


# 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 2019 – April 2019  
(version 1.0)**

Approved By   
(Dr. HF Chan,  
Environmental Team Leader)

REMARKS:

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

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

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Date: 24 June 2019

Attention: Mr Lo Sai Pak, Sunny

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

Dear Sirs

Agreement No.: NTE 06/2016  
Independent Environmental Checker for Tseung Kwan O – Lam Tin Tunnel  
Quarterly Environmental Monitoring and Audit Report for February 2019 to April 2019

We refer to emails of 28 May and 20 June 2019 from Cinotech Consultants Limited attaching the Quarterly Environmental Monitoring and Audit Report for February 2019 to April 2019.

We have no further comment and hereby verify the captioned report.

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

Yours faithfully  
ANEWR CONSULTING LIMITED

Adi Lee  
Independent Environmental Checker

LYMA/CYYH/lhnh

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## EXECUTIVE SUMMARY

### Introduction

1. This is the 10<sup>th</sup> 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 2019 to April 2019.
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	
<b>February 2019</b>					
Air Quality	0	0	0	0	N/A
Noise	17	12	Under investigation	1	Refer to Appendix K & O
Groundwater Quality	1	1	0	0	Refer to Appendix K
Marine Water Quality	35	284	0	0	N/A
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A <sup>1</sup>	0	N/A <sup>1</sup>	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A
<b>March 2019</b>					
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	24	9	Under investigation	0	Refer to Appendix K & O
Groundwater Quality	1	4	0	0	Refer to Appendix K
Marine Water Quality	57	359	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A <sup>1</sup>	0	N/A <sup>1</sup>	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A
<b>April 2019</b>					
Air Quality	0	0	0	0	N/A
Noise	11 <sup>1</sup>	9	Under investigation	0	Refer to Appendix K & O
Groundwater Quality	0	0	0	0	Refer to Appendix K
Marine Water Quality	30	235	0	0	Refer to Appendix K
Groundwater Level Monitoring (Piezometer Monitoring)	0	N/A <sup>1</sup>	0	N/A <sup>1</sup>	N/A
Ecological	N/A	N/A	N/A	N/A	N/A
Cultural Heritage	0	0	0	0	N/A
Landfill Gas	0	0	0	0	N/A

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

1. 2 new noise-related complaints was received after the submission of the Monthly Report (April 2019)

### 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 2019)	20	Noise nuisance/ Construction dust/ Smoke/ Odour	Investigation Completed/ Under investigation	Closed/ Under investigation	Details refer to App L
Complaint received by Project Team / Complaint referred by EPD (March 2019)	25	Noise nuisance/ Odour/ Mosquitos	Investigation Completed/ Under investigation	Under investigation	
Complaint received by Project Team / Complaint referred by EPD (April 2019)	17 <sup>1</sup>	Noise nuisance/ Light/ Air/ Working Hour	Investigation Completed/ Under investigation	Under investigation	
Reporting Changes	0	---	N/A	N/A	---

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Notifications of any summons & prosecutions received (February 2019)	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received (March 2019)	0	---	N/A	N/A	---
Notifications of any summons & prosecutions received (April 2019)	0	---	N/A	N/A	---
1. 3 new complaints was received after the submission of the EMA Monthly Report (April 2019)					

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 August 2013 (EP no.: EP-458/2013). Variations to the EP was applied and the latest EP (EP no.: EP-458/2013/C) was issued by the Director of Environmental Protection (DEP) in January 2017.

### 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**.

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## 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 2019	Sunny, Cloudy and Rainy
March 2019	Sunny, Cloudy and Rainy
April 2019	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 2019

- 3.6 All noise monitoring was conducted as scheduled in the reporting month. Seventeen (17) Action Level exceedances were recorded due to the documented complaints received in this reporting month. The most common complaints were about the construction and explosive noise from NE/2015/01, the Contractors are reminded to check and repair noise absorbing materials and barriers, strictly follow the requirements in the relevant CNP & CNMP, review the construction program and operate the works, especially blasting works in less sensitive hours for minimizing noise impacts generated from construction activities.
- 3.7 Eleven (11) Limit Level exceedances for night-time construction noise monitoring were recorded and they were considered due to the road Traffic near Eastern Cross Harbour Tunnel Toll Plaza, therefore non-Project related. One (1) Limit Level exceedance for day time was recorded in the reporting month and it was considered as Project-related.

##### March 2019

- 3.8 All noise monitoring was conducted as scheduled in the reporting month. Twenty-four (24) Action Level exceedances were recorded due to the documented complaints received in this reporting month. The complaints were mainly about noise generated from breaking and piling works from NE/2015/01 and construction noise generated from the barges in NE/2015/02 during both daytime and evening time. The Contractors are reminded to check and repair noise absorbing materials and barriers, strictly follow the requirements in the CNP & CNMP, review the construction program and operate the works, especially

blasting works in less sensitive hours for minimizing noise impacts generated from construction activities. All construction works were conducted under valid CNPs with confirmation from RE and CCTV footage of the works area. No daytime noise limit levels exceedance were also recorded in the relevant monitoring station in this reporting month. The following mitigation measures were recommended for the Contractors:

- Use Cantilever noise barriers with the line-of-sight from sensitive receivers
- Check and repair noise absorbing materials and barriers
- Strictly follow the requirements in the relevant CNP, and review the construction program and operate the works in less sensitive hours for minimizing noise impacts generated from construction activities.
- The barges should be regularly maintained to minimise noise generation.

3.9 Nine (9) Limit Level exceedances for night-time construction noise monitoring were recorded and they were considered due to the road Traffic near Eastern Cross Harbour Tunnel Toll Plaza, therefore non-Project related. No Limit Level exceedance for day time was recorded.

3.10 April 2019

All noise monitoring was conducted as scheduled in the reporting month. Eleven (11) Action Level exceedance were recorded due to the documented complaints received in this reporting month. Most complaints were about construction noise / works during restricted hours from NE/2015/02. However, all construction works were conducted under valid CNPs with confirmation from RE and CCTV footage of the works area. No noise limit levels were also recorded in the relevant monitoring station in this reporting month. Contractors are reminded to check and repair noise absorbing materials and barriers, strictly follow the requirements in relevant CNP & CNMP, review the construction program and operate the works in less sensitive hours for minimizing noise impacts generated from construction activities.

3.11 Nine (9) Limit Level exceedance for night-time construction noise monitoring were recorded and they were considered due to the road traffic near Eastern Cross Harbour Tunnel Toll Plaza, therefore non-Project related. No Limit Level exceedance for day time was recorded.

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

## **Water Quality**

### February 2019

3.13 Groundwater quality monitoring was conducted as scheduled in the reporting month. One (1) action level and One (1) Limit Level exceedances were recorded in the reporting month.

### March 2019

3.14 Groundwater quality monitoring was conducted as scheduled in the reporting month. One (1) action level and Four (4) Limit Level exceedances were recorded in the reporting month.

3.15 April 2019

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All groundwater quality monitoring was conducted as scheduled in the reporting month. No exceedance was recorded in the reporting month.

- 3.16 It is considered that the exceedance are not project-related based on the following reasons:
- The distance between the tunnel construction activities and monitoring station of stream 2 and 3 are about 1000 meters.
  - The vertical distance between Stream 1 and the tunnel construction site is more than 44 meters. Therefore, Stream 1 will not be affected by any tunnel construction works as its elevation is above the tunnel construction site.
  - The exceedances are considered probably due to non-project factors, such as human activities and adverse weather. The investigation details are shown in **Appendix K**.
- 3.17 The graphical presentations of the groundwater quality monitoring results are shown in **Appendix E**.
- 3.18 All marine water monitoring was conducted as scheduled in the reporting quarter. Additional monitoring was conducted on 26 February, 7 and 14 March 2019. 35, 57 & 30 Action Level and 284, 359 & 235 Limit Level exceedances were recorded in February, March 2019 & April 2019 respectively.
- 3.19 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 the ongoing reclamation activities of the Project. Weekly silt curtain inspection (including diving inspection) have been carried out by contractor, the record, reviewed by the site auditors, indicated that silt curtains were found in good conditions. No major deficiency of the silt curtains were also observed during site auditing.
- 3.20 Based on the findings from the dive survey conducted on 16 March, no sand was observed at and near the sand dumping area, confirming that no residual sand is present. On the other hand, sand was observed around the outfall near Lohas Park. A number of construction sites are present in Tseung Kwan O and sightings of silty water discharge from other outfalls in Junk Bay not managed by the Contractor of this project were reported. These suggests that there are other sources of suspended solids in the Junk Bay in addition to this Project. Since no major deficiency of the silt curtain and cofferdam of this project nor discharge of silty water was observed during site audits and water quality monitoring by the ET, there is no direct evidence that the recent exceedances were due to the ongoing reclamation activities of the Project.
- 3.21 The graphical presentations of the marine water quality monitoring results are shown in **Appendix F**.
- 3.22 Construction phase daily piezometer monitoring was carried out in August and September as tunnel construction activities were carried out within +/- 50m of the piezometer gate in plan. The monitoring switched to monthly basis in October 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**

- 3.23 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**

- 3.24 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**

- 3.25 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**

- 3.26 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**

- 3.27 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**

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

**Table 3.2 Major Dust Sources during the Monitoring in the Reporting Period**

<b>Station</b>	<b>Major Dust Source</b>
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 3.3 Major Noise Sources during the Monitoring in the Reporting Period**

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

#### **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 Fifty-two (52) Action Level exceedances were recorded due to the documented complaints received from monitoring stations in the reporting quarter. Twenty-nine (29) Limit Level exceedances were recorded for night time construction noise in the reporting quarter. One (1) Limit Level exceedance was recorded for day time construction noise in the reporting quarter.

##### *Water Quality*

- 4.4 Two (2) Action Level exceedance and Five (5) Limit Level exceedances were recorded for groundwater quality monitoring in the reporting quarter. It is considered that the exceedances were non-project related.

- 4.5 One-Hundred and Twenty-two (122) Action Level exceedances and Eight Hundred and Seventy Eight (878) Limit Level exceedances were recorded for marine water quality monitoring in the reporting quarter.

##### *Ecological Monitoring*

- 4.6 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 Sixty-two (62) 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 Sixty-two (62) 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

### *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.

---

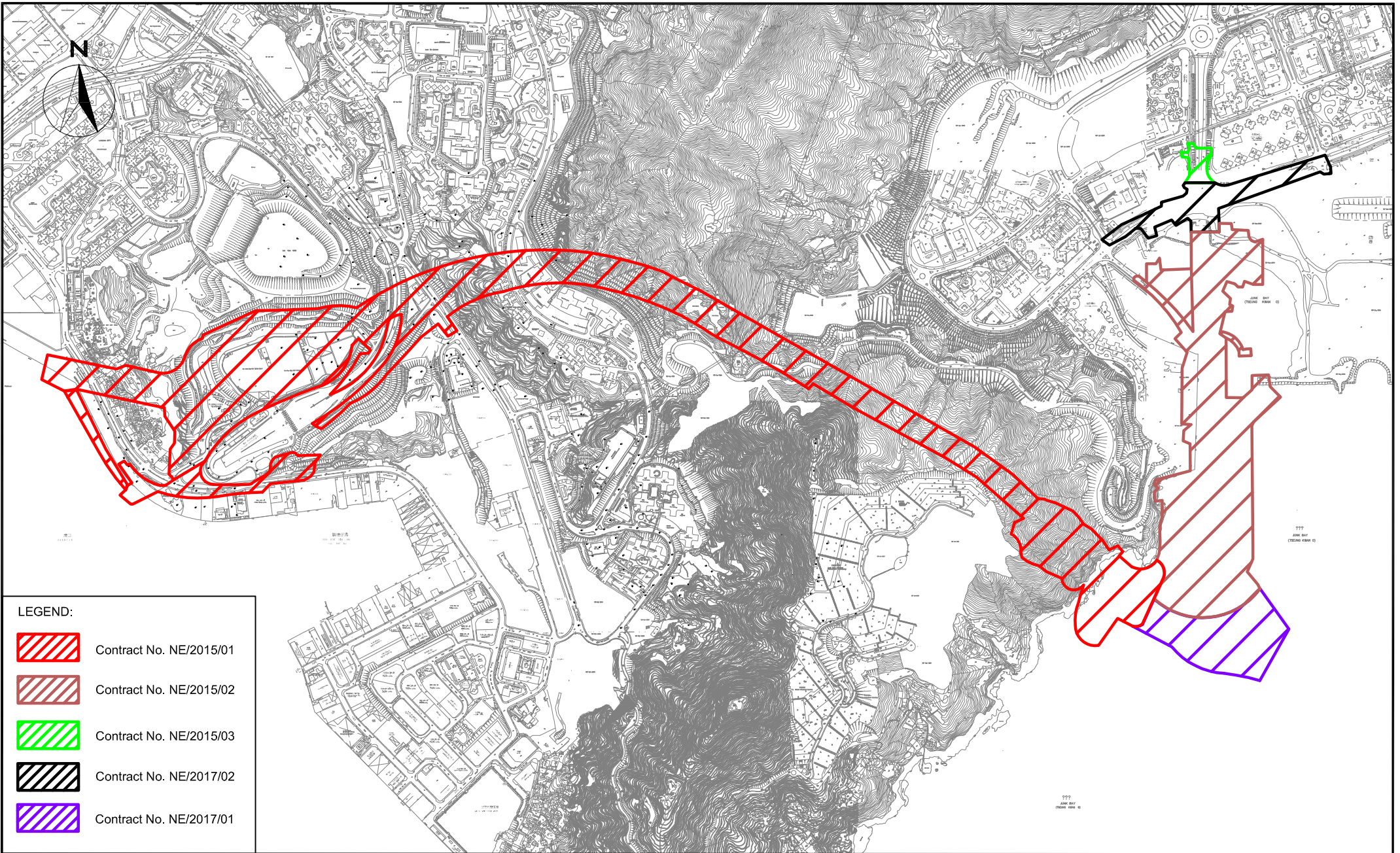
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## FIGURES



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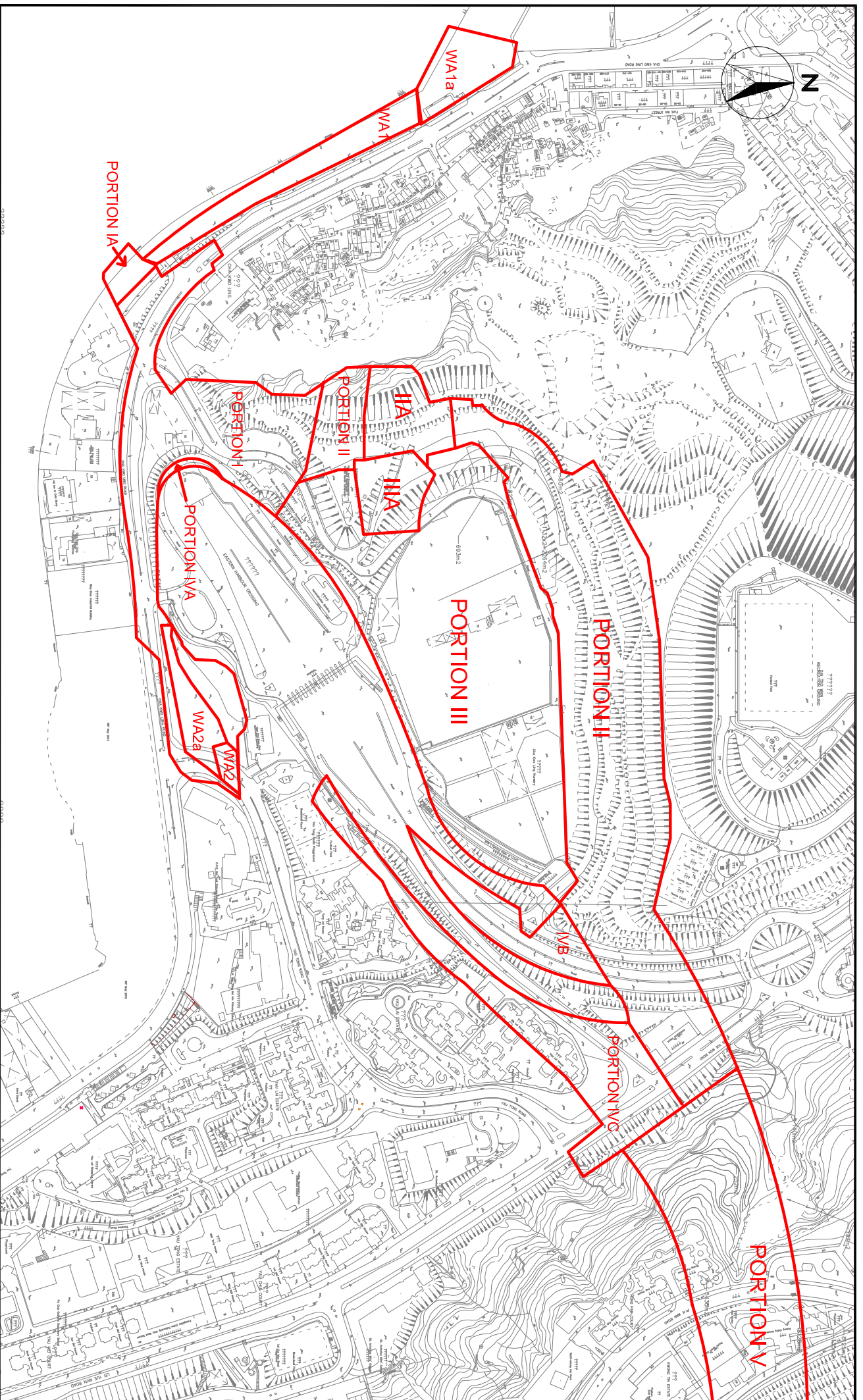
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	Contract No. NE/2015/02
	Contract No. NE/2015/03
	Contract No. NE/2017/02
	Contract No. NE/2017/01

**CINOTECH**  
Cinotech Consultants Limited

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

SCALE	1:15000 @ A4	DATE	APR 2018
CHECK	JF	DRAWN	AC
JOB No.	MA16034	FIGURE NO.	1
		REV	-



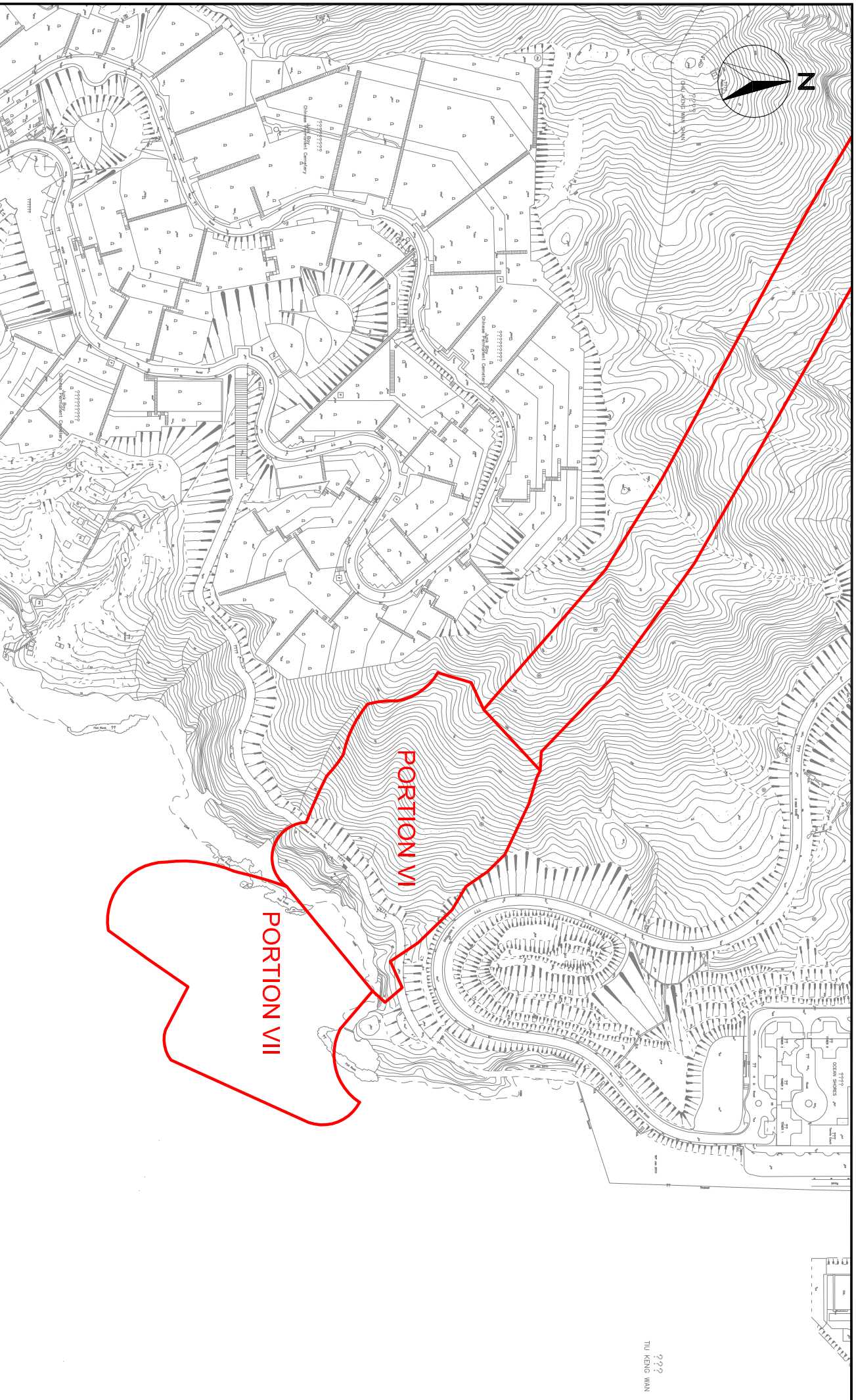


Agreement No. CE/59/2015 (EP)  
Environmental Team for Tseung Kwan O - Lam Tin Tunnel  
- Design and Construction

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

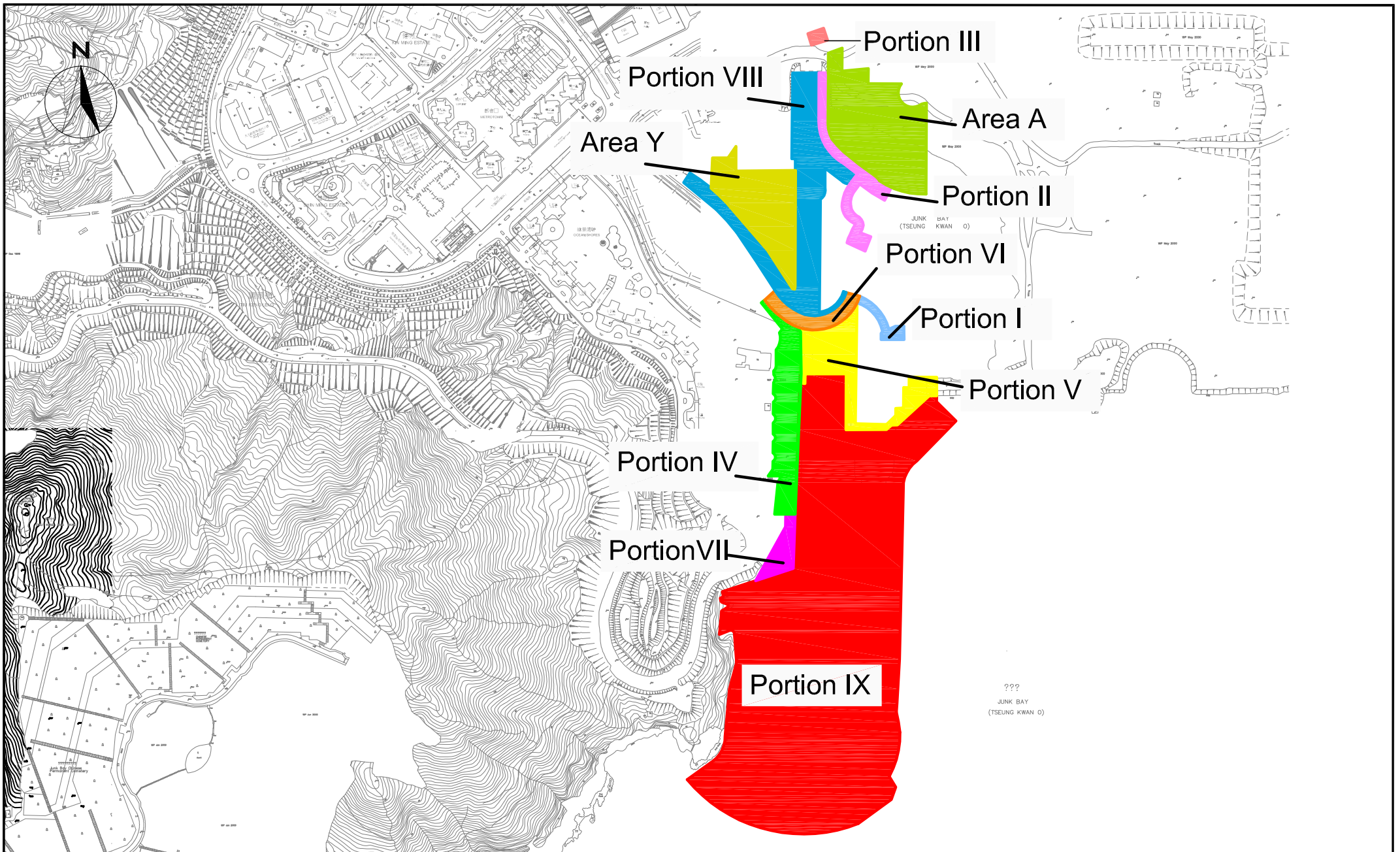
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		REV	-





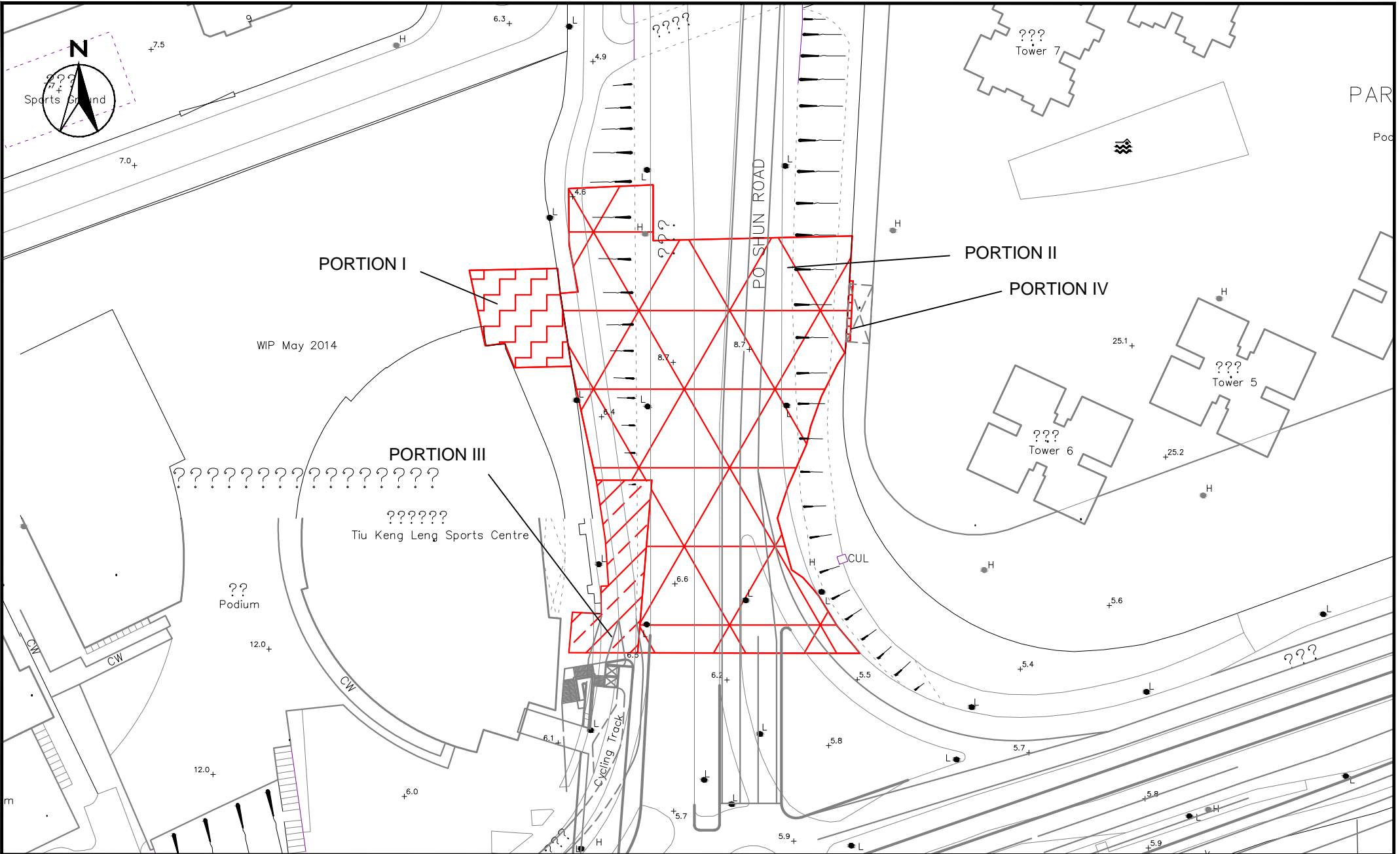
222  
TJU KENG WAN

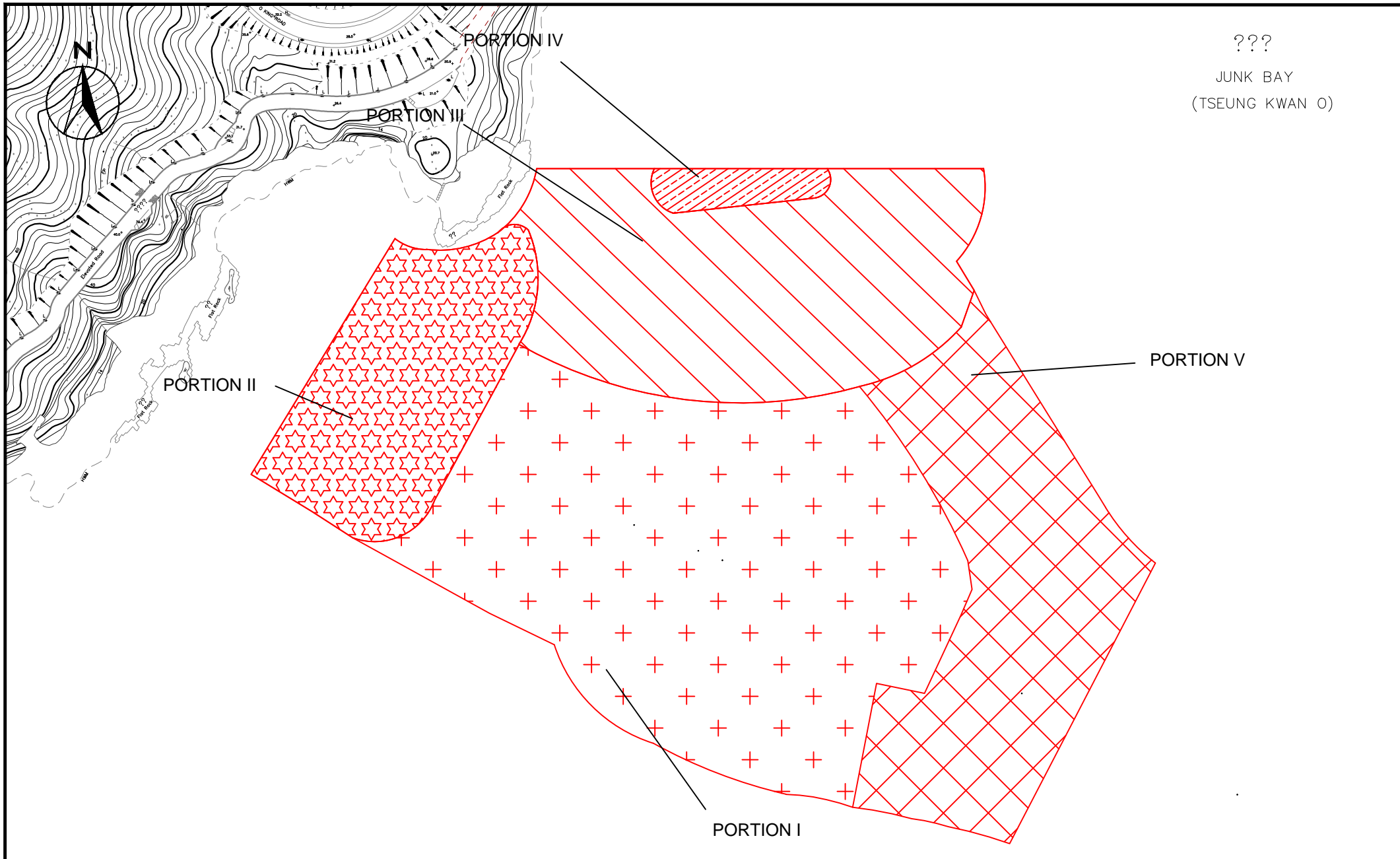
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CHECK	VC	DRAWN	JW	
JOB NO.	MA16034	FIGURE NO.	1b	REV
				-



SCALE	N.T.S.	DATE	AUG 2017	
CHECK	JF	DRAWN	JW	
JOB No.	MA16034	FIGURE NO.	1c	REV -





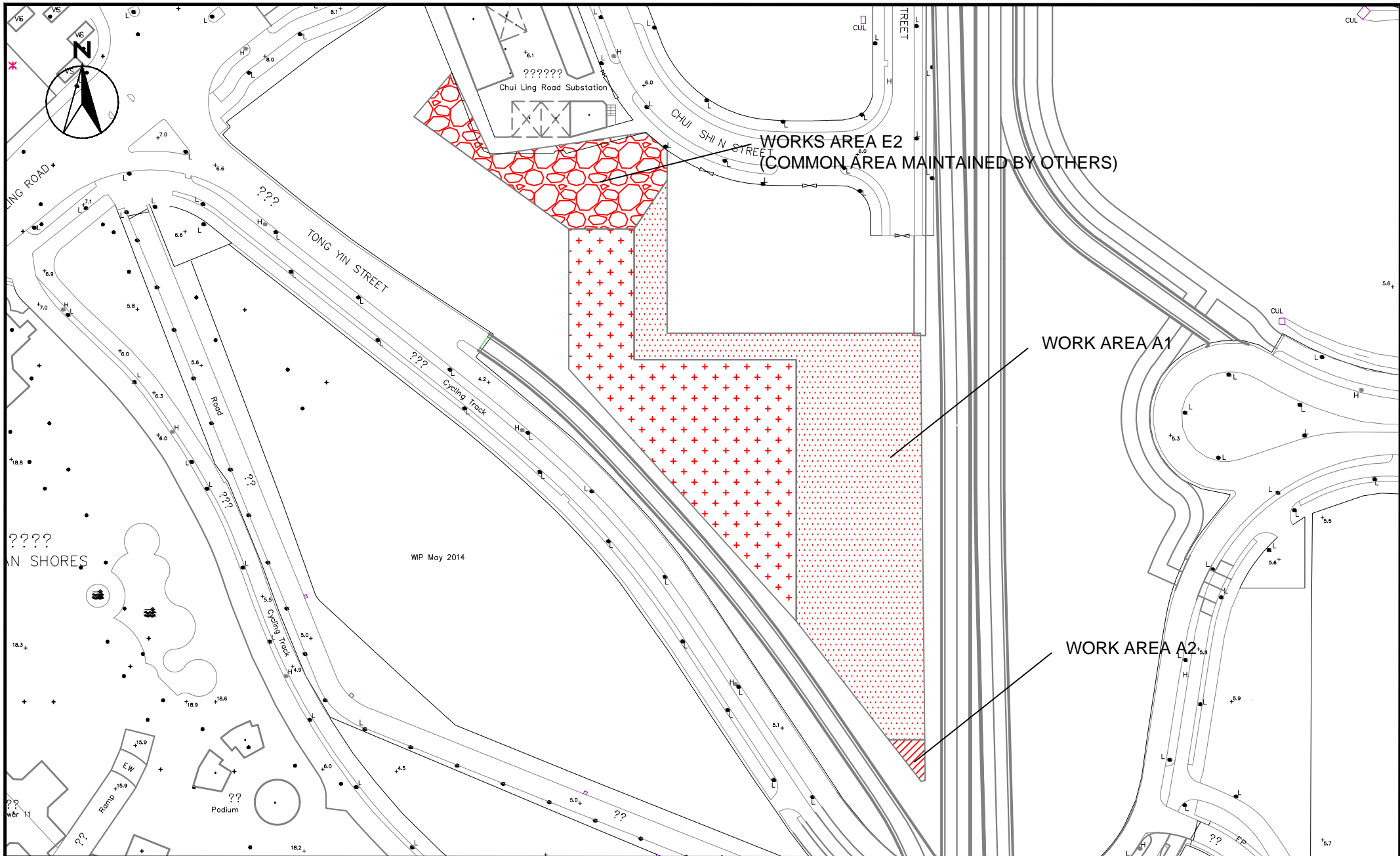


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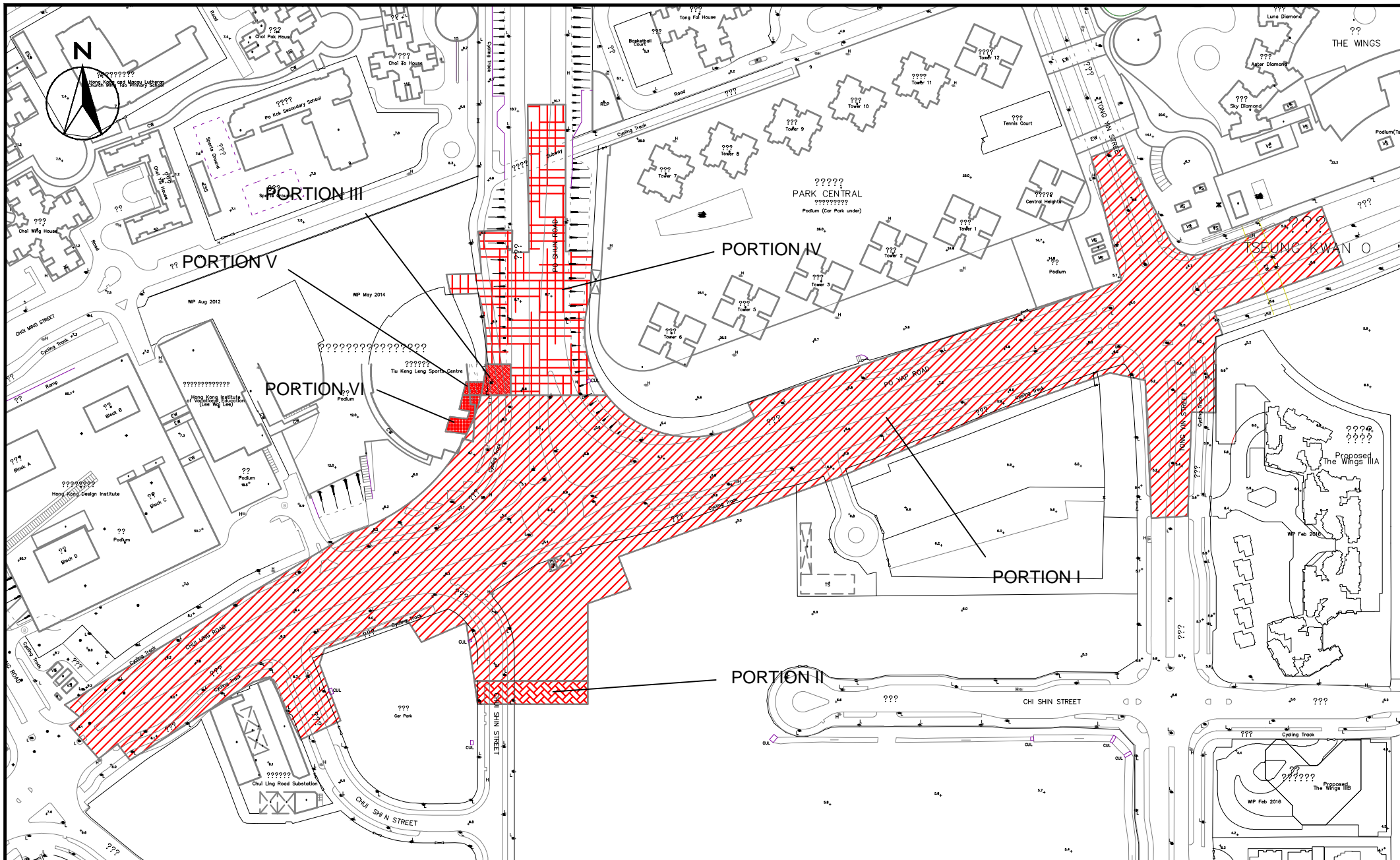
JUNK BAY  
(TSEUNG KWAN O)

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JOB No.	MA16034	FIGURE NO.	1e
		REV	-



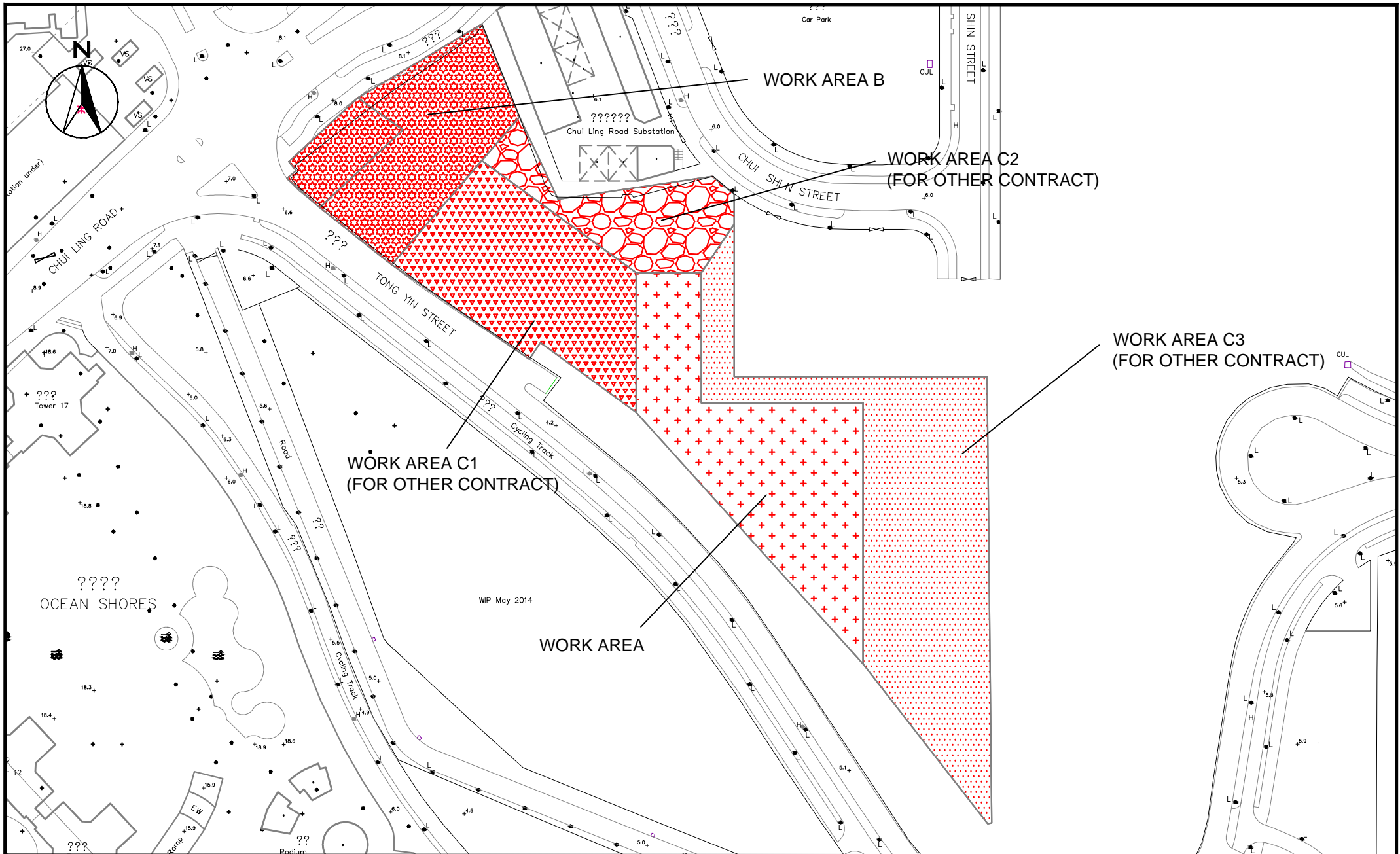


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				-



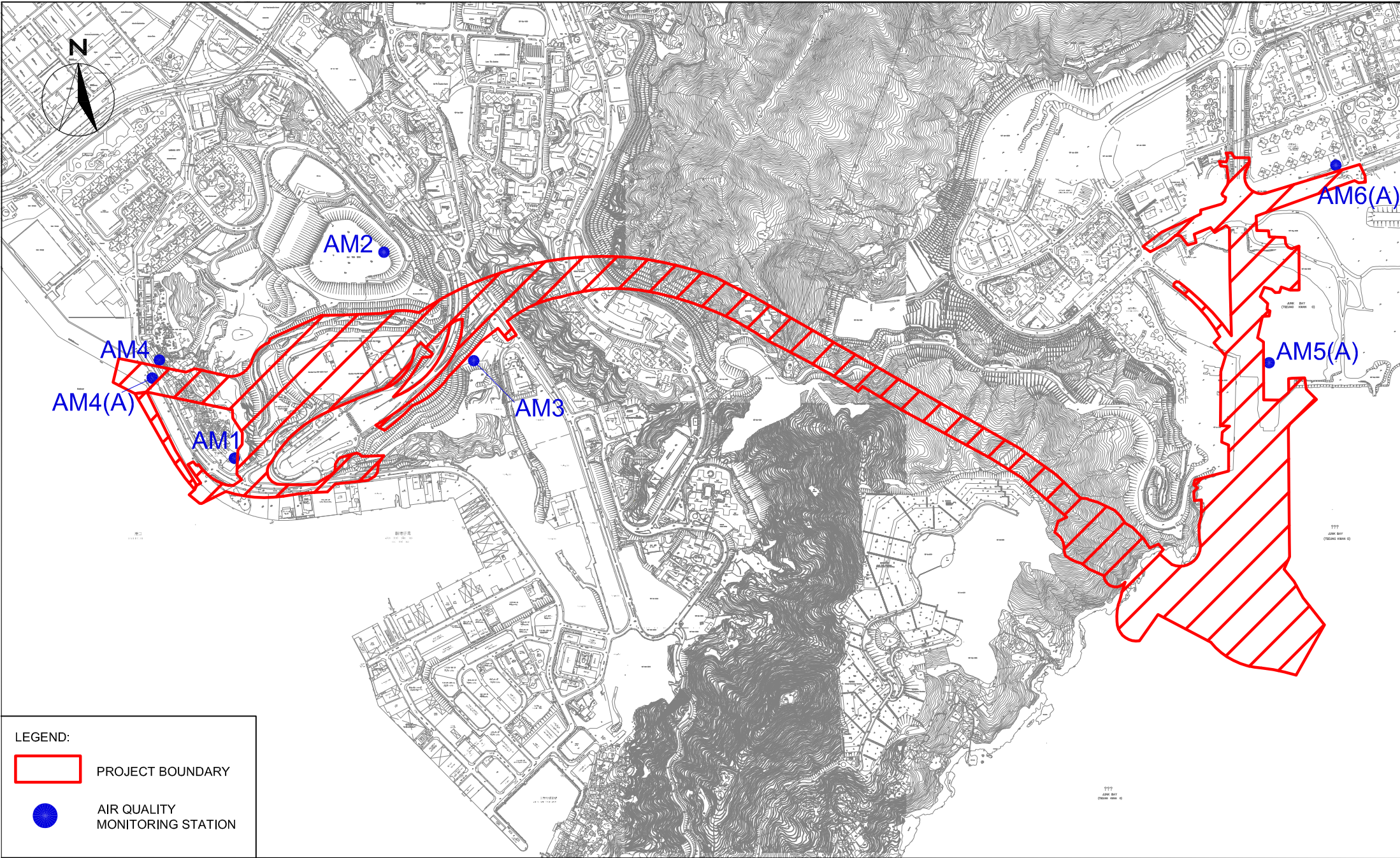
Agreement No. CE/59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel  
 - Design and Construction  
 Site Portions under Work Contract No. NE/2017/02

SCALE	1:2500 @ A4	DATE	AUG 2018	
CHECK	VC	DRAWN	AC	
JOB No.	MA16034	FIGURE NO.	1g	REV
				-



SCALE	1:1500 @ A4	DATE	AUG 2018	
CHECK	VC	DRAWN	AC	
JOB No.	MA16034	FIGURE NO.	1h	REV
				-





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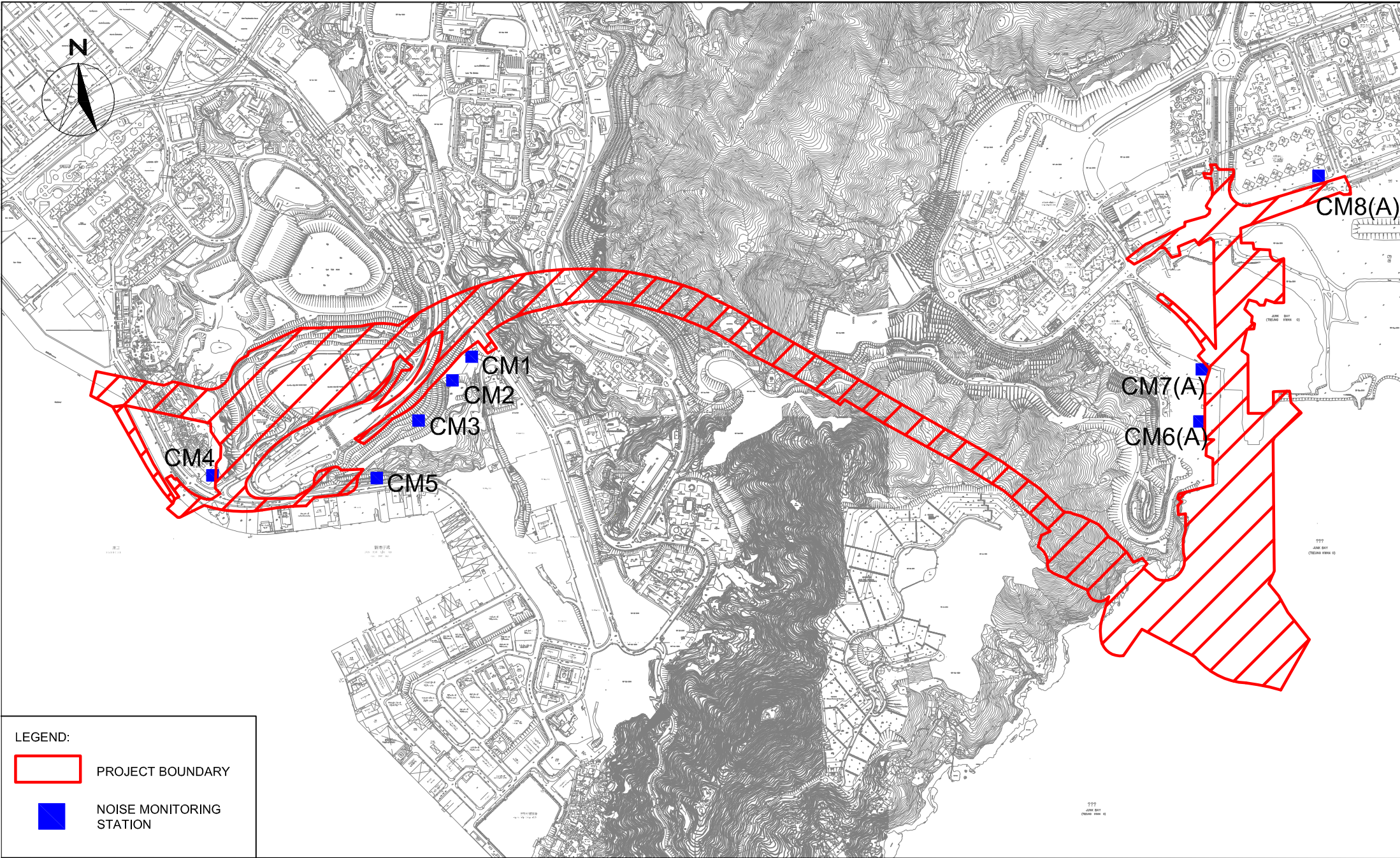
- PROJECT BOUNDARY
- AIR QUALITY MONITORING STATION



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

SCALE	1:15000 @ A4	DATE	APR 2017	
CHECK	JF	DRAWN	JW	
JOB No.	MA16034	FIGURE NO.	2	REV
				-





**LEGEND:**

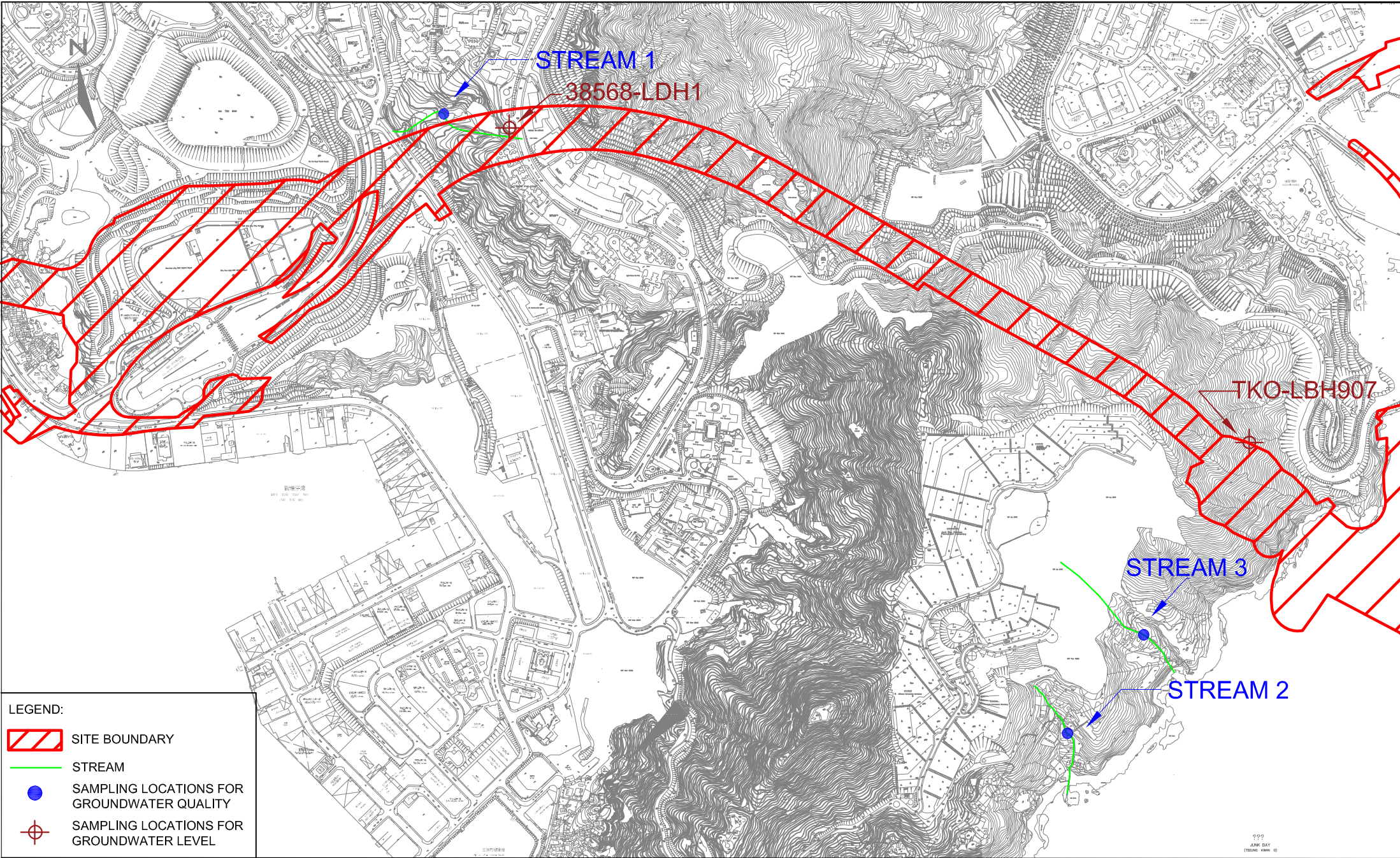
- PROJECT BOUNDARY
- NOISE MONITORING STATION







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

SCALE	1:15000 @ A4	DATE	APR 2017	
CHECK	JF	DRAWN	JW	
JOB No.	MA16034	FIGURE NO.	3	REV
			-	





- LEGEND:**
-  SITE BOUNDARY
  -  STREAM
  -  SAMPLING LOCATIONS FOR GROUNDWATER QUALITY
  -  SAMPLING LOCATIONS FOR GROUNDWATER LEVEL



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

SCALE	1:10000 @ A4	DATE	APR 2017	
CHECK	JF	DRAWN	JW	
JOB No.	MA16034	FIGURE NO.	4	REV
				-



**CINOTECH**

Cinotech Consultants Limited

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

**Locations of Water Quality Monitoring Stations**

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





Title Agreement No. CE/59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Locations of Landfill Gas Monitoring

Scale N.T.S  
 Date Dec-16

Project No. MA16034  
 Figure 6







**LEGEND:**

● CL1	AIR SENSITIVE RECEIVER
---	500m STUDY BOUNDARY
—	OPEN AIR SECTION OF PROPOSED TKO-LT TUNNEL
- - -	TUNNEL SECTION OF PROPOSED TKO-LT TUNNEL

CUT-LINE  
FOR CONTINUITY, REFER TO FIGURE 3.1b

Plot File by: 1/16/2013 QUCAM

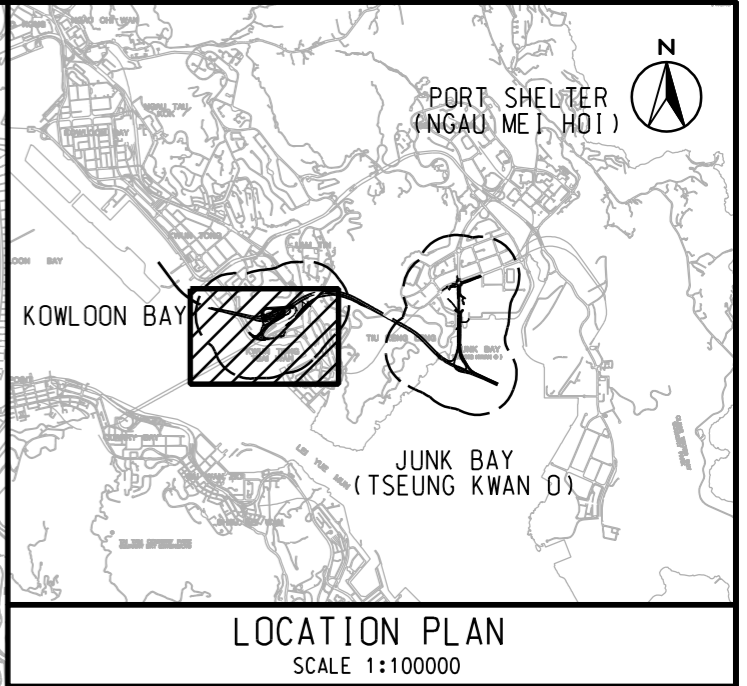
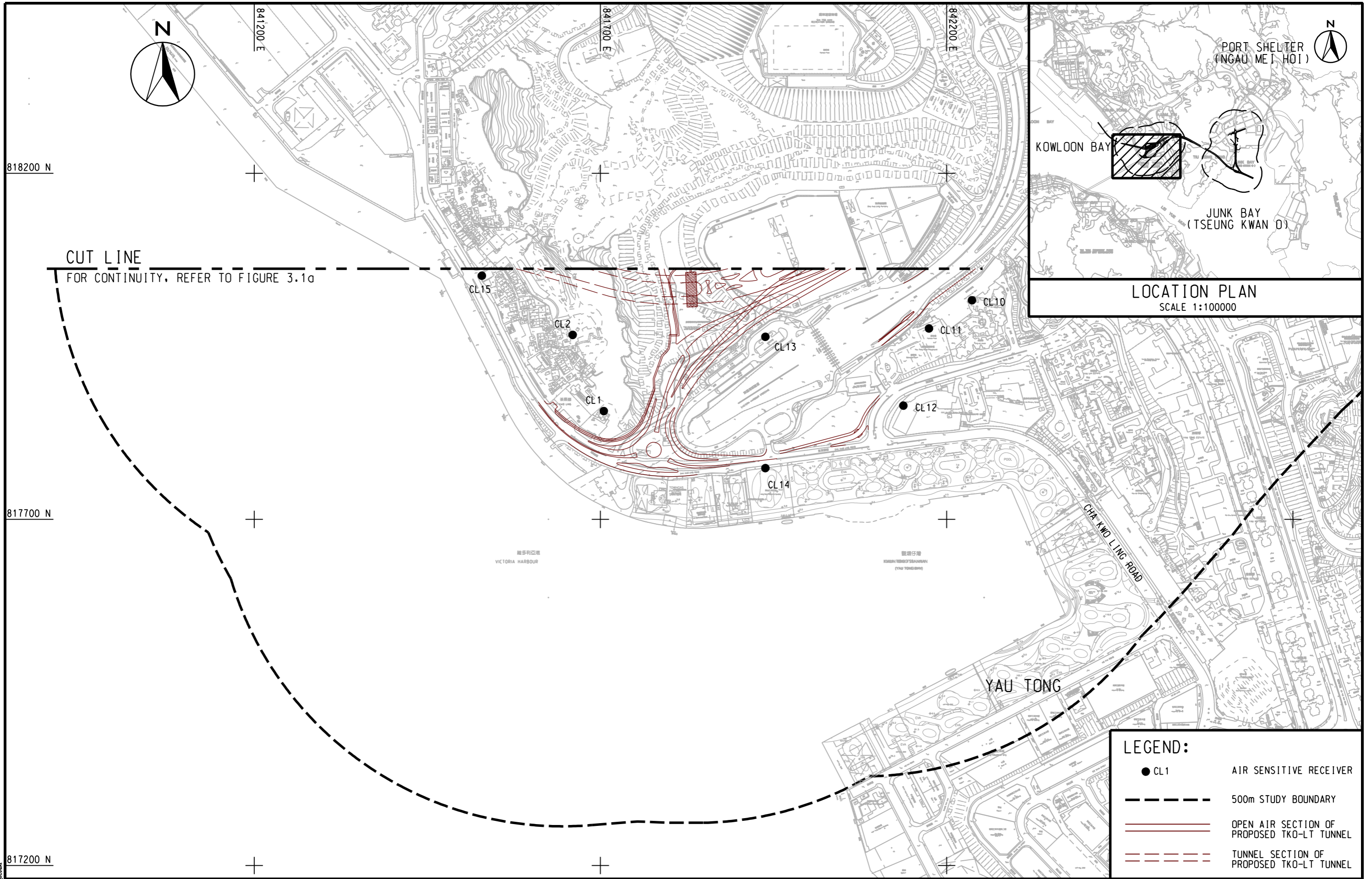


AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
IN THE STUDY AREA DURING CONSTRUCTION PHASE (LAM TIN)**

SHEET 1 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
CHECK	-	DRAWN	HLLS
JOB No.	60097677	DRAWING No.	FIGURE 3.1a
		REV	-





**LEGEND:**

- CL1 AIR SENSITIVE RECEIVER
- 500m STUDY BOUNDARY
- OPEN AIR SECTION OF PROPOSED TKO-LT TUNNEL
- - - TUNNEL SECTION OF PROPOSED TKO-LT TUNNEL



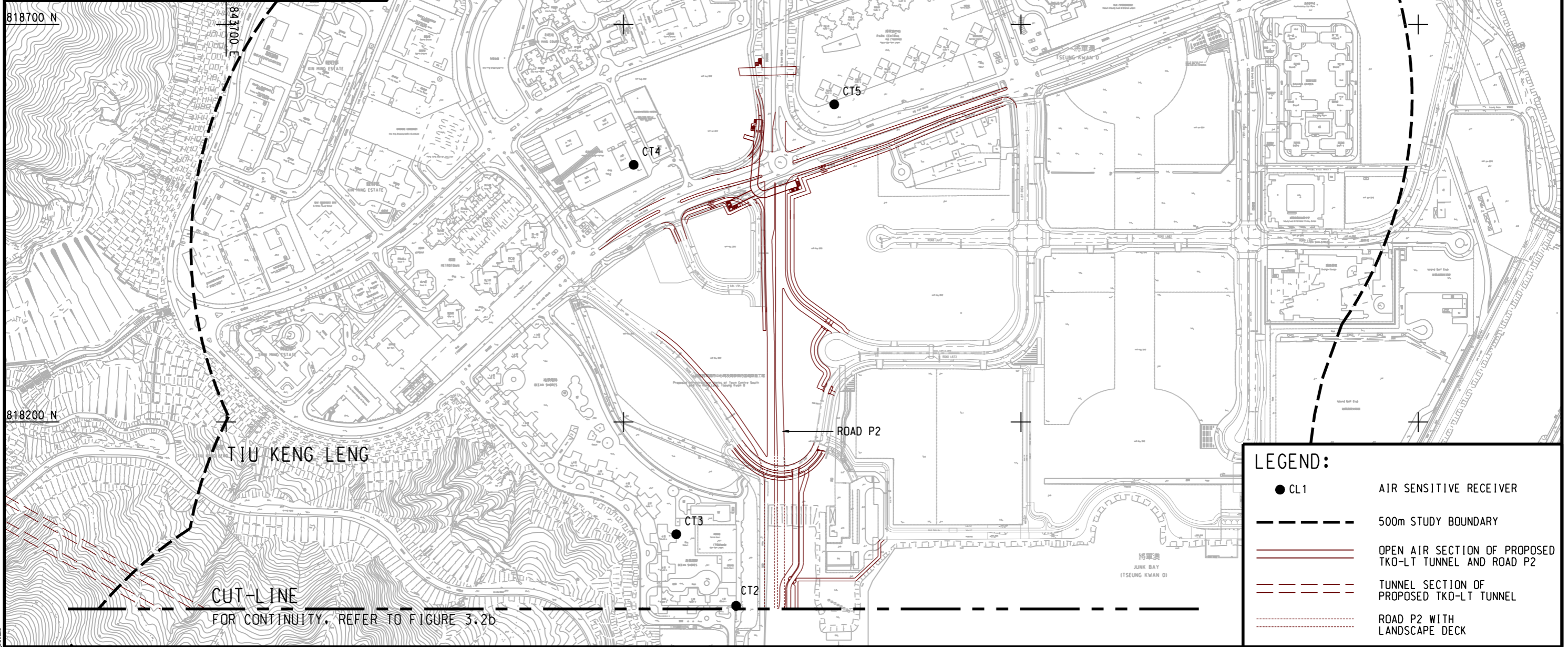
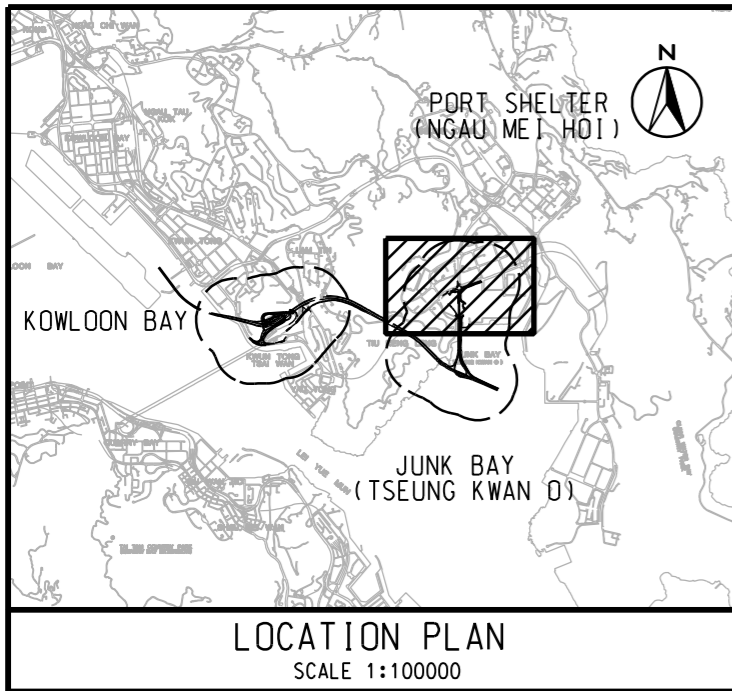
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 TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
 IN THE STUDY AREA DURING CONSTRUCTION PHASE (LAM TIN)**

SHEET 2 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
CHECK	-	DRAWN	HLLS
JOB No.	60097677	DRAWING No.	FIGURE 3.1b
		REV	-

Plot File by: 1/16/2013 QIUAM





**LEGEND:**

- CL1 AIR SENSITIVE RECEIVER
- - - 500m STUDY BOUNDARY
- OPEN AIR SECTION OF PROPOSED TKO-LT TUNNEL AND ROAD P2
- - - TUNNEL SECTION OF PROPOSED TKO-LT TUNNEL
- ROAD P2 WITH LANDSCAPE DECK

Plot File by: J11/2013 QTCAM

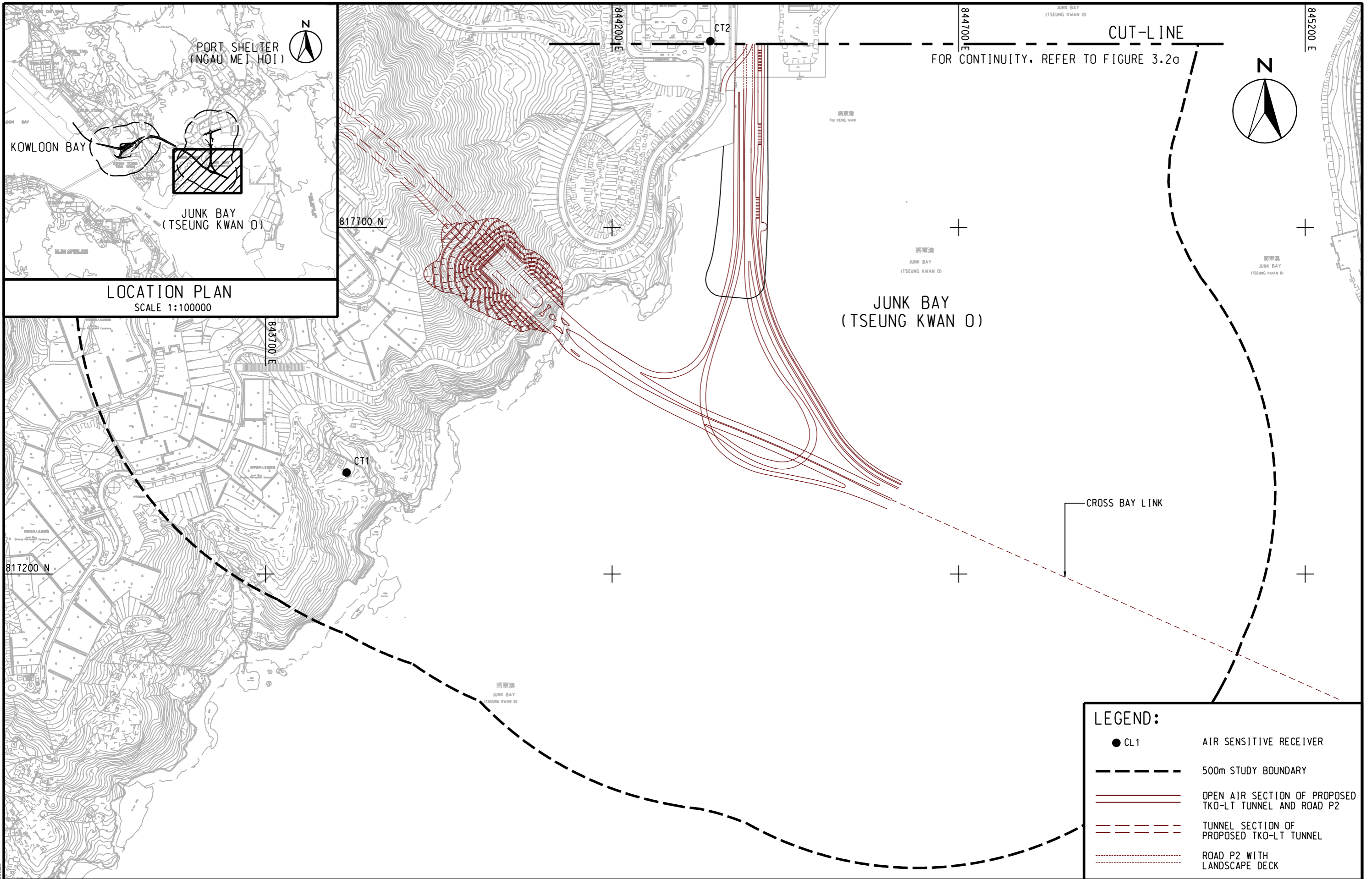


AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS  
IN THE STUDY AREA DURING CONSTRUCTION PHASE (TSEUNG KWAN O)

SHEET 1 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
CHECK	-	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 3.2a
		REV	-





Plot File by: J162013 QUCAM

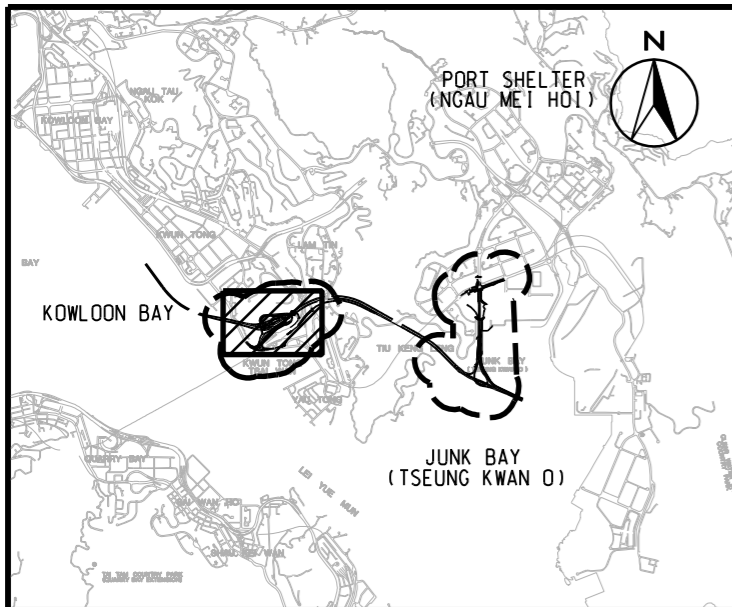


AGREEMENT NO. CE 42/2008 (CE)  
 TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS**  
**IN THE STUDY AREA DURING CONSTRUCTION PHASE (TSEUNG KWAN O)**

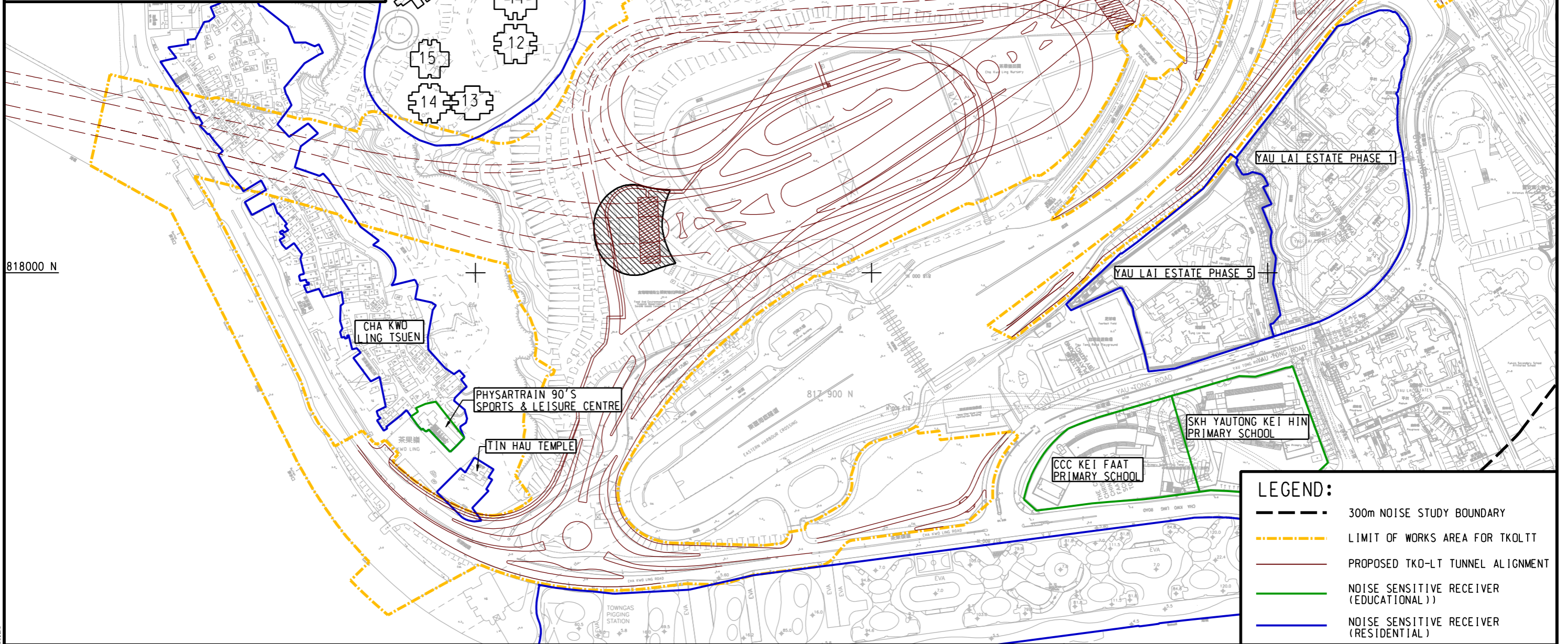
SHEET 2 OF 2

SCALE	A3 1 : 5000	DATE	NOV. 2012
CHECK	-	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 3.2b
		REV	-





LOCATION PLAN  
SCALE 1 : 90000



**LEGEND:**

- 300m NOISE STUDY BOUNDARY
- - - - - LIMIT OF WORKS AREA FOR TKOLTT
- PROPOSED TKO-LT TUNNEL ALIGNMENT
- NOISE SENSITIVE RECEIVER (EDUCATIONAL)
- NOISE SENSITIVE RECEIVER (RESIDENTIAL)

AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

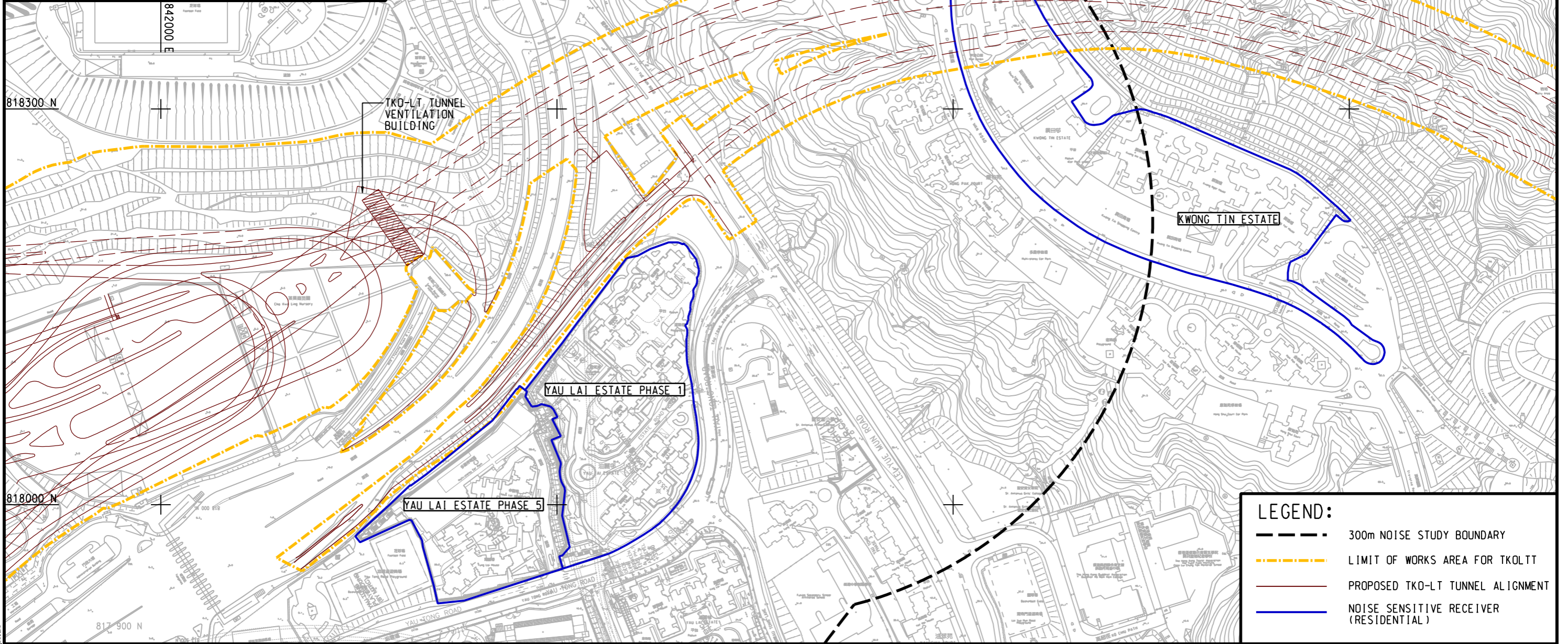
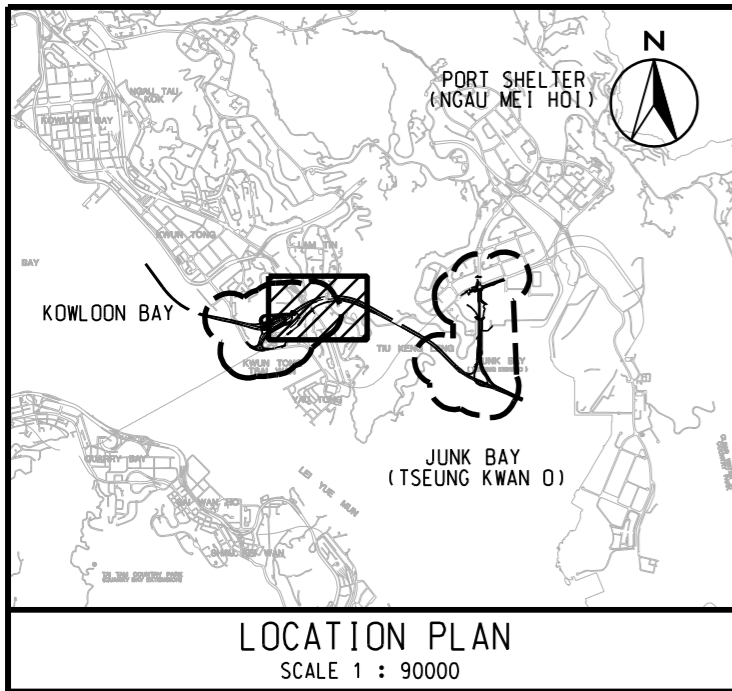
SHEET 1 OF 4

SCALE	A3 1 : 3000	DATE	NOV. 2012
CHECK	--	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	--



Plot File by: 1/15/2013 QTCAM





**LEGEND:**

- 300m NOISE STUDY BOUNDARY
- - - - - LIMIT OF WORKS AREA FOR TKOLTT
- PROPOSED TKO-LT TUNNEL ALIGNMENT
- NOISE SENSITIVE RECEIVER (RESIDENTIAL)



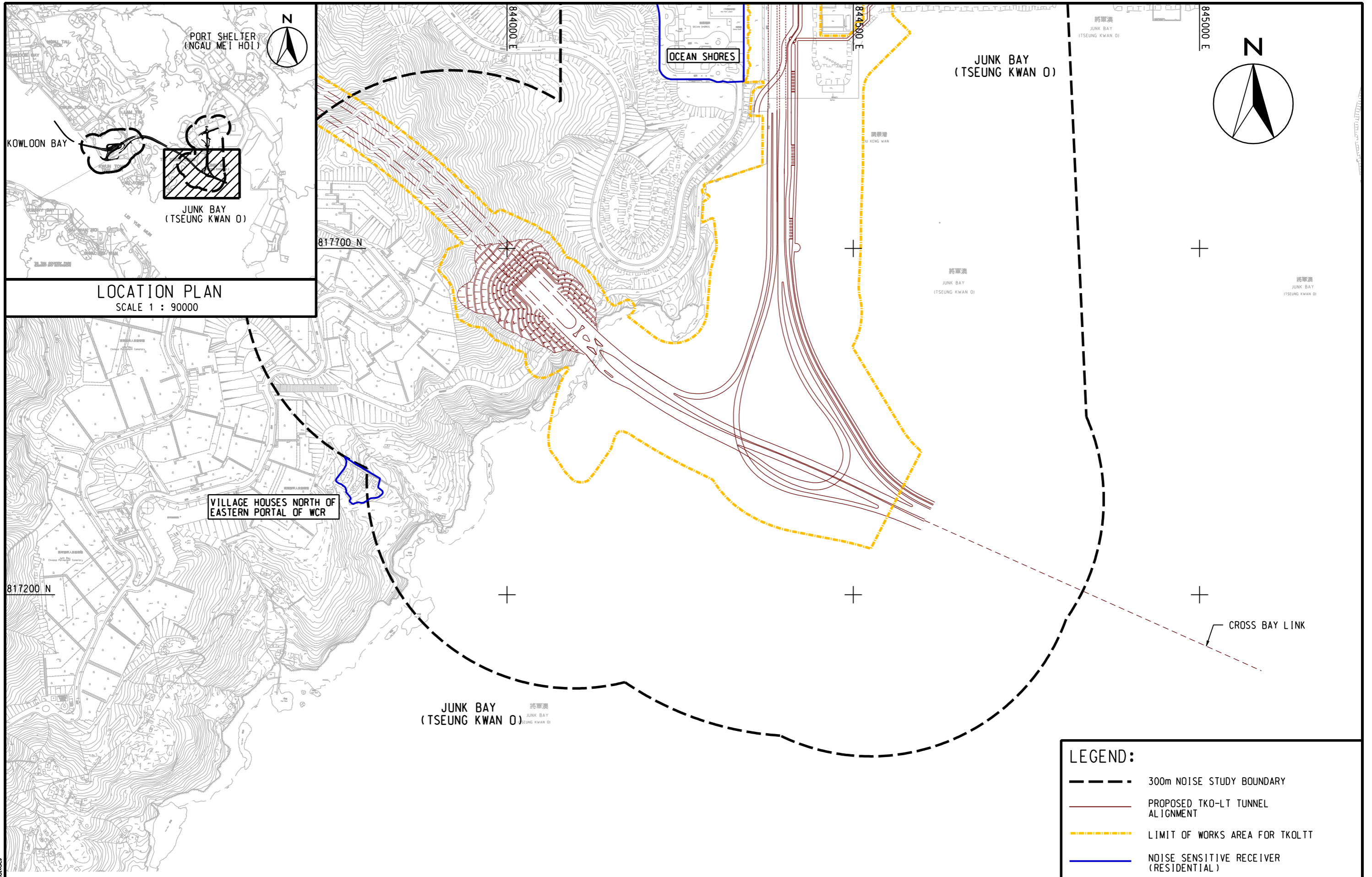
AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

SHEET 2 OF 4

SCALE	A3 1 : 3000	DATE	NOV. 2012
CHECK	--	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	--

Plot File by: J1152013 QTCAM





LOCATION PLAN  
SCALE 1 : 90000

**LEGEND:**

- 300m NOISE STUDY BOUNDARY
- PROPOSED TKO-LT TUNNEL ALIGNMENT
- LIMIT OF WORKS AREA FOR TKO-LT
- NOISE SENSITIVE RECEIVER (RESIDENTIAL)



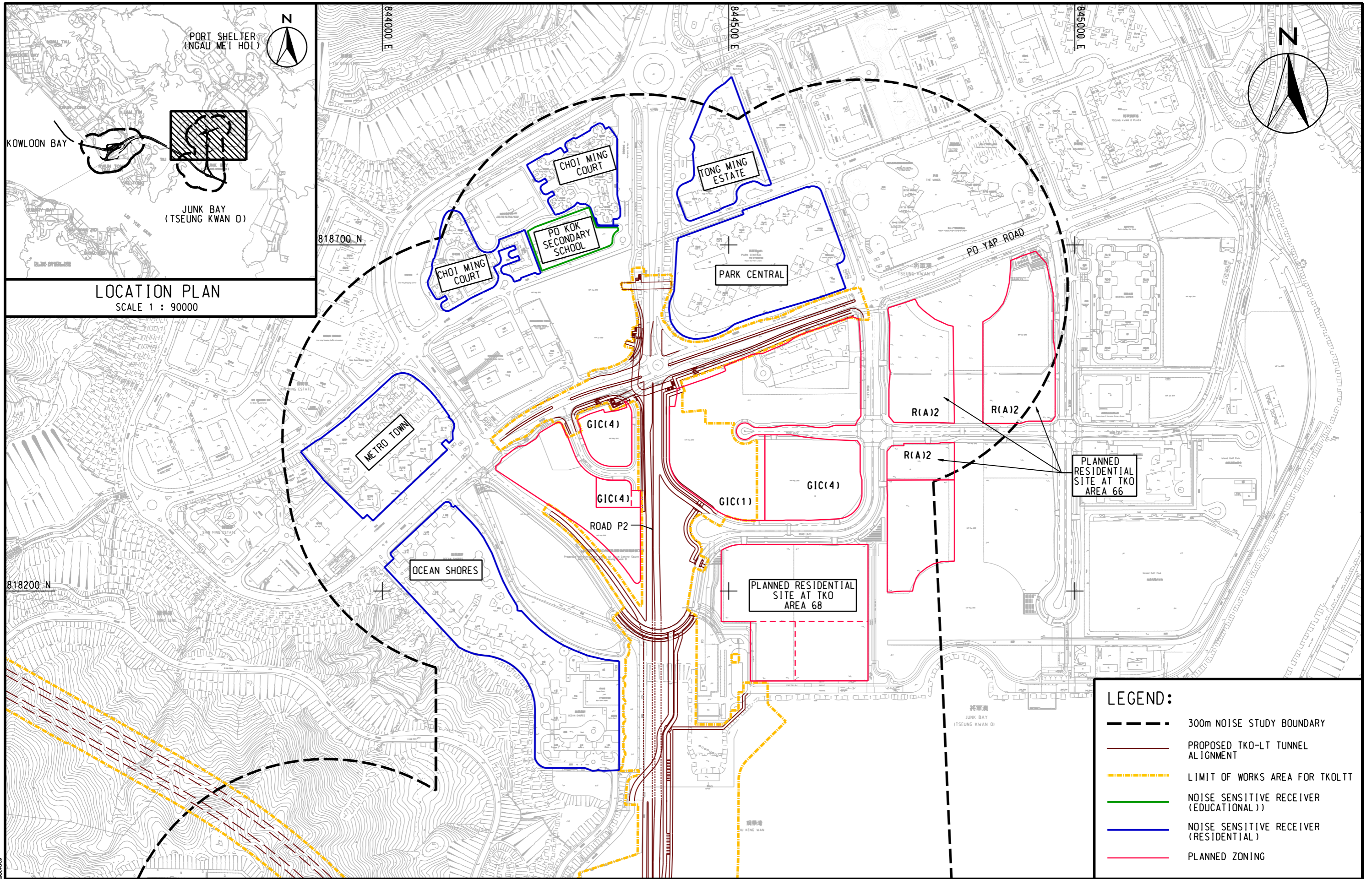
AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

SHEET 3 OF 4

SCALE	A3 1 : 5000	DATE	JAN. 2013
CHECK	--	DRAWN	HLLS
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	--

Plot File by : 24/01/2013 XIONGCI





LOCATION PLAN  
SCALE 1 : 9000

**LEGEND:**

- 300m NOISE STUDY BOUNDARY
- PROPOSED TKO-LT TUNNEL ALIGNMENT
- LIMIT OF WORKS AREA FOR TKOLTT
- NOISE SENSITIVE RECEIVER (EDUCATIONAL)
- NOISE SENSITIVE RECEIVER (RESIDENTIAL)
- PLANNED ZONING

AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
LOCATIONS OF NOISE SENSITIVE RECEIVERS

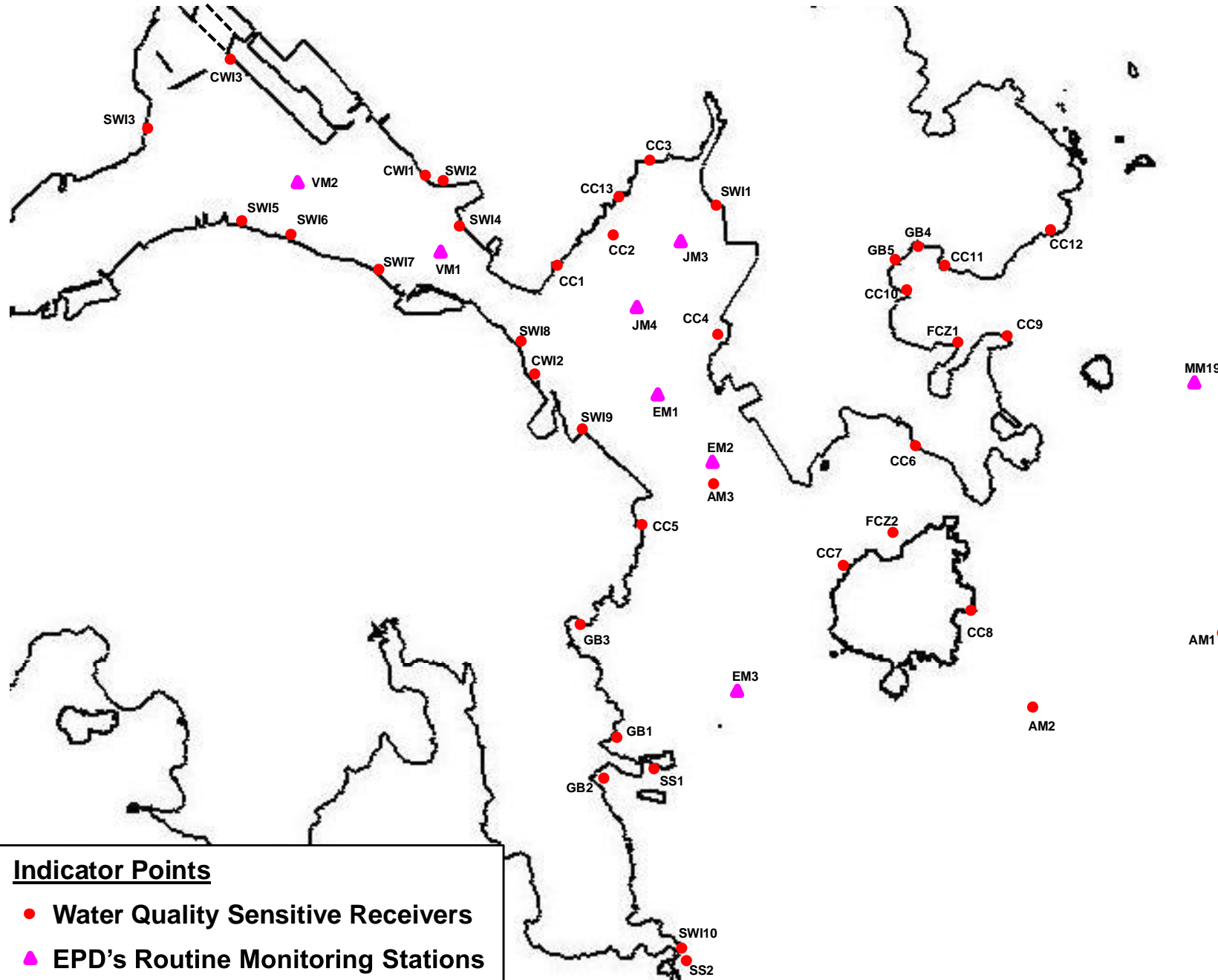


SCALE	A3 1 : 5000	DATE	JAN. 2013
CHECK	---	DRAWN	HLLS
JOB No.	60097677	DRAWING No.	FIGURE 4.1
		REV	---

SHEET 4 OF 4

Plot File by : 24/01/2013 XIONGCCI





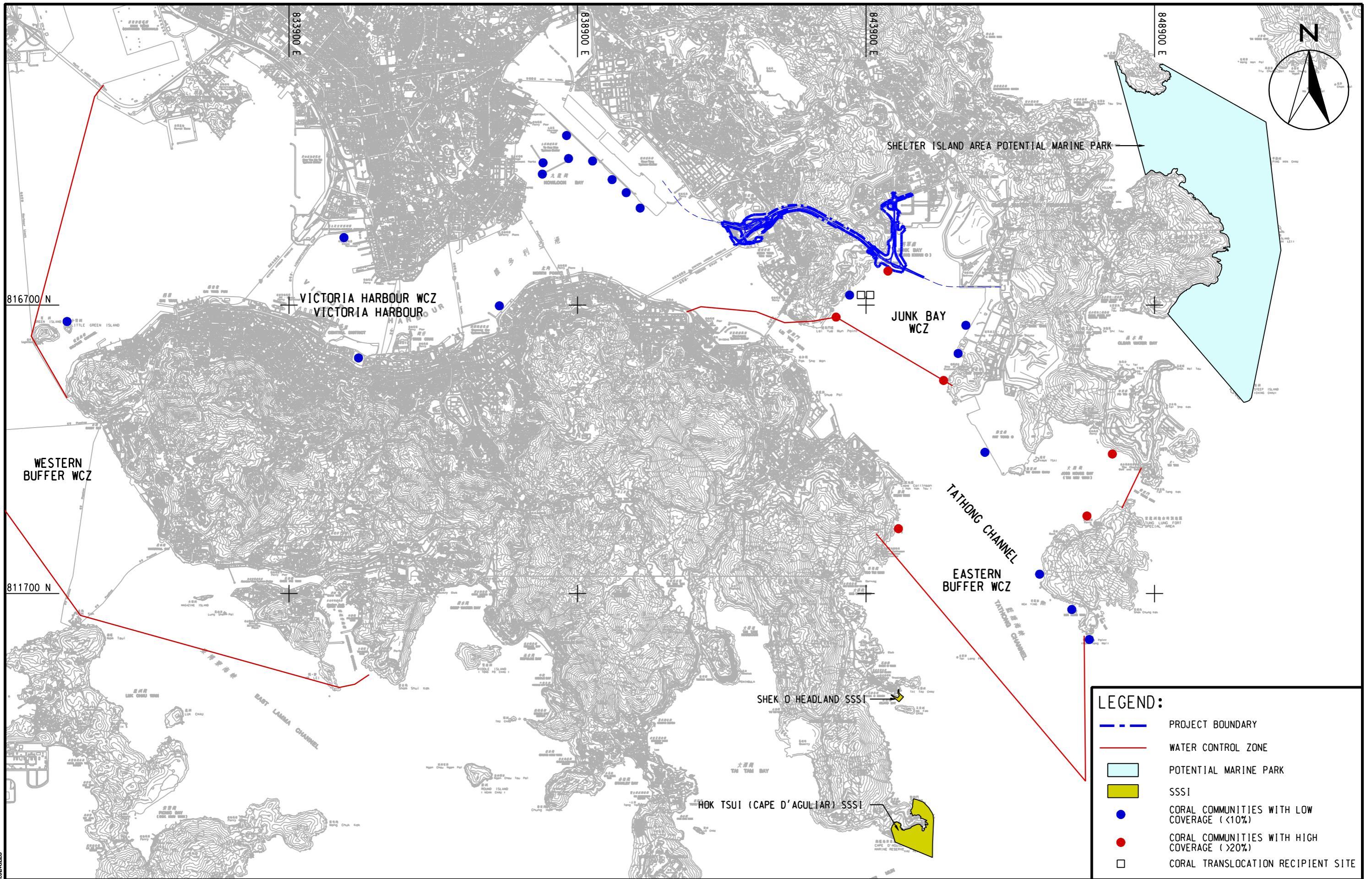
**Indicator Points**

- Water Quality Sensitive Receivers
- ▲ EPD's Routine Monitoring Stations

WSR ID	Description
SWI1	WSD's Salt Water Intakes at Tseung Kwan O
SWI2	WSD's Salt Water Intakes at Yau Tong
SWI3	WSD's Salt Water Intakes at Tai Wan
SWI4	WSD's Salt Water Intakes at Cha Kwo Lang
SWI5	WSD's Salt Water Intakes at North Point
SWI6	WSD's Salt Water Intakes at Quarry Bay
SWI7	WSD's Salt Water Intakes at Sai Wan Ho
SWI8	WSD's Salt Water Intakes at Heng Fa Chuen
SWI9	WSD's Salt Water Intakes at Siu Sai Wan
SWI10	Salt Water Intakes at Cape D'Agular for Swire Institute of Marine Science, The University of Hong Kong
CWI1	Cooling Water Intakes for Dairy Farm Ice Plant
CWI2	Cooling Water Intakes for Pamela Youde Nethersole Eastern Hospital
CWI3	Future Kai Tak Cooling Water Intakes
CC1	Coral Sites at Chiu Keng Wan
CC2	Coral Sites at Junk Bay
CC3	Coral Sites at Junk Island
CC4	Coral Sites at Fat Tong Chau West
CC5	Coral Sites at Tso Tui Wan North
CC6	Coral Sites at Joss House Bay
CC7	Coral Sites at Tung Lung Chau West
CC8	Coral Sites at Tung Lung Chau East
CC9	Coral Sites at Shek Mei Tau
CC10	Coral Sites at So Shi Tau
CC11	Coral Sites at Tai Wang Tau
CC12	Coral Sites at Po Keng Teng
CC13	Coral Sites at Junk Bay near Chiu Keng Wan
SS1	SSSI at Shek O Headland
SS2	SSSI at Cape D'Agular
FCZ1	Fish Culture Zone at Po Toi O
FCZ2	Fish Culture Zone at Tung Lung Chau
AM1	Spotted Occurrence of Amphioxus (historical record of summer survey)
AM2	Spotted Occurrence of Amphioxus (Yr 2006 record of summer survey)
AM3	Spotted Occurrence of Amphioxus (Yr 2006 record of summer survey)
GB1	Shek O Rocky Bay
GB2	Shek O Beach
GB3	Big Wave Bay Beach
GB4	Clear Water Bay First Beach
GB5	Clear Water Bay Second Beach

Printed by : RUSSEP BELLES  
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Plot File by : 2012-09-25 BEUANGELLS

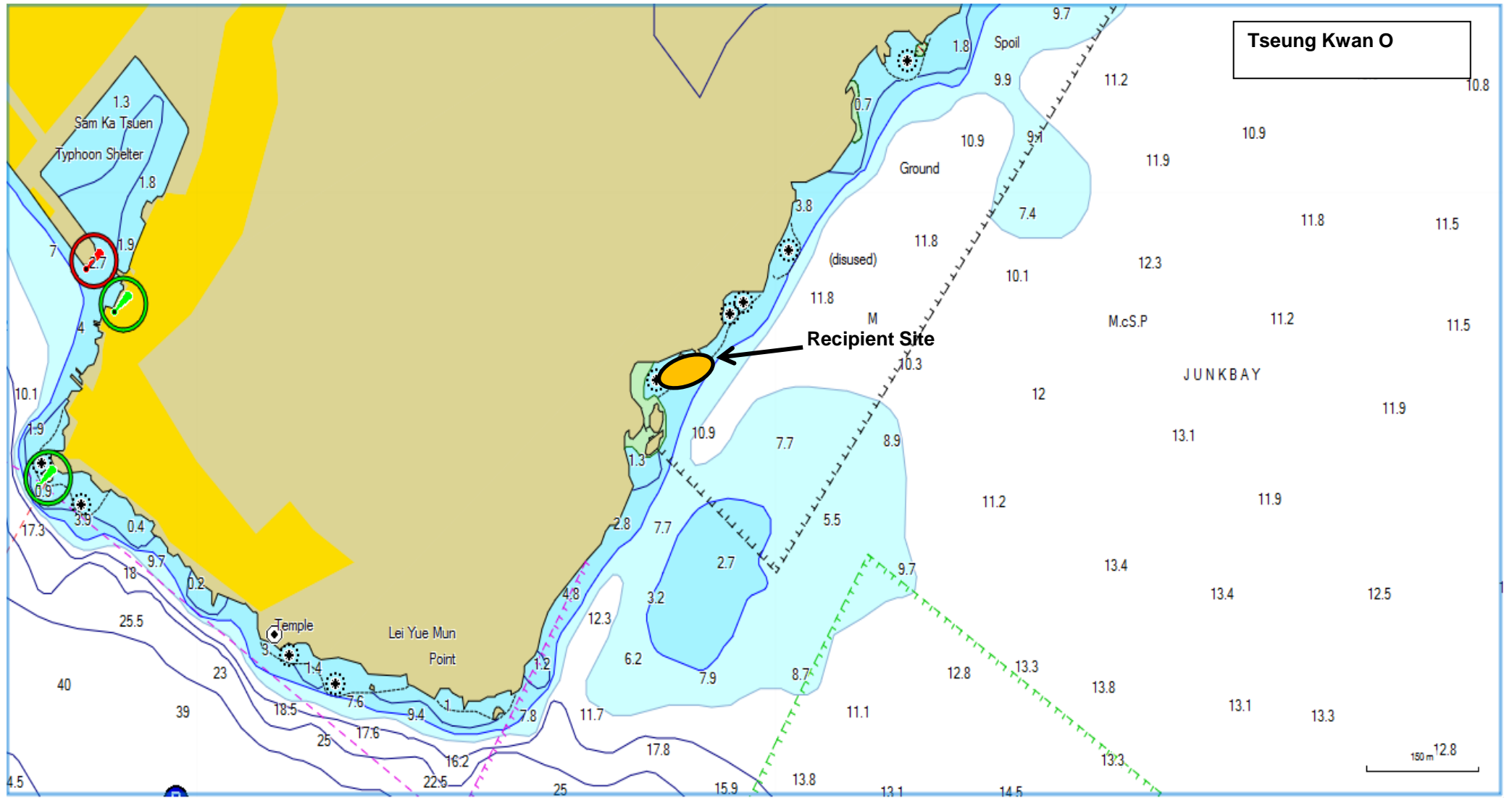


AGREEMENT NO. CE 42/2008 (CE)  
TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION

MARINE ECOLOGICAL SENSITIVE RECEIVERS WITHIN AND IN VICINITY OF THE ASSESSMENT AREA

SCALE	A3 1:60000	DATE	MAY 2011
CHECK	-	DRAWN	DXL
JOB No.	60097677	DRAWING No.	FIGURE 6.2
		REV	-



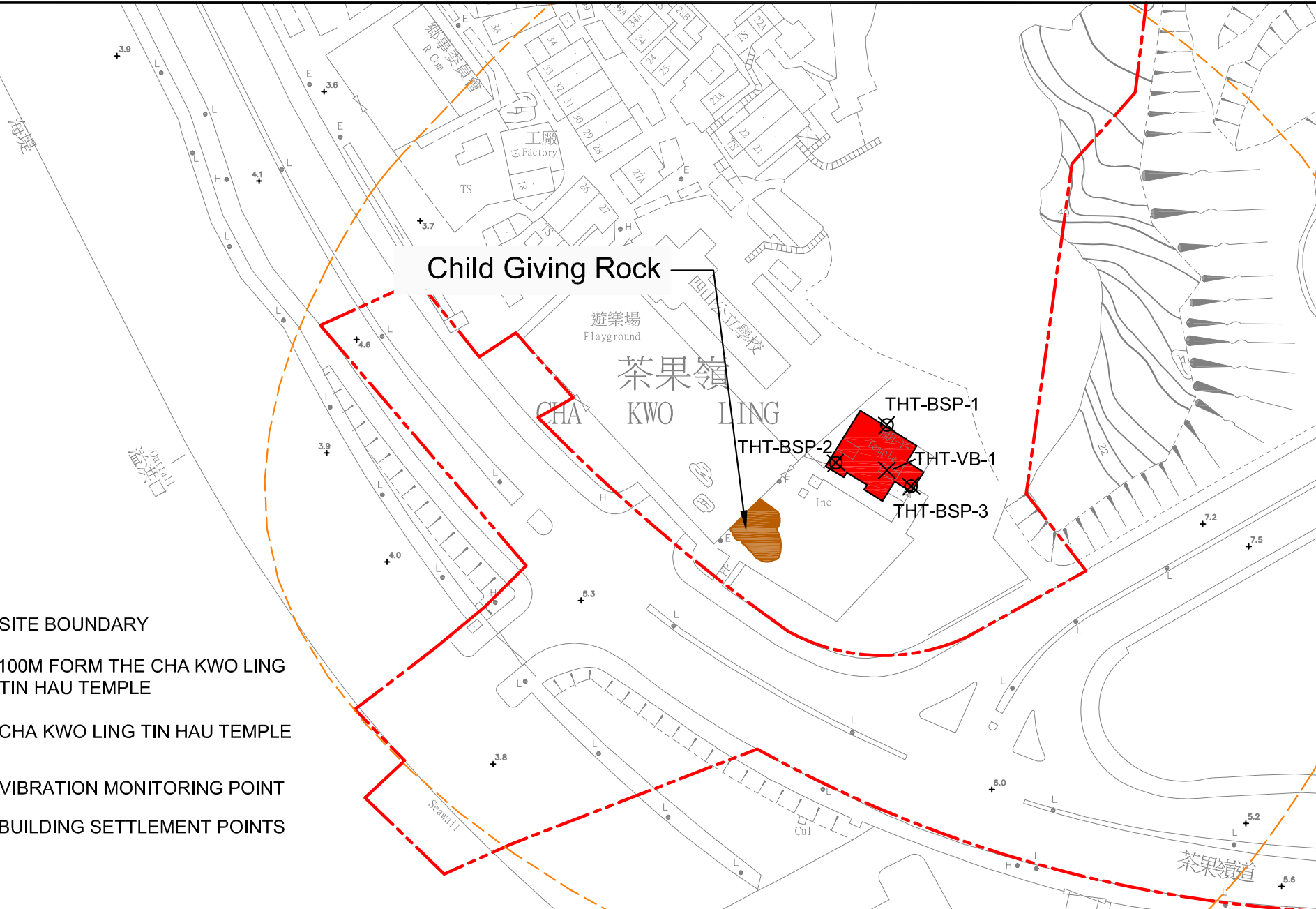
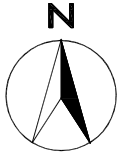


Title Agreement No. CE/59/2015 (EP)  
 Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  
 Location of Post-translocation Coral Monitoring

Scale N.T.S  
 Date Mar-17

Project No. MA16034  
 Figure 7

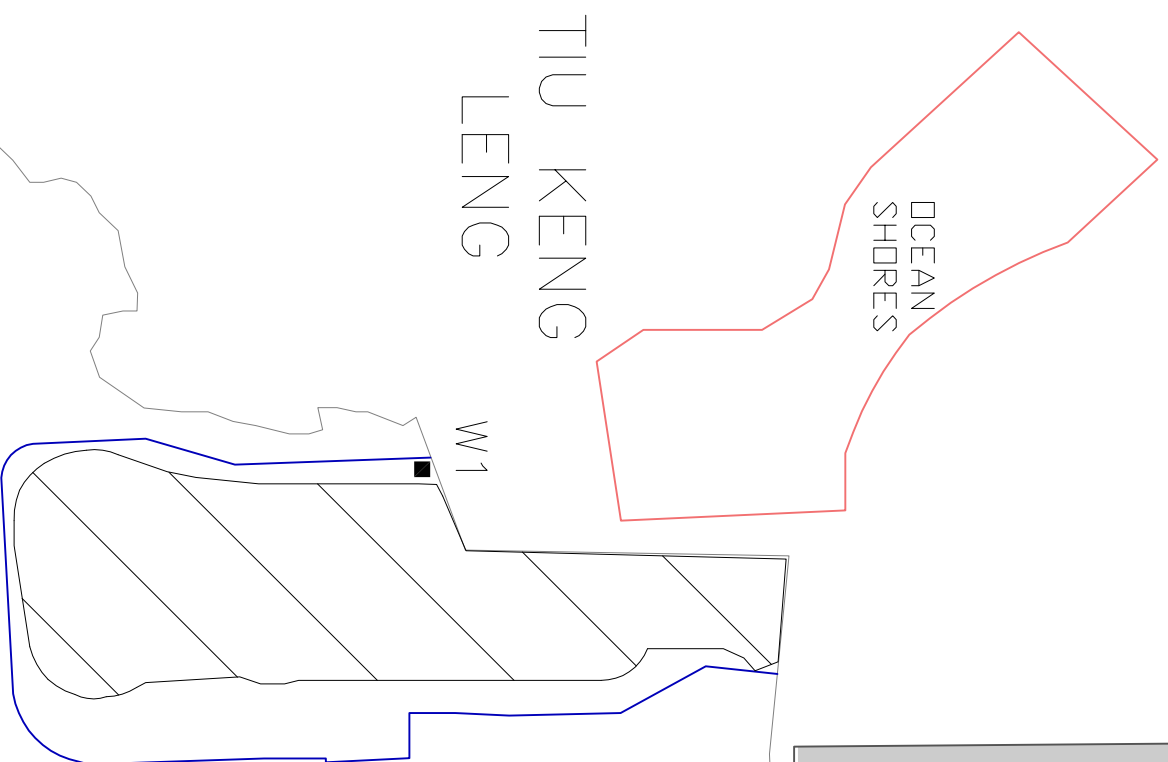
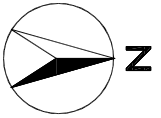




**LEGEND**

- - - SITE BOUNDARY
- - - 100M FORM THE CHA KWO LING TIN HAU TEMPLE
- CHA KWO LING TIN HAU TEMPLE
- × VIBRATION MONITORING POINT
- ⊗ BUILDING SETTLEMENT POINTS

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



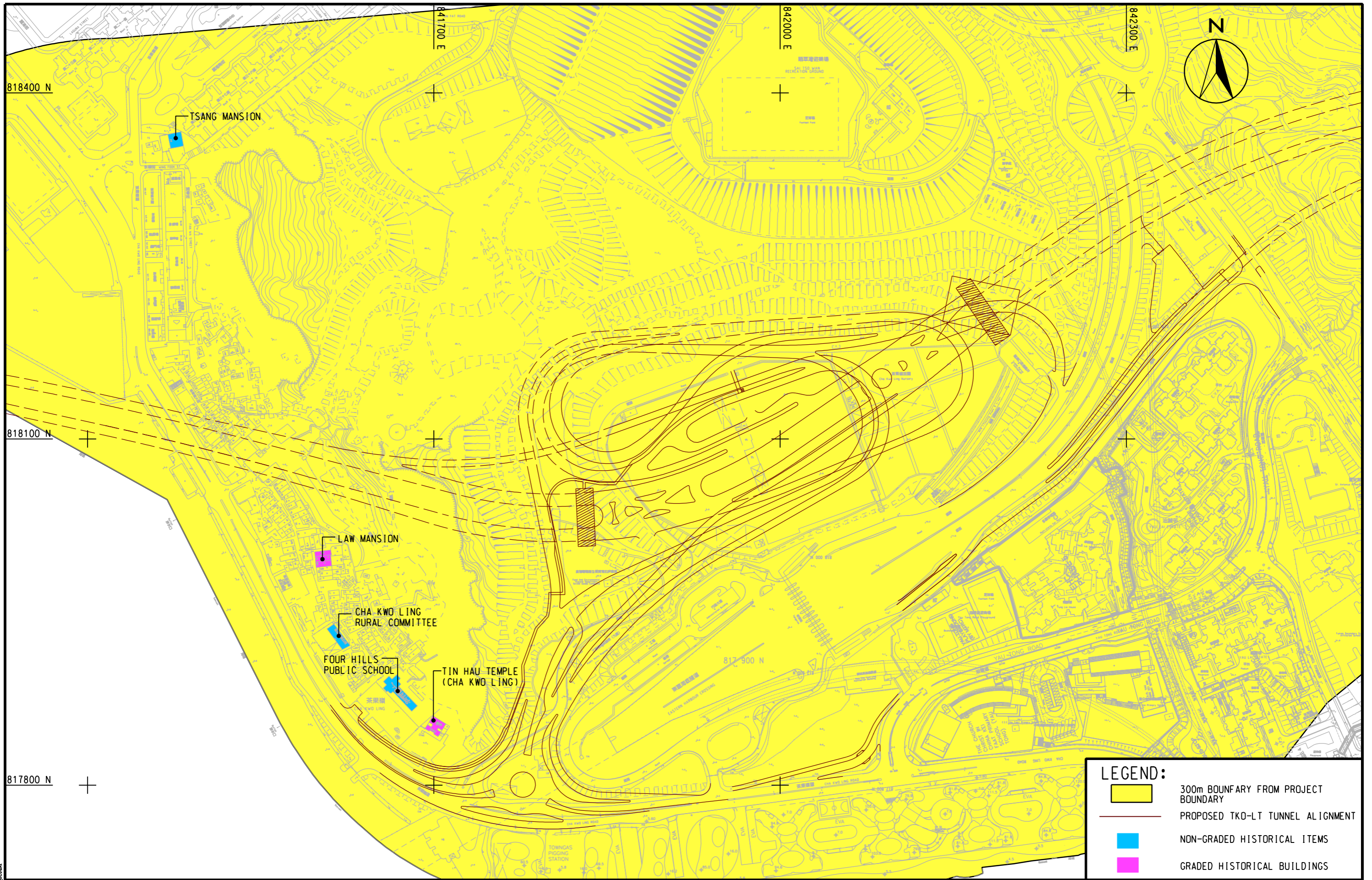
### LEGEND

-  IMPACT STATIONS
-  LOCATION OF TEMPORARY MARINE EMBAYMENT BY STEEL COFFERDAM
-  RECLAMATION FOOTPRINT

CURRENT SHORELINE

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





LEGEND:			
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span>	300m BOUNDFARY FROM PROJECT BOUNDARY		
<span style="display:inline-block; width:15px; border-bottom:1px dashed red;"></span>	PROPOSED TKO-LT TUNNEL ALIGNMENT		
<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span>	NON-GRADED HISTORICAL ITEMS		
<span style="display:inline-block; width:15px; height:15px; background-color:pink; border:1px solid black;"></span>	GRADED HISTORICAL BUILDINGS		

Plot File by: 1/11/2013 QTCAM



AGREEMENT NO. CE 42/2008 (CE)  
 TSEUNG KWAN O - LAM TIN TUNNEL AND ASSOCIATED WORKS - INVESTIGATION  
**CULTURAL HERITAGE RESOURCES AT CHA KWO LING**

SCALE	A3 1 : 3000	DATE	DEC. 2012
CHECK	--	DRAWN	HLL
JOB No.	60097677	DRAWING No.	FIGURE 9.2
		REV	--



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**APPENDIX A  
MONITORING REQUIREMENTS**

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## 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	<ul style="list-style-type: none"> <li>• AM1 – Tin Hau Temple</li> <li>• AM2 – Sai Tso Wan Recreation Ground</li> <li>• AM3 – Yau Lai Estate Bik Lai House</li> <li>• AM4<sup>(1)</sup> – Road Traffic at Cha Kwo Ling Road</li> <li>• AM4(A)<sup>(2)(*)</sup> – Cha Kwo Ling Public Cargo Working Area</li> </ul>	<ul style="list-style-type: none"> <li>• AM1 – Ground Level</li> <li>• AM2 – Ground Level</li> <li>• AM3 – Rooftop (41/F)</li> <li>• AM4<sup>(1)</sup> – Ground Level</li> <li>• AM4(A)<sup>(2)(*)</sup> – Rooftop (3/F)</li> <li>• AM5(A)<sup>(*)</sup> – Ground Level</li> <li>• AM6(A)<sup>(*)</sup> – 1/F</li> </ul>
	24 hour TSP	Once / 6 days	<ul style="list-style-type: none"> <li>• AM4(A)<sup>(2)(*)</sup> – Cha Kwo Ling Public Cargo Working Area Administrative Office</li> <li>• AM5(A)<sup>(*)</sup> – Tseung Kwan O DSD Desilting Compound</li> <li>• AM6(A)<sup>(*)</sup> – Park Central, L1/F Open Space Area</li> </ul>	

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 <sub>eq</sub> , L <sub>90</sub> & L <sub>10</sub> at 30 minute intervals during 0700 to 1900 on normal weekdays	Once per week	<ul style="list-style-type: none"> <li>• CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong</li> <li>• CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong</li> <li>• CM3 – Block S, Yau Lai Estate Phase 5, Yau Tong</li> <li>• CM4 – Tin Hau Temple, Cha Kwo Ling</li> <li>• CM5 – CCC Kei Faat Primary School, Yau Tong</li> <li>• CM6(A)* – Site Boundary of Contract No. NE/2015/02 near Tower 1, Ocean Shores</li> <li>• CM7(A)* – Site Boundary of Contract No. NE/2015/02 near Tower 7, Ocean Shores</li> <li>• CM8(A)* – Park Central, L1/F Open Space Area</li> </ul>	<ul style="list-style-type: none"> <li>• CM1 – Rooftop (41/F)</li> <li>• CM2 – Rooftop (41/F)</li> <li>• CM3 – Rooftop (40/F)</li> <li>• CM4 – Ground Level</li> <li>• CM5 – Rooftop (6/F)</li> <li>• CM6(A)* – Ground Level</li> <li>• CM7(A)* – Ground Level</li> <li>• CM8(A)* – 1/F</li> </ul>

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
<b>Groundwater Quality</b>			
Stream 1- Stream 3	<ul style="list-style-type: none"> <li>• DO, mg/L</li> <li>• DO Saturation, %</li> <li>• pH</li> <li>• Water Temperature (°C)</li> <li>• Turbidity, NTU</li> <li>• SS, mg/L</li> <li>• BOD<sub>5</sub>, mg O<sub>2</sub>/L</li> <li>• TOC, mg-TOC/L</li> <li>• Total Nitrogen, mg/L</li> <li>• Ammonia-N, mg NH<sub>3</sub>-N/L</li> <li>• Total Phosphate, mg-P/L</li> </ul>	Mid-depth	<p style="text-align: center;">Biweekly</p> <p style="text-align: center;">(When the tunnel construction works are found within 50m of the location, weekly.)</p>
<b>Marine Water Quality</b>			
M1 M2 M3 M4 M5 M6 C1 C2 G1 G2 G3 G4	<p><i>In-situ:</i></p> <p>Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity</p> <p><u>Laboratory Testing:</u></p> <p>Suspended Solids (SS)</p>	<p><u>M1-M5, C1-C2, G1-G4</u></p> <ul style="list-style-type: none"> <li>• 3 water depths: 1m below water surface, mid-depth and 1m above sea bed.</li> <li>• If the water depth is less than 3m, mid-depth sampling only.</li> <li>• If the water depth is less than 6m, omit mid-depth sampling.</li> </ul> <p><u>M6</u></p> <ul style="list-style-type: none"> <li>• at the vertical level where the water abstraction point of the intake is located(i.e. approximately mid-depth level)</li> </ul>	<p style="text-align: center;">3 days per week</p> <p style="text-align: center;">/</p> <p style="text-align: center;">2 per monitoring day</p> <p style="text-align: center;">(1 for mid-ebb and 1 for mid-flood)</p>

**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	<ul style="list-style-type: none"> <li>• Excavation Locations</li> <li>• Manholes and Chambers</li> <li>• Relocation of monitoring wells</li> <li>• Any other Confined Spaces</li> </ul>

**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

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**APPENDIX B  
ACTION AND LIMIT LEVELS**

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**APPENDIX B – Action and Limit Levels****Air Quality*****1-hr TSP***

Monitoring Stations	Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
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, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
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) <sup>(1)</sup>
1900-2300 on all days and 0700-2300 on general holidays (including Sundays)		60/65/70 dB(A) <sup>(2)(3)</sup>
2300-0700 on all days		45/50/55 dB(A) <sup>(2)(3)</sup>

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

**Water Quality****Groundwater**

<b>Parameters</b>	<b>Action</b>	<b>Limit</b>
DO in mg L <sup>-1</sup>	7.6	7.6
pH	6.0 – 8.9	6.0 – 9.0
BOD <sub>5</sub> in mg L <sup>-1</sup>	2.0	2.0
TOC in mg L <sup>-1</sup>	Stream 1 and Stream 2: 9	Stream 1 and Stream 2: 9
	Stream 3: 6	Stream 3: 6
Total Nitrogen in mg L <sup>-1</sup>	2.0	2.1
Ammonia-N in mg L <sup>-1</sup>	0.15	0.20
Total Phosphate in mg L <sup>-1</sup>	0.05	0.05
SS in mg L <sup>-1</sup>	7.6	12.1
Turbidity in NTU	2.1	2.3

## Notes:

1. For 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<sub>5</sub>), Total organic carbon (TOC), Total Nitrogen, Ammonia-N and Total Phosphate, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
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**

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

**Marine Water Quality**

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

## Notes:

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



**Ecology*****Post-translocation Coral Monitoring***

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

**Landfill Gas Monitoring**

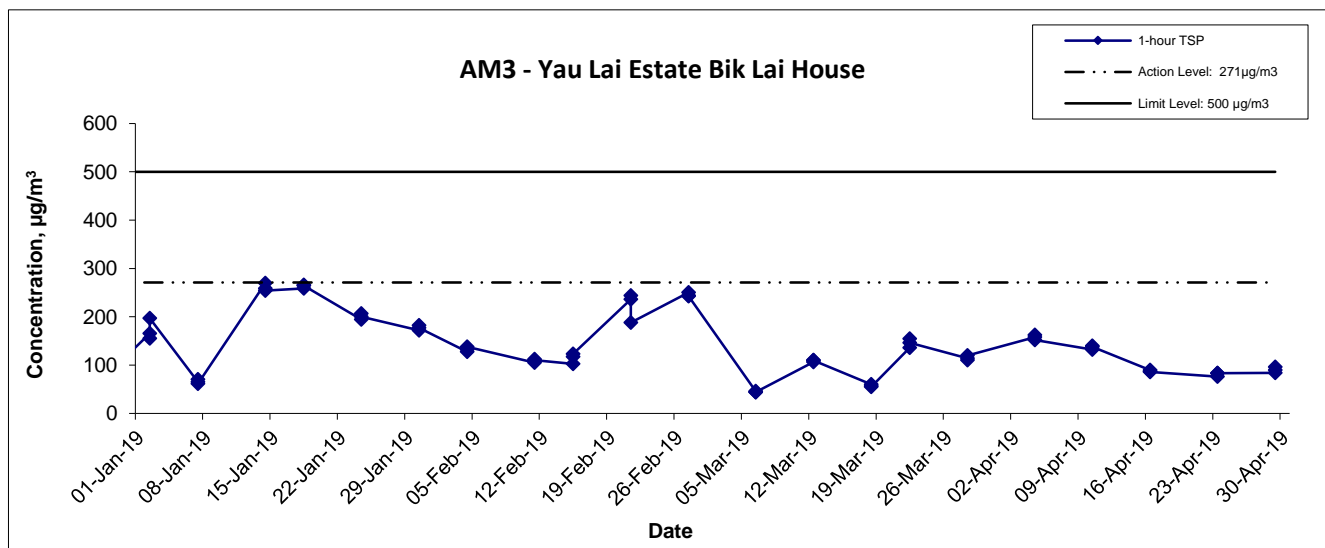
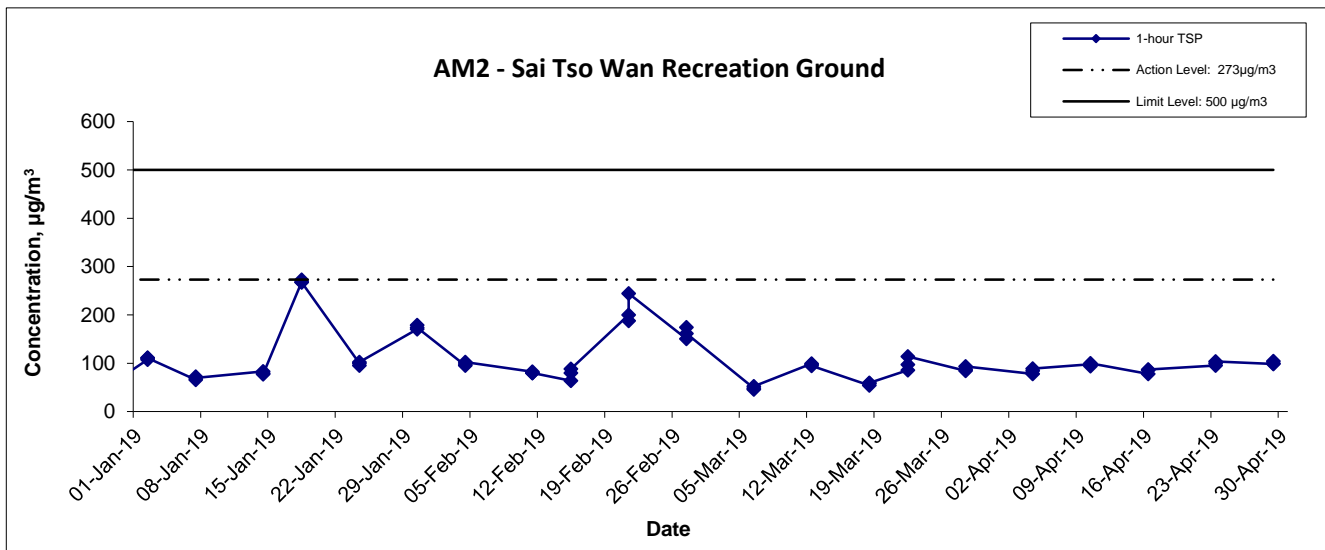
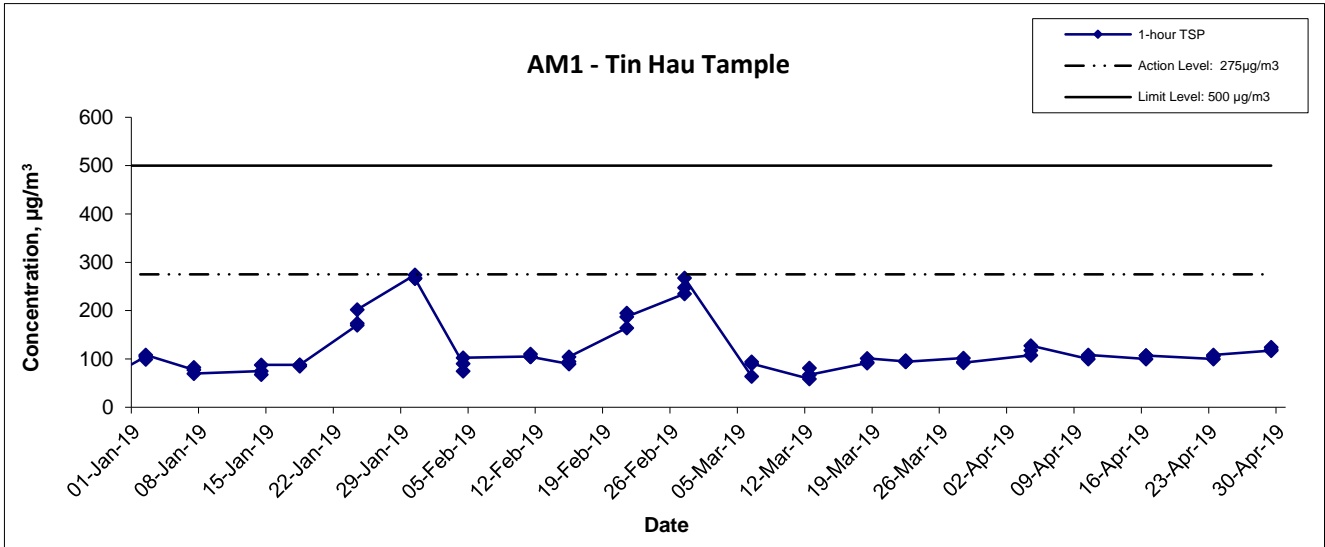
<b>Parameter</b>	<b>Limit Level</b>
Oxygen	<19%
	<18%
Methane	>10% LEL (i.e. > 0.5% by volume)
	>20% LEL (i.e. > 1% by volume)
Carbon Dioxide	>0.5%
	>1.5%

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**APPENDIX C  
GRAPHICAL PRESENTATION OF AIR  
QUALITY MONITORING RESULTS**

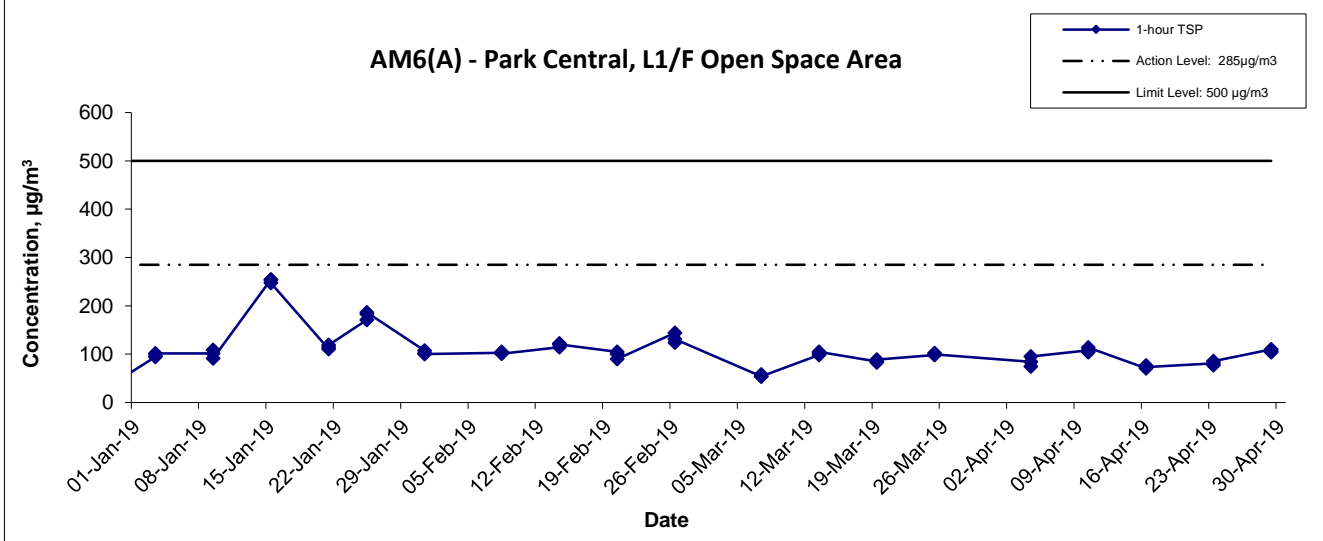
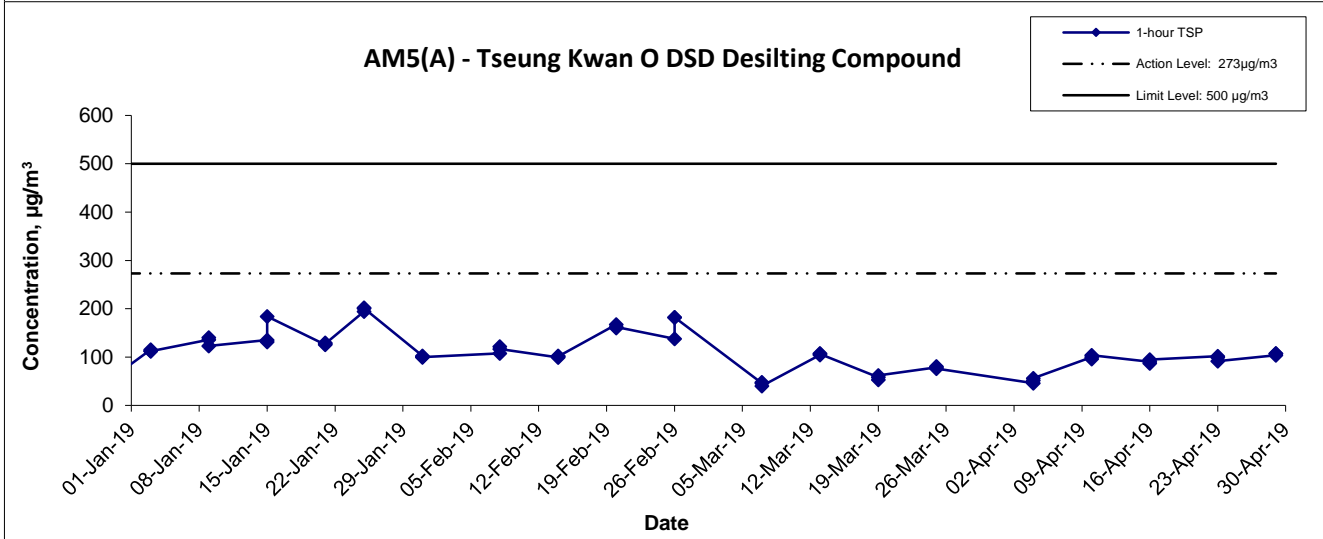
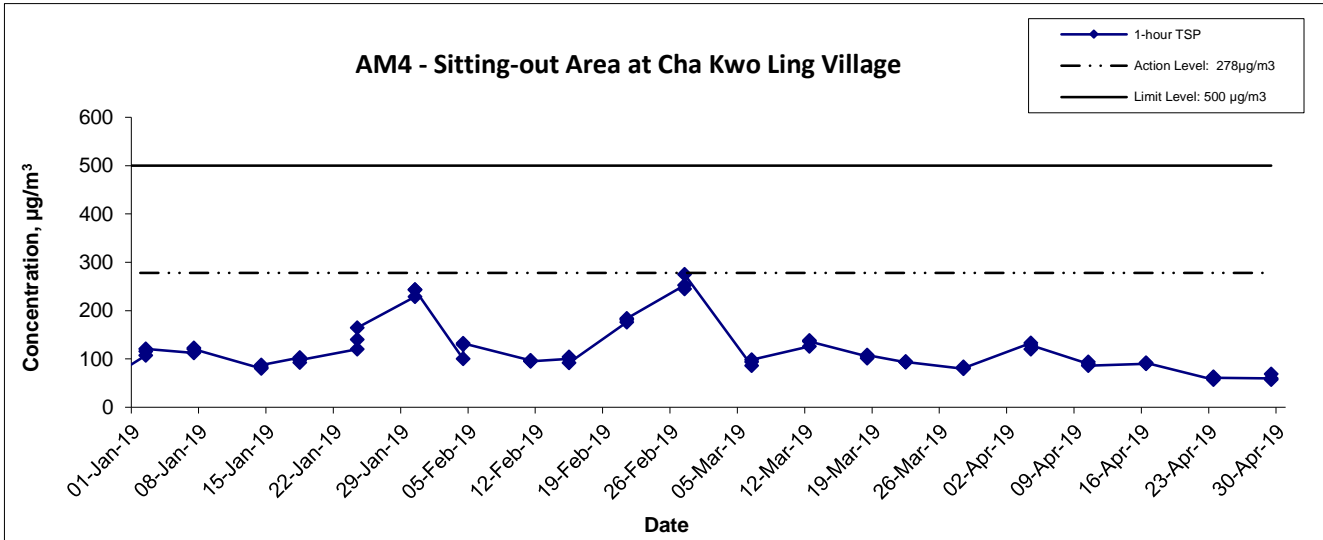
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### 1-hr TSP Concentration Levels



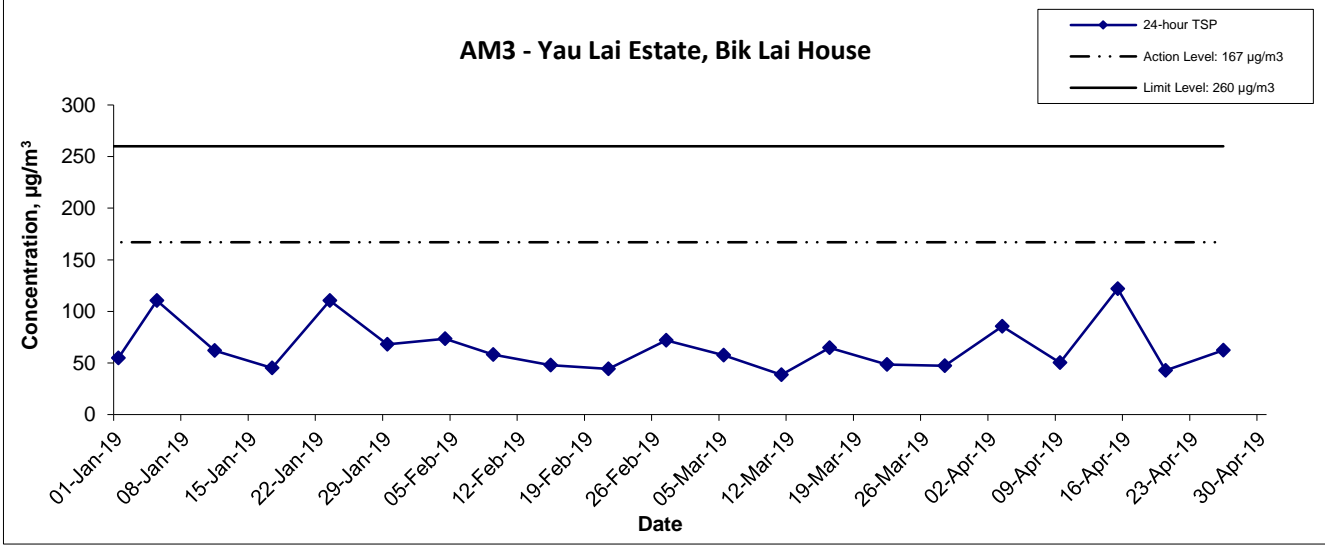
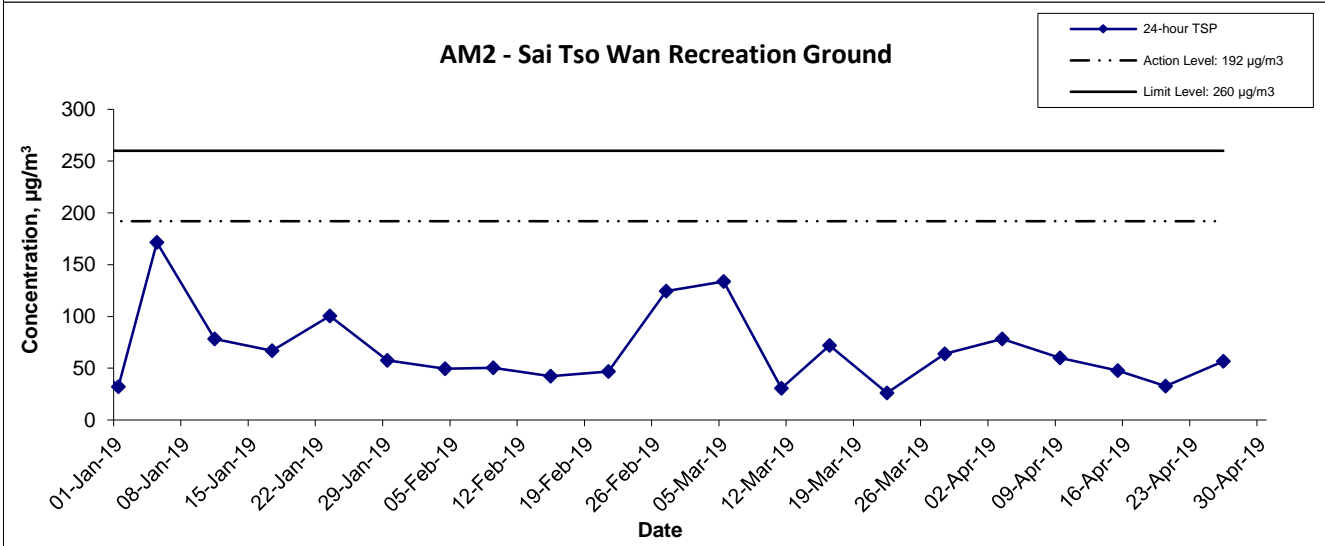
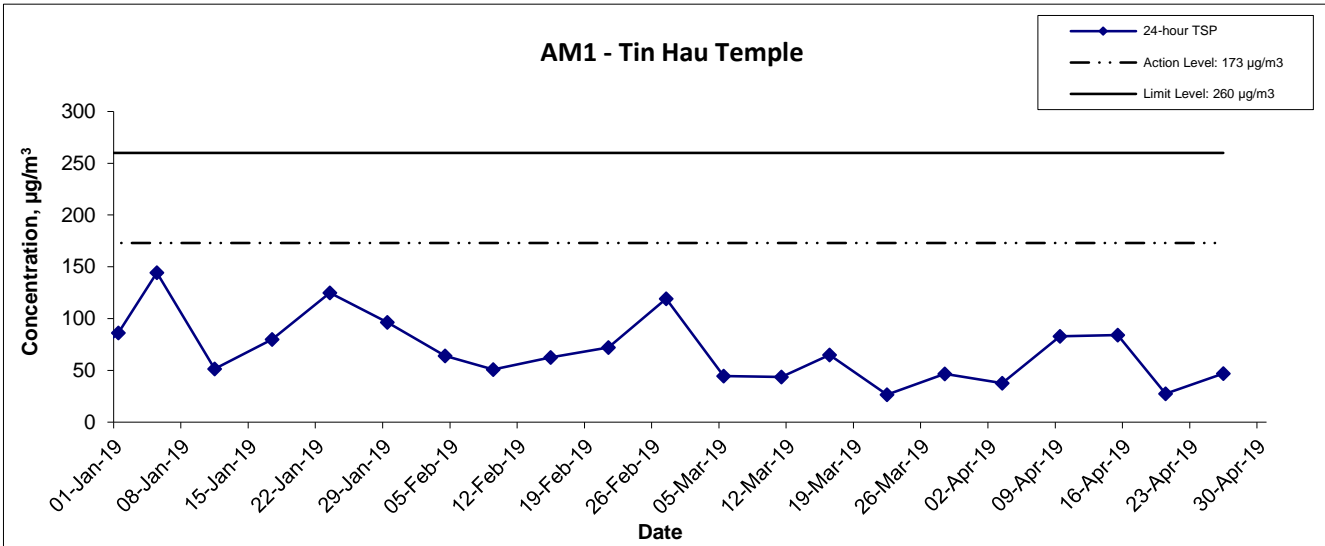
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	Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction	N.T.S	No. MA16034	
Graphical Presentation of 1-hour TSP Monitoring Results		Date	Appendix	
		Apr-19	C	

### 1-hr TSP Concentration Levels



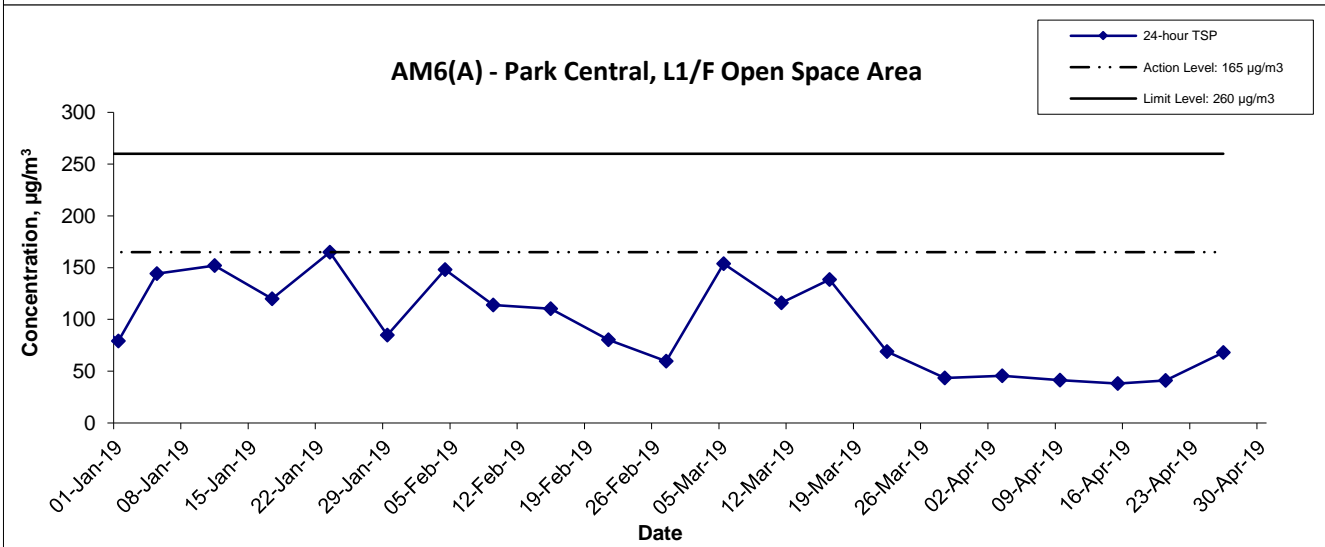
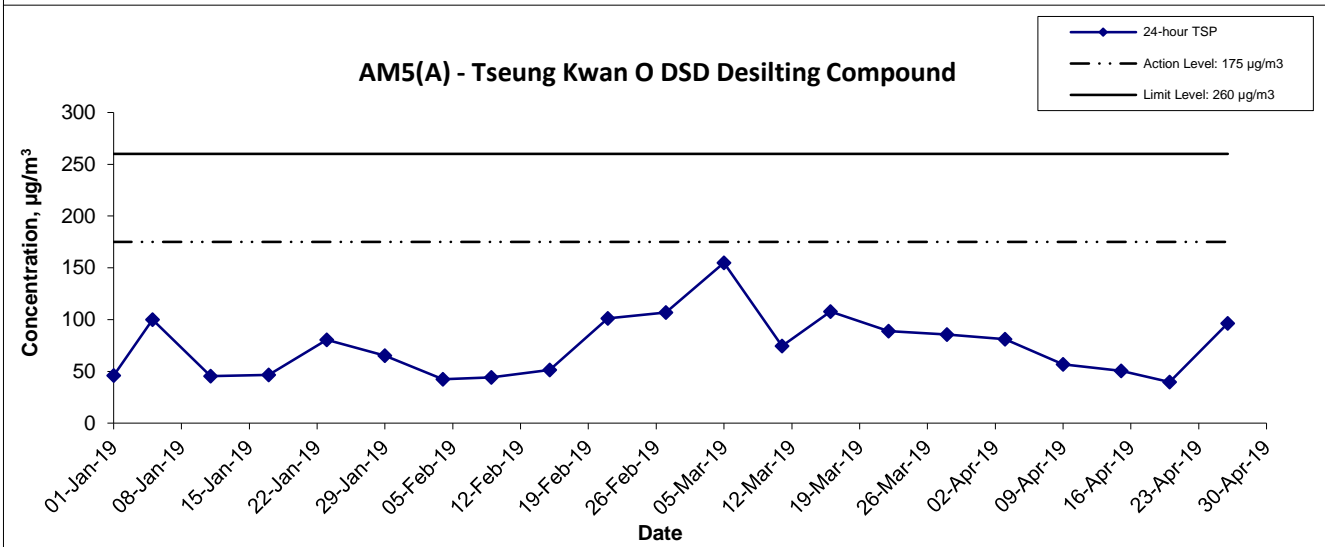
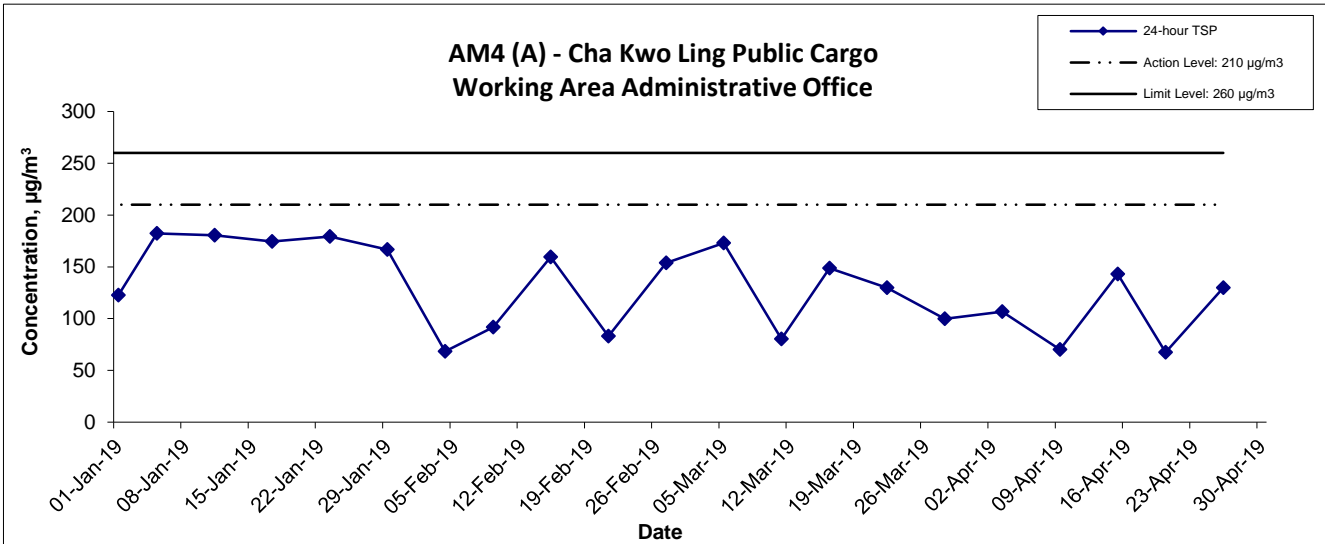
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	Date Apr-19	Appendix C	

### 24-hr TSP Concentration Levels



Title	Agreement No. CE/59/2015 (EP)	Scale	Project No.	CINOTECH
	Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction	N.T.S	MA16034	
Graphical Presentation of 24-hour TSP Monitoring Results		Date	Appendix	
		Apr-19	C	

### 24-hr TSP Concentration Levels



Title	Agreement No. CE/59/2015 (EP)		Scale	N.T.S	Project No.	MA16034	CINOTECH
	Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction			Date		Apr-19	
Graphical Presentation of 24-hour TSP Monitoring Results							



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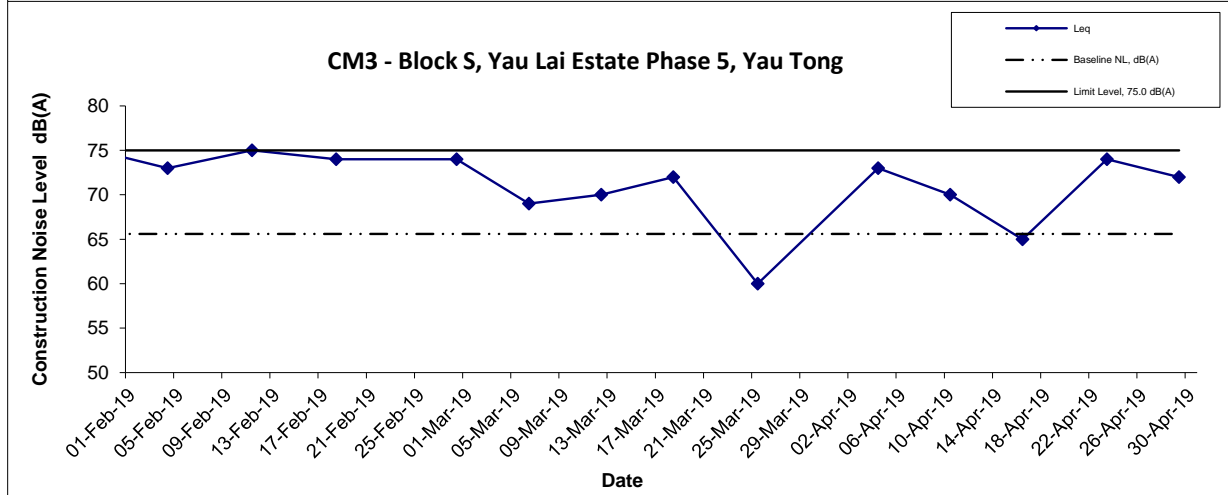
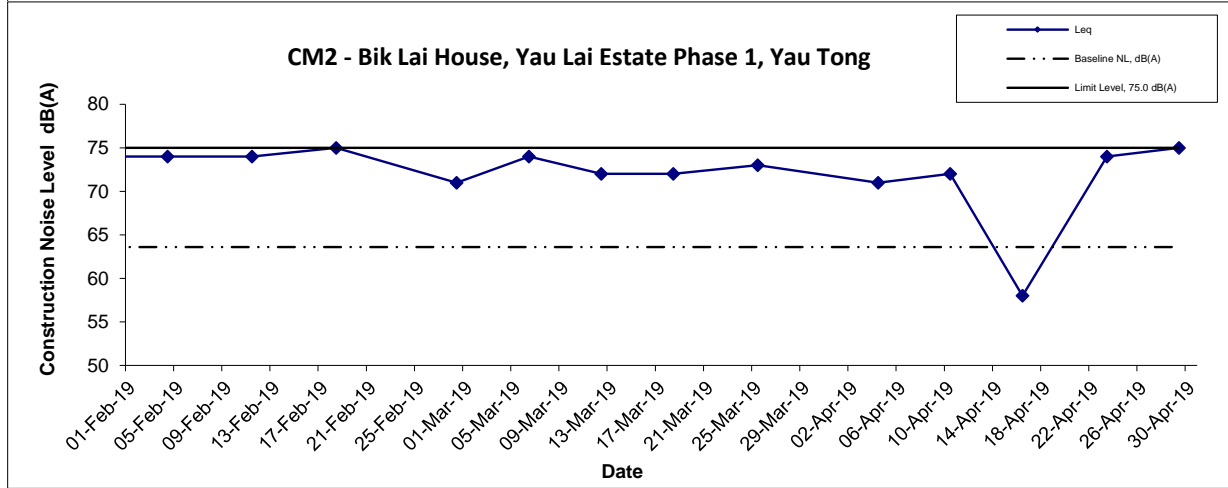
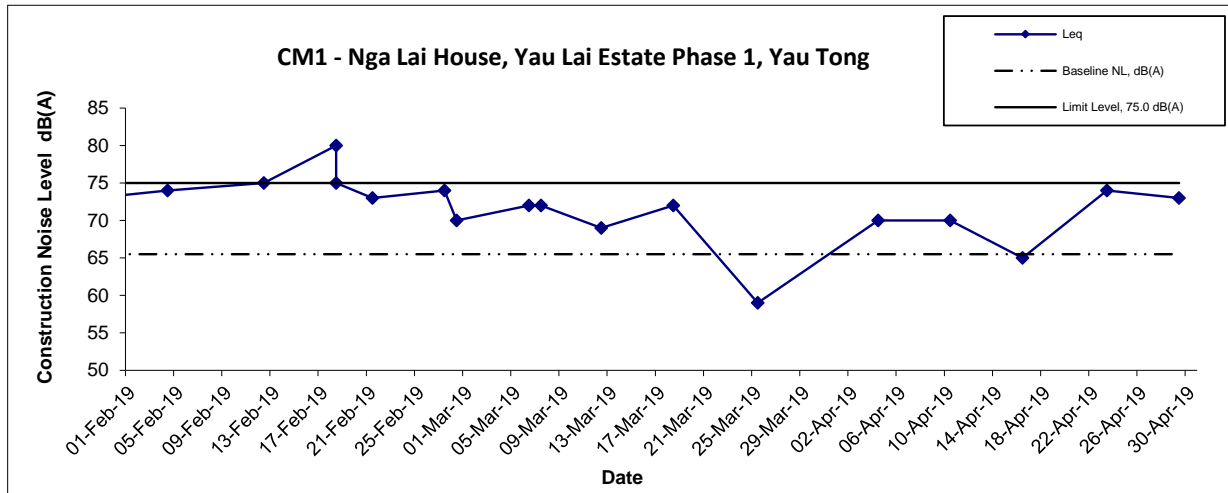
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**APPENDIX D  
GRAPHICAL PRESENTATION OF  
NOISE MONITORING RESULTS**

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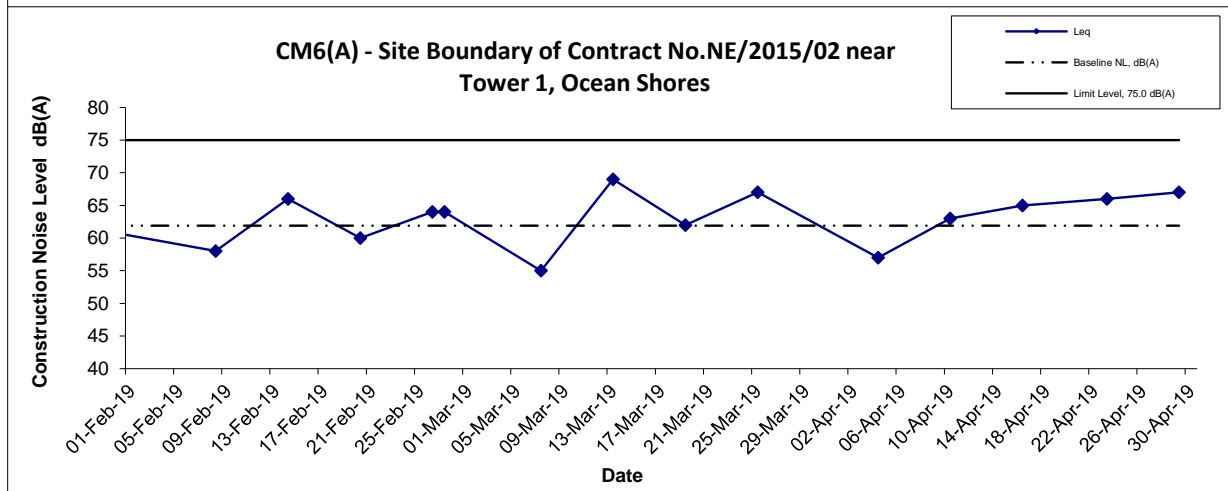
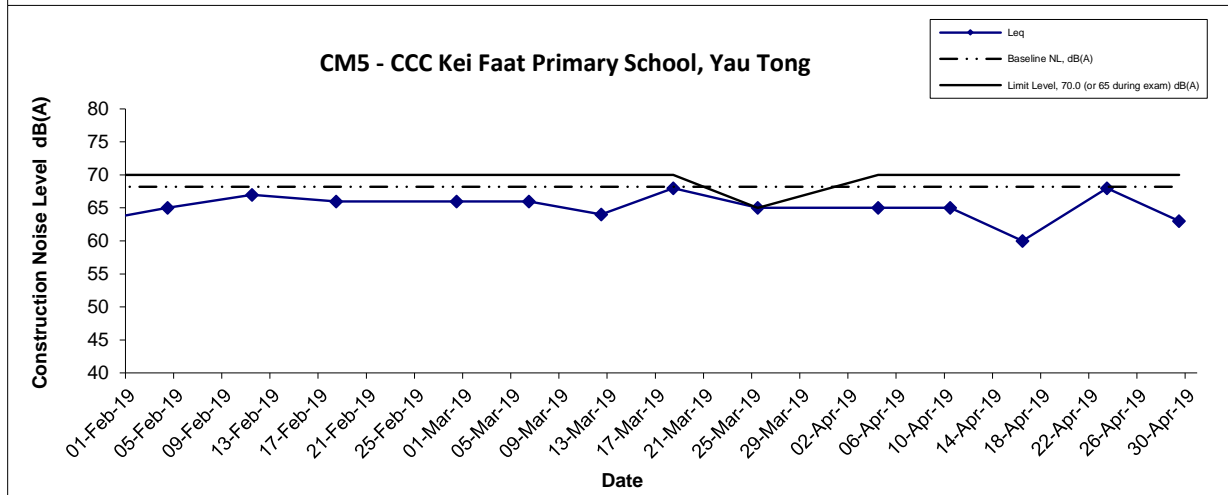
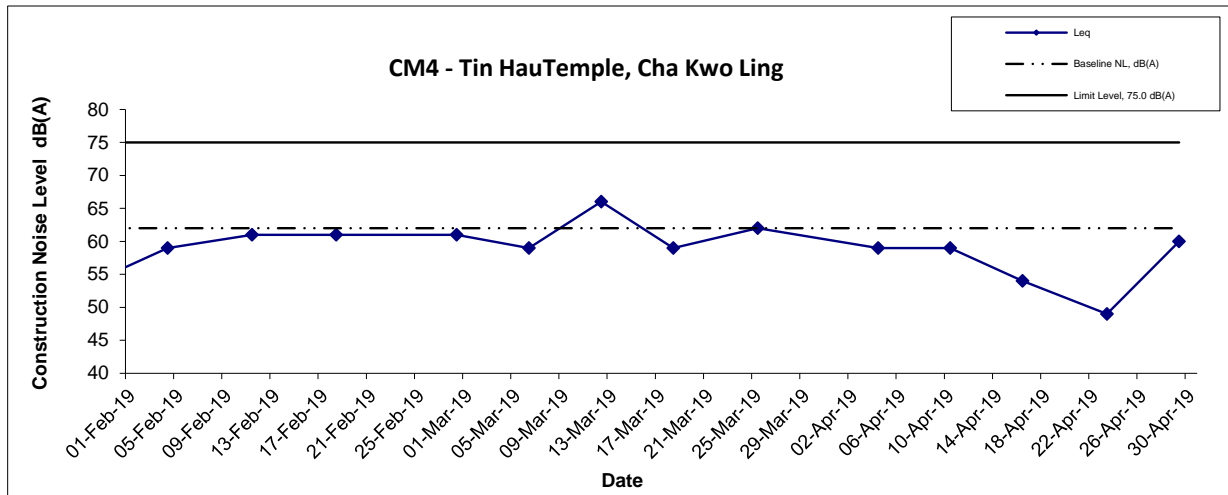
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## Noise Levels (Daytime)



Title Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. MA16034	CINOTECH
	Date April 19	Appendix D	

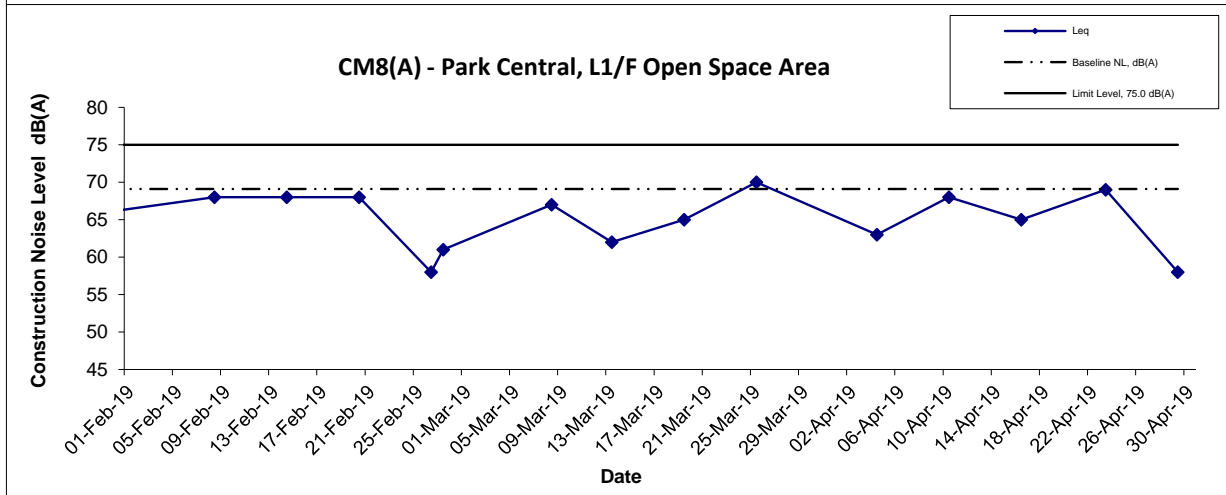
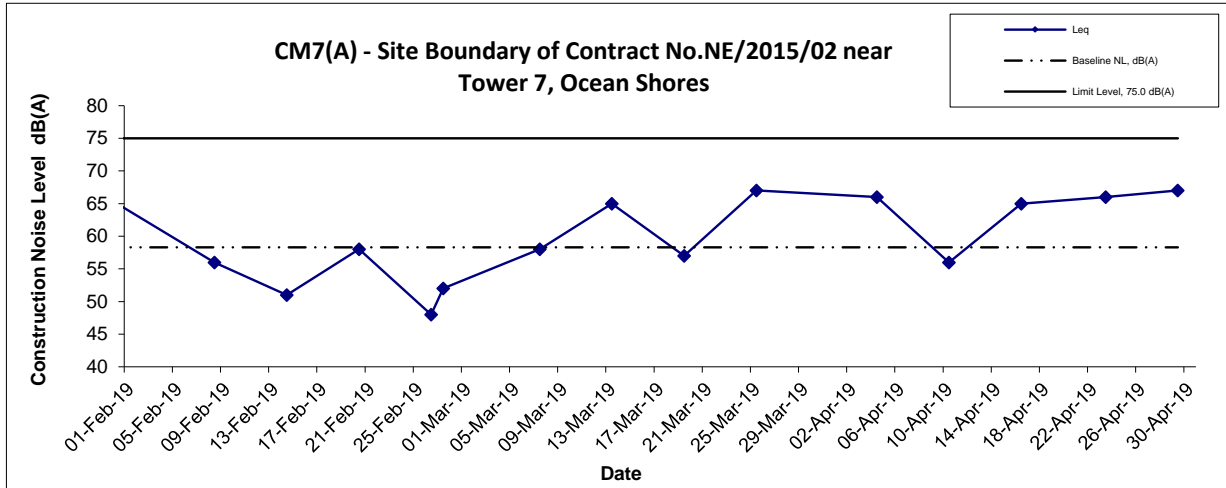
### Noise Levels (Daytime)



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	Graphical Presentation of Construction Noise Monitoring Results	Date	Appendix	
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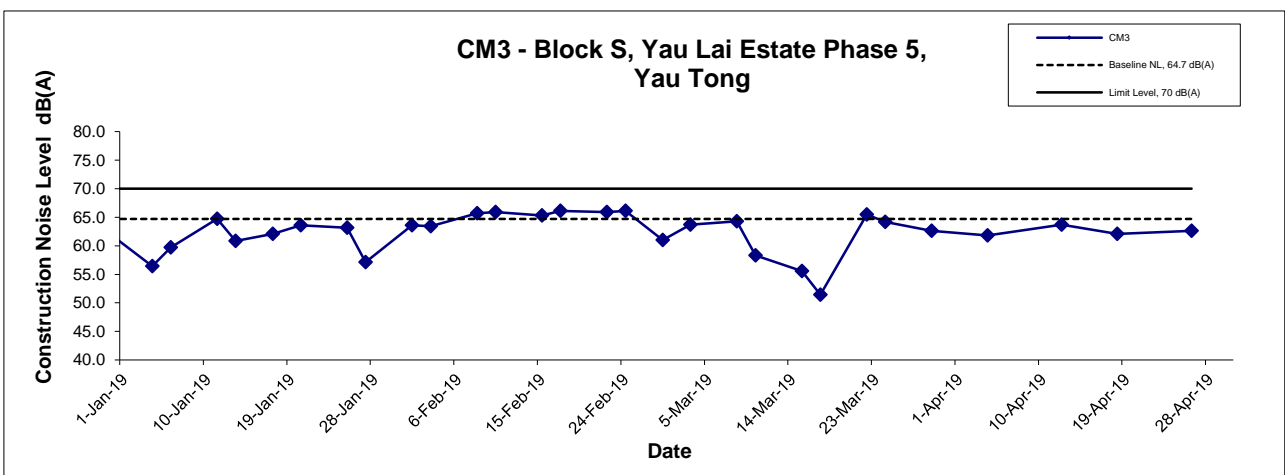
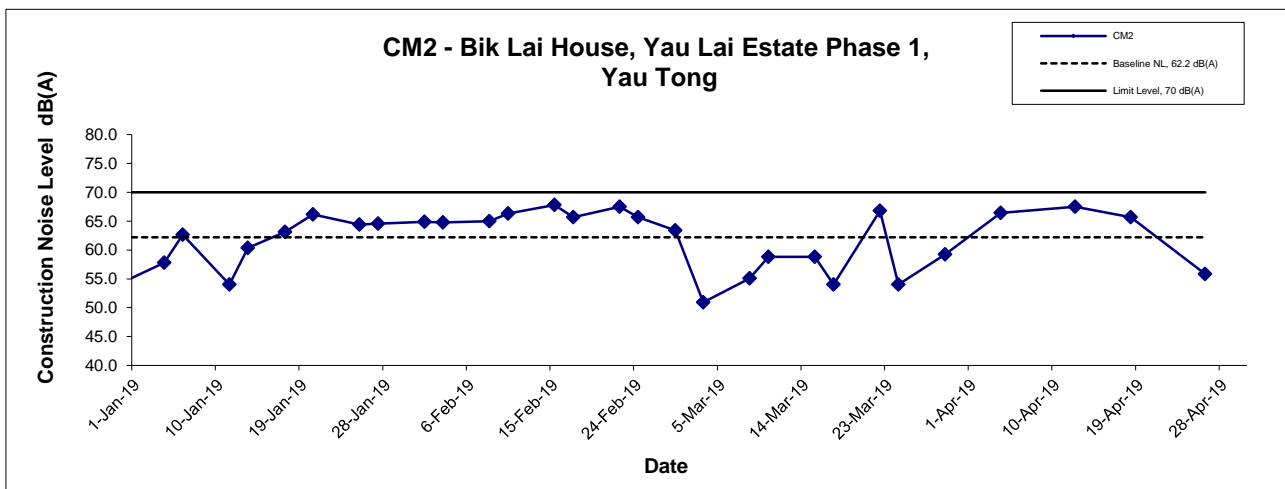
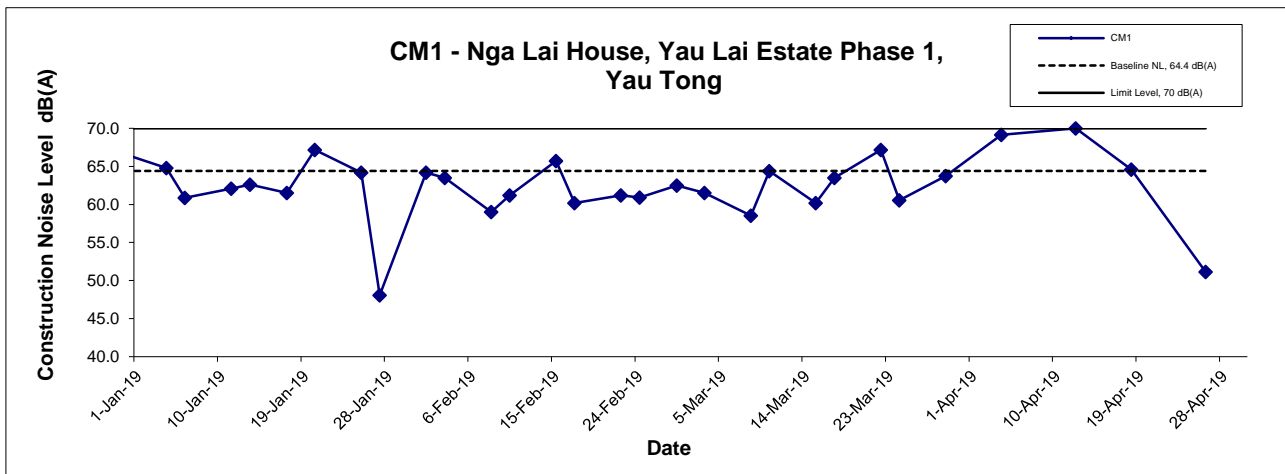


### Noise Levels (Daytime)



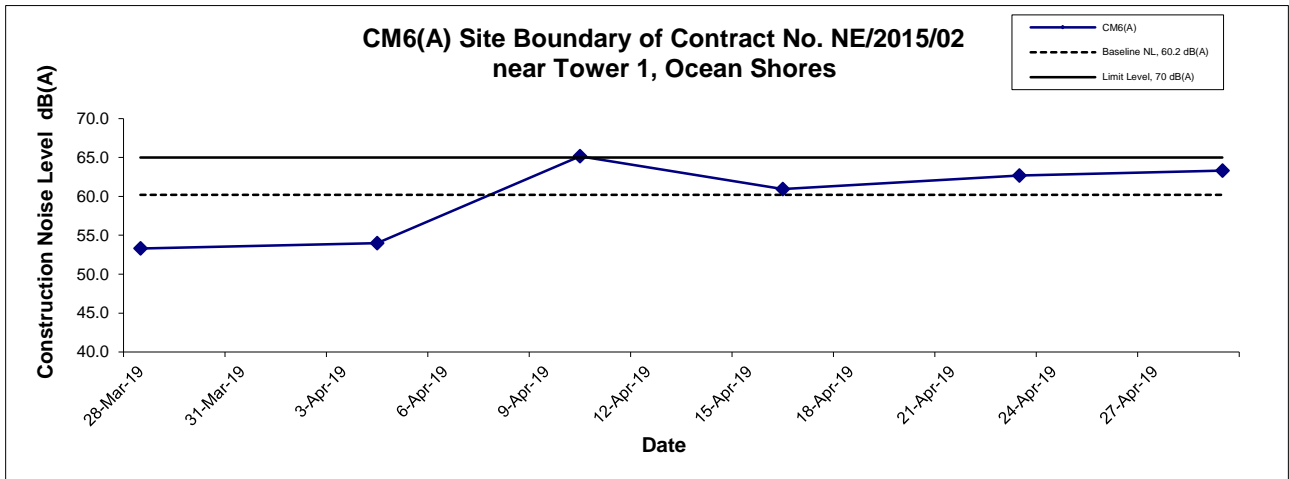
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	Date April 19	Appendix D	

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



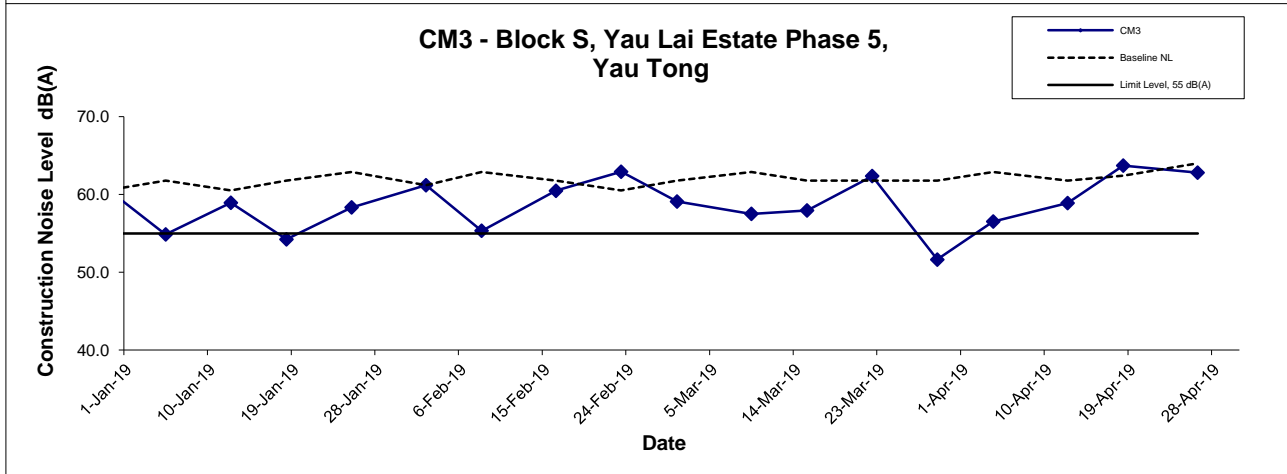
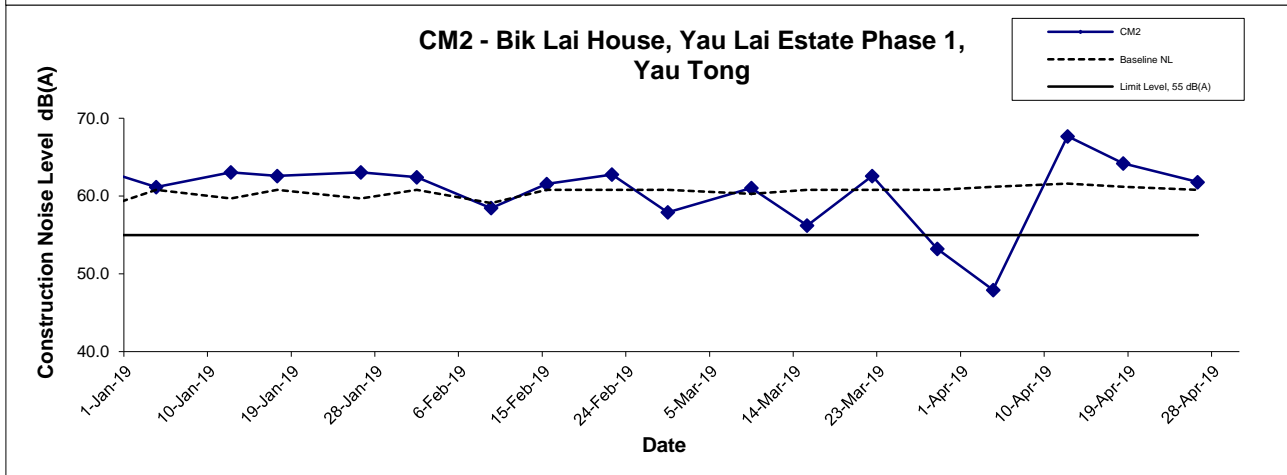
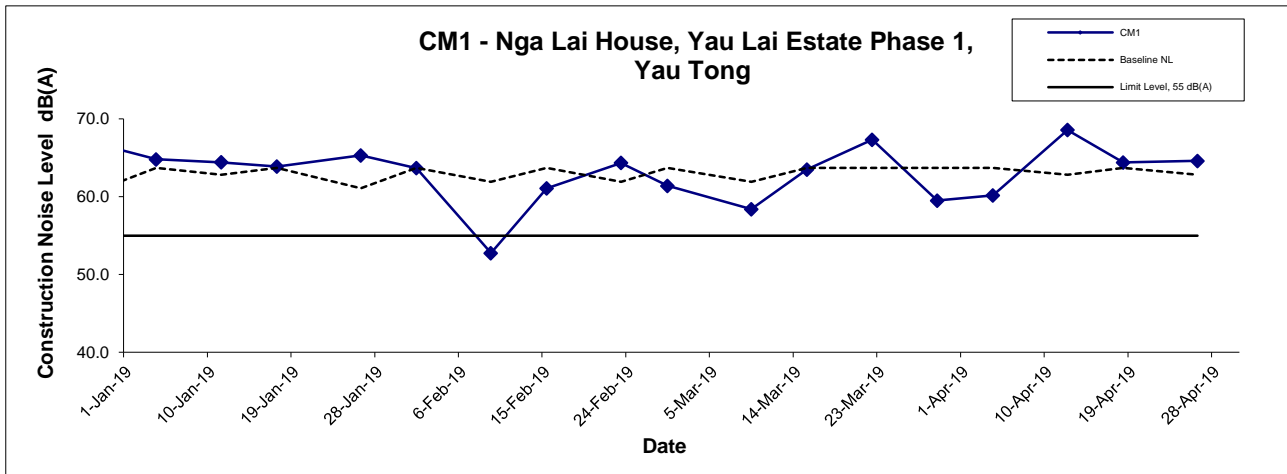
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	Date Apr 19	Appendix D	

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



<b>Title</b> Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Restricted Noise Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> MA16034	<b>CINOTECH</b>
	<b>Date</b> Apr 19	<b>Appendix</b> D	

## Noise Levels (Restricted Hours - 2300-0700 on all days )



Title Agreement No. CE/59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel - Design and Construction  Graphical Presentation of Restricted Noise Monitoring Results	Scale N.T.S	Project No. MA16034	
	Date Apr 19	Appendix D	



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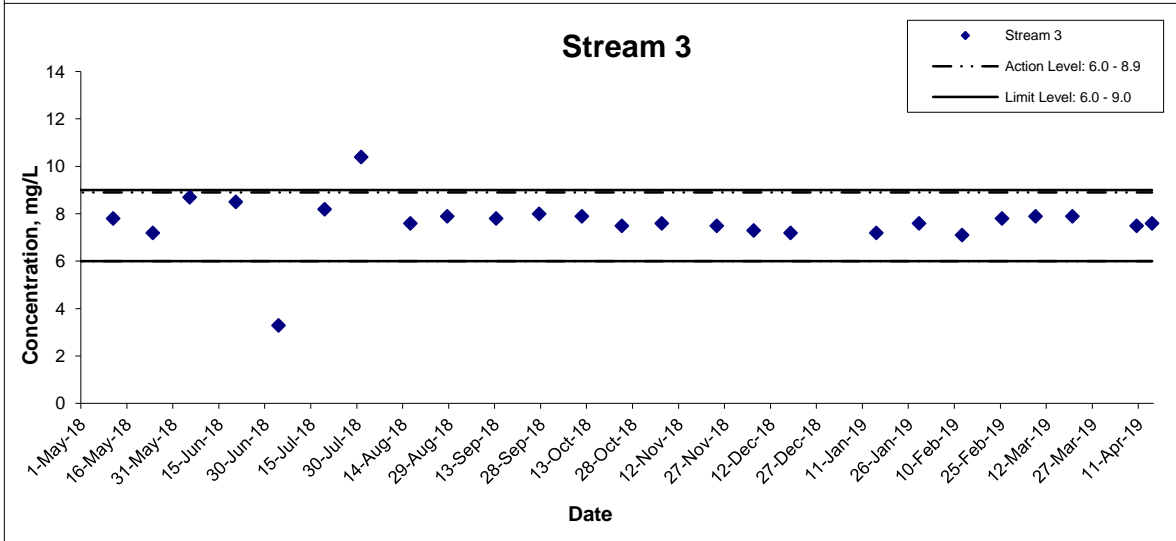
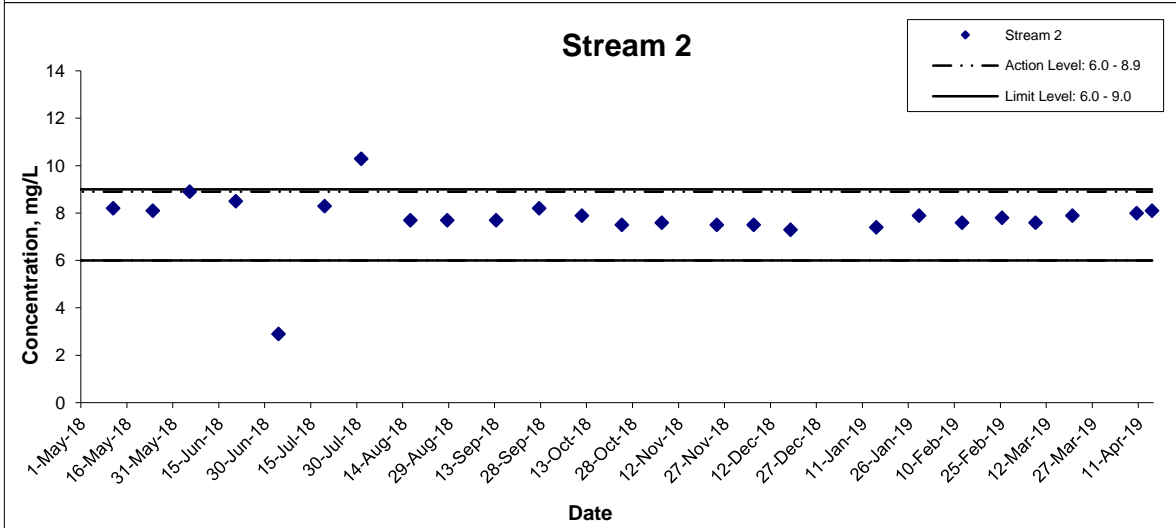
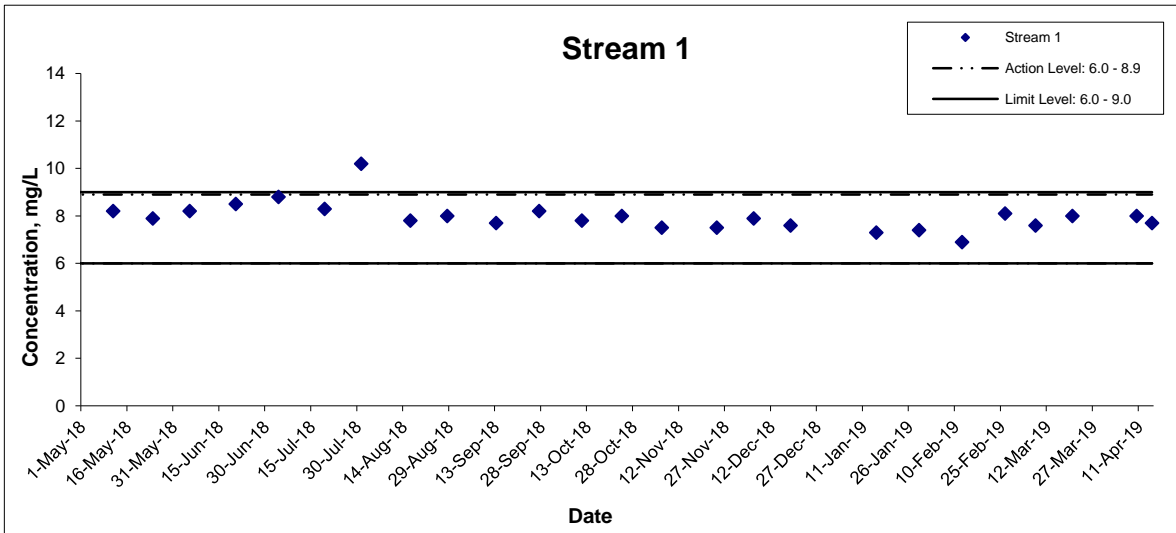
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**APPENDIX E  
GRAPHICAL PRESENTATION OF  
GROUNDWATER QUALITY  
MONITORING RESULTS**

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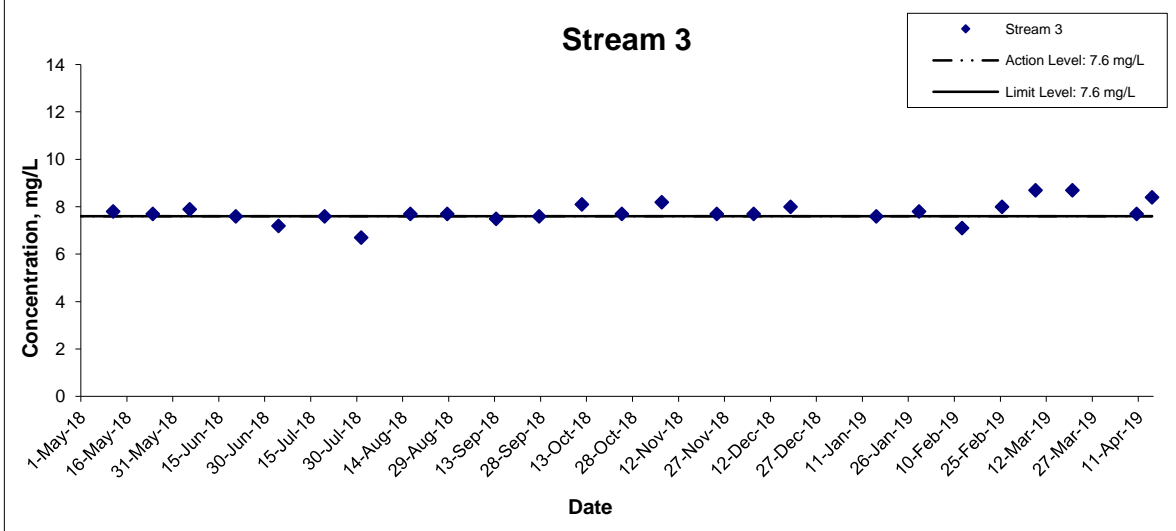
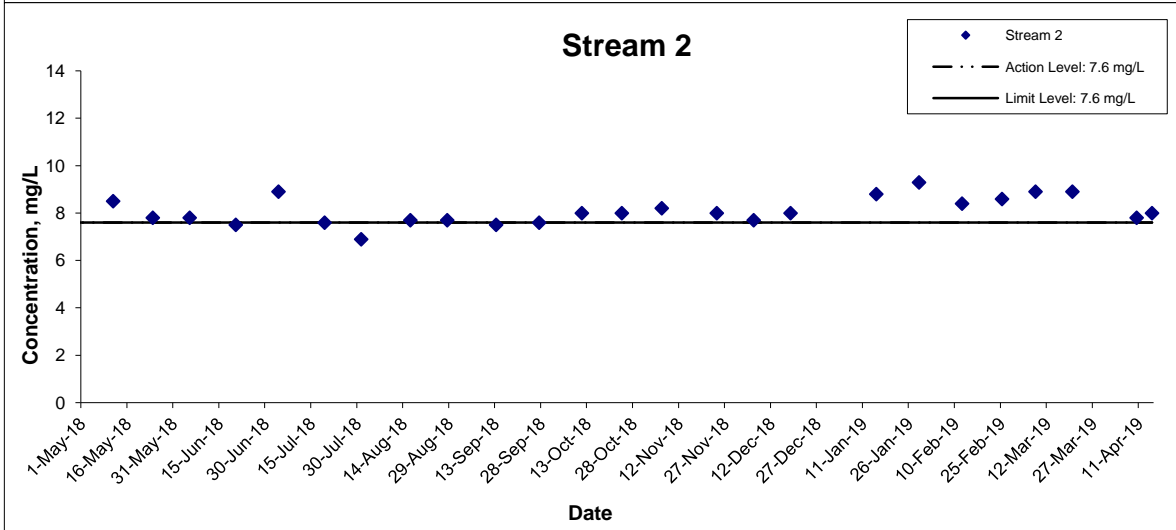
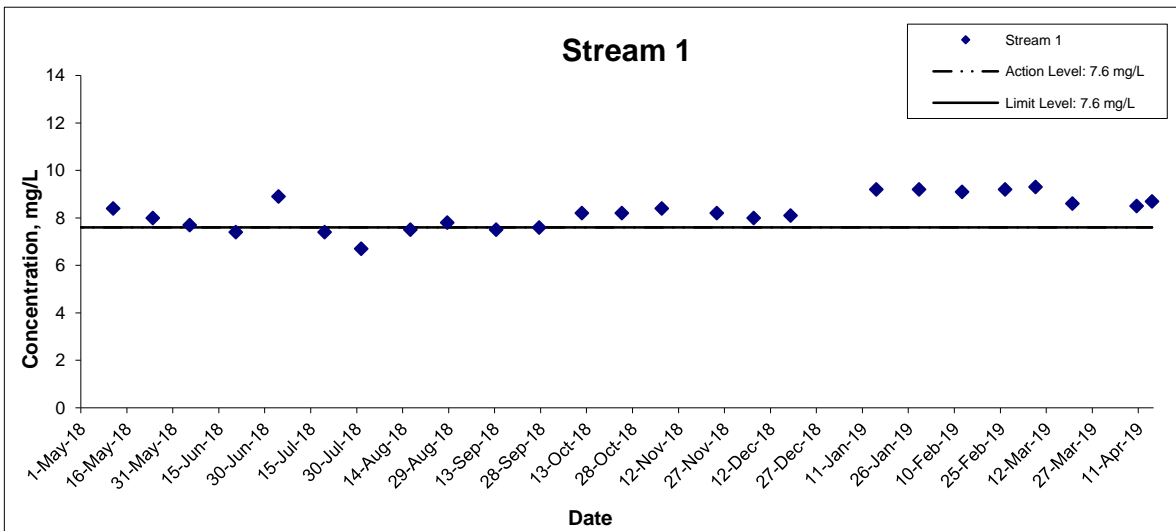
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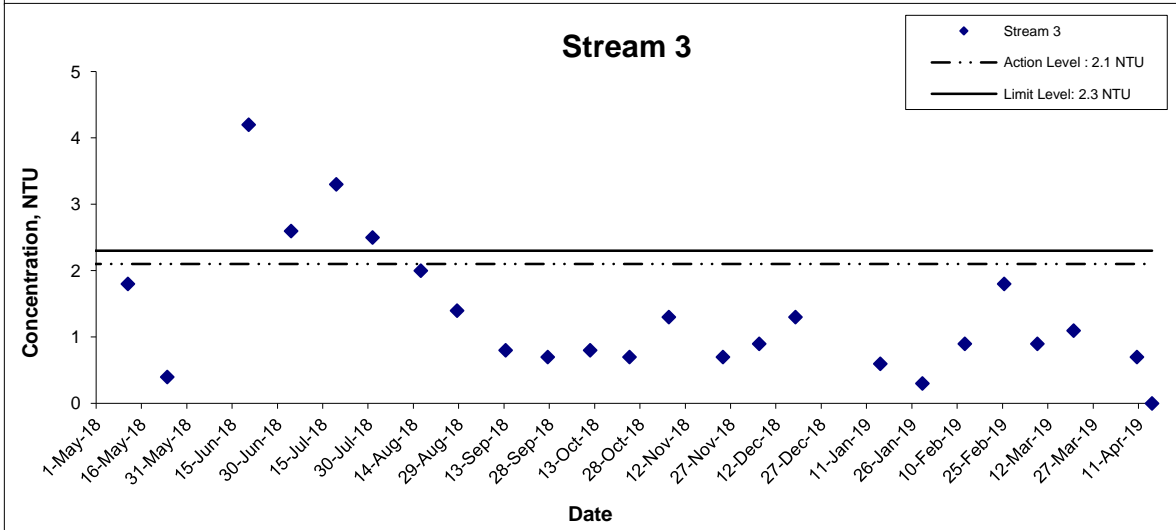
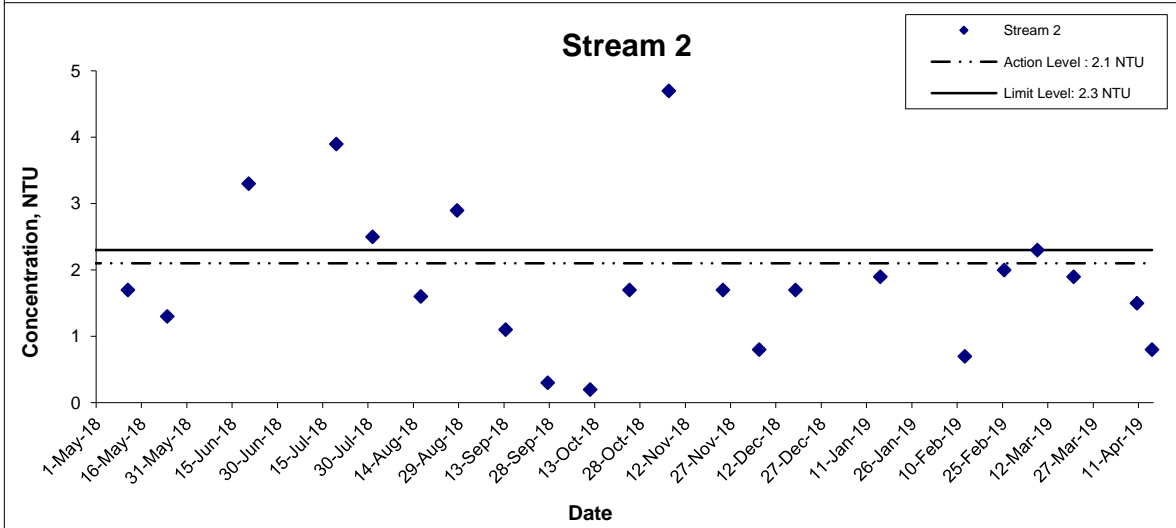
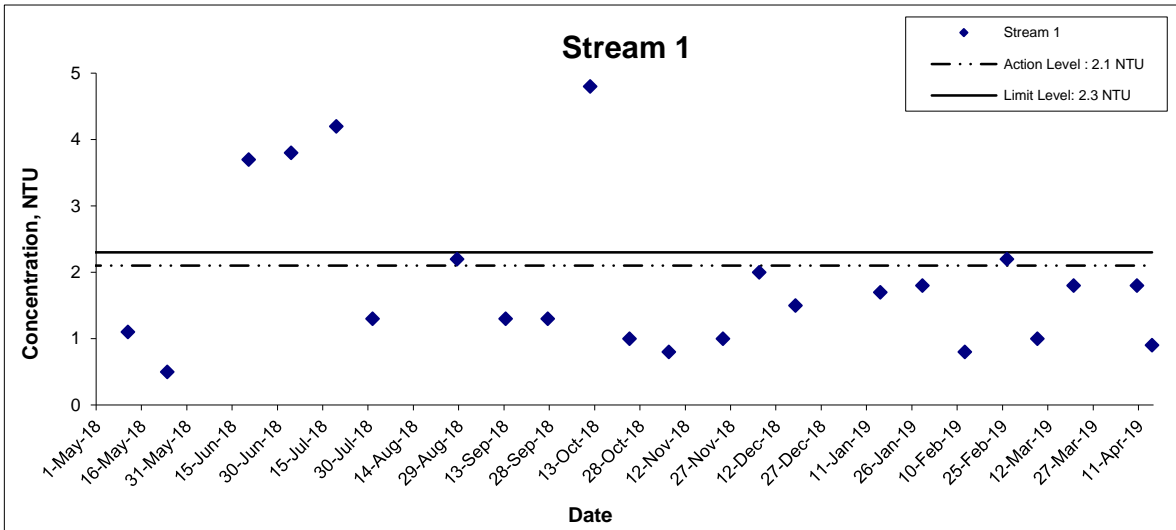
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	Date Apr 19	Appendix E	

## Dissolved Oxygen



Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
	Date Apr 19	Appendix E	

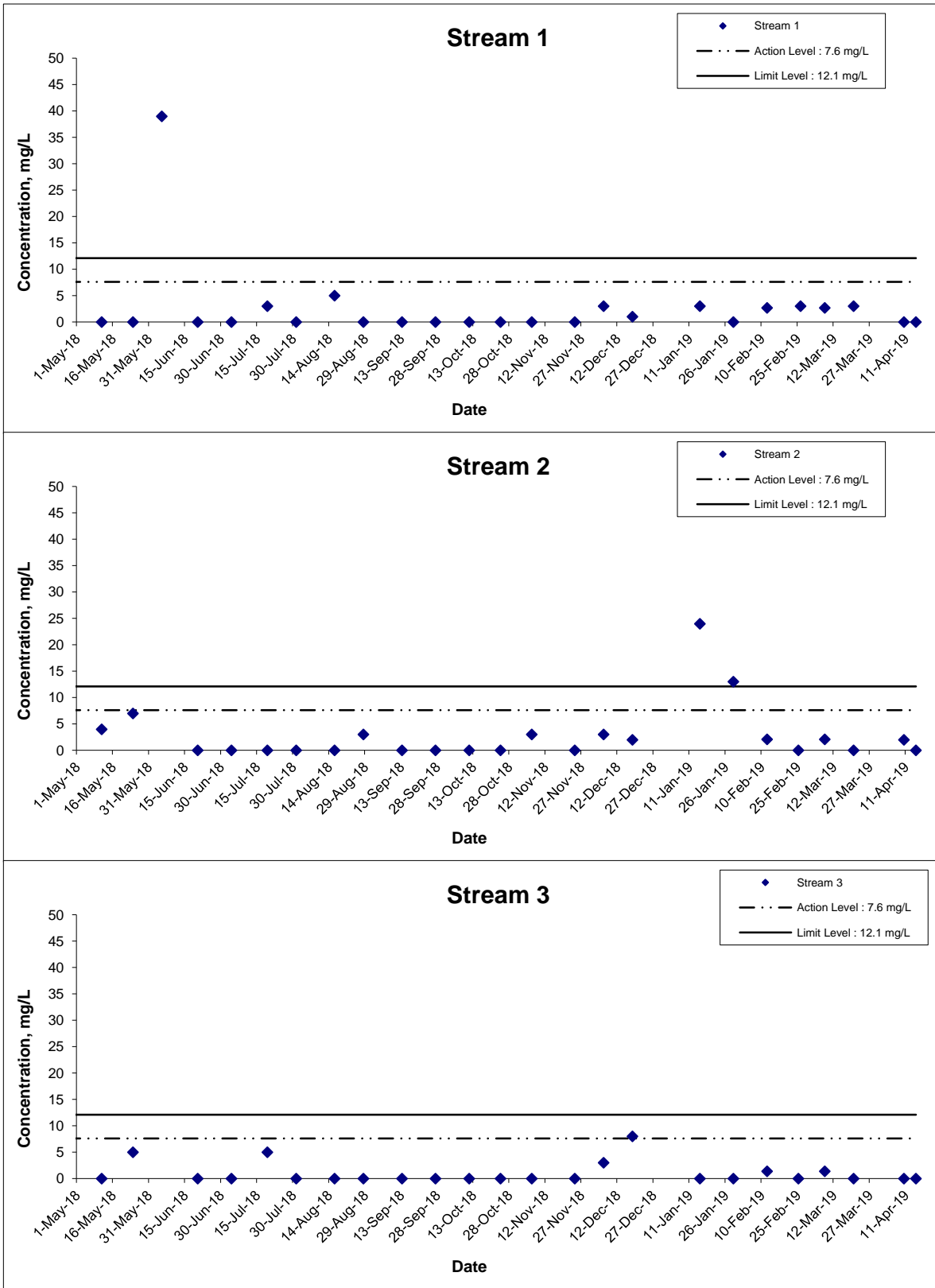
## Turbidity



Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
	Date Apr 19	Appendix E	



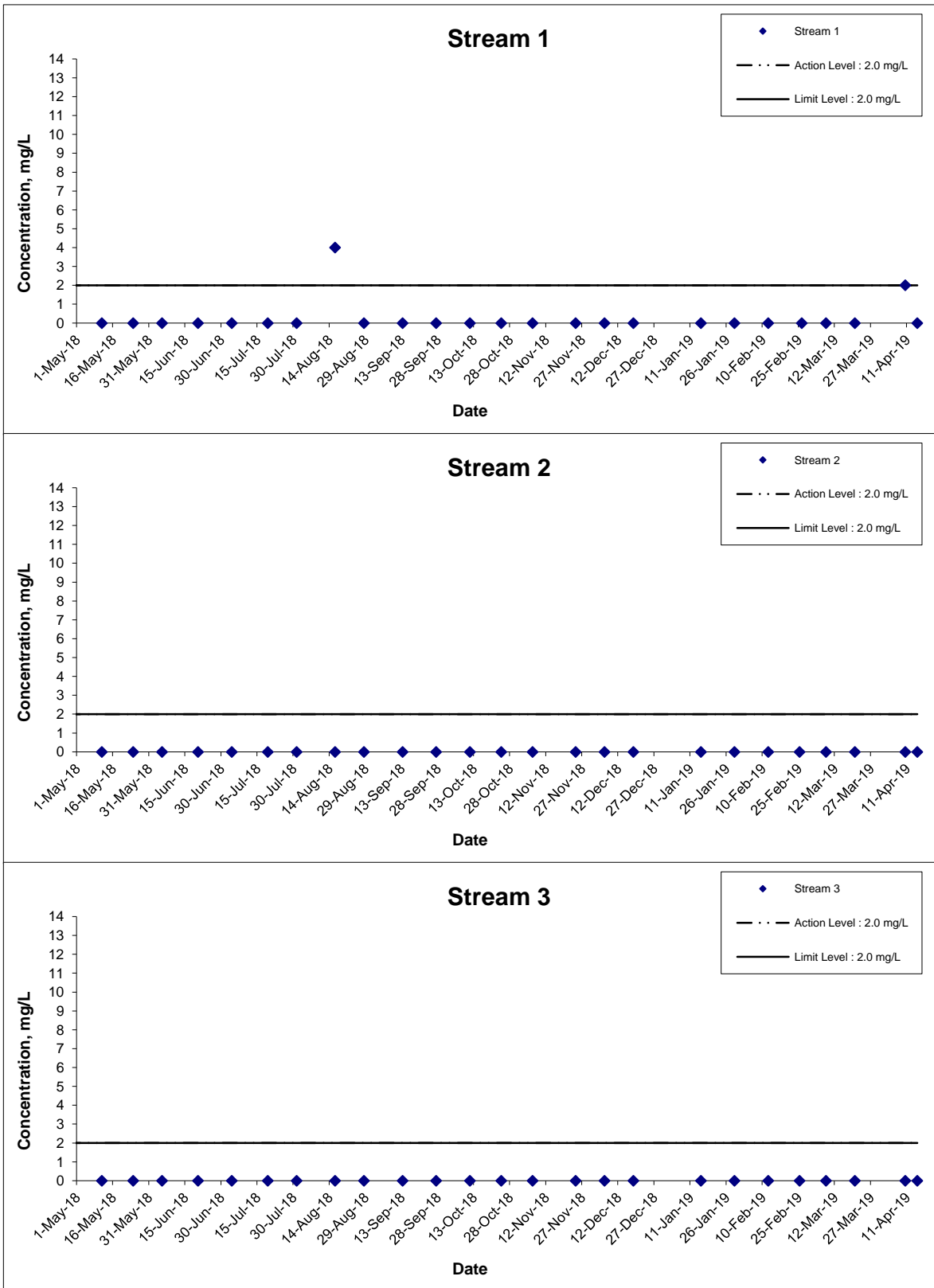
## Suspended Solids



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

Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
	Date Apr 19	Appendix E	

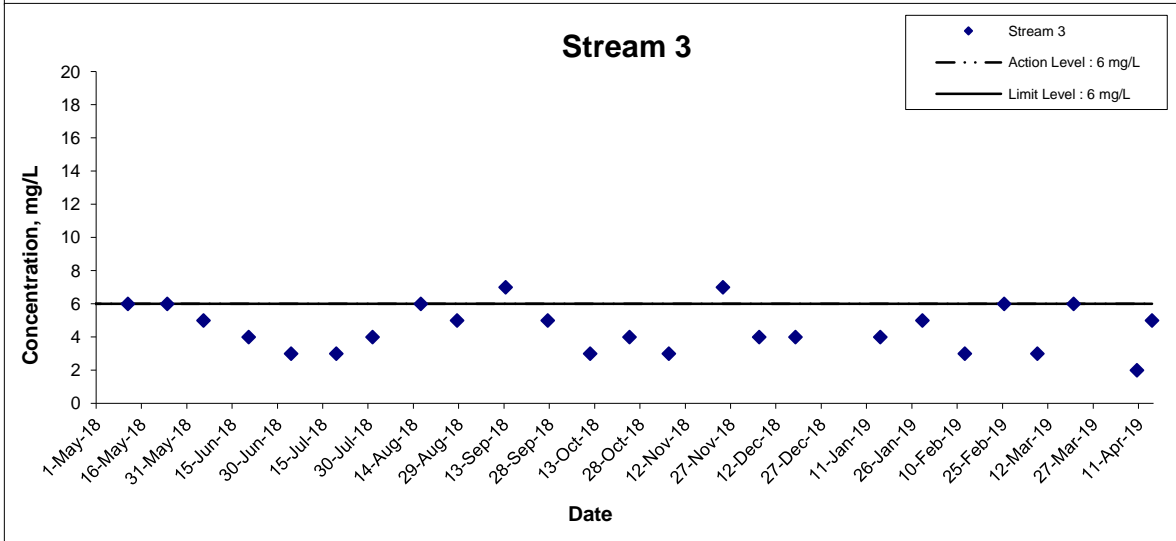
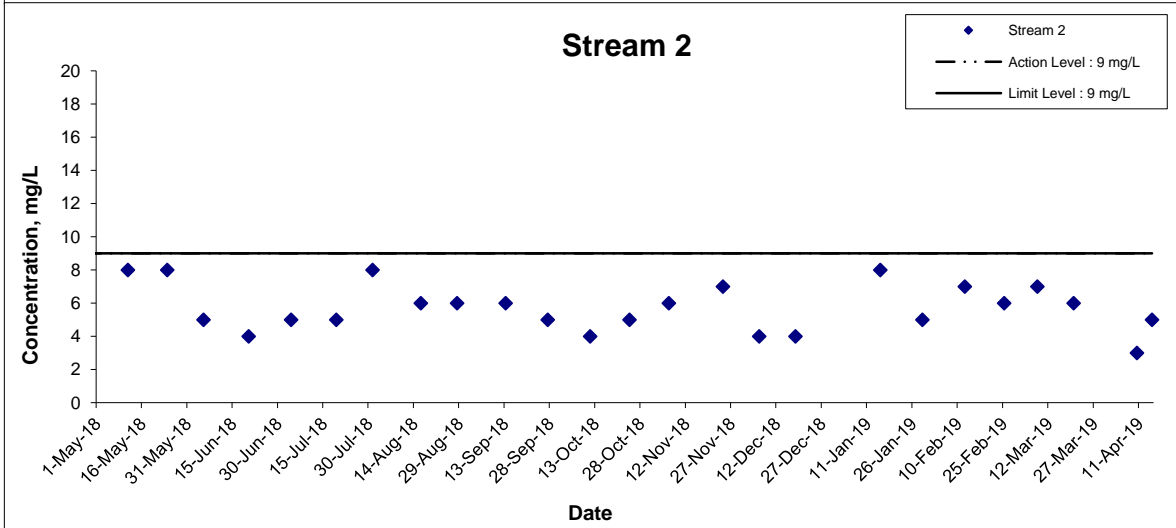
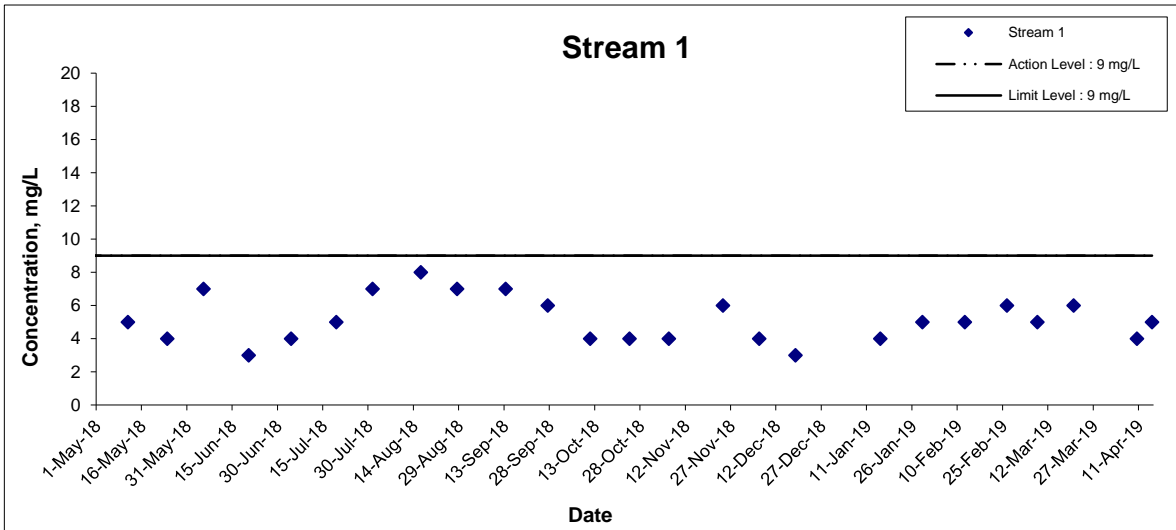
## 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>)



Remarks: The graphical point at zero concentration is presented as <2 mg/L

Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
	Date Apr 19	Appendix E	

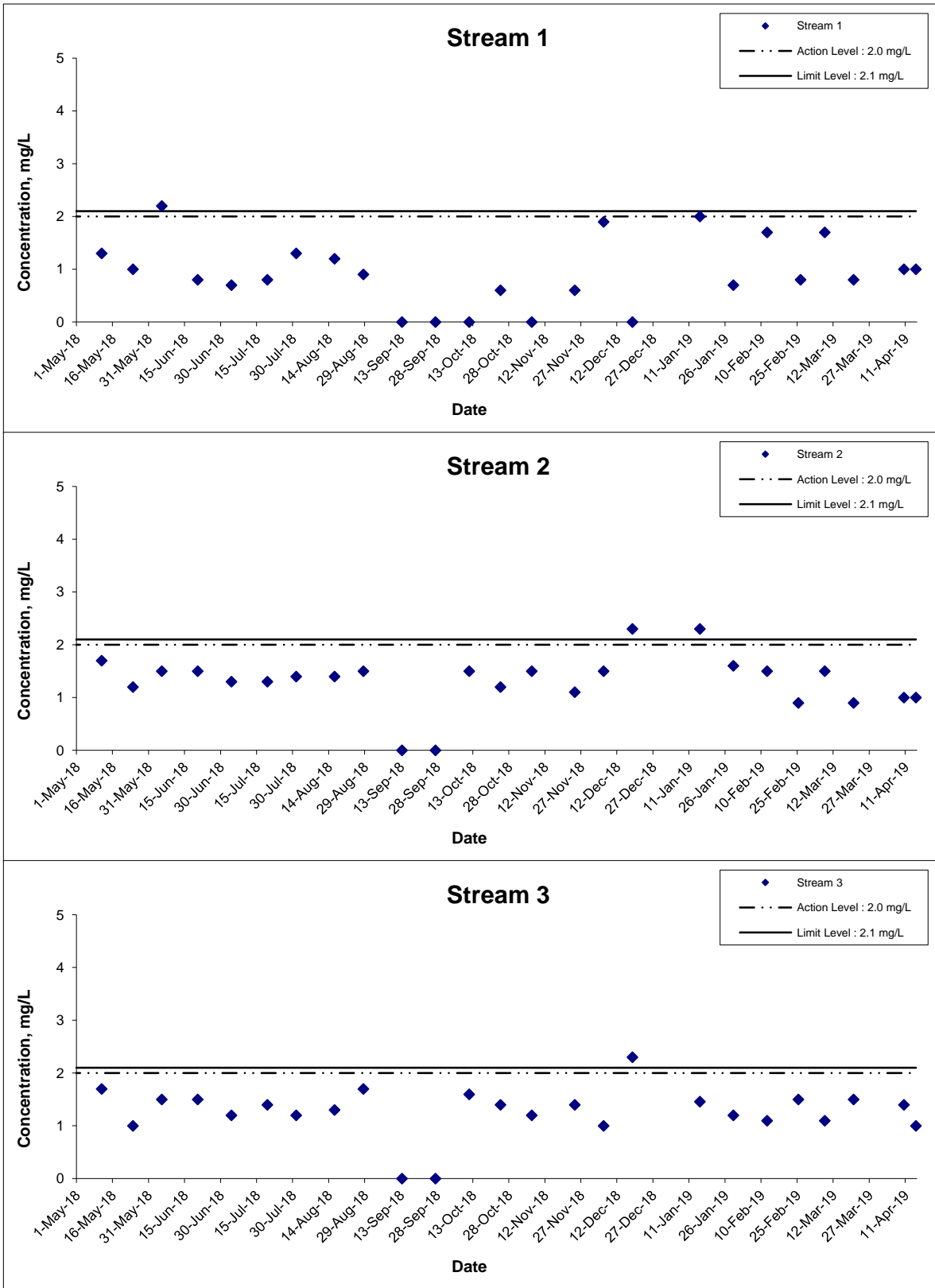
## Total Organic Carbon (TOC)



Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
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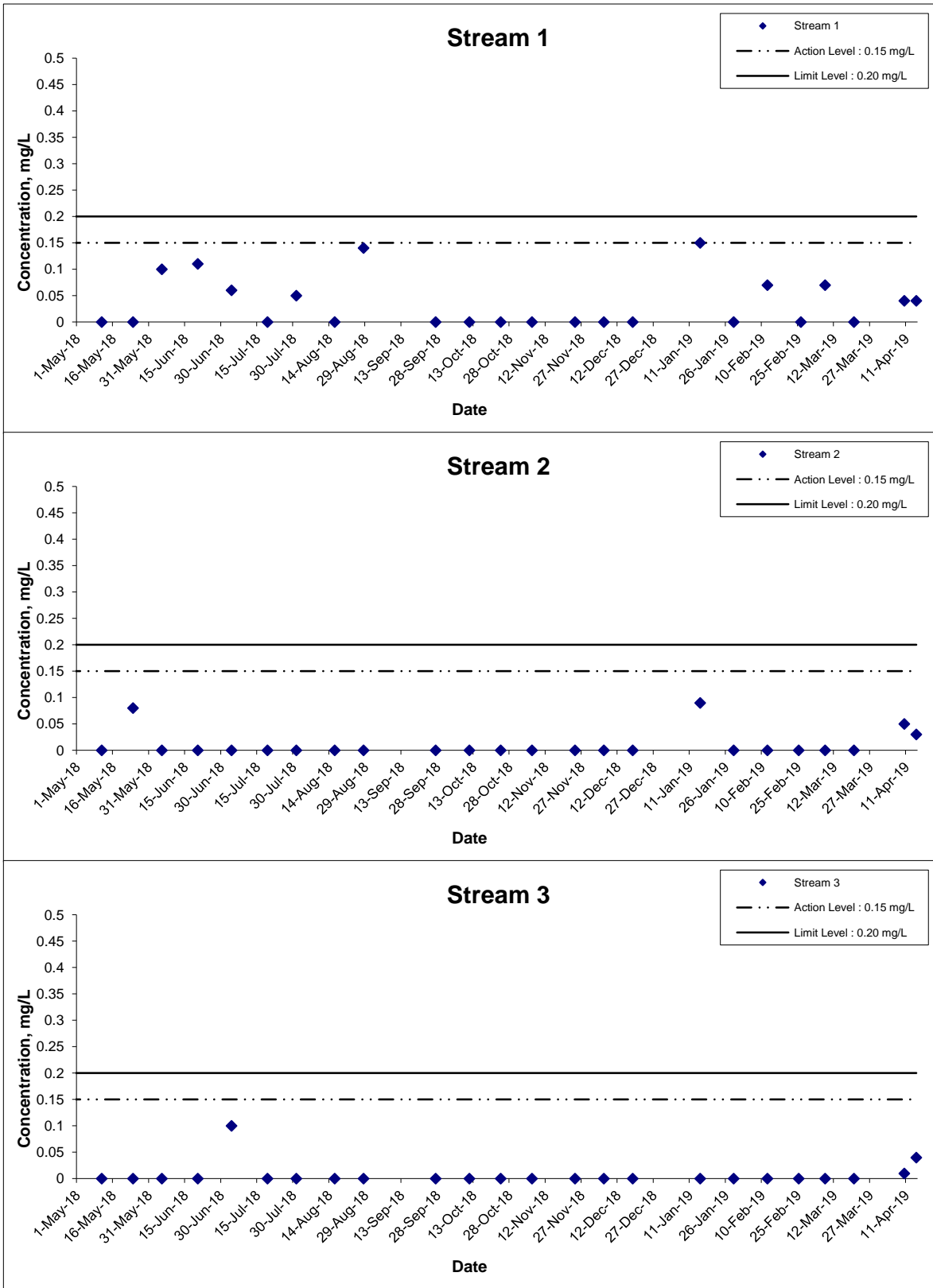
## Total Nitrogen



Remarks: The graphical point at zero concentration is presented as <0.6 mg/L

Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
	Date Apr 19	Appendix E	

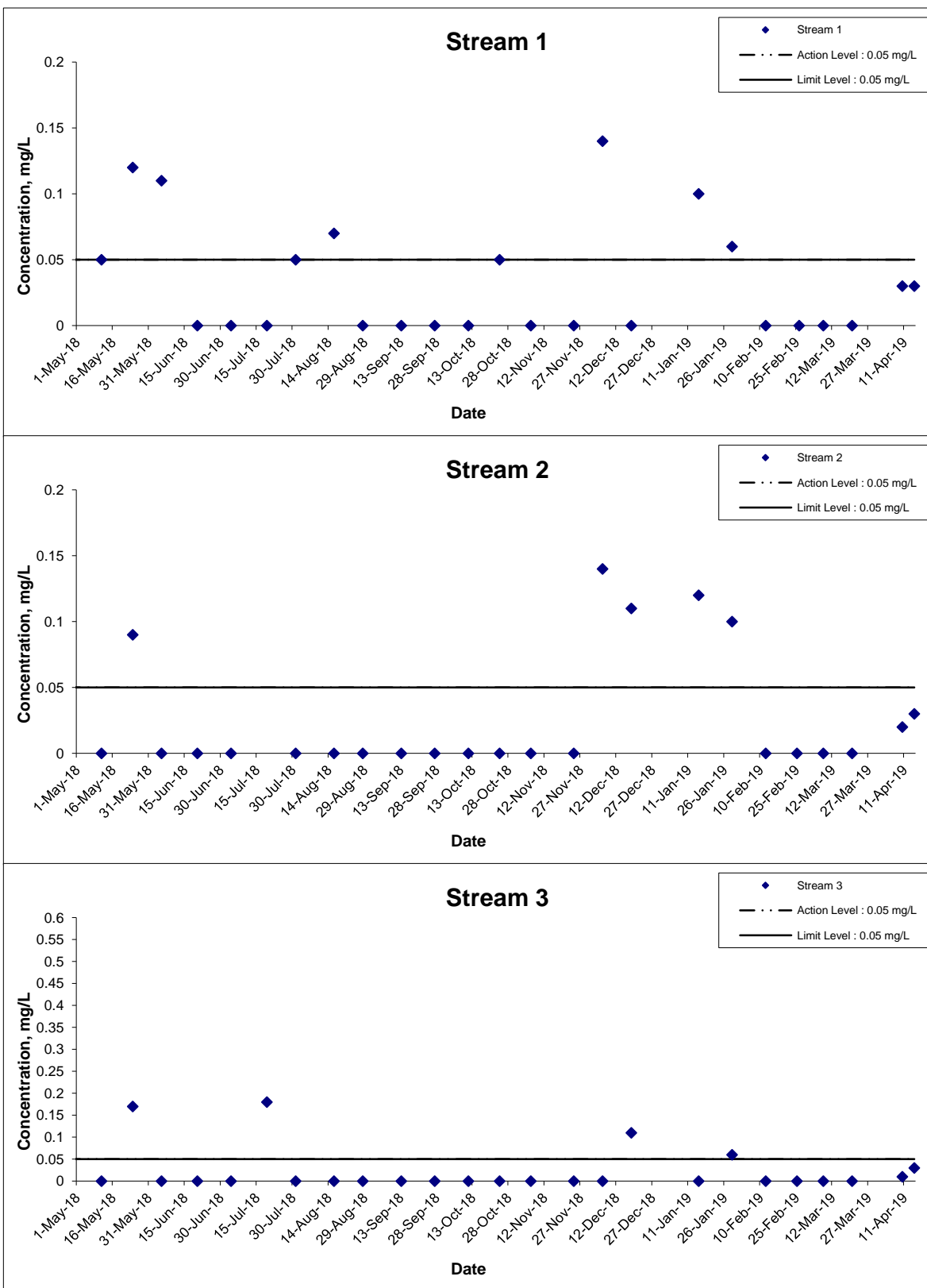
# Ammonia-Nitrogen



Remarks: The graphical point at zero concentration is presented as <0.05 mg/L

Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Groundwater Quality Monitoring Result	Scale N.T.S	Project No. MA16034	
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## Total Phosphate



Remarks: The graphical point at zero concentration is presented as <0.05 mg/L

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	Date Apr 19	Appendix E	

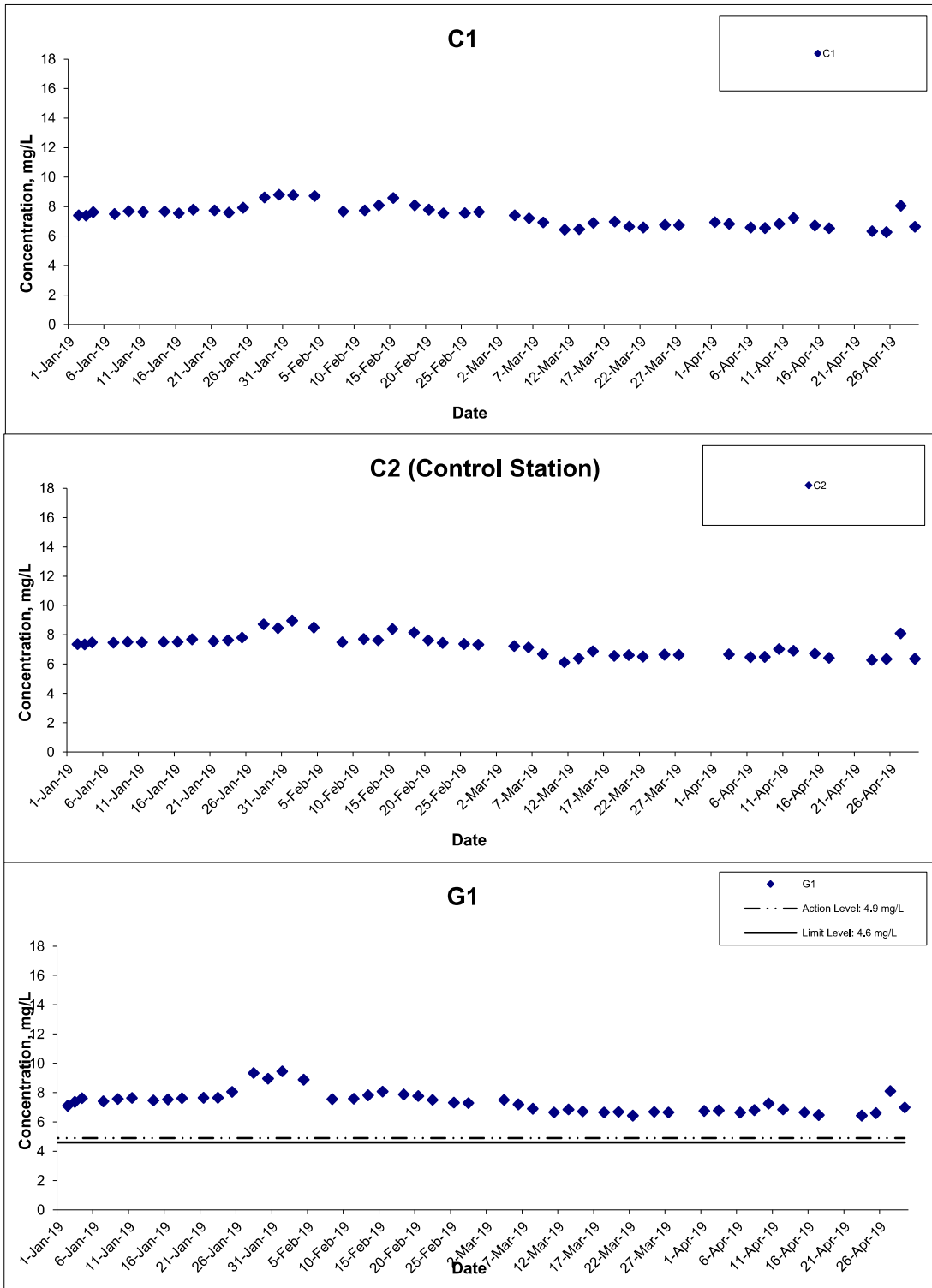


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**APPENDIX F  
GRAPHICAL PRESENTATION OF  
MARINE WATER QUALITY  
MONITORING RESULTS**

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## Dissolved Oxygen (Depth-averaged) 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

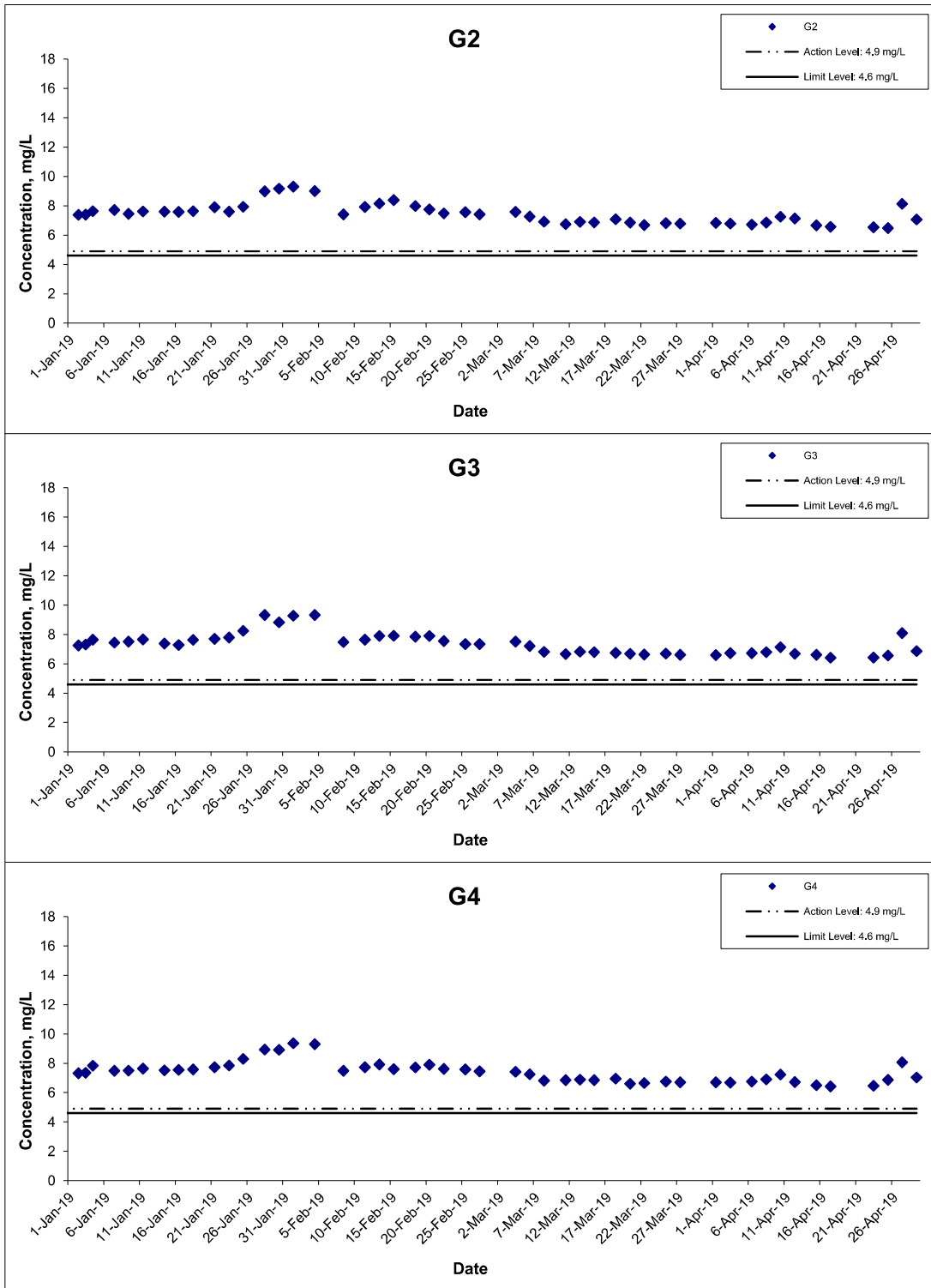
Date Apr 19

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## Dissolved Oxygen (Depth-averaged) 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

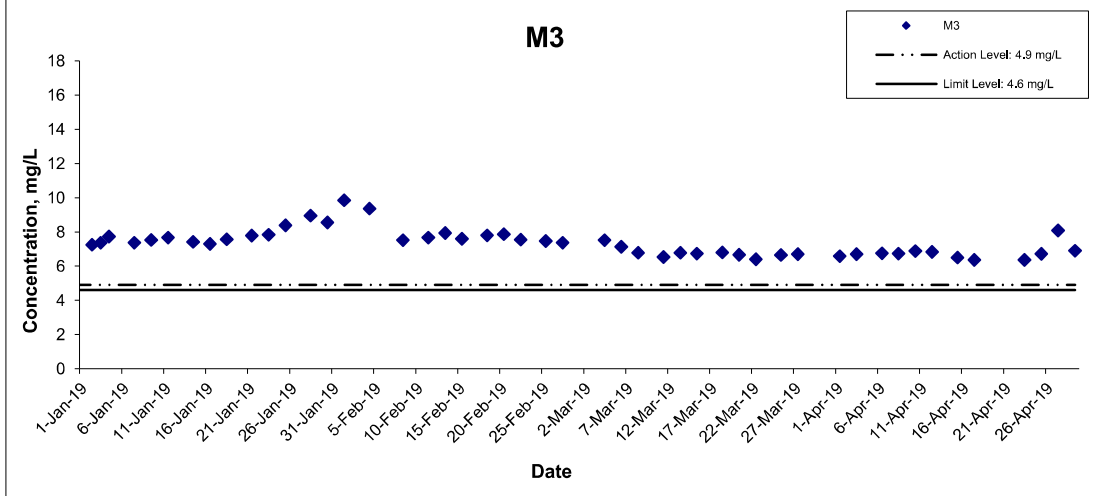
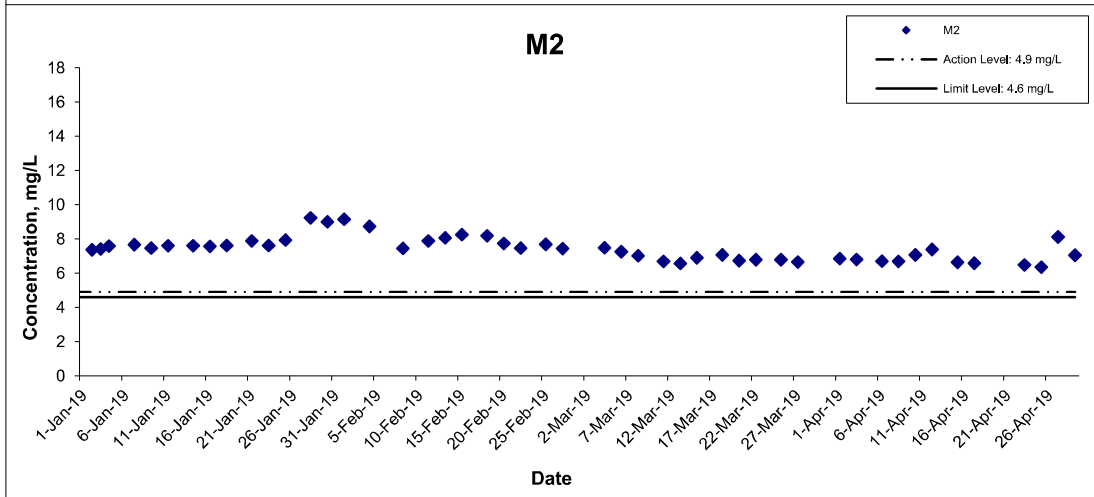
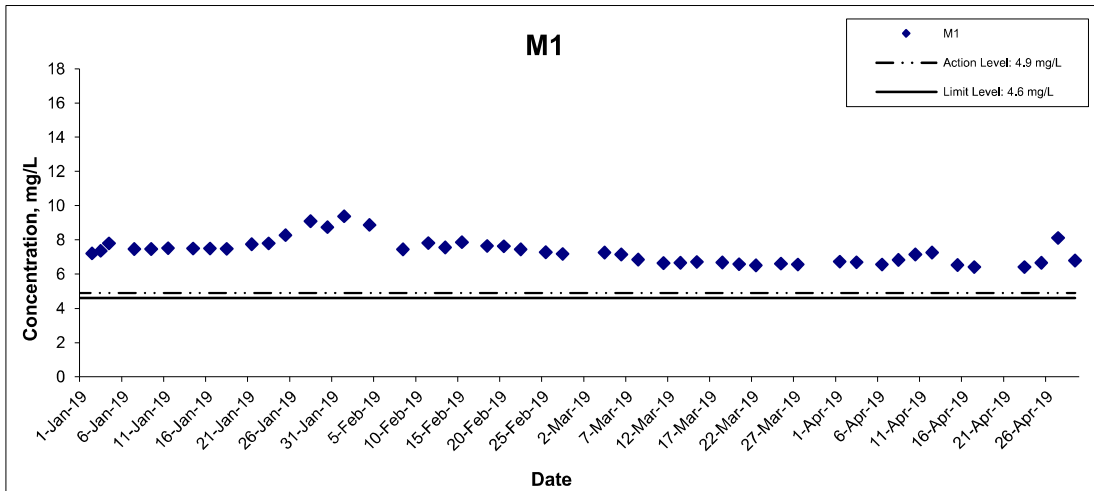
Date Apr 19

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## Dissolved Oxygen (Depth-averaged) 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

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Date Apr 19

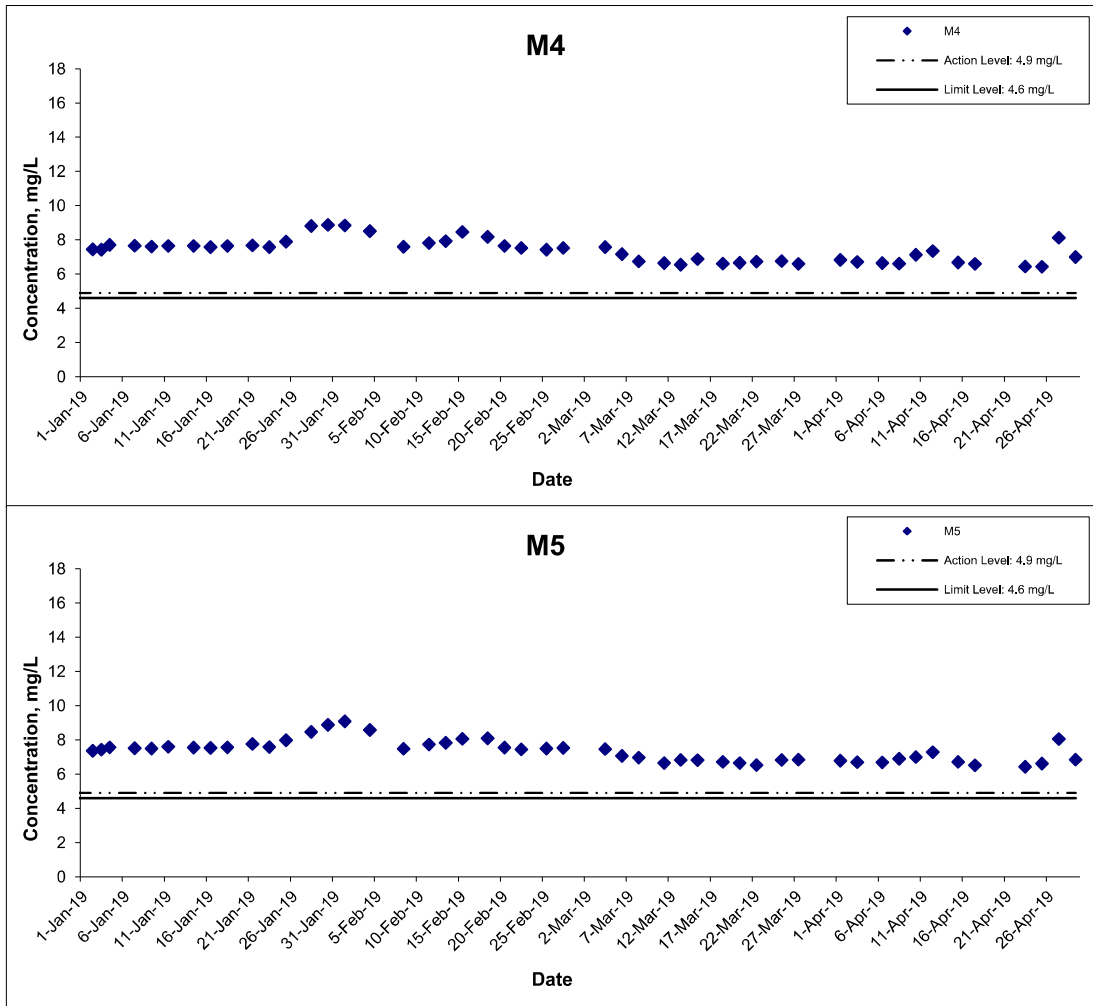
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## Dissolved Oxygen (Depth-averaged) at Mid-Ebb Tide



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

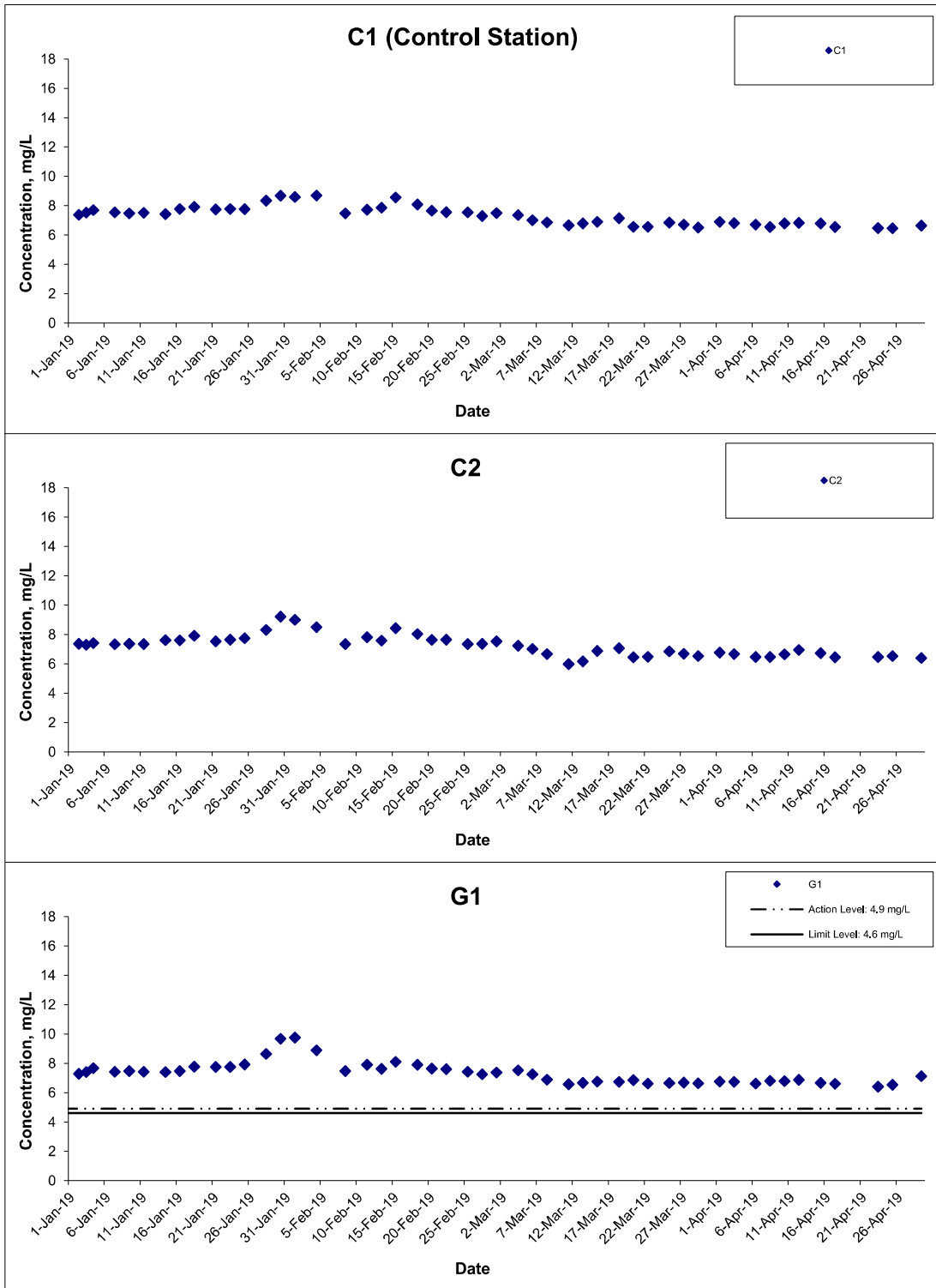
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## Dissolved Oxygen (Depth-averaged) at Mid-Flood Tide



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

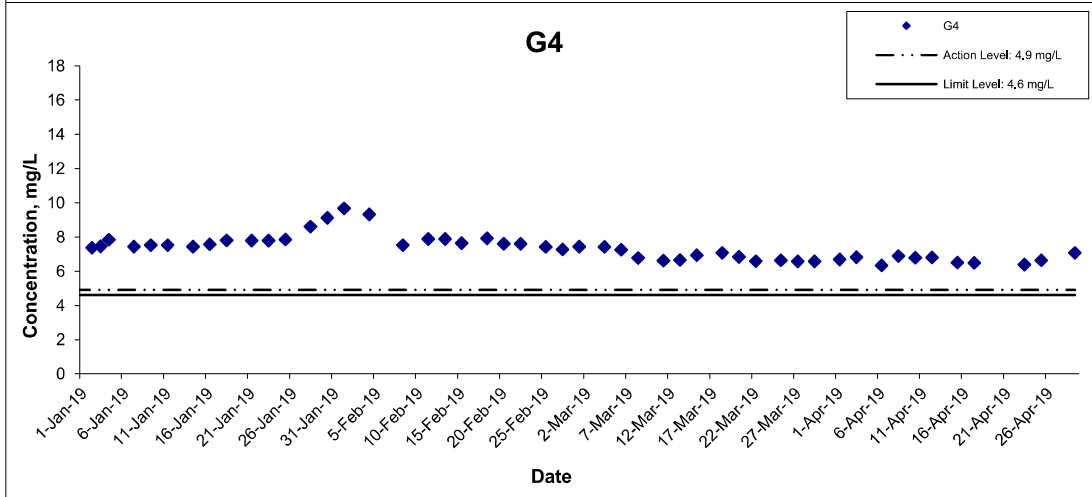
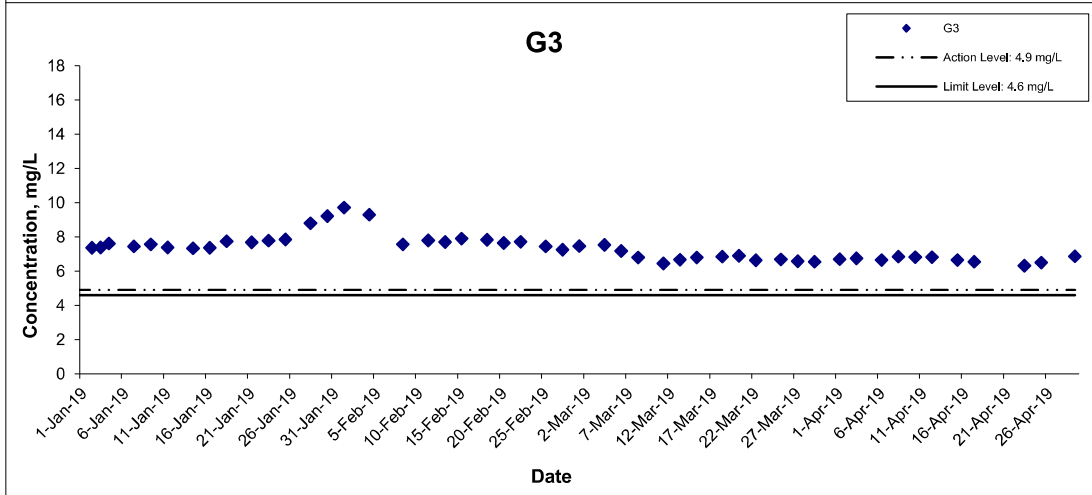
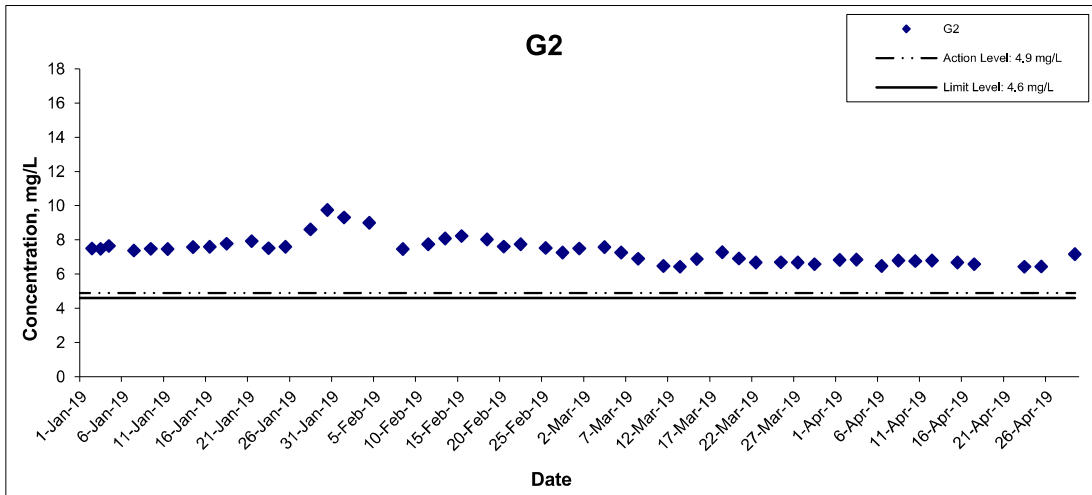
Date Apr 19

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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

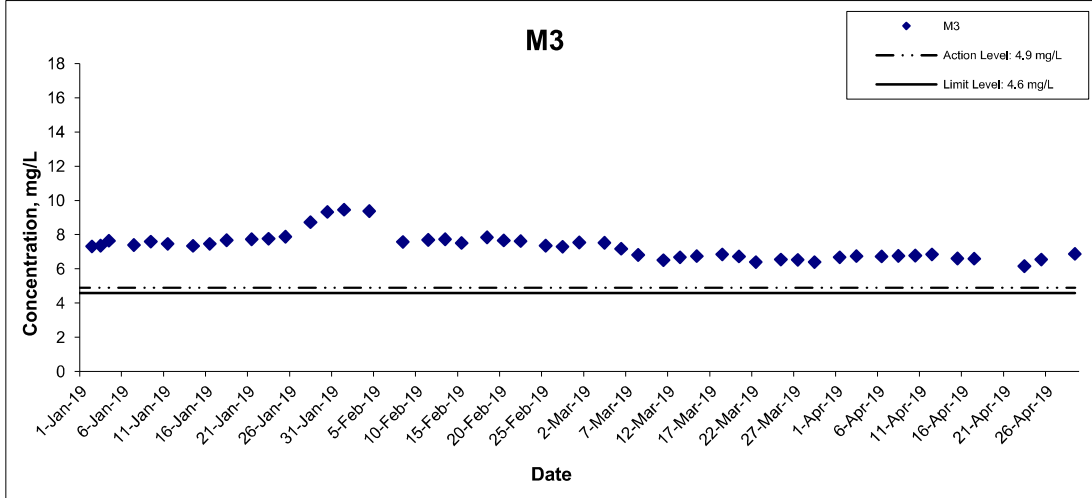
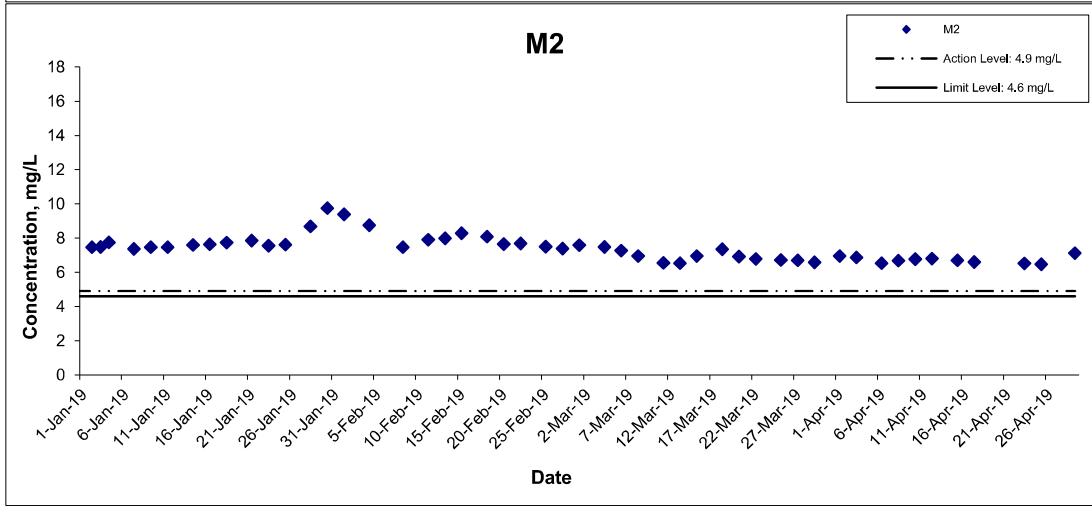
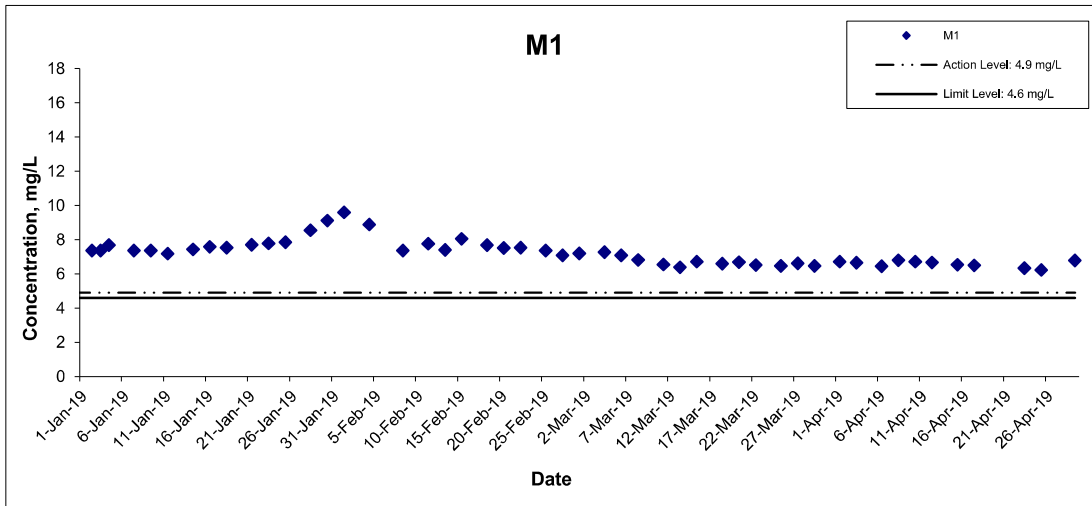
Date Apr 19

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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

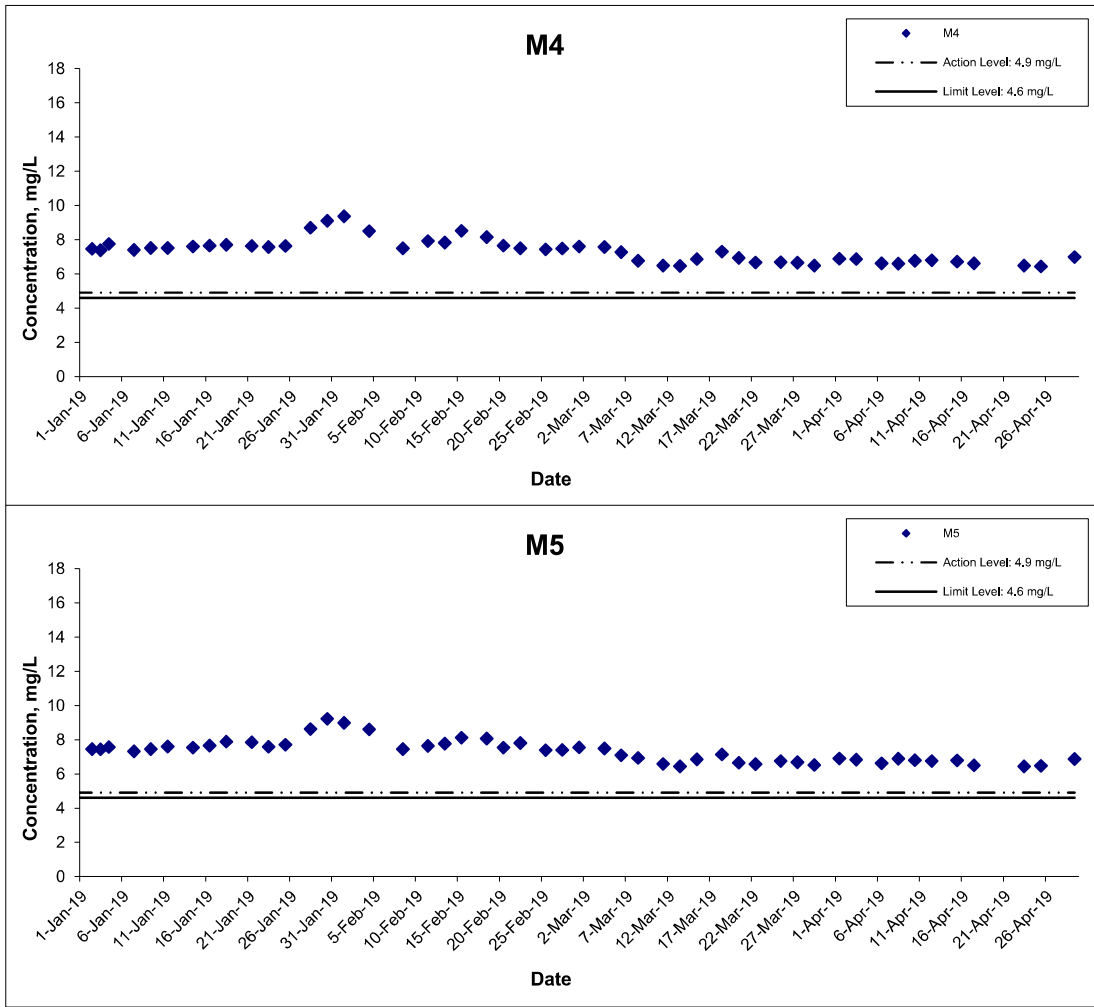
**Scale**  
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**Date**  
 Apr 19

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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

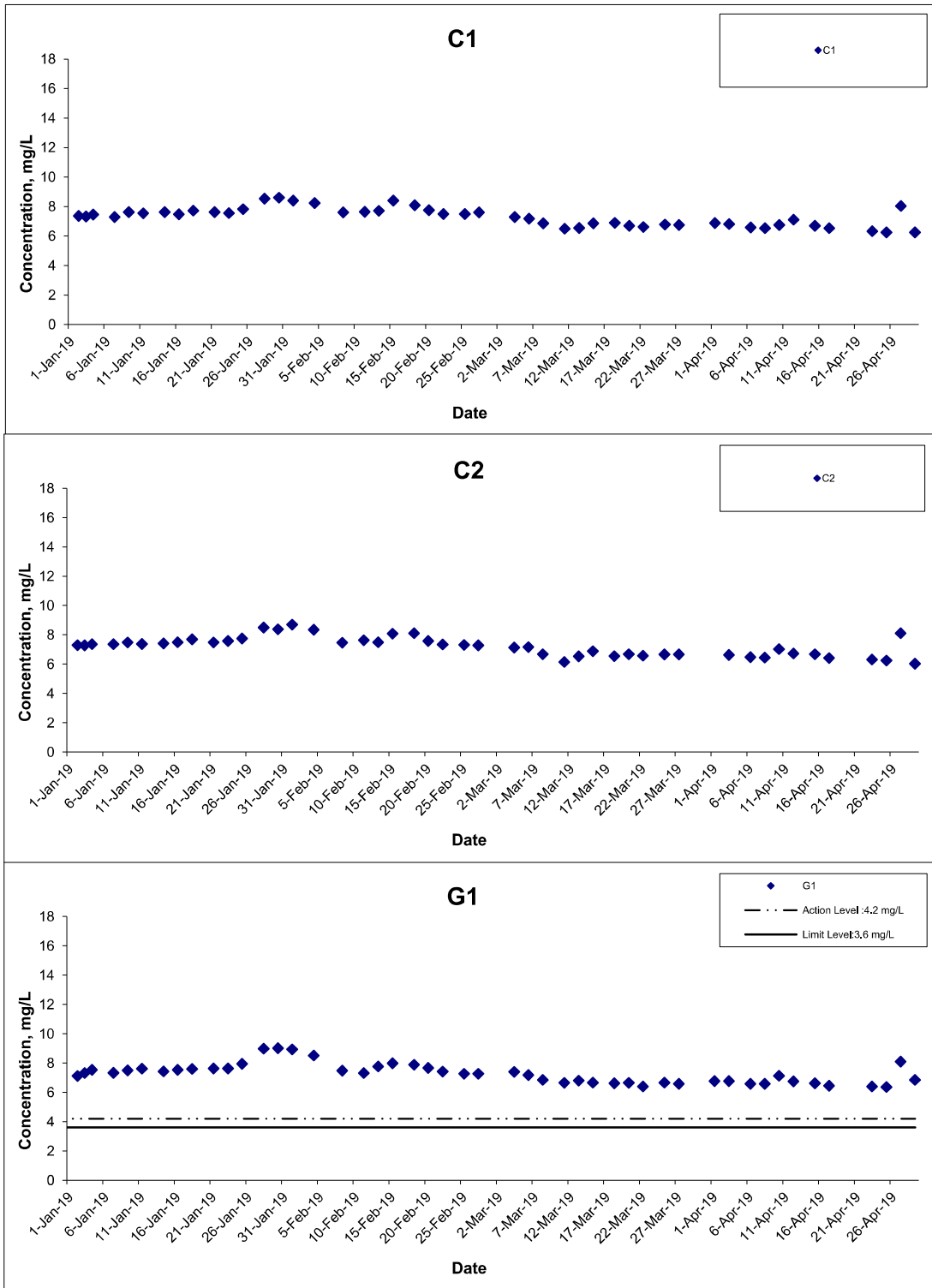
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### Dissolved Oxygen (Bottom) at Mid-Ebb Tide



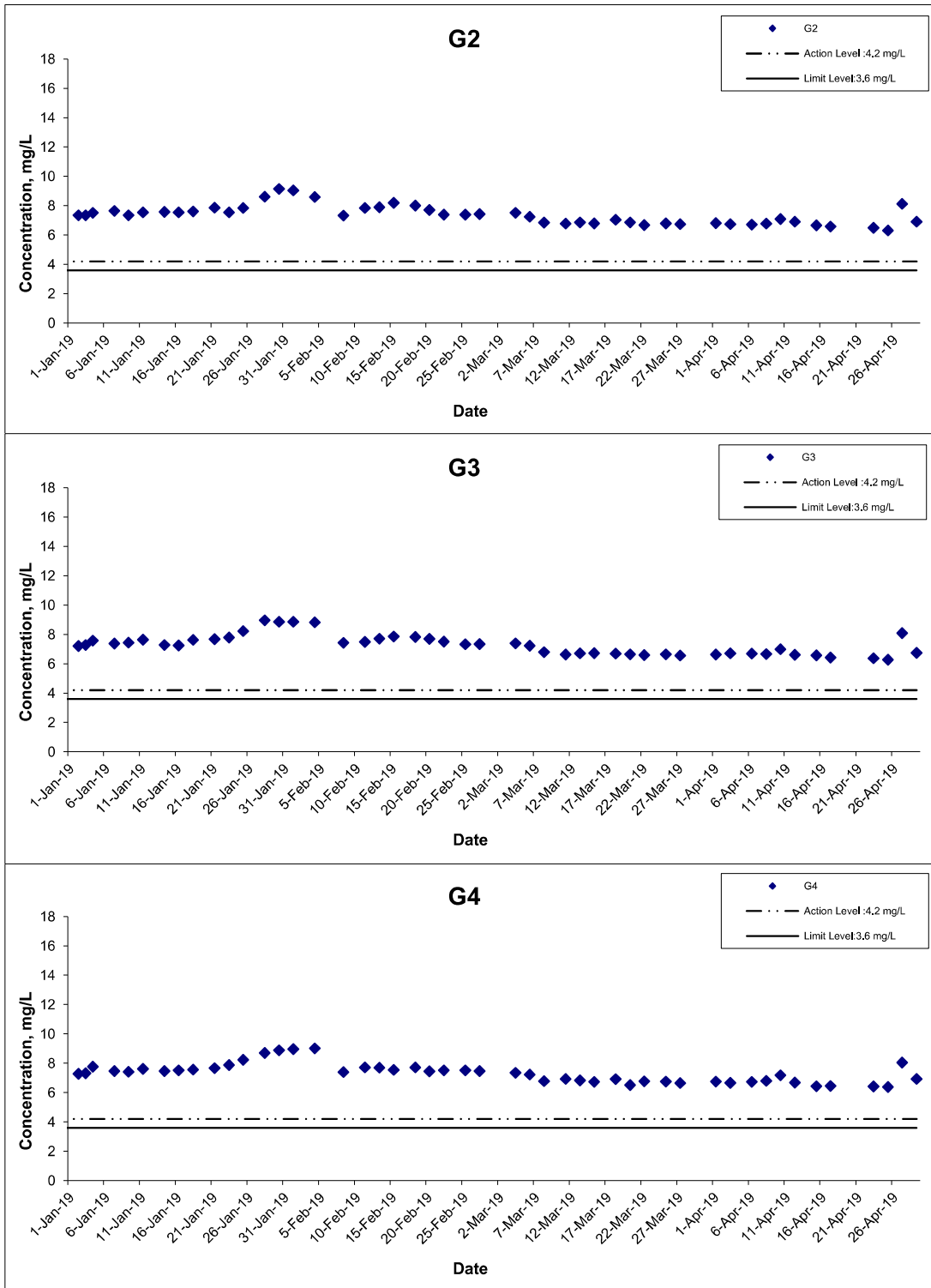
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 Graphical Presentation of Water Quality Monitoring Results

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 Date Apr 19

Project No. MA16034  
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## Dissolved Oxygen (Bottom) at Mid-Ebb Tide



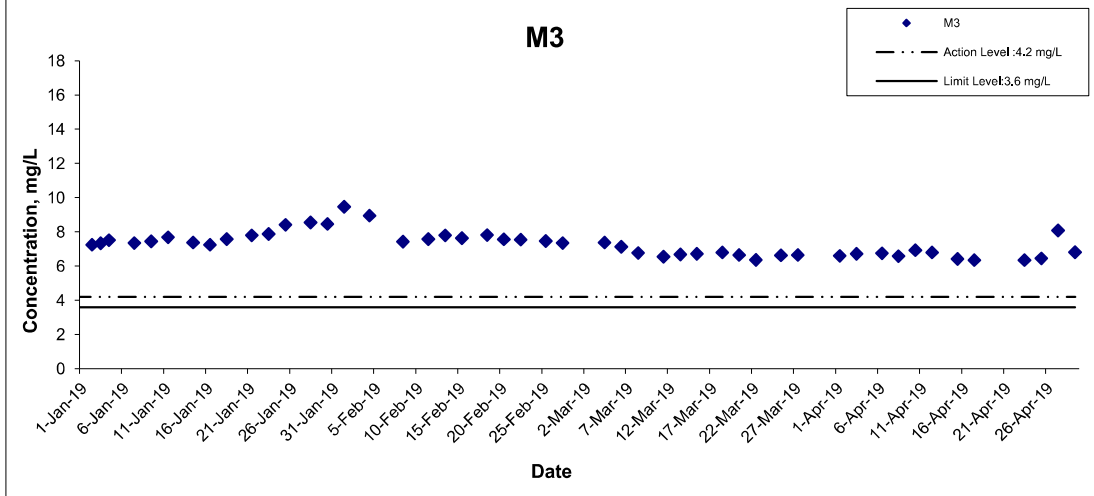
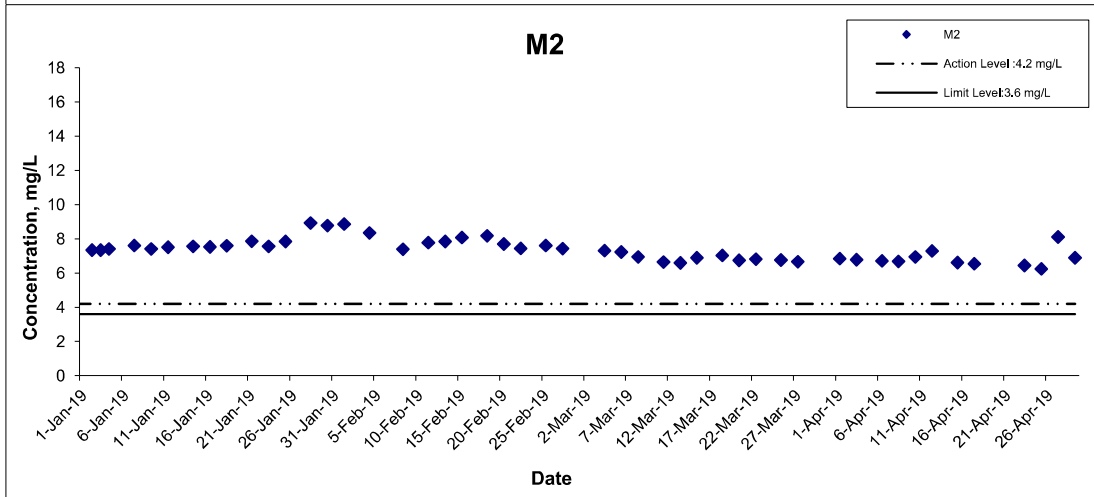
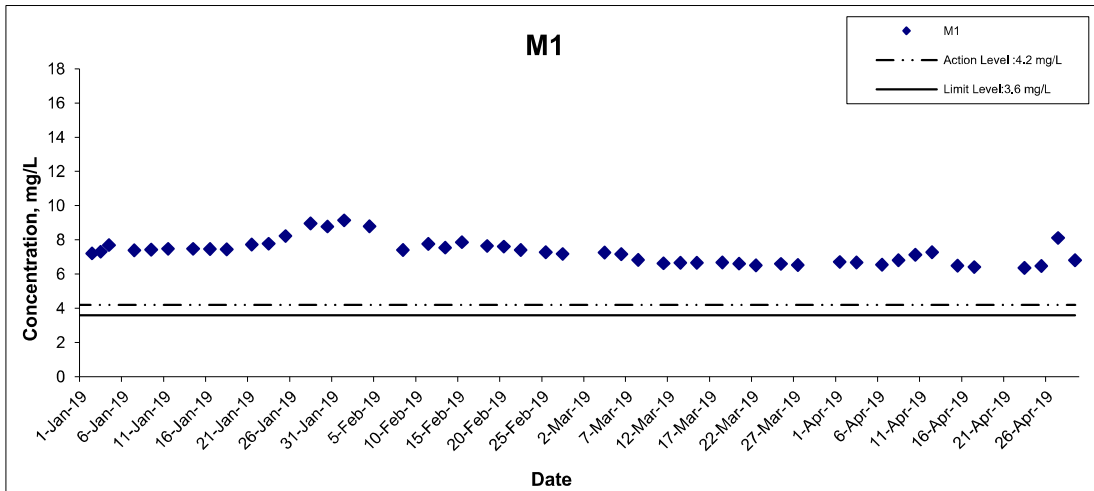
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Graphical Presentation of Water Quality Monitoring Results

Scale N.T.S  
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## Dissolved Oxygen (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

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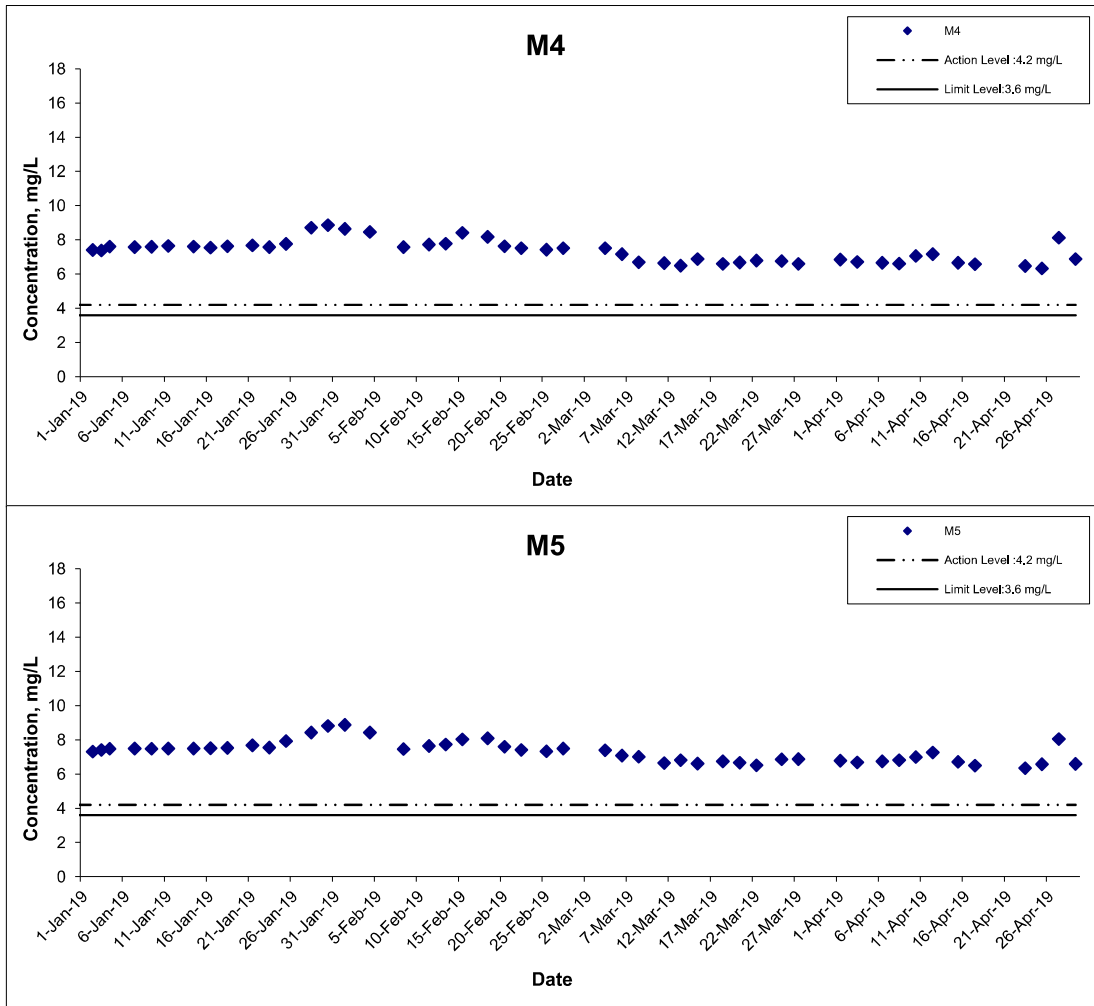
Project No. MA16034

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### Dissolved Oxygen (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

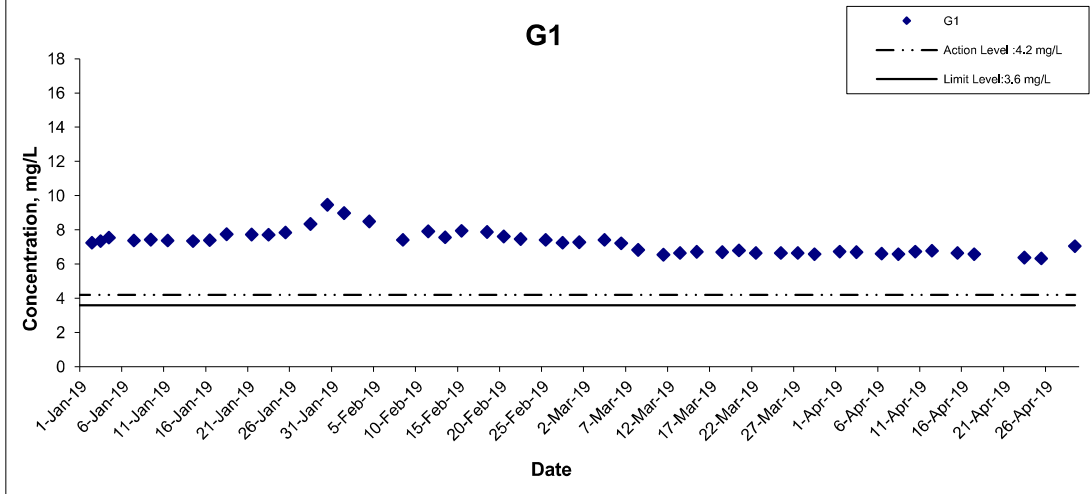
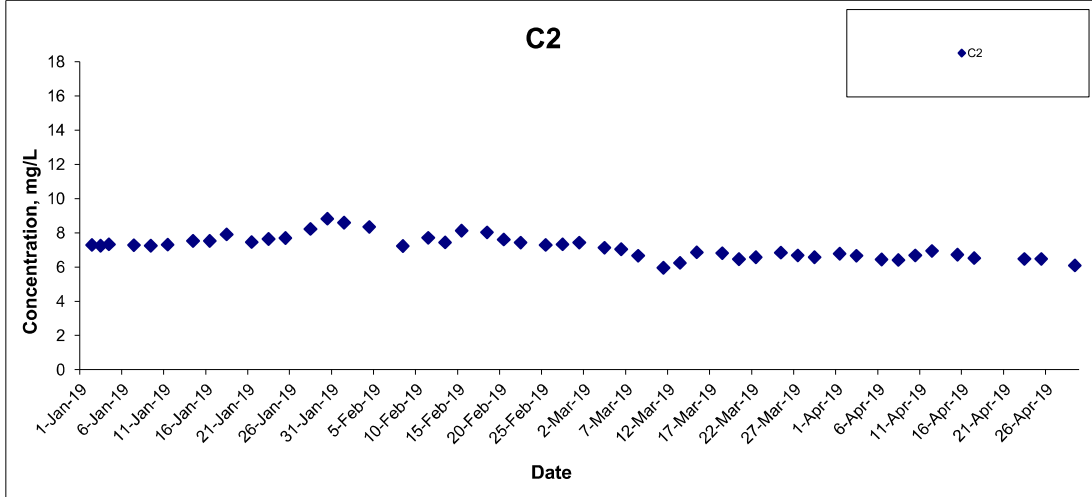
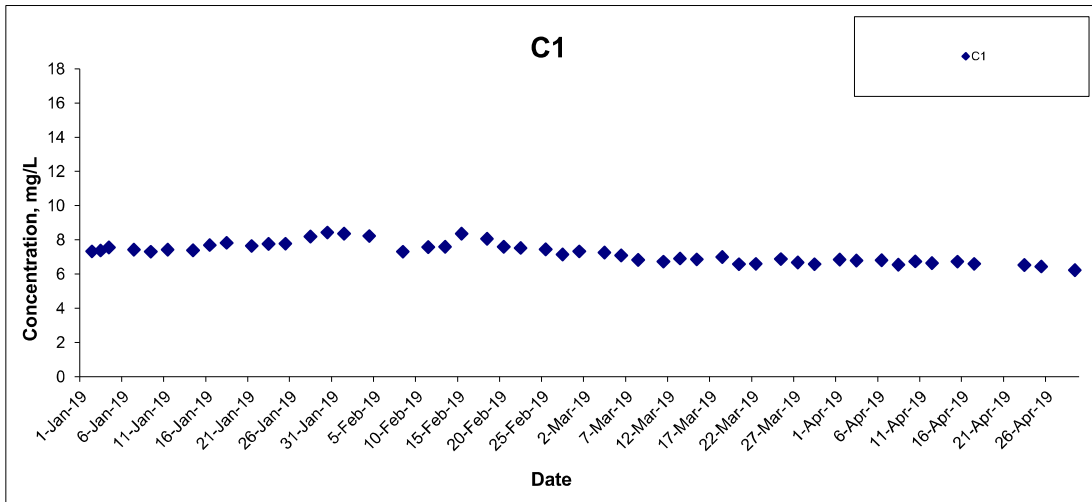
Date Apr 19

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### Dissolved Oxygen (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

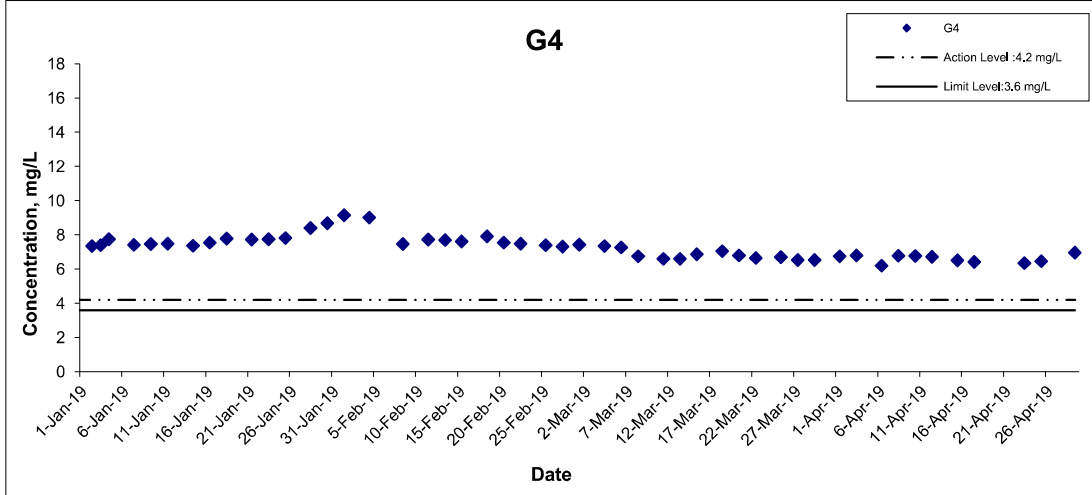
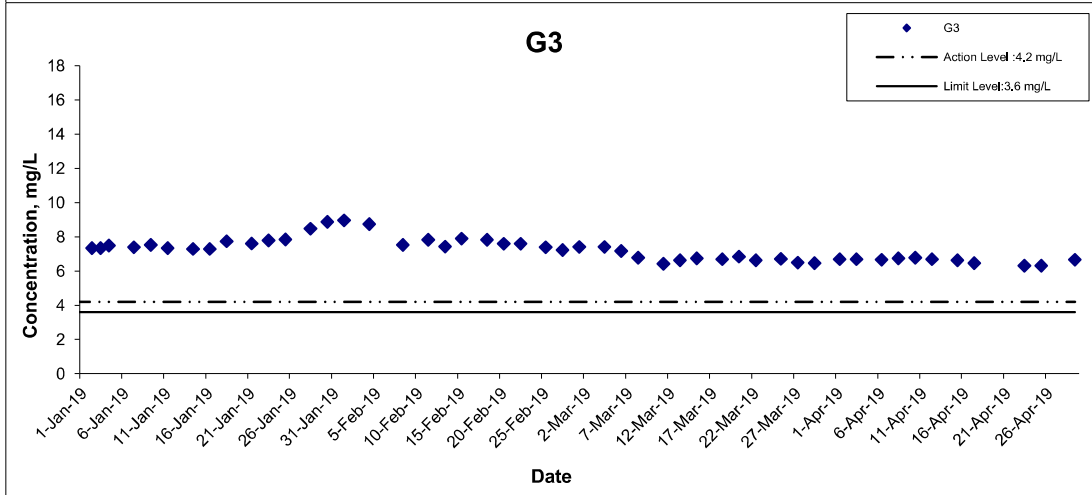
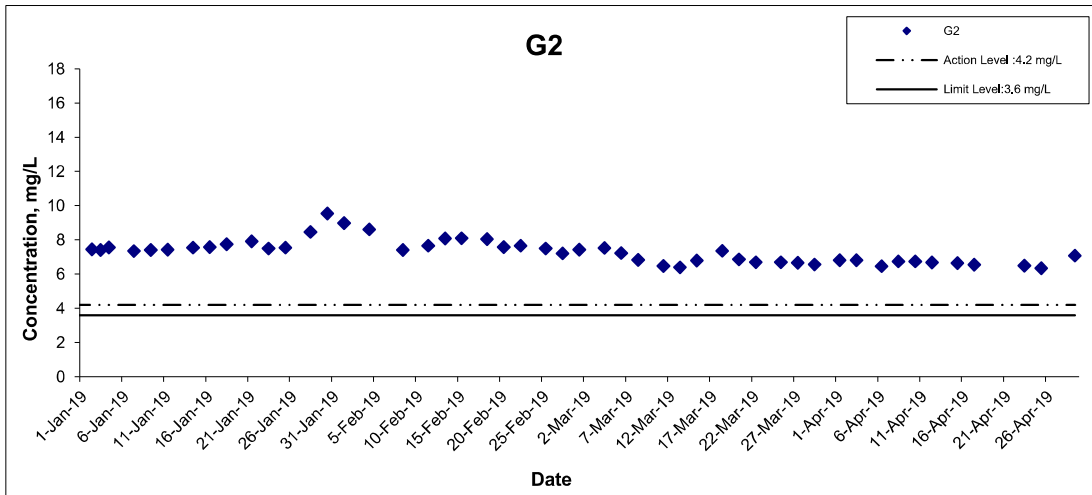
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## Dissolved Oxygen (Bottom) at Mid-Flood Tide



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

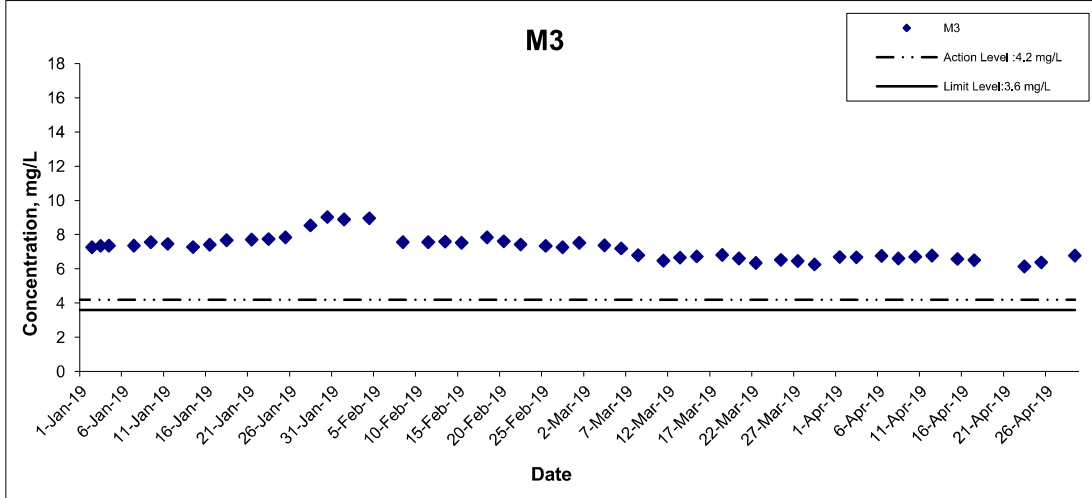
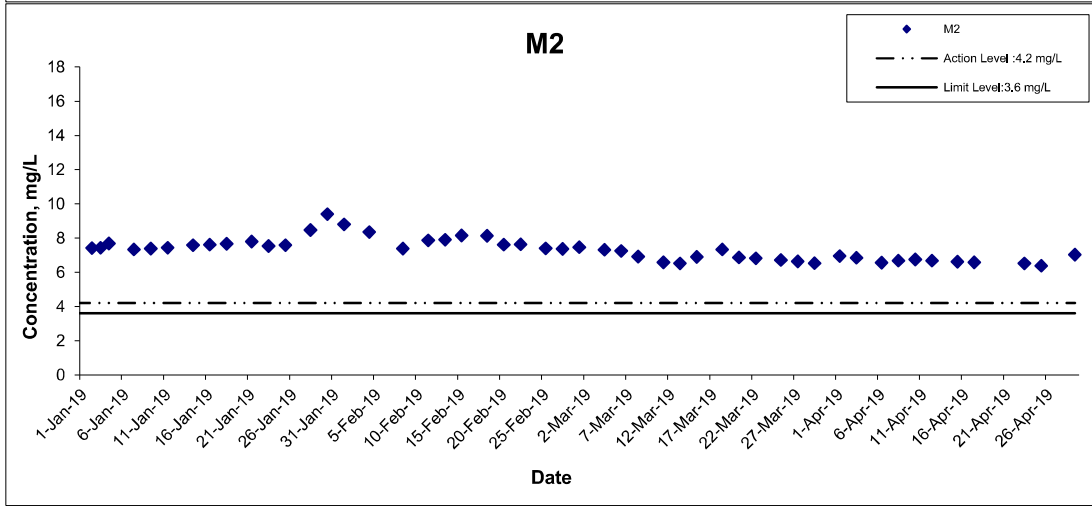
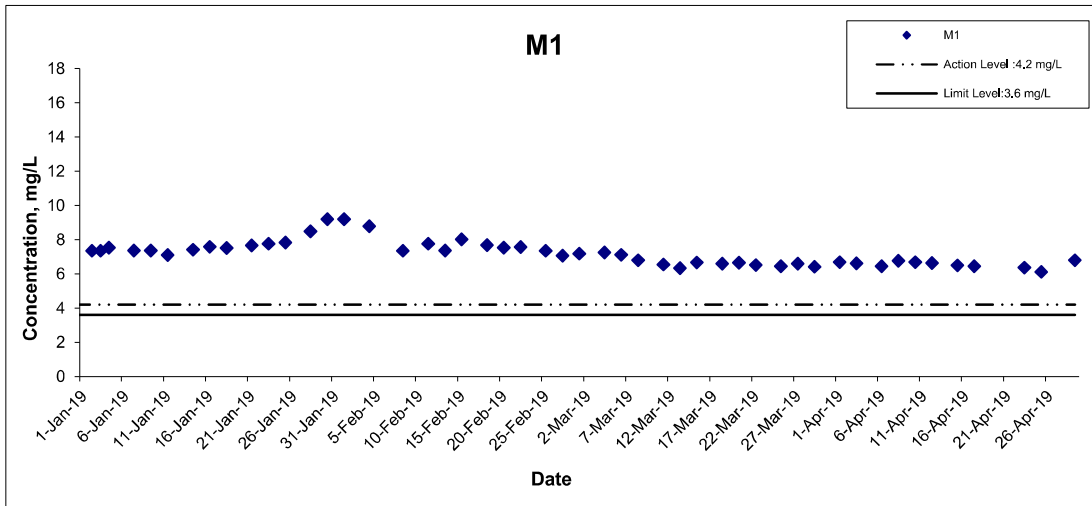
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## Dissolved Oxygen (Bottom) at Mid-Flood Tide



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 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

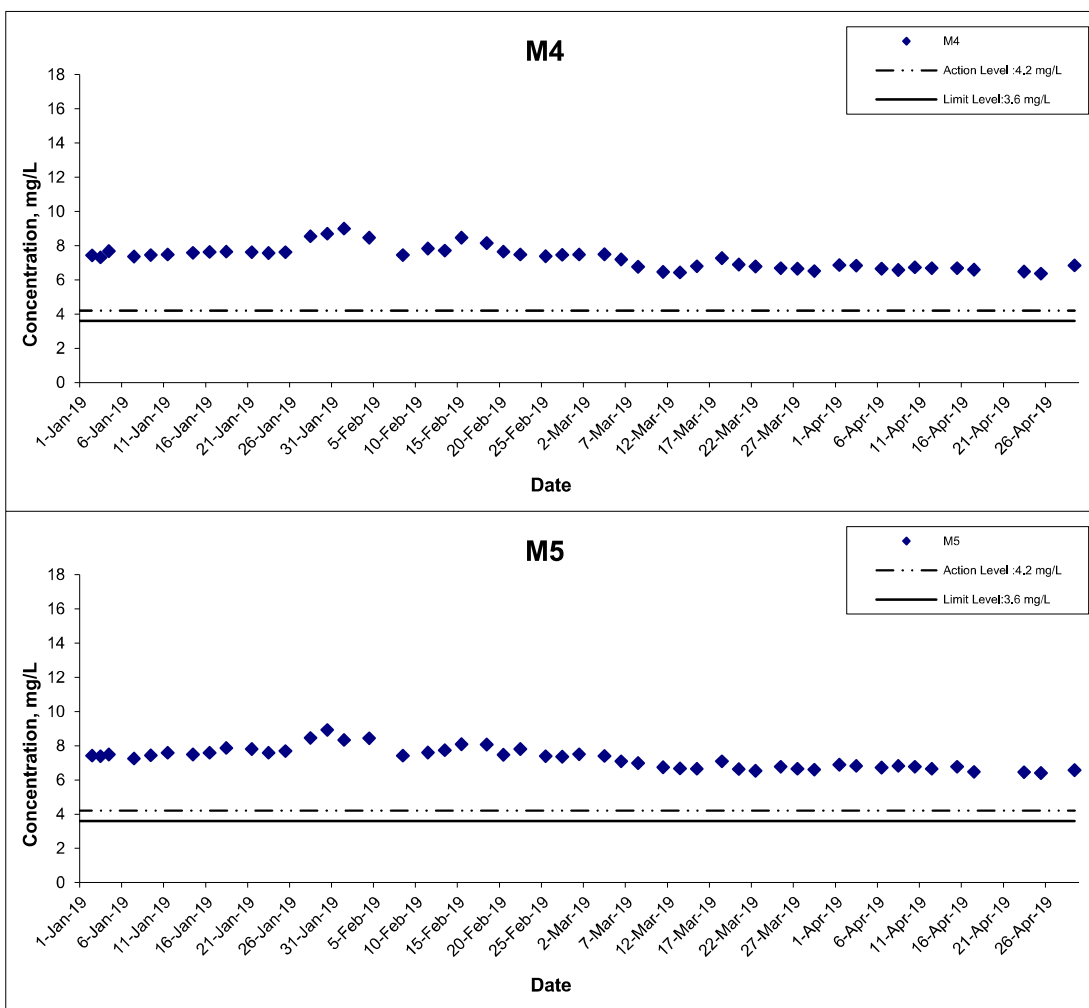
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**Date**  
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### Dissolved Oxygen (Bottom) at Mid-Flood Tide



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

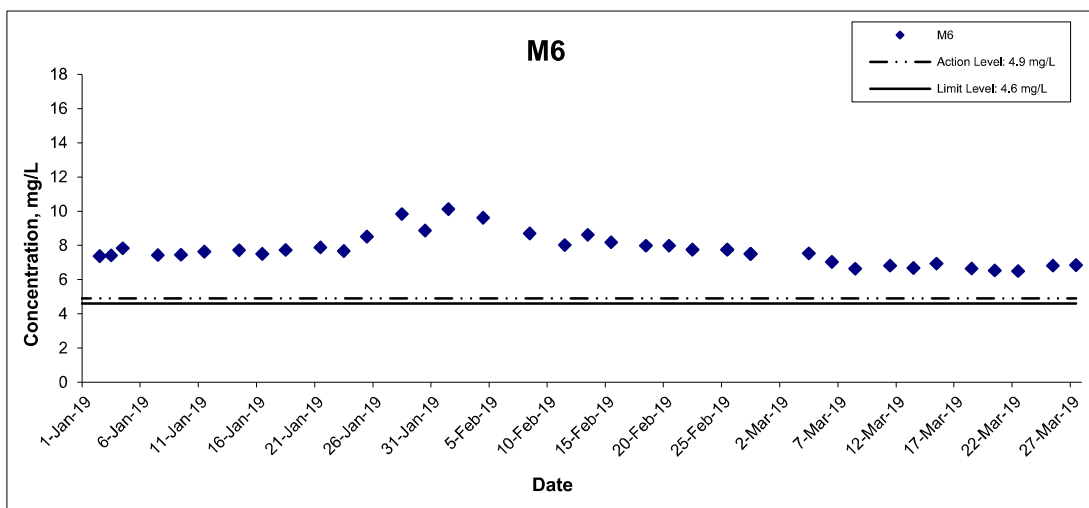
Date Apr 19

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



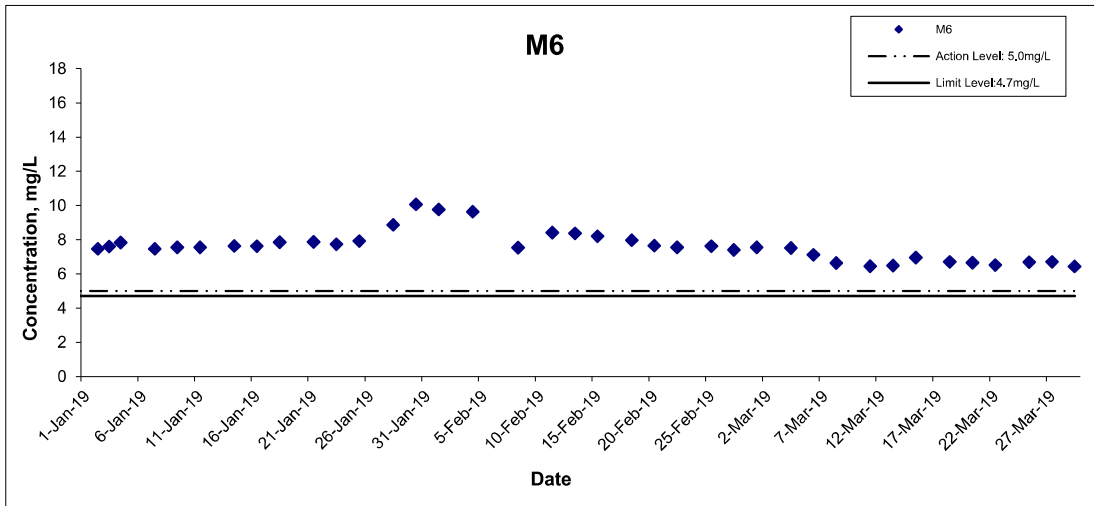
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 Graphical Presentation of Water Quality Monitoring Results

Scale N.T.S  
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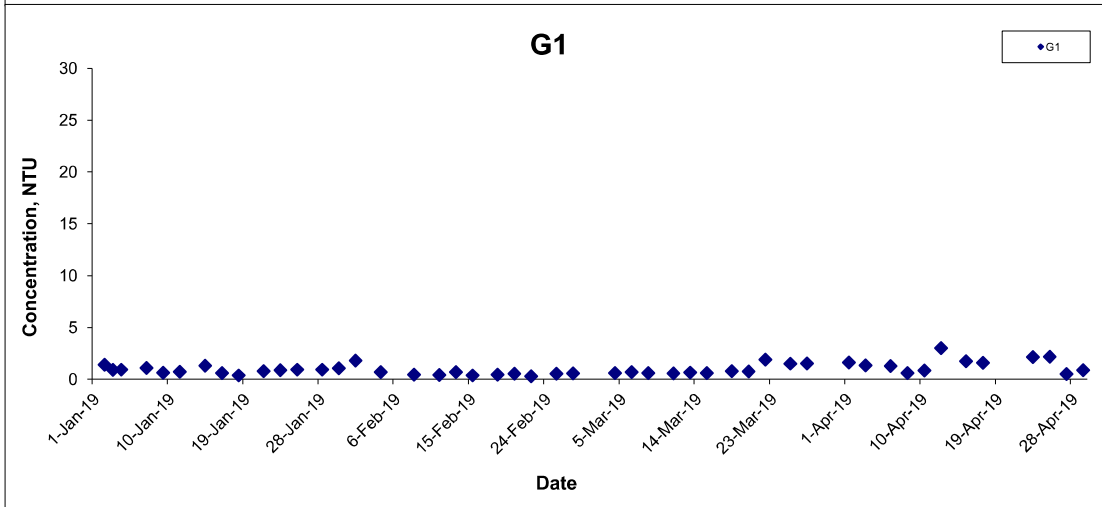
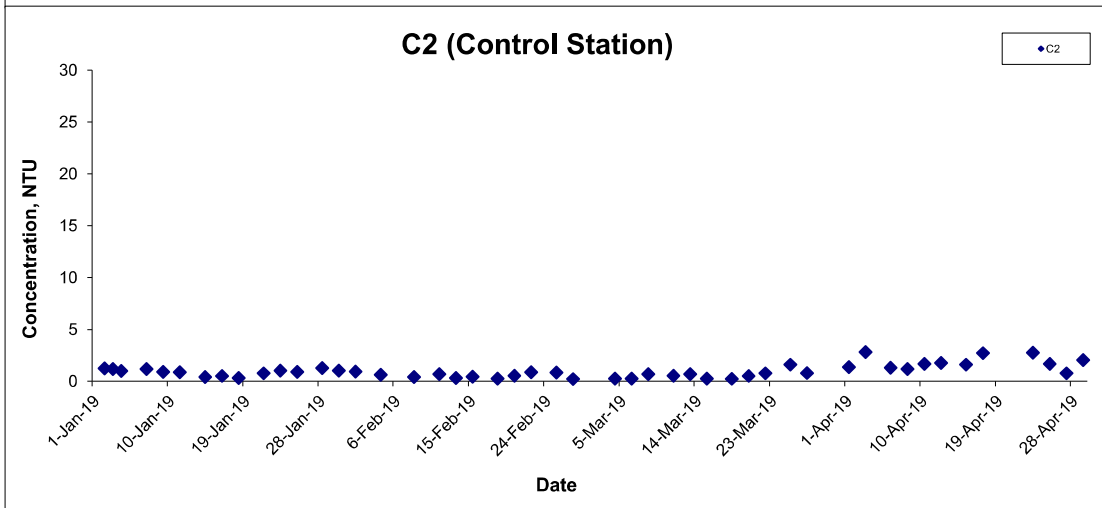
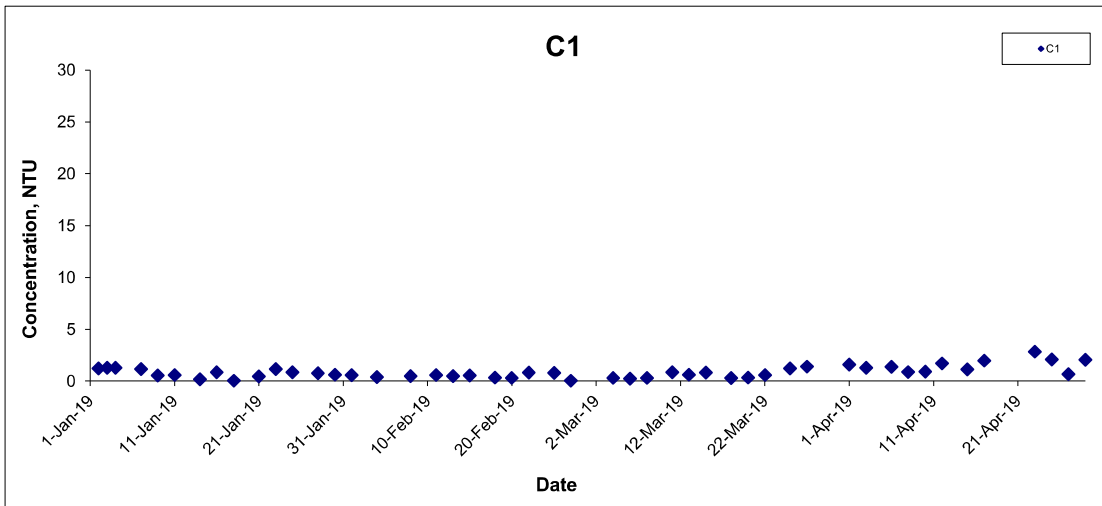


### Dissolved Oxygen (Intake Level of WSD Salt Water Intake) at Mid-Flood Tide



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	Project No. MA16034	<b>CINOTECH</b>
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### Turbidity (Depth-averaged) 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

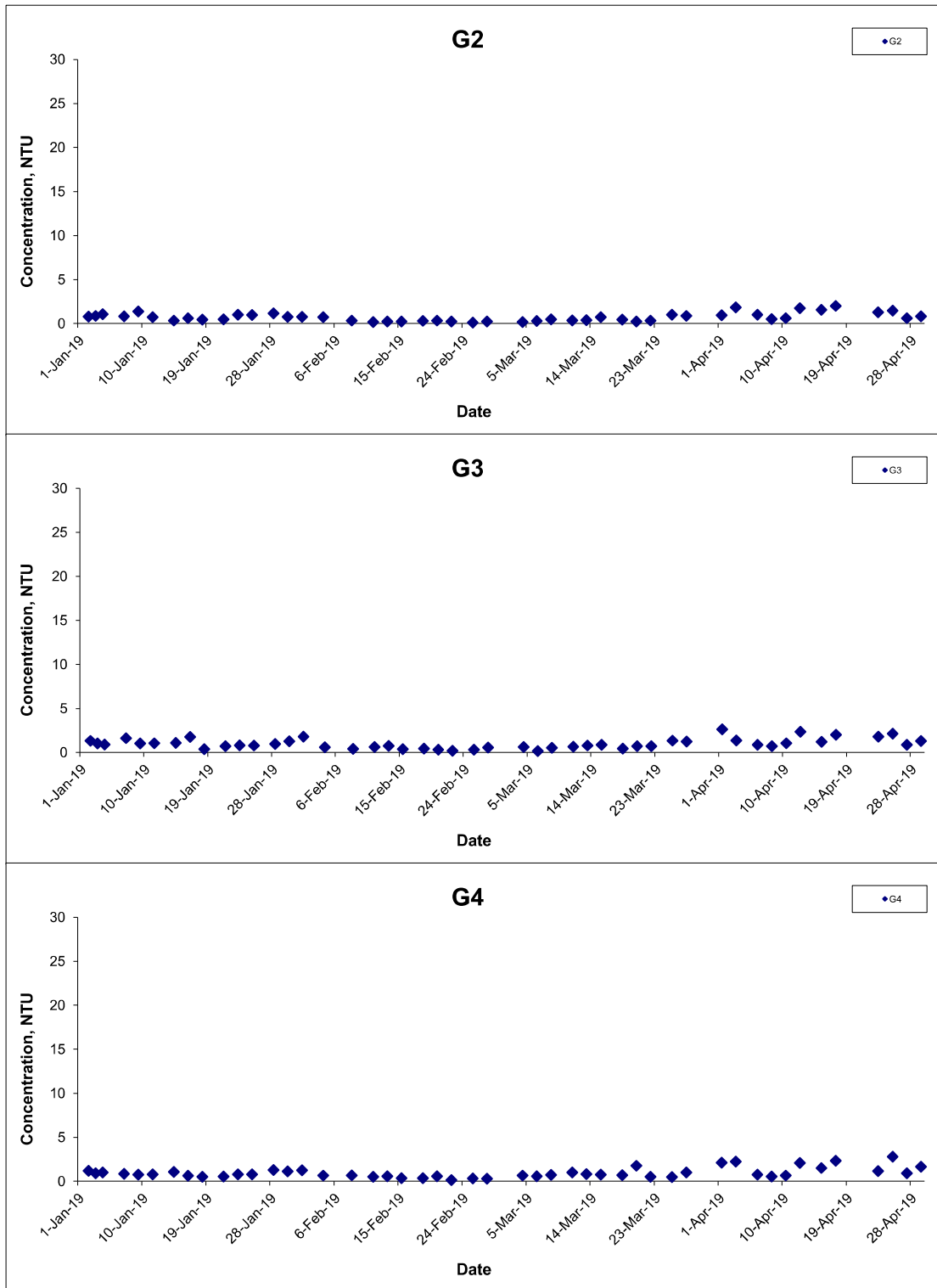
Scale N.T.S  
Date Apr 19

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### Turbidity (Depth-averaged) at Mid-Ebb Tide



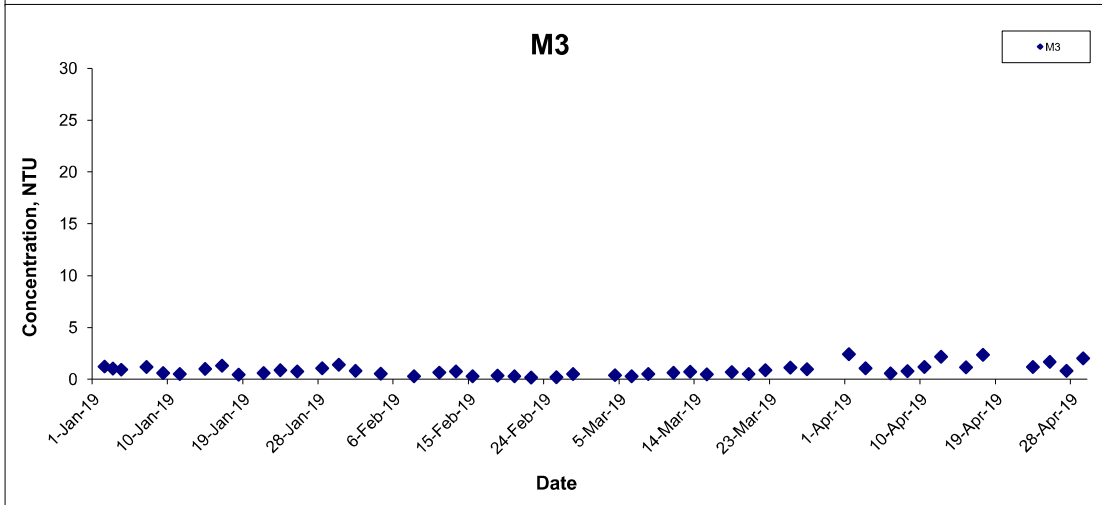
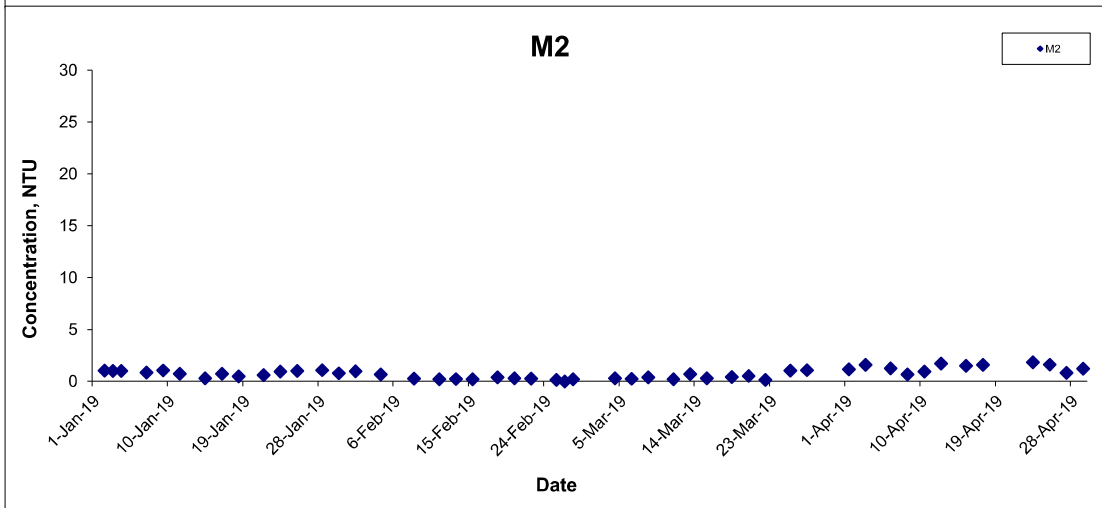
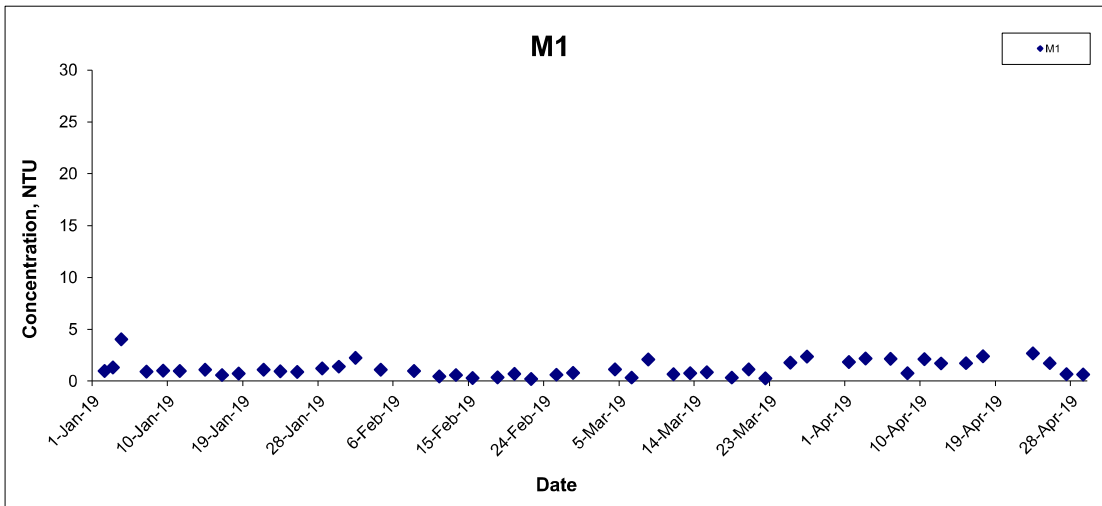
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Graphical Presentation of Water Quality Monitoring Results

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### Turbidity (Depth-averaged) at Mid-Ebb Tide



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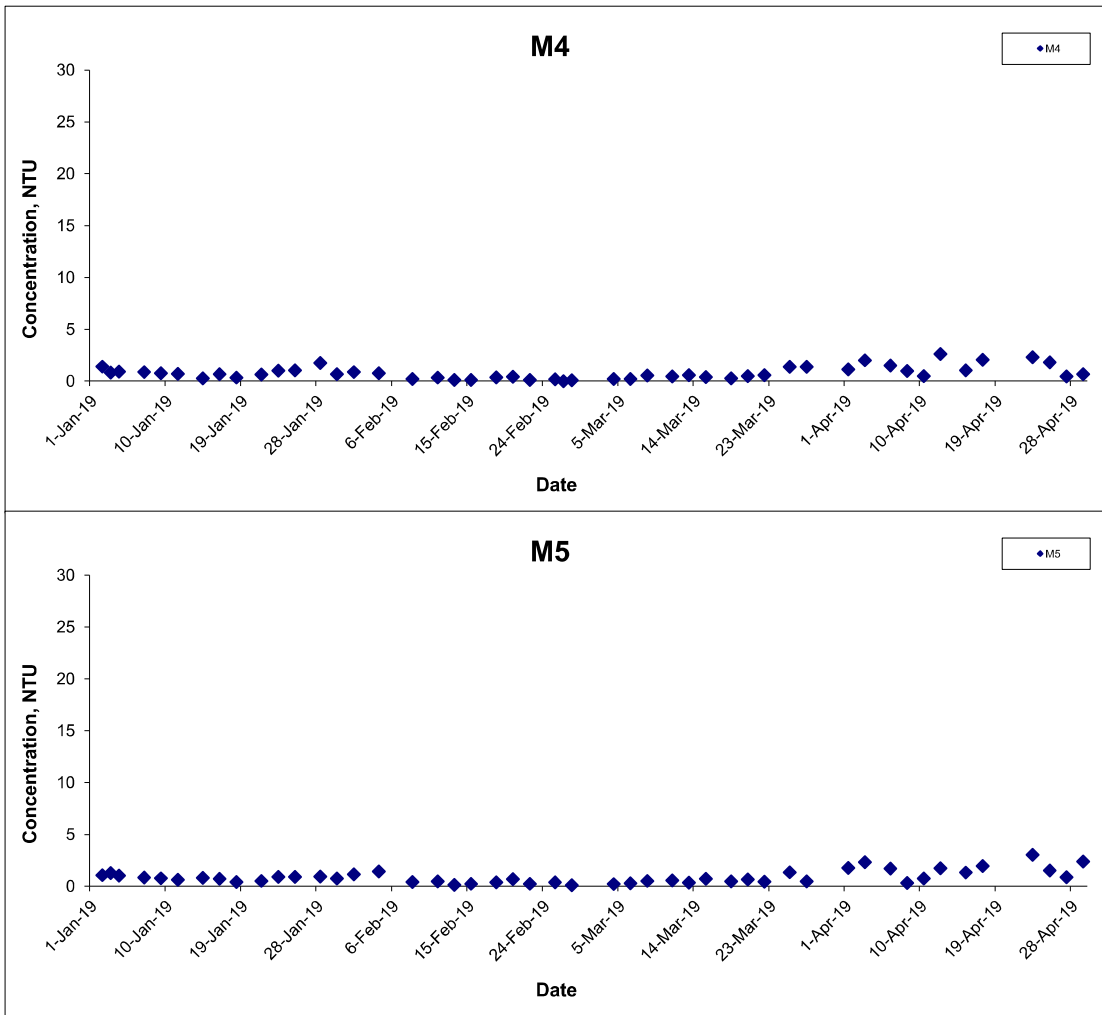
Date Apr 19

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### Turbidity (Depth-averaged) 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

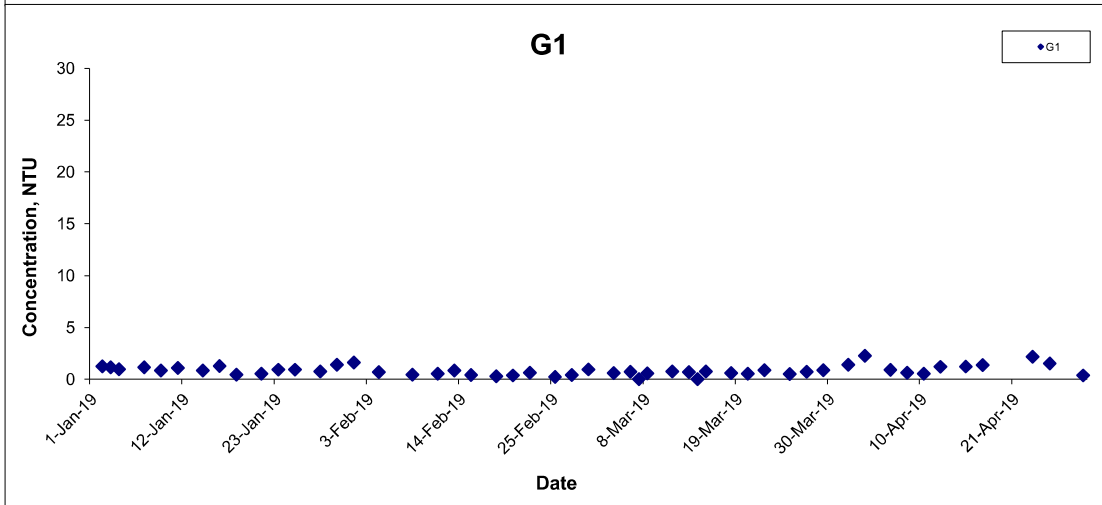
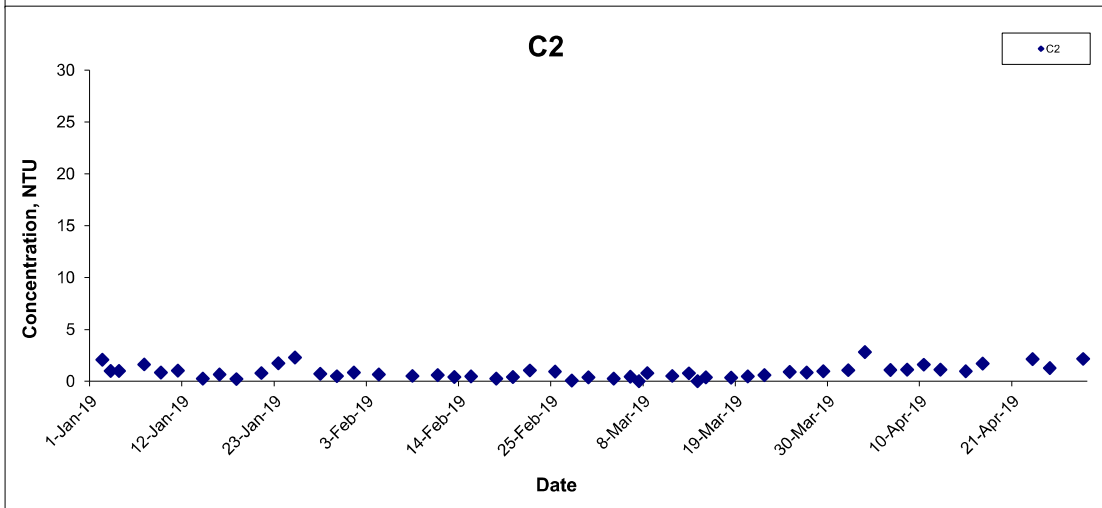
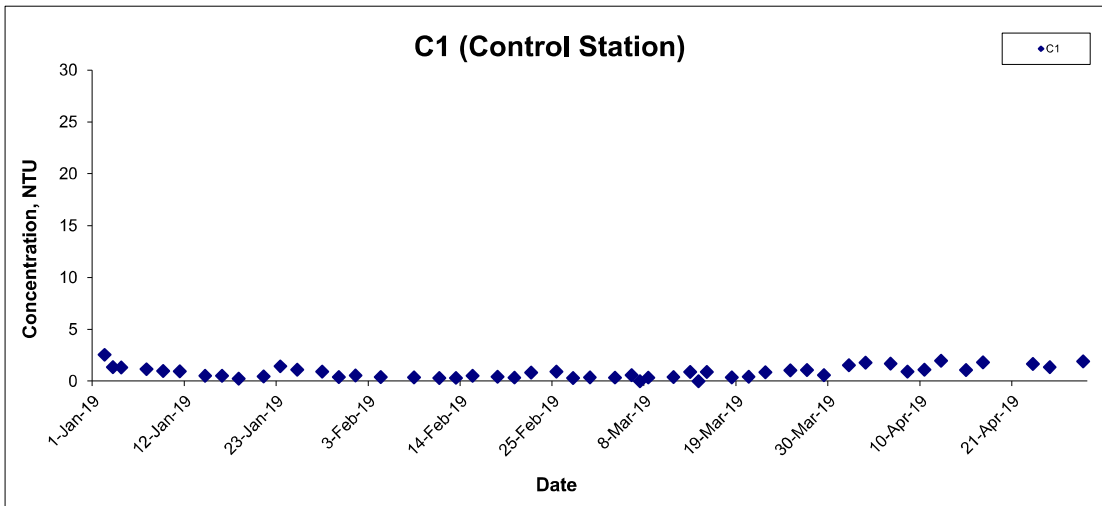
Date Apr 19

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### Turbidity (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

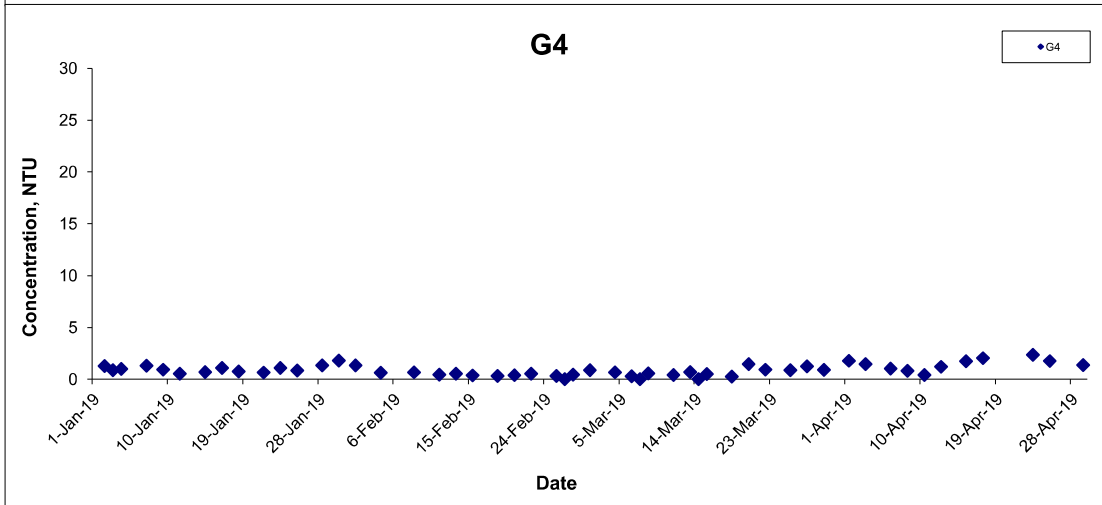
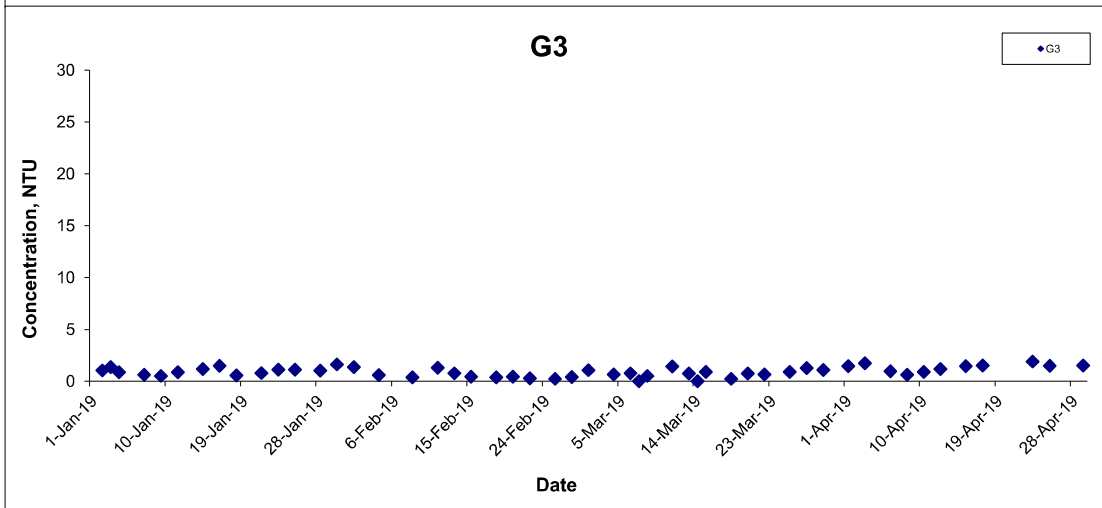
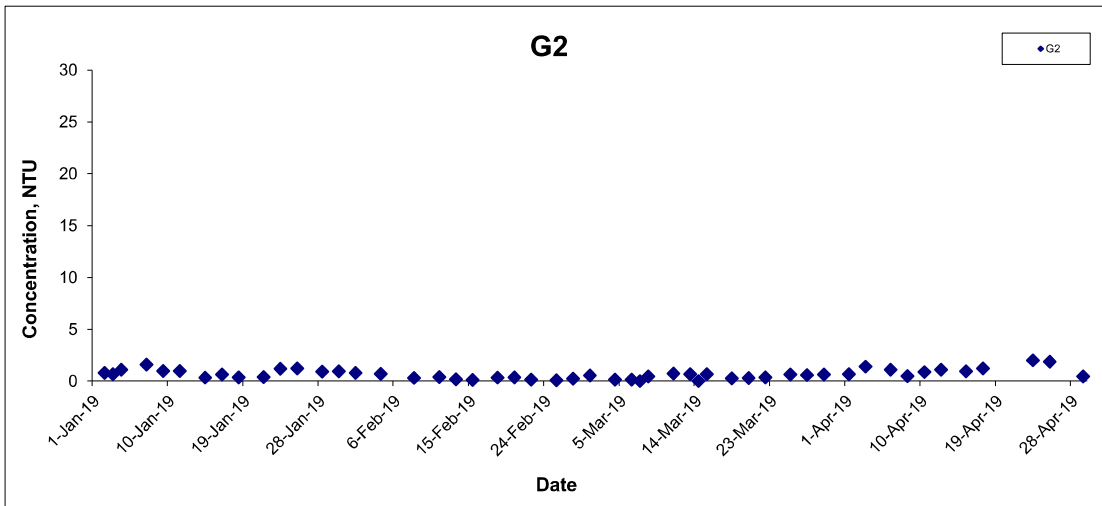
Scale N.T.S  
Date Apr 19

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## Turbidity (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

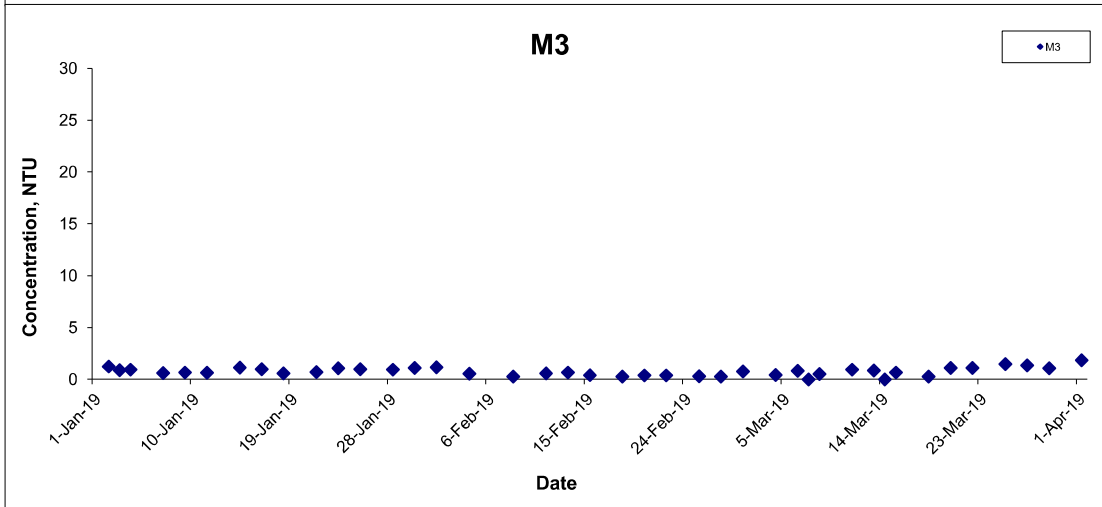
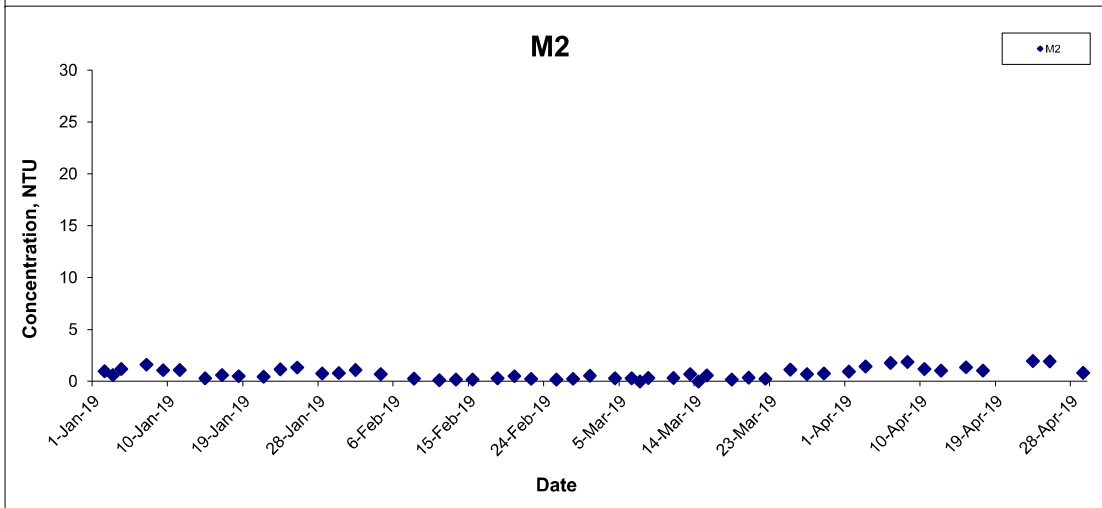
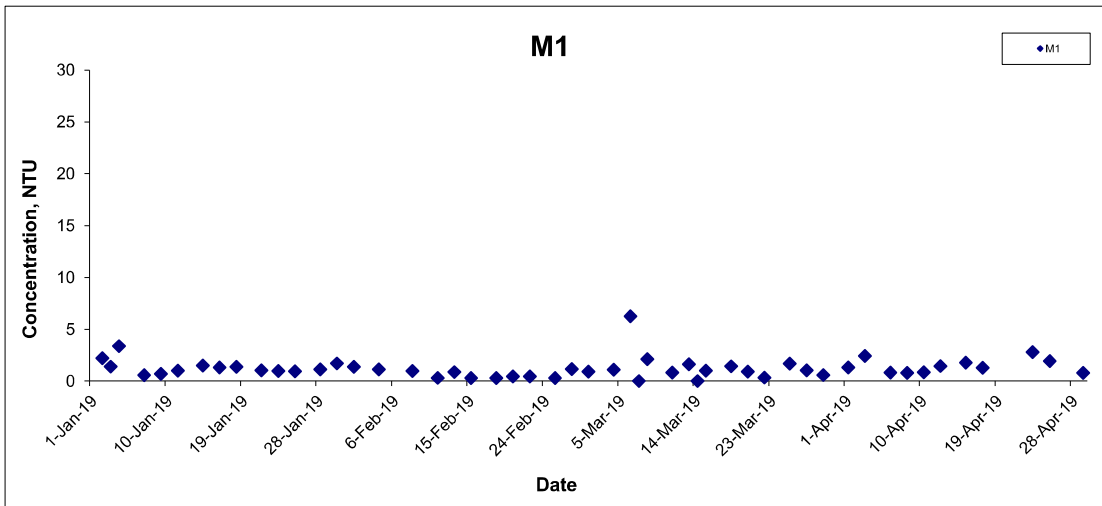
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### Turbidity (Depth-averaged) at Mid-Flood Tide



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

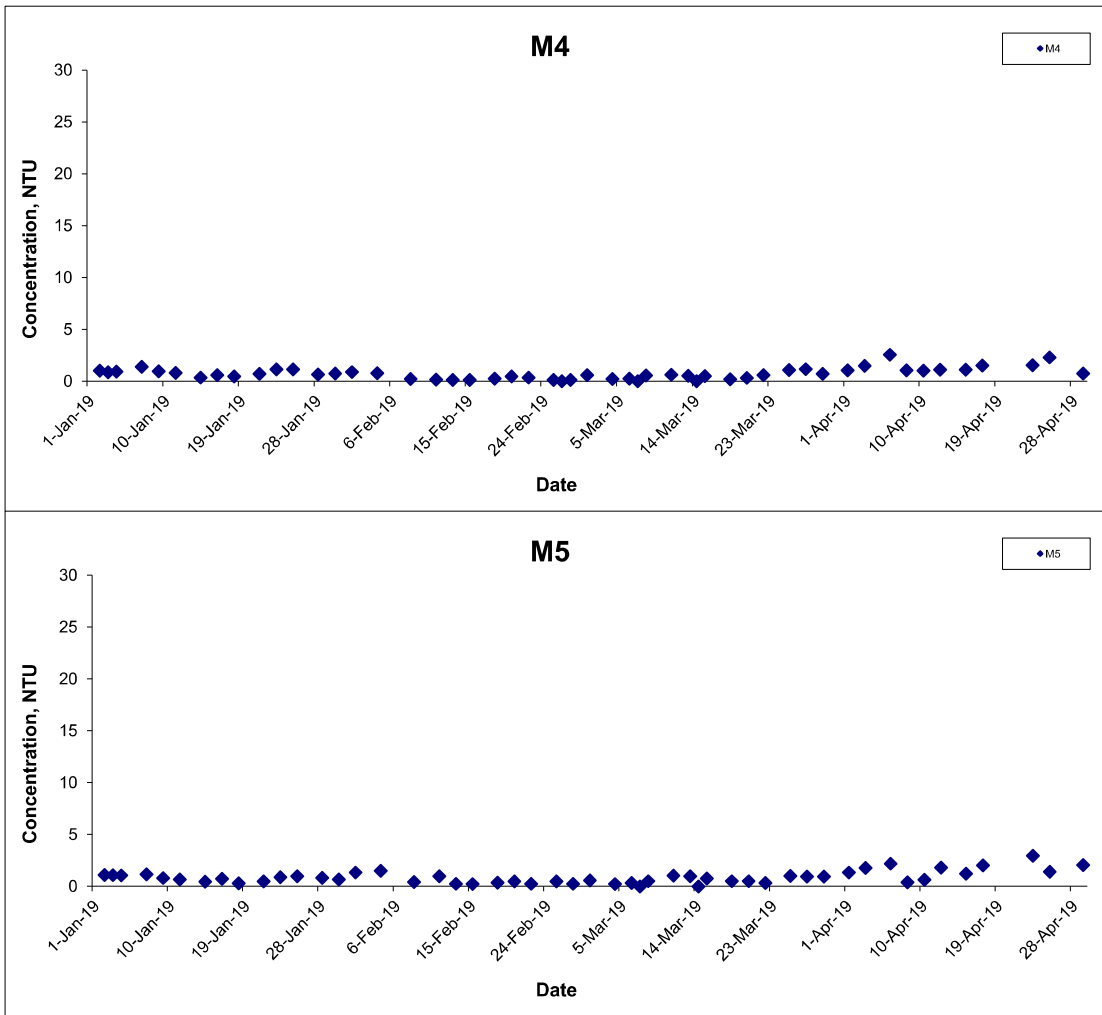
Date Apr 19

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### Turbidity (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

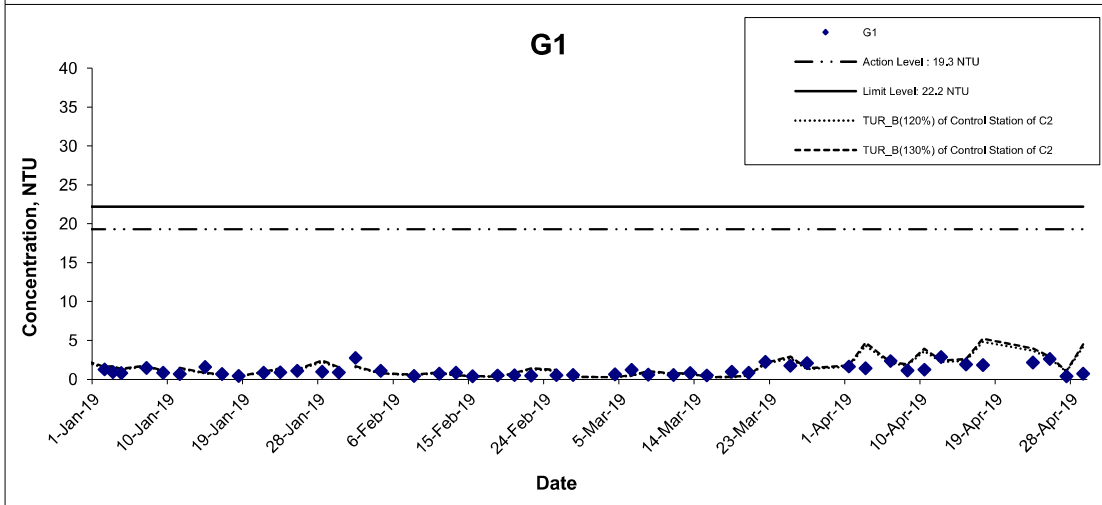
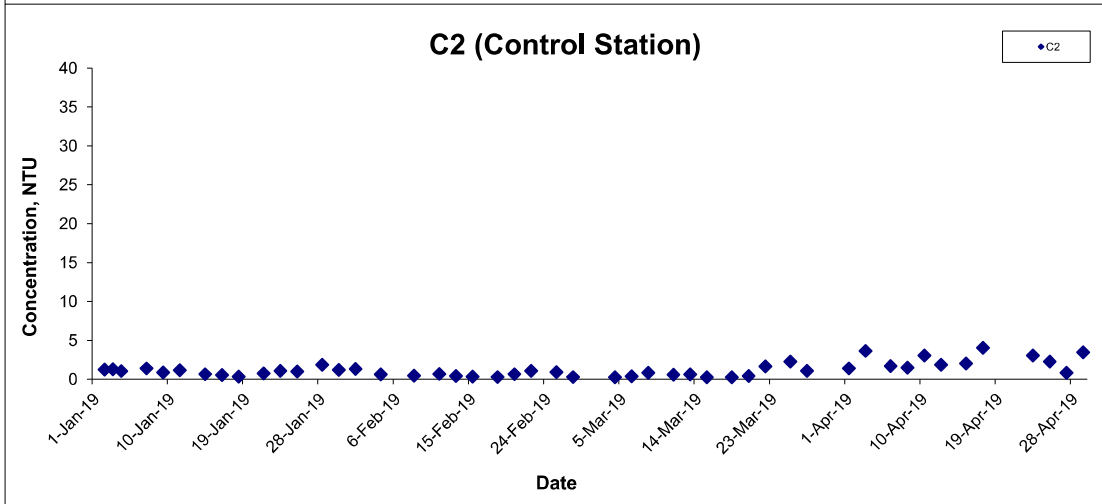
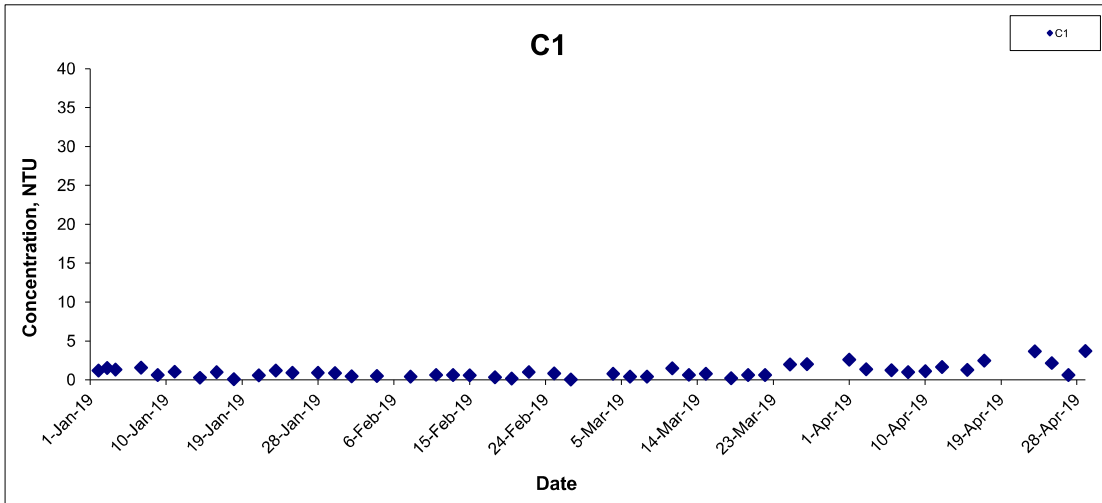
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### Turbidity (Bottom) at Mid-Ebb Tide



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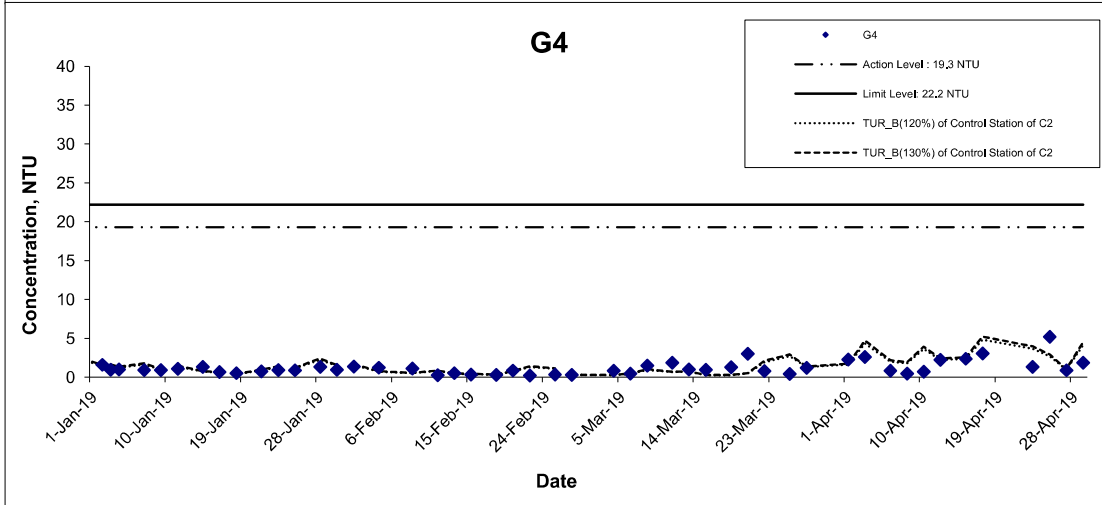
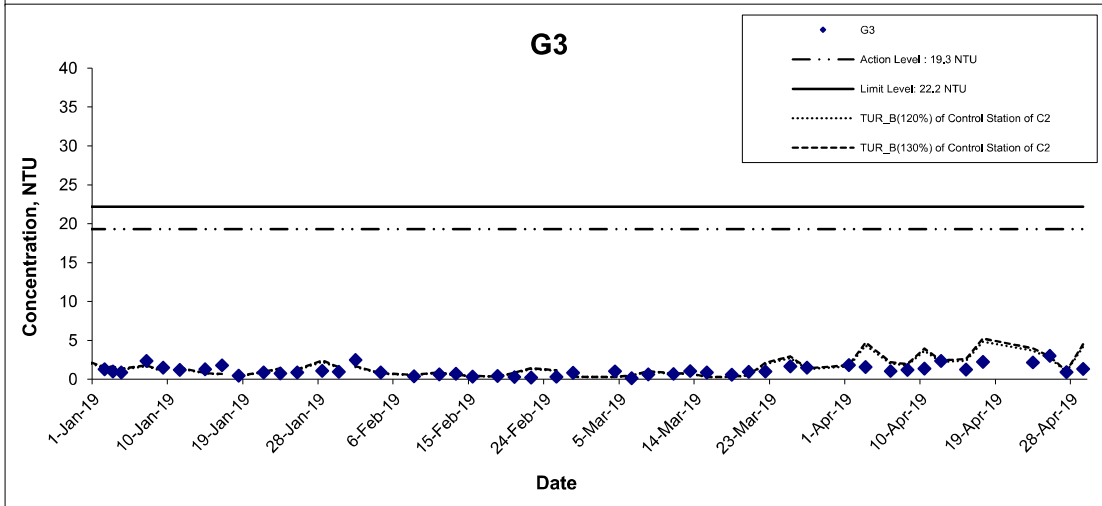
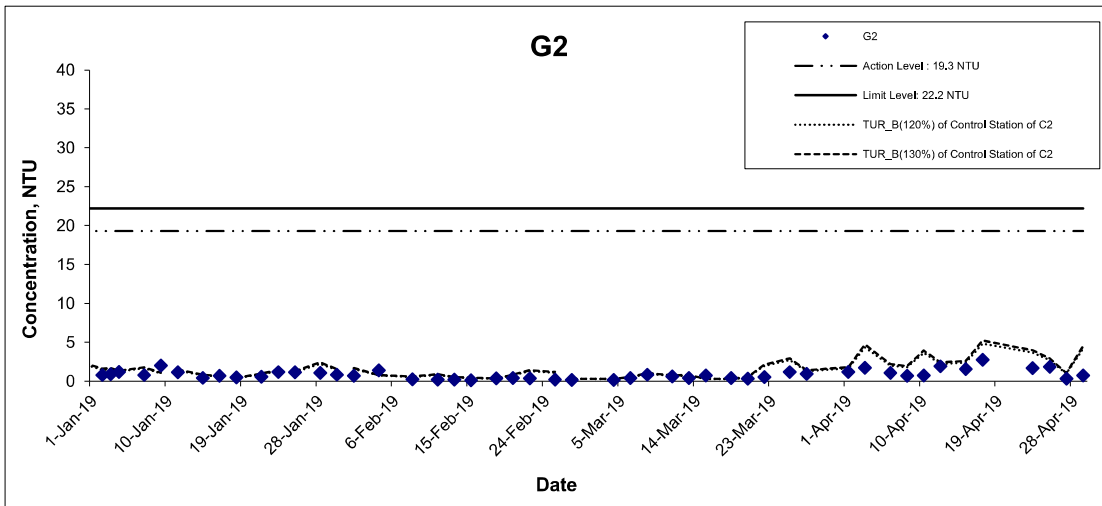
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### Turbidity (Bottom) at Mid-Ebb Tide



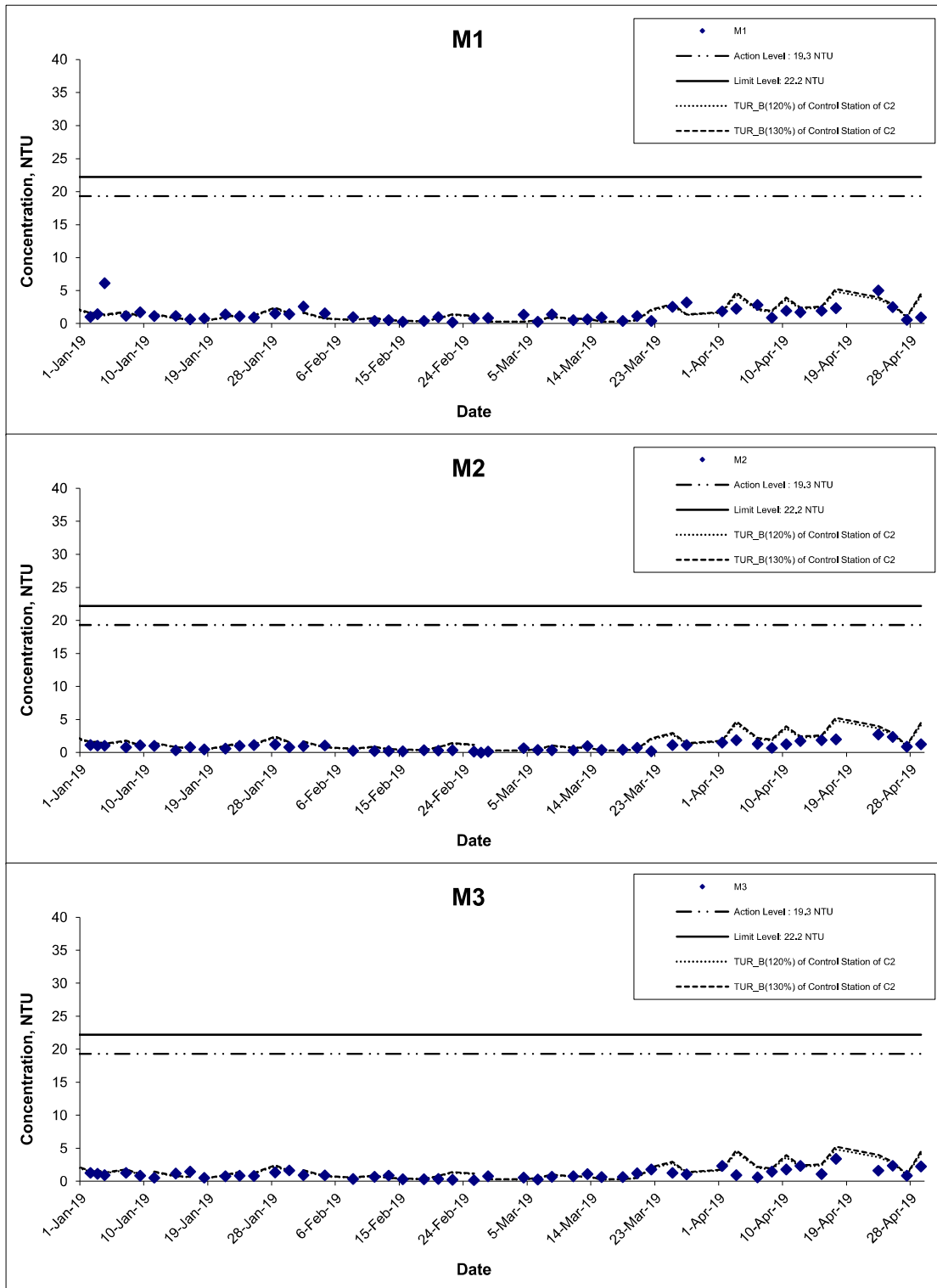
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## Turbidity (Bottom) at Mid-Ebb Tide



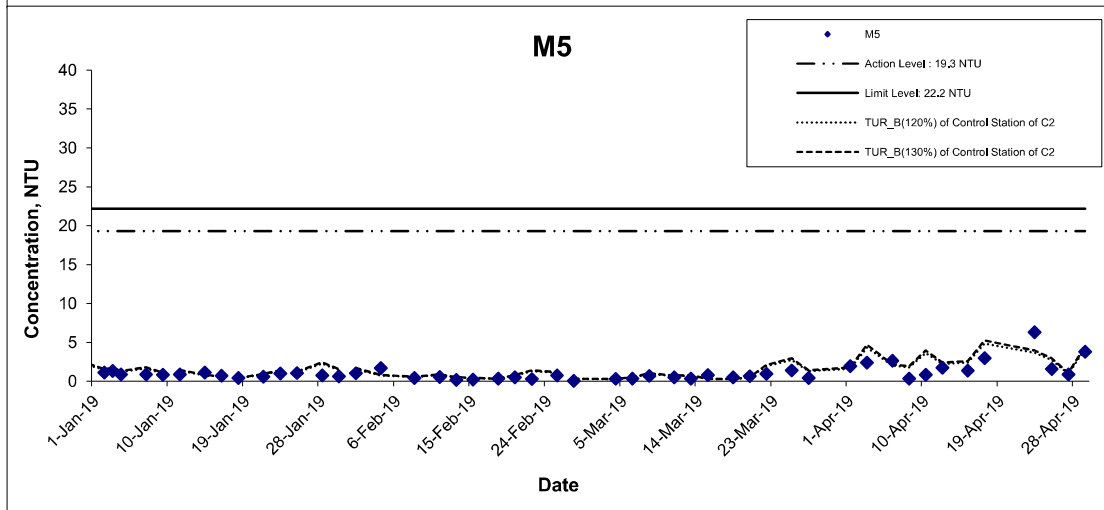
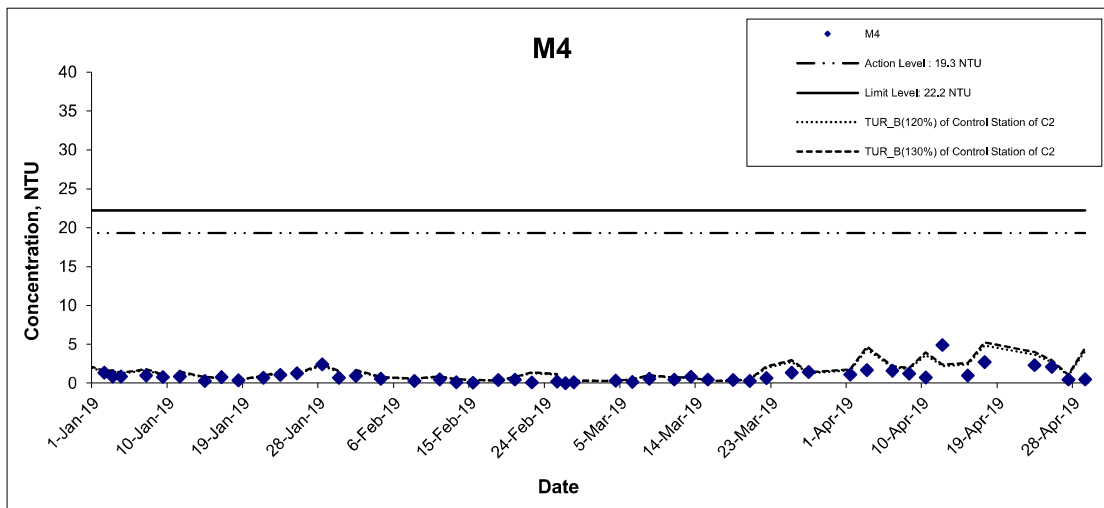
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### Turbidity (Bottom) at Mid-Ebb Tide



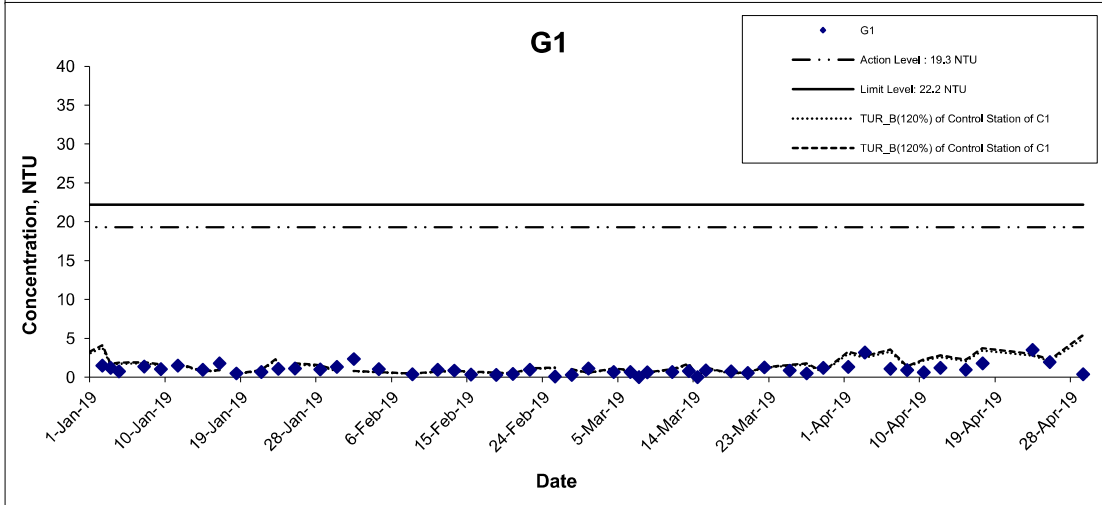
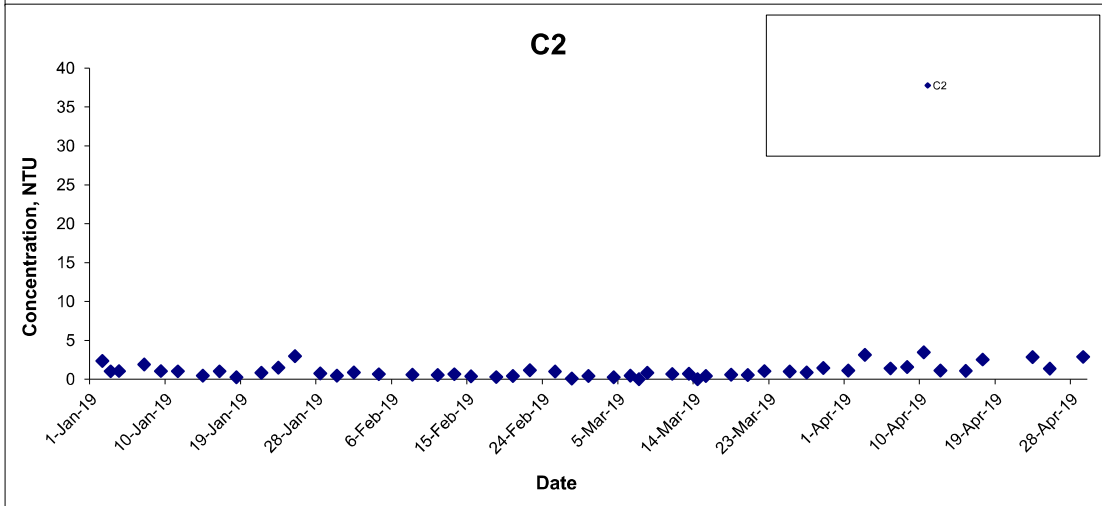
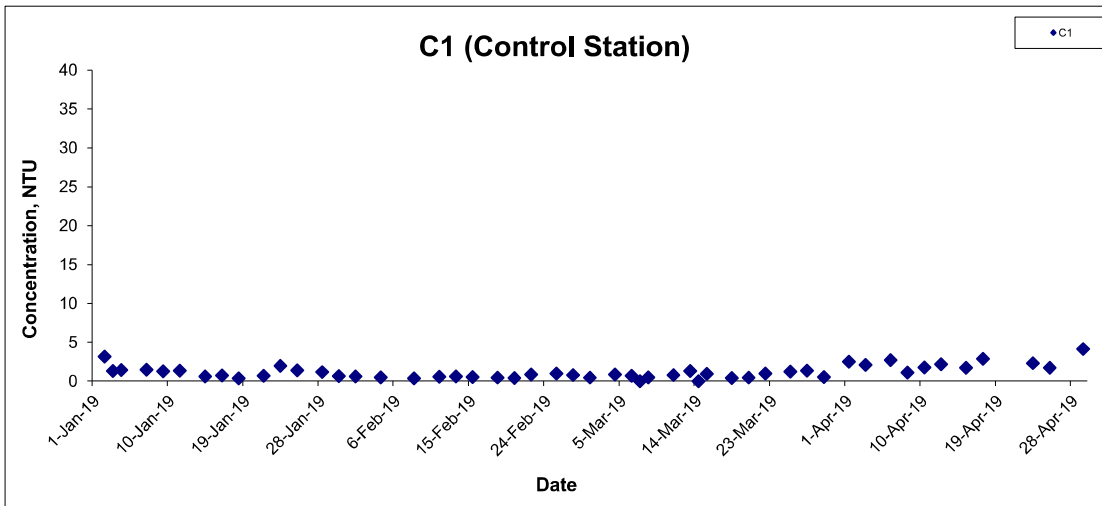
Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
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### Turbidity (Bottom) at Mid-Flood Tide



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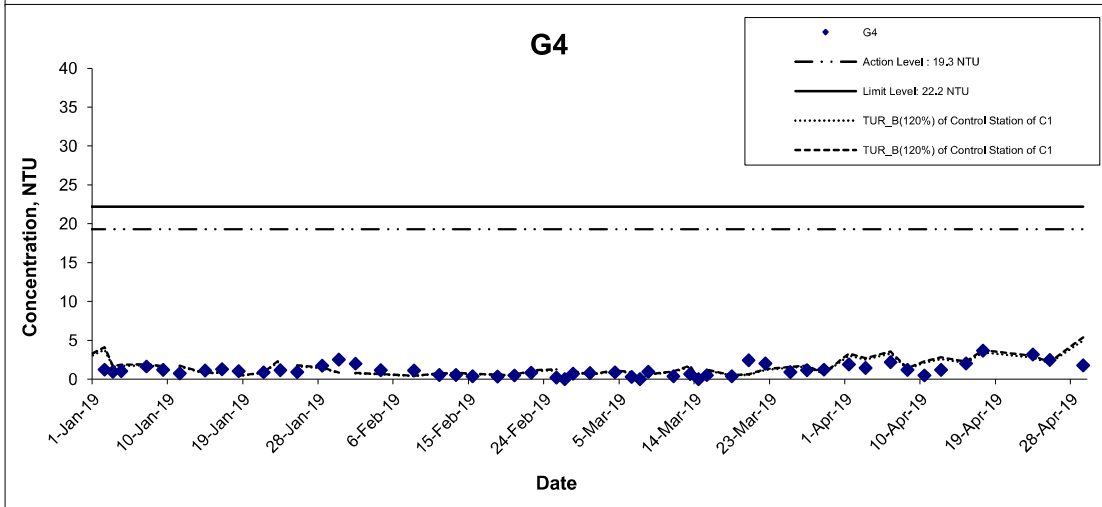
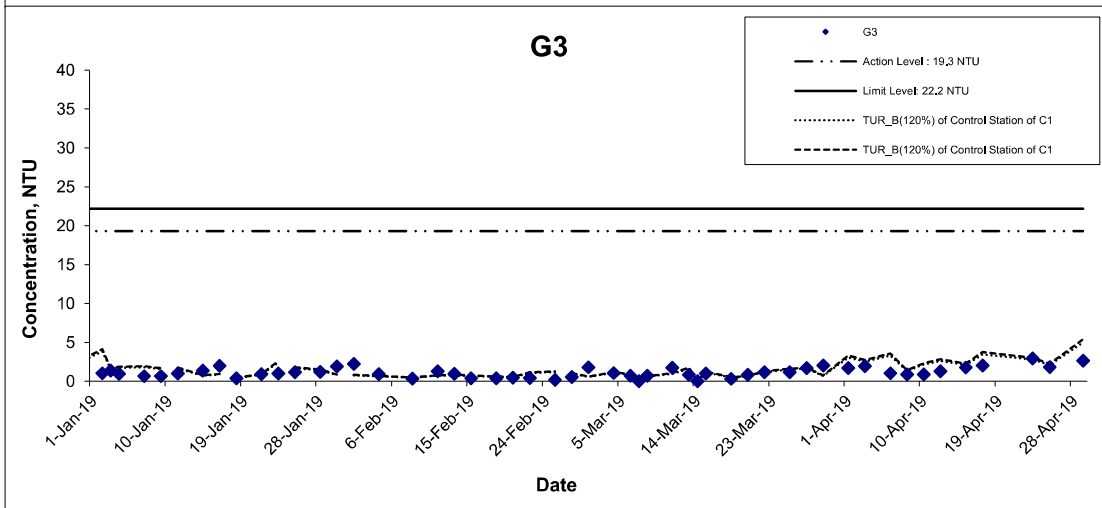
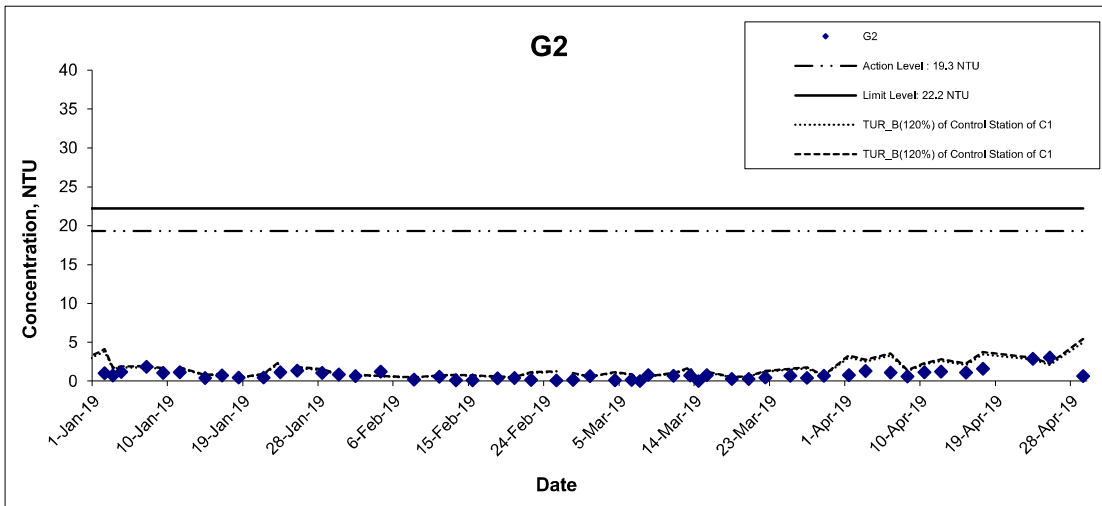
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## Turbidity (Bottom) at Mid-Flood Tide



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

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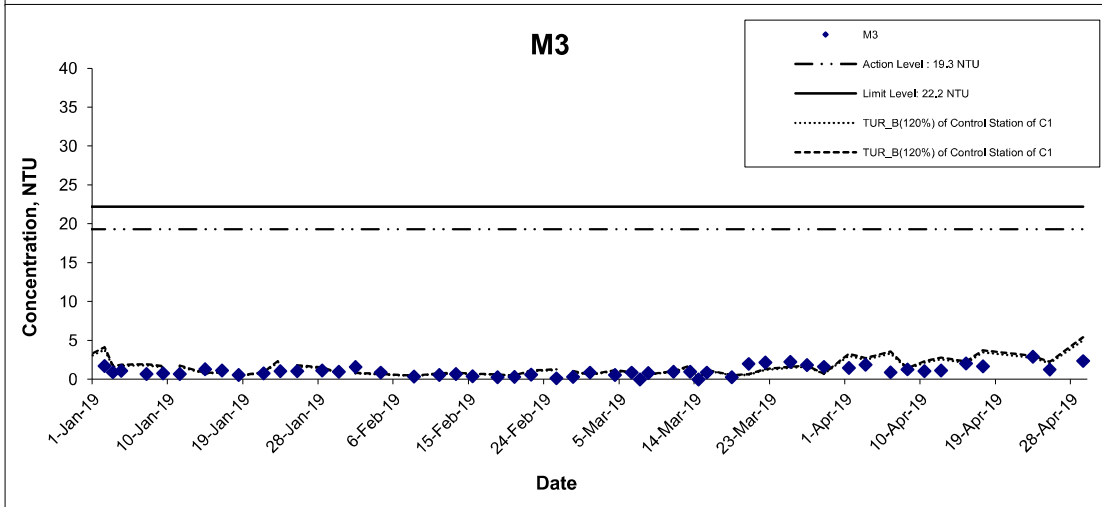
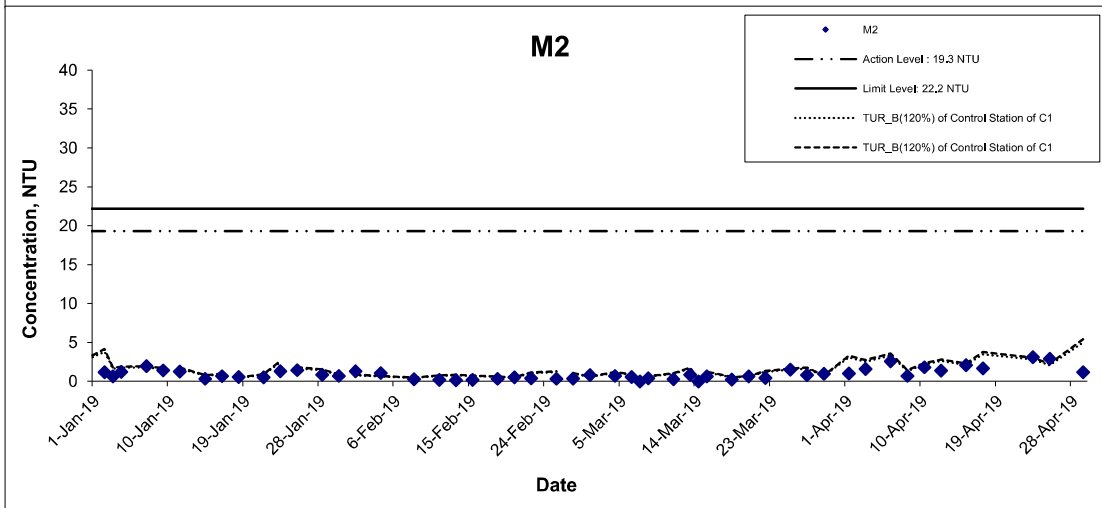
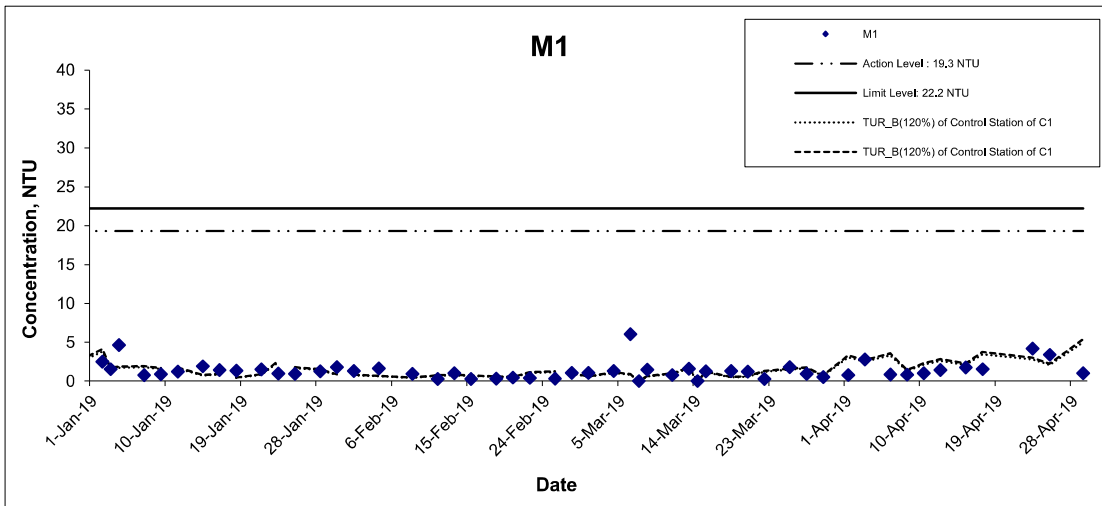
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### Turbidity (Bottom) at Mid-Flood Tide



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

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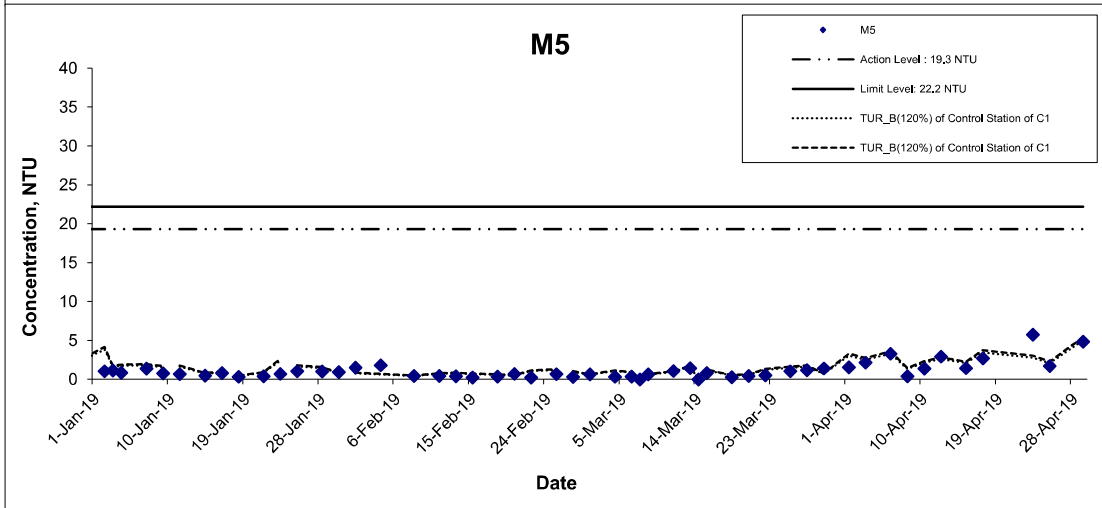
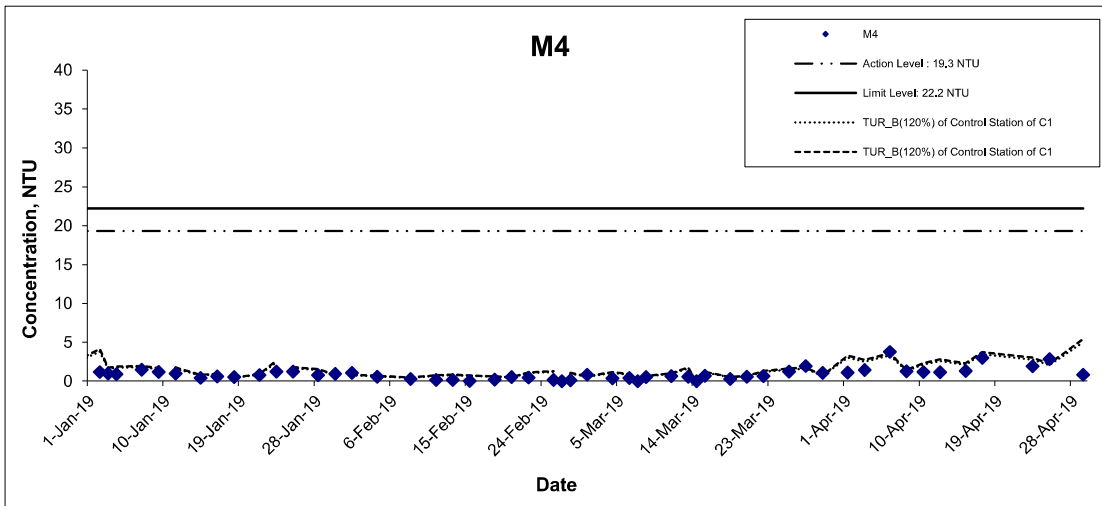
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### Turbidity (Bottom) at Mid-Flood Tide



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

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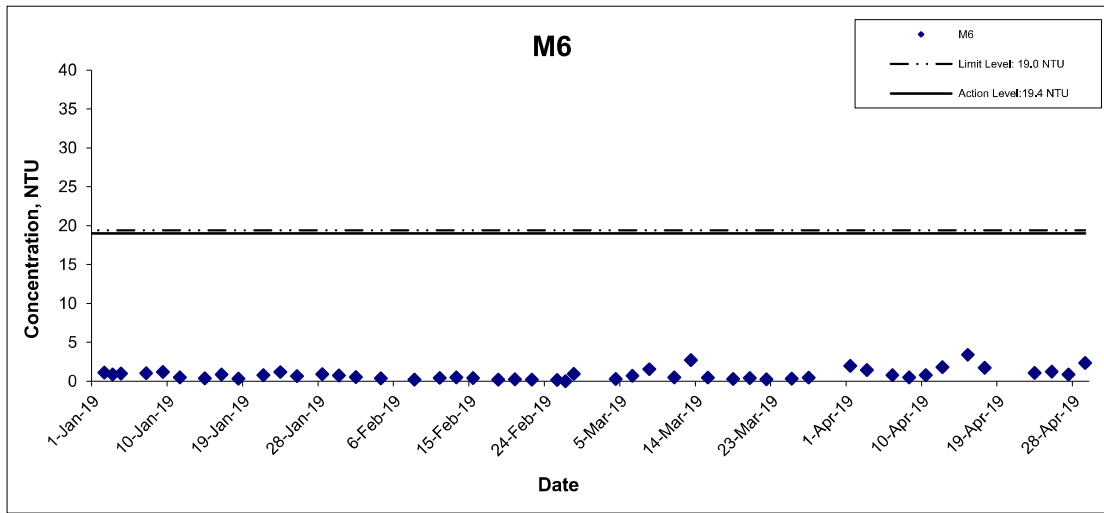
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### Turbidity (Intake Level of WSD Salt Water Intake) at Mid-Ebb Tide



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

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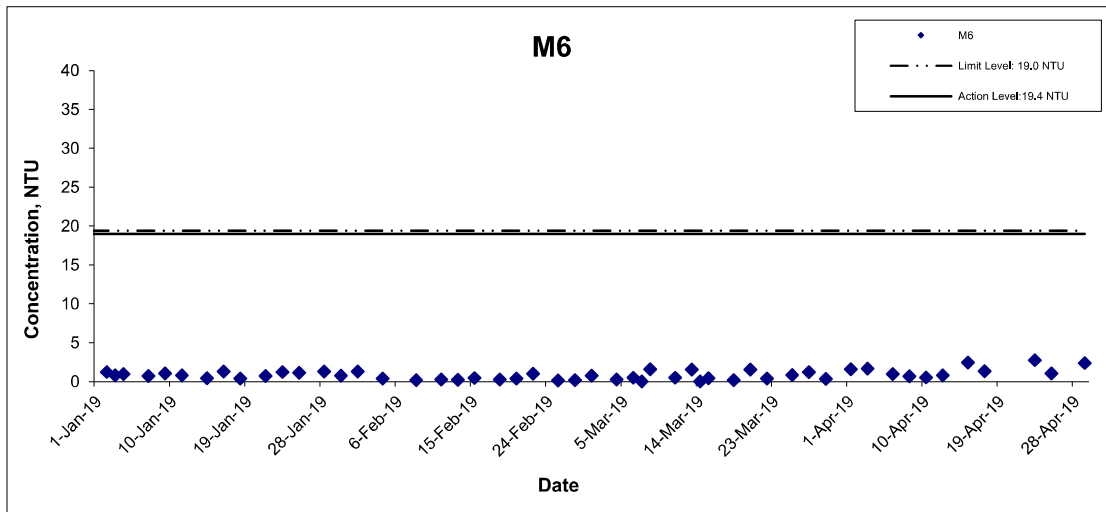
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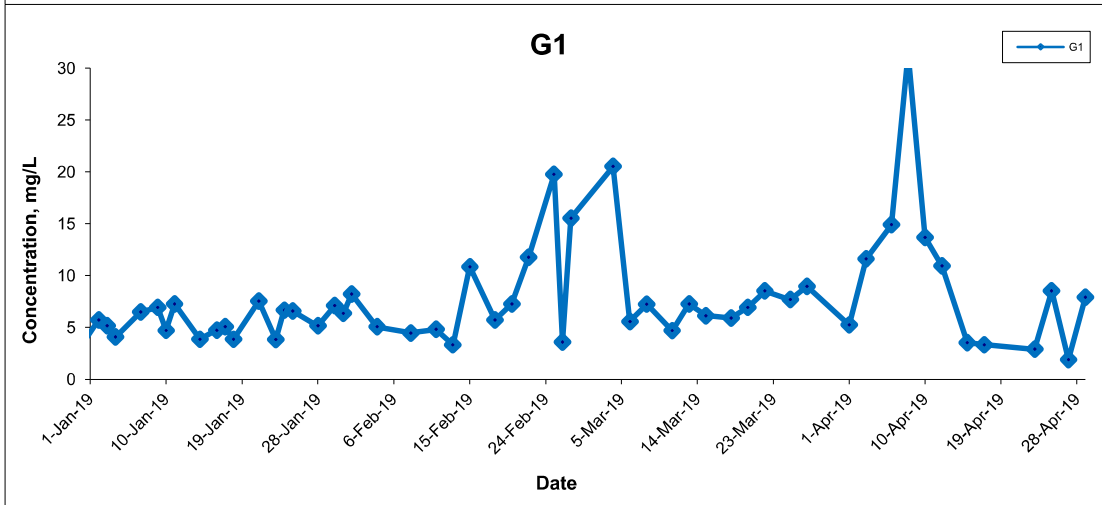
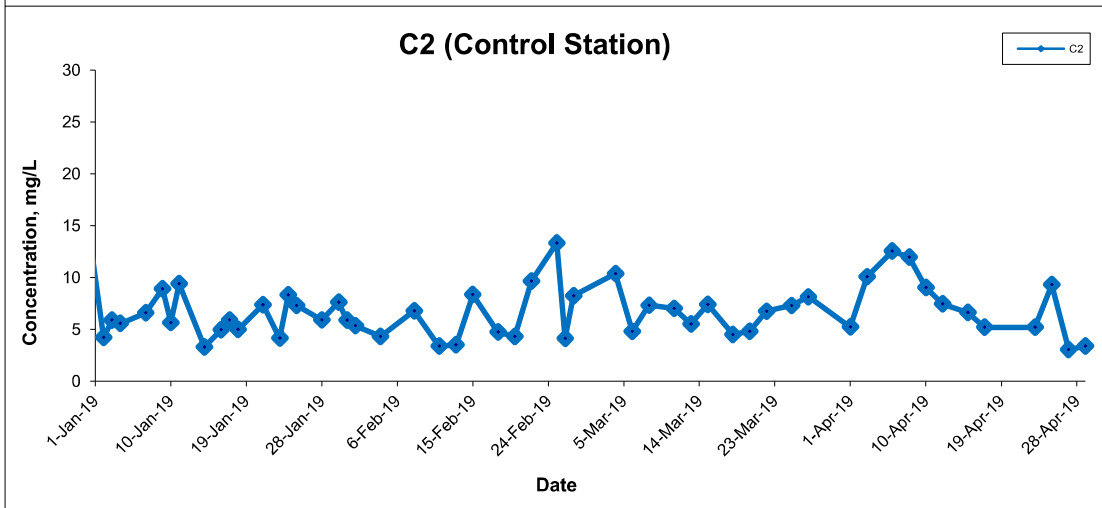
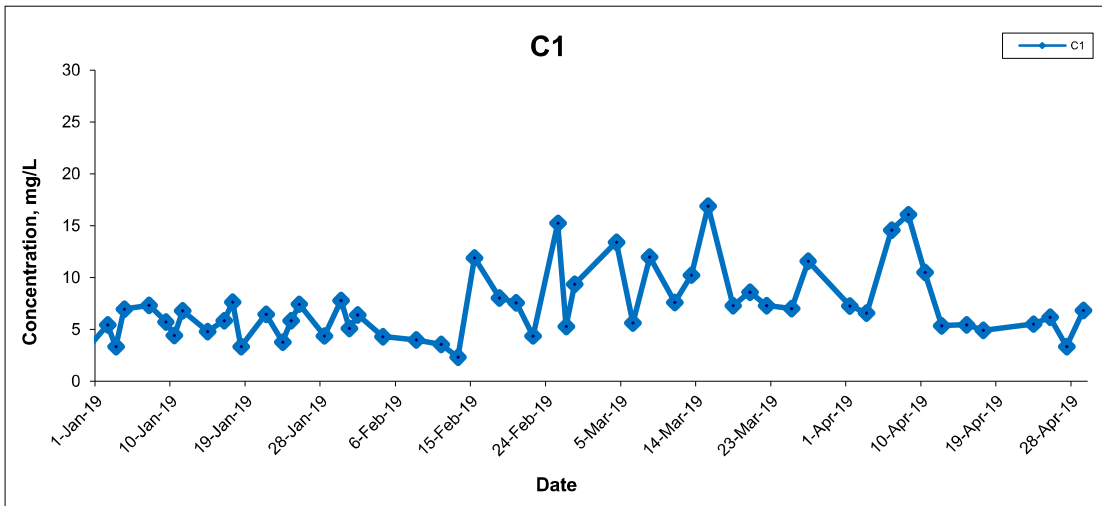


### Turbidity (Intake Level of WSD Salt Water Intake) at Mid-Flood Tide



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



Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
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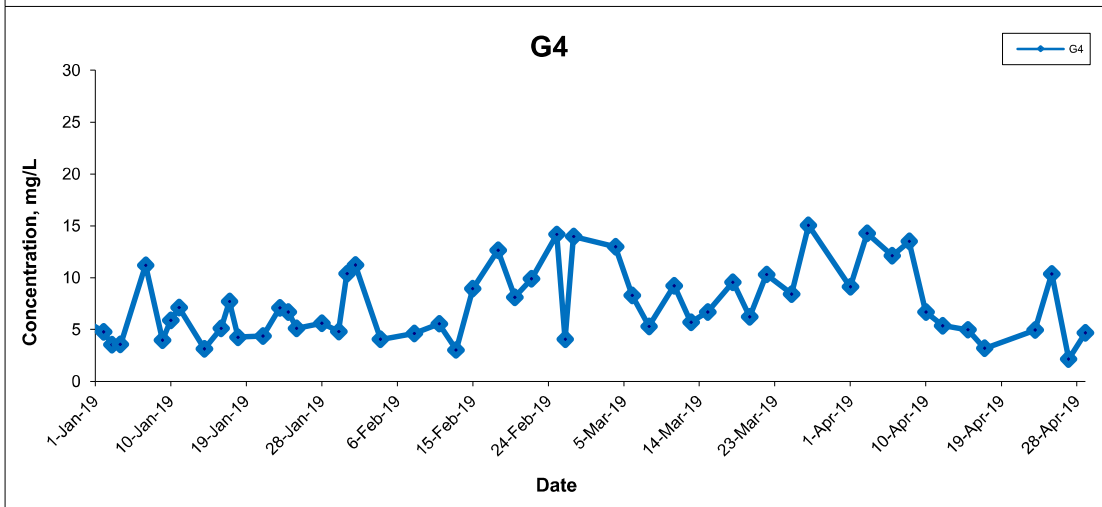
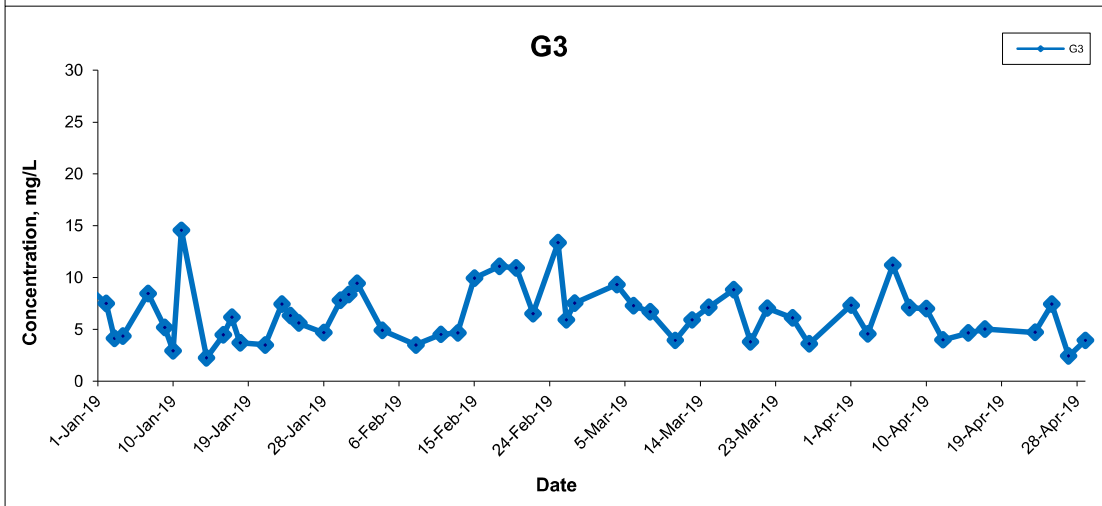
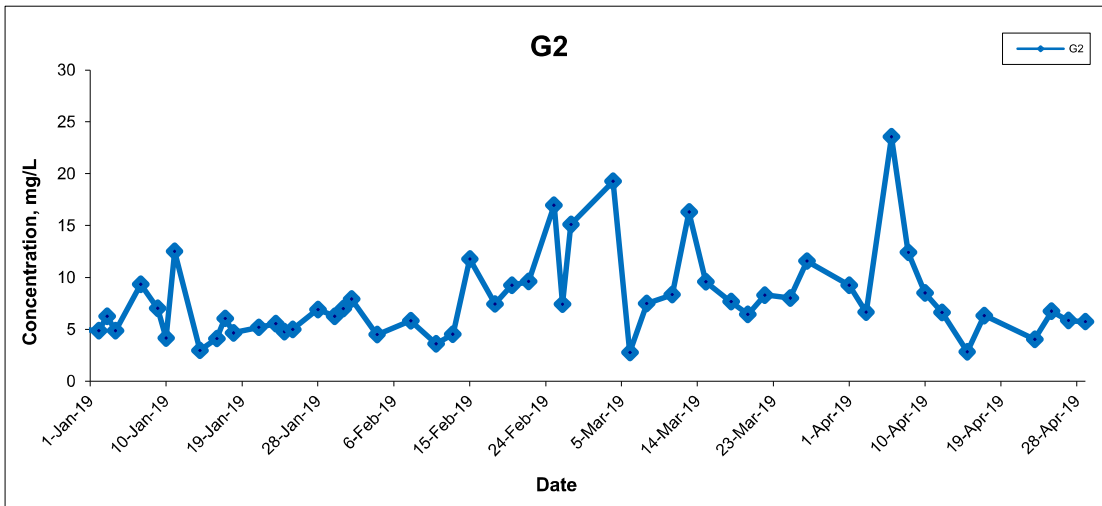
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### Suspended Solids (Depth-averaged) at Mid-Ebb Tide



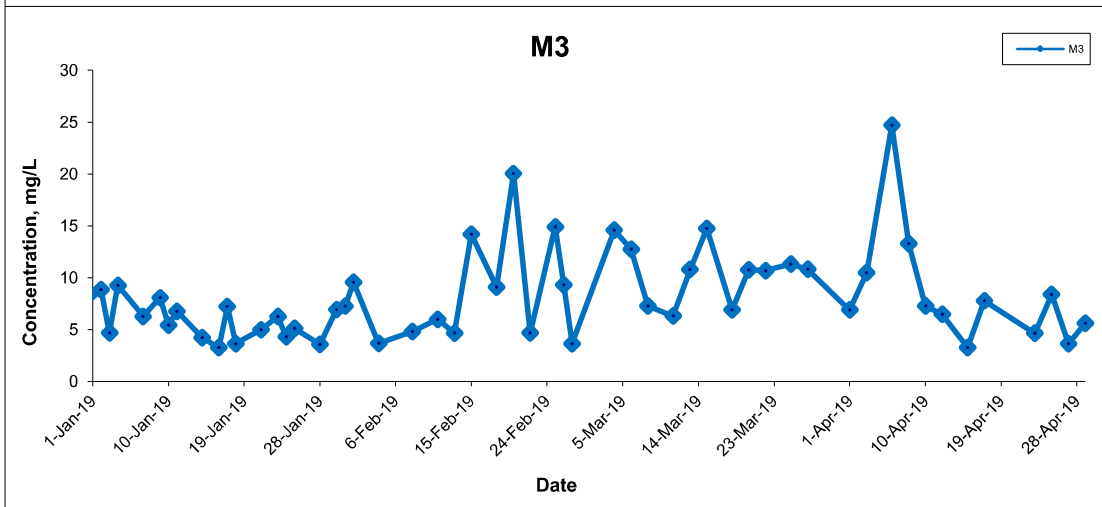
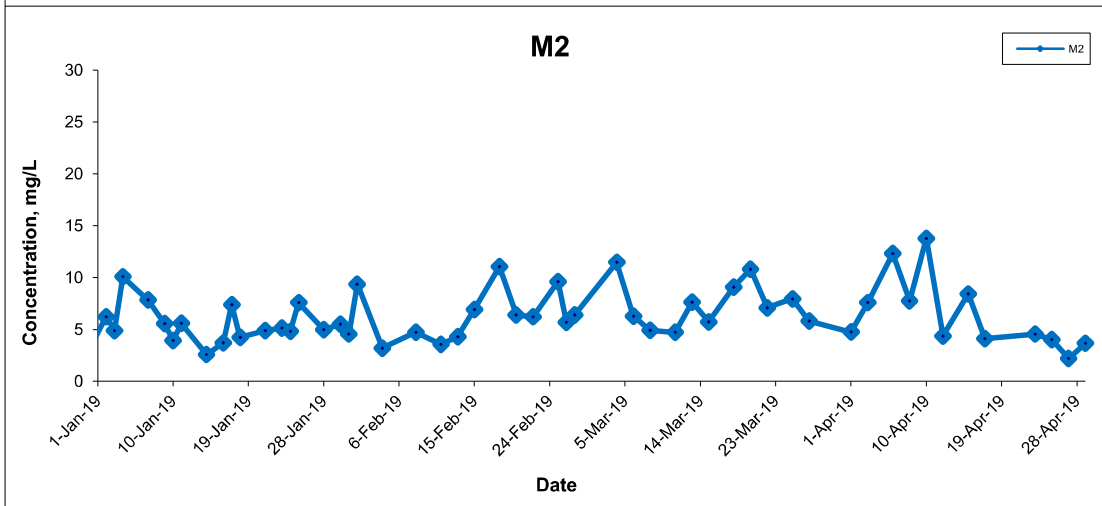
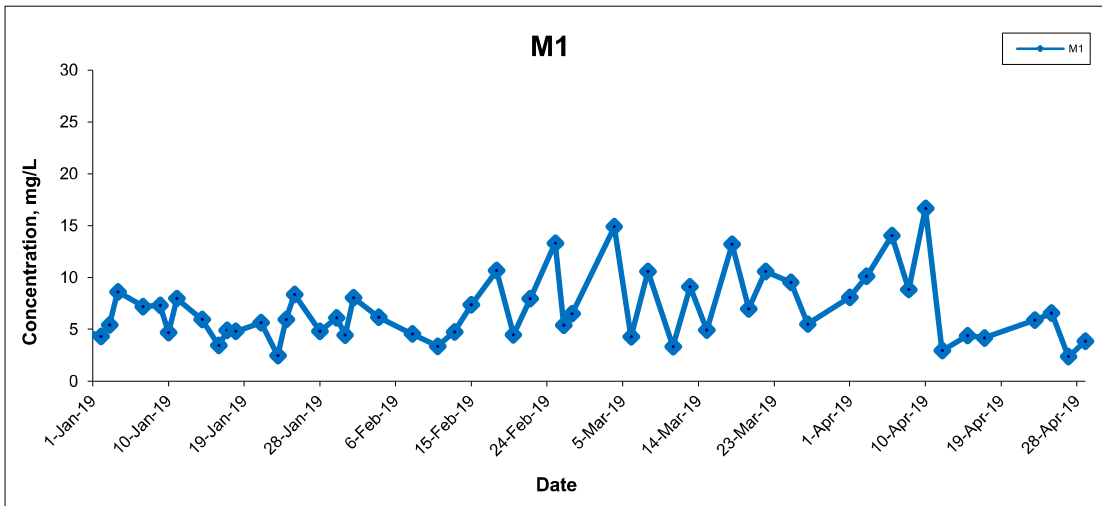
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Graphical Presentation of Water Quality Monitoring Results

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



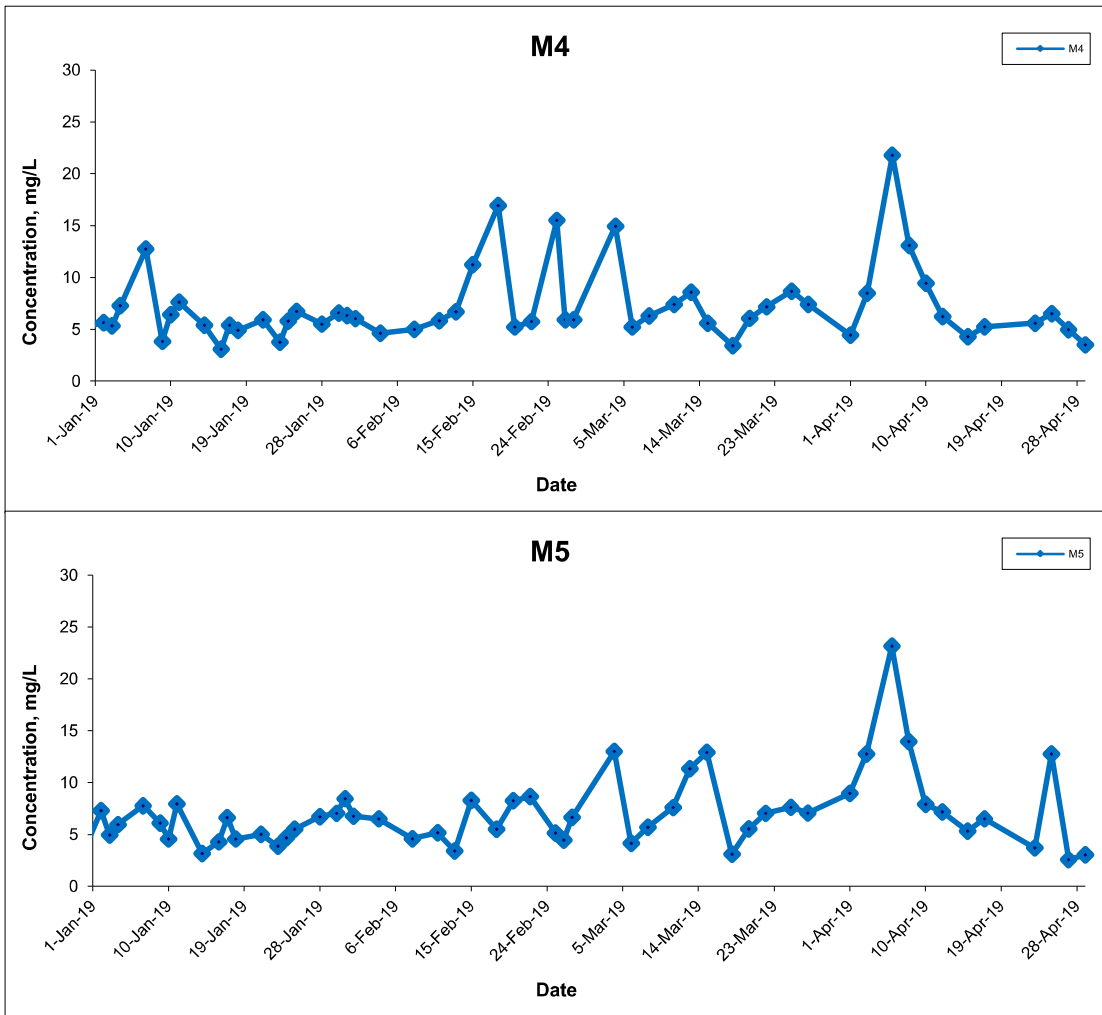
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Graphical Presentation of Water Quality Monitoring Results

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



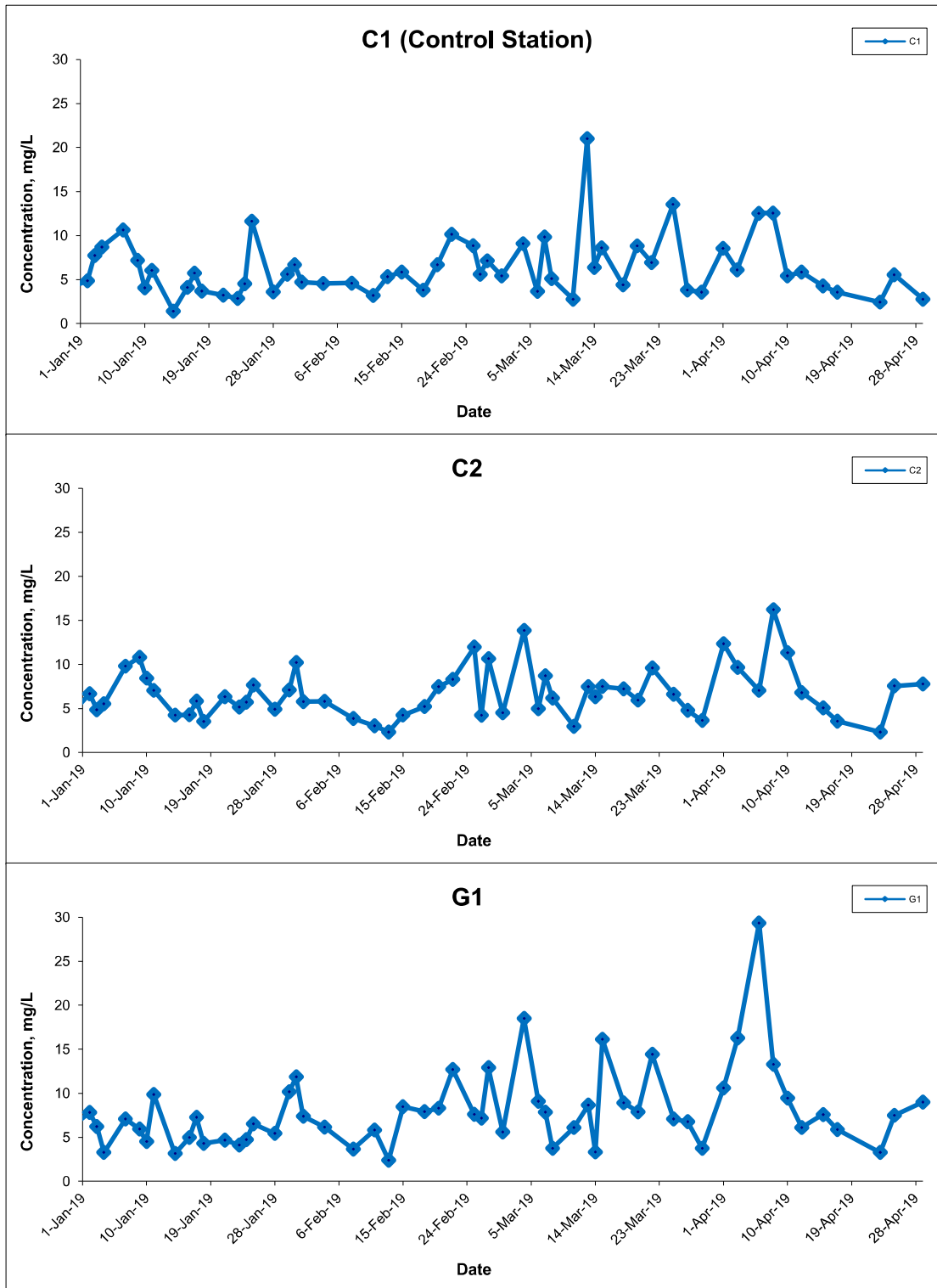
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Graphical Presentation of Water Quality Monitoring Results

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



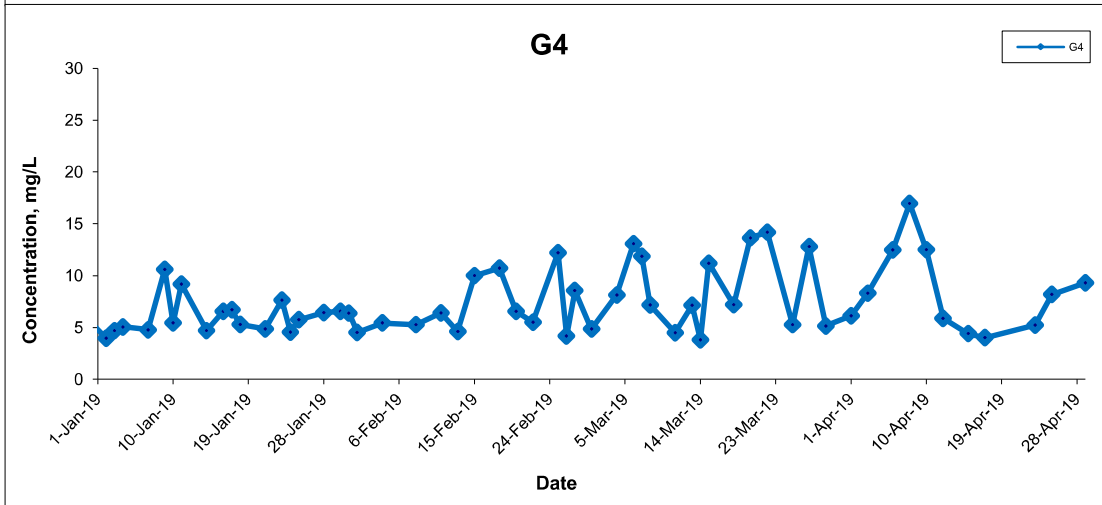
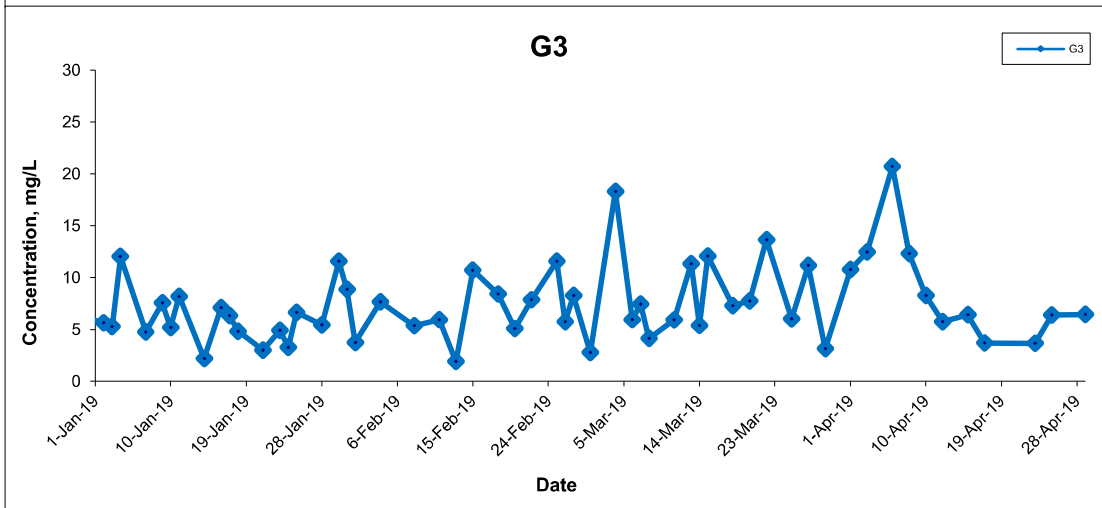
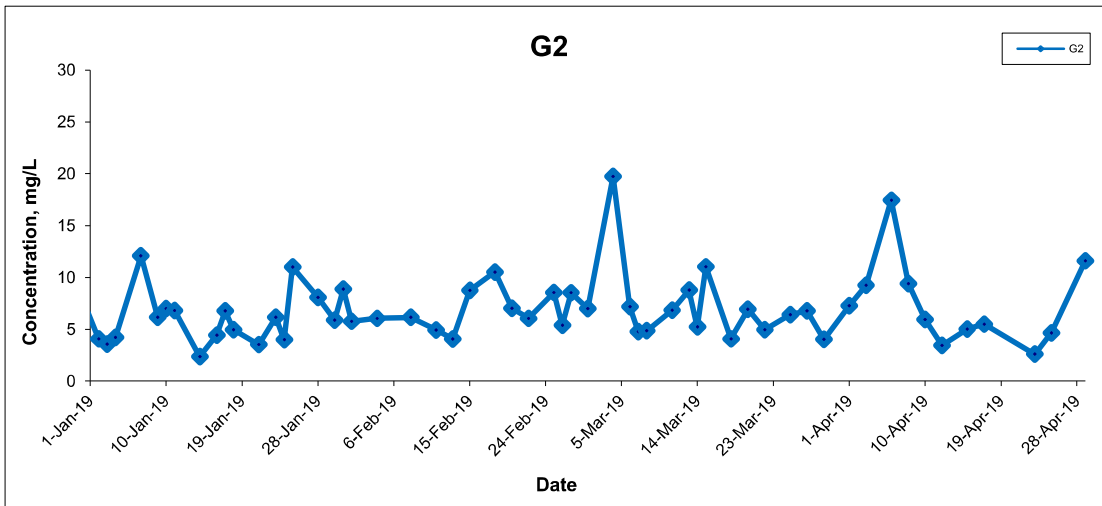
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### Suspended Solids (Depth-averaged) at Mid-Flood Tide



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Graphical Presentation of Water Quality Monitoring Results

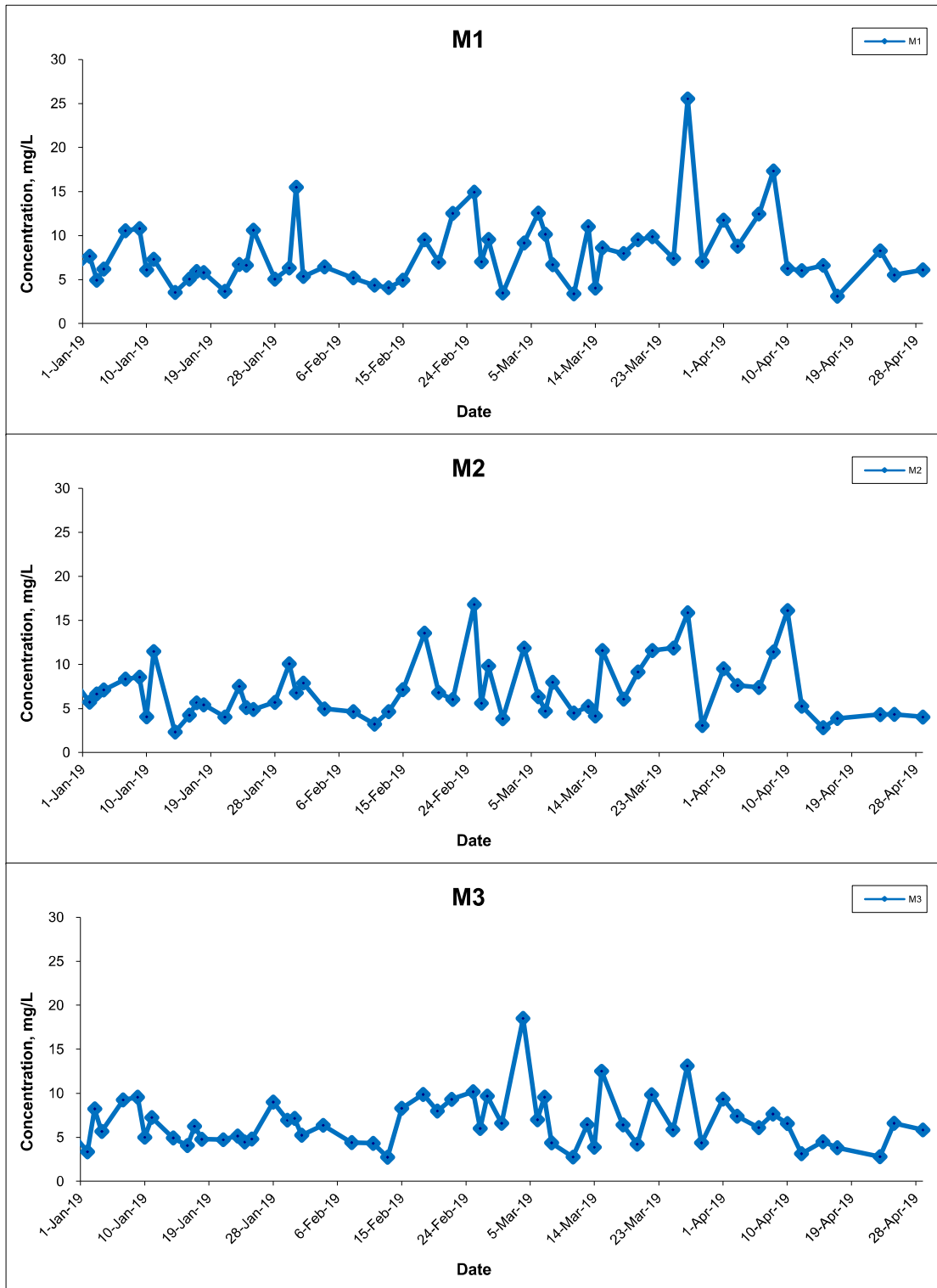
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## Suspended Solids (Depth-averaged) at Mid-Flood Tide



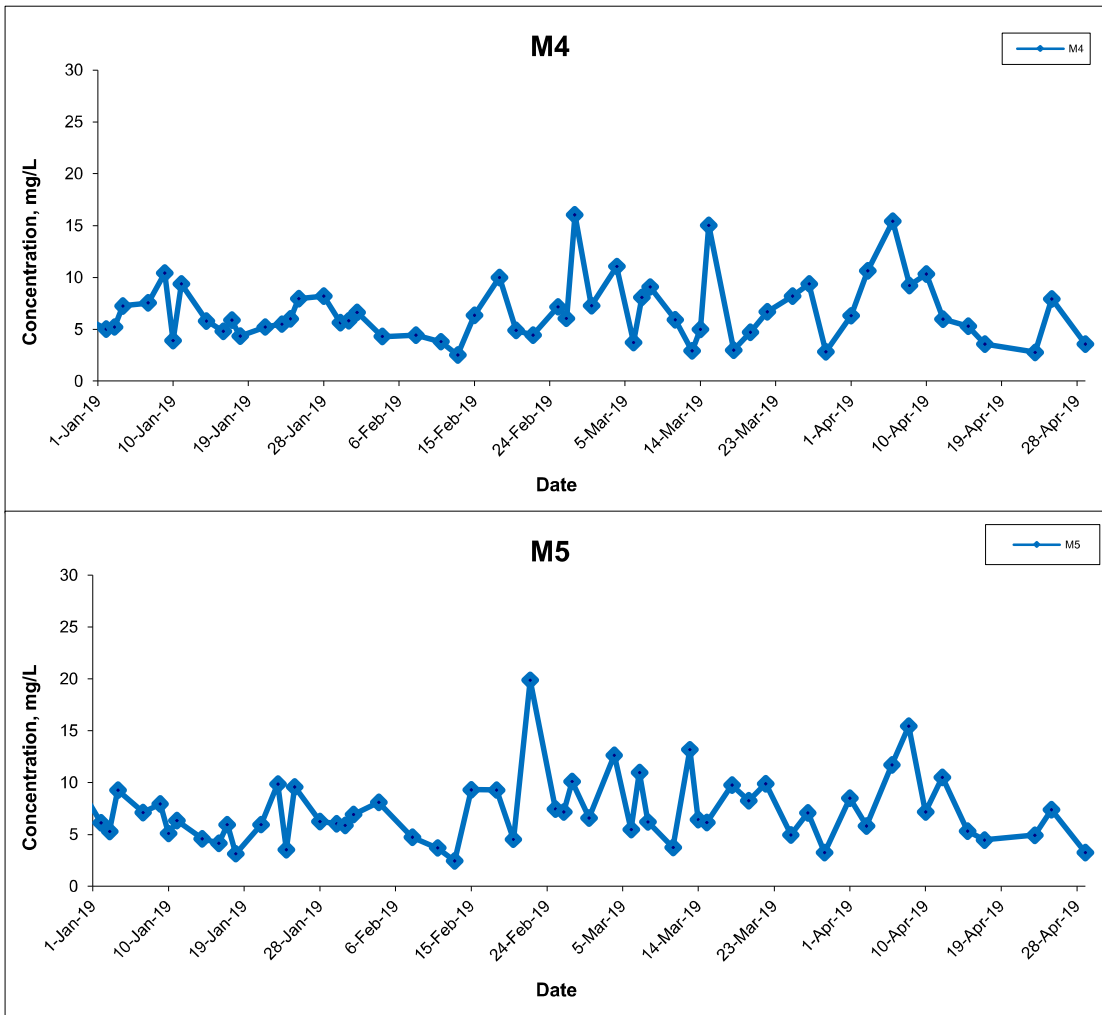
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### Suspended Solids (Depth-averaged) at Mid-Flood Tide



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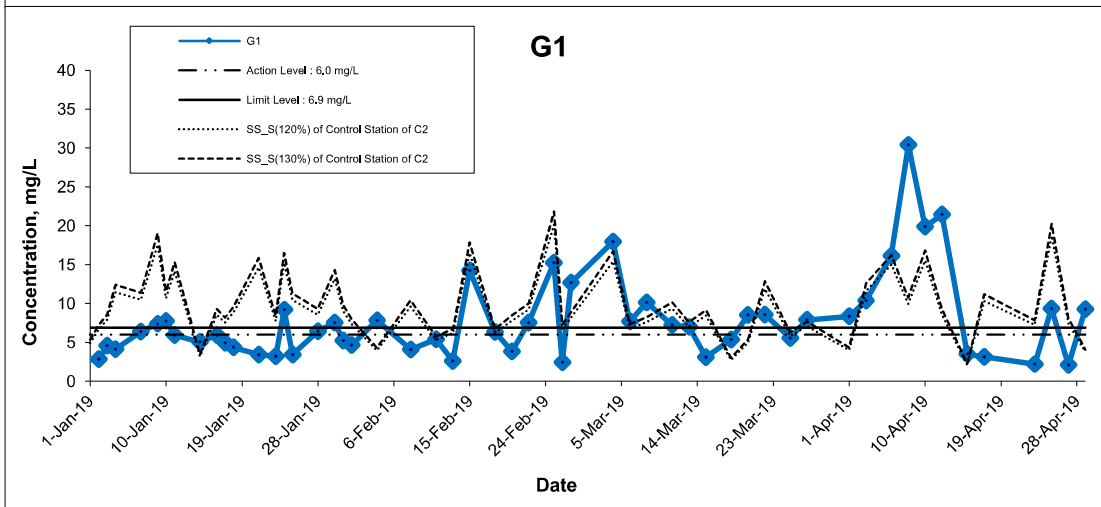
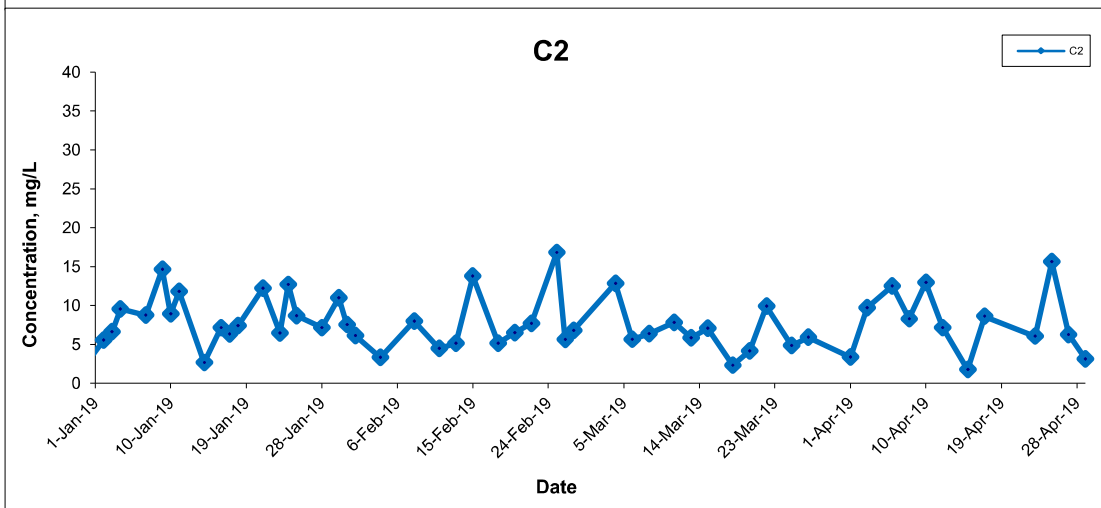
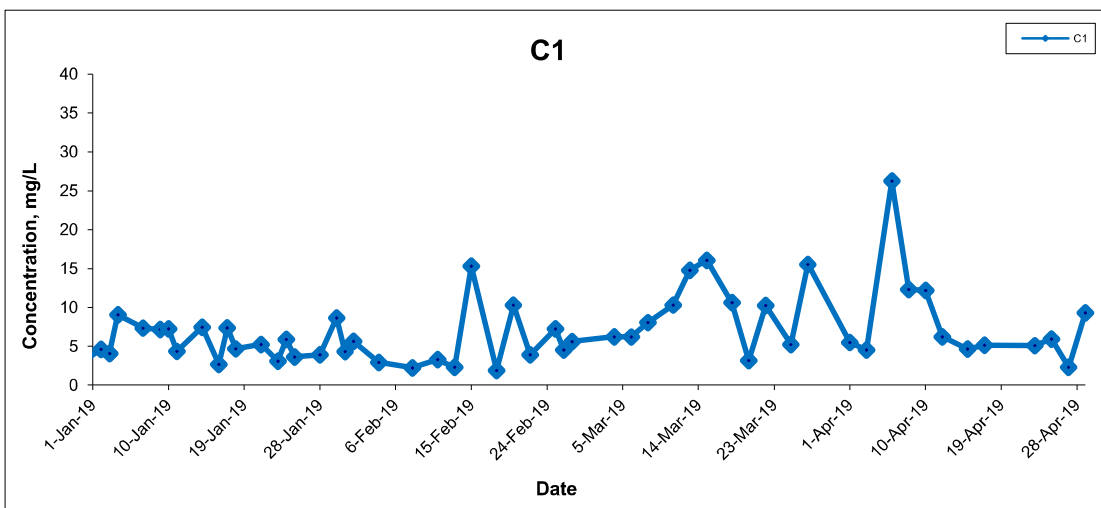
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### Suspended Solids (Surface) at Mid-Ebb Tide



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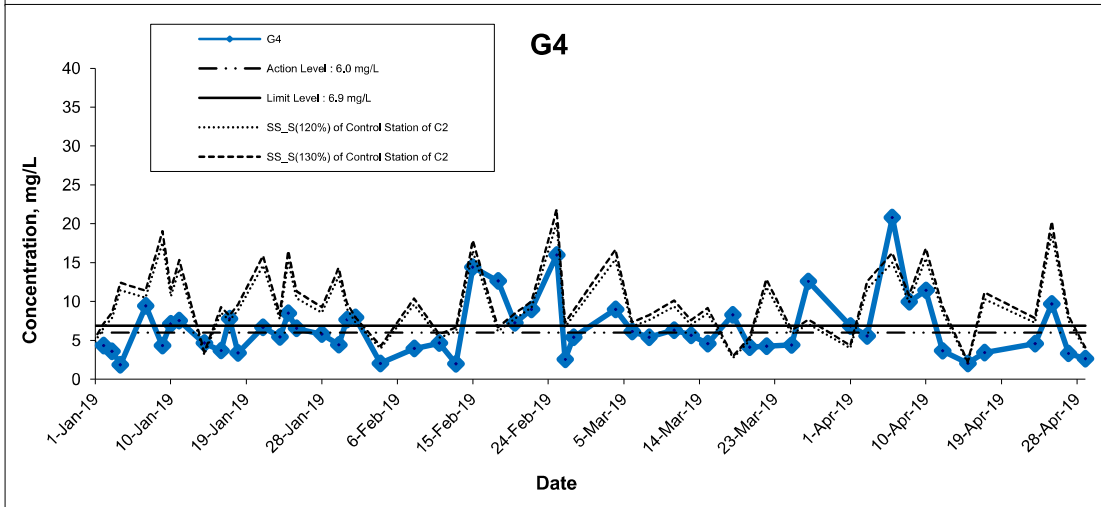
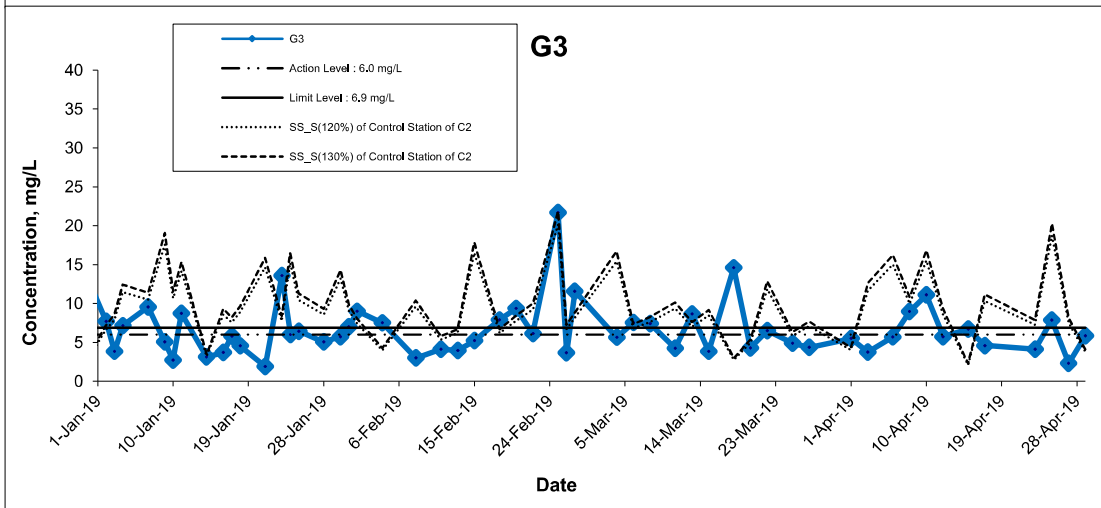
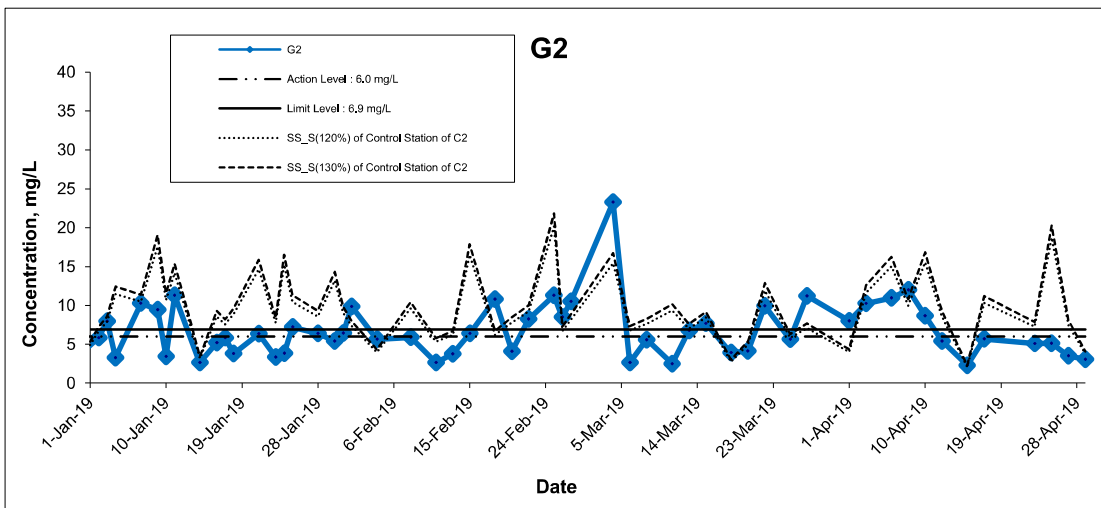
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## Suspended Solids (Surface) at Mid-Ebb Tide



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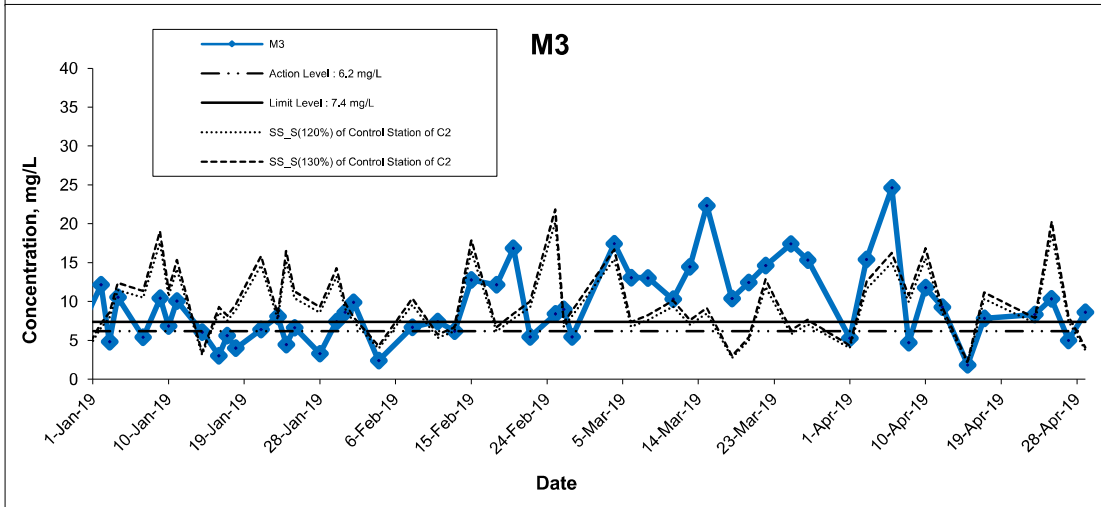
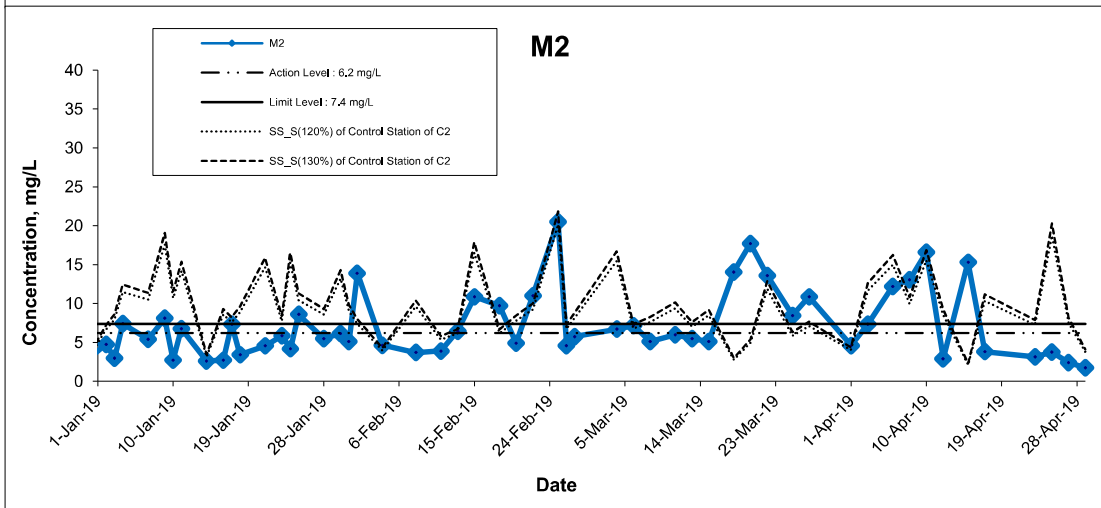
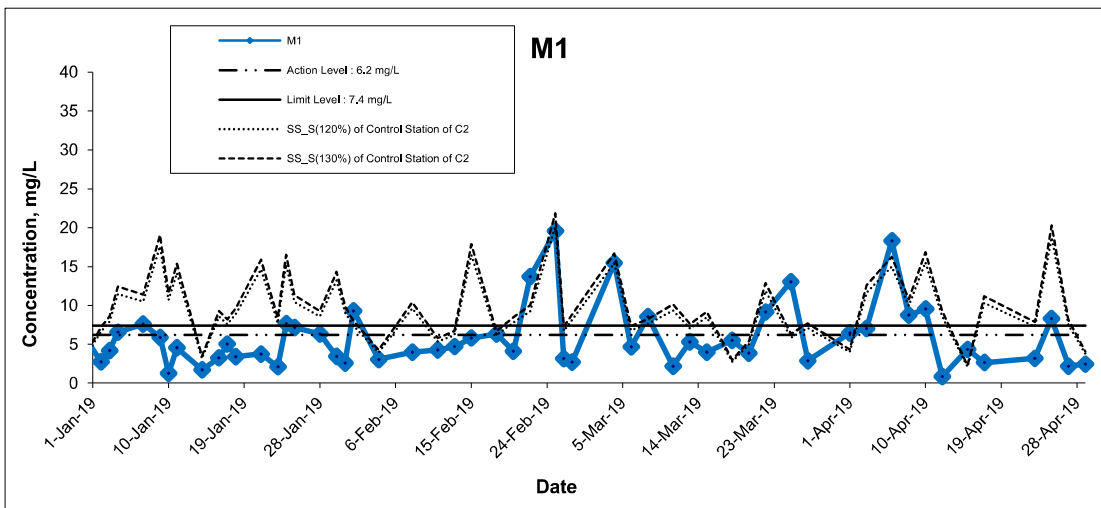
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### Suspended Solids (Surface) at Mid-Ebb Tide



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

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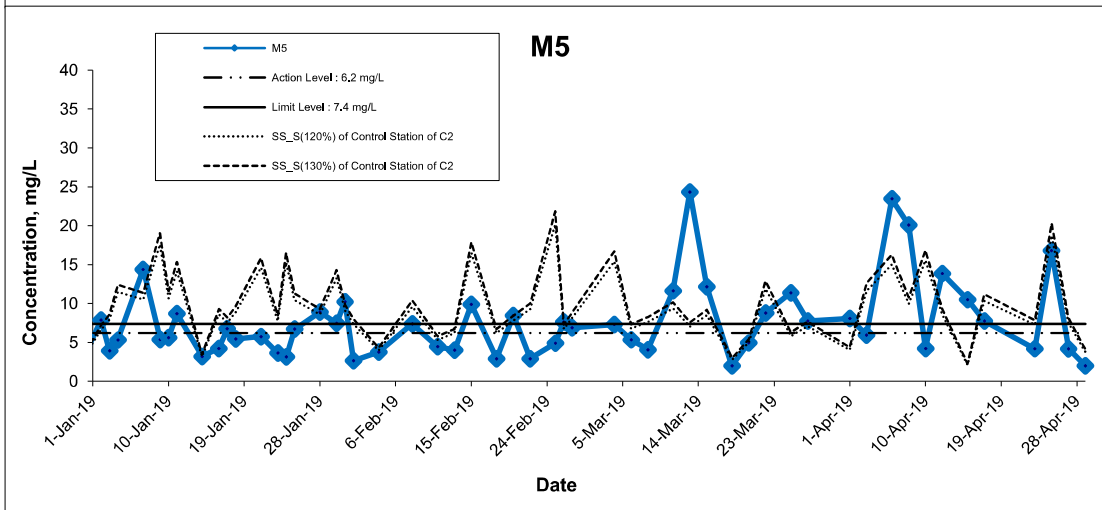
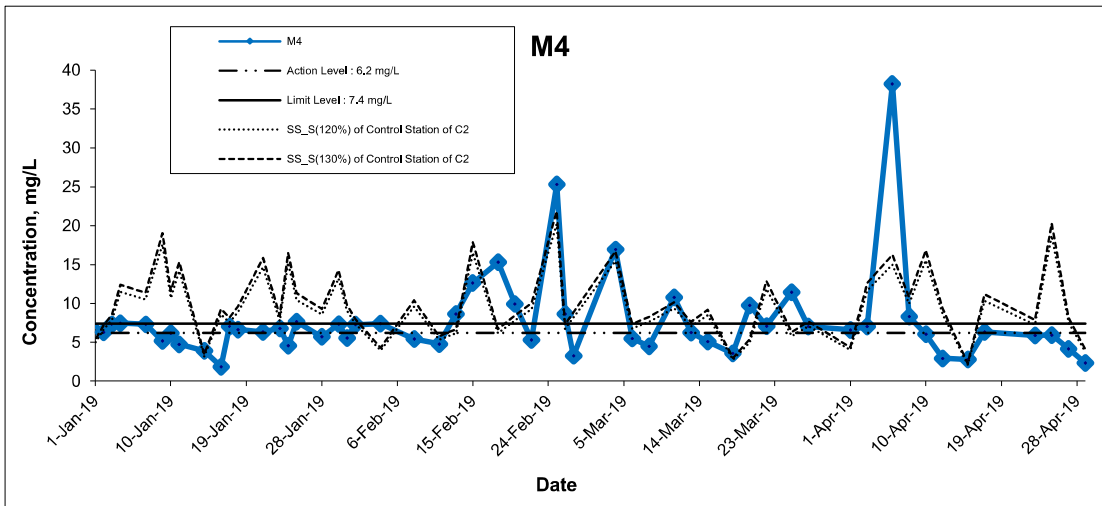
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### Suspended Solids (Surface) at Mid-Ebb Tide



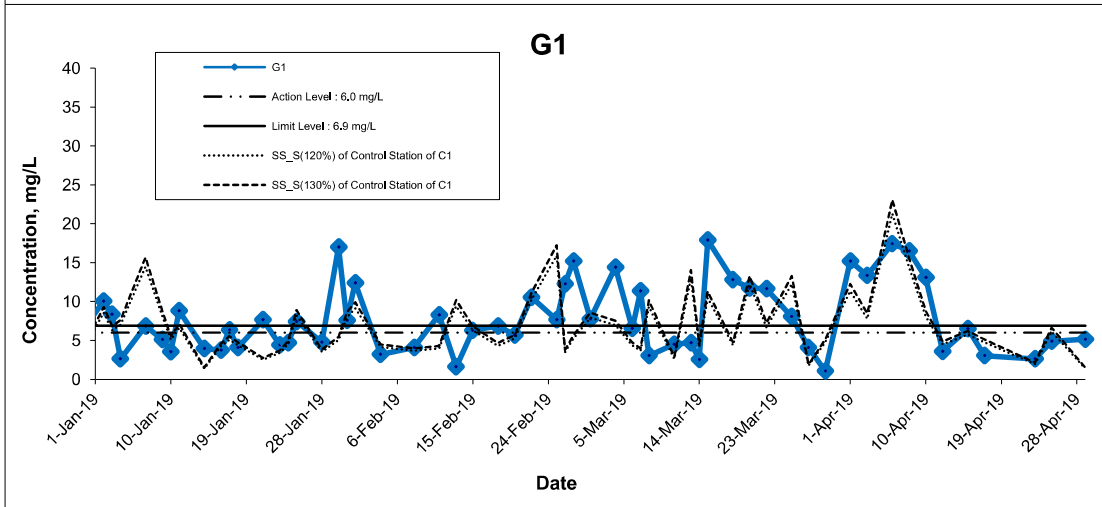
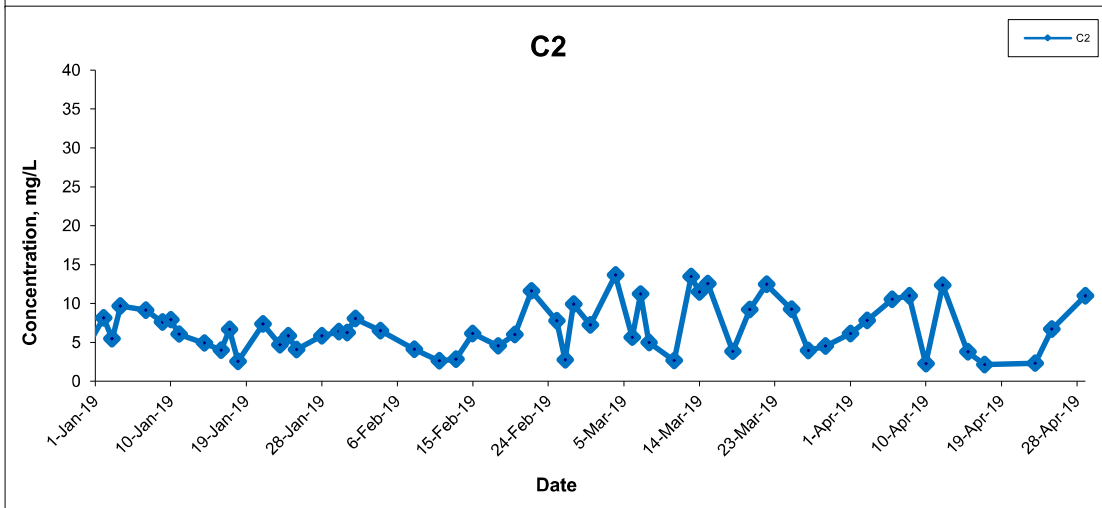
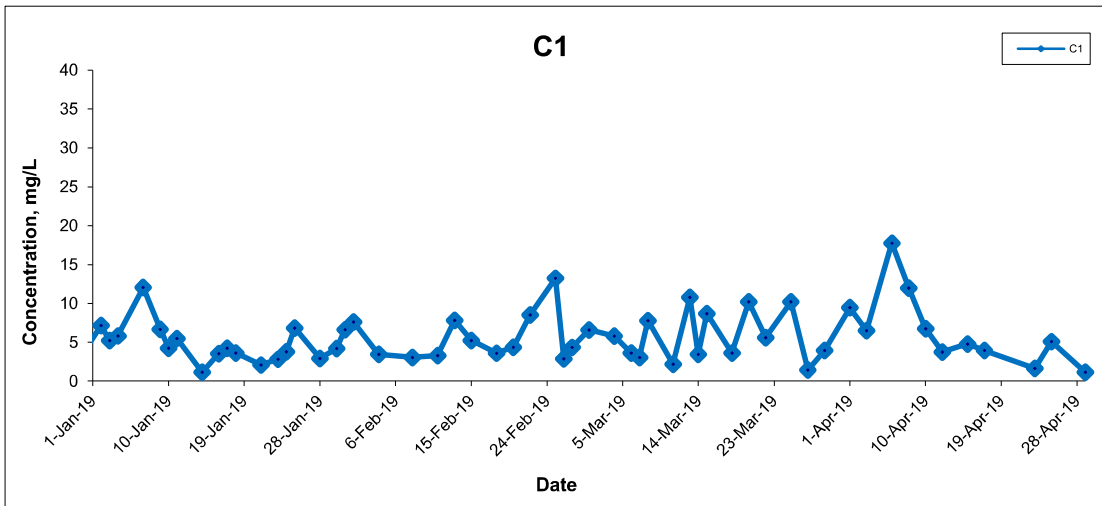
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### Suspended Solids (Surface) at Mid-Flood Tide



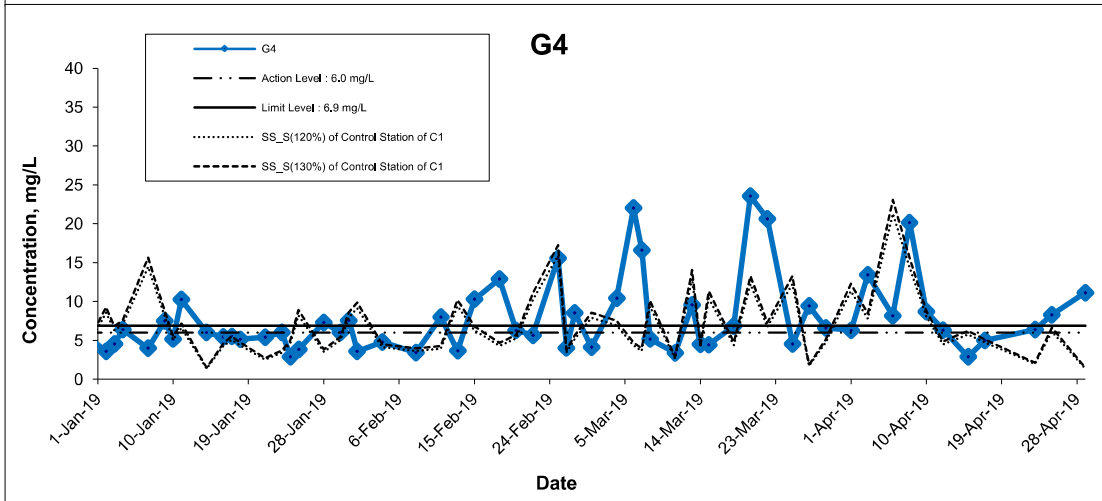
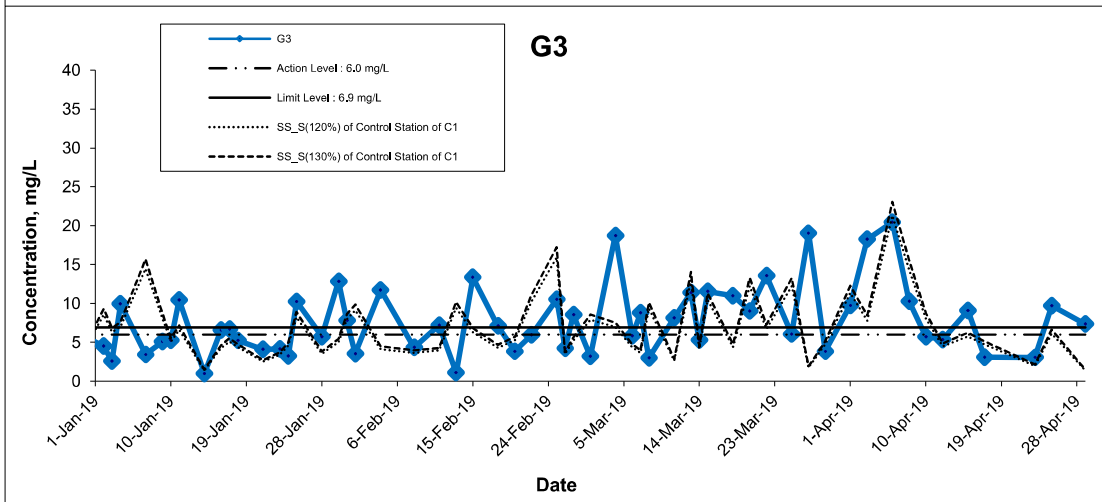
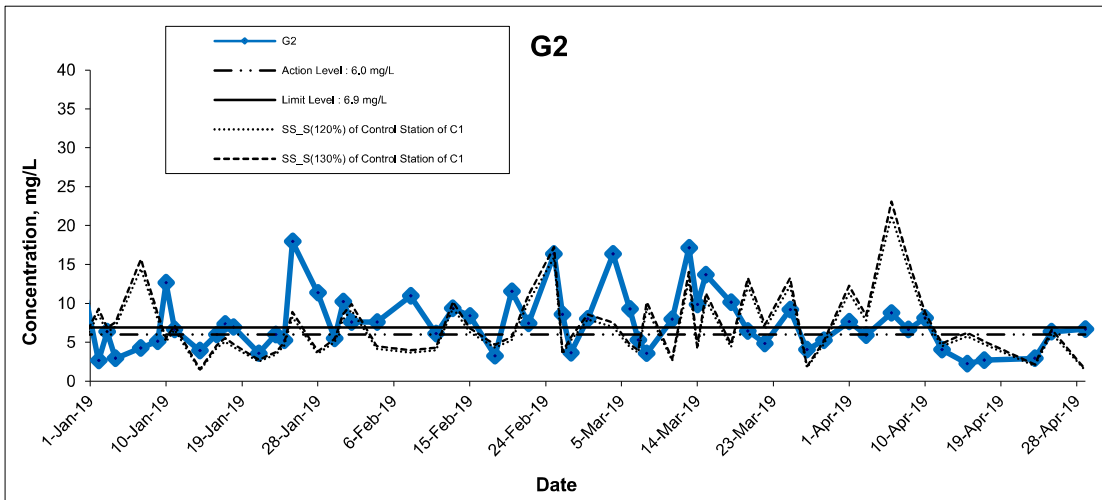
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## Suspended Solids (Surface) at Mid-Flood Tide



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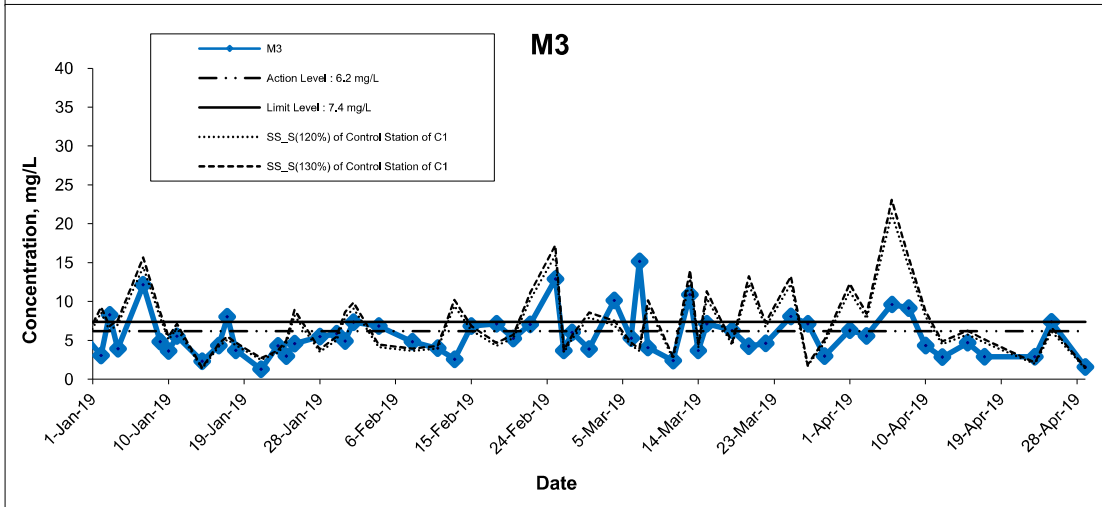
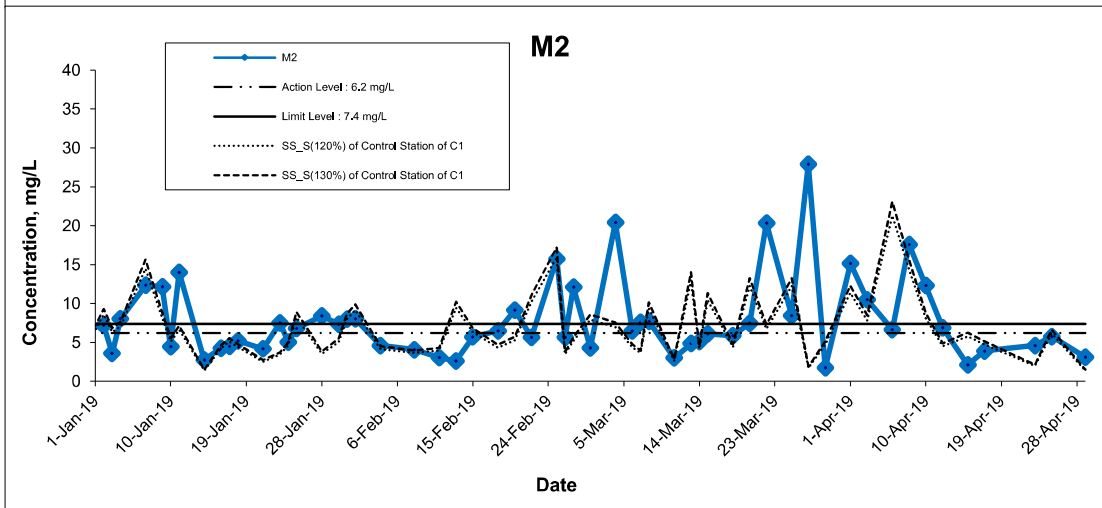
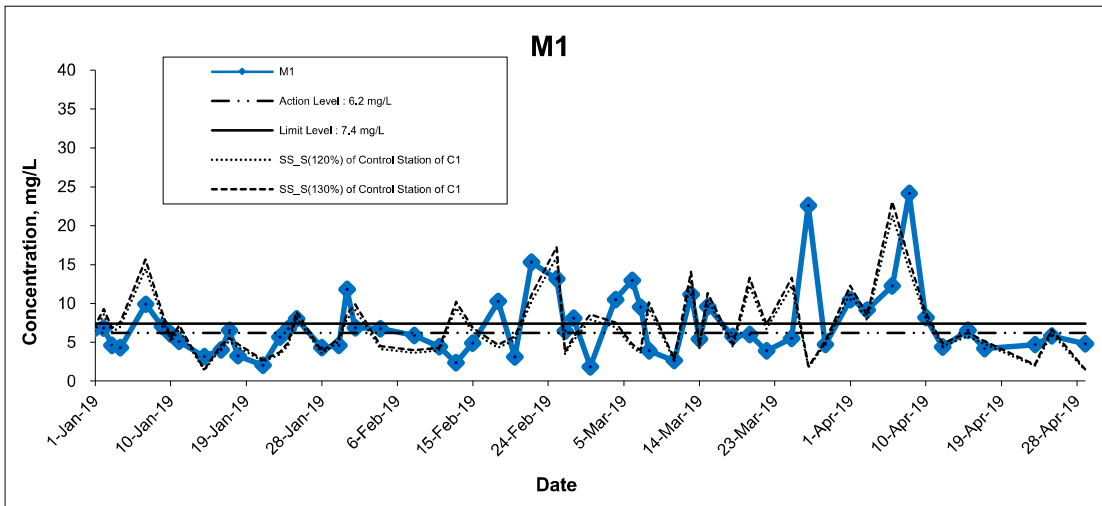
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## Suspended Solids (Surface) at Mid-Flood Tide



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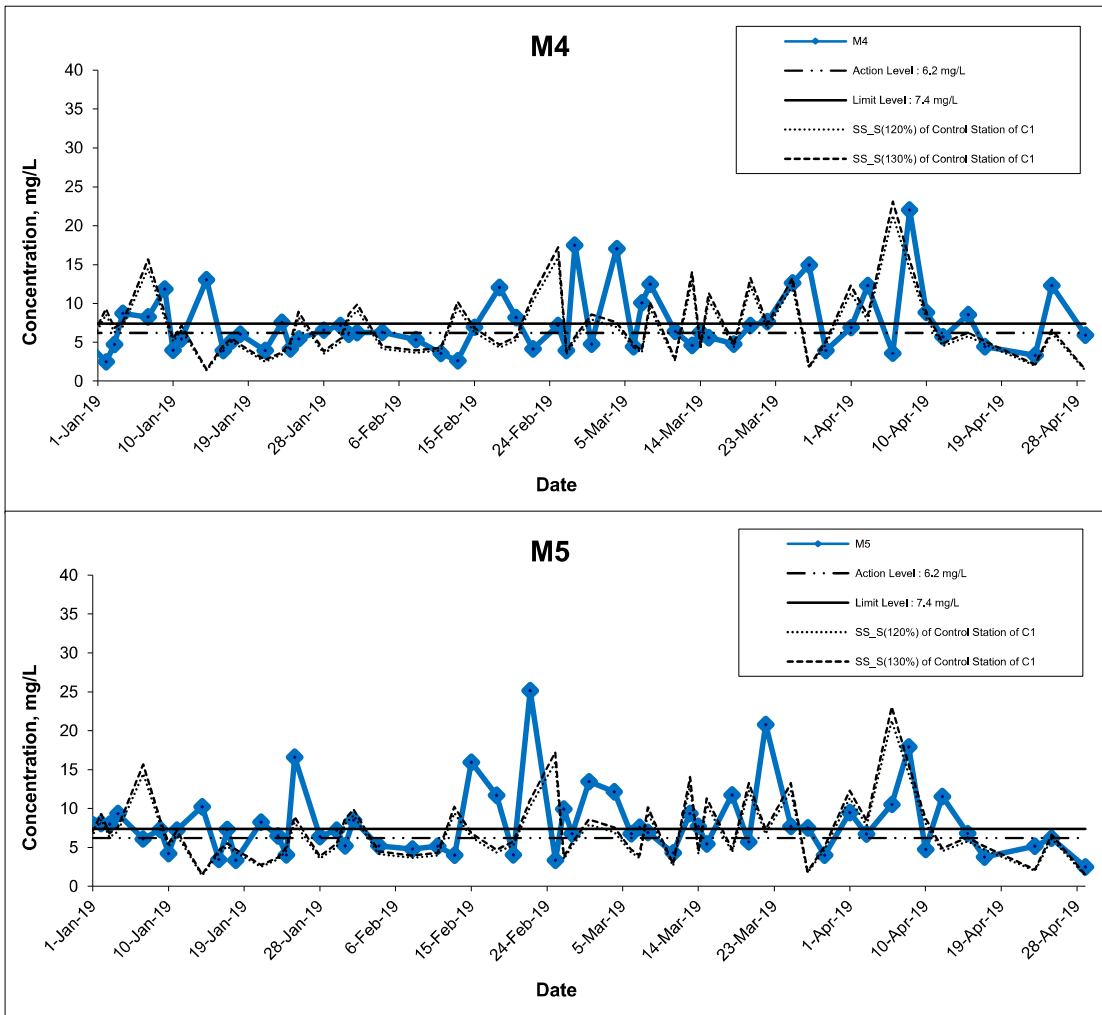
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### Suspended Solids (Surface) at Mid-Flood Tide



Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
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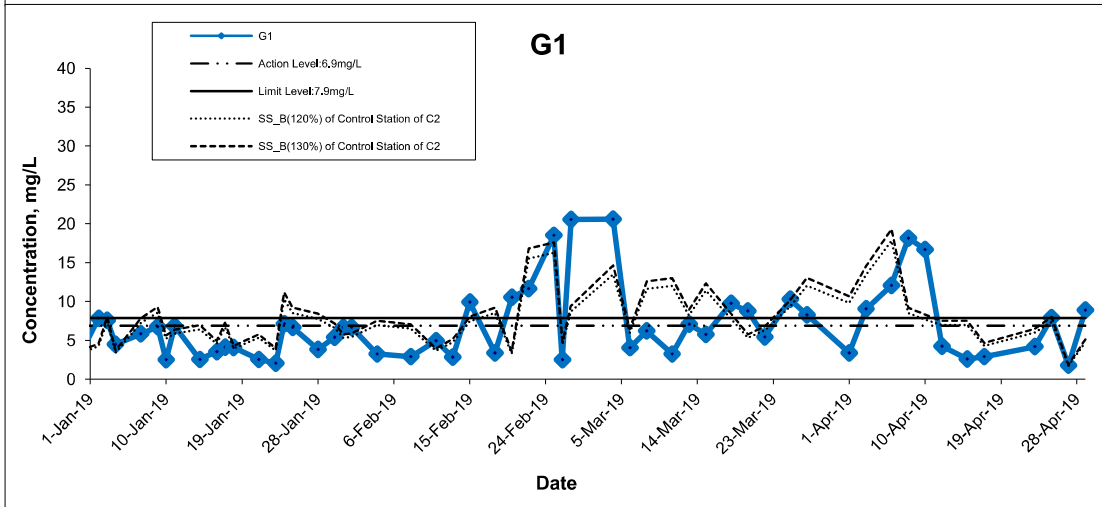
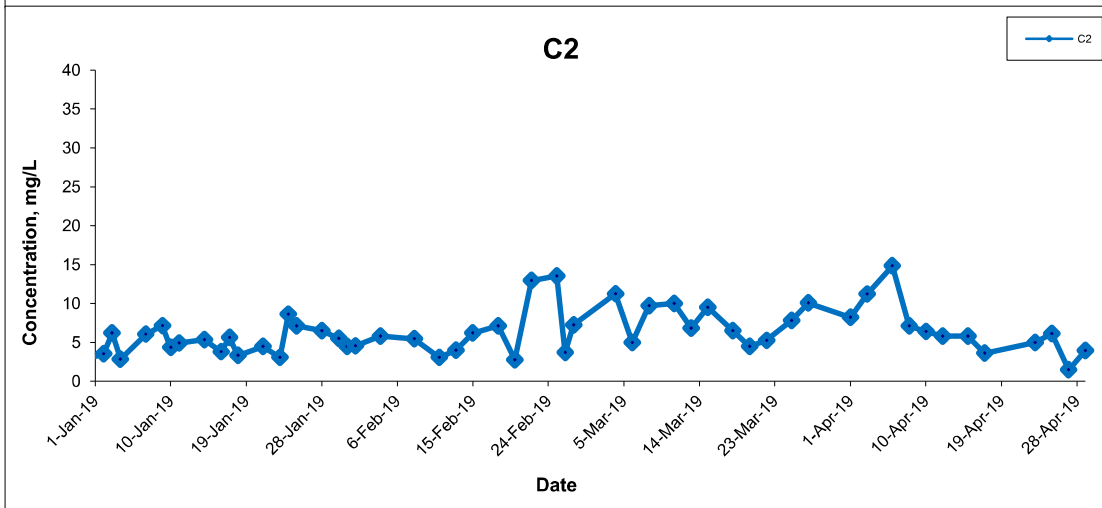
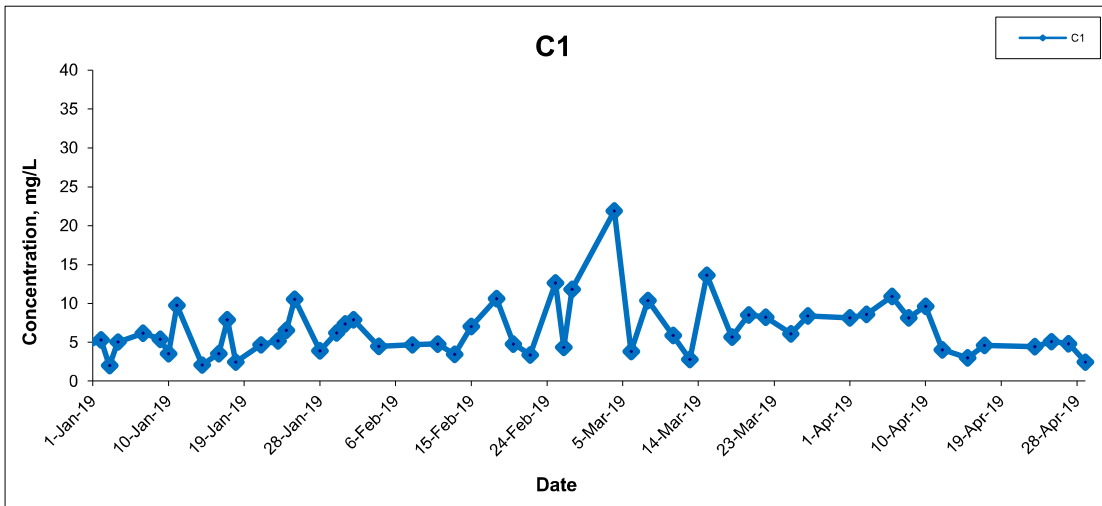
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### Suspended Solids (Bottom) at Mid-Ebb Tide



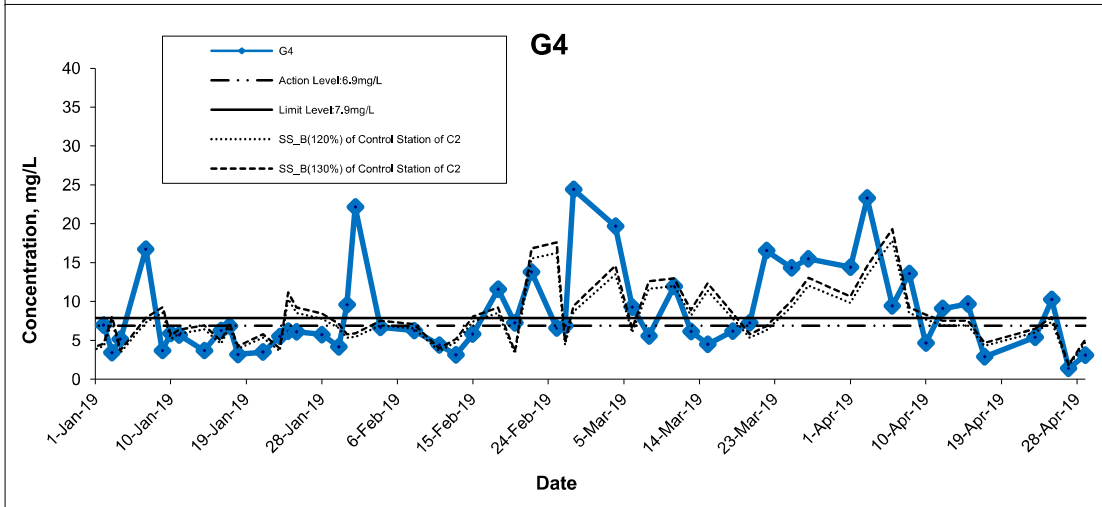
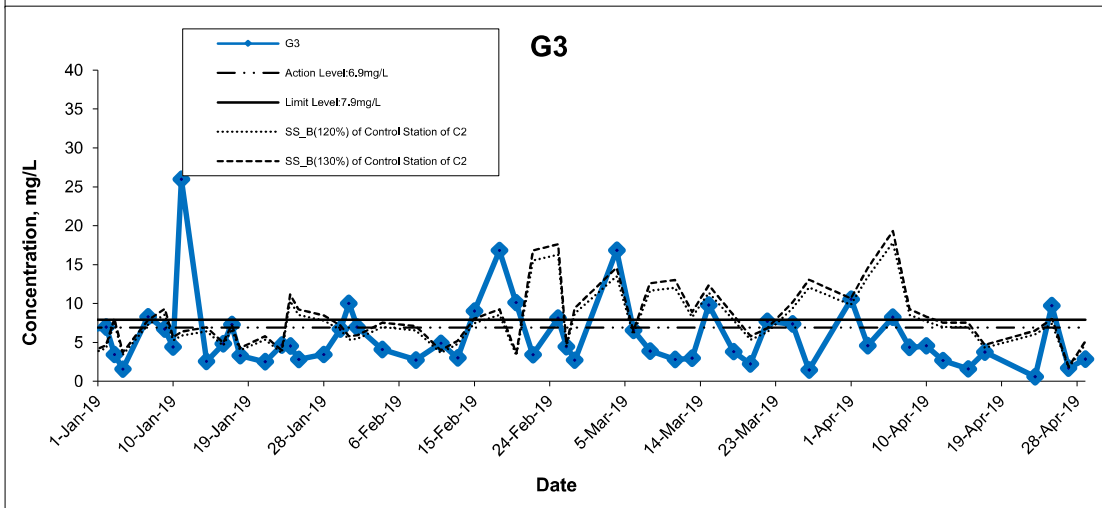
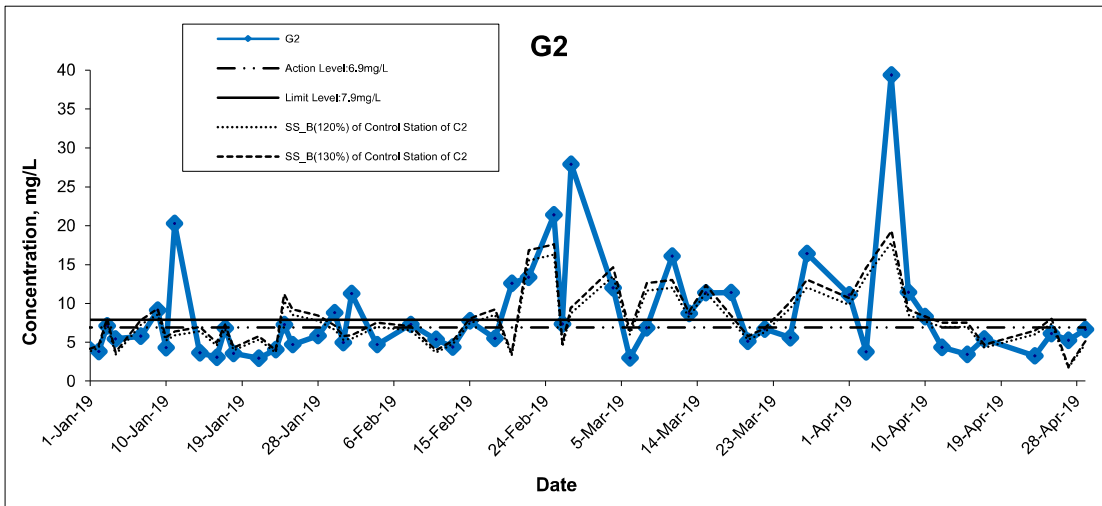
Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
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### Suspended Solids (Bottom) at Mid-Ebb Tide



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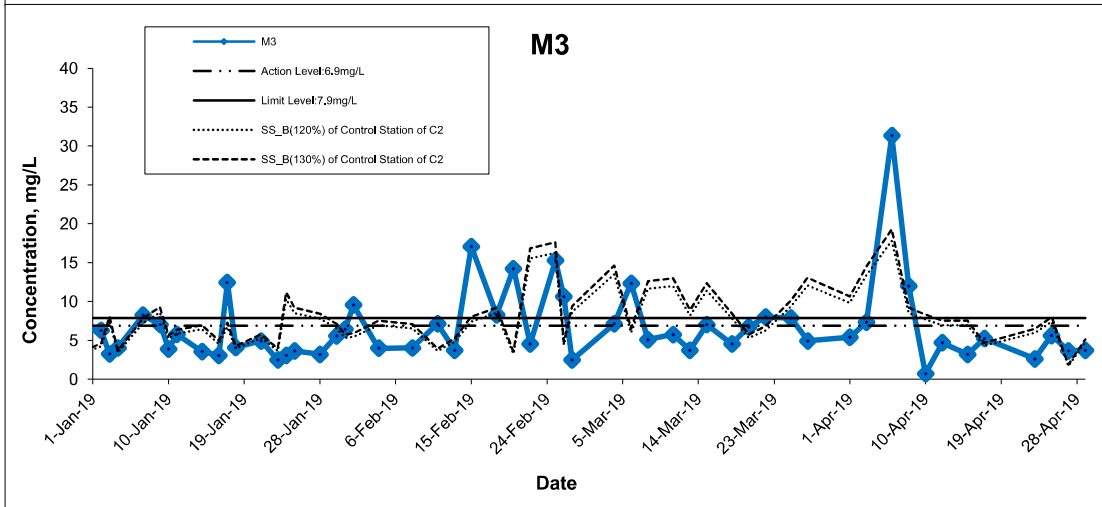
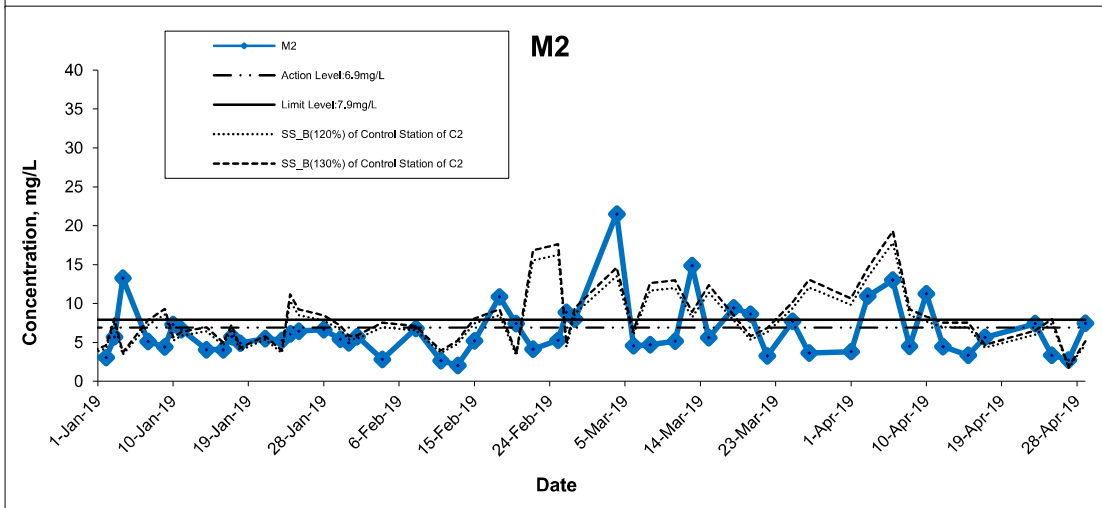
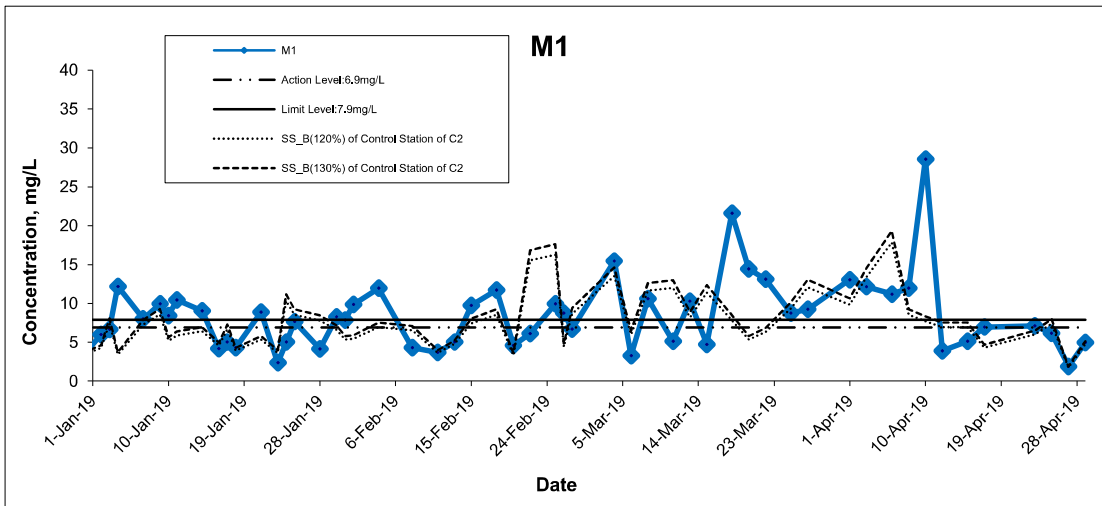
Date Apr 19

Project No. MA16034

Appendix F



### Suspended Solids (Bottom) at Mid-Ebb Tide



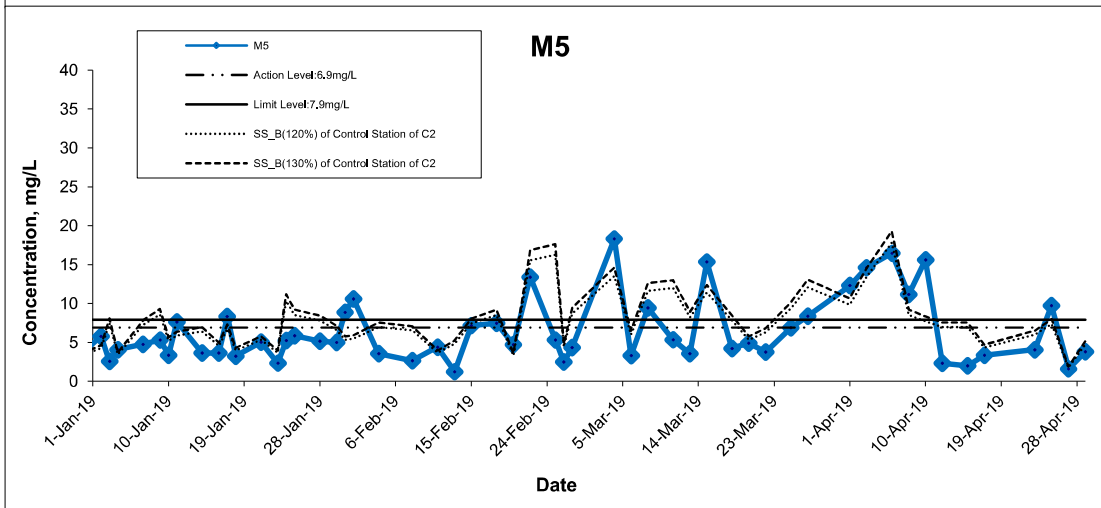
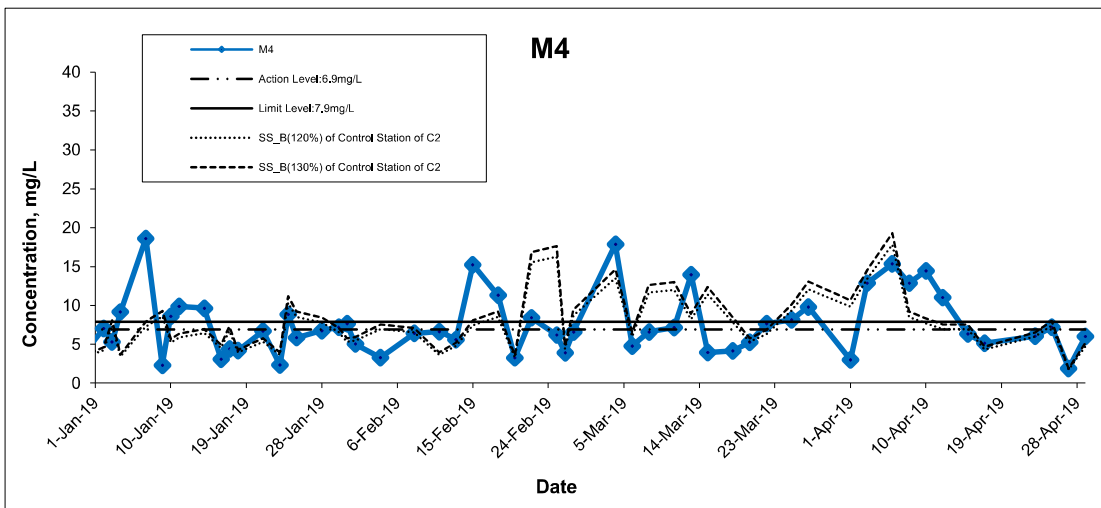
Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Graphical Presentation of Water Quality Monitoring Results

Scale N.T.S  
Date Apr 19

Project No. MA16034  
Appendix F



### Suspended Solids (Bottom) at Mid-Ebb Tide



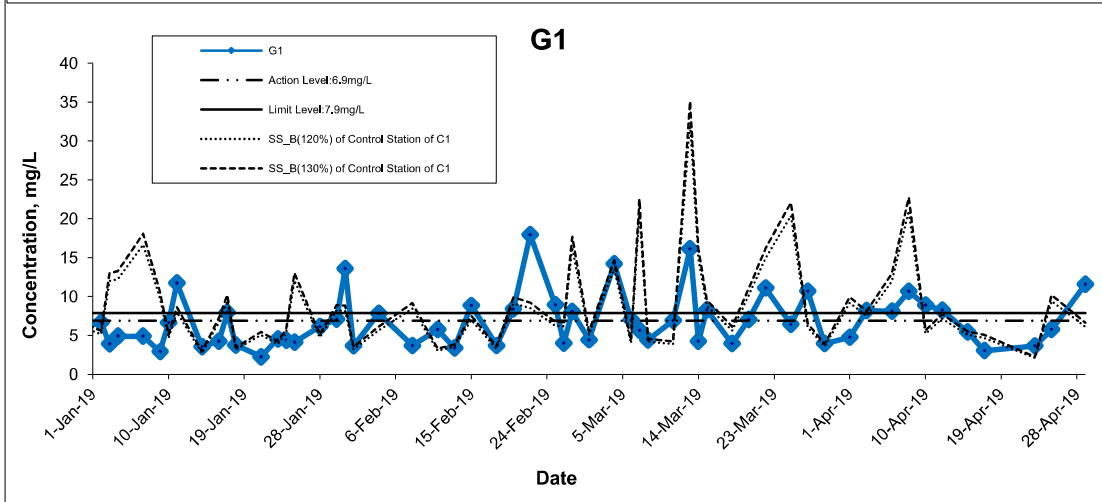
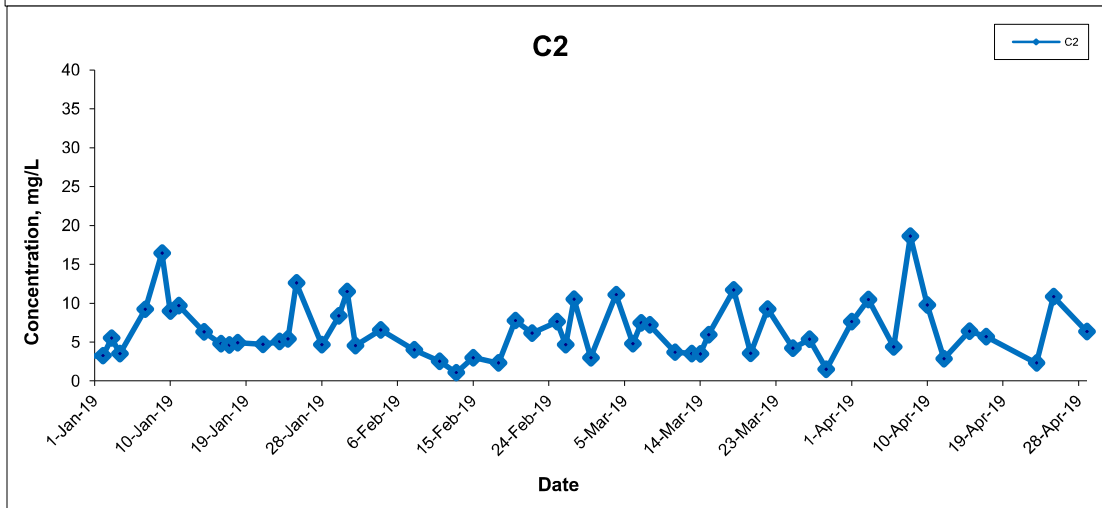
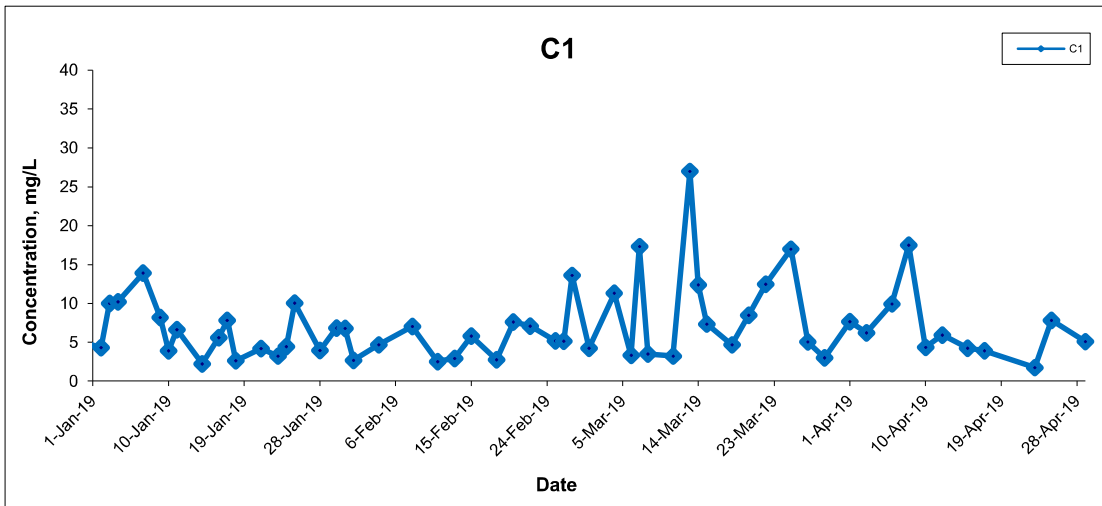
Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  
Graphical Presentation of Water Quality Monitoring Results

Scale N.T.S  
Date Apr 19

Project No. MA16034  
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

Date Apr 19

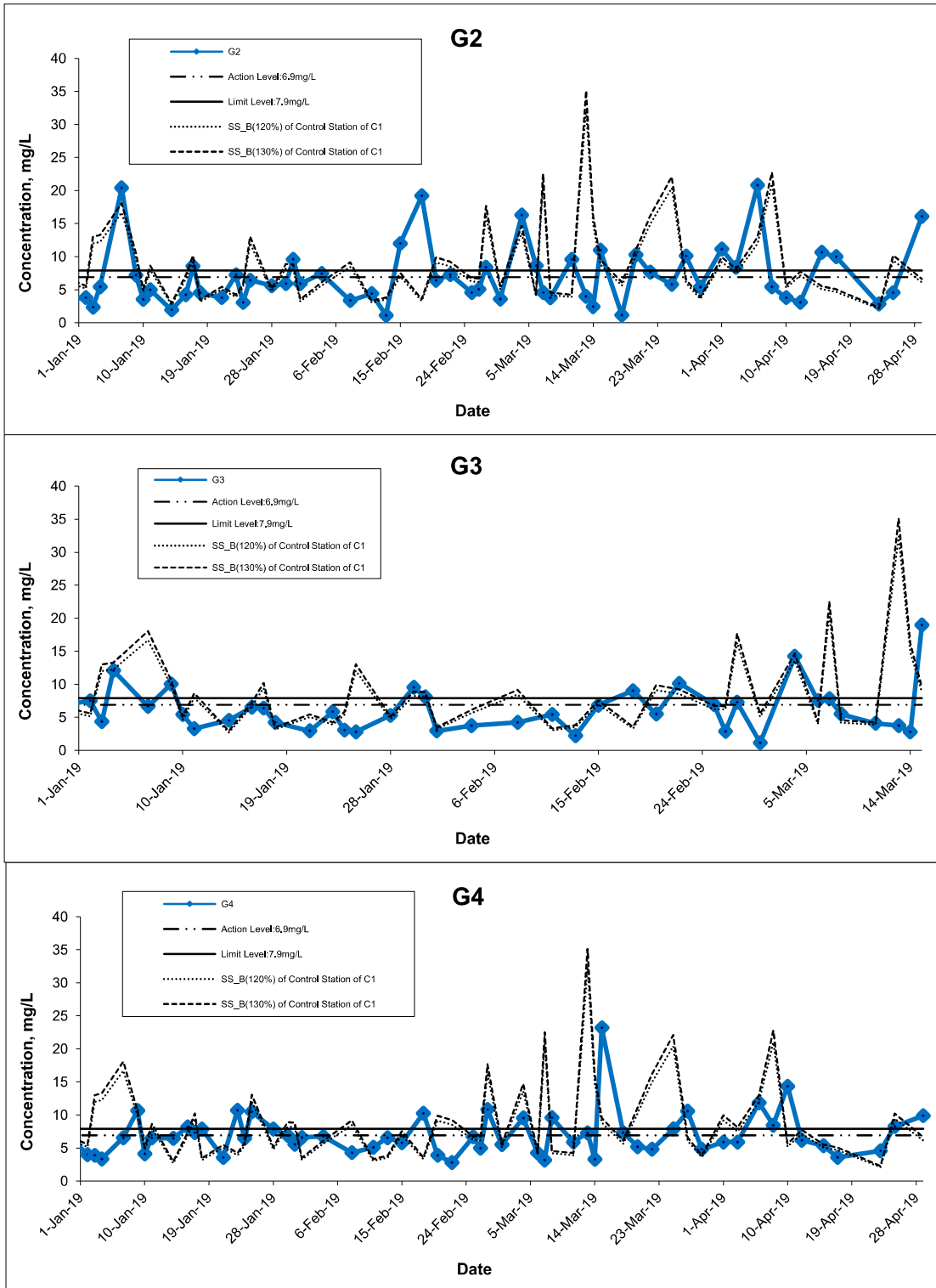
Project No. MA16034

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

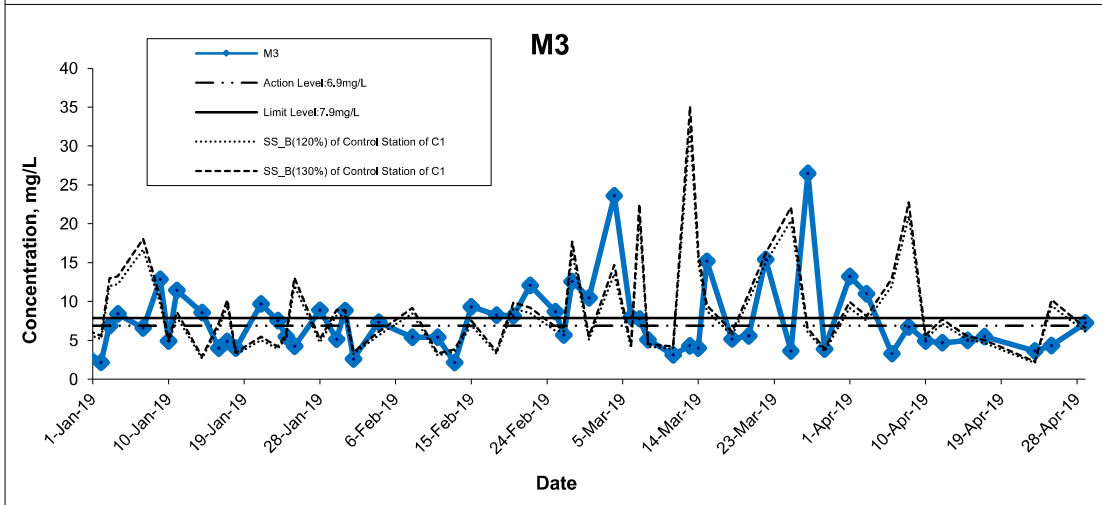
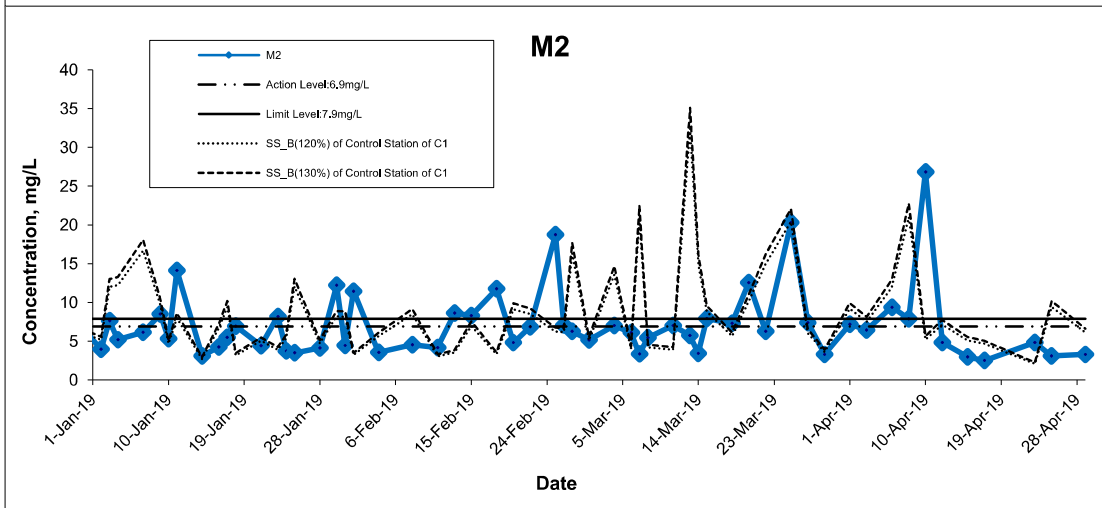
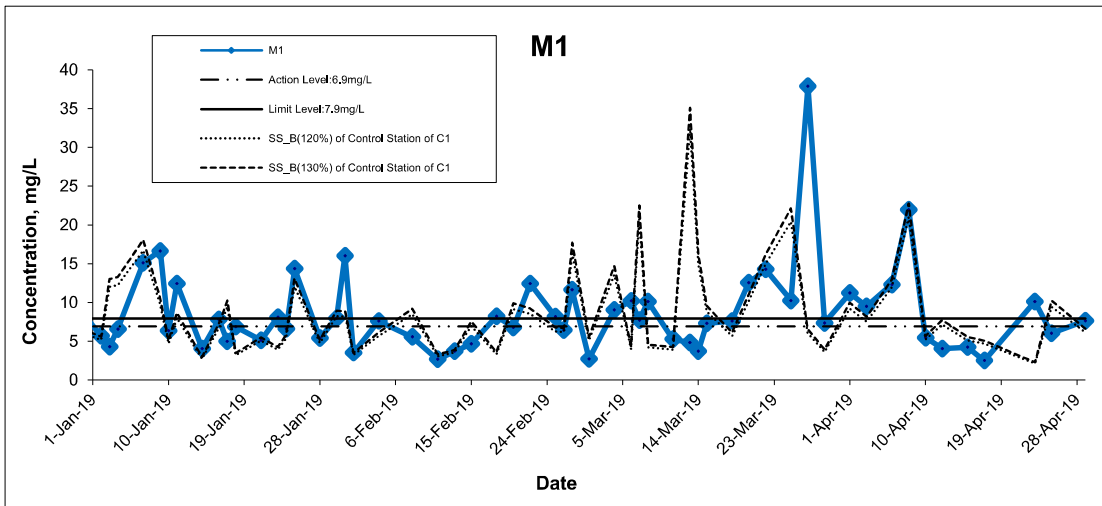
Date Apr 19

Project No. MA16034

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

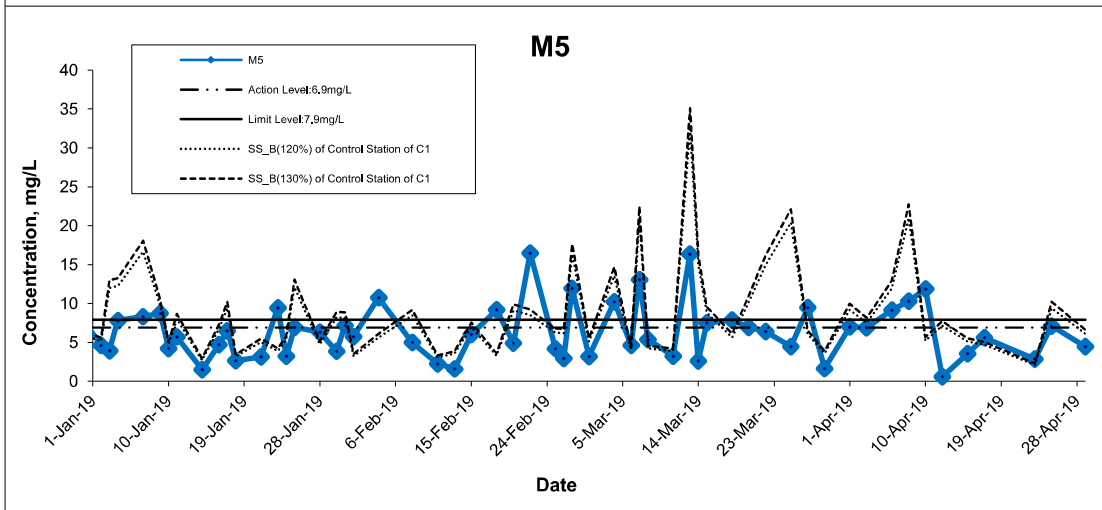
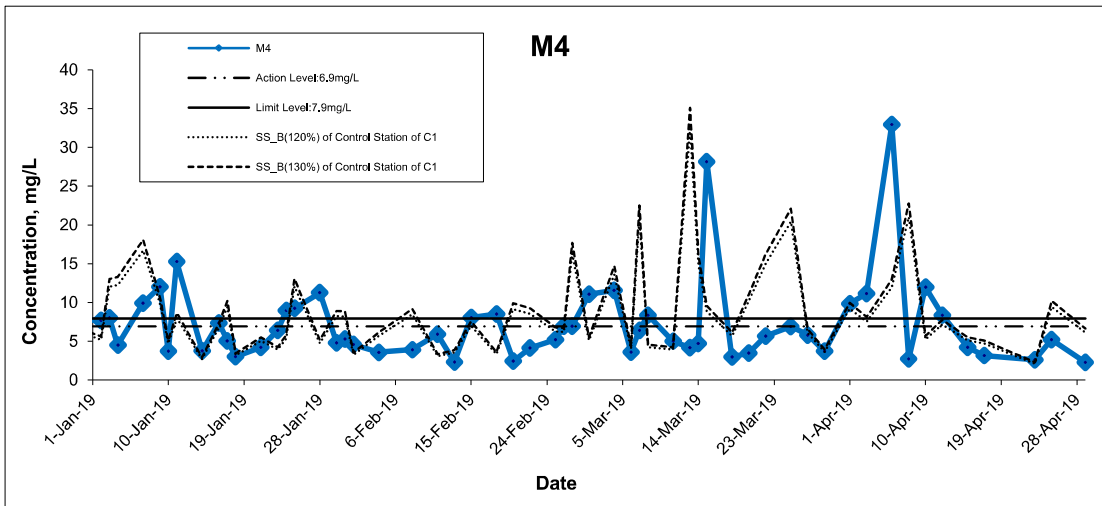
Date Apr 19

Project No. MA16034

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

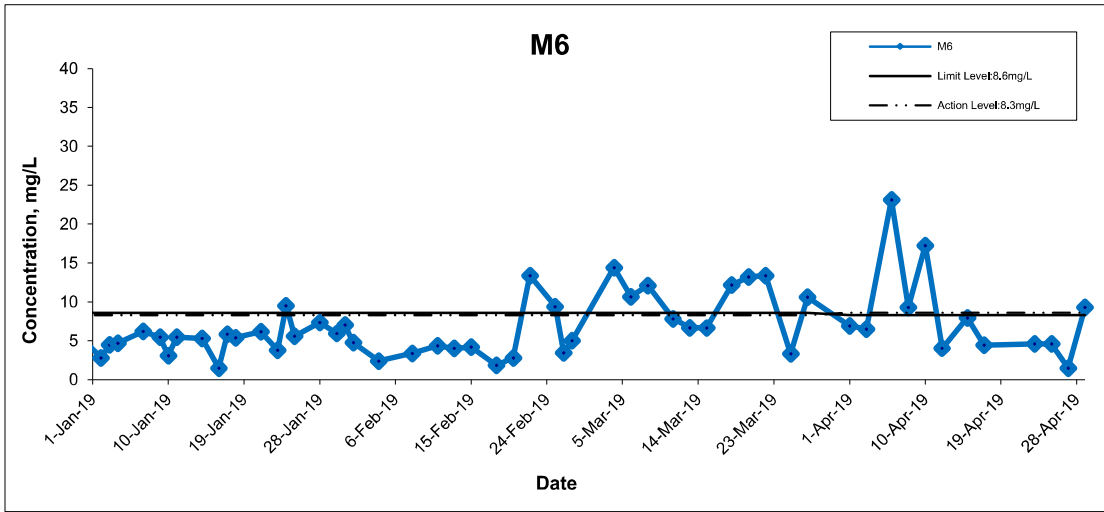
Date Apr 19

Project No. MA16034

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

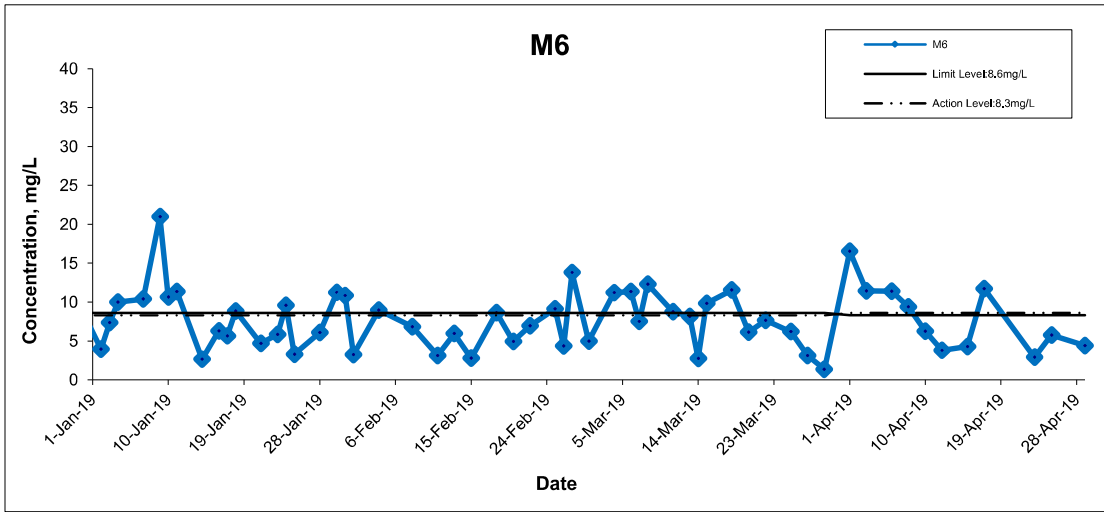
Date Apr 19

Project No. MA16034

Appendix F



### 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 19

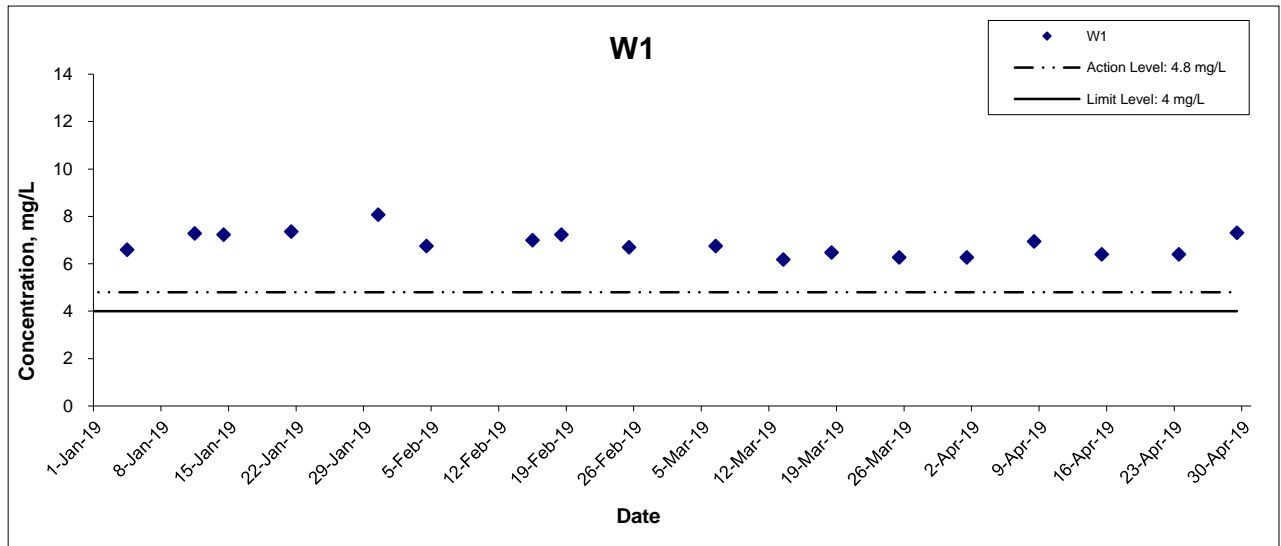
Project No. MA16034

Appendix F

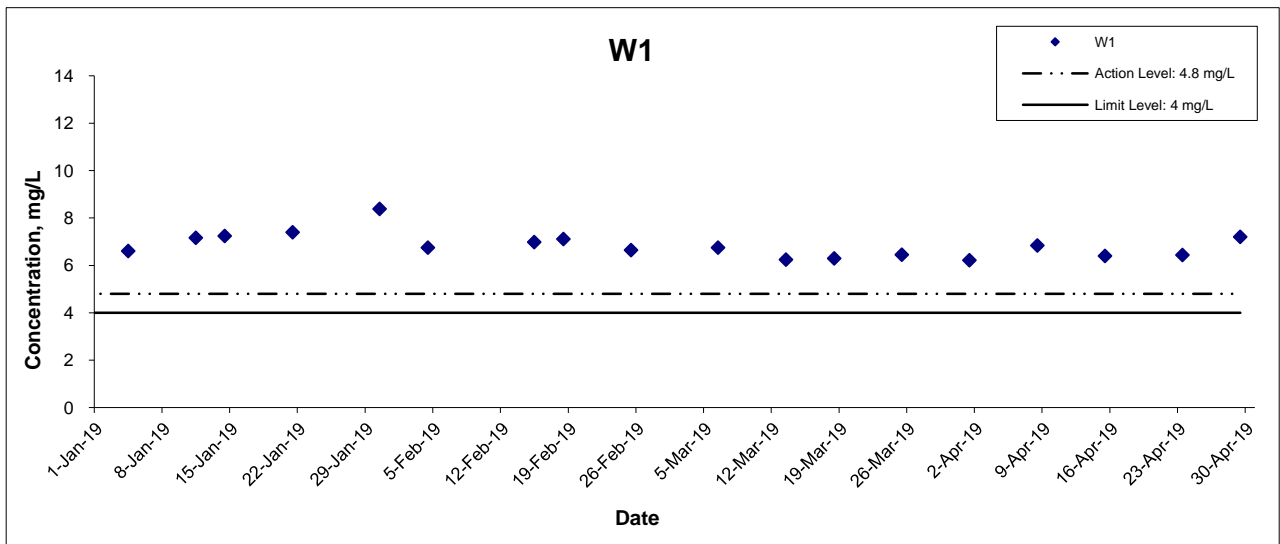




### Dissolved Oxygen (Depth-Averaged) at Mid-Ebb Tide

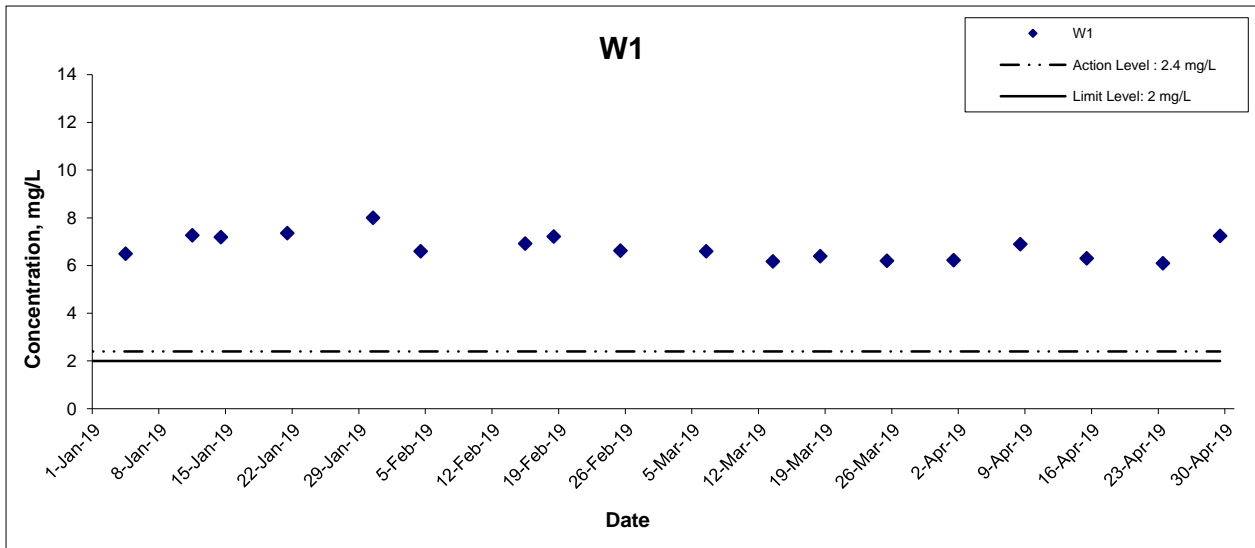


### Dissolved Oxygen (Depth-Averaged) at Mid-Flood Tide

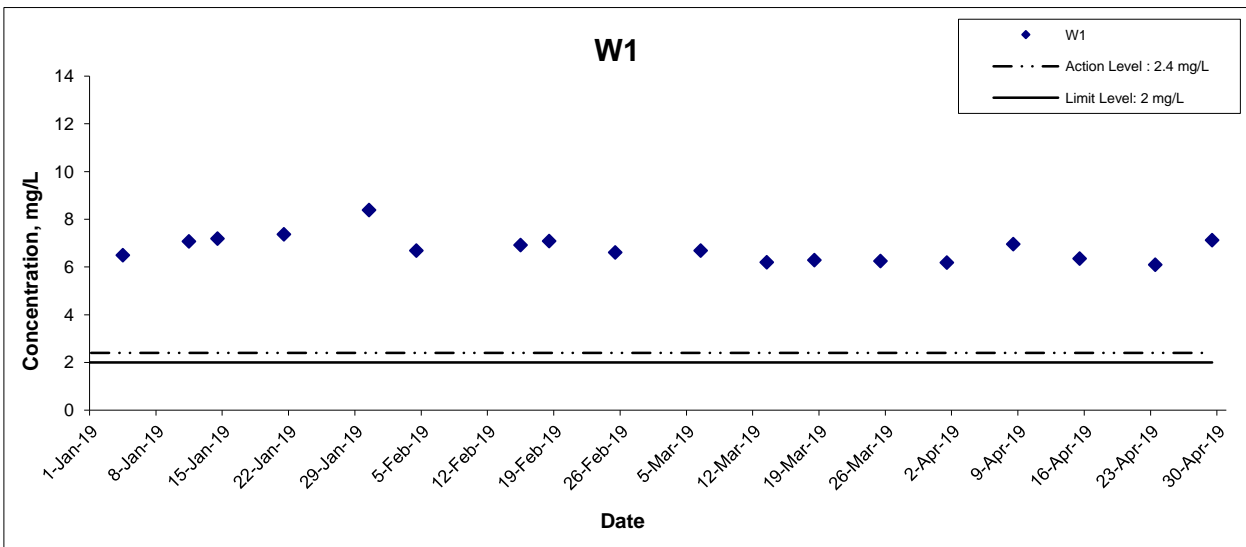


Title Agreement No. CE 59/2015(EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel Design and Construction  Graphical Presentation of Additional Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	
	Date Apr-19	Appendix F	

### Dissolved Oxygen (Bottom) at Mid-Ebb Tide



### Dissolved Oxygen (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 Additional Water Quality Monitoring Results	Scale N.T.S	Project No. MA16034	
	Date Apr-19	Appendix F	

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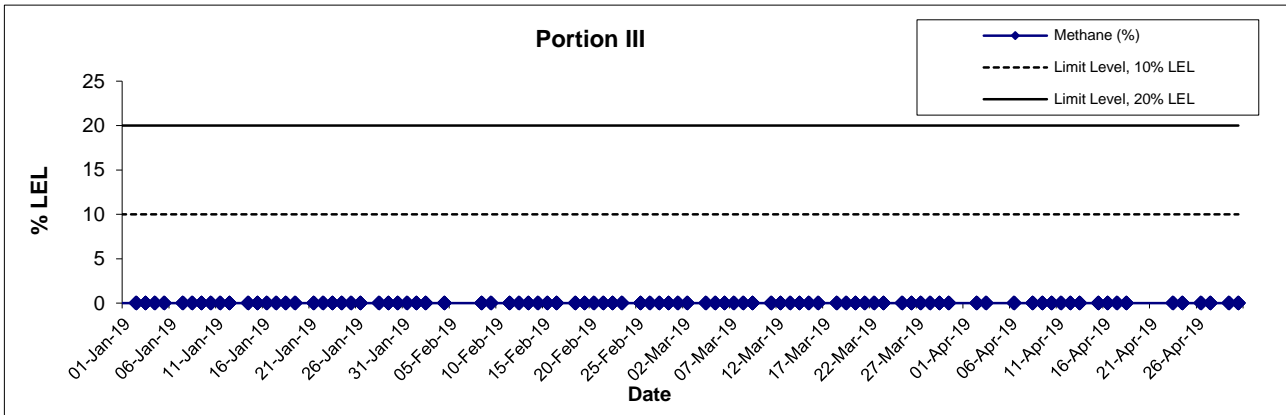
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**APPENDIX G  
GRAPHICAL PRESENTATION OF  
LANDFILL GAS MONITORING  
RESULTS**

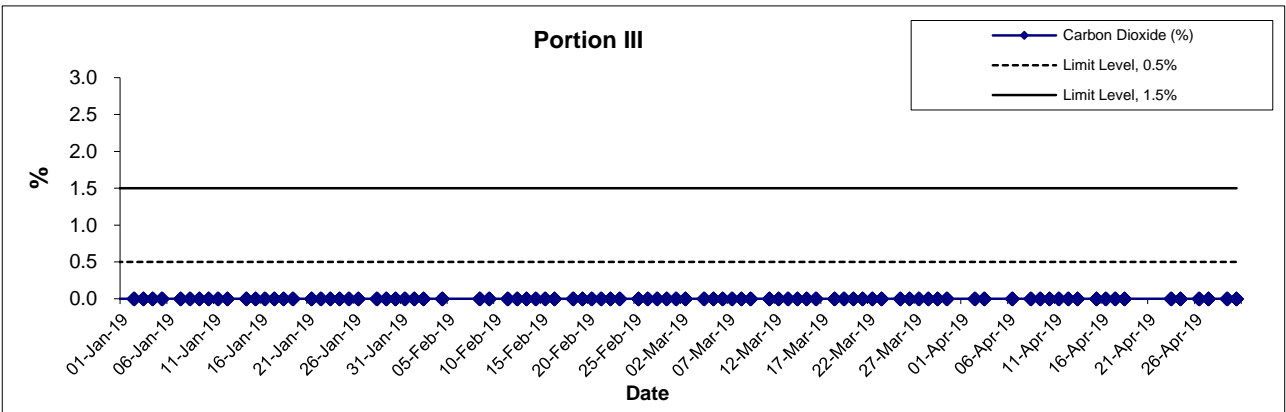
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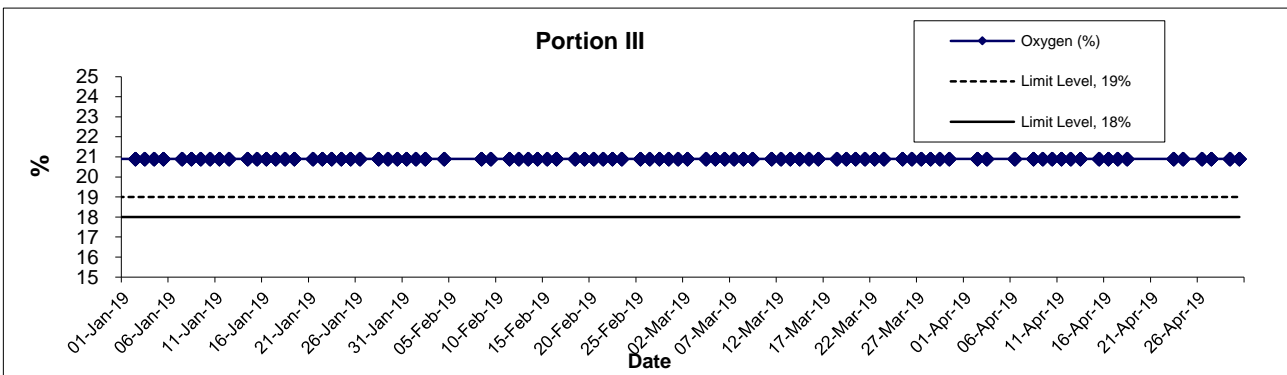
### Methane



### Carbon Dioxide



### Oxygen



Title	Agreement No. CE 59/2015 (EP) Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction	Scale	Project	CINOTECH
		N.T.S	No. MA16034	
		Date	Appendix	
		Apr-19	G	

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**APPENDIX H**  
**SITE AUDIT SUMMARY**

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**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 - April 2019)**

**Contract No. NE/2015/01 (February)**

*Tseung Kwan O - Lam Tin Tunnel - Main Tunnel and Associated Works*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
At Tseung Kwan O side, part of the silt curtain is floating and part of the buoy is missing in the northern part of Portion VII shore. The Contractor is reminded to check whether the curtain has been set to the sea bottom and the integrity. Also, part of the buoys of the silt curtain on Platform 1D was missing. The Contractor is reminded to enclose the whole platform with silt curtain.	30 January 2019	✓	Item of Portion VII shore was rectified on 20 February 2019.  Item of Plation 1D was rectified on 27 February 2019.
Washing water was seen overflowing from the bored pile case in platform 1D. The Contractor should ensure that the pumping rate is sufficient to avoid discharging waste water into the sea.	30 January 2019	✓	Improved/rectified on 12 February 2019.
At the Tseung Kwan O side, part of the silt curtain was floating near barge point. The Contractor is reminded to check if it has been set to the seabed.	12 February 2019	✗	Item was not rectified and remarked on 20 February 2019 and 27 February 2019.
Still water is observed in Portion II and needed to pump out.	20 February 2019	#	Follow up action will be reported in the next reporting month.
<b>Ecology</b>			
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<b>Noise</b>			
At the Lam Tin side, the noise barrier should be placed in the direction of the noise sensitive receiver (Yau Lai Estate) during breaking works.	12 February 2019	✓	Improved/rectified on 12 February 2019.
Noise barriers for a driller in Portion II should be placed to block direct view from NSRs. One noise barrier is advised to move closely to drillers to further block noise to NSRs.	20 February 2019	#	Follow up action will be reported in the next reporting month.
<b>Landscape and Visual</b>			
Materials underneath tree crown (tree protection zone) in Portion II should be removed.	12 February 2019	✗	Item was not rectified and remarked on 20 February 2019 and 27 February 2019.
At the Lam Tin side, construction waste was found under a tree's crown of a retained tree near the construction entrance from East Cross-harbor Tunnel and required to be removed.	20 February 2019	#	Follow up action will be reported in the next reporting month.
<b>Air Quality</b>			
Regular watering on dry surface should be applied to minimize erosion.	16 January 2019	✓	Improved/rectified on 4 February 2019.
The outlet of a crusher in Portion III had insufficient water sprays. It is to ensure that both inlet and outlet of crushing machines have sufficient water spray to keep the aggregates wet.	20 February 2019	#	Follow up action will be reported in the next reporting month.
Cement bags in Portion IVC need to be covered to prevent dust emission.	27 February 2019	#	Follow up action will be reported in the next reporting month.
<b>Waste / Chemical Management</b>			



**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 - April 2019)**

<b>Items</b>	<b>Date</b>	<b>Status*</b>	<b>Follow up Action</b>
At the Lam Tin side, a stripe of oil was observed along the road near the soldier pile wall. The Contractor is reminded to clear the oil as chemical waste	4 February 2019	✓	Improved/rectified on 20 February 2019.
At the Tseung Kwan O side near the rest room and Portion IVC, a stripe of oil was observed along the road. The Contractor is reminded to clear the oil as chemical waste.	27 February 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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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

**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 – April 2019)**

**Contract No. NE/2015/01 (March)**

*Tseung Kwan O - Lam Tin Tunnel - Main Tunnel and Associated Works*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
At Tseung Kwan O side, part of the silt curtain is floating and part of the buoy is missing. The Contractor is reminded to check whether the curtain has been set to the sea bottom and the integrity.	30 January 2019	✓	Item was rectified on 20 March 2019.
At the Tseung Kwan O side, part of the silt curtain was floating. The Contractor is reminded to check if it has been set to the seabed. Also, part of the buoys of the silt curtain on Platform 1D was missing. The Contractor is reminded to enclose the whole platform with silt curtain.	12 February 2019	✓	Item was rectified on 20 March 2019.
Still water is observed in Portion II and needed to pump out.	20 February 2019	✓	Item was rectified on 20 March 2019.
At the Tseung Kwan O side, part of the silt curtain was floating and broken. It needs to be replaced to prevent leakage of pollutants	27 February 2019	✓	Item was rectified on 20 March 2019.
A hose in Portion II for surface water discharge was not connected to the designated desilting tank. The contractor is reminded to prevent pollution of nearby watercourses by runoff from the construction site.	06 March 2019	✓	Item was rectified on 20 March 2019.
Tree branches and rubbish were found in the perimeter drain near Cross-harbor Tunnel. This may cause overflow of water into the construction site.	06 March 2019	✓	Item was rectified on 27 March 2019.
<b>Ecology</b>			
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<b>Noise</b>			
Noise barriers for a driller in Portion II should be placed to block direct view from NSRs. One noise barrier is advised to move closely to drillers to further block noise to NSRs.	20 February 2019	✓	Item was rectified on 6 March 2019.
In Portion III, noise barrier(s) should be placed in the direction of Yau Lai Estate when two breakers were breaking.	13 March 2019	✓	Item was rectified on 20 March 2019.
<b>Landscape and Visual</b>			
Materials underneath tree crown (tree protection zone) should be removed.	12 February 2019	✓	Item was rectified on 20 March 2019.
At the Lam Tin side, construction waste was found under a tree's crown of a retained tree near the construction entrance from East Cross-harbor Tunnel and required to be removed	20 February 2019	✓	Item was rectified on 13 March 2019.
<b>Air Quality</b>			
The outlet of a crusher in Portion III had insufficient water sprays. It is to ensure that both inlet and outlet of crushing machines have sufficient water spray to keep the aggregates wet.	20 February 2019	✓	Item was rectified on 6 March 2019.
Cement bags in Portion IVC need to be covered to prevent dust emission.	27 February 2019	#	Follow up action will be reported in the next reporting month.
At the Tsung Kwan O site, dust was emitted during shotcrete works. Surrounding water sprays are required	06 March 2019	✓	Item was rectified on 20 March 2019.

**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 – April 2019)**

Items	Date	Status*	Follow up Action
to be turned on to reduce dust emission.			
Water sprays were required for breaking works in Portion III. Dust was emitted.	13 March 2019	✓	Item was rectified on 20 March 2019.
<b>Waste / Chemical Management</b>			
At the Tseung Kwan O side near the rest room and Portion IVC, a stripe of oil was observed along the road. The Contractor is reminded to clear the oil as chemical waste.	27 February 2019	✓	Item was rectified on 20 March 2019.
At the Tsueng Kwan O site, a drip tray was filled with water. Regular clean-ups of drip trays could reduce potential hazards if chemicals leak.	06 March 2019	✓	Item was rectified on 20 March 2019.
General refuse accumulation was observed nearby the entrance of Portion II. Accumulation of construction wastes, general refuses and tree branches were found in Portion II.	20 March 2019	#	Follow up action will be reported in the next reporting month.
A chemical waste tank was found without a drip tray. It is required to prevent chemical leakage.	27 March 2019	#	Follow up action will be reported in the next reporting month.
General refuse and construction waste was found. Regular clean-up is needed.	27 March 2019	#	Follow up action will be reported in the next reporting month.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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- ✓ 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

**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 - April 2019)**

**Contract No. NE/2015/01 (April)**

*Tseung Kwan O - Lam Tin Tunnel - Main Tunnel and Associated Works*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
At Tseung Kwan O side, oil stain and mud were found on the road to the barge point. They have to be cleaned to prevent pollutant runoff to the sea.	10 April 2019	✓	Item was rectified on 24 April 2019.
There was rubbish found at the sea near a Platform and it later was cleared by Contractor. Still, rubbish was being thrown from the platform. Contractor is reminded to prevent dumping rubbish into the sea.	24 April 2019	✓	Item was rectified on 30 April 2019.
Silt curtains at the right side of shores in Portion VII were floating.	30 April 2019	#	Follow up action will be reported in the next reporting month.
<b>Ecology</b>			
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<b>Noise</b>			
Noise barrier(s) in Portion II were placed without facing the direction of NSRs (Yau Lai Estate) when breaking. Contractor is reminded to minimize noise effects to nearby residents.	3 April 2019	✓	Item was rectified on 17 April 2019.
A breaker was found with a broken piece of noise absorption material. Contractor is reminded to wrap complete noise absorption materials to each breaker.	24 April 2019	✓	Item was rectified on 30 April 2019.
A noise barrier of a driller was found in the incorrect direction of NSRs. Contractor is reminded to set noise barrier(s) in a correct position.	30 April 2019	#	Follow up action will be reported in the next reporting month.
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
Cement bags in Portion IVC need to be covered to prevent dust emission.	27 February 2019	✓	Item was rectified on 24 April 2019.
In Portion III, dust was emitted during unloading by trucks. Contractor is reminded to provide water sprays to reduce dust emission.	17 April 2019	✓	Item was rectified on 30 April 2019.
Dust was emitted from a breaker without sufficient water sprays. Contractor is reminded to provide steady and continuous water sprays at all times during breaking.	30 April 2019	#	Follow up action will be reported in the next reporting month.
<b>Waste / Chemical Management</b>			
General refuse accumulation was observed nearby the entrance of Portion II. Accumulation of construction wastes, general refuses and tree branches were found in Portion II.	20 March 2019	✓	Item was rectified on 30 April 2019.
A chemical waste tank was found without a drip tray. It is required to prevent chemical leakage.	27 March 2019	✓	Item was rectified on 17 April 2019.
General refuse and construction waste was found. Regular clean-up is needed.	27 March 2019	✓	Item was rectified on 17 April 2019.
At Tseung Kwan O side, oil stain and mud were found on the road to the barge point. They have to be cleaned to prevent pollutant runoff to the sea.	10 April 2019	✓	Item was rectified on 24 April 2019.
At Tseung Kwan O side, a drip tray was found with	10 April 2019	✓	Item was rectified on 17 April

**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 - April 2019)**

<b>Items</b>	<b>Date</b>	<b>Status*</b>	<b>Follow up Action</b>
water and oil/grease stain. It is reminded to clean it up to prevent chemical leakage.			2019.
A chemical tank was found without a drip tray in Portion II.	30 April 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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- ✓ Observation/reminder was made during site audit but improved/rectified by the contractor in the next site audit
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- 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 - April 2019)**

**Contract No. NE/2015/02 (February)**

*Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
Stockpiling/ temporary storage of construction materials are found near seafront without cover.	29 January 2019	✓	Improved/rectified on 04 February 2019.
Floating refuse and oil slick are found on both sides inside the water gate.	13 February 2019	✗	Item was not rectified and remarked on 21 February 2019.
Floating refuse are found on both sides inside the water gate.	21 February 2019	✓	Item was not rectified and remarked on 28 February 2019.
<b>Noise</b>			
A breaker was operating in Portion IX without sufficient noise mitigation measure.	13 February 2019	✓	Improved/rectified on 21 February 2019.
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
The barge (Chun Ming 23's) exhaust dark smoke oftenly, the contractor promises to replace the filter on the barge.	21 February 2019	✓	Improved/rectified on 28 February 2019.
<b>Waste / Chemical Management</b>			
The drip tray of the generator had accumulated some water after raining.	28 February 2019	✓	Follow up action will be reported in the next reporting month.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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- \* 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 – April 2019)**

**Contract No. NE/2015/02 (March)**

*Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works*

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
Stagnant water are found at Portion V.	14 March 2019	✓	Improved/rectified on 28 March 2019.
Stagnant water are found in the drip tray of air compressor at Portion V.	21 March 2019	✓	Improved/rectified on 28 March 2019.
<b><i>Noise</i></b>			
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<b><i>Landscape and Visual</i></b>			
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<b><i>Air Quality</i></b>			
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<b><i>Waste / Chemical Management</i></b>			
--	--	--	--
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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- ✓ 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 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 - April 2019)**

**Contract No. NE/2015/02 (April)**

*Tseung Kwan O - Lam Tin Tunnel - Road P2 and Associated Works*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
Stagnant water are found at Portion V.	18 April 2019	✓	Improved/rectified on 25 April 2019
<b>Noise</b>			
Noise emission from the excavator, need to apply with lubricant.	25 April 2019	#	Follow up action will be reported in the next reporting month.
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
Sand piles need to be covered to prevent dust emission by wind erosion.	11 April 2019	✓	Improved/rectified on 18 April 2019
Smoke emission from the duct during operation of the Roller.	25 April 2019	#	Follow up action will be reported in the next reporting month.
<b>Waste / Chemical Management</b>			
The contractor need to clean the rubbish tank in the site office area	18 April 2019	✓	Improved/rectified on 25 April 2019
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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- \* 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 - April 2019)**

**Contract No. NE/2015/03 (February)**

*Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
The generator drip tray had accumulated some water after raining.	21 February 2019	#	Follow up action will be reported in the next reporting month.
The footbridge had accumulated some water after raining.	28 February 2019	#	Follow up action will be reported in the next reporting month.
<b>Noise</b>			
--	--	--	--
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
--	--	--	--
<b>Waste / Chemical Management</b>			
The construction material need to sort out to prevent polluting surface runoff.	21 February 2019	✓	Improved/rectified on 28 February 2019.
The footbridge had accumulated some water after raining.	28 February 2019	#	Follow up action will be reported in the next reporting month.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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**Appendix H - Site Audit Summary (February – April 2019)**

**Contract No. NE/2015/03 (March)**

*Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
The generator drip tray had accumulated some water after raining.	21 February 2019	✓	Improved/rectified on 14 March 2019.
The footbridge had accumulated some water after raining.	28 February 2019	✓	Improved/rectified on 28 March 2019.
<b>Noise</b>			
--	--	--	--
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
--	--	--	--
<b>Waste / Chemical Management</b>			
The footbridge had accumulated some water after raining.	28 February 2019	✓	Improved/rectified on 28 March 2019.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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**Monthly EM&A Report**

**Appendix H - Site Audit Summary (February - April 2019)**

**Contract No. NE/2015/03 (April)**

*Tseung Kwan O - Lam Tin Tunnel - Northern Footbridge*

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
The generator drip tray had accumulated some water after raining.	11 April 2019	✓	Improved/rectified on 18 April 2019
<b><i>Noise</i></b>			
--	--	--	--
<b><i>Landscape and Visual</i></b>			
--	--	--	--
<b><i>Air Quality</i></b>			
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<b><i>Waste / Chemical Management</i></b>			
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<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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**Appendix H - Site Audit Summary (February - April 2019)**

**Contract No. NE/2017/01 (February)**

*Tseung Kwan O - Lam Tin Tunnel – Tsueng Kwan O Interchange and Associated Works*

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
The waste water and oil in the drip tray should be removed on Siu Fai.	29 January 2019	✓	Improved/rectified on 08 February 2019.
Oil was observed on the sea water around Zhung Wei 28.	13 February 2019	✓	Improved/rectified on 19 February 2019.
<b><i>Noise</i></b>			
--	--	--	--
<b><i>Landscape and Visual</i></b>			
--	--	--	--
<b><i>Air Quality</i></b>			
Black smoke emission was observed at Zhung Wei 28.	13 February 2019	✓	Improved/rectified on 19 February 2019.
<b><i>Waste / Chemical Management</i></b>			
Oil was observed on the floor at Shing Wo.	29 January 2019	✓	Improved/rectified on 08 February 2019.
The waste water and oil in the drip tray should be removed on Siu Fai	29 January 2019	✓	Improved/rectified on 08 February 2019.
Oil was observed on the floor. The oil leakage should be avoided.	19 February 2019	✓	Improved/rectified on 28 February 2019.
The waste water in the drip trip should be removed regularly to avoid overflow.	19 February 2019	✓	Improved/rectified on 28 February 2019.
Drip trays should be provided for the oil container.	28 February 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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**Appendix H - Site Audit Summary (February – April 2019)**

**Contract No. NE/2017/01 (March)**

*Tseung Kwan O - Lam Tin Tunnel – Tsueng Kwan O Interchange and Associated Works*

Items	Date	Status*	Follow up Action
<b>Water Quality</b>			
Floating refuse are found on the surface of the water.	5 March 2019	✓	Improved/rectified on 14 March 2019.
<b>Noise</b>			
--	--	--	--
<b>Landscape and Visual</b>			
--	--	--	--
<b>Air Quality</b>			
--	--	--	--
<b>Waste / Chemical Management</b>			
Drip trays should be provided for the oil container.	28 February 2019	✓	Improved/rectified on 19 March 2019.
<b>Impact on Cultural Heritage</b>			
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<b>Permits / Licenses</b>			
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**Monthly EM&A Report**

**Appendix H - Site Audit Summary (February - April 2019)**

**Contract No. NE/2017/01 (April)**

*Tseung Kwan O - Lam Tin Tunnel – Tsueng Kwan O Interchange and Associated Works*

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
A hole is found on the silt curtains. Silt curtains should be in good condition deployed around the platform.	2 April 2019	✓	Improved/rectified on 9 April 2019.
Oil stain was observed on the barge (三航駁205) and the surface of marine. Oil leakage should be avoided.	16 April 2019	✓	Improved/rectified on 23 April 2019.
<b><i>Noise</i></b>			
--	--	--	--
<b><i>Landscape and Visual</i></b>			
--	--	--	--
<b><i>Air Quality</i></b>			
--	--	--	--
<b><i>Waste / Chemical Management</i></b>			
Oil is observed on the barge. Oil leakage from the equipment should be avoided.	2 April 2019	✓	Improved/rectified on 9 April 2019.
Oil stain was observed on the barge (三航駁205) and the surface of marine. Oil leakage should be avoided.	16 April 2019	✓	Improved/rectified on 23 April 2019.
Drip tray should be well-maintained to avoid oil leakage.	30 April 2019	#	Follow up action will be reported in the next reporting month.
General refuse should be disposed regularly.	30 April 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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**Appendix H - Site Audit Summary (February - April 2019)**

**Contract No. NE/2017/02 (February)**

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

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
A manhole is not covered	13 February 2019	✓	Improved/rectified on 21 February 2019.
<b><i>Noise</i></b>			
--	--	--	--
<b><i>Landscape and Visual</i></b>			
--	--	--	--
<b><i>Air Quality</i></b>			
--	--	--	--
<b><i>Waste / Chemical Management</i></b>			
--	--	--	--
<b><i>Impact on Cultural Heritage</i></b>			
--	--	--	--
<b><i>Permits / Licenses</i></b>			
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**Environmental Team for Tseung Kwan O - Lam Tin Tunnel – Design and Construction**  
**Monthly EM&A Report**

**Appendix H - Site Audit Summary (February – April 2019)**

**Contract No. NE/2017/02 (March)**

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

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
--	--	--	--
<b><i>Noise</i></b>			
--	--	--	--
<b><i>Landscape and Visual</i></b>			
--	--	--	--
<b><i>Air Quality</i></b>			
--	--	--	--
<b><i>Waste / Chemical Management</i></b>			
--	--	--	--
<b><i>Impact on Cultural Heritage</i></b>			
--	--	--	--
<b><i>Permits / Licenses</i></b>			
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**Appendix H - Site Audit Summary (February - April 2019)**

**Contract No. NE/2017/02 (April)**

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

Items	Date	Status*	Follow up Action
<b><i>Water Quality</i></b>			
the manholes need to seal to prevent construction site runoffs to Public Drainage System.	4 April 2019	✓	Improved/rectified on 11 April 2019
<b><i>Noise</i></b>			
--	--	--	--
<b><i>Landscape and Visual</i></b>			
--	--	--	--
<b><i>Air Quality</i></b>			
The contractor need to provide frequent water spraying / coverings to reduce dust emission	25 April 2019	#	Follow up action will be reported in the next reporting month.
<b><i>Waste / Chemical Management</i></b>			
--	--	--	--
<b><i>Impact on Cultural Heritage</i></b>			
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<b><i>Permits / Licenses</i></b>			
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**APPENDIX I  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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**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)

**Contract:NE/2015/01**

- 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 Submiss ion	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) # (1)  ^



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**February - April 2019**

/	Valid No-road Mobile Machinery (NRMM) labels should be provided to regulated machines	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	•APCO	^
<b>Noise Impact (Construction Phase)</b>							
S4.8	- 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) # (2)
S4.9	<p>Good Site Practice</p> <ul style="list-style-type: none"> <li>- Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program</li> <li>- Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.</li> <li>- Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>- Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> </ul>	To minimize construction noise impact arising from the Project at the affected NSRs	Project Proponent	Work sites	Construction Period	EIAO-TM, NCO	^  * (4), # (3)  ^ ^

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**February - April 2019**

	<ul style="list-style-type: none"> <li>- Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> <li>- Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>						^  ^
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
<b>Water Quality Impact (Construction Phase)</b>							
S5.6.24	The dry density of filling material for the TKO-LT Tunnel reclamation should be 1,900kg/m <sup>3</sup> , with fine content of 25% or less	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO	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 <sup>3</sup> (i.e. 1,000 m <sup>3</sup> per trip) for the filling operation at the reclamation area for Road P2. All filling works shall be carried out behind the seawall with the use of single silt curtain at the marine access.	Control potential impacts from filling activities	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO	N/A
Silt Curtain	<ul style="list-style-type: none"> <li>- Silt curtains should be deployed properly to surround the works area.</li> <li>- Maintenance of silt curtain should be provided.</li> </ul>	Control potential impacts from	Contractor	NE/2015/01	Construction stage	EIAO	* (5) # (4)

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Deployment Plan	-	marine works					
S5.8.3	<p>Other good site practices should be undertaken during filling operations include:</p> <ul style="list-style-type: none"> <li>- all marine works should adopt the environmental friendly construction methods as far as practically possible including the use of cofferdams to cover the construction area to separate the construction works from the sea;</li> <li>- floating single silt curtain shall be employed for all marine works;</li> <li>- all vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> <li>- all hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>- excess material shall be cleaned from the decks and exposed fittings of barges before the vessel is moved;</li> <li>- adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;</li> <li>- loading of barges and hoppers should be controlled to prevent splashing of filling material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation;</li> <li>- any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;</li> <li>- construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds; and</li> <li>- before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation, design and operation of the silt curtain.</li> </ul>	Control potential impacts from filling activities and marine-based construction	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, Waste Disposal Ordinance (WDO)	^  ^  ^  ^  ^  ^  ^  ^  ^  ^  ^  ^  * (6)  N/A

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**February - April 2019**

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	<p>To minimize water quality impact arising from the dredging and filling works for Reclamation for Road P2, the following mitigation measures shall be implemented:</p> <ul style="list-style-type: none"> <li>- Before carrying out any dredging and underwater filling works, a temporary barrier shall first be constructed to a height above the high water mark to completely enclose the works site (without any opening at the barrier wall)</li> <li>- The temporary barrier fully enclosing the dredging and underwater filling works site shall not be removed before completion of all dredging and underwater filling works.</li> <li>- Water quality sampling and testing shall be carried out to demonstrate that the water quality inside the enclosed barrier is comparable to the ambient or baseline levels prior to the removal of the fully enclosed barrier.</li> <li>- Silt curtains shall be deployed for the installation and removal of the temporary barrier and at the double water gates marine access opening during its operation.</li> </ul>	Control potential impacts from dredging and filling works for Reclamation for Road P2	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	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	* (7)



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**February - April 2019**

S5.8.6	Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Design Stage and Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO, TM-DSS	* (8)
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	* (9)
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	* (10)

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**February - April 2019**

S5.8.10	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.11	Sedimentation tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m <sup>3</sup> capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO S5	^
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	* (11)
S5.8.14	Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50m <sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction	Control potential impacts from construction site	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^

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	materials, soil, silt or debris into any drainage system.	runoff and land-based 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	* (12)
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	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^

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	and silty water to public roads and drains.						
S5.8.19	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.20	It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There shall be no direct discharge of effluent from the site into the sea.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.21	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.22	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching the coastal waters.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.23	Minimum distances of 100m shall be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes during construction and operational phases	Control potential impacts from construction site	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, TMDSS	^

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		runoff and land-based 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	CEDD's Contractors	Work site	Design Stage and Construction Phas	ProPECC PN 1/94, EIAOTM, WPCO	N/A

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		construction					
S5.8.29 - S5.8.31	Wastewater generated from the washing down of mixing trucks and drum mixers and similar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum. To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an online standby pump of adequate capacity and with automatic alternating devices. Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal and pH adjustment facilities (to within the pH range of 6 to 10). Disposal of wastewater into storm drains will require more elaborate treatment.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^
S5.8.32	All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site runoff 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	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	N/A



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		construction					
S5.8.35	Water used in water testing to check leakage of structures and pipes should be reused for other purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains.	Control potential impacts from construction site runoff and land-based construction	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	N/A
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	Control potential impacts from construction site	CEDD's Contractors	Work site	Construction Phase	ProPECC PN 1/94, EIAOTM, WPCO	^

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	should be tinkered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters	runoff and land-based construction					
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	^

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S5.8.44	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO	^
S5.8.45	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO	^
S5.8.46	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes" published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:  <ul style="list-style-type: none"> <li>- suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;</li> <li>- chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and</li> <li>- storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	Control potential impacts from accidental spillage of chemicals	CEDD's Contractors	Work site	Construction Phase	EIAO-TM, WPCO, WDO	* (13)  ^  ^
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**

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<p>S6.8.4</p>	<p><b>Measures to Minimize Disturbance</b></p> <ul style="list-style-type: none"> <li>- Use of Quiet Mechanical Plant during the construction phase should be adopted wherever possible.</li> <li>- Hoarding or fencing should be erected around the works area boundaries during the construction phase. The hoarding would screen adjacent habitats from construction phase activities, reduce noise disturbance to these habitats and also to restrict access to habitats adjacent to works areas by site workers;</li> <li>- Regular spraying of haul roads to minimize impacts of dust deposition on adjacent vegetation and habitats during the construction activities</li> </ul>	<p>Minimize noise, human and traffic disturbance to terrestrial habitat and wildlife; and reduce dust generation</p>	<p>Design Team / Contractor</p>	<p>Land-based works are</p>	<p>Construction Phase</p>	<p>N/A</p>	<p>^ ^ ^</p>
<p>S6.8.5</p>	<p><b>Standard Good Site Practice</b></p> <ul style="list-style-type: none"> <li>- Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats.</li> <li>- Construction activities should be restricted to works areas that should be clearly demarcated. The works areas should be reinstated after completion of the works.</li> <li>- Waste skips should be provided to collect general refuse and construction wastes. The wastes should be properly disposed off-site in a timely manner.</li> <li>- General drainage arrangements should include sediment and oil traps to collect and control construction site run-off.</li> <li>- Open burning on works sites is illegal, and should be strictly prohibited.</li> <li>- Measures should also be put into place so that litter, fuel and solvents do not enter the nearby watercourses.</li> </ul>	<p>Reduce disturbance to surrounding habitats</p>	<p>Contractor</p>	<p>Land-based works are</p>	<p>Construction Phase</p>	<p>N/A</p>	<p>^ ^ ^ ^ ^ ^</p>
<p>S6.8.6</p>	<p><b>Measure to Minimize Groundwater Inflow</b></p> <ul style="list-style-type: none"> <li>- The drained tunnel construction method with groundwater inflow control measures would generally be adopted.</li> <li>- During the tunnel excavation, pre-excavation grouting could be adopted to reduce the groundwater inflow and ensure that the tunnel would meet the long term water tightness requirements.</li> </ul>	<p>Minimize groundwater inflow</p>	<p>Contractor</p>	<p>Tunnel</p>	<p>Construction Phase</p>	<p>N/A</p>	<p>N/A N/A</p>

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<p>S6.8.8</p>	<p><b><i>Measure to Minimize Impact on Corals</i></b></p> <p><u>Coral translocation</u></p> <ul style="list-style-type: none"> <li>- It is recommended to translocate the affected coral colonies, except the locally common <i>Oulastrea crispata</i>, within the reclamation area and bridge footprint to the other suitable locations as far as practicable.</li> <li>- The coral translocation should be conducted during the winter months (November-March) in order to avoid disturbance during their spawning period (i.e. July to October).</li> <li>- A detailed coral translocation plan with a description on the methodology for pretranslocation coral survey, translocation methodology, identification/proposal of coral recipient site, monitoring methodology for posttranslocation should be prepared during the detailed design stage.</li> <li>- The coral translocation plan should be subject to approval by relevant authorities (e.g. EPD and 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.</li> </ul> <p><u>Post translocation Monitoring</u></p> <ul style="list-style-type: none"> <li>- A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the translocated coral communities</li> <li>- Information gathered during each posttranslocation monitoring survey should include observations on the presence, survival, health condition and growth of the translocated coral colonies. These parameters should then be compared with the baseline results collected from the pre-translocation survey.</li> </ul>	<p>Minimize loss of coral</p>	<p>Design team, contractor, project operator</p>	<p>Within reclamation areas and pier footprint</p>	<p>Prior construction</p>	<p>N/A</p>	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
<p>S6.8.9 S6.8.10</p>	<p><b><i>Measure to Control Water Quality Impact</i></b></p> <ul style="list-style-type: none"> <li>- Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> <li>- Diverting of the site runoff to silt trap facilities before discharging into storm drain;</li> <li>- Proper waste and dumping management; and</li> </ul>	<p>Control water quality impact, especially on suspended solid level; minimize</p>	<p>Design Team, contractor</p>	<p>Marine and landbased works area</p>	<p>Construction phase</p>	<p>WQO</p>	<p>N/A</p> <p>^</p> <p>^</p>

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	- Standard good-site practice for land-based construction.	the contamination of wastewater discharge, accidental chemical spillage and construction site runoff to the receiving water bodies					^
S6.8.11	<p><b>Compensation for Vegetation Loss</b></p> <ul style="list-style-type: none"> <li>- Felling of mature trees should be compensated by planting of standard or heavy standard trees within or in vicinity of the affected area as far as practicable. Such compensatory planting for trees should be provided with at least a 1:1 ratio. In addition, vegetation at the temporarily affected area should be reinstated with species similar to the existing condition.</li> </ul>	Compensate for the vegetation loss	Design Team, contractor	Land-based works area	Construction phase	N/A	^
<b>Fisheries Impact</b>							
S7.7.3	<p><b>Measure to Control Water Quality Impact</b></p> <ul style="list-style-type: none"> <li>- Deployment of silt curtains around the active stone column installation points, opening of newly installed seawall and marine works area.</li> </ul>	Control water quality impact, especially on suspended solid level	Design Team / Contractor	Marine work area	Construction phase	WQO	^
<b>Waste Management (Construction Phase)</b>							
S8.6.3	<p><b>Good Site Practices and Waste Reduction Measures</b></p> <ul style="list-style-type: none"> <li>- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</li> </ul>	To reduce waste management impacts	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)	^

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	<ul style="list-style-type: none"> <li>- Training of site personnel in site cleanliness, proper waste management and chemical handling procedures;</li> <li>- Provision of sufficient waste disposal points and regular collection of waste;</li> <li>- Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and</li> <li>- Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> </ul>					Land (Miscellaneous Provisions) Ordinance (Cap. 28)	^  * (14)  ^  ^
S8.6.4	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <ul style="list-style-type: none"> <li>- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>- Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce;</li> <li>- Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and</li> <li>- Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	Waste Disposal Ordinance (Cap. 354)  Land (Miscellaneous Provisions) Ordinance (Cap. 28)	^  ^  ^  ^
S8.6.5	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <p>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.</p> <p>The EMP should be submitted to the Engineer for approval. The Contractor should implement the waste management practices in the EMP throughout the construction</p>	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005	^



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	stage of the Project. The EMP should be reviewed regularly and updated by the Contractor.						
S8.6.6	<p><b>Good Site Practices and Waste Reduction Measures (con't)</b></p> <ul style="list-style-type: none"> <li>- C&amp;D materials would be reused in the project and other local concurrent projects as far as possible.</li> </ul>	To achieve waste reduction	Contractor	All work sites	Construction Phase	ETWB TCW No. 19/2005	^
S8.6.7	<p><b>Storage, Collection and Transportation of Waste</b></p> <p>Should any temporary storage or stockpiling of waste is required, recommendations to minimize the impacts include:</p> <ul style="list-style-type: none"> <li>- Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimizing the potential of pollution;</li> <li>- Maintain and clean storage areas routinely;</li> <li>- Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and</li> <li>- Different locations should be designated to stockpile each material to enhance reuse.</li> </ul>	To minimize potential adverse environmental impacts arising from waste storage	Contractor	All work sites	Construction Phase	-	^ ^ ^ ^
S8.6.8/ Waste Manage ment Plan	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p> <ul style="list-style-type: none"> <li>- Remove waste in timely manner;</li> <li>- Waste collectors should only collect wastes prescribed by their permits;</li> <li>- Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;</li> <li>- Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);</li> <li>- Waste should be disposed of at licensed waste disposal facilities/ alternative disposal ground approved by RE and DEP; and</li> <li>- Maintain records of quantities of waste generated, recycled and disposed.</li> </ul>	To minimize potential adverse environmental impacts arising from waste collection and disposal	Contractor	All work sites	Construction Phase		^ ^ ^ ^ ^ ^
S8.6.9/	<p><b>Storage, Collection and Transportation of Waste (con't)</b></p>	To minimize	Contractor	All work	Construction	DEVB TCW No.	

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<p>Waste Manage ment Plan</p>	<ul style="list-style-type: none"> <li>- Implementation of trip ticket system with reference to DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction &amp; Demolition Materials, to monitor disposal of waste and to control fly-tipping at PFRFs or landfills. A recording system for the amount of waste generated, recycled and disposed (including disposal sites) should be proposed.</li> </ul>	<p>potential adverse environmental impacts arising from waste collection and disposal</p>		<p>sites</p>	<p>Phase</p>	<p>6/2010</p>	<p>^</p>
<p>S8.6.11 - S8.6.13/ Waste Manage ment Plan</p>	<p><b>Sorting of C&amp;D Materials</b></p> <ul style="list-style-type: none"> <li>- Sorting to be performed to recover the inert materials, reusable and recyclable materials before disposal off-site.</li> <li>- Specific areas shall be provided by the Contractors for sorting and to provide temporary storage areas for the sorted materials.</li> <li>- The C&amp;D materials should at least be segregated into inert and non-inert materials, in which the inert portion could be reused and recycled in the reclamation as far as practicable before delivery to PFRFs. While opportunities for reusing the non-inert portion should be investigated before disposal of at designated landfills</li> </ul>	<p>To minimize potential adverse environmental</p>	<p>Contractor</p>	<p>All work sites</p>	<p>Construction Phase</p>	<p>DEVB TCW No. 6/2010  ETWB TCW No. 33/2002  ETWB TCW No. 19/2005</p>	<p>^  ^  ^</p>
<p>S8.6.17 – S8.6.20</p>	<p><b>Sediments (con't)</b></p> <ul style="list-style-type: none"> <li>- Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during boring, excavation, transportation and disposal of sediments or cement stabilization of sediment.</li> <li>- A treatment area should be confined for carrying out the cement stabilization mixing and temporary stockpile. The area should be designed to prevent leachate from entering the ground. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO).</li> <li>- In order to minimise the potential odour / dust emissions during boring, excavation and transportation of the sediment, the excavated sediments should be kept wet during excavation/boring and should be properly covered when</li> </ul>	<p>To determine the best handling and treatment of sediment</p>	<p>Contractor</p>	<p>All works areas with sediments concern</p>	<p>Construction Phase</p>		<p>^  ^  ^</p>



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	<p>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.</p> <ul style="list-style-type: none"> <li>- In order to minimise the exposure to contaminated materials, workers should, when necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities should also be provided on site.</li> <li>- Another possible arrangement for Type 3 disposal is by geosynthetic containment. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal.</li> </ul>						<p>N/A</p> <p>N/A</p>
<p>S8.6.26/ Waste Manage ment Plan</p>	<p><b>Chemical Wastes.</b></p> <ul style="list-style-type: none"> <li>- If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or other licensed facility, in accordance with the Waste Disposal</li> </ul>	<p>To ensure proper management of chemical waste</p>	<p>Contractor</p>	<p>All works sites</p>	<p>Construction Phase</p>	<p>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</p> <p>Waste Disposal (Chemical Waste) (General) Regulation</p>	<p>* (15) # (5)</p>

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	(Chemical Waste) (General) Regulation.						
S8.6.27/ Waste Manage ment Plan	<p><b>General Refuse</b></p> <ul style="list-style-type: none"> <li>- General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</li> </ul>	To ensure proper management of general refuse	Contractor	All works sites	Construction Phase	Public Health and Municipal Services Ordinance (Cap. 132)	* (16) # (6)
<b>Impact on Cultural Heritage (Construction Phase)</b>							
S9.6.4	<p>Dust and visual impacts</p> <ul style="list-style-type: none"> <li>- Temporarily fenced off buffer zone with allowance for public access (minimum 1 m) should be provided;</li> <li>- The open yard in front of the temple should be kept as usual for annual Tin Hau festival;</li> <li>- Monitoring of vibration impacts should be conducted when the construction works are less than 100m from the temple.</li> </ul>	To prevent dust and visual impacts	Contractors	Work areas	Construction Phase	EIAO; GCHIA; AMO	^  ^ ^
S9.6.4	<p>Indirect vibration impact</p> <ul style="list-style-type: none"> <li>- Vibration level is suggest to be controlled within a peak particle velocity (ppv) limit of 5mm/s measured inside the historical buildings;</li> <li>- Monitoring of vibration should be carried out during construction phase.</li> <li>- Tilting and settlement monitoring should will be applied on the Cha Kwo Ling Tin Hau Temple as well.</li> <li>- A proposal with details for the mitigation measures and monitoring of impacts on built heritage shall be submitted to AMO for comments before commencement of work.</li> </ul>	To prevent indirect vibration impact	Contractors	Work areas	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.	^  ^ ^ ^
Built Heritage Mitigation Plan	<ul style="list-style-type: none"> <li>- Established Alert, Alarm and Action Level for the monitoring parameters.</li> <li>- To increase the instrumentation monitoring and reporting frequency.</li> <li>- To propose detailed action plan or contingency plan for the Engineer's approval when AAA Level is reached or exceeded.</li> </ul>	To prevent vibration impacts	NE/2015/01	Tin Hau Temple	Construction Phase	Vibration Limits on Heritage Buildings by CEDD; GCHIA; AMO.	^ ^ ^

<b>Landscape and Visual Impact (Construction Phase)</b>							
Table 10.8.1/ Landscape Mitigation Plan	CM1 - Construction area and contractor's temporary works areas to be minimised to avoid impacts on adjacent landscape.	Avoid impact on adjacent landscape areas	CEDD (via Contractor)	General	Construction planning and during construction period	N/A	^
Table 10.8.1/ Landscape Mitigation Plan	CM2 - Reduction of construction period to practical minimum.	Minimise duration of impact	CEDD (via Contractor)	N/A	Construction planning	N/A	^
Table 10.8.1/ Landscape Mitigation Plan	CM3 - Topsoil, where the soil material meets acceptable criteria and where practical, to be stripped and stored for re-use in the construction of the soft landscape works. The Contract Specification shall include storage and reuse of topsoil as appropriate.	To allow re-use of topsoil	CEDD (via Contractor)	General	Site clearance	As per the Particular Specification	^
Table 10.8.1/ Landscape Mitigation Plan	CM4 - Existing trees at boundary of site and retained trees within site boundary to be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification, under which the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. (Tree protection measures will be detailed at Tree Removal Application stage).	To minimize tree loss	CEDD (via Contractor)	As per approved Tree Removal Application(s)	Site clearance and throughout construction period	ETWB TC 3/2006 and as per tree protection measures in Particular Specification	*(17)
Table	CM5 - Trees unavoidably affected by the works shall be transplanted where	To maximize	CEDD (via	As per	Site clearance	ETWB TC 3/2006	^

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10.8.1/ Landscape Mitigation Plan	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.	preservation of existing trees	Contractor)	approved Tree Removal Application(s)		and as per tree protection measures in Particular Specification	
Table 10.8.1/ Landscape Mitigation Plan	CM6 - Advance screen planting of fast growing tree and shrub species to noise barriers and hoardings. Trees shall be capable of reaching a height >10m within 10 years.	To maximize screening of the works	CEDD (via Contractor)	At Lam Tin Interchange and edge of Road P2 landscape deck, TKO	Beginning of construction period	N/A	^
Table 10.8.1/ Landscape Mitigation Plan	CM7 - Hydroseeding or sheeting of soil stockpiles with visually unobtrusive material	To reduce visual intrusion	CEDD (via Contractor)	General	Throughout construction period	As per Particular Specification	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	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	^



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Plan							
Table 10.8.1/ Landscape Mitigation Plan	CM10 - Avoidance of excessive height and bulk of site buildings and structure	Reduction of visual intrusion and integration with environment	CEDD (via Contractor)	Built structures	Design and construction stage	N/A	^
Table 10.8.1/ Landscape Mitigation Plan	CM11 - Limitation of run-off into freshwater streams, ponds and sea areas	Avoidance of contamination of water courses and water bodies	CEDD (via Contractor)	TKO reclamation, TKO tunnel portal, Cha Kwo Ling roadworks	Throughout construction period	N/A	^
Table 10.8.1	CM12 - Minimise area of reclamation and design the edges sensitively to tie in with adjacent coastline character	Minimise loss of Junk Bay and integration with existing coastline	CEDD (via Contractor)	Temporary reclamation for barging points at TKO and Lam Tin and permanent reclamation for TKO Interchange slip roads and Road P2	Construction planning and reclamation stages	N/A	N/A

**Landfill Gas Hazard (Design and Construction Phase)**

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S11.5.9	<p>A Safety Officer, trained in the use of gas detection equipment and landfill gas-related hazards, should be present on site throughout the groundworks phase. The Safety Officer should be provided with an intrinsically safe portable instrument, which is appropriately calibrated and able to measure the following gases in the ranges indicated below:</p> <p>Methane 0-100% LEL and 0100% v/v Carbon dioxide 0-100% Oxygen 0-21%</p>	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	EPD's Landfill Gas Hazard Assessment Guidance Note	^
S11.5.10 S11.5.25	<p><b>Safety Measures</b></p> <ul style="list-style-type: none"> <li>- For staff who work in, or have responsibility for "at risk" area, such as all excavation workers, supervisors and engineers working within the Consultation Zone, should receive appropriate training on working in areas susceptible to landfill gas, fire and explosion hazards.</li> <li>- An excavation procedure or code of practice to minimize landfill gas related risk should be devised and carried out.</li> <li>- No worker should be allowed to work alone at any time in or near to any excavation. At least one other worker should be available to assist with a rescue if needed.</li> <li>- Smoking, naked flames and all other sources of ignition should be prohibited within 15m of any excavation or ground-level confined space. "No smoking" and "No naked flame" notices should be posted prominently on the construction site and, if necessary, special areas should be designed for smoking.</li> <li>- Welding, flame-cutting or other hot works should be confined to open areas at least 15m from any trench or excavation.</li> <li>- Welding, flame-cutting or other hot works may only be carried out in trenches or confined spaces when controlled by a "permit to work" procedure, properly authorized by the Safety Officer (or, in the case of small developments, other</li> </ul>	Protect the workers from landfill gas hazards	Contractor	Project sites within the Sai Tso Wan Landfill Consultation Zone	Construction phase	<p>EPD's Landfill Gas Hazard Assessment Guidance Note</p> <p>Labour Department's Code of Practice for Safety and Health at Work in Confined Space</p>	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>

	<p>appropriately qualified person).</p> <ul style="list-style-type: none"> <li>- The permit to work procedure should set down clearly the requirements for continuous monitoring for methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure should also require the presence of an appropriately qualified person, in attendance outside the 'confined area', who should be responsible for reviewing the gas measurements as they are made, and who should have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise should be permitted to carry out hot works in confined areas.</li> <li>- Where there are any temporary site offices, or any other buildings located within the Sai Tso Wan Landfill Consultation Zone which have enclosed spaces with the capacity to accumulate landfill gas, then they should either be located in an area which has been proven to be free of landfill gas (by survey using portable gas detectors); or be raised clear of the ground by a minimum of 500mm. This aims to create a clear void under the structure which is ventilated by natural air movement such that emission of gas from the ground are mixed and diluted by air.</li> <li>- Any electrical equipment, such as motors and extension cords, should be intrinsically safe. During piping assembly or conduiting construction, all valves/seals should be closed immediately after installation. As construction progresses, all valves/seals should be closed to prevent the migration of gases through the pipeline/conduit. All piping /conduiting should be capped at the end of each working day.</li> <li>- During construction, adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.</li> <li>- Fire drills should be organized at not less than six monthly intervals.</li> </ul>						<p>^</p> <p>^</p> <p>^</p> <p>^</p>
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	<ul style="list-style-type: none"> <li>- The contractor should formulate a health and safety policy, standards and instructions for site personnel to follow.</li> <li>- All personnel who work on the site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of excavations. Safety notices (in Chinese and English) should be posted at prominent position around the site warning danger of the potential hazards.</li> <li>- Service runs within the Consultation Zone should be designated as “special routes”; utilities companies should be informed of this and precautionary measures should be implemented. Precautionary measures should include ensuring that staff members are aware of the potential hazards of working in confined spaces such as manholes and service chambers, and that appropriate monitoring procedures are in place to prevent hazards due to asphyxiating atmospheres in confined spaces. Detailed guidance on entry into confined spaces is given in Code of Practice on Safety and Health at Work in Confined Spaces (Labour Department, Hong Kong).</li> <li>- Periodically during ground-works construction within the 250m Consultation Zone, the works area should be monitored for methane, carbon dioxide and oxygen using appropriately calibrated portable gas detection equipment. The monitoring frequency and areas to be monitored should be set down prior to commencement of ground-works either by the Safety Officer or an approved and appropriately qualified person.</li> </ul>						<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
<p>S11.5.26</p> <p>-</p> <p>S11.5.31</p>	<p><b>Monitoring</b></p> <ul style="list-style-type: none"> <li>● Routine monitoring should be carried out in all excavations, manholes, chambers, relocation of monitoring wells and any other confined spaces that may have been created. All measurements in excavations should be made with the extended monitoring tube located not more than 10 mm from the exposed ground surface. Monitoring should be performed properly to make sure that the area is free of landfill gas before any man enters into the area.</li> </ul>	<p>Protect the workers from landfill gas hazards</p>	<p>Contractor</p>	<p>Project sites within the Sai Tso Wan Landfill Consultation Zone</p>	<p>Construction phase</p>	<p>EPD’s Landfill Gas Hazard Assessment Guidance Note</p>	<p>^</p>

	<ul style="list-style-type: none"> <li>● For excavations <b>deeper than 1m</b>, measurements should be carried out:             <ul style="list-style-type: none"> <li>- at the ground surface before excavation commences;-</li> <li>- immediately before any worker enters the excavation;</li> <li>- at the beginning of each working day for the entire period the excavation remains open; and</li> <li>- periodically throughout the working day whilst workers are in the excavation.</li> </ul> </li> <li>● For excavations <b>between 300mm and 1m deep</b>, measurements should be carried out:             <ul style="list-style-type: none"> <li>- directly after the excavation has been completed; and</li> <li>- periodically whilst the excavation remains open.</li> </ul> </li> <li>● For excavations less than 300mm deep, monitoring may be omitted, at the discretion of the Safety Officer or other appropriately qualified person.</li> <li>● Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or other appropriately qualified person.</li> <li>● The exact frequency of monitoring should be determined prior to the commencement of works, but should be at least once per day, and be carried out by a suitably qualified or qualified person before starting the work of the day. Measurements shall be recorded and kept as a record of safe working conditions with copies of the site diary and submitted to the Engineer for approval. The Contractor may elect to carry out monitoring via an automated monitoring system.</li> </ul>						<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>
S11.5.32	<p>The hazards from landfill gas during the construction stage within the Sai Tso Wan Landfill Consultation Zone should be minimized by suitable precautionary measures recommended in Chapter 8 of the Landfill Gas Hazard Assessment Guidance Note.</p>	<p>construction stage within the Sai Tso Wan</p> <p>Protect the workers from landfill gas</p>	<p>Contractor</p>	<p>Project sites within the Sai Tso Wan Landfill Consultation Zone</p>	<p>Construction phase</p>	<p>EPD's Landfill Gas Hazard Assessment Guidance Note</p>	<p>N/A</p>

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		hazards					
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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
<i>Air Quality Impact (Construction Phase)</i>					
* (1)	S3.8.7	<ul style="list-style-type: none"> <li>- Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.</li> <li>- Use of frequent watering for particularly dusty construction areas and areas close to ASRs..</li> <li>- Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.</li> <li>- Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles</li> </ul>	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>• The outlet of a crusher in Portion III had insufficient water sprays. It is to ensure that both inlet and outlet of crushing machines have sufficient water spray to keep the aggregates wet.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>• Water sprays were required for breaking works in Portion III. Dust was emitted.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>• Cement bags in Portion IVC need to be covered to prevent dust emission.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>• In Portion III, dust was emitted during unloading by trucks. Contractor is reminded to provide water sprays to reduce dust emission.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>• Sand piles need to be covered to prevent dust emission by wind erosion.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>• Smoke emission from the duct during operation of the Roller.</li> </ul>
			NE/2017/02	Road P2/D4 and Associated Works	<ul style="list-style-type: none"> <li>• The contractor need to provide frequent water spraying / coverings to reduce dust emission</li> </ul>



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		near ASRs.			•
# (1)			NE/2015/01	Construction of Lam Tin Interchange	• Dust was emitted from a breaker without sufficient water sprays. Contractor is reminded to provide steady and continuous water sprays at all times during breaking.
# (1)					
# (1)					
* (2)	/	• Only well-maintained plant should be operated on-site and plant should be serviced regularly to avoid emission of black smoke.	NE/2015/02	Construction of Road P2	• The barge (Chun Ming 23's) exhaust dark smoke often, the contractor promises to replace the filter on the barge.
			NE/2017/01	Construction of TKO Interchange	• Black smoke emission was observed at Zhung Wei 28.
<b>Noise Impact (Construction Phase)</b>					
* (3)	Noise Mitigation Plan	Use of Temporary Noise Barriers (i.e Acoustic box, Silent Up, and etc) or Full	NE/2015/01	Construction of Lam Tin Interchange	• At the Lam Tin side, the noise barrier should be placed in the direction of the noise sensitive receiver (Yau Lai Estate) during breaking works.

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		Enclosure for PME according to the approved Noise Mitigation Plan			<ul style="list-style-type: none"> <li>Noise barriers for a driller in Portion II should be placed to block direct view from NSRs. One noise barrier is advised to move closely to drillers to further block noise to NSRs.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>In Portion III, noise barrier(s) should be placed in the direction of Yau Lai Estate when two breakers were breaking.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Noise barrier(s) in Portion II were placed without facing the direction of NSRs (Yau Lai Estate) when breaking. Contractor is reminded to minimize noise effects to nearby residents.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>A breaker was found with a broken piece of noise absorption material. Contractor is reminded to wrap complete noise absorption materials to each breaker.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>A noise barrier of a driller was found in the incorrect direction of NSRs. Contractor is reminded to set noise barrier(s) in a correct position.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>A breaker was operating in Portion IX without sufficient noise mitigation measure.</li> </ul>
					<ul style="list-style-type: none"> <li></li> </ul>
					<ul style="list-style-type: none"> <li></li> </ul>

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#(2)					
* (4) # (3)	S4.9	- Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.	NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Noise emission from the excavator, need to apply with lubricant.</li> </ul>
<b>Water Quality Impact (Construction Phase)</b>					
* (5)	Silt curtain deployment Plan	<ul style="list-style-type: none"> <li>Silt curtains should be deployed properly to surround the works area.</li> <li>Maintenance of silt curtain should be provided.</li> </ul>	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At Tseung Kwan O side, part of the silt curtain is floating and part of the buoy is missing. The Contractor is reminded to check whether the curtain has been set to the sea bottom and the integrity.</li> <li>At the Tseung Kwan O side, part of the silt curtain was floating. The Contractor is reminded to check if it has been set to the seabed. Also, part of the buoys of the silt curtain on Platform 1D was missing. The Contractor is reminded to enclose the whole platform with silt curtain.</li> <li>At the Tseung Kwan O side, part of the silt curtain was floating and broken. It needs to be replaced to prevent leakage of pollutants</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Silt curtains at the right side of shores in Portion VII were floating.</li> </ul>

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# (4)			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>A hole is found on the silt curtains. Silt curtains should be in good condition deployed around the platform.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>Oil stain was observed on the barge (三 航 駁 205) and the surface of marine. Oil leakage should be avoided.</li> </ul>
					<ul style="list-style-type: none"> <li></li> </ul>
					<ul style="list-style-type: none"> <li></li> </ul>
					<ul style="list-style-type: none"> <li></li> </ul>
					<ul style="list-style-type: none"> <li></li> </ul>
* (6)	S5.8.3	- construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At Tseung Kwan O side, oil stain and mud were found on the road to the barge point. They have to be cleaned to prevent pollutant runoff to the sea.</li> </ul>

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		present on the water within the site or dumping grounds; and	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>There was rubbish found at the sea near a Platform and it later was cleared by Contractor. Still, rubbish was being thrown from the platform. Contractor is reminded to prevent dumping rubbish into the sea.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Stockpiling/ temporary storage of construction materials are found near seafront without cover.</li> <li>Floating refuse and oil slick are found on both sides inside the water gate.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>Floating refuse are found on the surface of the water.</li> </ul>
* (7)	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.	NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>Stagnant water are found at Portion V.</li> <li>Stagnant water are found in the drip tray of air compressor at Portion V.</li> </ul>
* (8)	S5.8.6	Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	NE/2015/01	Construction of TKO Portal	<ul style="list-style-type: none"> <li>Still water is observed in Portion II and needed to pump out.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Tree branches and rubbish were found in the perimeter drain near Cross-harbor Tunnel. This may cause overflow of water into the construction site.</li> </ul>

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* (9)	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 TKO Portal	<ul style="list-style-type: none"> <li>• Washing water was seen overflowing from the bored pile case in platform 1D. The Contractor should ensure that the pumping rate is sufficient to avoid discharging waste water into the sea.</li> <li>• Tree branches and rubbish were found in the perimeter drain near Cross-harbor Tunnel. This may cause overflow of water into the construction site.</li> </ul>
* (10)	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	NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>• Stagnant water are found at Portion V.</li> </ul>
			NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>• The footbridge had accumulated some water after raining.</li> <li>• The generator drip tray had accumulated some water after raining.</li> </ul>
			NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>• The generator drip tray had accumulated some water after raining.</li> </ul>

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		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.			
* (11)	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.	NE/2017/02	Construction of Road P2/D4	<ul style="list-style-type: none"> <li>A manhole is not covered</li> </ul>
			NE/2017/02	Construction of Road P2/D4	<ul style="list-style-type: none"> <li>The manholes need to seal to prevent construction site runoffs to Public Drainage System.</li> </ul>
* (12)	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.	NE/2015/03	Construction of Northern Footbridge	<ul style="list-style-type: none"> <li>The construction material need to sort out to prevent polluting surface runoff.</li> </ul>
* (13)	S5.8.46	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The "Code of Practice	NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>The waste water and oil in the drip tray should be removed on Siu Fai.</li> </ul>



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**February - April 2019**

		<p>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:</p> <ul style="list-style-type: none"> <li>- suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;</li> <li>- chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and</li> <li>- storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>• Oil was observed on the sea water around Zhung Wei 28.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>• Drip trays should be provided for the oil container.</li> </ul>
<b>Waste/ Chemical Management</b>					
* (14)	S8.6.3	- Provision of sufficient waste disposal points and regular collection of waste	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>• At the Lam Tin side, a stripe of oil was observed along the road near the soldier pile wall. The Contractor is reminded to clear the oil as chemical waste</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>• General refuse accumulation was observed nearby the entrance of Portion II. Accumulation of construction wastes, general refuses and tree branches were found in Portion II.</li> </ul>

**App I - IMPLEMENTATION SCHEDULE AND RECOMMENDED MITIGATION MEASURES**

**February - April 2019**

			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>General refuse and construction waste was found. Regular clean-up is needed.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At the Tseung Kwan O side near the rest room and Portion IVC, a stripe of oil was observed along the road. The Contractor is reminded to clear the oil as chemical waste.</li> </ul>
			NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>The drip tray of the generator had accumulated some water after raining.</li> </ul>
* (15)	S8.6.26/ Waste Management Plan	<p><b>Chemical Wastes.</b></p> <ul style="list-style-type: none"> <li>If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely</li> </ul>	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>A chemical waste tank was found without a drip tray. It is required to prevent chemical leakage.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At Tseung Kwan O side, oil stain and mud were found on the road to the barge point. They have to be cleaned to prevent pollutant runoff to the sea.</li> </ul>

**App I - IMPLEMENTATION SCHEDULE AND RECOMMENDED MITIGATION MEASURES**

**February - April 2019**

		<p>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.</p>	<p>NE/2015/01</p>	<p>Construction of Lam Tin Interchange</p>	<ul style="list-style-type: none"> <li>At Tseung Kwan O side, a drip tray was found with water and oil/grease stain. It is reminded to clean it up to prevent chemical leakage.</li> </ul>
			<p>NE/2015/01</p>	<p>Construction of Lam Tin Interchange</p>	<ul style="list-style-type: none"> <li>A chemical tank was found without a drip tray in Portion II.</li> </ul>
			<p>NE/2017/01</p>	<p>Construction of TKO Interchange</p>	<ul style="list-style-type: none"> <li>Oil was observed on the floor at Shing Wo. Oil on seawater should be cleared.</li> <li>The waste water and oil in the drip tray should be removed on Siu Fai</li> <li>Oil was observed on the floor. The oil leakage should be avoided.</li> <li>The waste water in the drip trip should be removed regularly to avoid overflow.</li> <li>Drip trays should be provided for the oil container.</li> </ul>

App I - IMPLEMENTATION SCHEDULE AND RECOMMENDED MITIGATION MEASURES

February - April 2019

# (5)			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>Oil stain was observed on the barge (三 航 駁 205) and the surface of marine. Oil leakage should be avoided.</li> <li>Oil is observed on the barge. Oil leakage from the equipment should be avoided.</li> <li>Drip tray should be well-maintained to avoid oil leakage.</li> </ul>
# (6)	S8.6.27/ Waste Management Plan	<p><b>General Refuse</b></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</li> </ul>	NE/2015/02	Construction of Road P2	<ul style="list-style-type: none"> <li>The contractor need to clean the rubbish tank in the site office area.</li> </ul>
			NE/2017/01	Construction of TKO Interchange	<ul style="list-style-type: none"> <li>General refuse should be disposed regularly.</li> </ul>

Landscape and Visual Impact (Construction Phase)					
* (17)	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).	NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>Materials underneath tree crown (tree protection zone) should be removed.</li> </ul>
			NE/2015/01	Construction of Lam Tin Interchange	<ul style="list-style-type: none"> <li>At the Lam Tin side, construction waste was found under a tree's crown of a retained tree near the construction entrance from East Cross-harbor Tunnel and required to be removed</li> </ul>

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**APPENDIX J  
WASTE GENERATED QUANTITY**

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Appendix J - Waste Flow Table

Name of Department: Civil Engineering Development Department

Contract No.: NE/2015/01



Monthly Summary Waste Flow Table for 2019

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	a.Total Quantity Generated (see Note 8)	b. Hard Rock and Large Broken Concrete	c. Reused in the Contract	d. Reused in Other Projects	e. Disposed as Public Fill	f. Imported Fill	g. Metals (see Note 5)	h. Paper / Cardboard Packaging (see Note 5)	i. Plastics (see Note 3) (see Note 5)	j. Chemical Waste	k. Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
January	131.655	73.591	0.000	103.085	28.570	0.000	0.000	0.421	0.000	2.400	0.140
February	105.752	52.675	0.000	55.650	50.103	0.000	0.000	0.333	0.000	0.000	0.088
March	147.872	85.219	0.000	85.219	62.653	0.000	0.000	0.000	0.000	0.000	0.102
April	86.872	63.871	0.000	65.710	21.162	0.000	0.000	0.000	0.000	0.000	0.101
May											
June											
Sub-total	472.152	275.356	0.000	309.664	162.487	0.000	0.000	0.754	0.000	2.400	0.431
July											
August											
September											
October											
November											
December											
Total	472.152	275.356	0.000	309.664	162.487	0.000	0.000	0.754	0.000	2.400	0.431

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



## Appendix J - Waste Flow Table

Name of Department: Civil Engineering Development Department

Contract No.: NE/2015/01



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

## Appendix J - Waste Flow Table

NE/2015/02-Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works

Monthly Summary Waste Flow Table for 2019 Year

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Borken Concrete	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (See note 3)	Chemical Waste	Other, e.g. general refuse
	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000m <sup>3</sup> ]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m <sup>3</sup> ]
Jan	39.06133	0.00000	1.09752	0.00000	2.94501	35.01880	140.97000	0.00000	0.00000	4.11000	0.07932
Feb	27.16095	0.00000	0.73212	0.00000	1.09407	25.33476	0.00000	0.00000	0.00000	0.72000	0.01610
Mar	48.33586	0.00000	0.00000	0.00000	3.29905	45.03681	18.33000	0.00000	0.00000	0.00000	0.04866
Apr	162.89065	0.00000	0.00000	0.00000	2.04236	160.84829	0.00000	0.00000	0.00000	0.00000	0.03052
May											
June											
<b>SUB-TOTAL</b>	277.44879	0.00000	1.82964	0.00000	9.38048	266.23867	159.30000	0.00000	0.00000	4.83000	0.17460
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
<b>TOTAL</b>	277.44879	0.00000	1.82964	0.00000	9.38048	266.23867	159.30000	0.00000	0.00000	4.83000	0.17460

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

Conversion to 1000m<sup>3</sup> for Inert C&D is weight in 1000kg multiply by 0.0005

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

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



### Monthly Summary of Waste Flow Table for 2019

Name of Person completing the Record: Martin Yiu

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-inert C&D Wastes Generated Monthly				
	Total Quantity Generated (in '000m <sup>3</sup> )	Broken Concrete (see Note 1) (in '000m <sup>3</sup> )	Reused in the Contract (in '000m <sup>3</sup> )	Reused in other Projects (in '000m <sup>3</sup> )	Disposed as Public Fill (in '000m <sup>3</sup> )	Metals (in '000 Kg)	Paper/ cardboard packaging (in '000 Kg)	Plastics (see Note 2) (in '000 Kg)	Chemical Waste (in '000 Kg)	Others, e.g. general refuse (in '000m <sup>3</sup> )
		(in '000m <sup>3</sup> )								
Jan	0.3363	0	0	0	0.3363	0	0	0	0	0.0065
Feb	0.0650	0	0	0	0.0650	0	0	0	0	0.0065
Mar	0.2925	0	0	0	0.2925	0	0	0	0	0.0065
Apr	0.3331	0	0	0	0.3331	0	0	0	0	0.0065
<b>Sub-total</b>	<b>1.0269</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.0269</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0260</b>
May	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1.0269</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.0269</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0260</b>

Notes:

- (1) Broken concrete for recycling into aggregates.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (3) Use the conversion factor: 1 full load of 24t / 30t dumping truck being equivalent to 6.5m<sup>3</sup> / 8.125 m<sup>3</sup> by volume.

# Appendix J - Waste Flow Table



**GTECH Services (Hong Kong) Limited**

Name of Department: Civil Engineering & Development Department

Contract No.: NE/2017/06

## Monthly Summary Waste Flow Table For 2019

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others, e.g. General Refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0.018
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May											
Jun											
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.018</b>
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.018</b>

- Notes:
- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (2) Plastics refer to plastic bottles / containers, plastic sheets / foam from packaging material.
  - (3) Each dump truck carries 6m<sup>3</sup> of general refuse.
  - (4) The commencement date of the Contract is 9 November 2018. The current reporting period is from 1 April 2019 to 30 April 2019.

**Wing Lee (SK) Construction Company Limited**  
**NE/2015/03 - Environmental Management Plan**  
**Appendices - Appendix 13**

<b>Rev. No.</b>	<b>Draft</b>
<b>Issue Date</b>	<b>16 Dec 2016</b>

Name of Department : CEDD

Contract No. : NE/2015/03

**Monthly Summary Waste Flow Table for 2019** (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated (in '000 m <sup>3</sup> )	Hard Rock & Large Broken Concrete (in '000 m <sup>3</sup> )	Reused in the Contract (in '000 m <sup>3</sup> )	Reused in other Projects (in '000 m <sup>3</sup> )	Disposed as Public Fill (in '000 m <sup>3</sup> )	Imported Fill (in '000 m <sup>3</sup> )	Metals (in '000 kg)	Paper/ cardboard packaging (in '000 kg)	Plastics (see Note 3) (in '000 kg)	Chemicals Waste (in '000 kg)	Others, e.g. general refuse (in '000 m <sup>3</sup> )
Accumulated From 2018	1.234385	0	0.175365	0.427405	0.59793	0.03056	0	0	0	0	0.038188
Jan	0.00022	0	0	0	0.00022	0	0	0	0	0	0
Feb	0.0026	0	0	0	0.0026	0	0	0	0	0	0
Mar	0.0048	0	0	0	0.0048	0	0	0	0	0	0
Apr	0.0125	0	0	0	0.0125	0	0	0	0	0	0
May											
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0.02012	0	0.17365	0.427405	0.02012	0.03056	0	0	0	0	0.038188

- Notes:
- (1) The performance targets 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 materials.
  - (4) The *Contractor* shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the *works*, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the *works* is equal to or exceeding 50,000 m<sup>3</sup>.

# Appendix J - Waste Flow Table

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



## Monthly Summary Waste Flow Table for 2019

Name of Department: Civil Engineering and Development Department

Contract No.: NE/2017/01

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.0400	0.0000	0.0000	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015
Feb	0.0400	0.0000	0.0000	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0017
Mar	0.0400	0.0000	0.0000	0.0400	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006
Apr	0.0420	0.0000	0.0000	0.0000	0.0420	0.0000	0.0000	0.0000	0.0000	0.0000	0.0012
May											
Jun											
<b>Sub-total</b>	<b>0.1620</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.1200</b>	<b>0.0420</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0050</b>
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
<b>Total</b>	<b>0.1620</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.1200</b>	<b>0.0420</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0050</b>

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

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**APPENDIX K  
SUMMARY OF EXCEEDANCE**

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**Agreement No. CE 59/2015 (EP)**

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

**Appendix K-1 – Summary of Exceedance**

**Reporting Period: February 2019 – April 2019**

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

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

**Action Level for Construction Noise**

**(Fifty-two (52) Action Level exceedance was 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**

**(Twenty-nine (29) Limit Level exceedances for nighttime construction noise were considered not due to project and one (1) Limit Level exceedance for daytime construction noise were recorded as due to the project in the reporting quarter respectively.)**

**Exceedance recorded during night-time**

<b>Date</b>	<b>Monitoring Location</b>	<b>Measured Level (Leq dB(A))</b>	<b>Baseline Noise Level (Leq dB(A))</b>	<b>Construction Noise Level (Leq dB(A))</b>	<b>Limit Level</b>
01 February 2019	CM1	66.7	63.7	<u>64</u>	55
15 February 2019		65.6	63.7	<u>61</u>	
23 February 2019		66.3	61.9	<u>64</u>	
01 February 2019	CM2	64.7	60.8	<u>62</u>	
09 February 2019		61.8	59.1	<u>58</u>	
15 February 2019		64.2	60.8	<u>62</u>	
22 February 2019		64.9	60.8	<u>63</u>	
28 February 2019		62.6	60.8	<u>58</u>	
2 February 2019	CM3	64.2	61.2	<u>61</u>	
16 February 2019		64.2	61.8	<u>60</u>	
23 February 2019		64.9	60.5	<u>63</u>	



**Agreement No. CE 59/2015 (EP)**

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

**Appendix K-1 – Summary of Exceedance**

Date	Monitoring Location	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Limit Level
09 March 2019	CM1	63.5	61.9	<u>58</u>	55
22 March 2019		68.9	63.7	<u>67</u>	
29 March 2019		65.1	63.7	<u>60</u>	
08 March 2019	CM2	63.7	60.3	<u>61</u>	
15 March 2019		62.1	60.8	<u>56</u>	
22 March 2019		64.8	60.8	<u>63</u>	
08 March 2019	CM3	64.0	62.9	<u>57</u>	
16 March 2019		63.3	61.8	<u>58</u>	
23 March 2019		65.1	61.8	<u>62</u>	

Date	Monitoring Location	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Limit Level
04 April 2019	CM1	65.3	63.7	<u>60</u>	55
12 April 2019		69.6	62.8	<u>69</u>	
18 April 2019		64.4	63.7	<u>56</u>	
26 April 2019		64.6	62.8	<u>60</u>	
12 April 2019	CM2	68.5	61.6	<u>68</u>	
18 April 2019		64.2	61.2	<u>61</u>	
04 April 2019	CM3	63.8	62.9	<u>57</u>	
12 April 2019		63.6	61.8	<u>59</u>	
18 April 2019		63.7	62.4	<u>58</u>	

**Exceedance recorded during daytime**

Date	Monitoring Location	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Limit Level
18 February 2019	CM1	80.2	65.6	<u>80</u>	75

## Agreement No. CE 59/2015 (EP)

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

#### Appendix K-1 – Summary of Exceedance

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

###### Groundwater Quality

(2 Limit Level exceedance and 5 Action Level exceedances in groundwater quality monitoring was recorded in the reporting quarter.)

Date	Monitoring Location	Monitoring Parameter	Monitoring Results	Action Level	Limit Level
2019/02/12	Stream 3	Dissolved Oxygen (mg/L)	<u>7.1</u>	7.6	7.6
2019/02/26	Stream 1	Turbidity (NTU)	<u>2.2</u>	2.1	2.3
2019/03/08	Stream 1	Total Phosphorus (mg-P/L)	<u>0.06</u>	0.05	0.05
	Stream 2		<u>0.07</u>	0.05	0.05
	Stream 2	Turbidity (NTU)	<u>2.3</u>	2.1	2.3
2019/03/20	Stream 2	Total Phosphorus (mg-P/L)	<u>0.11</u>	0.05	0.05
	Stream 3		<u>0.06</u>	0.05	0.05

It is considered that the exceedance is not project-related based on the following reasons:

- The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.
- The vertical distance between Stream 1 and the tunnel construction site is more than 44 meters. Therefore, Stream 1 will not affect by any tunnel construction works as its elevation is above the tunnel construction site
- Rainfall was recorded during the monitoring date
- Waste was observed on the stream during sampling

###### Marine water Quality

One-hundred and twenty-two (122) Action Level and eight-hundred and seventy-eight (878) 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

#### Design and Construction

#### - Notification of Environmental Quality Limit Exceedances

Date of Noise Monitoring: 18 February 2019

#### Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level (Leq dB(A))	Baseline Noise Level (Leq dB(A))	Construction Noise Level (Leq dB(A))	Action Level	Limit Level (Leq dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	9:22	80.2	65.5	<b><u>80</u></b>	When one documented complaint is received	75	Limit
		10:10	75.6	65.5	75			

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

#### Part B – Source of Exceedance

The major noise sources and reasons for exceedances identified at CM1 are as follows:

1. Construction activities under this Project at Site Portion IVC:  
According to the observation of our monitoring staff, a breaker was in operation at site Portion IVC near the ambulance depot in the first 30-minute noise measurement (photo 1 and photo 2). It was stopped whilst the second 30-minute noise measurement was carrying out.
2. Our staff also reported that some movable noise barriers have been erected but unable to block the direct view from the monitoring station to the breaker.
3. Road Traffic Noise at slips roads approaching Eastern Harbour Crossing Tunnel.

It was drizzling during the two noise monitoring session. However, the noise from such rain was considered insignificant.

**Agreement No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**



Photo 1 and Photo 2

Breaker operation in Portion IVC near the ambulance depot

**Part C – Actions Taken**

Engineer's Representative has instructed the contractor to stop the breaking works in Portion IVC on 19 Feb 2019.

The contractor has carried out investigation and has proposed the following remedial actions to avoid further exceedance.

1. The contractor demonstrated a proper setup of cantilevered noise barrier to screen the breaker head inside Portion IVC (photo 3).
2. The contractor reported the progress of deploying additional noise mitigation measures for Portion IVC near Yau Lai Estate. A semi-enclosure with sound proofing canvases will be setup in early March 2019.

In addition, the ET has reminded the Contractor to strictly follow the requirements in the approved Noise Mitigation Plan (NMP), including:

1. Quantity of each type of PME in operation on site should be consistent with the proposed quantity in the approved NMP;
2. Mitigation measures (such as temporary noise barrier/full enclosure) should be provided to PME as proposed in the approved NMP;
3. Should there be any update in construction program / quantities in each type of PME, the Contractor shall prepare an update of construction noise assessment. The updated construction noise assessment shall be included in Monthly EM&A Report.



**Agreement No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**



Photo 3

Demonstration of cantilevered noise barrier for breaking works in Portion IVC



Photo 4

Current cantilevered noise barriers and SilentUP noise barriers at Portion IVC adjacent to Yau Lai Estate

## Agreement No. CE 59/2015 (EP)

### Environmental Team for Tseung Kwan O – Lam Tin Tunnel

#### Design and Construction

##### - Notification of Environmental Quality Limit Exceedances

#### Part D – Additional Noise Monitoring

According to the Event and Action Plan for Construction Noise in the EM&A Manual, ET has increased noise monitoring frequency to check the effectiveness of Contractor's remedial action. Monitoring frequency was increased from weekly to twice a week and additional noise monitoring was carried out on 21 February 2019 at Station CM1. The results of monitoring is presented as below:

##### Monitoring Date: 21 February 2019

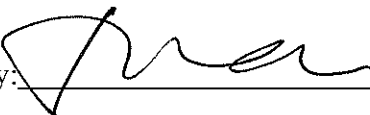
Station	Location	Date	Time	Measured Level (Leq dB(A))	Baseline Noise Level (Leq dB(A))	Construction Noise Level (Leq dB(A))	Action Level	Limit Level (Leq dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	21 Feb 2019	11:30	73.8	65.5	73	When one documented complaint is received	75	No Exceedance

No Limit Level Exceedance is recorded during the additional noise monitoring. Additional Noise Monitoring will be on-going until no exceedance has been recorded for 2 consecutive monitoring.

#### Part E – Recommendations

The Contractor is recommended to further minimize noise nuisance by implementing mitigation measures as below:

1. Make sure the cantilever noise barriers along site Portion IVC are complete and deployed properly during construction works;
2. To strictly follow the requirements in the approved Noise Mitigation Plan.
3. To continue to properly implement noise mitigation measures as recommended in the Environmental Monitoring & Audit Manual and approved Noise Mitigation Plan; and
4. To well-maintain all the PME condition and check all the mitigation measurements implemented on site regularly.
5. To reschedule operation time and reduce operation duration of each PME.
6. To turn off or throttle down idle PME.

Reviewed by:   
\_\_\_\_\_

Dr. HF Chan

Title: Environmental Team Leader

Date: 27 February 2019

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

- Notification of Exceedances

NOE No. 190201\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:00-00:35

Date of Noise Monitoring: 01 February 2019 – 02 February 2019

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	66.7	63.7	<u>64</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:40-23:55	64.7	60.8	<u>62</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	00:20-00:35	64.2	61.2	<u>61</u>			

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)

Construction noise measured at CM1, CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.



ETL Signature: \_\_\_\_\_

Date: 4 February 2019

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

NOE No. 190208\_noise (CM2) Exceedance Level: Limit

Time of Measurement: 00:20-00:35

Date of Noise Monitoring: 09 February 2019

**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
CM2	Bilk Lai House, Yau Lai Estate Phase 1, Yau Tong	00:20-00:35	61.8	59.1	<u>58</u>	When one documented complaint is received.	<b>55</b>	Limit

**Field Observation(s) and Conclusion**


(a) Statement of exceedance(s)  
Construction noise measured at CM2 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature: 

Date: 11 February, 2019



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

NOE No. 190215\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:00-00:20

Date of Noise Monitoring: 15 February 2019 – 16 February 2019

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	65.6	63.7	<u>61</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:30-23:45	64.2	60.8	<u>62</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	00:05-00:20	64.2	61.8	<u>60</u>			

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)

Construction noise measured at CM1, CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.



ETL Signature: \_\_\_\_\_ Date: 18 February, 2019

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

- Notification of Exceedances

NOE No. 190222\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:45-01:00

Date of Noise Monitoring: 22 February 2019 – 23 February 2019

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level ( $L_{eq}$ dB(A))	Baseline Noise Level ( $L_{oc}$ dB(A))	Construction Noise Level ( $L_{oc}$ dB(A))	Action Level	Limit Level ( $L_{eq}$ dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	00:15-00:30	66.3	61.9	<u>64</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:45-00:00	64.9	60.8	<u>63</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	00:45-01:00	64.9	60.5	<u>63</u>			

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)

Construction noise measured at CM1, CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.



ETL Signature: \_\_\_\_\_

Date: 25 February, 2019

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

- Notification of Exceedances

NOE No. 190228\_noise (CM2) Exceedance Level: Limit

Time of Measurement: 23:30-23:45

Date of Noise Monitoring: 28 February 2019

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
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:30-23:45	62.6	60.8	<u>58</u>	When one documented complaint is received.	55	Limit

Field Observation(s) and Conclusion

- (a) Statement of exceedance(s)  
Construction noise measured at CM2 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. No noticeable noise from blasting / associated works was identified.
  - No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.



ETL Signature: \_\_\_\_\_ Date: 01 March, 2019

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

- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 12 February 2019

**Part A – Summary of Exceedance Records**

Date	Monitoring Parameter	Monitoring Location	Monitoring Results	Action Level	Limit Level	Justification*	Exceedance due to the Project
12 Feb 2019	Dissolved Oxygen (mg/L)	Stream 3	<b><i><u>7.1</u></i></b>	<7.6	<7.6	(1)	No

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

\*Remarks

(1) – The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

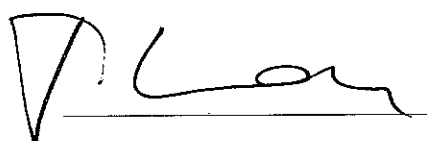
**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

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

Date: 25 February, 2019

Signature: 

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

- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 26 February 2019

**Part A – Summary of Exceedance Records**

Date	Monitoring Parameter	Monitoring Location	Monitoring Results	Action Level	Limit Level	Justification*	Exceedance due to the Project
26 Feb 2019	Turbidity (NTU)	Stream 1	2.2	2.1	2.3	(1)	No

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

\*Remarks

(1) – Stream 1 is at a higher ground level than the construction site, therefore construction runoff cannot reach Stream 1.

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

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

Date: 11 March, 2019

Signature: 

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

**- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances**

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 08 March 2019

**Part A – Summary of Exceedance Records**

<b>Date</b>	<b>Monitoring Parameter</b>	<b>Monitoring Location</b>	<b>Monitoring Results</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Justification*</b>	<b>Exceedance due to the Project</b>
08 Mar 2019	Turbidity (NTU)	Stream 2	<b>2.3</b>	2.1	2.3	(2)	No
08 Mar 2019	Total Phosphorus (mg-P/L)	Stream 1	<b><u>0.06</u></b>	0.05	0.05	(1)	No
08 Mar 2019	Total Phosphorus (mg-P/L)	Stream 2	<b><u>0.07</u></b>	0.05	0.05	(2)	No

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

\*Remarks

- (1) – Stream 1 is at a higher ground level than the construction site, therefore construction runoff cannot reach Stream 1.
- (2) – The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

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

Date: 20 March, 2019

Signature: 

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

**- Notification and Investigation Report for Environmental Quality Action & Limit Exceedances**

Monitoring Parameter: Groundwater Quality

Date of Monitoring: 20 March 2019

**Part A – Summary of Exceedance Records**

<b>Date</b>	<b>Monitoring Parameter</b>	<b>Monitoring Location</b>	<b>Monitoring Results</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Justification*</b>	<b>Exceedance due to the Project</b>
20 Mar 2019	Total Phosphorus (mg-P/L)	Stream 2	<b><u>0.11</u></b>	0.05	0.05	(2)	No
20 Mar 2019	Total Phosphorus (mg-P/L)	Stream 3	<b><u>0.06</u></b>	0.05	0.05	(2)	No

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

\*Remarks

(2) – The distance between the tunnel construction activities and monitoring stations of stream 2 and 3 are about 1000 meters.

**Part B – Conclusions:**

1. Based on the justification in the above table, there is no direct evidence showing that the exceedance was due to Project. The exceedance is considered properly due to non-project related factor, such as, the degradation of naturally occurring organic matter, manmade sources or domestic sewage (as observed and reported in the EIA report).
2. No increase in monitoring frequency for groundwater quality monitoring and no further action are required.

**Part C – Recommendations**

The monitoring of stream water is considered not representative to monitor the potential impacts on groundwater due to the Project after consideration of the location & elevation of the stream(s) and the non-project related factors (e.g. human activities etc.).

Therefore, ET recommends to suspend the water quality monitoring for the streams in accordance with the EM&A Manual, Section 4. For the details, please refer to the separate proposal for suspension of stream water monitoring.

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

Date: 21 March, 2019

Signature: 

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

NOE No. 190329\_noise (CMI) Exceedance Level: Limit

Time of Measurement: 23:15-23:30

Date of Noise Monitoring: 29 March 2019

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Construction Noise**

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level (When one documented complaint is received)	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CMI	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:15-23:30	65.1	63.7	<u>60</u>		55	Limit

**Field Observation(s) and Conclusion**

(a) Statement of exceedance(s)

Construction noise measured at CMI 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature:



Date: 1 April 2019



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

NOE No. 190322\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:30-00:15

Date of Noise Monitoring: 22 March 2019 – 23 March 2019

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Construction Noise**

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Ngga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:10-23:25	68.9	63.7	<u>67</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:30-23:45	64.8	60.8	<u>63</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	00:00-00:15	65.1	61.8	<u>62</u>			

**Field Observation(s) and Conclusion**

(a) Statement of exceedance(s)

Construction noise measured at CM1, CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature:



MA16034NNOENOE\_Noise190322(CM1-3)

Date: 25 March, 2019

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

NOE No. 190315\_noise (CM2-CM3) Exceedance Level: Limit

Time of Measurement: 23:30-00:15

Date of Noise Monitoring: 15 March 2019 – 16 March 2019

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:30-23:45	62.1	60.8	<u>56</u>	When one documented complaint is received.	55	Limit
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	00:00-00:15	63.3	61.8	<u>58</u>			

Field Observation(s) and Conclusion

- (a) Statement of exceedance(s)  
 Construction noise measured at CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
  - No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.



ETL Signature: \_\_\_\_\_ Date: 18 March, 2019

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

NOE No. 190308\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:40-00:30

Date of Noise Monitoring: 08 March 2019 – 09 March 2019

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	00:15-00:30	63.5	61.9	<u>58</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:55-00:10	63.7	60.3	<u>61</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	23:40-23:55	64.0	62.9	<u>57</u>			

Field Observation(s) and Conclusion

(a) Statement of exceedance(s)

Construction noise measured at CM1, CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
- No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.



ETL Signature:

Date: 11 March, 2019

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

**- Notification of Exceedances**

NOE No. 190404\_noise (CM1-CM2) **Exceedance Level:** Limit

**Time of Measurement:** 23:00-23:55

**Date of Noise Monitoring:** 4 April 2019

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Construction Noise**


Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:00-23:15	65.3	63.7	<u>60</u>	When one documented complaint is received.	55	Limit
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	23:40-23:55	63.8	62.9	<u>57</u>			

**Field Observation(s) and Conclusion**

(a) Statement of exceedance(s) Construction noise measured at CM1 & CM2 exceeded the construction noise (night time) limit level.
(b) Cause of exceedance(s) The exceedance was not considered related to the Project works: <ul style="list-style-type: none"> <li>• According to our field observation, road traffic noise was identified as the dominant noise source. No noticeable noise from blasting / associated works was identified.</li> <li>• No major construction activity was observed in Lam Tin Interchange during monitoring.</li> </ul>

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature: 

Date: 8 April, 2019

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

NOE No. 190412\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:00-00:15

Date of Noise Monitoring: 12 April 2019 – 13 April 2019

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:00-23:15	69.6	62.8	<u>69</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:00-23:15	68.5	61.6	<u>68</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	00:00-00:15	63.6	61.8	<u>59</u>			

Field Observation(s) and Conclusion

- (a) Statement of exceedance(s)  
 Construction noise measured at CM1, CM2 & CM3 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. No noticeable noise from blasting / associated works was identified.
  - No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature: \_\_\_\_\_ Date: 15 April 2019

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

NOE No. 190418\_noise (CM1-CM3) Exceedance Level: Limit

Time of Measurement: 23:00-00:05

Date of Noise Monitoring: 18 April 2019 – 19 April 2019

Part A – Exceedance Summary Tables

Table I: Parameter(s) – Construction Noise

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:00-23:15	64.4	63.7	<u>56</u>	When one documented complaint is received.	55	Limit
CM2	Bik Lai House, Yau Lai Estate Phase 1, Yau Tong	23:20-23:35	64.2	61.2	<u>61</u>			
CM3	Block S, Yau Lai Estate Phase 5, Yau Tong	23:50-00:05	63.7	62.4	<u>58</u>			

Field Observation(s) and Conclusion

(a) Statement of exceedance(s) Construction noise measured at CM1, CM2 & CM3 exceeded the construction noise (night time) limit level.
(b) Cause of exceedance(s) The exceedance was not considered related to the Project works: <ul style="list-style-type: none"> <li>According to our field observation, road traffic noise was identified as the dominant noise source. No noticeable noise from blasting / associated works was identified.</li> <li>No major construction activity was observed in Lam Tin Interchange during monitoring.</li> </ul>

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature:  
 MA16034\NOE\NOE\_Noise190418(CM1-3)

Date: 22 April, 2019

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

NOE No. 190426\_noise (CM1) Exceedance Level: Limit

Time of Measurement: 23:35-23:50

Date of Noise Monitoring: 26 April 2019

**Part A – Exceedance Summary Tables**

**Table I: Parameter(s) – Construction Noise**

Station	Location	Time	Measured Level (L <sub>eq</sub> dB(A))	Baseline Noise Level (L <sub>eq</sub> dB(A))	Construction Noise Level (L <sub>eq</sub> dB(A))	Action Level	Limit Level (L <sub>eq</sub> dB(A))	Level exceeded
CM1	Nga Lai House, Yau Lai Estate Phase 1, Yau Tong	23:35-23:50	64.6	62.8	<u>60</u>	When one documented complaint is received.	<b>55</b>	Limit

**Field Observation(s) and Conclusion**

- (a) Statement of exceedance(s)  
Construction noise measured at CM1 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. No noticeable noise from blasting / associated works was identified.
  - No major construction activity was observed in Lam Tin Interchange during monitoring.

**Part B – Conclusion:** The exceedances of night time noise limit level were not due to the Project. Only blasting associated works inside the tunnel were being conducted with blast door closed, thus, noise generated within the tunnel should not be associated with the exceedance.

**Part C – Recommendation:** No further action is required.

ETL Signature: 

Date: 29 April, 2019

**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:** 01 February 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.3	G1	10:59	1.6	1.7	<u>2.8</u>		
						G3	11:02			<u>2.4</u>		
						M1	10:52			<u>2.6</u>		
			Mid-flood	C1	0.6			G1	14:53	0.8	0.8	<u>2.3</u>
								G3	14:57			<u>2.2</u>
								G4	15:04			<u>2.0</u>
								M1	14:46			<u>1.3</u>
								M2	14:37			<u>1.3</u>
								M3	15:00			<u>1.6</u>
								M4	14:30			<u>1.1</u>
M5	15:16	<u>1.5</u>										



**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	6.2	G2	10:47	6.0	6.9	7.4	8.0	<u>9.9</u>
				G3	11:02					<u>9.0</u>
				G4	11:10					<u>8.0</u>
				M1	10:52	6.2	7.4			<u>9.3</u>
				M2	10:43					<u>13.9</u>
				M3	11:06					<u>9.9</u>
				M4	10:36					<u>7.3</u>
		Bottom	4.6	G1	10:59	6.9	7.9	5.5	5.9	<u>6.7</u>
				G2	10:47					<u>11.3</u>
				G3	11:02					<u>7.0</u>
				G4	11:10					<u>22.2</u>
				M1	10:52					<u>9.9</u>
				M2	10:43					<u>5.8</u>
				M3	11:06					<u>9.6</u>
M5	11:21	<u>10.6</u>								

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	7.6	G1	14:53	6.0	6.9	9.1	9.9	<b><u>12.4</u></b>
				G2	14:41					<b><u>7.6</u></b>
				M1	14:46	6.2	7.4			<b><u>6.9</u></b>
				M2	14:37					<b><u>8.1</u></b>
				M3	15:00					<b><u>7.4</u></b>
				M4	14:30					<b><u>6.3</u></b>
				M5	15:16					<b><u>8.5</u></b>
		Bottom	2.7	G1	14:53	6.9	7.9	3.2	3.5	<b><u>3.7</u></b>
				G2	14:41					<b><u>5.9</u></b>
				G4	15:04					<b><u>6.6</u></b>
				M1	14:46					<b><u>3.5</u></b>
				M2	14:37					<b><u>11.5</u></b>
				M4	14:30					<b><u>4.6</u></b>
				M5	15:16					<b><u>5.8</u></b>

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:** 04 February 2019

**Part A – Exceedance Summary Tables**

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

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-ebb	C2	0.6	G1	13:10	0.7	0.8	<u>1.1</u>
						G2	12:52			<u>1.4</u>
						G3	13:15			<u>0.9</u>
						G4	13:24			<u>1.2</u>
						M1	13:05			<u>1.6</u>
						M2	12:46			<u>1.0</u>
						M3	13:19			<u>0.9</u>
			M5	13:36	<u>1.7</u>					
			Mid-flood	C1	0.5	G1	13:10	0.6	0.7	<u>1.1</u>
						G2	12:52			<u>1.2</u>
						G3	13:15			<u>0.9</u>
						G4	13:24			<u>1.2</u>
						M1	13:05			<u>1.6</u>
						M2	12:46			<u>1.1</u>
M3	13:19	<u>0.9</u>								
M5	13:36	<u>1.8</u>								

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	3.3	G1	13:10	6.0	6.9	4.0	4.3	<u>7.9</u>
				G2	12:52					<u>5.7</u>
				G3	13:15					<u>7.5</u>
				M2	12:46	6.2	7.4			<u>4.7</u>
				M4	12:40					<u>7.4</u>
		Bottom	5.8	M1	13:05	6.9	7.9	7.0	7.5	<u>12.0</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.5	G2	16:37	6.0	6.9	4.1	4.5	<u><b>7.6</b></u>
				G3	17:00					<u><b>11.8</b></u>
				G4	17:09					<u><b>4.8</b></u>
				M1	16:50	6.2	7.4			<u><b>6.8</b></u>
				M2	16:31					<u><b>4.6</b></u>
				M3	17:04					<u><b>6.9</b></u>
				M4	16:25					<u><b>6.3</b></u>
				M5	17:21					<u><b>5.2</b></u>
		Intake	17:14	8.3	8.6	N.A.	N.A.	<u><b>9.0</b></u>		
		Bottom	4.7	G1	16:56	6.9	7.9	5.6	6.1	<u><b>7.9</b></u>
				G2	16:37					<u><b>7.5</b></u>
				G4	17:09					<u><b>6.8</b></u>
				M1	16:50					<u><b>7.6</b></u>
				M3	17:04					<u><b>7.4</b></u>
				M5	17:21					<u><b>10.8</b></u>

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:** 08 February 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.5	G4	14:21	0.5	0.6	<u>1.1</u>
						M1	13:59			<u>1.0</u>
			Mid-flood	C1	0.4	G4	08:53	0.4	0.5	<u>1.1</u>
						M1	08:28			<u>1.0</u>
M5	09:04	<b>0.4</b>								

**Table II: 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	8.0	M3	14:15	6.2	7.4	9.6	10.4	<b>6.7</b>
				M5	14:32					<b>7.4</b>
		Bottom	5.5	G2	13:52	6.9	7.9	6.5	7.1	<u>7.3</u>
				M2	13:46					<b>6.8</b>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	Surface	3.1	G1	08:36	6.0	6.9	3.7	4.0	<b><u>4.1</u></b>
				G2	08:22					<b><u>11.0</u></b>
				G3	08:40					<b><u>4.4</u></b>
				M1	08:28	6.2	7.4			<b><u>5.9</u></b>
				M2	08:15					<b><u>4.1</u></b>
				M3	08:46					<b><u>4.9</u></b>
				M4	08:09					<b><u>5.4</u></b>
				M5	09:04					<b><u>4.8</u></b>

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:** 11 February 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.6	G1	15:41	0.7	0.8	<b><i><u>1.0</u></i></b>
						G3	15:46			<b><i><u>1.3</u></i></b>

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**

**Table II: 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	4.5	G1	11:22	6.2	7.4	5.3	5.8	<b><i>5.4</i></b>
				M3	11:35					<b><u>7.5</u></b>
		Bottom	3.1	G1	11:22	6.9	7.9	3.7	4.0	<b><u>5.0</u></b>
				G2	11:11					<b><u>5.4</u></b>
				G3	11:28					<b><u>4.9</u></b>
				G4	11:41					<b><u>4.4</u></b>
				M3	11:35					<b><u>7.2</u></b>
				M4	11:01					<b><u>6.7</u></b>
				M5	11:50					<b><u>4.4</u></b>

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**

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	3.3	G1	15:41	6.0	6.9	4.0	4.3	<b><u>8.3</u></b>
				G2	15:30					<b><u>6.1</u></b>
				G3	15:46					<b><u>7.2</u></b>
				G4	15:57					<b><u>8.0</u></b>
				M1	15:36	6.2	7.4			<b><u>4.5</u></b>
				M5	16:06					<b><u>5.2</u></b>
		Bottom	2.6	G1	15:41	6.9	7.9	3.1	3.3	<b><u>5.8</u></b>
				G2	15:30					<b><u>4.4</u></b>
				G3	15:46					<b><u>5.5</u></b>
				G4	15:57					<b><u>5.1</u></b>
				M2	15:26					<b><u>4.2</u></b>
				M3	15:51					<b><u>5.4</u></b>
				M4	15:22					<b><u>5.9</u></b>

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:** 13 February 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.4	G1	18:17	0.5	0.6	<u>0.8</u>
						G3	18:23			<u>0.7</u>
						G4	18:33			<u>0.6</u>
						M1	18:11			<u>0.5</u>
						M3	18:27			<u>0.9</u>
			Mid-flood	C1	0.6	G1	12:13	0.7	0.8	<u>0.9</u>
						G3	12:17			<u>1.0</u>
						M1	12:06			<u>1.0</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	M2	17:58	6.2	7.4	6.2	6.8	<b><i>6.5</i></b>
				M4	17:50					<b><u>8.7</u></b>
		Bottom	4.0	M1	18:11	6.9	7.9	4.8	5.2	<b><i>5.1</i></b>
				M4	17:50					<b><u>5.6</u></b>
Mid-Flood	C1	Surface	7.9	G2	12:20	6.0	6.9	9.4	10.2	<b><u>9.4</u></b>

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:** 15 February 2019

**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	13.8	G1	8:22	6.0	6.9	16.5	17.9	<u>14.3</u>
				G2	8:07					6.4
				G4	8:47					<u>14.4</u>
				M2	8:10	6.2	7.4			<u>10.9</u>
				M3	8:40					<u>12.8</u>
				M4	7:55					<u>12.7</u>
				M5	8:56					<u>9.9</u>
		Bottom	6.2	G1	8:22	6.9	7.9	7.4	8.1	<u>9.9</u>
				G2	8:07					7.8
				G3	8:28					<u>9.1</u>
				M1	8:13					<u>9.8</u>
				M3	8:40					<u>17.1</u>
				M4	7:55					<u>15.3</u>
				M5	8:56					7.2

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.3	G1	14:27	6.0	6.9	6.3	6.8	<b>6.3</b>		
				G2	14:07					<b><u>8.4</u></b>		
				G3	14:33					<b><u>13.4</u></b>		
				G4	14:48					<b><u>10.3</u></b>		
				M3	14:42					<b><u>6.9</u></b>		
		Bottom	5.8	M4	13:55	6.2	7.4	6.9	7.9	7.0	7.5	<b>7.0</b>
				M5	14:58							<b><u>16.0</u></b>
				G1	14:27							<b><u>8.9</u></b>
				G2	14:07							<b><u>12.0</u></b>
				M2	14:01							<b><u>8.3</u></b>
M3	14:42	<b><u>9.4</u></b>										
M4	13:55	<b><u>8.1</u></b>										

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:** 18 February 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	11:09	0.4	0.4	<b><u>0.5</u></b>

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**

**Table II: 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	G1	11:09	6.0	6.9	6.2	6.8	<b>6.4</b>
				G2	10:54					<b><u>10.8</u></b>
				G3	11:13					<b><u>7.9</u></b>
				G4	11:23					<b><u>12.7</u></b>
				M1	11:00	6.2	7.4			<b>6.4</b>
				M2	10:48					<b><u>9.7</u></b>
				M3	11:20					<b><u>12.2</u></b>
				M4	10:39					<b><u>15.3</u></b>
		Bottom	7.1	G3	11:13	6.9	7.9	8.5	9.2	<b><u>16.8</u></b>
				G4	11:23					<b><u>11.6</u></b>
				M1	11:00					<b><u>11.7</u></b>
				M2	10:48					<b><u>10.9</u></b>
				M3	11:20					<b><u>8.3</u></b>
				M4	10:39					<b><u>11.3</u></b>
M5	11:31	<b>7.5</b>								

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**

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	3.6	G1	15:56	6.0	6.9	4.3	4.7	<b><u>6.9</u></b>
				G3	16:05					<b><u>7.1</u></b>
				G4	16:15					<b><u>12.9</u></b>
				M1	15:50	6.2	7.4			<b><u>10.3</u></b>
				M2	15:38					<b><u>6.5</u></b>
				M3	16:10					<b><u>7.2</u></b>
				M4	15:34					<b><u>12.1</u></b>
		M5	16:30	<b><u>11.7</u></b>						
		Intake	n.a.	M6	16:25	8.3	8.6	n.a.	n.a.	<b><u>8.7</u></b>
		Bottom	2.8	G1	15:56	6.9	7.9	3.3	3.6	<b><u>3.7</u></b>
				G2	15:44					<b><u>19.2</u></b>
				G3	16:05					<b><u>9.1</u></b>
				G4	16:15					<b><u>10.3</u></b>
				M1	15:50					<b><u>8.2</u></b>
				M2	15:38					<b><u>11.8</u></b>
				M3	16:10					<b><u>8.3</u></b>
				M4	15:34					<b><u>8.5</u></b>
		M5	16:30	<b><u>9.2</u></b>						

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 February 2019

**Part A – Exceedance Summary Tables**

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

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-ebb	C2	0.6	G4	13:29	0.7	0.8	<u>0.9</u>
						M1	13:14			<u>1.0</u>
			Mid-flood	C1	0.4	M4	07:34	0.5	0.5	<u>0.6</u>
						M5	08:18			<u>0.7</u>

**Table II: 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	07:54	6.0	6.9	5.3	5.7	<u>5.7</u>
				G2	07:44					<u>11.6</u>
				G4	08:08					<u>6.3</u>
				M2	07:39	6.2	7.4			<u>9.2</u>
				M4	07:34					<u>8.2</u>
		Bottom	7.6	G1	07:54	6.9	7.9	9.1	9.9	<u>8.4</u>
				M3	08:01					<u>8.2</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	G3	13:22	6.0	6.9	7.8	8.5	<b><u>9.4</u></b>
				G4	13:29					<b><u>7.3</u></b>
				M3	13:25	6.2	7.4			<b><u>16.9</u></b>
				M4	12:59					<b><u>10.0</u></b>
				M5	13:40					<b><u>8.5</u></b>
		Bottom	2.8	G1	13:18	6.9	7.9	3.3	3.6	<b><u>10.6</u></b>
				G2	13:09					<b><u>12.6</u></b>
				G3	13:22					<b><u>10.1</u></b>
				G4	13:29					<b><u>7.3</u></b>
				M1	13:14					<b><u>4.6</u></b>
				M2	13:05					<b><u>7.4</u></b>
				M3	13:25					<b><u>14.3</u></b>
				M5	13:40					<b><u>4.7</u></b>

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:** 22 February 2019

**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	7.7	G1	8:44	6.0	6.9	9.2	10.0	<b><u>7.6</u></b>
				G2	8:23					<b><u>8.3</u></b>
				G3	8:51					<b><u>6.2</u></b>
				G4	9:01					<b><u>9.0</u></b>
				M1	8:38					<b><u>13.7</u></b>
				M2	8:16					<b><u>11.0</u></b>
		Intake	n.a.	M6	9:09	8.3	8.6	n.a.	n.a.	<b><u>13.4</u></b>
		Bottom	13.0	G1	8:44	6.9	7.9	15.5	16.8	<b><u>11.7</u></b>
				G2	8:23					<b><u>13.4</u></b>
				G4	9:01					<b><u>13.8</u></b>
				M4	8:10					<b><u>8.4</u></b>
				M5	9:09					<b><u>13.4</u></b>

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**

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	8.6	G1	14:49	6.0	6.9	10.3	11.1	<b><u>10.6</u></b>
				G2	14:42					<b><u>7.5</u></b>
				M1	14:40	6.2	7.4			<b><u>15.3</u></b>
				M3	15:12					<b><u>7.1</u></b>
				M5	15:39					<b><u>25.2</u></b>
		Bottom	7.1	G1	14:49	6.9	7.9	8.5	9.2	<b><u>18.0</u></b>
				G2	14:42					<b><u>7.3</u></b>
				G3	14:57					<b><u>10.2</u></b>
				M1	14:40					<b><u>12.5</u></b>
				M3	15:12					<b><u>12.1</u></b>
				M5	15:39					<b><u>16.5</u></b>

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:** 25 February 2019

**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	16.8	G1	16:04	6.0	6.9	20.2	21.8	<u>15.3</u>
				G2	15:50					<u>11.3</u>
				G3	16:08					<u>21.7</u>
				G4	16:22					<u>16.0</u>
				M1	15:58	6.2	7.4			<u>19.6</u>
				M2	15:45					<u>20.5</u>
				M3	16:16					<u>8.4</u>
				M4	15:39					<u>25.3</u>
		Intake	n.a.	M6	16:27	8.3	8.6	n.a	n.a	<u>9.4</u>
		Bottom	13.6	G1	16:04	6.9	7.9	16.3	17.6	<u>18.5</u>
				G2	15:50					<u>21.4</u>
				G3	16:08					<u>8.1</u>
				M1	15:58					<u>10.0</u>
				M3	16:16					<u>15.3</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	13.3	G1	11:09	6.0	6.9	15.9	17.2	<u>7.7</u>
				G2	10:58					<u>16.4</u>
				G3	11:13					<u>10.6</u>
				G4	11:27					<u>15.6</u>
				M1	11:04	6.2	7.4			<u>13.2</u>
				M2	10:53					<u>15.8</u>
				M3	11:22					<u>12.9</u>
				M4	10:45					<u>7.2</u>
		Intake	n.a.	M6	11:33	8.3	8.6	n.a	n.a	<u>9.2</u>
		Bottom	5.2	G1	11:09	6.9	7.9	6.2	6.8	<u>9.0</u>
				G3	11:13					<u>7.0</u>
				G4	11:27					<u>6.7</u>
				M1	11:04					<u>8.2</u>
				M2	10:53					<u>18.8</u>
				M3	11:22					<u>8.7</u>

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:** 26 February 2019

**Part A – Exceedance Summary Tables**

**Table II: 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	G2	17:10	6.0	6.9	6.7	7.3	<u>8.5</u>
				M3	17:36	6.2	7.4			<u>9.0</u>
				M4	16:59					<u>8.7</u>
				M5	17:53					<u>7.7</u>
		Bottom	3.7	G2	17:10	6.9	7.9	4.4	4.8	<u>7.4</u>
				G3	17:28					<u>4.5</u>
				G4	17:42					<u>6.9</u>
				M1	17:18					<u>8.8</u>
				M2	17:05					<u>8.9</u>
				M3	17:36					<u>10.7</u>



**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	2.9	G1	11:20	6.0	6.9	3.5	3.8	<b><u>12.3</u></b>
				G2	11:09					<b><u>8.6</u></b>
				G3	11:24					<b><u>4.3</u></b>
				G4	11:38					<b><u>4.1</u></b>
				M1	11:15	6.2	7.4			<b><u>6.5</u></b>
				M2	11:04					<b><u>5.7</u></b>
				M3	11:33					<b><u>3.7</u></b>
				M4	10:56					<b><u>4.0</u></b>
		M5	11:50	<b><u>10.0</u></b>						
		Bottom	5.2	M1	11:15	6.9	7.9	6.2	6.7	<b><u>6.4</u></b>
				M2	11:04					<b><u>7.1</u></b>
				M4	10:56					<b><u>7.0</u></b>

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:** 27 February 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.2	G1	19:30	0.2	0.3	<u>0.6</u>
						G3	19:32			<u>0.8</u>
						G4	19:38			<u>0.3</u>
						M1	19:26			<u>0.9</u>
						M3	19:35			<u>0.8</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	12:06	6.0	6.9	5.2	5.7	<u>15.2</u>
				G3	12:09					<u>8.6</u>
				G4	12:15					<u>8.6</u>
				M1	12:02	6.2	7.4			<u>8.1</u>
				M2	11:54					<u>12.1</u>
				M3	12:12					<u>6.1</u>
				M4	11:51					<u>17.5</u>
				M5	12:25					<u>6.8</u>
		Intake	n.a.	M6	12:19	8.3	8.6	n.a.	n.a.	<u>13.8</u>
		Bottom	13.6	G1	12:06	6.9	7.9	16.3	17.7	<u>8.1</u>
				G2	11:58					<u>8.4</u>
				G3	12:09					7.3
				G4	12:15					<u>10.8</u>
				M1	12:02					<u>11.6</u>
				M3	12:12					<u>12.6</u>
M4	11:51			7.0						
M5	12:25	<u>12.0</u>								

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	G1	19:30	6.0	6.9	8.2	8.8	<b><u>12.7</u></b>
				G2	19:22					<b><u>10.5</u></b>
				G3	19:32					<b><u>11.6</u></b>
				M5	19:46					<b><u>6.9</u></b>
		Bottom	7.3	G1	19:30	6.9	7.9	8.7	3.6	<b><u>20.6</u></b>
				G2	19:22					<b><u>27.9</u></b>
				G4	19:38					<b><u>24.4</u></b>
				M2	19:19					<b><u>8.0</u></b>

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:** 01 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.5	G1	14:31	0.6	0.6	<u>1.1</u>
						G3	14:41			<u>1.8</u>
						G4	14:46			<u>0.8</u>
						M1	14:26			<u>1.0</u>
						M2	14:13			<u>0.8</u>
						M3	14:36			<u>0.9</u>
						M4	14:06			<u>0.8</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	6.6	G1	14:31	6.0	6.9	7.9	8.6	<b><u>7.8</u></b>
				G2	14:19					<b><u>8.0</u></b>
				M5	14:58					<b><u>13.5</u></b>
		Bottom	4.3	G4	14:46	6.9	7.9	5.1	5.5	<b><u>5.5</u></b>
				M2	14:13					<b><u>5.2</u></b>
				M3	14:36					<b><u>10.5</u></b>
				M4	14:06					<b><u>11.1</u></b>

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:** 4 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.2	G1	11:48	0.2	0.3	<u>0.7</u>
						G3	11:54			<u>1.0</u>
						G4	12:06			<u>0.8</u>
						M1	11:40			<u>1.4</u>
						M2	11:20			<u>0.7</u>
						M3	12:01			<u>0.6</u>
						M4	11:11			<u>0.3</u>
						M5	12:18			<u>0.3</u>
			Mid-flood	C1	0.9	M1	16:13	1.0	1.2	<u>1.3</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	12.9	G1	11:48	6.0	6.9	15.4	16.7	<u>18.0</u>
				G2	11:30					<u>23.3</u>
				G4	12:06					<u>9.0</u>
				M1	11:40	6.2	7.4			<u>15.5</u>
				M2	11:20					<u>6.7</u>
				M3	12:01					<u>17.5</u>
				M4	11:11					<u>17.0</u>
				M5	12:18					<u>7.3</u>
		Intake	12:12	8.3	8.6	n.a.	n.a.	<u>14.4</u>		
		Bottom	11.3	G1	11:48	6.9	7.9	13.5	14.6	<u>20.6</u>
				G2	11:30					<u>12.0</u>
				G3	11:54					<u>16.9</u>
				G4	12:06					<u>19.7</u>
				M1	11:40					<u>15.5</u>
				M2	11:20					<u>21.5</u>
				M3	12:01					<u>7.2</u>
M4	11:11			<u>17.9</u>						
M5	12:18	<u>18.3</u>								



**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.8	G1	16:21	6.0	6.9	7.0	7.5	<b><u>14.4</u></b>
				G2	16:03					<b><u>16.4</u></b>
				G3	16:26					<b><u>18.8</u></b>
				G4	16:39					<b><u>10.5</u></b>
				M1	16:13	6.2	7.4			<b><u>10.5</u></b>
				M2	15:53					<b><u>20.4</u></b>
				M3	16:34					<b><u>10.2</u></b>
				M4	15:43					<b><u>17.1</u></b>
				M5	16:50					<b><u>12.2</u></b>
		Intake	n.a.	M6	16:44	8.3	8.6	n.a.	n.a.	<b><u>11.2</u></b>
		Bottom	11.3	G1	16:21	6.9	7.9	13.6	14.7	<b><u>14.2</u></b>
				G2	16:03					<b><u>16.3</u></b>
				G3	16:26					<b><u>14.3</u></b>
				G4	16:39					<b><u>9.6</u></b>
				M1	16:13					<b><u>9.0</u></b>
				M2	15:53					<b><u>7.0</u></b>
				M3	16:34					<b><u>23.6</u></b>
				M4	15:43					<b><u>11.6</u></b>
M5	16:50			<b><u>10.3</u></b>						

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:** 6 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.4	G1	12:24	0.5	0.5	<u>1.2</u>
			Mid-flood	C1	0.7	M1	17:16	0.8	0.9	<u>6.0</u>
						M3	17:37			<u>0.9</u>

**Table II: 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	G1	12:24	6.0	6.9	6.8	7.3	<u>7.7</u>		
				G3	12:30					<u>7.6</u>		
				G4	12:45					<u>6.2</u>		
				M2	12:09	6.2	7.4			<u>7.2</u>		
				M3	12:40					<u>13.1</u>		
		Intake	n.a.	M6	12:51	8.3	8.6	n.a.	n.a.	<u>10.7</u>		
		Bottom	5.0	G3	12:30	6.9	12:45	6.9	7.9	6.0	6.5	<u>6.6</u>
				G4	<u>9.3</u>							
				M3	12:40							<u>12.4</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.7	G1	17:23	6.0	6.9	4.4	4.7	<b><u>6.6</u></b>
				G2	17:10					<b><u>9.3</u></b>
				G3	17:29					<b><u>5.9</u></b>
				G4	17:43					<b><u>22.1</u></b>
				M1	17:16	6.2	7.4			<b><u>13.0</u></b>
				M2	17:06					<b><u>6.5</u></b>
				M3	17:37					<b><u>5.3</u></b>
				M4	17:00					<b><u>4.5</u></b>
		M5	17:52	<b><u>6.8</u></b>						
		Intake	n.a.	M6	17:47	8.3	8.6	n.a.	n.a.	<b><u>11.4</u></b>
		Bottom	3.4	G1	17:23	6.9	7.9	4.0	4.4	<b><u>7.0</u></b>
				G2	17:10					<b><u>8.7</u></b>
				G3	17:29					<b><u>7.6</u></b>
				G4	17:43					<b><u>4.3</u></b>
				M1	17:16					<b><u>10.2</u></b>
				M2	17:06					<b><u>6.1</u></b>
M3	17:37			<b><u>8.0</u></b>						
M5	17:52			<b><u>4.7</u></b>						

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:** 7 March 2019

**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	13:24	6.0	6.9	6.1	6.6	<b><u>6.3</u></b>
				G3	13:35					<b><u>7.1</u></b>
				G4	13:41					<b><u>7.7</u></b>
				M1	13:28	6.2	7.4			<b><u>7.6</u></b>
				M3	13:38					<b><u>19.0</u></b>
				M5	13:51					<b><u>6.6</u></b>
		intake	n.a.	M6	13:45	8.3	8.6	n.a.	n.a.	<b><u>9.4</u></b>
		bottom	5.6	G4	13:41	6.9	7.9	6.7	7.2	<b><u>10.5</u></b>
				M1	13:28					<b><u>8.4</u></b>
				M4	13:17					<b><u>14.5</u></b>
M5	13:51			<b><u>8.0</u></b>						

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Flood	C1	surface	3.1	G1	17:40	6.0	6.9	3.7	4.0	<b><u>11.4</u></b>
				G2	17:32					<b><u>5.3</u></b>
				G3	17:42					<b><u>8.8</u></b>
				G4	17:48					<b><u>16.6</u></b>
				M1	17:36	6.2	7.4			<b><u>9.5</u></b>
				M2	17:29					<b><u>7.6</u></b>
				M3	17:45					<b><u>15.2</u></b>
				M4	17:20					<b><u>10.1</u></b>
		M5	17:56	<b><u>7.6</u></b>						
		botto m	17.3	G3	17:42	6.9	7.9	20.8	22.5	<b><u>7.8</u></b>
				M1	17:36					<b><u>7.7</u></b>
				M3	17:45					<b><u>7.8</u></b>
M5	17:56			<b><u>13.1</u></b>						

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:** 8 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.8	G4	08:30	1.0	1.0	<u>1.5</u>		
						M1	08:17			<u>1.4</u>		
			Mid-flood	C1	0.5	0.6	0.7	G2	11:37	0.6	0.7	<u>0.8</u>
								G3	11:47			<u>0.7</u>
								G4	11:53			<u>1.0</u>
								M1	11:41			<u>1.5</u>
								M3	11:50			<u>0.8</u>

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

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	Surface	6.4	G1	08:21	6.0	6.9	7.6	8.3	<u>10.2</u>
				G3	08:24					<u>7.4</u>
				M1	08:17	6.2	7.4			<u>8.6</u>
				M3	08:27					<u>13.1</u>
		Intake	n.a.	M6	08:34	8.3	8.6	n.a.	n.a.	<u>12.1</u>
		Bottom	9.7	M1	08:17	6.9	7.9	11.6	12.6	<u>10.6</u>
				M5	08:40					<u>9.5</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	7.8	M2	11:34	6.2	7.4	9.4	10.1	<b><i>7.7</i></b>
				M4	11:25					<b><i><u>12.5</u></i></b>
				M5	12:01					<b><i>7.0</i></b>
		Intake	n.a.	M6	11:56	8.3	8.6	n.a.	n.a.	<b><i><u>12.3</u></i></b>
		Bottom	3.5	G1	11:45	6.9	7.9	4.2	4.6	<b><i>4.4</i></b>
				G3	11:47					<b><i><u>5.5</u></i></b>
				G4	11:53					<b><i><u>9.6</u></i></b>
				M1	11:41					<b><i><u>10.1</u></i></b>
				M2	11:34					<b><i><u>5.5</u></i></b>
				M3	11:50					<b><i>5.1</i></b>
				M4	11:25					<b><i><u>8.4</u></i></b>
		M5	12:01	<b><i><u>5.4</u></i></b>						

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:** 11 March 2019

**Part A – Exceedance Summary Tables**

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

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-ebb	C2	0.6	G4	16:07	0.7	0.7	<u>1.9</u>
						M3	16:01			<u>0.8</u>
			Mid-flood	C1	0.8	G3	10:47	1.0	1.0	<u>1.7</u>
						M5	11:11			<u>1.1</u>

**Table II: 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	7.8	G1	15:51	6.0	6.9	9.4	10.1	<u>7.3</u>
				G4	16:07					<u>6.4</u>
				M3	16:01	6.2	7.4			<u>10.3</u>
				M4	15:23					<u>10.8</u>
		Bottom	10.0	G2	15:37	6.9	7.9	12.0	13.0	<u>16.1</u>
				G4	16:07					<u>12.0</u>
				M4	15:23	<u>7.2</u>				



**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	2.2	G1	10:40	6.0	6.9	2.6	2.9	<b><u>4.5</u></b>
				G2	10:27					<b><u>8.0</u></b>
				G3	10:47					<b><u>8.2</u></b>
				G4	10:57					<b><u>3.4</u></b>
				M1	10:34	6.2	7.4			<b><u>2.7</u></b>
				M2	10:20					<b><u>3.0</u></b>
				M4	10:11					<b><u>6.4</u></b>
		M5	11:11	<b><u>4.3</u></b>						
		Intake	n.a.	M6	11:06	8.3	8.6	n.a.	n.a.	<b><u>8.8</u></b>
		Bottom	3.3	G1	10:40	6.9	7.9	3.9	4.2	<b><u>6.9</u></b>
				G2	10:27					<b><u>9.6</u></b>
				G3	10:47					<b><u>4.1</u></b>
				G4	10:57					<b><u>5.9</u></b>
				M1	10:34					<b><u>5.3</u></b>
M2	10:20			<b><u>7.0</u></b>						
M4	10:11			<b><u>5.0</u></b>						

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:** 13 March 2019

**Part A – Exceedance Summary Tables**

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

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-ebb	C2	0.6	G1	16:20	0.7	0.8	<b><i>0.8</i></b>
						G3	16:23			<b><i>1.0</i></b>
						G4	16:29			<b><i>1.0</i></b>
						M2	16:02			<b><i>1.0</i></b>
						M3	16:26			<b><i>1.1</i></b>
						M4	15:59			<b><i>0.8</i></b>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	5.9	G1	16:20	6.0	6.9	7.0	7.6	<u>7.0</u>
				G2	16:09					<u>6.8</u>
				G3	16:23					<u>8.7</u>
				M3	16:26	6.2	7.4			<u>14.5</u>
				M4	15:59					<u>6.3</u>
		M5	16:40	<u>24.4</u>						
		Bottom	6.9	G1	16:20	6.9	7.9	8.2	8.9	<u>7.1</u>
				G2	16:09					<u>8.7</u>
				M1	16:14					<u>10.3</u>
				M2	16:02					<u>14.9</u>
M4	15:59			<u>14.0</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	10.8	G2	10:31	6.0	6.9	13.0	14.0	<b><u>17.2</u></b>
				G3	10:48					<b><u>11.4</u></b>
				G4	10:59					<b><u>9.6</u></b>
				M1	10:37	6.2	7.4			<b><u>11.2</u></b>
				M3	10:56					<b><u>10.9</u></b>
				M5	11:11					<b><u>9.4</u></b>
		Bottom	27.0	G1	10:44	6.9	7.9	32.4	35.1	<b><u>16.2</u></b>
				G4	10:59					<b><u>7.3</u></b>
				M5	11:11					<b><u>16.4</u></b>

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:** 14 March 2019

**Part A – Exceedance Summary Tables**

**Table II: 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	M5	19:37	6.0	6.9	8.4	9.1	<b><u>11.8</u></b>
		Bottom	4.8	G2	18:40	6.9	7.9	5.8	6.2	<b><u>10.6</u></b>
				M1	18:50					<b><u>10.1</u></b>
Mid-Flood	C1	Surface	3.5	G2	11:40	6.0	6.9	4.1	4.5	<b><u>9.9</u></b>
				G3	12:17					<b><u>5.3</u></b>
				G4	12:32					<b><u>4.5</u></b>
				M1	11:50	6.2	7.4			<b><u>5.4</u></b>
				M2	11:29					<b><u>5.1</u></b>
				M4	11:15					<b><u>6.3</u></b>
				M5	12:45					<b><u>7.7</u></b>

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:** 15 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.2	G1	18:50	0.3	0.3	<u>0.5</u>
						G2	18:35			<u>0.7</u>
						G3	18:55			<u>0.9</u>
						G4	19:13			<u>1.0</u>
						M1	18:41			<u>0.9</u>
						M2	18:30			<u>0.4</u>
						M3	19:05			<u>0.7</u>
						M4	18:26			<u>0.5</u>
						M5	19:23			<u>0.8</u>
			Mid-flood	C1	0.9	M1	10:41	1.1	1.2	<u>1.3</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	G2	18:35	6.0	6.9	8.5	9.2	<u>7.7</u>
				M3	19:05	6.2	7.4			<u>22.4</u>
				M5	19:23					<u>12.2</u>
		Bottom	9.5	G2	18:35	6.9	7.9	11.4	12.4	<u>11.4</u>
				G3	18:55					<u>9.8</u>
				M3	19:05					<u>7.1</u>
				M5	19:23					<u>15.4</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	8.7	G1	10:50	6.0	6.9	10.4	11.3	<b><u>17.9</u></b>
				G2	10:37					<b><u>13.7</u></b>
				G3	10:55					<b><u>11.6</u></b>
				M1	10:41					<b><u>9.6</u></b>
				M3	11:00					<b><u>7.2</u></b>
		Intake	n.a.	M6	11:15	8.3	8.6	n.a.	n.a.	<b><u>9.9</u></b>
		Bottom	7.4	G1	10:50	6.9	7.9	8.8	9.6	<b><u>8.3</u></b>
				G2	10:37					<b><u>11.0</u></b>
				G3	10:55					<b><u>19.0</u></b>
				G4	11:07					<b><u>23.2</u></b>
				M1	10:41					<b><u>7.3</u></b>
				M2	10:29					<b><u>8.0</u></b>
				M3	11:00					<b><u>15.2</u></b>
				M4	10:24					<b><u>28.2</u></b>
M5	11:23	<b><u>7.5</u></b>								

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:** 18 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.2	G1	10:49	0.3	0.3	<u>1.0</u>
						G2	10:42			<u>0.4</u>
						G3	10:53			<u>0.6</u>
						G4	11:03			<u>1.3</u>
						M1	10:46			<u>0.4</u>
						M2	10:37			<u>0.4</u>
						M3	10:59			<u>0.7</u>
						M4	10:33			<u>0.4</u>
						M5	11:13			<u>0.5</u>
			Mid-flood	C1	0.4	G1	15:46	0.5	0.5	<u>0.7</u>
						M1	15:39			<u>1.3</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	Surface	2.3	G1	10:49	6.0	6.9	2.8	3.0	<u>5.4</u>
				G2	10:42					<u>3.9</u>
				G3	10:53					<u>14.6</u>
				G4	11:03					<u>8.3</u>
				M1	10:46	6.2	7.4			<u>5.5</u>
				M2	10:37					<u>14.1</u>
				M3	10:59					<u>10.4</u>
				M4	10:33					<u>3.6</u>
		Intake	n.a.	M6	11:08	8.3	8.6	n.a.	b.a.	<u>12.2</u>
		Bottom	6.5	G1	10:49	6.9	7.9	7.8	8.5	<u>9.8</u>
				G2	10:42					<u>11.4</u>
				M1	10:46					<u>21.6</u>
M2	10:37			<u>9.5</u>						

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	3.7	G1	15:46	6.0	6.9	4.4	4.7	<b><u>12.8</u></b>
				G2	15:33					<b><u>10.2</u></b>
				G3	15:53					<b><u>11.0</u></b>
				G4	16:00					<b><u>6.9</u></b>
				M1	15:39	6.2	7.4			<b><u>5.8</u></b>
				M2	15:28					<b><u>5.9</u></b>
				M3	15:56					<b><u>6.3</u></b>
				M4	15:22					<b><u>4.8</u></b>
				M5	16:14					<b><u>11.8</u></b>
		Intake	16:09	n.a.	8.3	8.6	n.a.	n.a.	<b><u>11.6</u></b>	
		Bottom	7.4	G4	16:00	6.9	7.9	8.8	9.6	<b><u>7.4</u></b>
				M1	15:39					<b><u>7.6</u></b>
				M2	15:28					<b><u>7.3</u></b>
M5	16:14			<b><u>7.9</u></b>						

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 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.4	G1	12:23	0.5	0.5	<u>0.8</u>
						G3	12:27			<u>0.9</u>
						G4	12:34			<u>3.0</u>
						M1	12:19			<u>1.1</u>
						M2	12:09			<u>0.7</u>
						M3	12:31			<u>1.2</u>
			Mid-flood	C1	0.5	G3	16:53	0.6	0.7	<u>0.8</u>
						G4	17:01			<u>2.5</u>
						M1	16:41			<u>1.2</u>
						M2	16:32			<u>0.6</u>
						M3	16:57			<u>2.0</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	4.2	G1	12:23	6.0	6.9	5.0	5.4	<u>8.6</u>
				M2	12:09	6.2	7.4			<u>17.7</u>
				M3	12:31					<u>12.5</u>
				M4	12:06					<u>9.8</u>
		Intake	n.a.	M6	12:37	8.3	8.6	n.a.	b.a.	<u>13.2</u>
		Bottom	4.5	G1	12:23	6.9	7.9	5.3	5.8	<u>8.8</u>
				G4	12:34					<u>7.3</u>
				M1	12:19					<u>14.5</u>
				M2	12:09					<u>8.7</u>
				M3	12:31					<u>6.8</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	10.2	G1	16:47	6.0	6.9	12.2	13.3	<b><u>11.8</u></b>
				G2	16:36					<b>6.5</b>
				G3	16:53					<b><u>9.1</u></b>
				G4	17:01					<b><u>23.6</u></b>
				M2	16:32					<b><u>7.5</u></b>
				M4	16:28					<b>7.2</b>
		Bottom	7.4	G1	16:47	6.9	7.9	8.8	9.6	<b>7.1</b>
				G2	16:36					<b><u>10.3</u></b>
				G3	16:53					<b><u>9.4</u></b>
				M1	16:41					<b><u>12.6</u></b>
				M2	16:32					<b><u>12.6</u></b>
				M5	17:11					<b><u>7.0</u></b>

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:** 22 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	13:47	1.9	2.1	<u>2.2</u>
			Mid-flood	C1	1.0	G1	08:33	1.2	1.3	<u>1.3</u>
						G4	08:48			<u>2.0</u>
						M3	08:40			<u>2.2</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	9.9	G1	13:47	6.0	6.9	11.9	12.9	<u>8.6</u>
				G2	13:35					<u>10.0</u>
				G3	13:51					6.5
				M1	13:40	6.2	7.4			<u>9.2</u>
				M2	13:31					<u>13.6</u>
				M3	13:54					<u>14.7</u>
				M4	13:25					7.1
				M5	14:11					<u>8.8</u>
		Intake	n.a.	M6	14:06	8.3	8.6	n.a.	n.a.	<u>13.4</u>
		Bottom	5.3	G2	13:35	6.9	7.9	6.3	6.8	6.7
				G3	13:51					<u>7.7</u>
				G4	14:02					<u>16.6</u>
				M1	13:40					<u>13.1</u>
				M3	13:54					<u>8.0</u>
				M4	13:25					<u>7.7</u>



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**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.6	G1	08:33	6.0	6.9	6.7	7.3	<b><u>11.7</u></b>
				G3	08:37					<b><u>13.6</u></b>
				G4	08:48					<b><u>20.7</u></b>
				M2	08:17	<b><u>20.4</u></b>				
				M4	08:11	<b><u>7.7</u></b>				
		M5	08:57	<b><u>20.8</u></b>						
		Bottom	12.5	G1	08:33	6.9	7.9	14.9	16.2	<b><u>11.1</u></b>
				G2	08:21					<b><u>7.7</u></b>
				G3	08:37					<b><u>11.3</u></b>
				M1	08:27					<b><u>14.3</u></b>
M3	08:40			<b><u>15.4</u></b>						

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:** 25 March 2019

**Part A – Exceedance Summary Tables**

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

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-flood	C1	1.2	M1	08:52	1.4	1.6	<u>1.8</u>
						M2	08:17			<u>1.5</u>
						M3	09:34			<u>2.2</u>

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	4.9	M1	15:02	6.2	7.4	5.8	6.3	<u>13.1</u>		
				M2	14:51					<u>8.5</u>		
				M3	15:14					<u>17.4</u>		
				M4	14:42					<u>11.5</u>		
				M5	15:29					<u>11.4</u>		
		Bottom	7.8	G1	15:07	6.9	7.9	9.4	10.1	<u>10.3</u>		
				G3	15:10					<u>7.4</u>		
				G4	15:18					<u>14.4</u>		
						M1	15:02					<u>8.8</u>
						M2	14:51					<u>7.7</u>
	M3					15:14	<u>7.9</u>					
	M4					14:42	<u>8.2</u>					

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	10.2	G1	09:05	6.0	6.9	12.2	13.3	<b><u>8.1</u></b>
				G2	08:31					<b><u>9.2</u></b>
				G3	09:20					<b><u>6.1</u></b>
				M2	08:17	6.2	7.4			<b><u>8.5</u></b>
				M3	09:34					<b><u>8.1</u></b>
				M4	08:02					<b><u>12.7</u></b>
		Bottom	17.0	G4	09:44	6.9	7.9	20.4	22.1	<b><u>7.9</u></b>
				M1	08:52					<b><u>10.3</u></b>
				M2	08:17					<b><u>20.3</u></b>

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:** 27 March 2019

**Part A – Exceedance Summary Tables**

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

Depth	Baseline Action Level (NTU)	Baseline Limit Level (NTU)	Tide	Control Station(s)	Measured Value at Control Station (NTU)	Station(s)	Time (hrs)	120% of Control Station Action Level (NTU)	130% of Control Station Limit Level (NTU)	Measured Value (NTU)
Bottom	19.3	22.2	Mid-ebb	C2	1.1	G1	16:20	1.3	1.4	<u>2.1</u>
						G3	16:23			<u>1.5</u>
						M1	16:16			<u>3.2</u>
						M4	16:04			<u>1.4</u>
			Mid-flood	C1	1.4	M3	10:56	1.7	1.8	<u>1.9</u>
						M4	10:26			<u>2.0</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	5.9	G1	16:20	6.0	6.9	7.1	7.7	<u>7.9</u>
				G2	16:12					<u>11.2</u>
				G4	16:29					<u>12.6</u>
				M2	16:08	6.2	7.4			<u>10.9</u>
				M3	16:27					<u>15.4</u>
				M4	16:04					<u>7.1</u>
		M5	16:39	<u>7.8</u>						
		Intake	n.a.	M6	16:34	8.3	8.6	n.a.	n.a.	<u>10.6</u>
		Bottom	10.1	G1	16:20	6.9	7.9	12.1	13.1	<u>8.3</u>
				G2	16:12					<u>16.4</u>
				G4	16:29					<u>15.5</u>
				M1	16:16					<u>9.3</u>
				M4	16:04					<u>9.8</u>
				M5	16:39					<u>8.4</u>

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	1.5	G1	10:45	6.0	6.9	1.7	1.9	<b><u>4.1</u></b>
				G2	10:33					<b><u>4.1</u></b>
				G3	10:51					<b><u>19.1</u></b>
				G4	11:00					<b><u>9.5</u></b>
				M1	10:396	6.2	7.4			<b><u>22.6</u></b>
				M2	10:29					<b><u>27.9</u></b>
				M3	10:56					<b><u>7.2</u></b>
				M4	10:26					<b><u>15.0</u></b>
		M5	11:11	<b><u>7.5</u></b>						
		Bottom	5.1	G1	10:45	6.9	7.9	6.1	6.6	<b><u>10.7</u></b>
				G2	10:33					<b><u>10.1</u></b>
				G3	10:51					<b><u>6.3</u></b>
				G4	11:00					<b><u>10.6</u></b>
				M1	10:36					<b><u>37.9</u></b>
M2	10:29			<b><u>7.4</u></b>						
M3	10:56	<b><u>26.5</u></b>								
M5	11:11	<b><u>9.5</u></b>								

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:** 29 March 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	0.6	G1	08:54	0.7	0.8	<u>1.2</u>
						G3	08:58			<u>2.0</u>
						G4	09:04			<u>1.2</u>
						M2	08:42			<u>1.0</u>
						M3	09:00			<u>1.6</u>
						M4	08:37			<u>1.1</u>
						M5	09:13			<u>1.4</u>



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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	4.0	G2	08:54	6.0	6.9	4.7	5.1	<b><u>5.3</u></b>
				G4	09:04					<b><u>6.6</u></b>
		Bottom	3.0	G1	08:54	6.9	7.9	3.6	3.9	<b><u>4.0</u></b>
				G2	08:45					<b><u>5.4</u></b>
				G3	08:58					<b><u>4.0</u></b>
				G4	09:04					<b><u>4.8</u></b>
				M1	08:50					<b><u>7.4</u></b>
				M3	09:00					<b><u>3.9</u></b>
				M4	08:37					<b><u>3.7</u></b>

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:** 01 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	G1	10:30	1.6	1.8	<u>1.7</u>
						G3	10:34			<u>1.8</u>
						G4	10:45			<u>2.3</u>
						M1	10:26			<u>1.9</u>
						M3	10:41			<u>2.3</u>
						M5	10:53			<u>1.9</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	3.4	G1	10:30	6.0	6.9	4.0	4.4	<u>8.4</u>
				G2	10:21					<u>8.0</u>
				G3	10:34					<u>5.5</u>
				G4	10:45					<u>6.9</u>
				M1	10:26					<u>6.5</u>
		M2	10:17	<u>4.6</u>						
		M3	10:41	6.2	7.4	<u>5.3</u>				
		M4	10:12			<u>6.6</u>				
		M5	10:53			<u>8.1</u>				
		Bottom	8.2			G2	10:21	6.9	7.9	9.8
G3	10:34					<u>10.6</u>				
G4	10:45			<u>14.4</u>						
M1	10:26			<u>13.1</u>						
M5	10:53			<u>12.3</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	9.5	G1	15:00	6.0	6.9	11.3	12.3	<b><u>15.2</u></b>
				G2	14:51					<b><u>7.7</u></b>
				G3	15:05					<b><u>9.8</u></b>
				G4	15:12					<b><u>6.3</u></b>
				M1	14:56	6.2	7.4			<b><u>10.5</u></b>
				M2	14:47					<b><u>15.2</u></b>
				M3	15:08					<b><u>6.4</u></b>
				M4	14:42					<b><u>6.9</u></b>
		M5	15:21	<b><u>9.5</u></b>						
		Intake	n.a.	M6	15:16	8.3	8.6	n.a.	n.a.	<b><u>16.6</u></b>
		Bottom	7.7	G2	14:51	6.9	7.9	9.2	9.9	<b><u>11.2</u></b>
				G3	15:05					<b><u>9.9</u></b>
				M1	14:56					<b><u>11.2</u></b>
				M2	14:47					<b><u>7.2</u></b>
				M3	15:08					<b><u>13.3</u></b>
M4	14:42			<b><u>9.9</u></b>						
M5	15:21			<b><u>7.0</u></b>						

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:** 03 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.1	G1	16:33	2.5	2.7	<u>3.2</u>
						M1	16:28			<u>2.8</u>

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	9.7	G1	12:21	6.0	6.9	11.6	12.6	<u>10.4</u>
				G2	12:13					<u>10.3</u>
				M1	12:17	6.2	7.4			<u>7.1</u>
				M2	12:09					<u>7.4</u>
				M3	12:26					<u>15.4</u>
				M4	12:05					<u>7.1</u>
		Bottom	11.2	G1	12:21	6.9	7.9	13.4	14.6	<u>9.1</u>
				G4	12:30					<u>23.3</u>
				M1	12:17					<u>12.2</u>
				M2	12:09					<u>11.0</u>
				M3	12:26					<u>7.4</u>
				M4	12:05					<u>12.9</u>
		M5	12:38					<u>14.6</u>		

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	6.5	G1	16:33	6.0	6.9	7.8	8.5	<b><u>13.4</u></b>
				G3	16:37					<b><u>18.3</u></b>
				G4	16:42					<b><u>13.5</u></b>
				M1	16:28	6.2	7.4			<b><u>9.2</u></b>
				M2	16:20					<b><u>10.5</u></b>
				M4	16:16					<b><u>12.3</u></b>
				M5	16:51					<b><u>6.7</u></b>
		Intake	n.a.	M6	16:45	8.3	8.6	n.a.	n.a.	<b><u>11.5</u></b>
		Bottom	6.3	G1	16:33	6.9	7.9	7.5	8.1	<b><u>8.2</u></b>
				G2	16:24					<b><u>8.4</u></b>
				G3	16:37					<b><u>10.2</u></b>
				M1	16:28					<b><u>9.5</u></b>
				M3	16:39					<b><u>11.0</u></b>
				M4	16:16					<b><u>11.2</u></b>

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:** 06 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	12:29	2.0	2.2	<u>2.4</u>
						M1	12:25			<u>2.8</u>
						M5	12:59			<u>2.7</u>
			Mid-flood	C1	2.8	M4	08:32	3.3	3.6	<u>3.8</u>



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**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	12.5	G1	12:29	6.0	6.9	15.0	16.3	<u>16.2</u>
				G2	12:18					<u>11.0</u>
				G4	12:46					<u>20.8</u>
				M1	12:25					<u>18.3</u>
				M2	12:12	<u>12.2</u>				
				M3	12:41	6.2	7.4			<u>24.7</u>
				M4	12:05	<u>38.3</u>				
				M5	12:59	<u>23.5</u>				
		Intake	n.a.	M6	12:53	8.3	8.6	n.a.	n.a.	<u>23.2</u>
		Bottom	14.9	G1	12:29	6.9	7.9	17.8	19.3	<u>12.1</u>
				G2	12:18					<u>39.4</u>
				G3	12:35					<u>8.2</u>
				G4	12:46					<u>9.5</u>
				M1	12:25					<u>11.2</u>
				M2	12:12					<u>13.0</u>
				M3	12:41					<u>31.4</u>
M4	12:05			<u>15.4</u>						
M5	12:59	<u>16.5</u>								

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**- Notification of Environmental Quality Limit Exceedances**

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	17.8	G1	8:54	6.0	6.9	21.3	23.1	<b><u>17.5</u></b>
				G2	8:42					<b><u>8.8</u></b>
				G3	8:57					<b><u>20.5</u></b>
				G4	9:06					<b><u>8.2</u></b>
				M1	8:49					<b><u>12.3</u></b>
				M2	8:38					<b><u>6.7</u></b>
				M3	9:01					<b><u>9.7</u></b>
		M5	9:19	<b><u>10.6</u></b>						
		Intake	n.a.	M6	09:12	8.3	8.6	n.a.	n.a.	<b><u>11.4</u></b>
		Bottom	10.0	G1	08:54	6.9	7.9	11.9	12.9	<b><u>8.1</u></b>
				G2	08:42					<b><u>20.8</u></b>
				G3	08:57					<b><u>13.9</u></b>
				G4	09:06					<b><u>11.9</u></b>
				M1	08:49					<b><u>12.3</u></b>
				M2	08:38					<b><u>9.4</u></b>
M4	08:32			<b><u>33.0</u></b>						
M5	09:19	<b><u>9.2</u></b>								

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:** 08 April 2019

**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	8.3	G1	13:45	6.0	6.9	10.0	10.8	<u>30.4</u>		
				G2	13:32					<u>12.0</u>		
				G3	13:49					<u>9.0</u>		
				G4	14:11					<u>10.0</u>		
				M1	13:38	<u>8.8</u>						
				M2	13:25	<u>13.1</u>						
				M4	13:17	<u>8.3</u>						
		Intake	n.a.	M5	14:19			<u>20.1</u>				
				M6	14:16	8.3	8.6	n.a.	n.a.	<u>9.3</u>		
				Bottom	7.1	G1	13:45	6.9	7.9	8.5	9.2	<u>18.2</u>
						G2	13:32					<u>11.5</u>
						G4	14:11					<u>13.6</u>
						M1	13:38					<u>12.0</u>
						M3	14:05					<u>12.0</u>
M4	13:17	<u>12.9</u>										
M5	14:19	<u>11.2</u>										

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**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	12.0	G1	8:27	6.0	6.9	14.4	15.6	<b><u>16.5</u></b>
				G2	8:16					<b>6.7</b>
				G3	8:32					<b><u>10.3</u></b>
				G4	8:49					<b><u>20.2</u></b>
				M1	8:20	6.2	7.4			<b><u>24.2</u></b>
				M2	8:10					<b><u>17.6</u></b>
				M3	8:45					<b><u>9.2</u></b>
				M4	8:00					<b><u>22.0</u></b>
		M5	8:55	<b><u>17.9</u></b>						
		Intake	08:54	n.a.	8.3	8.6	n.a.	n.a.	<b><u>9.4</u></b>	
		Bottom	17.5	G1	08:27	6.9	7.9	21.0	22.8	<b><u>10.7</u></b>
				G2	08:16					<b><u>5.5</u></b>
				G3	08:32					<b><u>13.3</u></b>
				G4	08:49					<b><u>8.5</u></b>
				M1	08:20					<b><u>22.0</u></b>
M2	08:10			<b>7.9</b>						
M5	08:55			<b><u>10.3</u></b>						

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:** 10 April 2019

**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	13.0	G1	15:11	6.0	6.9	15.5	16.8	<u>19.9</u>
				G2	15:03					<u>8.7</u>
				G3	15:13					<u>11.1</u>
				G4	15:20					<u>11.5</u>
				M1	15:08					<u>9.6</u>
				M2	15:00					<u>16.6</u>
		M3	15:16	<u>11.8</u>						
		Intake	n.a.	M6	15:23	8.3	8.6	n.a.	n.a.	<u>17.3</u>
		Bottom	6.4	G1	15:11	6.9	7.9	7.7	8.3	<u>16.7</u>
				G2	15:03					<u>8.3</u>
				M1	15:08					<u>28.6</u>
				M2	15:00					<u>11.3</u>
				M4	14:56					<u>14.5</u>
				M5	15:30					<u>15.6</u>

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**- Notification of Environmental Quality Limit Exceedances**

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	6.8	G1	9:52	6.0	6.9	8.1	8.8	<b><u>13.1</u></b>
				G2	9:40					<b><u>8.2</u></b>
				G4	10:04					<b><u>8.7</u></b>
				M1	9:47	6.2	7.4			<b><u>8.2</u></b>
				M2	9:35					<b><u>12.3</u></b>
				M4	9:28					<b><u>8.9</u></b>
		Bottom	4.4	G1	09:52	6.9	7.9	5.2	5.7	<b><u>8.9</u></b>
				G3	09:56					<b><u>12.2</u></b>
				G4	10:04					<b><u>14.4</u></b>
				M1	09:47					<b><u>5.5</u></b>
				M2	09:35					<b><u>26.9</u></b>
				M4	09:28					<b><u>12.0</u></b>
				M5	10:16					<b><u>11.9</u></b>

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

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**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Date of Water Quality Monitoring:** 12 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	1.9	G1	16:45	2.2	2.4	<u>2.9</u>
						G3	16:50			2.4
						G4	16:58			2.2
						M3	16:54			2.3
						M4	16:23			<u>4.9</u>
			Mid-flood	C1	2.2	M5	10:46	2.6	2.9	2.9

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**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	Surface	7.2	G1	16:45	6.0	6.9	8.6	9.3	<u>21.5</u>
				M3	16:54	6.2	7.4			<u>9.3</u>
				M5	17:13					<u>13.9</u>
		Bottom	5.8	G4	16:58	6.9	7.9	7.0	7.5	<u>9.1</u>
				M4	16:23					<u>11.0</u>



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**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	G3	10:37	6.0	6.9	4.5	4.9	<b><u>5.4</u></b>
				G4	10:44					<b><u>6.4</u></b>
				M2	10:19	6.2	7.4			<b><u>6.9</u></b>
				M4	10:17					<b><u>5.7</u></b>
				M5	10:46					<b><u>11.6</u></b>
		Bottom	6.0	G1	10:36	6.9	7.9	7.1	7.7	<b><u>8.3</u></b>
				M4	10:17					<b><u>8.4</u></b>

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:** 15 April 2019

**Part A – Exceedance Summary Tables**

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

Tide	Control Station(s)	Depth	Measured Value at Control Station (mg/L)	Station(s)	Time (hrs)	Baseline Action Level (mg/L)	Baseline Limit Level (mg/L)	120% of Control Station Action Level (mg/L)	130% of Control Station Limit Level (mg/L)	Measured Value (mg/L)
Mid-Ebb	C2	Surface	1.8	G1	10:01	6.0	6.9	2.1	2.3	<u>3.5</u>
				G2	09:47					<u>2.3</u>
				G3	10:05					<u>6.7</u>
				M1	09:55	6.2	7.4			<u>4.4</u>
				M2	09:41					<u>15.3</u>
				M4	10:35					<u>2.8</u>
				M5	10:40					<u>10.5</u>
		Bottom		5.8	G4	10:22	6.9	7.9	7.0	7.5

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**- Notification of Environmental Quality Limit Exceedances**

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	4.8	G1	13:37	6.0	6.9	5.8	6.2	<b><u>6.5</u></b>
				G3	13:41					<b><u>9.1</u></b>
				M1	13:31	6.2	7.4			<b><u>6.5</u></b>
				M4	13:12					<b><u>8.6</u></b>
				M5	14:04					<b><u>6.8</u></b>
		Bottom	4.3	G1	13:37	6.9	7.9	5.1	5.5	5.5
				G2	13:25					<b><u>10.7</u></b>
				G4	13:49					5.4

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:** 17 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	2.9	G4	16:08	3.4	3.7	<b>3.7</b>

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**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	8.6	M3	10:52	6.2	7.4	10.3	11.2	<u>7.9</u>
				M4	10:22					<u>6.4</u>
				M5	11:12					<u>7.8</u>
		Bottom	5.8	G2	10:32	6.9	7.9	7.0	7.5	<u>5.4</u>
				M1	10:38					<u>7.0</u>
				M2	10:28					<u>5.7</u>
				M3	10:52					<u>5.3</u>
				M4	10:22					<u>5.2</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	4.0	G4	16:08	6.0	6.9	4.7	5.1	<b><i>5.0</i></b>
		Intake	n.a.	M6	16:13	8.3	8.6	n.a.	n.a.	<b><i><u>11.8</u></i></b>
		Bottom	3.9	G2	15:45	6.9	7.9	4.7	5.1	<b><i><u>10.0</u></i></b>
				G3	16:00					<b><i>4.8</i></b>
				M3	16:03					<b><i><u>5.5</u></i></b>
				M5	16:23					<b><i><u>5.6</u></i></b>

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 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	3.1	M1	14:27	3.7	4.0	<u>5.0</u>	
						M5	15:00			<u>6.3</u>	
			Mid-flood	C1	2.3		G1	8:41	2.7	3.0	<u>3.5</u>
							G2	8:26			<u>2.9</u>
							G3	8:50			<u>3.0</u>
							G4	9:10			<u>3.2</u>
							M1	8:33			<u>4.2</u>
							M2	8:20			<u>3.1</u>
							M3	9:00			<u>2.9</u>
							M5	9:25			<u>5.8</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	M3	14:40	6.2	7.4	7.3	7.9	<u><b>8.4</b></u>
		Bottom	5.0	M1	14:27	6.9	7.9	6.0	6.5	<u><b>7.1</b></u>
				M2	14:18					<u><b>7.4</b></u>
				M4	14:14					<u><b>6.1</b></u>



**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	1.7	G1	8:41	6.0	6.9	2.0	2.1	<u><b>2.7</b></u>
				G2	8:26					<u><b>3.0</b></u>
				G3	8:50					<u><b>3.1</b></u>
				G4	9:10					<u><b>6.4</b></u>
				M1	8:33	6.2	7.4			<u><b>4.7</b></u>
				M2	8:20					<u><b>4.6</b></u>
				M3	9:00					<u><b>2.9</b></u>
				M4	8:13					<u><b>3.4</b></u>
		M5	9:25	<u><b>5.2</b></u>						
		Bottom	1.8	G1	08:41	6.9	7.9	2.1	2.3	<u><b>3.7</b></u>
				G2	08:26					<u><b>2.9</b></u>
				G3	08:50					<u><b>4.8</b></u>
				G4	09:10					<u><b>4.6</b></u>
				M1	08:33					<u><b>10.1</b></u>
				M2	08:20					<u><b>4.9</b></u>
				M3	09:00					<u><b>3.7</b></u>
M4	08:13			<u><b>2.6</b></u>						
M5	09:25	<u><b>2.9</b></u>								

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:** 25 April 2019

**Part A – Exceedance Summary Tables**

**Table I: 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	G3	15:46	2.7	3.0	<b><u>3.0</u></b>
						G4	15:54			<b><u>5.2</u></b>
			Mid-flood	C1	1.7	G2	09:31	2.0	2.2	<b><u>3.0</u></b>
						G4	09:57			<b><u>2.5</u></b>
						M1	09:37			<b><u>3.4</u></b>
						M2	09:27			<b><u>2.9</u></b>
						M4	09:21			<b><u>2.9</u></b>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

**Table II: 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	15.6	G1	15:43	6.0	6.9	18.7	20.3	<u>9.4</u>
				G3	15:46					<u>7.9</u>
				G4	15:54					<u>9.7</u>
				M1	15:37	6.2	7.4			<u>8.3</u>
				M3	15:50					<u>10.4</u>
		M5	16:09	<u>16.8</u>						
		Bottom	6.2	G1	15:43	6.9	7.9	7.4	8.0	<u>7.9</u>
				G3	15:46					<u>9.7</u>
				G4	15:54					<u>10.3</u>
				M4	15:21					<u>7.2</u>
M5	16:09			<u>9.7</u>						

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	5.1	G2	09:31	6.0	6.9	6.1	6.6	<b><i>6.4</i></b>
				G3	09:47					<b><i><u>9.7</u></i></b>
				G4	09:57					<b><i><u>8.3</u></i></b>
				M3	09:51	<b><i><u>7.4</u></i></b>				
				M4	09:21	<b><i><u>12.3</u></i></b>				
		M5	10:11	<b><i>6.2</i></b>						
		Bottom	7.9	G4	09:57	6.9	7.9	9.4	10.2	<b><i><u>8.3</u></i></b>
				M5	10:11					<b><i><u>7.1</u></i></b>

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:** 27 April 2019

**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)
M-Ebb	C2	Bottom	1.5	G1	18:16	6.9	7.9	1.7	1.9	<b><i>1.8</i></b>
				G2	17:59					<b><u>5.3</u></b>
				M1	18:07					<b><i>1.9</i></b>
				M2	17:54					<b><u>2.8</u></b>
				M3	18:30					<b><u>3.7</u></b>
				M4	17:45					<b><i>1.9</i></b>

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**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:** 29 April 2019

**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	3.2	G1	09:42	6.0	6.9	3.8	4.1	<u>9.3</u>
				G3	09:46					<u>5.9</u>
				M3	09:51					<u>8.7</u>
		Intake	n.a.	M6	10:01	8.3	8.6	n.a.	n.a.	<u>9.3</u>
		Bottom	4.0	G1	09:42	6.9	7.9	4.7	5.1	<u>8.9</u>
				G2	09:31					<u>6.7</u>
				M1	09:37					<u>5.0</u>
				M2	09:27					<u>6.0</u>
				M4	09:21					<u>9.3</u>

**Contract No. CE 59/2015 (EP)**

**Environmental Team for Tseung Kwan O – Lam Tin Tunnel**

**Design and Construction**

**- Notification of Environmental Quality Limit Exceedances**

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	1.2	G1	13:00	6.0	6.9	1.4	1.5	<b><u>5.2</u></b>
				G2	12:48					<b><u>6.7</u></b>
				G3	13:03					<b><u>7.4</u></b>
				G4	13:11					<b><u>11.2</u></b>
				M1	12:54	6.2	7.4			<b><u>4.8</u></b>
				M2	12:44					<b><u>3.1</u></b>
				M3	13:06					<b><u>1.6</u></b>
				M4	12:37					<b><u>6.0</u></b>
		M5	13:26	<b><u>2.5</u></b>						
		Bottom	5.1	G1	13:00	6.9	7.9	6.1	6.6	<b><u>11.6</u></b>
				G2	12:48					<b><u>16.1</u></b>
				G3	13:03					<b><u>7.8</u></b>
				G4	13:11					<b><u>9.9</u></b>
				M1	12:54					<b><u>7.7</u></b>
M3	13:06			<b><u>7.3</u></b>						

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

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

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**Appendix O - Cumulative Log for Complaints, Notifications of Summons and Successful Prosecutions****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 (Y/N)	Investigation/ Mitigation Action	Status
378	11-Jun-19	13-Apr-19 / Near cofferdam area	General Public	Air	Complaint about the dark smoke nuisance from construction site involves derrick barge operation near cofferdam area in daytime.	N	Under Investigation	On- going
363	6-May-19	22-Apr-19 to 6-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	Under Investigation	On- going
361	30-Apr-19	28 Apr 2019 / Cofferdam Area	General Public	Noise	Noise nuisance from construction site at cofferdam area in holiday	Y	Under Investigation	On- going
360	30-Apr-19	27-Apr-19/	General Public	Noise	The complaint about the noise nuisance from cofferdam area during daytime and evening-time.	Y	Under Investigation	On- going
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	Under Investigation	On- going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
358	30-Apr-19	27-04-2019/ Near cofferdam area	General Public	Noise	The complaint about the noise nuisance during evening time.	Y	Under Investigation	On- going
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	Under Investigation	On- going
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	Under Investigation	On- going
355	17-Apr-19	17-04-2019/ Near cofferdam area	General Public	Noise & Others	The complaint about the noise nuisance and light pollution near cofferdam area during evening-time.	Y	Under Investigation	On- going
354	30-Apr-19	20 Apr 2019 / Cofferdam Area	Resident of Ocean Shore (Mr. Chan)	Others	The construction site near O King Road is operated in holiday during day-time and weekday during night-time.	N	Under Investigation	On- going
		19 Apr 2019 / Cofferdam Area						
		15 Apr 2019 / Cofferdam Area						
		07 Apr 2019 / Cofferdam Area						
		31 Mar 2019 / Cofferdam Area						

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
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	Investigation has been completed but yet to be finalised.	On- going
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	Investigation has been completed but yet to be finalised.	On- going
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	Investigation has been completed but yet to be finalised.	On- going
350	8-Apr-19	07 Apr 2019 / Cofferdam Area in TKO	-	Air & Others	11:40 The complainant complained the dark smoke generation and the construction works from the cofferdam area in Tiu Keng Leng during holiday.	N	Investigation has been completed but yet to be finalised.	On- going

Complain nt No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
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	Investigation has been completed but yet to be finalised.	On- going
348	2-Apr-19	02 Apr 2019 / LTT-TKO	-	Others	13:03  The complainant complained the LTT construction site was working during holiday.	N	Investigation has been completed but yet to be finalized.	On- going
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	Investigation has been completed but yet to be finalised.	On- going
346	31-Mar- 19	31st March 2019 / Construction of Road P2	District Council	Others	Validity of Construction works on Sunday	N	Investigation has been completed but yet to be finalised.	On-going
345	29-Mar- 19	29th March 2019 / Construction of Road D4	Resident of Park Central?	Noise	Breaking noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
344	28-Mar- 19	28th March 2019 / Construction of Road P2	District Council	Noise	Noise and black smoke from barges	Y	Investigation has been completed but yet to be finalised.	On-going
343	25-Mar- 19	25th March 2019 / Construction of Road D4	Resident of Park Central	Noise	Piling like noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
342	25-Mar-19	25th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Construction noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
341	24-Mar-19	24th March 2019 / Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Breaking noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
340	24-Mar-19	24th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Tunneling work noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
339	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Breaking noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
338	21-Mar-19	21st March 2019 / Construction of Lam Tin Interchange	Resident of Ocean Shore	Noise	Metal collision like noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
337	20-Mar-19	20th March 2019 / Construction of Road D4 and Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Construction of work noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
336	20-Mar-19	20th March 2019 / Construction of Road D4	Resident of Park Central	Noise & Pest	Construction vehicle noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
335	19-Mar-19	19th March 2019 / Construction of Road P2/	Resident of Ocean Shore	Noise	Marine works noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
334	19-Mar-19	19th March 2019 / Construction of Road P2/	District Council	Noise	Marine works noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
333	19-Mar-19	19th March 2019 / Construction of Road P2/	Resident of Ocean Shore	Noise	Marine works noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
332	18-Mar-19	18th March 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Construction noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
331	18-Mar-19	18th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Construction noise (Day time and Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
330	17-Mar-19	17th March 2019 / Construction of Lam Tin Interchange	General Public	Noise	Construction noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
329	15-Mar-19	15th March 2019 / Construction of Road D4	Resident of Park Central	Noise & Air	Construction of work noise (Daytime) and odour	Y	Investigation has been completed but yet to be finalised.	On-going

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
328	14-Mar-19	14th March 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Drilling noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
327	13-Mar-19	13th March 2019 / Construction of Lam Tin Interchange	Resident of Bik Lai House	Noise	Construction noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
326	13-Mar-19	13th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Construction noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
325	9-Mar-19	9th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Machine and breaking noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
324	7-Mar-19	7th March 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Breaking noise during day and night	Y	Investigation has been completed but yet to be finalised.	On-going
323	4-Mar-19		Resident of Ocean Shore	Noise	Construction noise (Evening time)	Y	Investigation has been completed but yet to be finalised.	On-going
322	1-Mar-19	4th March 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Construction noise (Day time)	Y	Investigation has been completed but yet to be finalised.	On-going

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
321	28-Feb-19	28th February 2019 / Construction of Lam Tin Interchange	Management Section of Yau Lai Estate	Noise	Construction noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
320	22-Feb-19	22nd February 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Breaking noise (Day time)	Y	Investigation has been completed but yet to be finalised.	On-going
319	21-Feb-19	21st February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Breaking noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
318	21-Feb-19	21st February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Breaking noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
317	25-Feb-19	25th February 2019 / Construction of Road P2	Resident in O King Road	Air	Complained about the petroleum smell	N	Investigation has been completed but yet to be finalised.	On-going
316	18-Feb-19	18th February 2019 / Construction of Road P2	Resident in O King Road	Air	Complained about the black smoke and petroleum smell	N	Investigation has been completed but yet to be finalised.	On-going



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
315	17-Feb-19	17th February 2019 / Construction of Lam Tin Interchange, Road P2 and Tseung Kwan O Interchange	General Public	Noise	Complained about construction noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
314	17-Feb-19	17th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air	Complained about dust	N	Investigation has been completed but yet to be finalised.	On-going
313	17-Feb-19	17th February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the explosion noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
312	16-Feb-19	16th February 2019 / Construction of Lam Tin Interchange	District Council	Noise	Complained about the explosion noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
311	15-Feb-19	15th February 2019 / Construction of Lam Tin Interchange	Public	Noise	Complained about the explosion noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
310	14-Feb-19	14th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the dumping noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going

Complain nt No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
309	13-Feb-19	13th February 2019 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complaint about construction noise (Night time)	Y	Investigation has been completed but yet to be finalised.	On-going
308	13-Feb-19	13th February 2019 / Construction of Lam Tin Interchange	Management Section of Kwong Tin Estate	Noise	Complaint about construction noise (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
307	13-Feb-19	13th February 2019 / Construction of Road P2	District Council	Noise	Complained about construction noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
306	13-Feb-19	13th February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about construction noise (Night time)	Y	Project-related. The following recommendations were made to enhance the mitigation measures: <input type="checkbox"/> To frequently check and repair operating PME if any loosen or worn parts of	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
305	12-Feb-19	12th February 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complaint about construction noise (Night time)	Y	the equipment to reduce excessive noise disturbance; <input type="checkbox"/> 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; <input type="checkbox"/> To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.	Closed
304	8-Feb-19	8th February 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about construction noise (Daytime)	Y	Investigation has been completed but yet to be finalised.	On-going
303	2-Feb-19	2nd February 2019 / Construction of Lam Tin Interchange	Resident of Ping Tin Estate	Noise	Complained about construction noise from the subway (Day & 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	2nd February 2019 / Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about breaking (Day Time)	Y		Closed
301	31th January 2019	31th January 2019 / Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about construction noise.	Y		Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
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	Complained about the construction noise from a crane near footbridge between Tiu Keng Leng Sport Centre and Park Central	Y	Investigation has been completed but yet to be finalised.	On-going
299	30th January 2019	30th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise	Complained about the noise from safety alarm at the site near footbridge between Tiu Keng Leng Sport Centre and Park Central	Y	As confirmed by the engineer, the beeping noise should come from the crane lorry during reversing. This is applied to give an audible warning to nearby pedestrians when the vehicle reverses and it is only a temporary noise source. In order to minimize the disturbance, signalman is used instead.	Closed
298	30th January 2019	30th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	Resident of Park Central	Noise & Air Quality	Complained about construction noise & dust.	Y	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
297	30th January 2019	30th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from loading and unloading.	Y	<p>Project-related.            The following recommendations were made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets;</li> <li><input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head;</li> <li><input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP.</li> <li><input type="checkbox"/> RE/RSS should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed
296	29th January 2019	29th January 2019 / Construction Site of Footbridge between Tiu Keng Leng Sport Centre and Park Central	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	Refer to Investigation / Mitigation Action for complaint no. 299	Closed
295	29th January 2019	29th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the noise from the Steel cable wire for anchoring between barge and pier.	Y	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
294	29th January 2019	29th January 2019 / Construction of Road P2	Resident in O King Road	Air Quality	Complained about black smoke emission and odour.	Y	Investigation has been completed but yet to be finalised.	On-going
293 (EPD-K15/RE/0000329 1-19)	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	Cha Kwo Ling Tsuen	Noise & Air Quality	Complained about construction noise & dust (Day & Nighttime)	Y	Investigation has been completed but yet to be finalised.	On-going
292	29th January 2019	29th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from breaking work.	Y	Project-related. The following recommendations were made to further enhance the mitigation measures: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier should screen the line-of-sight from sensitive receivers <input type="checkbox"/> To continue to strictly follow the requirements in the approved CNMP. <input type="checkbox"/> RE/RSS should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
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		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-)	24th January 2019	24th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from Tunnel Works	Y	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
288	18th January 2019	18th January 2019 / Construction of Road P2	Public	Noise	Complained about the construction noise from Tunnel Works	Y	Investigation has been completed but yet to be finalised.	On-going
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	<p>Project-related.            The following recommendations are made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> To regularly check and review the noise control activities that are being carried out on site to ensure compliance with statutory requirement.</li> <li><input type="checkbox"/> Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li><input type="checkbox"/> To provide training for the workers to prevent unnecessary noise disturbance.</li> <li><input type="checkbox"/> To provide cantilever barrier to screen the construction noise from the NSRs</li> </ul>	Closed
286	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 near Tiu Keng Leng Sport Centre and Park Central.	N	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	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	Investigation has been completed but yet to be finalised.	On-going
284	16th January 2019	16th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan near Tiu Keng Leng Sport Centre and Park Central.	N	Investigation has been completed but yet to be finalised.	On-going
283	15th January 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan near Tiu Keng Leng Sport Centre and Park Central.	N	Investigation has been completed but yet to be finalised.	On-going
282	15th January 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan near Tiu Keng Leng Sport Centre and Park Central.	N	Investigation has been completed but yet to be finalised.	On-going
281	15th January 2019	15th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan near Tiu Keng Leng Sport Centre	N	Investigation has been completed but yet to be finalised.	On-going



Complain nt No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
280	14th January 2019	14th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan near Tiu Keng Leng Sport Centre and Park Central.	N	Investigation has been completed but yet to be finalised.	On-going
279	14th January 2019	14th January 2019 / Construction of Road D4	Resident of Park Central	Noise	Complained about the construction noise from an air blower/fan near Tiu Keng Leng Sport Centre and Park Central.	N	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
278	12th January 2019	12th 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	<p>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.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> To regularly check and review the noise control activities that are being carried out on site to ensure compliance with statutory requirement.</li> <li><input type="checkbox"/> Machines may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li><input type="checkbox"/> To provide training for the workers to prevent unnecessary noise disturbance.</li> <li><input type="checkbox"/> 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.</li> <li><input type="checkbox"/> Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
277	12th January 2019	12th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the noise from breaking activities.	N	Investigation has been completed but yet to be finalised.	On-going
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	<p>The complaints are considered as project-related.</p> <p>The following recommendations were made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets;</li> <li><input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head;</li> <li><input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP.</li> <li><input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer.</li> <li><input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed
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	Investigation has been completed but yet to be finalised.	On-going
274 (EPD-N08/RE/0000123 4-19)	11th January 2019	11th January 2019 / Construction of Road D4	Public	Noise	Complained about the construction noise from a crane near footbridge between Tiu Keng Leng Sport Centre and Park Central	Y	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	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	<p>The complaints are considered as project-related.</p> <p>The following recommendations were made to further enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets;</li> <li><input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head;</li> <li><input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively;</li> <li><input type="checkbox"/> The deployment of Cantilever noise barrier</li> <li><input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP.</li> <li><input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer.</li> <li><input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.</li> </ul>	Closed
272	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	Investigation has been completed but yet to be finalised.	On-going

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
271	8th January 2019	8th 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	The complaints are considered as project-related. The following recommendations were made to further enhance the mitigation measures: <input type="checkbox"/> Frequent checking and repair the gaps or broken acoustic sheets; <input type="checkbox"/> Replace any broken SilentMat for wrapping the breaker head; <input type="checkbox"/> To adopt Cantilever noise barriers at Lam Tin Interchange to screen noise effectively; <input type="checkbox"/> The deployment of Cantilever noise barrier <input type="checkbox"/> To continue to strictly follow the requirements in the relevant CNP. <input type="checkbox"/> To conduct an ad hoc ground-borne noise monitoring with the coordination of the Engineer. <input type="checkbox"/> Engineer should monitor the plant and machine to ensure construction activities are in compliance of CNP.	Closed
270 (EPD-K15/RE/0000069 1-19)	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	Further information is required for investigation	On-going
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	Investigation has been completed but yet to be finalised.	On-going
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	Investigation has been completed but yet to be finalised.	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 the investigation for complaint no. 266	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
266	7th January 2019	7th January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	<p>No exceedances were recorded at the nearest monitoring station, however, the approved location for noise monitoring was located at the podium of Ocean Shores. Due to inaccessibility to private unit, it is not possible to perform monitoring at higher floor. ET will keep approaching Ocean Shore Management Office for impact noise monitoring at higher floor. The recommendations for Contractor is as follows:</p> <ul style="list-style-type: none"> <li>• only well-maintained plant on-site and plant should be serviced regularly during the construction program;</li> <li>• Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers;</li> </ul> <p>Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</p>	Closed
265	7th January 2019	7th January 2019 / Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	Investigation has been completed but yet to be finalised.	Closed

Complainant No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
264	2nd January 2019	2nd January 2019 / Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking activities.	Y	No noise limit level exceedance was recorded at the noise monitoring stations near ocean shores. The contractor has applied lubricants to the joint of the excavators to dampen the noise emitted from the PMEs. The contractor is recommended to use noise barriers to screen the PMEs from the NSRs as per the Noise mitigation plan.	Closed
263 (EPD-)	1st January 2019	31st December 2018 / Coastal near TKO cemetery	General Public	Water	Complained concerning oil leakage/stain on the sea surface near the sunken barge at C2 site.	N	Investigation has been completed but yet to be finalised.	On-going
262	30 <sup>th</sup> December 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
261	26 <sup>th</sup> December 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise from tunnel works of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed
260	26 <sup>th</sup> December 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
259	26 <sup>th</sup> December 2018	26 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Management Section of Hong Nga Court	Noise	Complained about the construction noise of Lam Tin Interchange.	Y	Refer to investigation for complaint no. 254	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
258	18 <sup>th</sup> December 2018	18 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Engineering Section of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	<p>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.</p> <p><u>Mitigation measures:</u>            Cable wire for anchoring between barge and pier has been replaced by rope between 27 Dec and 2 Jan to reduce noise impact. In addition, other good site practices recommended in the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual and the approved CNMP of this Contract had been implemented by the Contractor, including the following:</p> <ul style="list-style-type: none"> <li>• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</li> <li>• Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby noise sensitive receivers;</li> <li>• Machines and plants that may be in intermittent use should be shut down between works periods or should be throttled down to minimum.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
257	18 <sup>th</sup> December 2018	18 <sup>th</sup> December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from the marine works.	Y	There was no major construction works at the concerned area during the time of complaint and confirmed by the Resident Engineer. Steel cable wire for anchoring between barge and pier is considered as a possible noise source. The Contractor has replaced the cable wire for anchoring between barge and pier with ropes between 27 Dec and 2 Jan to reduce noise impact.	Closed
256	17 <sup>th</sup> December 2018	15 <sup>th</sup> December 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the construction noise from breaking and piling activities	N	<p>No exceedance was recorded in the noise monitoring result. The number of PME operated in LTI was consistent with the proposed Construction Noise mitigation Plan (CNMP)</p> <p>The following recommendations were made for the Contractor to enhance the mitigation measures:</p> <ul style="list-style-type: none"> <li>• To frequently check and repair operating PME if any loosen or worn parts of the equipment to reduce excessive noise disturbance;</li> <li>• 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;</li> </ul> <p>To ensure all erected noise barriers and sound proofing canvases wrapped on PME are intact and in good condition.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
254	16 <sup>th</sup> December 2018	16 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	<ul style="list-style-type: none"> <li>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.</li> </ul>	Closed
253	15 <sup>th</sup> December 2018	15 <sup>th</sup> December 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	Complained about the construction noise from Tunnel Works	Y	Refer to the investigation for complaint no. 254	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
252	30 <sup>th</sup> November 2018	30 <sup>th</sup> November 2018/ Construction of Road D4	Resident of Park Central	Noise & Air	Complained about the construction noise and dust resuspension in Road D4.	Y	<p>The number of PMEs operated on site and on-time percentage from 19 to 30 November complied with the CNMP, thus, no violation was identified.</p> <p>Based on the noise and air monitoring results in November 2018, no Limit Level Exceedance was recorded.</p> <p><b>Mitigation Measures</b></p> <ul style="list-style-type: none"> <li>A more effective acoustic barrier was erected between the drill rig and Park Central.</li> <li>Frequent water spraying along the Po Yap Road for eight times a day, Stockpile are covered with impervious material to avoid dust resuspension</li> </ul>	Closed
251	28 <sup>th</sup> November 2018	27 <sup>th</sup> November 2018/ Construction of TKO portal	Public	Noise	Complained about the construction noise from the marine works.	Y	<p>The complaint lodged on 25<sup>th</sup> November 2018 is considered as non-project related, as no works was conducted on that day. The complaint on 27<sup>th</sup> 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.</p>	Closed
250	26 <sup>th</sup> November 2018	26 <sup>th</sup> November 2018/ Public sea in TKO	Resident of Ocean Shore	Noise	Complained about the noise nuisance from the operation of derrick barge on Sunday.	Y	Refer to the investigation for complaint no. 251	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
249	25 <sup>th</sup> November 2018	20 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from the Excavators in LTI on Sunday morning.	Y	Refer to the investigation for complaint no. 251	Closed
248	20 <sup>th</sup> November 2018	20 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance during transfer of material in evening time at LTI	Y	Regular noise monitoring results for restricted and non-restricted hours show full compliance of the noise criteria (night-time noise exceedance is considered non-project related). The contractor is reminded to adopt cantilever noise barriers at Lam Tin Interchange to screen noise effectively by screening the line-of-sight from sensitive receivers	Closed
247	20 <sup>th</sup> November 2018	19 <sup>th</sup> November 2018/ Lam Tin Interchange	Public	Noise	Complained about the noise nuisance from rock dropping during evening time	Y	Refer to the investigation for complaint no. 248	Closed
246	19 <sup>th</sup> November 2018	19 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from dump truck in evening time	Y	Refer to the investigation for complaint no. 248	Closed
245	8 <sup>th</sup> November 2018	8 <sup>th</sup> November 2018/ Lam Tin Interchange	Public	Noise	Complained about construction noise during night time from LTI	Y	Refer to the investigation for complaint no. 248	Closed
243	8 <sup>th</sup> November 2018	8 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the construction noise during evening time from LTI.	Y	Refer to the investigation for complaint no. 248	Closed
242	7 <sup>th</sup> November 2018	7 <sup>th</sup> November 2018/ Lam Tin Interchange	Public	Noise	Complained about the construction noise and dust nuisance.	Y	Refer to the investigation for complaint no. 248	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
241	6 <sup>th</sup> November 2018	6 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed
240	6 <sup>th</sup> November 2018	6 <sup>th</sup> November 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during evening time	Y	Refer to the investigation for complaint no. 248	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
239	25 <sup>th</sup> October 2018	25 <sup>th</sup> October 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about daytime construction noise near Ocean Shore.	Y	<p>No exceedance was recorded in the noise monitoring result. The number of PME operated in LTI was consistent with the proposed Construction Noise mitigation Plan (CNMP)</p> <p><b>Additional mitigation measures adopted by Contractor upon receipt of complaint:</b></p> <ul style="list-style-type: none"> <li>➤ A more effective acoustic barrier was erected that covered the direct line of sight from the entire Ocean Shore during piling works.</li> </ul> <p><b>Existing Mitigation Measures adopted by Contractor</b></p> <ul style="list-style-type: none"> <li>➤ Silent up barrier was provided for drill rig/vibration hammer. Acoustic barriers was erected along site boundary);</li> <li>➤ Maintenance for acoustic barriers along the site boundary to ensure the integrity effectiveness of sound barrier;</li> <li>➤ Metal chain attached on the vibration hammer was wrapped with rubbery material to reduce the excessive noise produced during piling works.</li> </ul>	Closed

Complain t No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
238	23 <sup>rd</sup> October 2018	23 <sup>rd</sup> October 2018/ Construction of Road P2	Resident of Ocean Shore	Noise	Complained about the noise created by an excavator during morning	Y	See Investigation / Mitigation Measures for Complaint No. 239	Closed
237	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about construction noise at LTI	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
236	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Cha Kwo Ling Village	Noise	Complained about the vibration and noise near	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
235	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI and Portion 4C	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
234	18 <sup>th</sup> October 2018	18 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the Excavator in LTI was not properly wrapped and produce noise nuisance from LTI.	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
233	15 <sup>th</sup> October 2018	15 <sup>th</sup> October 2018/ Lam Tin Interchange	DC member	Noise	Complained about the noise and dust nuisance from LTI	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
232	14 <sup>th</sup> October 2018	14 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during night time	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
231	12 <sup>th</sup> October 2018	12 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise nuisance from LTI	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
230	11 <sup>th</sup> October 2018	11 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise from rocks unloading in LTI	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
229	9 <sup>th</sup> October 2018	9 <sup>th</sup> October 2018/ Lam Tin Interchange	Resident of Bik Lai House, Yau Lai Estate	Noise	Complained about the noise nuisance from LTI, and lack of effective noise barrier.	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
228	9 <sup>th</sup> October 2018	9 <sup>th</sup> October 2018/ Lam Tin Interchange	Public	Noise	Complained about the noise nuisance from LTI	Y	See Investigation / Mitigation Measures for Complaint No. 227	Closed
227	3 <sup>rd</sup> October 2018	3 <sup>rd</sup> October 2018/ Lam Tin Interchange	Resident of Yung Lai House, Yau Lai Estate	Noise	Complained about the noise nuisance from LTI during night time	Y	<p>No exceedance was recorded in the noise monitoring result. The number of PME operated in LTI was consistent with the proposed Construction Noise mitigation Plan (CNMP) and approved Construction Noise Permit (CNP).</p> <p><b>Mitigation Measures adopted by Contractor</b></p> <p><u>Noise:</u></p> <ul style="list-style-type: none"> <li>➤ Noise barriers were repaired to reduce noise nuisance at Portion 4C;</li> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance at Portion 4C;</li> </ul> <p>Powered mechanical equipment (PME) for breaker was equipped with noise barriers at Portion 4C.</p>	Closed
226	28 <sup>th</sup> September 2018	28 <sup>th</sup> September 2018/ Construction of Road P2	Resident of Ocean Shores	Noise	Complained about noise nuisance from portion IV	Y	<ul style="list-style-type: none"> <li>➤ See Investigation / Mitigation Measures for Complaint No. 222</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
225	26 <sup>th</sup> September 2018	26 <sup>th</sup> September 2018/ Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Complained about the noise from rocks unloading in LTI	Y	See Investigation / Mitigation Measures for Complaint No. 218	Closed
224	18 <sup>th</sup> September 2018	18 <sup>th</sup> September 2018/ Construction of Road P2	Public	Noise	Complained about noise nuisance from derrick barge	Y	See Investigation / Mitigation Measures for Complaint No. 219	Closed
223	13 <sup>th</sup> September 2018	9 <sup>th</sup> September 2018/Construction of Portion VII on TKO side	Resident of Ocean Shores	Noise	Complained about noise nuisance from derrick barges	Y	See Investigation / Mitigation Measures for Complaint No. 218	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
222	12 <sup>th</sup> September 2018	12 <sup>th</sup> September 2018/ Construction of Road P2	Resident of Ocean Shores	Noise	Complained about the noise nuisance from piling works	Y	<p><b>Mitigation Measures adopted by the Contractor</b></p> <ul style="list-style-type: none"> <li>➤ Acoustics barriers were provided to the vibration hammer for piling works.</li> <li>➤ Maintenance for acoustic barriers on the PME and along the site boundary to ensure the integrity and effectiveness of sound barriers.</li> <li>➤ Regular site checking would be performed to ensure the type and quantity of powered mechanical equipment are in order with the updated Construction Noise Assessment.</li> <li>➤ Acoustics mats were provided to cover the noise source from vibration hammer.</li> <li>➤ The metal chain on vibration hammer was wrapped with rubbery material to minimize sound impact.</li> <li>➤ The schedule for piling works was set with a 5 minutes interval to reduce the accumulated noise level.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
221	11 <sup>th</sup> September 2018	9 <sup>th</sup> September 2018/ Construction of Portion VII on TKO side	Public	Noise	Complained about the noise from broadcasting at barging point	Y	The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&A Manual as follows:  <u>Noise:</u>  Walkie-talkie was used instead of broadcasting to reduce the noise nuisance.	Closed
220	11 <sup>th</sup> September 2018	26 <sup>th</sup> September 2018/ Lam Tin Interchange	Public	Noise	Complained about the construction noise	Y	➤ See Investigation / Mitigation Measures for Complaint No. 218	Closed
219	7 <sup>th</sup> September 2018	7 <sup>th</sup> September 2018/ Construction of Road P2	Resident of Ocean Shores	Noise	Complained about the noise from sheet piling	Y	<b>Mitigation Measures adopted by the Contractor</b>  <ul style="list-style-type: none"> <li>➤ Silent up barrier was provided for piling works in between vibration hammer and Ocean Shores. Acoustic barriers was erected along site boundary</li> <li>➤ Noise barrier surround the engine of the derrick barge</li> <li>➤ Acoustic material wrapped on vibration hammer for sheet piling works</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
218	6 <sup>th</sup> September 2018	6 <sup>th</sup> September 2018/ Construction in LTI	Public	Noise	Complained about noise nuisance in LTI	Y	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <p><u>Noise:</u></p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance at Portion 4C;</li> <li>➤ Powered mechanical equipment (PME) for breaker was equipped with noise barriers at Portion 4C.</li> </ul>	Closed
217	5 <sup>th</sup> September 2018	5 <sup>th</sup> September 2018/ Construction of Road P2	Public	Air Quality	Complained about dark smoke emission from derrick barges.	N	<p>The Contractors has adopted the following environmental mitigation measures to reduce dark smoke nuisance from construction barges since June for dark smoke complaints:</p> <ul style="list-style-type: none"> <li>➤ Smoke filtering tanks were adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell;</li> <li>➤ New engine has been installed on derrick barge to reduce the dark smoke emission.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
216	5 <sup>th</sup> September 2018	5 <sup>th</sup> September 2018/ Construction of Road P2	Public	Air Quality	Complained about dark smoke emission from derrick barges.	N	See Investigation / Mitigation Measures for Complaint No. 217	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
215	5 <sup>th</sup> September 2018	5 <sup>th</sup> September 2018/ Construction of Road P2	Public	Water Quality	Complained about the oil leakage within the cofferdam	N	<p>The Contractors had taken measures to clean up and prevent any further oil spillage for marine works in the future:</p> <ul style="list-style-type: none"> <li>➤ Oil was absorbed and cleared with sorbents</li> <li>➤ Wire was applied with suitable amount of oil to prevent further oil spill</li> <li>➤ Training was provided for frontline staff on applying lubricant oil on wire rope of derrick barge.</li> </ul> <p>The Contractor had implemented environmental measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as below:</p> <ul style="list-style-type: none"> <li>➤ Construction activities should not cause foam, oil, grease, scum, little or other objectionable matter to be present on the water within the site.</li> </ul> <p>Standard good-site practice is adopted to prevent any fuels and solvent entering the nearby watercourses.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
214	4 <sup>th</sup> September 2018	4 <sup>th</sup> September 2018/ Construction of Road P2	Ocean Shores Management Office	Air Quality	Follow up complaint on 21 and 22 August, regarding dark smoke emission from derrick barges.	N	➤ See Investigation / Mitigation Measures for Complaint No. 217	Closed
213	31 <sup>st</sup> August 2018	31 <sup>st</sup> August 2018/ Construction of Lam Tin Interchange	Public	Air Quality	The complainant complained about the dust nuisance at LTI.	N	See Investigation / Mitigation Measures for Complaint No. 207	Closed
212	27 <sup>th</sup> August 2018	27 <sup>th</sup> August 2018/ Construction of Road P2	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance from breaker and excavator in LTI.	Y	See Investigation / Mitigation Measures for Complaint No. 203	Closed
211	22 <sup>nd</sup> August 2018	22 <sup>nd</sup> August 2018/ Construction of Road P2	Public	Air Quality	The complainant complained about the dark smoke emitted from derrick barge outside Ocean Shores.	N	See Investigation / Mitigation Measures for Complaint No. 209	Closed
210	21 <sup>st</sup> August 2018	21 <sup>st</sup> August 2018/ Construction of Road P2	Public	Air Quality	The complainant complained about the dark smoke emitted from derrick barge outside Ocean Shores.	N	See Investigation / Mitigation Measures for Complaint No. 209	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
209	21 <sup>st</sup> August 2018	20 <sup>th</sup> & 21 <sup>st</sup> August 2018/ Construction of Road P2	DC Member	Air Quality	The complainant complained about the dark smoke emitted from derrick barge outside Ocean Shores on 20 and 21 of August.	N	<p>The Contractors had implemented environmental mitigation measures to reduce dark smoke nuisance from construction barges to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Additional water filter tank was adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell</li> <li>➤ There were five derrick barges operating on 20 &amp; 22 of August and four of them had water filter installed. The one without water filter was demobilized away from the site on 22 August.</li> </ul>	Closed

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
208	20 <sup>th</sup> August 2018	17 <sup>th</sup> August/ Construction of Road P2	DC Member	Water Quality	The complainant complained that muddy water was discharged from the construction site.	N	<p>Based on the information gathered in the investigation. As the location of muddy discharge was appeared adjoining the Tseung Kwan O DSD Desilting Compound, a high volume of upstream discharge collected from rain events is a possible cause of such muddy discharge event. There are no direct evidence that the muddy discharge near the outfall of DSD Desilting Compound was due to the Project.</p> <p>Measure Taken by the Contractor            The Contractors had taken initiatives to ensure the quality of wastewater discharge from land-based works and to enhance mitigation measure to prevent silt from marine works from entering surrounding waters:</p> <ul style="list-style-type: none"> <li>➤ Additional geotextile was installed between steel tanks to prevent migration of filling materials outside the cofferdam</li> <li>➤ Cofferdams in form of steel tanks filled with aggregated material were covered with geotextile to prevent spillage of silty materials into nearby waters</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
207	18 <sup>th</sup> August 2018	18 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air Quality	The complainant complained about dust nuisance from surface blasting.	N	<p>According to the EM&amp;A Manual of this Project, regular air quality monitoring has been carried out at following Stations.</p> <p>AM2 – Sai Tso Wan Recreation Ground; AM3 Yau Lai Estate, Bik Lai House.</p> <p>No exceedance was recorded in the above station during August.</p> <p>Mitigation Measures and Follow up Actions by Contractor The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows: Air Quality:</p> <ul style="list-style-type: none"> <li>➤ Blasting cage were surrounded with impervious material during surface blasting</li> <li>➤ Water spraying was provided at the blasting cage and stone crusher to enhance dust suppression</li> </ul>	Closed
206	13 <sup>th</sup> August 2018	13 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance from the breaker at LTI and complained lack of noise barrier.	Y	See Investigation / Mitigation Measures for Complaint No. 203	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
205	10 <sup>th</sup> August 2018	10 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance of construction work starting from 7 am and lack of noise barrier.	Y	See Investigation / Mitigation Measures for Complaint No. 203	Closed
204	9 <sup>th</sup> August 2018	9 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Tak Tin Estate	Noise	The complainant complained about noise nuisance and vibration from blasting activity	Y	<p>According to the EM&amp;A Manual of this Project, weekly noise monitoring in Cha Kwo Ling and Lam Tin during s been carried out at the following Stations.            CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong, Station;            CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong;            CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong.</p> <p>There was no exceedance recorded in the above station during daytime in August.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
203	9 <sup>th</sup> August 2018	9 <sup>th</sup> August 2018/ Construction of Lam Tin Interchange	Property Management of Tak Tin Estate	Noise	The complainant complained about the noise nuisance during 8pm	Y	<p>Mitigation Measures and Follow up Actions by Contractor            The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:            Noise:</p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance at Portion 4C</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with noise barriers at Portion 4C</li> </ul> <p>According to the EM&amp;A Manual of this Project, weekly noise monitoring in Cha Kwo Ling and Lam Tin during s been carried out at the following Stations.            CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong, Station;            CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong;            CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong.</p> <p>There was no exceedance recorded in the above station during daytime in August.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
202	1 <sup>st</sup> August 2018	1 <sup>st</sup> August 2018/ Construction of Lam Tin Interchange	Resident of Yeung Mei House	Noise	The complainant complained about the construction noise during night-time.	Y	<p>A valid Construction Noise Permit (CNP) (No. GW-RE0421-18) was granted to the Contractor for the construction site at Lam Tin Interchange</p> <p>The number of excavators that were used on 01 August was covered by the CNP.</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> </ul>	Closed
201	26 <sup>th</sup> July 2018	26 <sup>th</sup> July 2018 / Construction of P2/D4	Public	Water quality	The complainant complained about the polluted effluent at the nearby surface drain near the construction of elevator.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Sandbags barrier was placed along the working area to prevent direct discharge</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
200	26 <sup>th</sup> July 2018	26 <sup>th</sup> July 2018 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on 24 <sup>th</sup> July 2018, the situation has yet been addressed.	Y	See Investigation / Mitigation Measures for Complaint No. 197	Closed
200 199	24 <sup>th</sup> July 2018	23 <sup>rd</sup> July 2018 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about a yellow breaker working without noise barrier.	Y	See Investigation / Mitigation Measures for Complaint No. 197	Closed
	25 <sup>th</sup> July 2018	25 <sup>th</sup> July 2018 / Construction of Road P2	SKDC member	Noise	The complainant complained about the noise from piling works at Portion IV.	Y	See Investigation / Mitigation Measures for Complaint No. 198	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
198	21 <sup>st</sup> July 2018	21 <sup>st</sup> July 2018 / Construction of Road P2	SKDC member	Noise	The complainant complained about the noise from metal occasionally in the marine works area.	Y	<p>Based on the noise monitoring results in July 2018, no Limit Level Exceedance was recorded at Station CM6(A) and CM7(A). It is considered that no adverse construction noise impact was brought to the nearby sensitive receivers during the construction.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <p style="text-align: center;"><u>Noise:</u></p> <ul style="list-style-type: none"> <li>➤ Acoustic box was utilized for breaking works to minimize noise nuisance</li> <li>➤ Acoustic barriers were provided for pre-boring works</li> <li>➤ Regular site checking would be performed to ensure the type and quantity of PME are in order with the updated Construction Noise Assessment.</li> <li>➤ Additional acoustic materials were wrapped around the vibration hammer</li> <li>➤ Quieter plant, i.e. quality powered mechanical equipment was used as far as practicable to minimize noise impact from PME</li> </ul>	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
197	21 <sup>st</sup> July 2018	21 <sup>st</sup> July 2018 / Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about the noise nuisance from breaker.	Y	<p>According to the EM&amp;A Manual of this Project, additional weekly noise monitoring in Cha Kwo Ling and Lam Tin during night-time has been carried out at Station CM1 – Nga Lai House, Yau Lai Estate Phase 1, Yau Tong, Station CM2 – Bik Lai House, Yau Lai Estate Phase 1, Yau Tong, CM3 - Block S, Yau Lai Estate Phase 5, Yau Tong. no Limit Level Exceedance was recorded at Station CM1, CM2 and CM3. The summary of daytime and evening time noise monitoring results which conducted by ET in July and early August 2018 at Station CM1, CM2 and CM3</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Noise barriers were erected between the PMEs and NSR to reduce noise nuisance</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
196	20 <sup>th</sup> July 2018	Not specified / Construction of Lam Tin Interchange	Property Management Office of Hong Pak Court	Air Quality	The complainant complained about the dust problem after blasting work in the afternoon.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Blasting cage were surrounded with impervious material during surface blasting</li> <li>➤ Water spraying was provided at the blasting cage to enhance dust suppression</li> </ul>	Closed
195	17 <sup>th</sup> July 2018	16 <sup>th</sup> July 2018 / Construction of Road P2	SKDC member	Noise	The complainant complained the noise from works area near Ocean Shores	Y	See Investigation / Mitigation Measures for Complaint No. 198	Closed
194	12 <sup>th</sup> July 2018	12 <sup>th</sup> July 2018/ Construction of Road P2/ D4 and Northern Footbridge	Residents of Metrotown	Air Quality	The complainant complained the dusty problem next to Chui Ling Road Substation.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Water spraying was provided at least 8 times a day.</li> <li>➤ Access road was paved to minimize dust emission from truck traffic.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
193	12 <sup>th</sup> July 2018	12 <sup>th</sup> July 2018 / Construction of Road P2	Residents of Metrotown	Air Quality	The complainant complained the dust problem from the partially covered stockpile in Work Area A.	N	<p>According to the information provided and confirmed by the Engineer, loading and unloading of treated sediment was conducted in Work Area A.</p> <p>According to the EM&amp;A Manual of this Project, regular air quality monitoring has been carried out at Station AM5(A) – Tseung Kwan O DSD Desilting Compound and AM6(A) – Park Central, L1/F Open Space Area. no Action or Limit Level Exceedance was recorded at Station AM5(A) and AM6(A) from 3 to 12 July 2018. It is considered that no adverse air quality impact was brought to the nearby sensitive receivers during the construction period</p> <p>The Contractors had implemented environmental mitigation measures to reduce dust nuisance from construction activities to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Covered the stockpile of treated marine sediment with tarpaulin sheets</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
192	23 <sup>rd</sup> July 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on the complaint on 27 <sup>th</sup> June, 2 <sup>nd</sup> and 3 <sup>rd</sup> July 2018, the complainant complained that the situation has not yet been addressed.	Y	The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&A Manual as follows:  ➤ Replaced and fixed the uneven metal plate on Lei Yue Mun Road near ambulance depot	Closed
192 191	3 <sup>rd</sup> July 2018	3 <sup>rd</sup> July 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on the complaint on 27 <sup>th</sup> June, 2 <sup>nd</sup> July 2018, the complainant complained that the situation has not yet been addressed.	Y	The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&A Manual as follows:  ➤ Replaced and fixed the uneven metal plate on Lei Yue Mun Road near ambulance depot According to the information provided and confirmed by the Engineer, dredging and welding works are conducted on 23 June 2018 during the time of complaint.	Closed
	2 <sup>nd</sup> July 2018	2 <sup>nd</sup> July 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	Follow up on the complaint on 27 <sup>th</sup> June 2018, the complainant complained that the situation has not yet been addressed.	Y		Closed
	27 <sup>th</sup> June 2018	26 <sup>th</sup> and 27 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained the construction noise at Lam Tin Interchange during night-time.	Y		The Contractors had implemented environmental mitigation measures to reduce odour nuisance from construction activities to the nearby sensitive receivers as follows:

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
	25 <sup>th</sup> June 2018	23 <sup>rd</sup> June 2018/ Construction of Road P2	Public	Air Quality	The complainant complained the dark smoke emission from construction barge and the smell from welding works.	N	<ul style="list-style-type: none"> <li>➤ Air blowers were provided at the location where welding works to be carried out to dilute the smell</li> <li>➤ Additional water filter tank was adopted on deck level of derrick barges to reduce emission of dark smoke and exhaust smell</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
190	22 <sup>nd</sup> June 2018	Not Specific/ Construction of Lam Tin Interchange	Public	Waste Management	The complainant complaint about the housekeeping of the construction site.	N	<p>From the Daily Record Summary provided by the Contractor and confirmation by the RE, there was no irregularity, and together with the site inspection conducted by the environmental team in June, construction waste on pavement was not observed.</p> <p>Despite, the Contractor was reminded to follow the relevant mitigation measures related to waste management:</p> <ul style="list-style-type: none"> <li>➤ Ensure trucks have enclosed the containers before leaving the site to reduce the impact during transportation (Photo 3);</li> <li>➤ Training of site personnel in proper waste management and chemical handling procedures to ensure proper disposal of construction waste;</li> <li>➤ Proper storage and site practices to minimize the potential for damage or contamination of construction materials</li> </ul>	Closed
189	20 <sup>th</sup> June 2018	28 <sup>th</sup> May 2018/ Construction of Road P2	SKDC member	Air Quality	The complainant complained the dark smoke emission from the same construction vessel.	N	See Investigation / Mitigation Measures for Complaint No. 181.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
188	20 <sup>th</sup> June 2018	20 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained about construction noise starting from 6 am.	Y	<p>The construction activities in Lam Tin Interchange (Work site No.101) on 20th of June possessed of 6 no. of excavators between 7-8 am, 6 no. of breakers, excavator mounted between 8-10 am. The quantity of excavators and breakers were consistent with the Construction Noise Mitigation Plan (Construction Activity Group 1.1)</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual as follows:</p> <ul style="list-style-type: none"> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
187	7 <sup>th</sup> June 2018	7 <sup>th</sup> June 2018/ Construction of Road P2	Resident of Ocean Shores	Air Quality	The complainant complained about the smell of machinery exhaust affecting the podium of Ocean Shores (swimming pool). The complainant suspected the exhaust was originated from the nearby barges.	N	<p>According to the information provided and confirmed by the Engineer, dredging works and placing rock fill were conducted during the time of complaint. Dredger, derrick barge, tug boat and hopper barge were being operated for the mentioned works.</p> <p>According to the site inspections conducted by ET and IEC in May and June 2018, no exhausted smell from construction vessel was identified in Portion IV, VII and IX.</p> <p>The Contractors had implemented environmental mitigation measures to minimize the air nuisance to the nearby sensitive receivers as follows:  <u>Odour Emission from Exhausted Gas:</u></p> <ul style="list-style-type: none"> <li>➤ Additional water filter tank was adopted on the deck level of derrick barges to reduce emission of dark smoke and exhaust smell</li> </ul>	Closed
186	6 <sup>th</sup> June 2018	6 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Chung Pak House, Hong Pak Court	Noise	The complainant complained about the construction noise at Lam Tin Interchange.	Y	A valid Construction Noise Permit (CNP) (No. GW-RE0278-18) was granted to the Contractor for the construction site at Lam Tin Interchange. The number of excavator and dump trucks that were used on 6 June were covered by the CNP.	Closed



Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
185	6 <sup>th</sup> June 2018	30 <sup>th</sup> May and 30 <sup>th</sup> September 2017/ Construction of Road P2	SKDC member	Noise	The complainant complained about the noise affecting nearby resident in early morning near Ocean Shores.	Y	See Investigation / Mitigation Measures for Complaint No. 50 and 81.	Closed

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
184	6 <sup>th</sup> June 2018	Not specified / Construction of Road P2	SKDC member	Landscape	The complainant complained about excessive tree felling near Ocean Shores.	N	<p>According to the information provided and confirmed by the Engineer, tree removal application for the concerned area has granted approval from District Lands Office (DLO) on 1 August 2017 and 18 April 2018 together with the tree compensatory plans. The felling of a total of 85 trees at the concerned area were in accordance with the approved tree removal application by the DLO. None of them are registered Old and Valuable Tree and neither of them are rare nor endangered species. The number of retained trees at the concerned location complies with the latest tree removal application.</p> <p>The Contractor had taken initiatives to minimize nuisance from construction works to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Tree protection zones were established and surrounded by fences to protect retained trees adjacent to the construction area.</li> <li>➤ Tree protection zone were free of machinery and material that are likely to be injurious to the tree.</li> <li>➤ Regular tree assessments were conducted by qualified Arborist to monitor the condition of retained trees.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
183	4 <sup>th</sup> June 2018	4 <sup>th</sup> June 2018/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	N/A	The complainant complained about the blasting works during night-time.	N	<p>The Contractor had implemented environmental mitigation measures in accordance with the “Implementation Schedule of Proposed Mitigation Measures”</p> <ul style="list-style-type: none"> <li>➤ Ensured blasting doors were closed while blasting associated works was undertaken in the tunnel</li> <li>➤ Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel</li> </ul>	Closed
182	1 <sup>st</sup> June 2018	Not specified/ Construction of Lam Tin Interchange	Sin Fat Road Tennis Court	Air Quality	The complainant complained about the dust	N	<p>The Contractor had taken initiatives to minimize nuisance from construction works to the nearby sensitive receivers as follows:</p> <ul style="list-style-type: none"> <li>➤ Frequent water spraying along the slope area at LTI.</li> <li>➤ Tarpaulin sheets were provided along the slope adjacent to the tennis court during preparation of surface blasting.</li> </ul>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
181	29 <sup>th</sup> May 2018	Not specified/ Construction of Road P2	Public	Air Quality	The complainant complained about the black smoke emission from the construction vessel.	N	<p>According to the information provided and confirmed by the Engineer, dredging and placing rock fill material were conducted during the time of complaint.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:  <u>Air Quality:</u></p> <p>As confirmed by the Engineer, the d barge was removed off site for further            nce;</p> <p>Additional water filter tank was            to reduce emission of dark smoke and</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
180	25 <sup>th</sup> May 2018	24 <sup>th</sup> May 2018/ Construction of Road P2	SKDC member Mr. Cheung Chin Pang	Odour	The complainant complained about smell of exhaust gas affecting high level residents (60/F and above) of Metrotown Tower 10.	N	<p>According to the information provided and confirmed by the Engineer, modification of temporary marine platform and welding works were conducted during the time of complaint.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:  <u>Air Quality:</u></p> <p>Additional water filter tank was to reduce emission of dark smoke and</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
179	24 <sup>th</sup> May 2018	24 <sup>th</sup> May 2018/ Construction of Northern footbridge, Road P2/D4 and Road P2	Public	Air Quality	The complainant complained construction dust generated from the CEDD construction works site between Tong Yin Street and Tiu Keng Leng Sport Centre (Po Yap Road) as a result of insufficient dust suppression measures	N	<p>According to the information provided and confirmed by the Engineer, construction works including steel bar fixing, scaffolding, trimming formation level, compaction, removal of road marking and handling of treated sediment were conducted during the time of complaint.</p> <p>As shown in the Air Quality Monitoring Results, no Action/ Limit Level Exceedance was recorded at Station AM5(A) and AM6(A) in May 2018. It is considered that no adverse construction dust impact was brought to the nearby sensitive receivers during the construction period of this Project</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:          watering was provided at least 8 times a day;          near public access was hard paved;          the ground in Work Area A was covered except the gully area</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed

Complainant No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
178	23 <sup>rd</sup> May 2018	22 <sup>nd</sup> May 2018/ Construction of TKO Portal	Public	N/A	The complainant complained construction works was carried out on 22 May (which was a public holiday) around 1500 hour at the sea area near Ocean shore Block 2.	N	<p>According to the information provided and confirmed by the Engineer, modification of temporary marine platform and welding works were conducted during the time of complaint.</p> <p>One valid Construction Noise Permit (CNP) (No. GE-RE0309-18) was granted to the Contractor (Leighton – China State Joint Venture) (Contract No. NE/2015/01) for the marine construction site near Ocean Shores. According to the CNP, Group O to T of the PME listed in condition 3.a. are allowed to operate during general holiday (including Sunday) from 0900 – 2300 hours.</p> <p>As confirmed by the Engineer, only a group of PME (listed in Group Q) was operated during the time of complaint. No welding machine was operated in Zone A. No derrick barge and flat top barge were operated beyond Zone C.</p> <p>The Contractors had implemented environmental mitigation measures to reduce construction nuisance from construction activities to the nearby sensitive receivers as follows:</p> <p><u>Noise:</u></p> <p>Preinstalled speaker was used on barge to minimize the noise disturbance from on-communication.</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the nearby residents.</p>	Closed
MA16034	Report\Appendix L - Cumulative complaint log				L-63		CINOTECH	

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
177	22 <sup>nd</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Air Quality & Noise	The complainant complained about the dust nuisance and construction noise at Lam Tin Interchange	Y	<p>According to the Engineer's Site Diaries, the major construction activities performed in May 2018 included rock breaking, drilling and excavation at Lam Tin Interchange. Construction works for night-time included blasting and excavation.</p> <p>According to the EM&amp;A Manual of this Project, regular air quality monitoring has been carried out at Station AM2 – Sai Tso Wan Recreation Ground and AM3 – Yau Lai Estate, Bik Lai House. Based on the Air Quality Monitoring Results which conducted by ET, no Action or Limit Level Exceedance was recorded at Station AM2 and AM3. It is considered that no adverse air quality impact was brought to the nearby sensitive receivers during the time of complaint.</p> <p>The Contractor had implemented environmental mitigation measures in accordance with the "Implementation Schedule of Proposed Mitigation Measures" of EM&amp;A Manual as follows:</p> <p><u>Air Quality:</u></p> <p>water spraying on unpaved area and haul roads at Lam Tin Interchange</p> <p>Noise:</p> <ul style="list-style-type: none"> <li>➤ Ensured blasting doors were closed while blasting associated works was undertaken in the tunnel</li> <li>➤ Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel</li> <li>➤ Erected movable cantilever noise barriers and the breaker head was wrapped with Silent Mat and TMD;</li> <li>➤ Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat</li> <li>➤ Drill rig was covered with Silent Mat and TMR</li> </ul>	Closed
MA16034	Report	Appendix L - Cumulative complaint log			L-64		The environmental conditions of the site and the control of works will be continuously reviewed and monitored by the Engineer and the Environmental Team.	CINOTECH



Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
176	21 <sup>st</sup> May 2018	21 <sup>st</sup> May 2018/ Construction of Road P2	Public	Air Quality	The complainant complained about dust/dirt being brought onto Tong Yin Street by the vehicles travelling to and from TKO-LTT construction site, causing dust problem and air nuisance.	N	<p>According to the information confirmed by the Engineer, all dump trucks were covered and wheel washed before leaving the works site on 21 May 2018.</p> <p>As shown in the Air Quality Monitoring Results, no Action/ Limit Level Exceedance was recorded at Station AM5(A) and AM6(A) in May 2018. It is considered that no adverse construction dust impact was brought to the nearby sensitive receivers during the construction period of this Project</p> <p>The Contractors had implemented environmental mitigation measures to minimize the noise nuisance to the nearby noise sensitive receivers as follows: Water spraying was provided at least 8 times a day. Street washing truck would be provided once a week to clean the dust on the public street. Additional notice would be set up to remind the truck driver to perform wheel-washing properly before leaving site. Deployed staff at the access to check the dump trucks to ensure the dump truck are properly covered and wheel-washed before leaving site.</p> <p>The Engineer and the Environmental Team have reminded the Contractor to properly implement mitigation measures to effectively minimize construction nuisance caused by the construction works to the</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
							nearby residents.	
175	19 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during nighttime.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
174	19 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during nighttime.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
173	16 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Nga Court,	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during night-time.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
172	15 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed

Complain No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
171	15 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate, Bik Lai Estate	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed
170	15 <sup>th</sup> May 2018	Not specified/ Construction site near Cha Kwo Ling Tsuen	Anonymous	Noise	The complainant complained the noise nuisance due to the construction work near Cha Kwo Ling Tsuen during night-time.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
169	14 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Kowloon East District Council Member Mr. Tam Man Ho	Noise	The complainant complained the noise nuisance due to the construction work and night time blasting works at the Lam Tin Interchange.	Y	<p>According to the latest CNMP of this Contract, the subgroups of work activities undertaken near noise sensitive receivers in the reporting period:</p> <p>The construction activities of Lam Tin Interchange (Work site No.101) on 14th of May 2018 possessed of 6 no. of breakers, excavator mounted which were consistent with the quantities of breaker in the Construction Noise Mitigation Plan (Construction Activity Group1.1)</p> <p><u>Noise:</u> Installed steel-type blasting door mounted with sound absorptive lining to absorb construction noise in the tunnel; Erected movable cantilever noise barriers and the breaker head was wrapped with Silent Mat and TMD; Powered mechanical equipment (PME) for rock breaking were equipped with TMD and SilentMat;</p> <p>As shown by the Noise Monitoring Results conducted by ET, no Limit Level Exceedance was recorded at Station CM1, CM2, CM3 and CM4. The summary of noise monitoring results which conducted by ETL in May 2018 at Station CM1, CM2, CM3 and CM4.</p> <p>The environmental conditions of the site and the control of works will be continuously reviewed and monitored by the Engineer and the Environmental Team.</p>	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
168	14 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate, Yung Lai House	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange during night-time.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed
167	13 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Nga Court, Chung Pak House	Noise	The complainant complained the noise nuisance due to the construction work on Sunday morning and night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed
166	13 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Hong Pak Court	Noise	The complainant complained the noise nuisance due to the construction work at around 5:00 am and night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 165.	Closed
165	13 <sup>th</sup> May 2018	13 <sup>th</sup> May 2018/ Construction of Lam Tin Interchange	Property Management Office of Hong Nga Court	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange on 13 <sup>th</sup> May 2018 (Sunday morning).	Y	A valid Construction Noise Permit (CNP) (No. GW-RE0278-18) was granted to the Contractor for the construction site at Lam Tin Interchange (location of construction site is shown in Figure 1). According to the conditions in the CNP, only one group among Group A to R of the powered mechanical equipment is allowed to be operated during 0800-2300 hours on general holidays (including Sundays); and 1900-2300 hours on any day not being a general holiday. The number of excavators, dump trucks, craned lorry	Closed

Complaint No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
							<p>and breakers that were used on 13th, 14th, 15th &amp; 22nd of May were covered by the CNP.</p> <p>Other good site practices recommended in the “Implementation Schedule of Proposed Mitigation Measures” of EM&amp;A Manual and the Noise Mitigation Plan of this Contract had been implemented by the Contractor, including the following:</p> <ul style="list-style-type: none"> <li>• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</li> <li>• Mobile plant, if any, should be sited as far away from NSRs as possible;</li> <li>• Plants known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs</li> </ul> <p>As shown by the Noise Monitoring Results conducted by ET, no Limit Level Exceedance was recorded at Station CM1, CM2, CM3 and CM4. The summary of noise monitoring results which conducted by ETL in May 2018 at Station CM1, CM2, CM3 and CM4.</p>	

Complain t No.	Received Date	Date/Location of Complaint	Complainant	Nature	Details of Complaint	Noise Action Level Exceedance (Y/N)	Investigation/ Mitigation Action	Status
164	12 <sup>th</sup> May 2018	12 <sup>th</sup> May 2018/ Construction of Lam Tin Interchange	Resident of Hong Nga Court	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
163	12 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Yau Lai Estate	Noise	The complainant complained the noise nuisance due to the construction work at Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed
162	11 <sup>th</sup> May 2018	Not specified/ Construction of Lam Tin Interchange	Resident of Lung Pak House	Noise	The complainant complained the noise nuisance during night time blasting works at the Lam Tin Interchange.	Y	See Investigation / Mitigation Measures for Complaint No. 160.	Closed

**Cumulative Complaint Log since commencement of Project**

Reporting Month	Number of Complaints in Reporting Month	Number of Summons in Reporting Month	Number of Prosecutions in Reporting Month
November 2016	0	0	0
December 2016	11	0	0
January 2017	15	0	0
February 2017	4	0	0
March 2017	6	0	0
April 2017	1	0	0
May 2017	10	0	0
June 2017	8	0	0
July 2017	3	0	0
August 2017	8	0	0
September 2017	14	0	0
October 2017	8	0	0
November 2017	12	0	0
December 2017	10	1	0
January 2018	11	0	0
February 2018	6	0	0
March 2018	17	0	0
April 2018	15	0	0
May 2018	22	0	0
June 2018	11	0	1
July 2018	9	0	0
August 2018	12	0	0
September 2018	11	0	0
October 2018	13	0	0
November 2018	12	0	0



Reporting Month	Number of Complaints in Reporting Month	Number of Summons in Reporting Month	Number of Prosecutions in Reporting Month
December 2018	9	0	0
January 2019	39	0	0
February 2019	20	0	0
March 2019	25	0	0
April 2019	17 <sup>1</sup>	0	0
<b>Total</b>	<b>359</b>	<b>1</b>	<b>1</b>

1. Complaint No. 361, 363, 378 were received by ET after the submission of the EMA Monthly Report (April 2019)

**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 Mar 2018	0	1
NE/2015/03	--	--	--	--	--	--
NE/2017/01	--	--	--	--	--	--
NE/2017/02	--	--	--	--	--	--

**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	--	--	--	--	--	--

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

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

Contract	Site Area	Site Activities		
		February 2019	March 2019	April 2019
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	1. EHC2 U-Trough 2. Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 & Area 5	1. EHC2 U-Trough 2. Site Formation – Area 1G1, Area 1G2, Area 2 , Area 3, Area 4 & Area 5
	Main Tunnel	1) Main tunnel Excavation	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) Steel Platform for Bridge Construction 3) Cavern Excavation	1) Haul Road Construction, Site Formation and Slope Works 2) Steel Platform for Bridge Construction 3) Cavern Excavation	1) Haul Road Construction, Site Formation and Slope Works 2) Steel Platform for Bridge Construction 3) Cavern Excavation
NE/2015/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2 and Associated Works	General	1) Backfilling works at P2 U-trough CH411 – CH500 2) Construction of U-trough structure at SR2 CH170-CH250 3) Construction of U-trough structure at P2 CH411-CH500 4) Pre-bore works for decked U-trough at CH318 – CH363.5 5) Sheet pile works for decked U-trough at CH318.00 –	1) Backfilling works at P2 U-trough CH411 – CH500 2) Construction of U-trough structure at P2 CH411-CH500 3) Pre-bore works for decked U-trough at CH318 – CH363.5 4) Sheet pile works for decked U-trough at CH318.00 – CH363.50 5) Installation of 2100 storm water pipe at Portion IV / VII	1) Backfilling works at P2 U-trough CH411 – CH500 2) Sheet pile works for decked U-trough at CH318.00 – CH363.50 3) Installation of 2100 storm water pipe at Portion IV / VII 4) Backfilling work of pipe trench for 2100 storm water drain pipe at Portion VII 5) King post and de-watering system for proposed U-trough

		<p>CH363.50</p> <p>6) ELS works for 2100 pipe</p> <p>7) Installation of 2100 storm water pipe at Portion IV / VII</p> <p>8) King post and de-watering system for proposed U-trough CH318.00 – CH363.50 at Portion V/VI</p> <p>9) Fabrication of ELS members for proposed ELS system at CH318.00 – CH363.50</p> <p>10) Installation of 1350 diversion pipe and manhole</p> <p>11) Street lighting duct installation works at Portion IV near Ocean Shores EVA</p> <p>12) Construction of P2A retaining wall</p> <p>13) Backfilling of P2A retaining wall</p> <p>14) ELS works for CH318 – CH363.50</p> <p>15) Construction of manhole for 2100 pipe (upper part)</p> <p>16) Dismantling of 1st layer of struct at P2 CH411 – CH500 U-trough</p> <p>17) Construction of retaining wall</p>	<p>6) King post and de-watering system for proposed U-trough CH318.00 – CH363.50 at Portion V/VI</p> <p>7) Fabrication of ELS members for proposed ELS system at CH318.00 – CH363.50</p> <p>8) Street lighting duct installation works at Portion IV near Ocean Shores EVA</p> <p>9) Backfilling of P2A retaining wall</p> <p>10) ELS works for CH318 – CH363.50</p> <p>11) Construction of manhole for 2100 pipe (upper part)</p> <p>12) Surcharging at surcharge Areas 1a and 1b</p> <p>13) Land band drain at surcharge Area 1b</p> <p>14) Reclamation works at Portion IX</p> <p>15) Reinstatement of existing seawall at Portion VII</p> <p>16) Pre-drilling at P2 CH230 – CH264</p> <p>17) Installation of socket H-pile at P2 CH290 – CH305</p>	<p>CH318.00 – CH363.50 at Portion V/VI</p> <p>6) Fabrication of ELS members for proposed ELS system at CH318.00 – CH363.50</p> <p>7) Street lighting duct installation works at Portion IV near Ocean Shores EVA</p> <p>8) Backfilling of P2A retaining wall</p> <p>9) ELS works for CH318 – CH363.50</p> <p>10) Construction of manhole for 2100 pipe (upper part)</p> <p>11) Surcharging at surcharge Areas 1b1, 1b2, 2a1</p> <p>12) Backfilling of surcharge Area 2a2</p> <p>13) Reclamation works at Portion IX (ECH170 – 200)</p> <p>14) Reinstatement of existing seawall at Portion VII</p> <p>15) Pre-drilling at P2 CH105 – CH264</p> <p>16) Installation of socket H-pile at P2 CH290 – CH305</p> <p>17) Pre-boring for s/p installation at P2 CH105 – CH318</p>
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		<p>SR2 (bases lab modification)</p> <p>18) Surcharging at surcharge Area 1a</p> <p>19) Land band drain at surcharge Area 1b</p> <p>20) Reclamation works at Portion IX</p> <p>21) Reinstatement of existing seawall at Portion VII</p> <p>22) Pre-drilling at P2 CH230 – CH264</p> <p>23) Installation of socket H-pile at P2 CH290 – CH305</p>		18) Installation of interlock pipe pile wall
NE/2015/03 – Tsueng Kwan O – Lam Tin Tunnel – Northern Footbridge	General	<p>1) Erect steel frames and purlins for canopy at main deck</p> <p>2) Removal of scaffolding at +12.15 Platform and Staircase 1</p> <p>3) Excavation and carry out plate load test for south retaining walls</p>	1) Erection of scaffolding and construction Staircase 2	<p>1) Erection of scaffolding for Pour 1 of Staircase 2</p> <p>2) Construction of Pour 2 of main deck (GL4 – 5)</p> <p>3) Remove steel mould &amp; scaffolding of bridge deck (GL4-5)</p> <p>4) Construction of Staircase 1</p>
NE/2017/01 – Tseung Kwan O – Lam Tin Tunnel – Tseung Kwan O Interchange and Associated Works	General	<p>1) Installation of Precast Pile Cap Shell</p> <p>2) Pre-drilling</p> <p>3) Bored Piling</p> <p>4) Dismantling Works for Temporary Working Platform</p> <p>5) Construction of Temporary</p>	<p>1) Installation of Precast Pile Cap Shell</p> <p>2) Pre-drilling</p> <p>3) Bored Piling</p> <p>4) Dismantling Works for Temporary Working Platform</p> <p>5) Construction of Temporary</p>	<p>1) Installation of Precast Pile Cap Shell</p> <p>2) Pre-drilling</p> <p>3) Bored Piling</p> <p>4) Dismantling Works for Temporary Working Platform</p> <p>5) Construction of Temporary</p>

		Working Platform	Working Platform	Working Platform
NE/2017/02 – Tseung Kwan O – Lam Tin Tunnel – Road P2/D4 and Associated Works	General	1) Trial pit 2) Underground utilities detection 3) Temporary traffic arrangement Setup 4) Pilling works 5) Construction of Temporary carriage way 6) Pre-bored Socket H-Pile 7) Modification of traffic Island 8) Predrilling 9) Construction of Temporary cycle track 10) Construction of drainage and watermain	1) Trial pit 2) Underground utilities detection 3) Temporary traffic arrangement Setup 4) Bored Piles 5) Construction of Temporary carriageway 6) Modification of traffic Island 7) Predrilling 8) Construction of Temporary cycle track 9) Construction of drainage and watermain	11) Trial pit 12) Underground utilities detection 13) Temporary traffic arrangement Setup 14) Bored Piles 15) Construction of Temporary carriageway 16) Modification of traffic Island 17) Predrilling 18) Construction of Temporary cycle track 19) Construction of drainage and watermain
NE/2017/06 – Tseung Kwan O – Lam Tin Tunnel – Traffic Control and Surveillance System(TCSS) and Associated Works	General	1) Erection of Contractor’s site accommodation and project signboard at Po Yap Road, Tseung Kwan O	1) Erection of Contractor’s site accommodation and project signboard at Po Yap Road, Tseung Kwan O	1) Erection of Contractor’s site accommodation and project signboard at Po Yap Road, Tseung Kwan O

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**APPENDIX N  
EVENT AND ACTION PLANS**

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

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

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

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

**Event and Action Plan for Construction Noise**

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

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

**Event and Action Plan for Marine Water Quality**

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

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

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



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

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

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

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

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

### Mitigation Measures for Vibration Monitoring

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

Action Level	<ul style="list-style-type: none"><li>● Consideration shall be given to suspend all active construction works and the Engineer shall be informed immediately</li><li>● The Contractor shall immediately implement the measures defined in the contingency plan</li><li>● The Contractor shall implement the measures defined in the emergency plan in the event that the applied contingency measures are found inadequate</li><li>● The Contractor shall provide a complete report to examine the construction method and review the response of the instruments with full history of the monitoring data and construction activities and necessary design update</li><li>● To resume the suspended activities, the Contractor shall demonstrate to the Engineer's satisfaction that it is safe to do so with approval from the Engineer.</li></ul>
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**APPENDIX O**  
**ECOLOGICAL MONITORING**

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## **App O – Ecological Monitoring**

Reporting Period: February 2019 – April 2019

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