5	0%	1.0						

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Calendar	Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	2021				
										Apr	May	Jun	Jul	Aug
P2-Cal.C	LC16220	Excavate to -4.1~-5.1mPD (2541m3)	4.0	4.0	02-Jul-21	06-Jul-21	-272.5	0%	1.0					Excavate to -4.1~-5.1mPD (2541m3)
P2-Cal.C	LC16230	Construction of Blinding Layer	4.0	4.0	07-Jul-21	10-Jul-21	-272.5	0%	0.0					Construction of Blinding Layer
<b>Structure SR2 CH110 - 170 (U Trough B) (team 11 - 13)</b>			43.0	43.0	08-Jun-21	29-Jul-21	-228.5		-8.0					
P2-Cal.C	LC16240	Construction of Bay 1 Base Slab	15.0	15.0	08-Jun-21	25-Jun-21	-220.5	0%	0.0					Construction of Bay 1 Base Slab
P2-Cal.C	LC16310	Construction of Bay 1 Wall	20.0	20.0	26-Jun-21	20-Jul-21	-220.5	0%	0.0					Construction of Bay 1 Wall
P2-Cal.C	LC16270	Construction of Bay 4 Base Slab	15.0	15.0	12-Jul-21	28-Jul-21	-272.5	0%	0.0					Construction of Bay 4 Base Slab
P2-Cal.C	LC16280	Construction of Bay 5 Base Slab	15.0	15.0	12-Jul-21	28-Jul-21	-272.5	0%	0.0					Construction of Bay 5 Base Slab
P2-Cal.C	LC16250	Construction of Bay 2 Base Slab	16.0	16.0	12-Jul-21	29-Jul-21	-228.5	0%	-1.0					Construction of Bay 2 Base Slab
<b>SR2 CH170 - 250</b>			727.0	14.0	28-Feb-19 A	27-Jul-21	-203.5		-1.0					
<b>Structure SR2 CH 170 - 250 (U Trough A)</b>			727.0	14.0	28-Feb-19 A	27-Jul-21	-203.5		-1.0					
P2-Cal.C	LC17395	Construction of wall stem 2nd pour (top level) at CH170 - 182.5	9.0	9.0	12-Jul-21	21-Jul-21	-203.5	0%	0.0					Construction of wall stem 2nd pour
P2-Cal.C	LC17510	Waterproofing, Backfilling and Remove sheetpile	40.0	5.0	28-Feb-19 A	27-Jul-21	-203.5	87.5%	-673.0					Waterproofing, Backfilling and
<b>Road and Drainage &amp; Utilities Works (P2 CH318 - 650 &amp; SR2 CH100 - 310)</b>			368.0	283.0	06-Apr-18 A	18-May-22	-281.5		-851.0					
P2-Cal.C	LC17590	Road and Drainage & Utilities Works (SR2 CH100 - 250)	300.0	260.0	28-Jun-18 A	06-May-22	-272.5	13.33%	-842.0					
P2-Cal.C	LC17560	Road and Drainage & Utilities Works (P2 CH318 - 500)	300.0	283.0	06-Apr-18 A	18-May-22	-281.5	5.67%	-919.0					
<b>New Reclaimed Section</b>			641.0	313.0	16-Nov-19 A	11-May-22	-275.5		-91.0					
<b>Marine Works</b>			603.0	82.0	03-Jan-20 A	28-Jul-21	-44.5		140.0					
<b>Concrete Coping</b>			512.0	81.0	27-Apr-20 A	28-Jul-21	-44.5		140.0					
<b>Eastern Seawall</b>			188.0	81.0	16-Dec-20 A	28-Jul-21	-44.5		9.0					
P2-Cal.C	MC13535	Coping Area 3 (CH300-371) (71m)	11.0	33.0	21-Jan-21 A	31-May-21	-235.5	21.4%	-92.0					Coping Area 3 (CH300-371) (71m)
P2-Cal.C	MC13515	Coping Area 5 (CH371-500) (129m)	32.0	58.0	16-Dec-20 A	30-Jun-21	-21.5	65.4%	-124.0					Coping Area 5 (CH371-500) (129m)
P2-Cal.C	MC13475	Coping Area 2 (CH189-300) (111m)	48.0	48.0	01-Jun-21	28-Jul-21	-219.5	0%	0.0					Coping Area 2 (CH189-300)
<b>Western Seawall</b>			15.0	3.0	27-Apr-20 A	26-Apr-21	-56.8		-280.3					
P2-Cal.C	MC13555	Coping Area 4 (CH271-371W) (100m)	15.0	3.0	27-Apr-20 A	26-Apr-21	-56.8	96.7%	-280.3					Coping Area 4 (CH271-371W) (100m)
<b>Armour Protection</b>			182.0	3.0	03-Jan-20 A	22-Apr-21	-57.5		-202.0					
<b>Laying of Armour Rock (West)</b>			133.0	2.3	03-Jan-20 A	22-Apr-21	-56.8		-250.3					
P2-Cal.C	MC13755	Armour CH440-500 (4735m3)	15.0	1.0	11-May-20 A	20-Apr-21	-55.5	93.33%	-266.0					Armour CH440-500 (4735m3)
P2-Cal.C	MC13735	Armour CH375-440 (4882m3)	15.0	1.0	15-May-20 A	20-Apr-21	-56.8	93.33%	-262.0					Armour CH375-440 (4882m3)
P2-Cal.C	MC13715	Armour CH311-375 (4767m3)	7.0	1.0	22-May-20 A	21-Apr-21	-56.8	85.71%	-265.0					Armour CH311-375 (4767m3)
P2-Cal.C	MC13695	Armour CH271-311 (1833m3)	8.0	0.3	03-Jan-20 A	22-Apr-21	-56.8	96.69%	-375.3					Armour CH271-311 (1833m3)
<b>Laying of Armour Rock (East)</b>			156.0	3.0	13-Jan-20 A	22-Apr-21	-188.5		-220.0					
P2-Cal.C	MC13955	Armour CH375-440 (4882m3)	12.0	1.0	14-Mar-20 A	20-Apr-21	-228.5	91.67%	-312.0					Armour CH375-440 (4882m3)
P2-Cal.C	MC13935	Armour CH300-375 (4767m3)	12.0	1.0	06-Feb-20 A	20-Apr-21	-235.5	91.67%	-344.0					Armour CH300-375 (4767m3)
P2-Cal.C	MC13915	Armour CH250-300 (3181m3)	10.0	1.0	13-Jan-20 A	21-Apr-21	-188.5	90%	-365.0					Armour CH250-300 (3181m3)
P2-Cal.C	MC13895	Armour CH190-250 (2310m3)	9.0	1.0	13-Aug-20 A	22-Apr-21	-188.5	88.89%	-195.0					Armour CH190-250 (2310m3)
<b>Land Works</b>			551.0	313.0	16-Nov-19 A	11-May-22	-275.5		-100.0					

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<b>Road P2 Underpass (CH105-CH318)</b>															
<b>Instrumentation and Monitoring for Road P2 Structure Construction</b>															
P2-Cal.C	LC17760	Monitoring of Instrumentation	460.0	313.0	16-Nov-19 A	11-May-22	-275.5	31.96%	-272.0						
<b>Underpass</b>															
<b>Underpass P2 CH 105 - 318</b>															
<b>Base Slab (Team 1 to 4)</b>															
P2-Cal.C	LC18115-06	Removal of 3rd waler/strut @ -4.5 ~ -3.6mPD for Bay 1, 2, 3 & 4	8.0	1.0	31-Mar-21 A	20-Apr-21	-308.5	87.5%	-6.0						
P2-Cal.C	LC18080	Construction of base slab - bay 8 (Team 3) (with sunken slab under CE089)	18.0	4.0	27-Mar-21 A	23-Apr-21	-306.5	77.78%	-2.0						
P2-Cal.C	LC18085	Construction of base slab - bay 10 (Team 3) (with sunken slab under CE089)	14.0	8.0	16-Jan-21 A	28-Apr-21	-310.5	10%	-67.0						
P2-Cal.C	LC18060	Construction of base slab - bay 13 (Team 4) (with sunken slab under CE089)	20.0	10.0	01-Apr-21 A	30-Apr-21	-312.5	50%	-2.0						
P2-Cal.C	LC18120-01	Mass Concrete Fill (Bay 8, 9, 10, 11, 12, 13, 14) + Backfilling from -7.5mPD to -5.8mPD (6 Layers, 1D/Layer)	10.0	10.0	03-May-21	13-May-21	-312.5	0%	12.0						
P2-Cal.C	LC18120-06	Removal of 3rd Struts @ -4.5mPD for Bay 8, 9, 10, 11, 12, 13 & 14	25.0	25.0	14-May-21	12-Jun-21	-312.5	0%	-5.0						
P2-Cal.C	LC18090	Construction of base slab - bay 7 (Team 3) (with sunken slab under CE089)	18.0	18.0	27-May-21	17-Jun-21	-304.5	0%	0.0						
P2-Cal.C	LC18120-11	Mass Concrete Fill (Bay 7) + Backfilling from -7.5mPD to -5.8mPD (6 Layers, 1D/Layer)	9.0	9.0	18-Jun-21	28-Jun-21	-304.5	0%	9.0						
P2-Cal.C	LC18120-16	Removal of 3rd Struts @ -4.5mPD for Bay 7	5.0	5.0	29-Jun-21	05-Jul-21	-304.5	0%	10.0						
<b>1st Wall (Team 1 to 6)</b>															
P2-Cal.C	LC18192	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 1	21.0	21.0	21-Apr-21	15-May-21	-308.5	0%	-6.0						
P2-Cal.C	LC18180	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 4	18.0	18.0	10-May-21	31-May-21	-308.5	0%	-3.0						
P2-Cal.C	LC18185	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 3	18.0	18.0	10-May-21	31-May-21	-308.5	0%	-7.0						
P2-Cal.C	LC18190	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 2	18.0	18.0	10-May-21	31-May-21	-308.5	0%	-7.0						
P2-Cal.C	LC18135	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 14	15.0	15.0	25-May-21	10-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18198-01	Waterproofing and Backfilling from -5.8~-4.9mPD to -3.8~-2.8mPD for Bay 1, 2, 3, & 4 (7 layers, 1D/layer)	14.0	14.0	01-Jun-21	17-Jun-21	-308.5	0%	0.0						
P2-Cal.C	LC18140	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 13	11.0	11.0	11-Jun-21	24-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18160	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 9	11.0	11.0	15-Jun-21	26-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18198-06	Removal of 2nd Strut @ -1.5~-2.5mPD for Bay 1, 2, 3 & 4	15.0	15.0	18-Jun-21	06-Jul-21	-308.5	0%	0.0						
P2-Cal.C	LC18145	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 12	11.0	11.0	25-Jun-21	08-Jul-21	-312.5	0%	0.0						
P2-Cal.C	LC18165	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 8	14.0	14.0	28-Jun-21	14-Jul-21	-312.5	0%	-3.0						
P2-Cal.C	LC18150	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 11	11.0	11.0	09-Jul-21	21-Jul-21	-312.5	0%	0.0						
P2-Cal.C	LC18170	Construction of pour wall (1st East, West and Mid interim level -2.2mPD) - bay 7	11.0	11.0	15-Jul-21	27-Jul-21	-312.5	0%	0.0						
P2-Cal.C	LC18200-01	Waterproofing and Backfilling from -5.8mPD to -3.8mPD for Bay 8, & 9 (7 layers, 1D/layer)	14.0	14.0	15-Jul-21	30-Jul-21	-301.5	0%	22.0						
P2-Cal.C	LC18200-11	Waterproofing and Backfilling from -5.8mPD to -3.8mPD for Bay 10, 11, 12, 13 & 14 (7 layers, 1D/layer)	58.0	58.0	11-Jun-21	19-Aug-21	-312.5	0%	0.0						
P2-Cal.C	LC18200-16	Removal of 2nd Strut @ -2.5mPD for Bay 10, 11, 12, 13 & 14	49.0	49.0	29-Jun-21	25-Aug-21	-312.5	0%	0.0						
<b>2nd Wall (Team 1 to 6)</b>															
P2-Cal.C	LC18267	Construction of pour wall (2nd East, West and Mid interim level +0.8mPD) - bay 1	13.0	13.0	07-Jul-21	21-Jul-21	-306.5	0%	0.0						
P2-Cal.C	LC18255	Construction of pour wall (2nd East, West and Mid interim level +0.8mPD) - bay 4	15.0	15.0	07-Jul-21	23-Jul-21	-308.5	0%	0.0						
P2-Cal.C	LC18210	Construction of pour wall (2nd East, West and Mid interim level +0.8mPD) - bay 14	15.0	15.0	17-Jul-21	03-Aug-21	-312.5	0%	0.0						

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Calendar	Activity ID	Activity Name	Original Duration	Remaining Dur	Start	Finish	Total Float	Activity % Complete	Variance - Act. Duration	2021	Apr	May	Jun	Jul	Aug
<b>Fixed Foam Room/Sump Pit Room/Stormwater Plant Room</b>															
			126.0	104.0	20-Mar-21 A	23-Aug-21	-232.5		98.0						
<b>Fixed Foam Room/Sump Pit Room (Team 7)</b>															
			34.0	34.0	01-Jun-21	12-Jul-21	-279.5		2.0						
P2-Cal.C	LC18402-01	Petrol Interceptor Manholes	8.0	8.0	01-Jun-21	09-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18405	Erection of scaffold/falsework for 1st slab construction	6.0	6.0	10-Jun-21	17-Jun-21	-312.5	0%	1.0						
P2-Cal.C	LC18410	Construction of 2nd pour wall and slab up to -6.0mPD	9.0	9.0	18-Jun-21	28-Jun-21	-312.5	0%	1.0						
P2-Cal.C	LC18395	Installation of waterproofing works to 1st wall	7.0	7.0	29-Jun-21	07-Jul-21	-279.5	0%	0.0						
P2-Cal.C	LC18400	Backfilling works for Concrete Infill (1st -10.1mPD to -5.3mPD)	4.0	4.0	08-Jul-21	12-Jul-21	-279.5	0%	0.0						
<b>Stormwater Plant Room (Team 7 &amp; 8)</b>															
			99.0	77.0	20-Mar-21 A	22-Jul-21	-292.5		7.0						
P2-Cal.C	LC18418	Cast mass concrete fill / vertical blinding and waterproofing (with sunken slab under CE089)	18.0	16.0	20-Mar-21 A	08-May-21	-312.5	11.11%	-20.0						
P2-Cal.C	LC18420	Construction of main tunnel base slab - bay 6B2 (with sunken slab under CE089)	18.0	18.0	10-May-21	31-May-21	-312.5	0%	3.0						
P2-Cal.C	LC18417-01	Installation and preloading of 3rd layer strut/waler @-10.0mPD	6.0	6.0	28-May-21	03-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18465	Excavation to formation -13.8 - 14.5mPD	5.0	5.0	04-Jun-21	09-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18470	Construction of 2nd half base slab (6B3)	10.0	10.0	10-Jun-21	22-Jun-21	-312.5	0%	2.0						
P2-Cal.C	LC18475	Concrete Infill and Removal of 3rd water/strut @ -10.0mPD	6.0	6.0	23-Jun-21	29-Jun-21	-312.5	0%	0.0						
P2-Cal.C	LC18480	Construction of 1st pour walls for Stormwater plant room to -5.8mPD (W1B)	15.0	15.0	30-Jun-21	17-Jul-21	-312.5	0%	0.0						
P2-Cal.C	LC18510	Installation of waterproofing works to 1st wall	4.0	4.0	19-Jul-21	22-Jul-21	-292.5	0%	0.0						
<b>Fixed Foam Room/Sump Pit Room/Stormwater Plant Room (Up to -5.0mPD) (Team 7 &amp; 8)</b>															
			83.0	104.0	20-Apr-21 A	23-Aug-21	-232.5		95.0						
P2-Cal.C	LC18522	Construction of Temporary Working Platform for Construction of CLP Transformer Room	77.0	34.0	20-Apr-21 A	31-May-21	-232.5	55.84%	43.0						
P2-Cal.C	LC18580-00	Construction of insitu Concrete Profile Barrier for CLP trough and drainage - Bay 5(NCE193 & NCE219) (25m) (1mould)	22.0	22.0	29-Jun-21	24-Jul-21	-312.5	0%	0.0						
P2-Cal.C	LC18523	Erection of scaffold/falsework for 1st slab of Stormwater Plant Room construction	7.0	7.0	19-Jul-21	26-Jul-21	-306.5	0%	0.0						
P2-Cal.C	LC18521	Construct inlet chamber base slab (6B4)	9.0	9.0	19-Jul-21	28-Jul-21	-312.5	0%	21.0						
P2-Cal.C	LC18590	Construction of CLP Transformer Room	70.0	70.0	01-Jun-21	23-Aug-21	-232.5	0%	71.0						
<b>U-Trough A and B</b>															
			201.0	132.0	07-Dec-20 A	25-Sep-21	-106.5		45.0						
<b>"U-Trough A Type 3 and U-Trough B Type 4" from S200 CH821 to P2 CH105</b>															
			100.0	79.0	22-Mar-21 A	24-Jul-21	-82.5		135.0						
<b>Structure S200 CH821 - CH845 (No Water/Strut) (team 14)</b>															
			78.0	78.0	23-Mar-21 A	23-Jul-21	-204.5		69.0						
P2-Cal.C	LC21085	Construction of wall (East and West) - bay 1	19.0	6.0	23-Mar-21 A	26-Apr-21	-142.5	68.42%	-7.0						
P2-Cal.C	LC21090	Construction of wall (East and West) - bay 2	10.0	10.0	13-Jul-21	23-Jul-21	-204.5	0%	0.0						
<b>Structure S200 CH845 - CH926 (1 Layer Water/Strut) (team 15)</b>															
			78.0	78.0	31-Mar-21 A	23-Jul-21	-204.5		36.0						
P2-Cal.C	LC21146	Construction of wall below 1st strut (East and West) - bay 5	16.0	16.0	20-Apr-21	08-May-21	-261.5	0%	-16.0						
P2-Cal.C	LC21140	Construction of wall (East and West) - bay 3	10.0	18.0	31-Mar-21 A	11-May-21	-154.5	0%	-21.0						
P2-Cal.C	LC21147	Construction of wall below 1st strut (East and West) - bay 7	11.0	11.0	07-May-21	20-May-21	-261.5	0%	-11.0						
P2-Cal.C	LC21148	Construction of wall below 1st strut (East and West) - bay 6	11.0	11.0	21-May-21	02-Jun-21	-261.5	0%	-11.0						
P2-Cal.C	LC21130-10	Waterproofing and Mass concrete fill from -2.7mPD to +1.0mPD (13 Layers, 1D/layer) (bay 5 -7)	14.0	14.0	03-Jun-21	19-Jun-21	-229.5	0%	6.0						
P2-Cal.C	LC21135	Removal of 1st layer strut/waling @ +2.5 for Bay 5-7	8.0	8.0	21-Jun-21	29-Jun-21	-229.5	0%	7.0						
P2-Cal.C	LC21150	Construction of wall (East and West) - bay 5	10.0	10.0	30-Jun-21	12-Jul-21	-229.5	0%	0.0						
P2-Cal.C	LC21145	Construction of wall (East and West) - bay 4	10.0	10.0	13-Jul-21	23-Jul-21	-204.5	0%	0.0						

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

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Calendar	Activity ID	Activity Name	Original Duration	Remaining Duration	Start Date	Finish Date	Total Float	Activity % Complete	Variance - Act. Duration	2021	Apr	May	Jun	Jul	Aug
P2-Cal.C	LC23350-000	Road and Drainage Works and Backfilling to Formation (S300 CH403 - S300 CH355)	30.0	30.0	07-Jul-21	10-Aug-21	-199.5	0%	0.0						Road and
P2-Cal.C	LC23350	Road and Drainage Works and Backfilling to Formation (S400 CH158 - S300 CH326)	30.0	30.0	07-Jul-21	10-Aug-21	-199.5	0%	0.0						Road and
P2-Cal.C	LC23350-00	Road and Drainage Works and Backfilling to Formation (S200 CH755 - S200 CH674/S100 CH280)	64.0	64.0	13-Jul-21	25-Sep-21	-246.5	0%	-15.0						
<b>U-Trough C Structures</b>			186.0	78.0	09-Nov-20 A	23-Jul-21	-257.5		-41.0						
<b>"U-Trough C Type 1, 2, 3 &amp; 4" from CT01 CH117.156 - CH366</b>			186.0	78.0	09-Nov-20 A	23-Jul-21	-257.5		-41.0						
<b>ELS &amp; Structure "U-Trough C Type 1, 2, 3 &amp; 4" from CT01 CH117.156 - CH366</b>			186.0	78.0	09-Nov-20 A	23-Jul-21	-257.5		-41.0						
<b>Base Slab (Team 29)</b>			186.0	78.0	09-Nov-20 A	23-Jul-21	-257.5		-41.0						
P2-Cal.C	LC23540	Construction of Cycle Track Bay 7 Base Slab CT01 CH294 to CH282	11.0	5.0	15-Apr-21 A	24-Apr-21	-217.5	70%	2.0						Construction of Cycle Track Bay 7 Base Slab CT01 CH294 to CH282
P2-Cal.C	LC23470	Excavation, Recompaction and Installation of Capping Plate	35.0	16.0	09-Nov-20 A	08-May-21	-243.5	54.29%	-110.0						Excavation, Recompaction and Installation of Capping Plate
P2-Cal.C	LC23570	Construction of Cycle Track Bay 10 Base Slab CT01 CH260 to CH251	11.0	11.0	01-Jun-21	12-Jun-21	-257.5	0%	0.0						Construction of Cycle Track Bay 10 Base Slab CT01 CH260 to CH251
P2-Cal.C	LC23560	Construction of Cycle Track Bay 9 Base Slab CT01 CH270 to CH 260	11.0	11.0	15-Jun-21	26-Jun-21	-246.5	0%	0.0						Construction of Cycle Track Bay 9 Base Slab CT01 CH270 to CH 260
P2-Cal.C	LC23580	Construction of Cycle Track Bay 11 Base Slab CT01 CH251 to CH238	11.0	11.0	15-Jun-21	26-Jun-21	-257.5	0%	0.0						Construction of Cycle Track Bay 11 Base Slab CT01 CH251 to CH238
P2-Cal.C	LC23590	Construction of Cycle Track Bay 12 Base Slab CT01 CH238 to CH226	11.0	11.0	28-Jun-21	10-Jul-21	-257.5	0%	0.0						Construction of Cycle Track Bay 12 Base Slab CT01 CH238 to CH226
P2-Cal.C	LC23600	Construction of Cycle Track Bay 13 Base Slab CT01 CH226 to CH213	11.0	11.0	12-Jul-21	23-Jul-21	-257.5	0%	0.0						Construction of Cycle Track Bay 13 Base Slab CT01 CH226 to CH213
<b>1st Wall (Team 30)</b>			95.0	78.0	26-Mar-21 A	23-Jul-21	-257.5		-42.0						
P2-Cal.C	LC23710	Construction of Cycle Track Bay 3 1st Wall CT01 CH342 to CH330	11.0	0.0	26-Mar-21 A	20-Apr-21 A		100%	-6.0						Construction of Cycle Track Bay 3 1st Wall CT01 CH342 to CH330
P2-Cal.C	LC23700	Construction of Cycle Track Bay 2 1st Wall CT01 CH354 to CH342	25.0	25.0	20-Apr-21	20-May-21	-243.5	0%	-14.0						Construction of Cycle Track Bay 2 1st Wall CT01 CH354 to CH342
P2-Cal.C	LC23720	Construction of Cycle Track Bay 4 1st Wall CT01 CH330 to CH318	11.0	11.0	14-May-21	27-May-21	-243.5	0%	0.0						Construction of Cycle Track Bay 4 1st Wall CT01 CH330 to CH318
P2-Cal.C	LC23730	Construction of Cycle Track Bay 5 1st Wall CT01 CH318 to CH306	11.0	11.0	28-May-21	09-Jun-21	-232.5	0%	0.0						Construction of Cycle Track Bay 5 1st Wall CT01 CH318 to CH306
P2-Cal.C	LC23750	Construction of Cycle Track Bay 7 1st Wall CT01 CH294 to CH282	11.0	11.0	28-May-21	09-Jun-21	-243.5	0%	0.0						Construction of Cycle Track Bay 7 1st Wall CT01 CH294 to CH282
P2-Cal.C	LC23740	Construction of Cycle Track Bay 6 1st Wall CT01 CH306 to CH294	11.0	11.0	10-Jun-21	23-Jun-21	-232.5	0%	0.0						Construction of Cycle Track Bay 6 1st Wall CT01 CH306 to CH294
P2-Cal.C	LC23760	Construction of Cycle Track Bay 8 1st Wall CT01 CH282 to CH270	11.0	11.0	10-Jun-21	23-Jun-21	-243.5	0%	0.0						Construction of Cycle Track Bay 8 1st Wall CT01 CH282 to CH270
P2-Cal.C	LC23780	Construction of Cycle Track Bay 10 1st Wall CT01 CH260 to CH251	11.0	11.0	28-Jun-21	10-Jul-21	-257.5	0%	0.0						Construction of Cycle Track Bay 10 1st Wall CT01 CH260 to CH251
P2-Cal.C	LC23770	Construction of Cycle Track Bay 9 1st Wall CT01 CH270 to CH 260	11.0	11.0	12-Jul-21	23-Jul-21	-257.5	0%	0.0						Construction of Cycle Track Bay 9 1st Wall CT01 CH270 to CH 260
P2-Cal.C	LC23790	Construction of Cycle Track Bay 11 1st Wall CT01 CH251 to CH238	11.0	11.0	12-Jul-21	23-Jul-21	-257.5	0%	0.0						Construction of Cycle Track Bay 11 1st Wall CT01 CH251 to CH238
<b>Section 4 of the Works - Preservation and Protection of Existing Trees</b>			1563.0	412.0	12-Jan-17 A	18-Jun-22	-379.5		-421.0						
P2-Cal.A	LC25260	Preservation and Protection of Existing Trees	1451.0	410.0	12-Jan-17 A	18-Jun-22	-379.5	71.74%	-533.0						
P2-Cal.A	LC25280	Nursery Transplanted Trees at the Contractor's holding nursery	1177.0	412.0	28-Apr-17 A	18-Jun-22	-379.5	65%	-701.0						

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High Level 3 Months Look Ahead Programme			
Activities	May -21	Jun -21	Jul -21
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	Classic Schedule Layout													
								Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov					
NE/2017/06	NE/2017/06 TKO-LTT TCSS_3MRP	71	58	0%	01-Apr-21	29-Jun-21	785														
NE/2017/06.CW	Contract Award / Commencement of Works	0	0	0%			0														
NE/2017/06.AD	Access Date	38	38	0%	20-Apr-21	28-May-21	0														
NE/2017/06.AD.000	General	38	38	0%	20-Apr-21	28-May-21	0														
NE/2017/06.AD.000.AD	Access Date	38	38	0%	20-Apr-21	28-May-21	0														
DWP10670	Portion 1A of the Site	0	0	0%	20-Apr-21*		-37														
DWP10672	Portion 1B of the Site	0	0	0%	20-Apr-21*		-36														
DWP10674	Portion 1C of the Site	0	0	0%	20-Apr-21*		-60														
DWP10676	Portion 2A of the Site	0	0	0%	30-Apr-21*		4														
DWP10678	Portion 2B of the Site	0	0	0%	30-Apr-21*		0														
DWP10680	Portion 3A of the Site	0	0	0%	20-Apr-21*		-31														
DWP10682	Portion 4A of the Site	0	0	0%	20-Apr-21*		-1														
DWP10684	Portion 4B of the Site	0	0	0%	28-May-21*		0														
NE/2017/06.KD	Key Date and Stages / Sections of the Achievement	0	0	0%			0														
NE/2017/06.KD.000	General	0	0	0%			0														
NE/2017/06.KD.000.03	Key Date and Stages / Sections of the Achievement	0	0	0%			0														
NE/2017/06.MD	Cost Centre Milestone Dates	56	56	0%	20-Apr-21	27-Jun-21	365														
NE/2017/06.MD.1	General	56	56	0%	20-Apr-21	27-Jun-21	365														
NE/2017/06.MD.1.1	CC B - Central System - TKOLTT	0	0	0%	30-Apr-21	30-Apr-21	59														
DWP8850	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		30-Apr-21	59														
NE/2017/06.MD.1.2	CC B1 - Central System - CBL	11	11	0%	20-Apr-21	30-Apr-21	491														
DWP8900	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP8910	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		30-Apr-21	491														
NE/2017/06.MD.1.3	CC C - Traffic Control Devices - TKOLTT	13	13	0%	20-Apr-21	02-May-21	57														
DWP8970	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP8980	Complete order and delivery on Site of all equipment for Works	0	0	0%		02-May-21	57														
NE/2017/06.MD.1.4	CC C1 - Traffic Control Devices - CBL	0	0	0%	20-Apr-21	20-Apr-21	501														
DWP9020	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP9030	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	501														
NE/2017/06.MD.1.5	CC D - Communication System - TKOLTT	3	3	0%	20-Apr-21	22-Apr-21	66														
DWP9150	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP9160	Complete order and delivery on Site of all equipment for Works	0	0	0%		22-Apr-21	66														
NE/2017/06.MD.1.6	CC D1 - Communication System - CBL	0	0	0%	20-Apr-21	20-Apr-21	501														
DWP9080	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP9090	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	501														
NE/2017/06.MD.1.7	CC E - CCTV System - TKOLTT	0	0	0%	20-Apr-21	20-Apr-21	69														
DWP9210	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
NE/2017/06.MD.1.8	CC E1 - CCTV System - CBL	0	0	0%	20-Apr-21	20-Apr-21	501														
DWP9260	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP9270	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	501														
NE/2017/06.MD.1.9	CC F - Building PABX System - TKOLTT	0	0	0%	20-Apr-21	20-Apr-21	69														
DWP9330	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP9340	Complete order and delivery on Site of all equipment for Works	0	0	0%		20-Apr-21	69														
NE/2017/06.MD.1.11	CC G - ET System - TKOLTT	0	0	0%	20-Apr-21	20-Apr-21	69														
DWP9450	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP9460	Complete order and delivery on Site of all equipment for Works	0	0	0%		20-Apr-21	69														
NE/2017/06.MD.1.10	CC H - PA System - TKOLTT	0	0	0%	20-Apr-21	20-Apr-21	69														
DWP9390	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP9400	Complete order and delivery on Site of all equipment for Works	0	0	0%		20-Apr-21	69														
NE/2017/06.MD.1.12	CC I - Radio System - TKOLTT	33	33	0%	20-Apr-21	22-May-21	36														
DWP9510	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP9520	Complete order and delivery on Site of all equipment for Works	0	0	0%		22-May-21	36														
NE/2017/06.MD.1.13	CC J - Detection System - TKOLTT	0	0	0%	20-Apr-21	20-Apr-21	69														
DWP9570	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
DWP9580	Complete order and delivery on Site of all equipment for Works	0	0	0%		20-Apr-21	69														
NE/2017/06.MD.1.15	CC J1 - Detection System - CBL	0	0	0%	20-Apr-21	20-Apr-21	501														
DWP9680	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP9690	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	501														
NE/2017/06.MD.1.14	CC K - Manual Fallback System - TKOLTT	0	0	0%	30-Apr-21	30-Apr-21	59														
DWP9640	Complete order and delivery on Site of all equipment for Works	0	0	0%		30-Apr-21	59														
NE/2017/06.MD.1.16	CC L - Operation Facilities - TKOLTT	8	8	0%	05-Jun-21	13-Jun-21	14														
DWP9750	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		05-Jun-21	22														
DWP9760	Complete order and delivery on Site of all equipment for Works	0	0	0%		13-Jun-21	14														
NE/2017/06.MD.1.17	CC M - Power Distribution System - TKOLTT	0	0	0%	20-Apr-21	20-Apr-21	69														
DWP9810	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														
NE/2017/06.MD.1.18	CC M1 - Power Distribution System - CBL	0	0	0%	20-Apr-21	20-Apr-21	501														
DWP9860	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP9870	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	501														
NE/2017/06.MD.1.19	CC N - Speed Enforcement System - TKOLTT	24	24	0%	03-Jun-21	27-Jun-21	0														
DWP9940	Complete order and delivery on Site of all equipment for Works	0	0	0%		03-Jun-21	24														
DWP9950	Complete Bench Acceptance Test	0	0	0%		27-Jun-21	0														
DWP9952	Complete Site Commissioning Test	0	0	0%		27-Jun-21	0														
NE/2017/06.MD.1.20	CC N1 - Speed Enforcement System - CBL	6	6	0%	20-Apr-21	25-Apr-21	495														
DWP10390	Acceptance of Preliminary System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP10400	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501														
DWP10410	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		25-Apr-21	495														
NE/2017/06.MD.1.21	CC O - Government Optical Fibre System - TKOLTT	10	10	0%	20-Apr-21	29-Apr-21	59														
DWP10050	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	69														



Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Classic Schedule Layout											
								Mar	Apr	Qtr 2, 2021		Jun	Qtr 3, 2021		Aug	Sep	Qtr 4, 2021		
DWP10060	Complete order and delivery on Site of all equipment for Works	0	0	0%		29-Apr-21	59				◆ Complete order and delivery on Site of all equipment for Works,								
NE/2017/06.MD.1.22	CC O1 - Government Optical Fibre System - CBL	0	0	0%	20-Apr-21	20-Apr-21	501												
DWP10090	Acceptance of Preliminary System Proposal for Works	0	0	0%		20-Apr-21	501					◆ Acceptance of Preliminary System Proposal for Works,							
DWP10100	Acceptance of Final System Proposal for Works	0	0	0%		20-Apr-21	501					◆ Acceptance of Final System Proposal for Works,							
DWP10110	Acceptance of Factory Acceptance Tests of all equipment for Works	0	0	0%		20-Apr-21	501					◆ Acceptance of Factory Acceptance Tests of all equipment for Works,							
NE/2017/06.MD.1.23	CC P - Training and Documentation - TKOLTT	0	0	0%	21-Jun-21	21-Jun-21	7												
DWP10210	Acceptance of all Factory Acceptance Tests Reports	0	0	0%		21-Jun-21	7					◆ Acceptance of all Factory Acceptance Tests Reports,							
NE/2017/06.MD.1.24	CC P1 - Training and Documentation - CBL	0	0	0%	30-Apr-21	30-Apr-21	491												
DWP10150	Acceptance of all Factory Acceptance Tests Reports	0	0	0%		30-Apr-21	491					◆ Acceptance of all Factory Acceptance Tests Reports,							
NE/2017/06.MD.1.25	CC Q - Comprehensive Maintenance Services and DLP - TKOLTT	0	0	0%			0												
NE/2017/06.MD.1.26	CC Q1 - Comprehensive Maintenance Services and DLP - CBL	0	0	0%			0												
NE/2017/06.1	Preliminary	14	14	0%	20-Apr-21	07-May-21	829												
NE/2017/06.1.A0	Preliminary and General	14	14	0%	20-Apr-21	07-May-21	829												
NE/2017/06.1.A0.GEN	General	0	0	0%			0												
NE/2017/06.1.A0.3	Management System	14	14	0%	20-Apr-21	07-May-21	829												
NE/2017/06.1.A0.3.0QP	Quality Management Plan	0	0	0%			0												
NE/2017/06.1.A0.3.2	Safety Management	17	17	0%	20-Apr-21	07-May-21	976												
GEN.0.05C	Prepare and submit the Materials - Personal Protective Equipment for Resident Engineer	12	12	0%	20-Apr-21	02-May-21	981					Prepare and submit the Materials - Personal Protective Equipment for Resident Engineer							
GEN.0.05D	Prepare and submit the Site Traffic Safety Management Plan	17	17	0%	20-Apr-21	07-May-21	976					Prepare and submit the Site Traffic Safety Management Plan							
NE/2017/06.1.A0.3.1	Environment; Management Plan	0	0	0%			0												
NE/2017/06.1.A0.3.3	Sub-Contract Management	0	0	0%			0												
NE/2017/06.1.A0.3.4	Risk Management	0	0	0%			0												
NE/2017/06.1.A0.3.5	Software Management	0	0	0%			0												
NE/2017/06.1.A0.3.6	Interface Management	0	0	0%			0												
NE/2017/06.DS	Design Stage	57	57	0%	20-Apr-21	28-Jun-21	320												
NE/2017/06.DS.PSP	Prepare / Submission of PSP for TKO-LTT TCSS and CBL TCSS	0	0	0%			0												
NE/2017/06.DS.FSP	Prepare / Submission of FSP For TKO-LTT TCSS and CBL TCSS	0	0	0%			0												
NE/2017/06.DS.FDS	Preparation of Functional Design Specification (FDS)	0	0	0%			0												
NE/2017/06.DS.SWD	Software Development (except GUI) for TKO-LTT TCSS and CBL TCSS	9	9	0%	20-Apr-21	30-Apr-21	-49												
DWP7690	Completion of SW Validation Report	0	0	0%	20-Apr-21	20-Apr-21	-61					Completion of SW Validation Report							
DWP7700	System Integration Test / Complete SW Coding Validation	10	10	0%	20-Apr-21	29-Apr-21	-61					System Integration Test / Complete SW Coding Validation							
DWP7810	Completion of SW Coding Validation	0	0	0%	30-Apr-21	30-Apr-21	-61					Completion of SW Coding Validation							
DWP7820	Software Development Completion	0	0	0%	30-Apr-21	30-Apr-21	-61					Software Development Completion							
NE/2017/06.DS.SWD.2	Allocation of New Functionality to Existing or New Modules	0	0	0%			0												
NE/2017/06.DS.SWD.6	Traffic Plan Coding	0	0	0%			0												
NE/2017/06.DS.GUI	GUI Development for TKO-LTT TCSS and CBL TCSS	0	0	0%	24-Apr-21	24-Apr-21	-55												
DWP2540	GUI Development Completion	0	0	0%	24-Apr-21	24-Apr-21	-55					GUI Development Completion							
NE/2017/06.DS.FAT	Preparation / Submission of FAT Procedures	0	0	0%			0												
NE/2017/06.DS.SCT	Preparation / Submission of SCT Procedures	70	70	0%	20-Apr-21	28-Jun-21	380												
NE/2017/06.DS.SCT.1	Central System	56	56	0%	22-Apr-21	17-Jun-21	392												
DWP8260	Preparation & Submission of Central System SCT Procedure	28	28	0%	22-Apr-21	20-May-21	392					Preparation & Submission of Central System SCT Procedure							
DWP8270	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	20-May-21	17-Jun-21	392					Comment on SCT Procedure / Meeting With Engineer							
NE/2017/06.DS.SCT.2	Traffic Control Devices	70	70	0%	20-Apr-21	28-Jun-21	-69												
DWP8300	Preparation & Submission of Traffic Control System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-69					Preparation & Submission of Traffic Control System SCT Procedure							
DWP8310	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-69					Comment on SCT Procedure / Meeting With Engineer							
DWP8320	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-69					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.3	Communication System	42	42	0%	04-May-21	14-Jun-21	-69												
DWP8350	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	04-May-21	31-May-21	-69					Comment on SCT Procedure / Meeting With Engineer							
DWP8360	Resubmission of SCT Procedure	14	14	0%	01-Jun-21	14-Jun-21	-69					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.4	CCTV System	70	70	0%	20-Apr-21	28-Jun-21	-83												
DWP8380	Preparation & Submission of CCTV System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-83					Preparation & Submission of CCTV System SCT Procedure							
DWP8390	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-83					Comment on SCT Procedure / Meeting With Engineer							
DWP8400	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-83					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.5	Building PABX System	70	70	0%	20-Apr-21	28-Jun-21	-69												
DWP8420	Preparation & Submission of Building PABX System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-69					Preparation & Submission of Building PABX System SCT Procedure							
DWP8430	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-69					Comment on SCT Procedure / Meeting With Engineer							
DWP8440	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-69					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.6	Emergency Telephone System	70	70	0%	20-Apr-21	28-Jun-21	-69												
DWP8460	Preparation & Submission of Emergency Telephone System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-69					Preparation & Submission of Emergency Telephone System SCT Procedure							
DWP8470	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-69					Comment on SCT Procedure / Meeting With Engineer							
DWP8480	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-69					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.7	Public Address System	70	70	0%	20-Apr-21	28-Jun-21	-62												
DWP8500	Preparation & Submission of Public Address System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-62					Preparation & Submission of Public Address System SCT Procedure							
DWP8510	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-62					Comment on SCT Procedure / Meeting With Engineer							
DWP8520	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-62					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.8	Radio System	70	70	0%	20-Apr-21	28-Jun-21	-46												
DWP8540	Preparation & Submission of Radio System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-46					Preparation & Submission of Radio System SCT Procedure							
DWP8550	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-46					Comment on SCT Procedure / Meeting With Engineer							
DWP8560	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-46					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.9	Detection System	70	70	0%	20-Apr-21	28-Jun-21	-69												
DWP8580	Preparation & Submission of Detection System SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-69					Preparation & Submission of Detection System SCT Procedure							
DWP8590	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-69					Comment on SCT Procedure / Meeting With Engineer							
DWP8600	Resubmission of SCT Procedure	14	14	0%	15-Jun-21	28-Jun-21	-69					Resubmission of SCT Procedure							
NE/2017/06.DS.SCT.10	Manual Fallback System	56	56	0%	22-Apr-21	17-Jun-21	-44												
DWP8620	Preparation & Submission of Manual Fallback System SCT Procedure	28	28	0%	22-Apr-21	20-May-21	-44					Preparation & Submission of Manual Fallback System SCT Procedure							
DWP8630	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	20-May-21	17-Jun-21	-44					Comment on SCT Procedure / Meeting With Engineer							
NE/2017/06.DS.SCT.11	Operation Facilities	70	70	0%	20-Apr-21	28-Jun-21	-69												
DWP8660	Preparation & Submission of Operation Facilities SCT Procedure	28	28	0%	20-Apr-21	17-May-21	-69					Preparation & Submission of Operation Facilities SCT Procedure							
DWP8670	Comment on SCT Procedure / Meeting With Engineer	28	28	0%	18-May-21	14-Jun-21	-69					Comment on SCT Procedure / Meeting With Engineer							





Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Classic Schedule Layout																	
								Mar	Apr	Qtr 2, 2021		Jun	Jul	Qtr 3, 2021		Oct	Qtr 4, 2021								
DWP4620	CCTV Camera	14	14	0%	07-May-21	20-May-21	31																		
<b>NE/2017/06.CST.S1A1B.1B.6 Installation of Vehicle Detectors</b>																									
DWP4650	Erect Poles for OHVD	7	7	0%	20-Apr-21	26-Apr-21	48																		
DWP4660	OHVD	7	7	0%	27-Apr-21	03-May-21	48																		
<b>NE/2017/06.CST.S1A1B.1B.7 Installation of ET Equipment inside Tunnel</b>																									
DWP7800	Installation of ET Equipment Inside Tunnel	7	7	0%	20-Apr-21	26-Apr-21	55																		
<b>NE/2017/06.CST.S1A1B.1B.8 Installation of PA Equipment</b>																									
DWP7790	Installation of PA Equipment	14	14	0%	09-Jun-21	22-Jun-21	-2																		
<b>NE/2017/06.CST.S1A1B.1B.9 Installation of Enforcement Equipment</b>																									
DWP4665	Installation of Enforcement Equipment	5	5	0%	04-Jun-21	08-Jun-21	-2																		
DWP4670	SEC inside Tunnel	7	7	0%	04-Jun-21	10-Jun-21	-7																		
DWP4680	WeightBridge	7	7	0%	04-Jun-21	10-Jun-21	-7																		
<b>NE/2017/06.CST.S1A1B.1B.10 Installation of Control Cabinet</b>																									
DWP4690	Control Cabinets for TCSS	14	14	0%	04-May-21	17-May-21	17																		
DWP4700	Control Cabinets for SEC	7	7	0%	04-May-21	10-May-21	24																		
<b>NE/2017/06.CST.S1A1B.1B.11 Local Cables Installation, Testing and Termination</b>																									
DWP4710	Cables Installation, Testing and Termination at TCSS Cabinet	10	10	0%	18-May-21	27-May-21	17																		
DWP4720	Cabinet Installation, Testing and Termination at SEC Cabinet	10	10	0%	11-Jun-21	20-Jun-21	-7																		
DWP4730	Fibre Cable Termination	7	7	0%	21-Jun-21	27-Jun-21	-7																		
<b>NE/2017/06.CST.S1A1B.1B.12 Site Commissioning Test of TCD and fibre Cable</b>																									
DWP4740	SCT for Power Distribution Equipment	7	7	0%	28-May-21	03-Jun-21	24																		
DWP4760	SCT for ET inside Tunnel	7	7	0%	27-Apr-21	03-May-21	55																		
DWP4770	SCT for PA Equipment	7	7	0%	23-Jun-21	29-Jun-21	-2																		
DWP4780	SCT for CCTV	7	7	0%	28-May-21	03-Jun-21	24																		
DWP4800	SCT for OHVD	7	7	0%	28-May-21	03-Jun-21	24																		
DWP4810	SCT For SEC	7	7	0%	21-Jun-21	27-Jun-21	0																		
DWP4820	SCT for Weighbridge	7	7	0%	21-Jun-21	27-Jun-21	0																		
<b>NE/2017/06.CST.S1A1B.1C Stage 1C Works (EVb and WVb within Portion 1C)</b>																									
DWP4840	Portion 1C Access Date	0	0	0%	20-Apr-21	20-Apr-21	-60																		
DWP4850	Inspection of Civil provisions and Submit Inspection Report	7	7	0%	20-Apr-21	26-Apr-21	-60																		
DWP4860	Rectifications of Civil Provisions Defects by others	3	3	0%	27-Apr-21	29-Apr-21	-60																		
DWP4870	Installation of Cable Containment	7	7	0%	30-Apr-21	06-May-21	1																		
DWP4880	Laying Cables (fibre backbone, power)	10	10	0%	07-May-21	16-May-21	1																		
DWP4890	Test of Cables (signal and power)	3	3	0%	09-Jun-21	12-Jun-21	1																		
DWP4900	Local Cables Installation, Testing and Termination	7	7	0%	12-Jun-21	19-Jun-21	1																		
<b>NE/2017/06.CST.S1A1B.1C.5 Site Commissioning Test of Fibre Cable</b>																									
DWP5250	Fibre Cable Test (End to End)	7	7	0%	19-Jun-21	26-Jun-21	31																		
<b>NE/2017/06.CST.S1A1B.1C.2 West Ventilation Building</b>																									
DWP4910	Installation of Equipment Rack	8	8	0%	30-Apr-21	07-May-21	34																		
DWP4920	Installation of Communication Node Equipment	10	10	0%	07-May-21	17-May-21	34																		
DWP4930	Installation of PABX Equipment	10	10	0%	11-May-21	21-May-21	31																		
DWP4950	Installation of ET Equipment	10	10	0%	11-May-21	21-May-21	31																		
DWP4960	Installation of Radio Equipment (Incl. Antenna and Feeder)	10	10	0%	23-May-21	01-Jun-21	19																		
DWP4970	Installation of Operation Facilities Equipment	10	10	0%	14-Jun-21	23-Jun-21	-3																		
DWP4975	Installation of TCS Computer Equipment	56	56	0%	30-Apr-21	25-Jun-21	-61																		
<b>NE/2017/06.CST.S1A1B.1C.1 Sub-systems Site Commissioning Test</b>																									
DWP4990	SCT for Power Distribution Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5000	SCT for Comms, Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5010	SCT for PABX Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5030	SCT for ET Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5040	SCT for Radio Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
<b>NE/2017/06.CST.S1A1B.1C.3 East Ventilation Building</b>																									
DWP5080	Installation of Equipment Rack	7	7	0%	19-Jun-21	25-Jun-21	-15																		
DWP5100	Installation of PABX Equipment	10	10	0%	31-May-21	10-Jun-21	11																		
DWP5120	Installation of ET Equipment	10	10	0%	11-May-21	21-May-21	31																		
DWP5130	Installation of Radio Equipment (Incl. Antenna and Feeder)	10	10	0%	23-May-21	01-Jun-21	19																		
DWP5140	Installation of Operation Facilities Equipment	14	14	0%	14-Jun-21	27-Jun-21	-7																		
<b>NE/2017/06.CST.S1A1B.1C.4 Sub-systems Site Commissioning Test-1</b>																									
DWP5170	SCT for Power Distribution Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5190	SCT for PABX Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5210	SCT for ET Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
DWP5220	SCT for Radio Equipment	7	7	0%	19-Jun-21	26-Jun-21	1																		
<b>NE/2017/06.CST.S1A1B.2A Stage 2A Works (Within Portion 2A)</b>																									
DWP5790	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	30-Apr-21	01-May-21	983																		
DWP5800	Portion 2A Access Date	0	0	0%	30-Apr-21	30-Apr-21	4																		
DWP5810	Inspection of Civil Provisions and Submit Inspection Report	10	10	0%	30-Apr-21	09-May-21	4																		
DWP5820	Rectification of Civil Provisions Defects by others	7	7	0%	10-May-21	16-May-21	4																		
<b>NE/2017/06.CST.S1A1B.2A.1 Laying Cables (Fibre, Signal and Power)</b>																									
DWP5675	Laying Cables (Fibre, Signal and Power)	16	16	0%	17-May-21	01-Jun-21	9																		
<b>NE/2017/06.CST.S1A1B.2A.1.1 Installation of Cable Containment</b>																									
DWP5680	Cable Containment on Gantry	8	8	0%	17-May-21	24-May-21	9																		
<b>NE/2017/06.CST.S1A1B.2A.1.2 Laying Cables</b>																									
DWP5670	Fibre, Signal and Power Cables along Roadside	8	8	0%	24-May-21	01-Jun-21	9																		
<b>NE/2017/06.CST.S1A1B.2A.2 Installation of Traffic Control Field Equipment</b>																									
DWP5940	MLCS	5	5	0%	17-May-21	21-May-21	21																		
DWP5950	Roadside VMS	5	5	0%	22-May-21	26-May-21	21																		
DWP5960	Tunnel Closed Sign	5	5	0%	27-May-21	31-May-21	21																		
<b>NE/2017/06.CST.S1A1B.2A.2.1 FVMS - FVMS/201A&lt;/</b>																									

Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Classic Schedule Layout																
								Mar	Apr	Qtr 2, 2021			Jun	Jul	Qtr 3, 2021		Aug	Sep	Qtr 4, 2021		Oct	Nov		
DWP5930	Erect the FVMS on Gantry	3	3	0%	21-May-21	23-May-21	32																	
<b>NE/2017/06.CST.S1A1B.2A.3 Installation of CCTV</b>																								
DWP5690	Assembly and erect CCTV Highmast for CCTV-TV/108/A	7	7	0%	17-May-21	16-Jun-21	9																	
DWP5700	CCTV-TV /108/A	3	3	0%	24-May-21	26-May-21	9																	
DWP5860	Assembly and erect CCTV Highmast for CCTV-TV/247/C	3	3	0%	27-May-21	30-May-21	9																	
DWP5870	CCTV-TV /247/C	3	3	0%	30-May-21	02-Jun-21	9																	
DWP5880	Mounting Bracket for CCTV in Underpass	7	7	0%	02-Jun-21	09-Jun-21	9																	
DWP5890	CCTV Camera	7	7	0%	09-Jun-21	16-Jun-21	9																	
<b>NE/2017/06.CST.S1A1B.2A.4 Installation of Vehicle Detectors</b>																								
DWP5720	VD Detector on Gantry	14	14	0%	17-May-21	30-May-21	25																	
DWP5900	Erect Poles for OHVD	7	7	0%	17-May-21	23-May-21	25																	
DWP5910	OHVD	7	7	0%	24-May-21	30-May-21	25																	
<b>NE/2017/06.CST.S1A1B.2A.5 Installation of Control Cabinet</b>																								
DWP7830	Installation of Control Cabinet	14	14	0%	17-May-21	30-May-21	4																	
<b>NE/2017/06.CST.S1A1B.2A.6 Local Cables Installation , Testing and Termination</b>																								
DWP5725	Local Cables Installation , Testing and Termination	14	14	0%	01-Jun-21	15-Jun-21	9																	
DWP5730	Cables Installation, Testing and Termination at TCSS Cabinet	3	3	0%	01-Jun-21	03-Jun-21	21																	
DWP5740	Fibre Cable Termination	10	10	0%	31-May-21	09-Jun-21	4																	
<b>NE/2017/06.CST.S1A1B.2A.7 Site Commissioning Test of TCD and Fibre Cable</b>																								
DWP5750	SCT for Power Distribution Equipment	3	3	0%	04-Jun-21	06-Jun-21	21																	
DWP5760	SCT for FVMS, MLCS, VMS and TCS	3	3	0%	15-Jun-21	18-Jun-21	9																	
DWP5770	SCT for CCTV	3	3	0%	16-Jun-21	19-Jun-21	9																	
DWP5780	SCT for VD	3	3	0%	15-Jun-21	18-Jun-21	9																	
DWP5840	SCT for OHVD	3	3	0%	15-Jun-21	18-Jun-21	9																	
DWP5850	Fibre Cable Test (End to End)	14	14	0%	10-Jun-21	23-Jun-21	4																	
<b>NE/2017/06.CST.S1A1B.2B Stage 2B Works (Within Portion 2B)</b>																								
DWP5270	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	20-Apr-21	21-Apr-21	993																	
DWP5280	Portion 2B Access Day	0	0	0%	30-Apr-21	30-Apr-21	0																	
DWP5290	Inspection of Civil Provisions and Submit Inspection Report	8	8	0%	30-Apr-21	07-May-21	0																	
DWP5300	Rectification of Civil Provisions Defects by others	16	16	0%	08-May-21	23-May-21	0																	
<b>NE/2017/06.CST.S1A1B.2B.1 Laying Cables (Fibre , Signal and Power)</b>																								
DWP2315	Laying Cables (Fibre , Signal and Power)	24	24	0%	23-May-21	16-Jun-21	936																	
<b>NE/2017/06.CST.S1A1B.2B.1.1 Installation of Cable Containment</b>																								
DWP5320	Cable Containment on Gantry	8	8	0%	23-May-21	31-May-21	0																	
<b>NE/2017/06.CST.S1A1B.2B.1.2 Laying Cables</b>																								
DWP5310	Fibre, Signal and Power Cables along Roadside	14	14	0%	31-May-21	17-Jun-21	0																	
<b>NE/2017/06.CST.S1A1B.2B.2 Installation of Leaky Cable and Radio Equipment</b>																								
DWP5350	Leaky Cable inside Underpass	14	14	0%	23-May-21	06-Jun-21	11																	
<b>NE/2017/06.CST.S1A1B.2B.3 Installation of CCTV</b>																								
DWP5330	Assembly and Erect CCTV Highmast for CCTV-TV/145/C	7	7	0%	23-May-21	30-May-21	18																	
DWP5340	CCTV-TV /145/C	7	7	0%	30-May-21	06-Jun-21	18																	
<b>NE/2017/06.CST.S1A1B.2B.4 Installation of Vehicle Detectors</b>																								
DWP5360	VD Detector	7	7	0%	23-May-21	30-May-21	14																	
<b>NE/2017/06.CST.S1A1B.2B.5 Installation of Control Cabinet</b>																								
DWP7850	Installation of Control Cabinet	14	14	0%	23-May-21	06-Jun-21	11																	
<b>NE/2017/06.CST.S1A1B.2B.6 Local Cables Installation , Testing and Termination</b>																								
DWP5370	Cables Installation, Testing and Termination at TCSS Cabinet	7	7	0%	17-Jun-21	24-Jun-21	0																	
DWP5380	Fibre Cable Termination	7	7	0%	17-Jun-21	24-Jun-21	0																	
<b>NE/2017/06.CST.S1A1B.2B.7 Site Commissioning Test of TCD and Fibre Cable</b>																								
DWP5390	SCT for Power Distribution Equipment	3	3	0%	24-Jun-21	27-Jun-21	0																	
DWP5400	SCT for Radio	10	10	0%	06-Jun-21	16-Jun-21	11																	
DWP5410	SCT for CCTV	3	3	0%	24-Jun-21	27-Jun-21	0																	
DWP5420	SCT for VD	14	14	0%	30-May-21	13-Jun-21	14																	
DWP5430	Fibre Cable Test (End to End)	3	3	0%	24-Jun-21	27-Jun-21	0																	
<b>NE/2017/06.CST.S1A1B.3 Stage 3 Works (Within Portion 3A)</b>																								
DWP5440	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	20-Apr-21	21-Apr-21	993																	
DWP5450	Portion 3A Access Date	0	0	0%	20-Apr-21	20-Apr-21	-31																	
DWP5460	Inspection of Civil Provisions and Submit Inspection Report	10	10	0%	20-Apr-21	29-Apr-21	-31																	
DWP5470	Rectification of Civil Provisions Defects by others	16	16	0%	30-Apr-21	15-May-21	-31																	
<b>NE/2017/06.CST.S1A1B.3.1 Laying Cables (fibre , signal and power)</b>																								
DWP5475	Laying Cables (Fibre , Signal and Power)	39	39	0%	15-May-21	24-Jun-21	-31																	
<b>NE/2017/06.CST.S1A1B.3.1.1 Installation of Cable Containment</b>																								
DWP5490	Cable Containment on Gantry	24	24	0%	15-May-21	08-Jun-21	-22																	
<b>NE/2017/06.CST.S1A1B.3.1.2 Laying Cables</b>																								
DWP5480	Fibre, Signal and Power Cables along Roadside	7	7	0%	08-Jun-21	15-Jun-21	-22																	
<b>NE/2017/06.CST.S1A1B.3.2 Installation of Traffic Control Field Equipment</b>																								
DWP5500	Tunnel Closed Sign	3	3	0%	15-May-21	18-May-21	34																	
DWP5510	Journey Time Indicator	3	3	0%	18-May-21	21-May-21	34																	
<b>NE/2017/06.CST.S1A1B.3.3 Installation of CCTV</b>																								
DWP6020	Assembly and erect CCTV Highmast for CCTV-TV/246/C	6	6	0%	15-May-21	21-May-21	26																	
DWP6030	CCTV-TV /246/C	5	5	0%	21-May-21	26-May-21	26																	
<b>NE/2017/06.CST.S1A1B.3.5 Installation of Control Cabinet</b>																								
DWP1111	Installation of Control Cabinet	14	14	0%	15-May-21	29-May-21	8																	
<b>NE/2017/06.CST.S1A1B.3.6 Local Cables Installation , Testing and Termination</b>																								
DWP5530	Fibre Cable Termination	7	7	0%	29-May-21	05-Jun-21	8																	
<b>NE/2017/06.CST.S1A1B.3.7 Site Commissioning Test of TCD and Fibre Cable</b>																								
DWP5570	Fibre Cable Test (End to End)	14	14	0%	05-Jun-21	19-Jun-21	8																	
<b>NE/2017/06.CST.S1A1B.4A Stage 4A Works (Bridges within Portion 4A)</b>																								
DWP5970	Handover of Holding-down Bolts for Pole Foundation to Civil	1	1	0%	20-Apr-21	21-Apr-21	993			</														



Activity ID	Activity Name	Planned Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float	Classic Schedule Layout											
								Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov			
DWP5980	Portion 4A Access Date	0	0	0%	20-Apr-21	20-Apr-21	-1				Portion 4A Access Date								
DWP5990	Inspection of Civil Provisions and Submit Inspection Report	8	8	0%	20-Apr-21	27-Apr-21	-1				Inspection of Civil Provisions and Submit Inspection Report								
DWP6000	Rectification of Civil Provisions Defects by others	16	16	0%	28-Apr-21	13-May-21	-1				Rectification of Civil Provisions Defects by others								
<b>NE/2017/06.CST.S1A1B.4A.1 Laying Cables (fibre , signal and power)</b>																			
DWP6120	Installation of Cable Containment	14	14	0%	14-May-21	27-May-21	-1				Installation of Cable Containment								
DWP6130	Laying Cables on Gantries	7	7	0%	28-May-21	03-Jun-21	-1				Laying Cables on Gantries								
DWP6140	Fibre, Signal and Power Cables along Roadside	21	21	0%	14-May-21	03-Jun-21	-1				Fibre, Signal and Power Cables along Roadside								
<b>NE/2017/06.CST.S1A1B.4A.2 Installation of Traffic Control Field Equipment</b>																			
DWP5660	VLSL	3	3	0%	14-May-21	16-May-21	34				VLSL								
DWP5665	Roadside VMS	5	5	0%	17-May-21	21-May-21	34				Roadside VMS								
<b>NE/2017/06.CST.S1A1B.4A.3 Installation of CCTV</b>																			
DWP6040	Assembly and erect CCTV Highmast for CCTV-TV/201/A	7	7	0%	14-May-21	20-May-21	6				Assembly and erect CCTV Highmast for CCTV-TV/201/A								
DWP6050	CCTV-TV /201/A	5	5	0%	21-May-21	25-May-21	6				CCTV-TV /201/A								
DWP6060	Assembly and erect CCTV Highmast for CCTV-TV/202/A	7	7	0%	26-May-21	01-Jun-21	6				Assembly and erect CCTV Highmast for CCTV-TV/202/A								
DWP6070	CCTV-TV /202/A	5	5	0%	02-Jun-21	06-Jun-21	6				CCTV-TV /202/A								
DWP6080	Assembly and erect CCTV Highmast for CCTV-TV/245/C	7	7	0%	07-Jun-21	13-Jun-21	6				Assembly and erect CCTV Highmast for CCTV-TV/245/C								
DWP6090	CCTV-TV /245/C	5	5	0%	14-Jun-21	18-Jun-21	6				CCTV-TV /245/C								
<b>NE/2017/06.CST.S1A1B.4A.4 Installation of Vehicle Detectors</b>																			
DWP6100	Erect VD Pole for VD/202/A	7	7	0%	14-May-21	20-May-21	28				Erect VD Pole for VD/202/A								
DWP6110	VD/202/A	7	7	0%	21-May-21	27-May-21	28				VD/202/A								
<b>NE/2017/06.CST.S1A1B.4A.5 Installation of Control Cabinet</b>																			
DWP7860	Installation of Control Cabinet	14	14	0%	14-May-21	27-May-21	7				Installation of Control Cabinet								
<b>NE/2017/06.CST.S1A1B.4A.6 Local Cables Installation , Testing and Termination</b>																			
DWP5600	Cables Installation, Testing and Termination at TCSS Cabinet	21	21	0%	04-Jun-21	24-Jun-21	-1				Cables Installation, Testing and Termination at TCSS Cabinet								
DWP5610	Fibre Cable Termination	14	14	0%	28-May-21	10-Jun-21	7				Fibre Cable Termination								
<b>NE/2017/06.CST.S1A1B.4A.7 Site Comissioning Test of TCD and Fibre Cable</b>																			
DWP5620	SCT for Power Distribution Equipment	4	4	0%	25-Jun-21	28-Jun-21	-1				SCT for Power Distribution Equipment								
DWP5625	SCT for VLSL and VMS	3	3	0%	25-Jun-21	27-Jun-21	0				SCT for VLSL and VMS								
DWP5640	SCT for CCTV	3	3	0%	25-Jun-21	27-Jun-21	0				SCT for CCTV								
DWP5645	SCT for VD	3	3	0%	25-Jun-21	27-Jun-21	0				SCT for VD								
DWP5650	Fibre Cable Test (End to End)	10	10	0%	11-Jun-21	20-Jun-21	7				Fibre Cable Test (End to End)								
<b>NE/2017/06.CST.S1A1B.4B Stage 4B Works (Bridges within Portion 4B)</b>																			
DWP6220	Handover of Holding-down Bolts for Pole Foundation to Civil	3	3	0%	20-May-21	23-May-21	961				Handover of Holding-down Bolts for Pole Foundation to Civil								
DWP6225	Portion 4B Access Date	0	0	0%	28-May-21	28-May-21	0				Portion 4B Access Date								
DWP6230	Inspection of Civil Provisions and Submit Inspection Report	7	7	0%	28-May-21	03-Jun-21	0				Inspection of Civil Provisions and Submit Inspection Report								
DWP6260	Rectification of Civil Provisions Defects by others	7	7	0%	04-Jun-21	10-Jun-21	0				Rectification of Civil Provisions Defects by others								
DWP6270	Laying Cables (Fibre, Signal and Power) along Roadside	7	7	0%	11-Jun-21	17-Jun-21	0				Laying Cables (Fibre, Signal and Power) along Roadside								
<b>NE/2017/06.CST.S1A1B.4B.4 Installation of Vehicle Detectors</b>																			
DWP6200	Erect VD Pole for VD/105/A	3	3	0%	11-Jun-21	13-Jun-21	0				Erect VD Pole for VD/105/A								
DWP6210	VD/105/A	7	7	0%	14-Jun-21	20-Jun-21	0				VD/105/A								
<b>NE/2017/06.CST.S1A1B.4B.1 Installation of Control Cabinet</b>																			
DWP7870	Installation of Control Cabinet	1	1	0%	11-Jun-21	12-Jun-21	2				Installation of Control Cabinet								
<b>NE/2017/06.CST.S1A1B.4B.6 Local Cables Installation , Testing and Termination</b>																			
DWP6145	Local Cables Installation (fibre , signal and power) along Roadside	3	3	0%	18-Jun-21	20-Jun-21	0				Local Cables Installation (fibre , signal and power) along Roadside								
DWP6150	Cables Installation, Testing and Termination at TCSS Cabinet	3	3	0%	21-Jun-21	23-Jun-21	0				Cables Installation, Testing and Termination at TCSS Cabinet								
DWP6160	Fibre Cable Termination	7	7	0%	12-Jun-21	19-Jun-21	2				Fibre Cable Termination								
<b>NE/2017/06.CST.S1A1B.4B.7 Site Comissioning Test of TCD and Fibre Cable</b>																			
DWP6170	SCT for Power Distribution Equipment	3	3	0%	24-Jun-21	26-Jun-21	1				SCT for Power Distribution Equipment								
DWP6180	SCT for VD	4	4	0%	24-Jun-21	27-Jun-21	0				SCT for VD								
DWP6190	Fibre Cable Test (End to End)	7	7	0%	19-Jun-21	26-Jun-21	2				Fibre Cable Test (End to End)								
<b>NE/2017/06.SATT SAT for TKO-LTT TCSS</b>																			
<b>NE/2017/06.OPTT Operability Period Test for the TKO-LTT TCSS</b>																			
<b>NE/2017/06.DLPT DLP for the TKO-LTT TCSS</b>																			
<b>NE/2017/06.DOC1 Documentation Submission for TKO-LTT TCSS</b>																			
<b>NE/2017/06.TRT Training for TKO-LTT TCSS</b>																			
<b>NE/2017/06.EMC Equipment Manufacturing and Delivery for CBL TCSS</b>																			
<b>NE/2017/06.CSC1 Construction Stage for CBL TCSS</b>																			
<b>NE/2017/06.SATC SAT for CBL TCSS</b>																			
<b>NE/2017/06.OPTC Operability Period Test For the CBL TCSS</b>																			
<b>NE/2017/06.DLPC DLP for the CBL TCSS</b>																			
<b>NE/2017/06.DOC Documentation Submission for CBL TCSS</b>																			
<b>NE/2017/06.TRC Training for CBL TCSS</b>																			



Activity ID	Activity Name	Original Duration	Start	Finish	Mar	Apr	May	Jun	Jul
<b>Tseung Kwan O Interchange and Associated Works 202104-1 _20210428</b>									
<b>Construction Work</b>									
<b>Construction Pier Element</b>									
<b>Construction of Pier</b>									
<b>Bridge S300</b>									
CON-12560	Construction of Pier 4J, type 1 (1 Pour) Erection of Platform & Rebar (1 no.Pier/ Team 3r)	15	07-Apr-21 A	22-Apr-21		█			
CON-12561	Construction of Pier 4J, type 1 (1 Pour) Falsework, Formwork and Concreting (1 no.Pier/ Team 3c)	9	23-Apr-21	04-May-21			█		
<b>Bridge S200</b>									
CON-12651	Construction of Pier 2C, type 1 (3 Pours) Falsework, Formwork and Concreting (1 no.Pier/ Team 4c) - 1st Pour	4	01-Apr-21 A	09-Apr-21	█				
CON-12652	Construction of Pier 2C, type 1 (3 Pours) Erection of Platform & Rebar (1 no.Pier/ Team 4r) - 2nd Pour	8	10-Apr-21	19-Apr-21		█			
CON-12653	Construction of Pier 2C, type 1 (3 Pours) Falsework, Formwork and Concreting (1 no.Pier/ Team 4c) - 2nd Pour	4	20-Apr-21	23-Apr-21			█		
CON-12654	Construction of Pier 2C, type 1 (3 Pours) Erection of Platform & Rebar (1 no.Pier/ Team 4r) - 3rd Pour	10	24-Apr-21	06-May-21			█		
CON-12655	Construction of Pier 2C, type 1 (3 Pours) Falsework, Formwork and Concreting (1 no.Pier/ Team 4c) - 3rd Pour	4	07-May-21	11-May-21				█	
<b>Concrete Curing and Removal of Temp. Work</b>									
<b>Bridge S300</b>									
CON-12840	Concrete Curing and Removal Temp. Work of Pier 4J (Team L)	6	05-May-21	11-May-21				█	
<b>Bridge S200</b>									
CON-12930	Concrete Curing and Removal Temp. Work of Pier 2C (Team L)	6	12-May-21	18-May-21				█	
<b>Bearing Installation</b>									
<b>Bridge S300</b>									
CON-13150	Bearing Installation Pier 4L (Portion IV)	2	08-Apr-21	09-Apr-21		█			
<b>Bridge S200</b>									
CON-13240	Bearing Installation Pier 2A (Portion IV)	2	08-Apr-21	09-Apr-21		█			
<b>Construction of Pier Head Segment Diaphragm</b>									
<b>Installation of Pier Head Segment &amp; Temporary Works</b>									
<b>Bridge S300</b>									
CON-13550	Installation Pier Head Segment 4L (Precast Diaphragm) (1 no. Pier Head Segment) (Team Z)	2	10-Apr-21	17-May-21		█			
CON-13530	Installation Pier Head Segment 4J (1 no. Pier Head Segment) (Team Z)	5	12-May-21	17-May-21			█		
<b>Bridge S200</b>									
CON-13630	Installation Pier Head Segment 2C (1 no. Pier Head Segment) (Team Z)	5	20-May-21	25-May-21			█		
<b>Bridge S100</b>									
CON-13680	Installation Pier Head Segment 3D (1 no. Pier Head Segment) (Team Z)	5	08-Apr-21	13-Apr-21		█			
<b>Construction Cast-in-situ Diaphragm</b>									
<b>Bridge S300</b>									
CON-13940	Rebar, Formwork/Falsework & Concreting for Pier Head Segment Diaphragm 4K (1 no. Pier Head Segment/ Team 4c/ Team 4r)	15	29-Mar-21 A	19-Apr-21	█				
CON-13950	Alignment and Miscellaneous Work Pier Head Segment Diaphragm 4L (Precast Diaphragm) (1 no. Pier Head Segment/ Team 1)	5	13-Apr-21	17-Apr-21		█			
CON-13930	Rebar, Formwork/Falsework & Concreting for Pier Head Segment Diaphragm 4J (1 no. Pier Head Segment/ Team 3c/ Team 3r)	15	18-May-21	04-Jun-21			█		
<b>Bridge S200</b>									
CON-13980	Rebar, Formwork/Falsework & Concreting for Pier Head Segment Diaphragm 2C (1 no. Pier Head Segment/ Team 4c/ Team 4r)	15	26-May-21	11-Jun-21			█		
<b>Bridge S100</b>									
CON-14080	Rebar, Formwork/Falsework & Concreting for Pier Head Segment Diaphragm 3D (1 no. Pier Head Segment/ Team 1c/ Team 1r)	15	14-Apr-21	30-Apr-21		█			
<b>Concrete Curing and Formwork Removal</b>									
<b>Bridge S300</b>									
CON-14340	Concrete Curing & Formwork Removal for Pier Head Segment Diaphragm 4K (1 no.) (Team U)	10	20-Apr-21	30-Apr-21			█		
CON-14330	Concrete Curing & Formwork Removal for Pier Head Segment Diaphragm 4J (1 no.) (Team U)	10	05-Jun-21	17-Jun-21				█	
<b>Bridge S200</b>									
CON-14430	Concrete Curing & Formwork Removal for Pier Head Segment Diaphragm 2C (1 no.) (Team U)	10	12-Jun-21	24-Jun-21				█	
<b>Bridge S100</b>									
CON-14480	Concrete Curing & Formwork Removal for Pier Head Segment Diaphragm 3D (1 no.) (Team U)	10	03-May-21	13-May-21			█		
<b>Span Segment Erection</b>									
<b>Span Segment Erection (Including Plant Mobilisation, Erection &amp; removal of Temp. Work)</b>									
<b>Bridge S300</b>									
<b>Span Segment S300-2</b>									
CON-14800	[HB1-17] Erection of Span Segment@Bridge S300-2 - Span 4J (12 nos / 6 Pairs)	25	17-Jul-21	14-Aug-21				█	
CON-14790	[HB2-11] Erection of Span Segment@Bridge S300-2 - Span 4K (12 nos / 6 Pairs)	26	17-Jul-21	16-Aug-21				█	
CON-14810	[TB1-06] Erection of Span Segment@Bridge S300-2 - Span 4L (6 nos.- TB)	34	17-Jul-21	25-Aug-21				█	
<b>Bridge S200</b>									
<b>Span Segment S200-1</b>									
CON-14830	[LF-19] Erection of Span Segment@Bridge S200-1 - Span 2D (12 nos / 6 Pairs)	26	08-Apr-21 A	08-May-21		█			
CON-14870	[TB1-05] Erection of Span Segment@Bridge S200-1 - Span 2A(6 nos.- TB)	35	13-Apr-21 A	15-Apr-21		█			

█ Works █ Critical Works █ Actual

Activity ID	Activity Name	Original Duration	Start	Finish	2021				
					Mar	Apr	May	Jun	Jul
CON-14860	[HB1-16] [PMI061] Erection of Span Segment@Bridge S200-1 - Span 2C (12 nos./ 6 Pairs)	25	17-Jun-21	16-Jul-21					
<b>Span Segment S200-2</b>		27	16-Apr-21	18-May-21					
CON-14910	[TB1-04] Erection of Span Segment@Bridge S200-2 - Span 2J (4 nos. - TB)	27	16-Apr-21	18-May-21					
<b>Bridge S100</b>		21	14-May-21	08-Jun-21					
<b>Span Segment S100</b>		21	14-May-21	08-Jun-21					
CON-14950	[HB1-15] Erection of Span Segment@Bridge S100 - Span 3D (10 nos./ 5 Pairs)	21	14-May-21	08-Jun-21					
<b>Key Segment Erection (Including Plant Setting of Segment Erector, Segment Erection and Stitch Joint)</b>		99	30-Mar-21 A	31-Jul-21					
<b>Bridge S300</b>		8	08-Apr-21	16-Apr-21					
CON-15190	[S300-07] Erect Key Segment,Stitching & Mid -Span Stressing @S300 4G - 4H (1 no. - Key Segment) [KB1-07]	8	08-Apr-21	16-Apr-21					
<b>Bridge S200</b>		99	30-Mar-21 A	31-Jul-21					
CON-15250	[S200-02] Erect Key Segment,Stitching & Mid -Span Stressing @S200 2F - 2G (1 no. - Key Segment) [KB2-10]	6	30-Mar-21 A	14-Apr-21					
CON-15240	[S200-03] Stitching & Mid -Span Stressing @S200 2H - 2J (Stitching)	12	20-May-21	02-Jun-21					
CON-15260	[S200-04] Erect Key Segment,Stitching & Mid -Span Stressing @S200 2E - 2F (1 no. - Key Segment) [KB1-01]	6	03-Jun-21	09-Jun-21					
CON-15270	[S200-05] Erect Key Segment,Stitching & Mid -Span Stressing @S200 2D - 2E (1 no. - Key Segment) [KB1-04]	6	10-Jun-21	17-Jun-21					
CON-15290	[S200-07] [PMI061] Erect Key Segment,Stitching & Mid -Span Stressing @S200 2B - 2C (1 no. - Key Segment) [KB1-06]	6	17-Jul-21	23-Jul-21					
CON-15280	[S200-06] [PMI061] Erect Key Segment,Stitching & Mid -Span Stressing @S200 2C - 2D (1 no. - Key Segment) [KB1-05]	6	17-Jul-21	23-Jul-21					
CON-15300	[S200-08] Stitching & Mid -Span Stressing @S200 2A - 2B (Stitching)	7	24-Jul-21	31-Jul-21					
<b>Bridge S100</b>		6	09-Jun-21	16-Jun-21					
CON-15330	[S100-03] [PMI061] Erect Key Segment,Stitching & Mid -Span Stressing @S100 3C - 3D (1 no. - Key Segment) [KB1-02]	6	09-Jun-21	16-Jun-21					
CON-15340	[S100-04] [PMI061] Erect Key Segment,Stitching & Mid -Span Stressing @S100 3D - 3E (1 no. - Key Segment) [KB1-03]	6	09-Jun-21	16-Jun-21					
<b>Bridge Parapet &amp; Utility Trough</b>		153	30-Nov-20 A	10-Sep-21					
<b>Bridge ML</b>		29	24-Feb-21 A	13-Apr-21					
CON-15380	Installation of Parapet Wall Skin for Bridge ML	19	24-Feb-21 A	13-Apr-21					
CON-15371	Installation of Movement Joint for Bridge ML	21	04-Mar-21 A	09-Apr-21					
<b>Bridge S100</b>		153	30-Nov-20 A	10-Sep-21					
CON-15502	Installation of Parapet Wall Skin for Bridge S100 (3A to 3C)	30	30-Nov-20 A	21-Apr-21					
CON-15503	Construction of Utility trough - R.C. Partitions for Bridge S100 (3A to 3C)	30	08-Mar-21 A	06-May-21					
CON-15521	Construction of RC barrier & Installation of Traffic Sign, Sign Gantry & TCSS Civil Provision for Bridge S100 (3A to 3C)	30	08-Mar-21 A	06-May-21					
CON-15490	Survey Profile Checking for Bridge S100	6	17-Jun-21	23-Jun-21					
CON-15500	Installation of Parapet Wall Skin for Bridge S100 (3C to 3F)	52	24-Jun-21	24-Aug-21					
CON-15491	Installation of Movement Joint for Bridge S100	21	24-Jun-21	19-Jul-21					
CON-15520	Construction of RC barrier & Installation of Traffic Sign, Sign Gantry & TCSS Civil Provision for Bridge S100 (3C to 3F)	60	03-Jul-21	10-Sep-21					
CON-15501	Construction of Utility trough - R.C. Partitions for Bridge S100 (3C to 3F)	45	03-Jul-21	24-Aug-21					
CON-15510	Installation of Cable Duct/Water Main & Tray for Utility for Bridge S100	42	17-Jul-21	03-Sep-21					
<b>Bridge Furniture &amp; Road Work</b>		103	26-Apr-21	27-Aug-21					
<b>Bridge ML</b>		70	26-Apr-21	20-Jul-21					
CON-15540	Installation of Steel Parapet Post and Rail for Bridge ML	49	26-Apr-21	24-Jun-21					
CON-15550	Installation of Road Drainage and Drain Pipe for Bridge ML	58	26-Apr-21	06-Jul-21					
CON-15560	Road Pavement and Road Marking for Bridge ML	58	11-May-21	20-Jul-21					
<b>Bridge S100</b>		42	10-Jul-21	27-Aug-21					
CON-15630	Installation of Steel Parapet Post and Rail for Bridge S100	42	10-Jul-21	27-Aug-21					

**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	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Balance to Finish (Days)	April 2021					May 2021					June 2021					July 2021				
												28	04	11	18	25	02	09	16	23	30	06	13	20	27	04	11	18	25		
<b>Cross Bay Link, Tseng Kwan O Main Bridge and Associated Works - Submission</b>																															
<b>Executive Summary Programme</b>																															
<b>ESP Section 1 of the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)</b>																															
ESP10720	Pre-drilling Works	0	0	09-Apr-21	09-Mar-21	09-Apr-21	09-Mar-21	-41	0%	0	-31	Pre-drilling Works																			
ESP10740	Piling Works	136	136	26-Apr-21	26-Mar-21	08-Sep-21	12-Aug-21	-82	0%	0	-27	Piling Works																			
<b>ESP Section 2 of Works-All Works within Portion II,III,IV and VI</b>																															
ESP10920	CBL Main Bridge and Marine Viaduct	1240	403	17-Sep-18 A	28-Feb-19	16-May-22	21-Jul-22	-93	67.5%	0	66	CBL Main Bridge and Marine Viaduct																			
ESP11000	Pier	221	12	16-Mar-20 A	09-Mar-20	20-Apr-21	15-Oct-20	27	94.57%	0	-187	Pier																			
ESP11020	Main Span (Steel) and Arch Ribs	105	105	09-Apr-21	12-Apr-21	22-Jul-21	22-Jul-21	-34	0%	0	0	Main Span																			
ESP11040	West Side Span Deck	104	104	23-May-21	23-May-21	03-Sep-21	03-Sep-21	-77	0%	0	0	West Side Span Deck																			
ESP11060	East Side Span Deck	90	90	23-May-21	23-May-21	20-Aug-21	20-Aug-21	-63	0%	0	0	East Side Span Deck																			
ESP11080	Concrete Bridge Decks	395	172	05-Jun-20 A	09-Jul-20	27-Sep-21	07-Aug-21	-13	56.46%	0	-51	Concrete Bridge Decks																			
ESP11120	Street Furniture, Parapet and Sign Gantry	59	59	30-Jun-21	30-Jun-21	27-Aug-21	27-Aug-21	-93	0%	0	0	Street Furniture, Parapet and Sign Gantry																			
ESP11160	E&M Works for CBL Main Bridge and Marine Viaduct	403	403	09-Apr-21	09-Mar-21	16-May-22	16-May-22	-93	0%	0	0	E&M Works for CBL Main Bridge and Marine Viaduct																			
<b>ESP Section 5 of the Works-All Works within Portion V (CBL E&amp;M Plantroom)</b>																															
ESP11300	E&M Works and FSD Inspection	159	48	30-Jul-20 A	15-Aug-20	26-May-21	20-Jan-21	171	69.81%	0	-126	E&M Works and FSD Inspection																			
ESP11310	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0			08-Apr-21*	08-Mar-21	-86	0%	0	-31	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
<b>Access Date</b>																															
ESP10060	Access Date of Portion I	0	0	09-Apr-21*	09-Mar-21			-86	0%	0	-31	Access Date of Portion I																			
<b>Contractual Key Dates and Section of the Works</b>																															
<b>Key Dates</b>																															
ESP10220	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0	08-Apr-21	08-Mar-21	08-Apr-21	08-Mar-21	-86	0%	0	-31	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
<b>Anticipated Key Dates and Section of the Works</b>																															
<b>Key Dates</b>																															
ESP11360	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP	0	0	08-Apr-21	08-Mar-21	08-Apr-21	08-Mar-21	-86	0%	0	-31	Key Date 1- Completion of all Works in Portion V of the Site necessary to comply with the requirements from FSD and CLP																			
<b>Preliminaries, Contractor's Design &amp; Method Statement Submission &amp; Approval</b>																															
ESP10420	Method Statement Submission for Major Construction Works	736	9	27-Aug-18 A	27-Aug-18	17-Apr-21	31-Aug-20	0	98.78%	0	-229	Method Statement Submission for Major Construction Works																			
ESP10440	Contractor's Design Submission and Approval	869	111	06-Aug-18 A	06-Aug-18	28-Jul-21	21-Dec-20	49	87.23%	0	-219	Contractor's Design Submission and Approval																			
ESP10560	Procurement, Factory Acceptance Test, Delivery and Temporary Storage of Major E&M Equipment	0	0	13-May-20 A	09-Jun-20	09-Apr-21	09-Jun-20	96	0%	0	-304	Procurement, Factory Acceptance Test, Delivery and Temporary Storage of Major E&M Equipment																			
ESP10570	Precasting of Precast Shell (TKOI Entrustment Works)	155	155	09-Apr-21	09-Mar-21	10-Sep-21	24-Sep-21	-8	0%	0	14	Precasting of Precast Shell (TKOI Entrustment Works)																			
ESP10580	Precasting of Precast Segments (TKOI Entrustment Works)	359	205	16-Sep-20 A	09-Oct-20	30-Oct-21	02-Oct-21	0	42.9%	0	-28	Precasting of Precast Segments (TKOI Entrustment Works)																			
ESP10640	Fabrication of Steel Arch Bridge and Side Spans	623	0	30-Aug-19 A	08-Apr-19	26-Mar-21 A	20-Dec-20		100%	0	-96	Fabrication of Steel Arch Bridge and Side Spans																			
ESP10660	Assembly of Steel Arch Bridge	418	15	12-Jul-20 A	11-Oct-20	23-Apr-21	02-Dec-21	-100	96.41%	0	223	Assembly of Steel Arch Bridge																			
ESP10680	Assembly of Side Spans	102	27	16-Jan-21 A	09-Feb-21	05-May-21	21-May-21	-100	73.53%	0	16	Assembly of Side Spans																			
<b>EW, NCE, CE and PMI</b>																															
<b>Compensation Event (CE)</b>																															
CE2481	CE126 - Engaging a HOKLAS Lab for Testing of Hot Dip Galvanized Screws and Nuts (June 2020 - June 2021)	0	0	11-Mar-21 A					100%	0		Engaging a HOKLAS Lab for Testing of Hot Dip Galvanized Screws and Nuts (June 2020 - June 2021)																			
CE2501	CE127 - Revised Functional Lighting System under Cross Bay Link	0	0	12-Mar-21 A					100%	0		Revised Functional Lighting System under Cross Bay Link																			
CE2521	CE128 - Provisions for Energy Audit and Dummy Load for UPS at E&M Plantroom	0	0	25-Mar-21 A					100%	0		CE128 - Provisions for Energy Audit and Dummy Load for UPS at E&M Plantroom																			
CE2541	CE129 - Additional Landscape Softworks and Associated Modification Works for Water Meter Cabinet in E&M Plantroom	0	0	26-Mar-21 A					100%	0		CE129 - Additional Landscape Softworks and Associated Modification Works for Water Meter Cabinet in E&M Plantroom																			
CE2561	CE130 - Revised Road Lighting Design at Road D9	0	0	30-Mar-21 A					100%	0		CE130 - Revised Road Lighting Design at Road D9																			
CE2581	CE131 - Revised Reinforcement Details for Bottom Tendons of Box Girder NE5-6	0	0	01-Apr-21 A					100%	0		CE131 - Revised Reinforcement Details for Bottom Tendons of Box Girder NE5-6																			
CE2601	CE132 - Revised Reinforcement Details for Bottom Tendons of Box Girder SE6-7	0	0	08-Apr-21 A					100%	0		CE132 - Revised Reinforcement Details for Bottom Tendons of Box Girder SE6-7																			
CE2621	CE133 - Revised Details for Structural Health Monitoring System (SHMS) - Weight in Motion (WIM)	0	0	08-Apr-21 A					100%	0		CE133 - Revised Details for Structural Health Monitoring System (SHMS) - Weight in Motion (WIM)																			
<b>Project Manager's Instruction PMI</b>																															
PMI2981	PMI169 - Revised Functional Lighting System under Cross Bay Link	0	0	08-Mar-21 A	08-Feb-19				100%	0	-759	Revised Functional Lighting System under Cross Bay Link																			
PMI3001	PMI170 - Request for Quotation - Remote Monitoring Unit (RMU) for SCADA System (PMI No. 170)	0	0	08-Mar-21 A	08-Feb-19				100%	0	-759	Request for Quotation - Remote Monitoring Unit (RMU) for SCADA System (PMI No. 170)																			
PMI3021	PMI171 - Engaging a HOKLAS Lab for Testing of Hot Dip Galvanized Screws and Nuts (June 2020 - June 2021) (PMI No. 171)	0	0	11-Mar-21 A					100%	0		Engaging a HOKLAS Lab for Testing of Hot Dip Galvanized Screws and Nuts (June 2020 - June 2021) (PMI No. 171)																			
PMI3041	PMI172 - Provisions for Energy Audit and Dummy Load for UPS at E&M Plantroom (PMI No. 172)	0	0	16-Mar-21 A					100%	0		Provisions for Energy Audit and Dummy Load for UPS at E&M Plantroom (PMI No. 172)																			
PMI3061	PMI174 - Revised Road Lighting Design at Road D9 (PMI No. 174)	0	0	30-Mar-21 A					100%	0		PMI174 - Revised Road Lighting Design at Road D9 (PMI No. 174)																			
PMI3081	PMI175 - Additional Landscape Softworks and Associated Modification Works for Water Meter Cabinet in E&M Plantroom	0	0	26-Mar-21 A					100%	0		PMI175 - Additional Landscape Softworks and Associated Modification Works for Water Meter Cabinet in E&M Plantroom																			
PMI3101	PMI176 - Revised Details for Structural Health Monitoring System (SHMS) - Weight in Motion (WIM) Sensors	0	0	26-Mar-21 A					100%	0		PMI176 - Revised Details for Structural Health Monitoring System (SHMS) - Weight in Motion (WIM) Sensors																			

█ Remaining Level of Effort   
 █ Remaining Work   
 ◆ Milestone  
█ Primary Baseline   
 █ Critical Remaining Work   
 ⇨ Summary  
█ Actual Work   
 ◆ Baseline Milestone

**CRBC**  
**Three Month Rolling Programme**

Date	Revision	Checked	Approved
08-Mar-21	Monthly updated on 08 March 2021		





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	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Balance to Finish (Lag)	Gantt Chart											
												28	01	04	07	10	13	16	19	22	25	28	31
P-SAB2981	Installation of Dehumidification System for Sides Spans	40	23	15-Mar-21 A	20-Mar-21	01-May-21	28-Apr-21	-100	42.5%		-3	Installation of Dehumidification System for Sides Spans											
P-SAB3001	Remove/Release the Temporary Support and Roll out to Delivery Barge	4	4	02-May-21	29-Apr-21	05-May-21	02-May-21	-100	0%		-3	Remove/Release the Temporary Support and Roll out to Delivery Barge											
<b>Completion of the Sides Deck</b>												▼ Completion of the Sides Deck											
P-SAB3021	Completion of the Sides Span Fabrication and Ready to Dispatch	0	0	05-May-21	02-May-21	05-May-21	02-May-21	-100	0%		-3	◆ Completion of the Sides Span Fabrication and Ready to Dispatch											
<b>Sand Blasting and Painting For Side Span</b>												▶ Sand Blasting and Painting For Side Span											
P-SAB1261	Sand Blasting and Painting for the Steel Bridge of Section C22 to C28	31	0	26-Feb-21 A	15-Mar-21	26-Mar-21 A	14-Apr-21		100%		19	Sand Blasting and Painting for the Steel Bridge of Section C22 to C28											
<b>Section 1 of the Works- All Works within Portion I of the Site (Entrusted Works of TKOI Viaduct)</b>																							
<b>Bored Piling Works</b>																							
<b>Bored Piling Construction Group 1 - 2 Nos. Bored Piling Rig</b>																							
<b>Bored Piling Construction for Pile 5B (Bridge S400) - 1no.Piling Rig</b>																							
S1-BP-10010	Piling Platform Erection for Bored Pile 5B	5	5	26-Apr-21	26-Mar-21	01-May-21	31-Mar-21	-84	0%		-31	Piling Platform Erection for Bored Pile 5B											
S1-BP-10020	Bored Piling Construction for Pile 5B - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	01-May-21	31-Mar-21	21-May-21	20-Apr-21	-84	0%		-31	Bored Piling Construction for Pile 5B - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10030	Piling Platform dismantle from Pile 5B and relocate to Pile 5C	7	7	21-May-21	20-Apr-21	28-May-21	27-Apr-21	-84	0%		-31	Piling Platform dismantle from Pile 5B and relocate to Pile 5C											
<b>Bored Pile Test</b>																							
S1-BP-10210	Group 1 Bored Pile Test and Dismantle All Platform	100	100	01-Jun-21	05-May-21	09-Sep-21	13-Aug-21	-82	0%		-27	Group 1 Bored Pile Test and Dismantle All Platform											
<b>Bored Piling Construction for Pile 9B (Bridge CT) - 1no.Piling Rig</b>																							
S1-BP-10040	Piling Platform Erection for Bored Pile 9B	5	5	26-Apr-21	26-Mar-21	01-May-21	31-Mar-21	-84	0%		-31	Piling Platform Erection for Bored Pile 9B											
S1-BP-10050	Bored Piling Construction for Pile 9B - Bridge CT (2Piles) - 1 Piling Rig	20	20	01-May-21	31-Mar-21	21-May-21	20-Apr-21	-84	0%		-31	Bored Piling Construction for Pile 9B - Bridge CT (2Piles) - 1 Piling Rig											
S1-BP-10060	Piling Platform dismantle from Pile 9B and relocate to Pile 9C	7	7	21-May-21	20-Apr-21	28-May-21	27-Apr-21	-84	0%		-31	Piling Platform dismantle from Pile 9B and relocate to Pile 9C											
<b>Bored Piling Construction for Pile 5C (Bridge S400) - 1no.Piling Rig</b>																							
S1-BP-10070	Bored Piling Construction for Pile 5C - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	28-May-21	27-Apr-21	17-Jun-21	17-May-21	-84	0%		-31	Bored Piling Construction for Pile 5C - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10080	Piling Platform dismantle from Pile 5C and relocate to Pile 5H	7	7	17-Jun-21	17-May-21	24-Jun-21	24-May-21	-84	0%		-31	Piling Platform dismantle from Pile 5C and relocate to Pile 5H											
<b>Bored Piling Construction for Pile 9C (Bridge CT) - 1no.Piling Rig</b>																							
S1-BP-10090	Bored Piling Construction for Pile 9C - Bridge CT (2 Piles) - 1 Piling Rig	20	20	28-May-21	27-Apr-21	17-Jun-21	17-May-21	-84	0%		-31	Bored Piling Construction for Pile 9C - Bridge CT (2 Piles) - 1 Piling Rig											
S1-BP-10100	Piling Platform dismantle from Pile 9C and relocate to Pile 9H	7	7	17-Jun-21	17-May-21	24-Jun-21	24-May-21	-84	0%		-31	Piling Platform dismantle from Pile 9C and relocate to Pile 9H											
<b>Bored Piling Construction for Pile 5H (Bridge S400) - 1no.Piling Rig</b>																							
S1-BP-10110	Bored Piling Construction for Pile 5H - Bridge S400 (2 Piles) - 1 Piling Rig	20	16	30-Mar-21 A	24-May-21	10-Jul-21	13-Jun-21	-57	20%		-27	Bored Piling Construction for Pile 5H - Bridge S400 (2 Piles) - 1 Piling Rig											
<b>Bored Piling Construction for Pile 9H (Bridge CT) - 1no.Piling Rig</b>																							
S1-BP-10130	Bored Piling Construction for Pile 9H - Bridge CT (2 Piles) - 1 Piling Rig	20	16	30-Mar-21 A	24-May-21	10-Jul-21	13-Jun-21	-82	20%		-27	Bored Piling Construction for Pile 9H - Bridge CT (2 Piles) - 1 Piling Rig											
<b>Bored Piling Construction Group 2 - 2 Nos. Bored Piling Rig</b>																							
<b>Bored Piling Construction for Pile 5D (Bridge S400) - 1no.Piling Rig</b>																							
S1-BP-10220	Piling Platform Erection for Bored Pile 5D	5	5	18-Apr-21	18-Mar-21	23-Apr-21	23-Mar-21	-72	0%		-31	Piling Platform Erection for Bored Pile 5D											
S1-BP-10230	Bored Piling Construction for Pile 5D - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	23-Apr-21	23-Mar-21	13-May-21	12-Apr-21	-72	0%		-31	Bored Piling Construction for Pile 5D - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10240	Piling Platform dismantle from Pile 5D and relocate to Pile 5E	7	7	13-May-21	12-Apr-21	20-May-21	19-Apr-21	-72	0%		-31	Piling Platform dismantle from Pile 5D and relocate to Pile 5E											
<b>Bored Pile Test</b>																							
S1-BP-10400	Group 2 Bored Pile Test and Dismantle All Platform	100	100	14-Apr-21	21-Mar-21	23-Jul-21	29-Jun-21	-49	0%		-24	Group 2 Bored Pile Test and Dismantle All Platform											
<b>Bored Piling Construction for Pile 9D (Bridge CT) - 1no.Piling Rig</b>																							
S1-BP-10250	Piling Platform Erection for Bored Pile 9D	5	5	08-Apr-21	08-Mar-21	13-Apr-21	13-Mar-21	-62	0%		-31	Piling Platform Erection for Bored Pile 9D											
S1-BP-10260	Bored Piling Construction for Pile 9D - Bridge CT (2 Piles) - 1 Piling Rig	20	20	13-Apr-21	13-Mar-21	03-May-21	02-Apr-21	-62	0%		-31	Bored Piling Construction for Pile 9D - Bridge CT (2 Piles) - 1 Piling Rig											
S1-BP-10270	Piling Platform dismantle from Pile 9D and relocate to Pile 9E	7	7	03-May-21	02-Apr-21	10-May-21	09-Apr-21	-62	0%		-31	Piling Platform dismantle from Pile 9D and relocate to Pile 9E											
<b>Bored Piling Construction for Pile 5E (Bridge S400) - 1no.Piling Rig</b>																							
S1-BP-10280	Bored Piling Construction for Pile 5E - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	20-May-21	19-Apr-21	09-Jun-21	09-May-21	-72	0%		-31	Bored Piling Construction for Pile 5E - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10290	Piling Platform dismantle from Pile 5E and relocate to Pile 5F	7	7	09-Jun-21	09-May-21	16-Jun-21	16-May-21	-72	0%		-31	Piling Platform dismantle from Pile 5E and relocate to Pile 5F											
<b>Bored Piling Construction for Pile 9E (Bridge CT) - 1no.Piling Rig</b>																							
S1-BP-10300	Bored Piling Construction for Pile 9E - Bridge S400 (2 Piles) - 1 Piling Rig	20	20	10-May-21	09-Apr-21	30-May-21	29-Apr-21	-62	0%		-31	Bored Piling Construction for Pile 9E - Bridge S400 (2 Piles) - 1 Piling Rig											
S1-BP-10310	Piling Platform dismantle from Pile 9E and relocate to Pile 9F	7	7	30-May-21	29-Apr-21	06-Jun-21	06-May-21	-62	0%		-31	Piling Platform dismantle from Pile 9E and relocate to Pile 9F											
<b>Bored Piling Construction for Pile 5F (Bridge S400) - 1no.Piling Rig</b>																							
S1-BP-10320	Bored Piling Construction for Pile 5F - Bridge CT (2 Piles) - 1 Piling Rig	20	12	19-Mar-21 A	16-May-21	28-Jun-21	12-Jun-21	-43			-16	Bored Piling Construction for Pile 5F - Bridge CT (2 Piles) - 1 Piling Rig											
S1-BP-10330	Piling Platform dismantle from Pile 5F and relocate to Pile 5G	7	7	21-Jun-21	05-Jun-21	28-Jun-21	12-Jun-21	-43	0%		-16	Piling Platform dismantle from Pile 5F and relocate to Pile 5G											
<b>Bored Piling Construction for Pile 9F (Bridge CT) - 1no.Piling Rig</b>																							
S1-BP-10340	Bored Piling Construction for Pile 9F - Bridge 400 (2 Piles) - 1 Piling Rig	20	20	19-Mar-21 A	06-May-21	26-Jun-21	02-Jun-21	-55			-24	Bored Piling Construction for Pile 9F - Bridge 400 (2 Piles) - 1 Piling Rig											
S1-BP-10350	Piling Platform dismantle from 9F and relocate to 9G	7	7	19-Jun-21	26-May-21	26-Jun-21	02-Jun-21	-55	0%		-24	Piling Platform dismantle from 9F and relocate to 9G											

█ Remaining Level of Effort    █ Remaining Work    ◆ Milestone  
 Primary Baseline     Critical Remaining Work     Summary  
 Actual Work    ◆ Baseline Milestone

**CRBC**  
**Three Month Rolling Programme**

Date	Revision	Checked	Approved
08-Mar-21	Monthly updated on 08 March 2021		



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	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Planned - Finish (Days)	Gantt Chart (Timeline)											
												20	04	11	18	25	02	09	16	23	30	06	13
<b>Pier Erection with Crane Barge 1000 Tons</b>												Pier Erection with Crane Barge 1000 Tons											
<b>Pier W2</b>												Pier W2											
S2-PR3070	Rebar Fixing and 2nd Stage of Cross Beam Construction - W2	10	0	22-Jan-21 A	09-Feb-21	29-Mar-21 A	16-Mar-21		100%	0	-22	Rebar Fixing and 2nd Stage of Cross Beam Construction - W2											
S2-PR3080	Installation of temp. bearing/jacking system -W2	5	0	22-Mar-21 A	11-Mar-21	29-Mar-21 A	16-Mar-21		100%	0	-11	Installation of temp. bearing/jacking system -W2											
<b>Pier E2</b>												Pier E2											
S2-PR3390	Rebar Fixing and 2nd Stage of Cross Beam Construction - E2	10	0	25-Jan-21 A	09-Mar-21	29-Mar-21 A	19-Mar-21		100%	0	1	Rebar Fixing and 2nd Stage of Cross Beam Construction - E2											
S2-PR3400	Installation of temp. bearing/ jacking system-E2	5	0	22-Mar-21 A	11-Mar-21	29-Mar-21 A	16-Mar-21		100%	0	-11	Installation of temp. bearing/ jacking system-E2											
<b>Pier Erection with crane barge 4000 Tons</b>												Pier Erection with crane barge 4000 Tons											
<b>Pier W5</b>												Pier W5											
S2-PR3320	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W5	19	0	08-Mar-21 A	13-Mar-21	13-Mar-21 A	07-Apr-21		100%	0	18	Rebar fixing and 2nd stage Concreting for connection between pier and pile cap -W5											
S2-PR3330	In-situ concrete infill for cross beam -W5	10	5	16-Mar-21 A	27-Mar-21	14-Apr-21	10-Apr-21	22	50%	0	-3	In-situ concrete infill for cross beam -W5											
S2-PR3340	Installation of temp. Bearing/jacking system -W5	5	5	15-Apr-21	12-Apr-21	20-Apr-21	16-Apr-21	22	0%	0	-3	Installation of temp. Bearing/jacking system -W5											
<b>Concrete Bridge Decks</b>																							
<b>Delivery and Erection of Precast Girder for Marine Viaduct</b>												Delivery and Erection of Precast Girder for Marine Viaduct											
<b>Remaining Works of East Side of Precast Girder</b>												Remaining Works of East Side of Precast Girder											
S2-CB2950	Construction of in-situ diaphragm at Pier E3 ,Pier E4,Pier E5,Pier E6	160	34	20-Oct-20 A	24-Feb-21	27-Jul-21	06-Sep-21	-24	78.75%	0	35	Construction of in-situ diaphragm at Pier E3 ,Pier E4,Pier E5,Pier E6											
<b>SE7-A</b>												SE7-A											
S2-CB2320	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E7 - Abut. EA(South Deck)	11	11	02-Jun-21	04-May-21	15-Jun-21	15-May-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E7 - Abut. EA(South Deck)											
S2-CB2330	Erection of precast girder for span E7 - Abutment EA(South Deck)	1	1	16-Jun-21	17-May-21	16-Jun-21	17-May-21	-24	0%	0	-24	Erection of precast girder for span E7 - Abutment EA(South Deck)											
S2-CB2340	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	17-Jun-21	18-May-21	28-Jun-21	29-May-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>NE3-4</b>												NE3-4											
S2-CB2350	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (North Deck)	11	11	09-Apr-21	09-Mar-21	05-May-21	06-Apr-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (North Deck)											
S2-CB2360	Erection of Precast Girder for Span E3 - E4 (North Deck)	1	1	22-Apr-21	22-Mar-21	22-Apr-21	22-Mar-21	-24	0%	0	-24	Erection of Precast Girder for Span E3 - E4 (North Deck)											
S2-CB2370	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	23-Apr-21	23-Mar-21	05-May-21	06-Apr-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>NE2-3</b>												NE2-3											
S2-CB2410	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3(North Deck)	11	11	06-May-21	07-Apr-21	01-Jun-21	03-May-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3(North Deck)											
S2-CB2420	Erection of Precast Girder for Span E2 - E3(North Deck)	1	1	20-May-21	20-Apr-21	20-May-21	20-Apr-21	-24	0%	0	-24	Erection of Precast Girder for Span E2 - E3(North Deck)											
S2-CB2430	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	21-May-21	21-Apr-21	01-Jun-21	03-May-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>SE2-3</b>												SE2-3											
S2-CB2440	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3 (South Deck)	11	11	07-May-21	08-Apr-21	20-May-21	20-Apr-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E2 - E3 (South Deck)											
S2-CB2450	Erection of Precast Girder for Span E2 - E3 (South Deck)	1	1	21-May-21	21-Apr-21	21-May-21	21-Apr-21	-24	0%	0	-24	Erection of Precast Girder for Span E2 - E3 (South Deck)											
S2-CB2460	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	22-May-21	22-Apr-21	02-Jun-21	04-May-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>NW3-2</b>												NW3-2											
S2-CB2470	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W2 - W3 (North Deck)	11	11	30-Jun-21	01-Jun-21	13-Jul-21	12-Jun-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W2 - W3 (North Deck)											
<b>SW5-4</b>												SW5-4											
S2-CB2530	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (South Deck)	1	1	29-Jun-21	31-May-21	29-Jun-21	31-May-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (South Deck)											
S2-CB2540	Erection of Precast Girder for Span W4 - W5 (South Deck)	1	1	30-Jun-21	01-Jun-21	30-Jun-21	01-Jun-21	-24	0%	0	-24	Erection of Precast Girder for Span W4 - W5 (South Deck)											
S2-CB2550	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	02-Jul-21	02-Jun-21	13-Jul-21	12-Jun-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>SE3-4</b>												SE3-4											
S2-CB2380	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (South Deck)	11	11	09-Apr-21	09-Mar-21	06-May-21	07-Apr-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span E3 - E4 (South Deck)											
S2-CB2390	Erection of Precast Girder for Span E3 - E4 (South Deck)	1	1	23-Apr-21	23-Mar-21	23-Apr-21	23-Mar-21	-24	0%	0	-24	Erection of Precast Girder for Span E3 - E4 (South Deck)											
S2-CB2400	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	24-Apr-21	24-Mar-21	06-May-21	07-Apr-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>Remaining Works of West Side of Precast Girder</b>												Remaining Works of West Side of Precast Girder											
S2-CB2722	Construction of in-situ diaphragm at Pier W3 and Pier W4	28	28	23-Jun-21	25-May-21	26-Jul-21	26-Jun-21	-23	0%	0	-24	Construction of in-situ diaphragm at Pier W3 and Pier W4											
<b>Crane Barge Mobilisation For 2nd BaachConcrete Deck Installaiton</b>												Crane Barge Mobilisation For 2nd BaachConcrete Deck Installaiton											
S2-CB3000	Mobilization of crane barge (~4000T) for 2nd barge of concrete Deck Installation ** Assume 15/03/2021	0	0	09-Apr-21	15-Mar-21	09-Apr-21	15-Mar-21	-19	0%	0	-19	Mobilization of crane barge (~4000T) for 2nd barge of concrete Deck Installation ** Assume 15/03/2021											
<b>NW5-4</b>												NW5-4											
S2-CB2290	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (North Deck)	11	11	03-Jun-21	05-May-21	29-Jun-21	31-May-21	-24	0%	0	-24	Preparation Work, Roll Out and Delivery of Precast Box Girder Span W4 - W5 (North Deck)											
S2-CB2300	Erection of Precast Girder for Span W4 - W5 (North Deck)	1	1	17-Jun-21	18-May-21	17-Jun-21	18-May-21	-24	0%	0	-24	Erection of Precast Girder for Span W4 - W5 (North Deck)											
S2-CB2310	Remove Supporting Beam and Delivery Barge Return to Factory	10	10	18-Jun-21	20-May-21	29-Jun-21	31-May-21	-24	0%	0	-24	Remove Supporting Beam and Delivery Barge Return to Factory											
<b>Procurement and Delivery</b>																							
S2-CB2485	Procurement and delivery of bearing system	180	54	28-Oct-19 A	09-Jul-20	12-Jun-21	10-Feb-21	38	70%	0	-97	Procurement and delivery of bearing system											
S2-CB2486	Procurement and delivery of fabricated movement joints	180	68	20-Oct-20 A	09-Nov-20	30-Jun-21	19-Jun-21	9	62.22%	0	-9	Procurement and delivery of fabricated movement joints											
S2-CB2488	Procurement and delivery of bituminous materials	180	117	03-Sep-20 A	02-Jan-21	27-Aug-21	11-Aug-21	-24	35%	0	-14	Procurement and delivery of bituminous materials											
<b>Steel Bridge</b>																							
<b>Main Span (Steel) and Arch Ribs</b>												Main Span (Steel) and Arch Ribs											
<b>Erection of Steel Arch Bridge</b>												Erection of Steel Arch Bridge											

█ Remaining Level of Effort   
 █ Remaining Work   
 ◆ Milestone   
 ◆ Baseline Milestone  
█ Primary Baseline   
█ Critical Remaining Work   
 ◆ Milestone   
 ◆ Baseline Milestone  
█ Actual Work   
◆ Baseline Milestone

**CRBC**  
**Three Month Rolling Programme**

Date	Revision	Checked	Approved
08-Mar-21	Monthly updated on 08 March 2021		



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	Planned Start	Finish	Planned Finish	Total Float	Activity % Complete	IRA	Planned Finish - L2	Gantt Chart											
												28	04	11	18	25	02	09	16	23	30	06	13
S2-MS2060	Positioning of Main Steel Arch Bridge	10	10	04-May-21	04-May-21	14-May-21	14-May-21	-78	0%	0	0	Positioning of Main Steel Arch Bridge											
S2-MS2061	Crane Barge Return to Factory for Side Span Transportation	6	6	15-May-21	15-May-21	22-May-21	22-May-21	-78	0%	0	0	Crane Barge Return to Factory for Side Span Transportation											
S2-MS2062	Installation of Permanent Bearing on E1 and W1 & fine-tuning Steel Arch Bridge	26	26	15-May-21	15-May-21	16-Jun-21	16-Jun-21	-28	0%	0	0	Installation of Permanent Bearing on E1 and W1 & fine-tuning											
S2-MS2073	Adjustment of hanger cable force	15	15	15-May-21	15-May-21	02-Jun-21	02-Jun-21	-17	0%	0	0	Adjustment of hanger cable force											
S2-MS2077	Removal of Temporary Work/ Equipment	30	30	17-Jun-21	17-Jun-21	22-Jul-21	22-Jul-21	-28	0%	0	0	Removal of Temporary Work/ Equipment											
<b>Sea Transportation of Steel Arch Bridge</b>												Sea Transportation of Steel Arch Bridge											
S2-MS2001	Divert the navigation channel from W1-E1 to W1-W2 and E1-E2	10	10	21-Apr-21	21-Apr-21	03-May-21	03-May-21	-78	0%	0	0	Divert the navigation channel from W1-E1 to W1-W2 and E1-E2											
S2-MS2040	Delivery the Main Steel Arch Bridge from Factory to Hong Kong	10	10	24-Apr-21	24-Apr-21	03-May-21	03-May-21	-100	0%	2.7	0	Delivery the Main Steel Arch Bridge from Factory to Hong Kong											
<b>Side Span Deck(Steel)</b>												Side Span Deck(Steel)											
<b>West Side Span Deck</b>												West Side Span Deck											
S2-SS2000	Installation of temporary support bracket at Pier W2	18	18	09-Apr-21	09-Mar-21	04-Aug-21	04-Aug-21	-78	0%	0	-17	Installation of temporary support bracket at Pier W2											
S2-SS2005	Installation of Temporary Support Tower at Pier W1	18	18	09-Apr-21	09-Mar-21	29-Apr-21	29-Mar-21	-76	0%	0	-24	Installation of Temporary Support Tower at Pier W1											
S2-SS2080	Positioning of West Side Span Deck	5	5	15-Jun-21	15-Jun-21	19-Jun-21	19-Jun-21	-78	0%	0	0	Positioning of West Side Span Deck											
S2-SS2100	Weld Connection Side Span and Main Span	38	38	21-Jun-21	21-Jun-21	04-Aug-21	04-Aug-21	-78	0%	0	0	Weld Connection Side Span and Main Span											
<b>East Side Span Deck</b>												East Side Span Deck											
S2-SS2105	Installation of temporary support bracket at Pier E2	18	18	09-Apr-21	17-Mar-21	29-Apr-21	09-Apr-21	-60	0%	0	-17	Installation of temporary support bracket at Pier E2											
S2-SS2110	Installation of Temporary Support Tower at Pier E1	18	18	09-Apr-21	09-Mar-21	29-Apr-21	29-Mar-21	-76	0%	0	-24	Installation of Temporary Support Tower at Pier E1											
S2-SS2180	Positioning of East Side Span Deck	5	5	08-Jun-21	08-Jun-21	12-Jun-21	12-Jun-21	-78	0%	0	0	Positioning of East Side Span Deck											
S2-SS2200	Weld Connection Side Span and Main Span	26	26	21-Jun-21	21-Jun-21	21-Jul-21	21-Jul-21	-61	0%	0	0	Weld Connection Side Span and Main Span											
<b>Sea Transportation of Side Span</b>												Sea Transportation of Side Span											
S2-SS2020	Load-Out East and West Side Span Steel Bridge To Delivery Barge	6	6	23-May-21	23-May-21	28-May-21	28-May-21	-97	0%	0	0	Load-Out East and West Side Span Steel Bridge To Delivery Barge											
S2-SS2040	Delivery the East and West Side Span Steel Bridge from Factory to Hong Kong	10	10	29-May-21	29-May-21	07-Jun-21	07-Jun-21	-97	0%	2.7	0	Delivery the East and West Side Span Steel Bridge from Factory to Hong Kong											
<b>Pier (In-situ Pier under Conforming Design)</b>												Pier (In-situ Pier under Conforming Design)											
<b>Pier W1</b>												Pier W1											
S2-PR3920	Construction of Decoration wall 2 (W1C) include installation of the prefabrication Decoration Wall- W1	15	0	06-Jan-21 A	27-Jan-21	25-Mar-21 A	16-Feb-21	-32	100%	0	-32	Construction of Decoration wall 2 (W1C) include installation of the prefabrication Decoration Wall- W1											
<b>Pier E1</b>												Pier E1											
S2-PR3530	Construction of Decoration wall 2 (E1C) - include installation of the prefabrication Decoration Wall- E1	15	0	24-Dec-20 A	16-Jan-21	29-Mar-21 A	02-Feb-21	-44	100%	0	-44	Construction of Decoration wall 2 (E1C) - include installation of the prefabrication Decoration Wall- E1											
<b>Section 5 of the Works-All Works within Portion V (CBL E&amp;M Plantroom)</b>												Section 5 of the Works-All Works within Portion V (CBL E&M Plantroom)											
<b>Remianing Work</b>												Remianing Work											
S5-PR2120	External works (including landscaping)	90	69	30-Jul-20 A	07-Sep-20	02-Jul-21	23-Dec-20	89	23.33%	0	-151	External works (including landscaping)											
S5-PR2200	Water works,plumbing and drainage works	60	23	30-Jul-20 A	24-Dec-20	29-Jul-21	10-Mar-21	89	61.67%	0	-114	Water works,plumbing and drainage works											
<b>Major Services System</b>												Major Services System											
<b>Electrical System</b>												Electrical System											
<b>UPS Room</b>												UPS Room											
S5-PR2580	UPS Installation (Including E&M Work)	100	100	09-Apr-21	09-Mar-21	07-Aug-21	10-Jul-21	81	0%	0	-24	UPS Installation (Including E&M Work)											
<b>Generator Room</b>												Generator Room											
S5-PR2540	Generator SAT	3	3	09-Apr-21	09-Mar-21	12-Apr-21	11-Mar-21	178	0%	0	-24	Generator SAT											
S5-PR2550	EPD Submission and Approval	56	56	09-Apr-21	09-Mar-21	16-Jun-21	17-May-21	125	0%	0	-24	EPD Submission and Approval											
S5-PR2560	Accomplish of Generator Installation	0	0			16-Jun-21	17-May-21	125	0%	0	-24	Accomplish of Generator Installation											
<b>Fire Services System</b>												Fire Services System											
<b>Statutory Inspection</b>												Statutory Inspection											
S5-PR2800	WSD Inspection	14	7	20-Jan-21 A	09-Mar-21	16-Apr-21	24-Mar-21	174	50%	0	-17	WSD Inspection											
S5-PR2820	FSD Inspection	14	7	20-Jan-21 A	09-Mar-21	16-Apr-21	24-Mar-21	174	50%	0	-17	FSD Inspection											
S5-PR3020	Accomplish of FS Work	0	0			16-Apr-21	16-Mar-21	174	0%	0	-24	Accomplish of FS Work											
<b>MVAC System</b>												MVAC System											
<b>Installation of MVAC System</b>												Installation of MVAC System											
S5-PR2840	MVAC Installation Work	70	21	28-Sep-20 A	09-Oct-20	04-May-21	02-Jan-21	142	70%	0	-97	MVAC Installation Work											
S5-PR2900	MVAC Testing and Commissioning	18	18	05-May-21	06-Apr-21	26-May-21	26-Apr-21	142	0%	0	-24	MVAC Testing and Commissioning											
S5-PR2920	Accomplish of MVAC Installation	0	0			26-May-21	26-Apr-21	142	0%	0	-24	Accomplish of MVAC Installation											

█ Remaining Level of Effort   
 █ Remaining Work   
 █ Critical Remaining Work   
 ◆ Milestone   
 ◆ Baseline Milestone  
█ Primary Baseline   
 ◆ Milestone   
 ◆ Baseline Milestone  
█ Actual Work   
 ◆ Milestone   
 ◆ Baseline Milestone

**CRBC**  
**Three Month Rolling Programme**

Date	Revision	Checked	Approved
08-Mar-21	Monthly updated on 08 March 2021		



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**APPENDIX R  
RECORD OF LANDFILL GAS  
MONITORING BY CONTRACTOR**

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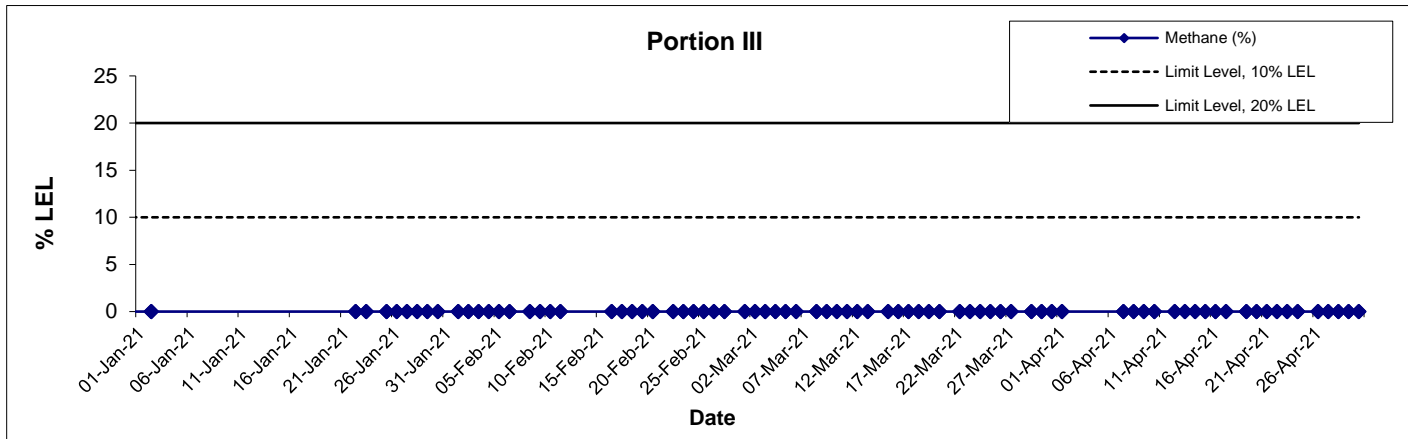
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APPENDIX R - RECORD OF LANDFILL GAS MONITORING BY THE CONTRACTOR

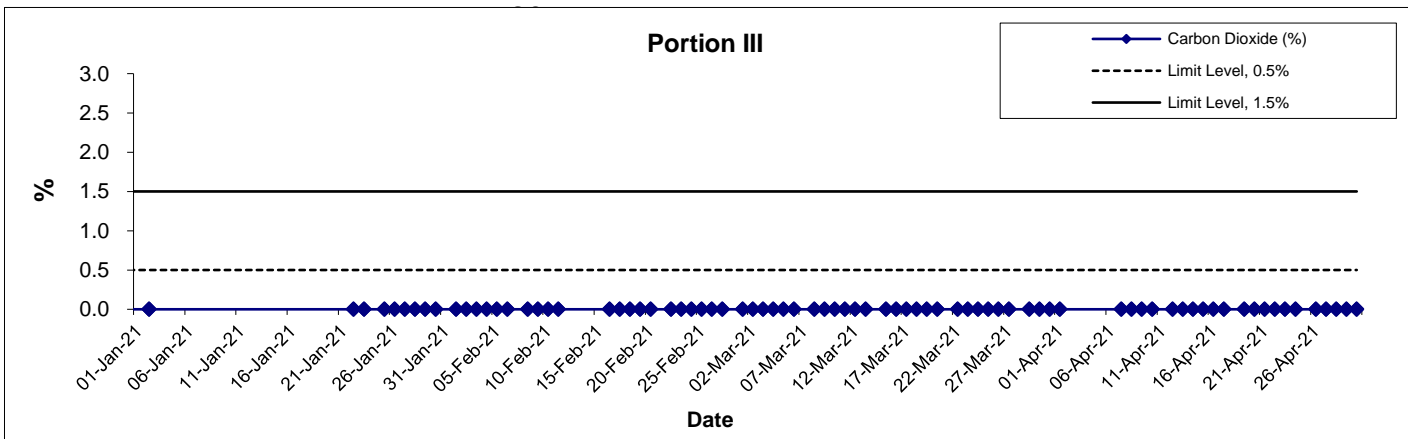
Location	Date of Measurement	Sampling time	Weather Condition	Temperature (°C)	Methane (%)	Carbon dioxide (%)	Oxygen (%)
Portion III	1-Apr-21	8:35	Sunny	26	0	0	20.9
Portion III	1-Apr-21	13:45	Sunny	28	0	0	20.9
Portion III	7-Apr-21	8:35	Sunny	22	0	0	20.9
Portion III	7-Apr-21	13:30	Sunny	25	0	0	20.9
Portion III	8-Apr-21	8:45	Sunny	22	0	0	20.9
Portion III	8-Apr-21	13:37	Sunny	24	0	0	20.9
Portion III	9-Apr-21	8:37	Cloudy	18	0	0	20.9
Portion III	9-Apr-21	13:27	Rainy	20	0	0	20.9
Portion III	10-Apr-21	8:19	Sunny	22	0	0	20.9
Portion III	10-Apr-21	13:21	Sunny	24	0	0	20.9
Portion III	12-Apr-21	8:32	Cloudy	24	0	0	20.9
Portion III	12-Apr-21	13:45	Sunny	27	0	0	20.9
Portion III	13-Apr-21	8:37	Cloudy	25	0	0	20.9
Portion III	13-Apr-21	13:42	Sunny	30	0	0	20.9
Portion III	14-Apr-21	8:15	Sunny	24	0	0	20.9
Portion III	14-Apr-21	13:27	Sunny	24	0	0	20.9
Portion III	15-Apr-21	8:45	Rainy	22	0	0	20.9
Portion III	15-Apr-21	13:49	Rainy	23	0	0	20.9
Portion III	16-Apr-21	8:30	Cloudy	22	0	0	20.9
Portion III	16-Apr-21	14:00	Cloudy	24	0	0	20.9
Portion III	17-Apr-21	8:40	Rainy	22	0	0	20.9
Portion III	17-Apr-21	13:40	Rainy	22	0	0	20.9
Portion III	19-Apr-21	8:21	Sunny	22	0	0	20.9
Portion III	19-Apr-21	13:41	Sunny	23	0	0	20.9
Portion III	20-Apr-21	8:17	Sunny	23	0	0	20.9
Portion III	20-Apr-21	13:47	Sunny	24	0	0	20.9
Portion III	21-Apr-21	8:20	Sunny	23	0	0	20.9
Portion III	21-Apr-21	13:30	Sunny	28	0	0	20.9
Portion III	22-Apr-21	8:50	Sunny	25	0	0	20.9
Portion III	22-Apr-21	14:00	Sunny	28	0	0	20.9
Portion III	23-Apr-21	8:40	Sunny	26	0	0	20.9
Portion III	23-Apr-21	13:50	Sunny	30	0	0	20.9
Portion III	24-Apr-21	8:17	Sunny	25	0	0	20.9
Portion III	24-Apr-21	13:18	Sunny	26	0	0	20.9
Portion III	26-Apr-21	8:21	Rainy	22	0	0	20.9
Portion III	26-Apr-21	13:30	Sunny	25	0	0	20.9
Portion III	27-Apr-21	8:31	Cloudy	22	0	0	20.9
Portion III	27-Apr-21	13:40	Cloudy	23	0	0	20.9
Portion III	28-Apr-21	8:15	Rainy	24	0	0	20.9
Portion III	28-Apr-21	13:40	Cloudy	26	0	0	20.9
Portion III	29-Apr-21	8:19	Sunny	24	0	0	20.9
Portion III	29-Apr-21	13:51	Sunny	27	0	0	20.9
Portion III	30-Apr-21	8:47	Sunny	25	0	0	20.9
Portion III	30-Apr-21	14:00	Sunny	29	0	0	20.9

**APPENDIX R - RECORD OF LANDFILL GAS MONITORING BY THE CONTRACTOR**

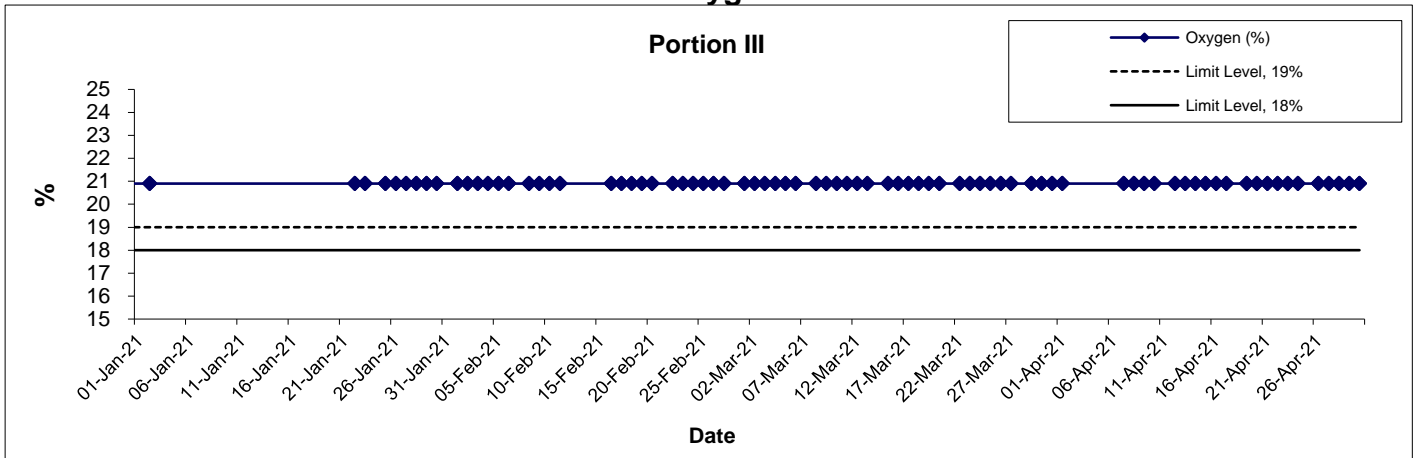
**Methane**




**Carbon Dioxide**



**Oxygen**



Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction	Scale	Project	
	Date	No. MA16034	
	Apr-21	Appendix R	

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**APPENDIX T  
CULTURAL HERITAGE MONITORING  
RESULTS**

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**Appendix T – Cultural Heritage Monitoring Results**

Date	Tilting				Settlement (mm)			Vibration (mm/s)			
	THT-TM-01	THT-TM-02	THT-TM-03	THT-TM-04	THT-BSP-1	THT-BSP-2	THT-BSP-3	Measurement Direction			
								Tran	Vertical	Longitude	
1-Apr-21	-1 : 34613	-1 : 9000	1 : 19565	Obstructed by work from stakeholder	+3	Stop monitoring	Stop monitoring	0.315	0.252	0.300	
7-Apr-21	-1 : 28123	-1 : 8035	1 : 26470		-2	Stop monitoring	Stop monitoring	0.189	0.300	0.150	
8-Apr-21	-1 : 44997	-1 : 10227	1 : 15517		+3	Stop monitoring	Stop monitoring	0.512	0.969	1.348	
9-Apr-21	1 : 224983	-1 : 9000	1 : 12857		-1	Stop monitoring	Stop monitoring	0.205	0.363	0.173	
10-Apr-21	-1 : 44997	-1 : 8490	1 : 19565		OBS	Stop monitoring	Stop monitoring	0.158	0.142	0.126	
12-Apr-21	-1 : 64281	-1 : 11842	1 : 26470		OBS	Stop monitoring	Stop monitoring	0.260	0.355	0.244	
13-Apr-21	-1 : 20453	-1 : 17307	1 : 22500		-1	Stop monitoring	Stop monitoring	0.158	0.252	0.150	
14-Apr-21	-1 : 14515	-1 : 15517	1 : 17307		+4	Stop monitoring	Stop monitoring	0.173	0.173	0.118	
15-Apr-21	-1 : 17999	-1 : 22499	1 : 11842		Bad Weather	Stop monitoring	Stop monitoring	0.158	0.213	0.126	
16-Apr-21	-1 : 14515	-1 : 15517	1 : 17307		Bad Weather	Stop monitoring	Stop monitoring	0.181	0.378	0.173	
17-Apr-21	-1 : 28123	-1 : 17307	1 : 14062		Bad Weather	Stop monitoring	Stop monitoring	0.166	0.181	0.110	
19-Apr-21	-1 : 14515	-1 : 32142	1 : 10227		+0	Stop monitoring	Stop monitoring	0.173	0.158	0.134	
20-Apr-21	-1 : 449967	-1 : 32142	1 : 10975		+1	Stop monitoring	Stop monitoring	0.126	0.118	0.110	
21-Apr-21	-1 : 23682	-1 : 22499	1 : 17307		+2	Stop monitoring	Stop monitoring	0.102	0.118	0.110	
22-Apr-21	-1 : 449967	-1 : 32142	1 : 15517		OBS	Stop monitoring	Stop monitoring	0.134	0.126	0.134	
23-Apr-21	-1 : 112492	-1 : 26469	1 : 9000		Bad Weather	Stop monitoring	Stop monitoring	0.181	0.150	0.102	
24-Apr-21	1 : 224983	-1 : 19564	1 : 12857		OBS	Stop monitoring	Stop monitoring	OBS	OBS	OBS	
26-Apr-21	-1 : 64281	-1 : 40907	1 : 10975		Bad Weather	Stop monitoring	Stop monitoring	0.173	0.441	0.142	
27-Apr-21	-1 : 34613	-1 : 26469	1 : 12857		Bad Weather	Stop monitoring	Stop monitoring	0.095	0.189	0.126	
28-Apr-21	1 : 224983	-1 : 32142	1 : 8036		+2	Stop monitoring	Stop monitoring	0.307	0.126	0.520	
29-Apr-21	-1 : 44997	-1 : 22499	1 : 6618		+1	Stop monitoring	Stop monitoring	0.102	0.142	0.118	
30-Apr-21	-1 : 112492	-1 : 15517	1 : 6081		OBS	Stop monitoring	Stop monitoring	0.126	0.142	0.126	
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

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**APPENDIX V  
SURFACE RUNOFF MANAGEMENT  
PLAN**

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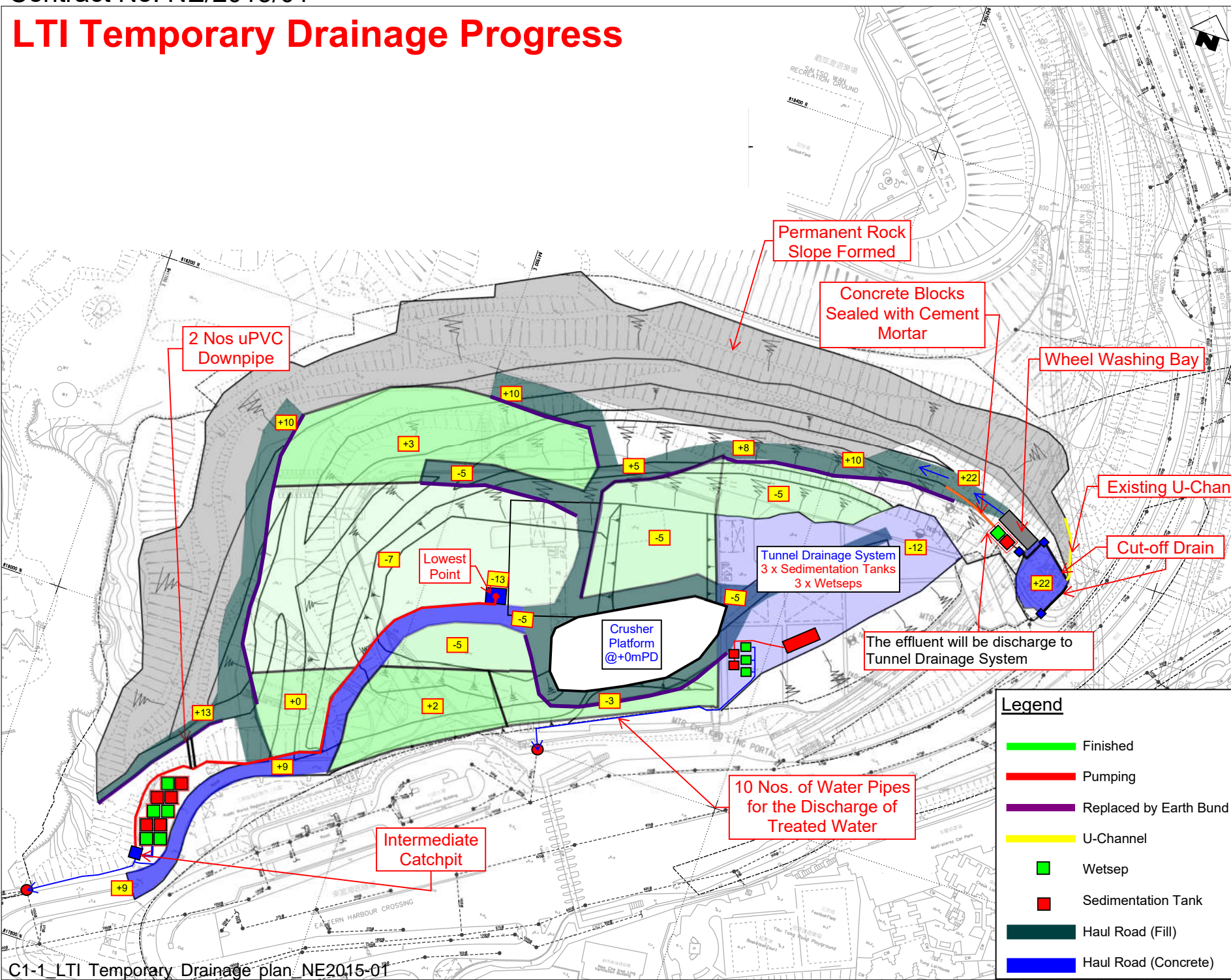
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# LTI Temporary Drainage Progress

COPYRIGHT RESERVED

- NOTES:**
1. ALL DIMENSIONS ARE LARGE 1000 MILLIMETRES UNLESS OTHERWISE SPECIFIED.
  2. 75mm THK. SHOTCRETE SHALL BE APPLIED ON CHANNEL SURFACE.
  3. CHANNEL DIMENSION AS FOLLOW:  

  4. REFER HAUL ROAD AND TEMPORARY CUT SLOPE DESIGN UNDER SEPARATE SUBMISSION.
  5. REFER TO DRAWING NO. H2645/T/O/LEAD/T01/02/3 & 027 FOR PIPE CONNECTION DETAILS.

- LEGENDS:**
- DRAINAGE PIPE
  - WATER TREATMENT (100m<sup>3</sup>/HR)
  - SUMP PIT
  - SITE BOUNDARY
  - PROPOSED TEMPORARY DRAINAGE CHANNEL
  - EXISTING STORMWATER DRAIN
  - EXISTING U-CHANNEL
  - EXCAVATION / HAUL ROAD LEVEL
  - 6" PUMP
  - SEDIMENTATION TANK
  - UC CUT OFF DRAIN



2 Nos uPVC Downpipe

Permanent Rock Slope Formed

Concrete Blocks Sealed with Cement Mortar

Wheel Washing Bay

Existing U-Channel

Cut-off Drain

Lowest Point

Tunnel Drainage System  
3 x Sedimentation Tanks  
3 x Wetseps

Crusher Platform  
@+0mPD

The effluent will be discharge to Tunnel Drainage System

10 Nos. of Water Pipes for the Discharge of Treated Water

Intermediate Catchpit

A	FIRST ISSUE	170830	RA	JT
REV.	DESCRIPTION	DATE	BY	APP

土木工程師 土木工程師  
Civil Engineering and Development Department

**AECOM**

TSEUNG KWAN O - LAM TIN TUNNEL - MAIN TUNNEL AND ASSOCIATED WORKS

LAM TIN TEMPORARY DRAINAGE DESIGN LAYOUT PLAN - STAGE 3

**LEIGHTON** **CS&C**  
Leighton - China State Joint Ventures  
SUBCONTRACTOR / SUBCONSULTANT

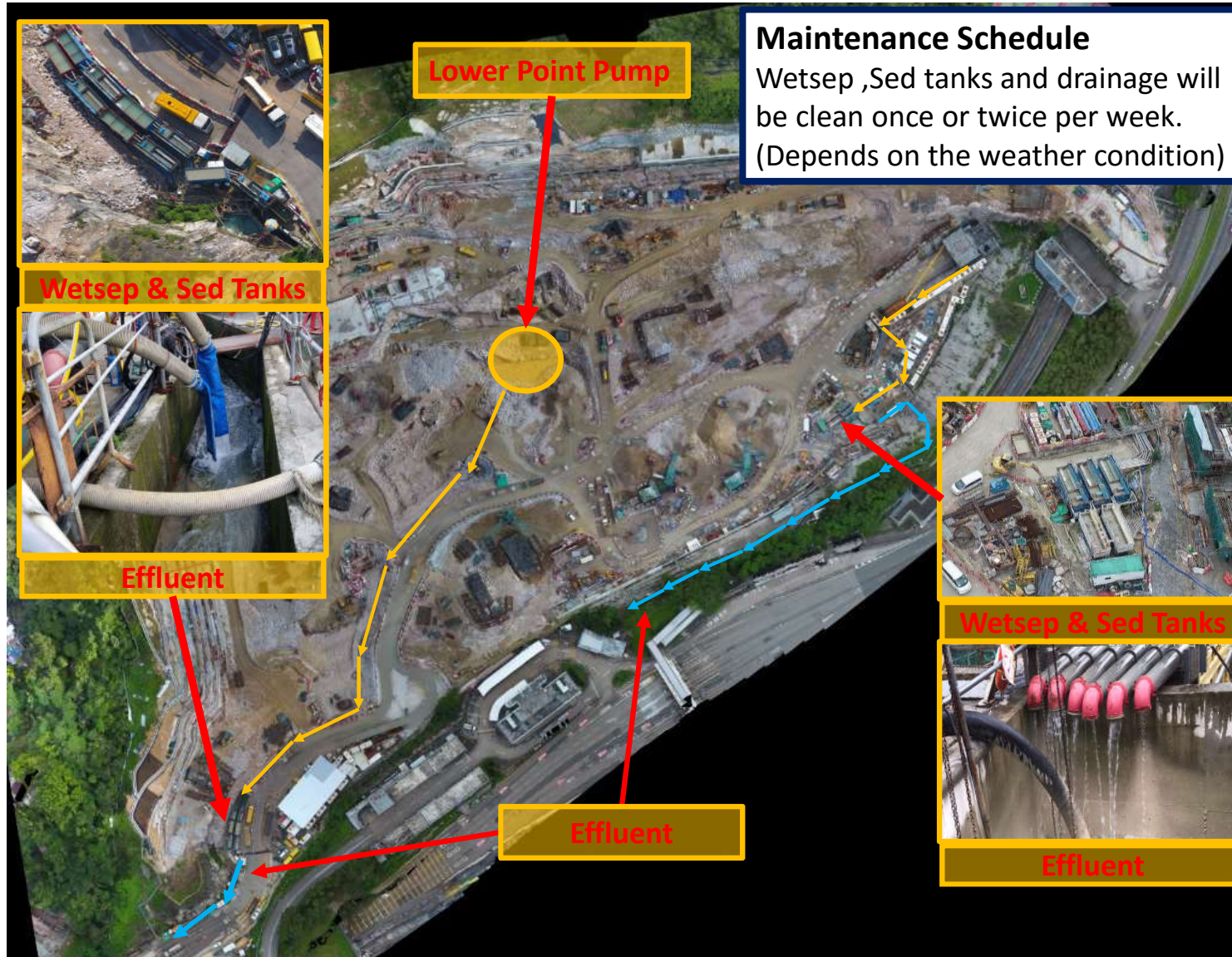
DRG. NO.	H2645/C/LT/CS/T12/003	REV.	A
CONTRACT NO.	NE/2015/01	DATE OF ISSUE	2017-08-30
CHECKED BY	RA	DRAWN BY	CC
SCALE	1 : 1000	STATUS	FOR INFORMATION
DIMENSIONS ARE IN	MILLIMETRES	PAPER SIZE	A1 1

**Legend**

- Finished
- Pumping
- Replaced by Earth Bund
- U-Channel
- Wetsep
- Sedimentation Tank
- Haul Road (Fill)
- Haul Road (Concrete)

T:\Common\06 Design\06.02 CAD Admin\Plot.dwg PLOT COLOR - ATMS.ctb  
 T:\Common\06 Design\06.02 CAD Admin\Drawings by A\Submission\Draw\H2645\_C.LT.LTCS.T12\_003B.dwg  
 PLOT DATE: 2017/08/30 10:00:00  
 PLOT BY: RA







**FOR CONSTRUCTION**

**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	ISSUED BY	CHECKED BY
B	JUL 16	WORKING DRAWING	ALC	
A	OCT 15	TENDER ADDENDUM NO.1	CYKC	
-	AUG 15	TENDER DRAWING	CYKC	

**STATUS**  
WORKING DRAWING

**SCALE**  
1:500  
**DIMENSION UNIT**  
METRES

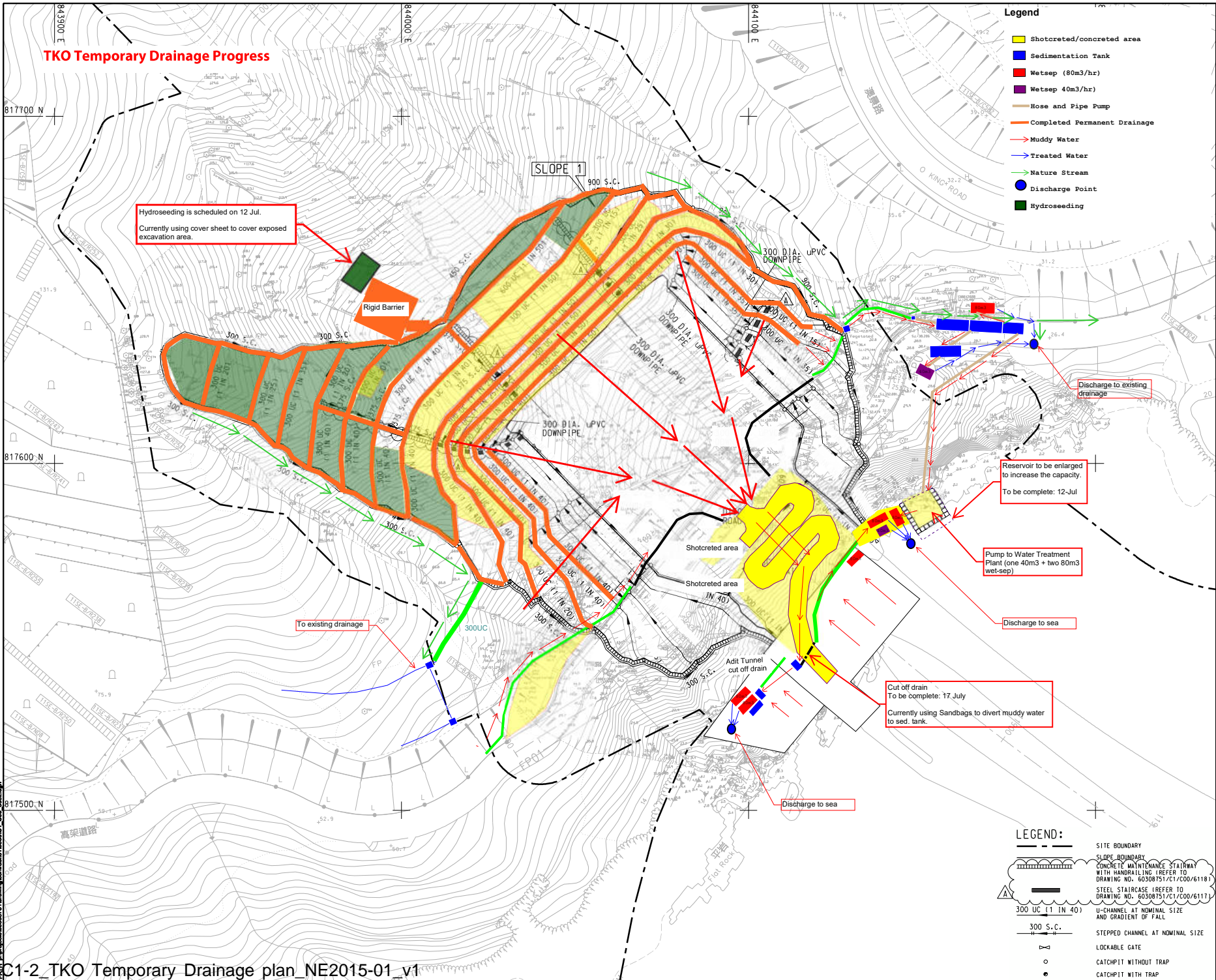
**KEY PLAN**

**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 3

Project Management Initials: Designer: BMS Checked: CHC Approved: CHN  
 ISO 9001:2015 Certified  
 2014/08/20  
 60308751/C1/C00/6092B



- Legend**
- Shotcreted/concreted area
  - Sedimentation Tank
  - Wetsep (80m<sup>3</sup>/hr)
  - Wetsep 40m<sup>3</sup>/hr
  - Hose and Pipe Pump
  - Completed Permanent Drainage
  - Muddy Water
  - Treated Water
  - Nature Stream
  - Discharge Point
  - Hydroseeding

- LEGEND:**
- SITE BOUNDARY
  - SLOPE BOUNDARY
  - CONCRETE MAINTENANCE STAIRWAY WITH HANDRAILING (REFER TO DRAWING NO. 60308751/C1/C00/6118)
  - STEEL STAIRCASE (REFER TO DRAWING NO. 60308751/C1/C00/6117)
  - U-CHANNEL AT NOMINAL SIZE AND GRADIENT OF FALL
  - STEPPED CHANNEL AT NOMINAL SIZE
  - LOCKABLE GATE
  - CATCHPIT WITHOUT TRAP
  - CATCHPIT WITH TRAP



**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**

**Wetsep**

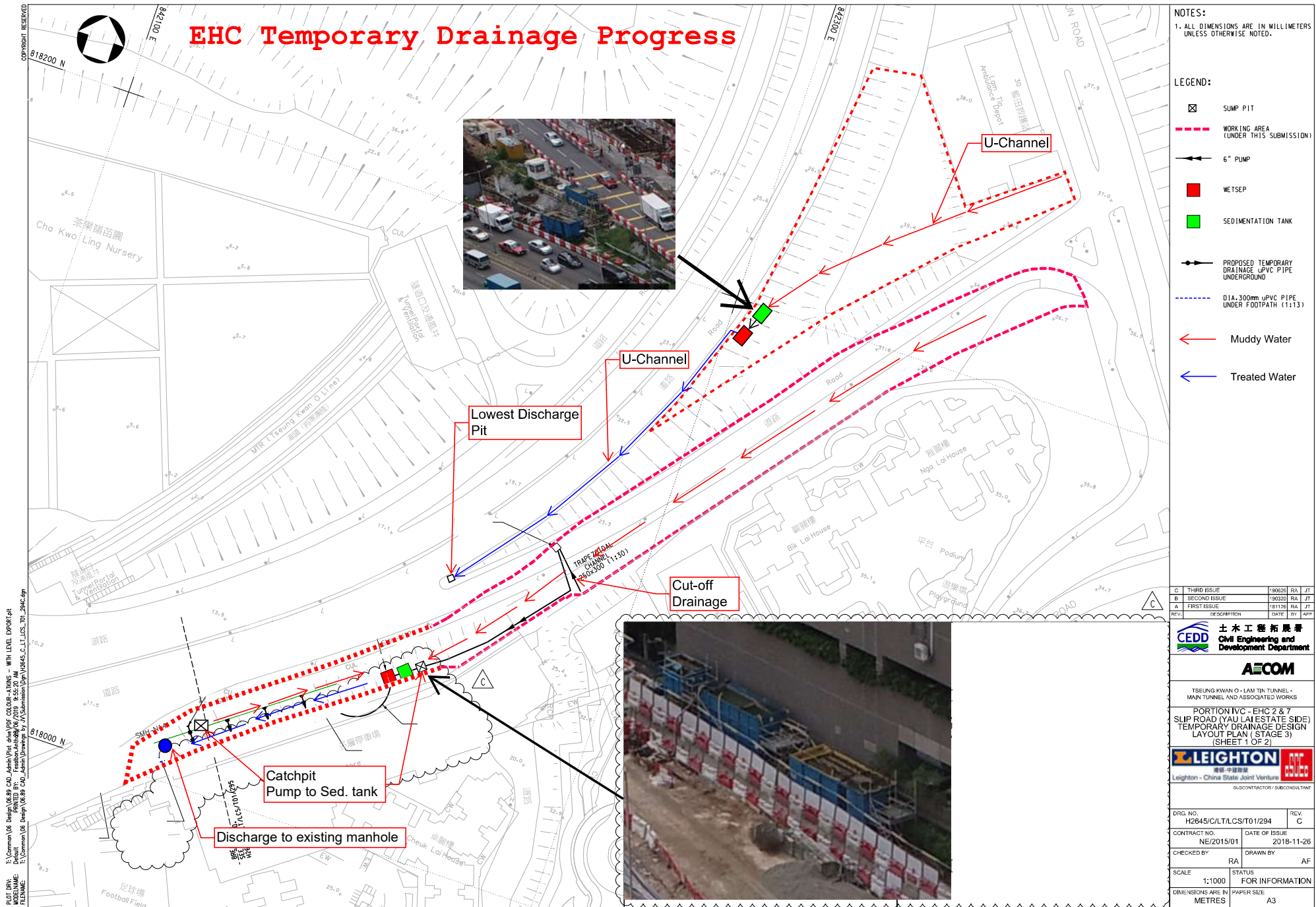
**Effluent**

**Extension of Sed tanks**

Contract Number NE/2015/01

2019年6月28日  
新界

The image is an aerial photograph of a construction site for a road or bridge project. The site is situated on a hillside with terraced slopes. A large concrete structure, likely a bridge or viaduct, is under construction. Several callout boxes with yellow borders and red text are overlaid on the image, pointing to specific areas. A blue box at the top right contains the 'Maintenance Schedule' text. A yellow box labeled 'Sed tanks' points to a large rectangular structure. A yellow box labeled 'Site Clearance & provide cover to exposed excavation area' points to a worker in a yellow vest. A yellow box labeled 'Wetsep' points to a blue truck. A yellow box labeled 'Effluent' points to a concrete structure. A yellow box labeled 'Extension of Sed tanks' points to a concrete structure. A large black text 'Contract Number NE/2015/01' is overlaid on the right side of the image. A date stamp '2019年6月28日 新界' is visible in the top left callout box.



C	THIRD ISSUE	190226	RA	JT
B	SECOND ISSUE	190320	RA	JT
A	FIRST ISSUE	181126	RA	JT
REV.	DESCRIPTION	DATE	BY	APP

**CEPD** 土木工程拓展署  
Civil Engineering and Development Department

**AECOM**

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)

**LEIGHTON** 中國建築  
Leighton - China State Joint Venture

DRG. NO. H2645/C/LT/LCS/T01/294

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



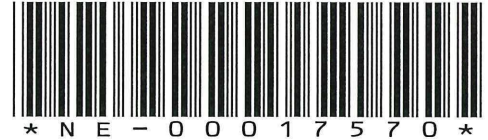


中國路橋  
C R B C



## 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

**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  
The Project Manager's Delegate, AECOM (HO) - Attn: Mr. Ivan Tsang

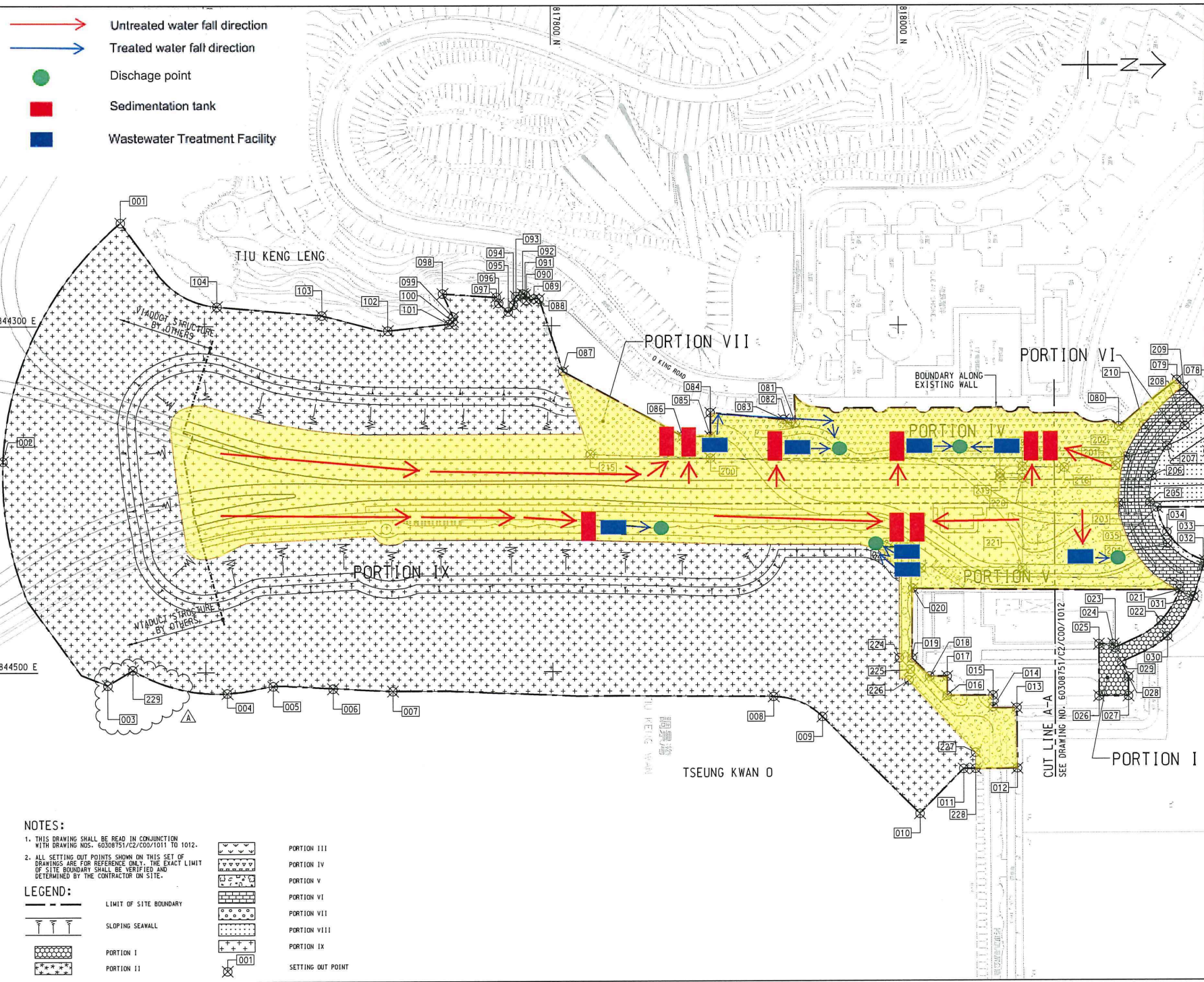
Fax: 2739 0076  
Fax: 3922 9797

AY/GN/WW/RP/KC

Page 1 of 1

Project Management Number: Designer: AT/H Checked: R/CM Approved: C/WN

Scale: 1:5000  
 Date: 2015/02/02  
 Drawing No: 60308751/C2/000/1011B



- Untreated water fall direction
- Treated water fall direction
- Discharge point
- Sedimentation tank
- Wastewater Treatment Facility

**NOTES:**

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NOS. 60308751/C2/C00/1011 TO 1012.
2. ALL SETTING OUT POINTS SHOWN ON THIS SET OF DRAWINGS ARE FOR REFERENCE ONLY. THE EXACT LIMIT OF SITE BOUNDARY SHALL BE VERIFIED AND DETERMINED BY THE CONTRACTOR ON SITE.

**LEGEND:**

- LIMIT OF SITE BOUNDARY
- SLOPING SEAWALL
- PORTION I
- PORTION II
- PORTION III
- PORTION IV
- PORTION V
- PORTION VI
- PORTION VII
- PORTION VIII
- PORTION IX
- SETTING OUT POINT

- PORTION III
- PORTION IV
- PORTION V
- PORTION VI
- PORTION VII
- PORTION VIII
- PORTION IX
- SETTING OUT POINT

**AECOM**

**PROJECT**  
 TSEUNG KWAN O - LAM TIN TUNNEL

**CONTRACT TITLE**  
 TSEUNG KWAN O - LAM TIN TUNNEL ROAD P2 AND ASSOCIATED WORKS

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

**CONSULTANT**  
 AECOM Asia Company Ltd.  
 www.aecom.com

**SUB-CONSULTANTS**

**ISSUE/REVISION**

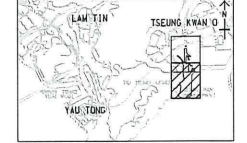
NO.	DATE	DESCRIPTION	CHK.
B	SEP. 16	WORKING DRAWING	RPCM
A	FEB. 16	TENDER ADDENDUM NO. 1	RPCM
-	JAN. 16	TENDER DRAWING	RPCM

**STATUS**

WORKING DRAWING

**SCALE**  
 1:1000 METRES

**KEY PLAN** A1:50000



**PROJECT NO.** 60308751  
**CONTRACT NO.** NE/2015/02

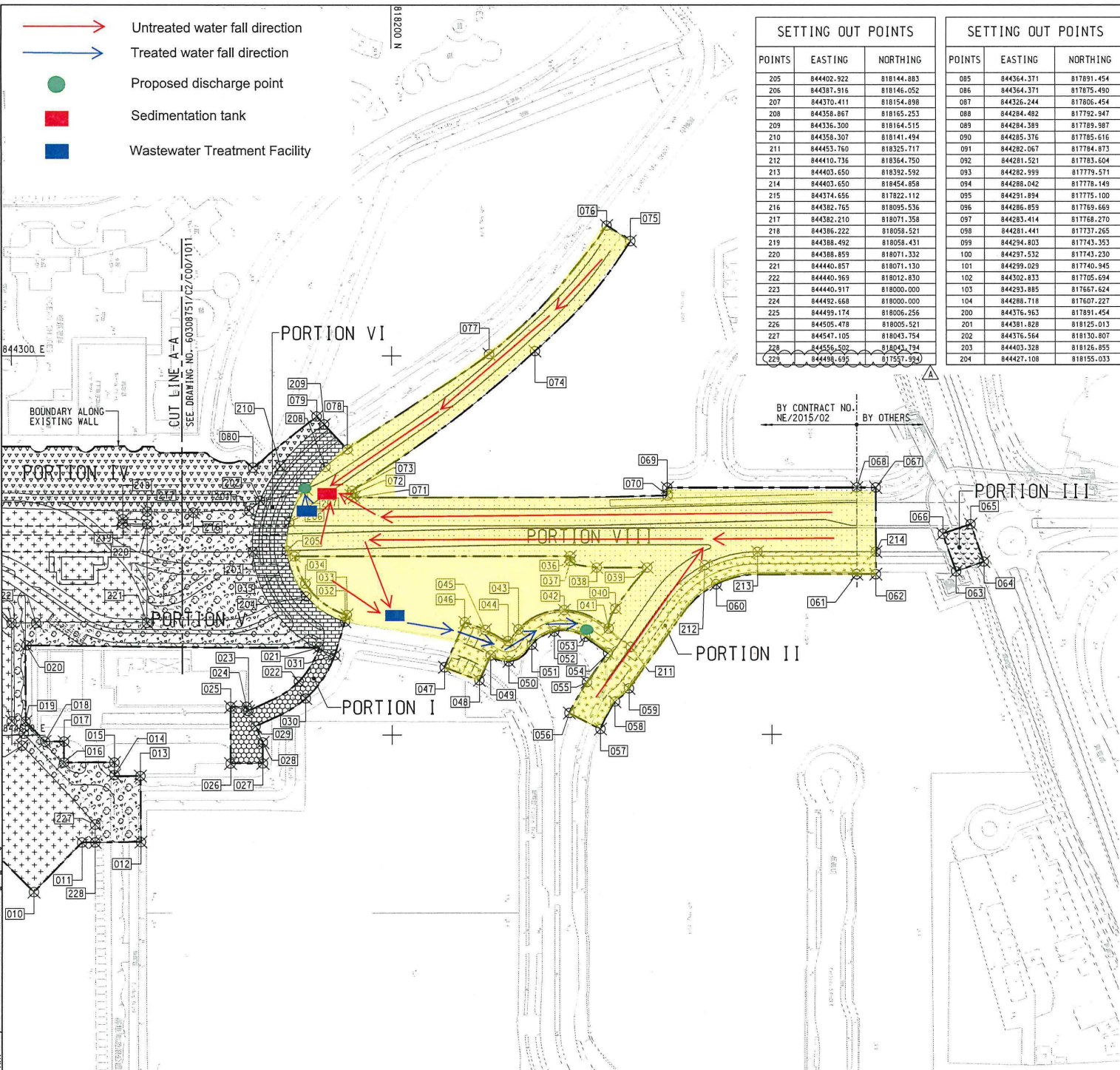
**SHEET TITLE**  
 PORTION OF SITE

**SHEET NUMBER**  
 60308751/C2/C00/1011B



Project Management Table: Designer: AT/HI, Checker: PC/CA, Approved: CHN  
 City: ISO A1 (60mm x 60mm)  
 Date: 14/02/2018  
 Path: P:\Projects\60308751\URBAN\GIS\DWG\C2\001012.dwg

- Untreated water fall direction
- Treated water fall direction
- Proposed discharge point
- Sedimentation tank
- Wastewater Treatment Facility



SETTING OUT POINTS		
POINTS	EASTING	NORTHING
205	84402.922	818144.883
206	844387.916	818146.052
207	844370.411	818154.898
208	844356.867	818165.253
209	844356.300	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	844440.357	818071.130
222	844440.369	818020.830
223	844440.917	818000.000
224	844452.668	818000.000
225	844459.174	818006.256
226	844505.478	818055.521
227	844547.105	818043.754
228	844556.502	818040.194
229	844458.859	817571.520

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	817789.387
090	844285.376	817785.616
091	844282.067	817784.873
092	844281.521	817783.604
093	844282.999	817779.571
094	844286.042	817778.148
095	844281.894	817775.100
096	844286.359	817769.669
097	844283.414	817768.270
098	844281.441	817737.265
099	844284.803	817743.353
100	844287.532	817743.230
101	844289.028	817740.345
102	844302.833	817705.634
103	844293.885	817667.624
104	844288.718	817607.227
200	844376.363	817891.454
201	84381.828	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	84438.242	817483.648
003	844507.431	817651.547
004	844572.090	817627.455
005	844508.100	817638.302
006	844510.396	817707.874
007	844512.113	817769.940
008	844514.507	817827.403
009	844526.234	817851.500
010	844532.662	818011.583
011	844556.546	818036.852
012	844556.348	818067.859
013	844521.461	818067.035
014	844520.974	818054.006
015	844514.184	818053.562
016	844514.184	818027.500
017	844503.341	818027.533
018	844503.310	818017.436
019	844402.751	818007.313
020	844452.548	818007.806
021	844533.846	818161.851
022	844471.734	818150.993
023	844487.228	818124.474
024	844405.040	818123.474
025	844405.066	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	818148.828
036	844405.950	818253.952
037	844408.358	818253.952
038	844411.950	818307.882
039	844411.950	818334.450
040	844433.544	818317.697
041	844444.122	818314.082
042	844434.450	818290.757
043	844444.533	818266.647
044	844450.595	818261.204
045	844444.836	818249.176
046	844440.809	818238.366
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	818285.889
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	844288.964	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  
**CEPD 土木工程拓展署**  
 Civil Engineering and Development Department

CONSULTANT  
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 中環工程顧問有限公司

ISSUE/REVISION

NO.	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 METRES

KEY PLAN  
 A1 1:60000

PROJECT NO.  
**60308751**

CONTRACT NO.  
**NE/2015/02**

SHEET TITLE  
**PORTION OF SITE**

SHEET NUMBER  
**60308751/C2/C00/1012B**

SHEET 2 OF 2



**Contract No.: NE/2017/02**

**Contract Title: Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and  
Associated Works**

## **Flooding Mitigation Plan**

### **Treatment facility**











### Bunding

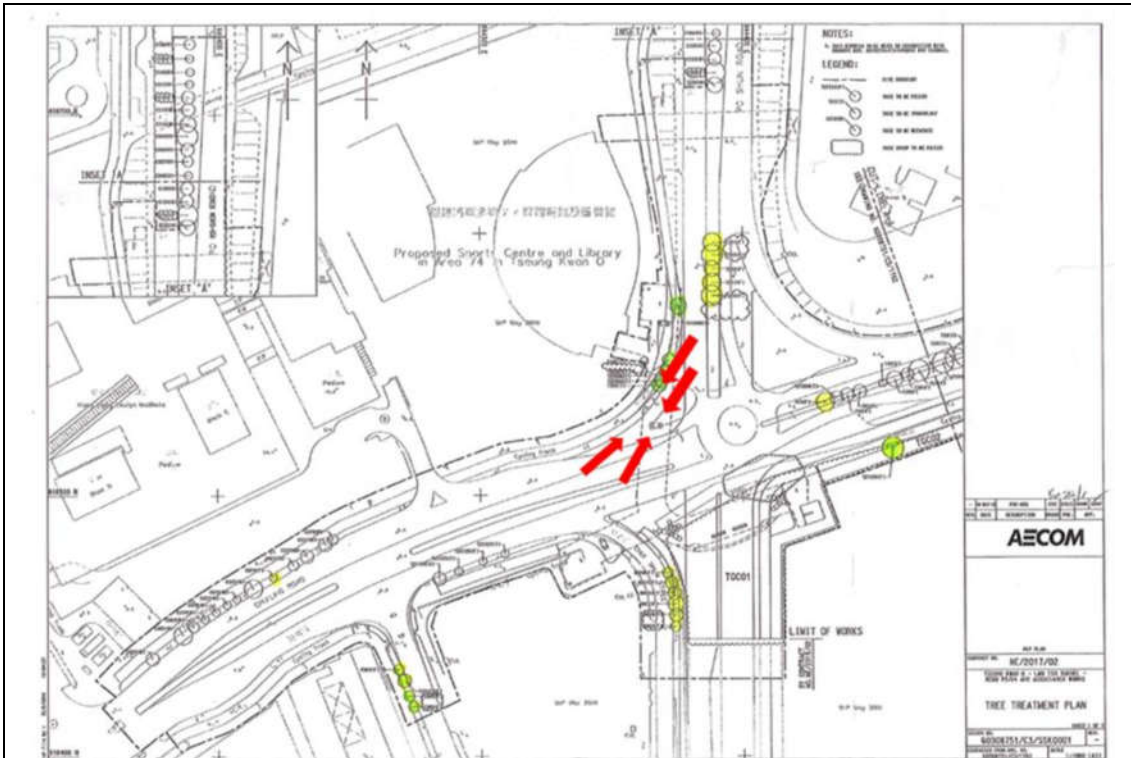




### Surface runoff collection







**Height difference between the road and site area to form a natural flow. Sump pit was provided for wastewater collection.**



### Gully Protection

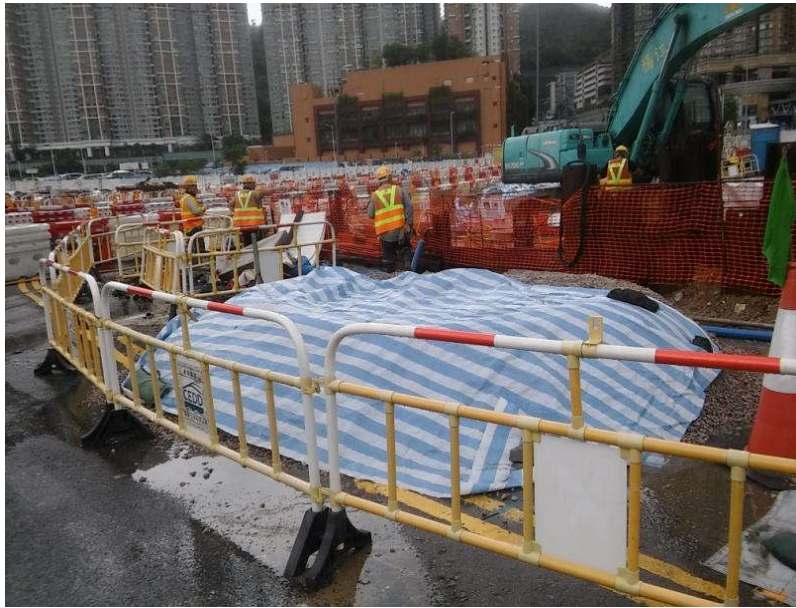


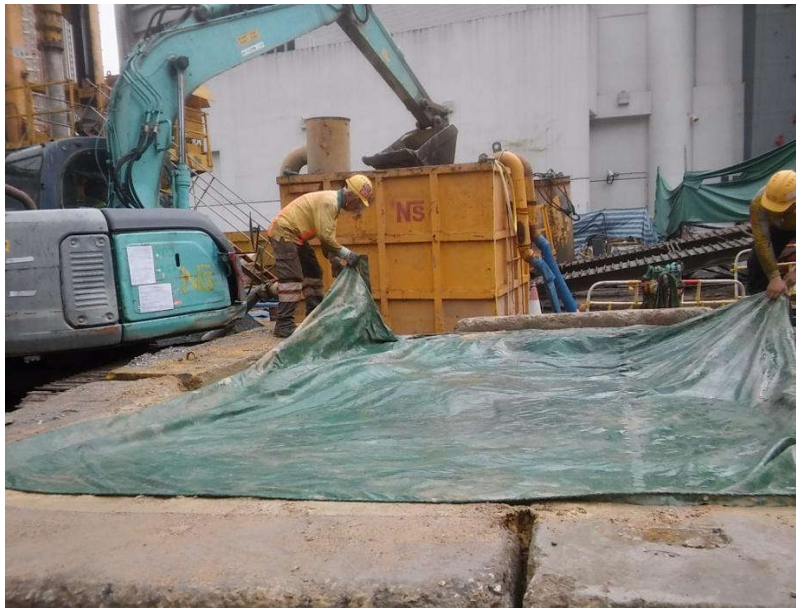
**Gully were protected and covered by geotextile.**





### Stockpile Cover





**Stockpile Should be proper cover with tarpaulin.**



## CATCHPIT SCHEDULE

U/S ID	D/S ID	U/S G.L. (mPD)	D/S G.L. (mPD)	LENGTH (m)	GRADIENT 1 IN	U/S I.L. (mPD)	D/S I.L. (mPD)	UC SIZE (mm)	U/S ID TYPE	UC MATERIAL	BEDDING
CP01	CP02	6.50	6.50	6	100	6.275	6.219	225	CATCHPIT	CONCRETE	B
CP03	CP04	8.00	5.50	6	2	7.775	5.342	225	CATCHPIT	CONCRETE	B

- Water Flow
- Precautionary measures
- Silt Measurement
- Sedimentation tank
- Sampling Point

Geotextiles are on the top of gully cover along the site as a filter to avoid any muddy water discharge directly into the drainage system.



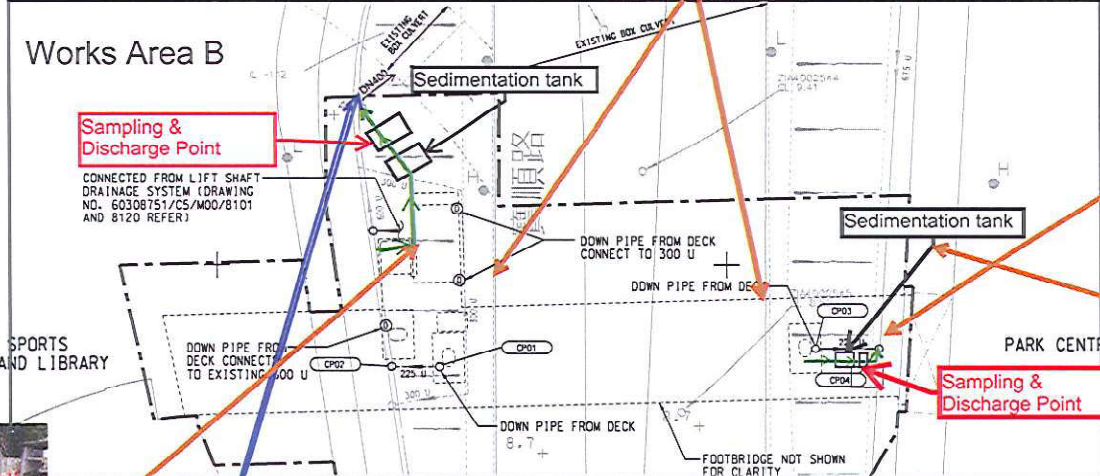
Exposed slope is covered by taupaulin



Sampling & Discharge Point



Manhole Inspection for Silt measurement, we have regular cleaning the channel weekly or in an emergency



Sampling & Discharge Point

CONNECTED FROM LIFT SHAFT DRAINAGE SYSTEM (DRAWING NO. 60308751/CS/M00/8101 AND 8120 REFER)

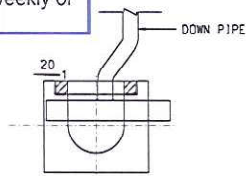


Sandbag is placed along the water barrier boundary to avoid the surface runoff.

Manhole Inspection for Silt measurement, we have regular cleaning the channel weekly or in an emergency



DN400 ID culvert



DETAILS CONNECTION OF DOWNPIPE TO U-CHANNEL WITH GRATING



**PROJECT**  
TSEUNG KWAN O - LAM TIN TUNNEL

**CONTRACT TITLE**  
TSEUNG KWAN O - LAM TIN TUNNEL NORTHERN FOOTBRIDGE

**CLIENT**  
CEDD  
Civil Engineering and Development Department

**CONSULTANT**  
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**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	CHK
-	AUG 16	TENDER DRAWING	AMH

**SCALE**  
A1: 1:250

**DIMENSION UNIT**  
METRES

**KEY PLAN**

**PROJECT NO.**  
60308751

**CONTRACT NO.**  
NE/2015/03

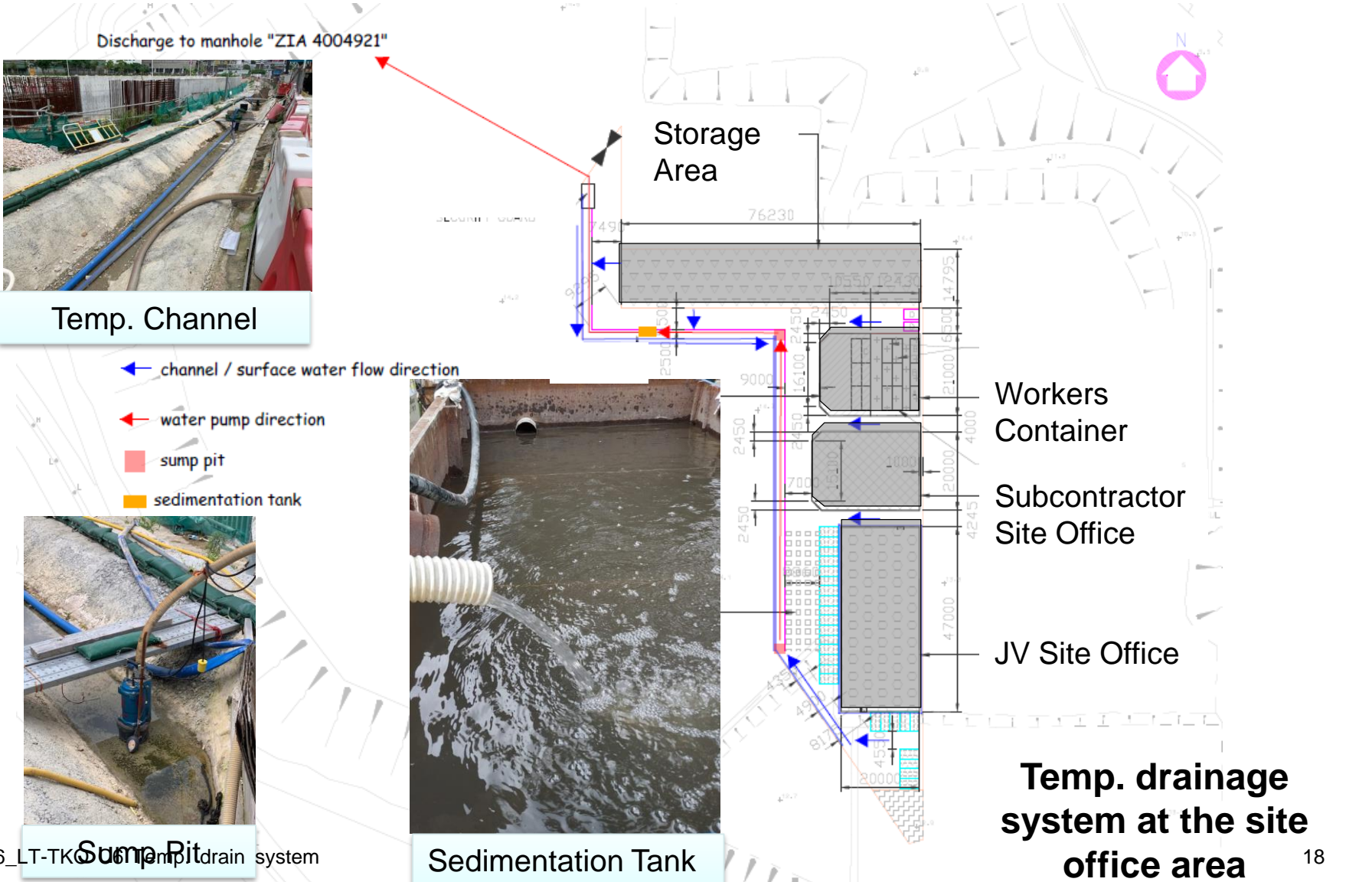
**SHEET TITLE**  
DRAINAGE LAYOUT

**SHEET NUMBER**  
60308751/CS/C00/1301



# Site Surface Runoff Measures

俊和-上隧-中冶聯營  
CW - STEC - CMGC JV



Temp. Channel



Sump Pit



Sedimentation Tank