Civil Engineering and Development Department

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

Quarterly Environmental Monitoring and Audit Report – February 2020 – April 2020

(version 1.1)

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.

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EXECUTIVE SUMMARY

Introduction

1. This is the 14th Quarterly 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 summary report presents the EM&A works performed in the period from February 2020 to April 2020.

2. During the reporting quarter, the following works contracts were undertaken within the site:
   - Contract No. NE/2015/01 – Tseung Kwan O – Lam Tin Tunnel – Main Tunnel and Associated Works; and
   - 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.

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 in the reporting quarter for the Project is tabulated in **Table I**. Details of the environmental monitoring results is presented in **Section 3**.

Table I Non-compliance (Exceedance) Record for the Project in the Reporting Quarter

Parameter	No. of Exceedance		No. of Exceedance due to Construction Activities of this Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
February 2020					
Air Quality	0	0	0	0	N/A
Noise	4	2[2]	3	0	Refer to Appendix K & L
Marine Water Quality	37	143	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A[1]	0	N/A[1]	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A
March 2020					
Air Quality	0	0	0	0	N/A

Parameter	No. of Exceedance		No. of Exceedance due to Construction Activities of this Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Noise	10	0	7	0	Refer to Appendix K & L
Marine Water Quality	46	122	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A[1]	0	N/A[1]	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A
April 2020					
Air Quality	0	0	0	0	N/A
Noise	1	0	1	0	Refer to Appendix K & L
Marine Water Quality	37	115	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A[1]	0	N/A[1]	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A

Note:
(1) No Limit Level for Groundwater Level Monitoring (Piezometer Monitoring).
(2) Night-time limit level exceedances were considered due to road traffic near the Eastern Cross Harbour Tunnel Toll Plaza, therefore non-Project related.

Key Information in the Reporting Quarter

5. Summary of key information in the reporting quarter is tabulated in **Table II**.

Table II Summary Table for Key Information in the Reporting Quarter

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received by Project Team / Complaint referred by EPD (February 2020)	4	Noise	Investigation Completed	Closed	Details refer to App L
Complaint received by Project Team / Complaint referred by EPD (March 2020)	11	Noise / Odour / Water	Investigation Completed	Closed / Draft CIR submitted	
Complaint received by Project Team / Complaint referred by EPD (April 2020)	3	Light / Noise / Odour	Ongoing / Investigation Completed	Ongoing / Draft CIR submitted	
Reporting Changes	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received (February 2020)	0	---	N/A	N/A	---

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Notifications of any summons & prosecutions received (March 2020)	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received (April 2020)	0	---	N/A	N/A	---
1. The validity of conducting works during Restricted Hours					

6. Environmental monitoring works for the Project are considered effective and is generating data to categorically identify the environmental impacts from the works and influencing factors in the vicinity of monitoring stations.

1. INTRODUCTION

Background

1.1 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.

1.2 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**.

1.3 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 November 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.

Project Organizations

1.4 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)

1.5 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 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. Adi Lee	2618 2836	3007 8648

Construction Activities undertaken during the Report Quarter

1.6 The major site activities undertaken in the reporting quarter are shown in **Appendix M**.

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Monitoring Locations

2.1 The EM&A Manual designates locations for environmental monitoring in terms of air quality, noise, groundwater quality, water quality, ecology, cultural heritage and landfill gas due to the Project. The Project area and monitoring locations are depicted in **Figures 1 - 6**. **Appendix A** gives details of monitoring requirements. Locations of the environmental sensitive receivers are shown in **Figures 3.1, 3.2, 4.1, 5.1, 6.2 and 9.2**.

Monitoring Methodology and Calibration Details

2.2 Monitoring works/equipment were conducted/calibrated regularly in accordance with the EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly EM&A Reports.

Environmental Quality Performance Limits (Action and Limit Levels)

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

2.4 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that the Action / Limit Levels are exceeded, the actions in accordance with the Event and Action Plans in **Appendix N** was carried out.

Implementation Status of Environmental Mitigation Measures

2.5 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the EM&A Manual for implementation by the Contractor. The implementation status of environmental mitigation measures (EMIS) is given in **Appendix I**.

Site Audit Summary

2.6 During site inspections in the reporting period, no non-compliances was recorded. The observations and recommendations made during the reporting period are summarized in **Appendix H**.

Status of Waste Management

2.7 The amount of wastes generated by the activities of the Work Contracts within TKO-LTT during the reporting period is shown in **Appendix J**.

3. MONITORING RESULTS

Weather Conditions

3.1 The weather during monitoring sessions was summarized in **Table 3.1**.

Table 3.1 Summary of Weather Conditions in the Reporting Period

Reporting Month	General Weather Conditions
February 2020	Sunny, Cloudy and Rainy
March 2020	Sunny, Cloudy and Rainy
April 2020	Sunny, Cloudy and Rainy

3.2 The detail of weather conditions for each individual monitoring session was presented in the monthly EM&A report.

Air Quality

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

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

3.5 The graphical presentations of the air quality monitoring results are shown in **Appendix C**.

Construction Noise

February 2020

3.6 All noise monitoring was conducted as scheduled in the reporting month. Four (4) Action Level exceedances were recorded due to the documented complaints received in this reporting month. Two (2) Limit Level exceedances for night-time construction noise monitoring were recorded. No Limit Level exceedance for day time was recorded in the reporting month. The summary of documented complaints and the complaint investigation in reporting month are tabulated in **Table 3.2**.

Table 3.2 Summary of Documented Complaints in February 2020

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
Lam Tin Side		
Noise nuisance suspected to be related to works involving metal hammering on site near EHC	Considered as non-project related. No construction activities were conducted at the concerned locations during the period of complaint. The details shall be referred to CIR-N98	The Contractor is reminded to keep conducting good site practice and strictly follows the requirements of approved CNP.
Tseung Kwan O Side		
Noise nuisance from breaking works (C3)	The complaint was valid and the contractor had been operating only 1 breaker at a time. The details shall be referred to CIR-N97	The contractor is suggested to further increase the mitigation measures to reduce impact to the surrounding neighborhood.
Noise nuisance from breaking works near Tiu Keng Leng MTR Station (C3)		

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
Noise nuisance from barge in morning (C2)	No works had been conducted in the time period of complaint. The noise is believed to be not project-related. The details shall be referred to CIR-N95.	N.A.

March 2020

3.7 All noise monitoring was conducted as scheduled in the reporting month. Ten (10) Action Level exceedances were recorded due to the documented complaints received in this reporting month. No Limit Level exceedances for both day-time and night-time construction noise monitoring were recorded in the reporting month. The summary of documented complaints and the complaint investigations in reporting month are tabulated in **Table 3.3**.

Table 3.3 Summary of Documented Complaints in March 2020

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
Lam Tin Side		
Noise nuisance from construction works during holiday	Considered as non-projected related. 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.	N/A
Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	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. Details shall be referred to CIR-N101.	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.
Tseung Kwan O Side		
Odour and low frequency noise nuisance from construction site	Considered as non-projected related. 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.	N/A
Noise nuisance in early morning (Mar 2020)	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.	N/A
Groundborne Noise from Blasting in the Evening	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.	Contractor is reminded to close the blast door and reschedule the blasting to less sensitive hours.

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
Low Frequency Noise during Midnight	The noise source was the malfunctioned dewatering pumps. The details shall be referred to CIR-N103.	Contractor repaired the dewatering pump and is reminded to keep PMEs in a good condition.

April 2020

3.8 All noise monitoring was conducted as scheduled in the reporting month. One (1) Action Level exceedances were recorded due to the documented complaints received in this reporting month. No exceedances for daytime and night-time construction noise monitoring were. The summary of documented complaints and the complaint investigations in reporting month are tabulated in **Table 3.4**.

Table 3.4 Summary of Complaints Details in April 2020

Complaint Type	Investigation Findings	Follow-up Action / Mitigation Measure
Tseung Kwan O Side		
Blasting, High Frequency Noise and Light in Tseung Kwan O	The complaint was valid in regard of noise. Blasting had been carried out during the midnight and the Contractor is reminded to strictl follow requirements of CNP. The light source was originated from the construction vessels due to safety reason and guard watching. Details shall be referred to CIR-C34.	The Contractor is reminded to shut the blast door completely to reduce noise impact.

3.9 The graphical presentations of the noise monitoring results are shown in **Appendix D**.

Water Quality

Exceedance Summary

February 2020

3.10 As for marine water quality monitoring, 37 and 143 action level and limit level exceedances in Monitoring Stations (M) were recorded.

March 2020

3.11 As for marine water quality monitoring, 46 and 122 action level and limit level exceedances in Monitoring Stations (M) were recorded.

April 2020

3.12 As for marine water quality monitoring, 37 and 115 action level and limit level exceedances in Monitoring Stations (M) were recorded.

Suspension of Groundwater Quality Monitoring

3.13 The groundwater monitoring was suspended since October 2019.

3.14 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 January 2020 upon the agreement by EPD.

Observation and Exceedance Investigations

3.15 During this reporting quarter, 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 reclamation activities of the Project. The Contractor is reminded to deploy silt curtain properly when the barge enters/exits the embayment area. If possible, the Contractor shall also move the barge during high tide to prevent stirring up the sediments on sea bed.

3.16 Exceedances of turbidity and suspended solid were recorded on from various monitoring stations non-specifically among all stations including the control stations. Investigations over February - April 2020 showed that the range of SS levels recorded in reporting period remained consistent with the records in recent months. Since we officially entered the wet season, all Contractors are reminded to clear the drainage, repair any broken pipes/drainage and ensure there is embankment surrounding the works area to prevent accidental muddy water spillage or surface runoff due to heavy downpours. Details of the exceedance investigation report can be found in **Appendix K**.

3.17 The graphical presentations of the marine water quality monitoring results are shown in **Appendix F**. Embayment measurement at W1 was completed in December 2019.

Daily Piezometer Monitoring

3.18 Construction phase daily piezometer monitoring was carried out in the whole period whenever tunnel construction activities were carried out within +/- 50m of the piezometer gate in plan. The monitoring switched to monthly basis in 19 November 2018 as the construction activities were not within +/- 50m of the piezometer gate in plan. No Action or Limit Level exceedance was recorded in the reporting quarter.

Ecological Monitoring

3.19 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 survey were completed in February 2017.

Monitoring on Cultural Heritage

3.20 Monitoring of vibration impacts at Cha Kwo Ling Tin Hau Temple commenced on 8 April 2017. No Alert Alarm and Action (AAA) Level exceedance was recorded in the reporting quarter.

Landscape and Visual Monitoring and Audit

3.21 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 **Appendix H**.

Landfill Gas Monitoring

3.22 Monitoring of landfill gases was commenced in March 2016 and were carried out by the Contractors at excavation location, Portion III in the reporting quarter. No Limit Level exceedance was recorded. The graphical presentations of the landfill gas monitoring results are shown in **Appendix G**.

Waste Management

3.23 Wastes generated from this Project include inert construction and demolition (C&D) materials, non-inert C&D materials and marine sediments. Details of waste management data is presented in **Appendix I**.

Influencing Factors on the Monitoring Results

3.24 During the reporting period, the major dust and noise source identified at the designated monitoring stations are as follows:

Table 3.5 Major Dust Sources during the Monitoring in the Reporting Period

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

Table 3.6 Major Noise Sources during the Monitoring in the Reporting Period

Monitoring Stations	Locations	Major Noise Source
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	Road Traffic near Eastern Cross Harbour Tunnel Toll Plaza
CM4	Tin Hau Temple, Cha Kwo Ling	Road Traffic at Cha Kwo Ling Road
CM5	CCC Kei Faat Primary School, Yau Tong	Road Traffic at Yau Tong Road
CM6(A)	Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores	Road Traffic at O King Road near Ocean Shores
CM7(A)	Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores	Road Traffic at Tong Yin Street
CM8(A)	Park Central, L1/F Open Space Area	Road Traffic at Po Yap Road
CM9(A)	Rooftop of Capri Tower 10	Rooftop (12/F)

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

Summary of Exceedances

4.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedances is attached in **Appendix K**.

Air Quality

4.2 No Action/Limit Level exceedance was recorded in the reporting quarter.

Construction Noise

4.3 Fifteen (15) Action Level exceedances were recorded due to the documented complaints received in the reporting quarter. Two (2) Limit Level exceedances were recorded in monitoring stations for night time construction noise in the reporting quarter, however, they were considered due to the road traffic near Eastern Cross Harbour Tunnel Toll Plaza and therefore non-Project related. No Limit Level exceedance was recorded for day time construction noise in the reporting quarter.

Water Quality

4.4 The groundwater monitoring was suspended since October 2019.

4.5 One-Hundred and twenty (120) Action Level exceedances and Three Hundred and Eighty (380) Limit Level exceedances in Monitoring Stations (M) were recorded for marine water quality monitoring in the reporting quarter.

4.6 *Ecological Monitoring*
No action/limit level of mortality was exceeded in the monitoring survey conducted in the reporting quarter.

Monitoring on Cultural Heritage

4.7 No Alert Alarm and Action (AAA) Level exceedance was recorded in the reporting quarter.

Landscape and Visual

4.8 No non-compliance of the landscape and visual impact was recorded in the reporting quarter.

Landfill Gas

4.9 No Limit Level exceedance was recorded in the reporting quarter.

Review of the Reasons for and the Implications of Non-compliance

4.10 During site audits in the reporting quarter, no non-compliance was recorded. Recommendations made in each individual site audit session were attached in the **Appendix H**.

Summary of Environmental Complaints and Prosecutions

4.11 Eighteen (18) cases of environmental complaints on this Project were received in the reporting quarter. The details were attached in the **Appendix L**.

4.12 No environmental prosecution was received in the reporting quarter.

5. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

Effectiveness of Mitigation Measures

5.1 The mitigation measures recommended in the EIA report are considered effective in minimizing environmental impacts.

5.2 The Contractor has implemented the recommended mitigation measures except those mitigation measures not applicable at this stage.

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

5.4 The summary record of non-compliance (exceedances) of Action/Limit Level for environmental monitoring in the reporting quarter has been presented in **Table I** above and in **Appendix K**.

5.5 Eighteen (18) cases of environmental complaints were received in the reporting quarter. The details were attached in the **Appendix L**.

5.6 No warning, notification of summon and environmental prosecution was received in the reporting quarter. The details were attached in the **Appendix L**.

Recommendations

5.7 Joint weekly site audits by the representatives of the Engineer, Contractor and the ET were conducted in the reporting quarter. The following recommendations was made to the Contractor for the coming reporting month:

Air Quality Impact

- To implement dust suppression measures such as water spray on all haul roads, stockpiles, dry surfaces, excavation and rock breaking works.
- To cover stockpile of dusty material by impervious material
- To properly display NRMM Label to Powered Mechanical Equipment on site
- To avoid smoke emission from Powered Mechanical Equipment on site
- To remove the dusty cement bags after use.
- To provide sand bag bunds to gullies at site access near the site office
- To provide top and three-side enclosure for grouting equipment on site
- To repair the gaps and the noise tarpaulin sheets to ensure the effectiveness of dust curtain.

Construction Noise

- 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.
- To provide mitigation measures to PME as proposed in the approved NMP.
- To repair noise barrier of breaker on site.
- To provide proper acoustic material for enclosing the breaker head

Water Quality Impact

- To prevent any surface runoff discharge into any stream course or the waters in vicinity.
- To review and implement temporary drainage system.
- To ensure properly maintenance for de-silting facilities.
- To clear the silt and sediment in the sedimentation tanks or those accumulated in drainage.
- To provide bund to stockpile storage area on site to avoid leakage of surface runoff.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To provide and repair the silt curtain to fully enclose the site.
- To remove the dusty material to avoid mud/sand fall into the sea.
- To prevent silty water flow out of site during wheel washing
- To provide bunds or containment pit to prevent muddy water flow out of site.
- To remove the construction waste in U-channel.
- To set up proper drainage system within site.
- To cover or seal the gaps of covers of catchpit to prevent silt water or oil stain flow out of site.
- To remove the sand material deposited near the seafront.
- To provide sand bag bunds to gullies
- To cover exposed ground with tarpaulin and sandbag to avoid surface run-off
- Provide sufficient storage/diversion for storm water collected within the site during rainstorm, in order to avoid overflowing the water treatment tanks

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling or storage of oil drum on site.
- To provide label to identify waste storage area within site.
- To remove oil stain mixed with muddy water within site.
- To provide drip tray to chemical containers
- To remove the construction material from drip tray and provide a plug for drip tray on site.

Landscape and Visual

- To remove the construction material near the tree and set up proper tree protection area

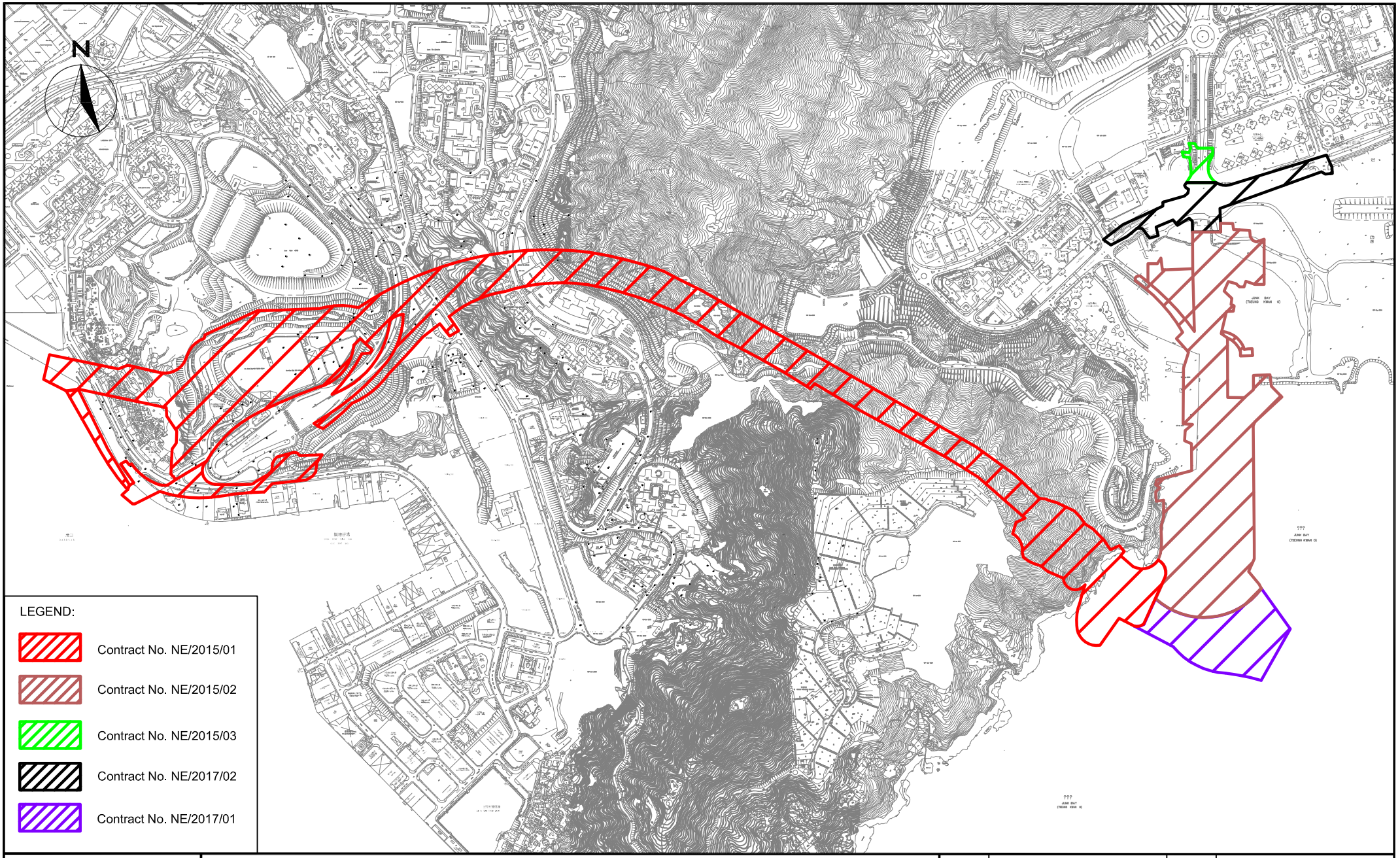
Permit/Licence

- To provide and display the Environmental Permit for the marine barge.
- To update the Environmental Permit displayed on crane barge.

Cultural Heritage

- To properly set up fenced-off buffer zone around Tin Hau Temple.

FIGURES



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

Site Layout Plan

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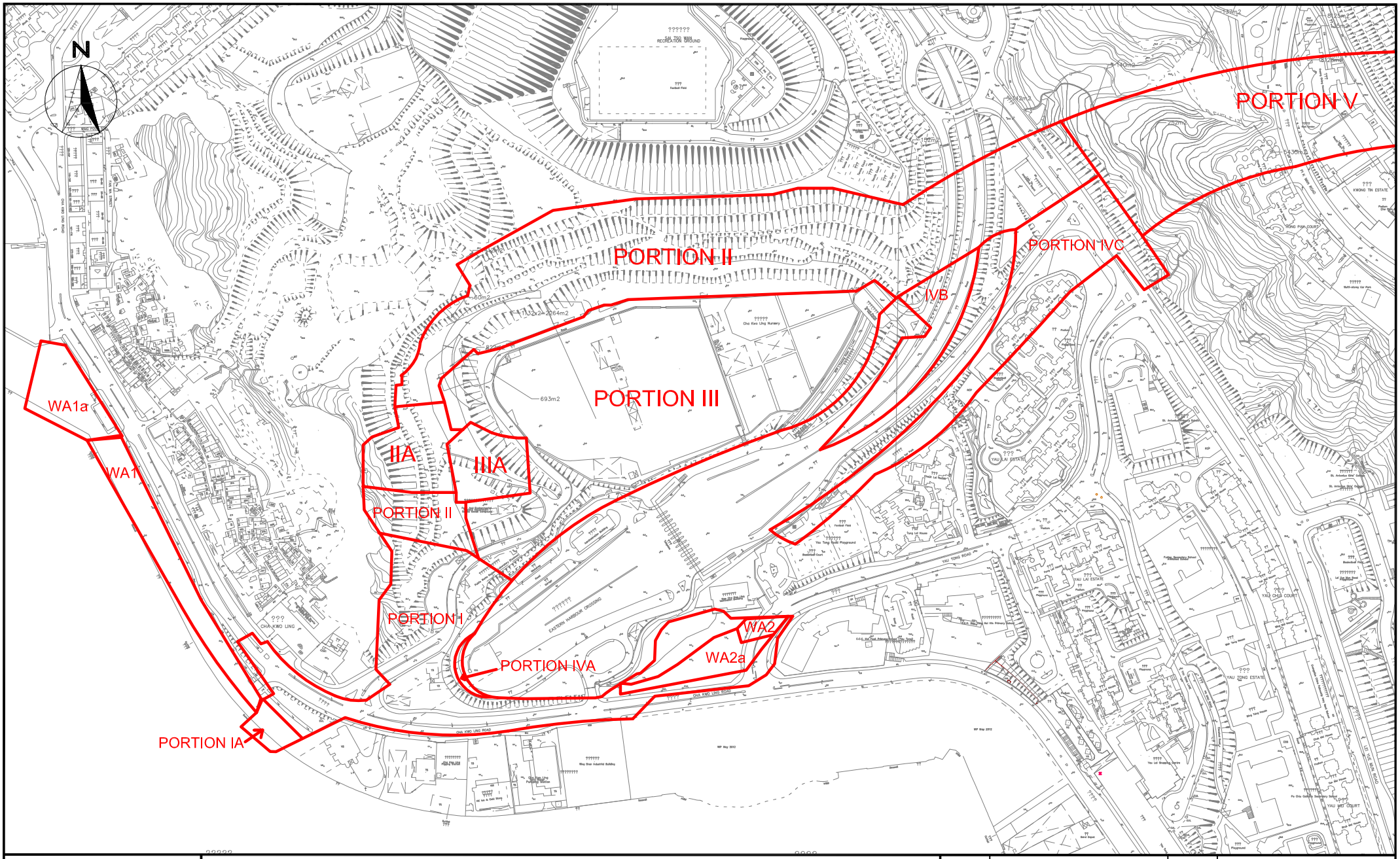

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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel
- Design and Construction

Site Portions under Works Contract No. NE/2015/01 (Lam, Tin Side)

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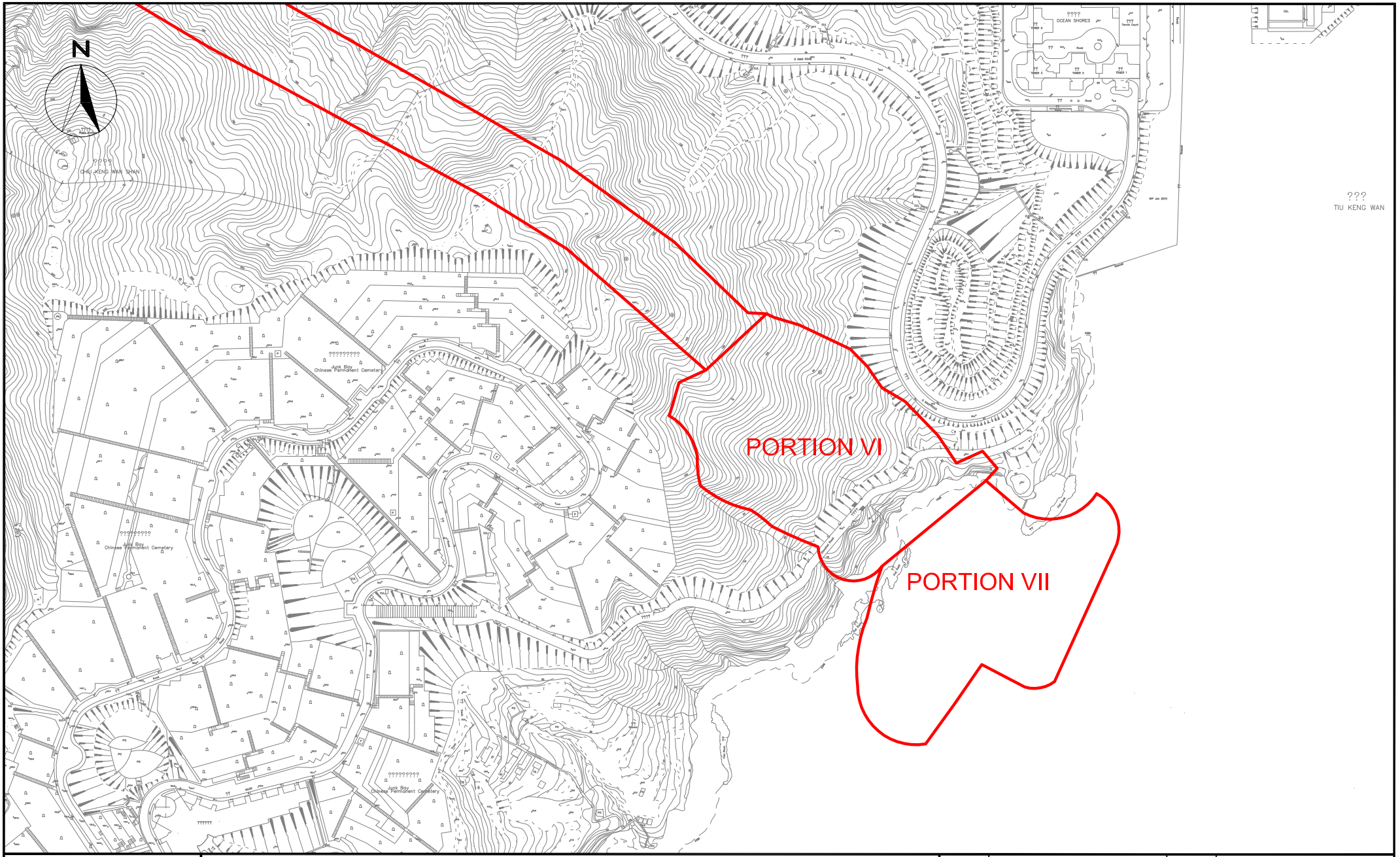

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Environmental Team for Tseung Kwan O - Lam Tin Tunnel
- Design and Construction

Site Portions under Works Contract No. NE/2015/01 (Tsuneg Kwan O Side)

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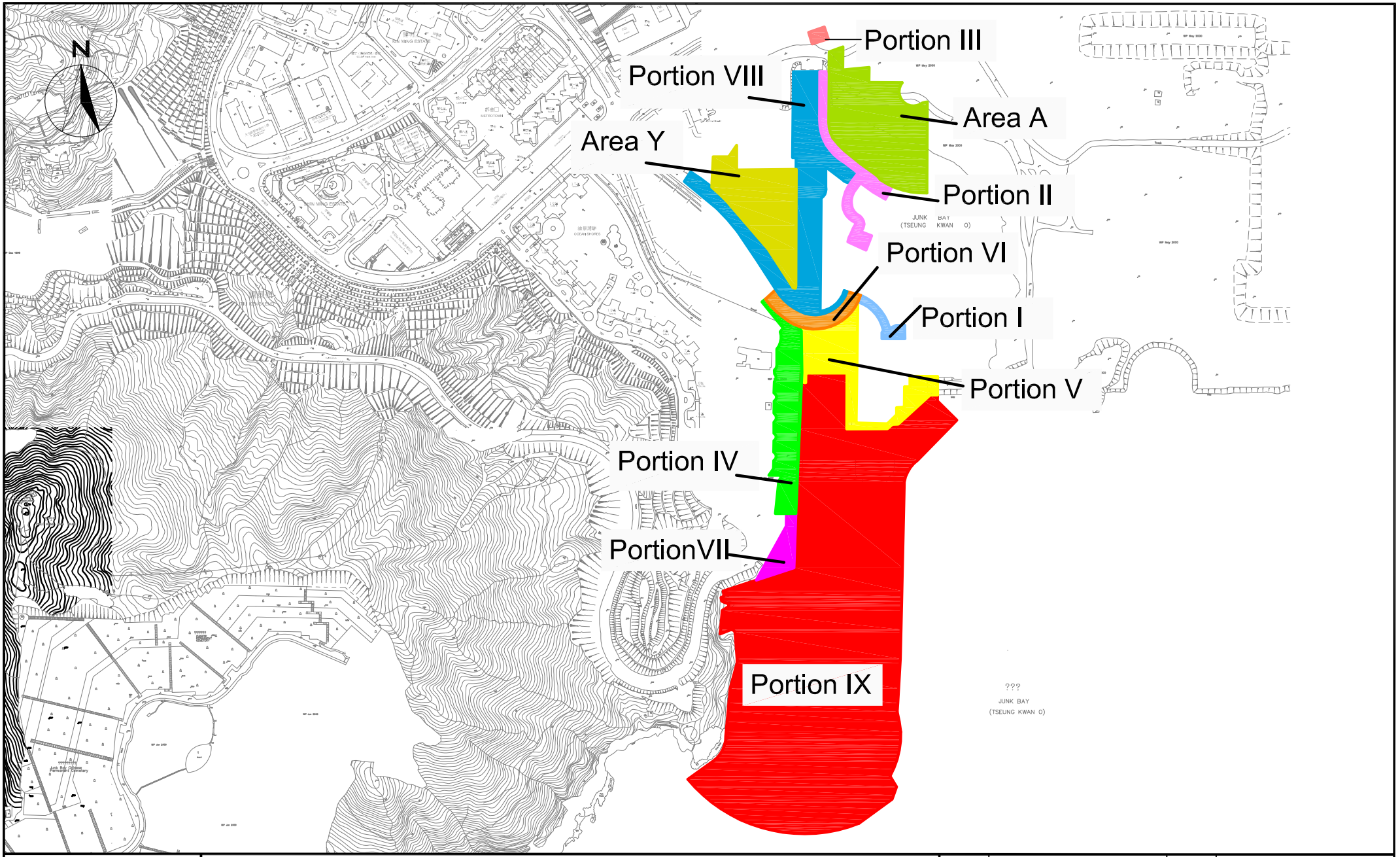

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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Site Portions under Works Contract No. NE/2015/02

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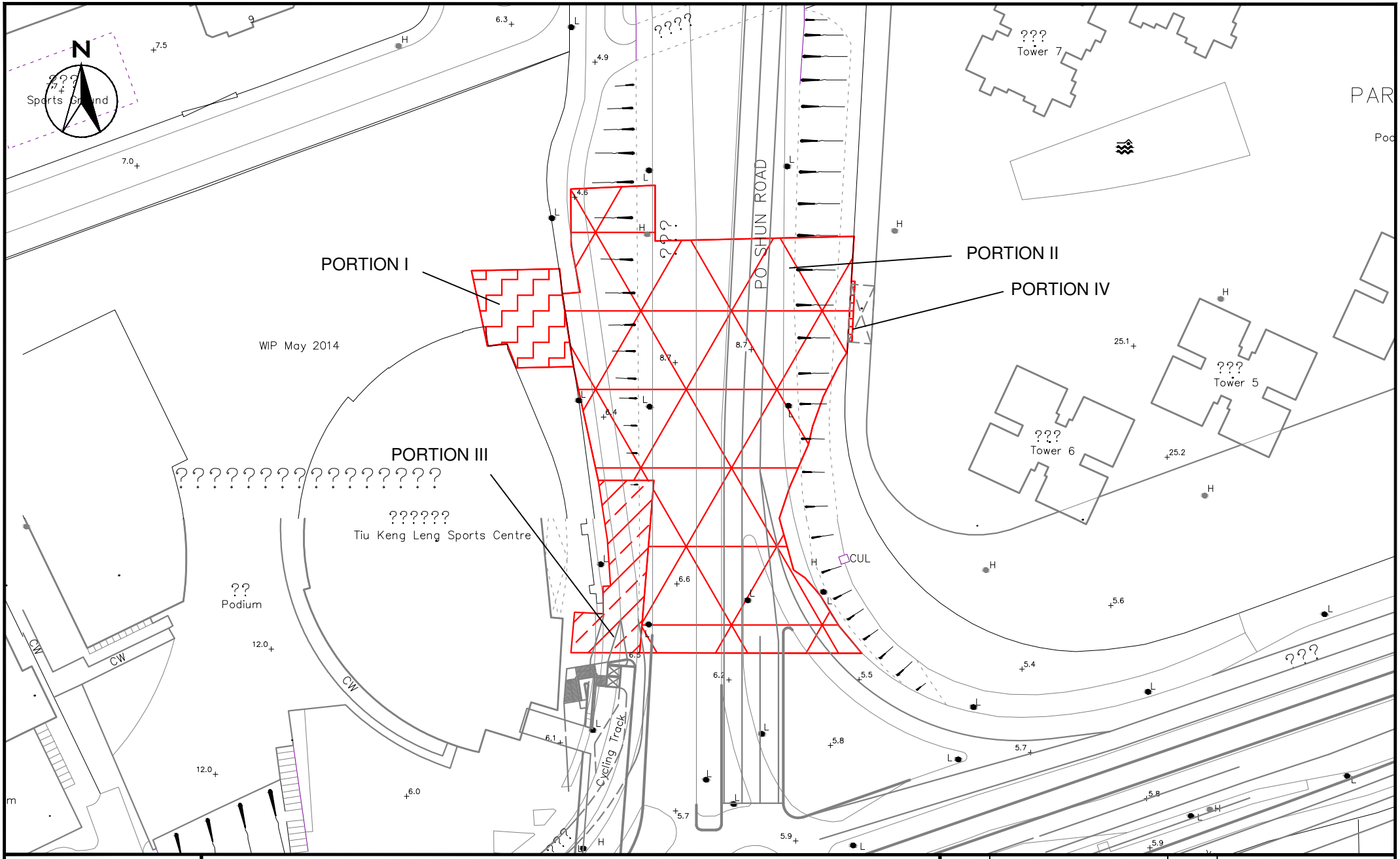

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Environmental Team for Tseung Kwan O - Lam Tin Tunnel
- Design and Construction

Site Portions under Work Contract No. NE/2015/03

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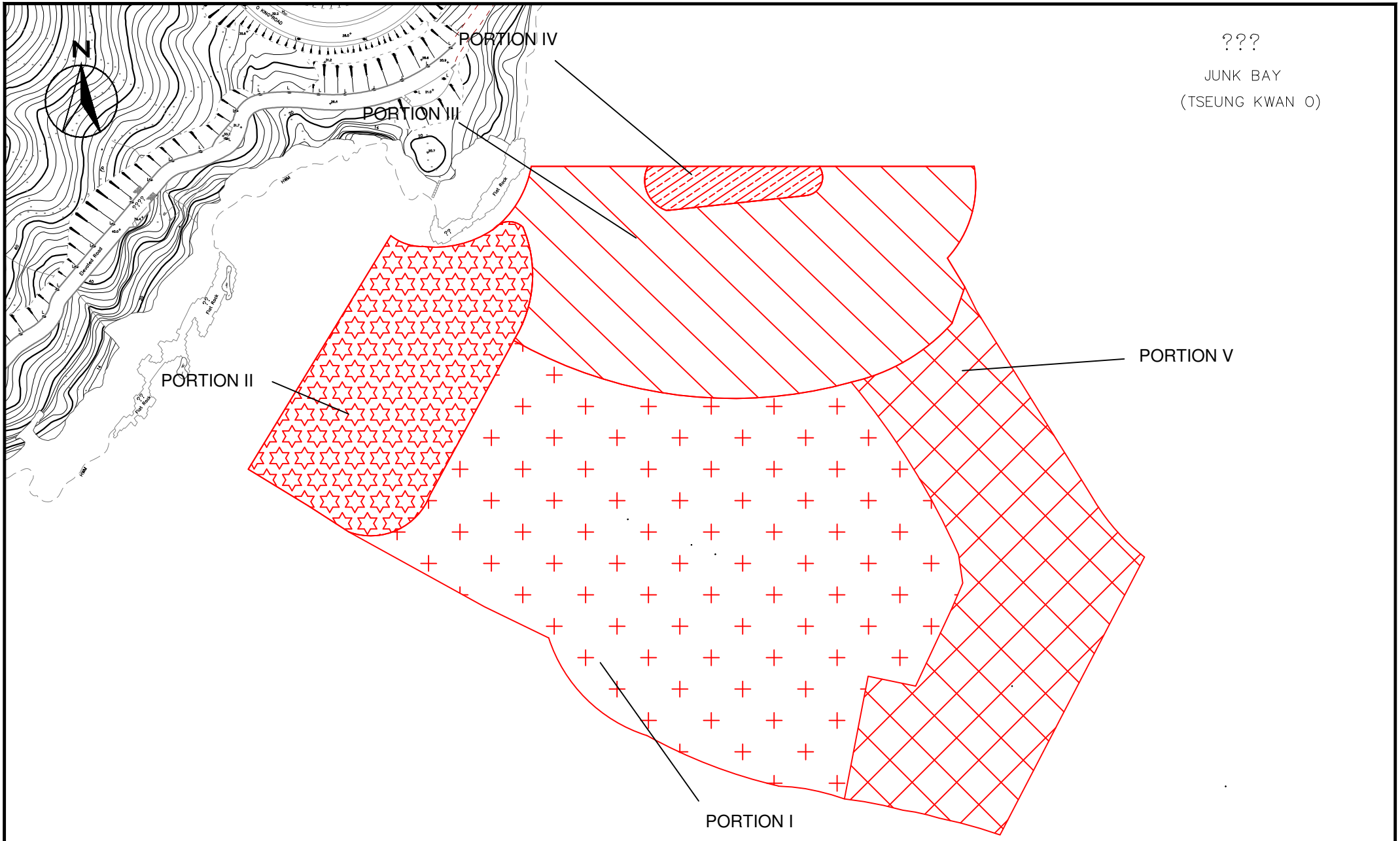

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- Design and Construction

Site Portions under Work Contract No. NE/2017/01

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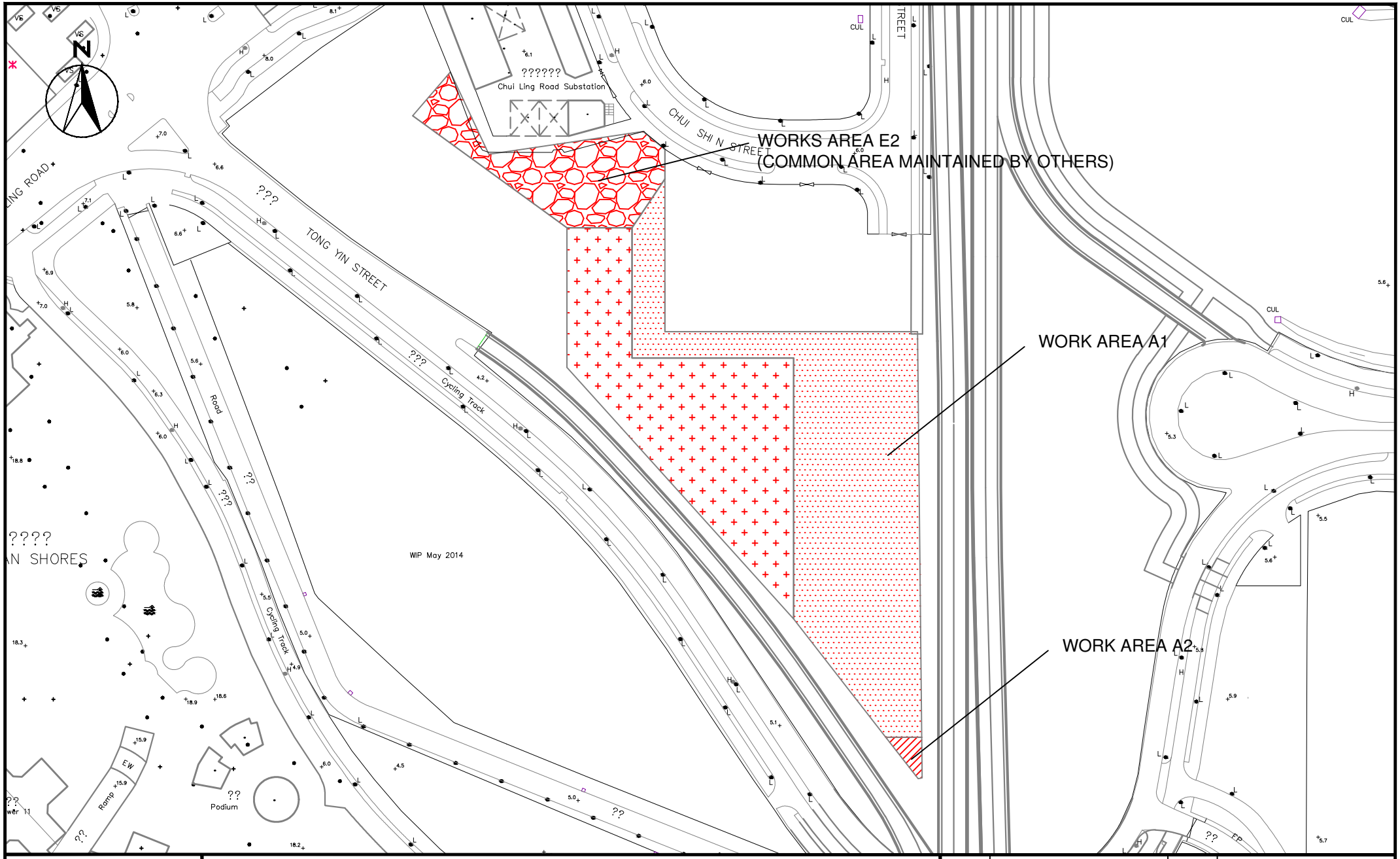

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- Design and Construction

Site Portions under Work Contract No. NE/2017/01

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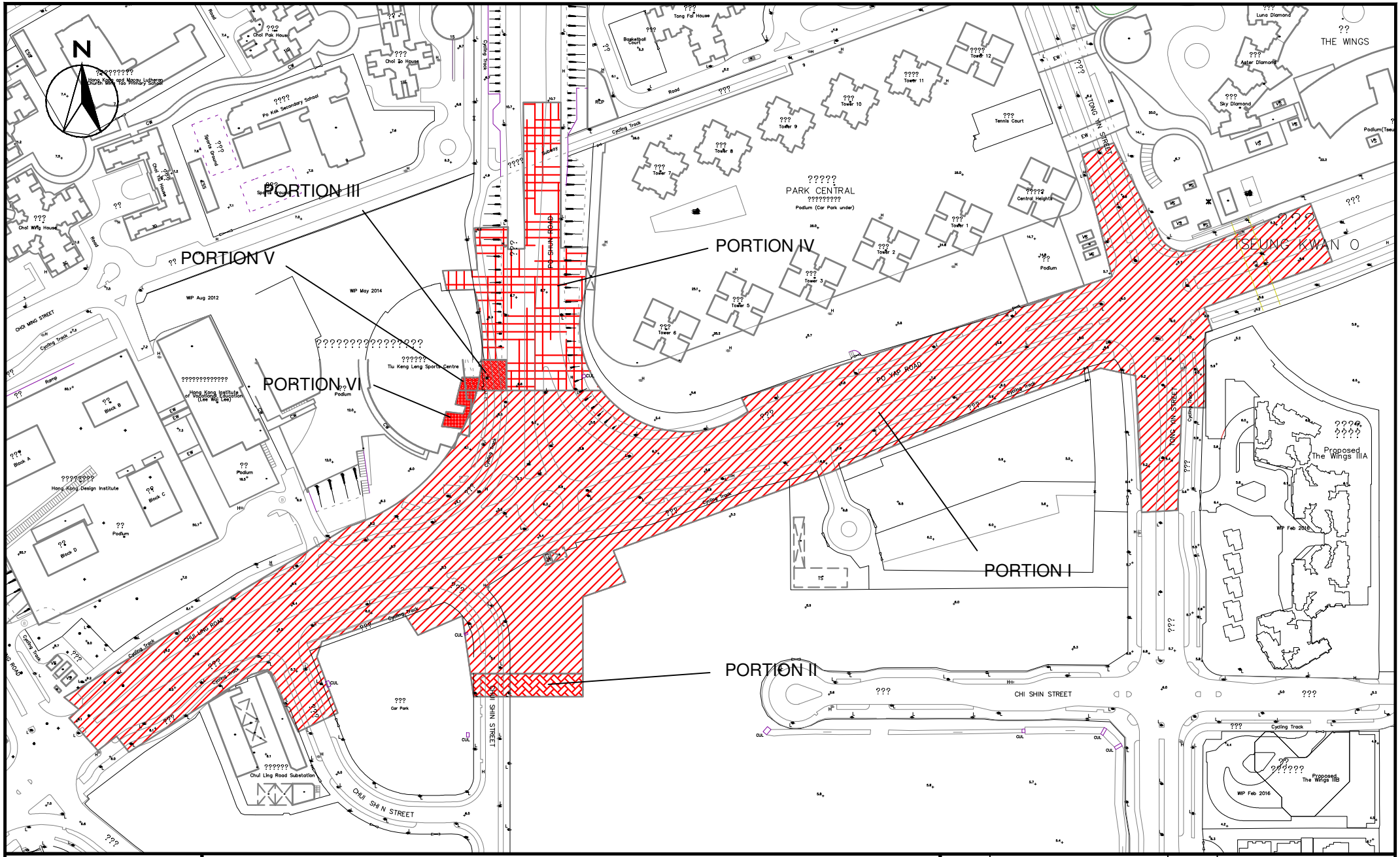

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- Design and Construction

Site Portions under Work Contract No. NE/2017/02

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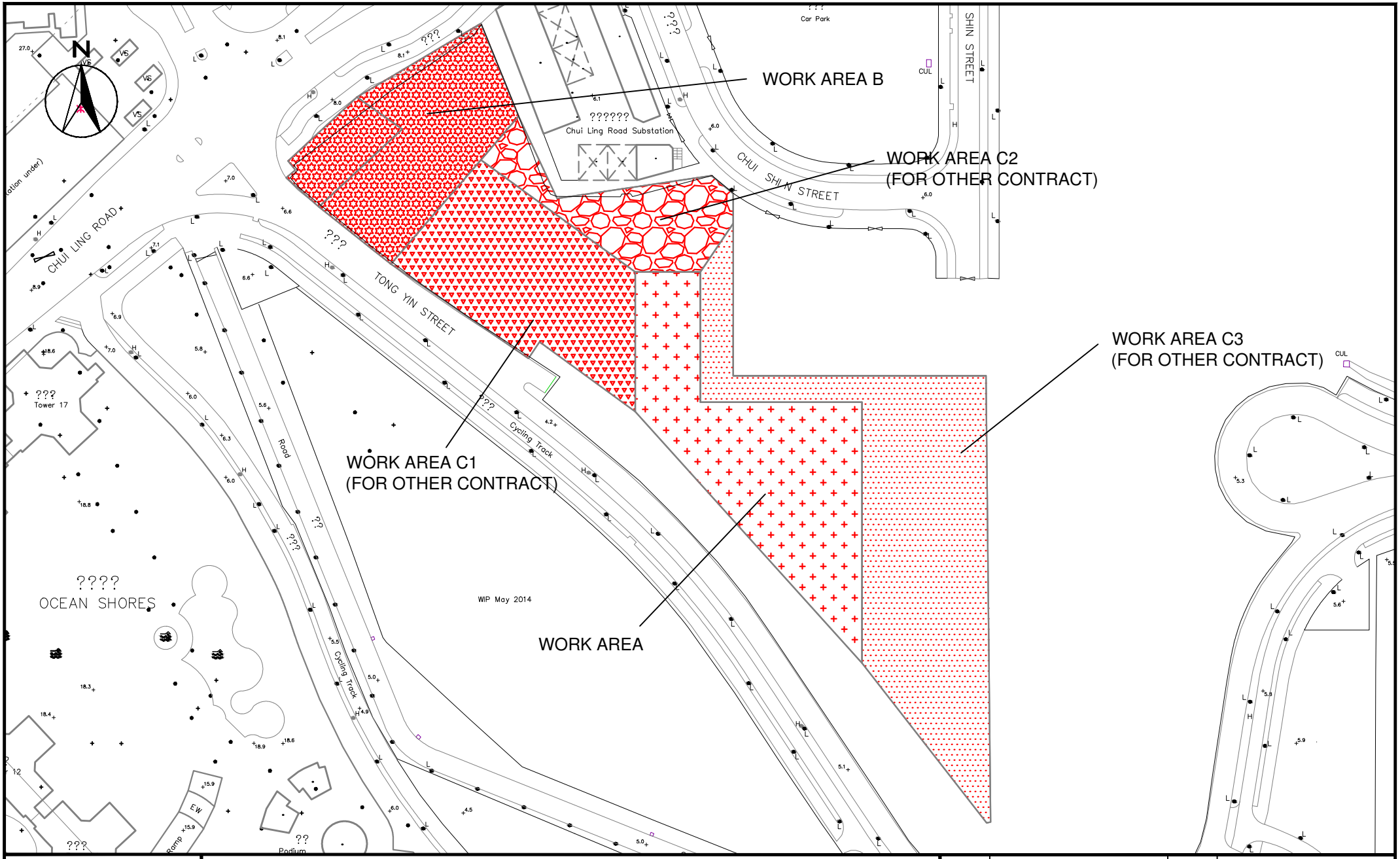

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Environmental Team for Tseung Kwan O - Lam Tin Tunnel
- Design and Construction

Site Portions under Work Contract No. NE/2017/02

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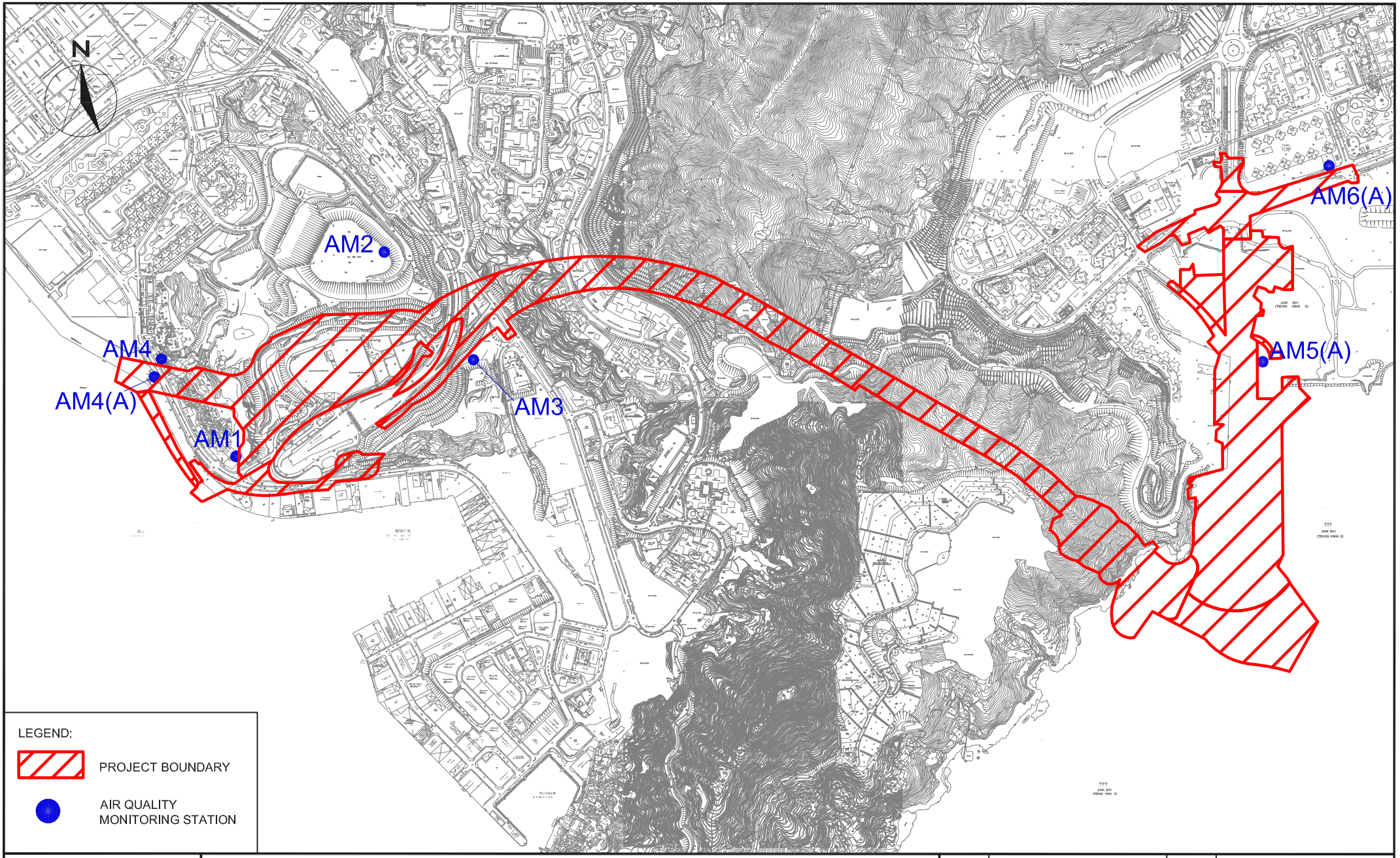

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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Air Quality Monitoring Stations

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CHECK	JF	DRAWN	JW
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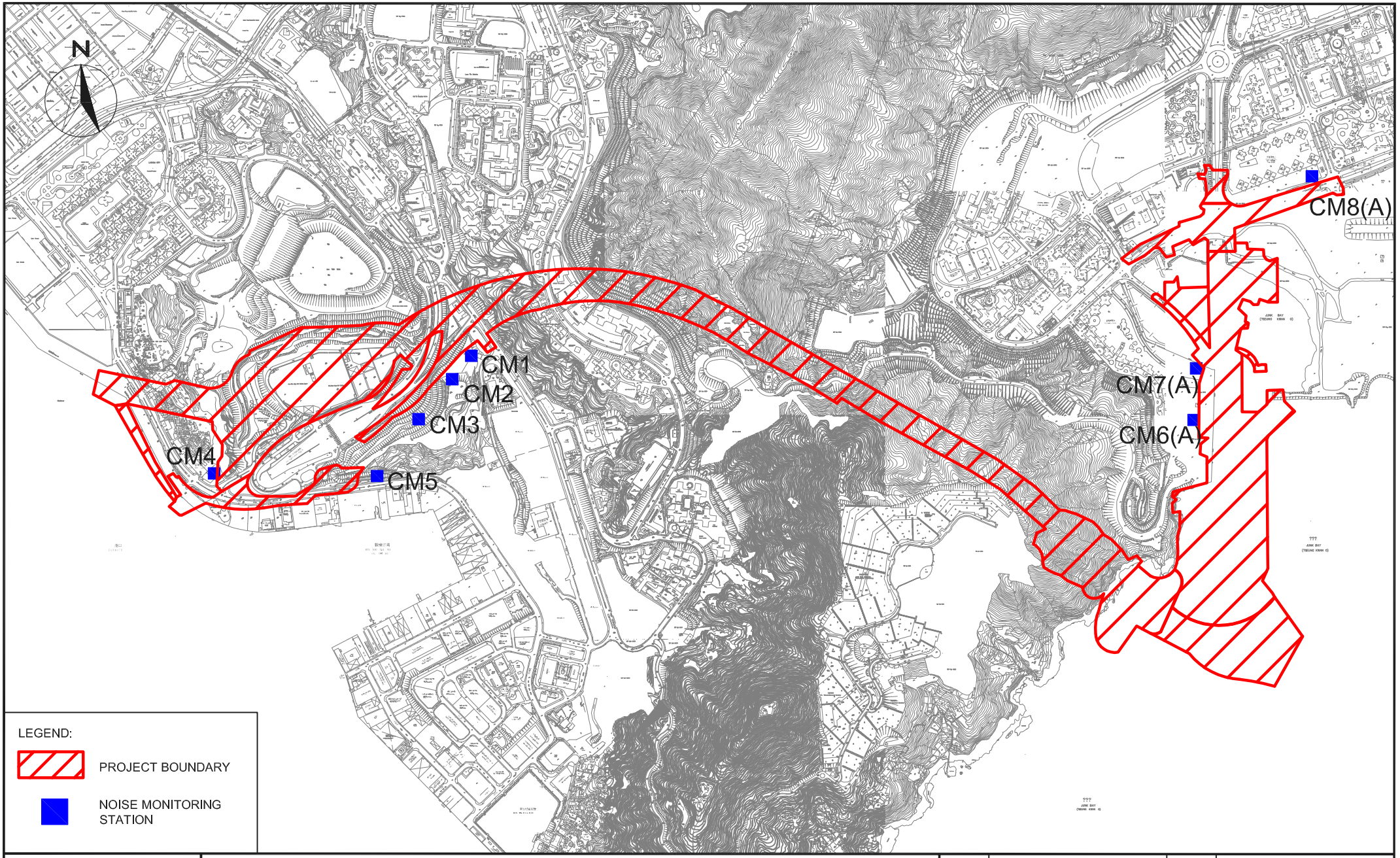

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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Noise Monitoring Stations

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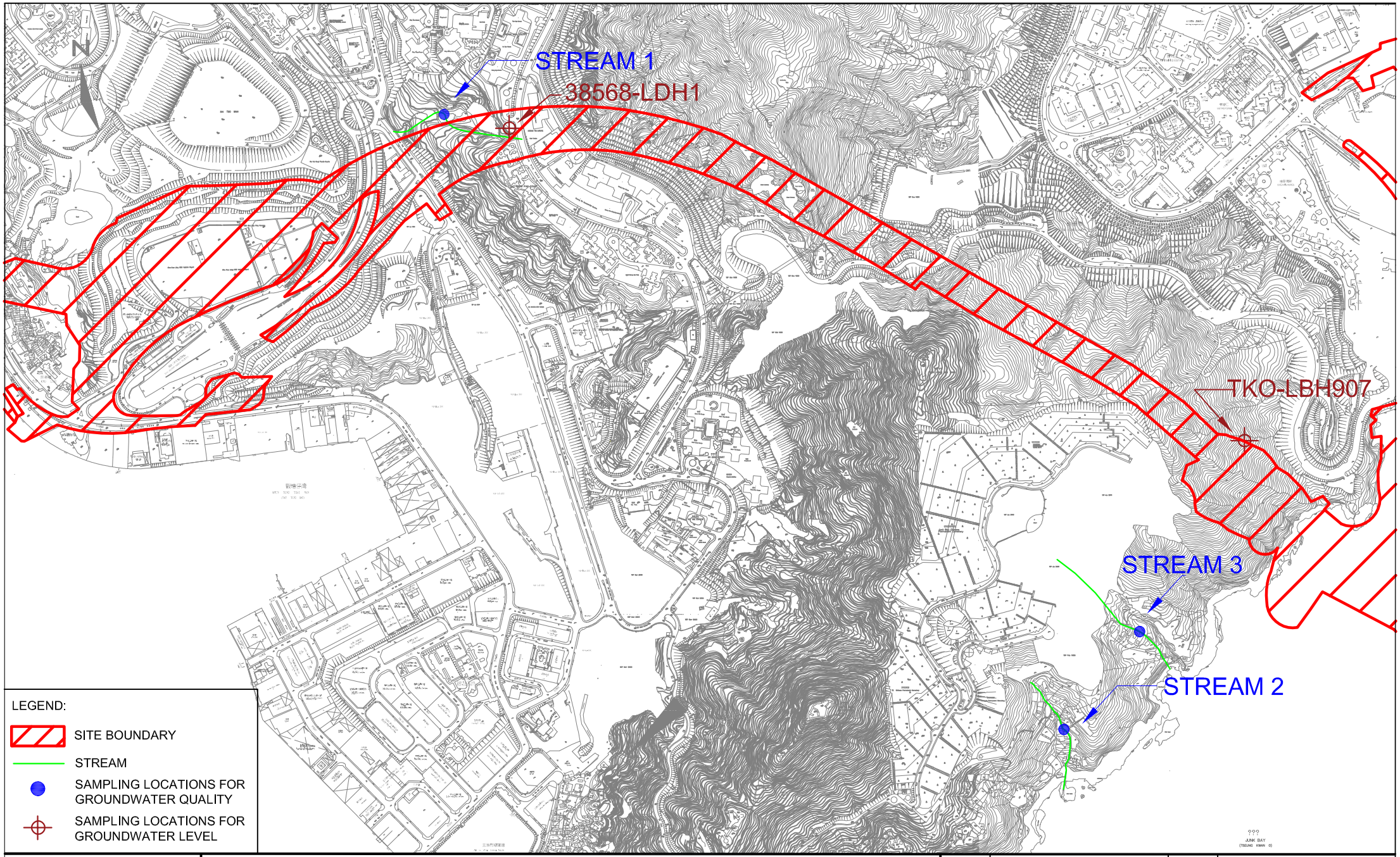

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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction
Location of Streams for Groundwater Quality and Groundwater Level Monitoring

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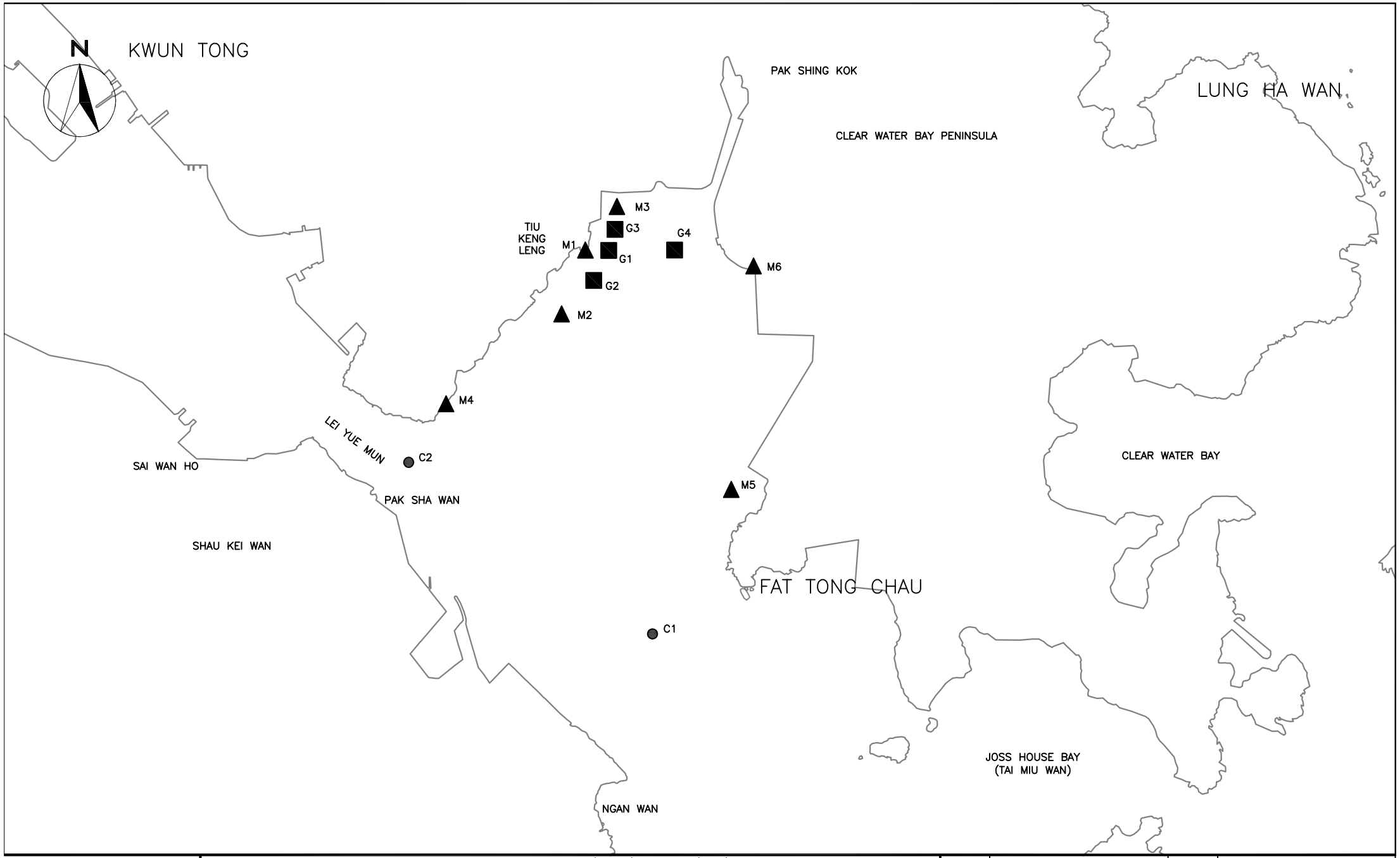

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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel – Design and Construction

Locations of Water Quality Monitoring Stations

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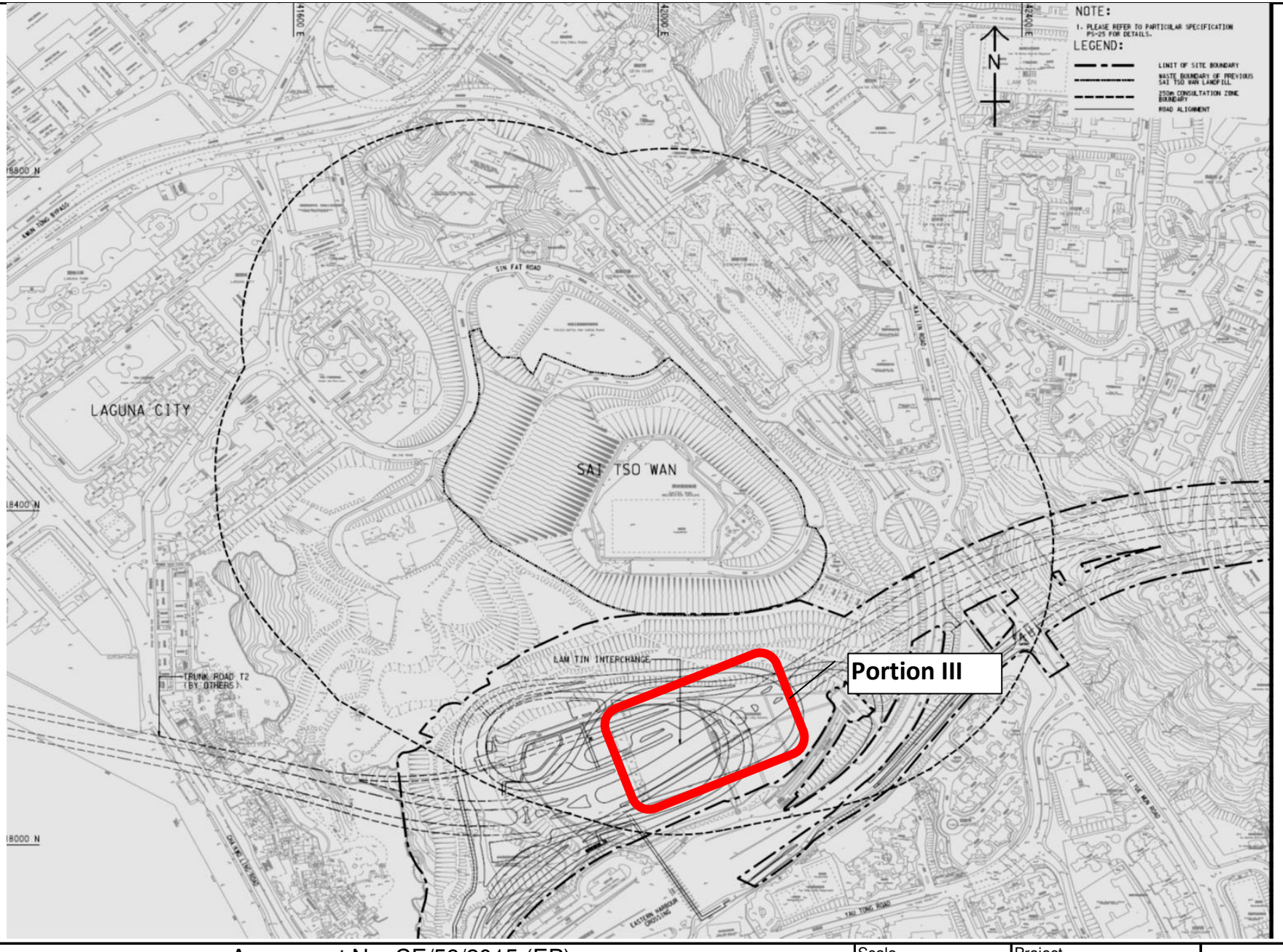
CHECK	JF	DRAWN	JW
PROJECT NO.	MA16034	FIGURE NO.	5
		REV	–



Title	Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Locations of Landfill Gas Monitoring	Scale: N.T.S Date: Dec-16	Project No.: MA16034 Figure: 6

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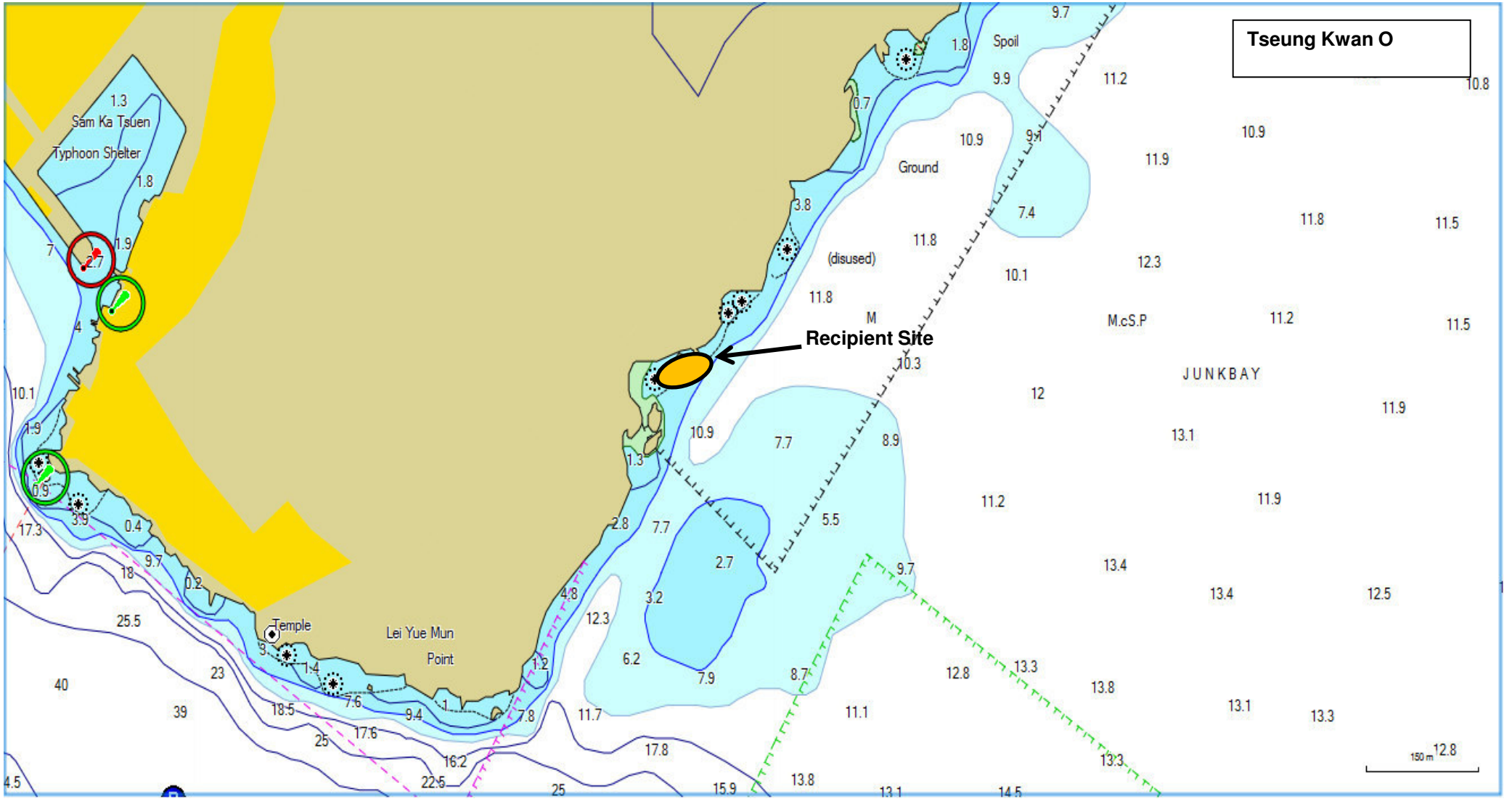
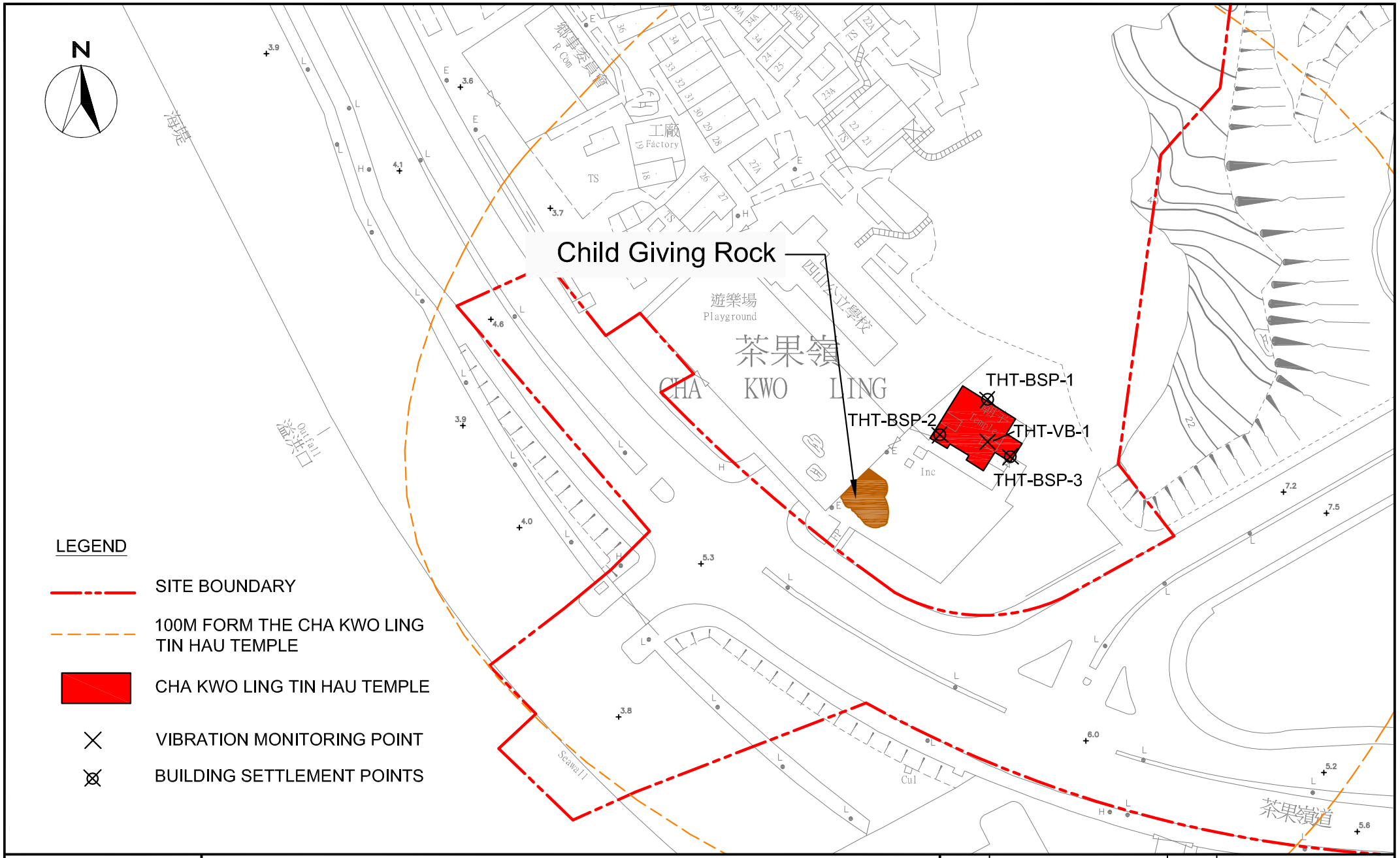


Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Location of Post-translocation Coral Monitoring	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Mar-17	Figure: 7	



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

Locations of Monitirong for Cultural Heritage

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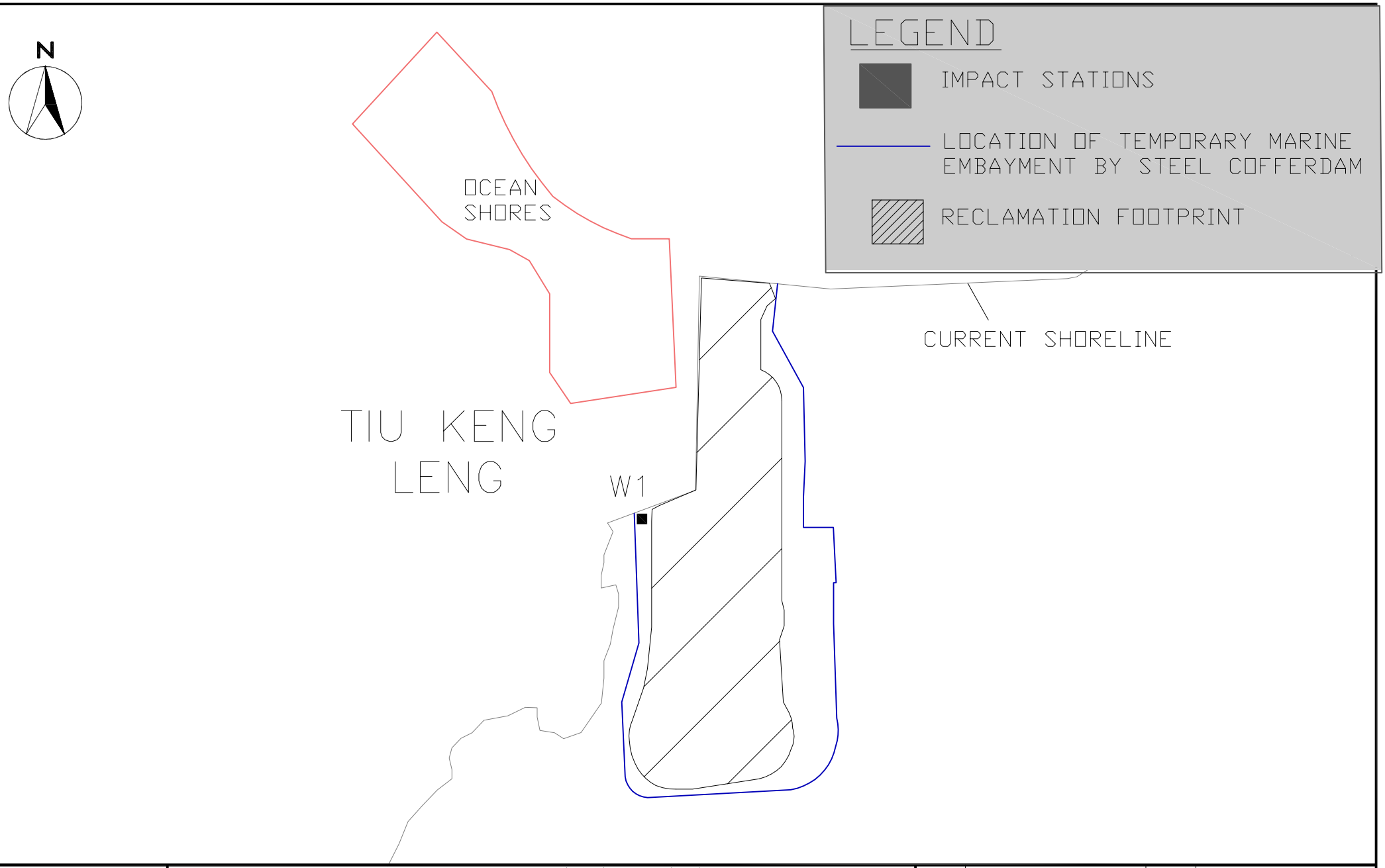
CHECK	JF	DRAWN	AC
JOB No.	MA16034	FIGURE NO. 8	REV -



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Agreement No. CE/59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel – Design and Construction
Location of Water Quality Monitoring Stations within Temporary Marine Embayment

SCALE	N.T.S	DATE	MAY 2017
CHECK	JF	DRAWN	JW
PROJECT NO.	MA16034	FIGURE NO.	9
		REV	–

APPENDIX A
MONITORING REQUIREMENTS

Appendix A - Environmental Impact Monitoring Requirements

Table I – Air Quality Monitoring

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Air Quality	1 hour TSP	Three times / 6 days	• AM1 – Tin Hau Temple • AM2 – Sai Tso Wan Recreation Ground • AM3 – Yau Lai Estate Bik Lai House • AM4(1) – Road Traffic at Cha Kwo Ling Road • AM4(A)(2)(*) – 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	• AM1 – Ground Level • AM2 – Ground Level • AM3 – Rooftop (41/F) • AM4(1) – Ground Level • AM4(A)(2)(*) – Rooftop (3/F) • AM5(A) (*) – Ground Level • AM6(A) (*) – 1/F
	24 hour TSP	Once / 6 days		

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.

Table II – Noise Monitoring

Type of Monitoring	Parameter	Frequency	Location	Measurement Conditions
Construction Noise	L_{eq}, L_{90} & L_{10} at 30 minute intervals during 0700 to 1900 on normal weekdays	Once per week	• 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	• CM1 – Rooftop (41/F) • CM2 – Rooftop (41/F) • CM3 – Rooftop (40/F) • CM4 – Ground Level • CM5 – Rooftop (6/F) • CM6(A)* – Ground Level • CM7(A)* – Ground Level CM8(A)* – 1/F

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

Table III – Water Quality Monitoring

Monitoring Stations	Parameters, unit	Depth	Frequency
Groundwater Quality			
Stream 1- Stream 3	• DO, mg/L • DO Saturation, % • pH • Water Temperature (°C) • Turbidity, NTU • SS, mg/L • BOD_5, mg O_2/L • TOC, mg-TOC/L • Total Nitrogen, mg/L • Ammonia-N, mg NH_3-N/L • Total Phosphate, mg-P/L	Mid-depth	Biweekly (When the tunnel construction works are found within 50m of the location, weekly.)
Marine Water Quality			
M1 M2 M3 M4 M5 M6 C1 C2 G1 G2 G3 G4	*In-situ*: Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity Laboratory Testing: Suspended Solids (SS)	M1-M5, C1-C2, G1-G4 • 3 water depths: 1m below water surface, mid-depth and 1m above sea bed. • If the water depth is less than 3m, mid-depth sampling only. • If the water depth is less than 6m, omit mid-depth sampling. M6 • at the vertical level where the water abstraction point of the intake is located(i.e. approximately mid-depth level)	3 days per week / 2 per monitoring day (1 for mid-ebb and 1 for mid-flood)

Table IV –Landfill Gas Monitoring

Type of Monitoring	Parameter	Frequency	Location
Landfill Gas	Methane, Carbon dioxide and Oxygen	at least daily before starting the work of the day	• Excavation Locations • Manholes and Chambers • Relocation of monitoring wells • Any other Confined Spaces

Table V –Ecological Monitoring

Type of Monitoring	Parameter	Frequency
Marine Ecology	The presence, survival, health condition and growth of the translocated coral colonies	Once every 3 months after completion for a period of 12 months

APPENDIX B
ACTION AND LIMIT LEVELS

APPENDIX B – Action and Limit Levels

Air Quality

1-hr TSP

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

24-hr TSP

Monitoring Stations	Location	Action Level, µg/m³	Limit Level, µg/m³
AM1	Tin Hau Temple	173	260
AM2	Sai Tso Wan Recreation Ground	192	
AM3	Yau Lai Estate Bik Lai House	167	
AM4(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 from any one of the monitoring stations	75 dB(A) [(1)]
1900-2300 on all days and 0700-2300 on general holidays (including Sundays)		60/65/70 dB(A)[(2)(3)]
2300-0700 on all days		45/50/55 dB(A)[(2)(3)]

[1] 70 dB(A) for schools and 65 dB(A) for schools during examination period.
[2] Acceptable Noise Levels for Area Sensitivity Rating of A/B/C
3 If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

Water Quality

Groundwater

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

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

Groundwater Level Monitoring

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

Marine Water Quality

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

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

Ecology

Post-translocation Coral Monitoring

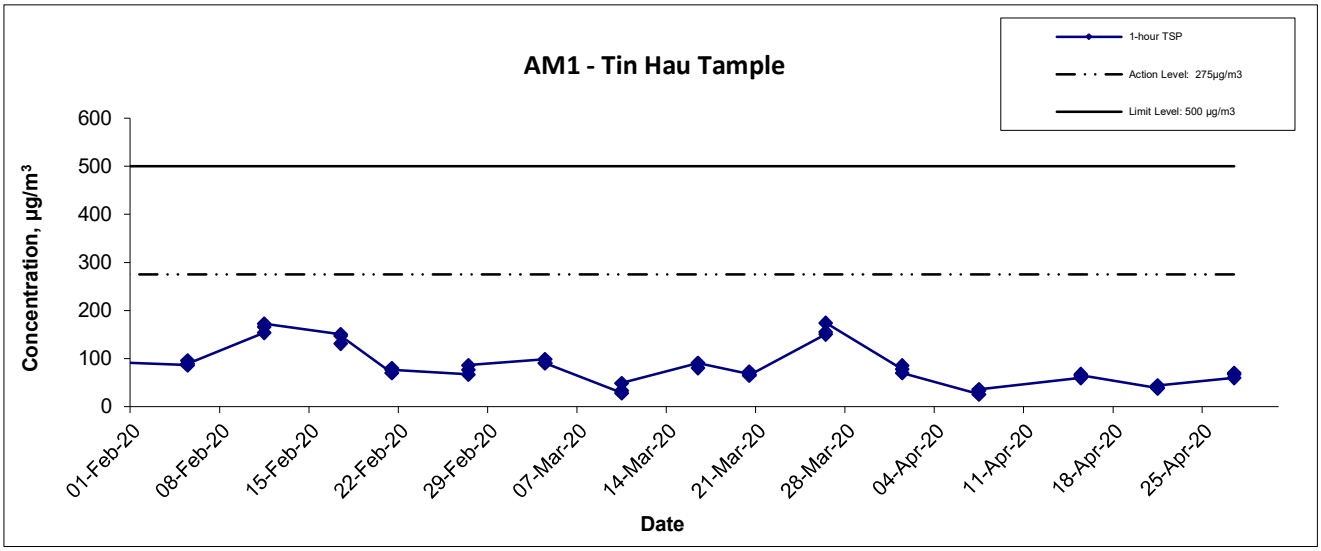
Parameter	Action Level Definition	Limit Level Definition
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level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

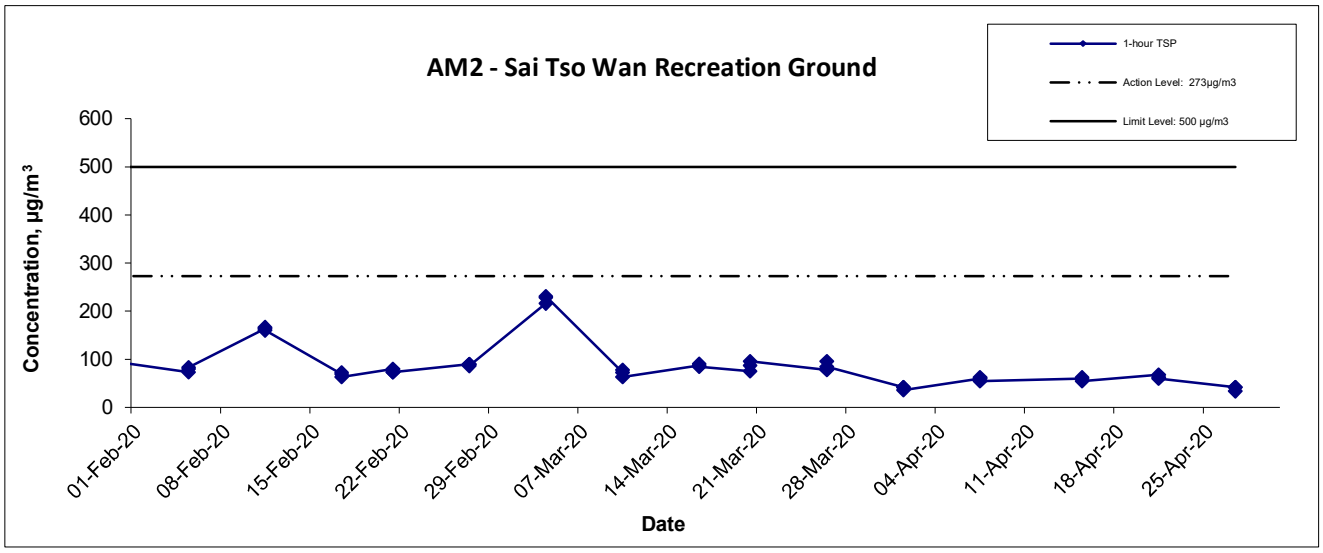
Landfill Gas Monitoring

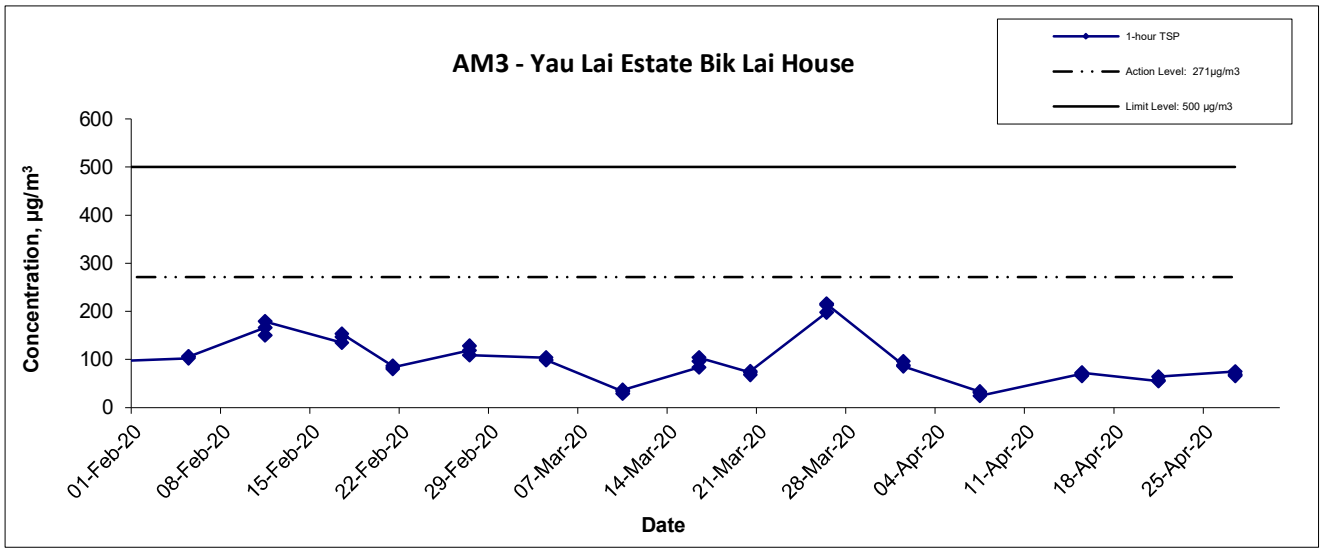
Parameter	Limit Level
Oxygen	<19%
	<18%
Methane	>10% LEL (i.e. > 0.5% by volume)
	>20% LEL (i.e. > 1% by volume)
Carbon Dioxide	>0.5%
	>1.5%

APPENDIX C
GRAPHICAL PRESENTATION OF AIR QUALITY MONITORING RESULTS

1-hr TSP Concentration Levels

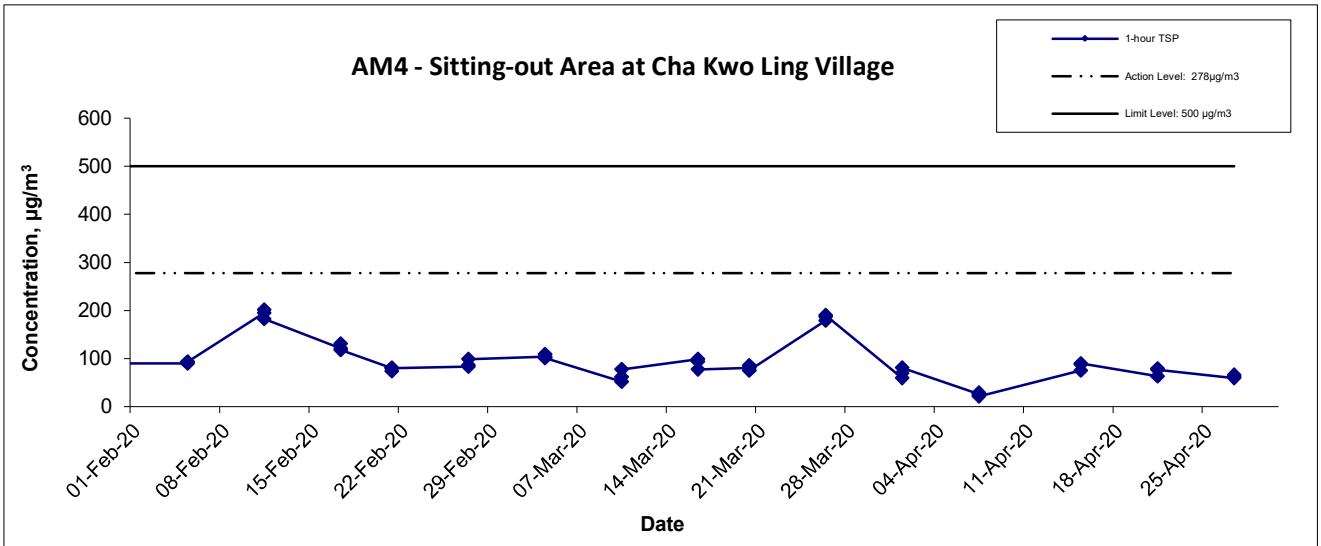


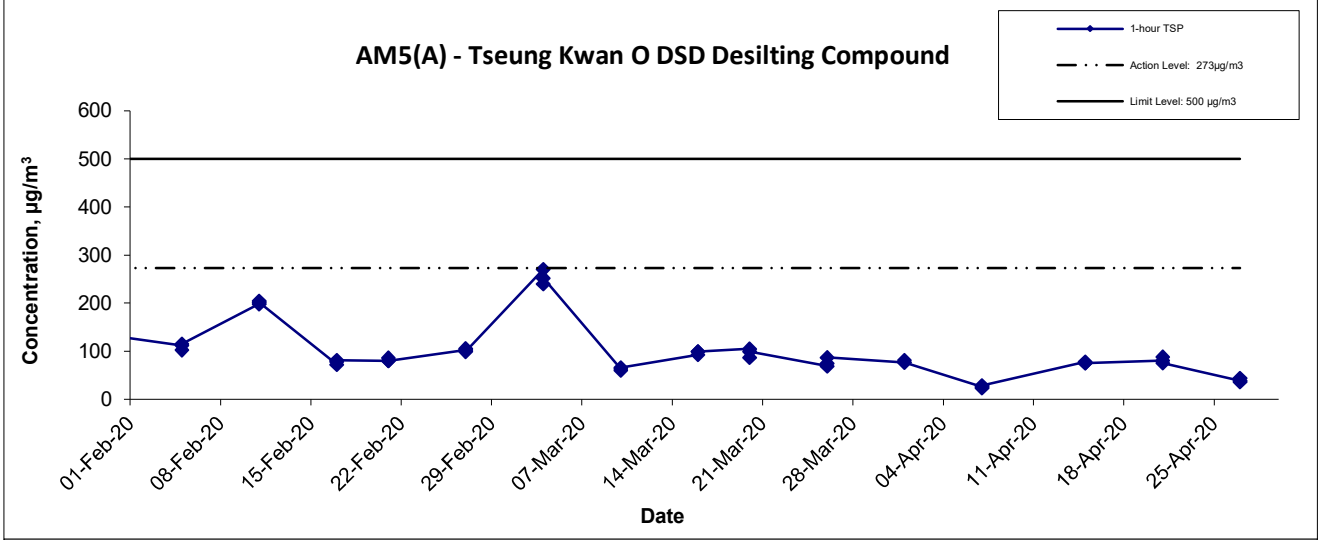


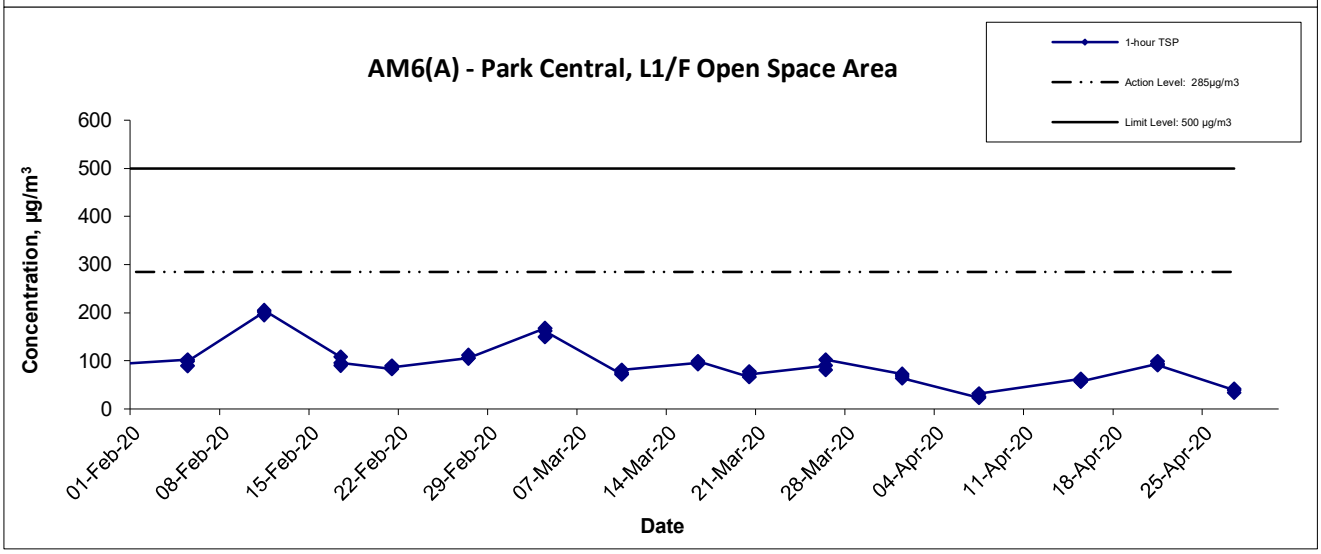


Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S Date Apr-20	Project No. MA16034 Appendix C	CINOTECH

1-hr TSP Concentration Levels

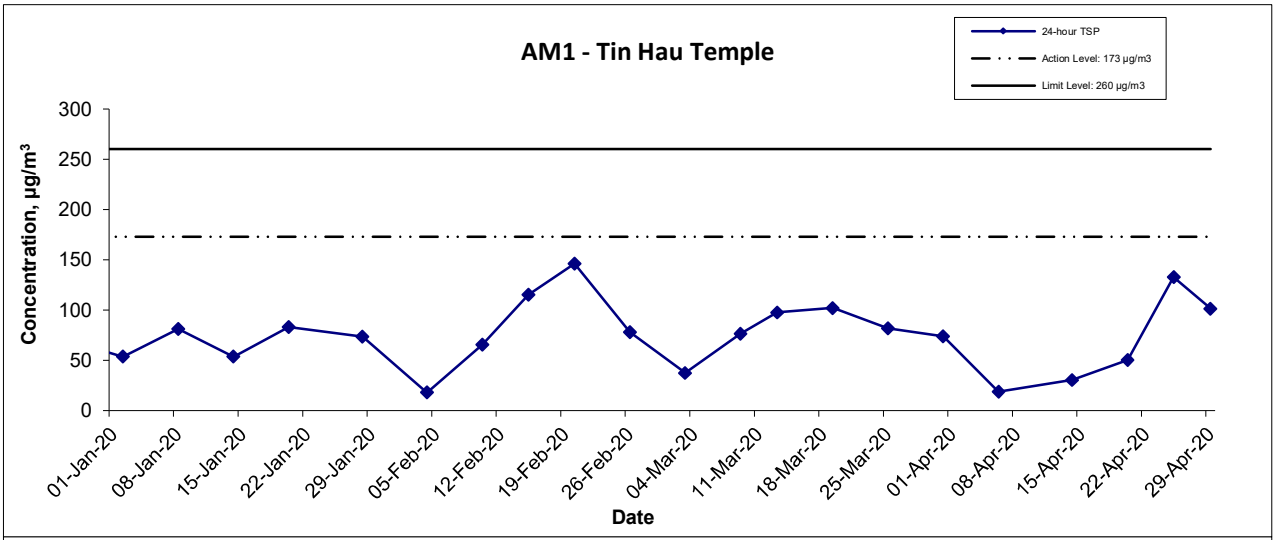


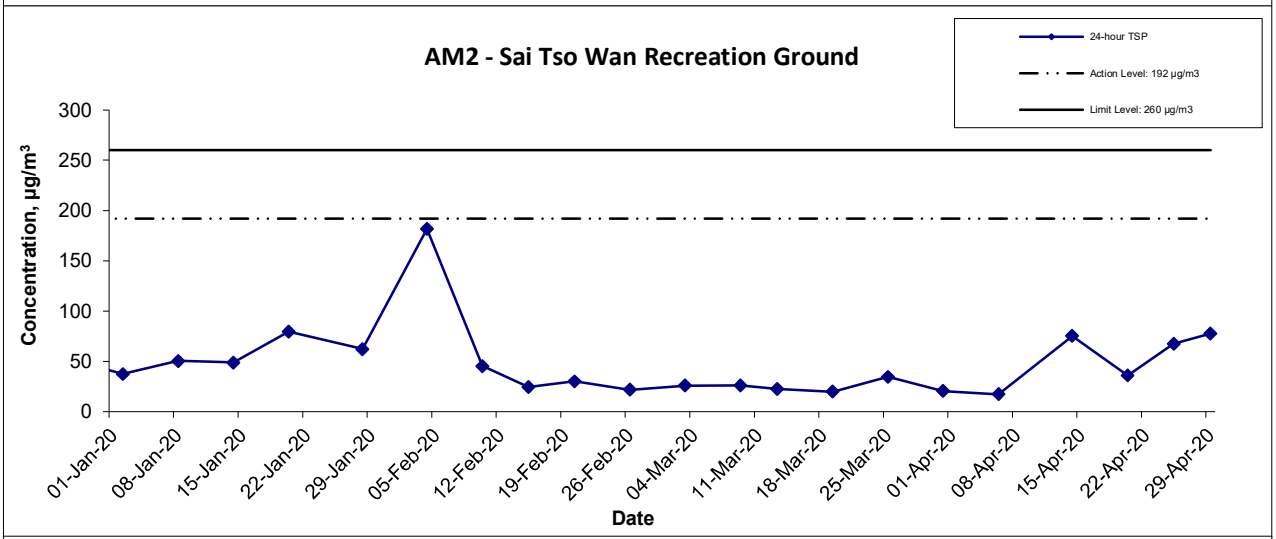


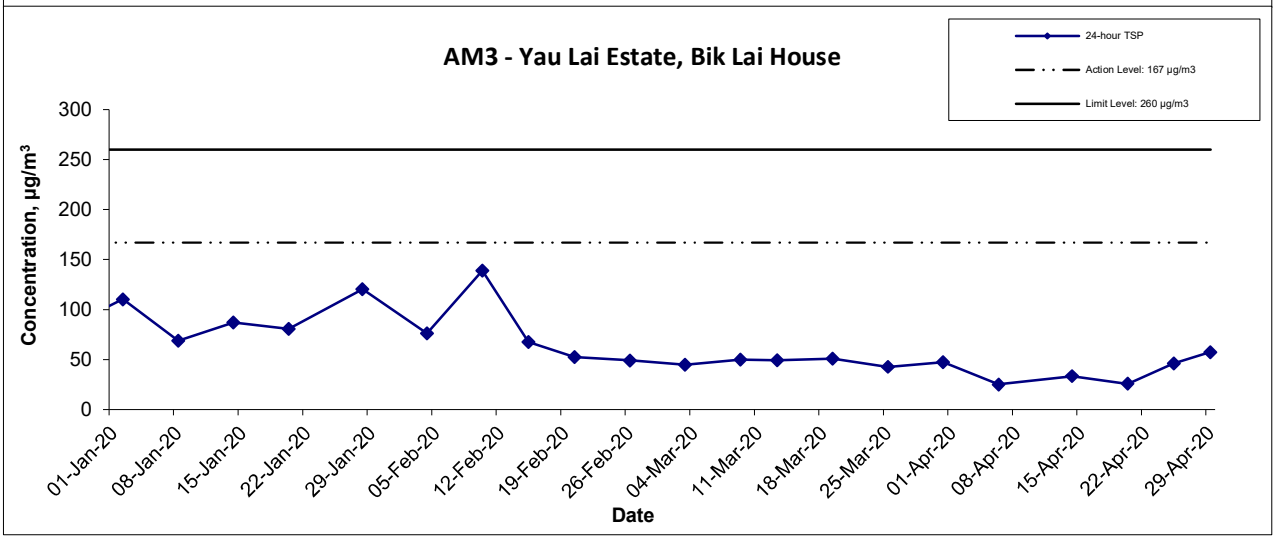


Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S Date Apr-20	Project No. MA16034 Appendix C	CINOTECH

24-hr TSP Concentration Levels

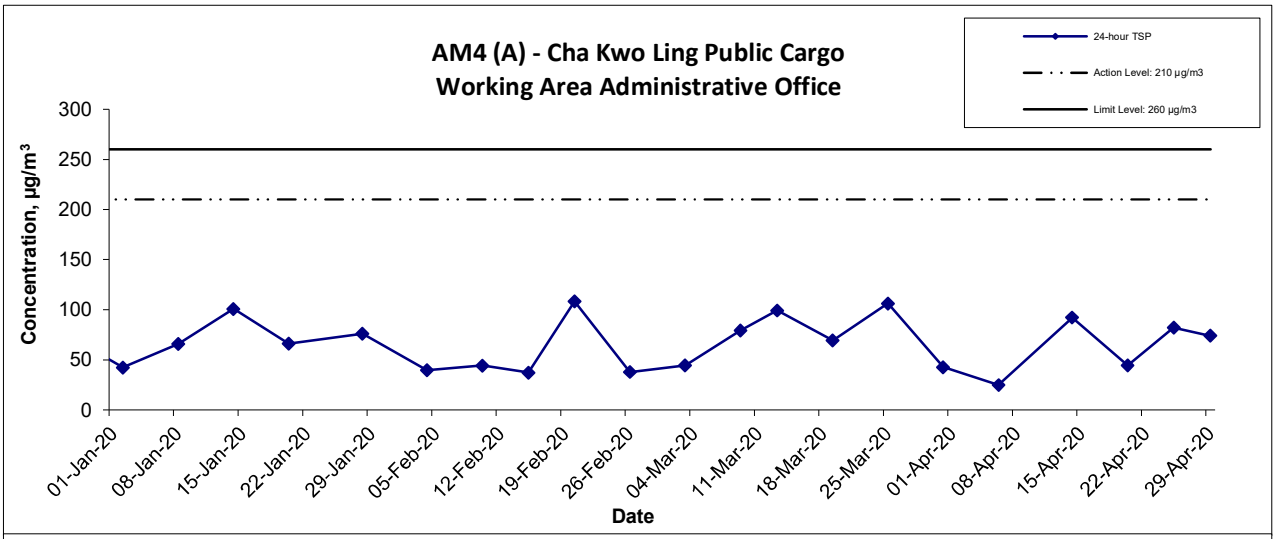


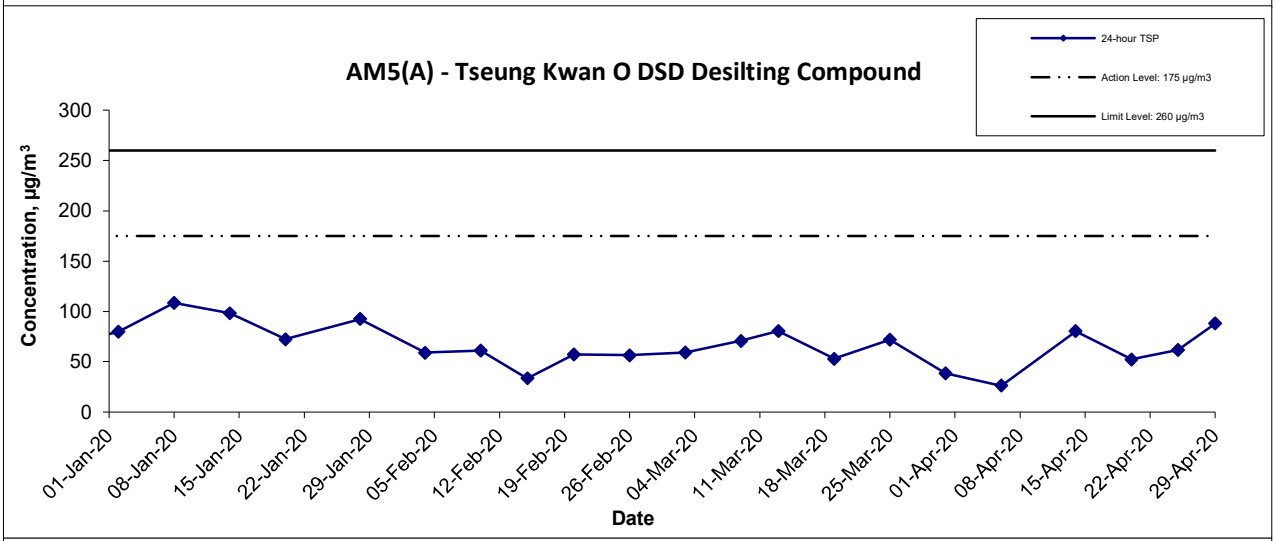


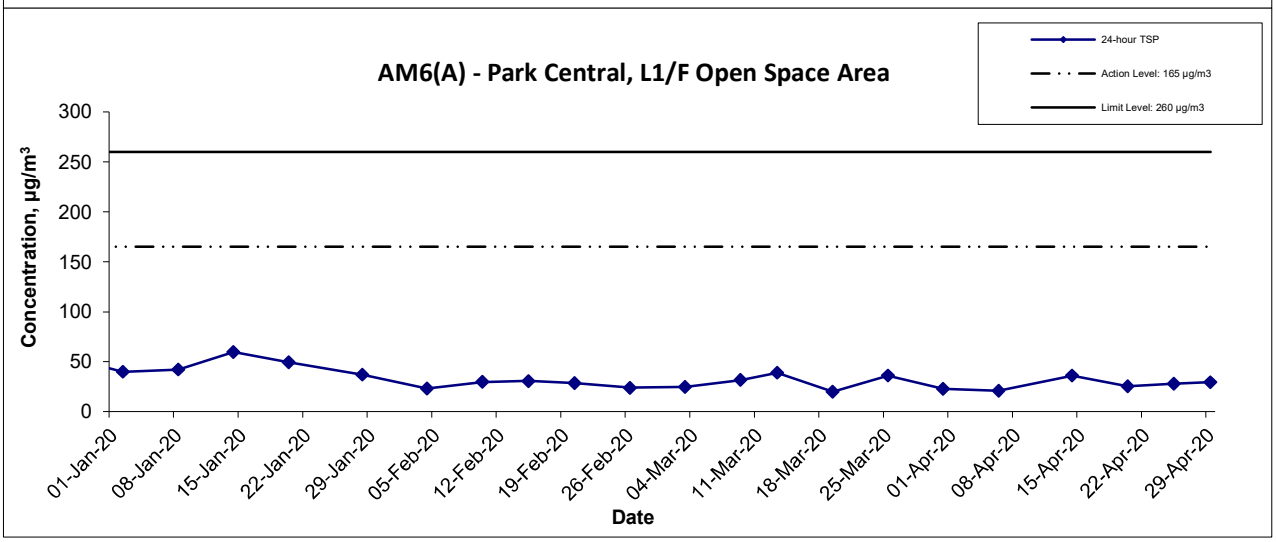


Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S	Project No.: MA16034	CINOTECH
	Date: Apr-20	Appendix: C	

24-hr TSP Concentration Levels



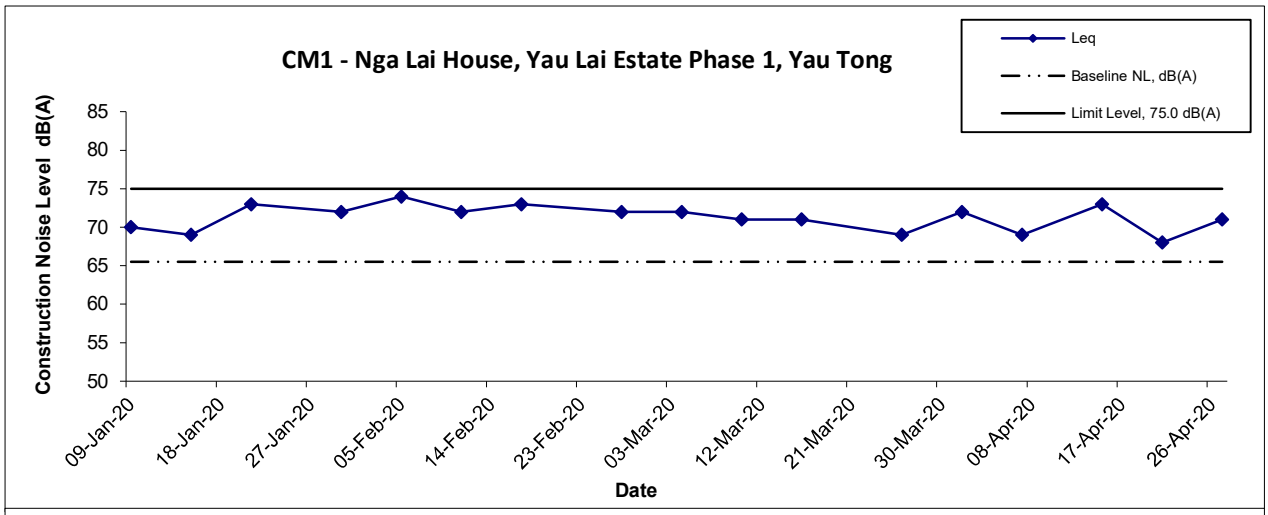


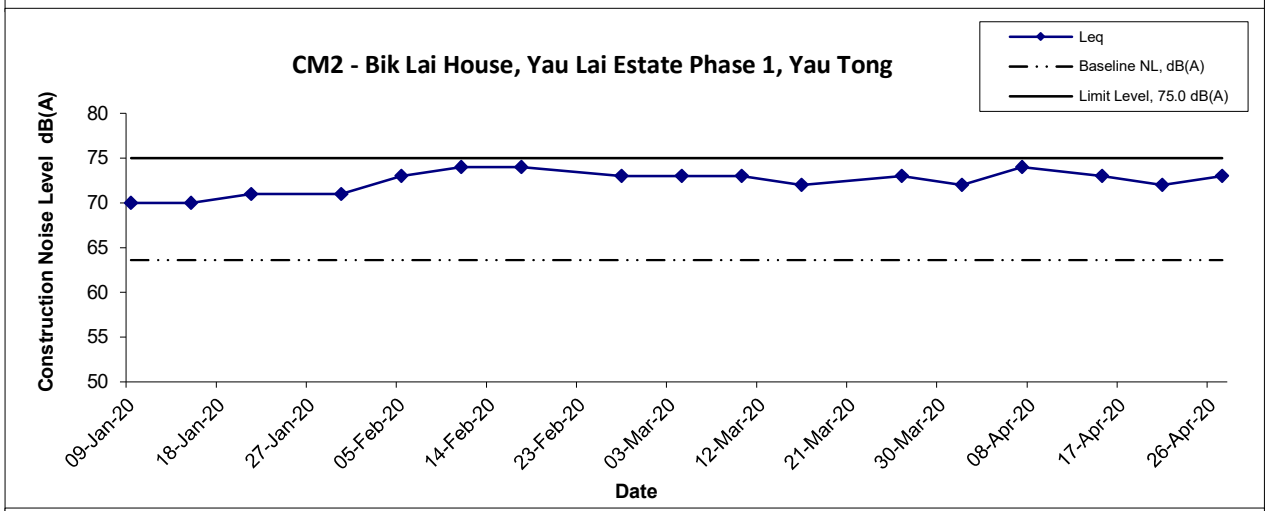


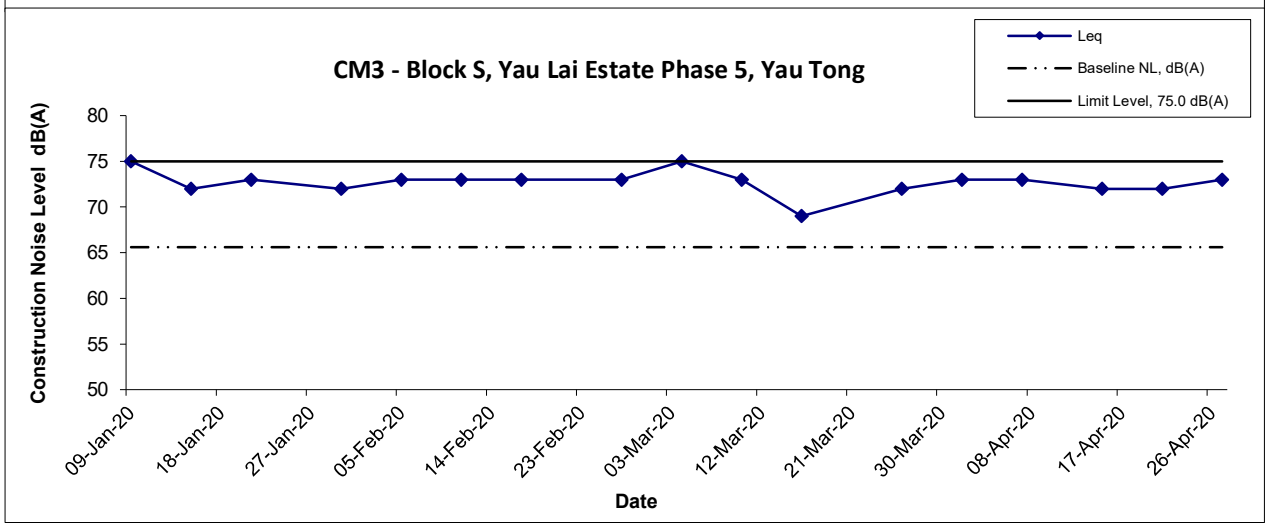
Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
	Date Apr-20	Appendix C	

APPENDIX D
GRAPHICAL PRESENTATION OF NOISE MONITORING RESULTS

Noise Levels







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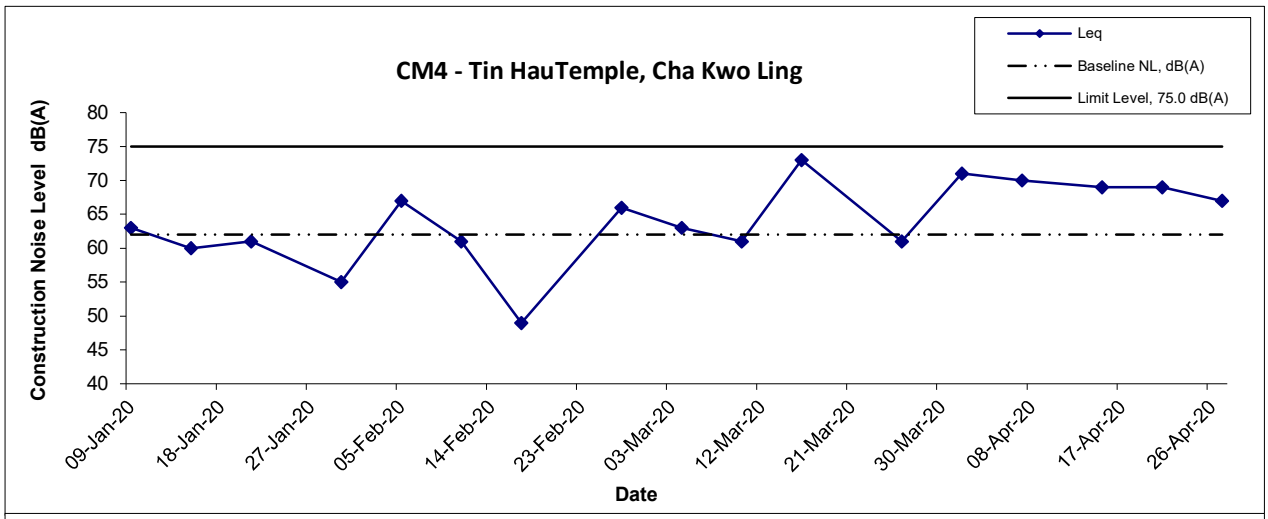
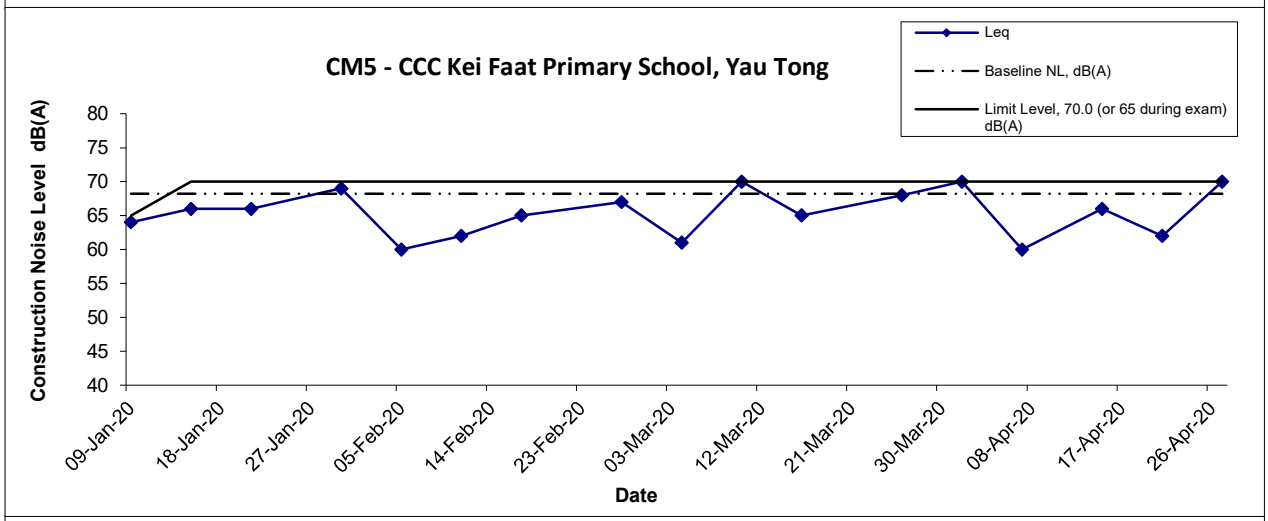
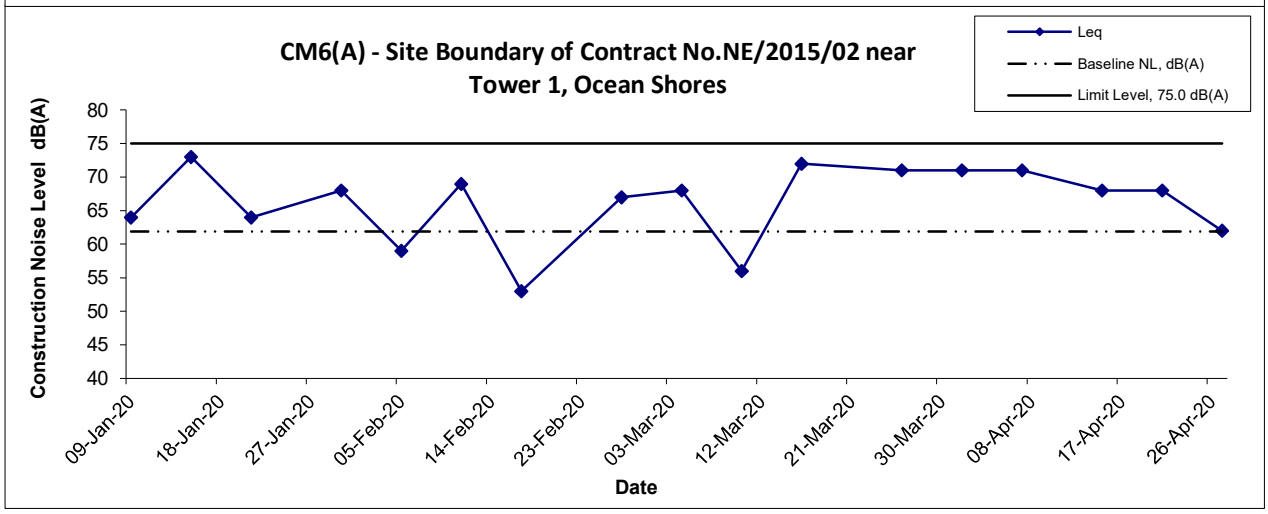
Noise Levels

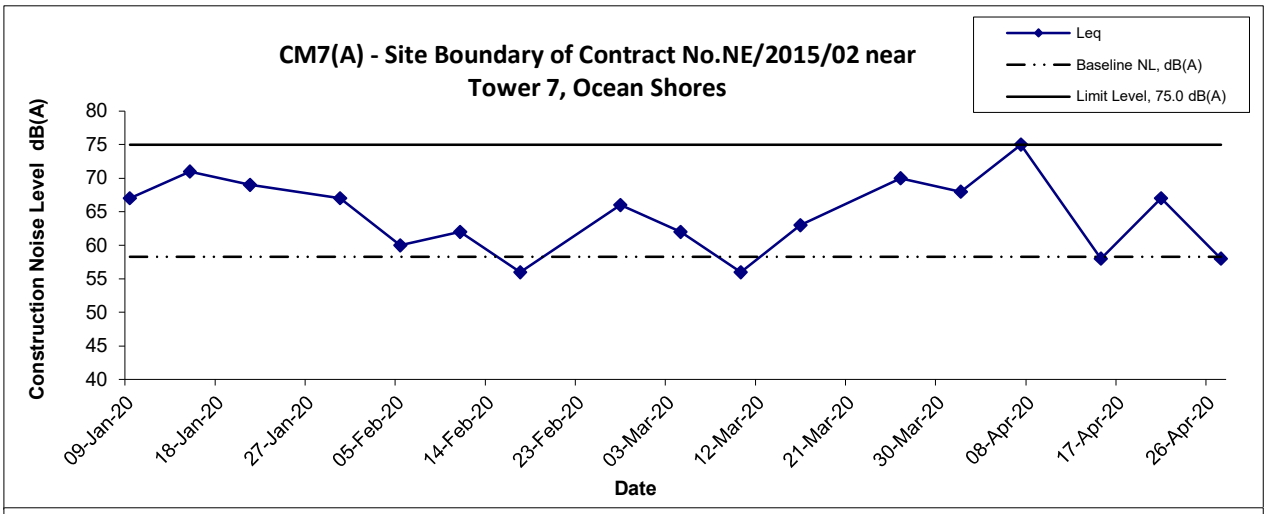


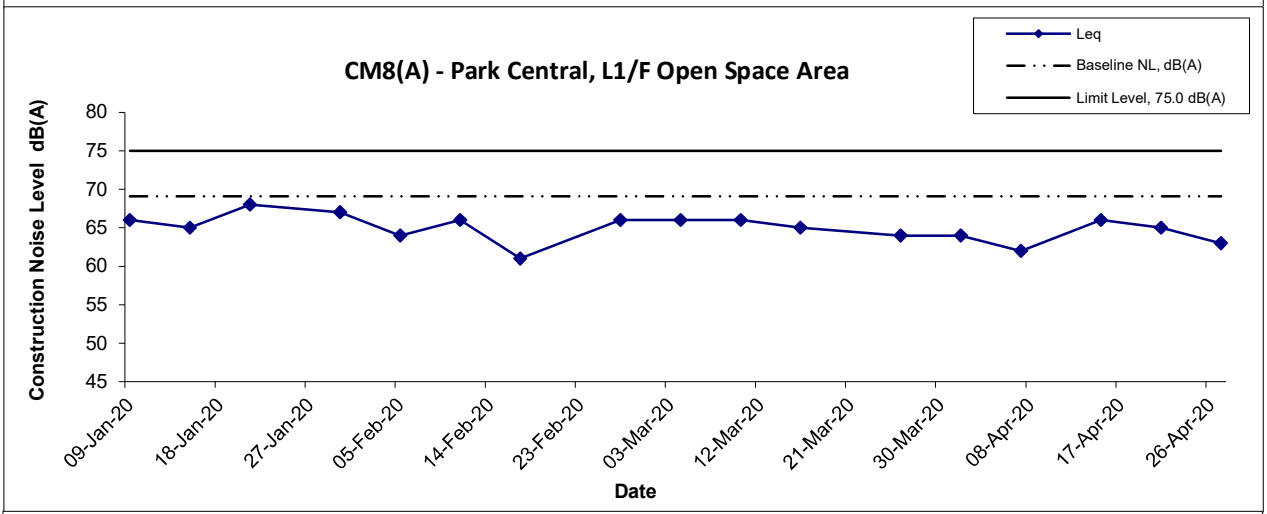


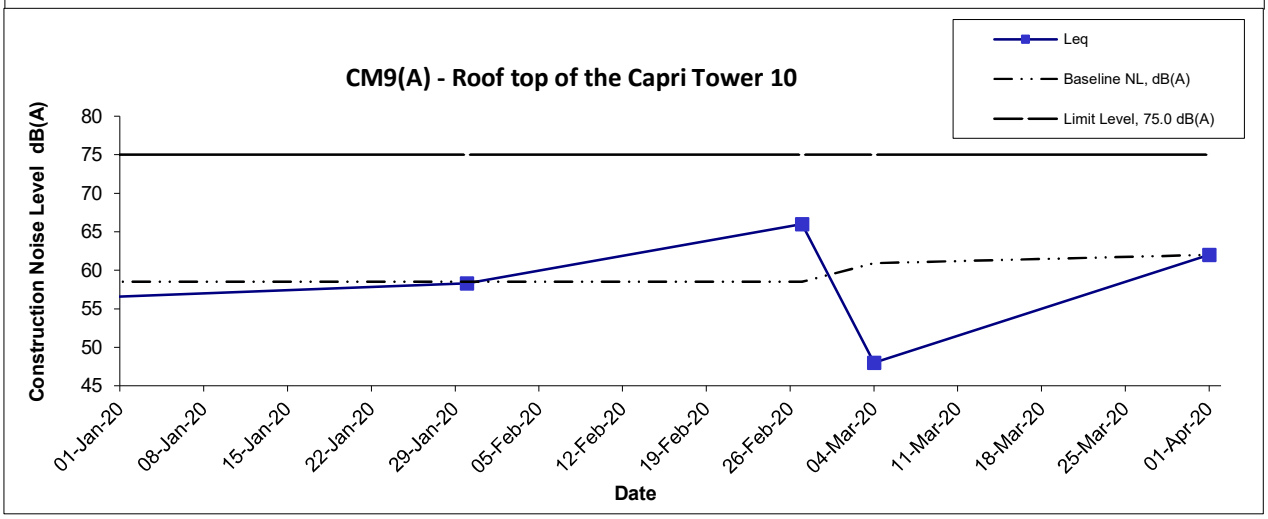


Title: Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Apr 20	Project No.: MA16034 Appendix: D	CINOTECH

Noise Levels







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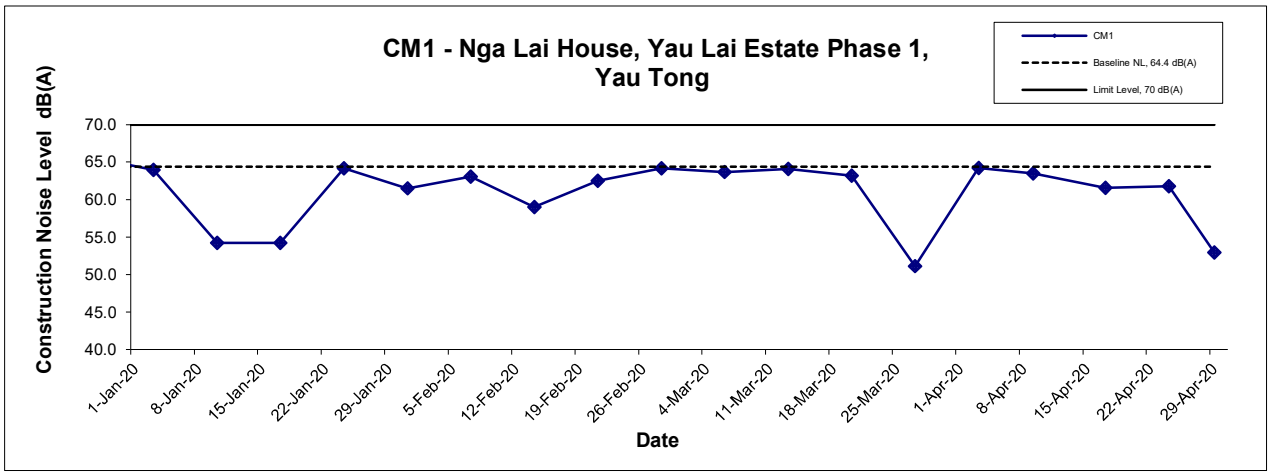
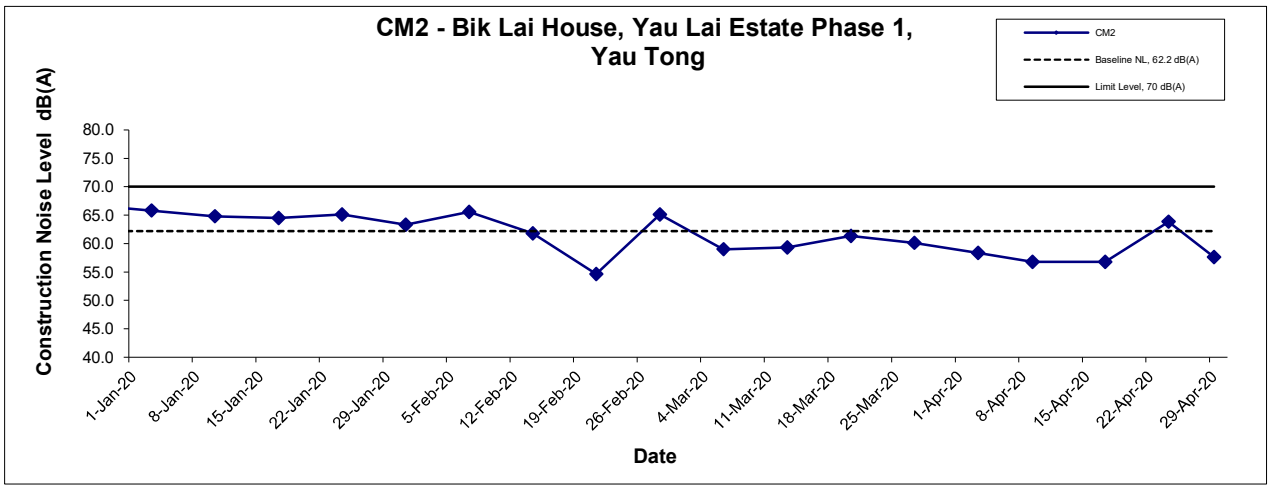
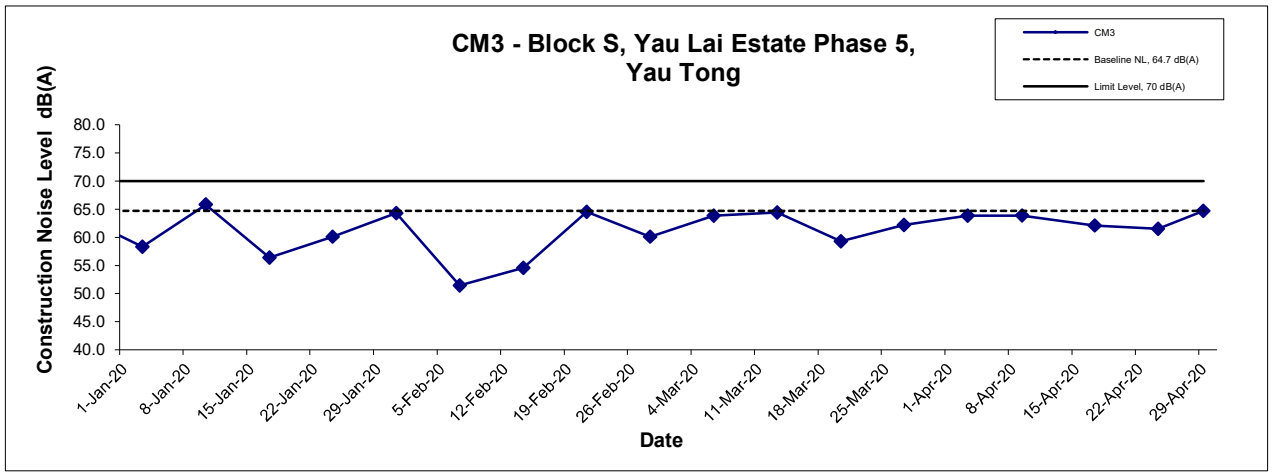
Noise Levels
(Restricted Hours - 19:00 - 23:00 on normal weekdays)







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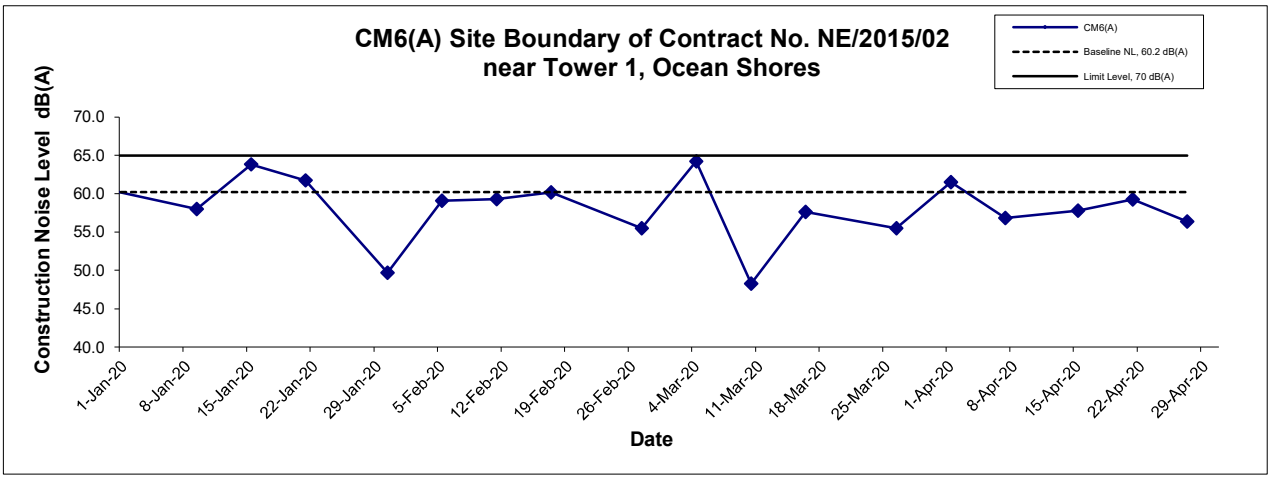
Noise Levels
(Restricted Hours - 19:00 - 23:00 on normal weekdays)



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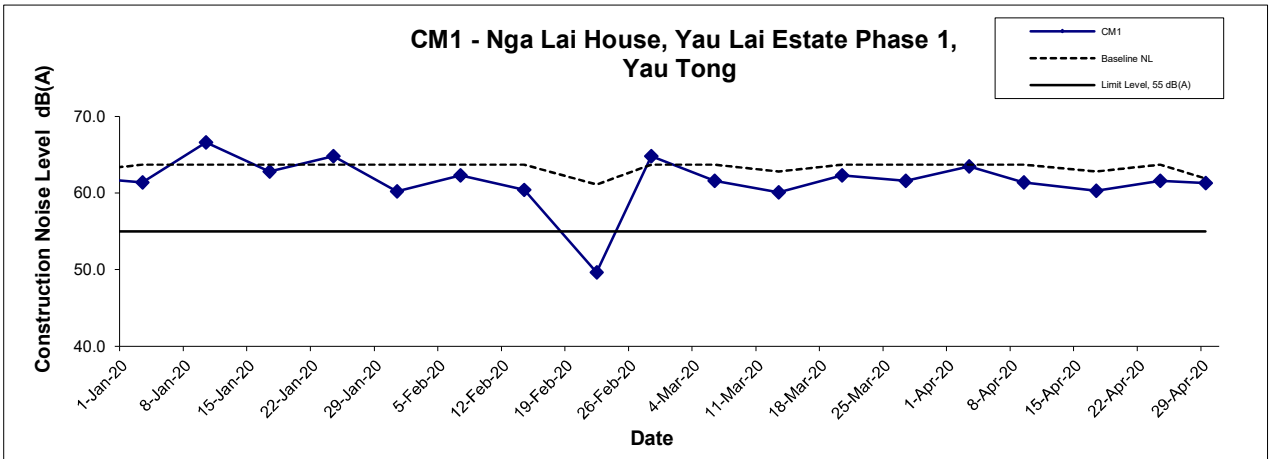
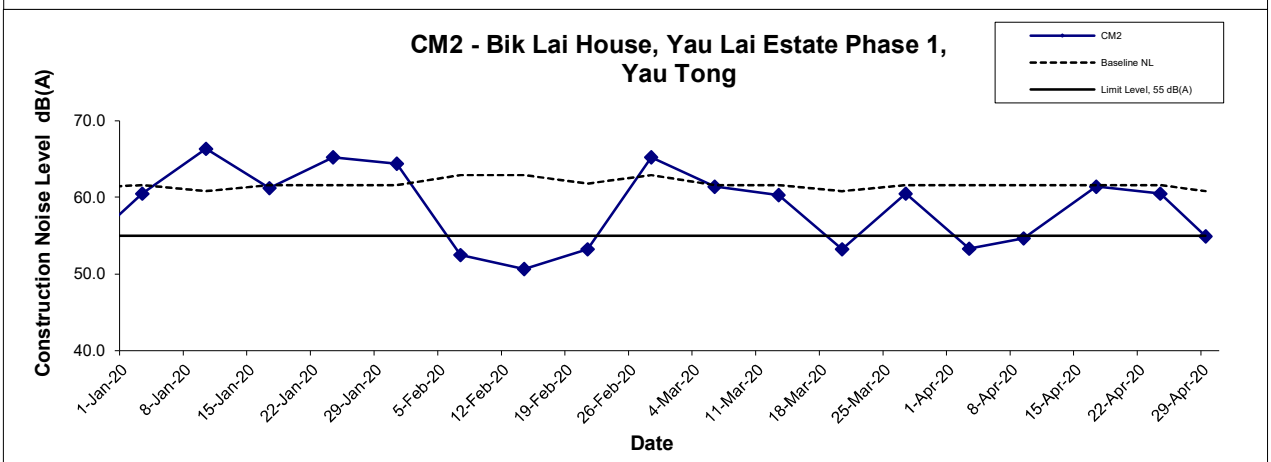
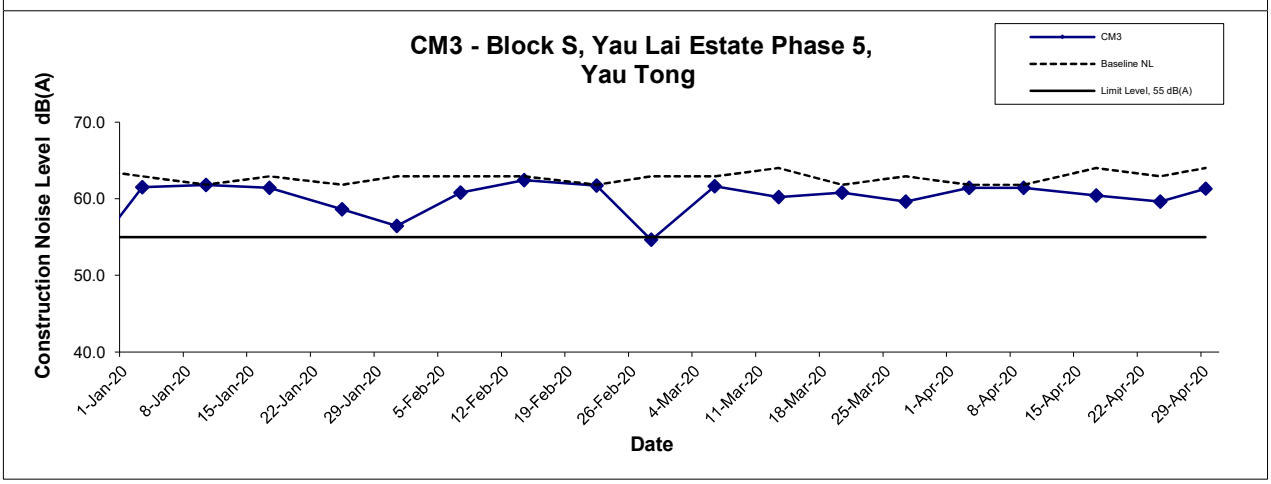
Noise Levels
(Restricted Hours - 2300-0700 on normal weekdays)







Title: Graphical Presentation of Restricted Noise Monitoring Results	Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction	Scale: N.T.S Date: Apr 20	Project No.: MA16034 Appendix: D

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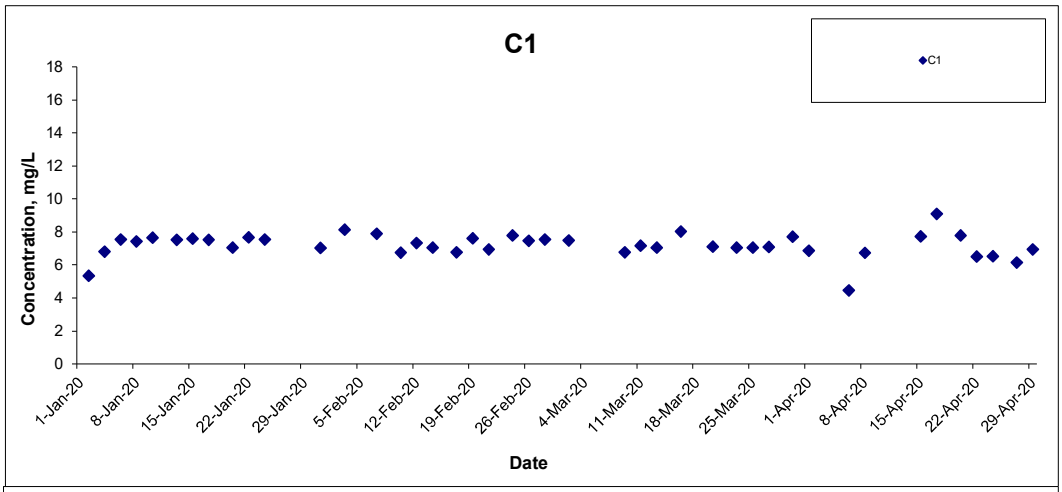
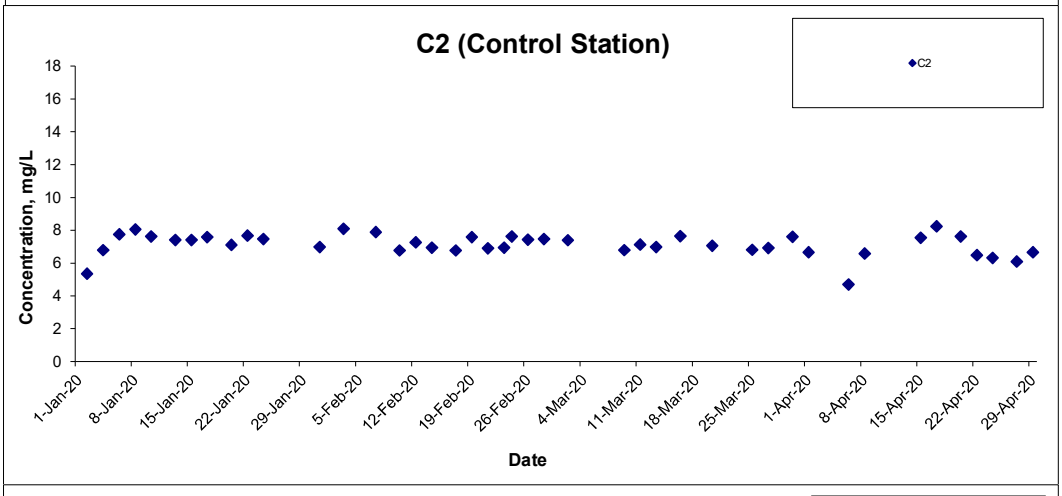
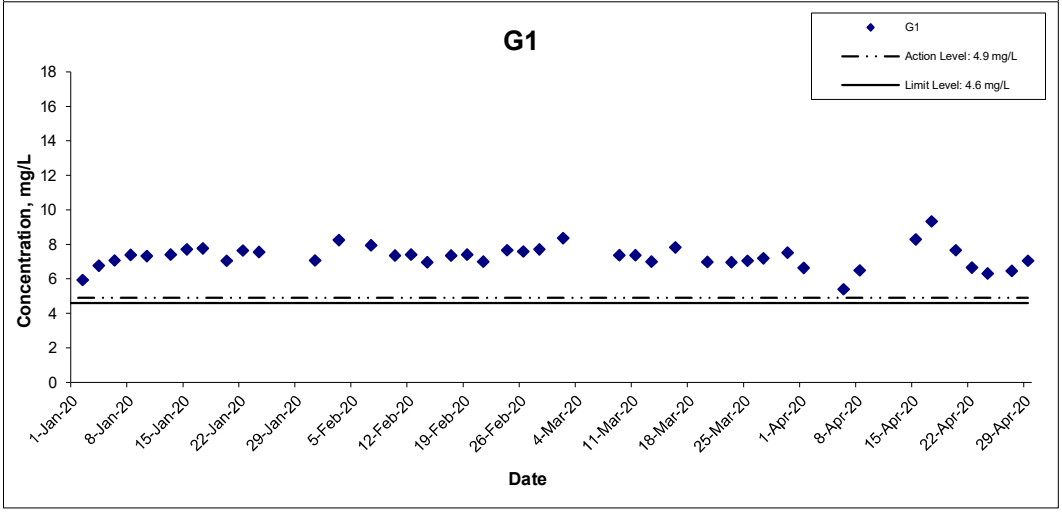
APPENDIX F
GRAPHICAL PRESENTATION OF MARINE WATER QUALITY MONITORING RESULTS

Dissolved Oxygen (Depth-averaged) at Mid-Ebb Tide







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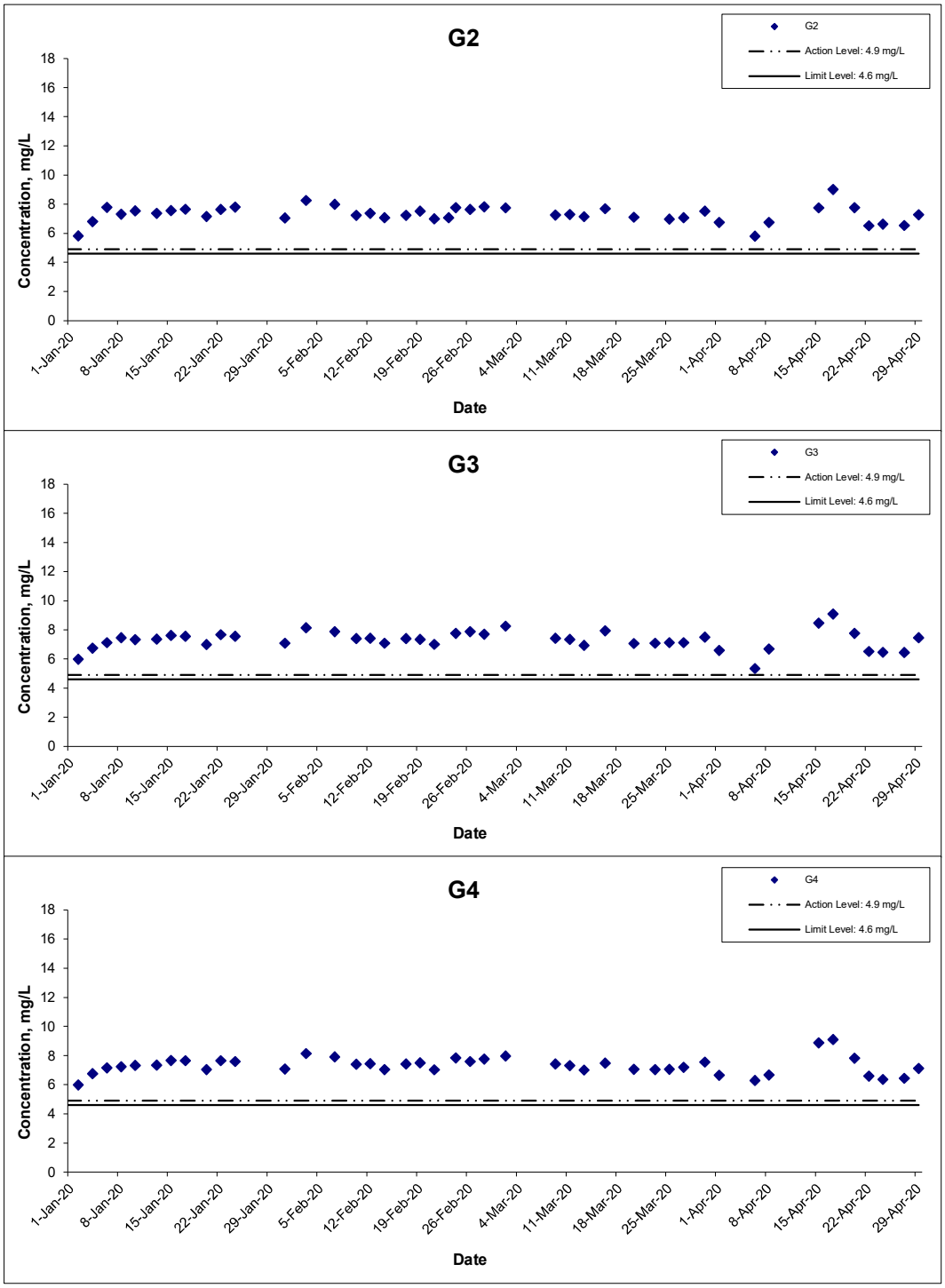
		Date Apr 20	Appendix F	

Dissolved Oxygen (Depth-averaged) at Mid-Ebb Tide



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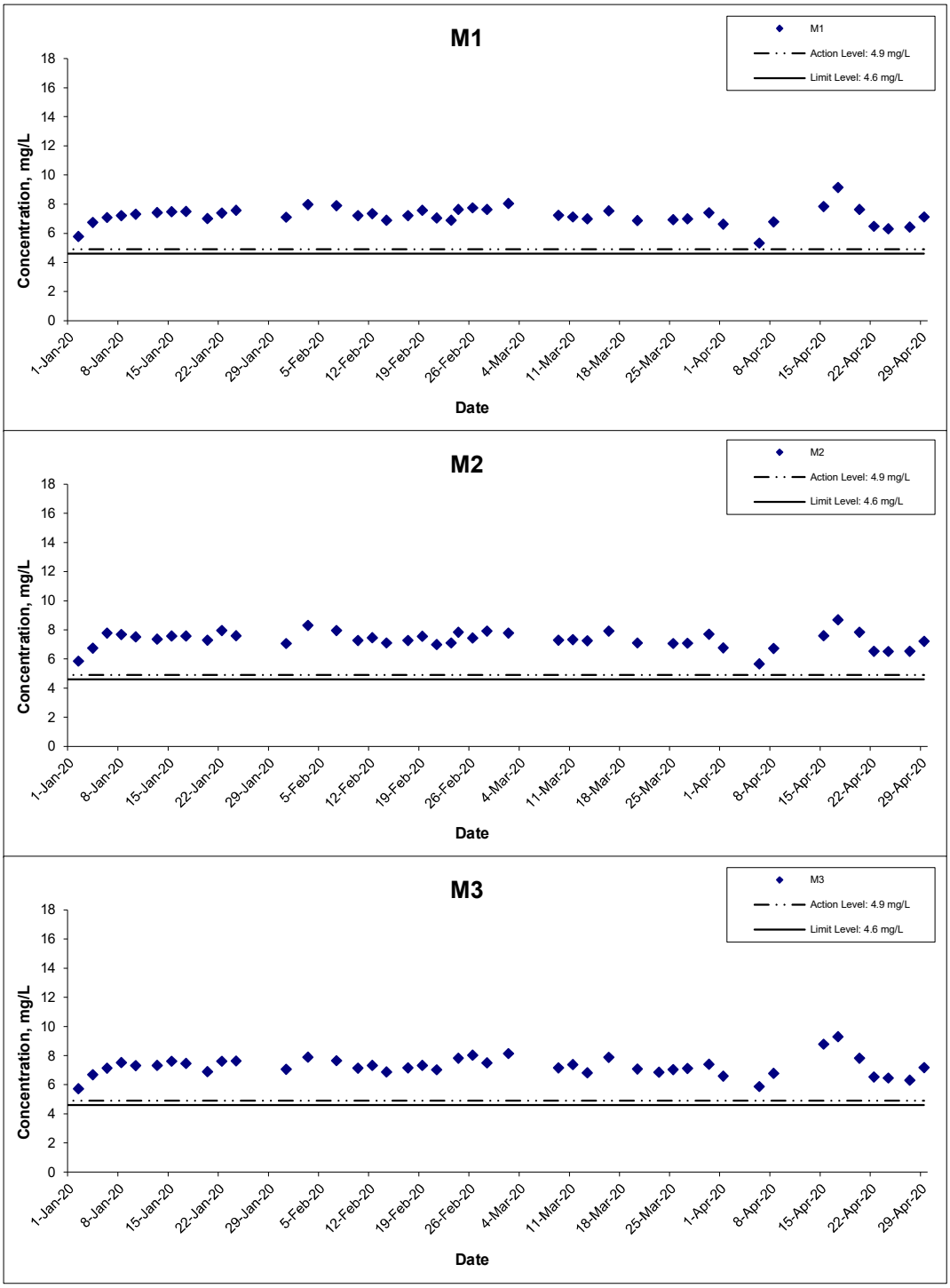
Dissolved Oxygen (Depth-averaged) at Mid-Ebb Tide



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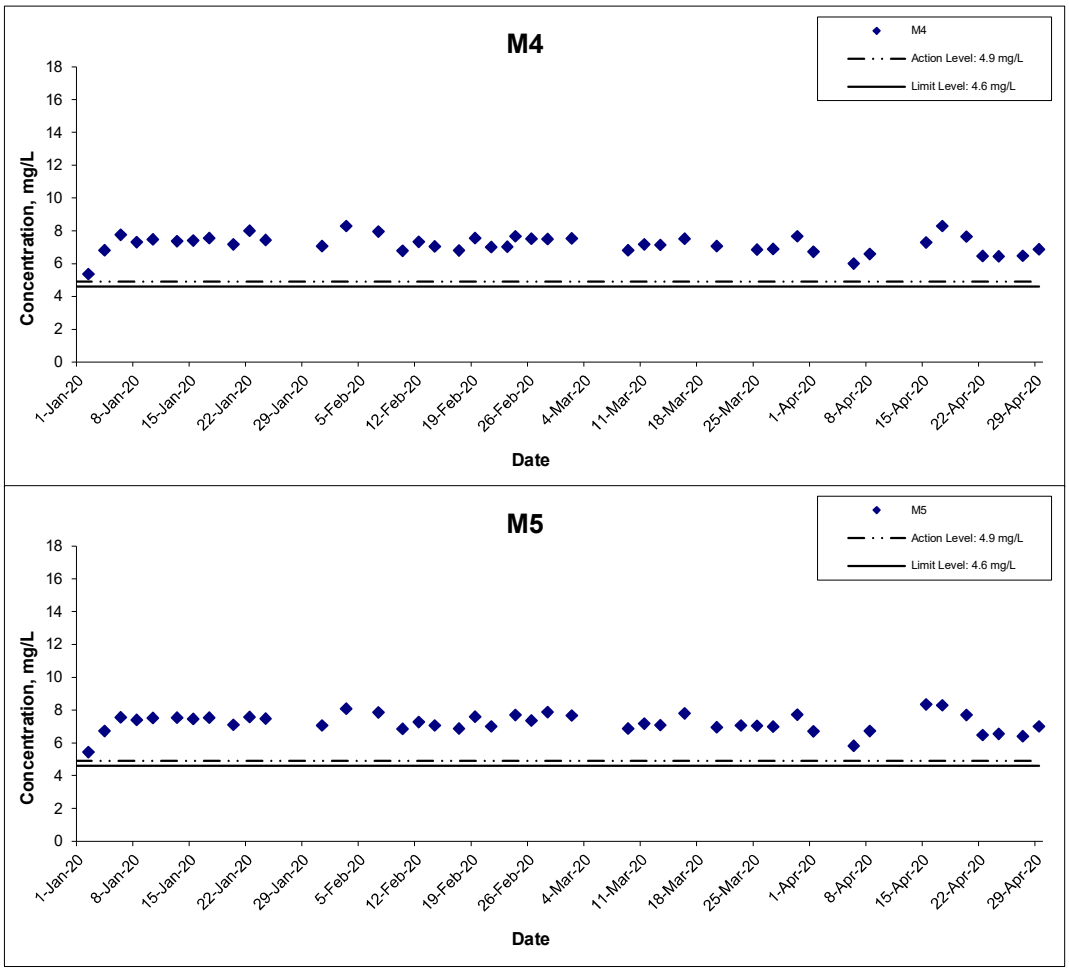
		Date Apr 20	Appendix F	

Dissolved Oxygen (Depth-averaged) at Mid-Ebb Tide



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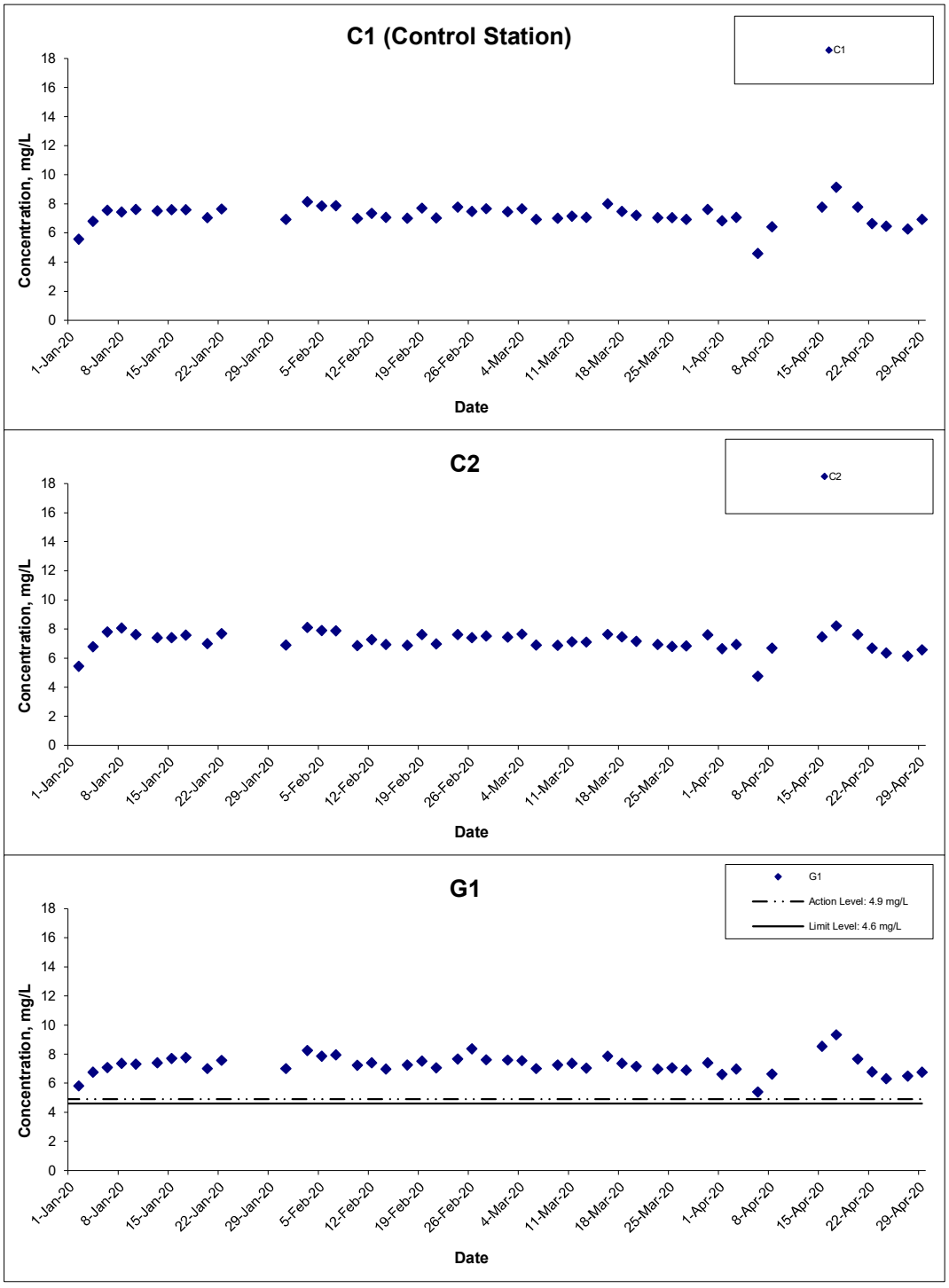
Dissolved Oxygen (Depth-averaged) at Mid-Flood Tide



Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
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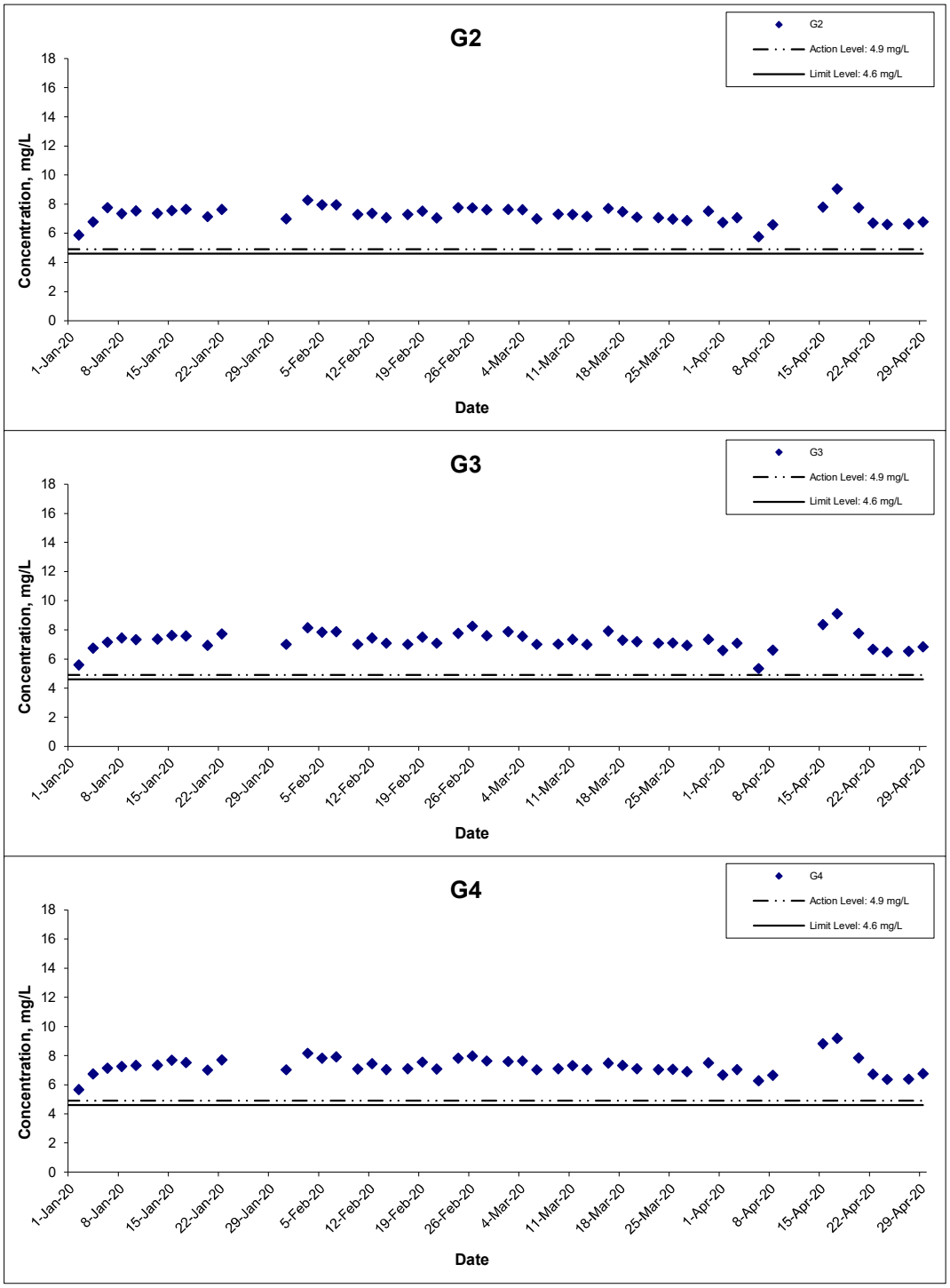
Dissolved Oxygen (Depth-averaged) at Mid-Flood Tide



Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
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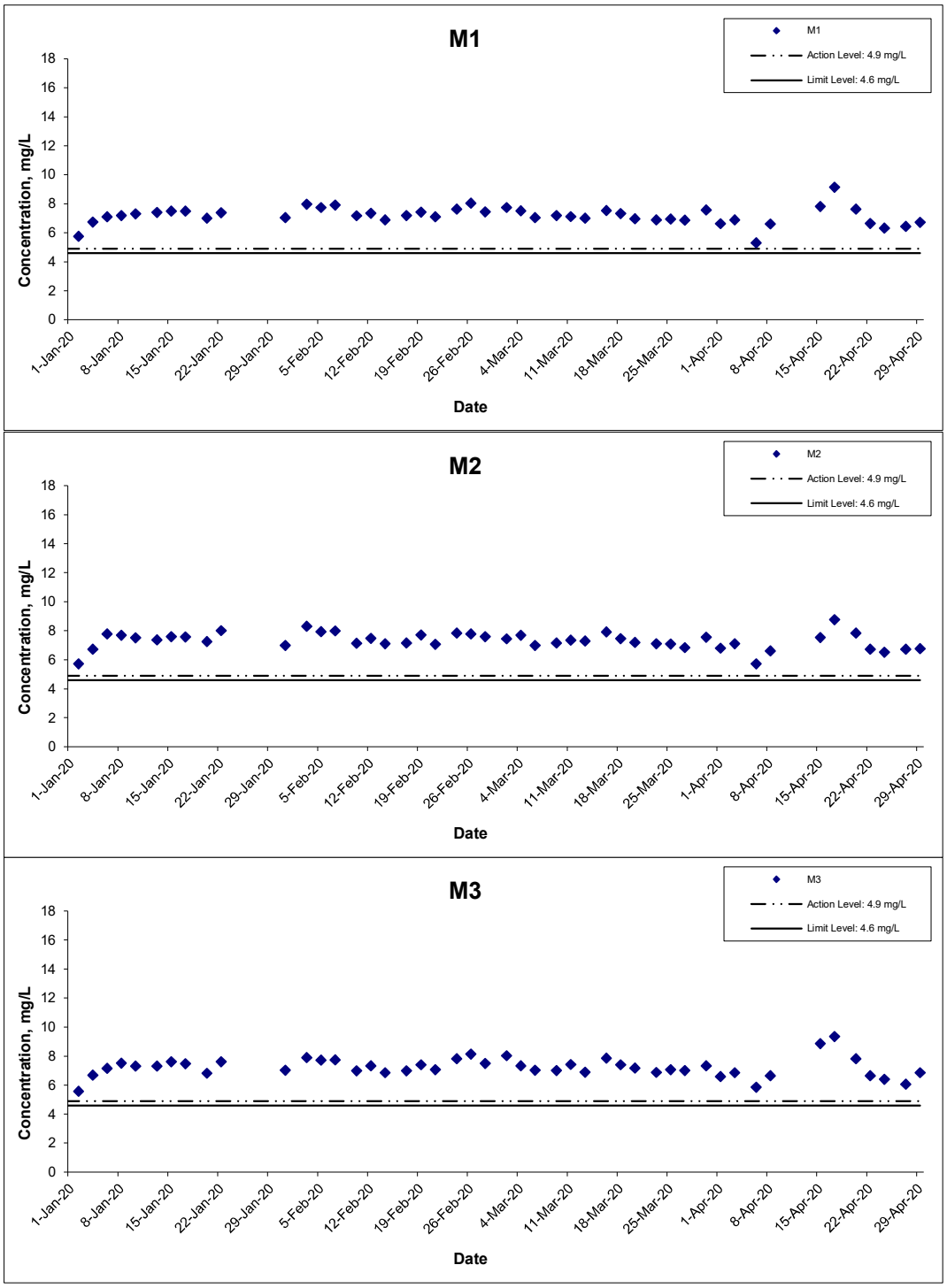
Dissolved Oxygen (Depth-averaged) at Mid-Flood Tide



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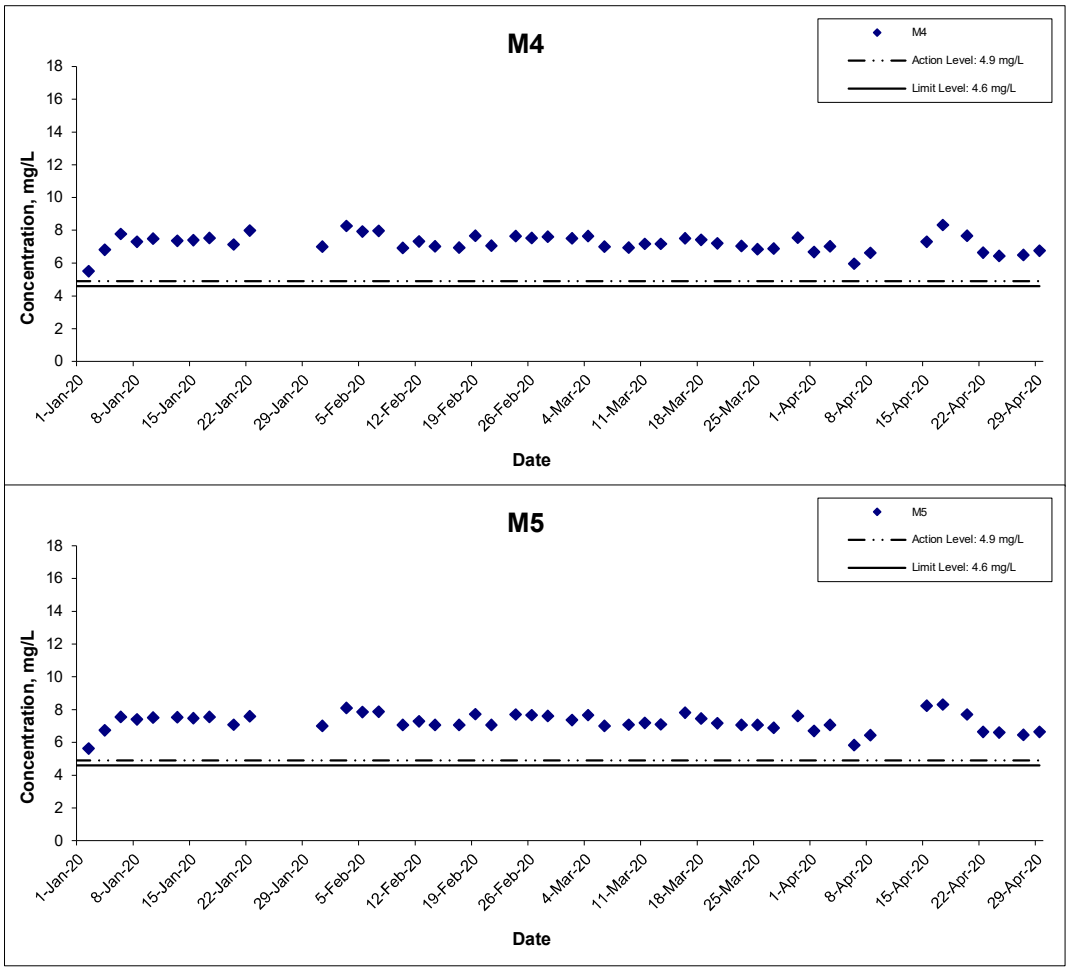
		Date Apr 20	Appendix F	

Dissolved Oxygen (Depth-averaged) at Mid-Flood Tide



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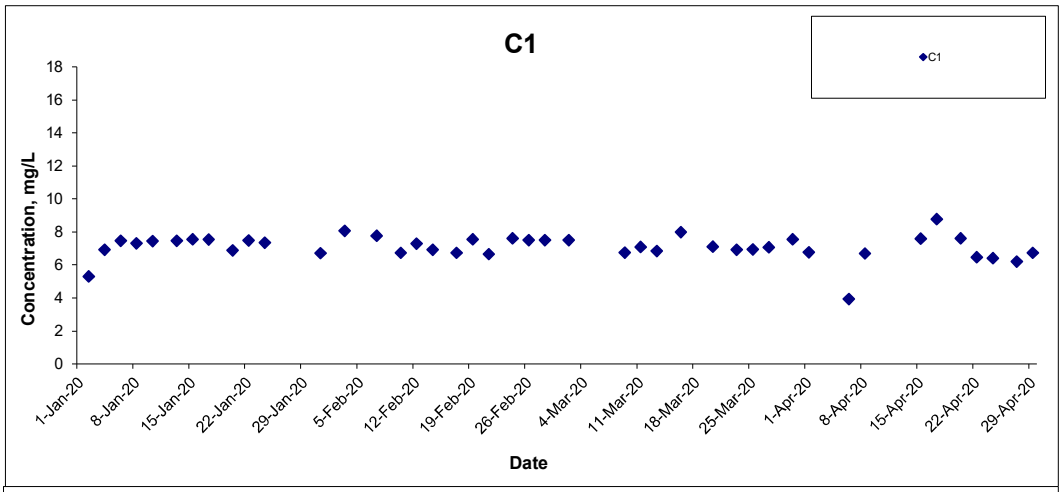
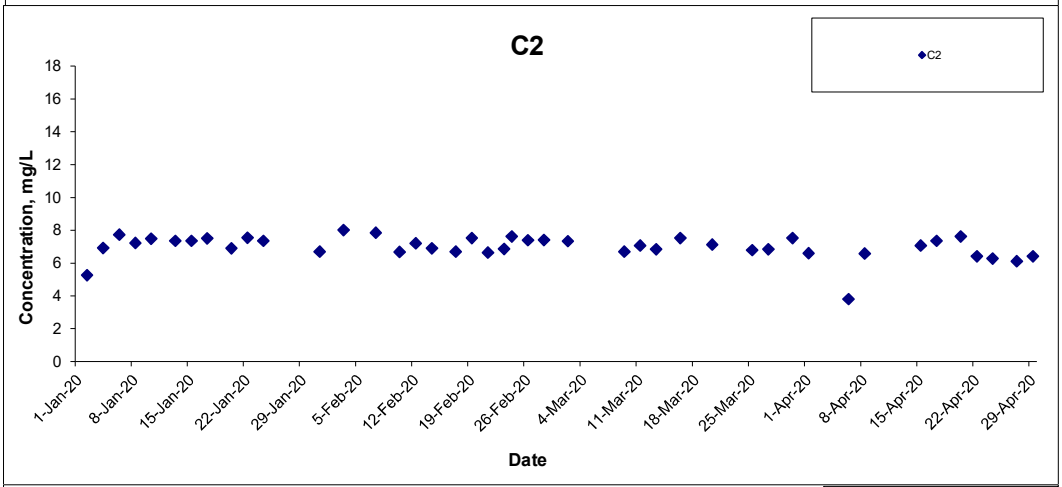
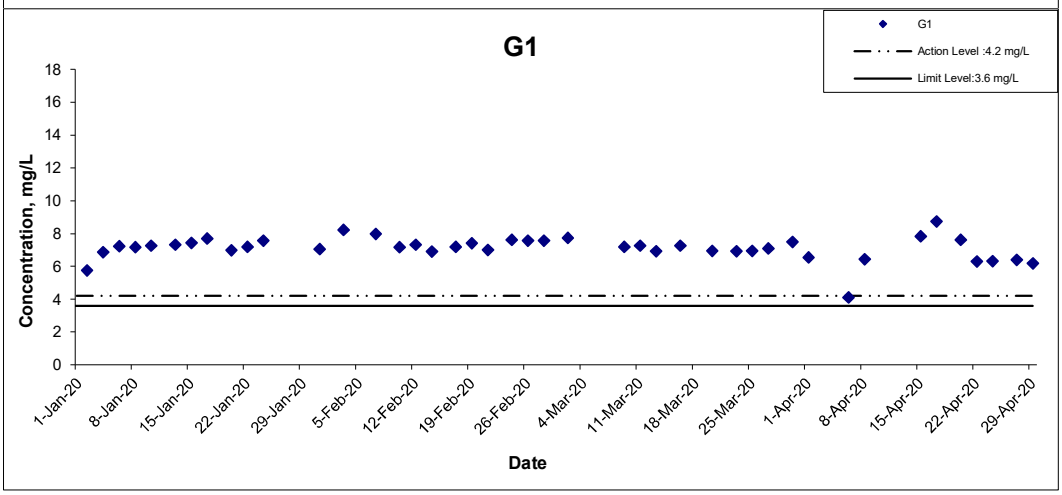
Dissolved Oxygen (Bottom) at Mid-Ebb Tide







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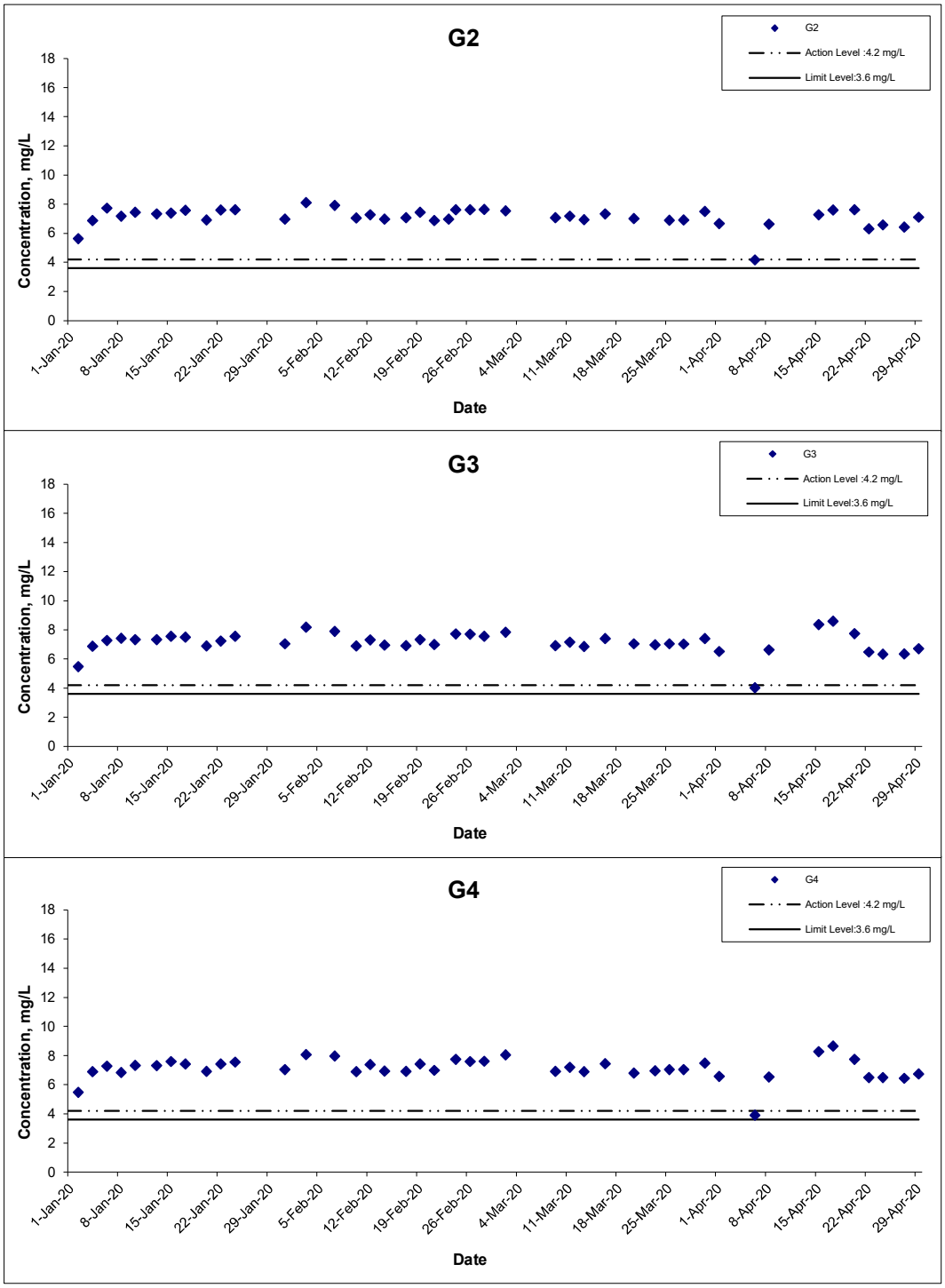
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



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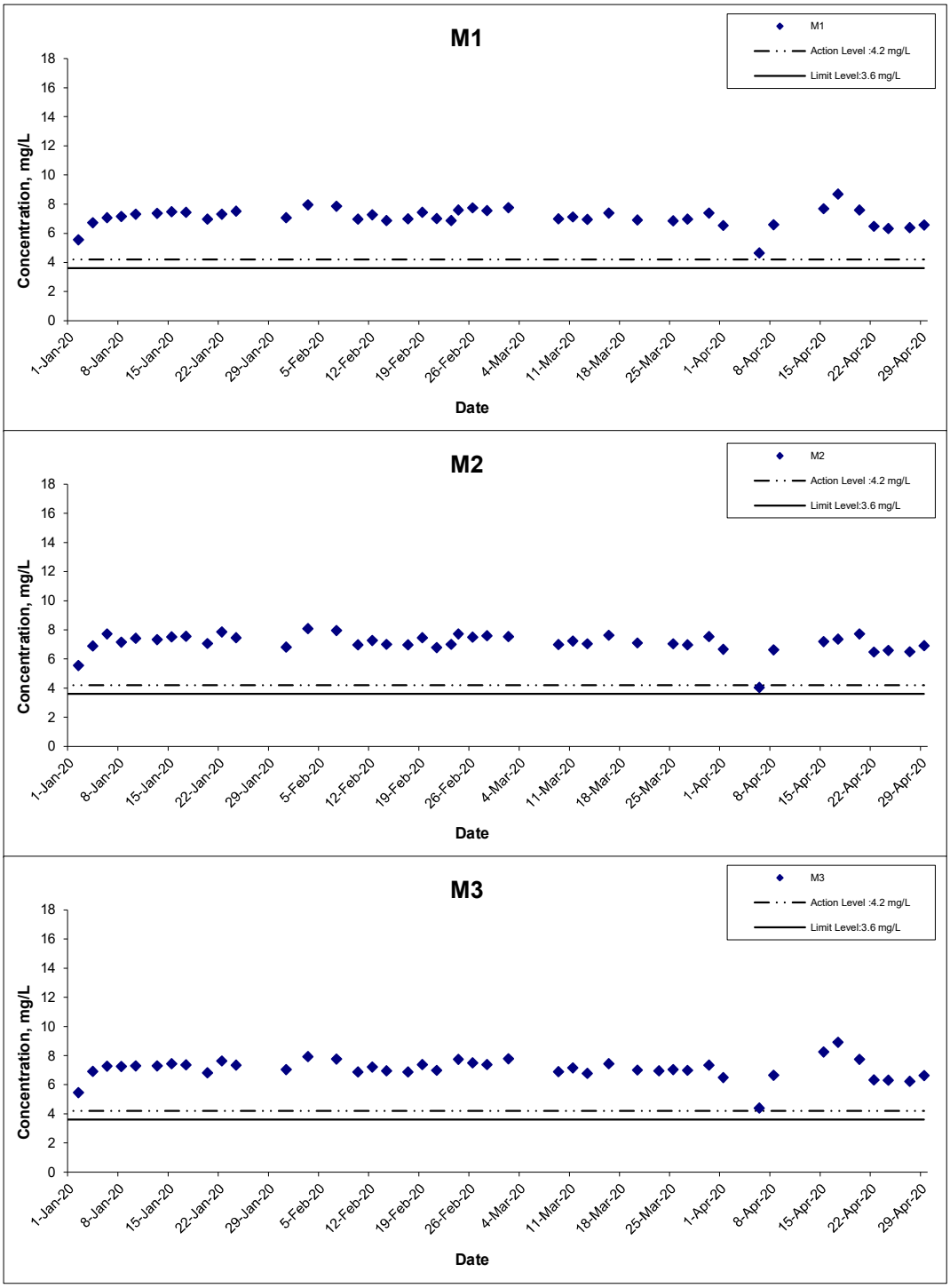
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



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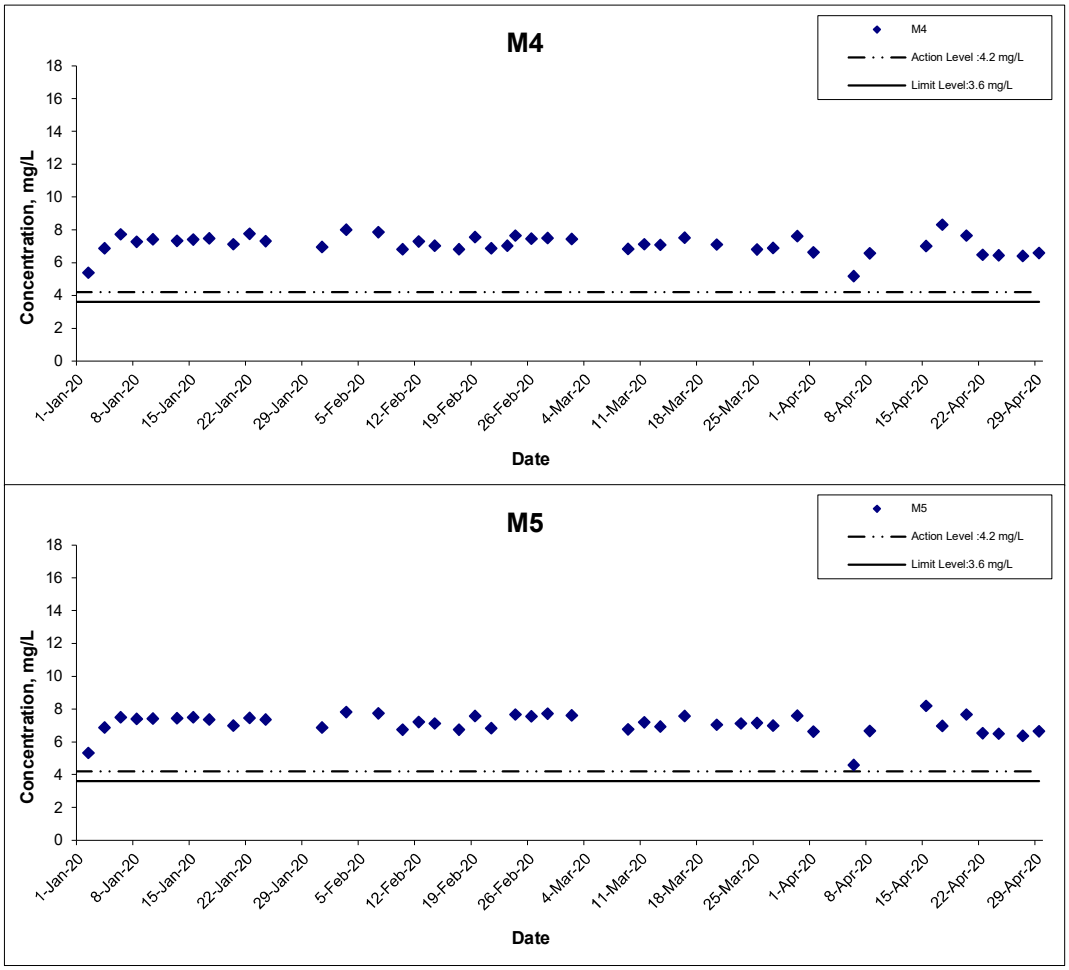
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



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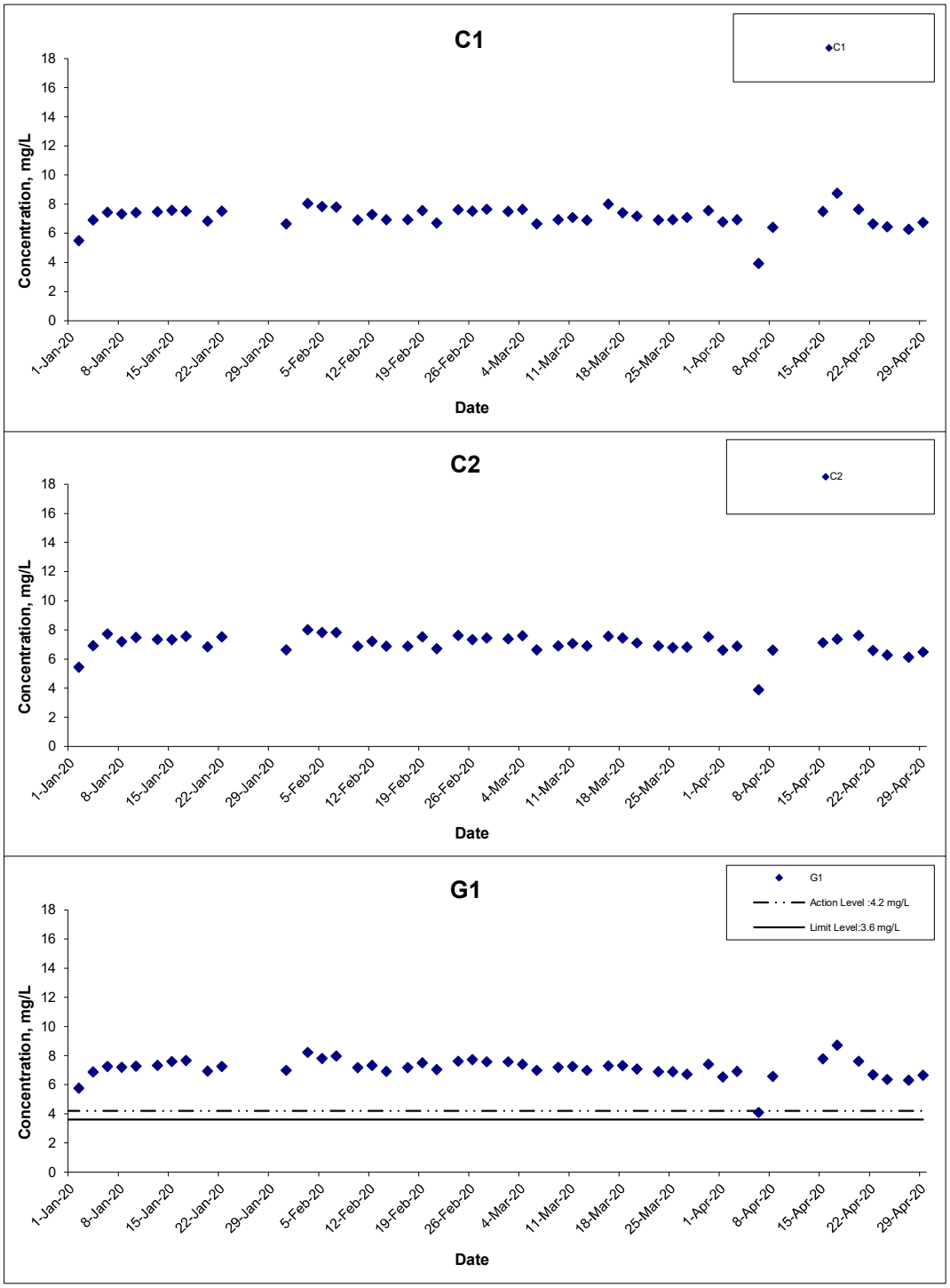
Dissolved Oxygen (Bottom) at Mid-Flood Tide



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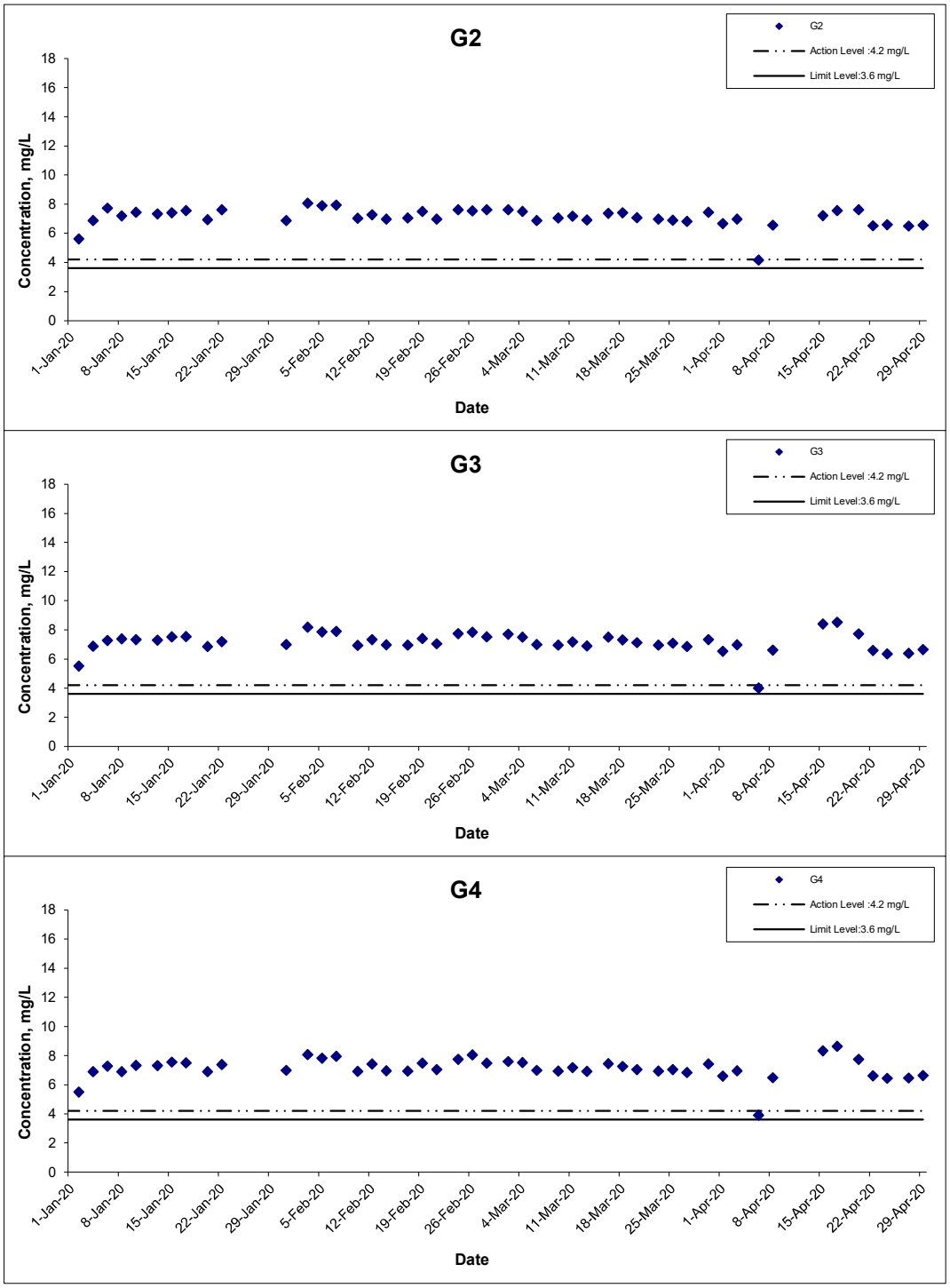
Dissolved Oxygen (Bottom) at Mid-Flood Tide



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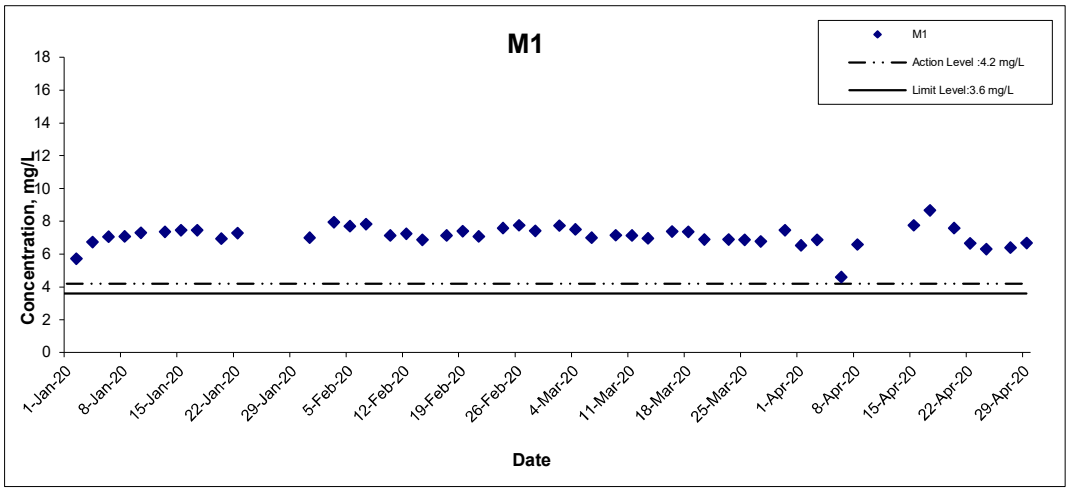
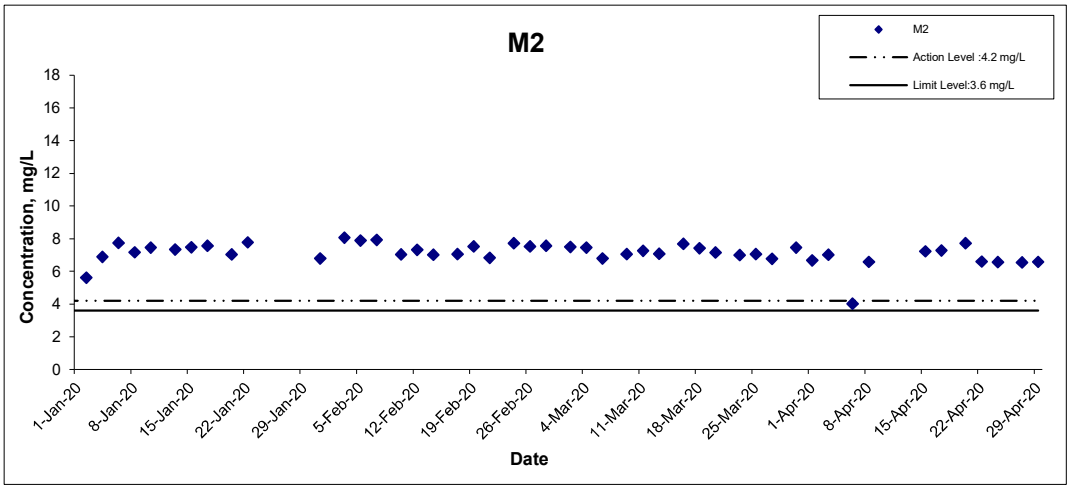
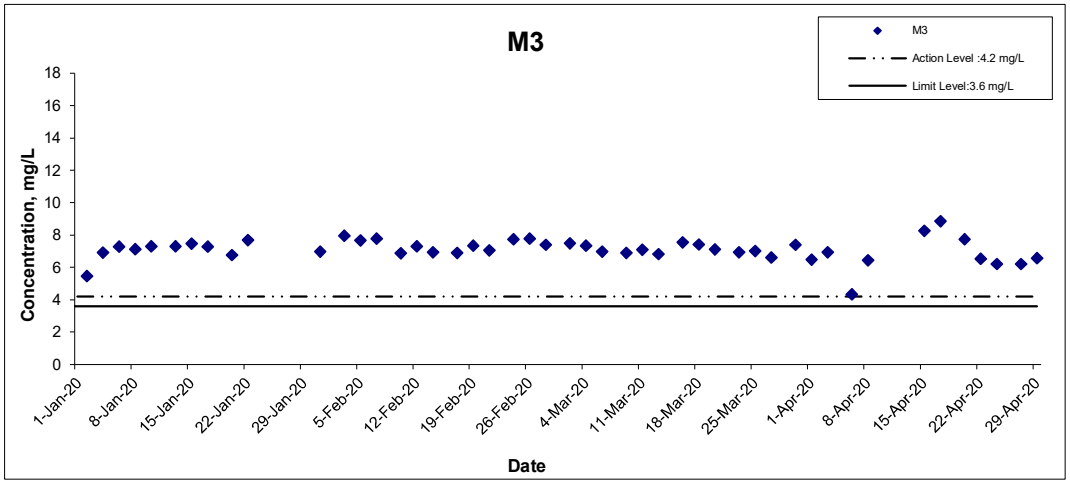
Dissolved Oxygen (Bottom) at Mid-Flood Tide







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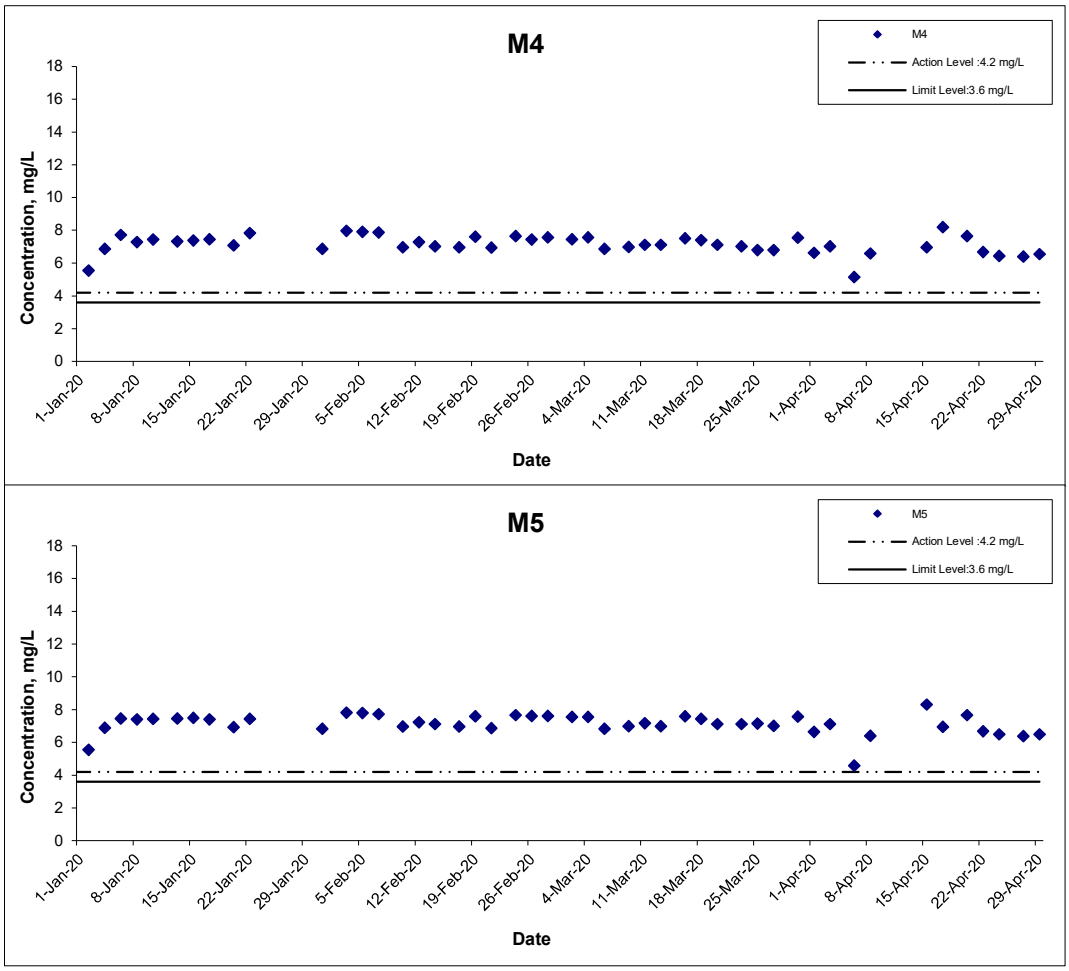
Dissolved Oxygen (Bottom) at Mid-Flood Tide



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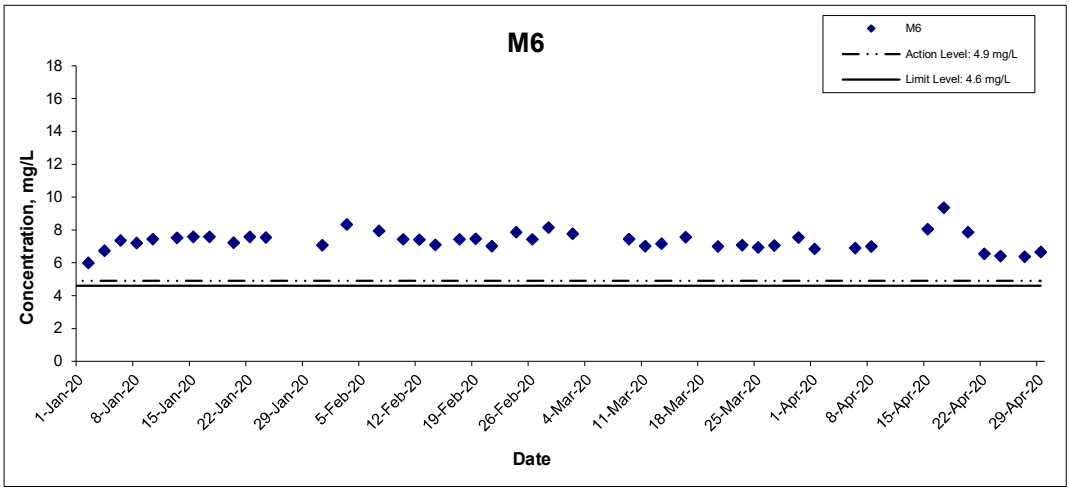
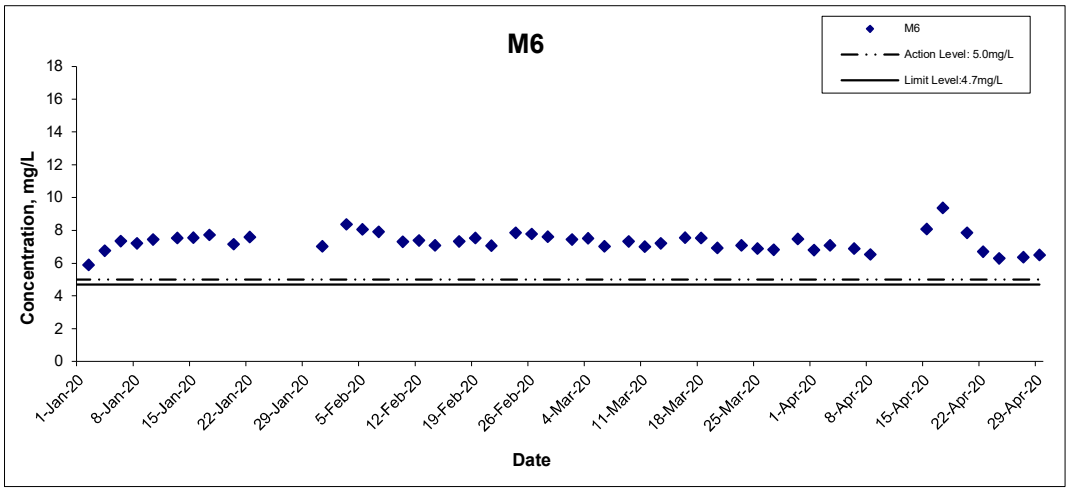
Dissolved Oxygen (Intake Level of WSD Salt Water Intake) at Mid-Ebb Tide



Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Apr 20	Project No. MA16034 Appendix F	CINOTECH

Dissolved Oxygen (Intake Level of WSD Salt Water Intake) at Mid-Flood Tide



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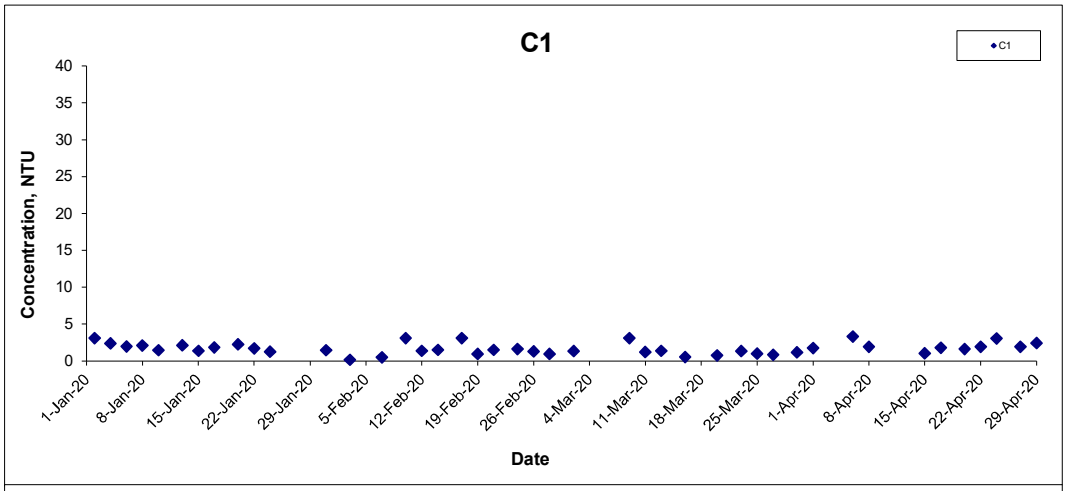
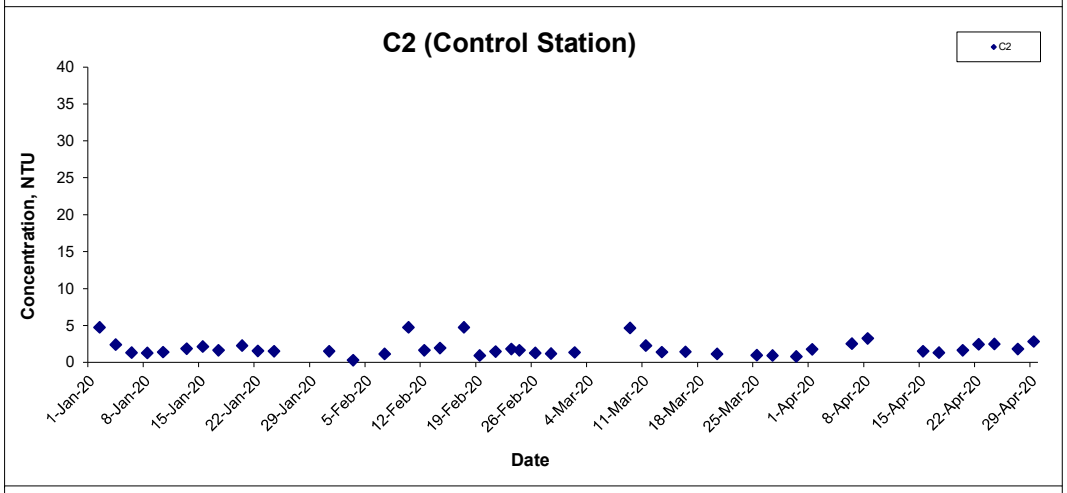
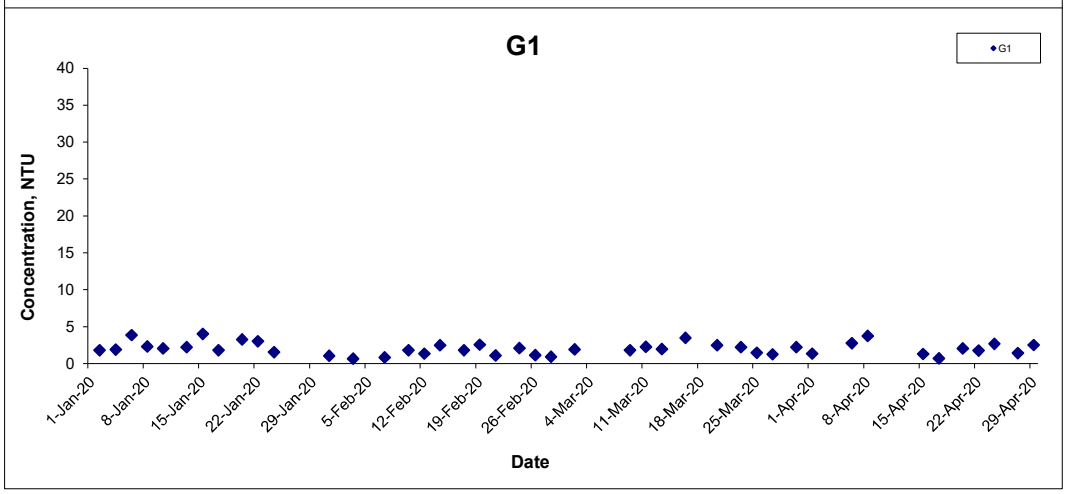
Turbidity (Depth-averaged) at Mid-Ebb Tide







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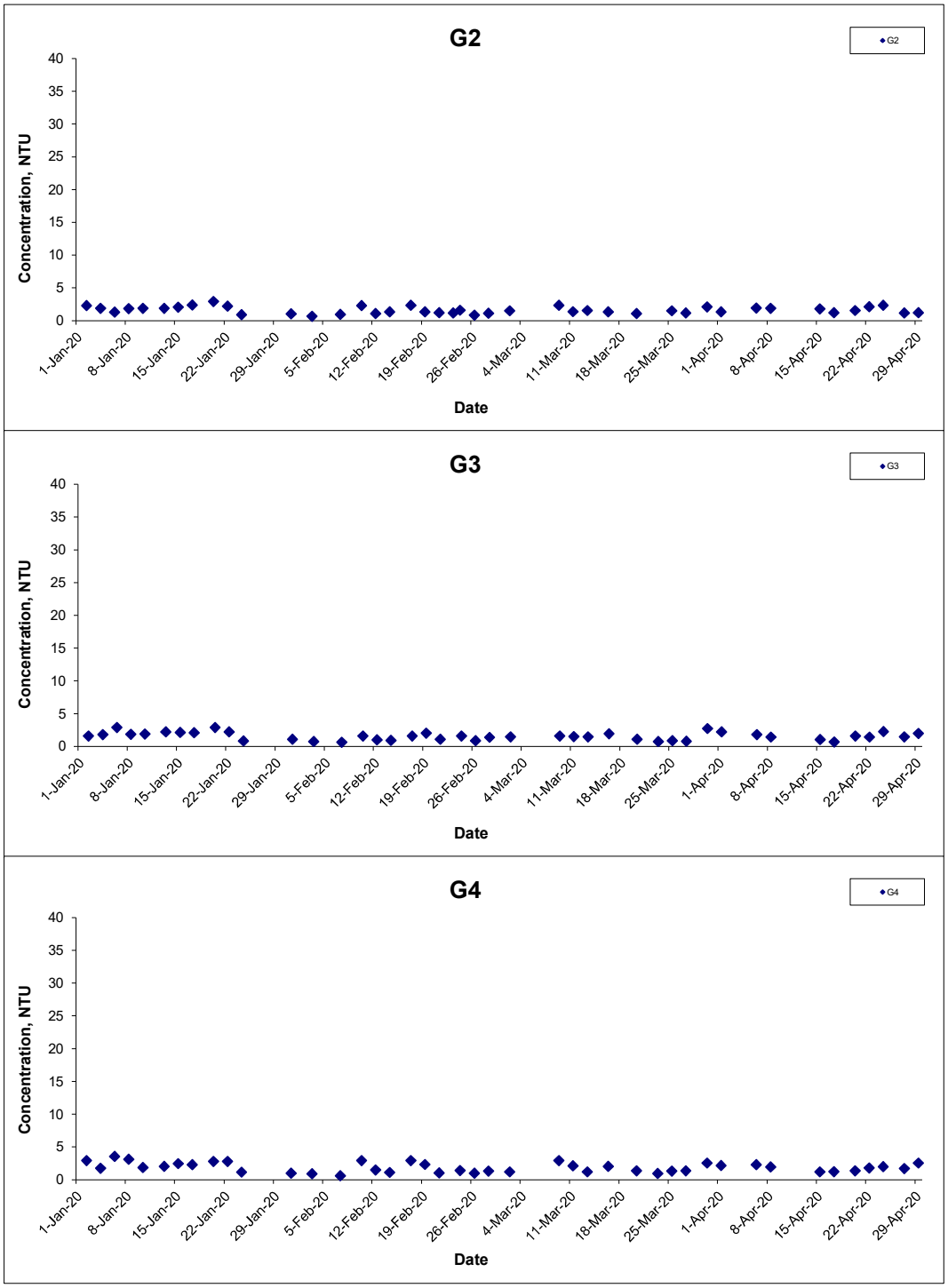
	Graphical Presentation of Water Quality Monitoring Results	Date: Apr 20	Appendix: F	

Turbidity (Depth-averaged) at Mid-Ebb Tide



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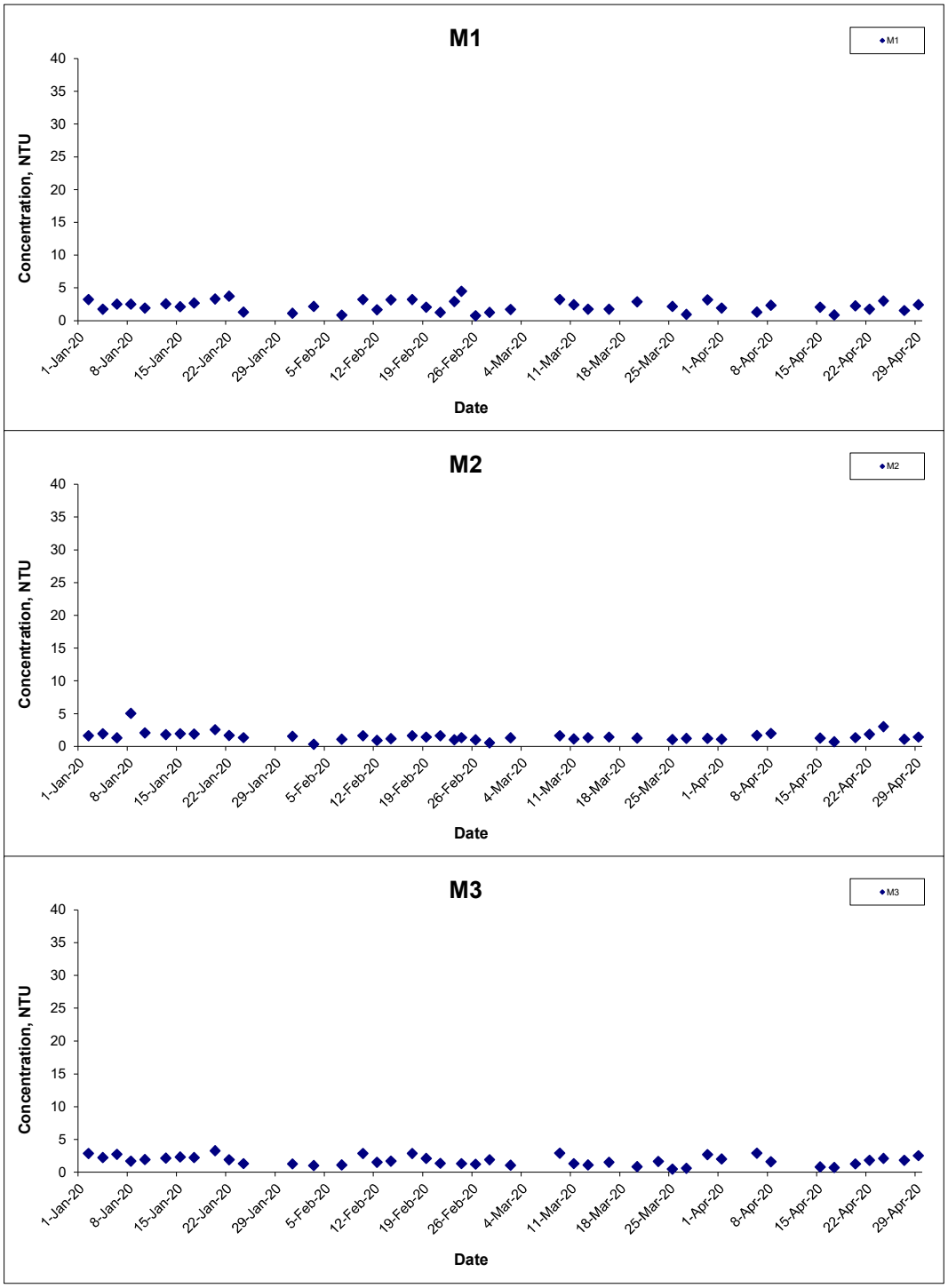
Turbidity (Depth-averaged) at Mid-Ebb Tide



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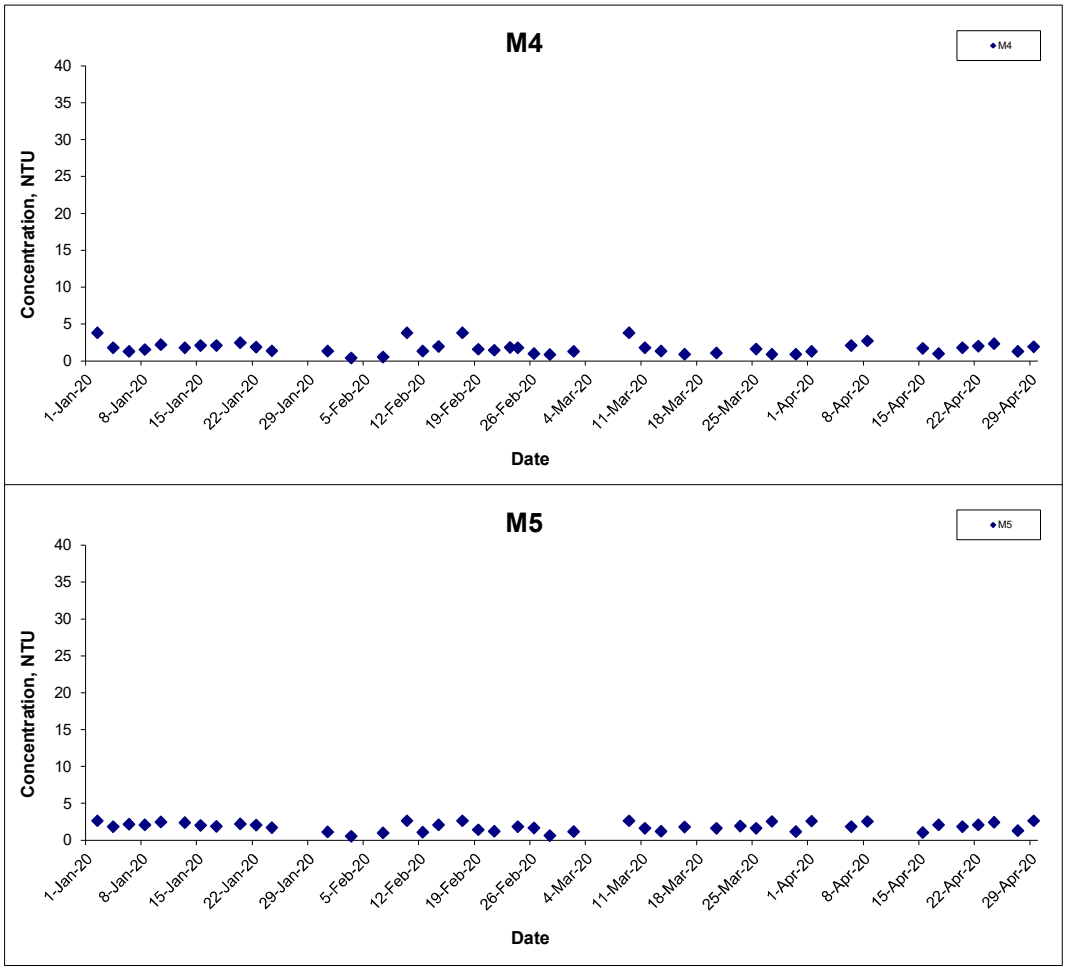

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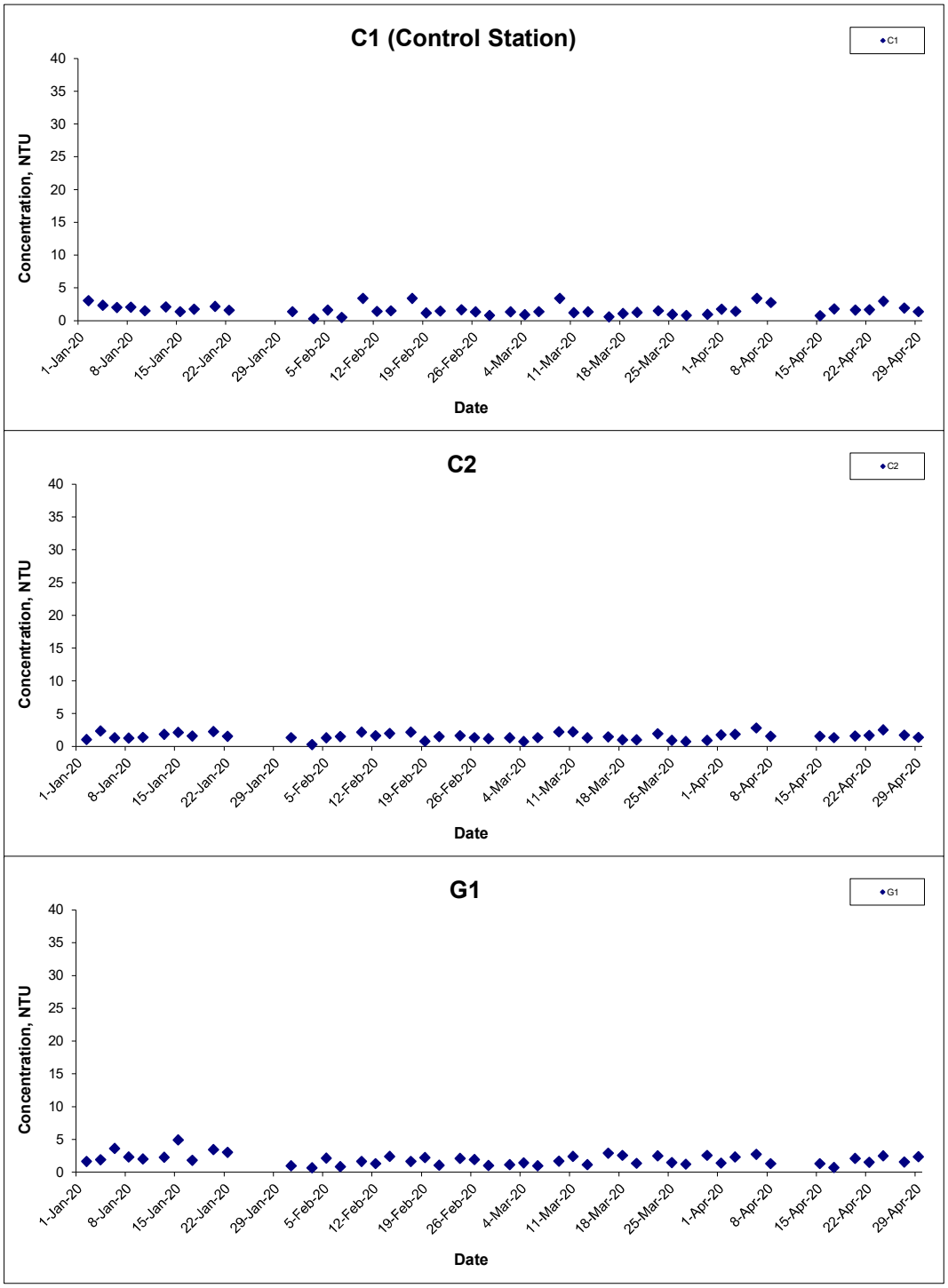
Turbidity (Depth-averaged) at Mid-Flood Tide



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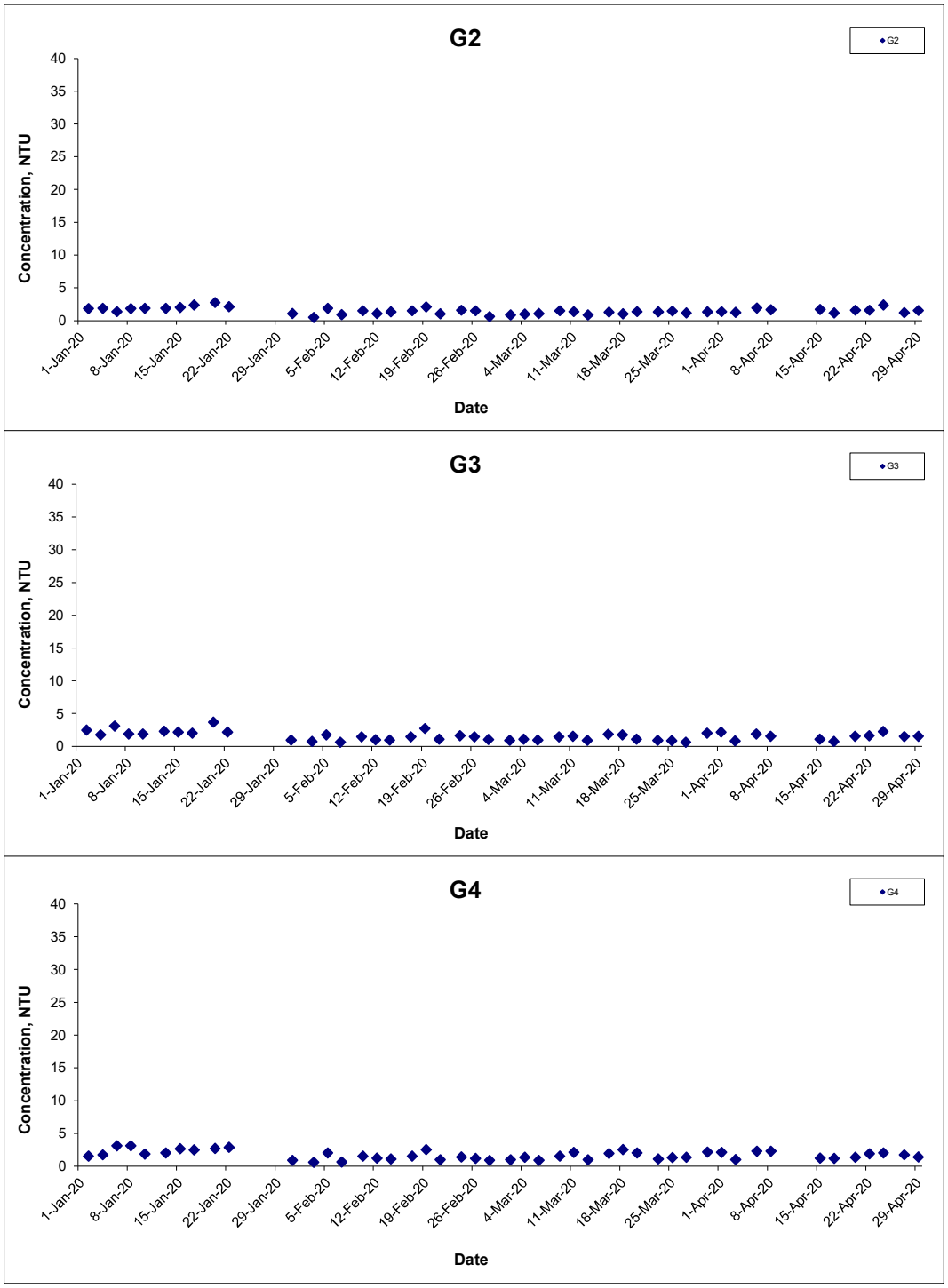
Turbidity (Depth-averaged) at Mid-Flood Tide



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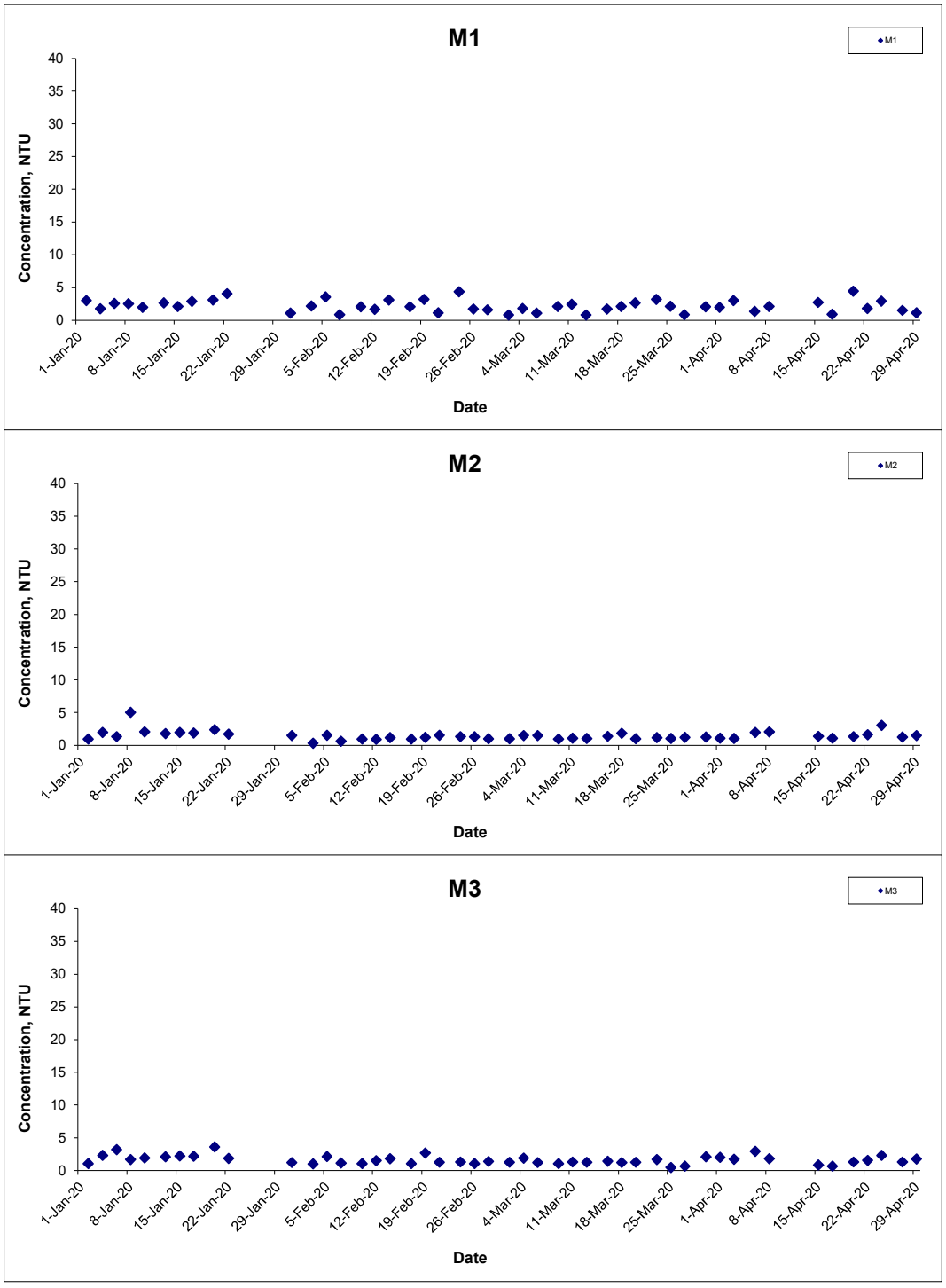

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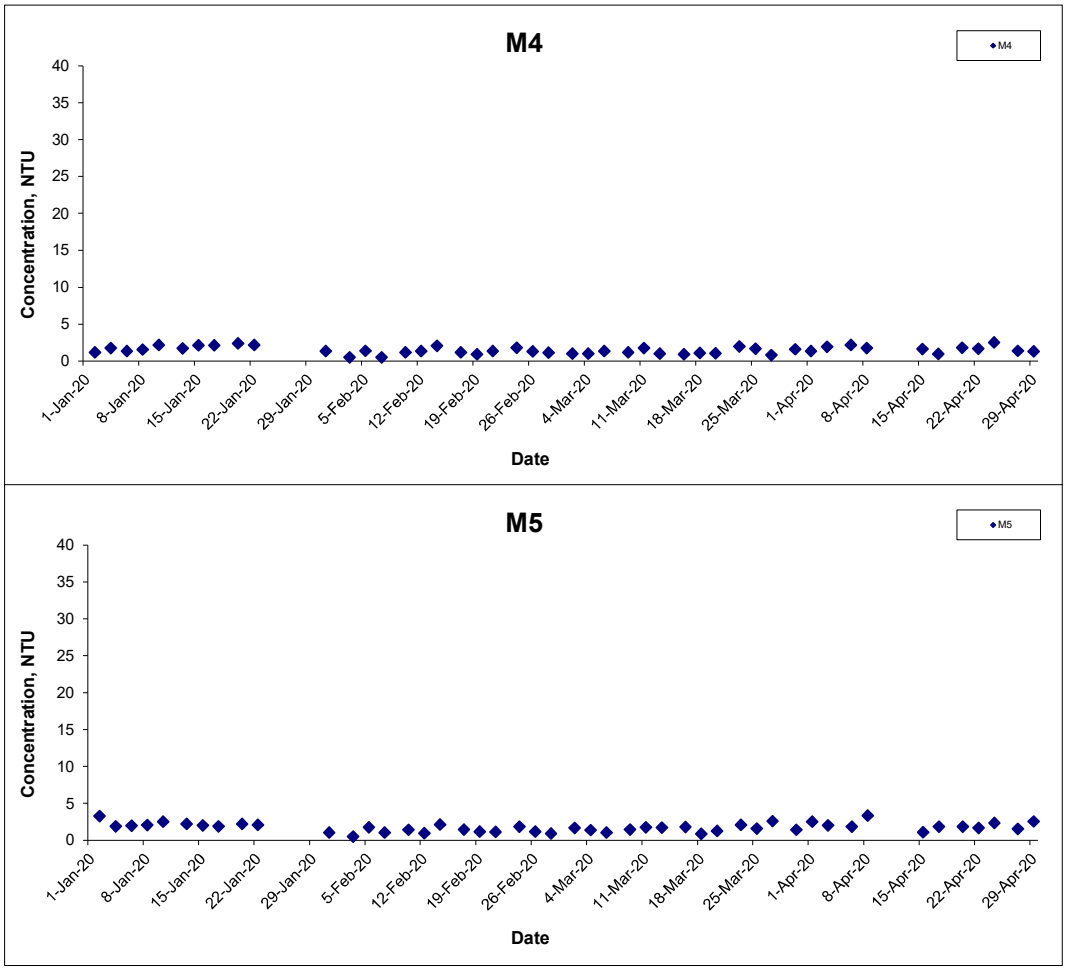

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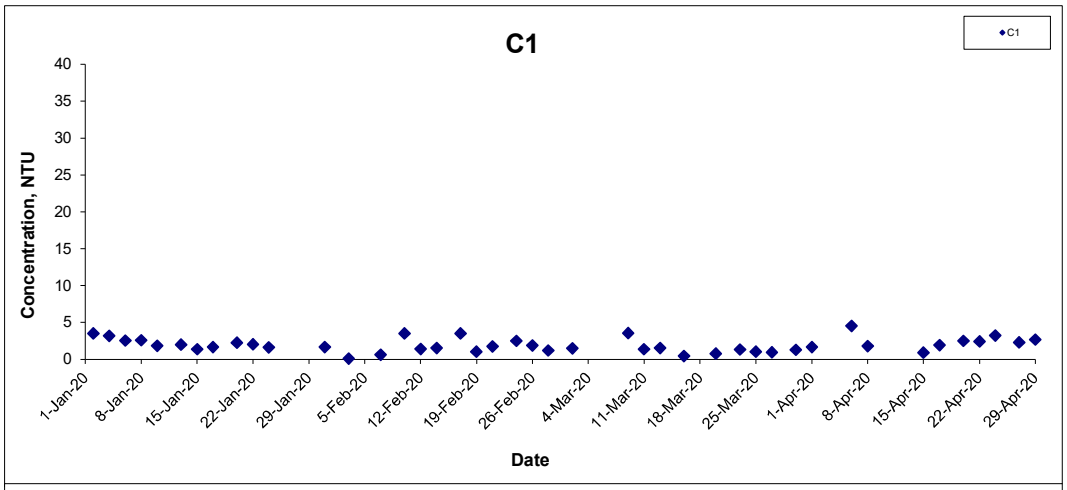
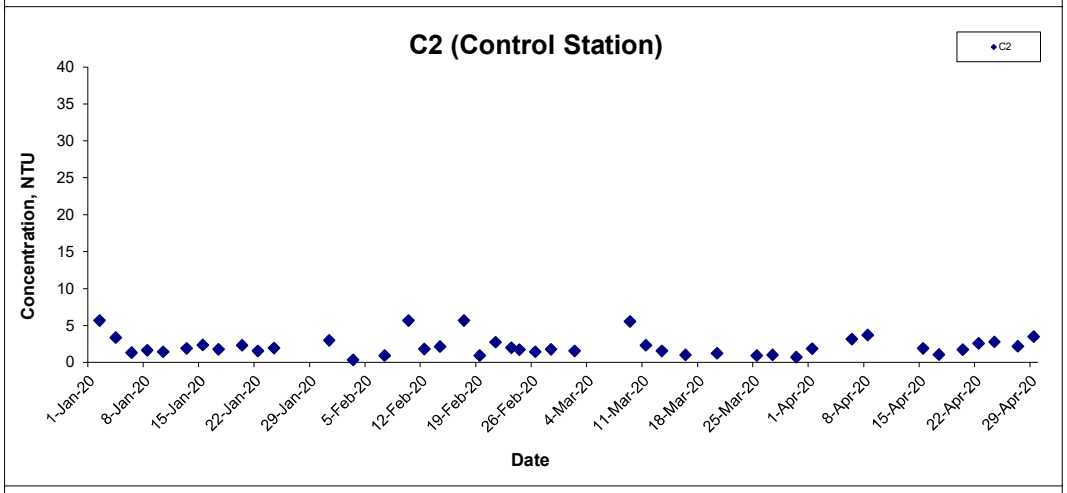
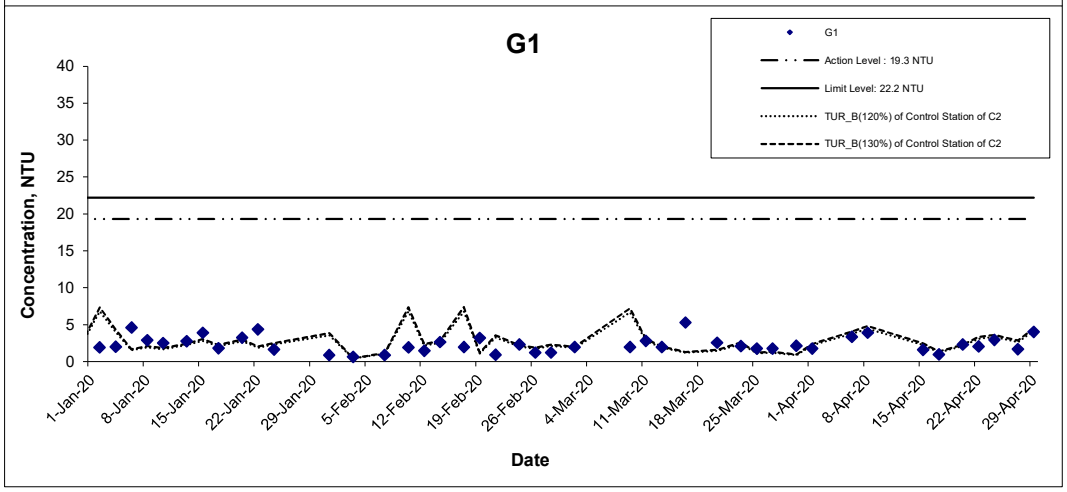
Turbidity (Bottom) at Mid-Ebb Tide







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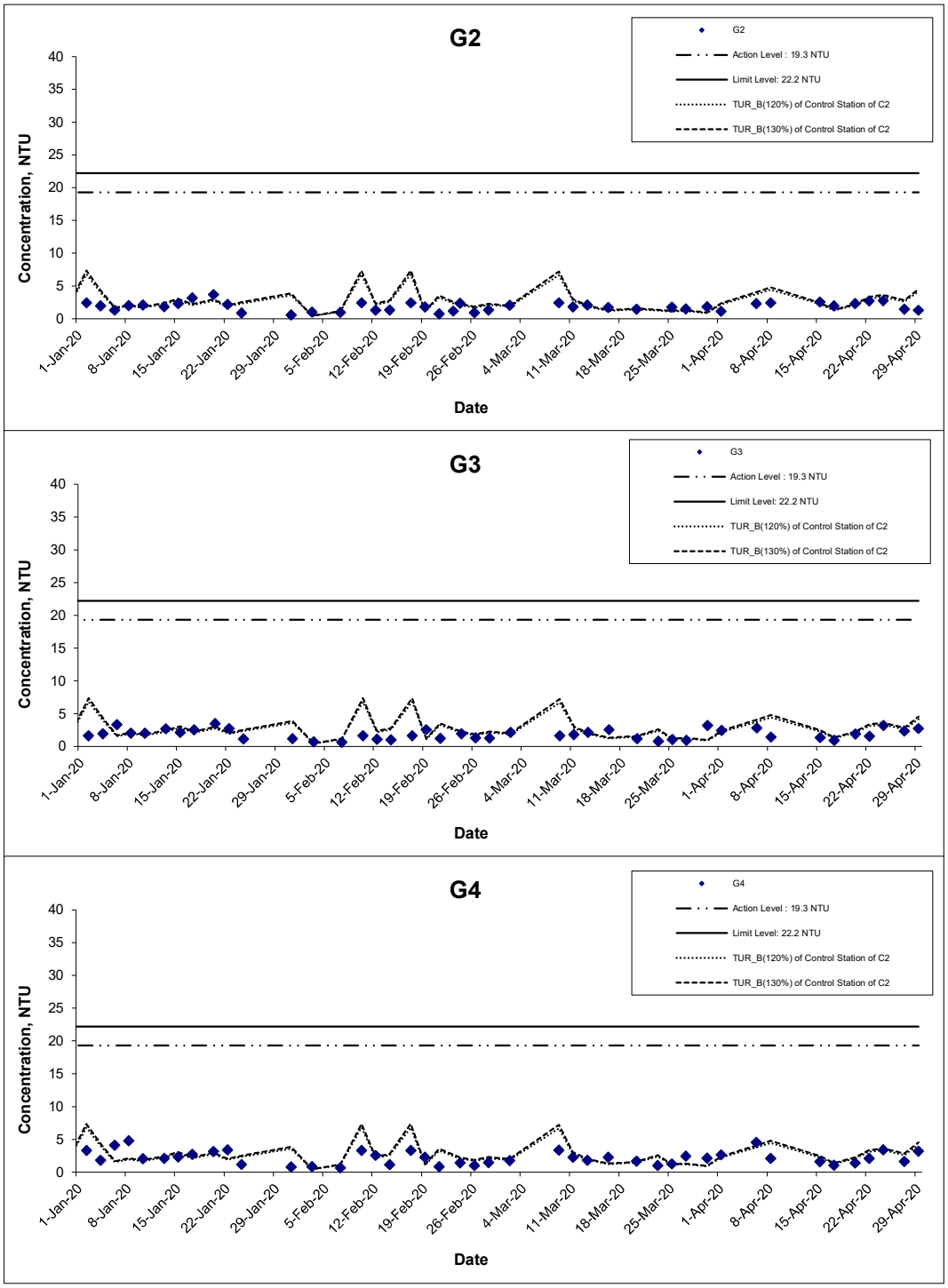
Turbidity (Bottom) at Mid-Ebb Tide



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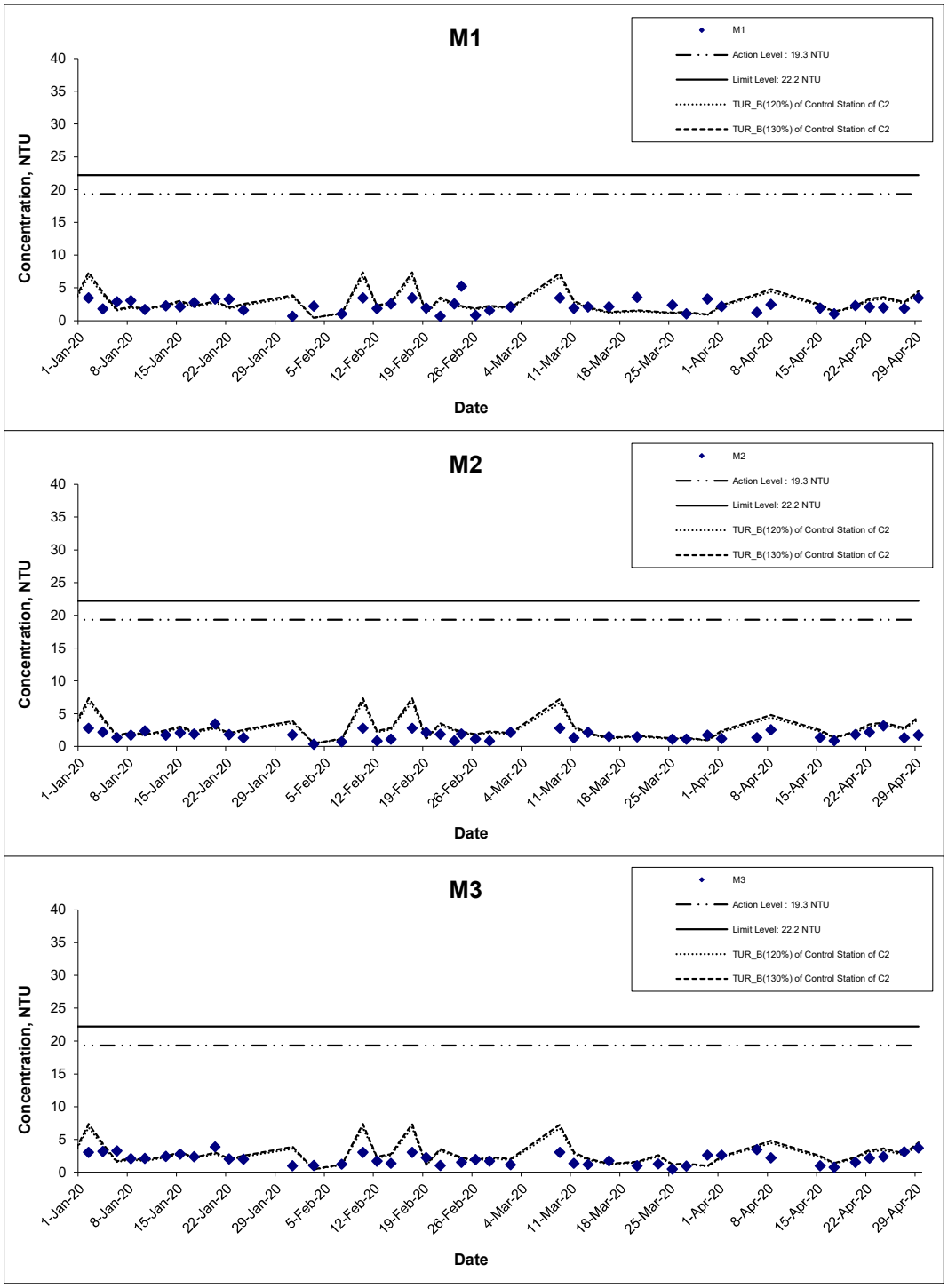

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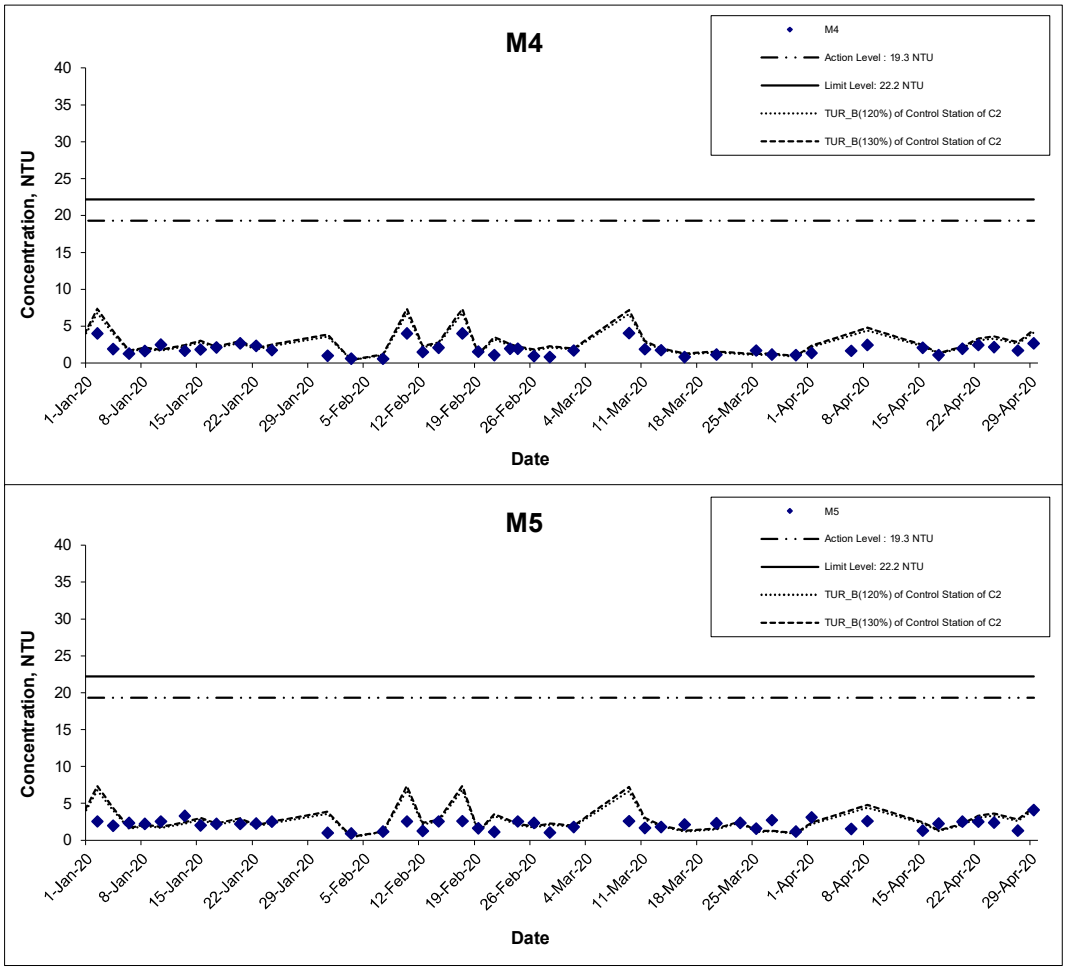

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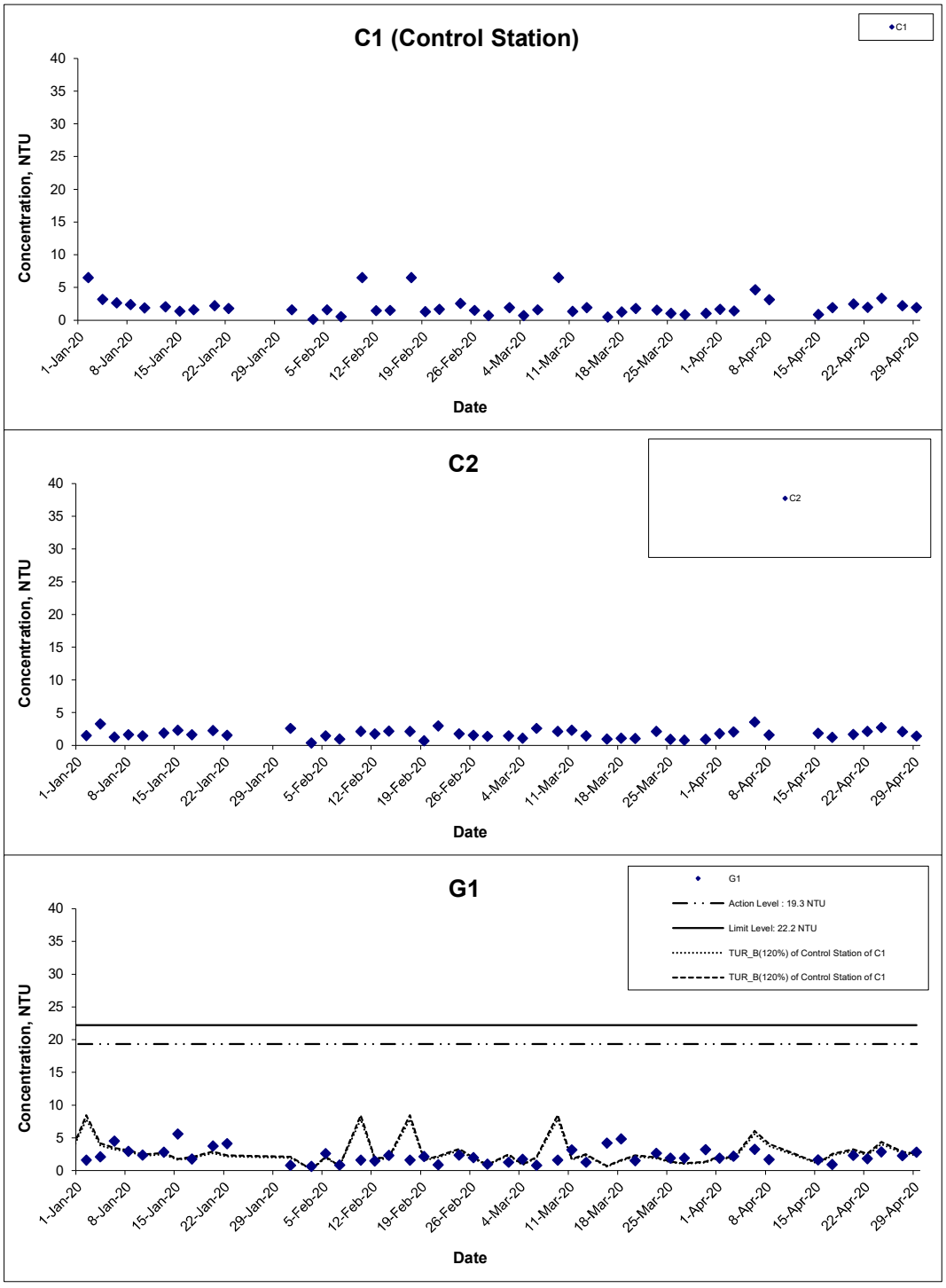
Turbidity (Bottom) at Mid-Flood Tide



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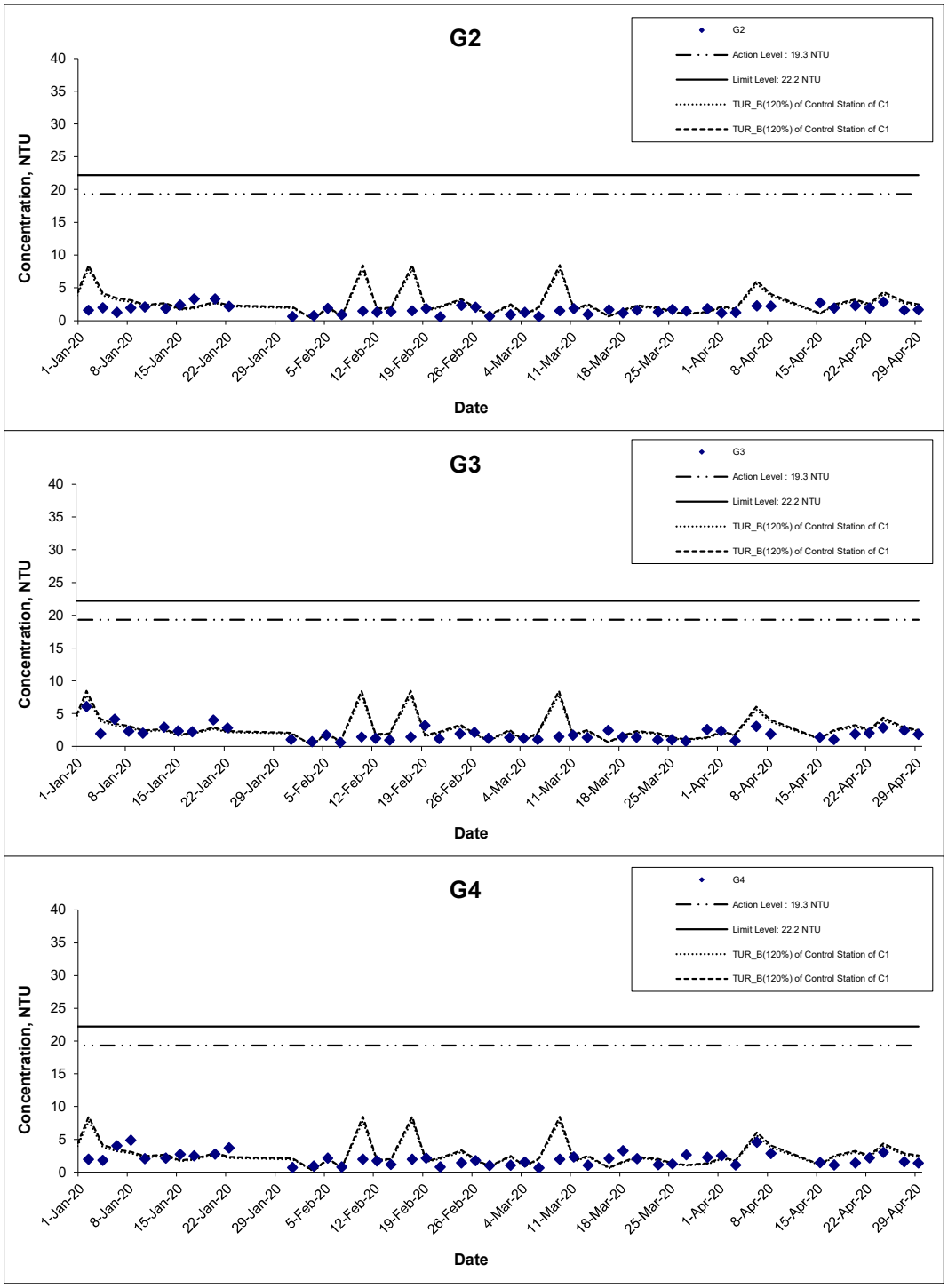
Turbidity (Bottom) at Mid-Flood Tide



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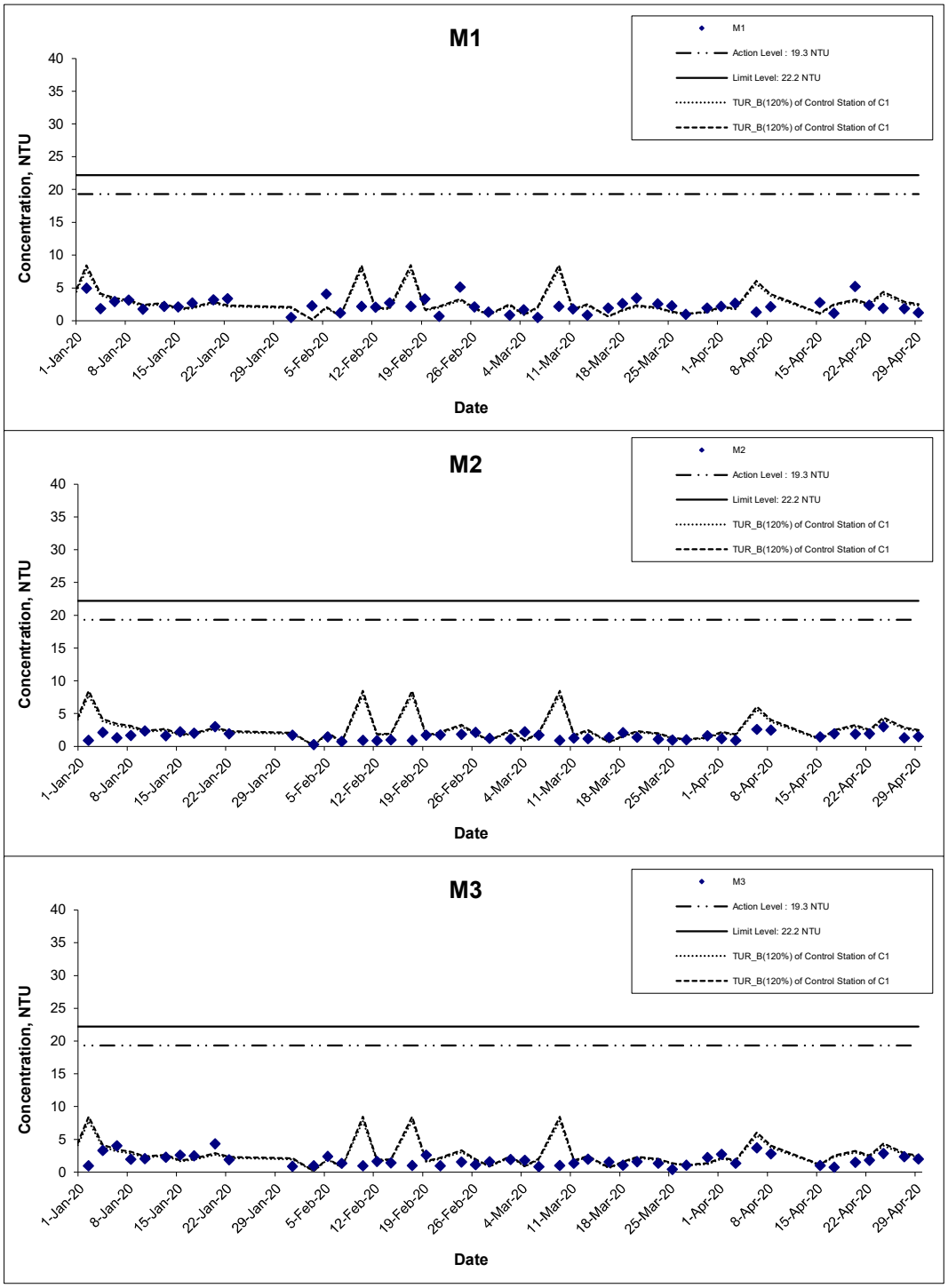
Turbidity (Bottom) at Mid-Flood Tide



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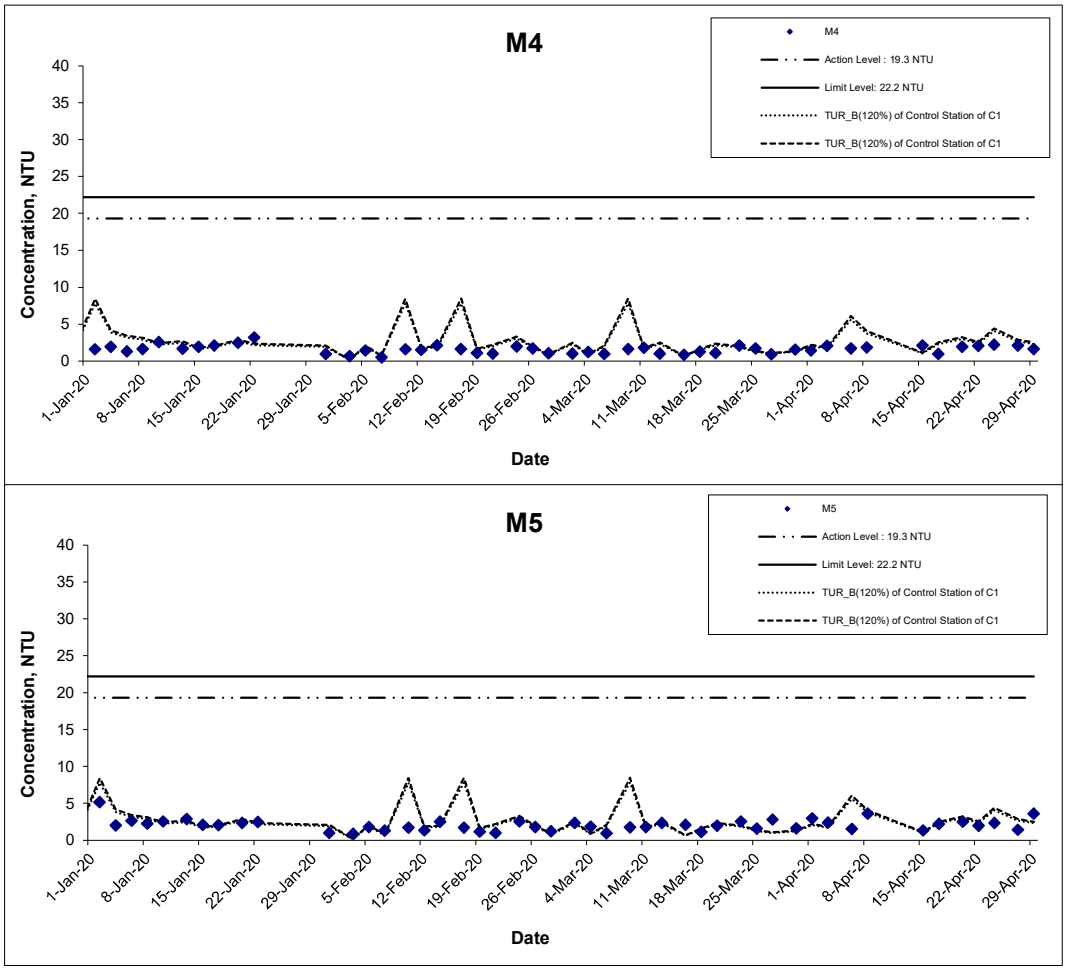
Turbidity (Bottom) at Mid-Flood Tide



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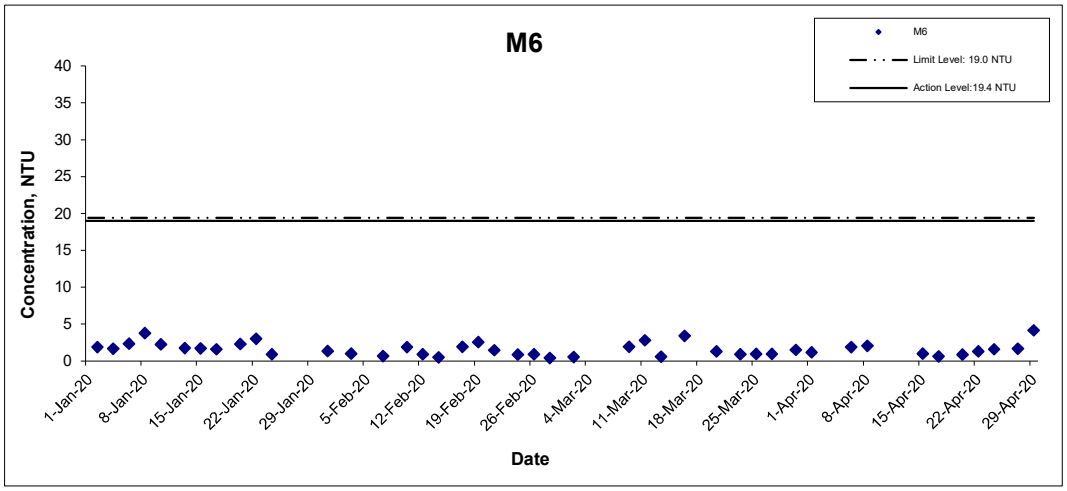
Turbidity (Intake Level of WSD Salt Water Intake) at Mid-Ebb Tide



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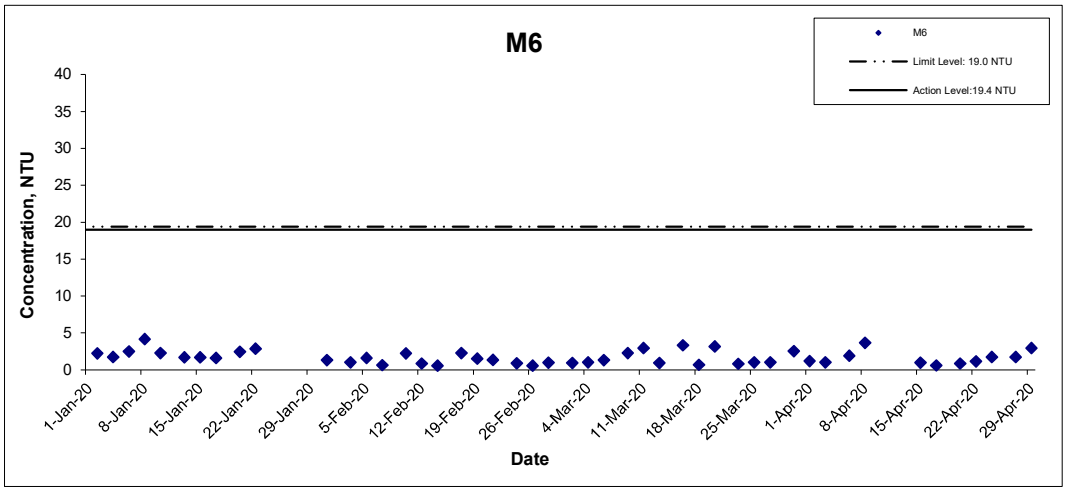

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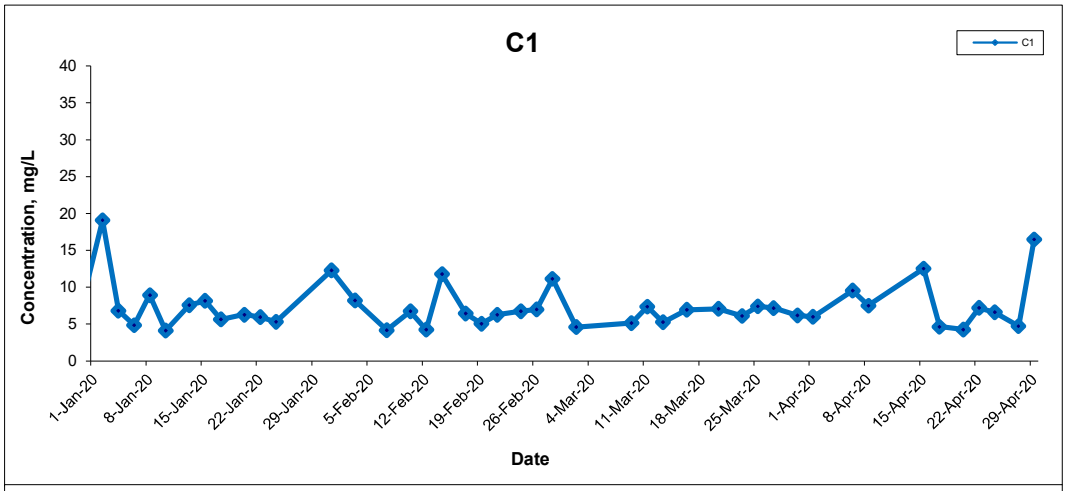
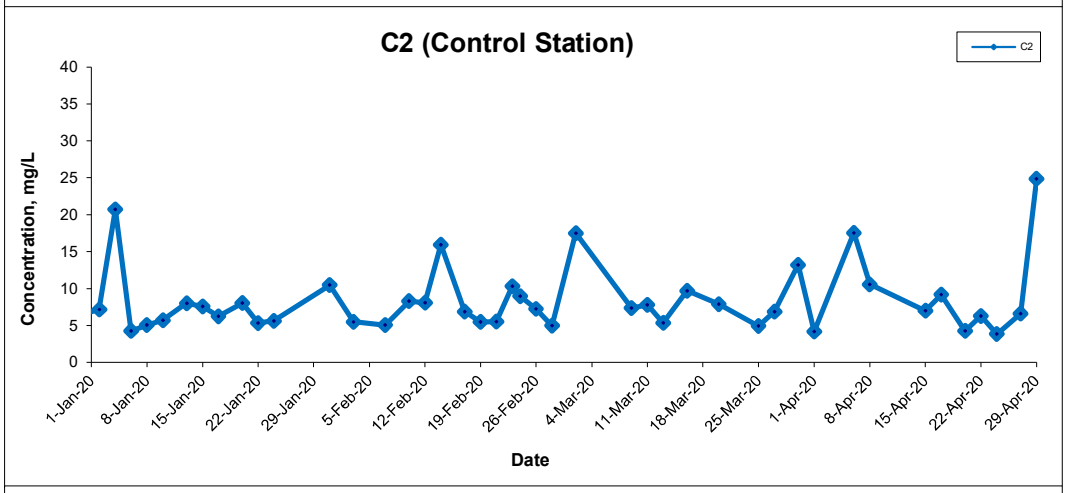
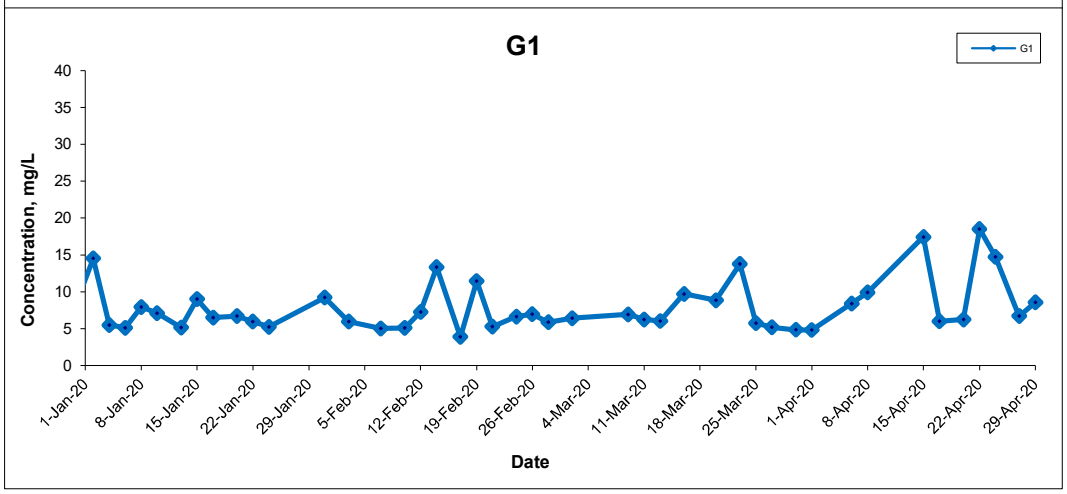
Suspended Solids (Depth-averaged) at Mid-Ebb Tide







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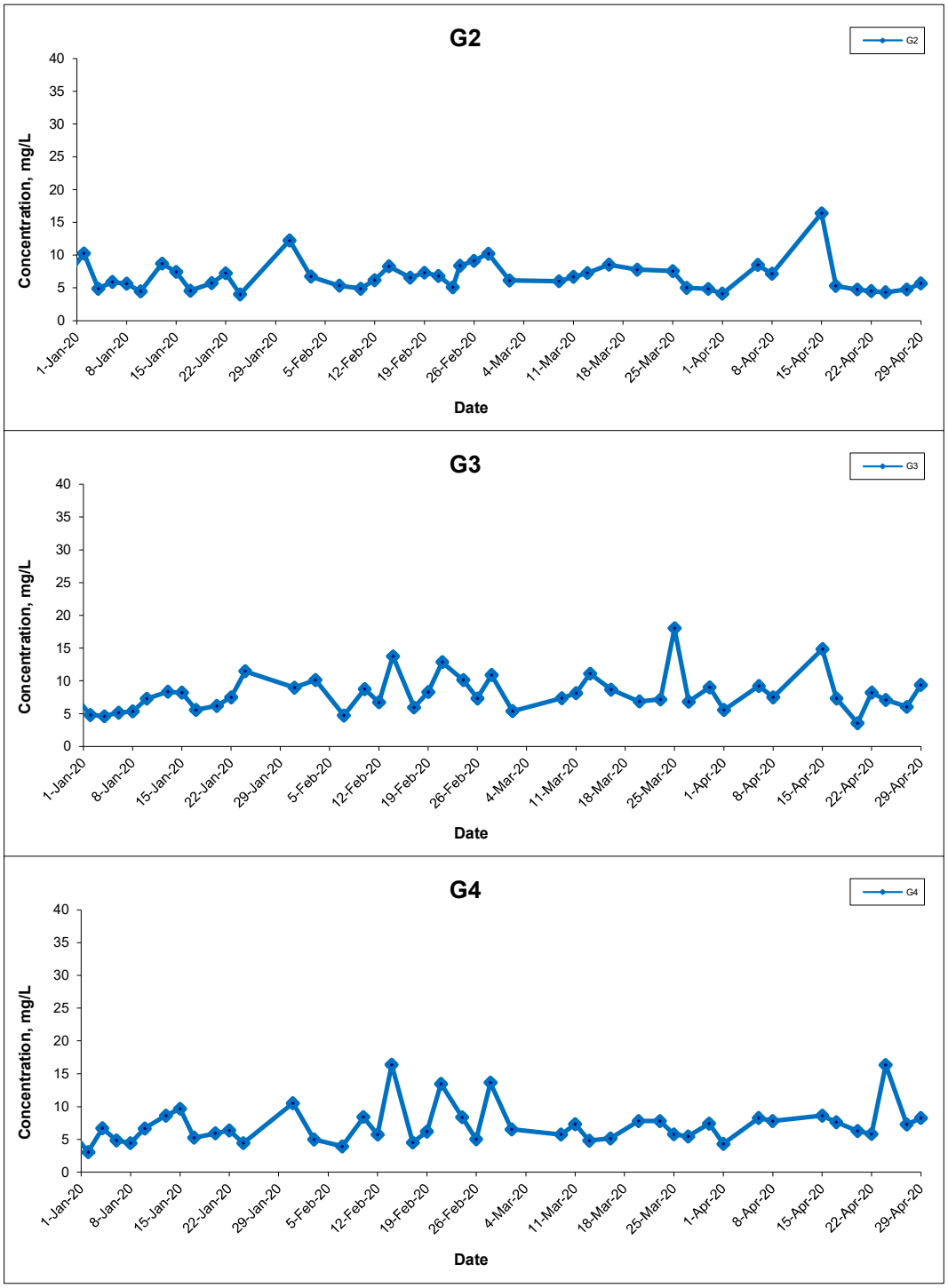
Suspended Solids (Depth-averaged) at Mid-Ebb Tide



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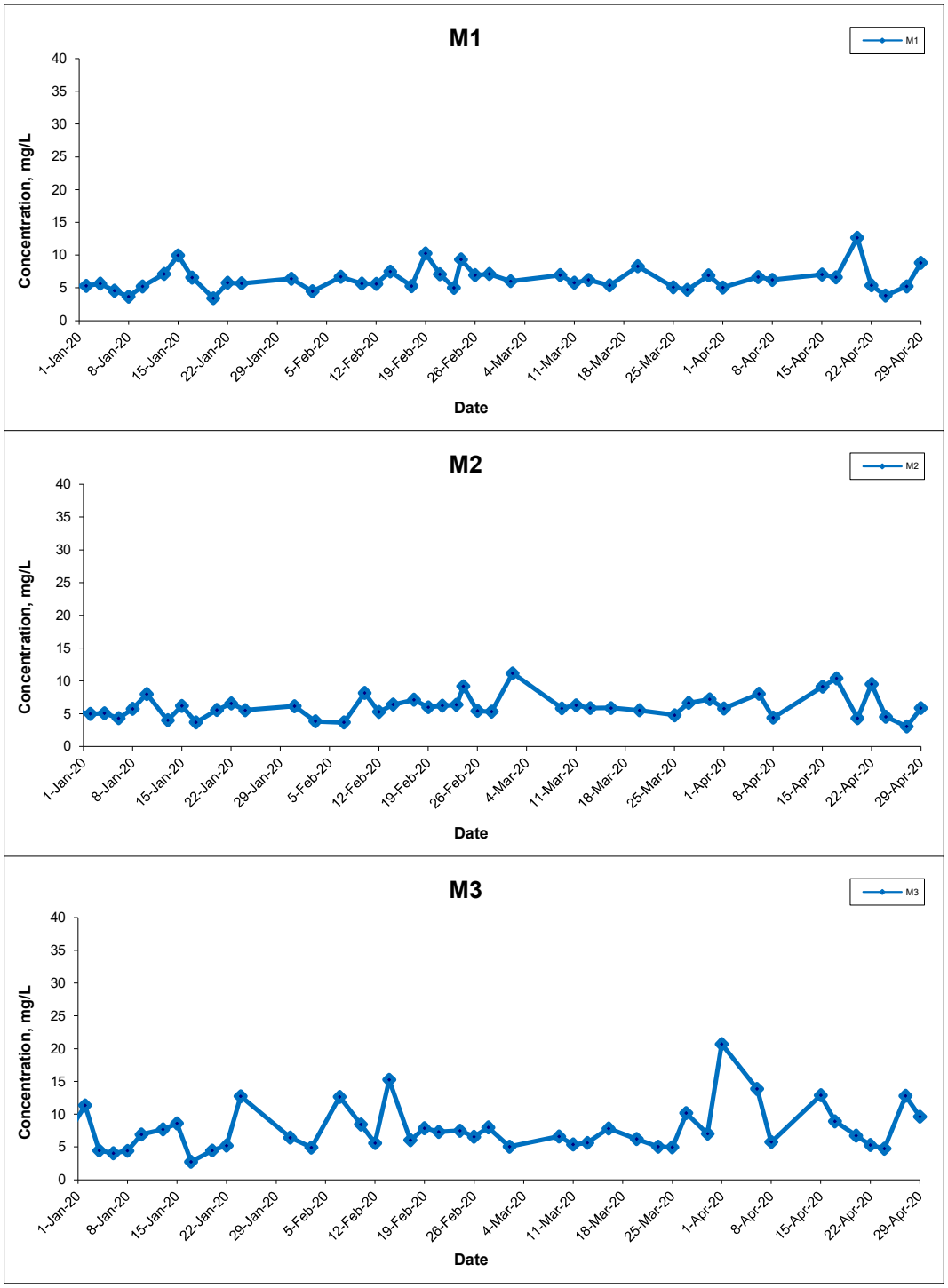

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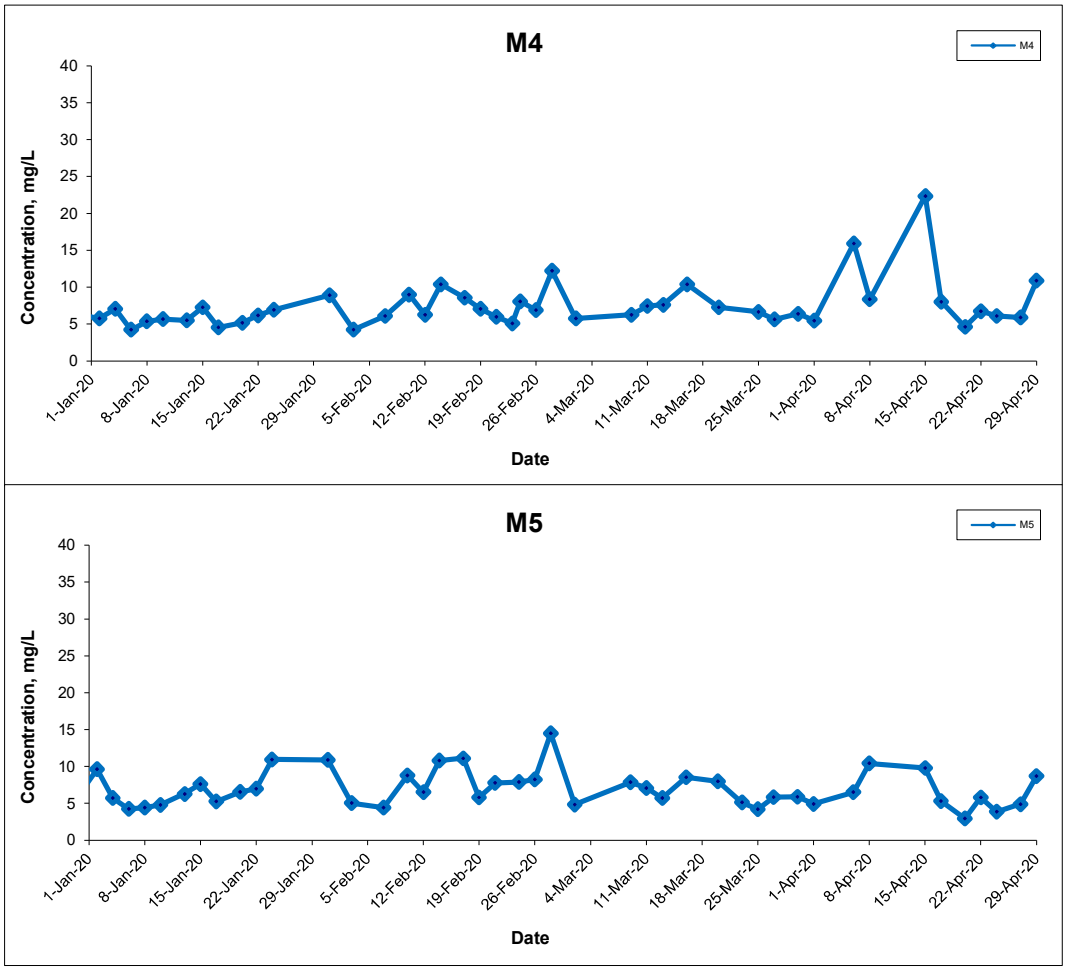

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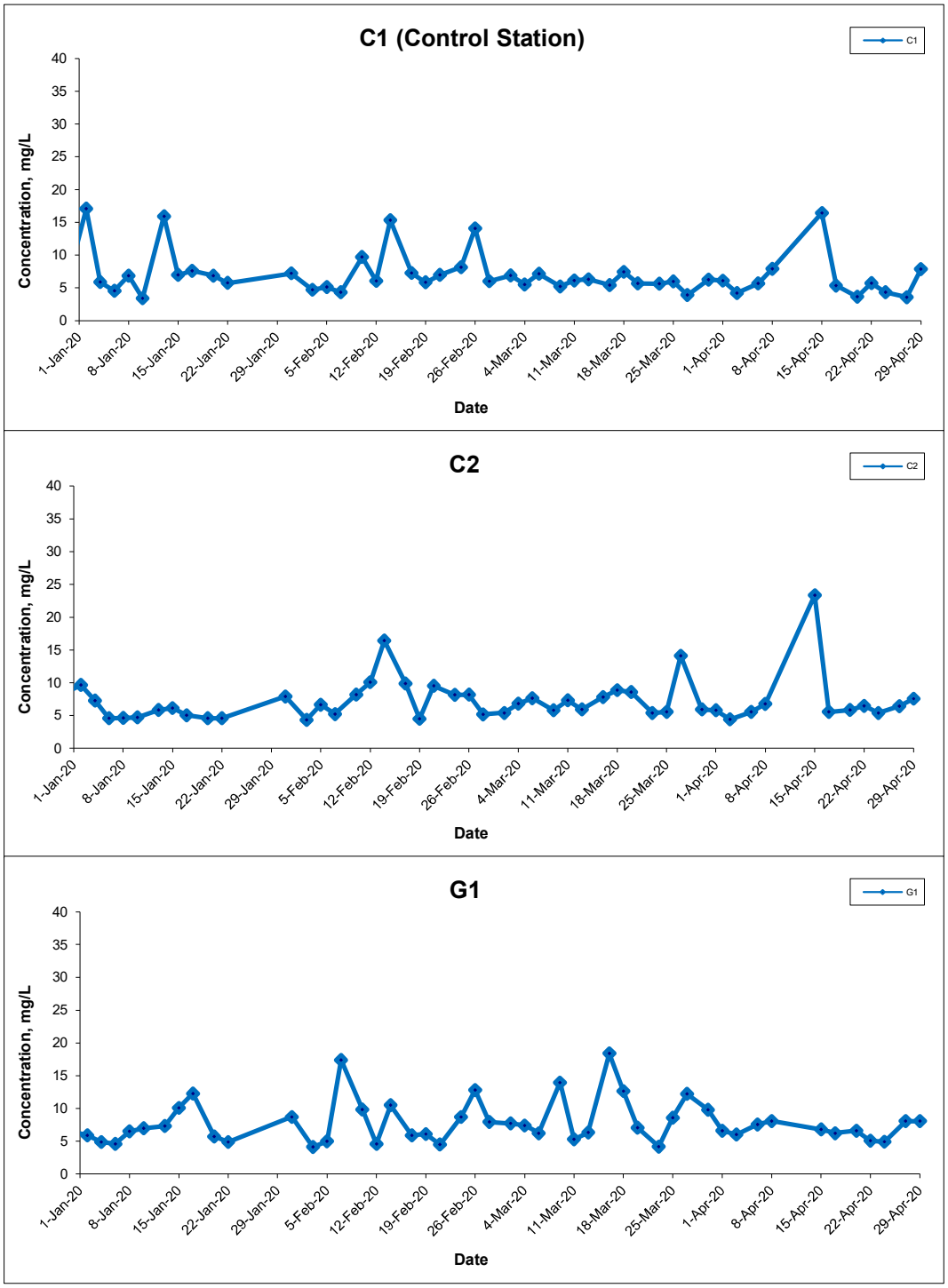
Suspended Solids (Depth-averaged) at Mid-Flood Tide



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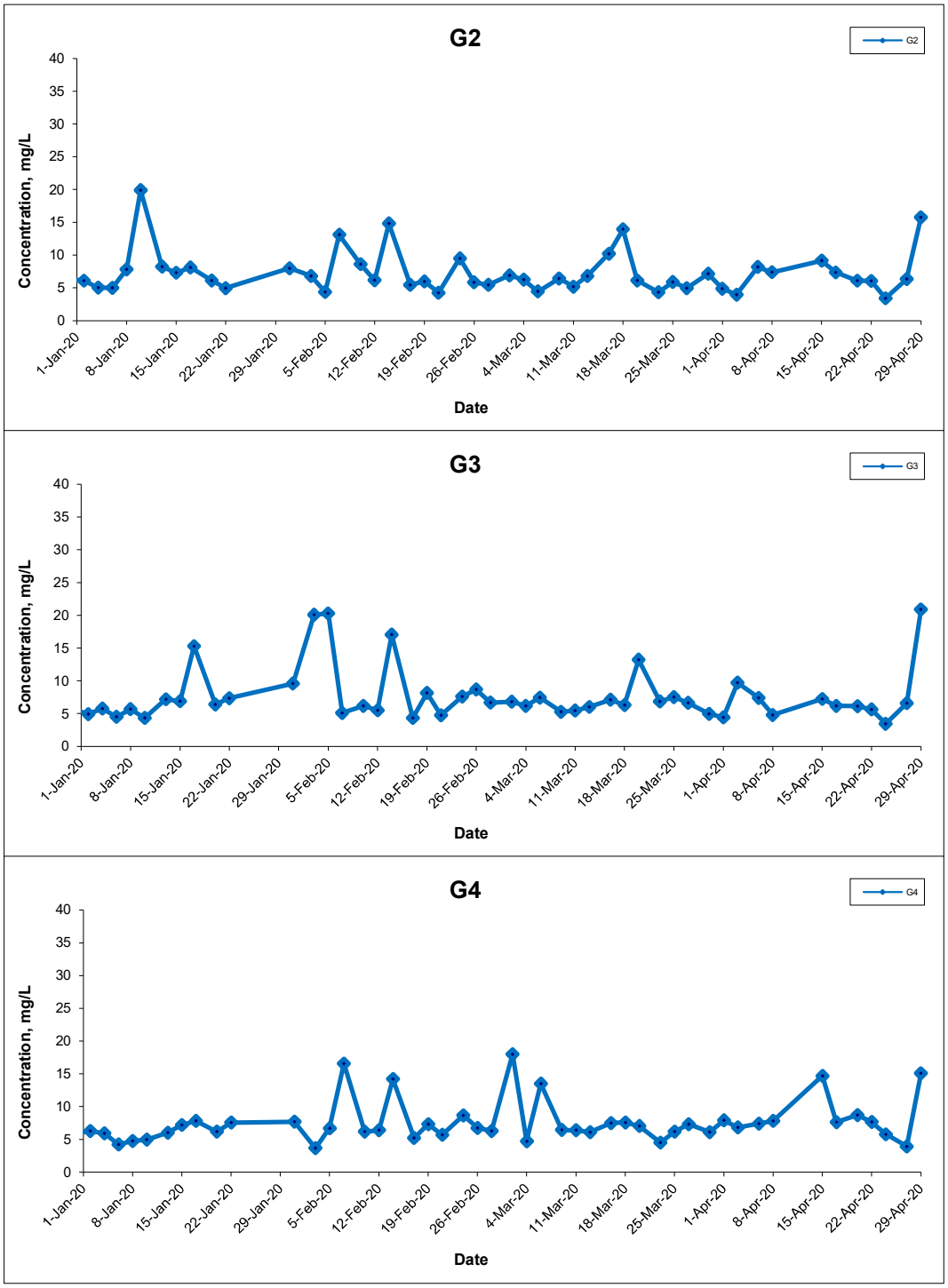

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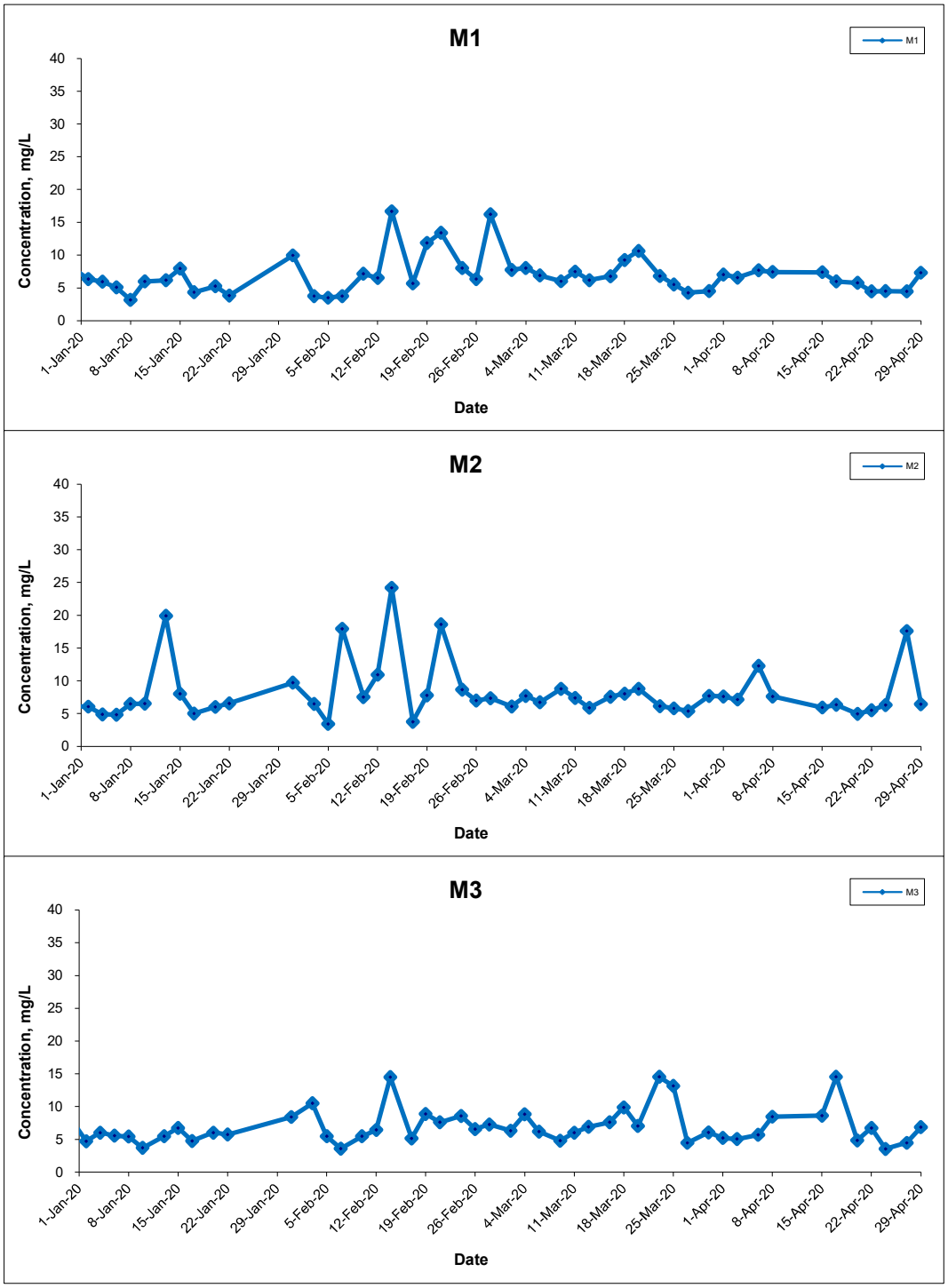

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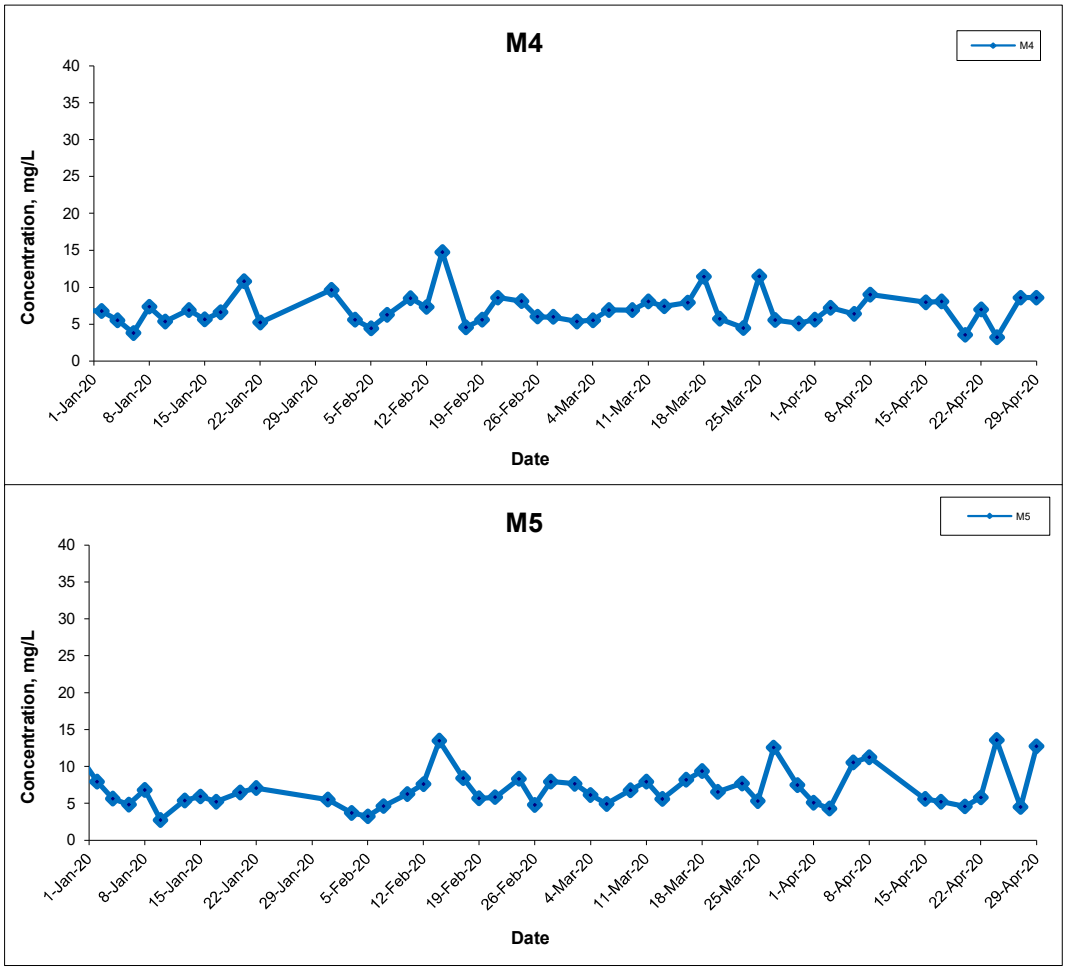

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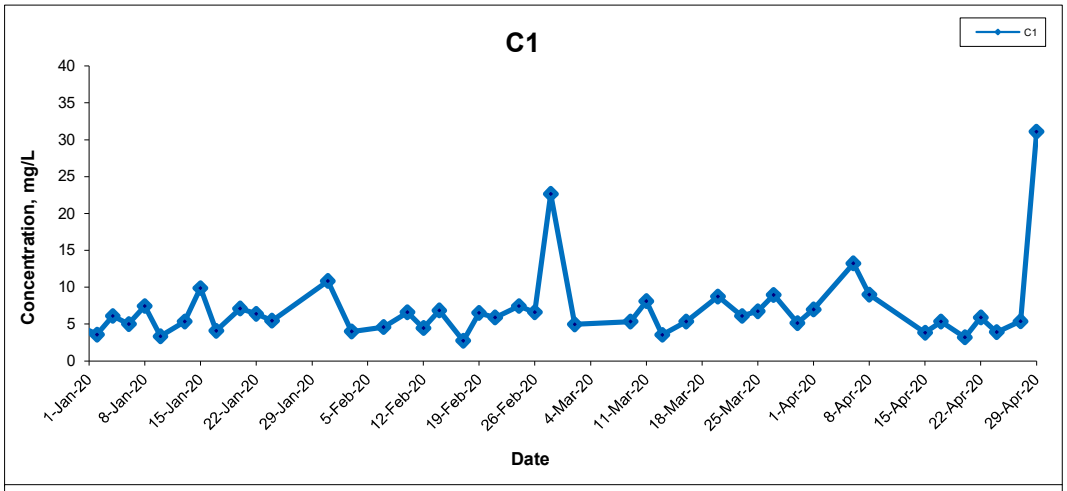
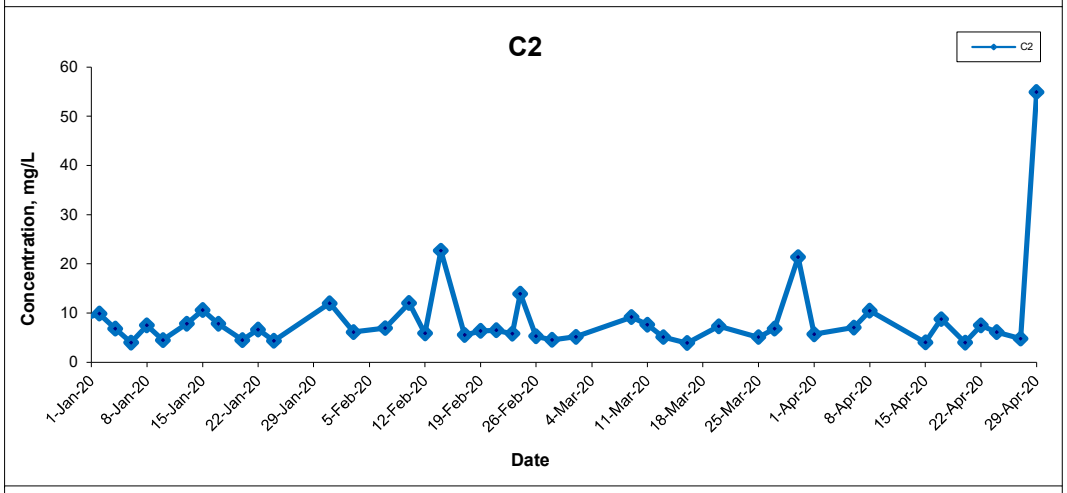
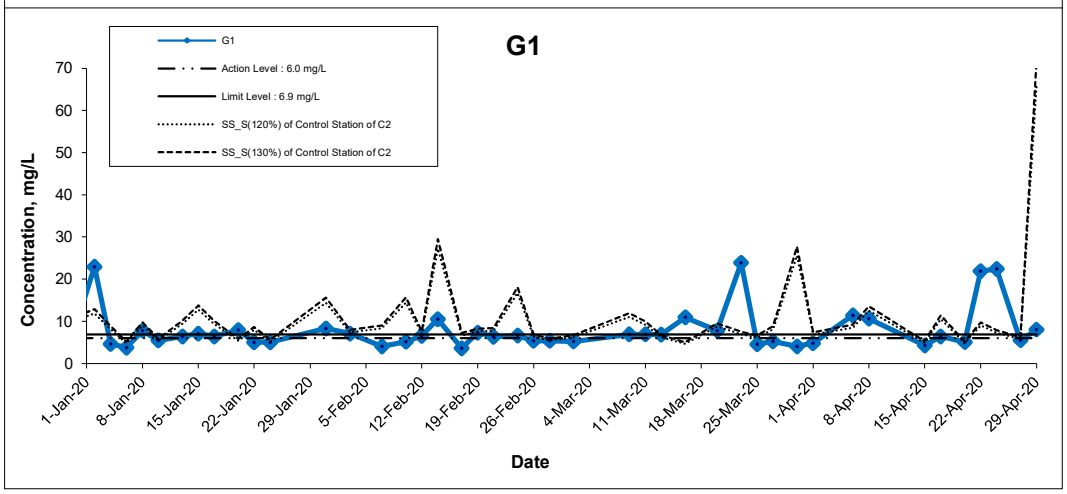
Suspended Solids (Surface) at Mid-Ebb Tide







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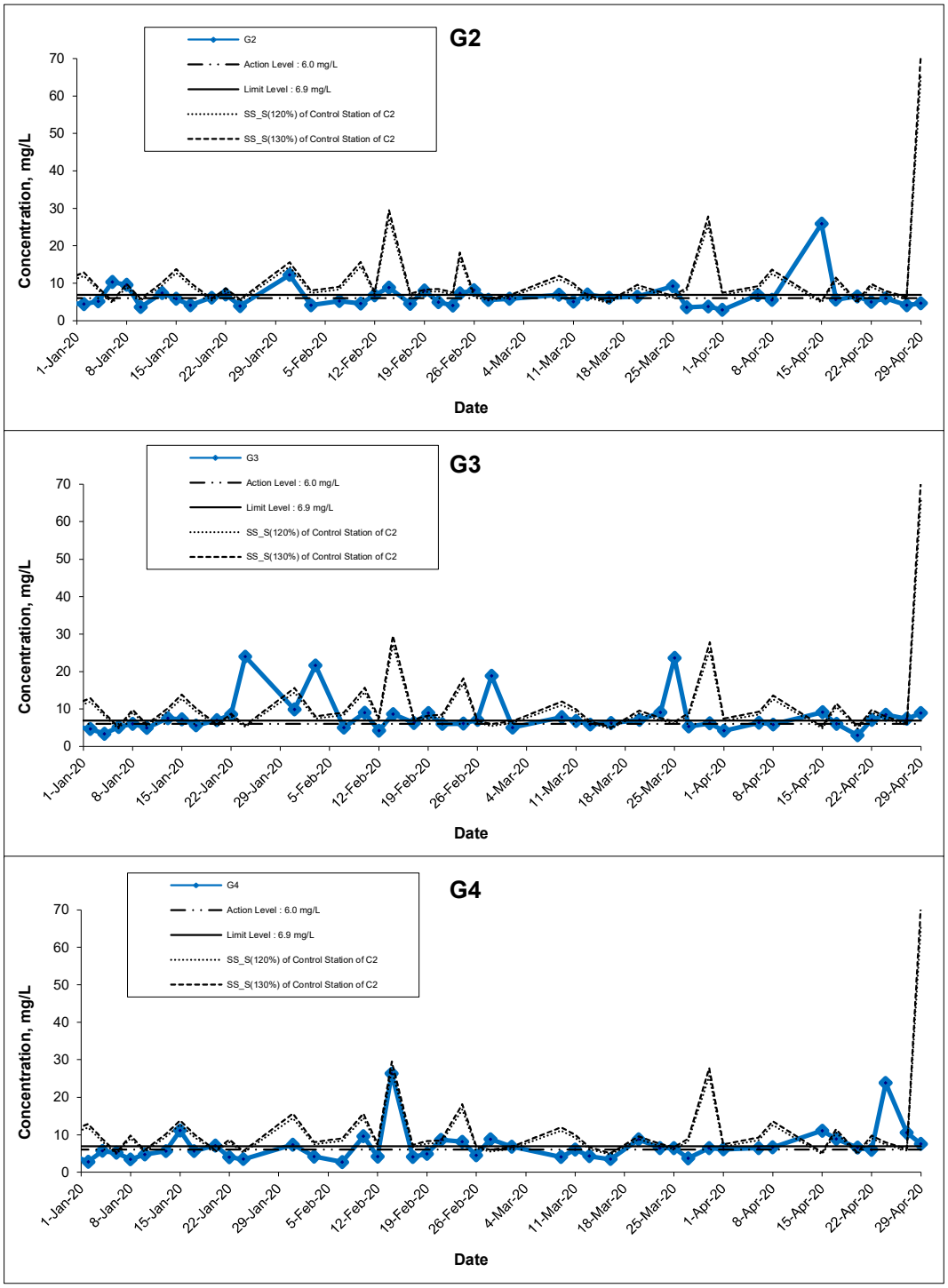
Suspended Solids (Surface) at Mid-Ebb Tide



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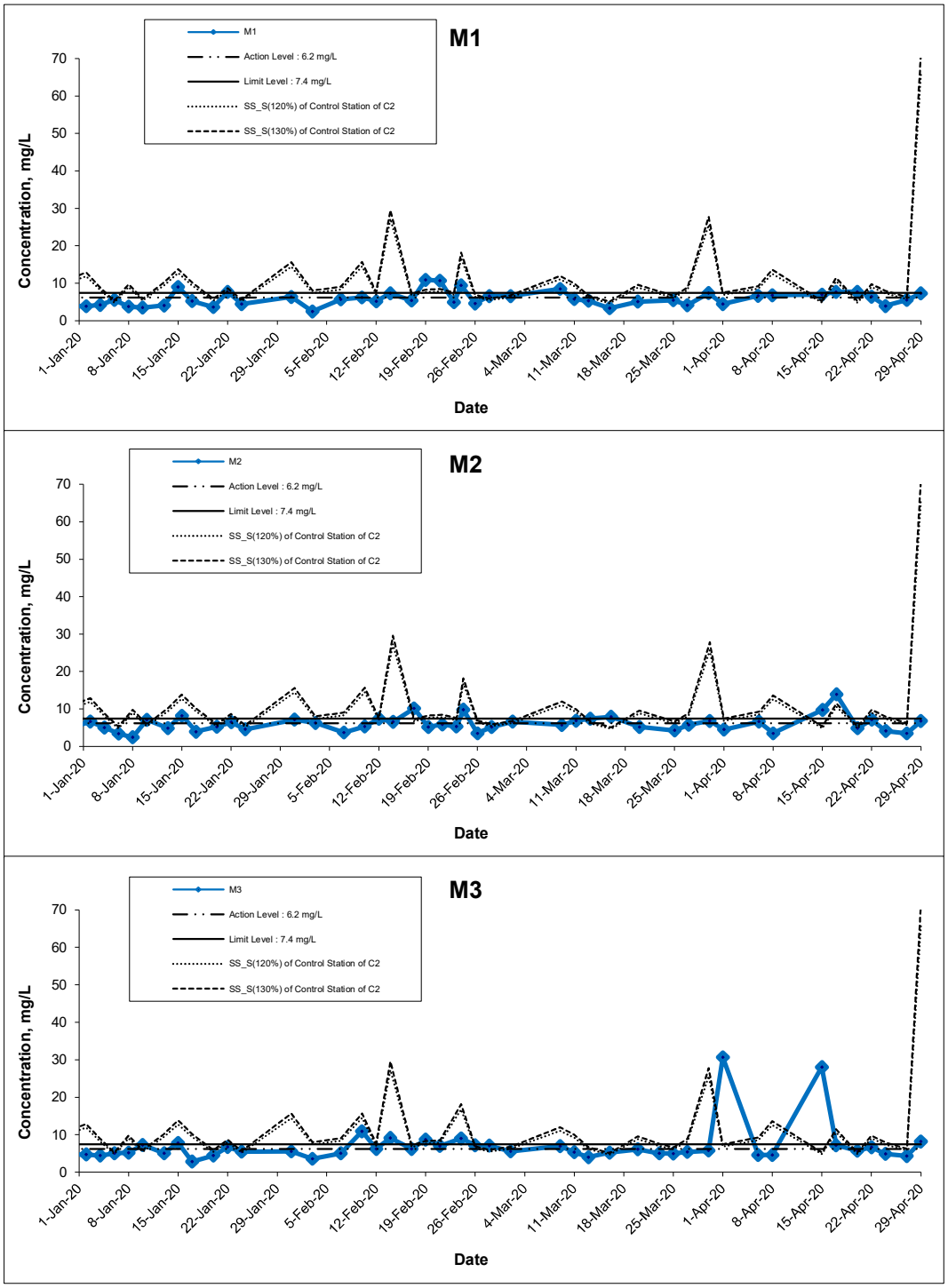

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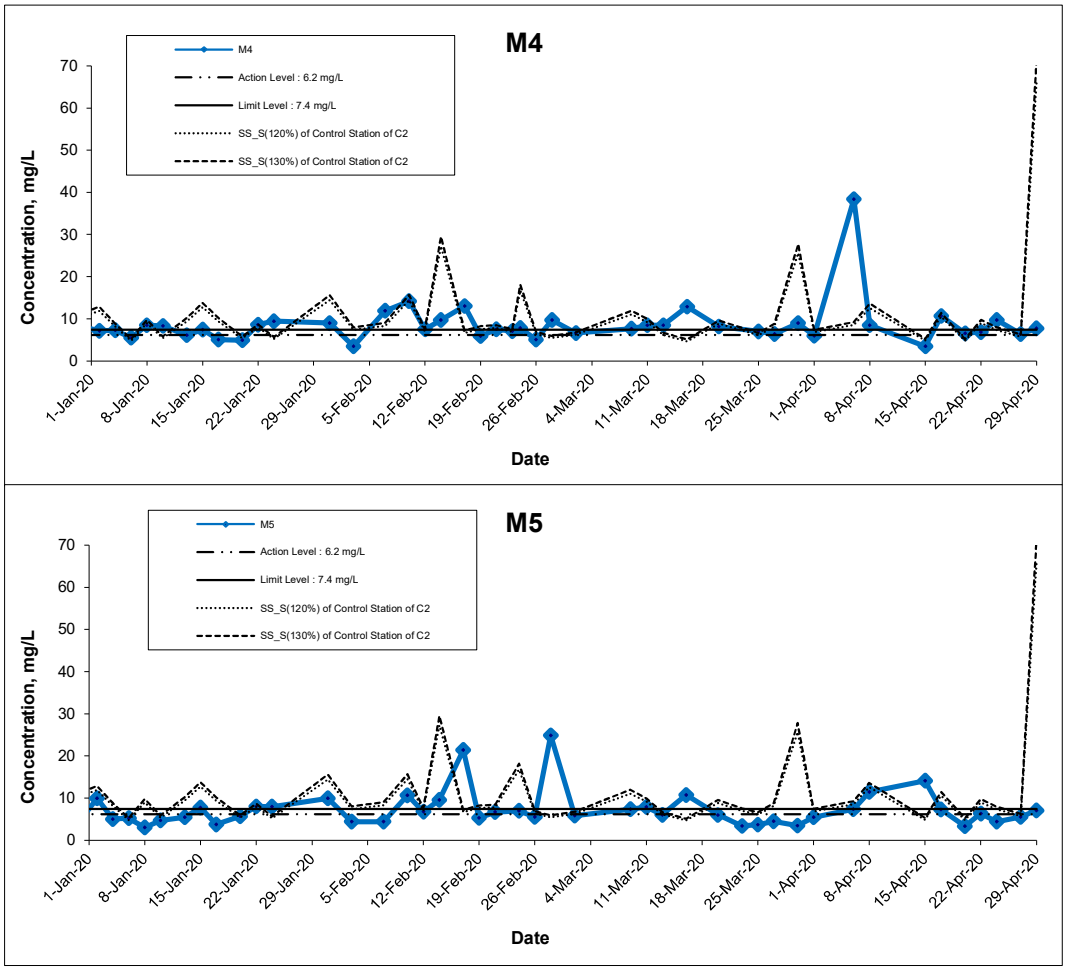

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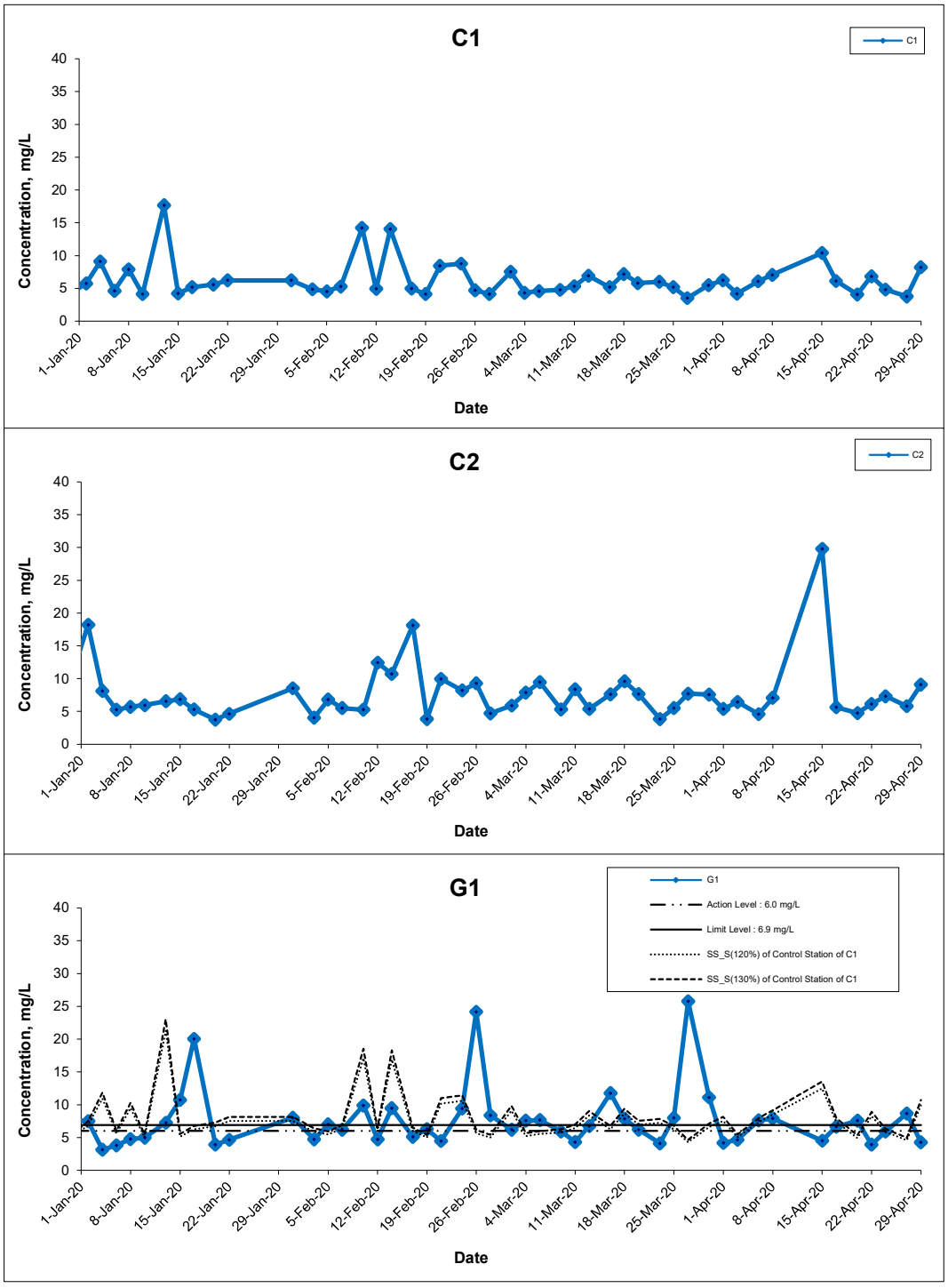
Suspended Solids (Surface) at Mid-Flood Tide



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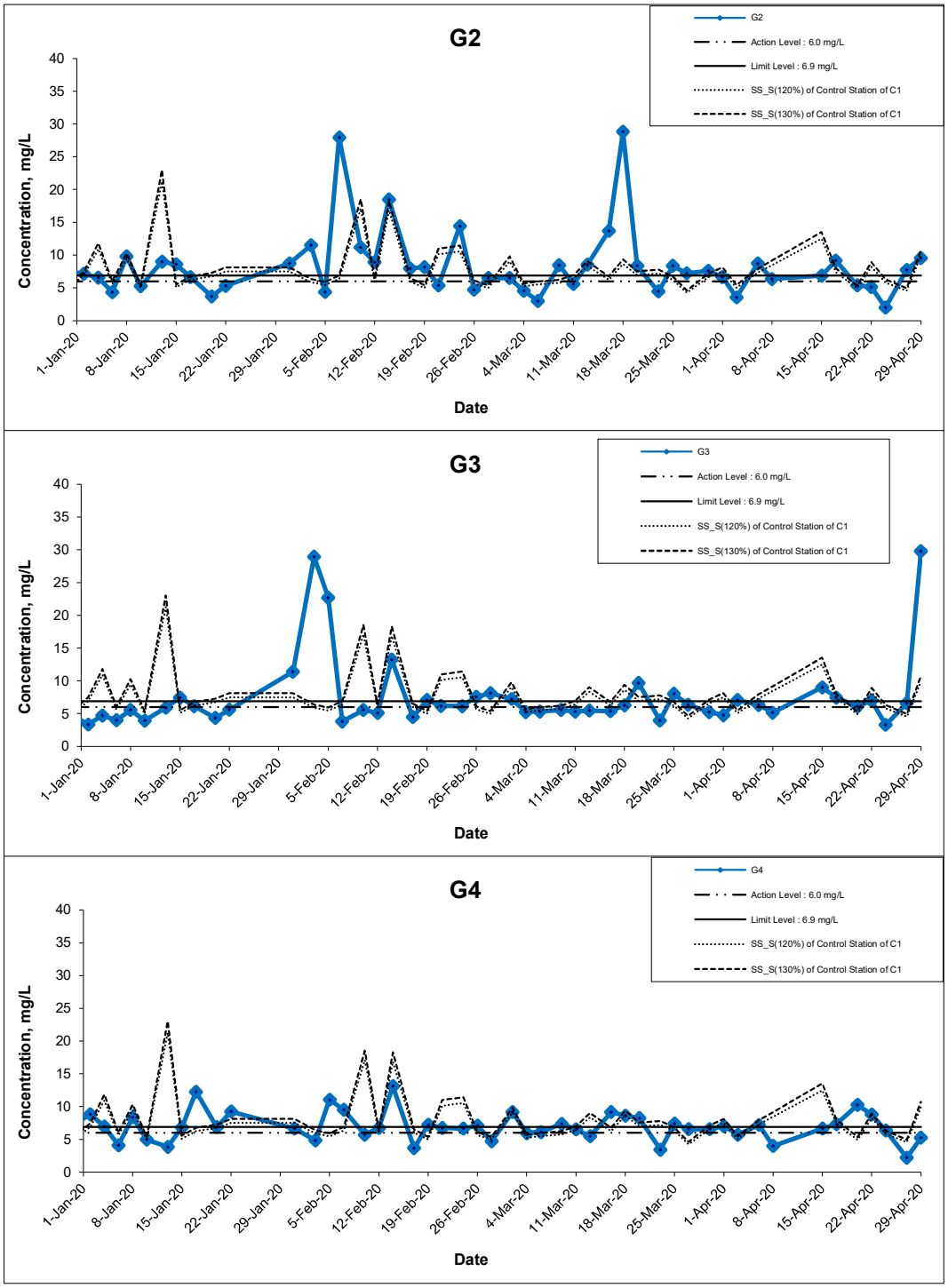
Suspended Solids (Surface) at Mid-Flood Tide



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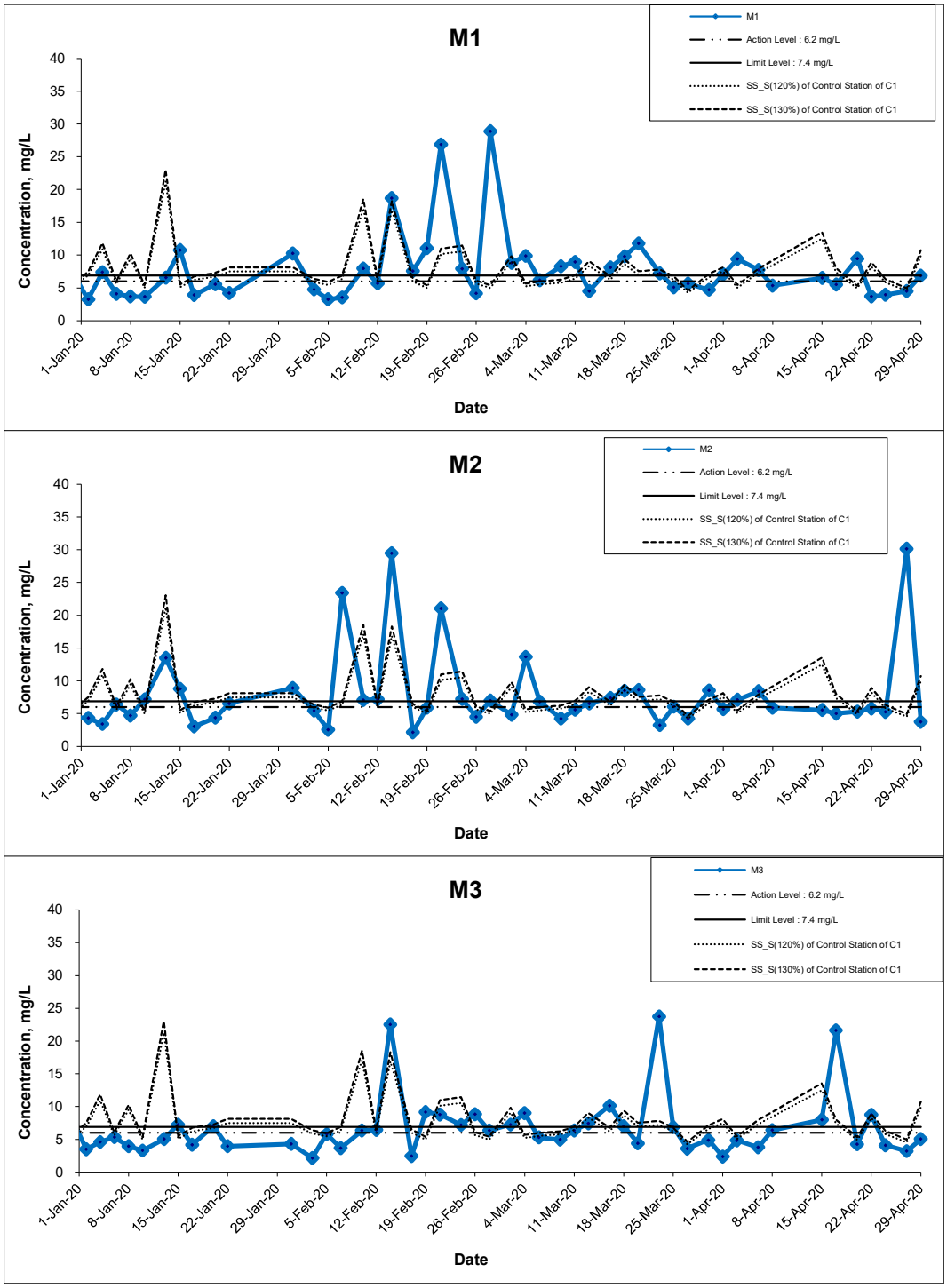
Suspended Solids (Surface) at Mid-Flood Tide



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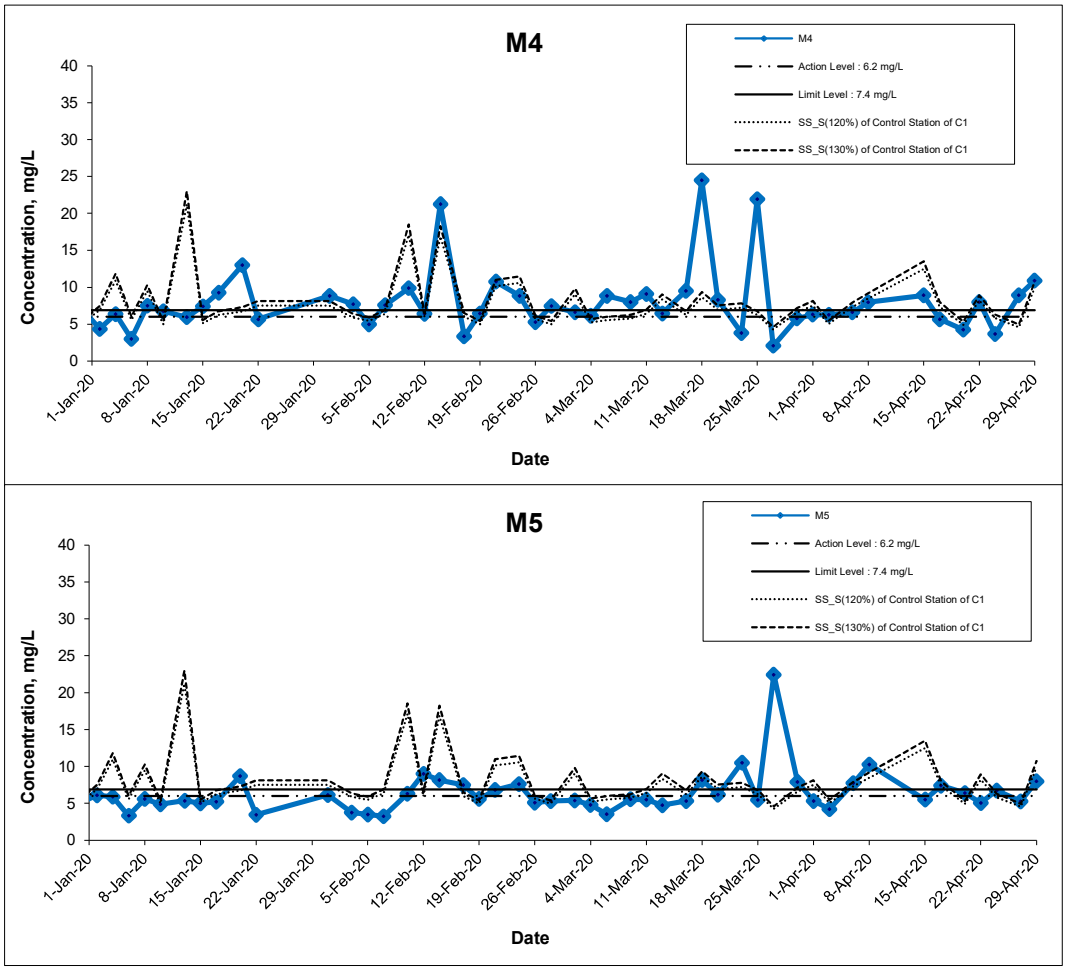
Suspended Solids (Surface) at Mid-Flood Tide



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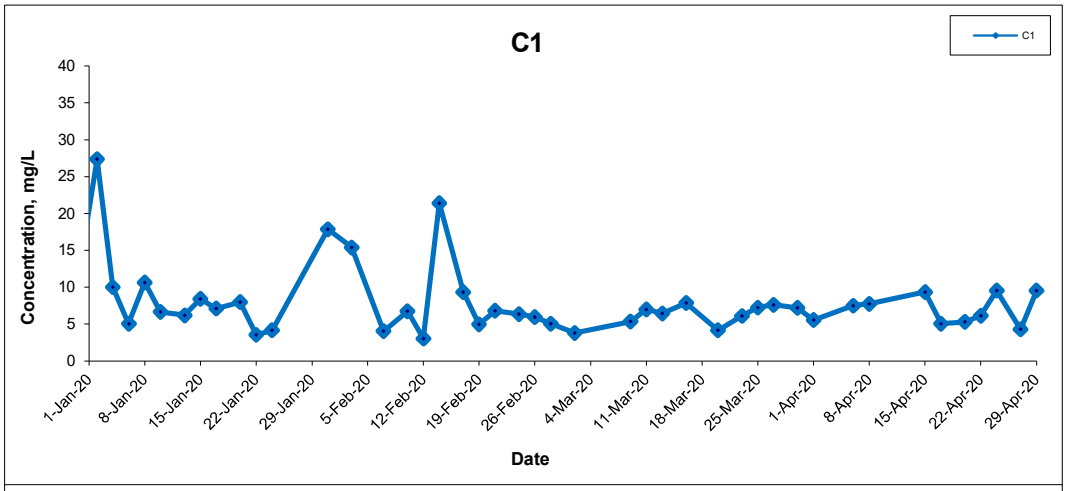
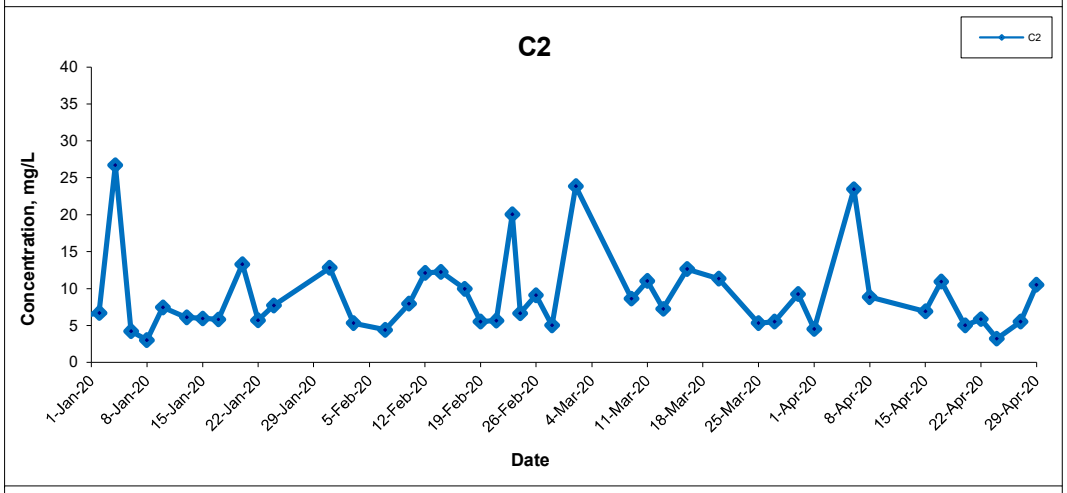
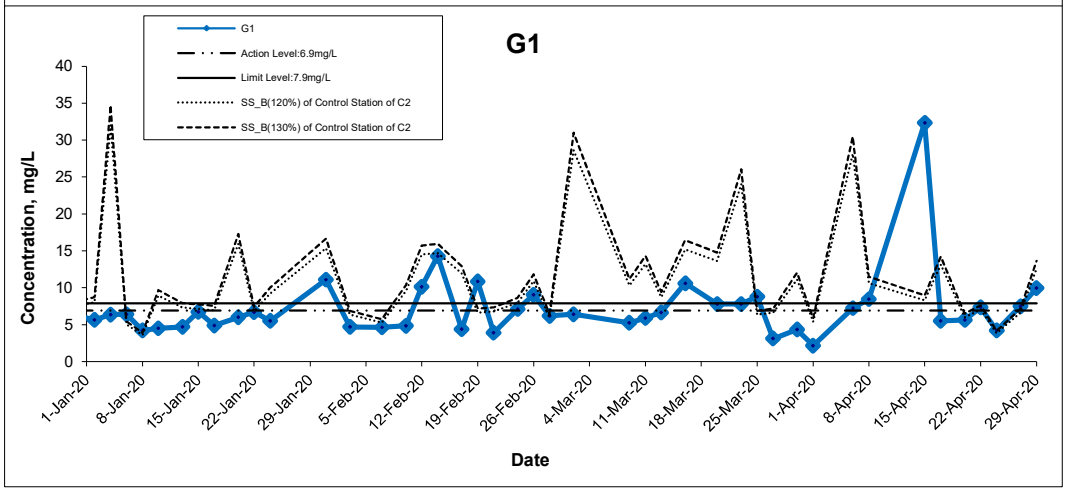
Suspended Solids (Bottom) at Mid-Ebb Tide

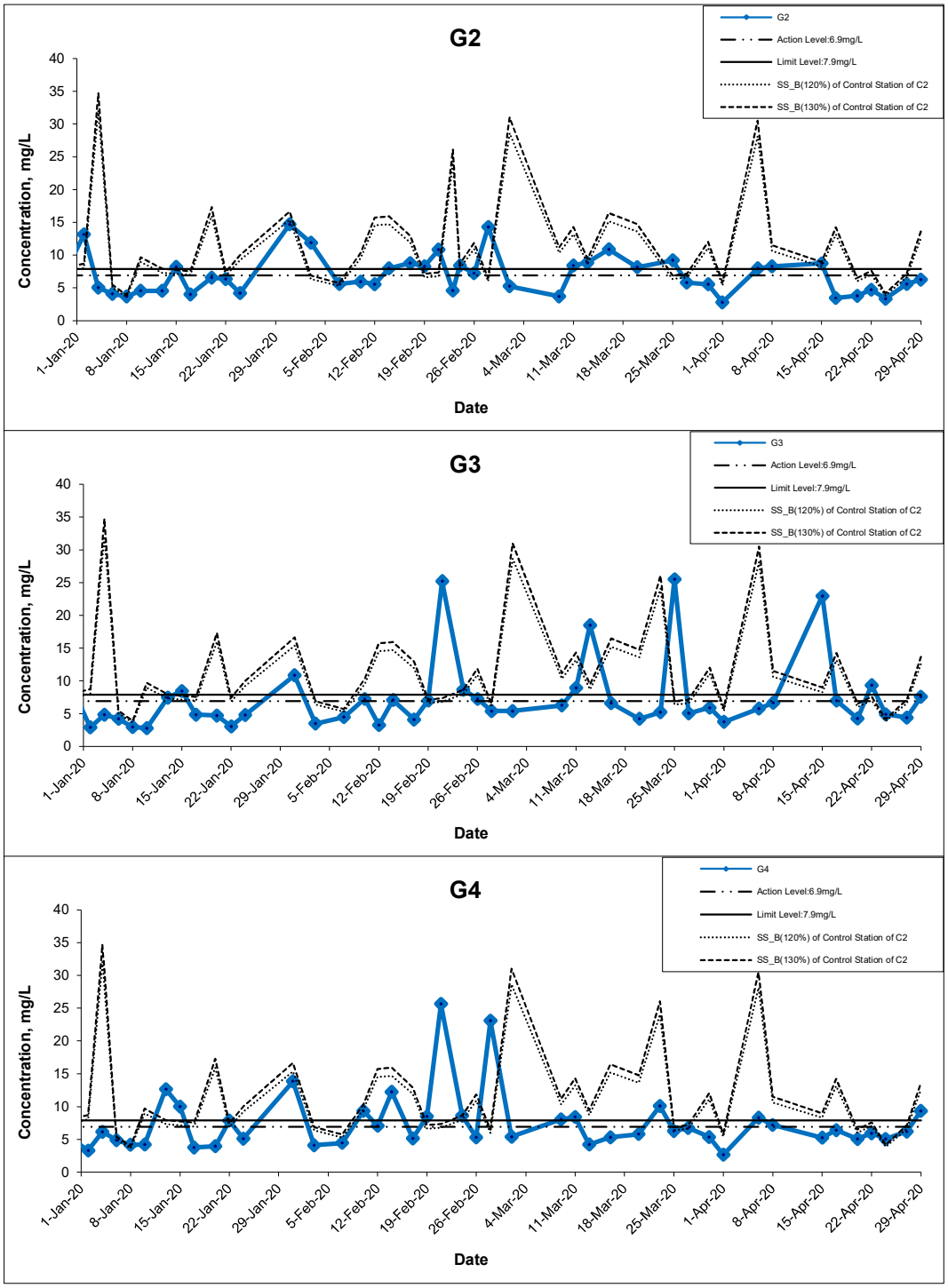






Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
		Date Apr 20	Appendix F	

Suspended Solids (Bottom) at Mid-Ebb Tide



Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
		Date Apr 20	Appendix F	

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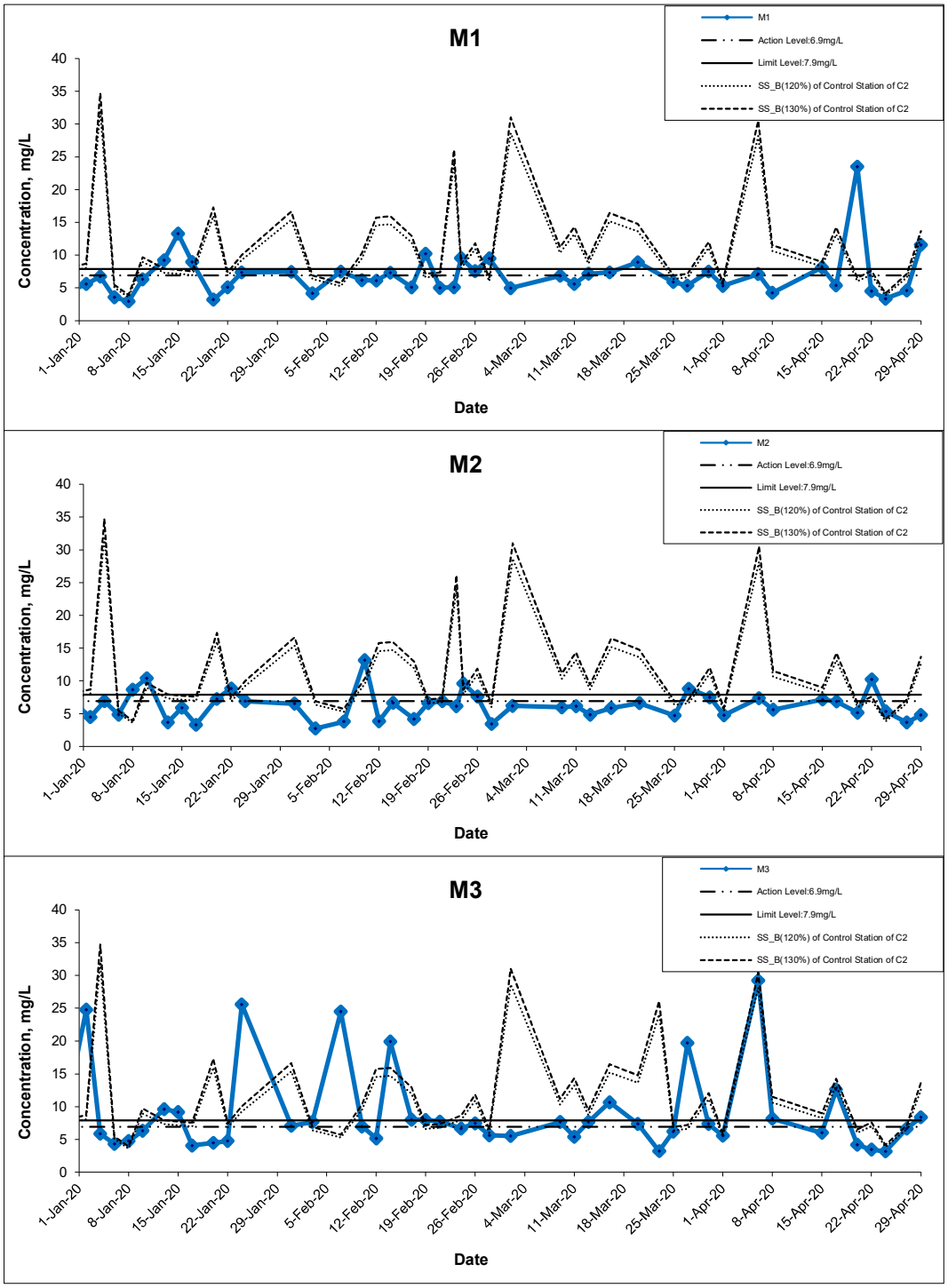

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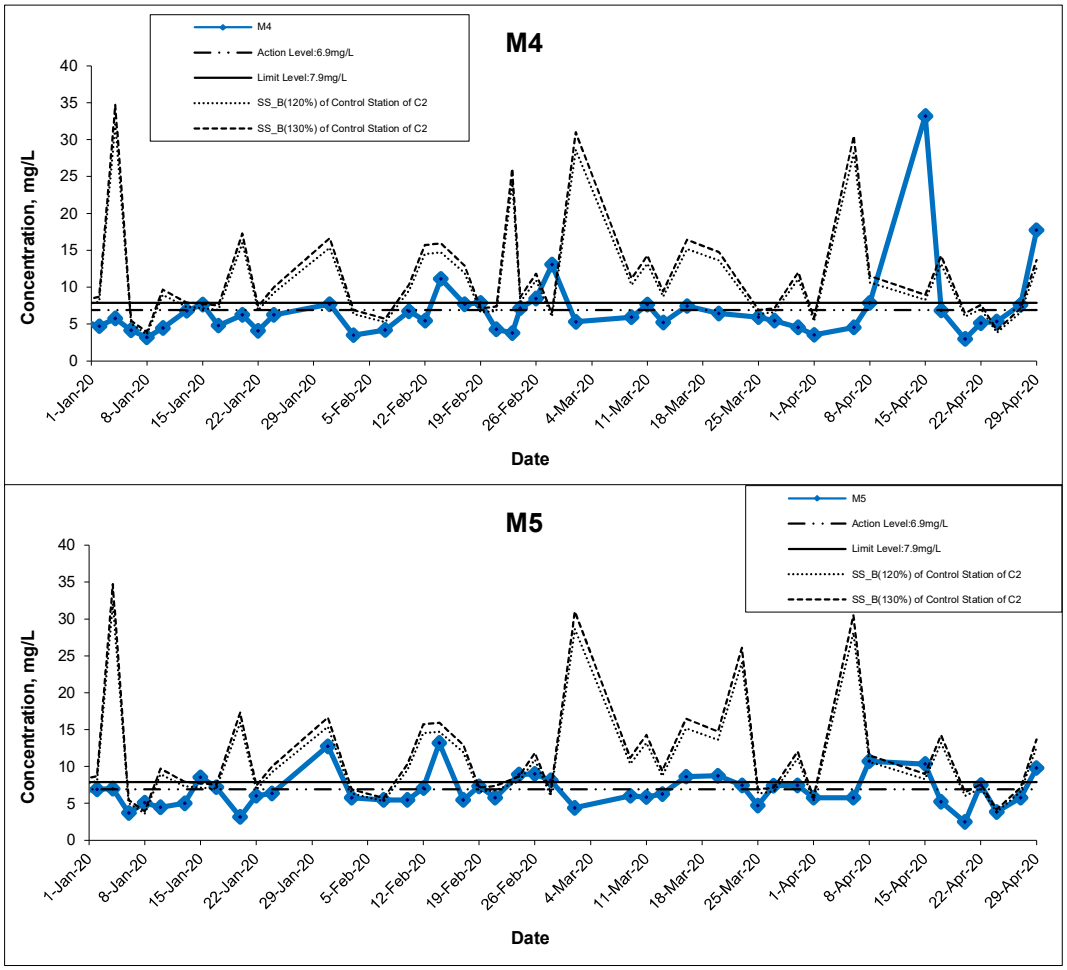
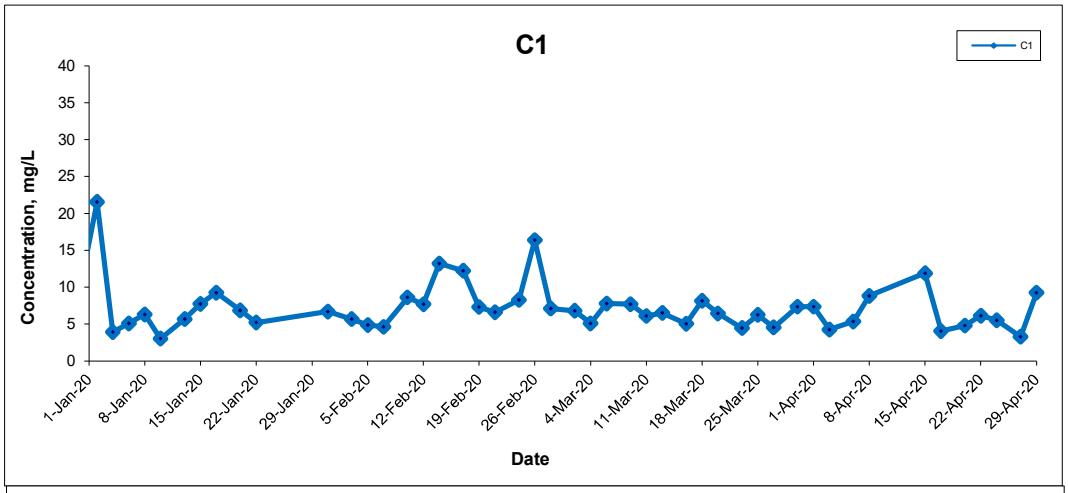
		Date Apr 20	Appendix F	

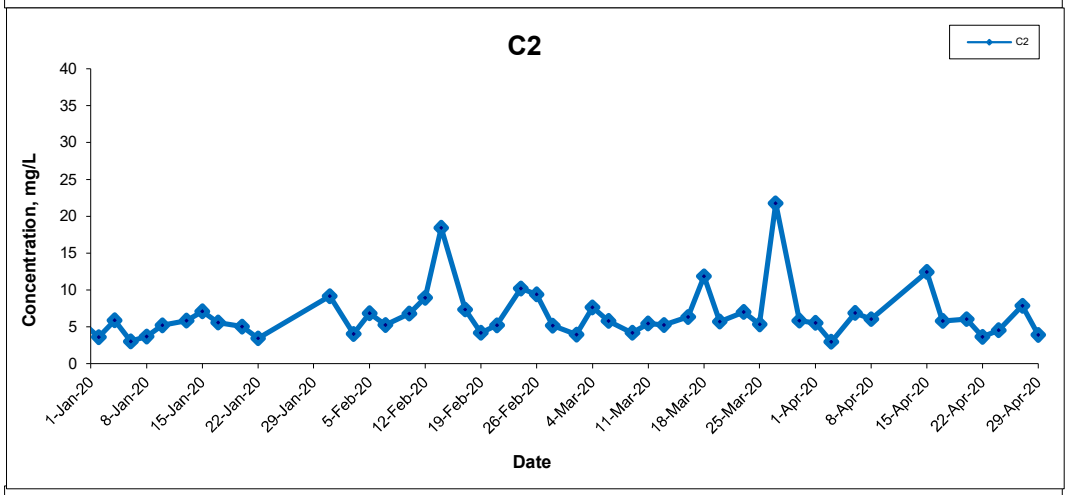
Suspended Solids (Bottom) at Mid-Ebb Tide

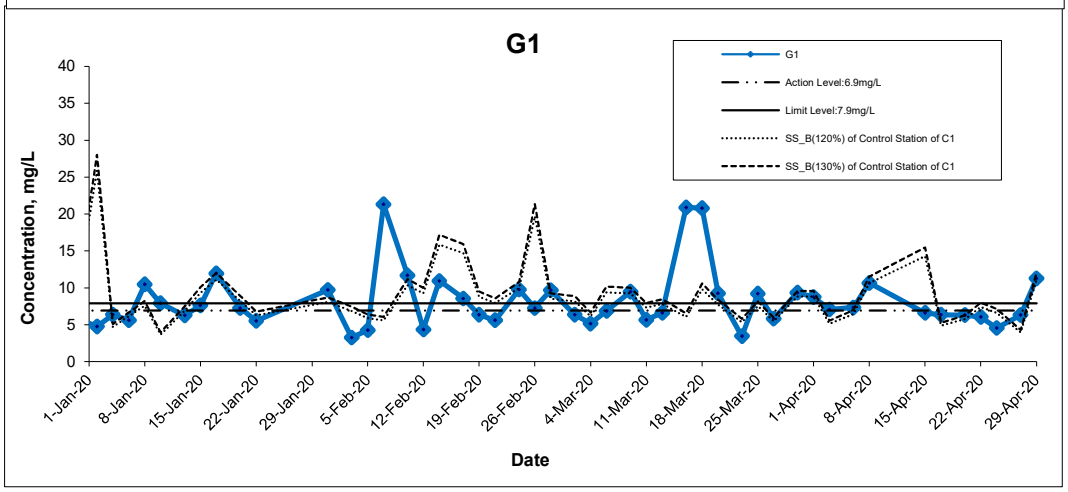


Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Apr 20	Project No. MA16034 Appendix F	CINOTECH

Suspended Solids (Bottom) at Mid-Flood Tide

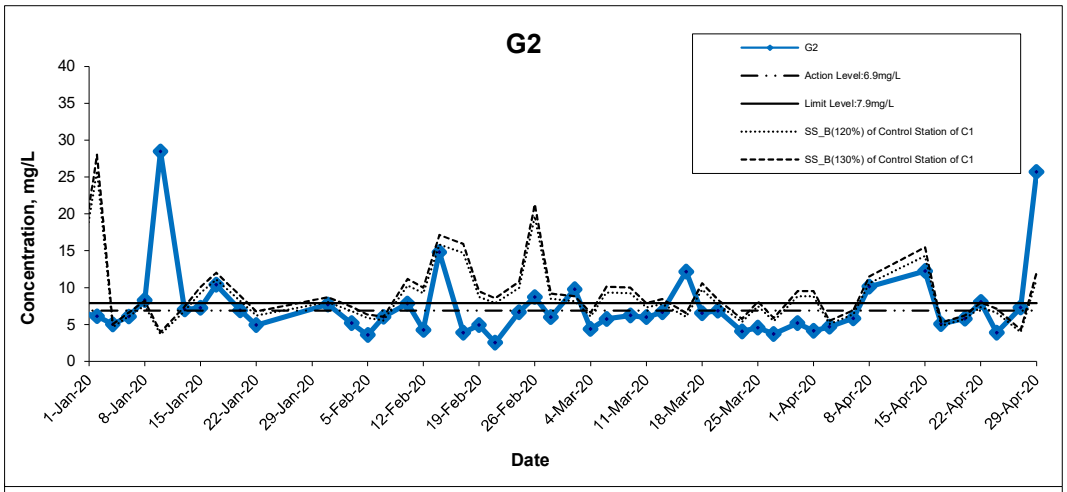


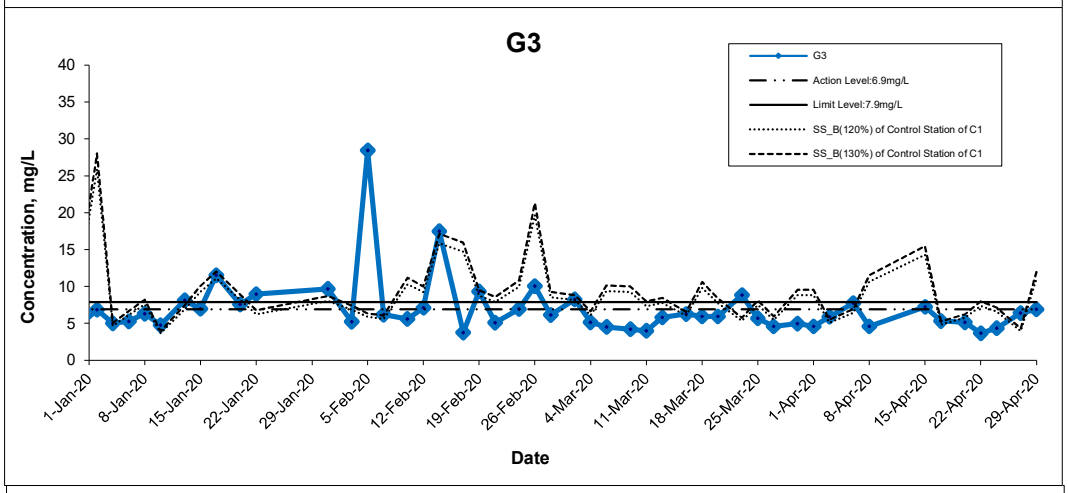


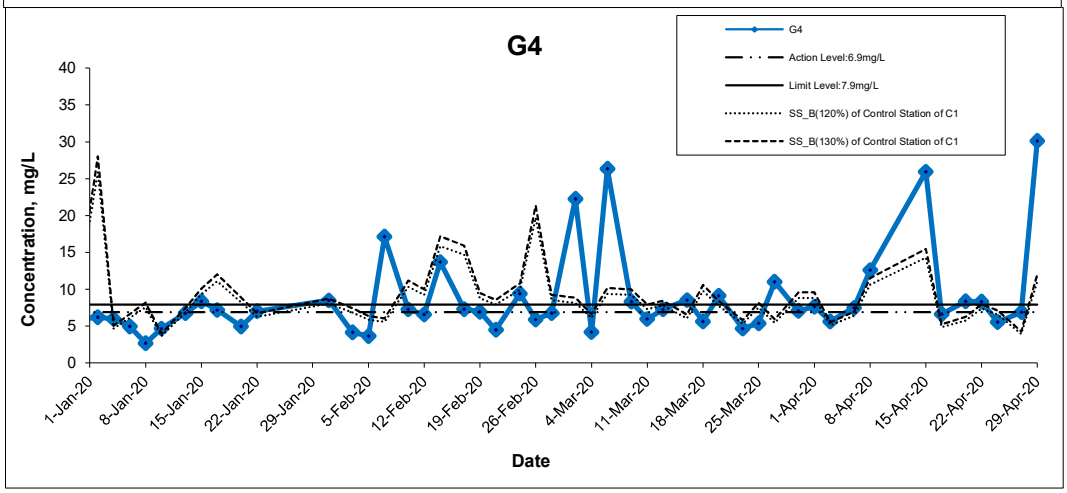


Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
		Date Apr 20	Appendix F	

Suspended Solids (Bottom) at Mid-Flood Tide







Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
		Date Apr 20	Appendix F	

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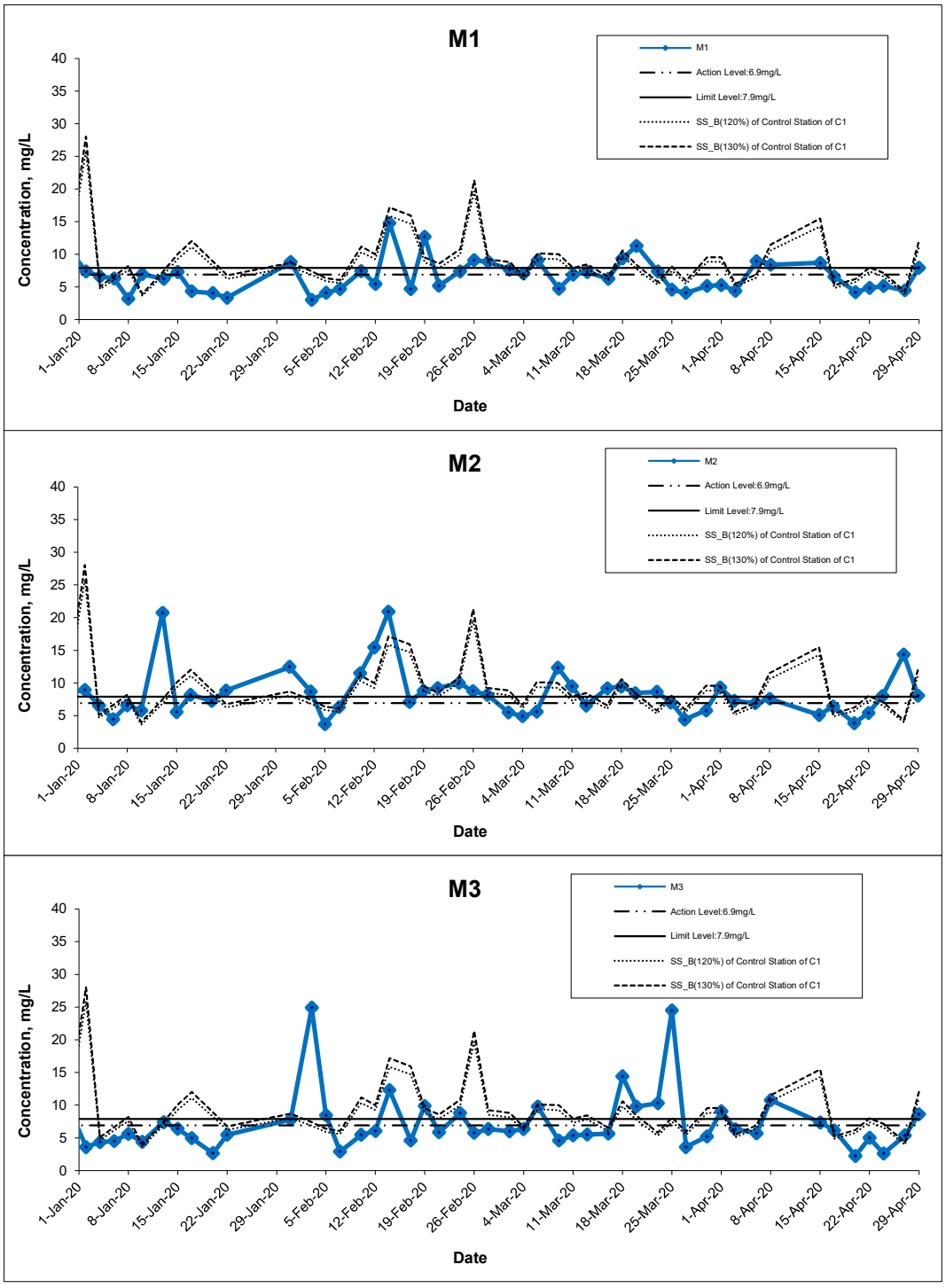
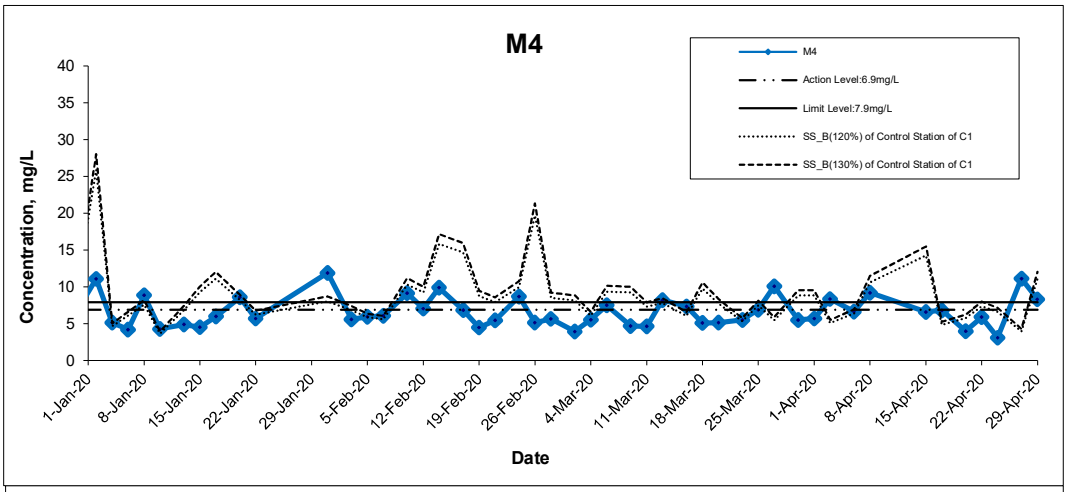
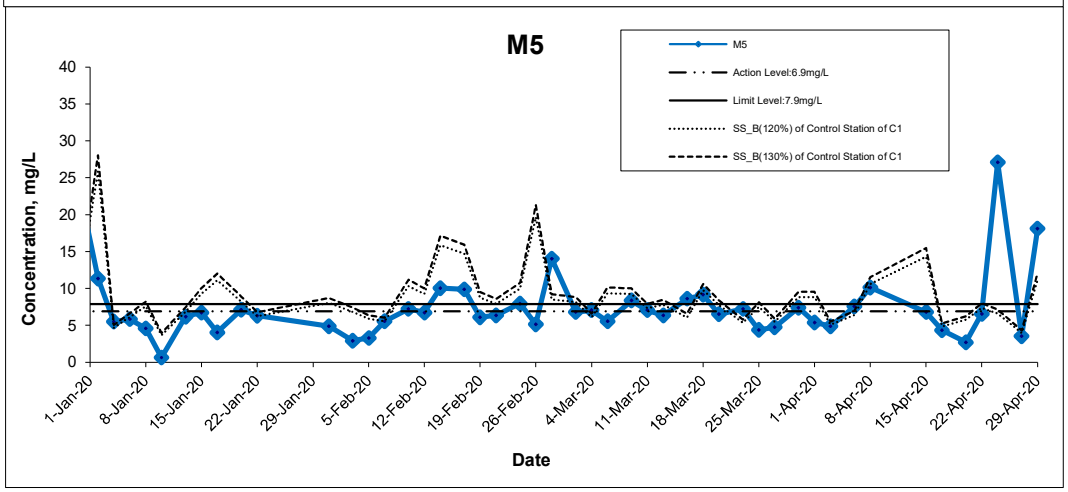


Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Apr 20	Project No. MA16034 Appendix F	CINOTECH

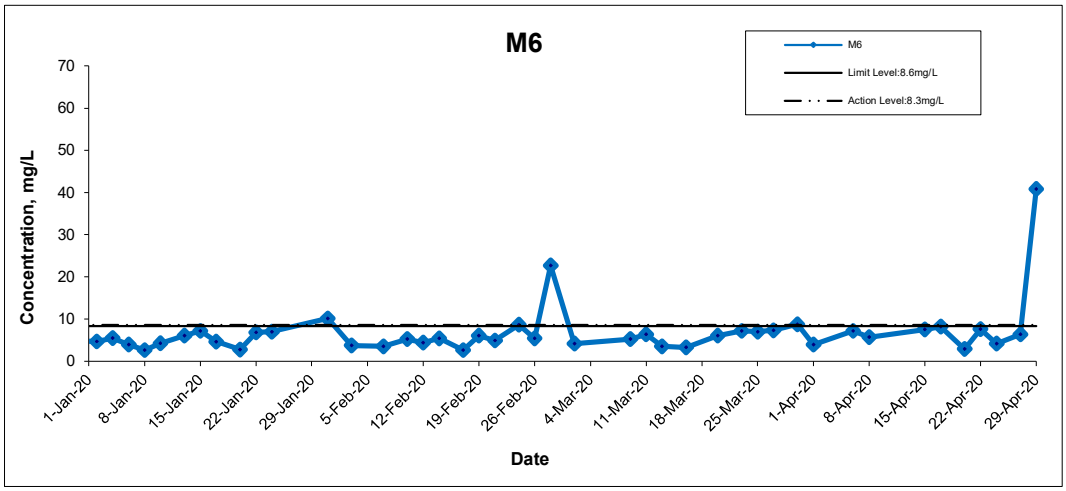
Suspended Solids (Bottom) at Mid-Flood Tide





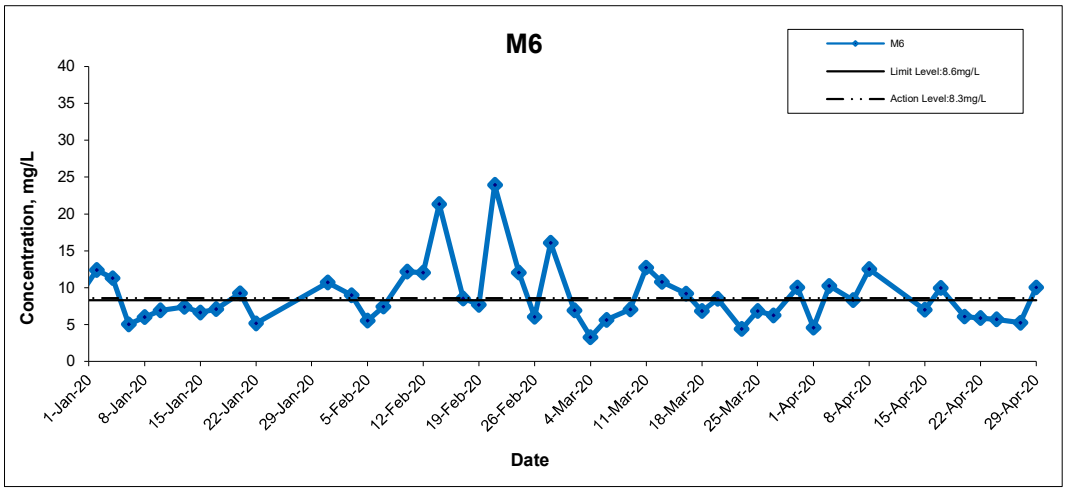
Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
		Date Apr 20	Appendix F	

Suspended Solids (Intake Level of WSD Salt Water Intake) at Mid-Ebb Tide



Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Apr 20	Project No. MA16034 Appendix F	CINOTECH

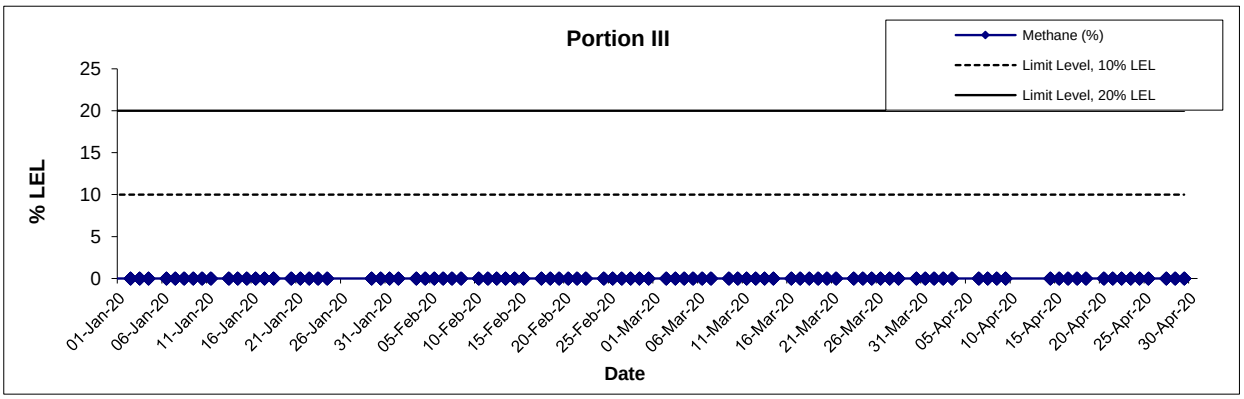
Suspended Solids (Intake Level of WSD Salt Water Intake) at Mid-Flood Tide



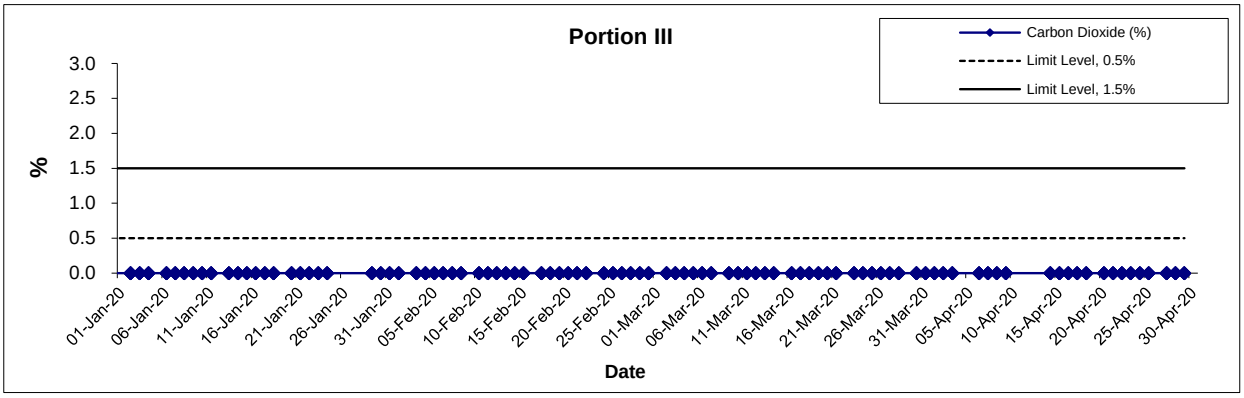
Title	Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Apr 20	Project No. MA16034 Appendix F	CINOTECH

APPENDIX G
GRAPHICAL PRESENTATION OF LANDFILL GAS MONITORING RESULTS

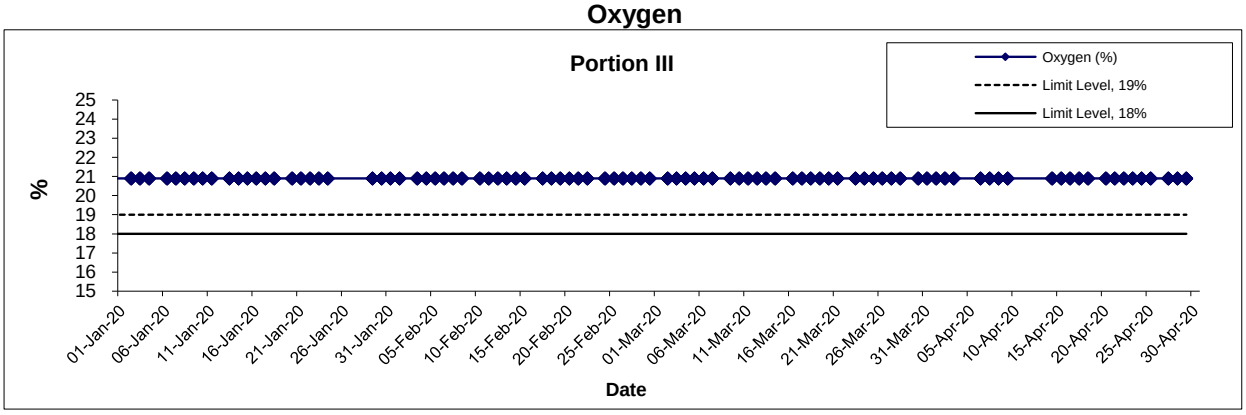
Methane



Carbon Dioxide



Oxygen



Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction	Scale N.T.S	Project No. MA16034	CINOTECH
	Date Apr-20	Appendix G	

APPENDIX H
SITE AUDIT SUMMARY

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction
Monthly EM&A Report

Appendix H Site Audit Summary (February 2020)

Contract No. NE/2015/01
Tseung Kwan O - Lam Tin Tunnel - Main Tunnel and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
At Tseung Kwan O side, muddy water was observed within silt curtain near sedimentation tank and Platform 1B and a track of dry mud was seen at the slope near the tank. Although silt curtain was provided, the Contractor is reminded to provide sufficient sediment control measures and ensure that wetsep is functioning.	19 Feb 2020	✓	26 Feb 20 No muddy water was observed duriung the site inspection.
Inadequate silt socks/sandbags and gaps between them could make some silts discharge into water. Tracks of dry mud at edges of the barge point were observed. Contractor is reminded to provide enough measures such as provide bund capacity/ enough materials to prevent accident leakage especially when it is rainy.		#	26 Feb 20 Though some silt socks/sandbags were put, gaps were found and effluent may leak to the sea. Contractor is reminded to put sufficient sand bags to the boundaries. Follow up will be taken in next site audit.
Drainage system was not adequate for the new work area next to roundabout of entrance to Portion III. Contractor is reminded to make sure that the U channel was connected to wet sep to prevent mud water direct to the public drainage system.		✓	26 Feb 20 U channel was connected to wet sep for treatment and materials in the channel were removed.
There were gaps between edges of the roro barge and effluent may accidentally leak from edges to the sea. Contractor is reminded to put sufficient sandbags/ silt socks to cover the entire boundaries of the barge.	26 Feb 2020	#	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste / Chemical Management			
Rubbish and C&D materials should be cleaned regularly and be sorted and covered with lids to avoid accumulation and enhance tidiness.	31 Jan 20	✓	31 Jan 20 The debris had been removed.
The Contractor is reminded to clean up the workspace next to the roundabout near the entrance for main works area and provide rubbish bin for workers.	12 Feb 20	✓	13 Feb 20 The waste was cleared.
The Contractor is reminded to provide cap to the breaker's head in order to prevent oil leakage.	12 Feb 20	✓	13 Feb 20 The cap was installed
Chemical tanks shall be covered with a drip tray in Slope Q.	26 Feb 20	#	--

Appendix H Site Audit Summary (February 2020)

Items	Date	Status*	Follow up Action
Impact on Cultural Heritage			
--	--	--	--
Permits / Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction
Monthly EM&A Report

Appendix H Site Audit Summary (February 2020)

Contract No. NE/2015/02
Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
The silt curtain shall not have gaps in between. The Contractor is required to strictly follow the approved SCDP and improve the current situation.	20 Feb 20	✓	20 Feb 20 The silt curtain had been replaced.
The embankment of drill-rig shall be repaired to prevent accidental spillage of muddy water.	11 Feb 20	✓	11 Feb 20 The soakaway-pipe within the embankment had been replaced and the embankment had been repaired on the same day.
Noise			
The location of silence-up next to drill-rig in surcharge area should be re-adjusted to block the direct sight from nearby NSR.	30 Jan 20	✓	6 Feb 20 The silence-up was re-located to a better location.
The acoustic sheet of the breaker at the surcharge area shall be replaced.	20 Feb 20	✓	27 Feb 20 The acoustic sheet had been replaced.
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste / Chemical Management			
The excavator in Portion IX shall be well maintain and avoid oil leakage.	27 Feb 20	#	--
Impact on Cultural Heritage			
--	--	--	--
Permits / Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but rectified by the contractor

Appendix H Site Audit Summary (February 2020)

Contract No. NE/2017/02

Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
Stockpiles of dusty materials shall be covered by impervious materials.	5 Feb 2020	✓	12 Feb 2020 The stockpiles had been covered.
Waste / Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permits / Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month

✻ Non-compliance of mitigation measure
• Non-compliance but rectified by the contractor

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction
Monthly EM&A Report

Appendix H Site Audit Summary (February 2020)

Contract No. NE/2015/03
Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge

Items	Date	Status *	Follow up Action
Water Quality			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste / Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permits / Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month

✻ Non-compliance of mitigation measure
• Non-compliance but rectified by the contractor

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction
Monthly EM&A Report

Appendix H Site Audit Summary (February 2020)

Contract No. NE/2017/01
Tseung Kwan O - Lam Tin Tunnel – Tsueng Kwan O Interchange and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
Individual silt curtain should maintain a minimum overlapping length of 500mm.	4 Feb 20	✓	11 Feb 20 The silt curtain had followed the SCDP and overlaps.
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste / Chemical Management			
Oil leakage was observed on platform 4E. The Contractor is reminded to clean it up.	11 Feb 20	✓	18 Feb 20 The oil stain had been cleaned up.
Impact on Cultural Heritage			
--	--	--	--
Permits / Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month

✻ Non-compliance of mitigation measure
• Non-compliance but rectified by the contractor

Appendix H Site Audit Summary

Contract No. — NE2015/01
Tseung Kwan O - Lam Tin Tunnel — Main Tunnel and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
Inadequate silt socks/sandbags and gaps between them could make some silts discharge into water and tracks of dry mud at edges of the barge point were observed. Contractor is reminded to provide enough measures such as provide bund capacity/ enough materials to prevent accident leakage especially when it is rainy.	19-Feb-20 26-Feb-20	✓	04-Mar-20 The silt sock/sandbags had been properly placed
Mud stains were observed near one edge of the roro barge and between gaps of the gangway. Contractor is reminded to put sandbags/ silt socks to cover whole boundary and possible areas of leakage.	18-Mar-20	✓	25-Mar-20 No mud stains were observed at edges of the roro barge and deeper bunds were constructed to minimize the accidental spillage of effluent
Ecology			
--	--	--	--
Noise			
An acoustic sheet of a breaker in CKLR of Portion I was broken. Contractor is reminded to repair it to reduce noise impacts.	25-Mar-20	#	--
Landscape and Visual			
--	--	--	--
Air Quality			
Sand piles and dry surface in Portion I should be covered by tarpaulins and /or be watered.	25-Mar-20	#	--
Waste/Chemical Management			
Chemical tanks shall be covered with a drip tray in Slope Q.	26-Feb-20	✓	04-Mar-20 The tanks had been removed.
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2015/02
Tseung Kwan O - Lam Tin Tunnel — Road P2 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
The Contractor is reminded to repair the semi-enclosure as soon as possible.	12-Mar-20 19-Mar-20	✓	13-Mar-20 / 19-Mar-20 The Contractor had repaired the semi-enclosure as far as possible.
The Contractor is reminded to apply noise barrier before the PME(s) operates.	12-Mar-20	✓	12-Mar-20 The Contractor stopped the PME immediately and requested workers to put up Silence-Up barrier before they continue
Noise mitigation measure should provide on the derrick barge before starting the works.	26-Mar-20	#	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
The excavator in Portion IX shall be well-maintained and avoid oil leakage	27-Feb-20	✓	05-Mar-20 The excavator had been removed.
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2017/02
Tseung Kwan O - Lam Tin Tunnel — Road P2/D4 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
The oil stain nearby generator MG-09 shall be cleaned up.	5-Mar-20 19-Mar-20	✓	6-Mar-20 & 20-Mar-20 The oil stain had been cleaned.
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
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✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2015/03
Tseung Kwan O - Lam Tin Tunnel — Northern Footbridge

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

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✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2017/01
Tseung Kwan O - Lam Tin Tunnel — Tseung Kwan O Interchange and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2015/01
Tseung Kwan O - Lam Tin Tunnel — Main Tunnel and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
The Contractor is reminded to place sand bags or around the boundary of ro-ro barge to prevent accidental spillage of muddy water.	8-Apr-20	✓	9-Apr-20 Silt socks had been placed around the boundary of the ro-ro barge.
The lifting hole of concrete blocks shall be filled to avoid water ponding. The hoarding shall be repaired to prevent water ponding. Ponding water near TKO cavern shall be cleared.	8-Apr-20 15-Apr-20 29-Apr-20	✓	9-Apr-20 Lifting holes had been filled with sand. 16-Apr-20 Broken hoardings had been replaced. 29-Apr-20 The ponding water had been pumped away.
The Contractor is reminded to clear the drainage.	8-Apr-20	✓	9-Apr-20 Drainage had been cleared.
Muddy water shall be treated before discharging.	22-Apr-20	✓	22-Apr-20 The depression had been filled to prevent accidental muddy water discharge.
Ecology			
--	--	--	--
Noise			
An acoustic sheet of a breaker in CKLR of Portion I was broken. Contractor is reminded to repair it to reduce noise impacts.	25-Mar-20	✓	1-Apr-20 The acoustic sheet had been replaced.
Landscape and Visual			
--	--	--	--
Air Quality			
Sand piles and dry surface in Portion I should be covered by tarpaulins and /or be watered.	25-Mar-20	✓	1-Apr-20 The stockpile had been removed.
Waste/Chemical Management			
Drip tray shall be provided to chemical storing area.	8-Apr-20	✓	9-Apr-20 Drip tray had been applied.
Oil stain along the road shall be cleaned. Oil stain in CKLR shall be cleaned	8-Apr-20 22-Apr-20	✓	9-Apr-20 & 22-Apr-20 Oil stains had been cleaned.
Impact on Cultural Heritage			
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Permit/Licenses			
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✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✗ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2015/02
Tseung Kwan O - Lam Tin Tunnel — Road P2 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
The Contractor is reminded to maintain the excavator in Portion IX properly to reduce noise impact.	23-Apr-20	✓	23-Apr-20 The Contractor tighted the screws to ensure properly connection between the grab and excavator to reduce noise impacts.
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2017/02
Tseung Kwan O - Lam Tin Tunnel — Road P2/D4 and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
Open stockpiles of dusty materials shall be covered with imprevious fabric.	16-Apr-20 29-Apr-20	✓ #	17-Apr-20 The area had been backfilled.
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2015/03
Tseung Kwan O - Lam Tin Tunnel — Northern Footbridge

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

Appendix H Site Audit Summary

Contract No. — NE2017/01
Tseung Kwan O - Lam Tin Tunnel — Tseung Kwan O Interchange and Associated Works

Items	Date	Status*	Follow up Action
Water Quality			
--	--	--	--
Ecology			
--	--	--	--
Noise			
--	--	--	--
Landscape and Visual			
--	--	--	--
Air Quality			
--	--	--	--
Waste/Chemical Management			
--	--	--	--
Impact on Cultural Heritage			
--	--	--	--
Permit/Licenses			
--	--	--	--

✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
✕ Observation/reminder was made during site audit but not yet improved/rectified by the contractor in the next site audit
\# Follow up action will be reported in next reporting month
✻ Non-compliance of mitigation measure
• Non-compliance but improved by the contractor

APPENDIX I
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

Table I – Recommended Mitigation Measures stipulated in EM&A Manual of the Project

(Further information on observations/reminders/non-compliance made during site audit should refer to Table II)

Key:
^ Mitigation measure was fully implemented.
* Observation/reminder was made during site audit but improved/rectified by the contractor.
# Observation/reminder was made during site audit but not yet improved/rectified by the contractor.
X Non-compliance of mitigation measure
• Non-compliance but rectified by the contractor
N/A Not Applicable

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?	Status
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. - Use of frequent watering for particularly dusty construction areas and areas close to ASRs. - 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.	To minimize the dust impact	Contractor	All Construction Work Sites	Construction phase	APCO and Air Pollution Control (Construction Dust) Regulation	*(1) (2) #(1)

	- Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. - Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. - Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. - 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. - 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. - Imposition of speed controls for vehicles on site haul roads. - Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs - 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. - Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.						
/	Emission from Vehicles and Plants • All vehicles shall be shut down in intermittent use. • Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke. • All diesel fuelled construction plant within the works areas shall be powered by ultra low sulphur diesel fuel (ULSD)	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	• APCO	^ ^ ^

/	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	• APCO	^
Noise Impact (Construction Phase)							
S4.8	- Use of quiet PME. Use of movable noise barriers for Excavator, Lorry, Dump Truck, Mobile Crane, Compactor, Concrete Mixer Truck, Concrete Lorry Mixer, Breaker, Mobile Crusher, Backhoe, Vibratory Poker, Saw, Asphalt Paver, Vibratory Roller, Vibrolance, Hydraulic Vibratory Lance and Piling (Vibration Hammer). Use of full enclosure for Air Compressor, Compressor, Bar Bender, Generator, Drilling Rig, Chisel, Large Diameter Bore Piling, Grout Mixer & Pump and Concrete Pump.	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TM, NCO	^
Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, SilentUp and etc.) or Full Enclosure for PME according to the approved Noise Mitigation Plan	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work Sites	Construction phase	EIAO-TM, NCO	*(3) (4) (5) (6) (7) (8)
S4.9	Good Site Practice - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program - Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program. - Mobile plant, if any, should be sited as far away from NSRs as possible. - 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.	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TM, NCO	^ ^ ^ ^

	- 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. - Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.						^ ^
S4.9	Scheduling of Construction Works during School Examination Period	To minimize construction noise impact arising from the Project at the affected NSRs	Contractor	Work site near school	Construction phase	EIAO-TM, NCO	N/A
Water Quality Impact (Construction Phase)							
S5.6.24	The dry density of filling material for the TKO-LT Tunnel reclamation should be 1,900kg/m^3, with fine content of 25% or less	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO	N/A
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	N/A
S5.8.2	Formation of seawall enclosing the reclamation for Road P2 (notwithstanding an opening of about 50m for marine access) shall be completed prior to the filling activities. The seawall opening of about 50m wide for marine access shall be selected at a location as indicatively shown in Appendix 5.10. No more than 3 filling barge trips per day shall be made with a maximum daily rate of 3,000m^3 (i.e. 1,000 m^3 per trip) for the filling operation at the reclamation area for Road P2. All filling works shall be carried out behind the seawall with the use of single silt curtain at the marine access.	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO	N/A
Silt Curtain	- Silt curtains should be deployed properly to surround the works area. - Maintenance of silt curtain should be provided.	Control potential impacts from	Contractor	NE/2015/01	Construction stage	EIAO	^

Deployment Plan	- Sufficient stock of silt curtain should be provided on site.	marine woroks					
S5.8.3	Other good site practices should be undertaken during filling operations include: - 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; - floating single silt curtain shall be employed for all marine works; - 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; - all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; - excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved; - adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; - 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; - any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes; - 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 - 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.	Control potential impacts from filling activities and marine-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, Waste Disposal Ordinance (WDO)	^ ^ ^ ^ ^ ^ ^ ^ N/A

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	N/A
ERR S5.6.1	To minimize water quality impact arising from the dredging and filling works for Reclamation for Road P2, the following mitigation measures shall be implemented: - Before carrying out any dredging and underwater filling works, a temporary barrier shall first be constructed to a height above the high water mark to completely enclose the works site (without any opening at the barrier wall) - The temporary barrier fully enclosing the dredging and underwater filling works site shall not be removed before completion of all dredging and underwater filling works. - Water quality sampling and testing shall be carried out to demonstrate that the water quality inside the enclosed barrier is comparable to the ambient or baseline levels prior to the removal of the fully enclosed barrier. - Silt curtains shall be deployed for the installation and removal of the temporary barrier and at the double water gates marine access opening during its operation.	Control potential impacts from dredging and filling works for Reclamation for Road P2	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	N/A N/A N/A N/A
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	Control potential	CEDD's	Work site	Design Stage	ProPECC PN	^

	both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	impacts from construction site runoff and land-based construction	Contractors		and Construction Phase	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	*(11) (12) (13) (14) (15) (16) (17)
S5.8.8	Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include: - use of sediment traps; and - adequate maintenance of drainage systems to prevent flooding and overflow.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^ N/A ^
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	Control potential	CEDD's	Work site	Construction	ProPECC PN	^

	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.	impacts from construction site runoff and land-based construction	Contractors		Phase	1/94, EIAOTM, WPCO	
S5.8.11	Sedimentation tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m^3 capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO S5	^
S5.8.12	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO S5	^
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	^
S5.8.14	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50m^3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	Control potential impacts from construction site runoff and land-based	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^

		construction					
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	N/A
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	Control potential	CEDD's	Work site	Construction	ProPECC PN	^

	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.	impacts from construction site runoff and land-based construction	Contractors		Phase	1/94, EIAOTM, WPCO	
S5.8.20	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There shall be no direct discharge of effluent from the site into the sea.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.21	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.23	Minimum distances of 100m shall be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes during construction and operational phases	Control potential impacts from construction site runoff and land-based	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, TMDSS	^

		construction					
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	N/A
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	N/A
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	Control potential impacts from	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM,	^

	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.	construction site runoff and land-based construction				WPCO	
S5.8.32	All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.33	Bentonite slurries used in diaphragm wall and borepile construction should be reconditioned and reused wherever practicable. If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	N/A
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	N/A
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	Control potential impacts from	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM,	N/A

	discharged into storm drains.	construction site runoff and land-based construction				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	N/A
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	N/A
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	N/A
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	^
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)	Control potential impacts from accidental	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO	^

	(General) Regulation should be observed and complied with for control of chemical wastes.	spillage of chemicals					
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: - suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; - chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and - storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO	*(18) (19) (20) (21) (22) ^ ^
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	***Measures to Minimize Disturbance*** - Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible. - Hoarding or fencing should be erected around the works area boundaries during	Minimize noise, human and traffic disturbance to	Design Team / Contractor	Land-based works are	Construction Phase	N/A	^ ^

	the construction phase. The hoarding would screen adjacent habitats from construction phase activities, reduce noise disturbance to these habitats and also to restrict access to habitats adjacent to works areas by site workers; - Regular spraying of haul roads to minimize impacts of dust deposition on adjacent vegetation and habitats during the construction activities	terrestrial habitat and wildlife; and reduce dust generation					^
S6.8.5	***Standard Good Site Practice*** - Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats. - Construction activities should be restricted to works areas that should be clearly demarcated. The works areas should be reinstated after completion of the works. - Waste skips should be provided to collect general refuse and construction wastes. The wastes should be properly disposed off-site in a timely manner. - General drainage arrangements should include sediment and oil traps to collect and control construction site run-off. - Open burning on works sites is illegal, and should be strictly prohibited. - Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.	Reduce disturbance to surrounding habitats	Contractor	Land-based works are	Construction Phase	N/A	^ ^ ^ ^ ^ ^
S6.8.6	***Measure to Minimize Groundwater Inflow*** - The drained tunnel construction method with groundwater inflow control measures would generally be adopted. - During the tunnel excavation, pre-excavation grouting could be adopted to reduce the groundwater inflow and ensure that the tunnel would meet the long term water tightness requirements.	Minimize groundwater inflow	Contractor	Tunnel	Construction Phase	N/A	N/A N/A
S6.8.8	***Measure to Minimize Impact on Corals*** <u>Coral translocation</u> - It is recommended to translocate the affected coral colonies, except the locally common *Oulastrea crispata*, within the reclamation area and bridge footprint to the	Minimize loss of coral	Design team, contractor, project	Within reclamation areas and pier footprint	Prior construction	N/A	^

	other suitable locations as far as practicable. - 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). - 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. - The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and AFCD) before commencement of the coral translocation. All the translocation exercises should be conducted by experienced marine ecologist(s) who is/are approved by AFCD prior to commencement of coral translocation. <u>Post translocation Monitoring</u> - A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the translocated coral communities - 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.		operator				^ ^ ^ ^ ^ ^
S6.8.9 S6.8.10	***Measure to Control Water Quality Impact*** - Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area. - Diverting of the site runoff to silt trap facilities before discharging into storm drain; - Proper waste and dumping management; and - Standard good-site practice for land-based construction.	Control water quality impact, especially on suspended solid level; minimize the contamination of wastewater discharge,	Design Team, contractor	Marine and landbased works area	Construction phase	WQO	N/A ^ ^ ^

		accidental chemical spillage and construction site runoff to the receiving water bodies					
S6.8.11	***Compensation for Vegetation Loss*** - Felling of mature trees should be compensated by planting of standard or heavy standard trees within or in vicinity of the affected area as far as practicable. Such compensatory planting for trees should be provided with at least a 1:1 ratio. In addition, vegetation at the temporarily affected area should be reinstated with species similar to the existing condition.	Compensate for the vegetation loss	Design Team, contractor	Land-based works area	Construction phase	N/A	^
Fisheries Impact							
S7.7.3	***Measure to Control Water Quality Impact*** - Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine work area	Construction phase	WQO	^
Waste Management (Construction Phase)							
S8.6.3	***Good Site Practices and Waste Reduction Measures*** - Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; - Training of site personnel in site cleanliness, proper waste management and chemical handling procedures; - Provision of sufficient waste disposal points and regular collection of waste; - Appropriate measures to minimize windblown litter and dust during transportation	To reduce waste management impacts	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354) Land (Miscellaneous Provisions) Ordinance (Cap.	^ ^ ^ ^

	of waste by either covering trucks or by transporting wastes in enclosed containers; and - Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.					28)	^
S8.6.4	***Good Site Practices and Waste Reduction Measures (con't)*** - Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; - Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce; - Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and - Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.	To achieve waste reduction	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354) Land (Miscellaneous Provisions) Ordinance (Cap. 28)	^ ^ ^ ^
S8.6.5	***Good Site Practices and Waste Reduction Measures (con't)*** The Contractor shall prepare and implement a WMP as part of the EMP in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement the waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor.	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005	^
S8.6.6	***Good Site Practices and Waste Reduction Measures (con't)*** - C&D materials would be reused in the project and other local concurrent projects as far as possible.	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005	^
S8.6.7	***Storage, Collection and Transportation of Waste***	To minimize	Contractor	All work	Construction	-	

	Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include: - Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution; - Maintain and clean storage areas routinely; - Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and - Different locations should be designated to stockpile each material to enhance reuse.	potential adverse environmental impacts arising from waste storage		sites	Phase		^ ^ ^ ^
S8.6.8/ Waste Management Plan	***Storage, Collection and Transportation of Waste (con't)*** - Remove waste in timely manner; - Waste collectors should only collect wastes prescribed by their permits; - Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers; - 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); - Waste should be disposed of at licensed waste disposal facilities/ alternative disposal ground approved by RE and DEP; and - Maintain records of quantities of waste generated, recycled and disposed.	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All work sites	Construction Phase		*(19) ^ ^ ^ ^ ^
S8.6.9/ Waste Management Plan	***Storage, Collection and Transportation of Waste (con't)*** - Implementation of trip ticket system with reference to DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials, to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) should be proposed.	To minimize potential adverse environmental impacts arising from waste collection and	Contractor	All work sites	Construction Phase	DEVB TCW No. 6/2010	^

		disposal					
S8.6.11 - S8.6.13/ Waste Management Plan	***Sorting of C&D Materials*** - Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site. - Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials. - The C&D materials should at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled in the reclamation as far as practicable before delivery to PFRFs. While opportunities for reusing the non-inert portion should be investigated before disposal of at designated landfills	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	^ ^ ^
S8.6.17 – S8.6.20	***Sediments (con't)*** - 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. - 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). - 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. - 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	To determine the best handling and treatment of sediment	Contractor	All works areas with sediments concern	Construction Phase		^ ^ ^ N/A

	should also be provided on site.						
S8.6.24 - S8.6.28/ Waste Management Plan	***Sediments (con't)*** - The excavated sediments is expected to be loaded onto the barge and transported to the designated disposal sites allocated by the MFC. The excaveted sediment would be disposed of according to its determined disposal options and ETWB TC(W) No. 34/2002. - 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). - 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. - 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.	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	^ ^ ^ ^

	- 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. - 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.						N/A N/A
S8.6.26/ Waste Management Plan	***Chemical Wastes.*** - If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	To ensure proper management of chemical waste	Contractor	All works sites	Construction Phase	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes Waste Disposal (Chemical Waste) (General) Regulation	^
S8.6.27/ Waste Management Plan	***General Refuse*** - General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the	To ensure proper management of general refuse	Contractor	All works sites	Construction Phase	Public Health and Municipal Services Ordinance (Cap. 132)	^

	occurrence of 'wind blown' light material.						
Impact on Cultural Heritage (Construction Phase)							
S9.6.4	Dust and visual impacts - Temporarily fenced off buffer zone with allowance for public access (minimum 1 m) should be provided; - The open yard in front of the temple should be kept as usual for annual Tin Hau festival; - Monitoring of vibration impacts should be conducted when the construction works are less than 100m from the temple.	To prevent dust and visual impacts	Contractors	Work areas	Construction Phase	EIAO; GCHIA; AMO	^ ^ ^
S9.6.4	Indirect vibration impact - Vibration level is suggest to be controlled within a peak particle velocity (ppv) limit of 5mm/s measured inside the historical buildings; - Monitoring of vibration should be carried out during construction phase. - Tilting and settlement monitoring should will be applied on the Cha Kwo Ling Tin Hau Temple as well. - A proposal with details for the mitigation measures and monitoring of impacts on built heritage shall be submitted to AMO for comments before commencement of work.	To prevent indirect vibration impact	Contractors	Work areas	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.	^ ^ ^ ^
Built Heritage Mitigation Plan	- Established Alert, Alarm and Action Level for the monitoring parameters. - To increase the instrumentation monitoring and reporting frequency. - To propose detailed action plan or contingency plan for the Engineer's approval when AAA Level is reached or exceeded.	To prevent vibration impacts	NE/2015/01	Tin Hau Temple	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.	^ ^ ^
Landscape and Visual Impact (Construction Phase)							
Table 10.8.1/ Landscape	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	N/A	^

Mitigation Plan					period		
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	CM6 - Advance screen planting of fast growing tree and shrub species to noise	To maximize	CEDD (via	At Lam Tin	Beginning of	N/A	^

10.8.1/ Landscape Mitigation Plan	barriers and hoardings. Trees shall be capable of reaching a height >10m within 10 years.	screening of the works	Contractor)	Interchange and edge of Road P2 landscape deck, TKO	construction period		
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	N/A
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	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	^

Plan							
Table 10.8.1/ Landscape Mitigation Plan	CM11 - Limitation of run-off into freshwater streams, ponds and sea areas	Avoidance of contamination of water courses and water bodie	CEDD (via Contractor)	TKO reclamation, TKO tunnel portal, Cha Kwo Ling roadworks	Throughout construction period	N/A	^
Table 10.8.1	CM12 - Minimise area of reclamation and design the edges sensitively to tie in with adjacent coastline characte	Minimise loss of Junk Bay and integration with existing coastlin	CEDD (via Contractor)	Temporary reclamation for barging points at TKO and Lam Tin and permanent reclamation for TKO Interchange slip roads and Road P2	Construction planning and reclamation stages	N/A	N/A
Landfill Gas Hazard (Design and Construction Phase)							
S11.5.9	A Safety Officer, trained in the use of gas detection equipment and landfill gas-related hazards, should be present on site throughout the groundworks phase. The Safety Officer should be provided with an intrinsically safe portable instrument, which is appropriately calibrated and able to measure the following gases in the ranges indicated below: Methane 0-100% LEL and 0100% v/v	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	^

	Carbon dioxide 0-100% Oxygen 0-21%						
S11.5.10 S11.5.25	***Safety Measures*** - 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. - An excavation procedure or code of practice to minimize landfill gas related risk should be devised and carried out. - 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. - 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. - Welding, flame-cutting or other hot works should be confined to open areas at least 15m from any trench or excavation. - 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). - 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	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	^ ^ ^ ^ ^ ^ ^

	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.						
	- 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.						^
	- 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.						^
	- During construction, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.						^
	- Fire drills should be organized at not less than six monthly intervals.						
	- The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.						^ ^
	- 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.						^

	- 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). - 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.						^ ^
S11.5.26 - S11.5.31	***Monitoring*** ● Routine monitoring should be carried out in all excavations, manholes, chambers, relocation of monitoring wells and any other confined spaces that may have been created. All measurements in excavations should be made with the extended monitoring tube located not more than 10 mm from the exposed ground surface. Monitoring should be performed properly to make sure that the area is free of landfill gas before any man enters into the area. ● For excavations **deeper than 1m**, measurements should be carried out: - at the ground surface before excavation commences;- - immediately before any worker enters the excavation; - at the beginning of each working day for the entire period the excavation remains open; and - periodically throughout the working day whilst workers are in the excavation.	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	^ ^

	● For excavations **between 300mm and 1m deep**, measurements should be carried out: - directly after the excavation has been completed; and - periodically whilst the excavation remains open. ● For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person. ● Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or other appropriately qualified person. ● The exact frequency of monitoring should be determined prior to the commencement of works, but should be at least once per day, and be carried out by a suitably qualified or qualified person before starting the work of the day. Measurements shall be recorded and kept as a record of safe working conditions with copies of the site diary and submitted to the Engineer for approval. The Contractor may elect to carry out monitoring via an automated monitoring system.						^ ^ ^ ^
S11.5.32	The hazards from landfill gas during the construction stage within the Sai Tso Wan Landfill Consultation Zone should be minimized by suitable precautionary measures recommended in Chapter 8 of the Landfill Gas Hazard Assessment Guidance Note.	construction stage within the Sai Tso Wan Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note	N/A

Table II - Observations/reminders/non-compliance made during Site Audit

Key: * Observation/reminder was made during site audit but improved/rectified by the contractor.

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

X Non-compliance of mitigation measure

• Non-compliance but rectified by the contractor

Status / Remark	EIA Ref.	Recommended Mitigation Measures	Contract No.	Work Sites	Details of Observation/Reminder
Air Quality Impact (Construction Phase)					
*(1) (2) #(1)	S3.8.7	- Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides. - Use of frequent watering for particularly dusty construction areas and areas close to ASRs.. - 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. - Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. - Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.	NE/2015/01	Construction of Lam Tin Interchange	• Sand piles and dry surface in Portion I should be covered by tarpaulins and /or be watered.
			NE/2017/02	Road P2/D4 and Associated Works	• Open stockpiles of dusty materials shall be covered with imprevious fabric.
			NE/2017/02	Road P2/D4 and Associated Works	• Stockpiles of dusty materials shall be covered with impervious fabric (Zone B).

		- Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.			
Construction Noise Impact					
*(3) (4) (5) (6) (7) (8)	Noise Mitigation Plan	- Use of Temporary Noise Barriers (i.e Acoustic box, Silent Up, and etc) or Full Enclosure for PME according to the approved Noise Mitigation Plan	NE/2015/01	Construction of Lam Tin Interchange	• An acoustic sheet of a breaker in CKLR of Portion I was broken. Contractor is reminded to repair it to reduce noise impacts.
			NE/2015/02	Marine Works Area	• Noise mitigation measure should provide on the derrick barge before starting the works.
			NE/2015/02	Potion IX	• The location of silence-up next to drill-rig in surcharge area should be re-adjusted to block the direct sight from nearby NSR. • The acoustic sheet of the breaker at the surcharge area shall be replaced.
			NE/2015/02	Potion IX	• An acoustic sheet of a breaker in CKLR of Portion I was broken. Contractor is reminded to repair it to reduce noise impacts.
			NE/2015/02	Potion IX	• The Contractor is reminded to repair the semi-enclosure as soon as possible.
			NE/2015/02	Potion IX	• The Contractor is reminded to maintain the excavator in Portion IX properly to reduce noise impact.
Water Quality Impact (Construction Phase)					
*(9)	Silt Curtain Deployment Plan	- Silt curtains should be deployed properly to surround the works area.	NE2017/01	Marine Works Area	• Individual silt curtain should maintain a minimum overlapping length of 500mm.
*(10)	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	NE/2015/01	Construction of Lam Tin Interchange	• Drainage system was not adequate for the new work area next to roundabout of entrance to Portion III. Contractor is reminded to make sure that the U channel was connected to wet sep to prevent mud water direct to the public drainage system.

		minimise surface water runoff, soil erosion and sewage effluents.			
*(11) (12) (13) (14) (15) (16) (17)	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.	NE/2015/01	Construction of Lam Tin Interchange	• At Tseung Kwan O side, muddy water was observed within silt curtain near sedimentation tank and Platform 1B and a track of dry mud was seen at the slope near the tank. Although silt curtain was provided, the Contractor is reminded to provide sufficient sediment control measures and ensure that wetsep is functioning.
			NE/2015/01	Construction of Lam Tin Interchange	• Inadequate silt socks/sandbags and gaps between them could make some silts discharge into water. Tracks of dry mud at edges of the barge point were observed. Contractor is reminded to provide enough measures such as provide bund capacity/ enough materials to prevent accident leakage especially when it is rainy.
			NE/2015/01	Construction of Lam Tin Interchange	• There were gaps between edges of the roro barge and effluent may accidentally leak from edges to the sea. Contractor is reminded to put sufficient sandbags/ silt socks to cover the entire boundaries of the barge. • The Contractor is reminded to place sand bags or around the boundary of ro-ro barge to prevent accidental spillage of muddy water.
			NE/2015/01	Construction of Lam Tin Interchange	• Mud stains were observed near one edge of the roro barge and between gaps of the gangway. Contractor is reminded to put sandbags/ silt socks to cover whole boundary and possible areas of leakage.
			NE/2015/01	Construction of Lam Tin Interchange	• Muddy water shall be treated before discharging.
			NE/2015/01	Construction of Lam Tin Interchange	• The lifting hole of concrete blocks shall be filled to avoid water ponding. • The hoarding shall be repaired to prevent water ponding. • Ponding water near TKO cavern shall be cleared.

			NE/2015/01	Construction of Lam Tin Interchange	• The Contractor is reminded to clear the drainage.
*(18) (19) (20) (21) (22)	S5.8.46	- Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes" published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: - suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; - chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and - Storage area should be selected at a safe location on site and adequate space should be allocated to the	NE/2015/01	Construction of Lam Tin Interchange	• Rubbish and C&D materials should be cleaned regularly and be sorted and covered with lids to avoid accumulation and enhance tidiness. • The Contractor is reminded to clean up the workspace next to the roundabout near the entrance for main works area and provide rubbish bin for workers • The Contractor is reminded to provide cap to the breaker's head in order to prevent oil leakage. • Chemical tanks shall be covered with a drip tray in Slope Q.
			NE/2015/02	Portion IX	• The excavator in Portion IX shall be well maintain and avoid oil leakage.
			NE/2015/02	Portion IX	• The excavator in Portion IX shall be well-maintained and avoid oil leakage

		storage area.	NE/2017/02	C3 Work Area	• The oil stain nearby generator MG-09 shall be cleaned up.
			NE/2017/01	Platform 4E	• Oil leakage was observed on platform 4E. The Contractor is reminded to clean it up.

APPENDIX J
WASTE GENERATED QUANTITY

Name of Department: Civil Engineering Development Department

Contract No.: NE/2015/01

LEIGHTON 德祈·中建聯營 Leighton - China State Joint Venture

Monthly Summary Waste Flow Table for Apr 2020

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
January	131.325	42.581	0.000	42.581	88.744	0.000	0.000	0.000	0.000	3.040	0.360
February	124.053	43.467	0.000	43.467	80.586	0.000	0.000	0.000	0.000	0.000	0.336
March	159.135	35.849	0.000	35.849	123.286	0.000	0.000	0.000	0.000	0.000	0.489
April	100.501	15.158	0.000	15.158	85.343	0.000	0.000	0.000	0.000	1.920	0.304
May											
June											
Sub-total	515.014	137.055	0.000	137.055	377.959	0.000	0.000	0.000	0.000	4.960	1.489
July											
August											
September											
October											
November											
December											
Total											

Total inert C&D waste generated = c+d+e

Total inert C&D waste recycled = c+d

% of recycled inert C&D waste = Total C&D waste recycled / Total C&D waste generated

Notes:
(1) The performance target are given in PS Clause 6(14)
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
(4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m3. (PS Clause 1.105(4) refers)
(5) All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.
(6) Conversion factors for reporting purpose:
in-situ: rock = 2.5 tonnes/m^3; soil = 2.0 tonnes/m^3
(7) excavated: rock = 2.0 tonnes/m^3; soil = 1.8 tonnes/m^3; broken concrete and bitumen = 2.4 tonnes/m^3, soil and rock = 1.9 tonnes/m^3
(8) C&D Waste = 0.9 tonnes/m^3; bentonite slurry = 2.8 tonnes/m^3
Diesel density: 0.8kg/l
Numbers are rounded off to the nearest three decimal places
The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"

NE2015/02

Monthly Summary Waste Flow Table for 2020 Year

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, e.g. general refuse
	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000m^3]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m^3]
Jan	30.64412	0.00000	0.00000	0.00000	24.22533	6.41880	5.41000	0.00000	0.00000	0.00000	0.04746
Feb	39.14024	0.00000	0.00000	0.00000	32.17651	6.96373	370.20000	0.00000	0.00000	0.00000	0.07116
Mar	27.14772	0.00000	0.00000	0.00000	15.34531	11.80241	29.85000	0.00000	0.00000	0.00000	0.06906
Apr	5.83584	0.00000	0.00000	0.00000	3.63701	2.19883	39.04000	0.00000	0.00000	0.00000	0.05324
May											
June											
SUB-TOTAL	**102.76791**	**0.00000**	**0.00000**	**0.00000**	**75.38415**	**27.38377**	**444.50000**	**0.00000**	**0.00000**	**0.00000**	**0.24092**
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
TOTAL											

Note: Conversion to 1000m^3 for general refuse is weight in 1000kg multiply by 0.002

Conversion to 1000m^3 for Inert C&D is weight in 1000kg multiply by 0.0005

Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material

GTECH Services (Hong Kong) Limited

Name of Department: Civil Engineering & Development Department

Contract No.: NE/2017/06

Monthly Summary Waste Flow Table For 2020

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. General Refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0
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											
Sub-total	0	0	0	0	0	0	0	0	0	0	0
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0	0	0	0	0	0	0	0	0	0	0

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(2) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.

(3) Each dump truck carries 6m^3 of general refuse.

(4) The commencement date of the Contract is 9 November 2018. The current reporting period is from 1 April 2020 to 30 April 2020.

Tseung Kwan O - Lam Tin Tunnel - Tseung Kwan O Interchange and Associated Works
(NE/2017/01)

俊和－上隧－中冶聯營
CW - STEC - CMGC JV

Monthly Summary Waste Flow Table for 2020

Name of Department: Civil Engineering and Development Department

Contract No.: NE/2017/01

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.0163	0.0000	0.0000	0.0000	0.0163	0.0000	0.0000	0.0000	0.0000	0.0000	0.0033
Feb	0.2601	0.0000	0.0000	0.0000	0.2601	0.0000	11.2600	0.0000	0.0000	0.0000	0.0017
Mar	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0044
Apr	0.0105	0.0000	0.0000	0.0000	0.0105	0.0000	0.0000	0.0000	0.0224	0.0000	0.0033
May											
Jun											
Sub-total	0.2869	0.0000	0.0000	0.0000	0.2869	0.0000	11.2600	0.0000	0.0224	0.0000	0.0126
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.2869	0.0000	0.0000	0.0000	0.2869	0.0000	11.2600	0.0000	0.0224	0.0000	0.0126

Notes:

1. Assume the density of soil fill is 2 ton/m^3.
2. Assume the density of rock and broken concrete is 2.5 ton/m^3.
3. Assume the density of mixed rock and soil is 1.9 ton/m^3.
4. Assume the density of slurry and bentonite is 2.8 ton/m^3.
5. The slurry and bentonite are disposed at Tseung Kwan O Area 137 Fill Bank.
6. Assume the density of C&D waste is 0.9 ton/m^3.
7. The non-inert C&D wastes are disposed at NENT.

Monthly Summary of Waste Flow Table for 2020

Name of Person completing the Record: Joshua Tam

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated	Broken Concrete *(see Note 1)*	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals	Paper/ cardboard packaging	Plastics *(see Note 2)*	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000 Kg)	(in '000m^3)
Jan	0.4469	0	0	0	0.4469	0	0	0	0	0.0020
Feb	0.5532	0	0	0	0.5532	0	0	0	0	0.0390
Mar	0.6280	0	0	0	0.6280	0	0	0	0	0.0079
Apr	0.0000	0	0	0	0.3370	0	0	0	0	0.0027
May	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Jun	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Sub-total	1.6281	0	0	0	1.9651	0	0	0	0	0.0515
Jul	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Aug	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Sep	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Oct	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Nov	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Dec	0.0000	0	0	0	0.0000	0	0	0	0	0.0000
Total	1.6281	0	0	0	1.9651	0	0	0	0	0.0515

Notes:

(1) Broken concrete for recycling into aggregates.

(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(3) Use the conversion factor: 1 full load of 24t / 30t dumping truck being equivalent to 6.5m3 / 8.125 m3 by volume.

APPENDIX K
SUMMARY OF EXCEEDANCE

Agreement No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction
Appendix K-1 – Summary of Exceedance

Reporting Period: February 2020 – April 2020

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

(B) Exceedance Report for Construction Noise

Action Level for Construction Noise
(Fifteen (15) Action Level exceedances were recorded due to the documented complaints received from monitoring station in the reporting quarter. Please refer to the complaint log in Appendix L.)

Limit Level for Construction Noise
(Two (2) Limit Level exceedances for nighttime construction noise were considered not due to project and no Limit Level exceedance for daytime construction noise were recorded as due to the project in the reporting quarter respectively.)

Exceedance recorded during night-time

Date	Monitoring Location	Measured Level (L_{eq} dB(A))	Baseline Noise Level (L_{eq} dB(A))	Construction Noise Level (L_{eq} dB(A))	Limit Level
28 February 2020	CM1	67.3	63.7	***65***	55
	CM2	66.8	61.6	***65***	

(C) Exceedance Report for Water Quality

Groundwater Quality
Since October 2019, groundwater monitoring had been suspended.

Marine water Quality
One-hundred and twenty (120) Action Level exceedances and three-hundred and eighty (380) Limit Level Exceedances in Marine Water Quality were recorded in the reporting quarter. (Please refer to Appendix K-2.)

(D) Exceedance Report for Ecology
(NIL in the reporting quarter)

(E) Exceedance Report for Cultural Heritage
(NIL in the reporting quarter)

(F) Exceedance Report for Landfill Gas
(NIL in the reporting quarter)

Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O – Lam Tin Tunnel
- Notification of Exceedances

NOE No. 200228_noise (CM1-3) **Exceedance Level**: Limit

Time of Measurement: 23:00-23:35

Date of Noise Monitoring: 28 February 2020

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level (L_{eq} dB(A))	Baseline Noise Level (L_{eq} dB(A))	Construction Noise Level (L_{eq} dB(A))	Action Level	Limit Level (L_{eq} dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:00-23:15	67.3	63.7	***65***	When one documented complaint is received.	**55**	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:20-23:35	66.8	61.6	***65***	When one documented complaint is received.	**55**	Limit

Field Observation(s) and Conclusion

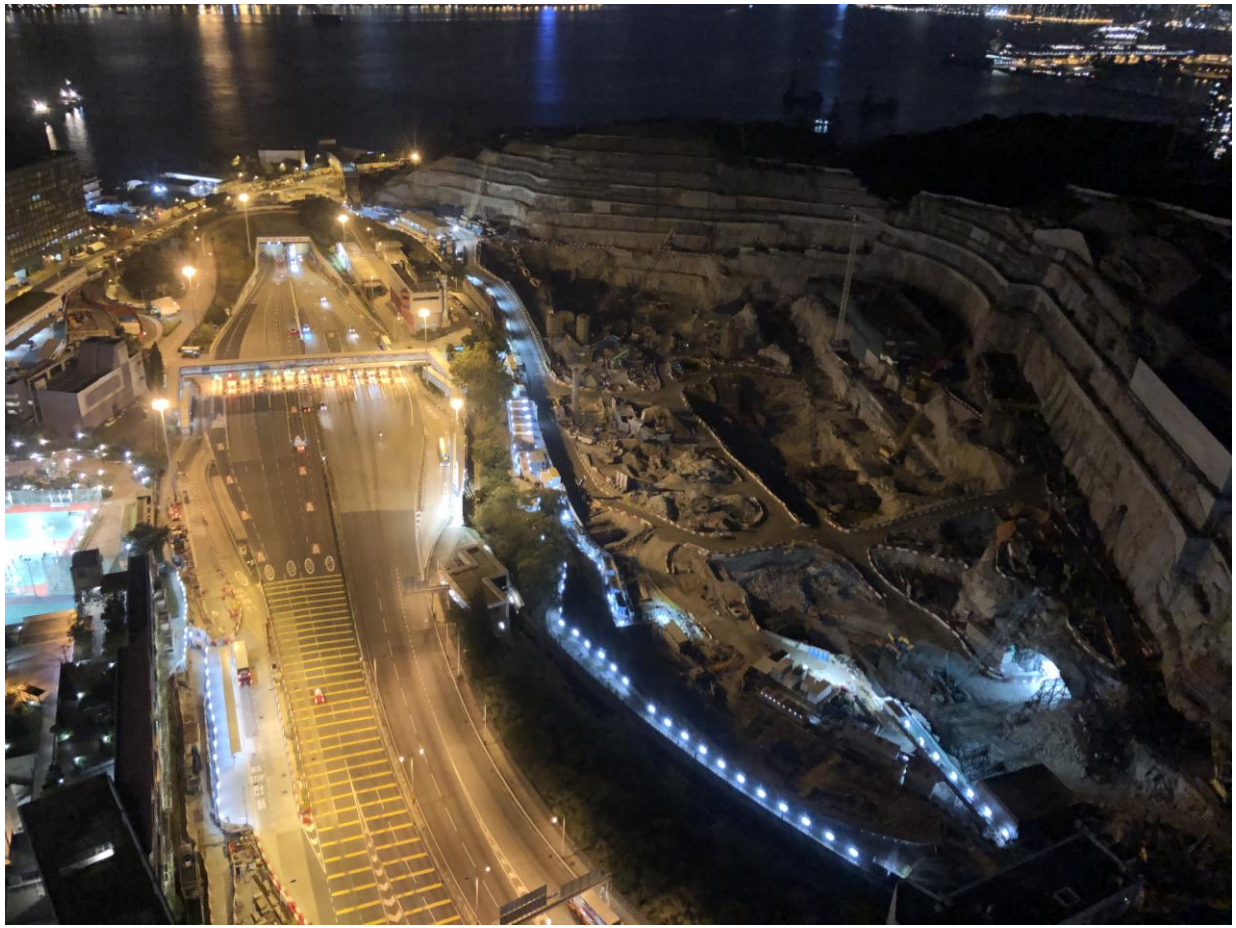
(a) Statement of exceedance(s)

Construction noise measured at CM1-2 exceeded the construction noise (night time) limit level.

(b) Cause of exceedance(s)

The exceedance was not considered related to the Project works:

- According to our field observation, road traffic noise was identified as the dominant noise source, as shown in the photo below. No noticeable noise from the tunneling works was identified.
- No construction activity was observed in Lam Tin Interchange during monitoring, and thus no noticeable noise outside the tunnel was identified.



The photo was taken at 11:20pm on 28th February 2020. Main noise source was from road traffic (cars, buses and motorcycles, etc.).
No noticeable noise from the tunneling works and outside the tunnel was identified.

Part B – Conclusion: The exceedances of night time noise limit levels were not due to the Project, the road traffic noise was identified as the dominant noise source.
Part C – Recommendation: No further action is required.

ETL Signature: _____ Date: 2 March, 2020

Date of Water Quality Monitoring: **03 February 2020**

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	6.15	G1	8:57	6.0	6.9	7.4	8.0	***7.1***
Mid-Ebb	C2	surface	6.2	G3	9:00	6.0	6.9	7.4	8.0	***21.6***
Mid-Ebb	C2	surface	6.15	M2	8:42	6.2	7.4	7.4	8.0	***6.3***
Mid-Ebb	C2	bottom	5.3	G2	8:48	6.9	7.9	6.4	6.9	***11.9***
Mid-Ebb	C2	bottom	5.3	M3	9:03	6.9	7.9	6.4	6.9	***7.7***
Mid-Flood	C1	surface	4.9	G2	12:33	6.0	6.9	5.9	6.4	***11.5***
Mid-Flood	C1	surface	4.9	G3	12:46	6.0	6.9	5.9	6.4	***29.0***
Mid-Flood	C1	surface	4.9	M4	12:23	6.2	7.4	5.9	6.4	***7.7***
Mid-Flood	C1	intake	n.a.	M6	12:56	8.3	8.6	n.a.	n.a.	***9.0***
Mid-Flood	C1	bottom	5.7	M2	12:28	6.9	7.9	6.8	7.4	***8.7***
Mid-Flood	C1	bottom	5.7	M3	12:49	6.9	7.9	6.8	7.4	***24.9***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **03 February 2020**

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	0.3	G1	8:57	0.4	0.4	***0.6***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	G2	8:48	0.4	0.4	***1.0***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	G3	9:00	0.4	0.4	***0.7***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	G4	9:07	0.4	0.4	***0.9***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	M1	8:53	0.4	0.4	***2.2***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	M3	9:03	0.4	0.4	***1.0***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	M4	8:37	0.4	0.4	***0.6***
Bottom	19.3	22.2	Mid-Ebb	C2	0.3	M5	9:15	0.4	0.4	***0.9***
Bottom	19.3	22.2	Mid-flood	C1	0.1	G1	12:43	0.1	0.2	***0.6***
Bottom	19.3	22.2	Mid-flood	C1	0.1	G2	12:33	0.1	0.2	***0.7***
Bottom	19.3	22.2	Mid-flood	C1	0.1	G3	12:46	0.1	0.2	***0.7***
Bottom	19.3	22.2	Mid-flood	C1	0.1	G4	12:52	0.1	0.2	***0.9***
Bottom	19.3	22.2	Mid-flood	C1	0.1	M1	12:39	0.1	0.2	***2.2***
Bottom	19.3	22.2	Mid-flood	C1	0.1	M2	12:28	0.1	0.2	***0.3***
Bottom	19.3	22.2	Mid-flood	C1	0.1	M3	12:49	0.1	0.2	***1.0***
Bottom	19.3	22.2	Mid-flood	C1	0.1	M4	12:23	0.1	0.2	***0.7***
Bottom	19.3	22.2	Mid-flood	C1	0.1	M5	13:01	0.1	0.2	***0.9***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **05 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.6	G1	10:22	6.0	6.9	5.5	5.9	***7.0***
Mid-Flood	C1	surface	4.6	G3	10:29	6.0	6.9	5.5	5.9	***22.7***
Mid-Flood	C1	surface	4.6	G4	10:46	6.0	6.9	5.5	5.9	***11.1***
Mid-Flood	C1	surface	4.6	M3	10:38	6.2	7.4	5.5	5.9	***5.8***
Mid-Flood	C1	bottom	4.9	G3	10:29	6.9	7.9	5.9	6.4	***28.5***
Mid-Flood	C1	bottom	4.9	M3	10:38	6.9	7.9	5.9	6.4	***8.5***
Mid-Flood	C1	bottom	4.9	M4	9:55	6.9	7.9	5.9	6.4	***6.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **05 February 2020**

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	1.6	G1	10:22	1.9	2.1	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.6	G4	10:46	1.9	2.1	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.6	M1	10:12	1.9	2.1	***4.1***
Bottom	19.3	22.2	Mid-flood	C1	1.6	M3	10:38	1.9	2.1	***2.4***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **07 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	7.0	M4	10:45	6.2	7.4	8.3	9.0	***11.9***
Mid-Ebb	C2	bottom	4.4	G2	10:57	6.9	7.9	5.3	5.7	***5.6***
Mid-Ebb	C2	bottom	4.4	M1	11:03	6.9	7.9	5.3	5.7	***7.5***
Mid-Ebb	C2	bottom	4.4	M3	11:29	6.9	7.9	5.3	5.7	***24.5***
Mid-Ebb	C2	bottom	4.4	M5	11:54	6.9	7.9	5.3	5.7	***5.5***
Mid-Flood	C1	surface	5.3	G1	16:07	6.0	6.9	6.4	6.9	***6.2***
Mid-Flood	C1	surface	5.3	G2	15:48	6.0	6.9	6.4	6.9	***28.0***
Mid-Flood	C1	surface	5.3	G4	16:28	6.0	6.9	6.4	6.9	***9.5***
Mid-Flood	C1	surface	5.3	M2	15:42	6.2	7.4	6.4	6.9	***23.4***
Mid-Flood	C1	surface	5.3	M4	15:35	6.2	7.4	6.4	6.9	***7.6***
Mid-Flood	C1	bottom	4.65	G1	16:07	6.9	7.9	5.6	6.0	***21.3***
Mid-Flood	C1	bottom	4.65	G2	15:48	6.9	7.9	5.6	6.0	***6.1***
Mid-Flood	C1	bottom	4.7	G3	16:14	6.9	7.9	5.6	6.0	***6.2***
Mid-Flood	C1	bottom	4.7	G4	16:28	6.9	7.9	5.6	6.0	***17.2***
Mid-Flood	C1	bottom	4.7	M2	15:42	6.9	7.9	5.6	6.0	***6.3***
Mid-Flood	C1	bottom	4.65	M4	15:35	6.9	7.9	5.6	6.0	***6.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **07 February 2020**

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	0.9	M3	11:29	1.1	1.2	***1.2***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M5	11:54	1.1	1.2	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	0.6	G1	16:07	0.7	0.7	***0.9***
Bottom	19.3	22.2	Mid-flood	C1	0.6	G2	15:48	0.7	0.7	***0.9***
Bottom	19.3	22.2	Mid-flood	C1	0.6	G4	16:28	0.7	0.7	***0.8***
Bottom	19.3	22.2	Mid-flood	C1	0.6	M1	15:55	0.7	0.7	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	0.6	M2	15:42	0.7	0.7	***0.8***
Bottom	19.3	22.2	Mid-flood	C1	0.6	M3	16:22	0.7	0.7	***1.3***
Bottom	19.3	22.2	Mid-flood	C1	0.6	M5	17:00	0.7	0.7	***1.3***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **10 February 2020**

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	12.1	G3	14:08	6.0	6.9	14.5	15.7	***9.0***
Mid-Ebb	C2	surface	12.1	G4	14:20	6.0	6.9	14.5	15.7	***9.6***
Mid-Ebb	C2	surface	12.1	M3	14:16	6.2	7.4	14.5	15.7	***10.9***
Mid-Ebb	C2	surface	12.1	M4	13:42	6.2	7.4	14.5	15.7	***14.2***
Mid-Ebb	C2	surface	12.1	M5	14:32	6.2	7.4	14.5	15.7	***10.7***
Mid-Ebb	C2	bottom	7.95	G3	14:08	6.9	7.9	9.5	10.3	***7.3***
Mid-Ebb	C2	bottom	8.0	G4	14:20	6.9	7.9	9.5	10.3	***9.4***
Mid-Ebb	C2	bottom	7.95	M2	13:47	6.9	7.9	9.5	10.3	***13.2***
Mid-Ebb	C2	bottom	7.95	M3	14:16	6.9	7.9	9.5	10.3	***7.0***
Mid-Flood	C1	surface	14.3	G1	8:25	6.0	6.9	17.1	18.5	***9.9***
Mid-Flood	C1	surface	14.3	G2	8:16	6.0	6.9	17.1	18.5	***11.2***
Mid-Flood	C1	surface	14.3	M1	8:20	6.2	7.4	17.1	18.5	***8.0***
Mid-Flood	C1	surface	14.3	M2	8:12	6.2	7.4	17.1	18.5	***7.1***
Mid-Flood	C1	surface	14.3	M3	8:35	6.2	7.4	17.1	18.5	***6.4***
Mid-Flood	C1	surface	14.3	M4	8:06	6.2	7.4	17.1	18.5	***9.9***
Mid-Flood	C1	surface	14.3	M5	8:51	6.2	7.4	17.1	18.5	***6.3***
Mid-Flood	C1	intake	n.a.	M6	8:44	8.3	8.6	n.a.	n.a.	***12.2***
Mid-Flood	C1	bottom	8.6	G1	8:25	6.9	7.9	10.3	11.2	***11.7***
Mid-Flood	C1	bottom	8.6	G2	8:16	6.9	7.9	10.3	11.2	***7.9***
Mid-Flood	C1	bottom	8.6	G4	8:39	6.9	7.9	10.3	11.2	***7.3***

Date of Water Quality Monitoring: **10 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	8.6	M1	8:20	6.9	7.9	10.3	11.2	***7.5***
Mid-Flood	C1	bottom	8.6	M2	8:12	6.9	7.9	10.3	11.2	***11.5***
Mid-Flood	C1	bottom	8.6	M4	8:06	6.9	7.9	10.3	11.2	***9.2***
Mid-Flood	C1	bottom	8.6	M5	8:51	6.9	7.9	10.3	11.2	***7.3***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **12 February 2020**

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	5.85	G1	15:37	6.0	6.9	7.0	7.6	***6.6***
Mid-Ebb	C2	surface	5.9	G2	15:30	6.0	6.9	7.0	7.6	***6.8***
Mid-Ebb	C2	surface	5.85	M2	15:27	6.2	7.4	7.0	7.6	***7.4***
Mid-Ebb	C2	surface	5.9	M4	15:23	6.2	7.4	7.0	7.6	***7.6***
Mid-Ebb	C2	surface	5.9	M5	15:54	6.2	7.4	7.0	7.6	***6.8***
Mid-Ebb	C2	bottom	12.1	G1	15:37	6.9	7.9	14.5	15.7	***10.2***
Mid-Ebb	C2	bottom	12.1	G4	15:47	6.9	7.9	14.5	15.7	***7.1***
Mid-Ebb	C2	bottom	12.1	M5	15:54	6.9	7.9	14.5	15.7	***7.1***
Mid-Flood	C1	surface	5.0	G2	9:29	6.0	6.9	5.9	6.4	***8.9***
Mid-Flood	C1	surface	5.0	G4	9:48	6.0	6.9	5.9	6.4	***6.8***
Mid-Flood	C1	surface	5.0	M2	9:26	6.2	7.4	5.9	6.4	***7.2***
Mid-Flood	C1	surface	5.0	M3	9:44	6.2	7.4	5.9	6.4	***6.5***
Mid-Flood	C1	surface	5.0	M4	9:22	6.2	7.4	5.9	6.4	***6.4***
Mid-Flood	C1	surface	5.0	M5	10:11	6.2	7.4	5.9	6.4	***9.0***
Mid-Flood	C1	intake	n.a.	M6	9:51	8.3	8.6	n.a.	n.a.	***12.1***
Mid-Flood	C1	bottom	7.7	G3	9:42	6.9	7.9	9.2	10.0	***7.1***
Mid-Flood	C1	bottom	7.7	M2	9:26	6.9	7.9	9.2	10.0	***15.5***
Mid-Flood	C1	bottom	7.7	M4	9:22	6.9	7.9	9.2	10.0	***7.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **12 February 2020**

Part A – Exceedance Summary Tables

Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	1.8	G4	15:47	2.2	2.3	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.4	M1	9:34	1.7	1.9	***2.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **14 February 2020**

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	22.7	G1	16:11	6.0	6.9	27.2	29.5	***10.6***
Mid-Ebb	C2	surface	22.7	G2	15:53	6.0	6.9	27.2	29.5	***8.9***
Mid-Ebb	C2	surface	22.7	G3	16:17	6.0	6.9	27.2	29.5	***8.7***
Mid-Ebb	C2	surface	22.7	G4	16:31	6.0	6.9	27.2	29.5	***26.4***
Mid-Ebb	C2	surface	22.7	M1	15:58	6.2	7.4	27.2	29.5	***7.3***
Mid-Ebb	C2	surface	22.7	M2	15:45	6.2	7.4	27.2	29.5	***6.6***
Mid-Ebb	C2	surface	22.7	M3	16:24	6.2	7.4	27.2	29.5	***9.1***
Mid-Ebb	C2	surface	22.7	M4	15:40	6.2	7.4	27.2	29.5	***9.8***
Mid-Ebb	C2	surface	22.7	M5	17:02	6.2	7.4	27.2	29.5	***9.6***
Mid-Ebb	C2	bottom	12.25	G1	16:11	6.9	7.9	14.7	15.9	***14.3***
Mid-Ebb	C2	bottom	12.25	G2	15:53	6.9	7.9	14.7	15.9	***8.0***
Mid-Ebb	C2	bottom	12.25	G3	16:17	6.9	7.9	14.7	15.9	***7.1***
Mid-Ebb	C2	bottom	12.3	G4	16:31	6.9	7.9	14.7	15.9	***12.3***
Mid-Ebb	C2	bottom	12.3	M1	15:58	6.9	7.9	14.7	15.9	***7.3***
Mid-Ebb	C2	bottom	12.25	M3	16:24	6.9	7.9	14.7	15.9	***19.9***
Mid-Ebb	C2	bottom	12.3	M5	17:02	6.9	7.9	14.7	15.9	***13.2***
Mid-Flood	C1	surface	14.1	G1	10:44	6.0	6.9	16.9	18.3	***9.5***
Mid-Flood	C1	surface	14.1	G2	10:24	6.0	6.9	16.9	18.3	***18.5***
Mid-Flood	C1	surface	14.1	G3	10:50	6.0	6.9	16.9	18.3	***13.3***
Mid-Flood	C1	surface	14.1	G4	11:07	6.0	6.9	16.9	18.3	***13.1***

Date of Water Quality Monitoring: **14 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	14.1	M1	10:32	6.2	7.4	16.9	18.3	***18.7***
Mid-Flood	C1	surface	14.1	M2	10:18	6.2	7.4	16.9	18.3	***29.5***
Mid-Flood	C1	surface	14.1	M3	10:59	6.2	7.4	16.9	18.3	***22.5***
Mid-Flood	C1	surface	14.1	M4	10:10	6.2	7.4	16.9	18.3	***21.3***
Mid-Flood	C1	surface	14.1	M5	11:24	6.2	7.4	16.9	18.3	***8.2***
Mid-Flood	C1	intake	n.a.	M6	11:14	8.3	8.6	n.a.	n.a.	***21.4***
Mid-Flood	C1	bottom	13.2	G1	10:44	6.9	7.9	15.8	17.2	***11.0***
Mid-Flood	C1	bottom	13.2	G2	10:24	6.9	7.9	15.8	17.2	***14.9***
Mid-Flood	C1	bottom	13.2	G3	10:50	6.9	7.9	15.8	17.2	***17.5***
Mid-Flood	C1	bottom	13.2	G4	11:07	6.9	7.9	15.8	17.2	***13.7***
Mid-Flood	C1	bottom	13.2	M1	10:32	6.9	7.9	15.8	17.2	***14.8***
Mid-Flood	C1	bottom	13.2	M2	10:18	6.9	7.9	15.8	17.2	***20.9***
Mid-Flood	C1	bottom	13.2	M3	10:59	6.9	7.9	15.8	17.2	***12.3***
Mid-Flood	C1	bottom	13.2	M4	10:10	6.9	7.9	15.8	17.2	***9.9***
Mid-Flood	C1	bottom	13.2	M5	11:24	6.9	7.9	15.8	17.2	***10.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **14 February 2020**

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	1.5	G1	10:44	1.8	2.0	***2.3***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M1	10:32	1.8	2.0	***2.7***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M4	10:10	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M5	11:24	1.8	2.0	***2.5***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **17 February 2020**

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	5.6	G3	8:30	6.0	6.9	6.7	7.2	***6.3***
Mid-Ebb	C2	surface	5.55	M2	8:14	6.2	7.4	6.7	7.2	***10.2***
Mid-Ebb	C2	surface	5.6	M4	8:08	6.2	7.4	6.7	7.2	***13.0***
Mid-Ebb	C2	surface	5.6	M5	8:53	6.2	7.4	6.7	7.2	***21.4***
Mid-Ebb	C2	bottom	9.95	G2	8:18	6.9	7.9	11.9	12.9	***8.8***
Mid-Ebb	C2	bottom	9.95	M3	8:37	6.9	7.9	11.9	12.9	***8.0***
Mid-Flood	C1	surface	5.0	G2	13:11	6.0	6.9	6.0	6.5	***8.0***
Mid-Flood	C1	surface	5.0	M1	13:17	6.2	7.4	6.0	6.5	***7.6***
Mid-Flood	C1	surface	5.0	M5	13:51	6.2	7.4	6.0	6.5	***7.5***
Mid-Flood	C1	intake	n.a.	M6	13:45	8.3	8.6	n.a.	n.a.	***8.6***
Mid-Flood	C1	bottom	12.25	G1	13:22	6.9	7.9	14.7	15.9	***8.6***
Mid-Flood	C1	bottom	12.3	G4	13:39	6.9	7.9	14.7	15.9	***7.3***
Mid-Flood	C1	bottom	12.3	M2	13:06	6.9	7.9	14.7	15.9	***7.1***
Mid-Flood	C1	bottom	12.3	M5	13:51	6.9	7.9	14.7	15.9	***9.9***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **19 February 2020**

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	6.35	G1	10:34	6.0	6.9	7.6	8.3	***7.3***
Mid-Ebb	C2	surface	6.4	G2	10:18	6.0	6.9	7.6	8.3	***8.0***
Mid-Ebb	C2	surface	6.4	G3	10:40	6.0	6.9	7.6	8.3	***8.9***
Mid-Ebb	C2	surface	6.4	M1	10:26	6.2	7.4	7.6	8.3	***10.9***
Mid-Ebb	C2	surface	6.4	M3	10:46	6.2	7.4	7.6	8.3	***8.7***
Mid-Ebb	C2	bottom	5.5	G1	10:34	6.9	7.9	6.6	7.2	***10.9***
Mid-Ebb	C2	bottom	5.5	G2	10:18	6.9	7.9	6.6	7.2	***8.3***
Mid-Ebb	C2	bottom	5.5	G3	10:40	6.9	7.9	6.6	7.2	***7.0***
Mid-Ebb	C2	bottom	5.5	G4	10:56	6.9	7.9	6.6	7.2	***8.5***
Mid-Ebb	C2	bottom	5.5	M1	10:26	6.9	7.9	6.6	7.2	***10.2***
Mid-Ebb	C2	bottom	5.5	M3	10:46	6.9	7.9	6.6	7.2	***8.0***
Mid-Ebb	C2	bottom	5.5	M5	11:07	6.9	7.9	6.6	7.2	***7.3***
Mid-Flood	C1	surface	4.2	G1	15:17	6.0	6.9	5.0	5.4	***6.3***
Mid-Flood	C1	surface	4.2	G2	15:09	6.0	6.9	5.0	5.4	***8.2***
Mid-Flood	C1	surface	4.2	G3	15:22	6.0	6.9	5.0	5.4	***7.1***
Mid-Flood	C1	surface	4.2	G4	15:33	6.0	6.9	5.0	5.4	***7.3***
Mid-Flood	C1	surface	4.2	M1	15:13	6.2	7.4	5.0	5.4	***11.1***
Mid-Flood	C1	surface	4.2	M2	14:59	6.2	7.4	5.0	5.4	***5.9***
Mid-Flood	C1	surface	4.2	M3	15:27	6.2	7.4	5.0	5.4	***9.2***
Mid-Flood	C1	surface	4.2	M4	14:53	6.2	7.4	5.0	5.4	***6.5***

Date of Water Quality Monitoring: **19 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.2	M5	15:41	6.2	7.4	5.0	5.4	***5.6***
Mid-Flood	C1	bottom	7.3	G3	15:22	6.9	7.9	8.8	9.5	***9.4***
Mid-Flood	C1	bottom	7.3	G4	15:33	6.9	7.9	8.8	9.5	***7.0***
Mid-Flood	C1	bottom	7.3	M1	15:13	6.9	7.9	8.8	9.5	***12.7***
Mid-Flood	C1	bottom	7.3	M2	14:59	6.9	7.9	8.8	9.5	***8.8***
Mid-Flood	C1	bottom	7.3	M3	15:27	6.9	7.9	8.8	9.5	***9.9***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **19 February 2020**

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	0.9	G1	10:34	1.1	1.2	***3.2***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	G2	10:18	1.1	1.2	***1.8***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	G3	10:40	1.1	1.2	***2.6***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	G4	10:56	1.1	1.2	***2.3***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M1	10:26	1.1	1.2	***1.9***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M2	10:12	1.1	n.a.	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M3	10:46	1.1	1.2	***2.2***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M4	9:56	1.1	1.2	***1.6***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M5	11:07	1.1	1.2	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	1.3	G1	15:17	1.5	1.7	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.3	G2	15:09	1.5	1.7	***1.8***
Bottom	19.3	22.2	Mid-flood	C1	1.3	G3	15:22	1.5	1.7	***3.2***
Bottom	19.3	22.2	Mid-flood	C1	1.3	G4	15:33	1.5	1.7	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.3	M1	15:13	1.5	1.7	***3.3***
Bottom	19.3	22.2	Mid-flood	C1	1.3	M2	14:59	1.5	1.7	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	1.3	M3	15:27	1.5	1.7	***2.6***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **21 February 2020**

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	6.5	G1	11:08	6.0	6.9	7.8	8.5	***6.4***
Mid-Ebb	C2	surface	6.5	G4	11:30	6.0	6.9	7.8	8.5	***8.7***
Mid-Ebb	C2	surface	6.5	M1	10:55	6.2	7.4	7.8	8.5	***10.7***
Mid-Ebb	C2	surface	6.5	M3	11:24	6.2	7.4	7.8	8.5	***7.0***
Mid-Ebb	C2	surface	6.5	M4	10:33	6.2	7.4	7.8	8.5	***7.6***
Mid-Ebb	C2	surface	6.5	M5	11:49	6.2	7.4	7.8	8.5	***6.7***
Mid-Ebb	C2	bottom	5.65	G2	10:47	6.9	7.9	6.8	7.3	***10.9***
Mid-Ebb	C2	bottom	5.65	G3	11:15	6.9	7.9	6.8	7.3	***25.2***
Mid-Ebb	C2	bottom	5.7	G4	11:30	6.9	7.9	6.8	7.3	***25.7***
Mid-Ebb	C2	bottom	5.65	M2	10:40	6.9	7.9	6.8	7.3	***6.9***
Mid-Ebb	C2	bottom	5.65	M3	11:24	6.9	7.9	6.8	7.3	***7.7***
Mid-Flood	C1	surface	8.5	G3	16:18	6.0	6.9	10.1	11.0	***6.2***
Mid-Flood	C1	surface	8.5	G4	16:33	6.0	6.9	10.1	11.0	***6.8***
Mid-Flood	C1	surface	8.5	M1	15:58	6.2	7.4	10.1	11.0	***26.9***
Mid-Flood	C1	surface	8.5	M2	15:43	6.2	7.4	10.1	11.0	***21.1***
Mid-Flood	C1	surface	8.5	M3	16:27	6.2	7.4	10.1	11.0	***8.8***
Mid-Flood	C1	surface	8.5	M4	15:37	6.2	7.4	10.1	11.0	***10.8***
Mid-Flood	C1	surface	8.5	M5	16:52	6.2	7.4	10.1	11.0	***6.8***
Mid-Flood	C1	intake	n.a.	M6	16:41	8.3	8.6	n.a.	n.a.	***24.0***
Mid-Flood	C1	bottom	6.6	M2	15:43	6.9	7.9	7.9	8.6	***9.3***

Date of Water Quality Monitoring: **24 February 2020**

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	13.95	G1	13:09	6.0	6.9	16.7	18.1	***6.6***
Mid-Ebb	C2	surface	14.0	G2	12:49	6.0	6.9	16.7	18.1	***7.3***
Mid-Ebb	C2	surface	14.0	G3	13:16	6.0	6.9	16.7	18.1	***6.1***
Mid-Ebb	C2	surface	14.0	G4	13:31	6.0	6.9	16.7	18.1	***8.1***
Mid-Ebb	C2	surface	14.0	M1	12:56	6.2	7.4	16.7	18.1	***9.4***
Mid-Ebb	C2	surface	13.95	M2	12:41	6.2	7.4	16.7	18.1	***9.8***
Mid-Ebb	C2	surface	14.0	M3	13:25	6.2	7.4	16.7	18.1	***9.0***
Mid-Ebb	C2	surface	14.0	M4	12:35	6.2	7.4	16.7	18.1	***7.8***
Mid-Ebb	C2	surface	14.0	M5	13:50	6.2	7.4	16.7	18.1	***7.0***
Mid-Ebb	C2	intake	n.a.	M6	13:39	8.3	8.6	n.a.	n.a.	***8.7***
Mid-Ebb	C2	bottom	6.65	G1	13:09	6.9	7.9	8.0	8.6	***7.1***
Mid-Ebb	C2	bottom	6.65	G2	12:49	6.9	7.9	8.0	8.6	***8.4***
Mid-Ebb	C2	bottom	6.65	G3	13:16	6.9	7.9	8.0	8.6	***8.7***
Mid-Ebb	C2	bottom	6.7	G4	13:31	6.9	7.9	8.0	8.6	***8.6***
Mid-Ebb	C2	bottom	6.7	M1	12:56	6.9	7.9	8.0	8.6	***9.6***
Mid-Ebb	C2	bottom	6.65	M2	12:41	6.9	7.9	8.0	8.6	***9.6***
Mid-Ebb	C2	bottom	6.7	M5	13:50	6.9	7.9	8.0	8.6	***8.9***
Mid-Flood	C1	surface	8.8	G1	8:23	6.0	6.9	10.6	11.4	***9.4***
Mid-Flood	C1	surface	8.8	G2	8:02	6.0	6.9	10.6	11.4	***14.4***
Mid-Flood	C1	surface	8.8	G3	8:30	6.0	6.9	10.6	11.4	***6.2***

Date of Water Quality Monitoring: **24 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	8.8	G4	8:45	6.0	6.9	10.6	11.4	***6.7***
Mid-Flood	C1	surface	8.8	M1	8:10	6.2	7.4	10.6	11.4	***7.9***
Mid-Flood	C1	surface	8.8	M2	7:55	6.2	7.4	10.6	11.4	***7.3***
Mid-Flood	C1	surface	8.8	M3	8:39	6.2	7.4	10.6	11.4	***7.2***
Mid-Flood	C1	surface	8.8	M4	7:49	6.2	7.4	10.6	11.4	***8.9***
Mid-Flood	C1	surface	8.8	M5	9:04	6.2	7.4	10.6	11.4	***7.6***
Mid-Flood	C1	intake	n.a.	M6	8:53	8.3	8.6	n.a.	n.a.	***12.1***
Mid-Flood	C1	bottom	8.3	G1	8:23	6.9	7.9	10.0	10.8	***9.8***
Mid-Flood	C1	bottom	8.3	G3	8:30	6.9	7.9	10.0	10.8	***7.0***
Mid-Flood	C1	bottom	8.3	G4	8:45	6.9	7.9	10.0	10.8	***9.4***
Mid-Flood	C1	bottom	8.3	M1	8:10	6.9	7.9	10.0	10.8	***7.4***
Mid-Flood	C1	bottom	8.3	M2	7:55	6.9	7.9	10.0	10.8	***10.0***
Mid-Flood	C1	bottom	8.3	M3	8:39	6.9	7.9	10.0	10.8	***8.8***
Mid-Flood	C1	bottom	8.3	M4	7:49	6.9	7.9	10.0	10.8	***8.7***
Mid-Flood	C1	bottom	8.3	M5	9:04	6.9	7.9	10.0	10.8	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **24 February 2020**

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	1.7	G1	13:09	2.1	2.2	***2.3***
Bottom	19.3	22.2	Mid-Ebb	C2	1.7	G2	12:49	2.1	2.2	***2.3***
Bottom	19.3	22.2	Mid-Ebb	C2	1.7	M1	12:56	2.1	2.2	***5.2***
Bottom	19.3	22.2	Mid-Ebb	C2	1.7	M5	13:50	2.1	2.2	***2.5***
Bottom	19.3	22.2	Mid-flood	C1	2.5	M1	8:10	3.0	3.3	***5.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **26 February 2020**

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	5.3	G2	8:40	6.0	6.9	6.4	6.9	***8.2***
Mid-Ebb	C2	surface	5.3	G3	9:04	6.0	6.9	6.4	6.9	***7.1***
Mid-Ebb	C2	surface	5.3	M3	9:14	6.2	7.4	6.4	6.9	***7.2***
Mid-Ebb	C2	bottom	9.1	G1	8:58	6.9	7.9	10.9	11.8	***9.1***
Mid-Ebb	C2	bottom	9.1	G2	8:40	6.9	7.9	10.9	11.8	***7.3***
Mid-Ebb	C2	bottom	9.1	G3	9:04	6.9	7.9	10.9	11.8	***7.3***
Mid-Ebb	C2	bottom	9.1	M1	8:47	6.9	7.9	10.9	11.8	***7.6***
Mid-Ebb	C2	bottom	9.1	M2	8:34	6.9	7.9	10.9	11.8	***7.6***
Mid-Ebb	C2	bottom	9.1	M3	9:14	6.9	7.9	10.9	11.8	***7.5***
Mid-Ebb	C2	bottom	9.1	M5	9:40	6.9	7.9	10.9	11.8	***9.0***
Mid-Flood	C1	surface	4.7	G1	14:43	6.0	6.9	5.6	6.1	***24.2***
Mid-Flood	C1	surface	4.7	G3	14:49	6.0	6.9	5.6	6.1	***7.6***
Mid-Flood	C1	surface	4.7	G4	15:05	6.0	6.9	5.6	6.1	***7.1***
Mid-Flood	C1	surface	4.7	M3	14:57	6.2	7.4	5.6	6.1	***8.9***
Mid-Flood	C1	bottom	16.4	G1	14:43	6.9	7.9	19.7	21.3	***7.3***
Mid-Flood	C1	bottom	16.4	G2	14:23	6.9	7.9	19.7	21.3	***8.8***
Mid-Flood	C1	bottom	16.4	G3	14:49	6.9	7.9	19.7	21.3	***10.1***
Mid-Flood	C1	bottom	16.4	M1	14:29	6.9	7.9	19.7	21.3	***9.1***
Mid-Flood	C1	bottom	16.4	M2	14:16	6.9	7.9	19.7	21.3	***8.8***

Note: ***Bold Italic*** means Action Level exceedance

Date of Water Quality Monitoring: **26 February 2020**

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	1.4	M3	9:14	1.7	1.9	***1.9***
Bottom	19.3	22.2	Mid-Ebb	C2	1.4	M5	9:40	1.7	1.9	***2.3***
Bottom	19.3	22.2	Mid-flood	C1	1.5	G1	14:43	1.8	2.0	***2.0***
Bottom	19.3	22.2	Mid-flood	C1	1.5	G2	14:23	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.5	G3	14:49	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M1	14:29	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M2	14:16	1.8	2.0	***2.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **28 February 2020**

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	4.6	G2	14:20	6.0	6.9	5.5	5.9	***5.6***
Mid-Ebb	C2	surface	4.6	G3	14:43	6.0	6.9	5.5	5.9	***18.8***
Mid-Ebb	C2	surface	4.6	G4	14:57	6.0	6.9	5.5	5.9	***8.8***
Mid-Ebb	C2	surface	4.6	M1	14:26	6.2	7.4	5.5	5.9	***6.6***
Mid-Ebb	C2	surface	4.6	M3	14:48	6.2	7.4	5.5	5.9	***7.1***
Mid-Ebb	C2	surface	4.6	M4	14:01	6.2	7.4	5.5	5.9	***9.8***
Mid-Ebb	C2	surface	4.6	M5	15:08	6.2	7.4	5.5	5.9	***24.9***
Mid-Ebb	C2	intake	n.a.	M6	15:02	8.3	8.6	n.a.	n.a.	***22.7***
Mid-Ebb	C2	bottom	5	G1	14:36	6.9	7.9	6.0	6.5	***6.2***
Mid-Ebb	C2	bottom	5	G2	14:20	6.9	7.9	6.0	6.5	***14.3***
Mid-Ebb	C2	bottom	5.0	G4	14:57	6.9	7.9	6.0	6.5	***23.1***
Mid-Ebb	C2	bottom	5.0	M1	14:26	6.9	7.9	6.0	6.5	***9.5***
Mid-Ebb	C2	bottom	5.0	M5	15:08	6.9	7.9	6.0	6.5	***8.1***
Mid-Flood	C1	surface	4.2	G1	9:33	6.0	6.9	5.0	5.4	***8.4***
Mid-Flood	C1	surface	4.2	G2	9:22	6.0	6.9	5.0	5.4	***6.5***
Mid-Flood	C1	surface	4.2	G3	9:38	6.0	6.9	5.0	5.4	***8.1***
Mid-Flood	C1	surface	4.2	M1	9:28	6.2	7.4	5.0	5.4	***28.9***
Mid-Flood	C1	surface	4.2	M2	9:17	6.2	7.4	5.0	5.4	***7.0***
Mid-Flood	C1	surface	4.2	M3	9:42	6.2	7.4	5.0	5.4	***6.4***
Mid-Flood	C1	surface	4.2	M4	9:11	6.2	7.4	5.0	5.4	***7.5***

Date of Water Quality Monitoring: **28 February 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.2	M5	9:56	6.2	7.4	5.0	5.4	***5.3***
Mid-Flood	C1	intake	n.a.	M6	9:52	8.3	8.6	n.a.	n.a.	***16.1***
Mid-Flood	C1	bottom	7.1	G1	9:33	6.9	7.9	8.5	9.2	***9.7***
Mid-Flood	C1	bottom	7.1	M1	9:28	6.9	7.9	8.5	9.2	***8.9***
Mid-Flood	C1	bottom	7.1	M2	9:17	6.9	7.9	8.5	9.2	***8.2***
Mid-Flood	C1	bottom	7.1	M5	9:56	6.9	7.9	8.5	9.2	***14.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **28 February 2020**

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	0.7	G1	9:33	0.8	0.9	***1.0***
Bottom	19.3	22.2	Mid-flood	C1	0.7	G3	9:38	0.8	0.9	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	0.7	G4	9:46	0.8	0.9	***1.0***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M1	9:28	0.8	0.9	***1.3***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M2	9:17	0.8	0.9	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M3	9:42	0.8	0.9	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M4	9:11	0.8	0.9	***1.0***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M5	9:56	0.8	0.9	***1.2***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Contract No. CE 59/2015 (EP)

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

- Investigation Report of Environmental Quality Limit Exceedances (Feb 2020)

Part A Details of Investigation

For the February 2020, exceedances for suspended solids and turbidity have been recorded continuously at various monitoring stations. During marine water quality monitoring. During site audit and monitoring, the water outside the site boundary seemed to be clear and clean (Photo 1 to 6)

During site inspections, the water appears to be clear in the discharge point (Photo 7 and 8). The sediment tank was free from silt and sediments and the drainage system remained well-maintained. No sand plumes were observed during the site inspection. Since the marine works construction stage has moved on to stage 4B, silt curtains shall be deployed properly around the barges when the deconstruction process is undergoing.

No direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project. Therefore, no additional marine water quality monitoring is required.

Part B Photo Record

	
Photo 1 (Recorded on 5th February 2020)	Photo 2 (Recorded on 8th February 2020)
	
Photo 3 (Recorded on 14th February 2020)	Photo 4 (Recorded on 19th February 2020)

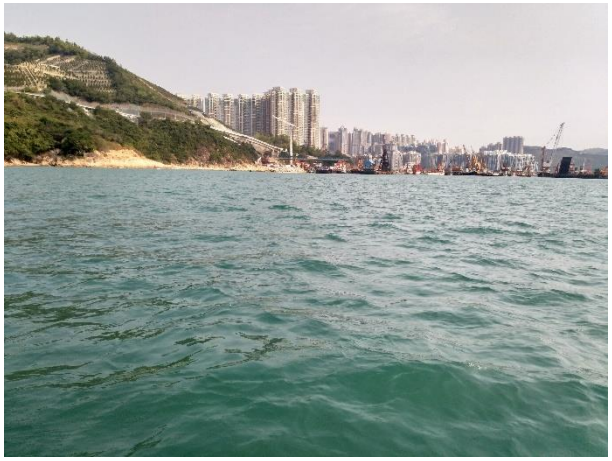


Photo 5 (Recorded on 19th February 2020)	Photo 6 (Recorded on 28th February 2020)
	
Photo 7 (Recorded on 6th February 2020)	Photo 8 (Recorded on 20th February 2020)

Part C – Recommendations

Wet season is coming next month. The Contractor is reminded to get prepared and clear diversions and channels to prevent spilling muddy water into the sea due to overflow or flooding.

Appropriate diversion of received rainwater to the wastewater treatment system within the site should be provided to minimise the chance of accidental runoff. Cofferdam and silt curtain should be checked and maintained regularly; diver inspection for checking damage and leakage should be conducted weekly to ensure the functionality of cofferdam and silt curtains.

Reviewed by:  (Environmental Team Leader:(Dr. HF Chan)

Date: 5th March 2020

Date of Water Quality Monitoring: **02 March 2020**

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	5.2	G4	10:55	6.0	6.9	6.2	6.8	***6.8***
Mid-Ebb	C2	surface	5.2	M1	10:20	6.2	7.4	6.2	6.8	***6.6***
Mid-Ebb	C2	surface	5.2	M2	10:07	6.2	7.4	6.2	6.8	***6.6***
Mid-Ebb	C2	surface	5.2	M4	10:00	6.2	7.4	6.2	6.8	***6.7***
Mid-Flood	C1	surface	7.6	G1	17:15	6.0	6.9	9.1	9.8	***6.2***
Mid-Flood	C1	surface	7.6	G2	16:56	6.0	6.9	9.1	9.8	***6.5***
Mid-Flood	C1	surface	7.6	G3	17:22	6.0	6.9	9.1	9.8	***7.3***
Mid-Flood	C1	surface	7.6	G4	17:37	6.0	6.9	9.1	9.8	***9.2***
Mid-Flood	C1	surface	7.6	M1	17:01	6.2	7.4	9.1	9.8	***8.9***
Mid-Flood	C1	surface	7.6	M3	17:30	6.2	7.4	9.1	9.8	***7.3***
Mid-Flood	C1	surface	7.6	M4	16:41	6.2	7.4	9.1	9.8	***6.6***
Mid-Flood	C1	bottom	6.8	G2	16:56	6.9	7.9	8.2	8.8	***9.8***
Mid-Flood	C1	bottom	6.8	G3	17:22	6.9	7.9	8.2	8.8	***8.3***
Mid-Flood	C1	bottom	6.8	G4	17:37	6.9	7.9	8.2	8.8	***22.3***
Mid-Flood	C1	bottom	6.8	M1	17:01	6.9	7.9	8.2	8.8	***7.7***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Contract No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel
Design and Construction
- Notification of Environmental Quality Limit Exceedances

Date of Water Quality Monitoring: **02 March 2020**

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	1.5	G1	10:31	1.8	2.0	***2.0***
Bottom	19.3	22.2	Mid-Ebb	C2	1.5	G2	10:12	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.5	G3	10:36	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.5	M1	10:20	1.8	2.0	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.5	M2	10:07	1.8	n.a.	***2.1***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **04 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.4	G1	11:29	6.0	6.9	5.2	5.7	***7.6***
Mid-Flood	C1	surface	4.4	G4	11:46	6.0	6.9	5.2	5.7	***6.0***
Mid-Flood	C1	surface	4.4	M1	11:24	6.2	7.4	5.2	5.7	***9.9***
Mid-Flood	C1	surface	4.4	M2	11:14	6.2	7.4	5.2	5.7	***13.7***
Mid-Flood	C1	surface	4.4	M3	11:41	6.2	7.4	5.2	5.7	***9.0***
Mid-Flood	C1	surface	4.4	M4	11:08	6.2	7.4	5.2	5.7	***6.2***
Mid-Flood	C1	bottom	5.1	M1	11:24	6.9	7.9	6.1	6.6	***7.1***
Mid-Flood	C1	bottom	5.1	M3	11:41	6.9	7.9	6.1	6.6	***6.4***
Mid-Flood	C1	bottom	5.1	M5	11:55	6.9	7.9	6.1	6.6	***7.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **04 March 2020**

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	0.7	G1	11:29	0.8	0.9	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	0.7	G2	11:20	0.8	0.9	***1.3***
Bottom	19.3	22.2	Mid-flood	C1	0.7	G3	11:34	0.8	0.9	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	0.7	G4	11:46	0.8	0.9	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M1	11:24	0.8	0.9	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M2	11:14	0.8	0.9	***2.2***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M3	11:41	0.8	0.9	***1.8***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M4	11:08	0.8	0.9	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	0.7	M5	11:55	0.8	0.9	***1.9***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **06 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.6	G1	8:44	6.0	6.9	5.5	6.0	***7.7***
Mid-Flood	C1	surface	4.6	G4	9:06	6.0	6.9	5.5	6.0	***6.1***
Mid-Flood	C1	surface	4.6	M1	8:31	6.2	7.4	5.5	6.0	***6.2***
Mid-Flood	C1	surface	4.6	M2	8:17	6.2	7.4	5.5	6.0	***6.8***
Mid-Flood	C1	surface	4.6	M4	8:10	6.2	7.4	5.5	6.0	***8.9***
Mid-Flood	C1	bottom	7.8	G4	9:06	6.9	7.9	9.4	10.1	***26.4***
Mid-Flood	C1	bottom	7.8	M1	8:31	6.9	7.9	9.4	10.1	***9.1***
Mid-Flood	C1	bottom	7.8	M3	9:00	6.9	7.9	9.4	10.1	***9.8***
Mid-Flood	C1	bottom	7.8	M4	8:10	6.9	7.9	9.4	10.1	***7.5***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **09 March 2020**

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	9.2	G1	12:28	6.0	6.9	11.0	12.0	***6.9***
Mid-Ebb	C2	surface	9.2	G2	12:19	6.0	6.9	11.0	12.0	***6.9***
Mid-Ebb	C2	surface	9.2	G3	12:31	6.0	6.9	11.0	12.0	***7.8***
Mid-Ebb	C2	surface	9.2	M1	12:23	6.2	7.4	11.0	12.0	***8.5***
Mid-Ebb	C2	surface	9.2	M3	12:38	6.2	7.4	11.0	12.0	***7.0***
Mid-Ebb	C2	surface	9.2	M4	12:09	6.2	7.4	11.0	12.0	***7.7***
Mid-Ebb	C2	surface	9.2	M5	12:54	6.2	7.4	11.0	12.0	***7.4***
Mid-Ebb	C2	bottom	8.6	G4	12:43	6.9	7.9	10.3	11.2	***8.1***
Mid-Ebb	C2	bottom	8.6	M3	12:38	6.9	7.9	10.3	11.2	***7.7***
Mid-Flood	C1	surface	4.8	G1	17:09	6.0	6.9	5.8	6.2	***5.9***
Mid-Flood	C1	surface	4.8	G2	16:58	6.0	6.9	5.8	6.2	***8.5***
Mid-Flood	C1	surface	4.8	G4	17:26	6.0	6.9	5.8	6.2	***7.4***
Mid-Flood	C1	surface	4.8	M1	17:03	6.2	7.4	5.8	6.2	***8.3***
Mid-Flood	C1	surface	4.8	M4	16:48	6.2	7.4	5.8	6.2	***8.0***
Mid-Flood	C1	bottom	7.7	G1	17:09	6.9	7.9	9.2	10.0	***9.5***
Mid-Flood	C1	bottom	7.7	G4	17:26	6.9	7.9	9.2	10.0	***8.3***
Mid-Flood	C1	bottom	7.7	M2	16:53	6.9	7.9	9.2	10.0	***12.4***
Mid-Flood	C1	bottom	7.7	M5	17:38	6.9	7.9	9.2	10.0	***8.4***

Date of Water Quality Monitoring: **11 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	7.65	G1	13:48	6.0	6.9	9.2	9.9	***6.9***
Mid-Ebb	C2	surface	7.7	G3	13:54	6.0	6.9	9.2	9.9	***6.8***
Mid-Ebb	C2	surface	7.7	G4	14:06	6.0	6.9	9.2	9.9	***6.1***
Mid-Ebb	C2	surface	7.65	M2	13:21	6.2	7.4	9.2	9.9	***6.9***
Mid-Ebb	C2	surface	7.7	M4	13:14	6.2	7.4	9.2	9.9	***8.5***
Mid-Ebb	C2	surface	7.7	M5	14:36	6.2	7.4	9.2	9.9	***7.9***
Mid-Ebb	C2	bottom	11	G2	13:27	6.9	7.9	13.2	14.3	***8.4***
Mid-Ebb	C2	bottom	11	G3	13:54	6.9	7.9	13.2	14.3	***8.9***
Mid-Ebb	C2	bottom	11.0	G4	14:06	6.9	7.9	13.2	14.3	***8.4***
Mid-Flood	C1	surface	5.4	G4	8:52	6.0	6.9	6.4	7.0	***6.5***
Mid-Flood	C1	surface	5.4	M1	8:18	6.2	7.4	6.4	7.0	***9.0***
Mid-Flood	C1	surface	5.4	M3	8:44	6.2	7.4	6.4	7.0	***6.4***
Mid-Flood	C1	surface	5.4	M4	7:58	6.2	7.4	6.4	7.0	***9.1***
Mid-Flood	C1	intake	n.a.	M6	9:01	8.3	8.6	n.a.	n.a.	***12.8***
Mid-Flood	C1	bottom	6.1	M2	8:04	6.9	7.9	7.3	7.9	***9.5***
Mid-Flood	C1	bottom	6.1	M5	9:10	6.9	7.9	7.3	7.9	***7.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **11 March 2020**

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	1.4	G1	8:29	1.6	1.8	***3.1***
Bottom	19.3	22.2	Mid-flood	C1	1.4	G2	8:10	1.6	1.8	***1.8***
Bottom	19.3	22.2	Mid-flood	C1	1.4	G3	8:36	1.6	1.8	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	1.4	G4	8:52	1.6	1.8	***2.3***
Bottom	19.3	22.2	Mid-flood	C1	1.4	M1	8:18	1.6	1.8	***1.8***
Bottom	19.3	22.2	Mid-flood	C1	1.4	M4	7:58	1.6	1.8	***1.8***
Bottom	19.3	22.2	Mid-flood	C1	1.4	M5	9:10	1.6	1.8	***1.8***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **13 March 2020**

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	5.15	G1	14:35	6.0	6.9	6.2	6.7	***6.9***
Mid-Ebb	C2	surface	5.2	G2	14:24	6.0	6.9	6.2	6.7	***7.0***
Mid-Ebb	C2	surface	5.15	M2	14:20	6.2	7.4	6.2	6.7	***7.4***
Mid-Ebb	C2	surface	5.2	M4	14:14	6.2	7.4	6.2	6.7	***8.5***
Mid-Ebb	C2	bottom	7.25	G2	14:24	6.9	7.9	8.7	9.4	***8.9***
Mid-Ebb	C2	bottom	7.25	G3	14:40	6.9	7.9	8.7	9.4	***18.5***
Mid-Ebb	C2	bottom	7.3	M1	14:30	6.9	7.9	8.7	9.4	***7.2***
Mid-Ebb	C2	bottom	7.25	M3	14:48	6.9	7.9	8.7	9.4	***7.7***
Mid-Flood	C1	surface	7.0	G1	8:36	6.0	6.9	8.3	9.0	***6.8***
Mid-Flood	C1	surface	7.0	G2	8:26	6.0	6.9	8.3	9.0	***8.6***
Mid-Flood	C1	surface	7.0	M2	8:22	6.2	7.4	8.3	9.0	***6.6***
Mid-Flood	C1	surface	7.0	M3	8:46	6.2	7.4	8.3	9.0	***7.5***
Mid-Flood	C1	surface	7.0	M4	8:17	6.2	7.4	8.3	9.0	***6.5***
Mid-Flood	C1	intake	n.a.	M6	8:54	8.3	8.6	n.a.	n.a.	***10.8***
Mid-Flood	C1	bottom	6.5	G4	8:50	6.9	7.9	7.8	8.5	***7.3***
Mid-Flood	C1	bottom	6.5	M1	8:30	6.9	7.9	7.8	8.5	***7.3***
Mid-Flood	C1	bottom	6.5	M4	8:17	6.9	7.9	7.8	8.5	***8.2***

Note: ***Bold Italic*** means Action Level exceedance

Date of Water Quality Monitoring: **13 March 2020**

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	1.6	G1	14:35	1.9	2.0	***2.0***
Bottom	19.3	22.2	Mid-Ebb	C2	1.6	G2	14:24	1.9	2.0	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.6	G3	14:40	1.9	2.0	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.6	M1	14:30	1.9	2.0	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.6	M2	14:20	1.9	n.a.	***2.2***
Bottom	19.3	22.2	Mid-flood	C1	1.9	M5	9:01	2.3	2.5	***2.4***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **16 March 2020**

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	3.9	G1	17:13	6.0	6.9	4.7	5.1	***11.0***
Mid-Ebb	C2	surface	3.9	G2	16:57	6.0	6.9	4.7	5.1	***6.1***
Mid-Ebb	C2	surface	3.9	G3	17:18	6.0	6.9	4.7	5.1	***6.3***
Mid-Ebb	C2	surface	3.9	M2	16:53	6.2	7.4	4.7	5.1	***7.9***
Mid-Ebb	C2	surface	3.9	M3	17:22	6.2	7.4	4.7	5.1	***5.2***
Mid-Ebb	C2	surface	3.9	M4	16:48	6.2	7.4	4.7	5.1	***12.9***
Mid-Ebb	C2	surface	3.9	M5	17:37	6.2	7.4	4.7	5.1	***10.8***
Mid-Ebb	C2	bottom	12.65	G1	17:13	6.9	7.9	15.2	16.4	***10.6***
Mid-Ebb	C2	bottom	12.65	G2	16:57	6.9	7.9	15.2	16.4	***10.9***
Mid-Ebb	C2	bottom	12.7	M1	17:06	6.9	7.9	15.2	16.4	***7.4***
Mid-Ebb	C2	bottom	12.65	M3	17:22	6.9	7.9	15.2	16.4	***10.7***
Mid-Ebb	C2	bottom	12.7	M5	17:37	6.9	7.9	15.2	16.4	***8.6***
Mid-Flood	C1	surface	5.2	G1	9:39	6.0	6.9	6.2	6.8	***11.8***
Mid-Flood	C1	surface	5.2	G2	9:27	6.0	6.9	6.2	6.8	***13.7***
Mid-Flood	C1	surface	5.2	G4	10:04	6.0	6.9	6.2	6.8	***9.2***
Mid-Flood	C1	surface	5.2	M1	9:32	6.2	7.4	6.2	6.8	***8.1***
Mid-Flood	C1	surface	5.2	M2	9:20	6.2	7.4	6.2	6.8	***7.4***
Mid-Flood	C1	surface	5.2	M3	9:54	6.2	7.4	6.2	6.8	***10.2***

Date of Water Quality Monitoring: **16 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	5.2	M4	9:16	6.2	7.4	6.2	6.8	***9.5***
Mid-Flood	C1	intake	n.a.	M6	10:11	8.3	8.6	n.a.	n.a.	***9.2***
Mid-Flood	C1	bottom	5.05	G1	9:39	6.9	7.9	6.1	6.6	***20.9***
Mid-Flood	C1	bottom	5.05	G2	9:27	6.9	7.9	6.1	6.6	***12.2***
Mid-Flood	C1	bottom	5.1	G3	9:46	6.9	7.9	6.1	6.6	***6.3***
Mid-Flood	C1	bottom	5.1	G4	10:04	6.9	7.9	6.1	6.6	***8.6***
Mid-Flood	C1	bottom	5.1	M1	9:32	6.9	7.9	6.1	6.6	***6.3***
Mid-Flood	C1	bottom	5.1	M2	9:20	6.9	7.9	6.1	6.6	***9.2***
Mid-Flood	C1	bottom	5.05	M4	9:16	6.9	7.9	6.1	6.6	***7.4***
Mid-Flood	C1	bottom	5.1	M5	10:17	6.9	7.9	6.1	6.6	***8.6***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **16 March 2020**

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	17:13	1.2	1.3	***5.3***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G2	16:57	1.2	1.3	***1.7***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G3	17:18	1.2	1.3	***2.6***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G4	17:26	1.2	1.3	***2.2***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M1	17:06	1.2	1.3	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M2	16:53	1.2	n.a.	***1.5***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M3	17:22	1.2	1.3	***1.7***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M5	17:37	1.2	1.3	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	0.5	G1	9:39	0.6	0.7	***4.2***
Bottom	19.3	22.2	Mid-flood	C1	0.5	G2	9:27	0.6	0.7	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	0.5	G3	9:46	0.6	0.7	***2.4***
Bottom	19.3	22.2	Mid-flood	C1	0.5	G4	10:04	0.6	0.7	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	0.5	M1	9:32	0.6	0.7	***1.9***
Bottom	19.3	22.2	Mid-flood	C1	0.5	M2	9:20	0.6	0.7	***1.4***
Bottom	19.3	22.2	Mid-flood	C1	0.5	M3	9:54	0.6	0.7	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	0.5	M4	9:16	0.6	0.7	***0.8***
Bottom	19.3	22.2	Mid-flood	C1	0.5	M5	10:17	0.6	0.7	***2.1***

Note: ***Bold Italic*** means Action Level exceedance

Date of Water Quality Monitoring: **18 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	7.2	G1	8:29	6.0	6.9	8.6	9.4	***7.9***
Mid-Flood	C1	surface	7.2	G2	8:10	6.0	6.9	8.6	9.4	***28.8***
Mid-Flood	C1	surface	7.2	G3	8:36	6.0	6.9	8.6	9.4	***6.3***
Mid-Flood	C1	surface	7.2	G4	8:52	6.0	6.9	8.6	9.4	***8.6***
Mid-Flood	C1	surface	7.2	M1	8:18	6.2	7.4	8.6	9.4	***9.8***
Mid-Flood	C1	surface	7.2	M2	8:04	6.2	7.4	8.6	9.4	***8.5***
Mid-Flood	C1	surface	7.2	M3	8:44	6.2	7.4	8.6	9.4	***7.0***
Mid-Flood	C1	surface	7.2	M4	7:58	6.2	7.4	8.6	9.4	***24.5***
Mid-Flood	C1	surface	7.2	M5	9:10	6.2	7.4	8.6	9.4	***8.2***
Mid-Flood	C1	bottom	8.15	G1	8:29	6.9	7.9	9.8	10.6	***20.8***
Mid-Flood	C1	bottom	8.2	M1	8:18	6.9	7.9	9.8	10.6	***9.4***
Mid-Flood	C1	bottom	8.2	M2	8:04	6.9	7.9	9.8	10.6	***9.5***
Mid-Flood	C1	bottom	8.2	M3	8:44	6.9	7.9	9.8	10.6	***14.4***
Mid-Flood	C1	bottom	8.2	M5	9:10	6.9	7.9	9.8	10.6	***9.2***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **18 March 2020**

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	G1	8:29	1.5	1.6	***4.8***
Bottom	19.3	22.2	Mid-flood	C1	1.2	G4	8:52	1.5	1.6	***3.3***
Bottom	19.3	22.2	Mid-flood	C1	1.2	M1	8:18	1.5	1.6	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.2	M2	8:04	1.5	1.6	***2.1***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **20 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	7.35	G1	11:05	6.0	6.9	8.8	9.6	***7.8***
Mid-Ebb	C2	surface	7.4	G2	10:53	6.0	6.9	8.8	9.6	***6.4***
Mid-Ebb	C2	surface	7.4	G3	11:12	6.0	6.9	8.8	9.6	***7.1***
Mid-Ebb	C2	surface	7.4	G4	11:23	6.0	6.9	8.8	9.6	***8.8***
Mid-Ebb	C2	surface	7.4	M4	10:39	6.2	7.4	8.8	9.6	***8.2***
Mid-Ebb	C2	bottom	11.35	G1	11:05	6.9	7.9	13.6	14.8	***7.8***
Mid-Ebb	C2	bottom	11.35	G2	10:53	6.9	7.9	13.6	14.8	***8.2***
Mid-Ebb	C2	bottom	11.4	M1	11:00	6.9	7.9	13.6	14.8	***8.9***
Mid-Ebb	C2	bottom	11.35	M3	11:16	6.9	7.9	13.6	14.8	***7.4***
Mid-Ebb	C2	bottom	11.4	M5	11:35	6.9	7.9	13.6	14.8	***8.8***
Mid-Flood	C1	surface	5.8	G1	15:27	6.0	6.9	7.0	7.5	***6.2***
Mid-Flood	C1	surface	5.8	G2	15:14	6.0	6.9	7.0	7.5	***8.4***
Mid-Flood	C1	surface	5.8	G3	15:32	6.0	6.9	7.0	7.5	***9.7***
Mid-Flood	C1	surface	5.8	G4	15:44	6.0	6.9	7.0	7.5	***8.3***
Mid-Flood	C1	surface	5.8	M1	15:20	6.2	7.4	7.0	7.5	***11.8***
Mid-Flood	C1	surface	5.8	M2	15:07	6.2	7.4	7.0	7.5	***8.6***
Mid-Flood	C1	surface	5.8	M4	14:59	6.2	7.4	7.0	7.5	***8.3***
Mid-Flood	C1	intake	n.a.	M6	15:52	8.3	8.6	n.a.	n.a.	***8.5***

Date of Water Quality Monitoring: **20 March 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	bottom	6.45	G1	15:27	6.9	7.9	7.7	8.4	***9.3***
Mid-Flood	C1	bottom	6.5	G4	15:44	6.9	7.9	7.7	8.4	***9.1***
Mid-Flood	C1	bottom	6.5	M1	15:20	6.9	7.9	7.7	8.4	***11.3***
Mid-Flood	C1	bottom	6.5	M2	15:07	6.9	7.9	7.7	8.4	***8.5***
Mid-Flood	C1	bottom	6.5	M3	15:37	6.9	7.9	7.7	8.4	***9.8***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Contract No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel
Design and Construction
- Notification of Environmental Quality Limit Exceedances

Date of Water Quality Monitoring: **20 March 2020**

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	1.2	G1	11:05	1.5	1.6	***2.5***
Bottom	19.3	22.2	Mid-Ebb	C2	1.2	G4	11:23	1.5	1.6	***1.7***
Bottom	19.3	22.2	Mid-Ebb	C2	1.2	M1	11:00	1.5	1.6	***3.6***
Bottom	19.3	22.2	Mid-Ebb	C2	1.2	M5	11:35	1.5	1.6	***2.3***
Bottom	19.3	22.2	Mid-flood	C1	1.8	M1	15:20	2.1	2.3	***3.4***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **23 March 2020**

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	5.8	G1	12:05	6.0	6.9	7.0	7.5	***23.9***
Mid-Ebb	C2	surface	5.8	G3	12:11	6.0	6.9	7.0	7.5	***9.1***
Mid-Ebb	C2	surface	5.8	G4	12:29	6.0	6.9	7.0	7.5	***6.5***
Mid-Ebb	C2	surface	5.8	M4	11:32	6.2	7.4	7.0	7.5	***7.1***
Mid-Ebb	C2	bottom	20.05	G1	12:05	6.9	7.9	24.1	26.1	***7.8***
Mid-Ebb	C2	bottom	20.1	G4	12:29	6.9	7.9	24.1	26.1	***10.1***
Mid-Ebb	C2	bottom	20.1	M5	12:45	6.9	7.9	24.1	26.1	***7.5***
Mid-Flood	C1	surface	6.0	M1	17:19	6.2	7.4	7.2	7.8	***7.2***
Mid-Flood	C1	surface	6.0	M3	17:45	6.2	7.4	7.2	7.8	***23.8***
Mid-Flood	C1	surface	6.0	M5	18:23	6.2	7.4	7.2	7.8	***10.5***
Mid-Flood	C1	bottom	4.5	G3	17:38	6.9	7.9	5.3	5.8	***8.9***
Mid-Flood	C1	bottom	4.5	M1	17:19	6.9	7.9	5.3	5.8	***7.4***
Mid-Flood	C1	bottom	4.5	M2	17:07	6.9	7.9	5.3	5.8	***8.7***
Mid-Flood	C1	bottom	4.5	M3	17:45	6.9	7.9	5.3	5.8	***10.3***
Mid-Flood	C1	bottom	4.45	M4	17:01	6.9	7.9	5.3	5.8	***5.5***
Mid-Flood	C1	bottom	4.5	M5	18:23	6.9	7.9	5.3	5.8	***7.3***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Contract No. CE 59/2015 (EP)
Environmental Team for Tseung Kwan O – Lam Tin Tunnel
Design and Construction
- Notification of Environmental Quality Limit Exceedances

Date of Water Quality Monitoring: **23 March 2020**

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	2.0	M1	11:53	2.4	2.6	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.5	G1	17:32	1.9	2.0	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M1	17:19	1.9	2.0	***2.5***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M4	17:01	1.9	2.0	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	1.5	M5	18:23	1.9	2.0	***2.6***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **25 March 2020**

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	5.1	G2	13:19	6.0	6.9	6.1	6.6	***9.2***
Mid-Ebb	C2	surface	5.1	G3	13:44	6.0	6.9	6.1	6.6	***23.6***
Mid-Ebb	C2	surface	5.1	G4	13:59	6.0	6.9	6.1	6.6	***6.5***
Mid-Ebb	C2	surface	5.1	M4	13:05	6.2	7.4	6.1	6.6	***7.0***
Mid-Ebb	C2	bottom	5.3	G1	13:38	6.9	7.9	6.4	6.9	***8.8***
Mid-Ebb	C2	bottom	5.3	G2	13:19	6.9	7.9	6.4	6.9	***9.2***
Mid-Ebb	C2	bottom	5.3	G3	13:44	6.9	7.9	6.4	6.9	***25.5***
Mid-Flood	C1	surface	5.2	G1	8:22	6.0	6.9	6.2	6.8	***8.0***
Mid-Flood	C1	surface	5.2	G2	8:06	6.0	6.9	6.2	6.8	***8.4***
Mid-Flood	C1	surface	5.2	G3	8:30	6.0	6.9	6.2	6.8	***8.1***
Mid-Flood	C1	surface	5.2	G4	8:47	6.0	6.9	6.2	6.8	***7.4***
Mid-Flood	C1	surface	5.2	M3	8:40	6.2	7.4	6.2	6.8	***6.9***
Mid-Flood	C1	surface	5.2	M4	7:54	6.2	7.4	6.2	6.8	***22.0***
Mid-Flood	C1	bottom	6.25	G1	8:22	6.9	7.9	7.5	8.1	***9.2***
Mid-Flood	C1	bottom	6.3	M2	7:59	6.9	7.9	7.5	8.1	***7.0***
Mid-Flood	C1	bottom	6.3	M3	8:40	6.9	7.9	7.5	8.1	***24.5***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **25 March 2020**

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	0.9	G1	13:38	1.1	1.2	***1.8***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	G2	13:19	1.1	1.2	***1.8***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	G4	13:59	1.1	1.2	***1.3***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M1	13:26	1.1	1.2	***2.4***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M4	13:05	1.1	1.2	***1.7***
Bottom	19.3	22.2	Mid-Ebb	C2	0.9	M5	14:30	1.1	1.2	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G1	8:22	1.2	1.4	***1.9***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G2	8:06	1.2	1.4	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G4	8:47	1.2	1.4	***1.3***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M1	8:12	1.2	1.4	***2.3***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M4	7:54	1.2	1.4	***1.7***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M5	9:04	1.2	1.4	***1.6***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **27 March 2020**

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	6.8	M4	13:53	6.2	7.4	8.2	8.8	***6.4***
Mid-Ebb	C2	bottom	5.5	G4	14:46	6.9	7.9	6.6	7.2	***6.8***
Mid-Ebb	C2	bottom	5.5	M2	13:59	6.9	7.9	6.6	7.2	***8.8***
Mid-Ebb	C2	bottom	5.5	M3	14:40	6.9	7.9	6.6	7.2	***19.7***
Mid-Ebb	C2	bottom	5.5	M5	15:17	6.9	7.9	6.6	7.2	***7.4***
Mid-Flood	C1	surface	3.6	G1	10:27	6.0	6.9	4.3	4.6	***25.8***
Mid-Flood	C1	surface	3.6	G2	10:06	6.0	6.9	4.3	4.6	***7.3***
Mid-Flood	C1	surface	3.6	G3	10:38	6.0	6.9	4.3	4.6	***6.4***
Mid-Flood	C1	surface	3.6	G4	10:57	6.0	6.9	4.3	4.6	***6.6***
Mid-Flood	C1	surface	3.6	M1	10:15	6.2	7.4	4.3	4.6	***5.7***
Mid-Flood	C1	surface	3.6	M5	11:14	6.2	7.4	4.3	4.6	***22.5***
Mid-Flood	C1	bottom	4.55	G1	10:27	6.9	7.9	5.5	5.9	***5.8***
Mid-Flood	C1	bottom	4.6	G4	10:57	6.9	7.9	5.5	5.9	***11.0***
Mid-Flood	C1	bottom	4.55	M4	9:47	6.9	7.9	5.5	5.9	***10.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **27 March 2020**

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	14:26	1.2	1.3	***1.8***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G2	14:06	1.2	1.3	***1.5***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	G4	14:46	1.2	1.3	***2.4***
Bottom	19.3	22.2	Mid-Ebb	C2	1.0	M5	15:17	1.2	1.3	***2.7***
Bottom	19.3	22.2	Mid-flood	C1	0.8	G1	10:27	1.0	1.1	***1.9***
Bottom	19.3	22.2	Mid-flood	C1	0.8	G2	10:06	1.0	1.1	***1.5***
Bottom	19.3	22.2	Mid-flood	C1	0.8	G4	10:57	1.0	1.1	***2.7***
Bottom	19.3	22.2	Mid-flood	C1	0.8	M5	11:14	1.0	1.1	***2.8***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **30 March 2020**

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	21.4	G3	15:35	6.0	6.9	25.6	27.8	***6.2***
Mid-Ebb	C2	surface	21.4	G4	15:46	6.0	6.9	25.6	27.8	***6.5***
Mid-Ebb	C2	surface	21.4	M1	15:26	6.2	7.4	25.6	27.8	***7.4***
Mid-Ebb	C2	surface	21.35	M2	15:11	6.2	7.4	25.6	27.8	***6.8***
Mid-Ebb	C2	surface	21.4	M4	15:05	6.2	7.4	25.6	27.8	***9.0***
Mid-Ebb	C2	intake	n.a.	M6	15:50	8.3	8.6	n.a.	n.a.	***8.8***
Mid-Ebb	C2	bottom	9.3	M1	15:26	6.9	7.9	11.1	12.0	***7.5***
Mid-Ebb	C2	bottom	9.25	M2	15:11	6.9	7.9	11.1	12.0	***7.5***
Mid-Ebb	C2	bottom	9.25	M3	15:39	6.9	7.9	11.1	12.0	***7.4***
Mid-Ebb	C2	bottom	9.3	M5	15:54	6.9	7.9	11.1	12.0	***7.5***
Mid-Flood	C1	surface	5.5	G1	9:31	6.0	6.9	6.6	7.2	***11.1***
Mid-Flood	C1	surface	5.5	G2	9:16	6.0	6.9	6.6	7.2	***7.6***
Mid-Flood	C1	surface	5.5	G4	9:54	6.0	6.9	6.6	7.2	***6.6***
Mid-Flood	C1	surface	5.5	M2	9:09	6.2	7.4	6.6	7.2	***8.6***
Mid-Flood	C1	surface	5.5	M5	10:05	6.2	7.4	6.6	7.2	***7.9***
Mid-Flood	C1	intake	n.a.	M6	10:00	8.3	8.6	n.a.	n.a.	***10.1***
Mid-Flood	C1	bottom	7.35	G1	9:31	6.9	7.9	8.8	9.6	***9.4***
Mid-Flood	C1	bottom	7.4	G4	9:54	6.9	7.9	8.8	9.6	***7.1***
Mid-Flood	C1	bottom	7.4	M5	10:05	6.9	7.9	8.8	9.6	***7.4***

Date of Water Quality Monitoring: **30 March 2020**

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	G1	15:29	0.9	0.9	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	G2	15:21	0.9	0.9	***1.8***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	G3	15:35	0.9	0.9	***3.2***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	G4	15:46	0.9	0.9	***2.1***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M1	15:26	0.9	0.9	***3.3***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M2	15:11	0.9	n.a.	***1.7***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M3	15:39	0.9	0.9	***2.6***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M4	15:05	0.9	0.9	***1.1***
Bottom	19.3	22.2	Mid-Ebb	C2	0.7	M5	15:54	0.9	0.9	***1.2***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G1	9:31	1.2	1.3	***3.2***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G2	9:16	1.2	1.3	***1.8***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G3	9:38	1.2	1.3	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.0	G4	9:54	1.2	1.3	***2.3***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M1	9:24	1.2	1.3	***1.9***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M2	9:09	1.2	1.3	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M3	9:44	1.2	1.3	***2.2***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M4	8:54	1.2	1.3	***1.6***
Bottom	19.3	22.2	Mid-flood	C1	1.0	M5	10:05	1.2	1.3	***1.6***

Contract No. CE 59/2015 (EP)

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

- Investigation Report of Environmental Quality Limit Exceedances (Mar 2020)

Part A Details of Investigation

For the March 2020, exceedances for suspended solids and turbidity have been recorded continuously at various monitoring stations. During water quality monitoring, the water outside the site boundary seemed to be clear and clean (Photo 1 to 4)

During site inspections, the sea appears to be clear (Photo 5 and 6). The sediment tank was free from silt and sediments and the drainage system remained well-maintained. No sand plumes were observed during the site inspection.

Despite it was discovered that the tug boat will stir up seabed sediments when pulling/pushing the barge into the western surcharge area, the Contractor will deploy silt curtain to allow suspended sediment settle down and prevent accidental spillage to the sea (Photo 7 and 8). The exceedance on relevant days remained similar to other monitoring days.

No direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project. Therefore, no additional marine water quality monitoring is required.

Part B Photo Record

	
Photo 1 (Recorded on 2nd March 2020)	Photo 2 (Recorded on 16th March 2020)

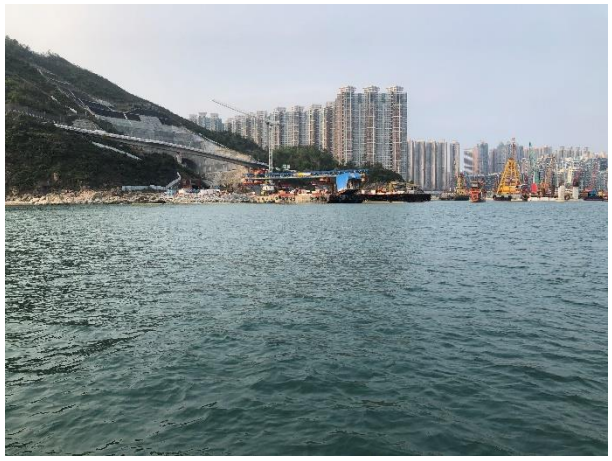



Photo 3 (Recorded on 18th Mar 2020)	Photo 4 (Recorded on 25th Mar 2020)

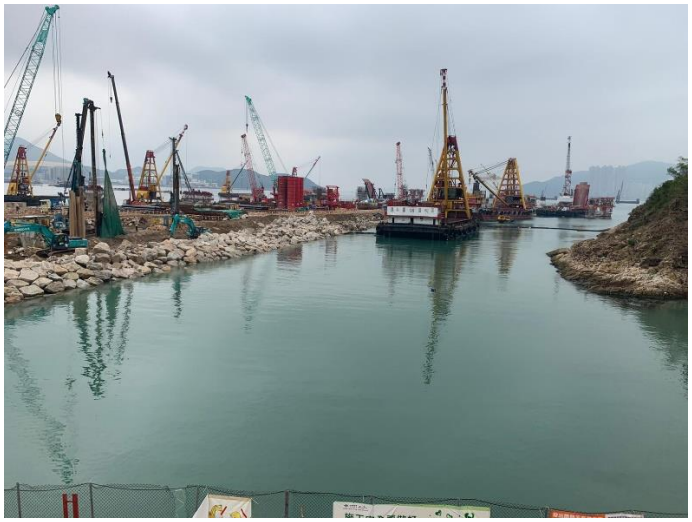


Photo 5 (Recorded on 19th Mar 2020)	Photo 6 (Recorded on 26th Mar 2020)
	
Photo 7 (Recorded on 26th Mar 2020)	Photo 8 (Recorded on 26th Mar 2020)

Part C – Recommendations

Since wet season is approaching, all Contractors are reminded to maintain the drainage system and get prepare for any rainfall. Diversions and channels should be cleared to prevent spilling muddy water into the sea due to overflow or flooding.

Appropriate diversion of received rainwater to the wastewater treatment system within the site should be provided to minimise the chance of accidental runoff. Cofferdam and silt curtain should be checked and maintained regularly; diver inspection for checking damage and leakage should be conducted weekly to ensure the functionality of cofferdam and silt curtains.

Reviewed by: (Environmental Team Leader:(Dr. HF Chan) Date: 5th April 2020

Date of Water Quality Monitoring: **01 April 2020**

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	5.7	M3	16:56	6.2	7.4	6.8	7.4	***30.7***
Mid-Ebb	C2	bottom	4.5	M3	16:56	6.9	7.9	5.4	5.9	***5.6***
Mid-Ebb	C2	bottom	4.5	M5	17:33	6.9	7.9	5.4	5.9	***5.8***

Date of Water Quality Monitoring: **01 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	6.3	M1	8:25	6.2	7.4	7.5	8.1	***7.1***
Mid-Flood	C1	bottom	7.4	M2	8:14	6.9	7.9	8.8	9.6	***9.3***
Mid-Flood	C1	bottom	7.4	M3	8:51	6.9	7.9	8.8	9.6	***9.1***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **01 April 2020**

Part A – Exceedance Summary Tables

Table II: Parameter(s) – ~~Dissolved Oxygen (DO)~~ / Turbidity (TURB) / ~~Suspended Solids (SS)~~

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-Ebb	C2	1.8	M3	16:56	2.2	2.4	***2.6***
Bottom	19.3	22.2	Mid-Ebb	C2	1.8	M5	17:33	2.2	2.4	***3.1***
Bottom	19.3	22.2	Mid-flood	C1	1.7	M1	8:25	2.0	2.2	***2.2***
Bottom	19.3	22.2	Mid-flood	C1	1.7	M3	8:51	2.0	2.2	***2.7***
Bottom	19.3	22.2	Mid-flood	C1	1.7	M5	9:16	2.0	2.2	***3.0***
Intake	N/A	N/A	Mid-flood	C1	1.7	M6	9:07	2.0	2.2	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **03 April 2020**

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)

Date of Water Quality Monitoring: **03 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.2	M1	8:29	6.2	7.4	5.0	5.5	***9.4***
Mid-Flood	C1	surface	4.2	M2	8:15	6.2	7.4	5.0	5.5	***7.1***
Mid-Flood	C1	bottom	4.3	M2	8:15	6.9	7.9	5.1	5.5	***7.3***
Mid-Flood	C1	bottom	4.3	M3	8:56	6.9	7.9	5.1	5.5	***6.3***
Mid-Flood	C1	intake	n.a.	M6	9:11	8.3	8.6	n.a.	n.a.	***10.3***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **03 April 2020**

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	1.4	M1	8:29	1.7	1.8	***2.6***
Bottom	19.3	22.2	Mid-flood	C1	1.4	M4	8:07	1.7	1.8	***2.0***
Bottom	19.3	22.2	Mid-flood	C1	1.4	M5	9:21	1.7	1.8	***2.4***
Intake	N/A	N/A	Mid-flood	C1	1.4	M6	9:11	1.7	1.8	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **06 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	7.1	M1	10:27	6.2	7.4	8.5	9.2	***6.6***
Mid-Ebb	C2	surface	7.1	M2	10:16	6.2	7.4	8.5	9.2	***6.7***
Mid-Ebb	C2	surface	7.1	M4	10:10	6.2	7.4	8.5	9.2	***38.4***
Mid-Ebb	C2	surface	7.1	M5	11:08	6.2	7.4	8.5	9.2	***7.4***
Mid-Ebb	C2	bottom	23.5	M1	10:27	6.9	7.9	28.1	30.5	***7.1***
Mid-Ebb	C2	bottom	23.5	M2	10:16	6.9	7.9	28.1	30.5	***7.4***
Mid-Ebb	C2	bottom	23.45	M3	10:46	6.9	7.9	28.1	30.5	***29.3***

Date of Water Quality Monitoring: **06 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	6.1	M1	16:04	6.2	7.4	7.3	7.9	***7.8***
Mid-Flood	C1	surface	6.1	M2	15:52	6.2	7.4	7.3	7.9	***8.4***
Mid-Flood	C1	surface	6.1	M4	10:10	6.2	7.4	7.3	7.9	***38.4***
Mid-Flood	C1	surface	6.1	M5	16:35	6.2	7.4	7.3	7.9	***7.8***
Mid-Flood	C1	bottom	5.4	M1	16:04	6.9	7.9	6.4	7.0	***9.0***
Mid-Flood	C1	bottom	5.4	M2	15:52	6.9	7.9	6.4	7.0	***6.9***
Mid-Flood	C1	bottom	5.4	M5	16:35	6.9	7.9	6.4	7.0	***7.6***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **06 April 2020**

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	4.7	M6	16:29	5.6	6.1	***8.0***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **08 April 2020**

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	10.5	M1	11:37	6.2	7.4	12.5	13.6	***6.8***
Mid-Ebb	C2	surface	10.5	M4	11:23	6.2	7.4	12.5	13.6	***8.5***
Mid-Ebb	C2	surface	10.5	M5	12:02	6.2	7.4	12.5	13.6	***11.5***
Mid-Ebb	C2	bottom	8.85	M3	11:50	6.9	7.9	10.6	11.5	***8.2***
Mid-Ebb	C2	bottom	8.9	M4	11:23	6.9	7.9	10.6	11.5	***7.9***
Mid-Ebb	C2	bottom	8.9	M5	12:02	6.9	7.9	10.6	11.5	***10.7***

Date of Water Quality Monitoring: **08 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	7.1	M3	18:31	6.2	7.4	8.5	9.2	***6.4***
Mid-Flood	C1	surface	7.1	M4	11:23	6.2	7.4	8.5	9.2	***8.5***
Mid-Flood	C1	surface	7.1	M5	18:50	6.2	7.4	8.5	9.2	***10.3***
Mid-Flood	C1	bottom	8.9	M1	18:14	6.9	7.9	10.6	11.5	***8.4***
Mid-Flood	C1	bottom	8.9	M2	18:02	6.9	7.9	10.6	11.5	***7.6***
Mid-Flood	C1	bottom	8.9	M3	18:31	6.9	7.9	10.6	11.5	***10.8***
Mid-Flood	C1	bottom	8.9	M4	11:23	6.9	7.9	10.6	11.5	***7.9***
Mid-Flood	C1	bottom	8.9	M5	18:50	6.9	7.9	10.6	11.5	***10.2***
Mid-Flood	C1	intake	n.a.	M6	18:44	8.3	8.6	n.a.	n.a.	***12.5***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **08 April 2020**

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	3.1	M6	18:44	3.7	4.1	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **15 April 2020**

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	4.1	M1	16:35	6.2	7.4	4.9	5.3	***7.0***
Mid-Ebb	C2	surface	4.1	M2	16:23	6.2	7.4	4.9	5.3	***9.7***
Mid-Ebb	C2	surface	4.1	M3	17:01	6.2	7.4	4.9	5.3	***28.1***
Mid-Ebb	C2	surface	4.1	M5	17:40	6.2	7.4	4.9	5.3	***14.1***
Mid-Ebb	C2	bottom	6.9	M1	16:35	6.9	7.9	8.3	9.0	***8.1***
Mid-Ebb	C2	bottom	6.9	M2	16:23	6.9	7.9	8.3	9.0	***7.2***
Mid-Ebb	C2	bottom	6.9	M4	16:17	6.9	7.9	8.3	9.0	***33.2***
Mid-Ebb	C2	bottom	6.9	M5	17:40	6.9	7.9	8.3	9.0	***10.4***

Date of Water Quality Monitoring: **15 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	10.4	M1	9:16	6.2	7.4	12.5	13.5	***6.5***
Mid-Flood	C1	surface	10.4	M3	9:42	6.2	7.4	12.5	13.5	***8.0***
Mid-Flood	C1	bottom	11.9	M1	9:16	6.9	7.9	14.3	15.5	***8.7***
Mid-Flood	C1	bottom	11.9	M3	9:42	6.9	7.9	14.3	15.5	***7.4***
Mid-Flood	C1	bottom	11.9	M4	16:17	6.9	7.9	14.3	15.5	***33.2***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **15 April 2020**

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	0.9	M1	9:16	1.0	1.1	***2.8***
Bottom	19.3	22.2	Mid-flood	C1	0.9	M2	9:02	1.0	1.1	***1.5***
Bottom	19.3	22.2	Mid-flood	C1	0.9	M4	8:54	1.0	1.1	***2.1***
Bottom	19.3	22.2	Mid-flood	C1	0.9	M5	10:11	1.0	1.1	***1.3***
Intake	N/A	N/A	Mid-flood	C1	0.9	M6	9:58	1.0	1.1	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **17 April 2020**

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	8.8	M1	9:24	6.2	7.4	10.6	11.4	***7.7***
Mid-Ebb	C2	surface	8.8	M2	9:14	6.2	7.4	10.6	11.4	***13.9***
Mid-Ebb	C2	surface	8.8	M3	9:39	6.2	7.4	10.6	11.4	***7.2***
Mid-Ebb	C2	surface	8.8	M4	9:07	6.2	7.4	10.6	11.4	***10.7***
Mid-Ebb	C2	surface	8.8	M5	9:55	6.2	7.4	10.6	11.4	***7.3***
Mid-Ebb	C2	bottom	10.95	M3	9:39	6.9	7.9	13.1	14.2	***12.6***

Date of Water Quality Monitoring: **17 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	6.2	M3	14:22	6.2	7.4	7.4	8.0	***21.7***
Mid-Flood	C1	surface	6.2	M4	9:07	6.2	7.4	7.4	8.0	***10.7***
Mid-Flood	C1	surface	6.2	M5	14:45	6.2	7.4	7.4	8.0	***7.4***
Mid-Flood	C1	bottom	4.1	M1	14:04	6.9	7.9	4.9	5.3	***6.6***
Mid-Flood	C1	bottom	4.1	M2	13:50	6.9	7.9	4.9	5.3	***6.4***
Mid-Flood	C1	bottom	4.1	M3	14:22	6.9	7.9	4.9	5.3	***6.2***
Mid-Flood	C1	bottom	4.1	M4	9:07	6.9	7.9	4.9	5.3	***6.9***
Mid-Flood	C1	intake	n.a.	M6	14:38	8.3	8.6	n.a.	n.a.	***10.0***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **17 April 2020**

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	M5	9:55	1.3	1.4	***2.3***
Intake	N/A	N/A	Mid-flood	C1	1.9	M6	14:38	2.3	2.5	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **20 April 2020**

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	4.0	M1	11:02	6.2	7.4	4.8	5.2	***7.7***
Mid-Ebb	C2	surface	4.0	M2	10:47	6.2	7.4	4.8	5.2	***4.9***
Mid-Ebb	C2	surface	4.0	M3	11:31	6.2	7.4	4.8	5.2	***5.7***
Mid-Ebb	C2	surface	4.0	M4	10:41	6.2	7.4	4.8	5.2	***6.6***
Mid-Ebb	C2	bottom	5.0	M1	11:02	6.9	7.9	6.0	6.5	***23.5***

Date of Water Quality Monitoring: **20 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.1	M1	16:49	6.2	7.4	4.9	5.3	***9.5***
Mid-Flood	C1	surface	4.1	M2	16:34	6.2	7.4	4.9	5.3	***5.3***
Mid-Flood	C1	surface	4.1	M4	10:41	6.2	7.4	4.9	5.3	***6.6***
Mid-Flood	C1	surface	4.1	M5	17:43	6.2	7.4	4.9	5.3	***6.4***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **20 April 2020**

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	1.7	M1	11:02	2.1	2.2	***2.3***
Bottom	19.3	22.2	Mid-Ebb	C2	1.7	M5	11:56	2.1	2.2	***2.5***
Bottom	19.3	22.2	Mid-flood	C1	2.5	M1	16:49	3.0	3.2	***5.2***
Intake	N/A	N/A	Mid-flood	C1	2.5	M6	17:32	3.0	3.2	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **22 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	surface	7.5	M1	12:03	6.2	7.4	9.0	9.8	***6.5***
Mid-Ebb	C2	surface	7.5	M2	11:48	6.2	7.4	9.0	9.8	***7.2***
Mid-Ebb	C2	surface	7.5	M3	12:27	6.2	7.4	9.0	9.8	***6.7***
Mid-Ebb	C2	surface	7.5	M4	11:43	6.2	7.4	9.0	9.8	***6.9***
Mid-Ebb	C2	surface	7.5	M5	12:53	6.2	7.4	9.0	9.8	***6.4***
Mid-Ebb	C2	bottom	5.9	M2	11:48	6.9	7.9	7.0	7.6	***10.2***
Mid-Ebb	C2	bottom	5.9	M5	12:53	6.9	7.9	7.0	7.6	***7.5***

Date of Water Quality Monitoring: **22 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	6.9	M3	17:49	6.2	7.4	8.2	8.9	***8.8***
Mid-Flood	C1	surface	6.9	M4	11:43	6.2	7.4	8.2	8.9	***6.9***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **22 April 2020**

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	M1	17:20	2.3	2.5	***2.4***
Intake	N/A	N/A	Mid-flood	C1	2.0	M6	18:09	2.3	2.5	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **24 April 2020**

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	6.1	M4	12:35	6.2	7.4	7.3	7.9	***9.8***
Mid-Ebb	C2	bottom	3.2	M2	12:40	6.9	7.9	3.8	4.2	***5.4***
Mid-Ebb	C2	bottom	3.2	M4	12:35	6.9	7.9	3.8	4.2	***5.4***
Mid-Ebb	C2	bottom	3.2	M5	13:58	6.9	7.9	3.8	4.2	***3.9***

Date of Water Quality Monitoring: **24 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	4.9	M4	12:35	6.2	7.4	5.8	6.3	***9.8***
Mid-Flood	C1	surface	4.9	M5	9:15	6.2	7.4	5.8	6.3	***6.8***
Mid-Flood	C1	bottom	5.5	M2	8:06	6.9	7.9	6.6	7.2	***8.0***
Mid-Flood	C1	bottom	5.5	M5	9:15	6.9	7.9	6.6	7.2	***27.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **24 April 2020**

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	3.4	M6	9:06	4.0	4.4	***8.0***

Note: ***Bold Italic*** means Action Level exceedance
Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **27 April 2020**

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	4.8	M4	15:25	6.2	7.4	5.8	6.2	***6.4***
Mid-Ebb	C2	bottom	5.5	M3	15:44	6.9	7.9	6.6	7.2	***6.7***
Mid-Ebb	C2	bottom	5.5	M4	15:25	6.9	7.9	6.6	7.2	***7.6***

Date of Water Quality Monitoring: **27 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	3.8	M2	8:28	6.2	7.4	4.6	4.9	***30.2***
Mid-Flood	C1	surface	3.8	M4	15:25	6.2	7.4	4.6	4.9	***6.4***
Mid-Flood	C1	surface	3.8	M5	9:07	6.2	7.4	4.6	4.9	***5.3***
Mid-Flood	C1	bottom	3.3	M1	8:38	6.9	7.9	4.0	4.3	***4.5***
Mid-Flood	C1	bottom	3.3	M2	8:28	6.9	7.9	4.0	4.3	***14.4***
Mid-Flood	C1	bottom	3.3	M3	8:54	6.9	7.9	4.0	4.3	***5.4***
Mid-Flood	C1	bottom	3.3	M4	15:25	6.9	7.9	4.0	4.3	***7.6***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **27 April 2020**

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	2.2	M3	15:44	2.6	2.8	***3.1***
Intake	N/A	N/A	Mid-flood	C1	2.2	M6	9:01	2.6	2.9	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **29 April 2020**

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	55.0	M1	15:00	6.2	7.4	65.9	71.4	***7.3***
Mid-Ebb	C2	surface	55.0	M2	14:48	6.2	7.4	65.9	71.4	***6.8***
Mid-Ebb	C2	surface	55.0	M3	15:27	6.2	7.4	65.9	71.4	***8.2***
Mid-Ebb	C2	surface	55.0	M4	14:42	6.2	7.4	65.9	71.4	***7.8***
Mid-Ebb	C2	surface	55.0	M5	16:05	6.2	7.4	65.9	71.4	***7.1***
Mid-Ebb	C2	bottom	10.5	M1	15:00	6.9	7.9	12.6	13.7	***11.6***
Mid-Ebb	C2	bottom	10.5	M3	15:27	6.9	7.9	12.6	13.7	***8.4***
Mid-Ebb	C2	bottom	10.5	M4	14:42	6.9	7.9	12.6	13.7	***17.8***
Mid-Ebb	C2	bottom	10.5	M5	16:05	6.9	7.9	12.6	13.7	***9.8***
Mid-Ebb	C2	intake	n.a.	M6	9:04	8.3	8.6	n.a.	n.a.	***40.8***

Date of Water Quality Monitoring: **29 April 2020**

Part A – Exceedance Summary Tables

Table I: Parameter(s) – ~~Dissolved Oxygen (DO) / Turbidity (TURB) /~~ Suspended Solids (SS)

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	8.3	M1	8:17	6.2	7.4	9.9	10.7	***6.9***
Mid-Flood	C1	surface	8.3	M4	14:42	6.2	7.4	9.9	10.7	***7.8***
Mid-Flood	C1	surface	8.3	M5	9:14	6.2	7.4	9.9	10.7	***8.0***
Mid-Flood	C1	bottom	9.3	M1	8:17	6.9	7.9	11.1	12.0	***8.0***
Mid-Flood	C1	bottom	9.3	M2	8:04	6.9	7.9	11.1	12.0	***8.1***
Mid-Flood	C1	bottom	9.3	M3	8:48	6.9	7.9	11.1	12.0	***8.6***
Mid-Flood	C1	bottom	9.3	M4	14:42	6.9	7.9	11.1	12.0	***17.8***
Mid-Flood	C1	bottom	9.3	M5	9:14	6.9	7.9	11.1	12.0	***18.1***
Mid-Flood	C1	intake	n.a.	M6	9:04	8.3	8.6	n.a.	n.a.	***10.1***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Date of Water Quality Monitoring: **29 April 2020**

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	1.9	M5	9:14	2.3	2.5	***3.6***
Intake	N/A	N/A	Mid-flood	C1	1.9	M6	9:04	2.3	2.5	***8.0***

Note: ***Bold Italic*** means Action Level exceedance

Bold Italic with underline means Limit Level exceedance

Contract No. CE 59/2015 (EP)

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

- Investigation Report of Environmental Quality Limit Exceedances (April 2020)

Part A Details of Investigation

For the April 2020, exceedances for suspended solids and turbidity have been recorded continuously at various monitoring stations. During water quality monitoring, the water outside the site boundary seemed to be clear and clean (Photo 1 to 4)

During site inspections, the contractor had minimised the drop height of materials from the barge's grab to reduce the chance of splashing out muddy water (Photo 5). In addition, silt curtains had been employed around the barge to prevent accidental muddy water spillage (Photo 6 - 8).
The water outside the works area looks clear and out of foam or oil stain (Photo 9).

No direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project. Therefore, no additional marine water quality monitoring is required.

Part B Photo Record

	
Photo 1 (Recorded on 1st April 2020)	Photo 2 (Recorded on 8th April 2020)
	
Photo 3 (Recorded on 15th April 2020)	Photo 4 (Recorded on 27th April 2020)

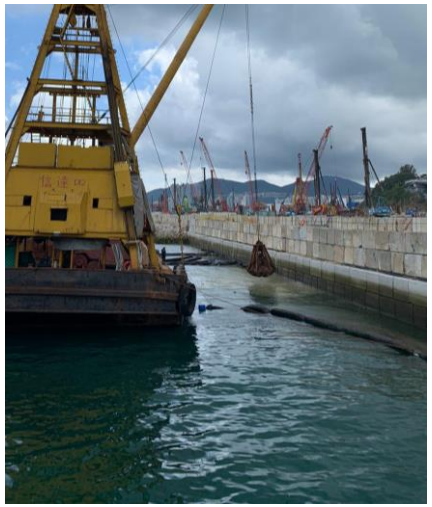
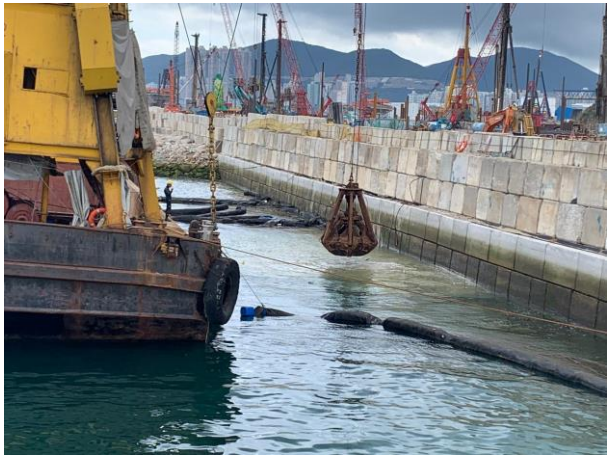
	

Photo 5 (Recorded on 16th April 2020)	Photo 6 (Recorded on 16th April 2020)

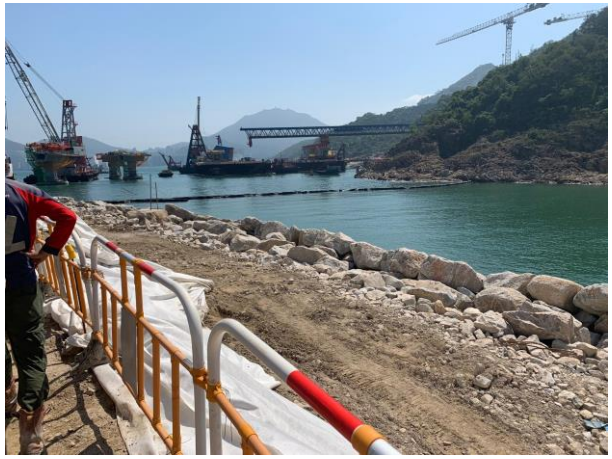



Photo 7 (Recorded on 23rd April 2020)	Photo 8 (Recorded on 29th April 2020)

Photo 9 (Recorded on 9th April 2020)

Part C – Recommendations

Since we officially entered the rainy season, all Contractors shall be special attention to the drainage system. All contractors are reminded to:

- Clear the drainage regularly
- Repair any pipes/ pumps that are malfunctioned
- Make sure the embankment of work areas are complete and capable of preventing surface runoff flow into nearby waterbody directly

Reviewed by: (Environmental Team Leader:(Dr. HF Chan) Date: 14th May 2020

APPENDIX L
SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Appendix L - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions

Table L1 - 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
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	Investigation undergoing	Investigation undergoing
438	18-Apr-20	18-Apr-20 / Marine Works Area at TKO	Residents of Ocean Shores	Noise/ Light	Blasting, High Frequency Noise and Light in Tseung Kwan O	Y	The complaint was valid in regard of noise. Blasting had been carried out during the midnight and the Contractor is reminded to strictl follow requirements of CNP. The light source was originated from the construction vessels due to safety reason and guard watching. Details shall be referred to CIR-C34.	Draft CIR submitted
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 spectedly 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 compliant #427.	Closed
433	20-Mar-20	20-Mar-20/ Lam Tin	Resident of Hong Pak Court	Noise	Noise nuisance, vibration and suspectedly insufficient mitigation measures in Lam Tin	Y	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.	Draft CIR submitted

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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	Draft CIR submitted
427	1-Mar-20	1-Mar-20 / Portion IVC	Resident of Yung Kai House	Noise	Noise nuisance from Construction Works during Holiday	Y	No construction works were conducted at the concerned locations and no direct evidence showing the complaint is project-related. The details shall be referred to CIR-N99	Closed
426	19-Feb-20	11-Feb-20 / Works area outside TKL Sports Centre	Anonymous	Noise	Noise nuisance from breaking works	Y	Refer to complaint #423 and #424.	Closed
425	18-Feb-20	29-Jan-2020 / Marine works Area	Mr. Chan from Ocean Shore		Noise nuisance from barge in morning	Y	No works had been conducted in the time period of complaint. The noise is believed to be non-project-related. The details shall be referred to CIR-N95.	Closed
424	11-Feb-20	8 and 11-Feb-2020 / Site near TKL Station	Resident of Park Central		Noise nuisance from breaking works	Y	The complaint was valid and the contractor had been operating only 1 breaker at a time. The contractor is suggested to further increase the mitigation measures to reduce impact to the surrounding neighborhood. The details shall be referred to CIR-N97	Closed
423	3-Feb-20	03-Feb-2020 / Site Near TKL Station				Y		
422	3-Feb-20	2-Feb-20 / Lam Tin Interchange	Resident of Cheuk Lai House, Yau Lai Estate		Noise nuisance suspected to be related to works involving metal hammering on Site near EHC	Y	No construction activities were conducted at the concerned locations during the period of complaint. The Contractor is reminded to keep conducting good site practice and strictly follows the requirements of approved CNP. The details shall be referred to CIR-N98	Closed
421	21-Jan-20	21-Jan-20 / Portion IX	Ocean Shores Residents	Noise	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

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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
408	25-Nov-19	Non-specific (Nov-19) / Portion 4C	Resident of Yau Lai Estate	Noise	Serious Noise Nuisance from Lam Tin Works Area	Y	Despite the Contractor had applied different noise mitigation measures (e.g. semi enclosure and noise barrier). Environmental deficiency was observed during site audit session. The Contractor is recommended to apply alternative noise mitigation measures to improve the situation. The details shall be refer to CIR-N89.	Closed
407	12-Nov-19	Non-specific (Nov-19) / LT Construction Site	Non-specified(Complainant has previously made complaints on LTI)	Operation Hours	Inquiries on operating hours & Noise Nuisance	N	The time of complaint falls under day-time. According to the Contractor and RE, the general starting time of construction works are 08:15 on normal week days. The Contractor had avoid conduct noisy works on morning to minimize noise impacts for the nearby residents. The details shall be refer to CIR-O3	Closed
406	5-Nov-19	5-Nov-19 / Tunnel near TKO	District Council Member (Mr. Chan)	Noise	Noise nuisance from Blasting activities during night-time	Y	No blasting was carried out on that night. The construction activities were conducted inside the tunnel with the blast door closed. The CNP that the Contractor held remained valid during the time of complaint. The details shall be refer to CIR-N88	Closed
405	29-Oct-19	17-Oct-2019 / Marine Works area near Ocean Shore	District Council Member (Mr. Chan)	Noise	Daytime times noise nuisance	Y	The complaint details does not tally up with the information provided with the Contractor and RE. Referring to the Contractor, there was construction works was starting at 09:00. Noise mitigation measures, such as acoustic mats, were applied to minimize noise impact. The details shall be refer to CIR-N87	Closed
404	15-Oct-19	12-Oct-19 / Marine Works area near Ocean Shore	Residents of Ocean Shores	Noise / Working Hours	Noise nuisance due to operation of barge on Saturday early morning	Y	The time of complaint falls within daytime and the major works conducted are dredging and reclamation. The contractor did not require any extra mitigation measures. The contractor had applied sound-proofing mat on the engine floor of the barges and is recommended to strictly follow the requirements of noise mitigation plan. The details shall be refer to CIR-N86	Closed
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	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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
386	10-Jul-19	9 to 10-Jul-19 / Not Specific	District Council Member (Mr. Chan)	Noise	Noise nuisance and disturbance from the TKOLT tunnel construction site involves intermittent noise emitted from collision during night-time.	Y	No construction works was carried out during the time of complaint. Details should be referred to CIR-N73.	Closed
385	4-Jul-19	Late Jun-19 to 4-Jul-19 / Reclamation Area	Resident of Ocean Shore	Noise	The reclamation works continued into the evening during weekdays and works were also operated on Sunday.	Y	See Complaint no 384.	Closed
384	3-Jul-19	3-Jul-19 / Near Ocean Shore	District Council	Noise	The construction site was constantly emitting metallic percussion noise in the early morning.	Y	The concerned metallic percussion noise source was suspected from the collision between the detached sheet pile and the adjacent sheet pile of the broken cofferdam. The detached sheet pile was fixed by re-sealing it to the adjacent sheet pile. Details should be referred to CIR-N72.	Closed
383	29-Jun-19	Jun-19 / Lam Tin Interchange	Resident of Yau Lai Estate, Yung Lai House	Noise	Noise nuisance from construction works during weekday daytime and evening times. Noise barriers was found missing in certain parts of the construction areas.	Y	Some noise mitigation measures were observed during the site inspection including idle equipment were turned off and noise barrier has been erected close to noisy PMEs in the right direction facing Yau Lai Estate. However, the above mitigation measures were not applied to whole construction site such as noise barriers were not placed close enough to the noisy PMEs due to the uneven surface and other inconvenience. Details should be referred to CIR-N71.	Closed
382 (N08/RE/0001 1019-19)	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/0001 5098-19)	11-Jun-19	1-Jun-19 / Near confferdam	District Council	Water	Muddy water discharge from construction site near the cofferdam area on 4 June 19	N	High volume of upstream muddy water was collected due high rainfall according to reports and observation. As a result, the muddy water from upstream was discharged into the Junk Bay via various outfalls in Junk Bay, as observed during the rainstorm events. No sand plume within the cofferdam area and no muddy water discharge at the designated discharge point within the Site was identified during the site inspection and water quality monitoring. Details should be referred to CIR-W11.	Closed
							No oil leakage from mobile crane was observed during the site inspection in June 2019.	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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	According to the testing reports, all ULSD fuel applied in the PMEs during the construction period contains sulphur content lower than 0.005% by weight, which complied with the Air Pollution Control (Fuel Restriction) Regulations. Details should be referred to CIR-A14.	Closed
379	11-Jun-19	4-Jun-19 / Near cofferdam area	General Public	Water	Discharge of mud water into Junk Bay from TKOLT construction site	N	See Complaint no 381.	Closed
378	11-Jun-19	13-Apr-19 / Near cofferdam area	General Public	Air	Dark smoke nuisance from construction site involves derrick barge operation near cofferdam area (daytime)	N	No violation of the Air Pollution Control (Smoke) Regulation was recorded from the construction site was observed. The contractor was recommended to install carbon filter at smoke exhaust of the barge as a more effective mitigation measures. Details should be referred to CIR-C27.	Closed
377	11-Jun-19	2-Jun-19 / Lam Tin Interchange	General Public	Noise	Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Y	Only drilling works inside the tunnel was conducted during daytime under valid CNP. Groundborne noise is considered as the major factor contributing to the noise nuisance, the Contractor are recommended to re-schedule the drilling works inside the tunnel to less sensitive hours. Details should be referred to CIR-N70.	Closed
376	11-Jun-19	9-Jun-19 / Near Yau Lai Estate	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance near Yau Lai Estate involves vehicle movement (roller) during morning to 15:00 in holiday.	Y	No works involving roller was involved. Only drilling works inside the tunnel and ddismantling of crusher shelter was conducted during Sunday daytime under valid CNP. Groundborne noise is considered as the major factor contributing to the noise nuisance, the Contractor are recommended to re-schedule the drilling works inside the tunnel to less sensitive hours. Details should be referred to CIR-N70.	Closed
375	11-Jun-19	9-Jun-19 / Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complaint about the noise nuisance from Lam Tin Interchange construction site in daytime holiday.	Y	See Complaint no. 376.	Closed
374	4-Jun-19	3-Jun-19 / Near Ping Tin Estate	Resident of Ping Sin House in Ping Tin Estate	Noise	Vibration from the construction of Lam Tin Interchange in evening time at around 20:00	Y	Groundborne noise is considered as the major factor contributing to the noise nuisance. The reverse circulation drilling works may have emitted groundborne noise, however, only 1 unit was used in Portion II. Therefore, blasting is considered as the major cause for the vibration. Details should be referred to CIR-N69.	Closed
373	4-Jun-19	2-Jun-19 / Near ocean Shore	Resident of Ocean Shore	Noise	Complaint about the noise nuisance from the construction site near Ocean Shore and the construction site operation in day time holiday.	Y	No construction activity was conducted at the time of complaint as confirmed by Engineer. Therefore, the noise nuisance was not due to the construction site. Details should be referred to CIR-N68.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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/0001 5098-19)	29-May-19	19 & 26-May-19 / Near Ocean Shore	Resident of Ocean Shore	Noise	Noise nuisance about dredging mud and loudspeaker in the construction site near Ocean Shore during daytime holiday.	Y	Noise barriers/ Noise absorptive materials have been used to mitigate the noise generated from the construction works. Only walkie-talkies were used for communication in the construction site. Details should be referred to CIR-N67.	Closed
369	13-May-19	Not specific / Lam Tin interchange	Resident of Yau Lai Estate	Noise	Noise nuisance from the blasting work inside tunnel which involves explosion noise impact during midnight	Y	Contractor has adopted a mitigation measure for reduce the blasting noise impact from the tunnel such as blasting doors and did not conduct blasting works during mid-night blasting since mid-May 2019. Details should be referred to CIR-N66.	Closed
368	19-May-19	19-May-19 / Near cofferdam area	General Public	Noise	Noise nuisance from barge with in cofferdam area in daytime holiday	Y	See Investigation / Mitigation Action for complaint no. 361.	Closed
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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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/0001 3396-19)	8-May-19	7-May-2019 / Junk Bay	District Council	Noise	Noise nuisance from marine works in the Junk Bay in the night-time (06:45)	Y	No marine works in the Junk Bay was conducted as confirmed by RE. No CCTV footage was recorded during the time of complaint. It was suggested that Contractor should conduct 24 hours CCTV monitoring. Details should be referred to CIR-N64.	Closed
361	7-May-19	28 Apr 2019 / Cofferdam Area	General Public	Noise	Noise nuisance from construction site at cofferdam area in holiday	Y	The reclamation works involves barges during the time of complaints has been compiled with the CNP. As review of existing mitigation measure, the sound proofing canvases for the barges were hanged up. Details should be referred to CIR-N63.	Closed
360	2-May-19	27-04-2019/ Construction in Tong Tin Street	General Public	Noise	The complaint about the noise nuisance from cofferdam area during daytime and evening-time.	Y	The light source was found from the lighting of derrick barge within the cofferdam area and the noise source was found from the barge during filling works. Contractor has adopted The sound proofing canvases for the derrick barge was hanged up but no light mitigation measure. Details should be referred to CIR-C28.	Closed
359	30-Apr-19	30-04-2019/ Near Ocean Shore	Resident of Ocean Shore	Noise	The complaint about the noise nuisance involve percussion noise near Ocean Shore during daytime.	Y		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
		20 Apr 2019 / Cofferdam Area 19 Apr 2019 / Cofferdam Area			The construction site near O King		The marine reclamation works at the Portion IX in C2 construction site	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
354	30-Apr-19	15 Apr 2019 / Cofferdam Area 07 Apr 2019 / Cofferdam Area 31 Mar 2019 / Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Others	Road is operated in holiday during day-time and weekday during night-time.	N	was the major construction activity during the period of complaints. The concerned reclamation works is compiled with the relevant CNP. Details should be referred to CIR-O2.	Closed
353	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Air	According to the complainant, large amount of smoke and exhaust was seen emitting from barges working within the cofferdam	N	See Investigation / Mitigation Action for complaint no. 329.	Closed
352	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore	Noise	The complainant complained about the noise nuisance from the cofferdam area in Tiu Keng Leng during day-time.	Y	The major works during the time of complaints was a crawler crane unloading H piles to the Portion V of C2 construction site. Noise barriers were erected between the crane and NSRs to reduce noise impact. Details should be referred to CIR-N62.	Closed
351	13-Apr-19	13-04-2019/Cofferdam Area	Resident of Ocean Shore	Noise	The complainant complained the noise nuisance from the cofferdam area in Tiu Keng Leng during day-time.	Y		
350	8-Apr-19	07 Apr 2019 / Cofferdam Area in TKO	-	Air & Others	The complainant complained the dark smoke generation and the construction works from the cofferdam area in Tiu Keng Leng during holiday.	N	See Investigation / Mitigation Action for complaint no. 329.	Closed
349	7-Apr-19	07-04-2019/Cofferdam Area	Resident of Ocean Shore	Air	Dark smoke generation from the cofferdam area in Tiu Keng Leng during day-time.	N		Closed
348	2-Apr-19	02 Apr 2019 / LTT-TKO	-	Others	The complainant complained the LTT construction site was working during holiday.	N		Closed
347	1-Apr-19	01 Apr 2019 / Cofferdam Area	Resident of Ocean Shore	Noise	Percussive noise from the cofferdam area in Tiu Keng Leng during day-time.	Y		Closed
346	31-Mar-19	31st March 2019 / Construction of Road P2	District Council	Others	Complaint about the construction site operation of Road P2 in day time holiday	N	A tug boat and a derrick barge were operated for the marine reclamation work within the cofferdam area during the time of complaint. As the review of relevant CNP, no violation was observed. Details should be referred to CIR-O1.	Closed
345	26-Mar-19	26th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the noise nuisance in day time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
344	28-Mar-19	26th March 2019 / Construction of Road P2	District Council	Noise	Complaint letter received regarding noise nuisance and dark smoke generation from the marine barges	Y	See Investigation / Mitigation Action for complaint no. 378.	Closed
343	25-Mar-19	25th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Complaint about the noise nuisance sound like a breaking works in day time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
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.	Closed
337	20-Mar-19	19th March 2019 / Construction of Road D4 and Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Complaint about the noise nuisance from the construction vehicle near Park Central in night time.	Y	See Investigation / Mitigation Action for complaint no. 329.	Closed
336	20-Mar-19	20th March 2019 / Construction of Road P2	Resident of Park Central	Noise & Pest	Complaint about the noise and pest nuisance from the construction site near Park Central in evening time.	Y		Closed

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

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327	13-Mar-19	13th March 2019 / Construction of Lam Tin Interchange	Resident of Bik Lai House	Noise	Noise nuisance suspected from the construction works involving chiseling during evening time (22:07).	Y	A handing processed rock at Lam Tin Interchange was conducted on the complaint date in 7 pm to 11 pm involving dump truck and excavator which construction activities was compiled with the CNP. No noise limit level exceedance was record in the evening time monitoring. However, the noise barrier was not placed in the direction of the Yau Lai Estate during breaking works, the contractor had implemented a mitigation measure such as placed the noise barrier to reduce noise level from the breaker but the noise barrier was far from the concerned breaker. Details should be referred to CIR-N59.	Closed
326	13-Mar-19	13th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Noise nuisance suspected from marine works near Ocean Shores in the day time (16:30)	Y	See Investigation / Mitigation Action for complaint no. 322.	Closed
325	9-Mar-19	9th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about the noise nuisance involve machine and percussive noise in night time (02:00 -03:00).	Y	Only drilling works were conducted inside the tunnel in early morning under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N56.	Closed
324	7-Mar-19	7th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complaint about the noise nuisance involving chiseling noise from the construction site near Hong Pak Court during day time and evening time in the past few months.	Y	Only drilling works were conducted inside the tunnel in early morning and daytime under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N56.	Closed
323 (EPD-N08/RE/00006523-19)	4-Mar-19	4th March 2019/ Cofferdam Area	Resident of Ocean Shore	Noise	Construction noise (Evening time)	Y	Only 1 derrick barge and a tug boat was used in the evening time under valid CNP. No Limit Level Exceedances were recorded at Station CM6(A) during evening time. Acoustic mat should be used to screen the engine of the barge to reduce the noise nuisance from the reclamation works. Lubricants should be applied to the barge to reduce the noise emission during barge movement.	Closed

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 PMEs complied with the CNMP. The sound proofing canvases were not always adopted as a mitigation measure to screen the noise emitted from the engine of the barge. Contractor should adopt the aforementioned mitigation measures as far as practicable. The contractor was also be recommended to enhance the mitigation measure including frequently checking the noise barriers/sound proofing canvases, frequent checking and repair the gaps or broken acoustic sheets and continue to strictly follow the requirements in the approved CNMP.	Closed
321	28-Feb-19	28th February 2019 / Construction of Lam Tin Interchange	Management Section of Yau Lai Estate	Noise	Construction noise (Night time)	Y	Only drilling works were conducted inside the tunnel in early morning under valid CNP. Groundborne noise is considered as the factor that contributes to the noise nuisance. The Contractor is recommended to reschedule drilling works to less sensitive hours. Details should be referred to CIR-N55.	Closed
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
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

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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 Tsueng Kwan O (C1)	Resident of Ocean Shore	Noise	The complaint about the noise nuisance in day time	Y	Noise nuisance was originated from the beeping noise emitted during vehicle reversing of the loader. The total length of beeping noise should be less than 5 mins. The reverse alarm system is a necessary safety measure that cannot be revoked. Details should be referred to CIR-N50.	Closed
306	13-Feb-19	13th February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise in night time	Y	See Investigation/ Mitigation Action on Complaint no.302. Details	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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	should be referred to CIR-N48.	Closed
304	8-Feb-19	8th February 2019 / Construction of Road P2 and Associated Works	Resident of Ocean Shore	Noise	Noise nuisance suspected from marine works near Ocean Shores in the day time	Y	There were two construction activities in the site including dredging and trimming in day time on 8 Feb 2019. Details should be referred to CIR-N49.	Closed
303	2-Feb-19	27th January - 2nd February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Ping Tin Estate	Noise	Noise nuisance suspected from the construction works involving chiseling noise during day time, evening time and night time.	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; □ To continue to strictly follow the requirements in the approved CNMP; □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
302	2-Feb-19	27th January - 2nd February 2019 / Construction of works at the TKO-Lam Tin tunnel	Resident of Hong Pak Court	Noise	Noise nuisance suspected from the construction works involving chiseling noise during day time	Y		Closed
301	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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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	27th - 30th January 2019 / Construction works at TKO-Lam Tin tunnel	Resident of Hong Nga Court	Noise	Noise nuisance suspected from the construction involving chiselling works	Y	See Investigation/ Mitigation Action on Complaint no.290. Details should be referred to CIR-N45.	Closed
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: □ To arrange a signalman instead of mobile crane reversing signal for minimize the beeping noise disturbance; □ Frequent checking and repair the operating PME; □ The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; □ To continue to strictly follow the requirements in the approved CNMP; □ To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
295	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/00003291-19)	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: □ To arrange a signalman instead of mobile crane reversing signal for	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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	□ To arrange a signalman instead of mobile crane reversing signal to minimize the beeping noise disturbance; □ Frequent checking and repair the operating PME; □ The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers; □ To continue to strictly follow the requirements in the approved CNMP; □ To ensure noise barrier and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
290	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the construction noise from Tunnel Works	Y		Closed
289 (EPD-N08/RE/00000859-19)	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: □ To regularly check and review the noise control activities that are being carried out on site to ensure compliance with statutory requirement. □ Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum. □ To provide training for the workers to prevent unnecessary noise disturbance. □ To provide cantilever barrier to screen the construction noise from the NSRs	Closed
286	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 16th Jan 2019. Details should be referred to CIR-N41.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
285	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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier □ To continue to strictly follow the requirements in the relevant CNP. □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP. Details can be referred to CIR-N40.	Closed
275	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/00001234-19)	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

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
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: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier □ To continue to strictly follow the requirements in the relevant CNP. □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
272	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
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	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: □ Frequent checking and repair the gaps or broken acoustic sheets; □ Replace any broken SilentMat for wrapping the breaker head; □ To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; □ The deployment of Cantilever noise barrier □ To continue to strictly follow the requirements in the relevant CNP. □ To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer □ Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
270 (EPD-K15/RE/0000 0691-19)	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	No exceedances were recorded at the nearest monitoring station, however, the approved location for noise monitoring was located at the podium of Ocean Shores. Due to inaccessibility to private unit, it is not possible to perform monitoring at higher floor. ET will keep approaching Ocean Shore Management Office for impact noise monitoring at higher floor. The recommendations for Contractor is as follows: · only well-maintained plant on-site and plant should be serviced regularly during the construction program; · Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers; Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.	Closed
265	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	No exceedances were record at the nearest monitoring station. The following recommendation were made to further enhance the mitigation measure: Frequent checking and repair the gaps or broken acoustic sheets; Replace any broken Silent Mat for wrapping the breaker head; To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receiver; To continue to strictly follow the requirements in the relevant CNP; To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer; and Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
264	2nd January 2019	2nd January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	No noise limit level exceedance was recorded at the noise monitoring stations near ocean shores. The contractor has applied lubricants to the joint of the excavators to dampen the noise emitted from the PMEs. The contractor is recommended to use noise barriers to screen the PMEs from the NSRs as per the Noise mitigation plan.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
263 (EPD-)	1st January 2019	31st December 2018 / Coastal near TKO cemetery	General Public	Water	Complained concerning oil leakage/ on the sea surface near the sunken barge at C2 site.	N	Oil leakage happened due to the derrick lighter was submerged to the sea within the cofferdam. As the oil leakage was found outside the cofferdam during site inspection, there was a gap in the cofferdam. The oil leakage was cleaned up and the floating oil absorber has been used to surround the cofferdam by Contractor. The Contractor are reminded to1) regular check if the site vessels and cofferdam are in good-condition; 2) To regular monitor the operation of any activities in the cofferdam area; 3) To implement the proposed site vessels safety and the emergency responses including clearance measures. Details of the investigation should be referred to CIR-W10.	Closed
262	30th December 2018	26th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
261	26th December 2018	26th December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
260	26th December 2018	26th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
259	26th December 2018	26th December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
258	18th December 2018	18th December 2018/ Construction of Lam Tin Interchange	Engineering Section of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The complaint is considered project related. Mitigation measures: Cable wire for anchoring between barge and pier has been replaced by rope between 27 Dec and 2 Jan to reduce noise impact. In addition, other good site practices recommended in the "Implementation Schedule of Proposed Mitigation Measures" of EM&A Manual and the approved CNMP of this Contract had been implemented by the Contractor, including the following: Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
							Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers; Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.	
257	18th December 2018	18th December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The Contractor has replaced the cable wire for anchoring between barge and pier with ropes between 27 Dec and 2 Jan to reduce noise impact.	Closed
256	17th December 2018	15th December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking and piling activities	N	No exceedance was recorded in the noise monitoring result. The number of PME operated in LTI was consistent with the proposed Construction Noise mitigation Plan (CNMP) The following recommendations were made for the Contractor to enhance the mitigation measures: To frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance; Noise barriers should be designed and erected around the noise sources to block the direct line-of-sight from the NSR as per the CNMP; To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
254	16th December 2018	16th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	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	15th December 2018	15th December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	Refer to the investigation for complaint no. 254	Closed
							The number of PMEs operated on site and on-time percentage from 19 to 30 November complied with the CNMP, thus, no violation was identified. Based on the noise and air monitoring results in November 2018, no Limit Level Exceedance was recorded.	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
252	30th November 2018	30th November 2018/ Construction of Road D4	Resident of Park Central	Noise & Air	Complained about the construction noise and dust resuspension in Road D4.	Y	**Mitigation Measures** A more effective acoustic barrier was erected between the drill rig and Park Central. Frequent water spraying along the Po Yap Road for eight times a day, Stockpile are covered with impervious material to avoid dust resuspension	Closed
251	28th November 2018	27th November 2018/ Construction of TKO portal	Public	Noise	Complained about the construction noise from the marine works.	Y	The complaint lodged on 25th November 2018 is considered as non-project related, as no works was conducted on that day. The complaint on 27th November 2018 is considered project related. The contractor is reminded to 1) frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance; 2) Ensure no further use of PA system for marine works.	Closed
250	26th November 2018	26th November 2018/ Public sea in TKO	Resident of Ocean Shore	Noise	Complained about the noise nuisance from the operation of derrick barge on Sunday.	Y	Refer to the investigation for complaint no. 251	Closed
249	25th November 2018	20th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from the Excavators in LTI on Sunday morning.	Y	Refer to the investigation for complaint no. 251	Closed
248	20th November 2018	20th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance during transfer of material in evening time at LTI	Y	Regular noise monitoring results for restricted and non-restricted hours show full compliance of the noise criteria (night-time noise exceedance is considered non-project related). The contractor is reminded to adopt cantilever noise barriers at Lam Tin Interchange to screen noise effectively by screening the line-of-sight from sensitive receivers	Closed
247	20th November 2018	19th November 2018/ Lam Tin Interchange	Public	Noise	Complained about the noise nuisance from rock dropping during evening time	Y	Refer to the investigation for complaint no. 248	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance	Investigation/ Mitigation Action	Status
246	19th November 2018	19th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from dump truck in evening time	Y	Refer to the investigation for complaint no. 248	Closed
245	8th November 2018	8th November 2018/ Lam Tin Interchange	Public	Noise	Complained about construction noise during night time from LTI	Y	Refer to the investigation for complaint no. 248	Closed
243	8th November 2018	8th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the construction noise during evening time from LTI.	Y	Refer to the investigation for complaint no. 248	Closed
242	7th November 2018	7th November 2018/ Lam Tin Interchange	Public	Noise	Complained about the construction noise and dust nuisance.	Y	Refer to the investigation for complaint no. 248	Closed
241	6th November 2018	6th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed
240	6th November 2018	6th November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed

Appendix L - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions

Table L2 - 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
Jan-20*	6*	0	0
Feb-20	4	0	0
Mar-20	11	0	0
Apr-20	3	0	0
Total	**440**	**1**	**1**

*One new complaint was received after the submission of the EMA Report (Jan 2020)

Table L3 - 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	0	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--

Table L4 - 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	--	--	--	--	--	--

APPENDIX M
SUMMARY TABLE FOR MAJOR SITE ACTIVITIES UNDERTAKEN IN THE REPORTING QUARTER

Appendix M - Summary Table for Major Site Activities undertaken in the Reporting Quarter

Contract	Site Area	Site Activities		
		February 2020	**March 2020**	**April 2020**
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 3, Area 4 & Area 5 3) Administration Building	1) EHC2 U-Trough 2) Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 & Area 5 3) Administration Building	1) EHC2 U-Trough 2) Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 & Area 5 3) Administration Building
	Main Tunnel	1) Main tunnel Excavation 2) Main tunnel Lining Works	1) Main tunnel Excavation 2) Main tunnel Lining Works	1) Main tunnel Excavation 2) Main tunnel Lining Works
	TKO Interchange	1) Haul Road Construction, Site Formation and Slope Works 2) Bridge Construction 3) Cavern Excavation	1) Haul Road Construction, Site Formation and Slope Works 2) Bridge Construction 3) Cavern Excavation 4) East Ventilation Building	1) Haul Road Construction, Site Formation and Slope Works 2) Bridge Construction 3) East Ventilation Building
NE/2015/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	General	1) Site formation works and drainage for Road P2 CH500-CH650 and SR1 2) Site formation and drainage works for SR2 CH250 – CH350 3) Structure works for U-trough CH318 – CH363.50 4) Construction of utility trough and pre-cast concrete barrier at P2 U-trough CH411 – CH500 and SR2 CH170 –	1) Site formation works and drainage for Road P2 CH500-CH650 and SR1 2) Site formation and drainage works for SR2 CH250 – CH350 3) Structure works for U-trough CH318 – CH363.50 4) Construction of utility trough and pre-cast concrete barrier at P2 U-trough CH411 – CH500 and SR2 CH170 –	1) Site formation works, road and drainage for Road P2 CH500-CH650 and SR1 2) R.C. Structure works for U-trough CH318 – CH363.50 3) Construction of utility trough and pre-cast concrete barrier at P2 U-trough CH411 – CH500 and SR2 CH170 – CH250 4) Installation of socketed H-pile at S200 CH821 – P2 CH105

		CH250 5) 1st and 2nd layer excavation for underpass CH105 – CH318 6) Installation of strut/ wailing at 1st and 2nd layer of ELS for CH105 – CH318 underpass 7) Removal of surcharge mount of surcharge area 3 8) Installation of socketed H-pile at S200 CH821 – P2 CH105 9) Pre-boring for sheetpile at S200 CH821 – P2 CH105 10) Bored pile works at abutment 11) Sloping seawall construction 12) Removal of temporary cofferdam 13) Sheetpile installation at S200 CH821-P2 CH105 14) Installation of socketed H-pile at CT01 CH117 – CH336 15) TAM grouting works at CH105-CH318 cofferdam	CH250 5) 1st and 2nd layer excavation for underpass CH105 – CH318 6) Installation of strut/ wailing at 1st and 2nd layer of ELS for CH105 – CH318 underpass 7) Breaking the existing seawall at CH105 – CH318 cofferdam 8) Installation of socketed H-pile at S200 CH821 – P2 CH105 9) Pre-boring for sheetpile at S200 CH821 – P2 CH105 10) Pre-boring for sheetpile at storm water manhole 9101 – 9103 11) Bored pile works at abutment 12) Sloping seawall construction 13) Removal of temporary cofferdam 14) Construction of footing DS25, ADS22 15) Sheetpile installation at S200 CH821-P2 CH105 16) Installation of socketed H-pile at CT01 CH117 – CH336 17) TAM grouting works at CH105-CH318 cofferdam	5) Pre-boring for sheetpile at S200 CH821 – P2 CH105 6) Pre-boring for sheetpile at storm water manhole 9101 – 9103 7) Bored pile works at abutment 8) Sloping seawall construction 9) Removal of temporary cofferdam 10) Construction of directional sign footing DS25, ADS22 11) Sheetpile installation at S200 CH821-P2 CH105 12) Installation of socketed H-pile at CT01 CH117 – CH336 TAM grouting works at CH105-CH318 cofferdam
NE/2015/03 –	General	The construction works under the contract had been completed in December 2019		

Tsueng Kwan O – Lam Tin Tunnel – Northern Footbridge				
NE/2017/01 – Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	General	1) Construction of Temporary Platform 2) Construction of Pile Cap 3) Construction of Pier 4) Construction of Pier Head Works 5) Pre-drilling Works 6) Bored Piling Works 7) Segment Erection Works	1) Construction of Pier 2) Construction of Pier Head Works 3) Pre-drilling Works 4) Bored Piling Works 5) Segment Erection Works	1) Construction of Pier 2) Construction of Pier Head Works 3) Bored Piling Works 4) Segment Erection Works
NE/2017/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	General	1) Inspection pit excavation and utility diversion works 2) Road works 3) Watermain and drainage construction works 4) Bitumen paving 5) Proof drilling 6) Bored piles 7) Pile cap	1) Inspection pit excavation and utility diversion works 2) Road works 3) Watermain and drainage construction works 4) Asphalt paving 5) Proof drilling 6) Bored piles 7) Pile cap	1) Inspection pit excavation and utility diversion works 2) Construction of drainage and watermain 3) Pile cap 4) Asphalt Paving 5) Pier, Staircase and Lift Shalt Construction 6) Road Works
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	General	1) Nil	1) Nil	1) Nil

APPENDIX N
EVENT AND ACTION PLANS

Event and Action Plan for Air Quality (Dust)

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action level being exceeded by one sampling	1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action level being exceeded by two or more consecutive sampling	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER;	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to IEC within three working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	8. If exceedance stops, cease additional monitoring.			
Limit level being exceeded by one sampling	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor ,IEC, ER, and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Limit level being exceeded by two or more consecutive sampling	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily;	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals;

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	3. Supervise the implementation of remedial measures.	4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level	1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.			

Event and Action Plan for Marine Water Quality

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action level being exceeded by one sampling day at water sensitive receiver(s)	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate; • If exceedance is found to be caused by the reclamation activities, repeat *in-situ* measurement to confirm findings; • Inform IEC and contractor; • Check monitoring data, all plant, equipment and Contractor's working methods; • If exceedance occurs at WSD salt water intake, inform WSD; • Discuss mitigation measures with IEC and Contractor; • Repeat measurement on next day of exceedance.	• Discuss with ET and Contractor on the mitigation measures; • Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly; • Assess the effectiveness of the implemented mitigation measures.	• Discuss with IEC on the proposed mitigation measures; • Make agreement on the mitigation proposal.	• Inform the ER and confirm notification of the non-compliance in writing; • Rectify unacceptable practice; • Check all plant and equipment; • Amend working methods if appropriate; • Discuss with ET and IEC and propose mitigation measures to IEC and ER; • Implement the agree mitigation measures.
Action level being exceeded by two or more consecutive	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;	• Discuss with ET and Contractor on the mitigation measures;	• Discuss with IEC on the proposed mitigation measures; • Make agreement on the mitigation proposal;	• Inform the Engineer and confirm notification of the non-compliance in writing; • Rectify unacceptable practice;

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
sampling days at water sensitive receiver(s)	• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings; • Inform IEC and contractor; • Check monitoring data, all plant, equipment and Contractor's working methods; • Discuss mitigation measures with IEC and Contractor; • Ensure mitigation measures are implemented; • Prepare to increase the monitoring frequency to daily; • If exceedance occurs at WSD salt water intake, inform WSD; • Repeat measurement on next day of exceedance.	• Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly; • Assess the effectiveness of the implemented mitigation measures.	• Assess the effectiveness of the implemented mitigation measures.	• Check all plant and equipment and consider changes of working methods; • Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3 working days; • Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day at water sensitive receiver(s)	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;	• Discuss with ET and Contractor on the mitigation measures; • Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;	• Discuss with IEC, ET and Contractor on the proposed mitigation measures; • Request Contractor to critically review the working methods;	• Inform the ER and confirm notification of the non-compliance in writing; • Rectify unacceptable practice;

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
	• If exceedance is found to be caused by the reclamation activities, repeat *in-situ* measurement to confirm findings; • Inform IEC, contractor, AFCD and EPD • Check monitoring data, all plant, equipment and Contractor's working methods; • Discuss mitigation measures with IEC, ER and Contractor; • Ensure mitigation measures are implemented; • Increase the monitoring frequency to daily until no exceedance of Limit level; • If exceedance occurs at WSD salt water intake, inform WSD.	• Assess the effectiveness of the implemented mitigation measures.	• Make agreement on the mitigation measures to be implemented; • Assess the effectiveness of the implemented mitigation measures.	• Check all plant and equipment and consider changes of working methods; • Discuss with ET, IEC and ER and submit proposal of mitigation measures to IEC and ER within 3 working days of notification; • Implement the agreed mitigation measures.
Limit level being exceeded by two or more consecutive sampling days at	• Identify the source(s) of impact by comparing the results with those collected at the control stations as appropriate;	• Discuss with ET and Contractor on the mitigation measures; • Review proposal on mitigation measures submitted by Contractor and advise the ER accordingly;	• Discuss with IC(E), ET and Contractor on the proposed mitigation measures; • Request Contractor to critically review the working methods;	• Inform the ER and confirm notification of the non-compliance in writing; • Rectify unacceptable practice;

Event	Action			
	ET	**IEC**	**ER**	**CONTRACTOR**
water sensitive receiver(s)	• If exceedance is found to be caused by the reclamation activities, repeat in-situ measurement to confirm findings; • Inform IC(E), AFCD, contractor and EPD; • Check monitoring data, all plant, equipment and Contractor's working methods; • Discuss mitigation measures with IC(E), ER and Contractor; • Ensure mitigation measures are implemented; • Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days; • If exceedance occurs at WSD salt water intake, inform WSD.	• Assess the effectiveness of the implemented mitigation measures.	• Make agreement on the mitigation measures to be implemented; • Assess the effectiveness of the implemented mitigation measures; • Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.	• Check all plant and equipment and consider changes of working methods; • Discuss with ET, IC(E) and ER and submit proposal of mitigation measures to IC(E) and ER within 3 working days of notification; • Implement the agreed mitigation measures; • As directed by the Engineer, to slow down or to stop all or part of the construction activities.

Limit Levels and Action Plan for Landfill Gas

Parameter	Limit Level	Action
Oxygen	<19%	• Ventilate to restore oxygen to >19%
	<18%	• Stop works • Evacuate personnel/prohibit entry • Increase ventilation to restore oxygen to >19%
Methane	>10% LEL (i.e. > 0.5% by volume)	• Prohibit hot works • Ventilate to restore methane to <10% LEL
	>20% LEL (i.e. > 1% by volume)	• Stop works • Evacuate personnel / prohibit entry • Increase ventilation to restore methane to <10% LEL
Carbon Dioxide	>0.5%	• Ventilate to restore carbon dioxide to < 0.5%
	>1.5%	• Stop works • Evacuate personnel / prohibit entry • Increase ventilation to restore carbon dioxide to < 0.5%

Event and Action Plan for Coral Post-Translocation Monitoring

Event	Action			
	ET Leader	**IEC**	**ER**	**Contractor**
Action Level Exceedance	1. Check monitoring data; 2. Inform the IEC, ER and Contractor of the findings; 3. Increase the monitoring to at least once a month to confirm findings; 4. Propose mitigation measures for consideration	1.Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional Monitoring and any other measures submitted by the Contractor and advise the ER accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER; 3. Implement the agreed measures.
Limit Level Exceedance	Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, suspend construction works until an effective solution is identified.	1.Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional Monitoring and any other measures submitted by the Contractor and advise the ER accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make agreement on the measures to be implemented.	1. Inform the ER and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the ER; 3. Implement the agreed measures.

Mitigation Measures for Vibration Monitoring

Level	Contingency Action
Alert Level	● The Engineer shall be informed immediately. ● The Contractor shall submit an investigation report to describe works being undertaken. To review the instrument responses and to study the cause of undue response. ● The Contractor shall review and increase the instrumentation monitoring and reporting frequency, if applicable. ● The Contractor shall submit a detailed plan of action describing the measures to be taken should the concerned instrument reach the action level to the Engineer for approval.
Alarm Level	● The Engineer shall be informed immediately. ● The active construction works may require to be suspended subject to the Engineer's review of monitoring data. ● The Contractor shall immediately implement the measures as defined in the detailed plan of action to prevent further ground movement and groundwater drawdown etc. ● The Contractor shall prepare a detailed investigation report to study the cause of the exceedance ● The Contractor shall propose a contingency plan for the Engineer's approval in the event that alarm value is reached or exceeded ● The Contractor shall develop an emergency plan for the Engineer's approval in the event the applied contingency measures cannot control the situation. ● The Contractor shall meet the Engineer to discuss the instrument response and review the effectiveness of the implemented measures. ● The Contractor shall carry out design review of the works

Action Level	● Consideration shall be given to suspend all active construction works and the Engineer shall be informed immediately ● The Contractor shall immediately implement the measures defined in the contingency plan ● The Contractor shall implement the measures defined in the emergency plan in the event that the applied contingency measures are found inadequate ● The Contractor shall provide a complete report to examine the construction method and review the response of the instruments with full history of the monitoring data and construction activities and necessary design update ● To resume the suspended activities, the Contractor shall demonstrate to the Engineer's satisfaction that it is safe to do so with approval from the Engineer.

APPENDIX O
ECOLOGICAL MONITORING

App O – Ecological Monitoring

Reporting Period: Starting from December 2017

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